



# URANIUM ENERGY CORP

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## Technical Report Preliminary Economic Assessment Slick Rock Project Uranium/Vanadium Deposit San Miguel County, Southwest Colorado, USA

### NI 43-101 Technical Report

**Report Prepared for:**

#### **Uranium Energy Corp**

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## 1 SUMMARY

The Technical Report was prepared by Douglas Beahm, PE, PG, of BRS Engineering (author) with contributions by Bruce Davis of BD Resource Consulting Inc. (BDRC) and Robert Sim of Sim Geological Inc. (co-authors) for Uranium Energy Corp (UEC) to provide a Preliminary Economic Assessment (PEA) of the project based on the Inferred Mineral Resource estimate for the project (Davis and Sim, 2013). Specifically, BDRC was responsible for the estimation of uranium mineral resources and sections 4 through 8 and 10 through 14 of the report, with the exception of section 14.14, Vanadium Mineral Resources. BRS was responsible for section 9, section 14.14 and sections 15 through 23 of the report. BRS and BDRC jointly contributed to sections 1 through 3 and sections 24 through 28 of the report.

The following key effective dates apply to the report:

- Drill data available for inclusion in the report, September 28, 2012.
- Mineral resource estimation for uranium, December 15, 2012.
- Mineral resource estimation for vanadium, March 31, 2013.
- Property Description and Location, March 31, 2013.
- Conceptual mine plan and PEA, March 31, 2013.
- Update of cost model to incorporate income tax, April 8, 2014.

The portions of the report completed by BRS were written under the direction of Douglas Beahm, PE, PG. The portions of the report completed by BDRC were written under the direction of Bruce Davis, FAusIMM, and Robert Sim, P.Geo. The author and co-authors are independent "qualified persons" as defined by CIM's National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) and as described in Section 28 (Certificates and Signatures).

Mineral Reserves are not estimated herein. This is a restricted disclosure as allowed under section 2.3(3) of NI 43-101 which includes a Preliminary Economic Assessment (PEA) and is preliminary in nature such that it includes a portion of the inferred mineral resources as reported in Section 14 of the report. Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. Inferred mineral resources are too speculative to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the outcomes estimated in the PEA will be realized.

### ***Property Description and Location***

The Slick Rock project is located in San Miguel County, Southwest Colorado, approximately 23.9 miles north of the town of Dove Creek. The general area is east of the Dolores River in the Slick Rock District of the Uravan mineral belt. The approximate geographic centre of the property is 38°2'59.4"N, 108°51'28.5"W.

## Ownership

UEC acquired the Slick Rock property by staking and acquiring mineral lode claims from various parties on public lands administered by the U.S. Bureau of Land Management (BLM). The entire claim block of 293 mineral lode claims encompasses an area of approximately 4,858.5 acres or 7.6 mi<sup>2</sup>. Certain claims within the block are subject to 1% to 3% royalties of net uranium and vanadium production.

## History

Surficial to shallow uranium/vanadium mineralization has been known in the Slick Rock area since the early 1900s (then called the McIntyre district). First mined for radium and minor uranium until 1923, numerous companies sporadically operated small scale mining and processing facilities along the Dolores River. In 1931, a mill was constructed by Shattuck Chemical Co. to process vanadium ore. In 1944, the area was worked by the Union Mines Development Corp. for uranium/vanadium ore. The uranium was used to develop and construct the first atomic bombs. This sparked intensive exploration efforts throughout the Uravan mineral belt.

By December of 1955, Union Carbide Nuclear Corp. (UCNC) had drilled out a sufficient resource on the north side of Burro Canyon and began sinking three shafts. In December 1957, the shaft sinking was complete on the Burro #3, #5, and #7 mines to total depths of 408 ft, 414 ft, and 474 ft, respectively. In the same year, initial ore shipments were made to UCNC's concentrating mill at Slick Rock. The total historical production of the Burro mines was 2,236,723 lbs U<sub>3</sub>O<sub>8</sub> (uranium oxide) and 13,941,457 lbs V<sub>2</sub>O<sub>5</sub> (vanadium oxide) as summarized in Table 1.1.

**TABLE 1.1: PRODUCTION**

Production Years	U <sub>3</sub> O <sub>8</sub> (lbs)	V <sub>2</sub> O <sub>5</sub> (lbs)
1957-1971	1,992,898	12,149,659
1971-1983	243,825	1,791,798
<b>Total</b>	<b>2,236,723</b>	<b>13,941,457</b>

## Geology and Mineralization

Uranium/vanadium mineralization is hosted by the Upper Jurassic Morrison Formation and is typical of Colorado Plateau-style uranium/vanadium deposits. Past production came from the upper or third-rim sandstone of the Salt Wash member of the Morrison Formation. This is the target host for uranium/vanadium mineralization within UEC's Slick Rock project area.

Uranium and vanadium bearing minerals occur as fine grained coatings in detrital grains filling pore spaces between the sand grains and replacing carbonaceous material and

some detrital grains (Weeks et al., 1956). The primary uranium minerals are uraninite ( $\text{UO}_2$ ) with minor amounts of coffinite ( $\text{USiO}_4\text{OH}$ ). Montroseite ( $\text{VOOH}$ ) is the primary vanadium mineral, along with vanadium clays and hydromica. Metal sulfides occur in trace amounts. Mineralization occurs within tabular to lenticular bodies that are peneconcordant within sedimentary bedding. Mineralization may also cut across sedimentary bedding to form irregular shapes.

### ***Sample Database and Validation***

UEC has obtained chemical and radiometric assays from U.S. Atomic Energy Commission's (AEC) exploration program OFR70-348 for vanadium and uranium values, respectively, from holes drilled by the United States Geological Society (USGS) on behalf of the Raw Materials Division of the AEC. Logs for boreholes drilled by U.S. Energy Corporation (USEC) and Energy Fuels Resources Corporation (Energy Fuels) were obtained by claim acquisition, and the uranium intercept values from the logs for boreholes drilled by Homeland Uranium Inc. (Homeland Uranium) were available in the public domain. UEC has surveyed the locations of historical drill holes, examined the Burro mine workings and collected a sample of mineralized material from the mine for uranium and vanadium assay. UEC has not completed verification drilling or other exploration on the property.

Typically, Colorado Plateau-style uranium deposits also contain appreciable amounts of vanadium as  $\text{V}_2\text{O}_5$ . The drill data used to estimate the uranium resources did not always have associated vanadium assays. The author has work experience with the uranium-vanadium deposits in the Colorado Plateau and states that at the time the uranium assays were collected the common practice in mineral exploration and development was to rely on uranium values to estimate vanadium content based on the historic vanadium:uranium (V:U) ratios for each mine area. Uranium values were determined from chemical assays or, far more commonly, from radiometric equivalent determinations either with downhole geophysical logging (surface exploration) or handheld scintillometers (underground face mapping and mining). Vanadium values were estimated based on the V:U ratios experienced during past production in the area and confirmed by head assays at the mills. At the Burro Mine, average grades reported from the periods of 1955-1971 are 0.25%  $\text{U}_3\text{O}_8$  and 1.5%  $\text{V}_2\text{O}_5$  (V:U ratio 6:1) and 1971-1983 are 0.20%  $\text{U}_3\text{O}_8$  and 1.4%  $\text{V}_2\text{O}_5$  (V:U ratio 7:1) (refer to Section 6, History). The author recommends use of a 6:1 V:U ratio for the estimate of vanadium mineral resources based on the uranium mineral resource estimate.

### ***Mineral Resource Estimate***

The uranium mineral resource estimate has been generated using drill hole sample assay results and the interpretation of a geologic model which relates to the spatial distribution of uranium. The vanadium mineral resource was estimated based on the estimated grades for uranium using a 6:1 V:U ratio. Interpolation characteristics have been defined based on the geology, drill hole spacing, and geostatistical analysis of the data.



Grade estimates have been made using ordinary kriging (OK) into a model with a nominal block size of 50 x 50 x 10 ft (L x W x H). Statistical evaluations result in the segregation of data according to favourable zone domains during grade interpolation. Bulk densities have been assigned to blocks in the model based on historic production data.

The results of the modeling process have been validated using a series of methods as discussed in Section 14. The results indicate that the resource model is an appropriate estimation of global resources based on the underlying database.

The resources have been classified by their proximity to sample locations and are reported, as required by NI 43-101, according to the CIM *Definition Standards on Mineral Resources and Mineral Reserves*. Based on the current distribution of drilling, resources in the Inferred class occur within the designated favourable areas.

The 2013 Slick Rock mineral resource estimates are summarized in Table 1.2 at a series of cut-off grades for comparison purposes. Table 1.2 highlights the “base case” cut-off grade of 0.15% eU<sub>3</sub>O<sub>8</sub>. The minimum grade cut-off is derived from the PEA.

To the author’s knowledge, there are no known factors related to environmental, permitting, legal title, taxation, socio-economic, marketing, or political issues which could materially affect the mineral resource estimates. Inferred mineral resources are inherently uncertain. There is no guarantee that the current Inferred resource estimate or any part thereof will be converted to Measured or Indicated resources by further exploration.

**TABLE 1.2: SUMMARY OF INFERRED MINERAL RESOURCES**

Cut-off Grade %eU <sub>3</sub> O <sub>8</sub>	Tons x 1,000	eU <sub>3</sub> O <sub>8</sub> (%)	Contained U <sub>3</sub> O <sub>8</sub> (Mlbs)	V <sub>2</sub> O <sub>5</sub> (%)	Contained V <sub>2</sub> O <sub>5</sub> (Mlbs)
0.10	4,225	0.186	15.7	1.12	94.2
<b>0.15</b>	<b>2,549</b>	<b>0.228</b>	<b>11.6</b>	<b>1.37</b>	<b>69.6</b>
0.20	1,646	0.255	8.9	1.53	53.4
0.25	775	0.296	4.6	1.78	27.6
0.30	274	0.340	1.9	2.04	11.4
0.35	71	0.415	0.6	2.49	3.6
0.40	69	0.417	0.6	2.50	3.6

(Base case cut-off grade of 0.15 % eU<sub>3</sub>O<sub>8</sub> is highlighted in Table 1.2)

## **Conclusions**

Based upon available drilling data, published geologic reports and mapping, the mineral resource estimation, and the preliminary economic assessment of the project, the following conclusions can be made:

- The level of understanding of the geology at Slick Rock is very good: it has been the subject of study since the 1940s and the subject of mine production through the early 1980s. The practices used during the various drilling campaigns appear to have been conducted in a professional manner and have adhered to accepted industry standards. There are no factors evident that would lead one to question the integrity of the database.
- A significant Colorado Plateau-style uranium/vanadium deposit appears to exist in the area of past mine production and the surrounding area.
- Drilling-to-date has outlined an Inferred Mineral Resource (at a 0.15% eU<sub>3</sub>O<sub>8</sub> cut-off) of 2,549 ktons @ an estimated 0.228% eU<sub>3</sub>O<sub>8</sub> grade which contains an estimated 11.6 million pounds of uranium oxide and 69.6 million pounds of vanadium oxide @ an estimated 1.37% V<sub>2</sub>O<sub>5</sub> grade.
- The PEA was based on the sale of the mined product to the White Mesa mill located in Blanding, Utah. There is, however, a risk that the White Mesa mill would not accept run-of-mine material. If this were to occur some form of mineral processing on-site and/or shipment to another mineral processing facility would be necessary.
- The PEA was based on random room and pillar mining methods, using split shooting with a minimum mining thickness of 4 feet and a room height of 7 feet, as was successfully employed within the project area and the greater UraVan Mineral Belt in the past.
- The PEA concluded that a minimum mining cut-off of 0.15% eU<sub>3</sub>O<sub>8</sub>, after dilution to a minimum mining thickness of 4 feet, is appropriate.
- The portion of the Inferred Mineral Resource included in the PEA has an estimated average thickness of 4.44 feet, average grade 0.212% eU<sub>3</sub>O<sub>8</sub> and 1.27% V<sub>2</sub>O<sub>5</sub>, and an average waste ratio at a 7 foot mine height of 1.58:1.
- The PEA base economic case was based on annual production of 100,000 tons of mined material per year. For this base case, with a uranium price of \$60 per pound and a vanadium price of \$10 per pound, the project would generate an estimated pre-tax Internal Rate of Return (IRR) of 33% and a post-tax IRR of 29% and have an estimated pre-tax Net Present Value (NPV) at a discount rate of 10% of \$43.8 million dollars (constant dollars US) before income tax, and a post-tax NPV at a 10% discount rate of 31.9 million dollars (constant dollars US).

- The technical risks related to the project are low as the mining and recovery methods are proven. The mining methods recommended have been employed successfully at the project in the past.
- The project is located in a brown-field in an area that has a mining heritage of more than a century. A portion of the project area was deemed suitable for the long term isolation of uranium mill tailings through an extensive Environmental Impact Statement (EIS) process. This data is public and may assist in permitting and licensing.
- Mineral Reserves are not estimated herein. This is a restricted disclosure as allowed under section 2.3(3) of NI 43-101 which includes a PEA and is preliminary in nature such that it includes a portion of the inferred mineral resources as reported in Section 14 of the report. Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. Inferred mineral resources are too speculative to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the outcomes estimated in the PEA will be realized.
- The authors are not aware of any other specific risks or uncertainties that might significantly affect the mineral resource and reserve estimates or the consequent economic analysis. Estimation of costs and uranium price for the purposes of the economic analysis over the life of mine is by its nature forward-looking and subject to various risks and uncertainties. No forward-looking statement can be guaranteed and actual future results may vary materially.

### **Recommendations**

Phase I, Exploration: The following actions are recommended relative to exploration at the Slick Rock project (Refer to Table 1.3):

- Conduct additional exploration drilling in the northern sections of the Slick Rock property to determine the extent of uranium/vanadium mineralization and attempt to expand the Inferred Mineral Resource. Budget: US\$550,000.
- Conduct additional sampling to validate historical assay data by resampling historic drill core/cuttings. Assays should include uranium, vanadium, and commonly associated metals and calcium carbonate. Budget: US\$20,000.
- Confirm results of historic drilling by sampling in areas of the deposit accessible from the underground workings. Budget: US\$50,000.
- Conduct delineation drilling: drill a first phase grid pattern, starting with 800 ft centres in areas of greatest mineralization, and test four sub-areas requiring 16

drill holes each (64 total drill holes) to attempt to upgrade some resources to the Indicated category. Budget: US\$900,000.

- Upon completion of drilling, update the uranium/vanadium resource estimate. Budget: US\$75,000.

**TABLE 1.3: EXPLORATION BUDGET**

<b>Item</b>	<b>Cost (US\$)</b>
<b>Drilling, probing, and support activities</b>	\$1,500,000
<b>Chemical assays</b>	\$20,000
<b>Resource model update and report</b>	\$75,000
<b>EXPLORATION TOTAL</b>	\$1,595,000

Phase II, Feasibility and Development: The following actions are recommended relative to project development and are contingent on positive results from Phase I and market conditions (Refer to Table 1.4):

- Conduct preliminary metallurgical testing on representative material for conventional mineral processing and heap leach amenability. Budget: US\$100,000.
- Complete a preliminary geotechnical study based on the accessible portions of the Burro Mine. Budget: US\$50,000.00.
- Obtain publically available environmental and monitoring data and document current site conditions. Budget: US\$25,000.
- Conduct radiological surveys and/or sampling of the project area to determine current background levels for Technically Enhanced Naturally Occurring Radioactive Materials (TENORM). Budget: US\$50,000.00
- Complete detailed development drilling, based on the results of the exploration drilling, in areas most likely to be mined early in the project (up to 25 drill holes). Budget: US\$500,000.00
- Complete preliminary engineering studies and design, and complete preliminary feasibility study, as appropriate. Budget: US\$500,000.00.

**TABLE 1.4: FEASIBILITY AND DEVELOPMENT BUDGET**

<b>Item</b>	<b>Cost (US\$)</b>
<b>Preliminary Metallurgical Testing</b>	\$100,000
<b>Preliminary Geotechnical Study</b>	\$50,000
<b>Obtain Environmental Data</b>	\$25,000
<b>TENORM Surveys</b>	\$50,000
<b>Detailed Drilling</b>	\$500,000
<b>Preliminary Engineering</b>	\$500,000
<b>FEASIBILITY AND DEVELOPMENT TOTAL</b>	\$1,225,000

## 2 INTRODUCTION

The Technical Report was prepared by Douglas Beahm, PE, PG, of BRS Engineering (author) with contributions by Bruce Davis of BD Resource Consulting Inc. (BDRC) and Robert Sim of Sim Geological Inc. (co-authors) for Uranium Energy Corp (UEC) to provide a Preliminary Economic Assessment (PEA) of the project based on the Inferred Mineral Resource estimate for the project (Davis and Sim, 2013). Specifically, BDRC was responsible for the estimation of uranium mineral resources and sections 4 through 8 and 10 through 14 of the report, with the exception of section 14.14, Vanadium Mineral Resources. BRS was responsible for section 9, section 14.14 and sections 15 through 23 of the report. BRS and BDRC jointly contributed to sections 1 through 3 and sections 24 through 28 of the report.

The portions of the report completed by BRS were written under the direction of Douglas Beahm, PE, PG. The portions of the report completed by BDRC were written under the direction of Bruce Davis, FAusIMM, and Robert Sim, P.Geo. The author and co-authors are independent "qualified persons" as defined by CIM's National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) and as described in Section 28 (Certificates and Signatures).

Bruce Davis, FAusIMM conducted a site visit on November 29, 2012; he reviewed activities related to the USGS historic drilling, inspected dump material from the Burro mines, reviewed sampling procedures, and visited a series of drill sites on the property.

Douglas Beahm completed a site visit on April 2, 2013. At the time he was able to access the Burro mine workings which were above the ground water table. In addition to observing the decline, approximately 1,500 feet of mine workings were examined. In addition, Mr. Beahm inspected evidence of previous drilling and examined potential sites for mine entry. Mr. Beahm observed the collection of a sample for confirmatory assay from one of the exposures on mineralization in the Burro Mine. This sample designated RE13064009 was assayed using XRF methods and contained 1.73% U<sub>3</sub>O<sub>8</sub> and 6.48% V<sub>2</sub>O<sub>5</sub>. Sample RE13064009 is not indicative of the average grade of uranium and/or vanadium mineralization but does demonstrate the presence of mineralization.

In preparing the Technical Report, the authors relied on geological reports, maps, and miscellaneous technical papers listed in Section 27 (References). The information, conclusions, opinions, and estimates contained herein are based on:

- The qualified person's field observations
- Data, reports, and other information publically available or provided by UEC
- Previous experience with similar deposits

The report is based on drilling and sampling data available as of September 28, 2012. The development of the resource model, including subsequent validation and review, were

completed in December 15, 2012 and released in a UEC press release on January 8, 2013 (Davis and Sim, 2013).

All measurement units used in the report are imperial units, and currency is expressed in U.S. dollars (US\$) unless stated otherwise.

## 2.1 List of Abbreviations and Acronyms

AEC	Atomic Energy Commission
ANFO	Ammonium Nitrate and Fuel Oil
APCD	Air Pollution control Division
BDRC	BD Resource Consulting, Inc.
BLM	Bureau of Land Management
CAPEX	Capital Expense
CDPHE	Colorado Department of Public Health and Environment
cfm	cubic feet per minute
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CMLRB	Colorado Mine Land and Reclamation Board
DOE	Department of Energy
DPM	Diesel Particulate Matter
EIS	Environmental Impact Statement
Energy Fuels	Energy Fuels Resource Corporation
ft	Foot
Homeland	Homeland Uranium Inc.
IDW	Inverse Distance Weighted
IRR	Internal Rate of Return
kton	thousand tons
lbs	Pounds
mi	Miles
MSHA	Mine Safety and Health Administration
NGOs	Non-Government Organizations
NI 43-101	National Instrument 43-101
NN	Nearest Neighbor
NORM	Naturally Occurring Radioactive Materials
NPV	Net Present Value
OK	Ordinary Kriging
OPEX	Operating Expense
PEA	Preliminary Economic Assessment
project	Slick Rock project
SGI	SIM Geological Inc.
SHPO	State Historic Preservation Office

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st	short ton
T&E	Threaten and Endangered
TENORM	Technically Enhanced Naturally Occurring Radioactive
U <sub>3</sub> O <sub>8</sub>	uranium oxide
UCNC	Union Carbide Nuclear Corp.
UEC	Uranium Energy Corp.
UGT	uranium grade times thickness
USEC	U.S. Energy Corp.
USGS	United States Geological Society
V:U	Vanadium to Uranium Ratio
V <sub>2</sub> O <sub>5</sub>	vanadium pentoxide
WQCD	Water Quality Control Division

### **3 RELIANCE ON OTHER EXPERTS**

For the purpose of Sections 4.1 and 4.2 (Property Description and Location, and Ownership) of this report, BDRC has relied on the ownership data (mineral, surface, and access rights) provided by UEC. BDRC has not researched the property title or mineral rights for the Slick Rock project and expresses no legal opinion as to the ownership status of the property.



## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Property Description and Location

The Slick Rock project is located in San Miguel County, Southwest Colorado, approximately 23.9 miles north of the town of Dove Creek. The general area is east of the Dolores River in the Slick Rock District of the Uravan mineral belt. The Slick Rock project occupies all or parts of Sections 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, and 34 in T44N R18W, NMPM, and parts of Sections 3, 4, and 5 of T43N R18W, NMPM. The approximate geographic centre of the property is 38°2'59.4"N, 108°51'28.5"W. The Slick Rock project is bordered to the west by Department of Energy (DOE) uranium lease tracts C-SR-13 and C-SR-13A; to the southwest by DOE uranium lease tract C-SR-14; and, to the north and northeast by Energy Fuels' recently acquired Sunday-Carnation-Topaz-St. Jude mine complex, formerly operated by Denison Mines Corp.

### 4.2 Ownership

In December 2010, UEC staked 88 mineral lode claims. An additional 101 mineral lode claims were acquired from individuals for financial considerations and 1% royalty interest. Between December 2011 and January 2012, UEC staked an additional 21 mineral lode claims. An additional 83 mineral lode claims were acquired from Ur-Energy LLC for financial considerations and 3% royalty interest. All claims are contiguous (Figure 4.1). The entire claim block (293 mineral lode claims) encompasses an area of approximately 4,858.5 acres or 7.6 mi<sup>2</sup>. All claims are summarized in Appendix A.

The claim outline shown on Figure 4.1 was provided by UEC. The accuracy of the claim map was not verified by the author. However, UEC provided copies of the mineral claim lease and purchase agreement which were reviewed for content by the author. All mining claims whether leased, purchased, or located by UEC were verified as to their validity by searching the BLM web site LR2000. BLM lists the mining claims as current. Appendix A provides a listing of the current mining claims held by UEC. The author has not formally researched the property title or mineral rights for the Slick Rock project and expresses no legal opinion as to the ownership status of the property. However, the author does conclude that UEC controls a valid mineral right to the lands associated with Slick Rock Project provided they continue to meet the filing and payment requirements appropriate to San Miguel County, Colorado and the BLM, as further described in Section 4.3.

### 4.3 Mineral Titles

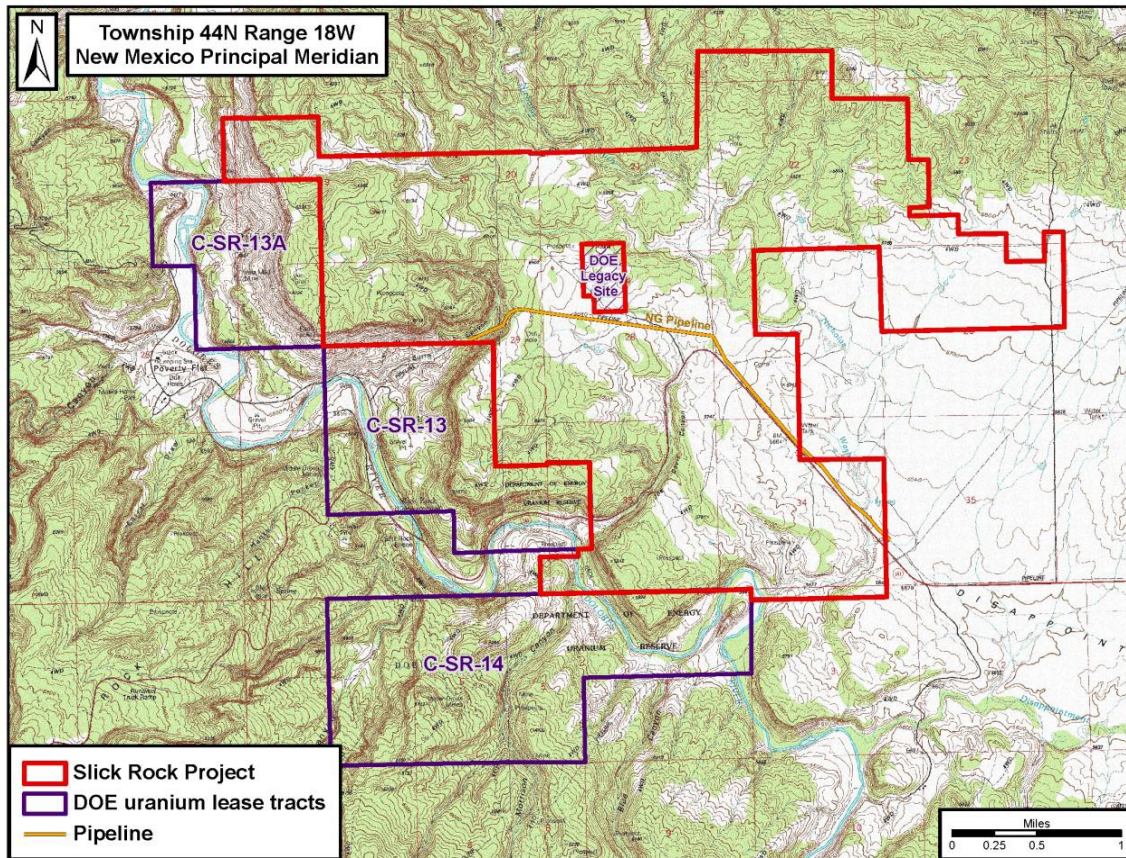
Unpatented mining claims, lode or placer, are under the authority of the Mining Law of 1872 on federal lands administered by the Bureau of Land Management (BLM). Under the Mining Law, the locator has the right to explore, develop, and mine on unpatented mining claims without paying production royalties to the federal government. Claim maintenance fees of \$140 per claim are due by September 1st of each year. Unpatented federal lode

mining claims in Colorado are designated in the field by four corner posts, two end-centre posts, and a location monument. Claim location notices for each unpatented claim are recorded in the county recorder's office of the county in which the claims are located, and then filed with the BLM Colorado State office.

#### **4.4 Surface Rights**

All Slick Rock project mining claims are on public lands; the surface and mineral rights are administered by the BLM. The Mining Law of 1872 provides for surface rights associated with mining claims provided the use and occupancy of the public lands in association with the development of locatable mineral deposits is reasonably incident and approved by the appropriate BLM Field Office; see [43 CFR Subpart 3715](#).

FIGURE 4.1: TOPOGRAPHIC MAP WITH CLAIM BLOCK



#### 4.5 Mineral Exploration Permitting

Exploration and mining activities for the mining claims of the Slick Rock project are administrated by the BLM Durango field office. Exploration drilling and associated activities require an exploration permit and a reclamation bond that must be posted with the State of Colorado, Department of Natural Resources Division of Reclamation, Mining, and Safety. At the time of the report, UEC does not possess an exploration permit nor has a reclamation bond been posted.

#### 4.6 Environmental Liabilities

UEC is unaware of any significant environmental liabilities on the property. However, it is important to note that three large waste rock piles remain from historic mining through the Burro #3, #5, and #7 mine shafts. DOE also maintains a legacy site within the property boundary. No exploration, development, or mining may take place within or below the DOE legacy site.

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

The Slick Rock project can be accessed via Colorado State Highway 141 (which bisects the property), County Road CR-T11, and numerous historic drill roads and trails (Figure 5.1). To access the site: from the post office in Dove Creek, Colorado, drive 2.0 miles west-northwest on State Highway 491; turn right (north) onto State Highway 141; continue for 23.7 miles to County Road CR-T11, and then turn left onto the well-maintained gravel road.

The property is located in the southern end of the Uravan mineral belt of the Colorado Plateau physiographic province. It is located in the southeastern edge of the Paradox fold and fault belt in the proximal Disappointment syncline. Elevations within the project area range from approximately 5,500 ft to 6,250 ft above sea level. The majority of the project area lies within the broad Disappointment Valley floor. It is bounded on the west by the Dolores River and incised to the west and south by Burro Canyon, Joe Davis Canyon, and Nicholas Wash. To the north is a dip-slope of an escarpment formed from erosion of the northern limb of the Disappointment Valley syncline.

The climate is semi-arid and is characterized by mild winters with moderate snowfalls which are seldom heavy enough to cause access problems. The summers are warm with temperatures occasionally reaching 100°F. Annual precipitation for the area averages approximately 12 inches occurring mostly during summer thunderstorms; the remaining precipitation comes from winter snow and spring rain. Climate is only a minimally limiting factor for year-round mining operations. Vegetation in the area is sparse and consists of junipers and pinion pines in rocky soils along with sage and other brush, forbs, grasses, and cacti typical of a semi-arid climate.

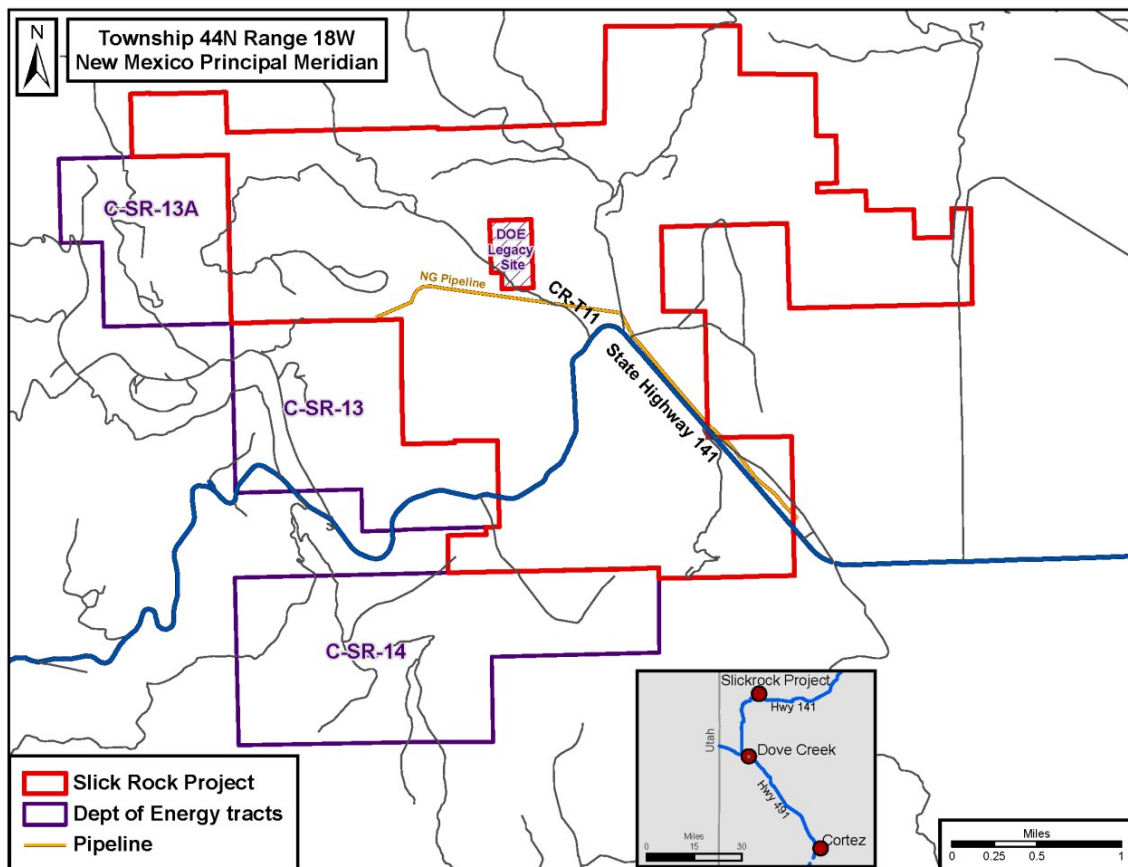
Cortez, Colorado (population 8,500) is the nearest major community located approximately 57 miles south-southeast from the project area. It has sufficient services, fuel, accommodations, and supplies to serve as a staging area for any future exploration program. The Energy Fuels White Mesa mill at Blanding, Utah is approximately 1.3 hours by road, from the property.

Infrastructure on the property includes a head frame, a Vulcan hoist, ore load outs, a 1,200 cfm Ingersoll Rand compressor, three metal buildings, three powder magazines, a 48-inch vent shaft with fan, a 42-inch vent shaft, four additional vents that range from 12 inches to 18 inches, and several thousand feet of 5-inch pneumatic pipe. A natural gas pipeline crosses the property as shown in Figures 4.1 and 5.1. There is a 60-acre DOE legacy site where mill tailings from the former Union Carbide Slick Rock mill are held. There are active power lines running to the DOE legacy site. There are also power lines to the Burro #7 mine shaft and to a radio tower above the Burro mines. It is not known if these lines are still active. Just over one mile to the northeast of the northern property

boundary is Energy Fuels' Sunday-Carnation-Topaz-St. Jude mine complex, formerly operated by Denison Mines, which has numerous high voltage power lines.

The 1872 Mining Law grants certain surface rights along with the right to mine provided the surface use is incident to the mine operations. In order to exercise those rights the operator must comply with a variety of State and Federal regulations (refer to section 20.1). Should the mining require access across adjacent Federal lands for any purpose, a Right-of-Way would be required from the BLM. For the mine operations, as described in Section 16, the author concludes that UEC has and/or can obtain, through permitting and licensing of site activities, sufficient surface rights for the planned operations.

**FIGURE 5.1: ACCESS MAP**



## 6 HISTORY

Surficial to shallow uranium/vanadium mineralization has been known in the Slick Rock area since the early 1900s, known as the McIntyre district. First mined for radium and minor uranium until 1923, numerous companies sporadically operated small scale mining and processing facilities along the Dolores River. In 1931, a mill was constructed by Shattuck Chemical Co. to process vanadium ore. Beginning in 1944, the area was worked by Union Mines Development Corp. for uranium/vanadium ore. The uranium was used to develop and construct the first atomic bombs. This sparked intensive exploration efforts throughout the Uravan mineral belt.

Between November 1948 and March 1956, the USGS drilled 2,641 holes in the Slick Rock district to explore for uranium- and vanadium-bearing deposits. The drilling was part of an exploration program conducted for the U.S. Atomic Energy Commission (OFR70-348). Fifty-two of these drill holes were located within the boundary of UEC's Slick Rock project area. The first phase of the USGS's exploration was to obtain geological data and delineate areas of favourable ground. This widely-spaced drilling program was done on approximately 1,000 ft centres. The second phase was drilled with more moderate spacing (100-300 ft centres) to discover ore deposits. The third phase was drilled on more closely spaced intervals (50-100 ft centres) to extend and outline any deposits discovered by earlier drilling (Weir, 1952). At this time, private industry was also actively exploring the area. By 1954, an estimated 212,000 ft of drilling was completed district-wide (Shawe, 2011).

By December 1955, Union Carbide Nuclear Corp. (UCNC) had drilled out a sufficient resource on the north side of Burro Canyon and began sinking three shafts. In December 1957, the shaft sinking was complete on the Burro #3, #5, and #7 mines to total depths of 408 ft, 414 ft, and 474 ft, respectively. In the same year, initial ore shipments to UCNC's concentrating mill at Slick Rock were also made. The concentrated ore was processed at the UCNC mill in Rifle, Colorado until the mid-1960s when a vanadium circuit was constructed at the Uravan mill site.

In 1971, the final year that the Atomic Energy Commission reported production figures, the Burro mines had produced 404,804 tons of ore at a grade of 0.25%  $U_3O_8$  yielding 1,992,898 lbs  $U_3O_8$ , and 1.5%  $V_2O_5$  yielding 12,149,659 lbs  $V_2O_5$  (Nelson-Moore et al., 1978). According to the Colorado Bureau of Mines' annual reports, the Burro mines produced an additional 243,825 lbs  $U_3O_8$  at an average grade of 0.20% and 1,791,798 lbs  $V_2O_5$  at an average grade of 1.4% up until 1983 when depressed uranium prices forced an end to mining activities. The total production of the Burro mines was 2,236,723 lbs  $U_3O_8$  and 13,941,457 lbs  $V_2O_5$  as summarized in Table 6.1.

**TABLE 6.1: TOTAL PRODUCTION**

Production Years	U <sub>3</sub> O <sub>8</sub> (lbs)	V <sub>2</sub> O <sub>5</sub> (lbs)
1957-1971	1,992,898	12,149,659
1971-1983	243,825	1,791,798
<b>Total</b>	2,236,723	13,941,457

The UEC Slick Rock project has received more recent interest by the exploration activities of USEC, Energy Fuels, and Homeland Uranium, as shown in Figure 6.1. In 2006, USEC drilled 17 boreholes. All boreholes were completed to target depth, except borehole SR-1011 which was abandoned. The results of the drilling are shown in Table 6.2

**TABLE 6.2: USEC DRILLING RESULTS**

Borehole ID	Grade (%)	Thickness (ft)	Classification	Member/ Formation	Collar Elevation (ft)	Base Elevation (ft)
SR-1001	0.026	2.5	Mineralized	Salt Wash	5875.8	5043.4
SR-1002	0.038	2.5	Mineralized	Salt Wash	5869.3	5012.4
SR-1003			Barren	Salt Wash	5862.3	
SR-1004			Barren	Salt Wash	5868.9	
SR-1005			Anomalous	Salt Wash	5827.5	
SR-1006	0.046	4.5	Mineralized	Salt Wash	5848.6	4857.2
SR-1007	0.091	5	Mineralized	Salt Wash	5834.5	4883.1
SR-1008			Anomalous	Salt Wash	5853.0	
SR-1009			Barren	Salt Wash	5843.7	
SR-1010	0.015	2	Anomalous	Burro Canyon	5836.4	5467.4
SR-1011			Abandoned		5750.3	
SR-1012	0.094	2	Mineralized	Salt Wash	5733.5	4587.5
SR-1013*	0.55	3.5	Mineralized	Salt Wash	5717.7	4571.9
SR-1013*	0.19	5.5	Mineralized	Salt Wash	5707.7	4561.7
SR-1014			Barren	Salt Wash	5725.4	
SR-1015			Barren	Salt Wash	5743.6	
SR-1016	0.058	1.5	Mineralized	Salt Wash	5727.5	4532.6
SR-1017	0.29	4	Mineralized	Salt Wash	5750.5	4566.5

\*Two intercepts 10.5 ft apart vertically.

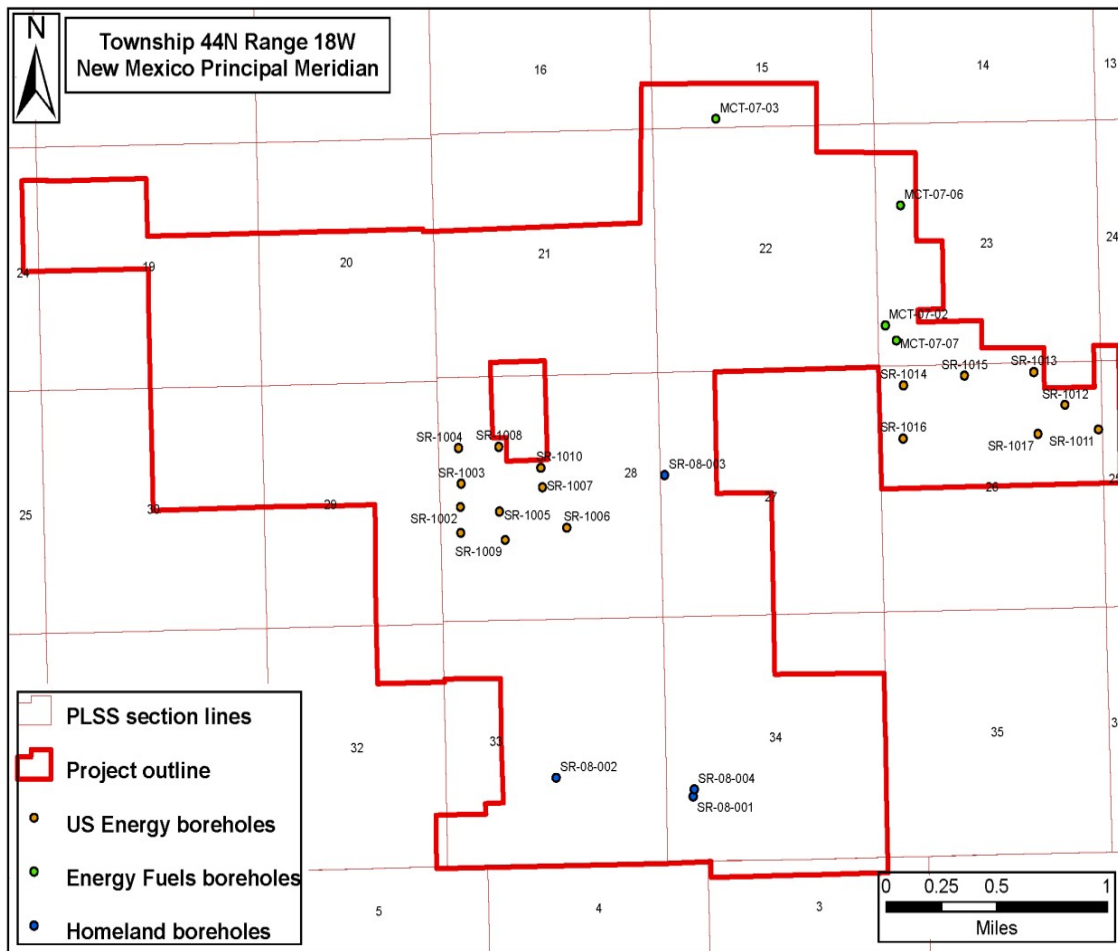
In 2007, Energy Fuels drilled five boreholes on the extreme northern portion of the project. Four of the boreholes were oxidized and barren. The fifth borehole was abandoned due to excessive water encountered in the Burro Canyon Formation and the upper Salt Wash Member of the Morrison Formation (Bill Thompson, Manager, Ur-Energy, LLC).

In 2008, Homeland Uranium drilled four boreholes in an attempt to *twin* the mineralized boreholes drilled by the AEC in the 1950s. All boreholes were completed to target depth and the results are shown in Table 6.3.

**TABLE 6.3: HOMELAND URANIUM BOREHOLES**

Borehole ID	Grade (%)	Thickness (ft)	Classification	Member/ Formation	Collar Elevation (ft)	Base Elevation (ft)
SR-08-001	0.764	1	Mineralized	Salt Wash	5725.1	4800
SR-08-002	0.046	3.8	Mineralized	Salt Wash	5846.5	4950
SR-08-003	0.120	2	Mineralized	Salt Wash	5761.2	4675
SR-08-004	0.033	1	Mineralized	Salt Wash	5748.0	4775

**FIGURE 6.1: 2006-2008 BOREHOLE MAP**



\*All boreholes and drill sites from the 2006-2008 drilling have been reclaimed.

UEC began acquiring mineral interests in the Slick Rock project area beginning in December of 2010, as described in section 4.2, by staking areas where the previous owner had allowed the mining claims to lapse. UEC now holds 293 mineral lode claims encompassing an area of approximately 4,858.5 acres or 7.6 mi<sup>2</sup>.



## 7 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Regional Geology

The Slick Rock project is in the Canyon Lands Section, east and east-central part, of the Colorado Plateau physiographic province. The Colorado Plateau is a block of crust that has been tectonically stable since early Paleozoic time. Its stable shelf depositional environment has allowed thick accumulations of clastic, carbonate, and evaporitic sediments. Beginning approximately 6 million years ago, the entire Colorado Plateau was subject to epeirogenic uplift of 4,000-6,000 ft. This geologically rapid uplift caused the existing rivers and streams to aggressively downcut resulting in the canyon lands topography of today (Hunt, 1956).

Sedimentary strata within the Colorado Plateau host numerous uranium/vanadium deposits. The majority of the deposits are hosted by the Pennsylvanian Hermosa Formation, the Permian Cutler Formation, the Triassic Chinle Formation, and the Jurassic Morrison Formation (Table 7.1). The overwhelming majority of the uranium production was from the Morrison Formation, specifically the Salt Wash Member. In the Salt Wash Member, deposits are concentrated along a thin, one to several mile-wide arcuate belt that extends from the Gateway district through the Uravan district and south to the Slick Rock district. This concentration of deposits (Figure 7.1) was termed the Uravan mineral belt (Fischer and Hilpert, 1952). This crescent-shaped area in the Jurassic Morrison formation has closely-spaced, larger-sized, and higher grade uranium deposits than the adjoining areas. UEC's Slick Rock project is within this Uravan mineral belt's southern end.

The Slick Rock district lies in the Paradox Basin at the southern edge of the salt anticline region also called the Paradox Fold and Fault Belt (Kelley, 1958). The district, which covers approximately 570 mi<sup>2</sup> of the Colorado Plateau, is underlain by about 13,000 ft of sedimentary strata which lies on metamorphic and igneous rocks of a Precambrian basement. The sedimentary formations (Figure 7.2) range in age from Cambrian to Late Cretaceous (Shawe, 1970).

FIGURE 7.1: URAVAN MINERAL BELT (CHENOWETH, 1981)

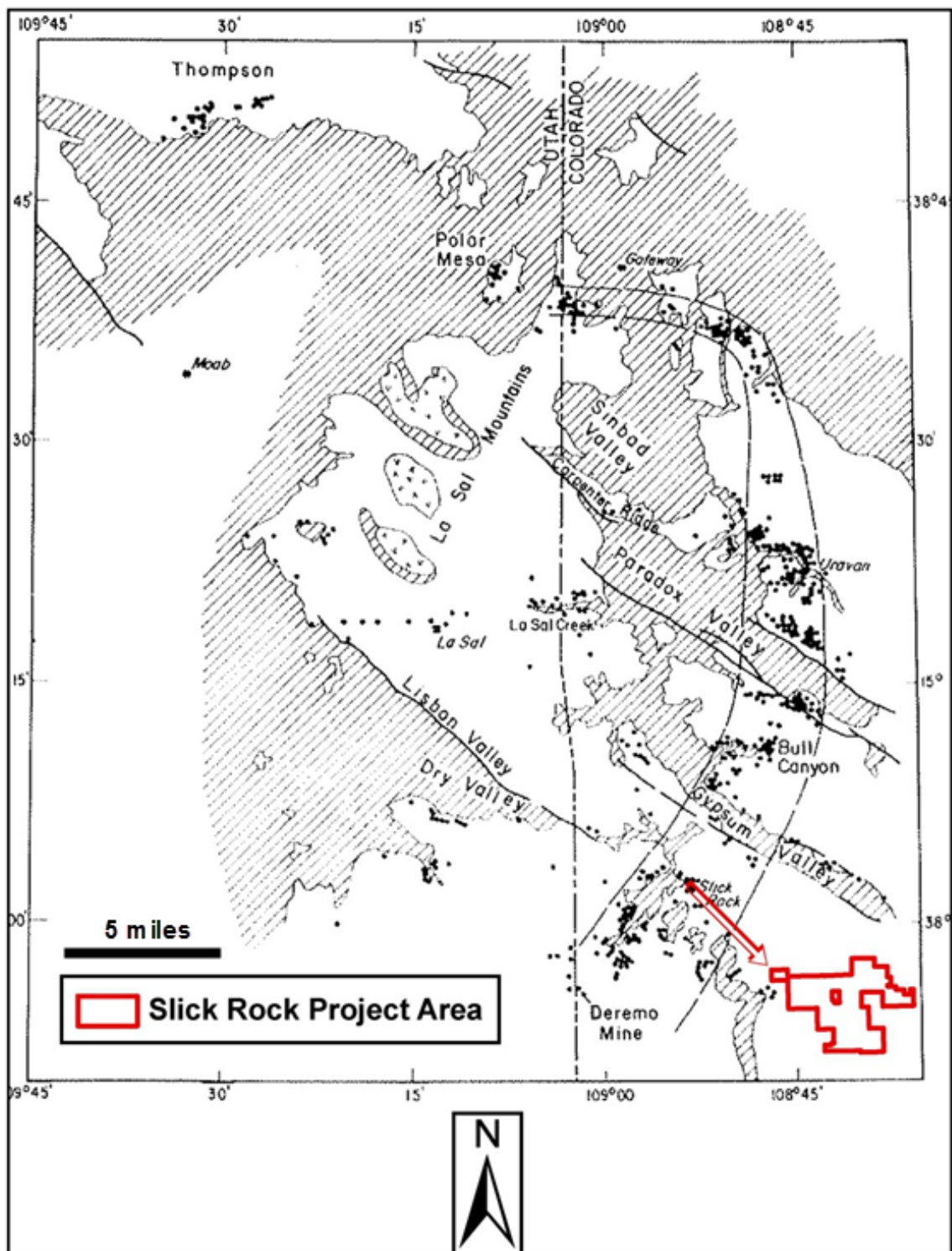
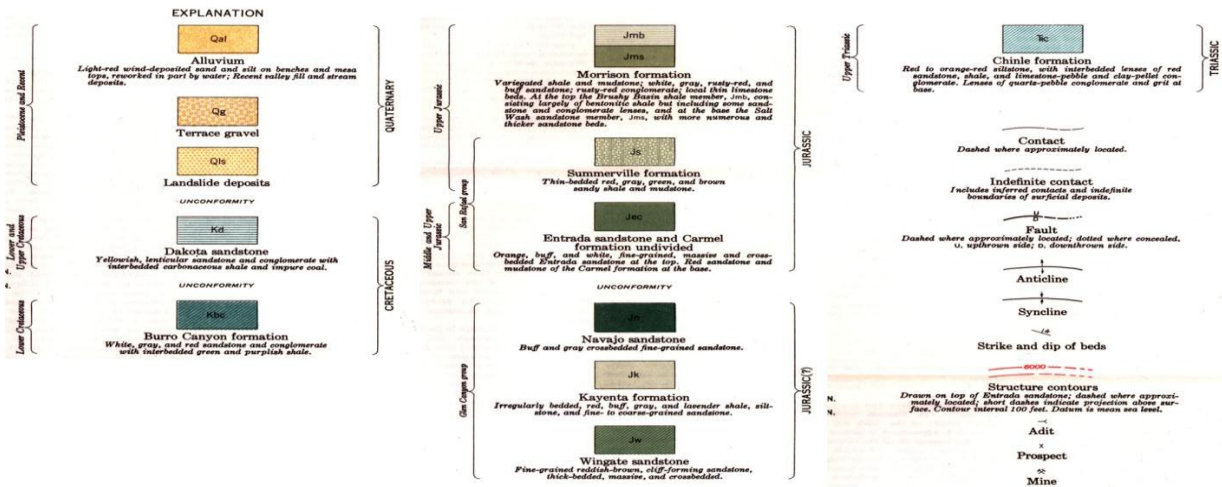
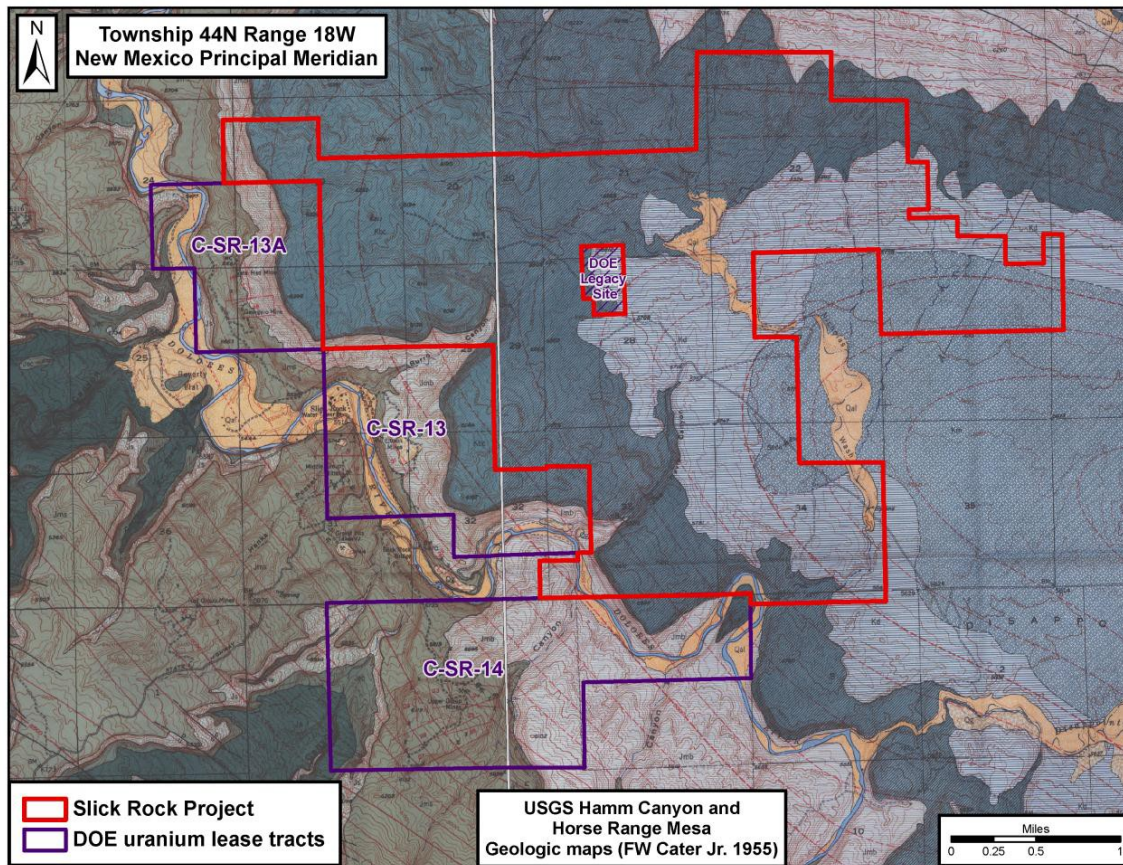


FIGURE 7.2: GEOLOGIC MAP OF SLICK ROCK PROJECT AREA

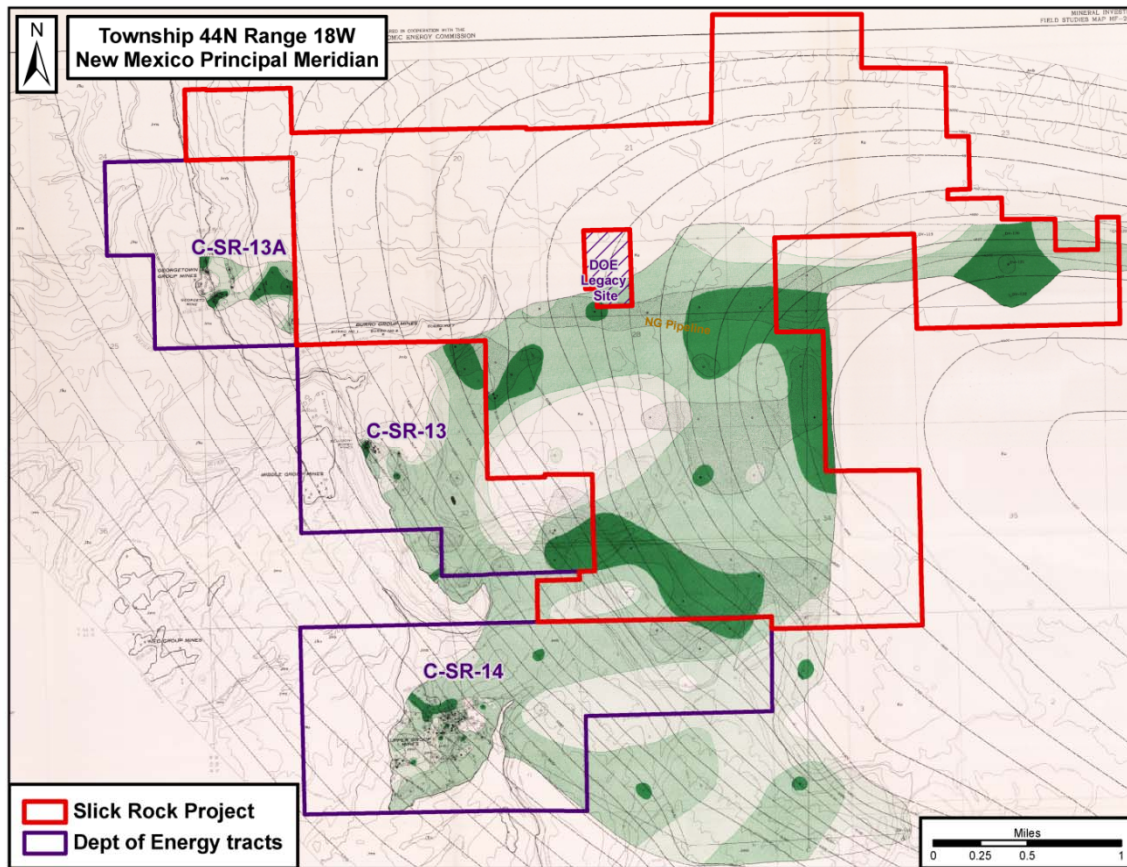


The Jurassic Morrison Formation is the host of uranium/vanadium deposits in the Slick Rock district. It is widely recognized as an aggrading, terrigenous clastic, fan-shaped fluvial sequence of sediments. While the precise location of the sediment source is unknown due to agents of erosion, most authors agree that the sediment source area for the fan is the modern-day south central Utah and north-central Arizona area (Page et al., 1956). As expected, the proximal fan is dominated by a high percentage of coarse clastics in braided stream sediments. The energy of the depositional environment decreases distally, as does the grain size of the sediments. The Slick Rock district occupies the medial fan facies. From the apex of the fan, the stream flow was in a northern, northeastern, and eastern direction. In the Slick Rock district, the direction of stream flow was generally to the northeast though local paleotopography controlled the flow direction.

The salt anticlines were the positive topographic highs during Jurassic time that diverted Morrison distributary systems to courses along their flanks. This allowed for thick accumulations of high sandstone/mudstone ratio sediments in valleys that flanked the elongated salt domes of Jurassic time. High sandstone/mudstone ratios increase permeability (i.e., the ability of sediments to transmit fluids) and porosity (i.e., available void space). Such conditions are favourable for increased fluid flow and may largely control ore formation, as discussed in Section 7.3 (Mineralization). The thick accumulation of sediments in major channels occurred along the southern margin of the Gypsum Valley anticline, in the Slick Rock district, and across UEC's project area (Tyler and Ethridge, 1983).

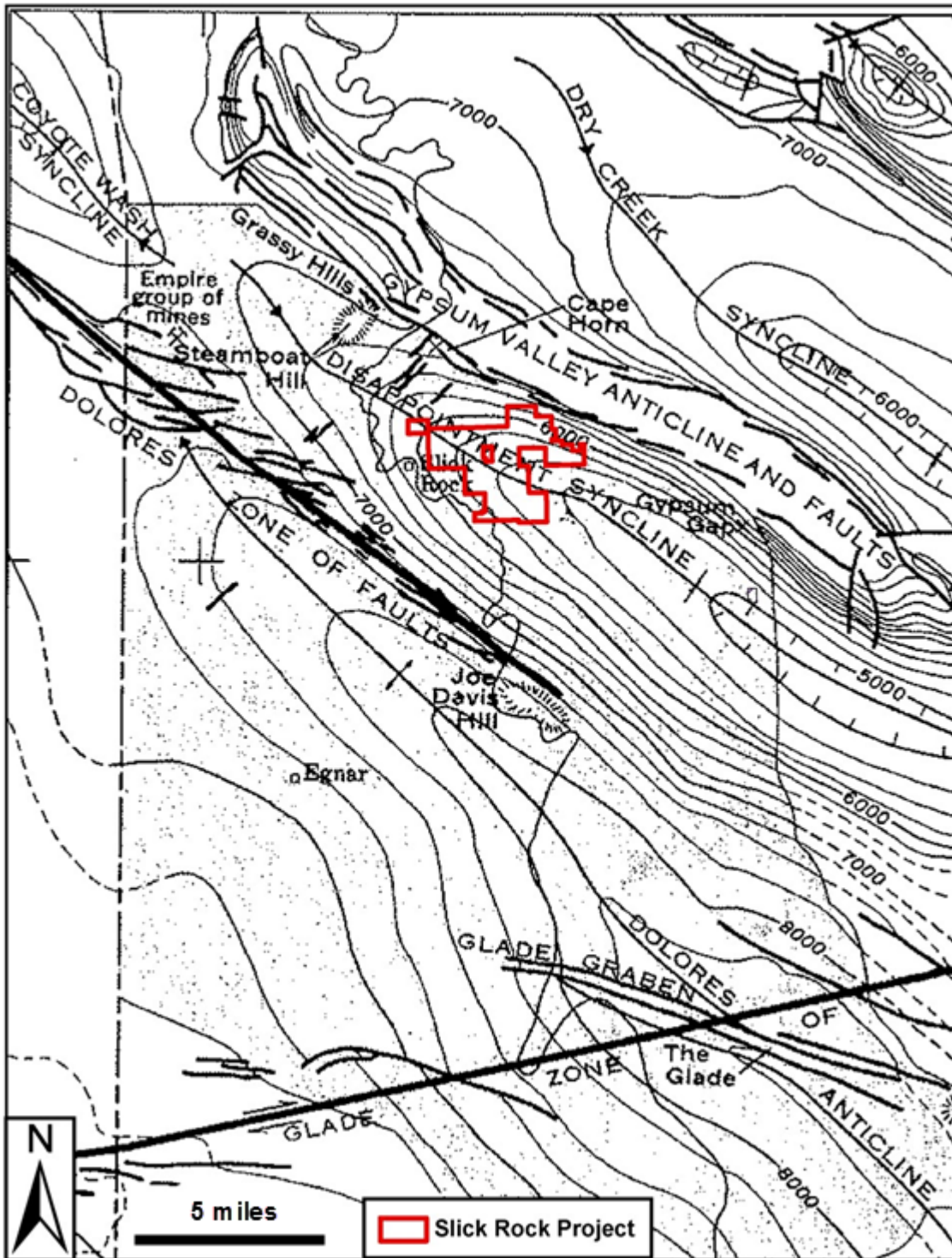
Figure 7.3 depicts the contact between the mineralized sandstone and reduced, grey-green mudstones that are greater than one foot in thickness. These contact zones represent an oxidation/reduction interface favorable for concentration of uranium and vanadium (Rogers and Shaw, 1962).

FIGURE 7.3: URANIUM FAVORABILITY MAP (ROGERS AND SHAW, 1962)



Major folds in the Slick Rock district are broad and open, trend about north 55 degrees west, and are parallel to the collapsed Gypsum Valley salt anticline which bounds the northeast edge of the district. The Dolores anticline (Figure 7.4) lies about ten miles southwest of the Gypsum Valley anticline and the Disappointment syncline lies between the two anticlines.

FIGURE 7.4: REGIONAL ANTICLINES AND SYNCLINES (WILLIAMS, 1964)



**TABLE 7.1: STRATIGRAPHY OF SLICK ROCK DISTRICT AND VICINITY (SHAWE, 1970)**

## STRUCTURE OF SLICK ROCK DISTRICT AND VICINITY

C3

TABLE I.—Summary of consolidated sedimentary rocks in the Slick Rock district

Age	Formation and member	Thickness (feet)	Description
Late Cretaceous	Mancos Shale	1, 600–2, 300	Dark-gray carbonaceous, calcareous shale.
	Dakota Sandstone	120–180	Light-buff sandstone and conglomeratic sandstone, dark-gray carbonaceous shale, and coal.
Early Cretaceous	Burro Canyon Formation	40–400	Light-gray to light-buff sandstone and conglomeratic sandstone; greenish-gray and gray shale, siltstone, limestone, and chert.
Late Jurassic	Morrison Formation, Brushy Basin Member	300–700	Reddish-brown and greenish-gray mudstone, siltstone, sandstone, and conglomerate.
	Morrison Formation, Salt Wash Member	275–400	Light-reddish-brown, light-buff, and light-gray sandstone and reddish-brown mudstone.
	Junction Creek Sandstone	20–150	Light-buff sandstone.
	Summerville Formation	80–160	Reddish-brown siltstone and sandstone.
	Entrada Sandstone, Slick Rock Member	70–120	Light-buff to light-reddish-brown sandstone.
	Entrada Sandstone, Dewey Bridge Member	20–35	Reddish-brown silty sandstone.
Jurassic and Triassic(?)	Navajo Sandstone	0–420	Light-buff and light-reddish-brown sandstone.
Late Triassic(?)	Kayenta Formation	160–200	Purplish-gray to purplish-red siltstone, sandstone, shale, mudstone, and conglomerate.
Late Triassic	Wingate Sandstone	200–400	Light-buff and light-reddish-brown sandstone.
	Chinle Formation, Church Rock Member	340–500	Reddish-brown, purplish-brown, and orangish-brown sandstone, siltstone, and mudstone; dark-greenish-gray conglomerate.
	Chinle Formation, Petrified Forest(?) Member	0–100	Greenish-gray mudstone, siltstone, shale, sandstone, and conglomerate.
	Chinle Formation, Moss Back Member	20–75	Light-greenish-gray and gray sandstone and conglomerate; minor greenish-gray and reddish-brown mudstone, siltstone, and shale.
Middle(?) and Early Triassic	Moenkopi Formation	0–200	Light-reddish-brown siltstone and sandy siltstone.
Early Permian	Cutler Formation	1, 500–3, 000	Reddish-brown, orangish-brown, and light-buff sandstone, siltstone, mudstone, and shale.
Late and Middle Pennsylvanian	Rico Formation	130–240	Transitional between Cutler and Hermosa Formations.
Middle Pennsylvanian	Hermosa Formation, upper limestone member	1, 000–1, 800	Light- to dark-gray limestone; gray, greenish-gray, and reddish-gray shale and sandstone.
	Hermosa Formation, Paradox Member	3, 250–4, 850	Upper and lower units gray dolomite, limestone, and dark-gray shale interbedded with evaporites; middle unit halite and minor gypsum, anhydrite, dolomite, limestone, and black shale.
	Hermosa Formation, lower limestone member	100–150	Medium-gray limestone, dark-gray shale.
Early Pennsylvanian and Mississippian	Molas Formation	100	Reddish-brown, dark-gray, and greenish-gray shale and silty shale and gray limestone.
Mississippian	Leadville Limestone	240	Medium-gray limestone and dolomite.
Devonian	Name not assigned	250–550	Gray sandy dolomite and limestone and grayish-green and reddish sandy shale.
Cambrian	Name not assigned	500–700	Light-gray to pinkish conglomeratic sandstone, sandstone, siltstone, shale, and dolomite.
Precambrian	Name not assigned	-----	Granitic to amphibolitic gneisses and schists, and granite.

## 7.2 Property Geology

Uranium/vanadium mineralization is hosted by the Upper Jurassic Morrison Formation. Within the project area, the Morrison is divided into two Members: the upper Brushy Basin Member and the lower Salt Wash Member. The Salt Wash Member is composed of fluvial sandstone and mudstone, averaging about 350 ft thick, and is further divided into three parts: the top and bottom units, that are composed of fairly continuous layers of sandstone interbedded with thin layers of mudstone, and a middle unit that is primarily mudstone, but contains scattered discontinuous lenses of sandstone (Rogers and Shawe,

1962 MF-241). Past production from the property was from the upper or third-rim sandstone of the Salt Wash member of the Morrison Formation, also referred to as the "ore-bearing sandstone". This is the target host for uranium/vanadium mineralization within UEC's Slick Rock project area.

The Slick Rock district lays in an area where only the Salt Wash and Brushy Basin Members of the Morrison Formation are present, where the Morrison Formation attains its maximum thickness and where stream-type deposits (lenticular cross-bedded sandstones) have their greatest aggregate thickness and maximum lateral continuity (Shawe, 2011). Sedimentary rocks that outcrop in the Slick Rock district range from the Permian Cutler Formation up to the late Cretaceous Mancos Formation with a maximum thickness of approximately 4,700 ft (Shawe, 2011).

The Slick Rock project is located in the proximal Disappointment Valley syncline. The syncline plunges gently to the southeast and lies between the collapsed Gypsum Valley anticline to the northeast and the Dolores anticline to the southwest.

As discussed in Section 6 (History), the USGS, on behalf of the Raw Materials Division of the Atomic Energy Commission, conducted extensive exploration throughout the Uravan mineral belt. As early as 1952, the USGS had determined that the following four geologic characteristics were indicative of favourable grounds for a uranium deposit:

- Most ore deposits are in or near thicker, central parts of sandstone lenses, and, in general, the thickness of the sandstone decreases moving away from the ore deposits. Sandstone less than 40 ft thick is generally not favourable for large ore bodies.
- Sandstone in the vicinity of the ore deposit is coloured light brown, but an increasing proportion of sandstone, moving away from the ore deposit, has a reddish colour which is indicative of unfavourable ground.
- The mudstone in the ore-bearing sandstone near and immediately below the deposit changes from a red to gray colour. The amount of altered mudstone decreases further outward from the ore deposit.
- Sandstone in the immediate vicinity of ore deposit contains more carbonized plant fossils than similar beds further away from the ore deposit. This suggests that an ore deposit is localized in the vicinity of abundant carbonaceous material (Weir, 1952).

Results from USGS's 1948-1956 drilling indicate that within UEC's Slick Rock project area the Salt Wash is greater than 40 ft thick, contains abundant carbonaceous material, is tan to gray in colour, and is in contact with a reduced mudstone over a significant portion of the project area (Figure 7.3).



### 7.3 Mineralization

The uranium- and vanadium-bearing minerals occur as fine-grained coatings in detrital grains; they fill pore spaces between the sand grains and replace carbonaceous material and some detrital grains (Weeks et al., 1956).

The primary uranium minerals are uraninite ( $\text{UO}_2$ ) with minor amounts of coffinite ( $\text{USiO}_4\text{OH}$ ). Montroseite ( $\text{VOOH}$ ) is the primary vanadium mineral, along with vanadium clays and hydromica. Metal sulfides occur in trace amounts. Mineralization occurs within tabular to lenticular bodies that are peneconcordant within sedimentary bedding. Mineralization may also cut across sedimentary bedding to form highly irregular shapes, as further discussed in Section 8 (Deposits Types). The mineralized bodies have an average thickness range of 2-4 ft and range in size from a few feet wide to several hundred feet wide. The length can also vary from a few feet to several hundred feet. Secondary minerals: calcium uranyl vanadate (Tyuyamunite) ( $\text{Ca}(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 5-8(\text{H}_2\text{O})$ ) and potassium uranyl vanadate (Carnotite) ( $\text{K}(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 1-3(\text{H}_2\text{O})$ ) occur in shallow oxidized areas and on outcrop. Figure 7.5 shows a typical specimen of oxidized uranium/vanadium minerals collected underground in the vicinity of the Burro #3 shaft and the scintillometer.

**FIGURE 7.5: SAMPLE AND SCINTILLOMETER**



## 8 DEPOSIT TYPES

There has been much discussion and debate regarding ore forming mechanisms, but there is good agreement on several contributing factors:

- The Brushy Basin and Salt Wash members contain significant concentrations of detrital volcanic debris which is strongly suspected as the source of uranium/vanadium.
- Compaction and de-watering during burial of these sediments allowed for the transport mechanism along preferential pathways dictated by permeability and porosity within transmissive sand units of the Morrison Formation.
- The uranium/vanadium in solution within a transmissive sand unit encountered a reduced environment locally caused by abundant plant remains and evidenced by reduced green mudstone found within the Salt Wash sandstones. This environment favoured precipitation of uranium along a solution interface between the uranium in an oxidized alkaline solution and a strongly reduced acidic environment.

The physical expressions of the deposits formed at the solution interface have a variety of shapes and volumes. In the following, Shawe (2011) provides an excellent summary of the deposit morphology in the Slick Rock district:

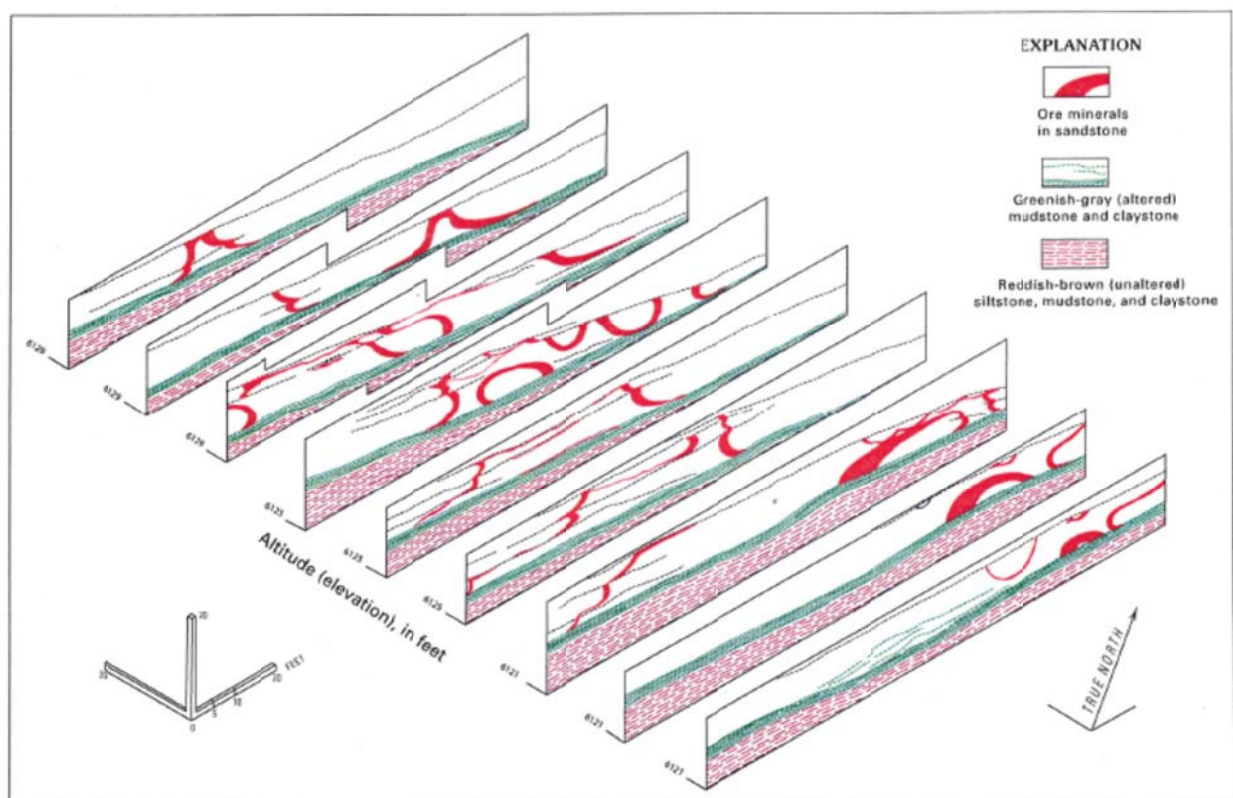
*Two general forms of ore bodies are common in the Morrison Formation in the district, one tabular and the other so-called "roll". Some deposits consists mainly of tabular ore bodies and others are dominantly of roll bodies, although both types display elements of the other, and in many places tabular bodies are continuous with roll bodies. Some deposits have both types significantly developed. The two types were deposited by the same general process and at the same time; differences in their forms were dictated by local differences in the lithology of the host sandstone units that controlled fluid movement (Shawe, 2011, p. 19).*

In the Slick Rock district, uranium/vanadium deposits of the Morrison are mainly tabular to lenticular and elongate parallel to sedimentary trends. Tabular trends are localized in massive sandstones where clay and mudstone are interstitial, in scattered and streaked gull and pebble accumulations, and are found in discontinuous lenses (Figure 8-1b). Conversely, roll deposits are narrow, elongate, and curve sharply across bedding and appear to be confined to sandstone where clay and mudstone are well indurated within interconnected layers (Figure 8.1a). Mineralization in either case, tabular or roll deposits, averages about 0.25%  $U_3O_8$  and 1.5%  $V_2O_5$  within the impregnated sandstone. The mineralized bodies have an average thickness of 2 ft to 4 ft and range in size from a few feet wide to several hundred feet wide (Fischer and Hilbert, 1952). These deposits can contain a few tons of ore to several thousand tons in the larger ore bodies.

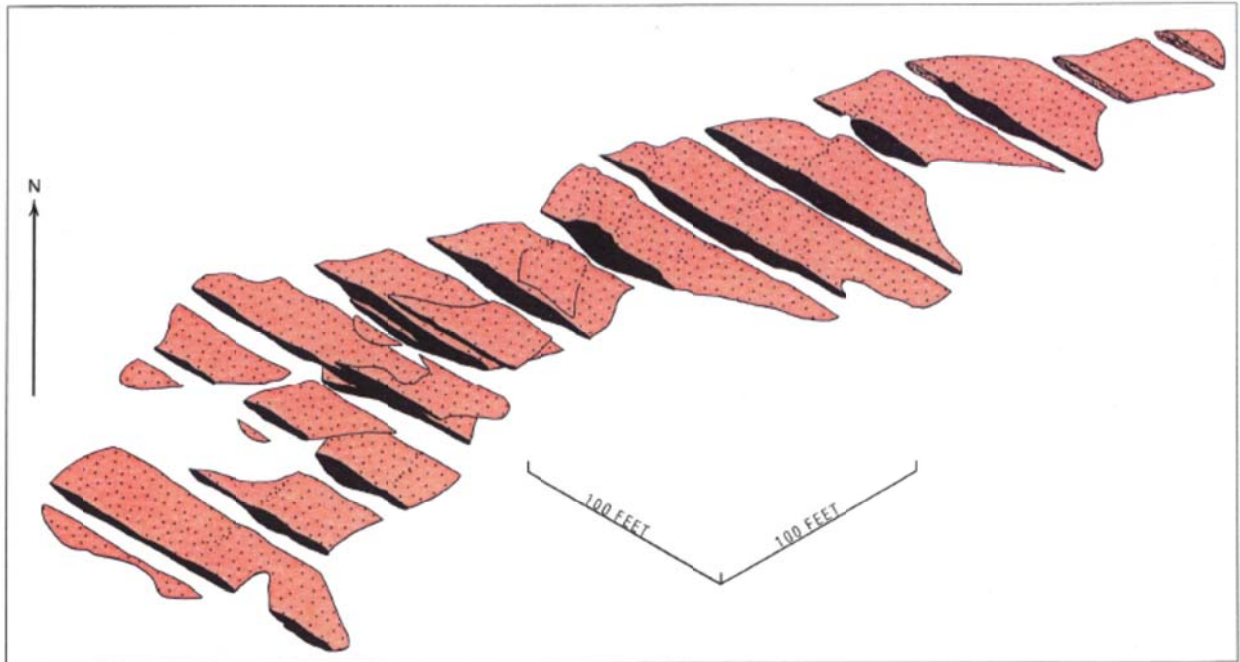
Details of the forms of roll ore bodies related to lithologic differences and mineral distribution within rolls (calcium-carbonate, titanium oxides, barite, and iron oxides)

provide strong evidence that the deposition of the mineralized bodies occurred at an interface between two chemically differing solutions (one that is oxidized and one that is reduced). The interface interpretation was first proposed by Fischer, (1942). Continuity of the roll ore bodies with tabular bodies indicate that the tabular bodies also formed at a solution interface. It is important to note that the term “roll” was coined by local miners to describe the geometry of ore bodies that cut across sedimentary bedding and does not imply similarity to the geochemical process involved in forming the “roll” deposits of Wyoming and South Texas uranium provinces, as illustrated in Figures 8.1a and 8.1b, (Shawe, 2011).

**FIGURE 8.1A: URANIUM/VANADIUM DEPOSITS OF THE SLICK ROCK DISTRICT, COLORADO  
PERSPECTIVE GEOLOGIC CROSS SECTION OF ROLL ORE BODIES (SHAWE, 2011, PAPER 576-F)**



**FIGURE 8.1B: URANIUM/VANADIUM DEPOSITS OF THE SLICK ROCK DISTRICT, COLORADO  
PERSPECTIVE GEOLOGIC CROSS SECTION OF TABULAR ORE BODIES (SHAWE, 2011, PAPER 576-F)**



## 9 EXPLORATION

In March 31, 2012, UEC conducted a field trip to examine the condition of the underground workings which were accessed from the Burro decline on DOE lease tract C-SR-13. In June 2012, UEC spent two weeks in the field doing borehole rectification work. USGS, Union Carbide, U.S. DOE, Energy Fuels, and Homeland Uranium boreholes were mapped in with a Trimble GeoXH differential GPS. UEC concludes that based on their field surveys the surface locations of the historic drilling are known and can be verified within approximately 20 feet. The author observed the location of several drill holes and while not all were clearly marked as to exact surface location, the author concludes that the assessment of the accuracy by UEC is reliable.

UEC has not conducted any exploration drilling or other activities as of the effective date of the report.

On April 2, 2013 UEC and the author visited the Burro underground mine and collected a sample designated RE13064009. The sample was assayed using XRF methods and contained 1.73%  $U_3O_8$  and 6.48%  $V_2O_5$ . Sample RE13064009 is not indicative of the average grade of uranium and/or vanadium mineralization but does demonstrate the presence of mineralization.

The author concludes that the level of understanding of the geology at Slick Rock is very good and has been the subject of study since the 1940s and the subject of mine production through the early 1980s. The practices used during the various drilling campaigns, both private industry and DOE, appear to have been conducted in a professional manner and have adhered to accepted industry standards. There are no factors evident that would lead one to question the integrity of the database and it is clearly evident that uranium/vanadium mineralization is present within the project area. Recommendations for further exploration, as described in section 26, primarily relate to conducting a surface drilling program.

## **10 DRILLING**

UEC has not conducted any exploration drilling on the Slick Rock project. See Section 6 (History) for details on historic drilling.

## 11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

UEC has not conducted an extensive drilling and/or sampling program on the Slick Rock project. The only chemical assay values are historical and were generated by the AEC laboratories. Later operators (USEC, UCNC, Homeland Uranium, and Energy Fuels) relied on radiometric values and did not perform chemical assays.

On April 2, 2013 UEC and the author visited the Burro underground mine and collected a sample designated RE13064009. The sample was assayed using XRF methods and contained 1.73%  $U_3O_8$  and 6.48%  $V_2O_5$ . Sample RE13064009 is not indicative of the average grade of uranium and/or vanadium mineralization but does demonstrate the presence of mineralization.

### 11.1 Sample Preparation

Samples were prepared by the USGS on behalf of the Raw Materials Division of the Atomic Energy Commission (AEC). USGS geologists conducted diamond drilling and radiometrically logged the holes, described the lithology, and scanned the cores for radiometric anomalies using a Geiger counter. Within UEC's Slick Rock project area, 51 of the 52 core samples were retrieved with greater than an 80% recovery rate. Only borehole DV-88 was less than 80% at a 65% recovery rate (OFR70-348).

### 11.2 Analyses and Security

Sample intervals with radiometric anomalies greater than 0.045%  $eU_3O_8$  were shipped to the AEC labs in Washington, D.C., Denver, CO, or Grand Junction, CO for chemical determination of uranium and vanadium content. The precise chain of custody of these samples is unknown. The AEC laboratories determined uranium values using fluorimetric, colorimetric, volumetric, polarographic, coulometric, radioactivation, X-ray spectrometric, and nuclear photographic plate techniques. The choice of method is determined by many factors such as the concentration of uranium in the sample, its chemical complexity, the accuracy sought, the speed required, and the availability of the instrumentation (Grimaldi, 1955). AEC laboratories determined vanadium content via wet chemical digestion and volumetric determination by using a prescribed method developed by Claude W. Sill, U.S. Bureau of Mines, Salt Lake City, Utah and compiled and edited by R. W. Langridge in AEC publication, *RMO-3001*. The certifications held by the AEC laboratories are unknown.

### 11.3 Conclusions

The samples were collected and processed according to strict protocols developed by the AEC and other U.S. government agencies. The results are consistent with later industry analyses. The authors believe the determinations of grade are sufficiently accurate and precise to support the estimation of mineral resources.

## 12 DATA VERIFICATION

UEC validated historic drill sites by locating and measuring drill hole locations in the project area using a Trimble GeoXH mapping-grade GPS unit. The drill hole database was updated with measured geo-spatial coordinates from the field work where physical locations of all drill holes were verified and validated.

UEC has not conducted any drilling activities at the Slick Rock project to verify data generated by the USGS or subsequent operators. UEC has obtained radiometric and chemical assays and from U.S. Atomic Energy Commission's exploration program OFR70-348 for vanadium and uranium values, respectively, from those holes drilled by the USGS on behalf of the Raw Materials Division of the AEC. Logs for boreholes drilled by USEC and Energy Fuels were obtained by claim acquisition, and the uranium intercept values from the logs for boreholes drilled by Homeland Uranium were available in the public domain.

Of the 284 holes in the database used for resource estimation, 207 were drilled by Union Carbide, 52 by the USGS, 17 by USEC and 4 each by Energy Fuels and Homeland Uranium. All boreholes had consistent elevation for the base of mineralization. Although the uranium grade and thickness of mineralized intervals varied from borehole to borehole, the variation was consistent with the style of mineralization and the changes seen in historic mining.

Given the consistency of the results from government and private industry drilling, the ability to recover historic information in original form, the ability to locate the drill collars in the field, and the agreement of drill results with nearby mine production, the authors believe the sample data are sufficiently accurate and precise to generate a mineral resource estimate.



### **13 MINERAL PROCESSING AND METALLURGICAL TESTING**

UEC has not conducted any metallurgical tests for mineral processing. Production from this property was processed with acceptable recovery rates by conventional milling methods by UCNC for nearly 26 years. Uranium recovery rates at the processing mill in Uravan, Colorado were estimated to be 97-98%, and vanadium recovery rates from the Rifle, Colorado processing mill were estimated to be 85% (Curt Sealy, formerly with UCNC and currently with UEC, VP Strategic Development).

## 14 MINERAL RESOURCE ESTIMATES

### 14.1 Introduction

The uranium mineral resource estimate was prepared by UEC under the direction of Rick Edge, Senior Geologist, UEC. Robert Sim, P.Geo, and Bruce Davis, FAusIMM, verified the estimate using an independent method. Both Robert Sim and Bruce Davis are independent Qualified Persons within the meaning of NI 43-101 for the purposes of mineral resource estimates contained in the report. Verification estimates are made from a 3-dimensional block model based on geostatistical applications using commercial mine planning software (MineSight® v7.0-6). The project limits are in imperial units using a nominal block size of 50 x 50 x 10 ft (L x W x H). Although a 3-dimensional block model was used, only one level of model was used to store estimates for thickness and grade times thickness throughout the lateral extents of the deposit area. Therefore, although a 3-dimensional block model was used in the generation of the model, the verification model is considered to be closer to a 2-dimensional approach. All drill holes are vertically oriented with variably spaced holes throughout the deposit: 100 ft to 200 ft spaced holes in the main deposit area with holes widening out to approximately 1,500 ft spacing in the flanks of the deposit.

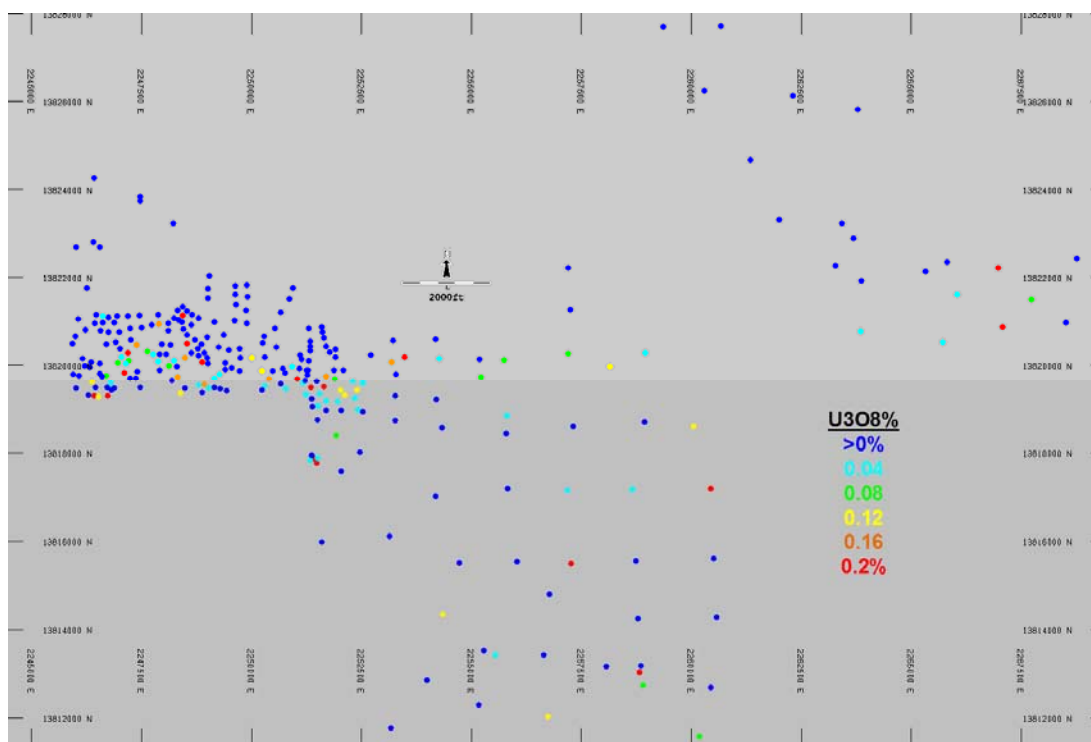
The resource estimate was generated using drill hole sample results and the interpretation of a geologic model that relates to the spatial distribution of  $U_3O_8$ . Interpolation characteristics were defined based on the geology, drill hole spacing, and geostatistical analysis of the data. The resources were classified according to their proximity to the sample locations and are reported, as required by NI 43-101, according to the CIM Definition Standards on Mineral Resources and Mineral Reserves (CIM, 2010).

The mineral resource estimate for vanadium was prepared by Douglas Beahm, PE, PG, and is discussed separately in Section 14.14. Mr. Beahm is both a Professional Geologist and a Professional Engineer licensed in Wyoming, Colorado, Utah, and Oregon. He is also a Registered Member of the US Society of Mining Engineers (SME). He is independent of UEC, using the test set out in Section 1.5 of National Instrument 43-101. Mr. Beahm is experienced with uranium exploration, development, and mining including past employment with the Homestake Mining Company, Union Carbide Mining and Metals Division, and AGIP Mining USA. As a consultant and principal engineer of BRS, Inc., Mr. Beahm has provided geological and engineering services relative to the development of mining and reclamation plans for uranium projects in Wyoming, Utah, Colorado, New Mexico, Virginia, and Arizona, as well as numerous mineral resource and economic feasibility evaluations. This experience spans a period of thirty-nine years dating back to 1974. Mr. Beahm is an independent Qualified Person within the meaning of NI 43-101 for the purposes of the report.

## 14.2 Geologic Model, Domains and Coding

Uranium mineralization occurs within a sub-horizontal sand horizon. Mineralization within the sand occurs as pods with intervening areas of lower-grade to essentially barren material. Figure 14.1 shows a plan view of the distribution of  $U_3O_8$  grades in the drill holes.

**FIGURE 14.1: PLAN VIEW SHOWING BURRO MINE DRILL HOLES**



## 14.3 Available Data

Sample data has been extracted from an Excel<sup>®</sup> file (*All\_boreholes.xls*) provided by UEC. This file contains sample data from a total of 391 vertical drill holes including collar locations. Of these, 284 are most pertinent to the resource estimate and have  $U_3O_8$  grades and thicknesses derived from Gamma logging.  $V_2O_5$  grades are present in 19 drill holes which were not sufficient to complete a geostatistical resource estimate. As such the vanadium mineral resource was estimated based on the estimated grades for uranium and the application of a vanadium: uranium (V:U) ratio of 6:1 as discussed in section 14.14.

Table 14.1 lists the basic statistical summary of the Gamma sample data.

**TABLE 14.1: BASIC SUMMARY OF RAW SAMPLE DATA**

Data type	# Samples	Total Length of Samples (ft)	Minimum	Maximum	Mean(1)	Standard Deviation
Thickness (ft)	284	309.3	0.0	9.3	1.1	1.8
G x T (%-ft)	284	309.3	0.0	2.97	0.119	0.340
U <sub>3</sub> O <sub>8</sub> %	284	309.3	0	0.914	0.052	0.124
V <sub>2</sub> O <sub>5</sub> %	19	58.3	0.140	2.450	0.885	0.670

(1) Arithmetic averages.

#### 14.4 Compositing

The original drill hole samples are composited to the thickness of the mineralized intervals in the domain. In some instances, multiple intervals are present. In these cases, the two (and rarely three or four) intervals have been accumulated into a single composite at the drill hole location.

Drill holes that extend past the expected elevation of the mineralized horizon, but do not have measured U<sub>3</sub>O<sub>8</sub> values, are assigned zero grade and thickness values for resource estimation purposes.

#### 14.5 Bulk Density Data

The historic density expressed as a tonnage factor from mine records is 15 ft<sup>3</sup>/st.

#### 14.6 Evaluation of Outlier Grades

There were no adjustments made during the development of the resource model to account for potentially anomalous samples.

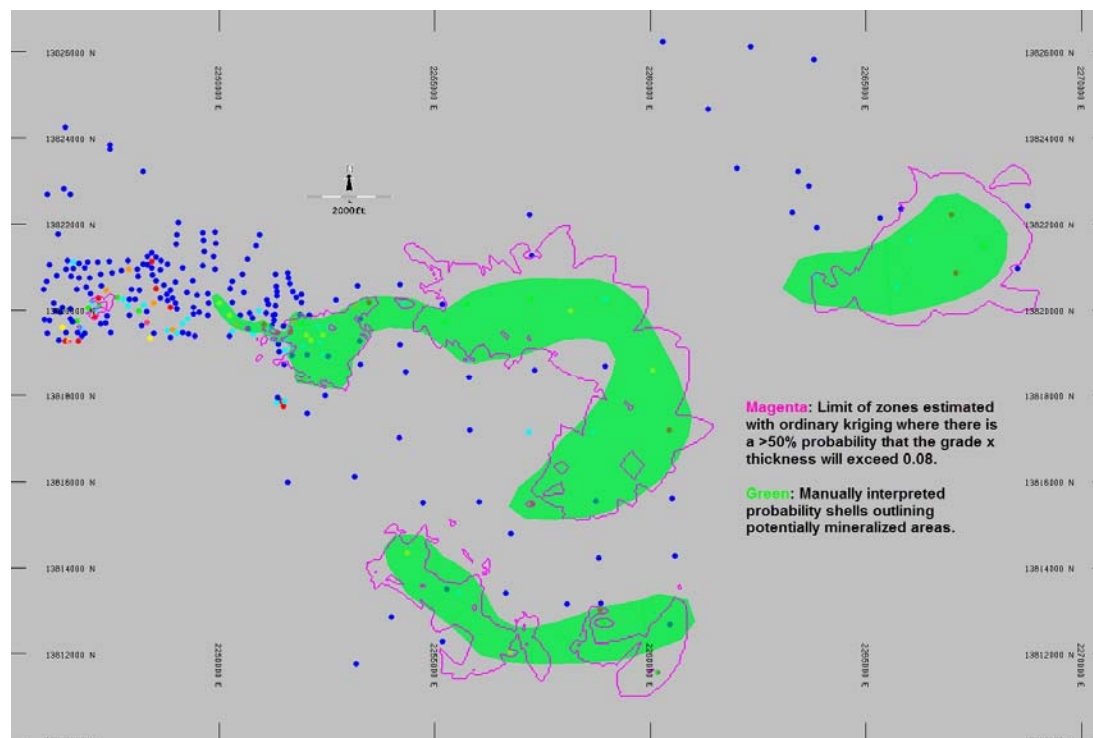
#### 14.7 Development of Probability Shells

Indicators were defined for gamma data where Uranium Grade times Thickness (UGT) values less than 0.08 are assigned indicator values of zero, and values greater than 0.08 are assigned indicator values of 1. Indicator variograms were generated from these data, and ordinary kriging (OK) was used to estimate probability values into the block model. Probability shells were generated where the domain shows a greater than 50% probability that UGT will exceed 0.08.

The probability shell was then used as a guide during the manual generation of zones representing the extents of areas that are likely mineralized from those that are not. The domains were manually generated due to the relatively wide-spaced drilling over parts of the deposit area. The wide-spaced drilling often produced probability shells with extents that were considered too optimistic for a deposit of this type and at this stage of exploration evaluation. Figure 14.2 is a plan view showing the limits of both the indicator probabilities and the manually generated probability shells.

The manually generated probability shells were used to code composited sample data so they could be segregated from the surrounding samples during block interpolations.

**FIGURE 14.2: PLAN VIEW SHOWING LIMITS OF INTERPOLATED AND MANUALLY INTERPRETED PROBABILITY SHELLS**



## 14.8 Variography

The degree of spatial variability in a mineral deposit depends on both the distance and direction between points of comparison. Typically, the variability between samples is proportionate to the distance between samples. If the degree of variability is related to the direction of comparison, then the deposit is said to exhibit anisotropic tendencies which can be summarized with the search ellipse. The semi-variogram is a common function used to measure the spatial variability within a deposit.

The components of the variogram include the nugget, the sill, and the range. Often samples compared over very short distances (including samples from the same location) show some degree of variability. As a result, the curve of the variogram often begins at some point on the y-axis above the origin; this point is called the *nugget*. The nugget is a measure of not only the natural variability of the data over very short distances, but also a measure of the variability which can be introduced due to errors during sample collection, preparation, and assaying.

The amount of variability between samples typically increases as the distance between the samples increases. Eventually, the degree of variability between samples reaches a

constant or maximum value. This maximum is called the *sill*, and the distance between samples at which this occurs is called the *range*.

The spatial evaluation of the data was conducted using a correlogram instead of the traditional variogram. The correlogram is normalized to the variance of the data and is less sensitive to outlier values; this generally gives cleaner results.

Variograms were generated using the commercial software package Sage 2001<sup>®</sup> (developed by Isaacs & Co.). Due to the amount of available data, sample variograms in the two principal planar directions were generated from the composited data set. Variograms have been produced for the distributions of thickness and UGT. The results are summarized in Table 14.2.

**TABLE 14.2: U<sub>3</sub>O<sub>8</sub> VARIOGRAM PARAMETERS**

Zone/Data type				1st Structure			2nd Structure		
	Nugget	Sill 1	Sill 2	Range (m)	Azimuth	Dip	Range (m)	Azimuth	Dip
Thickness	0.370	0.241	0.388	248	9	0	1,270	114	0
	Spherical			128	99	0	860	24	0
				20	0	90	20	0	90
Grade x Thickness	0.574	0.393	0.033	123	305	0	175	90	0
	Spherical			85	35	0	163	0	0
				20	0	90	20	0	90

Note: Correlograms conducted on UGT composite data.

## 14.9 Model Setup and Limits

A block model was initialized in MineSight<sup>®</sup> and the dimensions are defined in Table 14.3. The selection of a nominal block size measuring 50 x 50 x 10 ft is considered appropriate with respect to the current drill hole spacing. Note that this is essentially a 2-dimensional block model with the thickness of the zone estimated into blocks with X-Y dimensions of 50 x 50 ft.

**TABLE 14.3: BLOCK MODEL LIMITS**

Direction	Minimum (ft)	Maximum (ft)	Block Size (ft)	Number of Blocks
East	2,245,200	2,269,300	50	482
North	13,811,000	13,828,700	50	354
Elevation	0	10	10	1

Note: Block model is not rotated.

### 14.10 Interpolation Parameters

The estimates in model blocks for thickness and UGT were made using ordinary kriging. The composites selected for estimating a block were collected using a maximum search range of 2,000 ft. Block estimates were made using the four closest composite samples. Only samples that occurred inside the probability shell domains were used to estimate inside the domain.

The values for thickness and UGT were estimated directly by ordinary kriging. The  $U_3O_8$  grade was calculated by dividing estimated UGT by estimated thickness.

### 14.11 Validation

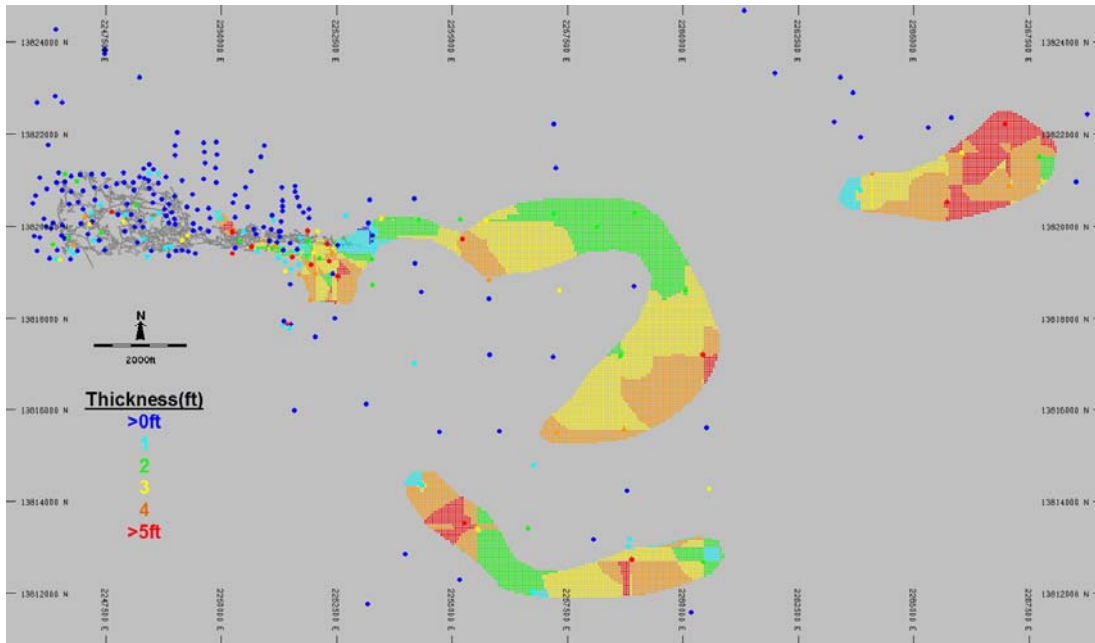
The results of the modeling process were validated through several methods including a thorough visual review of the model grades in relation to the underlying drill hole sample grades, comparisons with other estimation methods, and grade distribution comparisons using swath plots.

#### Visual Inspection

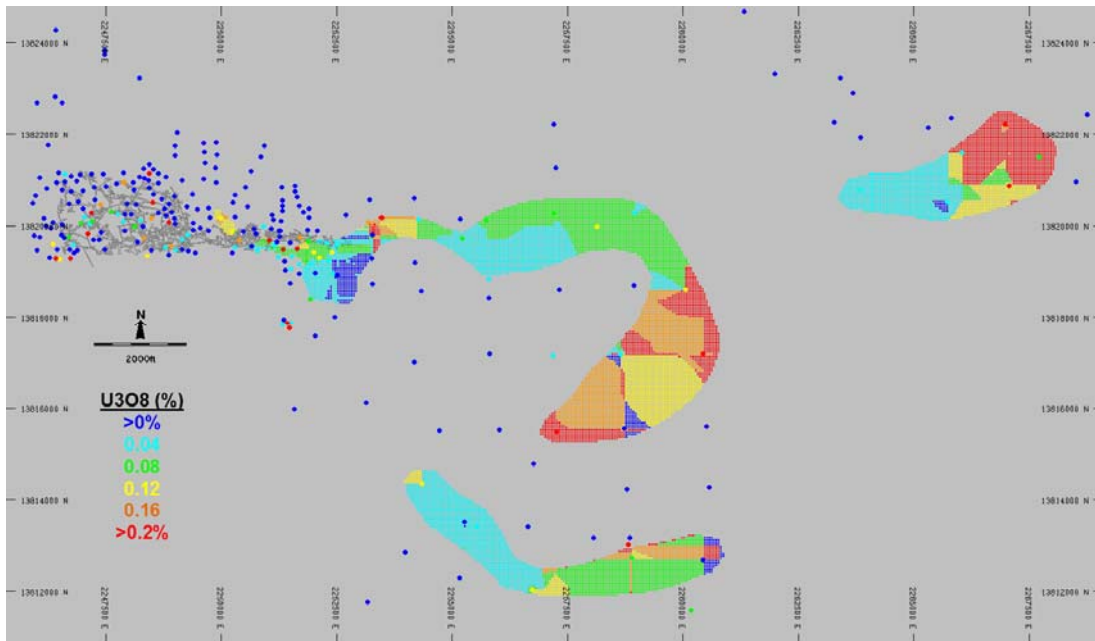
A detailed visual inspection of the block model was conducted to ensure the desired results following interpolation. This included confirmation of the proper coding of blocks within the domains. The distribution of block values was also compared relative to the drill hole samples to ensure the proper representation in the model.

In general, all models show the desired degree of correlation with the underlying sample data. An example of the distribution of thickness values and  $U_3O_8$  block grades in one piece of the model is shown in Figures 14.3 and 14.4.

**FIGURE 14.3: PLAN VIEW SHOWING THICKNESS IN DRILL HOLES AND ESTIMATED IN MODEL BLOCKS**



**FIGURE 14.4: PLAN VIEW SHOWING U<sub>3</sub>O<sub>8</sub> GRADES IN DRILL HOLES AND ESTIMATED IN MODEL BLOCKS**





### **Comparison of Interpolation Methods**

For comparison purposes, additional models for thickness and  $U_3O_8$  were generated using both the inverse distance weighted (IDW) and nearest neighbour (NN) interpolation methods. The results of these models are compared to the OK models at various cut-off grades in the grade/tonnage graphs. Overall, there is an acceptable degree of correlation between these models. Reproduction of the model using different methods tends to increase the level of confidence in the overall resource.

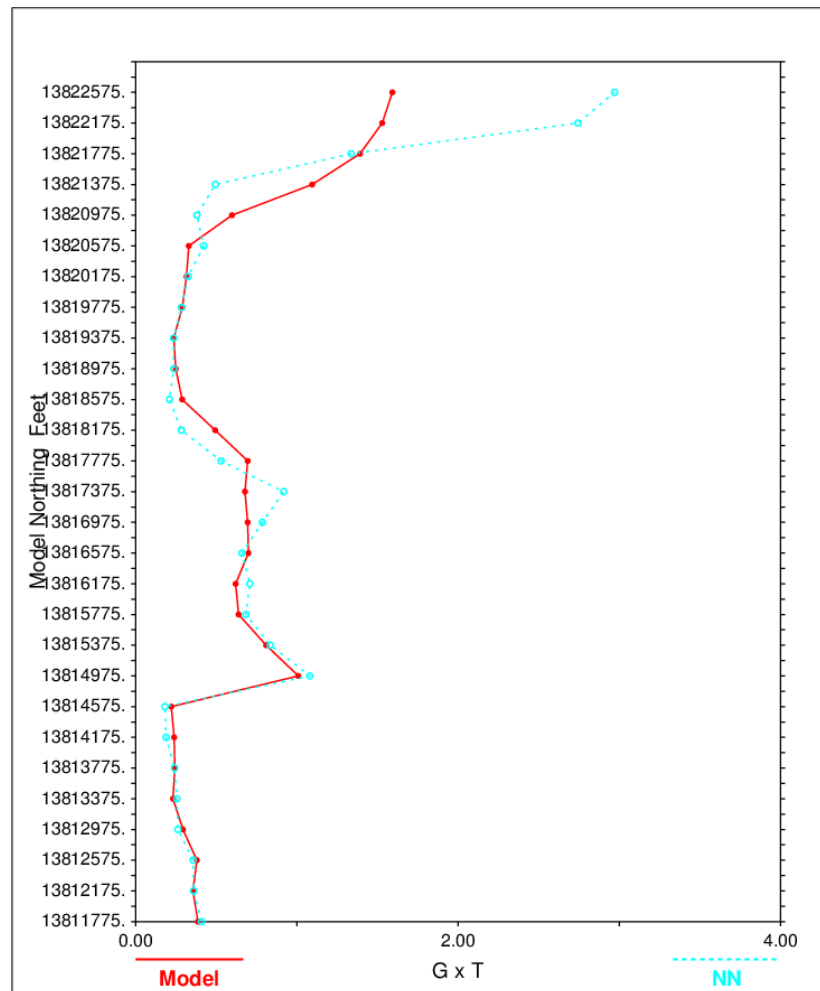
### **Swath Plots (Drift Analysis)**

A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Grade variations from the OK model are compared using the swath plot to the distribution derived from the declustered (NN) grade model.

On a local scale, the NN model does not provide reliable estimations of grade, but, on a much larger scale, it represents an unbiased estimation of the grade distribution based on the underlying data. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the NN distribution of grade.

Swath plots were generated in north-south and east-west directions comparing the OK and NN distributions of thickness, UGT and  $U_3O_8$  in the deposit. Overall, there is good correspondence between the models through most of the deposit area. An example showing west-east swaths from the UGT model is shown in Figure 14.5.

FIGURE 14.5: SWATH PLOT GRADE TIMES THICKNESS



## 14.12 Resource Classification

Mineral resources for the Slick Rock project were classified according to the *Definition Standards for Mineral Resources and Mineral Reserves* (CIM, 2010). The classification parameters are defined relative to the distance between sample data and are intended to encompass zones of reasonably continuous mineralization.

UGT variograms and indicator variograms were reviewed, together with evidence gained from the visual interpretation of the drilling results, to understand the classification criteria for the mineral resources at Slick Rock.

At this stage, more substantial work needs to occur on the historic data to gain the level of confidence required to classify resources in the Indicated category. Inferred resources include blocks within the interpreted areas of influence (i.e., within the limits of the interpreted probability shell).

### 14.13 Mineral Resources

When stating mineral resources, the requirements of NI 43-101 include a provision that resources must exhibit reasonable prospects for economic extraction. A potential extraction option for this deposit is underground mining similar to historic production methods. As a result, all blocks that meet the classification criteria described here are included in the resource estimate.

There are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which could materially affect the mineral resource. Inferred mineral resources are inherently uncertain. There is no guarantee that the current Inferred resource estimate or any part thereof will be converted to Measured or Indicated resources by further exploration.

### 14.14 Vanadium Mineral Resources

The Slick Rock Project is located within the Uravan Mineral Belt which was defined as early as 1952 by the USGS as an elongated area in southwestern Colorado wherein uranium-vanadium deposits in the Salt Wash Member of the Morrison Formation are concentrated (Chenoweth, 1981). The district was first mined for radium and later vanadium. Early geologic reports (Garrels and Larsen, 1959) refer to the mineral deposits in the Salt Wash Member of the Morrison Formation as "vanadium-uranium deposits with the V:U ratio between 5:1 and 10:1 in the Uravan mineral belt of western Colorado." Chenoweth further states that the Uravan area produced 14,675,000 tons with average grades of 1.24%  $V_2O_5$  and 0.24%  $U_3O_8$ , or a V:U ratio of 5.2:1 (Chenoweth, 1981). Production from the Slick Rock District is reported as approximately 9,000 tons of  $U_3O_8$  and 50,000 tons of  $V_2O_5$  or a V:U ratio of 5.6:1. The Slick Rock Project includes the Burro Mine which was operated by Union Carbide Nuclear Corporation (now Umetco Minerals) from 1955 through 1971 producing 404,804 tons and then intermittently through 1983 producing an additional 60,956 tons, based on reported pounds and average grade produced. Total reported production from the Burro mine is 2,236,723 pounds  $U_3O_8$  and 13,941,457 pounds  $V_2O_5$  (V:U ratio 6.23:1). Average grades reported from the periods of 1955-1971 are 0.25%  $U_3O_8$  and 1.5%  $V_2O_5$  (V:U ratio 6:1) and 1971-1983 are 0.20%  $U_3O_8$  and 1.4%  $V_2O_5$  (V:U ratio 7:1) (refer to Section 6, History).

The author has work experience with the uranium-vanadium deposits in the Colorado Plateau and worked for the Union Carbide Corporation in the 1970's and early 1980's. Production from the Burro mine was limited during the author's tenure with Union Carbide and was not visited by the author at that time. However, at the time the majority of the uranium assays available for mineral resource estimation were collected, the common practice in mineral exploration and development was to rely on uranium values to estimate vanadium content based on the historic V:U ratios for each mine area. Uranium values were determined from chemical assays or, far more commonly, from radiometric equivalent determinations either with downhole geophysical logging (surface exploration)

or handheld scintillometers (underground face mapping and mining). Vanadium values were estimated based on the V:U ratios experienced during past production in the area and confirmed by head assays at the mills.

The author visited the site on April 2, 2013, and was able to access the Burro mine workings that were above the ground water table. Typical Salt Wash mineralization was observed both in tabular and small scale roll morphology and uranyl-vanadate minerals were present. The author also observed the collection of a sample for assay from one of the exposures of mineralization. This sample designated RE13064009 was assayed using XRF methods and contained 1.73%  $U_3O_8$  and 6.48%  $V_2O_5$ . Sample RE13064009 is not indicative of the average grade of uranium and/or vanadium mineralization but does demonstrate the presence of mineralization.

It is the author's opinion that relying on the V:U ratio demonstrated by mine production at the Burro mine, which is within the Slick Rock Project, to estimate vanadium grade based on uranium grades is reasonable, especially in the category of Inferred Mineral Resource which is defined as:

*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 geologic 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. (CIM, 2005)*

Table 14.4 summarizes the Inferred Mineral Resource for uranium and vanadium at various cut-off grades, based on ordinary kriging (OK) for uranium, as described in section 14.1 through 14.3, and the application of a V:U ratio of 6:1 for vanadium, supported by published production records from the Burro mine (Nelson-Moore et al., 1978). The highlighted cut-off grade of 0.15%  $U_3O_8$  is based on the results of the PEA.

**TABLE 14.4: SUMMARY OF INFERRED URANIUM AND VANADIUM MINERAL RESOURCES**

Cut-off Grade e $U_3O_8$ %	Tons x 1,000	e $U_3O_8$ (%)	Contained $U_3O_8$ (Mlbs)	$V_2O_5$ (%)	Contained $V_2O_5$ (Mlbs)
0.10	4,225	0.186	15.7	1.12	94.2
<b>0.15</b>	<b>2,549</b>	<b>0.228</b>	<b>11.6</b>	<b>1.37</b>	<b>69.6</b>
0.20	1,646	0.255	8.9	1.53	53.4
0.25	775	0.296	4.6	1.78	27.6
0.30	274	0.340	1.9	2.04	11.4
0.35	71	0.415	0.6	2.49	3.6
0.40	69	0.417	0.6	2.50	3.6

(Base case cut-off grade of 0.15 % e $U_3O_8$  is highlighted in Table 14.4)

## **15 MINERAL RESERVE ESTIMATES**

Mineral Reserves are not estimated herein.

## 16 MINING METHODS

### 16.1 Introduction

The Slick Rock Project includes the Burro Mine which was owned by Union Carbide Nuclear Corporation (now Umetco Minerals) from 1955 through 1971 producing 404,804 tons and an additional 60,956 tons intermittently up through 1983, based on reported pounds and average grade produced. Total reported production from the Burro mine is 2,236,723 pounds  $U_3O_8$  and 13,941,457 pounds  $V_2O_5$  (V:U ratio 6.23:1). Average grades reported from the periods of 1955-1971 are 0.25%  $U_3O_8$  and 1.5%  $V_2O_5$  (V:U ratio 6:1) and 1971-1983 are 0.20%  $U_3O_8$  and 1.4%  $V_2O_5$  (V:U ratio 7:1) (refer to Section 6, History). The Burro mine was operated as a random room and pillar mine accessed through 3 shafts and one decline. The shafts have been sealed and there is now a locking door at the portal of the decline which is accessible to the level at which the ground water has recovered. In addition, detailed mapping of the mine is available.

A random room and pillar mine is not laid out in a uniform pattern with the rooms and pillars being of similar size throughout the mine, but rather the mineralized zones are followed by underground drilling and face sampling with pillars being left in areas with lesser concentration and thickness of mineralization. Figure 16.1 shows the general outline of the mine workings at the Burro mine. Figure 16.2 shows a portion of the mine map in greater detail where the workings are currently above the water table.

During the site visit completed on April 2, 2013, the author was able to access the Burro mine workings that were above the ground water table. In addition to observing the decline, approximately 1,500 feet of mine workings were examined. The mine workings were in excellent condition despite the fact that the mine closed in 1983. Ground support was provided by rock bolts and occasional timbering. No mats were observed. The bolting pattern was variable based on roof conditions and many areas were standing unsupported. Little evidence of roof fall was observed. All workings were in the Salt Wash member of the Morrison Formation and showed little issue with respect to stability and/or rock fall despite minimal roof support. Mining height was approximately 7 feet; haulage tunnel 8-9 feet high by 12 feet wide; open rooms 50 feet in width or greater with pillars of 10-20 feet were observed. Typical Salt Wash mineralization was observed both in tabular and small scale roll-front morphology. The author observed the collection of a sample for confirmatory assay from one of the exposures of mineralization. This sample designated RE13064009 was assayed using XRF methods and contained 1.73%  $U_3O_8$  and 6.48%  $V_2O_5$ . Sample RE13064009 is not indicative of the average grade of uranium and/or vanadium mineralization but does demonstrate the presence of mineralization.

## 16.2 Inferred Mineral Resources Used for PEA

This is a restricted disclosure as allowed under section 2.3(3) of NI 43-101 which includes a Preliminary Economic Assessment (PEA) and is preliminary in nature such that it includes a portion of the inferred mineral resources as reported in Section 14 of the report. Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. Inferred mineral resources are too speculative to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the outcomes estimated in the PEA will be realized.

The Inferred Mineral Resources used in the PEA, Table 16.1, are fully included in the total inferred mineral resources reported in Section 14 and are that portion of the inferred mineral resources which, following dilution to a minimum mining thickness of four feet, met a cut-off grade of 0.15% e U<sub>3</sub>O<sub>8</sub>.

**TABLE 16.1: INFERRED MINERAL RESOURCES USED IN THE PEA\***

Area	Tons	Average Grade %eU <sub>3</sub> O <sub>8</sub>	Pounds eU <sub>3</sub> O <sub>8</sub>	Average Grade %V <sub>2</sub> O <sub>5</sub>	Pounds V <sub>2</sub> O <sub>5</sub>
<b>Total</b>	<b>1,740,000</b>	<b>0.212</b>	<b>7,383,712</b>	<b>1.27</b>	<b>44,302,272</b>

\*Minimum thickness 4 feet, minimum diluted grade 0.15% e U<sub>3</sub>O<sub>8</sub>, and with 90% extraction of tons applied, all numbers rounded.

Concentrations of mineralization meeting cut-off criteria with respect to thickness and grade occur in four areas within the Project. For the purposes of the report these four areas are referred to as Joe Davis Canyon, the South East Trend, Nicholas Wash, and the Burro Extension. Respectively, these mineralized areas represent 74%, 10%, 9%, and 7% of the inferred mineral resource meeting cut-off criteria.

For the purposes of the PEA average values for thickness and grade of mineralization (uranium and vanadium) have been assumed to be consistent throughout the mineralized areas, specifically:

- Average Thickness: 4.44 feet
- Average Grade Uranium: 0.212% eU<sub>3</sub>O<sub>8</sub>
- Average Grade Vanadium: 1.27% V<sub>2</sub>O<sub>5</sub> (V:U ratio 6:1)
- Average Waste Ratio: 1.58

Also, uniform production rates and costs were estimated based on these average values. It is the author's opinion that these simplifying assumptions are appropriate given the level of detail required for a PEA and the level of data and consequent inferred mineral resource estimate.

### 16.3 Determination of Mine Cut-off Grade

For the determination of minimum cut-off grade the following assumptions were made:

- Mining would be completed by conventional underground random room and pillar mining as has been the historical practice in the district.
- The minimum mining thickness is four feet and any mineralized zone less than four feet is diluted.
- Mining would be accomplished by split shooting and the average room height would be seven feet.
- The waste ratio is the calculated difference from the mineralized thickness above cut-off grade and the seven foot room height.
- The mined material would be shipped by truck to the White Mesa mill in Blanding, Utah and sold based on their buying schedule shown in Table 16.2.
- Initial determination of cut-off was based on a materials handling cost of \$50 per ton which was applied to both mineralized and waste tons based on the waste ratio.
- After the initial estimation of operating expenses (OPEX), the initial cost assumption was compared to the calculated cost per ton and the cut-off grade assumption verified (Refer to Table 16.3).

**TABLE 16.2: WHITE MESA BUYING SCHEDULE\***

		April, 2013	Speculative	Speculative	Speculative	Speculative
		\$U/\$V	\$U/\$V	\$U/\$V	\$U/\$V	\$U/\$V
%U <sub>3</sub> O <sub>8</sub>	%V <sub>2</sub> O <sub>5</sub>	\$42.25/\$6.75	\$45/\$6.75	\$50/\$10	\$55/\$10	\$60/\$10
0.10	0.6	na	\$ 2.78	\$ 32.22	\$ 39.82	\$ 47.42
0.12	0.72				\$ 67.74	\$ 76.86
0.13	0.78			\$ 77.42	\$ 87.30	\$ 97.18
0.14	0.84			\$ 90.62	\$ 101.26	\$ 111.90
0.15	0.9	\$ 53.39	\$ 59.66	\$ 103.82	\$ 115.22	\$ 123.62
0.18	1.08	\$ 84.00	\$ 91.52	\$ 143.42	\$ 157.10	\$ 170.78
0.20	1.2	\$ 108.18	\$ 116.54	\$ 181.02	\$ 190.62	\$ 205.82
0.21	1.26	\$ 118.39	\$ 127.16	\$ 188.62	\$ 204.58	\$ 220.54
0.22	1.32	\$ 128.59	\$ 137.78	\$ 201.82	\$ 218.54	\$ 235.26

\*The price information in this table was provided by Dick White, Chief Geologist Energy Fuels Resources, and was based on speculative spot prices for uranium and vanadium. The table represents the price paid per ton FOB the White Mesa mill. Only the current (April, 2013) schedule reflects actual market conditions at that time. All other prices for uranium and vanadium are speculative.



Initial cut-off grade estimates at a \$50 per ton bulk mining cost indicated a cut-off grade (highlighted in green) in the range of 0.13 to 0.18% eU<sub>3</sub>O<sub>8</sub>. OPEX was estimated at a cut-off grade of 0.15% eU<sub>3</sub>O<sub>8</sub>. The cost per ton of product delivered to the White Mesa mill was then compared to the buying schedule (Table 16.2) which indicates that the 0.15% eU<sub>3</sub>O<sub>8</sub> is appropriate for spot uranium and vanadium prices at or above \$50 and \$10 per pound, respectively (highlighted in pink). After the initial estimation of operating expenses (OPEX), the initial cost assumption was compared to the calculated cost per ton and the cut-off grade assumption verified, as shown in Table 16.3.

**TABLE 16.3: ESTIMATED COST PER TON OF PRODUCT**

<u>0.15 %eU<sub>3</sub>O<sub>8</sub> Cut-off Grade:</u>		
Average grade Uranium (%eU <sub>3</sub> O <sub>8</sub> )		0.212
Average grade Uranium @ 6:1 ratio (%V <sub>2</sub> O <sub>5</sub> )		1.27
Average thickness		4.44
Waste Ratio at 7 foot mine height		1.58
Cost per ton product @\$50/ton muck	\$	78.78
Haulage to White Mesa mill 65 miles @.15/tm	\$	10.00
Initial estimated cost per ton	\$	88.78
Final estimated cost per ton (OPEX)	\$	108.45
White Mesa Buying Schedule \$50 to \$55/lb U and \$10/lb V	From \$103.82	To \$115.22

## 16.4 Selection of Mining Method

The PEA is based on a random room and pillar mining method as was previously employed within the project area and in general through the Colorado Plateau. The characteristics of the Slick Rock mineral deposits are compatible with this method in that mineralization is generally tabular with some moderate rolls, low to moderate dip, and exhibit good rock strength with respect to both roof and floor. The randomness of the room and pillar extraction is due to the variations in uranium grade and thicknesses encountered. Typically, mining will follow the mineralization through underground longhole drilling in advance of mining, face sampling, and mapping concurrent with mining. Pillars are left where the mineralization is weaker in terms of concentration and/or thickness; however, in some cases temporary roof support will be necessary. The nature of the mineralization lends itself to a high extraction rate. The base case assumed 90% mine extraction. The sensitivity analysis evaluated 80% mine extraction.

## 16.5 Conceptual Mine Design

Figure 16.1 shows the general site layout including:

- The location and general outline of mine workings related to the Burro mine.
- The location and general outline of the inferred mineral resource meeting thickness and grade cut-offs.
- The conceptual mine layout upon which the PEA is based.
- Geographic site features:
  - The location of the DOE legacy site,
  - Topographic features (USGS base map), and
  - Site access and major utility corridors.

The conceptual mine plan sequence for the Slick Rock Project is as follows:

- Develop Shaft access to the Joe Davis Canyon mineral resource area and begin mining.
- As mining in this area nears completion, drive a haulage drift to the Southeast Trend, a distance of approximately 2,400 linear feet. This would include the installation of additional vents.
- While mining is proceeding at the Southeast Trend, begin rehabilitation of the Burro mine to access the Burro mine extension area.
- Upon completion of mining in the Southeast Trend, relocate the Joe Davis Canyon hoist to the Nicholas Wash area and develop a new shaft.
- As mining is completed in each area close and reclaim the site.

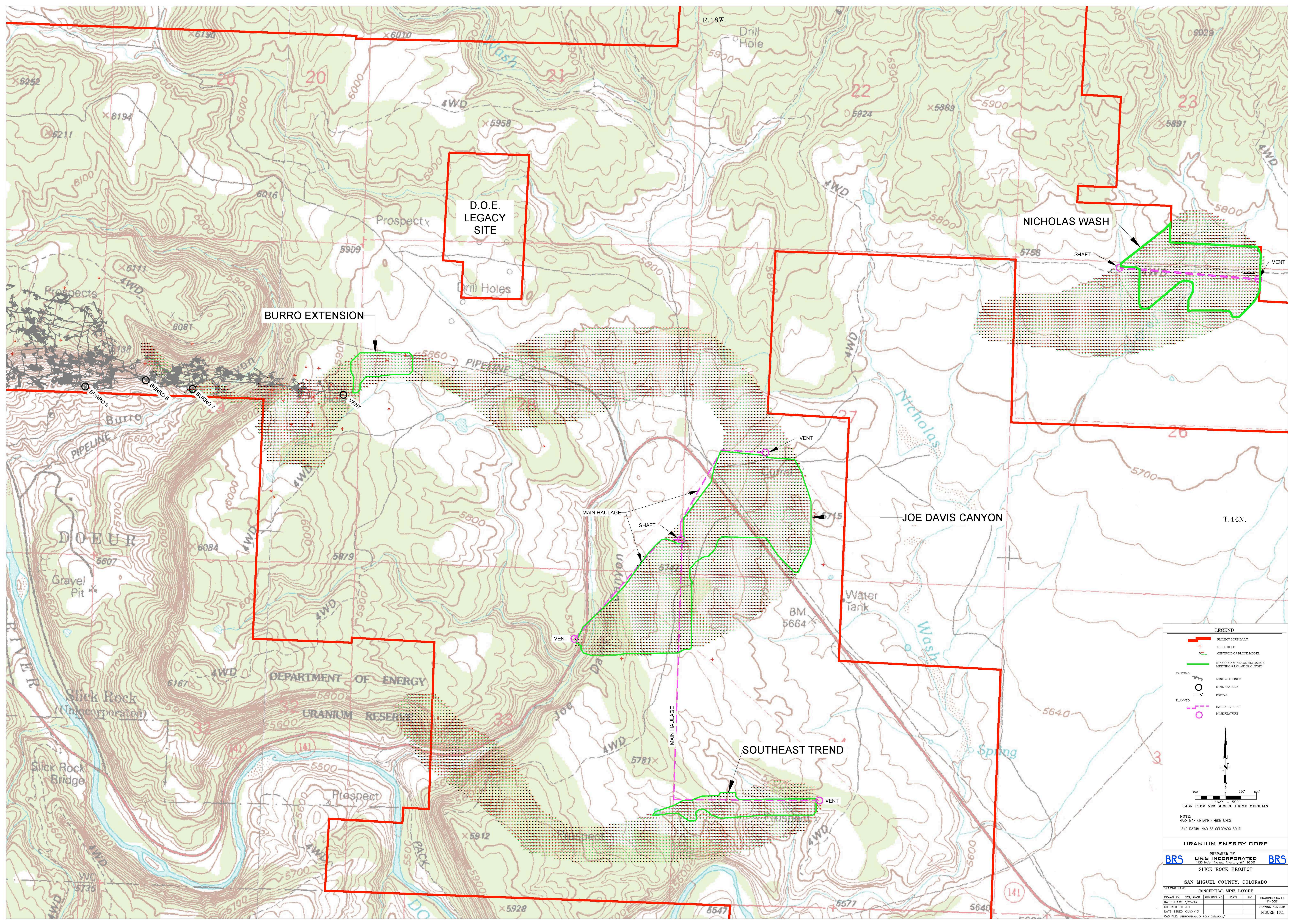
The key factor in the development of the conceptual plan was that the majority of the inferred mineral resource above cut-off criteria was located in the Joe Davis Canyon area. Mineralization at this location is in the range of 800 to 1,000 feet deep. The preferred alternative for access to this area is to sink a centrally located shaft just outside the mineralized area.

Alternatives considered for accessing the Joe Davis Canyon area included re-entering the Burro mine and establishing a haulage tunnel from the easternmost portion of the Burro mine, beginning at the last ventilation shaft and extending some 6,000 feet to the Joe Davis Canyon area. This alternative would require approximately 1.5 times more capital than shaft sinking and would also increase OPEX as additional mine haulage trucks would need to be added and manned.

Alternatives considered for accessing the Southeast Trend included the sinking of a new shaft. However, the capital cost of the haulage drift required less capital expenditure.

Alternatives considered for accessing the Burro Extension included driving a haulage tunnel from the Joe Davis Canyon shaft to the Burro Extension. The approach was estimated to be nearly 2.5 times greater in capital expenditures and was discarded.

Alternatives considered for accessing the Nicholas Wash area included driving a haulage tunnel from the Joe Davis Canyon shaft to the Nicholas Wash. This alternative required a higher capital expenditure and the most direct haulage route would cross under lands outside the project area.



**LEGEND**

- PROJECT BOUNDARY
- DRILL HOLE
- CENTROID OF BLOCK MODEL
- INFERRED MINERAL RESOURCE MEETING 0.15% ABOVE CUTOFF
- EXISTING
  - PIPEWORKS
  - PIPE FEATURE
  - PORTAL
- PLANNED
  - HATLACK DRIFT
  - PIPE FEATURE

1" = 500'

T43N R18W NEW MEXICO PRIME MERIDIAN

NOTE:  
BASE MAP OBTAINED FROM USGS  
LAND DATUM-NAD 83 COLORADO SOUTH

**URANIUM ENERGY CORP**

PREPARED BY  
**BRS INCORPORATED**  
1130 Motor Avenue, Riverton, WY 82501

**Slick Rock Project**

SAN MIGUEL COUNTY, COLORADO

DRAWING NAME: CONCEPTUAL MINE LAYOUT

DRAWN BY: CDE, BRS	REVISION NO.	DATE	BY	DRAWING SCALE:
DATE DRAWN: 3/23/13				1"=500'
CHECKED BY: OLB				DRAWING NUMBER:
DATE ISSUED: XX/XX/13				FIGURE 16.1

DWG FILE: URNRY/Slick Rock Data/PAW

## 16.6 Geotechnical Considerations

Site specific geotechnical studies and/or data are not available. However, the portion of the mine workings that were accessible above the water table are in exceptional condition considering that the mine has been idle since 1983 and that only limited roof support was utilized. Figure 16.2 shows a portion of the Burro mine map with the area that was accessible and was visited on April 2nd, 2013 (highlighted).

The mapping of the Burro mine shows a high rate of extraction. Whether the extraction was primary or secondary is not known. The extent of the mined rooms suggests ground conditions were relatively good. Roof stand-up times were apparently sufficient to facilitate the slow, controlled retreat rate necessary for this type of mining. Details about secondary support practices are not well known. There is some information on the mine maps and two areas with secondary pillar support were observed in the mine. In both of these cases the support consisted of a limited number of twelve inch timbers.

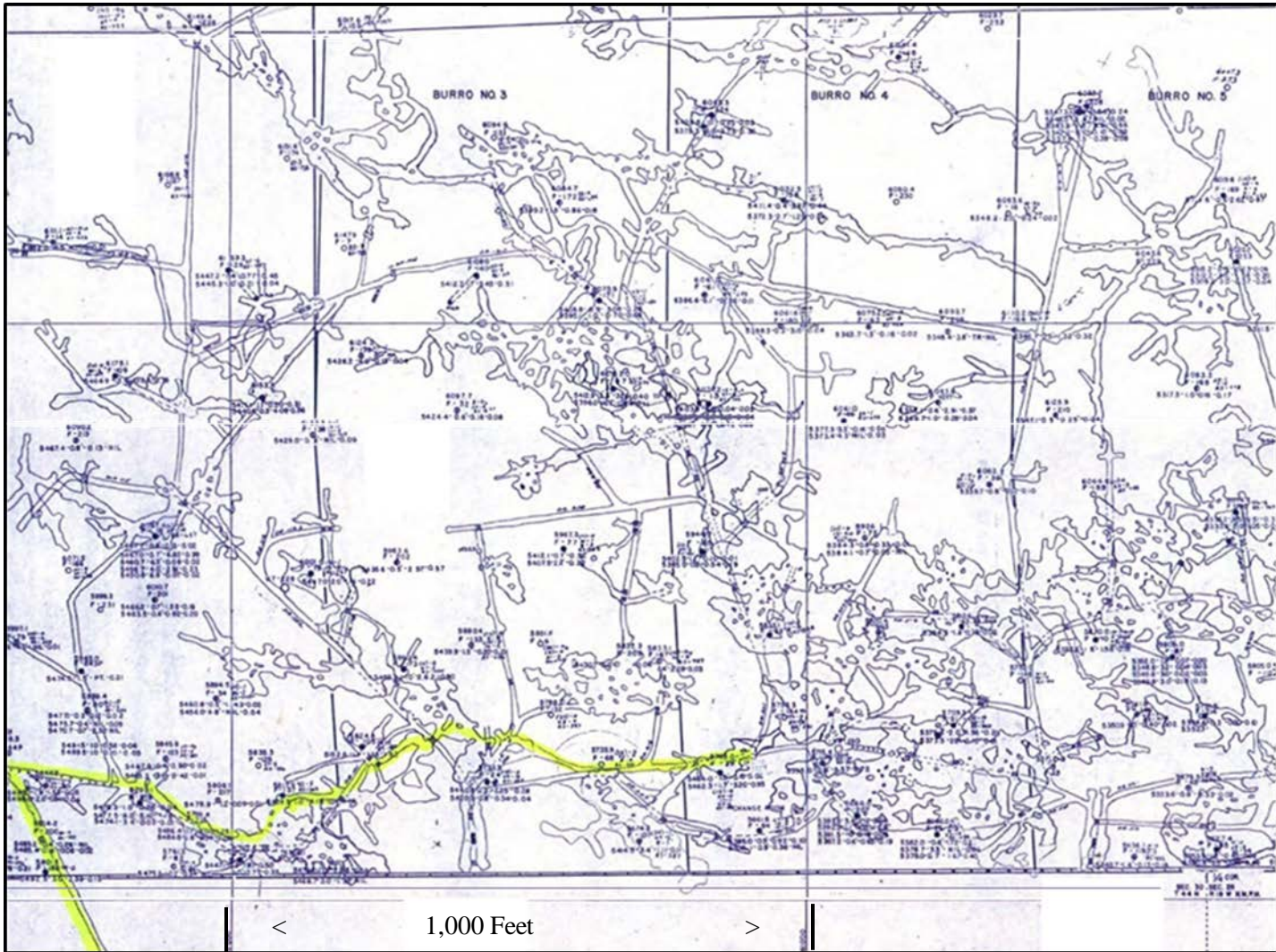
The mine rooms observed nominally spanned 50 feet or more with a mine height of 6 to 8 feet although lower profile in some areas. The remnant pillars were on the order of 10 to 20 feet, rectangular and irregular. Most of the pillars left were not significantly mineralized.

The main haulage and decline were 8 to 9 feet in height and approximately 12 feet in width. The haulages were intended for one-way traffic and there are cutouts every few hundred feet to allow for equipment and personnel to pass. Roof support along the haulages was minimal, consisting of rock bolts (Figure 16.3). No matting, grouting, timbering, or other form of roof support was observed in the haulages. Areas of mineralization were observed in the ribs of the haulages that had not been extracted. This leads to the supposition that the haulage widths were generally fixed, whereas, the geometry of the room and pillar mining varied to accommodate the tenor of the mineralized material.

Review of the mine map shows even more extensive room development than was observed in the accessible portion of the mine. In places, the rooms exceed 200 foot spans with only limited remnant pillar support. It is not known but is expected that some form of secondary support was used in these areas and that the larger rooms reflect secondary recovery during retreat.

Based on the observed underground conditions and as evidenced by the mine mapping, the author recommends the use of a 90% mine extraction rate for the purposes of the PEA as the base case with sensitivity analysis completed for lower mine extraction rates.

Figure 16.2 Burro Mine Map



↙ Burro Decline and Area Accessible 4/2/2013

**FIGURE 16.3: CONDITION OF BURRO MINE DECLINE**

Burro Mine Decline April 2nd, 2013. The decline is in excellent condition despite limited rock support.

## 16.7 Pre-Production Mine Development

Major pre-production tasks and expenditures include:

- Development and exploratory drilling and testing
- Engineering studies and design including:
  - Geological
  - Geotechnical
  - Hydrological
  - Metallurgical
  - Mine design and optimization
  - Feasibility and market studies
- Environmental permitting and baseline studies
- Planning and construction of surface facilities and infrastructure including:
  - Office
  - Dry
  - Shop and warehouse
  - Site access
  - Site utilities (electrical and natural gas)
  - Water supply (industrial and potable)
  - Water treatment facility
  - Septic and solid waste disposal
  - General site development including security
- Hiring and training of personnel
- Acquisition of mine equipment
- Sinking of the Joe Davis Canyon shaft
- Completion of the main haulage drifts and vents

Note that specific recommendations in the report include budgetary items up to the completion of an updated mineral resource estimate and preliminary feasibility. These items are included in the pre-production capital estimate which is all encompassing.



## 16.8 Mine Equipment

Table 16.6.1 provides a typical equipment list for a conventional room and pillar mine applicable to the project.

**TABLE 16.8.1: MINING EQUIPMENT LIST**

<b>Equipment Requirements</b>	<b>Quantity</b>
Shaft Hoist (12 foot diameter shaft)	1
Development Jumbo - single boom	2
Drifter, Hydraulic	3
Drifter Feeds	3
Jackleg drills w/ legs	4
Compressor 350 cfm	2
LHD 2 cy	2
Trucks 10 ton	2
Pumps	2
ANFO Loaders	3
Service Vehicles	1
Scissor Lift Truck	1
Main Ventilation Fans 5'	4
Electric Motor 100 HP	4
Accessories for 5' Fan	4
Auxiliary Fans 14000 cfm (each drill needs 3 faces)	9
Exploration Drills	1
Cat 973C track loader/dozer (Surface Use)	1
Water Truck 4,000 gallons (Surface Use)	1
Portable Power Center 150 Kva	4
Chutes, gates, etc.	5

As configured, the selected equipment will provided for two mine production crews and a single support or utility crew.

## 16.9 Mine Productivity and Operating Parameters

The random room and pillar mining method will utilize two mine production crews with single boom jumbo drilling, 2 cubic yard load-haul-dump (LHD) unit for face mucking, and 10-ton truck haulage with the associated support equipment. Multiple working faces will be necessary for each crew. The mine production crews will be supported by a single utility crew responsible for roof support and other operations. The single shaft has ample hoisting capacity (100 tons per hour) for the projected rate of production. The mine will operate on two 10 hour shifts 7 days per week. For the PEA, costs were applied for the full year but productivity estimates were based on 330 days per year or 90% utilization. Each mine production crew is scheduled to complete 2 ½ rounds per shift which includes: drilling, loading and blasting, allowing for the blast area to clear, and mucking the face. Table 16.7.1 summarizes the estimated productivity.

**TABLE 16.9.1: MINE PRODUCTIVITY**

	Product	Waste	Total	
Tons mined	1,740,000	1,044,000	2,784,000	
Single Crew Productivity (1 Jumbo, 1 LHD, 1 truck - w/helper 4 men)				
Each Round approx.	10x10x7	15cf/ton	50	Tons
Jumbo Cycle controls Rate per round			200	Min/round
10 hr shift 50 min/hr effective			500	Min/shift
Rounds per Shift per Crew			2.5	Rounds
Tonnage per Crew per Shift			125	Tons
Tonnage per Day per Crew		2 shifts	250	Tons/day
Total tonnage per day 2 crews			500	Tons/day
Annual Tonnage (330 days effective)			165,000	Tons/year
Product tonnage per day			320	Tons/day
Product Tonnage (330 days effective)			105,600	Tons/year

## 16.10 Labor and Personnel Requirements

Mine crews will operate on a rotating 4 day, 10 hour schedule. The afternoon shift will start at 2 pm and run until 12:30 am (10 hours plus ½ hour for lunch) and the morning shift will run from 2 am to 12:30 pm. This schedule allows each shift to have daylight, either coming to or leaving from the site. The crews will alternate shifts, i.e., afternoon for 4 days, 2 days off, and mornings for 4 days, etc. Under this schedule, manpower for three

crews is needed for each shift to operate on a continuous basis as depicted in the following figure which would repeat its pattern every 6 weeks.

**FIGURE 16.4: SHIFT ROTATION SCHEDULE**

Week 1				Week 2				Week 3				Week 4				Week 5				Week 6							
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
B	B			B	B	B	B			B	B	B	B	B	B		B	B	B	B	B	B	B		B	B	B
		C	C		C	C	C		C	C	C		C	C	C		C	C	C		C	C	C		C	C	C

Production crews will consist of 4 men: operators for the jumbo, LHD, and mine truck, and a helper. For each two production crews there will be one support crew consisting of 6 men for maintenance of utilities and ventilation, longhole drilling, bolting and roof support, and blasting. At the surface a hositman and helper/dispatcher will be needed.

Based on the foregoing, the total hourly labor requirements are summarized in Table 16.8.1 which follows. As previously stated, for the PEA labor costs accounted for the entire year whereas annual productivity was based on 330 days per year or 90% utilization.

**TABLE 16.10.1: HOURLY LABOR REQUIREMENTS**

	Job Required	Per Crew	Per shift	Shifts/year	Total
Hourly Labor Requirements	Jumbo Operators	1	2	3	6
	Jumbo Helper	1	2	3	6
	LHD Operators	1	2	3	6
	UG Truck Operators	1	2	3	6
	Powdermen	1	2	3	6
	Utility Miners	1	1	3	3
	UG Laborer	1	1	3	3
	Exploration Drillers	2	1	3	6
	Hoist Operator	1	1	3	3
	Helper/Dispatcher	1	1	3	3
	Electricians	1	2	1	2
	Mechanics	1	2	1	2
	Surface Equipment Operator	1	1	1	1
	Warehouse Laborer	1	1	1	1
		<b>Total Hourly</b>	<b>16</b>	<b>16</b>	

Salaried personnel would generally work a day shift, 7 am to 5:30 pm (10 hours with a ½ hour lunch). Costing for the PEA assumed a 40 hour per week schedule. Thus, a portion of the staff would work Monday through Thursday and a portion of the staff would work Tuesday through Friday. The exception would be the shift foremen, and mine geologists who would work a rotating shift schedule as would the hourly workforce. Salaried Personnel requirements are summarized in Table 16.8.2.

**TABLE 16.10.2: SALARIED LABOR REQUIREMENTS**

	<b>Job Required</b>	<b>Per Crew</b>	<b>Per shift</b>	<b>Shifts/year</b>	<b>Total</b>
Salaried Personnel Requirements	Mine Manager/Engineer	1	1	1	1
	Underground Mine Superintendent	1	1	1	1
	Foreman/Shifter	1	1	3	3
	Engineers and surveyors	2	1	1	2
	Chief Geologist	1	1	1	1
	Mine Geologists	1	1	3	3
	Maintenance Supt.	1	1	1	1
	Technicians	2	1	1	2
	Accountants - Clerk	1	1	1	1
	Purchasing Agent	1	1	1	1
	Personnel/HR	1	1	1	1
	Safety Manager	1	1	1	1
		<b>Total Salary</b>			

In summary, the total required work force is estimated at 72. It is the author's opinion that such a work force would generally be available within the four corners region which includes southwestern Colorado, southeastern Utah, northwestern New Mexico, and northeastern Arizona. However, certain staff and key personnel may need to be recruited from outside the region.

### 16.11 Mine Ventilation

A specific mine ventilation analyses to facilitate the proposed mine's operating in compliance with applicable air quality regulatory standards has not been completed as it is beyond the level of study of a PEA. Rather, the allowance for mine capital was based on the author's experience and general practices. The primary contaminants of concern for the ventilation system include: radon, diesel particulate matter (DPM), diesel exhaust gases (CO, CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>), blasting fumes, and silica dust. Once the mine is operational, a sampling program should be instituted to identify and quantify the airway contaminants.

Based on the likely equipment and production demands, the estimated quantity of air needed to effectively manage the DPM is at least 166 thousand cubic feet per minute (kcfm). This volume of fresh air will allow an area 10-ft by 8-ft by 31,000 linear feet long or equivalent volume to be replenished with fresh air every 15 minutes for control of radon daughters and diesel particulates. While no site-specific data concerning radon is available at this time, this rate of air exchange should be a good first approximation until testing can take place.

During the development phase, all ventilation is dependent on auxiliary fans and tubing and the shaft would serve for both intake and exhaust. Once the main vents have been established, the vents will be used for exhaust and the shaft for intake. During winter months the intake air will be heated. The temperature of the Burro mine during the 4/2/2013 site visit was estimated at 65° Fahrenheit. Given the depth of the mine it is expected that temperatures will be moderate and the workings conditions will be good.

### **16.12 Production Profile**

The Production profile shown on Table 16.12.1 uses a constant production rate based on the average thickness and grade of that portion of the inferred mineral resource that meets the cut-off criteria with respect to thickness and grade. It is the author's opinion that these simplifying assumptions are appropriate given the level of detail required for the PEA and the level of data and consequent inferred mineral resource estimate.

The production profile shows mine production for approximately ½ of the year beginning in year 1 and proceeding at a steady rate of just over 100,000 tons per year sold as product to the White Mesa each year thereafter through year 20. Given the mine configuration and average thickness of mineralized material, which requires split shooting to maintain grade and minimize dilution, accelerating the production would require essentially doubling the mining equipment and at least doubling the number of working faces. This would be possible at Joe Davis Canyon but would require the other smaller mining areas to be operated simultaneously.

The only excess capacity in the current configuration is at the hoist which can cycle a maximum of 100 tons per hour as compared to the 500 tons per day (product and waste) produced from the mine. This would also require the addition of 50 hourly laborers and at least 6 salaried personnel.



## 17 RECOVERY METHODS

Specific metallurgical testing is not available for the Slick Rock Project. However, mineralized material from the Slick Rock Project area, as well as similar deposits in the Uravan Mineral Belt has been processed successively for uranium and vanadium for more than 50 years. Further, the PEA is not based on the processing of the mineralized material, but rather the sale of the mineralized material to the White Mesa mill in Blanding, Utah.

As of April 2014, the White Mesa mill is only processing alternative feeds and is not processing run-of-mine material. Dick White, Chief Geologist Energy Fuels Resources was contacted via email on April 3, 2014 and asked if warranted by uranium price, whether the White Mesa mill would again process run-of-mine material and reinstate the buying schedule. Mr. White confirmed that this was the case and further stated that they would under those conditions consider toll milling agreements as well. There is, however, a continued risk that the White Mesa mill would not accept run-of-mine material. If this were to occur some form of mineral processing on-site and/or shipment to another mineral processing facility would be necessary. It is recommended that alternative recovery methods and/or tolling arrangements be evaluated. On site mineral processing could include vat or heap leaching which has been practiced successfully within the Uravan Mineral Belt in the past (Scheffel, 1981).

On-site processing via vat or heap leaching could produce intermediate products including on-site concentrated product liquor (slurry or paste), or loaded resin, which could be shipped for final processing and drying to existing facilities. This approach would allow shipment of concentrate to a larger variety of existing facilities, whereas, the White Mesa mill is the only mill currently receiving raw mine feed. This approach could include shipment of concentrate to the UEC Hobson facility.

Although the siting and licensing of a uranium processing facility requires significant time and effort with respect to engineering and environmental studies, investigations, and design, the Slick Rock Project surrounds a DOE Legacy site which is the permanent repository of the former Slick Rock mill tailings. The Slick Rock tailings were relocated from their original site near the Dolores River to the Legacy site. This site was selected based on United States Nuclear Regulatory Commission (US NRC) criteria for the long term disposal and isolation of uranium mill tailings including the completion of an EIS. The site is also subject to ongoing monitoring.

Siting a uranium processing facility such as a vat or heap leach with on-site closure and reclamation in a similar geographic and geologic setting would present an opportunity to reference these past studies and evaluations and should facilitate the licensing process.

## 18 PROJECT INFRASTRUCTURE

All necessary utilities and general infrastructure for the planned project can readily be established if not already available. Figure 18.1 shows the conceptual mine layout on a USGS topographic base map.

### Access

The project is crossed by Colorado State Highway 141, a paved 2 lane highway providing major access to the site. From Highway 141, gravel county roads and existing dirt and two-track roads provide secondary access to the site.

### Power and Utilities

Gas pipelines crossing the project area are shown on the USGS base map. Electrical powerlines follow the major access roads. Slick Rock is an unincorporated locality. Residents have utility and phone service. Utility service was also once provided to the Burro and other mines in the area.

### Process Water

Detailed investigation of potential water sources has not been completed. As mineral processing will be accomplished offsite the only water demand will be for industrial and potable use at the mine site and as such the demand is modest. The preferred alternative for process water is to utilize water developed from the dewatering of the mine, estimated for cost purposes at 200 gpm, which in turn would reduce costs related to water treatment and discharge. This water may not be suitable as a potable water source for the office and dry facility. Potable water sources could be developed from local ground or surface water sources and/or hauled into the site.

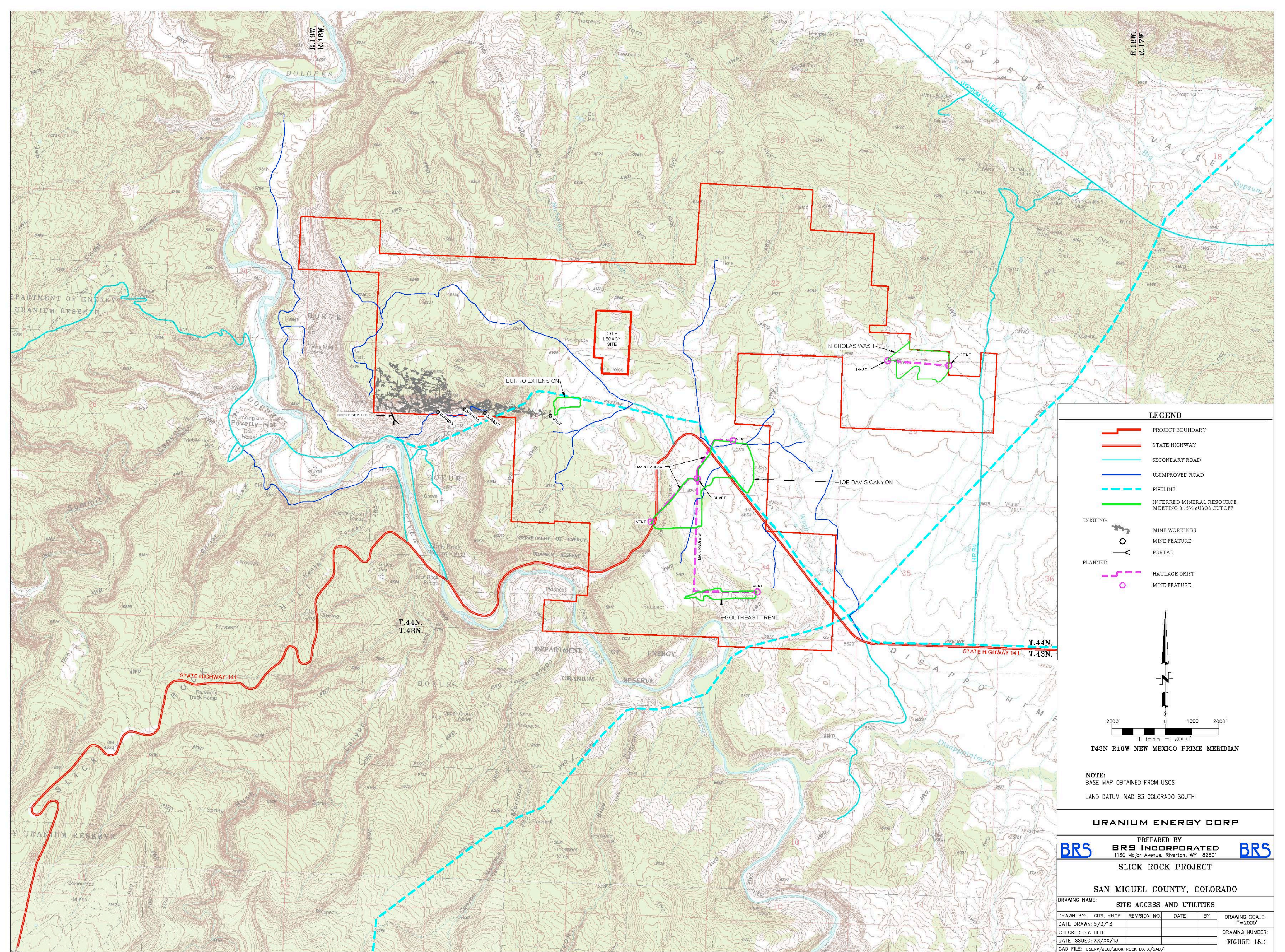
### Mine Support Facilities

Mine support facilities will consist of an office, mine shop and warehouse, and a dry facility. In consideration of the remoteness of the site and the potential for hazardous winter driving conditions, emergency stores of non-perishable food and water will be kept on-site along with portable cots should it be necessary for personnel to remain on-site during such conditions.

### Public Safety and Facility Maintenance

Access to the site will be controlled by fencing where appropriate. The mine facility will be regulated by MSHA. Any persons wishing to enter the facility will be required to complete safety training as required by regulations and be equipped with appropriate Personal Protective Equipment (PPE) depending on which areas they wish to enter.





**LEGEND**

- PROJECT BOUNDARY
- STATE HIGHWAY
- SECONDARY ROAD
- UNIMPROVED ROAD
- PIPELINE
- INFERRED MINERAL RESOURCE MEETING 0.15% eU3O8 CUTOFF

EXISTING:

- MINE WORKINGS
- MINE FEATURE
- PORTAL

PLANNED:

- HAULAGE DRIFT
- MINE FEATURE

2000' 0 1000' 2000'  
 1 inch = 2000'  
 T43N R18W NEW MEXICO PRIME MERIDIAN

NOTE:  
 BASE MAP OBTAINED FROM USGS  
 LAND DATUM-NAD 83 COLORADO SOUTH

**URANIUM ENERGY CORP**

PREPARED BY  
**BRS** BRS INCORPORATED **BRS**  
 1130 Major Avenue, Riverton, WY 82501  
**SLICK ROCK PROJECT**  
**SAN MIGUEL COUNTY, COLORADO**

DRAWING NAME: <b>SITE ACCESS AND UTILITIES</b>		DRAWING SCALE: 1"=2000'	
DRAWN BY: CDS, RHCP	REVISION NO.	DATE	BY
DATE DRAWN: 5/3/13			
CHECKED BY: DLB			
DATE ISSUED: XX/XX/13			
CAD FILE: USER\UEC\SLICK ROCK DATA\CAD\			<b>FIGURE 18.1</b>

## 19 MARKET STUDIES AND CONTRACTS

### 19.1 Uranium Market and Price

Uranium does not trade on the open market and many of the private sales contracts are not publically disclosed. Monthly long term industry average uranium prices based on the month-end prices published by Ux Consulting, LLC, and Trade Tech, LLC, are posted on by Cameco Corporation on their web site.

([http://www.cameco.com/investors/uranium\\_prices\\_and\\_spot\\_price/](http://www.cameco.com/investors/uranium_prices_and_spot_price/))

As shown on Figure 19.1 the current spot price is less than the long term contract price. However, during periods when the spot price rises, such as the peaks in 2007 and 2011, the spot price equals or exceeds the long term price. Tables 19.1 and 19.2, shows the monthly long-term and spot uranium prices, respectively (Cameco, 2013).

**FIGURE 19.1: URANIUM PRICE HISTORY**



**TABLE 19.1: LONG TERM URANIUM PRICE\***

	2009	2010	2011	2012	2013
Jan	\$ 69.50	\$ 61.00	\$ 71.50	\$ 61.00	\$ 56.50
Feb	\$ 69.50	\$ 60.00	\$ 71.50	\$ 60.00	\$ 56.50
Mar	\$ 69.50	\$ 59.00	\$ 70.00	\$ 60.00	\$ 56.50
Apr	\$ 67.00	\$ 59.00	\$ 69.00	\$ 60.50	\$ 57.00
May	\$ 65.00	\$ 59.00	\$ 68.00	\$ 61.25	\$ 57.00
Jun	\$ 65.00	\$ 59.00	\$ 68.00	\$ 61.25	\$ 57.00
Jul	\$ 65.00	\$ 60.00	\$ 68.00	\$ 61.25	\$ 54.50
Aug	\$ 64.50	\$ 60.00	\$ 64.50	\$ 60.25	\$ 54.50
Sep	\$ 64.50	\$ 61.00	\$ 63.50	\$ 60.50	\$ 50.50
Oct	\$ 64.50	\$ 62.00	\$ 63.00	\$ 59.50	\$ 50.00
Nov	\$ 61.00	\$ 65.00	\$ 62.50	\$ 59.50	\$ 50.00
Dec	\$ 61.00	\$ 66.00	\$ 62.00	\$ 56.50	\$ 50.00
Average	\$ 65.50	\$ 60.92	\$ 66.79	\$ 60.13	\$ 54.17

\*Average long-term price 2009 through 2013 - \$61.50 per pound

**TABLE 19.2: SPOT URANIUM PRICE\***

	2009	2010	2011	2012	2013
Jan	\$ 47.50	\$ 42.38	\$ 72.63	\$ 52.13	\$ 43.88
Feb	\$ 44.50	\$ 41.13	\$ 69.63	\$ 52.00	\$ 42.00
Mar	\$ 42.00	\$ 41.88	\$ 60.50	\$ 51.05	\$ 42.25
Apr	\$ 44.50	\$ 41.75	\$ 55.25	\$ 51.63	\$ 40.50
May	\$ 49.00	\$ 40.75	\$ 57.00	\$ 51.63	\$ 40.45
Jun	\$ 51.50	\$ 41.75	\$ 52.88	\$ 50.75	\$ 39.60
Jul	\$ 47.00	\$ 45.63	\$ 51.75	\$ 49.50	\$ 34.75
Aug	\$ 46.00	\$ 45.25	\$ 49.13	\$ 48.25	\$ 34.50
Sep	\$ 42.88	\$ 46.63	\$ 52.25	\$ 46.50	\$ 35.00
Oct	\$ 48.00	\$ 52.00	\$ 51.88	\$ 41.75	\$ 34.50
Nov	\$ 45.38	\$ 60.63	\$ 51.63	\$ 42.25	\$ 36.08
Dec	\$ 44.50	\$ 62.25	\$ 51.88	\$ 43.38	\$ 34.50
Average	\$ 46.06	\$ 46.84	\$ 56.37	\$ 48.40	\$ 34.80

\*Average spot price 2009 through 2013 - \$46.49 per pound

Thus, the 5 year look-back uranium prices range from \$46.49 per pound for spot delivery to \$61.50 per pound for long-term delivery. Current uranium price forecasts predict a rise in both spot and long-term prices, citing pressure on price due to increased demand related to the restart of at least some of Japan's nuclear reactors and new reactors coming on line in China and other countries. Market analysts also cite pressure on uranium supply related to the end of the "Megatons to Megawatts" program in 2013 and forward production costs which will constrain production at current price levels.

(<http://www.mypurchasingcenter.com/commodities/commodities-articles/are-uranium-prices-at-a-critical-tipping-point>)

The effect of these market dynamics on spot and long-term uranium pricing is speculative. The author reviewed various recent reports, (Healey, 2013; Talbot, 2013; and Pistilli, 2013) all predict rising spot and long-term uranium prices. The following is from Pistilli, 2013;

*Analysts expect demand to start to exceed supply in 2014. In late 2013 or early 2014, we may begin to see the current spot price more in step with the strong long-term price (\$60/lb), Dennis da Silva, a resource fund manager at Middlefield Capital, told the Financial Post. UBS (NYSE:UBS) is looking for prices to return to \$50/lb in 2013 and \$55/lb in 2014, while Credit Suisse (NYSE:CS) has issued a much more bullish outlook, indicating that uranium should trade in a range of \$80/lb to \$90/lb for 2013. JP Morgan, equally bullish, anticipates a range of \$78/lb to \$85/lb.*

(<http://uraniuminvestingnews.com/13407/uranium-outlook-2013-rebound-demand-supply-price-market>)

The author recommends a uranium price of \$60 per pound as the base case in the PEA, concurring with the foregoing market analysis that spot and long-term prices will equilibrate in the near term (Pistilli, 2013).

## 19.2 Vanadium Market and Price

Vanadium is primarily used in the hardening of steel and sold in the form of V<sub>2</sub>O<sub>5</sub> or FeV. There is speculation that the development of vanadium batteries will lead to increased demand and higher prices for vanadium (Ocean Equities Research, 2011). Similar to uranium, vanadium is generally not traded on the open market but through private contracts. Summaries follow for current and forecast Vanadium prices.

**(Current)** *Prices for European 98-percent vanadium pentoxide . . . currently sits between \$6.30 and \$6.70 per pound.*

(<http://vanadiuminvestingnews.com/3264-vanadium-market-march-6-2013-price-investing.html>)

**(Forecast)** *With demand expected to marginally exceed supply in 2013 and 2014, Roskill expects a recovery in vanadium prices over this period. Consumption is then forecast to slightly lag production as new capacity comes on stream between 2015 and 2017 and prices are expected to remain relatively stable. Vanadium pentoxide prices are expected to reach US\$11.00/lb V<sub>2</sub>O<sub>5</sub> (in 2012 US Dollar terms) by 2017.*

<http://www.prnewswire.com/news-releases/vanadium-global-industry-markets-and-outlook-13th-edition-197802181.html>

The author recommends a vanadium price of \$10 per pound as the base case in the PEA.

### 19.3 Existing Contracts

UEC does not have any contracts in place for the sale of the mined product from the Slick Rock Project nor has UEC entered into negotiations with Energy Fuels, the operator of the White Mesa Mill. The price information used in the PEA was provided by Dick White, Chief Geologist Energy Fuels Resources, and was based on speculative spot prices for uranium and vanadium. Table 16.2 represents the price paid per ton FOB the White Mesa mill. The April, 2013 schedule reflected actual market conditions at that time. All other prices for uranium and vanadium are speculative (Table 16.2).

As of April 2014, the White Mesa mill is only processing alternative feeds and is not processing run-of-mine material. Dick White, Chief Geologist Energy Fuels Resources was contacted via email on April 3, 2014 and asked if warranted by uranium price, whether the White Mesa mill would again process run-of-mine material and reinstate the buying schedule. Mr. White confirmed that this was the case and further stated that they would under those conditions consider toll milling agreements as well. There is, however, a continued risk that the White Mesa mill would not accept run-of-mine material. If this were to occur some form of mineral processing on-site and/or shipment to another mineral processing facility would be necessary.

## 20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

Commercial uranium mining at Slick Rock occurred from 1955 through 1983; however, mining has a longer history with radium mining reported from the early 1900's through 1923, and vanadium mining beginning in 1931. The majority of the mining has employed random room and pillar underground methods.

The Slick Rock Project is situated entirely on federal land and minerals administered by the Bureau of Land Management (BLM). However, there are private land holdings, the DOE Legacy site, and DOE uranium reserves in the vicinity.

It is important to note that the DOE Legacy site, which is the permanent repository of the former Slick Rock mill tailings, is within the project area. The Slick Rock tailings were relocated from their original site near the Dolores River to the Legacy site. This site was selected based on US NRC criteria for the long term disposal and isolation of uranium mill tailings including the completion of an EIS. The site is also subject to ongoing monitoring. The environmental data and assessments from the legacy site are of public record and can be used for reference.

No potential social or community related requirements, negotiations, and/or agreements are known to the author with respect to local communities and/or agencies. No outstanding environmental liabilities to UEC are known to the author.

### 20.1 Environmental Permits and Baseline Studies

Major environmental permits and licenses would include:

- Mining Permit; Colorado Mined Land Reclamation Board (CMLRB)
- Plan of Operations; BLM
- Source Materials License\*; Colorado Department of Public Health and Environment (CDPHE)

\*Only required beneficial on-site processing and recovery of uranium. This could apply to water treatment if uranium was recovered and would apply for any mineral processing approach other than off-site processing.

Environmental and related studies in support of these and other required permits would include:

- Land Use; Regulations typically require that current land use be assessed and the potential impacts of the proposed operations to such uses be evaluated. Also, the final reclamation plan must be sustainable and compatible with land use.
- Cultural Resource Surveys; Cultural resource surveys and paleontological surveys are required by BLM for mining activities including an assessment of impacts and mitigation measures, if required. The Colorado State Historical Preservation Officer (SHPO) will also need to approve actions related to cultural resources. Tribal consultation will also be required under 36 CFR Part 800, Section 106.

- Meteorology and Air Monitoring; Background air quality conditions need to be measured for at least one year prior to operations and potential air quality impacts address. Tier 4 diesel equipment will likely be required as the emission standards are being phased in over a period which began in 2008 and continues to 2015.
- Geology; The environmental geologic setting of the project area will need to be defined with respect to potential pathways and geologic hazards including faulting, landslides, and flooding.
- Hydrology; Surface and ground water regimes will need to be defined with respect to quality and quantity and potential environmental pathways. At least one year of monitoring data is required to establish background.
- Soils and Vegetation; Soils and vegetation surveys are required to assess background conditions and are applied in the development of a sustainable reclamation plan. Vegetation surveys will also need to address any potential Threatened and Endangered (T&E) plant species and critical habitat such as wetlands.
- Wildlife; Wildlife surveys are required with respect to general wildlife populations but most also address any T&E species which may be present and any critical habit such as big game winter range.
- Radiology; Background radiologic surveys are recommended whether or not specifically required prior to operations to define both the NORM, Naturally Occurring Radioactive Materials, and TENORM, Technically Enhanced Naturally Occurring Radioactive Materials, to separate impacts of current or planned operations from past operations and elevated natural background. An assessment of radiological impacts and exposures will be required by EPA for Radon emissions from the operations. If on-site mineral recovery is contemplated extensive assessment of radiological conditions and potential impacts and exposures will be required.

## **20.2 Operating Plans and Other Permits**

The operating plans for the Slick Rock Project will require approval by the BLM and Colorado Mined Land Reclamation Board (CMLRB). Monitoring and reporting of air, ground water, surface water, reclamation, and other mitigation measures will continue throughout the life of the project. Health and safety at the mines will be primarily regulated through the Federal Mine Safety and Health Administration or MSHA.

In addition to the major permits for mining and possible uranium recovery additional permits required may include:

- San Miguel County; Land Use Permits and permits for solid waste and septic
- Colorado Water Quality Control Division (WQCD); Discharge permits for storm water and mine dewatering
- Air Pollution Control Division (APCD) and EPA; Air quality permits
- Colorado Division of Water Resources; Permits for beneficial use of waters of the State

### **20.3 Social and Community Relations**

The surrounding communities have a long history of working with and for the region's mining and mineral resource industry, and their support for this project has been strong. Despite expected local support, recent mineral development in the area has received opposition from various Non-Government Organizations (NGOs) and this should be anticipated for the Slick Rock Project.



## 21 CAPITAL AND OPERATING COSTS

Project cost estimates are based on a conventional random room and pillar underground mine operation. All costs are estimated in Constant 2013 US Dollars. Operating (OPEX) and Capital (CAPEX) costs reflect a full and complete operating cost going forward including all pre-production costs, permitting costs, mine costs, and complete reclamation and closure costs for of the mine. CAPEX does not include sunk costs or acquisition costs.

Mining and mineral recovery methods are described in Sections 16 and 17, respectively. The mine production profile is discussed in Section 16.10 and provided on Table 16.10.1. For the level of study of the PEA, production was considered to be constant at just over 100,000 tons of mined material delivered to the White Mesa mill annually over a period of approximately 20 years.

The PEA is based on a single approach that being a conventional underground random room and pillar mine operation with primary access via a shaft. Productivity was based on two production crews and one support crew working on two 10 hour shifts year round with 90% utilization. In all cases the estimates are based on proven approaches and technologies and conservative assumptions were employed.

A summary of key assumptions follows:

- CAPEX Estimates
  - Underground Equipment; Based on mine cost data and recent vendor quotes with 15% added contingency.
  - Pre-Production Expenditures; Based on mine costs data and direct calculations with 25% contingency added to all items.
  - Surface Facilities; Based on mine cost data and recent vendor quotes with 25% added contingency.
- OPEX Estimates
  - Underground mine; Operating costs were based on continual operations of 2, 10 hours shifts per day for 365 days; productivity was based on 330 days or 90% utilization; cycle times were based on a 50 minute hour (83% reduction) to account for inefficiencies related to availability and utilization.
  - Transport of mined product to the White Mesa mill was based on mine cost tables and recent vendor quotes. No contingency was added but the higher of the per ton mile estimates was used.

### 21.1 Capital Costs

Capital costs are summarized in Table 21.1.1 which follows. All cost estimates are in current dollars and do not include sunk costs. Capital costs include and allowance for working capital in the initial capital which is then credited at the end of operations. Initial capital requirements are estimated at \$21,243,000. Replacement and/or additional capital

is estimated at \$8,746,000 and includes both mobile equipment replacement and additional capital requirements for accessing additional mining areas subsequent to Joe Davis Canyon. This yields a total lifetime capital requirement of \$29,990,000.

Capital cost estimates were based on vendor quotations, published mine costing data, and contractor quotations. Such estimates were generally provided for budgetary purposes and were considered valid at the time the quotations were provided. In all cases, appropriate suppliers, manufacturers, tax authorities, smelters, and transportation companies should be consulted before substantial investments or commitments are made.

**TABLE 21.1.1: CAPITAL COST SUMMARY****(\$ x 1,000)**

	Year -2	Year -1	Year 0	Years 1-21	Total
<b>Capital Expenditures:</b>	\$ 1,059	\$ 1,059	\$ -	\$ -	\$ 2,119
Development Drilling	\$ -	\$ 1,562	\$ 1,562	\$ -	\$ 3,124
Engineering Design and CM	\$ 500	\$ 500	\$ -	\$ -	\$ 1,000
Permitting	\$ -	\$ -	\$ 1,230	\$ -	\$ 1,230
Surface Facilities	\$ -	\$ -	\$ 6,784	\$ -	\$ 6,784
Mine Equipment	\$ -	\$ -	\$ -	\$ 5,427	\$ 5,427
Replacement Capital	\$ -	\$ -	\$ -	\$ -	\$ -
Pre-Development	\$ -	\$ 2,744	\$ 2,744	\$ -	\$ 5,488
Joe Davis Canyon	\$ -	\$ -	\$ -	\$ 2,450	\$ 2,450
Nicholas Wash	\$ -	\$ -	\$ -	\$ 960	\$ 960
SE Trend	\$ -	\$ -	\$ -	\$ 1,409	\$ 1,409
Burro Extension	\$ -	\$ 1,500	\$ -	\$ (1,500)	\$ -
Working Capital	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Totals by Years</b>	\$ 1,559	\$ 7,365	\$ 12,319	\$ 8,746	\$29,990
<b>CAPEX Summary</b>			Initial	Ongoing	Total
			\$ 21,243	\$ 8,746	\$ 29,990

## 21.2 Operating Costs

Operating cost estimates are based on a conventional underground mine operation. Operating cost estimates were based on vendor quotations, published mine costing data, and contractor quotations. Such estimates were generally provided for budgetary purposes and were considered valid at the time the quotations were provided. In all cases, appropriate suppliers, manufacturers, tax authorities, smelters, and transportation companies should be consulted before substantial investments or commitments are made.

Operating costs were estimated for the following major items and are summarized on Table 21.2.1:

- Mine Operating Expenses
- Reclamation and Closure
- Reclamation Bond
- Taxes and Royalties

Total Mine operating costs per ton of material mined (waste and product) is estimated at \$67.78 per ton. Total cost of product mined, based on the waste ratio, is estimated at \$108.45 per ton.

Table 21.2.1: Operating Cost Summary

(\$ x 1,000)

MINE OPEX	Amount	Basis	Total
Equipment OPEX - 2 Production and 1 Support Crew	\$ 1,370,794	per year	\$ 23,989
OPEX consumables	\$ 7.00	per total tons	\$ 19,483
Hourly Labor	\$ 5,105,318	per year	\$ 89,343
Salaried Labor	\$ 1,971,000	per year	\$ 38,927
Haulage to White Mesa mill 65 miles @.15/tm	\$ 9.75	per resource ton	\$ 16,965
<b>Total Underground Mine</b>			<b>\$ 188,707</b>
<b>Reclamation and Closure*</b>			
Regrade approximately. 1mm cy waste @ \$1.00/cy	\$ 1,000,000		\$ 1,000
Seal 2 shaft 4 vent @\$50k each	\$ 300,000		\$ 300
Reclaim 50 acres @ \$2,000/acre	\$ 100,000		\$ 100
Removal of Buildings and Facilities - net 0 for salvage	\$ -		\$ -
<b>Total Reclamation and Closure</b>	\$ 1,400,000		<b>\$ 1,400</b>
<b>Reclamation Bond Mine (est. 2x actual)</b>	\$ 2,800,000	bond, 2% fee	<b>\$ 1,176</b>
<b>Taxes &amp; Royalties</b>			
Colorado Minerals Severance 2.25% of gross > \$19mm			\$ 1,348
SR Claims (Joe Davis Canyon) no royalty			\$ -
MCT claims (Nicholas Wash) 3% gross	\$ 1,057,533	total royalty	\$ 1,058
Holley BC (Burro Canyon) 1% gross	\$ 264,383	total royalty	\$ 264
Property Taxes	\$ 14,000	per year	\$ 266
<b>Total Taxes and Royalties</b>			<b>\$ 2,935</b>
<b>Life of Mine Total</b>			<b>\$ 195,619</b>

## 22 ECONOMIC ANALYSIS

Financial evaluations that follow represent constant US dollars, 2013 and speculative commodity spot prices of \$60.00 per pound of uranium oxide and \$10.00 dollars per pound of vanadium pentoxide as discussed in Section 19. As previously stated, all costs are forward looking and do not include any previous project expenditures or sunk costs. Operating costs include all direct taxes and royalties, as discussed in Section 21, but do not include US Federal Income Tax. Net Present Value (NPV) is calculated at a range of discount rates as shown. Table 22.1 summarizes the estimated internal rate of return (IRR) and net present value (NPV). Subsequent sensitivity analysis is provided for commodity price and other factors. Detailed Cash Flow analysis is provided in Table 22.4 at the end of this section.

This is a restricted disclosure as allowed under section 2.3(3) of NI 43-101 which includes a Preliminary Economic Assessment (PEA) and is preliminary in nature in that it includes a portion of the inferred mineral resources as reported in Section 14 of the report. Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. Inferred mineral resources are too speculative to have the economic considerations applied. Doing so would enable them to be categorized as mineral reserves, and there is no certainty that the outcomes estimated in the PEA will be realized.

**TABLE 22.1: ECONOMIC CRITERION (\$ x 1,000)**

Pre-Income Tax		Post-Income Tax	
IRR	33%	IRR	29%
NPV 5%	\$ 81,798	NPV 5%	\$ 61,209
NPV 7%	\$ 63,531	NPV 7%	\$ 47,108
NPV 10%	\$ 43,794	NPV 10%	\$ 31,852
NPV 15%	\$ 23,635	NPV 15%	\$ 16,262

### 22.1 Sensitivity to Price

The Slick Rock Project, like all similar projects, is quite sensitive to commodity prices as shown in Table 22.2. For this analysis the spot price of vanadium was held constant at \$10 per pound and variations in the price of uranium was evaluated.

**TABLE 22.1.1: SENSITIVITY TO PRICE**

Slick Rock Project	Pre Income Tax			Post Income Tax		
	\$50/lb	\$55/lb	\$60/lb	\$50/lb	\$55/lb	\$60/lb
U Price (V constant @\$10/lb)						
Discount Rate						
NPV 5% (Million \$)	51	67	82	38	50	61
NPV 7% (Million \$)	39	51	64	28	38	47
NPV 10% (Million \$)	25	35	44	18	25	32
NPV 15% (Million \$)	12	18	24	7	11	16
IRR	25%	29%	33%	22%	25%	29%

## 22.2 Sensitivity to Other Factors

Sensitivity of the projected IRR and NPV with respect to key parameters other than price as previously shown is summarized in Table 22.3. The sensitivity analysis shows that the project is not highly sensitive to minor changes in OPEX and/or CAPEX. With respect to Mine Recovery, the sensitivity is similar to that of uranium price in that much of the same costs are incurred and any variance in mine recovery or dilution affects gross revenues either positively or negatively. The project is roughly twice as sensitive to variances in mine recovery as it is to variance in OPEX or CAPEX.

The factor to which the project has the greatest sensitivity is mined grade. While similar operations are sensitive to variations in grade due to mine dilution, the level of sensitivity is generally similar to that of other factors such as commodity price and mine extraction. In this case the project is more sensitive to grade as it is to these other factors. This is a direct result of the White Mesa mill buying schedule which significantly penalizes the operator for lower grades.

Mine recovery and mined grade are highly dependent upon grade control and mining selectivity. The mine plan, equipment selection, and personnel allocations included in the cost estimate provide for selective, low profile split shot mining and tight grade control in recognition of this factor.

**TABLE 22.2.1: SENSITIVITY SUMMARY (PRE INCOME TAX)**

Parameter	Change from Base Case	Change in IRR	Change in NPV at 10% discount
Mine Recovery 80%	10 %	6 %	\$21.1 million
Mined Grade	10 %	9 %	\$18.6 million
CAPEX	10 %	2%	\$ 1.9 million
OPEX	10 %	3%	\$ 6.5 million

**TABLE 22.2.2: SENSITIVITY SUMMARY (POST INCOME TAX)**

Parameter	Change from Base Case	Change in IRR	Change in NPV at 10% discount
Mine Recovery 80%	10 %	5 %	\$16.1 million
Mined Grade	10 %	7 %	\$19.0 million
CAPEX	10 %	2%	\$ 1.6 million
OPEX	10 %	3%	\$ 4.8 million

### 22.3 Payback Period

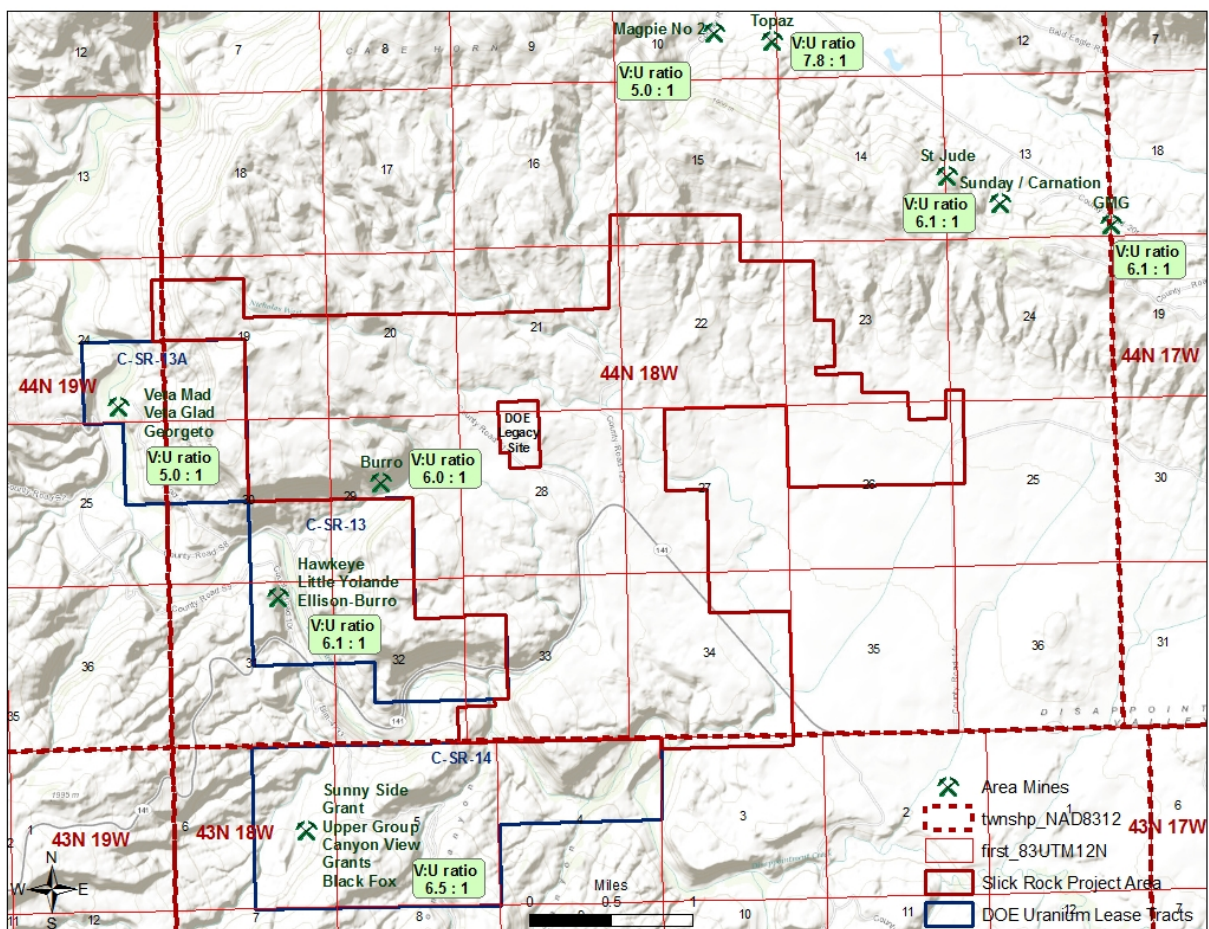
Capital investment was assumed to begin three years prior to start up to include such items as exploratory drilling, environmental baseline studies, engineering and design related studies, and permitting and licensing. Once in operations the project has a positive cumulative cash flow after year 3 in constant dollars. Refer to Table 22.3.1, Cash Flow.



## 23 ADJACENT PROPERTIES

The Atomic Energy Commission (AEC) kept meticulous production records on all US uranium mining operations through 1971. Historic production records shown in Table 23.1 only represent production values up to that point, and exclude all production that carried over in to the 1980s. The values are under-reported in regards to the actual totals from the properties. However, there is sufficient historic production data to accurately determine the ratios of vanadium to uranium mineralization within the Slick Rock District. See Figure 23.1 for mine location in relation to the Slick Rock project.

**FIGURE 23.1: ADJACENT PROPERTIES**



The author of this technical report has not been able to verify the information on the adjacent properties, and the information on adjacent properties is not necessarily indicative of the mineralization on the Slick Rock property.



**TABLE 23.1: HISTORIC PRODUCTION ADJACENT PROPERTIES THROUGH 1971**

Mine Name	Tons	Avg grade %U <sub>3</sub> O <sub>8</sub>	U <sub>3</sub> O <sub>8</sub> lbs	Avg grade %V <sub>2</sub> O <sub>5</sub>	V <sub>2</sub> O <sub>5</sub> lbs	V/U ratio
Burro	404,804	0.25	2,024,020	1.5	12,144,120	6.0:1
Carnation / St Jude	62,894	0.24	301,891	1.49	1,874,241	6.1:1
C-SR-13*	49,424	0.22	219,931	1.33	1,313,462	6.0:1
C-SR-13A*	64,476	0.32	412,646	1.6	2,063,232	5.0:1
C-SR-14*	9,488	0.28	53,133	1.82	345,363	6.5:1
G M G	27,777	0.24	133,329	1.47	816,643	6.1:1
Magpie #2	28,320	0.20	113,280	0.99	560,736	5.0:1
Sunday Group / Topaz	26,316	0.27	142,106	2.11	1,110,535	7.8:1
Avg V/U ratio						6.2

\*Denotes DOE uranium lease tract containing multiple mines

- C-SR-13: Hawkeye, Little Yolande, Ellison-Burro
- C-SR-13A: Veta Mad, Veta Glad, Georgeto group
- C-SR-14: Sunny Side, Grant, Upper Group, Canyon View, Grants, Black Fox

## **24 OTHER RELEVANT DATA AND INFORMATION**

This section is not applicable.

## 25 INTERPRETATION AND CONCLUSIONS

Based upon the available drilling data, published geologic reports and mapping, the mineral resource estimation, and the preliminary economic assessment of the project, the following conclusions can be made:

- The level of understanding of the geology at Slick Rock is very good: it has been the subject of study since the 1940s and the subject of mine production through the early 1980s. The practices used during the various drilling campaigns appear to have been conducted in a professional manner and have adhered to accepted industry standards. There are no factors evident that would lead one to question the integrity of the database.
- A significant Colorado Plateau-style uranium/vanadium deposit appears to exist in the area of past mine production and the surrounding area.
- Drilling-to-date has outlined an Inferred Mineral Resource (at a 0.15% eU<sub>3</sub>O<sub>8</sub> cut-off) of 2,549 ktons @ an estimated 0.228% eU<sub>3</sub>O<sub>8</sub> grade which contains 11.6 million pounds of uranium oxide and 69.6 million pounds of vanadium oxide @ an estimated 1.37% V<sub>2</sub>O<sub>5</sub> grade.
- The PEA was based on the sale of the mined product to the White Mesa mill located in Blanding, Utah. There is, however, a risk that the White Mesa mill would not accept run-of-mine material. If this were to occur some form of mineral processing on-site and/or shipment to another mineral processing facility would be necessary.
- The PEA was based on random room and pillar mining methods, using split shooting with a minimum mining thickness of 4 feet and a room height of 7 feet, as was successfully employed within the project area and the greater Uravan Mineral Belt in the past.
- The PEA concluded that a minimum mining cut-off of 0.15% eU<sub>3</sub>O<sub>8</sub>, after dilution to a minimum mining thickness of 4 feet, is appropriate.
- The portion of the Inferred Mineral Resource included in the PEA has an estimated average thickness of 4.44 feet, average grade 0.212% eU<sub>3</sub>O<sub>8</sub> and 1.27% V<sub>2</sub>O<sub>5</sub>, and an average waste ratio at a 7 foot mine height of 1.58:1.
- The PEA base economic case was based on annual production of 100,000 tons of mined material per year. For this base case, with a uranium price of \$60 per pound and a vanadium price of \$10 per pound, the project would generate an estimated pre-tax Internal Rate of Return (IRR) of 33% and a post-tax IRR of 29% and have an estimated pre-tax Net Present Value (NPV) at a discount rate of 10% of \$43.8 million dollars (constant dollars US) before income tax, and a post-tax NPV at a 10% discount rate of 31.9 million dollars (constant dollars US).

- The technical risks related to the project are low as the mining and recovery methods are proven. The mining methods recommended have been employed successfully at the project in the past.
- The project is located in a brown-field in an area that has a mining heritage of more than a century. A portion of the project area was deemed suitable for the long term isolation of uranium mill tailings through an extensive Environmental Impact Statement (EIS) process. This data is public and may assist in permitting and licensing.
- Mineral Reserves are not estimated herein. This is a restricted disclosure as allowed under section 2.3(3) of NI 43-101 which includes a PEA and is preliminary in nature such that it includes a portion of the inferred mineral resources as reported in Section 14 of the report. Mineral resources are not mineral reserves and do not have demonstrated economic viability in accordance with CIM standards. Inferred mineral resources are too speculative to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the outcomes estimated in the PEA will be realized.
- The authors are not aware of any other specific risks or uncertainties that might significantly affect the mineral resource and reserve estimates or the consequent economic analysis. Estimation of costs and uranium price for the purposes of the economic analysis over the life of mine is by its nature forward-looking and subject to various risks and uncertainties. No forward-looking statement can be guaranteed and actual future results may vary materially.

## 26 RECOMMENDATIONS

The following actions are recommended relative to exploration at the Slick Rock project (Refer to Table 26.1):

- Conduct additional exploration drilling in the northern sections of the Slick Rock property to determine the extent of uranium/vanadium mineralization and attempt to expand the Inferred Mineral Resource. Budget: US\$550,000.
- Conduct additional sampling to validate historical assay data by resampling historic drill core/cuttings. Assays should include uranium, vanadium, and commonly associated metals and calcium carbonate. Budget: US\$20,000.
- Confirm results of historic drilling by sampling in areas of the deposit accessible from the underground workings. Budget: US\$50,000.
- Conduct delineation drilling: drill a first phase grid pattern, starting with 800 ft centres in areas of greatest mineralization, and test four sub-areas requiring 16 drill holes each (64 total drill holes) to attempt to upgrade some resources to the Indicated category. Budget: US\$900,000.
- Upon completion of drilling, update the uranium/vanadium resource estimate. Budget: US\$75,000.

**TABLE 26.1: EXPLORATION BUDGET**

<b>Item</b>	<b>Cost (US\$)</b>
<b>Drilling, probing, and support activities</b>	\$1,500,000
<b>Chemical assays</b>	\$20,000
<b>Resource model update and report</b>	\$75,000
<b>EXPLORATION TOTAL</b>	\$1,595,000

The following actions are recommended relative to project development if it is determined, based on the results of exploration and market conditions, that the Slick Rock project be advanced. (Refer to Table 26.2):

- Conduct preliminary metallurgical testing on representative material for conventional mineral processing and heap leach amenability. Budget: US\$100,000.
- Complete a preliminary geotechnical study based on the accessible portions of the Burro Mine. Budget: US\$50,000.00.
- Obtain publically available environmental and monitoring data and document current site conditions. Budget: US\$25,000.

- Conduct radiological surveys and/or sampling of the project area to determine current background levels for Technically Enhanced Naturally Occurring Radioactive Materials (TENORM). Budget: US\$50,000.00
- Complete detailed development drilling, based on the results of the exploration drilling, in areas most likely to be mined early in the project (up to 25 drill holes). Budget: US\$500,000.00
- Complete preliminary engineering studies and design, and complete preliminary feasibility study, as appropriate. Budget: US\$500,000.00.

**TABLE 26.2: FEASIBILITY AND DEVELOPMENT BUDGET**

<b>Item</b>	<b>Cost (US\$)</b>
<b>Preliminary Metallurgical Testing</b>	\$100,000
<b>Preliminary Geotechnical Study</b>	\$50,000
<b>Obtain Environmental Data</b>	\$25,000
<b>TENORM Surveys</b>	\$50,000
<b>Detailed Drilling</b>	\$500,000
<b>Preliminary Engineering</b>	\$500,000
<b>FEASABILITY AND DEVELOPMENT TOTAL</b>	\$1,225,000

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## 28 CERTIFICATES AND SIGNATURES

### Douglas Beahm, PE, PG, BRS Engineering Inc.

I, Douglas Beahm PE, PG, do hereby certify that:

1. I am the Principal Engineer and President of BRS, Inc., 1130 Major Avenue, Riverton, Wyoming 82501.
2. I am the author of the report titled "Technical Report, Preliminary Economic Assessment, Slick Rock Project, Uranium/Vanadium Deposit, San Miguel County, Southwest Colorado, USA," dated effective April 8, 2014 (the "Technical Report").
3. I graduated from the Colorado School of Mines with a Bachelor of Science degree in 1974. I am a licensed Professional Engineer in Wyoming, Colorado, Utah, and Oregon; a licensed Professional Geologist in Wyoming; and Registered Member of the Society for Mining, Metallurgy and Exploration, Inc. ("SME")
4. I have worked as an engineer and a geologist for over 39 years. My work experience includes uranium exploration, mine production, and mine/mill decommissioning and reclamation within sandstone-hosted uranium districts similar in geologic setting to the Slick Rock project.
5. I was last present on the site April 2, 2013.
6. I am responsible for and responsible for the overall preparation of the Technical Report and Sections 1 through 3, 7, 9, 14, 14, and 15 through 27.
7. I am independent of the issuer applying all of the tests in NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report. However, I was employed by Union Carbide Corporation (UCC) and worked at other mine locations when UCC operated the Burro and other mines in the Uravan Mineral Belt in the 1970's and 1980's.
9. 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 with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of 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. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority.

Dated April 11, 2014

"original signed and sealed"

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**Douglas Beahm, PE, PG**

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**Bruce Davis, FAusIMM, BD Resource Consulting, Inc.**

I, Bruce Davis, FAusIMM, do hereby certify that:

1. I am an independent consultant of BD Resource Consulting, Inc., located at 4253 Cheyenne Drive, Larkspur, CO, U.S.A., 80118, incorporated January 18, 2008.
2. I graduated with a Doctor of Philosophy degree in Statistics with an emphasis in Geostatistics from the University of Wyoming in 1978.
3. I am a fellow of the Australasian Institute of Mining and Metallurgy, Registration Number 2111185.
4. I have practiced my profession continuously for 33 years and have been involved in geostatistical studies, mineral resource and reserve estimations, and feasibility studies on numerous uranium deposits in Canada and the United States.
5. 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 with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the preparation of Sections 4, 5, 6, 8, 10,11,12,and 13 of the report titled "Technical Report, Preliminary Economic Assessment, Slick Rock Project, Uranium/Vanadium Deposit, San Miguel County, Southwest Colorado, USA," dated effective April 8, 2014 (the "Technical Report"). I personally visited the site on November 29, 2012.
7. I the author of "Technical Report for the Slick Rock Project, Uranium/Vanadium Deposit, San Miguel county, Southwest Colorado, USA" and was previously involved with the property in the preparation of that report.
8. I am independent of the issuer applying all of the tests in Section 1.5 of National Instrument 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. As of the date of this certificate, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to make the Technical Report not misleading.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated April 11, 2014

"original signed and sealed"

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**Bruce M. Davis, FAusIMM**

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## Robert Sim, P.Ge, SIM Geological Inc.

I, Robert Sim, P.Ge, do hereby certify that:

1. I am an independent consultant of:  
SIM Geological Inc.  
6810 Cedarbrook Place  
Delta, British Columbia, Canada V4E 3C5
2. I graduated from Lakehead University with an Honours Bachelor of Science (Geology) in 1984.
3. I am a member, in good standing, of the Association of Professional Engineers and Geoscientists of British Columbia, License Number 24076.
4. I have practiced my profession continuously for 28 years and have been involved in mineral exploration, mine site geology and operations, mineral resource and reserve estimations, and feasibility studies on numerous uranium deposits in Canada and the United States.
5. 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 with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the preparation of those portions of Section 14 (14.1 through 14.13) relating to uranium mineral resources of the report titled "Technical Report, Preliminary Economic Assessment, Slick Rock Project, Uranium/Vanadium Deposit, San Miguel County, Southwest Colorado, USA," dated effective April 8, 2014 (the "Technical Report").
7. I the author of "Technical Report for the Slick Rock Project, Uranium/Vanadium Deposit, San Miguel county, Southwest Colorado, USA" and was previously involved with the property in the preparation of that report.
8. I am independent of Uranium Energy Corp. applying all of the tests in Section 1.5 of NI 43-101.
9. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated April 11, 2014

"original signed and sealed"

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**Robert Sim, P.Ge**

**APPENDIX A**  
**SUMMARY OF CLAIMS**

Claim Name	BLM #	County	County Ref #	Township	Range	Section	Location Date	Project	State
MCT 1	CMC282313	San Miguel	420564	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 2	CMC282314	San Miguel	420565	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 3	CMC282315	San Miguel	420566	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 4	CMC282316	San Miguel	420567	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 5	CMC282317	San Miguel	420568	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 6	CMC282318	San Miguel	420569	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 7	CMC282319	San Miguel	420570	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 8	CMC282320	San Miguel	420571	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 9	CMC282321	San Miguel	420572	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 10	CMC282322	San Miguel	420573	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 11	CMC282323	San Miguel	420574	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 12	CMC282324	San Miguel	420575	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 13	CMC282325	San Miguel	420576	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 14	CMC282326	San Miguel	420577	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 15	CMC282327	San Miguel	420578	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 16	CMC282328	San Miguel	420579	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 17	CMC282329	San Miguel	420580	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 18	CMC282330	San Miguel	420581	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 19	CMC282331	San Miguel	420582	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 20	CMC282332	San Miguel	420583	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 21	CMC282333	San Miguel	420584	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 22	CMC282334	San Miguel	420585	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 23	CMC282335	San Miguel	420586	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 24	CMC282336	San Miguel	420587	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 25	CMC282337	San Miguel	420588	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 26	CMC282338	San Miguel	420589	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 27	CMC282339	San Miguel	420590	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 28	CMC282340	San Miguel	420591	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 29	CMC282341	San Miguel	420592	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 30	CMC282342	San Miguel	420593	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 31	CMC282343	San Miguel	420594	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 32	CMC282344	San Miguel	420595	T44N	R18W	21, 22	2011-09-01	Slick Rock	CO
MCT 33	CMC282345	San Miguel	420562	T44N	R18W	21, 22	2011-09-05	Slick Rock	CO
MCT 34	CMC282346	San Miguel	420563	T44N	R18W	21, 22	2011-09-05	Slick Rock	CO
MCT 35	CMC256458	San Miguel	380536	T44N	R18W	22, 23	2005-11-03	Slick Rock	CO
MCT 36	CMC256459	San Miguel	380537	T44N	R18W	22, 23	2005-11-03	Slick Rock	CO
MCT 37	CMC256460	San Miguel	380538	T44N	R18W	23	2005-11-03	Slick Rock	CO
MCT 38	CMC255837	San Miguel	379995	T44N	R18W	23	2005-09-22	Slick Rock	CO
MCT 39	CMC255838	San Miguel	379996	T44N	R18W	23	2005-09-22	Slick Rock	CO
MCT 40	CMC255839	San Miguel	379997	T44N	R18W	22, 23	2005-09-22	Slick Rock	CO
MCT 41	CMC255840	San Miguel	379998	T44N	R18W	22	2005-09-22	Slick Rock	CO

MCT 42	CMC255841	San Miguel	379999	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 43	CMC255842	San Miguel	380000	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 44	CMC255843	San Miguel	380001	T44N	R18W	15, 22	2005-09-22	Slick Rock	CO
MCT 45	CMC255844	San Miguel	380002	T44N	R18W	15, 22	2005-09-22	Slick Rock	CO
MCT 46	CMC255845	San Miguel	380003	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 47	CMC255846	San Miguel	380004	T44N	R18W	15, 22	2005-09-22	Slick Rock	CO
MCT 48	CMC255847	San Miguel	380005	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 49	CMC255848	San Miguel	380006	T44N	R18W	15, 22	2005-09-22	Slick Rock	CO
MCT 50	CMC255849	San Miguel	380007	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 51	CMC255850	San Miguel	380008	T44N	R18W	15, 22	2005-09-22	Slick Rock	CO
MCT 52	CMC255851	San Miguel	380009	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 53	CMC255852	San Miguel	380010	T44N	R18W	15, 22	2005-09-22	Slick Rock	CO
MCT 54	CMC255853	San Miguel	380011	T44N	R18W	22	2005-09-22	Slick Rock	CO
MCT 55	CMC255854	San Miguel	380012	T44N	R18W	15, 16, 21, 22	2005-09-22	Slick Rock	CO
MCT 56	CMC255855	San Miguel	380013	T44N	R18W	21, 22	2005-09-22	Slick Rock	CO
TAN 1	CMC282347	San Miguel	420541	T44N	R18W	22, 23, 26	2011-09-05	Slick Rock	CO
TAN 2	CMC282348	San Miguel	420542	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 3	CMC282349	San Miguel	420543	T44N	R18W	23, 26	2011-09-05	Slick Rock	CO
TAN 4	CMC282350	San Miguel	420544	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 5	CMC282351	San Miguel	420545	T44N	R18W	23, 26	2011-09-05	Slick Rock	CO
TAN 6	CMC282352	San Miguel	420546	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 7	CMC282353	San Miguel	420547	T44N	R18W	23, 26	2011-09-05	Slick Rock	CO
TAN 8	CMC282354	San Miguel	420548	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 9	CMC282355	San Miguel	420549	T44N	R18W	23, 26	2011-09-05	Slick Rock	CO
TAN 10	CMC282356	San Miguel	420550	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 11	CMC282357	San Miguel	420551	T44N	R18W	23, 26	2011-09-05	Slick Rock	CO
TAN 12	CMC282358	San Miguel	420552	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 13	CMC282359	San Miguel	420553	T44N	R18W	23, 26	2011-09-05	Slick Rock	CO
TAN 14	CMC282360	San Miguel	420554	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 15	CMC282361	San Miguel	420555	T44N	R18W	25, 26	2011-09-05	Slick Rock	CO
TAN 16	CMC282362	San Miguel	420556	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 17	CMC282363	San Miguel	420557	T44N	R18W	23	2011-09-05	Slick Rock	CO
TAN 18	CMC282364	San Miguel	420558	T44N	R18W	26	2011-09-05	Slick Rock	CO
TAN 19	CMC282365	San Miguel	420559	T44N	R18W	23, 24, 25, 26	2011-09-05	Slick Rock	CO
TAN 20	CMC282366	San Miguel	420560	T44N	R18W	25, 26	2011-09-05	Slick Rock	CO
TAN 21	CMC282367	San Miguel	420561	T44N	R18W	23	2011-09-05	Slick Rock	CO
TAN 63	CMC282368	San Miguel	420596	T44N	R18W	29	2011-09-05	Slick Rock	CO
TAN 64	CMC282369	San Miguel	420597	T44N	R18W	29	2011-09-01	Slick Rock	CO
TAN 65	CMC282370	San Miguel	420598	T44N	R18W	29, 32	2011-09-01	Slick Rock	CO
TAN 66	CMC282371	San Miguel	420599	T44N	R18W	29, 32	2011-09-01	Slick Rock	CO
TAN 67	CMC282372	San Miguel	420600	T44N	R18W	32	2011-09-01	Slick Rock	CO
TAN 68	CMC282373	San Miguel	420601	T44N	R18W	32	2011-09-01	Slick Rock	CO

SR 1	CMC278999	San Miguel	415604	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 2	CMC279000	San Miguel	415605	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 3	CMC279001	San Miguel	415606	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 4	CMC279002	San Miguel	415607	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 5	CMC279003	San Miguel	415608	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 6	CMC279004	San Miguel	415609	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 7	CMC279005	San Miguel	415610	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 8	CMC279006	San Miguel	415611	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 9	CMC279007	San Miguel	415612	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 10	CMC279008	San Miguel	415613	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 11	CMC279009	San Miguel	415614	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 12	CMC279010	San Miguel	415615	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 13	CMC279011	San Miguel	415616	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 14	CMC279012	San Miguel	415617	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 15	CMC279013	San Miguel	415618	T43N/44N	R18W	3/34	2010-12-23	Slick Rock	CO
SR 16	CMC279014	San Miguel	415619	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 17	CMC279015	San Miguel	415620	T43N/44N	R18W	4/33, 34	2010-12-23	Slick Rock	CO
SR 18	CMC279016	San Miguel	415621	T43N/44N	R18W	33, 34	2010-12-23	Slick Rock	CO
SR 19	CMC279017	San Miguel	415622	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 20	CMC279018	San Miguel	415623	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 21	CMC279019	San Miguel	415624	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 22	CMC279020	San Miguel	415625	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 23	CMC279021	San Miguel	415626	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 24	CMC279022	San Miguel	415627	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 25	CMC279023	San Miguel	415628	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 26	CMC279024	San Miguel	415629	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 27	CMC279025	San Miguel	415630	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 28	CMC279026	San Miguel	415631	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 29	CMC279027	San Miguel	415632	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 30	CMC279028	San Miguel	415633	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 31	CMC279029	San Miguel	415634	T43N/44N	R18W	4/33	2010-12-23	Slick Rock	CO
SR 32	CMC279030	San Miguel	415635	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 33	CMC279031	San Miguel	415636	T43N/44N	R18W	5/33	2010-12-23	Slick Rock	CO
SR 34	CMC279032	San Miguel	415637	T43N/44N	R18W	5/32, 33	2010-12-23	Slick Rock	CO
SR 35	CMC279033	San Miguel	415638	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 36	CMC279034	San Miguel	415639	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 37	CMC279035	San Miguel	415640	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 38	CMC279036	San Miguel	415641	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 39	CMC279037	San Miguel	415642	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 40	CMC279038	San Miguel	415643	T44N	R18W	27, 34	2010-12-23	Slick Rock	CO
SR 41	CMC279039	San Miguel	415644	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 42	CMC279040	San Miguel	415645	T44N	R18W	27, 34	2010-12-23	Slick Rock	CO
SR 43	CMC279041	San Miguel	415646	T44N	R18W	34	2010-12-23	Slick Rock	CO



SR 44	CMC279042	San Miguel	415647	T44N	R18W	27, 34	2010-12-23	Slick Rock	CO
SR 45	CMC279043	San Miguel	415648	T44N	R18W	34	2010-12-23	Slick Rock	CO
SR 46	CMC279044	San Miguel	415649	T44N	R18W	27, 34	2010-12-23	Slick Rock	CO
SR 47	CMC279045	San Miguel	415650	T44N	R18W	33, 34	2010-12-23	Slick Rock	CO
SR 48	CMC279046	San Miguel	415651	T44N	R18W	27, 28, 33, 34	2010-12-23	Slick Rock	CO
SR 49	CMC279047	San Miguel	415652	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 50	CMC279048	San Miguel	415653	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 51	CMC279049	San Miguel	415654	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 52	CMC279050	San Miguel	415655	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 53	CMC279051	San Miguel	415656	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 54	CMC279052	San Miguel	415657	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 55	CMC279053	San Miguel	415658	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 56	CMC279054	San Miguel	415659	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 57	CMC279055	San Miguel	415660	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 58	CMC279056	San Miguel	415661	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 59	CMC279057	San Miguel	415662	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 60	CMC279058	San Miguel	415663	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 61	CMC279059	San Miguel	415664	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 62	CMC279060	San Miguel	415665	T44N	R18W	28, 33	2010-12-23	Slick Rock	CO
SR 63	CMC279061	San Miguel	415666	T44N	R18W	33	2010-12-23	Slick Rock	CO
SR 64	CMC279062	San Miguel	415667	T44N	R18W	32, 33	2010-12-23	Slick Rock	CO
SR 65	CMC279063	San Miguel	415668	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 66	CMC279064	San Miguel	415669	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 67	CMC279065	San Miguel	415670	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 68	CMC279066	San Miguel	415671	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 69	CMC279067	San Miguel	415672	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 70	CMC279068	San Miguel	415673	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 71	CMC279069	San Miguel	415674	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 72	CMC279070	San Miguel	415675	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 73	CMC279071	San Miguel	415676	T44N	R18W	27, 28	2010-12-23	Slick Rock	CO
SR 74	CMC279072	San Miguel	415677	T44N	R18W	27, 28	2010-12-23	Slick Rock	CO
SR 75	CMC279073	San Miguel	415678	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 76	CMC279074	San Miguel	415679	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 77	CMC279075	San Miguel	415680	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 78	CMC279076	San Miguel	415681	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 79	CMC279077	San Miguel	415682	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 80	CMC279078	San Miguel	415683	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 81	CMC279079	San Miguel	415684	T44N	R18W	27	2010-12-23	Slick Rock	CO
SR 82	CMC279080	San Miguel	415685	T44N	R18W	27, 28	2010-12-23	Slick Rock	CO
SR 83	CMC279081	San Miguel	415686	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 84	CMC279082	San Miguel	415687	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 85	CMC279083	San Miguel	415688	T44N	R18W	28	2010-12-23	Slick Rock	CO
SR 86	CMC279084	San Miguel	415689	T44N	R18W	21, 22, 27, 28	2010-12-23	Slick Rock	CO

SR 87	CMC279085	San Miguel	415690	T44N	R18W	21, 28	2010-12-23	Slick Rock	CO
SR 88	CMC279086	San Miguel	415691	T44N	R18W	21, 27	2010-12-23	Slick Rock	CO
SR 89	CMC283041	San Miguel	422087	T44N	R18W/19 W	19/24	2011-12-29	Slick Rock	CO
SR 90	CMC283042	San Miguel	422088	T44N	R18W/19 W	19/24	2011-12-29	Slick Rock	CO
SR 91	CMC283043	San Miguel	422089	T44N	R18W	19	2011-12-30	Slick Rock	CO
SR 92	CMC283044	San Miguel	422090	T44N	R18W	19	2011-12-30	Slick Rock	CO
SR 93	CMC283045	San Miguel	422091	T44N	R18W	19, 30	2011-12-30	Slick Rock	CO
SR 94	CMC283046	San Miguel	422092	T44N	R18W	30	2012-01-05	Slick Rock	CO
SR 95	CMC283047	San Miguel	422093	T44N	R18W	30	2012-01-05	Slick Rock	CO
SR 96	CMC283048	San Miguel	422094	T44N	R18W	29	2012-01-06	Slick Rock	CO
SR 97	CMC283049	San Miguel	422095	T44N	R18W	29	2012-01-06	Slick Rock	CO
SR 98	CMC283050	San Miguel	422096	T44N	R18W	32	2012-01-06	Slick Rock	CO
SR 99	CMC283051	San Miguel	422097	T44N	R18W	20, 21	2012-01-06	Slick Rock	CO
SR 100	CMC283052	San Miguel	422098	T44N	R18W	21	2012-01-06	Slick Rock	CO
SR 101	CMC283053	San Miguel	422099	T44N	R18W	21, 28	2012-01-06	Slick Rock	CO
SR 102	CMC283054	San Miguel	422100	T44N	R18W	28	2012-01-06	Slick Rock	CO
SR 103	CMC283055	San Miguel	422101	T44N	R18W	21, 28	2012-01-07	Slick Rock	CO
SR 104	CMC283056	San Miguel	422102	T44N	R18W	21, 22, 27, 28	2012-01-07	Slick Rock	CO
SR 105	CMC283057	San Miguel	422103	T44N	R18W	22, 27	2012-01-07	Slick Rock	CO
SR 106	CMC283058	San Miguel	422104	T44N	R18W	22, 27	2012-01-07	Slick Rock	CO
SR 107	CMC283059	San Miguel	422105	T44N	R18W	22, 27	2012-01-07	Slick Rock	CO
SR 108	CMC283060	San Miguel	422106	T44N	R18W	22	2012-01-07	Slick Rock	CO
SR 109	CMC283061	San Miguel	422107	T44N	R18W	22	2012-01-07	Slick Rock	CO
Burro 1	CMC253058	San Miguel	371304	T44N	R18W	30	2004-12-16	Slick Rock	CO
Burro 2	CMC253059	San Miguel	371305	T44N	R18W	30	2004-12-16	Slick Rock	CO
Burro 3	CMC253060	San Miguel	371306	T44N	R18W	30	2004-12-16	Slick Rock	CO
Burro 4	CMC253061	San Miguel	371307	T44N	R18W	30	2004-12-16	Slick Rock	CO
Burro 5	CMC253062	San Miguel	371308	T44N	R18W	29, 30	2004-12-16	Slick Rock	CO
Burro 6	CMC253063	San Miguel	371309	T44N	R18W	29	2004-12-16	Slick Rock	CO
Burro 7	CMC253064	San Miguel	371310	T44N	R18W	29	2004-12-16	Slick Rock	CO
Burro 8	CMC253065	San Miguel	371311	T44N	R18W	29	2004-12-16	Slick Rock	CO
Burro 9	CMC253066	San Miguel	371312	T44N	R18W	29	2004-12-16	Slick Rock	CO
Burro 10	CMC253067	San Miguel	371313	T44N	R18W	29	2004-12-16	Slick Rock	CO
Burro 11	CMC253068	San Miguel	371314	T44N	R18W	29	2004-12-16	Slick Rock	CO
Burro 12	CMC253069	San Miguel	371315	T44N	R18W	28, 29	2004-12-16	Slick Rock	CO
Burro 13	CMC253070	San Miguel	371316	T44N	R18W	28, 29	2004-12-16	Slick Rock	CO
Burro 14	CMC253071	San Miguel	371317	T44N	R18W	19, 30	2004-12-16	Slick Rock	CO
Burro 15	CMC253072	San Miguel	371318	T44N	R18W	19, 30	2004-12-16	Slick Rock	CO
Burro 16	CMC253073	San Miguel	371319	T44N	R18W	19, 30	2004-12-16	Slick Rock	CO
Burro 17	CMC253074	San Miguel	371320	T44N	R18W	19, 30	2004-12-16	Slick Rock	CO
Burro 18	CMC253075	San Miguel	371321	T44N	R18W	19, 20	2004-12-16	Slick Rock	CO
Burro 19	CMC253076	San Miguel	371322	T44N	R18W	28, 29	2004-12-16	Slick Rock	CO

Burro 19A	CMC253077	San Miguel	371790	T44N	R18W	19	2005-01-04	Slick Rock	CO
Burro 20	CMC253078	San Miguel	371789	T44N	R18W	19	2005-01-04	Slick Rock	CO
Burro 21	CMC253079	San Miguel	371788	T44N	R18W	19	2005-01-04	Slick Rock	CO
Burro 22	CMC253080	San Miguel	371787	T44N	R18W	19	2005-01-04	Slick Rock	CO
Burro 23	CMC253081	San Miguel	371791	T44N	R18W	19, 20	2005-01-04	Slick Rock	CO
Burro 24	CMC254570	San Miguel	373707	T44N	R18W	20, 29	2005-03-23	Slick Rock	CO
Burro 25	CMC254571	San Miguel	373708	T44N	R18W	20, 29	2005-03-23	Slick Rock	CO
Burro 26	CMC254572	San Miguel	373709	T44N	R18W	20, 29	2005-03-23	Slick Rock	CO
Burro 27	CMC254573	San Miguel	373710	T44N	R18W	20, 29	2005-03-23	Slick Rock	CO
Burro 28	CMC254574	San Miguel	373711	T44N	R18W	20, 29	2005-03-23	Slick Rock	CO
Burro 29	CMC254575	San Miguel	373712	T44N	R18W	20, 29	2005-03-23	Slick Rock	CO
Burro 30	CMC254576	San Miguel	373713	T44N	R18W	20, 21, 28, 29	2005-03-23	Slick Rock	CO
Burro 31	CMC254577	San Miguel	373714	T44N	R18W	21, 28	2005-03-23	Slick Rock	CO
Burro 32	CMC254578	San Miguel	373715	T44N	R18W	20	2005-03-24	Slick Rock	CO
Burro 33	CMC254579	San Miguel	373716	T44N	R18W	20	2005-03-24	Slick Rock	CO
Burro 34	CMC254580	San Miguel	373717	T44N	R18W	20	2005-03-24	Slick Rock	CO
Burro 35	CMC254581	San Miguel	373718	T44N	R18W	20	2005-03-24	Slick Rock	CO
Burro 36	CMC254582	San Miguel	373719	T44N	R18W	20	2005-03-24	Slick Rock	CO
Burro 37	CMC254583	San Miguel	373720	T44N	R18W	20	2005-03-24	Slick Rock	CO
Burro 38	CMC254584	San Miguel	373721	T44N	R18W	20, 21	2005-03-24	Slick Rock	CO
Burro 39	CMC254585	San Miguel	373722	T44N	R18W	21	2005-03-24	Slick Rock	CO
Burro 40	CMC254586	San Miguel	373723	T44N	R18W	28, 29	2005-03-25	Slick Rock	CO
Burro 41	CMC254587	San Miguel	373724	T44N	R18W	28, 29	2005-03-25	Slick Rock	CO
Burro 42	CMC254588	San Miguel	373725	T44N	R18W	28, 29	2005-03-25	Slick Rock	CO
Burro 43	CMC254593	San Miguel	373726	T44N	R18W	19	2005-03-25	Slick Rock	CO
Burro 44	CMC254594	San Miguel	373727	T44N	R18W	19	2005-03-25	Slick Rock	CO
Burro 45	CMC254595	San Miguel	373728	T44N	R18W	19	2005-03-25	Slick Rock	CO
Burro 46	CMC254596	San Miguel	373729	T44N	R18W	19	2005-03-25	Slick Rock	CO
Burro 47	CMC254597	San Miguel	373730	T44N	R18W	19, 20	2005-03-25	Slick Rock	CO
Burro 48	CMC254598	San Miguel	373731	T44N	R18W	20	2005-03-26	Slick Rock	CO
Burro 49	CMC254599	San Miguel	373732	T44N	R18W	20	2005-03-26	Slick Rock	CO
Burro 50	CMC254600	San Miguel	373733	T44N	R18W	20	2005-03-26	Slick Rock	CO
Burro 51	CMC254601	San Miguel	373734	T44N	R18W	20	2005-03-26	Slick Rock	CO
Burro 52	CMC254602	San Miguel	373735	T44N	R18W	20	2005-03-26	Slick Rock	CO
Burro 53	CMC254603	San Miguel	373736	T44N	R18W	20	2005-03-26	Slick Rock	CO
Burro 54	CMC254604	San Miguel	373737	T44N	R18W	19	2005-03-26	Slick Rock	CO
Burro 55	CMC254605	San Miguel	373738	T44N	R18W	19	2005-03-26	Slick Rock	CO
Burro 56	CMC254606	San Miguel	373739	T44N	R18W	19	2005-03-27	Slick Rock	CO
Burro 57	CMC254607	San Miguel	373740	T44N	R18W	19	2005-03-26	Slick Rock	CO
Burro 58	CMC254550	San Miguel	373741	T44N	R18W	28, 29	2005-03-28	Slick Rock	CO
Burro 59	CMC254551	San Miguel	373742	T44N	R18W	28, 33	2005-03-28	Slick Rock	CO
Burro 60	CMC254552	San Miguel	373743	T44N	R18W	28	2005-03-28	Slick Rock	CO
Burro 61	CMC254553	San Miguel	373744	T44N	R18W	28	2005-03-28	Slick Rock	CO

Burro 62	CMC254554	San Miguel	373745	T44N	R18W	28	2005-03-29	Slick Rock	CO
Burro 63	CMC254555	San Miguel	373746	T44N	R18W	28	2005-03-29	Slick Rock	CO
Burro 64	CMC254556	San Miguel	373747	T44N	R18W	28	2005-03-29	Slick Rock	CO
Burro 65	CMC254557	San Miguel	373748	T44N	R18W	28	2005-03-29	Slick Rock	CO
Burro 66	CMC254558	San Miguel	373749	T44N	R18W	28	2005-03-29	Slick Rock	CO
Burro 67	CMC254559	San Miguel	373750	T44N	R18W	28	2005-03-29	Slick Rock	CO
Burro 68	CMC254560	San Miguel	373751	T44N	R18W	28	2005-03-30	Slick Rock	CO
Burro 69	CMC254561	San Miguel	373752	T44N	R18W	28	2005-03-30	Slick Rock	CO
Burro 70	CMC254562	San Miguel	373753	T44N	R18W	28	2005-03-30	Slick Rock	CO
Burro 71	CMC254563	San Miguel	373754	T44N	R18W	28	2005-03-30	Slick Rock	CO
Burro 72	CMC254564	San Miguel	373755	T44N	R18W	28	2005-03-31	Slick Rock	CO
Burro 73	CMC254565	San Miguel	373756	T44N	R18W	21, 28	2005-03-31	Slick Rock	CO
Burro 76	CMC254568	San Miguel	373759	T44N	R18W	21, 28	2005-04-01	Slick Rock	CO
Burro 77	CMC254569	San Miguel	373760	T44N	R18W	21, 28	2005-04-01	Slick Rock	CO
BC 1	CMC264679	San Miguel	391965	T44N	R18W	28	2007-03-04	Slick Rock	CO
BC 2	CMC264680	San Miguel	391966	T44N	R18W	28	2007-03-04	Slick Rock	CO
BC 3	CMC264681	San Miguel	391967	T44N	R18W	20, 29	2007-03-03	Slick Rock	CO
BC 4	CMC264682	San Miguel	391968	T44N	R18W	20, 29	2007-03-03	Slick Rock	CO
BC 5	CMC264683	San Miguel	391969	T44N	R18W	20, 29	2007-03-03	Slick Rock	CO
BC 6	CMC264684	San Miguel	391970	T44N	R18W	20, 29	2007-03-03	Slick Rock	CO
BC 7	CMC264685	San Miguel	391971	T44N	R18W	20, 29	2007-03-03	Slick Rock	CO
BC 8	CMC264686	San Miguel	391972	T44N	R18W	20, 29	2007-03-03	Slick Rock	CO
BC 9	CMC264687	San Miguel	391973	T44N	R18W	20, 21, 28, 29	2007-03-03	Slick Rock	CO
BC 10	CMC264688	San Miguel	391974	T44N	R18W	21, 28	2007-03-03	Slick Rock	CO
BC 11	CMC264689	San Miguel	391975	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 12	CMC264690	San Miguel	391976	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 13	CMC264691	San Miguel	391977	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 14	CMC264692	San Miguel	391978	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 15	CMC264693	San Miguel	391979	T44N	R18W	19, 20	2007-03-03	Slick Rock	CO
BC 16	CMC264694	San Miguel	391980	T44N	R18W	20	2007-03-03	Slick Rock	CO
BC 17	CMC264695	San Miguel	391981	T44N	R18W	20	2007-03-03	Slick Rock	CO
BC 18	CMC264696	San Miguel	391982	T44N	R18W	20	2007-03-03	Slick Rock	CO
BC 19	CMC264697	San Miguel	391983	T44N	R18W	20	2007-03-03	Slick Rock	CO
BC 20	CMC264698	San Miguel	391984	T44N	R18W	20	2007-03-03	Slick Rock	CO
BC 21	CMC264699	San Miguel	391985	T44N	R18W	20	2007-03-03	Slick Rock	CO
BC 22	CMC264700	San Miguel	391986	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 23	CMC264701	San Miguel	391987	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 24	CMC264702	San Miguel	391988	T44N	R18W	19	2007-03-03	Slick Rock	CO
BC 25	CMC264703	San Miguel	391989	T44N	R18W	19	2007-03-03	Slick Rock	CO