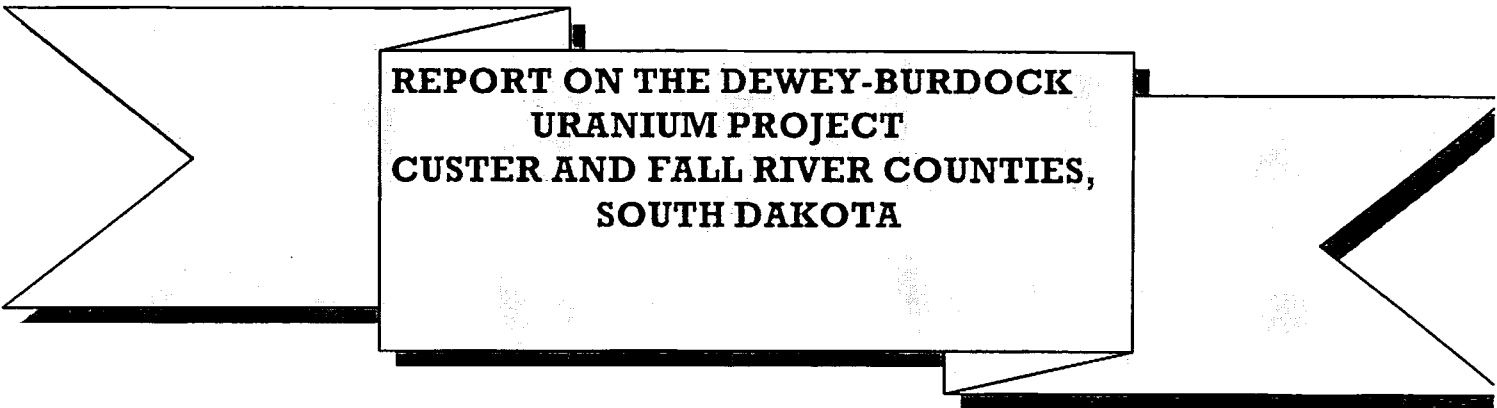


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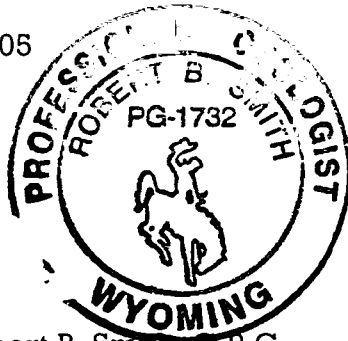
R.B. Smith & Assoc., Inc.



**REPORT ON THE DEWEY-BURDOCK  
URANIUM PROJECT  
CUSTER AND FALL RIVER COUNTIES,  
SOUTH DAKOTA**

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December 15, 2005



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## 1.0 SUMMARY

Denver Uranium engaged R. B. Smith & Assoc. CPG to write an NI 43-101 compliant report on their Dewey Burdock project in support of a share exchange agreement with Powertech Industries Inc., a publicly traded company on the TSX Venture Exchange.

All of the data reviewed for this report was derived from historical drilling and studies related to that drilling conducted on behalf of the Tennessee Valley authority.

The author has first hand field and data review experience on these and adjacent properties dating back to the 1950's. The author evaluated the pertinent data related to these properties several times for several companies over the years and has detailed professional knowledge of the uranium potential of the project area.

The Dewey-Burdock Project is located in southwest South Dakota, straddling the Custer County Fall River County line, and consists of Federal claims, private mineral rights and private surface rights covering 11,180 acres of mineral rights and 11,520 acres of surface rights. The interests were acquired by Denver Uranium Company, Inc., a Colorado company (Denver Uranium). The majority of these rights were acquired from local homestead landowners. The project is more specifically located in Townships 6 and 7 South Range 1 East of the Black Hills Meridian.

This area is part of the northern extension of the Edgemont uranium district that was discovered in the 1950's and was explored almost continuously through the mid 1980's. Several thousand drill holes had been drilled in the area and Denver Uranium has acquired the majority of the data that remained in private hands. Most of the mineralization of current interest occurs in lower Cretaceous sandstones which host epigenetic sedimentary uranium deposits believed to be producible through in situ leach mining methods.

Historically, the district has had numerous operators exploring for uranium. In 1974, The Tennessee Valley Authority (TVA) acquired all the mineral interests along the known mineralized trend and looked to develop underground mines to feed ore to a planned expanded mill at Edgemont. The ore trends in the Dewey-Burdock area were drilled on various spacings by TVA. TVA utilized a qualified operator, Silver King Mines (SKM), for resource/reserve estimation and mine planning. Silver King was known as a careful and qualified operating company with knowledgeable geologists and engineers who had a reputation for accurate and meticulous methods of reserve/resource estimation. SKM calculated in place "identified resources"

for the project (July 1985) of 10 million pounds. (SKM terminology, average grade and tonnage not specified). In addition, within these in place pounds, SKM estimated underground "mineable reserves" of approximately 5 million pounds  $U_3O_8$ . This estimate was based on a run of mine total of 1,250,000 tons averaging 0.20%  $U_3O_8$ . This historical estimate by SKM is not compliant with NI 43-101 and the categorizations "identified resources" and "mineable reserves" are not categories of resources or reserves recognized by NI 43-101. The majority of SKM's "identified resource" is located within the properties under lease by Denver Uranium. The author believes this historical estimate is relevant, reliable and supported by more recent estimates calculated from the available data. The author recommends that Denver Uranium conduct a work program that will provide additional data and allow the deposit to be categorized in accordance with NI 43-101.

As part of the pre-mine feasibility study, TVA and SKM conducted several leach studies that were designed for a conventional milling circuit. The uranium recovery averaged over 99% and indicated that there is no known portion of the mineralization that can be considered refractory. The potential for in situ leach recovery is estimated to be highly prospective from the data examined which includes the chemistry of the deposits and the configuration of the in place roll deposits.

The author has reviewed the historical data that was made available and concluded that a current estimate of in place resources could be established. The author has determined that within Denver Uranium's mineral rights, 7.6 million pounds of inferred resources are contained in 1,800,000 tons of host rock averaging 0.21 percent  $U_3O_8$ . These resources are contained within two deposits occur at depths of between 400 and 800 feet below the surface.

The author recommends that additional work be undertaken to verify the quality of the deposits for in situ leaching. This would consist of a phased evaluation program that would include:

- Drill program to verify with down-hole assay tool the distribution and continuity of the uranium.
- Core leach testing to establish the amenability of the mineral to low temperature bicarbonate leach
- A NI 43-101 compliant feasibility study

This should be followed by a second phase that would include:

- Environmental baseline studies
- Preparation of Permit and license applications
- Delineation drill program designed to test the several miles of known uranium roll fronts and establish the presence of additional in situ leach resources.

Total estimated cost for the proposed evaluation phases would be within the range of US\$300,000 - \$500,000 to complete the initial phase, and Within the Range of US\$800,000 - \$1,250,000 to achieve the objectives of phase two.

## 1.0 INTRODUCTION AND TERMS OF REFERENCE

### 2.1 Purpose of Report

Denver Uranium Company, LLC requested that R.B.Smith & Assoc, Inc. prepare a technical report on their Dewey-Burdock Project located in Custer and Fall River counties, South Dakota, in support of their intended share exchange with Powertech Industries, a Canadian listed company. This report is designed to comply with the requirements of Canadian National Instrument 43-101 and Form 43-101F1. The technical purpose of the report is to examine the previous work conducted in the project area that Denver Uranium has acquired and recommend further work that should be undertaken in order to develop an in situ leach mining operation for the production of uranium.

### 2.2 Terms of reference

Units of measurement unless otherwise indicated, are feet (ft), miles, acres, pounds avoirdupois (lbs), short tons (2,000 lbs). Uranium content is expressed as %U<sub>3</sub>O<sub>8</sub> the standard market unit. Values reported for historical resources are %<sub>e</sub>U<sub>3</sub>O<sub>8</sub> (equivalent U<sub>3</sub>O<sub>8</sub> by calibrated geophysical logging unit. Unless otherwise indicated, all references to dollars (\$) refer to the currency of the United States. Additional units of measurement are tabulated as follows:

Unit	Metric Equivalent
1 foot	0.3048 meters
1 in	2,54 centimeters
1 pound (avdp.)	0.4536 kilograms
1 acre	0.4047 hectare

### 2.3 Sources of Information and Data

All of the detailed and factual data were sourced from Tennessee Valley Authority (TVA) who acquired the data and the properties of Susquehanna Western (SW) in 1974. All of TVA's activities were contracted to Silver King Mining (SKM) until 1986. These data included drill hole location/assay maps,

electric logs, land maps, ore reserve maps, and numerous reports and files. The relevant portions of these data were audited, reviewed and interpreted in the offices of R.B. Smith and Assoc., Inc.

#### **2.4 Extent of Author's Field Involvement**

The author has conducted field work within the Edgemont District for many years. Between 1994 and 1996 the author spent numerous weeks mapping the property, staking lode mining claims, locating past drilling and general reconnaissance. The author has kept abreast of all uranium related activities in the area from 1996 through the current date. In addition, the author revisited the project area on October 24-26, 2005 for the purposes of determining if any changes have occurred in the area since the mid 1990's. It is this author's opinion that no changes have occurred that would affect the development potential of the project area. This in-field experience as well as numerous visits prior to that time gives the author a unique level of involvement and experience in the Dewey- Burdock area.

#### **2.5 Extent of author's Past Involvement**

The author has over fifty years experience in the uranium industry beginning in 1952 in the Edgemont Mining District located just to the east of the Dewey-Burdock Project. In 1994, Energy Fuels Nuclear (EFN) acquired the property and most of the past data accumulated by past operators over a period of nearly forty years. EFN contracted the author to evaluate these data. SKM's efforts had been to develop an underground shaft mining operation at both the Dewey and the Burdock sites. This author interpreted the data for the purpose of in situ leach (ISL) mining methods.

### **3.0 DISCLAIMER**

The author has relied largely upon the assay data from SKM to determine the tenor and quantity of the uranium mineralization on the Dewey-Burdock Project. Blue line copies of numerous original electric drill hole logs were audited. The authenticity of the values posted on the assay maps was audited and the values were found to be accurate and acceptable. SKM operated in the uranium business for many years and was a well-qualified operator. They had the reputation for accurate and knowledgeable interpretation of uranium drill hole data. After checking the data with a selective audit, the scope of the study was to map continuity of uranium deposits within the project area and determine their production capability through in situ leach mining methods.

## **4.0 PROPERTY DESCRIPTION AND LOCATION**

### **4.1 Location of Project Area**

The Dewey Burdock property covers an area of 11,520 acres of surface rights with 11,180 acres of claims and mineral leases. The project is located on the southwestern flank of the Black Hills Uplift known mostly for its tourist interest and secondarily for its significant historical development of gold deposits. Gold has been produced from the crystalline basement rocks toward the center of the Uplift since the mid 1800's. Figure 1, a highway map of the area in relation to the Nebraska and Wyoming state lines.

The Dewey Burdock uranium deposit forms part of the northwestern extension of the Edgemont Uranium Mining District. The project area that has been previously explored and forms the subject of this report is located in Townships 6 and 7 South Range 1 East of the Black Hills Prime Meridian. The county line dividing Custer from Fall River counties in South Dakota lies at the confluence of Townships 6 and 7 South. Therefore, the designation of the Dewey versus Burdock portions of the project is the demarcation of the two adjacent counties. Figure 2

### **4.2 Nature of Land Position**

The land position acquired by Denver Uranium consists of a mixture of leases from private owners, both surface and mineral, as well as lode claims staked on lands where mineral interests were not privately owned but retained by the U.S.A. Western South Dakota has a mixture of ownership interests. This area was settled in the late 1800's and a significant number of individual homestead allocations were granted by the U.S. to encourage expansion and settlement of the West. In portions of the area where forested uplands were present the lands were designated as part of the Black Hills National Forest. Other portions of intervening land not acquired under the Homestead Act remained as public lands available for placement of lode claims upon discovery of minerals and mineral potential.

The acreage position that has been acquired consists of contiguous blocks of property covering the majority of the discovered and delineated uranium that will be permitted for development. See Figure 3, a map outlining lease and claim holdings.

Denver Uranium acquired leases from the various landowners with several levels of payments and obligations. In the portions of the project area where the company seeks to develop the uranium, both surface and minerals are leased. The company has granted the mineral owners a 5 percent overriding



royalty payment out of sales of the product. The surface owners will be paid a 2 percent overriding royalty as incentive to support the development of uranium under their lands. In addition surface owners are paid an annual rental to cover the cost of surface damage and to compensate for reduction of husbandry grazing during field operations. The payments of royalty to the surface owners are reduced by the amount of rentals to be paid. The basic terms of the lease are five-year initial term and are renewable two times at the five-year mark and ten years from original signing. Additional bonuses are paid to the landowners at the time of renewal. All leases were signed in 2005 and the leases are in force through 2020 without production. In the case of production, all leases will be held as long as minerals are produced.

Portions of the properties have been legally surveyed and the remaining portions have had clear title established prior to the execution of the lease.

#### **4.3 Mineralized Areas, Surface Disturbance, Environmental Liability**

The uranium deposits in the Dewey-Burdock Project are classic roll front type deposits occurring in subsurface sandstone channels within the Lakota and Fall River formations of early-Cretaceous age. See stratigraphic column Figure 4). These fronts are known to extend throughout an area covering more than 16 square miles and having a total length of over 24 miles. A map prepared by Silver King, in 1985, and acquired by Denver Uranium indicates the regional oxidation reduction boundaries (Redox) that control the deposition of uranium mineralization. In addition to the densely (100 foot spacing) drilled portions of the Redox interfaces where SKM had calculated measured and indicated uranium resources, sparsely drilled extensions of these boundaries total 114 miles.

Since 1952, some of the shallow uranium deposits in the Fall River formation have been mined by either shallow underground workings or by shallow surface mine open pits. These mines were developed by SW or other small mining companies in the area and produced small to moderate tonnage. No records exist of actual production but it was not large. Only a few of these old workings have had surface restoration and none have been adequately restored. Some pits and spoil piles exist today in the same condition as when mining ceased in the early-1970's

#### **4.4 Potential Environmental Liabilities**

The Fall River formation, being younger and higher in the section than the Lakota, outcrops at the surface and exposes surface uranium mineralization. Uranium from these outcropping "ore" bodies was mined by open pit and

shallow underground methods during the late-1950's and 1960's and produced approximately 200,000 pounds  $U_3O_8$ . These surface mined areas have not been reclaimed. It is strongly recommended that Denver Uranium avoid these open pit mined areas due to the environmental liability that may accrue to any possible responsible party for legal purposes. However, because of existing U.S. laws making Federal funds available for surface mine reclamation, it might be advantageous to the company to conduct discussions with the regulatory agencies whereby the company can contract for the infill and reclamation of these old abandoned open pit mined areas.

#### **4.5 Required Permits**

South Dakota is historically a mining state with a long history of underground and open pit mining. However, in situ uranium development has not been undertaken in the state. Therefore, a number of permits and licenses will be required from Federal agencies to meet the established permitting requirements. The U.S. Environmental Protection Agency has responsibility under the Safe Drinking Water Act to administer permits concerning the injection of fluids into subsurface mineralized aquifers. The body of regulation meeting the requirements of the Act has been well defined and is in place in several states including the adjacent states of Wyoming and Nebraska. The Nuclear Regulatory Commission oversees all licenses under the Atomic Energy Act. Again the body of regulation allowing operators to conduct in situ leach mining is well established and the company can apply for a radioactive materials handling license that covers all activities such as processing, concentrating and shipping and sale of uranium to a utility buyer. While the procurement of these licenses can take up to three years for regulatory review, there are no characteristics or specific difficulties associated with the Dewey-Burdock area that could be considered unusual or should cause great difficulty in acquiring the appropriate permits and licenses.

### **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

#### **5.1 Access**

The nearest population center to the Dewey-Burdock Project is Edgemont, South Dakota (population 900) located on US Highway 18, 22 miles east from the Wyoming-South Dakota state line. (Refer to Figure 1, the highway map).

Fall River County Road 6463 extends northwestward from Edgemont to the abandoned community of Burdock located at the extreme southwest corner of

the Dewey-Burdock Project about 16 miles from Edgemont. This road is a two lane, all weather gravel road. Fall River County Road 6463 continues north from Burdock to the Fall River-Custer county line where it becomes Custer County Road 769 and continues on to the hamlet of Dewey, a total distance of about 23 miles from Edgemont. This county highway closely follows the tracks of the BNSF (Burlington Northern Santa Fe) railroad between Edgemont, and Newcastle, Wyoming. Dewey is about two miles from the northwest corner of the Dewey-Burdock Project. (Refer to Figure 2, the Project area road map).

An unnamed unimproved public access road into the Black Hills National Forest intersects Fall River County Road 6463, 4.3 miles southeast of Burdock and extends northward about 4 miles, allowing access to the east side of the Dewey-Burdock Project. About 0.9 miles northwest from Burdock an unimproved Public Access road to the east from Fall River County Road 6463 allows access to the western portion of the Dewey-Burdock Project. Private ranch roads intersecting Fall River County Road 6463 and Custer County road 769 allow access to all other portions of the Dewey-Burdock Project.

Between Burdock and Dewey, The Dewey-Burdock Project lies on both sides of this county highway.

## **5.2 Climate and Vegetation**

The Dewey- Burdock Project topography ranges from low lying grass lands on the projects west side to dissected upwarped flanks of the Black Hills Uplift in the eastern portion of the project. Low precipitation, high evaporation rates, low relative humidity and moderate mean temperatures with significant diurnal and seasonal variations characterize the area. The general climate of the Project area is considered to be semi-arid continental or steppe with a dry winter season. Topography on the Dewey-Burdock Project does not vary to any great degree and does not influence synoptic-scale airflow to any great extent. At times, snow may fall at the higher elevations while rain occurs at only slightly lower elevation in the south and west portion of the Project area. The higher Black Hills to the northeast of the Project seem to generally moderate temperature extremes especially during winter months.

The annual mean temperature in this area of South Dakota is 46°F. The mean low temperature of 20°F occurs in January. The mean high temperature of 74° occurs in July. Dewey-Burdock averages 198 days per year when the low temperature of the day is below freezing. Below freezing temperatures generally do not occur after mid-May or before late September.

The average precipitation in the Dewey-Burdock Project area is 14 inches. The wettest month is June when rainfall amounts to 2.6 inches and the driest months are January and December yielding 0.3 inches each month, usually as snow. Total annual snowfall averages 37 inches.

Three major vegetation regions are noted within the Dewey-Burdock Project area: grassland, ponderosa pine, and desert shrub. Grassland vegetation is dominated by buffalo grass, blue gramma and western wheatgrass

Ponderosa pine occurs with Rocky Mountain juniper. Sedges are composed of Big sagebrush and Black greasewood.

Cultivated crops are limited and consist of dry land hay, wheat, barley and oats. Less than five percent of the Project area includes cultivated farming. Most of the vegetation is given over to cattle. A minor portion of the Project area covered by stands of ponderosa pine has been selectively logged for pulpwood. Timber is not a significant industry in the Dewey-Burdock Project.

No threatened or endangered plant species are known to exist on or near the Dewey-Burdock Project.

### **5.3 Topography and Elevation**

The Dewey-Burdock Project is located at the extreme southwest corner of the Black Hills Uplift. Terrain is thus in part, undulating to moderately incised at the south and west portion of the Project. The eastern and northern area is further into the Uplift and is cut by narrow canyons draining the higher hills. Significant drainages on the Project are few, only four or five on the whole Project area. These canyons are cut less than 1,000 feet in width between the ridges. Slopes may be gentle or steep depending upon the underlying rock type. Sandstones may form cliffs up to 30-to-45 feet in height that will extend for only a few hundred feet in length. It is estimated from available topographic maps that 2-wheel drive vehicles can access 75 percent of the Project area and 90 percent of the known mineralized area.

There is only about 200 feet of elevation change across the Project area. The lower elevation of 3,600 feet above mean sea level is arcuate around the south and west side of the Project area. The highest elevation at near 3,800 feet above mean sea level is at the northeast portion of the area.

### **5.4 Infrastructure**

The Dewey-Burdock area is well supported by nearby towns and services. Major power lines are located across the project and can be accessed for

electrical service for the mining operation. A major rail line (Burlington Northern- Santa Fe) cuts diagonally across the project area. A multi-track siding occurs at Edgemont and will assist in shipment of all materials and equipment for development of the producing facilities. Water is readily available within the formations that contain the uranium and can and will be used for circulating oxidizing solutions to produce the uranium through the ISL method. It should be noted that the aquifers containing the uranium are slightly artesian to the surface or near surface. This characteristic is highly favorable for ISL and will aid in the dissolution of Oxygen in to the lixiviant that will produce the minerals.

Because population centers are at hand, there will be no difficulty in finding housing for the relatively small staffing (less than 100 employees) that is typical of an ISL operation. Skills that are employed in ISL mining are typically found in regional population centers. These skills include electrical, plumbing, and other roustabout skills that are readily learned on the job.

All leases are designed to have maximum flexibility for emplacement of tankage, out buildings, storage area and pipelines. The topography is relatively low lying and undulating and is very conducive for the development of ISL operations.

## **6.0 HISTORY**

### **6.1 Ownership History of the Property**

The surface and minerals of the properties within the Dewey-Burdock Project are in part not owned by the same principals. In years past, when the surface estate was sold the owner retained ownership of the minerals. Other properties have been homesteaded under the 1916 Homestead Act and the mineral estate was reserved to the U.S. Government. Uranium minerals were discovered in the Dewey-Burdock Project area as early as 1952 and were soon developed by open pit, adit, or decline shallow underground methods. Production came from small mining companies leasing the mineral rights from either the surface/mineral owner or the surface/mining claim owner. By the mid-1960's, all of these surface uranium deposits came under the control of Susquehanna Western Corp. (SW) who had purchased the process mill located in Edgemont. SW mined out most of the known, larger uranium deposits before the mill was closed in the late 1960's. During the uranium boom of the 1970's, several companies came back to the Dewey-Burdock area and acquired leases and began further exploration searching for deeper deposits. During this period, such exploration groups as Wyoming Mineral (Westinghouse), Homestake Mining Co., Federal Resources and even SW were discovering much larger, roll front type uranium mineralization. In mid-

1970's, Tennessee Valley Authority (TVA) bought out all of SW's interest in the Southern Black Hills uranium district including the closed processing mill in Edgemont. TVA made the Dewey-Burdock area their main exploration target and developed reserves adequate to warrant an underground shaft mine at both the Burdock site and the Dewey site and even had plans for a new uranium mill to be located near Burdock. These plans came to an end when the price of uranium dropped in the early 1980's. Eventually, TVA dropped all of their leases and mining claims in the area and the original land/claim owners took over their old mining claims or retained their mineral rights. In 1994, Energy Fuels Nuclear (EFN) acquired all of the properties covering the uranium roll front ore bodies within the Dewey-Burdock Project. By 2000, EFN had relinquished all of their land position in the Dewey-Burdock Project

## **6.2 Exploration and Development Work Undertaken**

Exploration in the Dewey-Burdock Project began in 1952 following discovery of uranium minerals in Craven Canyon in the Edgemont District. Early efforts by the US Atomic Energy Commission and the USGS determined the Lakota and Fall River formations were potential uranium host formations. Local ranchers, who were property owners, began carrying cheap Geiger counters as they worked their cattle in the area. These early rancher/prospectors made the first uranium discovery in outcrops of the Fall River formation on the Dewey-Burdock Project. They soon leased their holdings to local uranium mining companies who first drilled shallow exploration holes with wagon drills and hand-held Geiger probes. Sufficient uranium was discovered to warrant mine development by adit and shallow decline. Susquehanna Western Inc. (SWI) drilled the first deep holes (600 feet) to discover unoxidized uranium roll front ore deposits in the Lakota formation. After acquisition of the Dewey-Burdock Project by TVA in 1974, their contractor, Silver King Mines (SKM) evaluated all previous exploration efforts and began their own exploration program. Exploration and development drilling continued on the Dewey-Burdock Project until 1986 when TVA dropped all their leases. By that time, it was estimated that almost 4,000 exploration holes to depths of 500-to-800 feet were drilled on the Project. The majority of this drilling was done with rotary drills using 4.5-to-5.3 inch drill bits and drilling mud recovery fluids. Drilling mainly explored to the base of the Lakota formation as well as any Fall River formation preserved at the site. Down hole electric log probing was performed by company owned probe trucks or by Century Geophysical Corp. All down hole probing produced gamma logs that were interpreted for uranium content by company geologists. Assays were calculated by various industry standard methods and tabulated in table form or placed on assay maps. A number of the gamma logs available were audited by RBS&A to establish authority for the posted assay and no mistakes

were ever found. Variance was usually in the second or third decimal place and not worth changing.

Drill hole cuttings samples were collected at 10-foot intervals and logged for lithology and oxidation/reduction and were recorded in geologic sample logs. Oxidation is almost always described as red- to yellow colors and noting the presence of hematite or limonite mineralization. Reduced sediments are always described as green-to gray colors with the presence of pyrite minerals.

The completed open hole was probed for uranium intersection by down hole probe to log the hole for gamma, self potential (SP) and resistivity. Because of caving ground and swelling clays, some holes had to be logged through the drill stem that limited the log to only gamma response. TVA did an intense study to log holes both open hole and behind pipe in the same hole to determine a factor to evaluate uranium content when the hole was logged only behind pipe.

Exploration procedure was to establish the existence of a geochemical front based on cutting samples and gamma log morphology. Following that front utilized a series of fences drilled normal to the front with spacing of 400 feet between fences. Infill drilling was done to delimit the dimensions of the mineralization. This exploration indicated that economic uranium mineralization does not occur continuously along the geochemical front but forms pockets or pods of economic mineral separated by intervals of sub-economic mineralization. Exploration also indicated that mineralization occurred at more than one horizon within the sands of a formation and roll fronts might occur in any sand. Sometimes, these roll fronts crossed deeper roll fronts so that an exploration drill hole might indicate more than one mineral interval. Such was common for two fronts but very rarely would more than two fronts be intercepted in the same drill hole. All of the exploration done by TVA was designed to develop an underground mine. They did not consider the possibility for mining by ISL methods. ISL mining requires a different interpretation of the data

TVA completed at least 64 core hole tests on the Burdock portion of the Project to determine disequilibrium of gamma response for uranium equivalent measurement versus actual chemical assay. The records do not specify the laboratory used but the analyses are shown in Figure 5, a table of Chemical Assay and Radiometric Results from cored holes.

Figure 6 is a log normal plot of chemical versus radiometric values. The results show that the mineralized trends are in equilibrium and that gamma logging will give an accurate measurement of the in place uranium content.

TVA completed an extensive development drilling program as well as a hydrologic study and in 1981 completed an underground mine feasibility study on the uranium deposits within the Dewey-Burdock Project. This study designed an underground mine that proposed five shafts, three on the Burdock deposit and two on the Dewey deposit. Projected mine production was to be 750 tons per day that would produce 5 million pounds  $U_3O_8$  using underground mining cutoff grade of 6.0 feet of 0.10%. Later studies considered a processing mill to be built on the Burdock deposit that would also process Dewey ores as well as other ores to be mined in the Edgemont District.

TVA did nothing more than plan the mine. No operation was ever begun and all efforts between 1982 and 1986 were expended on exploration drilling assessment work required to hold their lode mining claims. Even this ended in 1988.

In 1992, Energy Fuels Nuclear (EFN) acquired leases and drill hole information on the Dewey-Burdock Project. Their intention was to mine the uranium deposits by ISL methods. R.B. Smith & Assoc., Inc., (RBS&A) was contracted as an independent consultant to evaluate all the available data to determine the location, host formation and uranium resource that might be exploited by ISL methods. EFN did no additional exploration or development drilling on the Project. In 2000, International Uranium Corporation, the successor to EFN, dropped their holdings in the Dewey-Burdock Project.

### **6.3 Historic Mineral Resource Estimates**

The first uranium resource estimate for the Dewey-Burdock Project was completed for TVA by SKM in 1981 as part of an underground mine feasibility study. The author had the opportunity to review summaries of the working papers prepared by SKM. This study used a minimum thickness of six feet with a minimum average grade of 0.10%  $U_3O_8$ . This estimate calculated that 5 million pounds of "proven mineral reserve" (SKM terminology) contained in 1,250,000 tons of rock could profitably be mined by underground methods from a total underground "mining resource" of 8 million pounds out of the "identified resource" of 10 million pounds. Based on these parameters, the mine was expected to produce 750 tons per day that would average 0.20%  $U_3O_8$ . This "proven mineral reserve" was calculated from assay maps that showed hole location, collar elevation, gamma intercept depth, intercept thickness and, average intercept grade estimated by conventional gamma log grade calculation methods. The documents prepared by SKM were reviewed by RBS&A and these papers indicated that SKM utilized computer averaging to calculate uranium intercepts. Although no detailed computer output was



found to support these calculation methods, SKM was known to be a careful operator with highly qualified personnel who could accurately conduct mine design estimates SKM believed that the additional 2 million pounds of "identified resource" would require additional drilling before they could be adequately located, identified and added to the proposed proven mineral reserve.

Copies of the same drill hole assay maps were available to RBS&A in 1991. RBS&A evaluated the data in the expectation that the uranium deposit would be mined by ISL methods. RBS&A considered only those assay map intercepts that had an average grade of 0.05%  $U_3O_8$  or greater and were of sufficient thickness to yield a grade-thickness (GT) product of 0.50. Over 2,000 electric drill hole logs from the known mineralized areas on the Dewey-Burdock Project were selected for audit in order to correlate and categorize each intercept to a designated sand host unit and to determine an intercept position within a geochemical roll front system. The drill hole electric log data in association with lithologic data determined an estimated location of roll fronts within each of 12 lithologic units within the Lakota and Fall River formations. Nine lithologic units were assigned to the Lakota formation and three lithologic units were assigned to the Fall River Formation. Figure 7 is a type electric log showing lithologic units and formation tops.

The assay intervals greater than 0.5GT and roll front location were transferred to drill hole location maps. The GT values were then hand contoured. The area inside the 0.5GT contour was measured with planimeter to determine square footage within the area. The arithmetic mean GT intercept within the 0.5GT contour was calculated. A tonnage factor of 16 cubic feet per ton was used. Pounds of  $U_3O_8$  within any 0.5GT contour were determined by the equation:  $20AGT/16 = \text{pounds } U_3O_8$ . "A" is equal to the planimeter area, GT is mean grade-thickness product, and 16 is rock density. Uranium resources were determined for each 0.5GT contour closure. These resources were summed for each lithologic unit. All lithologic units were summed to obtain the total uranium resource. These resources were determined to qualify as indicated resources under the standard guide to qualify various types of reserve estimates in the United States at the time of that estimate. That evaluation by RBS&A indicated a global uranium resource that met economic parameters for ISL mining in the Dewey-Burdock Project area totaled 8.1 million pounds  $U_3O_8$ . This uranium is contained in 1,928,000 tons of rock with an average assay of 0.21 percent  $U_3O_8$ .

Denver Uranium has conducted no exploration work on the Dewey-Burdock property. The foregoing resource and reserve estimates calculated by SKM and RBS&A are historic estimates that do not comply with NI 43-101. The author has dealt with SKM in the past and knows them to be a careful operator

employing qualified personnel that would accurately conduct mine design estimates. Accordingly, the author considers their estimates to be reliable and because the deposit on which the estimates were made is contained within the properties now controlled by Denver Uranium, their estimates are relevant. The categories of "proven mineral reserve", "mining resource" and "identified resource" employed by SKM are not categories of resource or reserve recognized by NI 43-101. The author has recalculated some of the available historic data the results of which are set out in Section 16.0 herein. The author recommends that Denver Uranium undertake a work program to provide current data to permit fuller categorization of this deposit in accordance with the provisions of NI 43-101.

#### **6.4 Production History**

Uranium was first produced in the Dewey-Burdock Project probably as early as 1954 by a local group known as Triangle Mining Co., a subsidiary of Edgemont Mining Co, who mined from a single, shallow open pit. This same group reportedly drove an adit from both sides of an exposed ridge mining a narrow ore body about 600 feet long. These mining efforts produced probably about 1,000-to-2, 000 pounds of yellow cake that was processed at the mill in Edgemont. All of this mining was within the Burdock portion of the Dewey-Burdock Project area. SWI acquired the same area in about 1960 and discovered by shallow drilling sufficient resources in the Fall River formation to warrant open pit mining in five or six pits less than 100 feet deep. SWI also controlled the mill in Edgemont, which allowed them some tolerances in mining low-grade ores that other mining companies could not afford. SWI also had a milling contract with Homestake Mining Co. to buy ore from the Hauber Mine in northeast Wyoming. As long as SWI had the Hauber ore to run through their Edgemont mill they could afford to mine low-grade ores from the Burdock surface mines. When the Hauber Mine was mined out and Homestake ceased ore shipments to Edgemont, SWI closed their mining operations at Burdock and anywhere else in the Black Hills. No actual production records are known from the Burdock mines but production is estimated to have been less than 1 million pounds. No subsequent operator in the Dewey-Burdock area produced uranium.

It is verified by the historical data and recent field investigations that none of the uranium resource in the Lakota formation or any of the uranium resource in the Dewey area of the Project has been mined or exploited in any manner. The current evidence supports that the uranium resource reported to exist by the previous operators and by RBS&A evaluation for EFN still remains intact on the property. Denver Uranium is aware that considerable effort must be expended before a feasibility study can be completed that will indicate these resources can be extracted by ISL mining methods.

## 7.0 GEOLOGICAL SETTING

### 7.1 Regional Geology

The Black Hills Uplift is a Laramide Age structure forming a northwest trending dome about 125 miles long by 60 miles wide located in southwestern South Dakota and northeastern Wyoming. The uplift has deformed all rocks in age from Cambrian to latest Cretaceous. Subsequent erosion has exposed these rock units dipping outward in successive elliptical outcrops surrounding the central Precambrian granite core. Differential weathering has resulted in present day topography of concentric ellipsoids of valleys under softer rocks and ridges held up by more competent units. Figure 8 is a structural map of the southwestern portion of the Black Hills Uplift.

The uranium host units in the Dewey-Burdock area are the marginal marine Lakota and Fall River sandstone units within the Inyan Kara Group of earliest Cretaceous Age. These sandstones are equivalent to the Cloverly formation in western Wyoming, the Lakota formation in western Minnesota, and the Dakota formation in the Colorado Plateau. The entire Inyan Kara Group consists of basal fluvial sediments grading into near marine sandstones, silts and clays deposited along the ancestral Black Hills Uplift. The sandstones are fairly continuous along the western flank of the Uplift. The Inyan Kara Group unconformably overlies the Jurassic Morrison formation, here shale. Overlying the Inyan Kara are later early Cretaceous marine shales composed of the Skull Creek, Mowry, and Belle Fourche formations. Post uplift, the entire truncated set of formations was unconformably overlain by Tertiary White River formation. The White River consisted of several thousand feet of volcanic ash laden sediments that have since been eroded. Figure 9 is a tectonic map of the Black Hills Uplift. White River formation is still in place over much of the Powder River Basin and remnants of White River formation can be found on top of Fall River formation to the northwest of Sundance, Wyoming. The White River formation is widely considered to be the source for uranium deposits throughout the region.

The Inyan Kara is typical of units formed as first incursion of a transgressive sea. The basal fluvial sediments grade into marine units as the ocean inundated a stable land surface. The basal units of the Lakota rest in scours cut into the underlying Morrison shale and display the depositional nature associated with mega-channel systems crossing a broad, flat coastal plain. Younger sand units of the Lakota become progressively thinner and less continuous and often scour into older channel sand units. Channel sands are separated by thin deposits of overbank and flood plain silts and clays.

Crevasse splays are common and abruptly terminate into inter-channel clays. The upper-most unit of the Lakota formation is a widespread clay unit generally easily identified on electric logs by a characteristic "shoulder" on the resistivity curve. This unit is known as the Fuson member. The basal unit of the Fall River formation is widespread, fairly thick channel sand deposited in a middle deltaic environment that is evidenced by low-grade coals in its upper portion. Younger Fall River sand units are progressively thinner, less widespread; contain more silt and considerably more carbon denoting a lower deltaic environment of deposition. There is little or no evidence of scouring of the contact between Fall River and the overlying marine Skull Creek. Inundation must have been rapid since within less than 20 feet of sedimentation, rock character goes from middle deltaic, marginal marine to deep marine environment with no evidence of beach deposits or offshore bar systems.

The overall structure of the Black Hills Uplift is fairly simple in that the structure is domal and rock units dip outward away from the central core. In detail, subsequent and attendant local doming caused by local intrusions disrupts the general dip of the units. Tensional stress creates fault zones with considerable displacement from one side of the zone to the other. This is often a distance of three or four miles. The Dewey fault zone, a few miles to the north is a zone of major displacement. The faulting drops the uranium host units several hundred feet and truncates the oxidation reduction contact that formed the Dewey-Burdock mineralization.

## **7.2 Local and Property Geology**

The Lakota formation in the Dewey-Burdock Project area was deposited by a northward flowing stream system. Sediments consist of point bar and transverse bar deposition. The stream channel systems are typical of meandering fluvial deposition. Sand units fine upward and numerous cut and fill sandstones are indicative of channel migration depositing silt and clay upon older sand and additional channel sands overlay older silts and clays. This Lakota stream deposited sediments across a channel width of four or five miles. Uranium minerals were deposited in several stratigraphically different sands that do interconnect to form a near-continuous aquifer for groundwater migration. Because uranium deposits have formed in separate stratigraphic units, these units were identified and named for their stratigraphic position. Refer to Figure 7.

Similar channel deposition occurred during Fall River time but the channel sands are noticeably thinner with marine sediments immediately superimposed on the fluvial sands. The knowledge of detailed stratigraphy is

critical in ISL mining due to the importance of solution contact with the uranium mineralization. Where uranium is located in low permeability horizons, solution mining is not as efficient as it would be in more uniform sandstones with relatively equal permeability. During the evaluation of uranium resources made by RBS&A, the sands of the Lakota formation were divided into nine sandstone units, generally about 20 feet thick and usually separated by a consistent claystones or shales. The major sand unit in the basal Fall River formation was divided into three sand subunits, each of which are mineralized and contain roll fronts on the Dewey portion of the area. All of the Fall River uranium mineralization on the Burdock portion of the Project are at or above the water table and were not considered in the evaluation.

The lithologic units of the Lakota and Fall River formations now dip gently, about three degrees, to the southwest off the flank of the Black Hills Uplift. This structure controls present groundwater migration. Since the uranium roll front ore bodies below the water table are dynamic, their deposition and tenor is factored by groundwater migration. Very few faults were observed during the correlation of exploration drill holes in the project area. Fault systems have been mapped away from the project and major systems affect local groundwater migration and thus uranium deposition. Refer to Figure 8.

## **8.0 DEPOSIT TYPES**

Uranium deposits in the Dewey-Burdock Project are sandstone, roll front type. These type deposits are usually "C" shaped in cross section, a few tens of feet wide and often thousands of feet long. Uranium minerals are deposited at the interface of oxidizing solutions and reducing solutions. As the uranium minerals precipitate, they coat sand grains and fill the interstices between grains. As long as oxidizing groundwater movement is constant, minerals will be solubilized at the interior portion of the "C" shape and precipitated in the exterior portion of the "C" shape, increasing the tenor of the ore body by multiple migration and accretion. Thickness of the ore body is generally a factor of the thickness of the sandstone host unit. Mineralization may be 10-to-15 feet thick within the roll front while being inches to feet thick in the tail portions. Deposit configuration determines the location of wellfield drill holes and is a major economic factor in ISL mining

## **9.0 MINERALIZATION**

Previous reports by TVA indicate that uranium minerals in the Dewey-Burdock Project are all of +6 valence state and thus considered to be deposited from epigenetic solutions. Uranium deposits are concentrated along the flanks of

sand channels and are larger in size on the down dip flank of channels. Alteration, depicting the oxidation reduction contact can occur in several channel units and may be several miles in length. Uranium deposition in significant deposits occurs discontinuously along the oxidation/reduction boundary with individual deposits ranging from several hundred-to a few thousand feet in length. Width of concentration is dependant upon lithology and position within the channel. Widths are seldom less than 50 feet and are often over 100 feet. Thickness of high concentration uranium mineral varies from one or two feet in limbs to eight or ten feet in the rolls. Tenor of uranium mineralization may vary from nil to a few percent at any point within the ore body. In the investigation of uranium resources on the Dewey-Burdock Project by RBS&A, only those radiometric intercepts that met or exceeded 0.05%  $U_3 O_8$  and were of sufficient thickness to yield a grade-thickness product of 0.5 were tabulated as being ore. The summation of all of these tabulations yielded an average GT for the Burdock mineralization of 1.22 and for the Dewey deposits a GT of 1.35. The average for the total Project was 1.28. TVA did not approach ore reserve calculation in the same manner, using a higher 0.6 GT cutoff and thus their calculation yielded a uranium resource of 7% less than RBS&A. Experience in the uranium industry would consider this calculation of mineralization to be somewhat conservative since any ore body anticipated to be mined at these depths by ISL methods would accept a lower GT cutoff.

### **9.1 Geologic Controls**

The primary ore control of uranium mineralization in the Dewey-Burdock Project is the presence of permeable sandstone within a major sand channel system that is also a groundwater aquifer. Such conditions exist in both the Lakota and Fall River formations. A source rock for uranium in juxtaposition to the aquifer is necessary to provide mineral to the system. As described above the uranium -rich White River formation originally overlay the subcropping sandstone units of the Lakota and Fall River formations. The last control is the need for a source of reductant to precipitate dissolved uranium from groundwater solutions. RBS&A has observed that such reductant is available from deeper hydrocarbon deposits discovered down dip only a few miles west of the Dewey-Burdock Project as well as hydrocarbon occurrences in deeper formations just east of the Project area. Previous writers as early as 1952 postulated the source of reductant to be carbon and carbon trash that does occur in varying quantities throughout the Inyan Kara group.

## **10.0 EXPLORATION**

Denver Uranium has not done any exploration on the Dewey-Burdock Project.

## **11.0 DRILLING**

Denver Uranium has not done any drilling on the Dewey Burdock project. Denver Uranium has relied totally upon work done by others and described herein as an historical evaluation. This document is a summary of the historical efforts on this project.

## **12.0 SAMPLING METHOD AND APPROACH**

Denver Uranium has done no sampling on the property.

## **13.0 DATA VERIFICATION**

### **13.1 Review of Historical Records**

The records of the Dewey-Burdock Project are vast. Records were made available to RBS&A in 1991. At that time an evaluation of the mineral deposits was made using copies of electric logs and various drill hole location and assay maps. In 1993, additional data became available that included reports by previous owners, additional assay data and even aerial photographs of the project. Diligent searches of university libraries and government records were made. Contacts were made to interview people who had been active on the Project at different times. All of these data were evaluated during 1993 and 1994 and summarized in several reports presented to EFN, the owner and operator of the project at that time. This present report is based on in-file copies of those reports. The data used to develop those reports were returned to EFN and the whereabouts of those data is not now known. No new drilling has been done on the Project.

No samples are known to have ever been collected to support the estimation of uranium resources on the Dewey-Burdock Project except those retrieved by core drilling. There are no entries into the mineral bodies except shallow deposits mined by open pit and these are not considered part of the uranium resource within this report. There are in the records chemical assays of core taken from several years ago from the deeper deposits. Little is know about these cores except the coring program was done by Silver King for TVA. Records of these assays are shown in Table 5 and are accepted as valid data representing mineral tenor.

In October 2005, an onsite survey was made of the Dewey-Burdock Project to determine if any activity over the intervening years would have altered the opinion presented to EFN in 1994. There were no signs that the area had experienced any additional drilling and most certainly there were no indications that any type of mining activity would in any way have altered nor diminished the estimate of uranium quantities presented in previous RBS&A reports.

### **13.2 Limitations on Sample Verification**

RBS&A relied totally on copies of select drill hole electric logs and copies of assay maps to determine the uranium resource of the Dewey-Burdock Project. RBS&A have had a long career in evaluating numerous uranium ore reserves throughout the United States and in Mexico. With this experience comes the knowledge to recognize reliable data and even to determine falsified data. Knowing the parties involved in the Project area and knowing several of the workers personally gives confidence to the veracity of the data obtained and reviewed to develop the estimate of uranium resources. The limitation of all these data is that their origin is so diverse. Different companies produced electric logs across a long period of time. Data is so abundant that it is difficult to accumulate all the data into one sensible document. Up to a point in time, these data were being used to establish an underground uranium mine. The present interest is to develop an ISL mine that requires slightly different parameters than does conventional mining.

### **14.0 ADJACENT PROPERTIES**

There are no operating uranium mines near the Dewey-Burdock Project at this time. In the past, several open pit and underground uranium mines were located in the Edgemont District and in northeastern Wyoming. An ISL mine is presently operating near Crawford, Nebraska and another ISL mine is operating at the Smith Ranch Project in Converse County, Wyoming.

It has been reported that three other uranium-oriented groups are in the process of acquiring property rights in the area but their exact holdings have not yet been authenticated. It is expected that considerable acquisition activity will be taking place in the Dewey-Burdock area as well as in the Edgemont District. Competition is keen but Denver Uranium is confident that they have secured the most favorable portions of the mineralized trends.

All of the areas planned to be mined by Denver Uranium are well within the present property boundaries and do not conflict with adjacent ownership. In the rare instance where uranium roll front deposits might pass onto



uncontrolled properties, the flow of solutions can be controlled by well spacing to within a very few feet of any adjacent property not under the control of Denver Uranium. Exact control of solution mining is much more critical when mining progresses from one royalty owner to another royalty owner. This situation is well known to ISL mine operators and is common in many an ISL mining operation.

## **15.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

For the purposes of this report, no new samples or data was available for the author to evaluate for leach amenability. Core leach data developed by Silver King for TVA indicated that several studies were undertaken for conventional mill amenability. These studies indicated that recoveries of uranium of 99% of in place values could be expected in a conventional acid mill circuit with low acid consumption. For the purposes of in situ leach, the only conclusion that can be drawn from these earlier studies is that the uranium present in the project area is not refractory under normal milling conditions. As mentioned in the recommendation section of this report, Denver Uranium should conduct core leach tests to establish in situ leach compatibility.

## **16.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

RBS&A did several evaluations of uranium resources on the Dewey-Burdock Project during the early-1990's. The conclusion of these evaluations was that the records and detailed maps of individual mineralized blocks could be relied upon as a reasonably accurate estimation of in place pounds of uranium. The mapping method that the author employed in making estimates of in place uranium, as described above in Section 6.3: Historic Mineral Resource Estimates, does not conform to typical standard methods for quantifying mineral resources including applying the uranium value found within a drill hole to a 50 foot radius surrounding the drill hole, or applying the value of resource to the area halfway to the adjacent drill hole. However, it is clear that the data meet Canadian Institute of Mining Metallurgy and Petroleum Standards on Mineral Resources and Reserve Definitions. As stated:

" An inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from location such as outcrops, trenches, pits, workings and drill holes."

The maps of drill hole values prepared by this author and prior authors readily meet these criteria. A more stringent definition of resources is contained in the next higher category of Resources, Indicated Mineral Resource. Here, a level of confidence must be achieved that the data would "support mine planning". It has been mentioned that the author recommends some additional work be completed prior to a feasibility study. Upon successful completion of the prescribed work, the author believes that the inferred resources defined herein could be increased in position and become available for mine planning. The author has reviewed his notes, detailed maps and summaries of data in conjunction with the construction of this report and has concluded the resources defined here should be categorized as inferred as they do not, without additional work, demonstrate economic viability. With those limitations identified, the quantity of uranium that the author considers as inferred resource within the properties controlled by Denver Uranium totals 7.6 million pounds contained in 1,800,000 tons of host rock averaging 0.21 percent  $U_3O_8$ . As described above the resources are contained in two identified deposits. The Dewey deposit contains inferred resources of 3.99 million pounds out of 887,000 tons in two main horizons. The Fall River contains the majority of the inferred resources with 3.3 million pounds contained within 635,000 tons averaging 0.23 percent. The deeper Lakota with fewer penetrations contains inferred resources of 690,000 pounds in 252,000 tons of rock, averaging 0.17 percent  $U_3O_8$ . The Burdock deposit is hosted by the Lakota formation and contains an estimated 3.6 million pounds of inferred resources averaging 0.20 percent contained in 920,000 tons of rock. In addition the author was able to establish both Lakota and Fall River uranium roll front interfaces could be identified for a distance of over 20 miles on the properties currently held by Denver Uranium.

It must be emphasized here that permitting and licensing requirements of in situ leach mining operations are complex and extensive. Until the company achieves a positive feasibility study and mining permits are obtained, the resources estimated within the properties held by Denver Uranium cannot be considered economically viable.

## **17.0 OTHER RELEVANT DATA AND INFORMATION**

Pertinent data concerning the uranium deposits in the Dewey-Burdock Project are bound to exist in other data storage. Over the years, several uranium exploration companies and numerous individuals were involved in the ongoing project in the area. Universities had several students involved in various studies using project data to enhance the knowledge of uranium ore deposits-to-groundwater studies. Not all of these data were known to nor

acquired by RBS&A but they were not all that important to fulfilling the client's request to identify the uranium resource of the Project. There were some drill hole locations found in the field that had no known downhole records. These were few and did not impact the study at hand. Any additional data would have increased the confidence level of the resource evaluation but it is not likely that any data could be in existence that could detract from the conclusions presented.

## **18.0 INTERPRETATION AND CONCLUSIONS**

After a careful review of all the data obtained by RBS&A utilized to evaluate the uranium resources of the Dewey-Burdock Project, it is concluded that the data and reporting were sufficient and accurate. Additional drilling will be necessary to discover all of the potential uranium resource on the project. Additional core recovery will be necessary to evaluate the potential for ISL methods of mining. Groundwater evaluation will be necessary to determine the feasibility of ISL mining methods. All of the background data required to license an ISL mining operation in the State of South Dakota must be acquired and prepared for presentation. A recent on the ground survey of the Project, during late-October 2005 did not indicate that any new pertinent data can be available to alter the opinion based on past data generated by RBS&A used as the basis for this report. There were no indications that any additional drilling has been done on the property since Silver King drilled for TVA. There certainly was no evidence to indicate that any of the uranium estimated to be present in 1994 has been removed from the Project by any extractive method. The Project is in almost the identical condition as was last observed in 1994.

## **19.0 RECOMMENDATIONS**

The Dewey-Burdock project contains a significant amount of delineated and identified uranium. Subject to completion of an evaluation drilling program to enhance the quality of the resources and bring the total data package to a state that can be considered a measured resource for the purposes of a full feasibility study, the quantity of uranium calculated with the existing drill program shows that this project could contain sufficient resources to support a stand-alone ISL production facility, and in the opinion of the author, is of sufficient character to warrant the expenditures recommended below. Therefore, a phased evaluation program should be undertaken which would include definitive drilling, with "prompt fission neutron" logging of ore holes. This limited drilling program would verify the continuity of the mineralization and equilibrium conditions of the mineral encountered. The company would conduct a core leaching program with cores from both of the main

mineralized horizons. This testing will assure the company that leaching with a mild bicarbonate solution and oxygen will yield the appropriate recovery percentages. With these data, the company can contract a feasibility study. Most of the data could be prepared in house with the final engineering design review conducted by a knowledgeable independent consulting firm.

Assuming success and adequate markets for the development of the deposit, a second phase program would be undertaken to further define the extent of the measured resources and bring the property to commercial development. Several permits and licenses must be obtained from the regulatory agencies. In order to prepare an application to the agencies, a number of technical and environmental studies must be undertaken. These will include technical reports on ground water, the surface environment, archaeology, climate and numerous other technical details to be used as submission to the regulators. It is recommended that the company assemble a qualified team of scientists who are knowledgeable in permitting uranium ISL operations. In addition, the properties under lease by Denver Uranium contain many miles of known oxidation fronts. The company should mount a thorough exploration program to define the resource potential of the area. The exploration program should be conducted using "fences" of drill holes, drilled across the frontal contact. When uranium mineralization is encountered a modest delineation program should be undertaken to establish the average width and GT of the ore. It is estimated that a program designed to test the viability of the total length of front boundaries within the property controlled by Denver Uranium will cost several million dollars. The program proposed for phase two will help demonstrate the continuity on the mineralization which will be followed by delineation drilling as part of the development of the future wellfields. Estimates of drilling costs shown in the following table are based on the cost of current drill contractors and the estimated availability of rigs. A typical hole drilled without core and probed by a commercial logging company will cost between US\$1000 and US\$3000 depending on the lithification and speed of penetration. With all costs including overhead and support, the cost per drill hole is typically US\$4000

The permitting process takes between 1-3 years to complete. Therefore the company needs to begin immediately if it plans to be in production during the five year primary term of the signed leases.

The following table has been prepared to demonstrate the range of costs that the company should consider as a minimum expenditure with continued encouragement at the completion of each program phase. As with all mine development opportunities, it will take several million dollars in order to bring the project on stream.

PHASE I					
	Activity	Quantity	Timing	Cost per unit	Total Cost \$US
Core Leach Testing & Hydrology	drilling	2 Lakota, 2 Fall River	2 weeks	\$200/Hour	\$15,000-\$20,000
	well completion	1 Lakota, 1 Fall River	1 week	\$200/Hour	\$5,000-\$10,000
Hydrologic Test	Well Drawdown	2 Wells	30 days	\$500/Day	\$15,000-\$20,000
Bench Core Test	Leach test	4, Outside Chem Lab	3 mos	Turnkey	\$20,000-\$30,000
Bench Core Test	Restoration	4, Outside Chem Lab	1mo	Turnkey	<u>\$5,000-\$15,000</u>
<b>Sub Total</b>					<b>\$60,000-\$95,000</b>
Evaluation Drilling	Wide Space	10 fences X 5 holes	2 months	\$200/Hour	\$175,000-\$225,000
Prompt Fission Neutron	Logging Holes	Contract Logging	2 months	\$2000/ Day	<u>\$40,000-\$50,000</u>
<b>Sub Total</b>					<b>\$215,000-\$275,000</b>
Feasibility		Contract Engineering	1 month	\$3000/ Day	<u>\$60,000-\$100,000</u>
<b>Total Phase I</b>					<b>\$335,000-\$470,000</b>
PHASE II					
Permit Preparation	Hydrology	Consult. Hydro.	2 months	\$1000/ Day	\$35,000-\$45,000
	Biology	Consult. Bio.	3 month	\$500/ Day	\$25,000-\$35,000
	Archaeology	Consult. Arch.	2 month	\$600/ Day	\$20,000-\$30,000
	Permit App	Consultant	6 months	\$1000/ Day	<u>\$50,000-\$75,000</u>
<b>Sub Total</b>					<b>\$130,000-\$185,000</b>
Delineation Drilling	Close space	100-175 holes	4-7 months	\$200/ Hour	\$400,000-\$700,000
PFN Logging	Log Holes	Contract Logging	4-7 months	\$2000/ Day	<u>\$175,000-\$300,000</u>
<b>Total Phase II</b>					<b>\$705,000-\$1,185,000</b>
<b>Total Phase I &amp; II</b>					<b>\$1,040,000-\$1,655,000</b>

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Waage, Karl M., 1959, Stratigraphy of the Inyan Kara Group in the Black Hills, in U.S.G.S. Bull. 1081-B, p 41-65.

## 22.0 CERTIFICATE OF QUALIFICATION

**Robert B. Smith, Cert. Prof. Geol. Wyoming 1732**  
**Geologist, R.B.Smith&Assoc., Inc.-**

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1 Country Lane  
Wimberley, TX 78676

512-847-9770 off. & fax  
512-393-8561 cell  
Email: rsmith321@austin.rr.com

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### I, Robert B. Smith do certify that:

1. I am the president of R.B.Smith&Assoc., Inc. a professional consulting geologic firm licensed in the State of Texas since 1978.
2. I received a Bachelor of Science in the Sciences degree from the University of Texas at El Paso in 1969.
3. I have been involved in uranium geology since 1952 and have worked in uranium geology in Texas, New Mexico, Utah, Colorado, Wyoming, South Dakota, Montana, Arizona, and Mexico.
4. I have read the definition of "qualified Person" set out in National Instrument 43-101(NI 43-101) and certify that by reason of my education, affiliation in the industry and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I am responsible for the preparation of the technical report titled: "Technical Report, Dewey-Burdock Project dated December 15, 2005. I have read NI 43-101, Section 8.1 (2)(h) and Form 43-101 F1 and the report has been prepared in compliance with those documents.
6. I have spent considerable time investigating the Dewey-Burdock Project area during the mid 1990's and again reviewed the entire Project area during October 2005.
7. I have had considerable prior involvement with the Dewey-Burdock Project beginning in 1952 when, in the Edgemont District, I mined my first uranium ore with a prospector's pick and a whiskbroom. I staked mining claims adjoining the Project in 1954 and 1955. I have worked on drilling rigs and prospected the area from 1952 to 1957. I spent numerous days investigating, researching and mapping data from the area between 1994 and 1997.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading
9. I am independent of Denver Uranium Corp. applying all of the tests in section 1.5 of NI43-101
10. I was certified as a licensed Professional Geologist by the Wyoming Board of Registration for Professional Geologists on November 2, 1992 and have maintained said license to the present as Professional Geologist 1732.

Signed and dated this 15<sup>th</sup> day of December, 2005



Robert B. Smith,  
Consulting Professional Geologist  
At Woodcreek, Texas





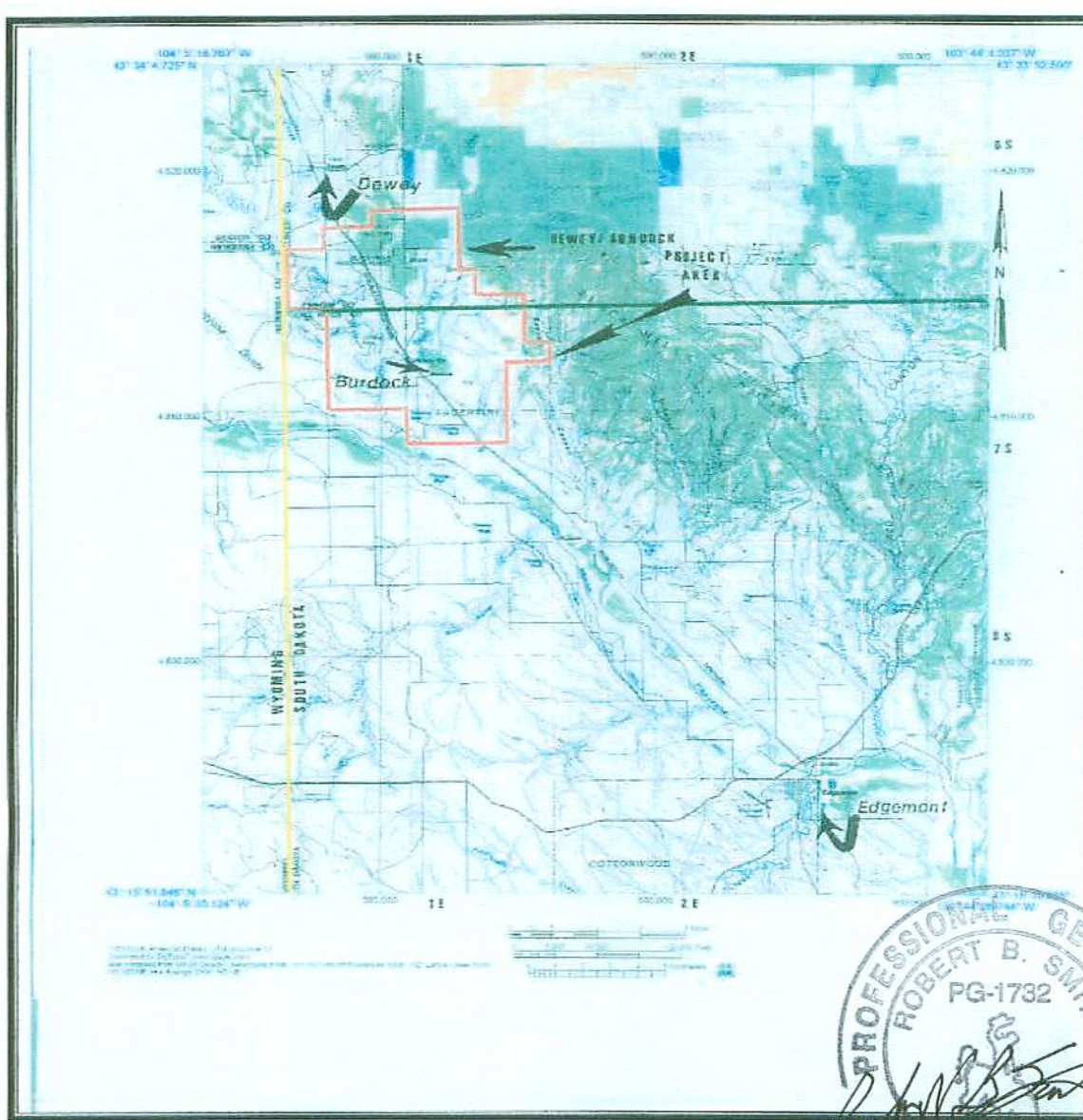
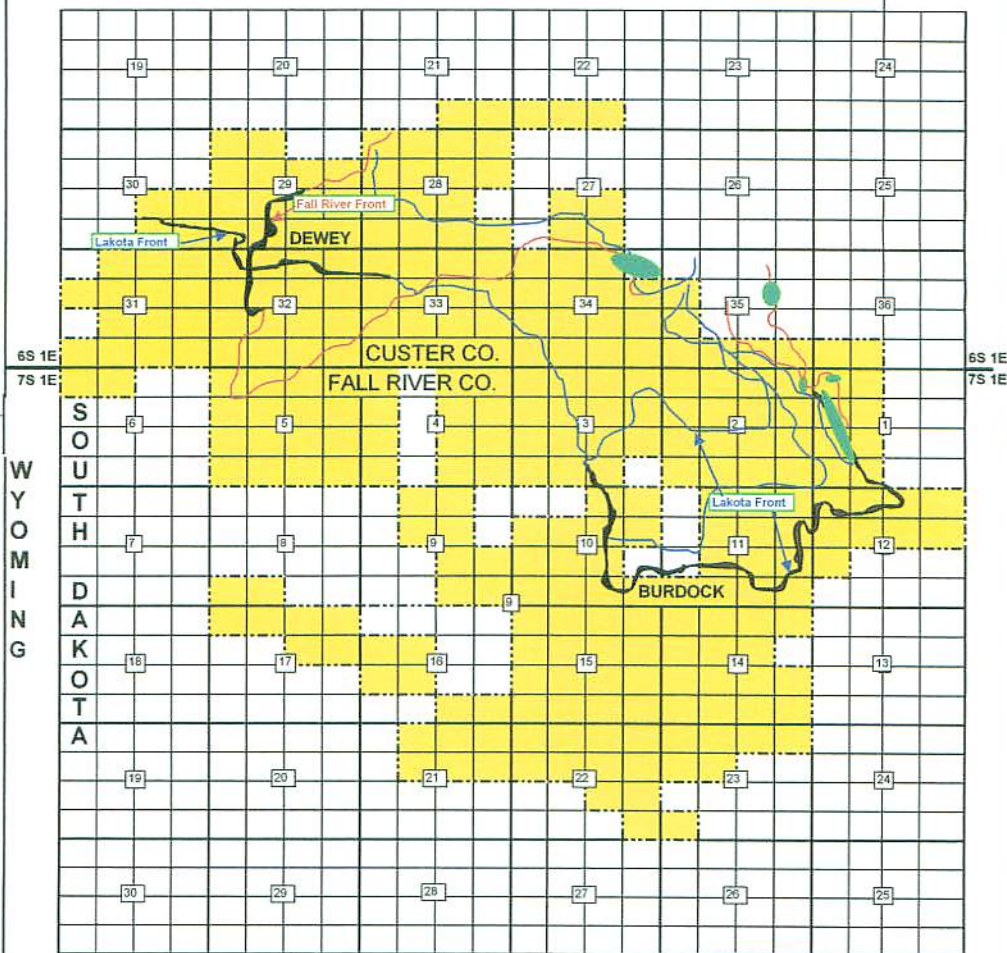


Figure 2. Topographic map of the Dewey-Burdock Project showing public and private roads, state lines and towns.

**Dewey-Burdock Project**  
**Edgemont Uranium District**  
**Custer and Fall River Counties, South Dakota**

**MINERAL LEASES & CLAIMS**

SHOWING LOCATION OF MAIN OXIDATION/REDUCTION FRONTS AND AREAS OF DENSE DRILLING



W  
Y  
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SCALE: 1 MILE



MINERAL LEASE AND CLAIM BOUNDARY



OXIDATION/REDUCTION FRONTS

\* Fall River

\* Lakota



AREAS OF HIGH DENSITY DRILLING



Historical Open Pit Mines



NORTH



Robert B. Smith  
 Certified Professional Geologist  
 Wyoming, 1732

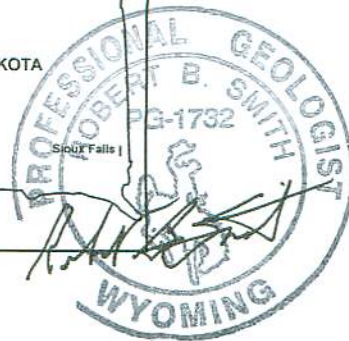


Figure 3. Dewey-Burdock Project location map showing roll fronts and other datum.

R.B. Smith & Assoc., Inc.  
 Woodcreek, Texas  
 Date: per 15, 2005

PERIOD	FORMATION	Sym- bol	COLUMN	LITHOLOGIC DESCRIPTION	Thickness	CORRELATION
<b>Quarter- nary</b>	Alluvium	Qal		Gravel, sand and silt floodplain deposits, Alluvial terraces and windblown material	1-30 feet	
	Pierre Fm.	Kp		Dark Gray Shale, weather brown, fossiliferous	0-1000 ft	
<b>C r e t a c e o u s</b>	Niobrara Fm.	Kn		Gray calcareous shale weathers yellow	0-225 ft	
	Carlile Fm.	Kcr		Gray shale w/ thin ss beds	0-540 ft	
	Greenhorn LS	Kg		Thin bed hard limestone, fossiliferous	0-50 ft	
	I N Belle Fourche Fm.					
	Y Mowry Shale			Lt gy shale, bentonite w/concretions		
	A Newcastle SS	Kgs		Thin brn -yellow ss	0-870 ft	
	N Skull Creek Sh			Black carbonaceous sh		
	K Fall River Fm.	Kfr		Interbed red-brn massive ss and carbonaceous shale	30-165 ft	<b>Uranium Zone</b>
	A Fuson Sh.			Gy-purple sh, bentonite, concretions	0-160 ft	
	R Minnewasta LS			Lt gy massive ls	0-25 ft	
A G P	Lakota Fm.	Klk		Coarse massive ss, buff-gray coal near base	130-230 ft	<b>Uranium Zone</b>
<b>Jurassic</b>	Morison Fm.	Jm		Green maroon sh	0-125 ft	
	Unkapa Fm	Ju		fine gr massive ss	0-240 ft	
	Sundance Fm	Jsd		red ss interbeds and red to green marine sh	250-450 ft	
	Opeche Fm	Co		thin bedded ss and sh	100 ft	
<b>Pennsyl- vanian</b>	Minnelusa Fm.	Cml		Red to yel cross bed ss, thin sh red marker series of thin ls, dolomite at base	155-1040 ft	
<b>Missis- sippian</b>	Pahasapa Fm.	Cps		Massive light dolomite and ls	165-465 ft	
<b>PreCam- brian</b>	Metamprhic Igneous Rocks	& Pc		Granite, schist, quartzite, slate		

Figure 4. Dewey- Burdock Project geologic column showing uranium mineralized sand units.

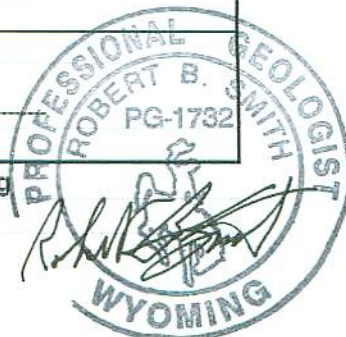


TABLE 3

Comparison of Chemical Assay  
 and Radiometric Results From Cored Holes  
 Pre 1979-80

<u>Hole #</u>	<u>Chemical Assay (GT)</u>	<u>Radiometric Result(GT)</u>	<u>Chem. GT/Ra</u>
PT-1	3.5-.23-373 (.81)	3.0-.28-374 (.84)	.96
	0.9-.51-383.2 (.46)	1.0-.35-384 (.35)	1.31
PT-35	5.5-.65-458.5 (3.58)	6.0-.50-460 (3.00)	1.19
	3.9-.90-466.3 (3.51)	3.5-.38-468.5 (1.33)	2.64
PT-36	3.2-.09-455.4 (.29)	4.0-.06-455 (.24)	1.21
	2.9-.69-464 (2.00)	3.0-.58-465 (1.74)	1.15
PT-37	11.0-.15-535 (1.65)	8.0-.16-534 (1.28)	1.29
PT-38	5.9-.03-526 (.18)	5.0-.04-525 (.20)	.90
	2.0-.28-535.4 (.56)	2.0-.22-539 (.44)	1.27
RONT-46	3.0-.07-491 (.21)	2.5-.03-492 (.08)	2.63
RONT-49	6.6-.12-478.7 (.79)	5.0-.15-477 (.75)	1.05
	4.9-.22-487 (1.08)	6.0-.18-486 (1.08)	1.00
FBT-1	12.5-.06-400 (.75)	12.5-.11-398.5 (1.38)	.54
	5.0-.12-418.5 (.60)	4.8-.34-418 (1.63)	.37
FBT-5	3.8-.20-339.3 (.76)	3.2-.24-342 (.77)	.99
FBT-6	1.2-.54-400.4 (.65)	1.0-.98-402.5 (.98)	.66
FBT-39	0.6-.27-340.2 (.16)	3.0-.03-338 (.09)	1.78
	2.4-.05-347.5 (.12)	3.0-.07-346.5 (.21)	.57
	0.9-.37-357.6 (.33)	1.5-.15-356 (.23)	1.43
FBT-40	7.9-.29-434.9 (2.29)	8.5-.39-434.5 (3.32)	.69
FBT-41	15.0-.33-417 (4.95)	11.5-.47-419.5 (5.41)	.91
FBT-42	2.5-.57-435.8 (1.43)	2.0-.51-434 (1.02)	1.40
	2.5-.02-447.4 (.05)	1.0-.32-446 (.32)	.16
FBT-49	2.4-.08-395 (.19)	3.0-.06-396 (.18)	1.06
	5.9-.37-408.3 (2.19)	5.0-.49-409.5 (2.45)	.89
	2.95-.07-415 (.19)	2.0-.22-416 (.44)	.43
FBT-50	4.0-.58-425 (2.32)	4.0-.52-426 (2.08)	1.12
	10.5-.48-432.2 (5.04)	12.0-.35-433 (4.32)	1.17

**Figure 5. Table of chemical vs radiometric assays of core from Dewey-Burdock Project. Source: TVA**

(Continued - Table 3)

Hole #	Chemical Assay (GT)	Radiometric Result GT	Chem. GT/Rad. GT
IHT-128	11.1-.04-300 (.44)	11.5-.09-298.5 (1.04)	.42
IHT-129	12.3-.18-279.9 (2.21)	10.0-.25-280.5 (2.50)	.88
IHT-145	16.4-.04-289 (.66)	16.0-.04-290 (.64)	1.03
DRT-64	5.9-.45-292.9 (2.66) 1.1-1.18-304.1 (1.20)	5.5-.49-292.5 (2.70) 1.5-1.13-302.5 (1.70)	.99 .76
DRT-103	5.0-.03-332.1 (.15) 0.7-.15-362.1 (.11)	8.0-.04-332 (.32) 1.5-.07-363 (.11)	.47 1.00
PT-121	3.0-.03-433.8 (.09) 3.6-.04-440.7 (.14) 2.5-.08-452 (.20)	2.5-.04-431.5 (.10) 5.0-.03-438 (.15) 3.5-.07-450 (.25)	.90 .93 .80
<u>1979-80 Coring Results</u>			
PT-144	2.5-3.08-472.0 (7.70) 1.0-.20-478.0 (.20)	3.0-1.19-470.5 (3.57) 1.0-.17-476.5 (.17)	2.16 1.18
PT-145	4.0-.11-439.5 (.44) 1.5-.09-446.5 (.14) 3.5-.12-448.0 (.42)	4.0-.12-438.5 (.48) 1.5-.10-445.5 (.15) 3.0-.21-447.5 (.63)	.92 .93 .67
PT-146	2.0-.06-472.3 (.12)	2.5-.16-470.5 (.40)	.30
PT-147	1.5-2.07-478.0 (3.10)	2.0-1.31-474.5 (2.62)	1.18
PT-148	8.6-.40-470.6 (3.44)	7.0-.62-471.5 (4.34)	.79
PT-149	7.2-.03-537.3 (.22) 3.5-.11-549.3 (.39)	8.0-.08-535.0 (.64) 4.0-.14-549.0 (.56)	.34 .70
PT-150	1.5-.03-535.5 (.05) 3.5-.41-541.0 (1.43) 2.5-.21-545.5 (.52) 5.5-.04-549.5 (.22)	2.0-.03-534.0 (.06) 3.5-.33-539.5 (1.16) 2.0-.22-544.5 (.44) 6.0-.04-548.0 (.24)	.83 1.23 1.18 .92
PT-151	3.0-.04-536.5 (.12) 7.5-.01-547.0 (.08)	4.0-.03-536.0 (.12) 6.5-.02-548.0 (.13)	1.00 .62
PT-152	6.0-.43-357.0 (2.58) 1.5-.56-365.0 (.84) 2.5-.40-376.0 (1.00) 2.0-.73-386.0 (1.46) 3.0-.45-390.5 (1.35)	6.0-.42-355.5 (2.52) 2.0-.34-363.5 (.68) 3.0-.19-375.0 (.57) 2.0-.50-384.5 (1.00) 3.0-.43-389.0 (1.29)	1.02 1.24 1.75 1.46 1.05
RONT-51	2.0-.18-499.0 (.36)	2.0-.34-498.0 (.68)	.53
RONT-52	2.5-.97-492.0 (2.43)	2.0-1.44-491.5 (2.88)	.34
RONT-53	3.5-.72-479.8 (2.52)	3.0-.71-477.5 (2.13)	1.18
FBT-118	4.5-.12-422.0 (.54) 2.0-.25-427.0 (.50) 2.0-.06-431.0 (.12) 2.0-.02-433.5 (.04) 1.5-.19-437.5 (.29) 6.5-.43-440.0 (2.80)	4.5-.11-419.5 (.50) 2.0-.26-425.0 (.52) 2.0-.07-428.5 (.14) 2.0-.01-431.5 (.02) 2.0-.19-435.0 (.38) 5.0-.61-439.0 (3.05)	1.08 .96 .86 2.00 .76 .92

Figure 5 cont. chemical vs radiometric assays

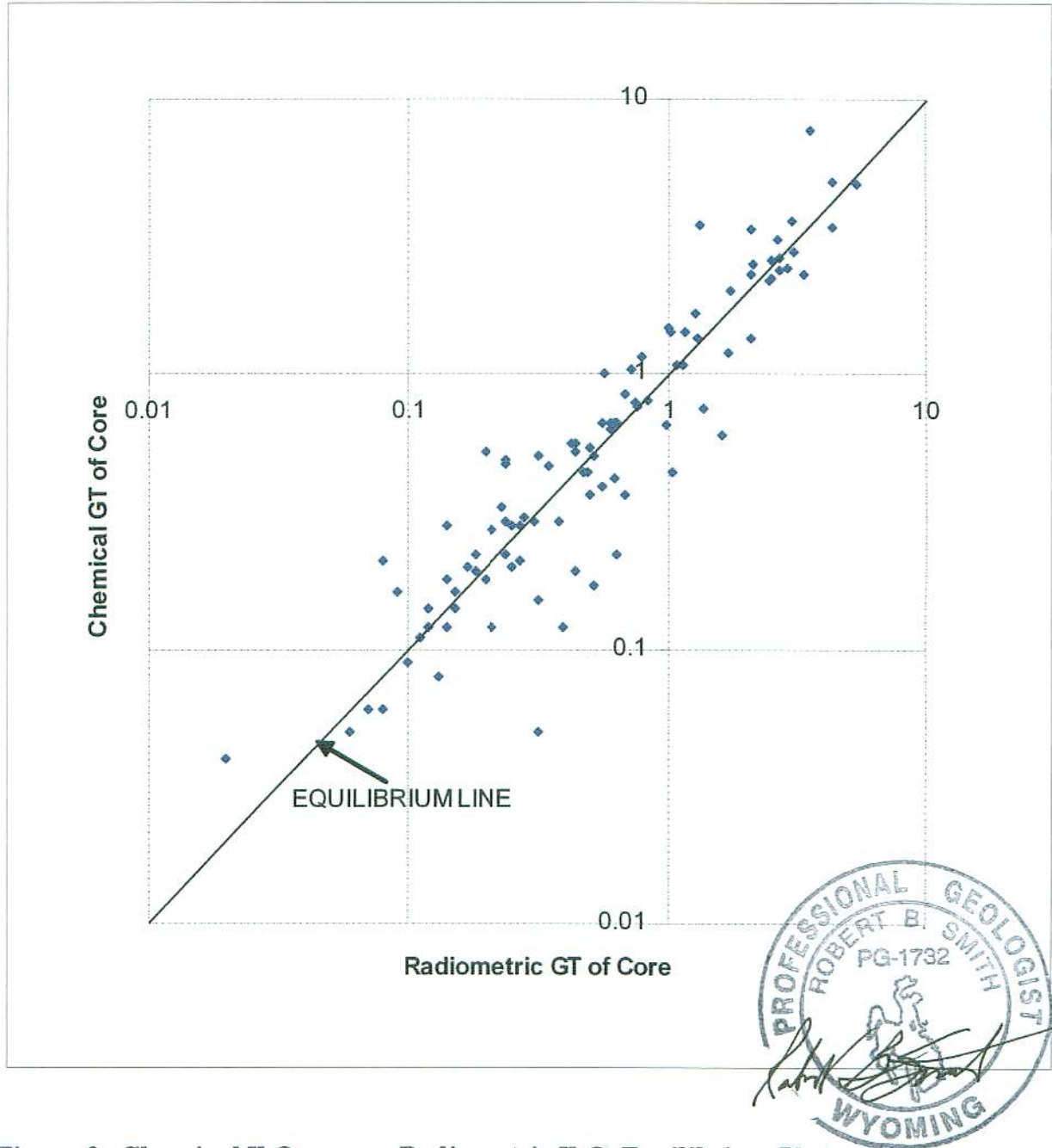


Figure 6. Chemical  $U_3O_8$  versus Radiometric  $U_3O_8$  Equilibrium Plot

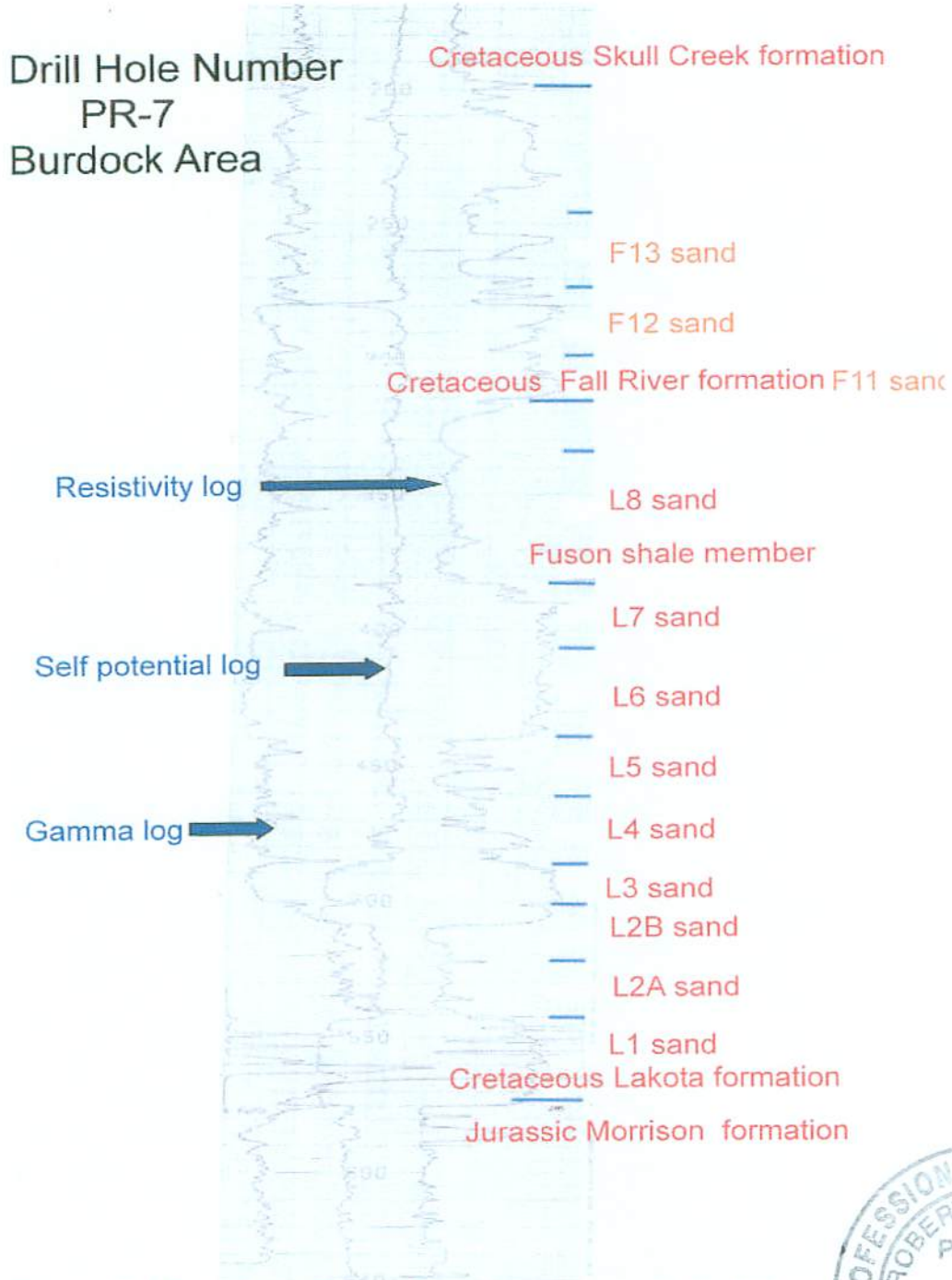
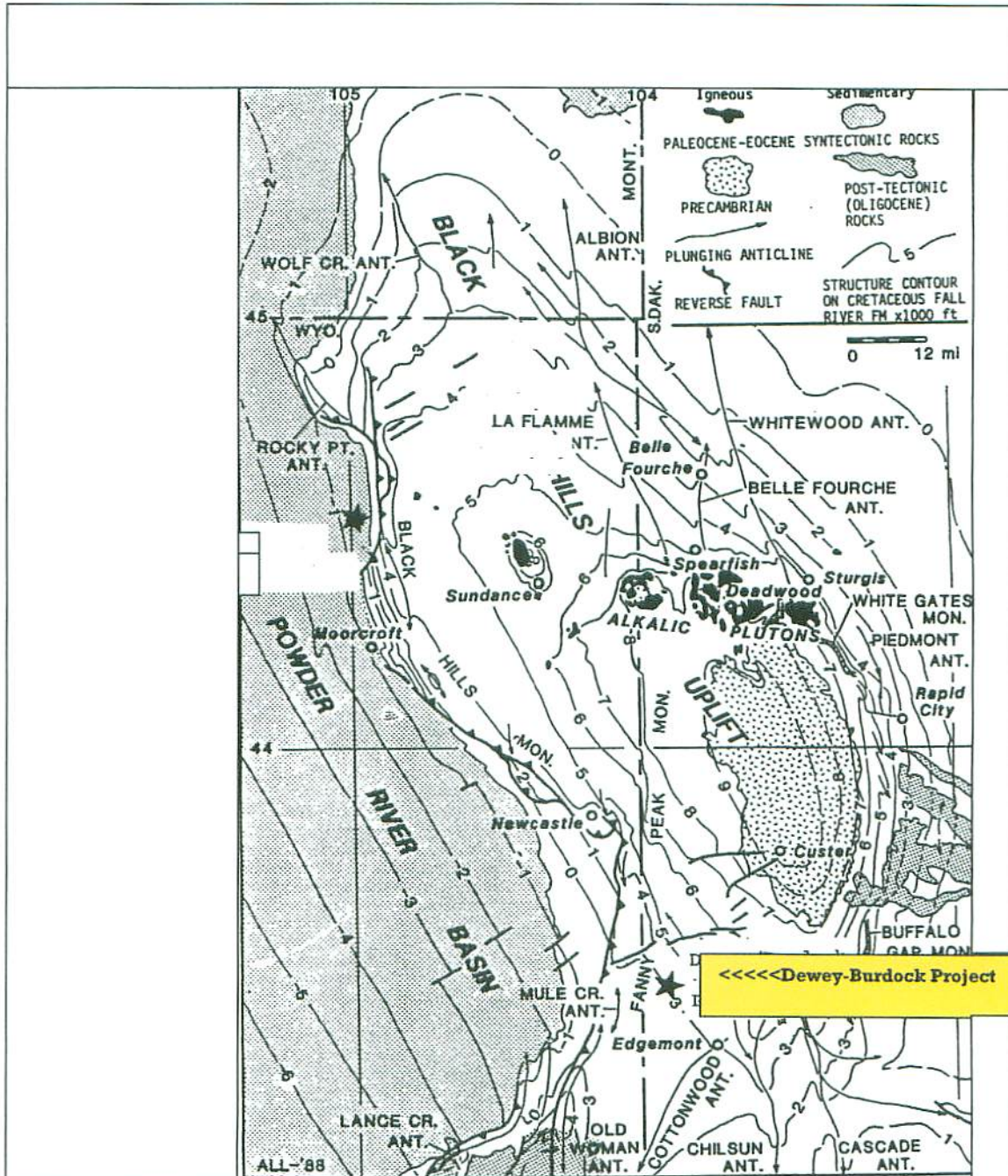


Figure 7. Type log with sand units and formation tops.









**Figure 9. Tectonic map of the Black Hills Uplift and the eastern portion of Powder River Basin showing the Dewey-Burdock Project.**

Source: USGS

