# **RED RIM PROJECT**

## 43-101 MINERAL RESOURCE REPORT

## PREPARED FOR: ENERGY METALS CORPORATION

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June 14, 2006

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## SECTION 3 SUMMARY

The following report was prepared by BRS Inc. a Professional Engineering and Natural Resource Corporation duly licensed in the State of Wyoming, USA. The report addresses the geology, uranium mineralization and in-place geologic resources of the mineral holdings of Energy Metals Corporation (EMC) located in Sections 6, 8, and 18, Township 19 North, Range 90 West and Section 12, Township 19 North, Range 91 West. Approximate Latitude 41° 39' North and Longitude 107° 34' West. The property being referred to as the Red Rim is located in Carbon County Wyoming approximately 20 air miles southwest of Rawlins, Wyoming (refer to Figure 1, Red Rim Location Map) and consists of 53 unpatented mining lode claims comprising approximately 1,000 acres. EMC also owns an additional 338 unpatented mining lode claims, comprising approximately 6,900 acres, in the vicinity of the current property. This additional area has significant potential for uranium mineralization but is not included in this report.

The Red Rim was extensively explored during the 1970's through the early 1980's with the principal exploratory work and drilling completed by Umetco Minerals (formerly Union Carbide Mining and Metals Division). Available data from historic drilling, at the time this report was prepared, consisted of drill intercept data from 332 drill holes for which geophysical logs with gamma, resistivity, and spontaneous potential, from 185 rotary drill holes and 2 diamond core holes. Additional drill data may be available on adjacent properties and is being sought by EMC. The 2 core holes and 136 of the total rotary drill holes including drill intercept and geophysical logs are located within the property discussed in this report. Resource estimates are based on radiometric equivalent uranium grade as measured by the geophysical logs.

The host formation for known mineralization at the site is the lower 500 to 700 feet of the Paleocene Fort Union Formation. Locally the Fort Union is a medium to coarse grained arkosic sandstone with local conglomeritic zones grading upward to thinner interbedded sandstones, siltstones, carbonaceous shales, and coals.

Uranium mineralization at the Red Rim is typical of the Wyoming roll-front sandstone deposits. Historical drilling on the lands currently held by EMC defines the mineralized trend within the #3 sand unit near the base of the Fort Union dominantly within Section 6. Limited drill data on Sections 8, 12 and 18 also shows mineralization within the #3 sand and a trend can be inferred from the available data, however, the drill density is limited. The difficulties encountered during the exploration of this deposit in the past have related to its depth and the somewhat unpredictable drift of the drill holes. Recommendations for the continuing exploration and development of this deposit include:

1. Conceptual economic evaluations should be completed appropriate to the mining method to determine appropriate cutoff criteria and general economics of the deposit. Options are probably limited to conventional underground mining and insitu leach.

- 2. If insitu leach mining is selected as the appropriate mining method, an investigation program should be completed. This program should define the amenability of the deposit to this extraction method and include a definition of basic hydrologic parameters and mineral chemistry.
- 3. Methods for reservoir development should be investigated, including application of directional drilling methods.
- 4. Future drilling should consider the application of directional drilling methods both for the delineation and development of this deposit.

No economic evaluation of the mineralization described herein was completed. Thus, the estimate that follows is solely a mineral resource estimate. Mineral Resources are not mineral reserves and do not have demonstrated economic viability.

Previous estimates assumed mining by underground methods have estimated the average grade of the deposit to range from 0.149 %  $eU_3O_8$  to 0.196 %  $eU_3O_8$  depending upon thickness and grade cutoff criteria. The current estimate assumes insitu mineral extraction. A minimum grade cutoff of 0.02 %  $eU_3O_8$  was applied to the data and geologic resources are reported at a 0.1, 0.25, and 0.5 Grade-Thickness (GT) cutoff. For mineral resource reporting purposes the .025 GT cutoff is recommended.

## Indicated Mineral Resources

GT minimum	Pounds % $eU_3O_8$	Tons	Average Grade %eU <sub>3</sub> O <sub>8</sub>
0.10	1,185,402	376,200	0.158
0.25	1,142,449	336,655	0.170
0.50	971,783	254,329	0.191

Inferred Mineral Resources

GT minimum	Pounds % $eU_3O_8$	Tons	Average Grade %eU <sub>3</sub> O <sub>8</sub>
0.10	1,597,651	525,661	0.152
0.25	1,539,447	472,988	0.163
0.50	1,307,412	362,398	0.180

This report was prepared by BRS Inc. for EMC to address the geology, uranium mineralization and in-place geologic resources within EMC's mineral holdings known as the Red Rim. The Red Rim was extensively explored during the 1970's through the early 1980's with the principal exploratory work and drilling completed by Umetco Minerals (formerly Union Carbide Mining and Metals Division).

The data, utilized in this report, was provided to the author by Union Carbide, in 1987 after they relinquished the property and has been in his possession since that time. No additional drilling has been completed on the property since that time. The data utilized in this report consists of drill intercept data from 332 drill holes and drill logs with gamma, resistivity, and spontaneous potential, from 185 rotary drill holes and 2 diamond core holes.

The author is a qualified person for uranium exploration and development and is a Professional Geologist licensed in Wyoming, a Professional Engineer licensed in Wyoming, Colorado, Utah, and Oregon, and a Registered Member of the US Society of Mining Engineers (SME).

The author was employed by Union Carbide during the late 1970's and early 1980's and worked on the property during portions of the drilling program in the early 1980's. In 1987 the author completed assessment work on the property including preparation of a geologic report, radiometric surveys of the property, and general claim maintenance.

## **SECTION 5**

## DISCLAIMER

The author has relied on the accuracy of the historical data as itemized in Section 4. In addition to personal knowledge of the property the author relied on project reports for the years of 1974, 1975, 1976, 1977, 1980, and 1981. These referenced reports and other published geologic information are included in Section 23.

The location of the unpatented mining lode claims, shown on Figure 5, which form the basis of the mineral holdings, was provided by EMC and was relied upon as defining the mineral holdings of EMC in the development of this report.

The Red Rim is located in Sections 6, 8 and 18, Township 19 North, Range 90 West and Section 12, Township 19 North, Range 91 West approximately 20 air miles southwest of Rawlins, Wyoming (refer to Figure 1, Red Rim Location Map).

Land Ownership consists of Federal lands administered by the United States Bureau of Land Management (BLM), State lands, and private lands. The project is located within what is referred to as the "Checkerboard" which is a strip of land along the Union Pacific Railroad Right-Of-Way in which alternate sections of land were originally deeded to the railroad. The original railroad lands are generally the odd sections with the even sections being either federal or state lands. The railroad lands are generally controlled by Anadarko Petroleum. Mineral ownership generally follows the same pattern with the private surface having private minerals and the public lands having public minerals.

The Red Rim Claim Map, Figure 5, was provided by EMC and represents the approximate location of unpatented mining lode claims held by EMC. The mining claims are unpatented mining lode claims, comprise some 1,000 acres and are located on federal lands. The claims located and controlled by EMC are referred to as SC claims 1 through 35. The claims were located by EMC and are not known to have any encumbrances or royalties. EMC also acquired an additional 18 claims, referred to as the F Claims F336 through F353. These mining lode claims will remain the property of EMC provided they adhere to required filing and annual payment requirements with Carbon County and the US BLM. Legal surveys of unpatented claims are not required and to the author's knowledge have not been completed.

As discussed in Section 17, Adjacent Properties, EMC also controls an additional 338 unpatented mining lode claims (F Claims) in the vicinity, comprising approximately 6,900 acres.

There are no pre-existing mining and/or mineral processing facilities or related wastes on the property. In order to conduct exploratory drilling of the property, the operator will be required to obtain permits (License to Explore) from the State of Wyoming Department of Environmental Quality and the BLM. Mine development would require a number of permits depending on the type and extent of development, the major permit being the actual mining permit issued by the State of Wyoming Department of Environmental Quality, Land Quality Division. Mineral processing for uranium would require a source materials license from the US Nuclear Regulatory Commission. To the author's knowledge, no environmental permits have been obtained.

## **SECTION 7**

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

The Red Rim is located within the Wyoming Basin physiographic province in the southeastern portion of the Great Divide Basin. The site is near the Wamsutter Arch, which divides the structural Great Divide and Washakie basins. Regional structural features also include the Rawlins uplift and the Granite Mountains to the north and the Sierra Madre uplift to the south.

The site is located at approximately Latitude 41° 39' North and Longitude 107° 34' West. The principal physiographic features in the immediate vicinity are the Red Rim, a prominent low-lying ridge with a southwest/northeast orientation, and Separation Creek, which generally forms the southern boundary of the project. Elevations range from approximately 6,000 to slightly over 7,000 feet above mean sea level. The area is arid with less than 10 inches of average rainfall annually. Prevailing winds are from the southwest to the northeast. The majority of the annual precipitation occurs during the spring months as either rain or snow. The site is generally accessible year round. Although weather conditions could impede travel occasionally, there are no significant impediments to mine development due to typical weather conditions. The area is rangeland with vegetation consisting primarily of sagebrush and grasses.

The site is accessible via 2-wheel drive via three different routes. The Daley and Hadsell roads which proceed south from Interstate 80 to the site, and Carbon County Road 605 which proceeds approximately 23 miles southwest from Rawlins along Hogback Ridge. The shortest route to the site is to proceed west on I-80 eleven miles to the Daley road, then travel south for approximately 8 miles. However, this road is private in portions and access may be limited.

## SECTION 8 HISTORY

The strongly altered hematite stained outcrop, from which the Red Rim derives its name, attracted early mineral locators to the area seeking Wyoming sandstone roll-front type deposits. In 1970, based on the similarities to Powder River Basin lithology, surface alteration, and gamma anomalies at outcrop, Kerr McGee first located claims in the general vicinity followed closely by Union Carbide. Both companies conducted exploration and drilling programs and reportedly encountered alteration and mineralization at depth. However, by 1973 these early claims were dropped. In 1974 both Timberline Minerals and Wold Nuclear located claims in the general area. Union Carbide subsequently leased the Timberline Minerals property and later in 1976 entered a joint venture agreement with Rocky Mountain Energy, a subsidiary of the Union Pacific Railroad, for the alternate sections of private lands in the area.

Union Carbide conducted an exploration and drilling program on the property through 1981, completing a total of some 282 drill holes totaling about 477,565 feet . In addition data was acquired for another 50 drill holes. Thus, overall the available data, at the time this report was prepared, consisted of drill intercept data from 332 drill holes for which geophysical logs with gamma, resistivity, and spontaneous potential, from 185 rotary drill holes and 2 diamond core holes are available. Of the total drilling completed in the vicinity, 136 rotary drill holes, 42 are barren or contain only trace mineralization and the remaining 96 are mineralized.

Historic economic studies were conceptual and were based on conventional underground mining. No specific mine plans or environmental permits (other than for drilling) have been developed for the property.

Drill hole locations are shown on Figures 2 and 3, Drill Holes Section 6, and Drill Holes Sections 8, 12 & 18, respectively. The drill maps show the collar locations and downhole deviation or drift of the holes. The maps were scanned from original drill hole location maps and digitally rectified to state plane coordinates.

Historic resource estimates by Union Carbide encompassed a greater area than that currently held by EMC and are therefore not directly applicable to the present property. What is notable from historic resource estimates is the average thickness and grade reported. The historic resources considered for underground mine development were calculated by polygonal methods at cutoffs of 6 feet with a minimum grade of 0.06 %  $eU_3O_8$  (GT > .36) and 6 feet with a minimum grade of 0.10 %  $eU_3O_8$  (GT > .6). The average thicknesses and grades from these estimates were 5.7 feet at an average grade of 0.149 %  $eU_3O_8$  and 5.5 feet at an average grade of 0.196 %  $eU_3O_8$ .

Notes:

- 1. GT is the grade thickness product.
- 2. Grade is expressed as weight percent.
- 3.  $eU_3O_8$  means radiometric equivalent U3O8.

## SECTION 9 GEOLOGIC SETTING

Surfical geology is shown on Figure 4, Red Rim Geology. Cross section locations are shown on Figure 6. Subsurface geology is shown on Cross Section A-A' within Section 6, and Cross Section B-B' within Sections 12 and 18. The subsurface geology was developed directly from interpretation of drill hole resistively data. Subsurface correlations were made based primarily on coal beds in the upper Fort Union that are persistent in the area.

The host formation for known mineralization at the site is the lower 500 to 700 feet of the Paleocene Fort Union Formation. In the area, the Fort Union is a medium to coarse grained arkosic sandstone with local conglomeritic zones grading upward to thinner interbedded sandstones, siltstones, carbonaceous shales, and coals. The Fort Union is unconformably underlain by the Cretaceous Lance Formation and regionally overlain by the Eocene Wasatch Formation. At the site, dominant surface exposures are Fort Union or Quaternary alluvial deposits. The Lance contact is exposed just east of the area and the Wasatch contact is exposed several miles to the west.

The general post-Cretaceous geologic history of the area began with the Laramide Orogeny that divided the region into a series of downwarped basins separated by adjacent uplifted blocks. At this time, the major regional structural features and contemporary basins of the Wyoming Basin physiographic province were formed (Dribus and Nanna, 1982). Rapidly subsiding portions of the basins received thick clastic wedges of predominantly arkosic sediments, while larger, more slowly subsiding portions of the basins received a greater proportion of paludal and lacustrine sediments. Beginning in mid-Eocene and increasing in the Oligocene, regional volcanic activity contributed significant amounts of tuffaceous materials to local sediments. Deposition probably continued through the Miocene but post-Miocene erosion has completely removed the Oligocene and Miocene units at the site.

The source of sediment in the host formation at the site is not known in absolute terms. Regionally sediment was probably received both from northern sources, the Rawlins uplift and the Granite Mountains, and from southern sources, the Sierra Madre uplift. Paleocurrent studies conducted by Union Carbide and reported in their 1978 annual report indicate a northern source for at least the lower units of the Fort Union Formation. This study also concludes that the depositional environment changes from a braided stream pattern along the northern portions of the Red Rim to a more meandering stream pattern of deposition near Separation Creek in the southern portions of the site. North of Separation Creek, the basal portion of the Fort Union is a prominent ridge-forming unit that is composed of dominantly arkosic sandstone which is often altered. South of Separation Creek, the formation becomes less resistant, is composed of sub-arkosic to quartzose, and is generally not altered. This change in lithology may reflect a facies change between the northern and southern sources of derived sediments. If as available data indicates, the source of sediment for the host is from the north, i.e. Granite Mountains, this could represent a direct link to the possible source of uranium. Several of the major uranium districts in Wyoming including the Gas Hills, Shirley Basin, Great Divide Basin, Crooks Gap, and the southern Powder River Basin received sediment from the Granite Mountains. For each of these districts one of the potential sources of uranium is cited as the Granite Mountains. The two sources of uranium for the Red Rim are the Granite Mountains and leaching of Oligocene and Miocene volcanics.

Cross Sections A-A' and B-B' show the general subsurface stratigraphy. The Upper Fort Union is an interbedded sequence of sandstones, siltstones, carbonaceous shales, and thin coals. Three coal seams are persistent in the subsurface. Utilizing the Union Carbide terminology the upper coal or #1 coal is slightly more than 20 feet thick. This unit probably corresponds to the "G" coal seam described as 6.7 meters thick in a hole west of Rawlins by Dribus and Nanna (1982). From the base of the #1 coal to the lowest coal, the #3 coal, the lithology continues as interbedded sandstone, siltstone, shale, and thin coals. Below the #3 coal and continuing for 500 to 700 feet to the contact with the Lance Formation, the lower portion of the Fort Union can be subdivided from top to bottom into 3 major sand units, the #1, #2, and #3 sands which are further divided by the #1 and #2 shales. Regionally, mineralization occurs in each of the 3 sand units of the Fort Union, however, within EMC's mineral holdings mineralization is limited to the lower or basal portions of the #3 sand. The mineralization lies along the western flank of an anticline that plunges to the southwest at approximately 3 degrees and dips at approximately 12 degrees westerly.

## SECTION 10 DEPOSIT TYPES

Uranium mineralization at the Red Rim is typical of the Wyoming roll-front sandstone deposits as described by Ganger and Warren (1979) and Rackley and others (1972). Historical drilling on the lands currently held by EMC defines the mineralized trend within the #3 sand unit of the Fort Union dominantly within Section 6. Limited drill data on Sections 12 and 18 also shows mineralization within the #3 sand and a trend can be inferred from the available data, however, the drill density is limited. Figures 10 and 11 are cross sectional views along the general axis of mineralization for Section 6 and Sections 12 and 18, respectively, showing general lithology and mineralization.

The mineralized trend is shown in plan view on Figure 12. Mineralization extends approximately 100 feet either side of the oxidation/reduction interface. Figure 7 is a conceptual and/or pictorial cross section transverse to the mineralized trend typical of roll-front type mineralization. Hole RR-117 intercepted the barren interior of the front characterized by thin weak mineralization or "tails" and strongly altered host sands with hematite and limonite staining, and feldspar alteration. Hole RR-101 is at or near the oxidation/reduction interface or "roll-front" and contains 8.5 feet of mineralization in 2 zones averaging more than  $0.30 \% eU_3O_8$ . Hole RR-91 intercepted the protore zone and is characterized by thick low-grade mineralization in unaltered and/or slightly altered host sands.

#### SECTION 11

#### MINERALIZATION

EMC's mineral holdings include portions of Sections 6, 8 and 18, Township 19 North, Range 90 West and Section 12, Township 19 North, Range 91 West. Drill data from 136 rotary drill holes and 2 core holes are located within EMC's current mineral holding. Of these 138 drill holes, 42 are barren or contain only trace mineralization and the remaining 96 are mineralized.

## Section 6, T19N, R90W

## Trend Length

Drilling in Section 6 is sufficient to define a strongly mineralized trend along a trend length of approximately 8,720 feet within the basal portion of the #3 sand. In addition, eleven of the drill holes show mineralization in a separate sub-unit of the #3 sand 50 feet or more above the basal mineralization. This mineralization is reflected as weak mineralization in 9 drill holes along with alteration. There is potential that a mineralized trend occurs within this sub-unit of the #3 sand to the east of the defined trend in the basal #3 sand.

## Mineralization Thickness

Sorting the radiometric intercept data to include only mineralization in the basal #3 sand and excluding apparently isolated mineralization, mineralized thickness ranges from 1 foot to 23.5 feet with an average thickness of mineralization, above 0.02% eU<sub>3</sub>O<sub>8</sub>, of approximately 6 feet. This compares favorably with past estimates by Union Carbide that showed average thicknesses of 5.7 and 5.5 feet at cutoffs of 0.06 and 0.01 % eU<sub>3</sub>O<sub>8</sub>, respectively, and a similar estimate of 7.4 feet for the mineralized thickness at the oxidation/reduction interface by the author completed in 1987.

## Grade

Grade based on radiometric equivalent weight percent  $U_3O_8$ ,  $eU_3O_8$ , ranges from 0.02 to 0.762 %  $eU_3O_8$ . Past reserve estimates by Union Carbide estimated average grade of 0.149 and 0.196 %  $eU_3O_8$ , at cutoffs of 0.06 and 0.10 %  $eU_3O_8$ , respectively. The author's 1987 estimate of the mineralization at or near the oxidation/reduction interface was 7.4 feet at a grade of 0.157 %  $eU_3O_8$ . Average grade is dependent upon cutoff assumptions.

Resource estimates, discussed in Section 19 of this report, were completed by averaging the Grade Thickness, GT, within the interpreted mineralized trend (Figure 12). Based on close spaced drilling in Section 6; a 0.10 GT cutoff results in an estimated 0.153 %  $eU_3O_8$  Average Grade; a 0.25 GT cutoff results in an estimated 0.165 %  $eU_3O_8$  Average Grade; and a 0.50 GT cutoff results in an estimated 0.184 %  $eU_3O_8$  Average Grade.

## Width

The width of the mineralized zone at a cutoff of 0.50 GT is interpreted to range from approximately 60 feet to 180 feet, with an average slightly in excess of 100 feet. Similarly at a cutoff of .10 GT the mineralization ranges from approximately 170 to 350 feet.

## Continuity

Based on the available data mineralization in Section 6 within the basal #3 sand appears continuous. As is typical for roll front deposits, grade, thickness, and width are expected to vary along the trend. The interpreted mineralized trend, shown on Figure 12 and as discussed in Section 19 of this report, is based on drill data. Along the trend where data was not closely spaced enough to demonstrate continuity the resource was defined as inferred. Indicated resources were defined only along that portion of the trend where the mineralization was bracketed by drilling.

## Section 18, T19N, R90W

Indicated mineralization in Section 18, T19N, R90W, is limited to the extreme northwest corner of the section. Drill holes SS185-1 and RR-1 (both collared in Section 12, T19N, R91W but are at depth located in Section 18) show 3.5 feet of  $0.234 \ \% \ eU_3O_8$  and 4.0 feet of  $0.313 \ \% \ eU_3O_8$ , respectively. These 2 holes are located within approximately 120 feet of one another and mineralization appears continuous. Based on protore mineralization in additional drill holes within Section 18, the mineralization reflected by SS185-1 and RR-1 can be inferred to extend along the northern boundary of Section 18. Based on drilling, a trend of approximately 1,200 feet can be inferred.

## Section 8, T19N, R90W

A mineralized trend thought to be continuous with the mineralization located in Section 6 within the basal #3 sand extends across Section 8. Drilling brackets the oxidation/reduction interface and demonstrates that mineralization persists in this area but is not adequate to quantify and indicated resource. Based on the drill data, mineralization equivalent to that defined in Section 6 may be inferred in Section 8 along a trend, defined by drilling, of approximately 6,022 linear feet.

## Section 12, T19N, R91W

Current data does not define appreciable mineralization in Section 12, T19N, R91W.

## SECTION 12 EXPLORATION

The relevant exploration data for the current property is the drill data as previously discussed and as represented graphically in the various figures of this report. This data demonstrates that mineralization is present on the property and defines its three dimensional location. The drill data is dominantly based on interpretation of downhole geophysical logs typically consisting of natural gamma, resistivity, and SP (Spontaneous Potential). Resistivity and SP were utilized for defining lithology and correlating the logs. In particular, the coals present in the upper portions of the Fort Union are very useful for this purpose. (See Figures 8 and 9 for geologic cross sections) Geophysical logging was provided from a commercial vendor, Century Geophysical. Calibration of the logging trucks was routinely conducted at Department of Energy facilities. It was the practice of Union Carbide, who developed this data, to train geological personnel in geophysical log interpretation. The author, who worked on this property during the drilling program conducted in 1980 and 1981, completed such training and received certification of same on November 19, 1976. Others working on the property generally received similar training. At the time the data for this property was collected, Union Carbide was a uranium producer with an operating history dating back to the 1950's.

The author has reviewed all available data and considers the data to be reliable.

## SECTION 13 DRILLING

Drilling was dominantly rotary drilling with only 2 core holes completed on the property for confirmation of radiometric equilibrium. Radiometric equilibrium is assumed for this property based on geologic actors and the available data and is discussed in Section 20.

The dip of the host formation is approximately 12 degrees. Drilling was conducted vertically although virtually all drill holes drifted up dip. In many cases the horizontal drift from the collar location was 200 to 300 feet. The average vertical declination was 7.2 degrees from vertical. Because this declination opposed the dip of the formation the effect of dip on true thickness is diminished. At a 12 degree dip true thickness would be exaggerated by approximately 2.2%. Considering the effect of the actual drill hole declination from vertical the correction to true thickness would be less, approximately 0.4%. This means that a 10 foot thickness interpreted from the geophysical log would actually be 9.96 feet. As this level of investigation any data correction would be less than the accuracy of the original data, which is interpreted to one half of a foot, and no correction is necessary from the log thickness to true thickness.

## SECTION 14 SAMPLING METHOD AND APPROACH

As previously discussed in Section 13, standard methods of the industry were utilized at the time of collection and there is no need to correct the log data with respect to interpreted thickness. It is, however, necessary to correct the drill data for horizontal deviation due to downhole drift. The data available for this report consists of plan maps of the drilling at a scale of 1"=200' showing the surface or collar location and the drift as measured downhole at the time of logging. The original survey data for both the collar location and downhole drift is not available. The drill maps were scanned, digitally rectified, and the downhole deviation assumed to be a straight line between the collar and bottom of hole locations. This could introduce some error in the actual three dimensional location of any specific data point but the relative location of that data point to other data points would be reasonably accurate.

The core hole data referred to in Section 20 was included in past Union Carbide progress reports (see references Section 23). The data record consists of "Certificates of Analysis" from the U.C.C. (Union Carbide Corporation) Metals Division, Development Laboratory, Grand Junction, Colorado, Dated December 7, 1978. Core samples were submitted for analysis by J. B. Hall on November 3, 1978. No further chain of custody or record or sample handling procedure is available. The author was employed by Union Carbide Mining and Metals Division at that time. The Grand Junction facility was routinely utilized for internal analytical testing in support of company exploration, development, and mine production. To the author's knowledge, appropriate sample protocol was followed and the data is deemed to be reliable.

## SECTION 15 SAMPLE PREPARTATION, ANALYSIS, AND SECURITY

The radiometric data from geophysical logs was provided by an independent commercial vendor. Instrumentation used was calibrated at Department of Energy facilities designed and built for that purpose. The personnel interpreting the geophysical data were trained in that regard.

## SECTION 16 DATA VERIFICATION

The original radiometric drill data was available as a paper record. This data was input as electronic data via a spreadsheet into the computer programs utilized in the development of this report. Data entry was checked and confirmed. Drill hole locations were scanned and digitally rectified. The resultant drill maps were then checked and confirmed by overlaying with the original maps. Radiometric log interpretation was confirmed from available geophysical logs. Geologic interpretation and correlation of lithology was completed by the author by personally examining each drill log.

Mineralization is present on adjacent properties. This information was not utilized in the development of this report, however, the author's regional knowledge of the mineralized trend location did affect the interpretation of data utilized.

EMC controls an additional 338 unpatented mining lode claims (F Claims) northwest of the property, comprising approximately 6,900 acres and a mineral lease from the State of Wyoming for Section 36, Township 20 North, Range 91 West. Historical drilling and geologic interpretation has identified a potential extension of the known mineralization along a trend of approximately 15 miles. It is uncertain if further exploration will result in this target being delineated as a mineral resource.

The author has no material interest in the subject property or adjacent properties.

## SECTION 18 MINERAL PROCESSING AND METALLURGICAL TESTING

Not applicable to this report.

## SECTION 19 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

No economic evaluation of the mineralization described herein was completed. Thus, the estimate that follows is solely a mineral resource estimate. Previous estimates assumed mining by underground methods. The current estimate assumes insitu mineral extraction. Although the deposit has reasonable concentrations of mineralization and the location of mineralization is defined by drilling in three dimensions, the deposit is deep and economics will be highly dependent upon the methods of well field development, drilling costs, and reservoir engineering. In addition, although the geology of this deposit would indicate that the deposit would be amenable to insitu methods, there is no data available on the aquifer characteristics or amenability of the mineralization to leaching.

## Assumptions

- 1. Radiometric equilibrium was assumed; see Section 20.
- 2. A unit weight of 125 pounds per cubic foot or 16 cubic feet per ton was assumed, based on the author's experience working in operating mines in the Gas Hills within similar tertiary sandstone uranium deposits where reserve estimates were routinely compared to actual production.
- 3. For indicated resources the mineralized trend was bracketed by drilling. For inferred resources, where the mineralized trend was not fully defined by drilling, the oxidation/reduction interface was assumed to be 6 feet thick at an average grade of 0.15% eU<sub>3</sub>O<sub>8</sub>, GT 0.9; it was assumed that mineralization in excess of a 0.5 GT extended approximately 50 feet either side of the interpreted oxidation/reduction interface; and that mineralization grading down to a GT of 0.1 extended an additional 50 feet. These assumptions were the starting point for contouring GT and were modified as appropriate to honor available drill data. For the following resource estimates the width of the mineralized zone at a cutoff of 0.50 GT was interpreted to range from approximately 60 feet to 180 feet, with an average slightly in excess of 100 feet. Similarly, at a cutoff of .10 GT the width of mineralization ranges from approximately 170 to 350 feet.

## Methods

## Section 6, T19N, R90W

As shown on Figure 12, a distinct mineralized trend is defined by drilling. This trend is within the basal portion of the #3 sand. Mineralization was noted in 9 holes in a higher sub-unit of the #3 sand but was not used in this resource evaluation. In addition, isolated mineralization (typically thin and low grade) was not used in the resource evaluation. Within the identified mineralized zone, individual intercepts were combined to represent the GT for the hole. The location of the mineralized zone was taken to be the top of the mineralization. This approach of combining data is compatible with insitu methods of mineral extraction. Once the data was reduced the location of the oxidation/reduction boundary was interpreted, as well as, the 0.5 and 0.1 GT limits. The data was contoured

and the area measured by GT ranges; the contained pounds of uranium were calculated by multiplying the measured areas by GT; total tonnage was calculated by contouring thickness; and the results summed. Along the mineralized trend where drill data bracketed the mineralized trend, the resource was defined as indicated. Where the trend was not bracketed fully by drill data, the resource was defined as inferred.

## Section 18, T19N, R90W

Indicated mineralization in Section 18, T19N, R90W, is limited to the extreme northwest corner of the section. Drill holes SS185-1 and RR-1 (both collared in Section 12, T19N, R91W but at the mineralized depth are located in Section 18) show 3.5 feet of 0.234 %  $eU_3O_8$  and 4.0 feet of 0.313 %  $eU_3O_8$ , respectively. These 2 holes are located within approximately 120 horizontal feet of one another. Indicated mineral resources were calculated based on this data using polygonal methods, where the polygon was limited by the property line to the north and west and by one half the distance to adjacent holes with low grade and/or protore mineralization.

Based on the location of protore mineralization in additional drill holes within Section 18, the mineralization reflected by SS185-1 and RR-1 can be inferred to extend along the northern boundary of Section 18. Based on the drill data, mineralization equivalent to that defined in Section 6 may be inferred in Section 18 along a defined trend of approximately 1,200 linear feet.

## Section 8, T19N, R90W

A mineralized trend thought to be continuous with the mineralization located in Section 6 within the basal #3 sand extends across Section 8. Drilling brackets the oxidation/reduction interface and demonstrates that mineralization persists in this area but is not adequate to quantify and indicated resource. Based on the drill data, mineralization equivalent to that defined in Section 6 may be inferred in Section 8 along a defined trend of approximately 5,800 linear feet.

## Estimated Resources

The following tables provide a summary of the estimated indicated and inferred resources at various GT cutoffs. For mineral resource reporting purposes the .025 GT cutoff is recommended.

Indicated Resources - Section	6	, T19N, R90W
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GT	Pounds	Tons	Average Grade
minimum	$eU_3O_8$		% eU <sub>3</sub> O <sub>8</sub>
0.10	) 1,145,402	369,074	0.155
0.25	1,102,449	329,529	0.167
0.50	931,783	247,203	0.188

## Inferred Resources - Section 6, T19N, R90W

GT	Pounds	Tons	Average Grade
Minimum	eU <sub>3</sub> O <sub>8</sub>		% eU <sub>3</sub> O <sub>8</sub>
0.10	) 355,04	0 120,34	4 0.148
0.25	342,66	0 109,44	6 0.157
0.50	) 293,04	9 86,24	7 0.170

Indicated Resource - Section 18, T19N, R90W

Polygonal area 30,404 square feet; average 3.75 feet of 0.28 %  $eU_3O_8$ ; 7,126 tons; 40,000 pounds  $eU_3O_8$ . Mineralization exceeds the various GT cutoffs applied in this report, and thus, the mineral resource estimate in this limited area is the same for each cutoff.

GT Pounds		Tons	Average Grade	
Minimum	eU <sub>3</sub> O <sub>8</sub>		%	eU <sub>3</sub> O <sub>8</sub>
0.10	40,00	00	7,126	0.280
0.25	40,00	00	7,126	0.280
0.50	40,00	00	7,126	0.280

Inferred Resource - Section 18, T19N, R90W

Trend length 1,200 feet, from Section 6 data;

- @ 0.10 GT, 172.07 pounds eU<sub>3</sub>O<sub>8</sub> per linear foot of trend, 0.153 % eU<sub>3</sub>O<sub>8</sub> Average Grade;
- @ 0.25 GT, 165.73 pounds eU<sub>3</sub>O<sub>8</sub> per linear foot of trend, 0.165 % eU<sub>3</sub>O<sub>8</sub> Average Grade;
- @ 0.50 GT, 140.46 pounds  $eU_3O_8$  per linear foot of trend, 0.184 %  $eU_3O_8$  Average Grade.

GT	Pounds	Tons	Average Grade
Minimum	$eU_3O_8$		% eU <sub>3</sub> O <sub>8</sub>
0.10	206,485	67,352	0.153
0.25	198,871	60,410	0.165
0.50	168,557	45,888	0.184

## Inferred Resource – Section 8, T19N, R90W

A trend length approximately 6,000 linear feet is defined by drilling. Based on the interpretation that this trend is a continuation of mineralization similar in character to that defined on Section 6, and the following geologic resource may be inferred.

Trend length 6,022 feet, from Section 6 data;

- @ 0.10 GT, 172.07 pounds eU<sub>3</sub>O<sub>8</sub> per linear foot of trend, 0.153 % eU<sub>3</sub>O<sub>8</sub> Average Grade;
- @ 0.25 GT, 165.73 pounds eU<sub>3</sub>O<sub>8</sub> per linear foot of trend, 0.165 % eU<sub>3</sub>O<sub>8</sub> Average Grade;
- @ 0.50 GT, 140.46 pounds eU<sub>3</sub>O<sub>8</sub> per linear foot of trend, 0.184 % eU<sub>3</sub>O<sub>8</sub> Average Grade.

GT Minimum	Pounds $eU_3O_8$	Tons	Average Grade % eU <sub>3</sub> O <sub>8</sub>
0.10	1,036,126	128,940	0.138
0.25	997,916	113,220	0.151
0.50	845,806	84,000	0.174

## Summary of Estimated Resources

Economics, mining method, and recovery will dictate the appropriate cutoff grade and/or GT to be applied to the in-the-ground resources. The 0.10 GT cutoff estimates were reported to assess the total resource. The 0.25 and 0.5 GT cutoffs are more appropriate for current insitu leach operations. Based on this recommendation the following indicated and inferred resources are estimated:

## Indicated Mineral Resources

GT minimum	Pounds % $eU_3O_8$	Tons	Average Grade %eU <sub>3</sub> O <sub>8</sub>
0.10	1,185,402	376,200	0.158
0.25	1,142,449	336,655	0.170
0.50	971,783	254,329	0.191

## Inferred Mineral Resources

GT minimum	Pounds % $eU_3O_8$	Tons	Average Grade %eU <sub>3</sub> O <sub>8</sub>
0.10	1,597,651	525,661	0.152
0.25	1,539,447	472,988	0.163
0.50	1,307,412	362,398	0.180

## SECTION 20 OTHER RELEVANT DATA AND INFORMATION

## Radiometric Equilibrium

Limited data is available for the evaluation of radiometric equilibrium. The Red Rim occurs at depth, is more than 1,000 feet below the modern water table, and is not subjected to oxidizing surface waters. As a result, the deposit is not expected to exhibit significant disequilibrium. Available chemical data from 2 core holes is summarized in the following table.

	Mineralization		Radiometric		Chemical		
Hole Identification	Depth	Thickness	% U308	G.T.	% U308	G.T.	Equilibrium Ratio
RR-126 C-3	1814.0	4.0	0.063	0.252	0.05	0.215	0.85
RR-126 C-3	1853.5	1.5	0.211	0.317	0.15	0.225	0.71
RR-127 C-2	1922.5	1.5	0.050	0.075	0.06	0.11	1.47
RR-127 C-2	1947.0	3.5	0.089	0.312	0.10	0.335	1.08

It should be noted that the core holes intercepted thin intervals of mineralization and the equilibrium ratios varied from 0.71 (depletion) to 1.47 (enrichment) of chemical U3O8 assayed versus the radiometric equivalent. The core holes were planned to intercept thicker higher grade zones of the deposit. However, the drift of the core holes was not as great as the rotary holes and the core holes were completed on the altered side of the roll-front.

In summary, there is no data to support either a positive or negative correction of the data for radiometric equilibrium.

## SECTION 21 INTERPRETATION AND CONCLUSIONS

This report summarizes the mineral resources within the property known as the Red Rim and held via unpatented mining lode claims by Energy Metals Corporation. It was the objective of this report to describe the mineralization on the property and to complete a resource estimate. That objective was met. The available data does define a mineralized trend specifically in Sections 6, 8 and 18, T19N, R90W in the basal sand of the Fort Union Formation, although there is more data available for Section 6. The division of the mineral resource into indicated and inferred categories in this report is considered to be conservative. It is anticipated that, if the mineralized front were fully delineated, continuity would be demonstrated along the trend and additional high grade mineralized zones would be defined. The difficulties encountered during the exploration of this deposit have related to its depth and the somewhat unpredictable drift of the drill holes. For future drilling of this deposit the use of directional drilling is recommended.

As previously stated, the drill hole locations may not be precise because of the location data available. However, as the drill hole locations are relative to one another and the resource estimate is not affected, when additional drilling is conducted more precise locations of past drill holes would be beneficial.

## SECTION 22 RECOMMENDATIONS

- 1. Conceptual economic evaluations should be completed appropriate to the mining method to determine appropriate cutoff criteria and general economics of the deposit. Options are probably limited to conventional underground mining and insitu leach.
- 2. If insitu leach mining is selected as the appropriate mining method, an investigation program that defines the amenability of the deposit to this extraction method should include definition of basic hydrologic parameters and mineral chemistry.
- 3. Methods for reservoir developments should be investigated including application of directional drilling methods.

## SECTION 23 REFERENCES

Previous Reports:

Summary of 1974 Activities on "SS and "BS Claims, Red Rim Area, Western Carbon Co., Wyoming, David Boleneus, Union Carbide Mining and Metals Division.

Summary and Review Timberline Property, Red Rim Area, Carbon County, Wyoming, C. F. Harris, February 21, 1975, Union Carbide Mining and Metals Division.

Red Rim Uranium Prospect, G. F. Huskey, March 1975, Union Carbide Mining and Metals Division.

Timberline (Red Rim) – Rocky Mountain Energy Joint Venture, 1976 Progress Report, G. F. Huskey and C. R. Coe, December, 1976, Union Carbide Mining and Metals Division.

Red Rim Uranium Partnership, 1977 Progress Report, G. F. Huskey, December, 1977, Union Carbide Mining and Metals Division.

Red Rim Uranium Partnership, 1980 Progress Report, Staff Report, December, 1980, Union Carbide Mining and Metals Division.

Red Rim Uranium Partnership, 1981 Progress Report, Staff Report, December, 1981, Union Carbide Mining and Metals Division.

Red Rim Project, Carbon County, Wyoming, Douglas Beahm, P.E., October 1987.

Publication Cited:

Granger, H. C. and Warren, C. G. (USGS), 1979, "Zoning in the altered tongue with roll-type uranium deposits", IAEA-SM-183/6.

Rackley, R. I., 1972, Environment of Wyoming Tertiary Uranium Deposits, AAPG Bulletin Vol. 56, No. 4.

Dribus, J.R. and Hanna, R. F., 1982, National Uranium Resource Evaluation, Rawlins Quadrangle, Wyoming and Colorado, US Department of Energy, National Uranium Resource Evaluation.

I Douglas L. Beahm, P.E., P.G., do hereby certify that:

- 1. I am the principal owner and president of BRS Inc., 1225 Market, Riverton, Wyoming 82501.
- 2. I graduated with a Bachelor of Science degree in Geological Engineering from the Colorado School of Mines in 1974.
- 3. I am a licensed Professional Engineer in Wyoming, Colorado, Utah, and Oregon, and a licensed Professional Geologist in Wyoming.
- 4. I have worked as an engineer and a geologist for a total of 32 years.
- 5. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, professional registration, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 6. This Technical Report on the Red Rim Project, Carbon County, Wyoming, was prepared by my hand and/or under my direct supervision.
- 7. I have prior working experience on the property as stated in the report.
- 8. I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that would affect the conclusions of this report that is not reflected in the Technical Report.
- 9. I am independent of the issuer applying all of the tests in NI 43-101.
- 10. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with same.
- 11. I consent to the filing of the Technical Report with any sock exchange and other regulatory authority.

Signed and Sealed June 14, 2006

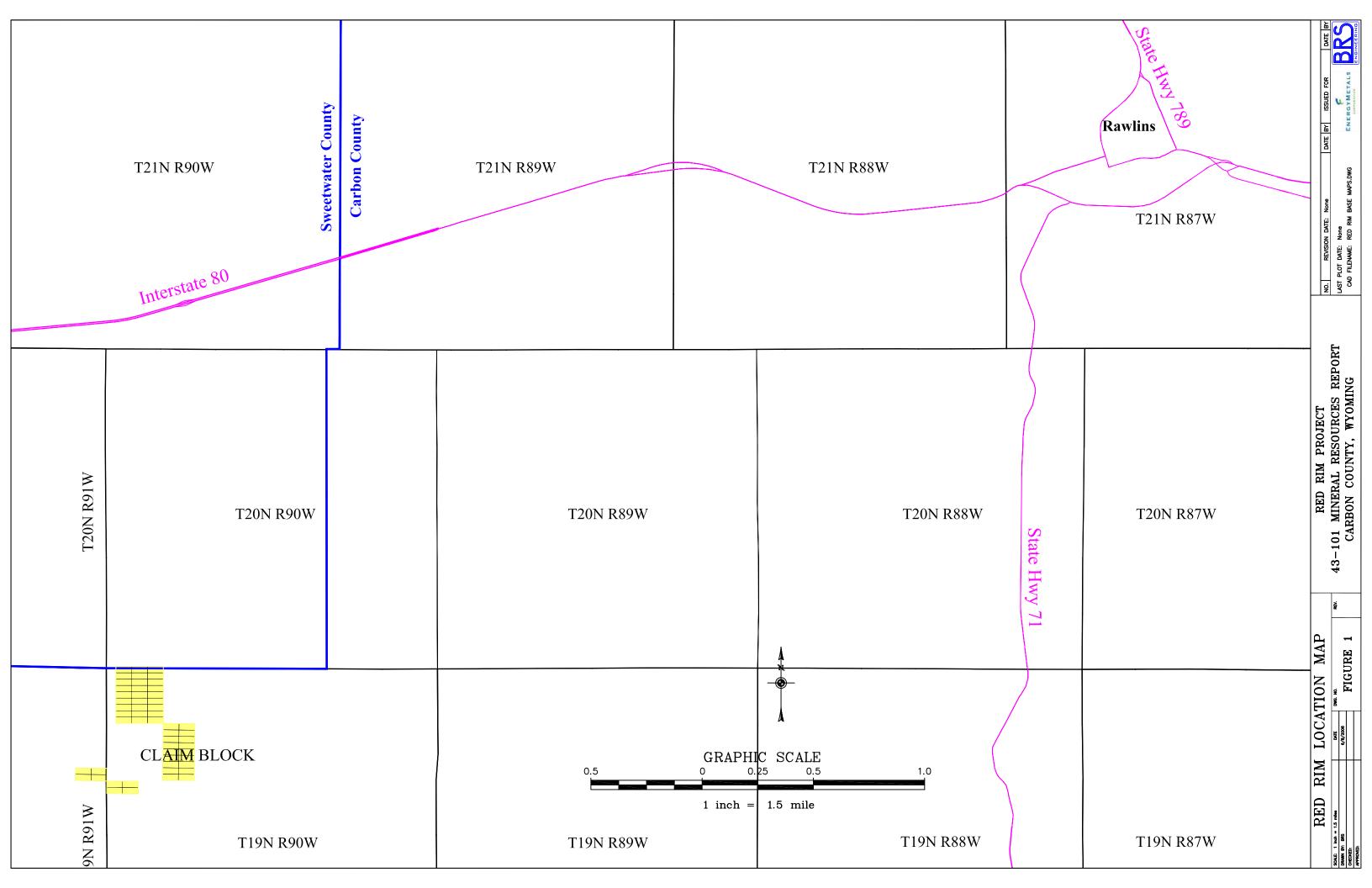
Douglas L. Beahm

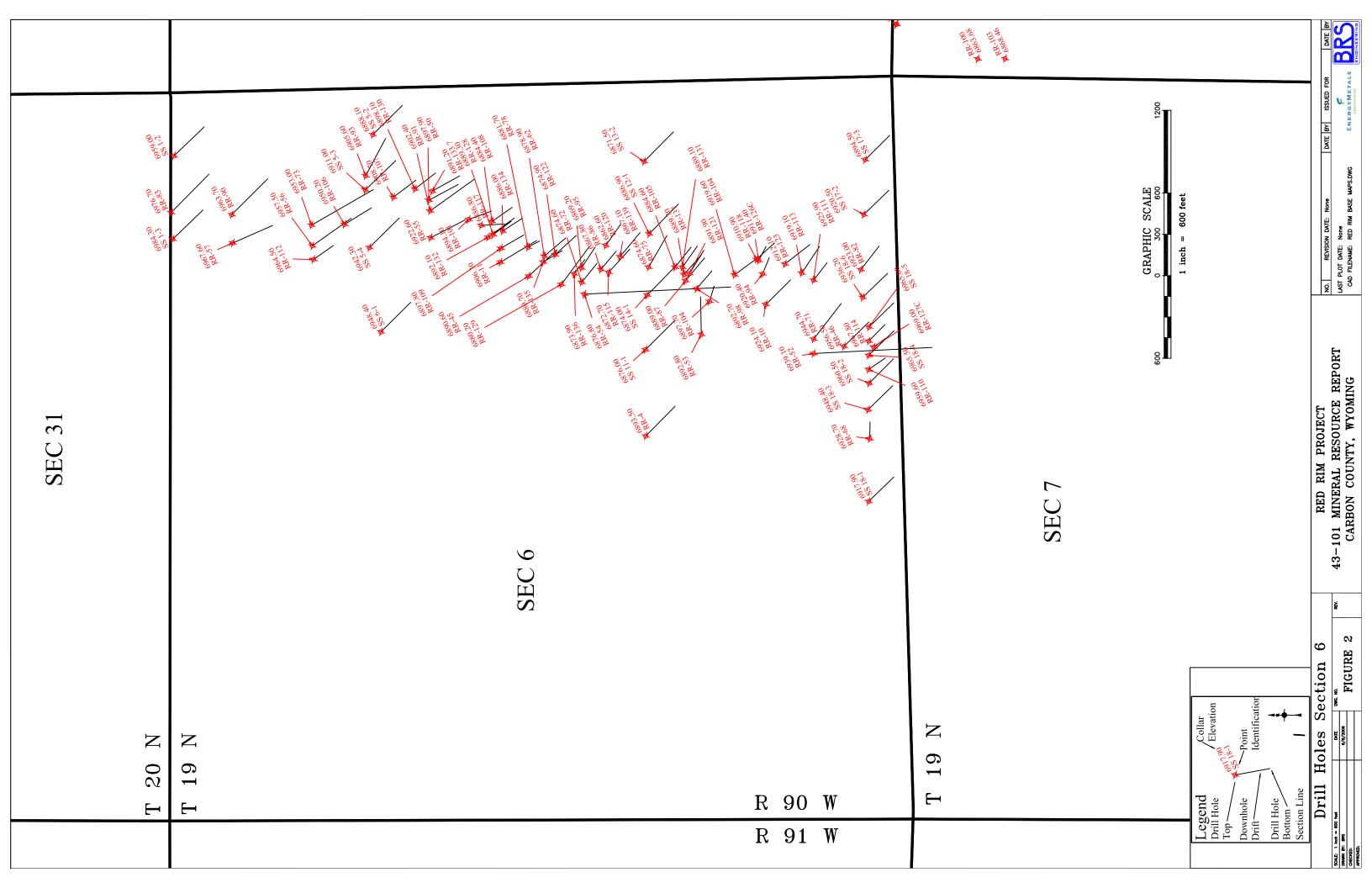
## SECTION 25 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

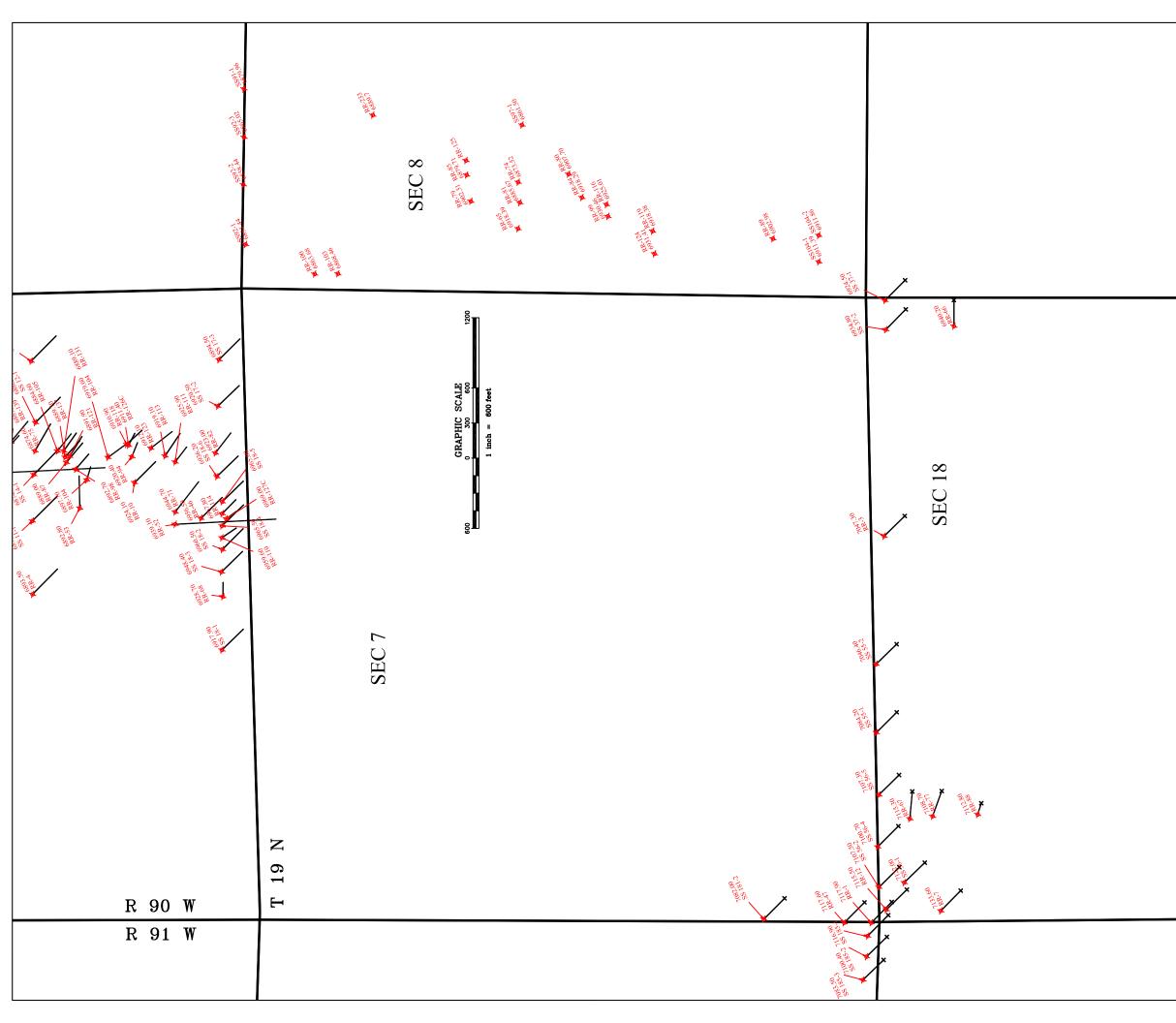
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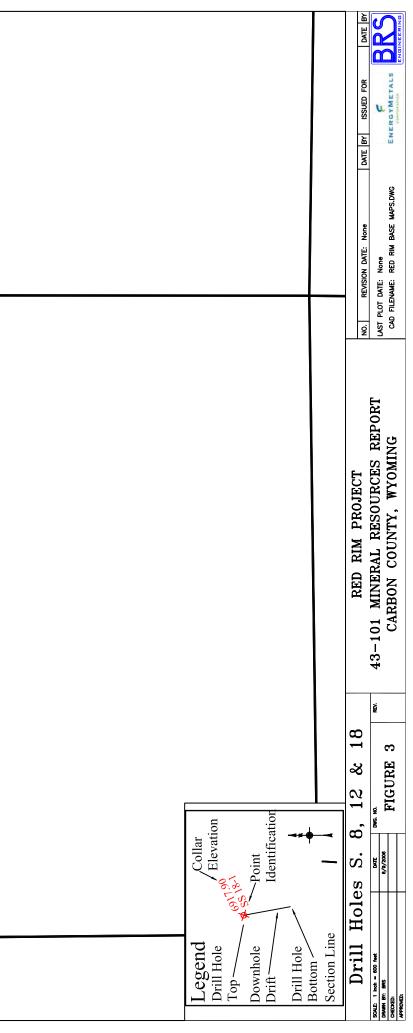
**SECTION 26** 

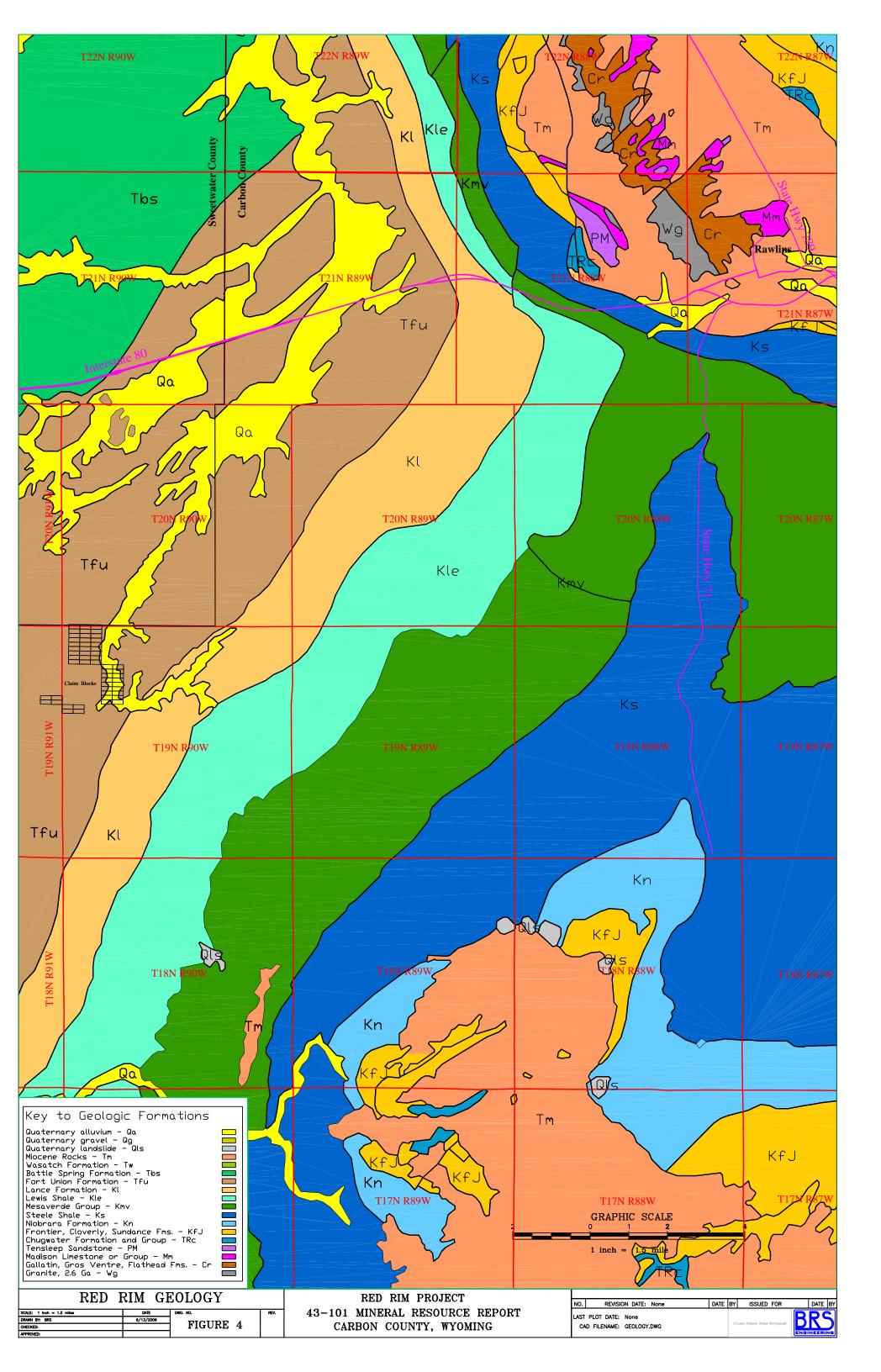
## ILLUSTRATIONS



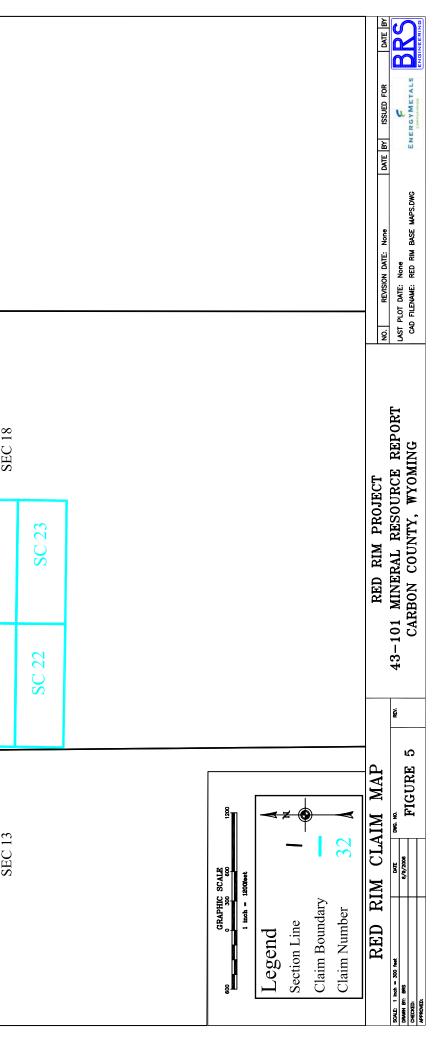


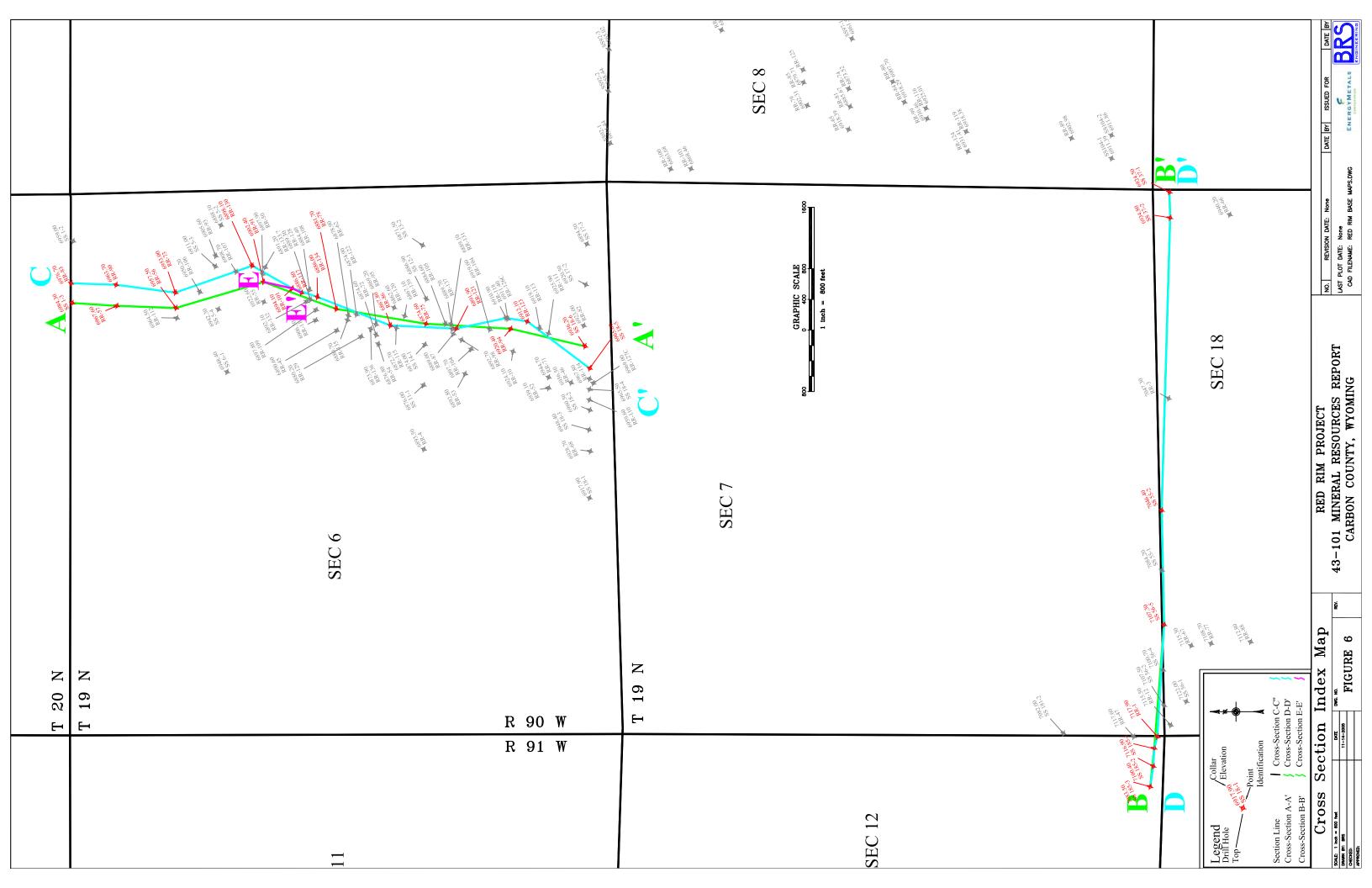




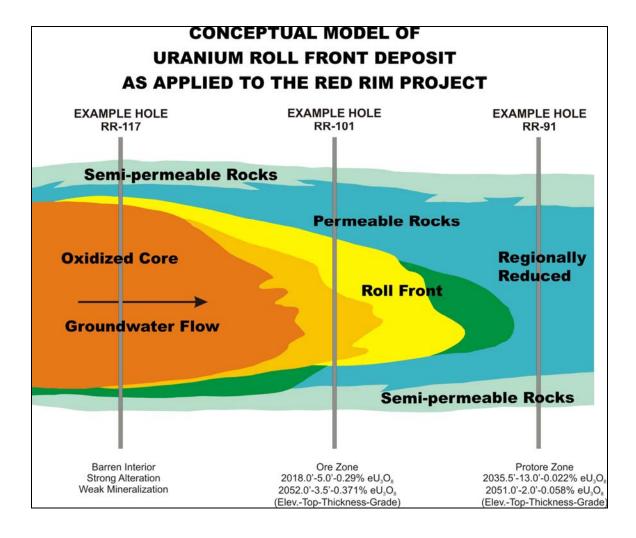


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						F 346	F 347	
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SC 25	SC 24					F 350	F 351	
SC 26	SC 19					F 352	F 353	
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## FIGURE 7



Hole RR-117 intercepted the barren interior of the front characterized by thin weak mineralization or "tails" and strongly altered host sands with hematite and limonite staining, and feldspar alteration. Hole RR-101 is at or near the oxidation/reduction interface or "roll-front" and contains 8.5 feet of mineralization in 2 zones averaging more than 0.30 %  $eU_3O_8$ . Hole RR-91 intercepted the protore zone and is characterized by thick low-grade mineralization in unaltered and/or slightly altered host sands.

