**UNITED STATES**
**SECURITIES AND EXCHANGE COMMISSION**
**Washington, D.C. 20549**

# FORM 8-K

**CURRENT REPORT**
**Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

**February 8, 2022**
Date of Report (Date of earliest event reported)

## URANIUM ENERGY CORP.
(Exact name of registrant as specified in its charter)

| Nevada | 001-33706 | 98-0399476 |
|---|---|---|
| (State or other jurisdiction of incorporation) | (Commission File Number) | (IRS Employer Identification No.) |

| 1030 West Georgia Street, Suite 1830<br>Vancouver, British Columbia | V6E 2Y3 |
|---|---|
| (Address of principal executive offices) | (Zip Code) |

**(604) 682-9775**
Registrant's telephone number, including area code

**Not applicable.**
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

| | |
|---|---|
| ☐ | Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425) |
| ☐ | Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12) |
| ☐ | Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b)) |
| ☐ | Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c)) |

Securities registered pursuant to Section 12(b) of the Act:

| Title of each class | Trading Symbol (s) | Name of each exchange on which registered |
|---|---|---|
| Common Stock | UEC | NYSE American |

Indicate by check mark whether the registrant is an emerging growth company as defined in as defined in Rule 405 of the Securities Act of 1933 (Section 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (Section 240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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**Item 8.01 Other Events**

Uranium Energy Corp. has completed a Technical Report Summary Mineral Resources Report for its Reno Creek Project, Campbell County, Wyoming having an effective date of December 31, 2021.

A copy of such Technical Report Summary is attached as Exhibit 96.1 hereto.

**Item 9.01 Financial Statements and Exhibits**

**(a) Financial Statements of Business Acquired**

Not applicable.

**(b) Pro forma Financial Information**

Not applicable.

**(c) Shell Company Transaction**

Not applicable.

**(d) Exhibits**

| Exhibit | Description |
|---|---|
| 23.1 | Consent of Benjamin J. Schiffer |
| 23.2 | Consent of WWC Engineering |
| 96.1 | Technical Report Summary Mineral Resource Report Reno Creek Project Campbell County, WY, effective date December 31, 2021 |
| 104 | Cover Page Interactive Data File (the cover page XBRL tags are embedded within the inline XBRL document) |

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**URANIUM ENERGY CORP.**

**DATE: February 8, 2022**

By: */s/ Pat Obara*
**Pat Obara, Secretary and**
**Chief Financial Officer**

__________

**CONSENT OF BENJAMIN J. SCHIFFER**

The undersigned hereby consents to:

(i) The filing of the technical report summary entitled "S-K 1300 Initial Assessment Mineral Resource Report Reno Creek Project Campbell County, WY USA" dated December 31, 2021 (the "TRS") filed as Exhibit 96.1 to the Current Report on Form 8-K dated February 8, 2022 (the "8-K") of Uranium Energy Corp. (the "Company") being filed with the United States Securities and Exchange Commission;

(ii) The incorporation by reference of such TRS attached as Exhibit 96.1 to the 8-K into the Company's Form S-3 Registration Statements (File Nos. 333-160565, 333-164256, 333-165223, 333-170800, 333-192401, 333-198196, 333-198601, 333-208013, 333-210552, 333-218025, 333-220404, 333-223881, 333-225059, 333-229382, 333-235878, 333-236571, 333-251508 and 333-256170), and any amendments thereto (the "S-3s");

(iii) The incorporation by reference of such TRS attached as Exhibit 96.1 to the 8-K into the Company's Form S-8 Registration Statements (File Nos. 333-147626, 333-162264, 333-172092, 333-192462, 333-201423, 333-213500, 333-227023, 333-233736, 333-249679 and 333-262197), and any amendments thereto (the "S-8s"); and

(iv) The use of my name in the S-3s and the S-8s.

/s/ Benjamin J. Schiffer
**Benjamin J. Schiffer**

Date: February 8, 2022

**CONSENT OF WWC ENGINEERING**

The undersigned hereby consents to:

(i) The filing of the technical report summary entitled "S-K 1300 Initial Assessment Mineral Resource Report Reno Creek Project Campbell County, WY USA" dated December 31, 2021 (the "TRS") filed as Exhibit 96.1 to the Current Report on Form 8-K dated February 8, 2022 (the "8-K") of Uranium Energy Corp. (the "Company") being filed with the United States Securities and Exchange Commission;

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(iv) The use of our name in the S-3s and the S-8s.

**WWC ENGINEERING**

/s/ Jack W. Fritz
Name: Jack W. Fritz
Title: Secretary, Director of Operations

Date: February 8, 2022

Exhibit 96.1

Technical Report Summary

# S-K 1300 Initial Assessment Mineral Resource Report Reno Creek Project Campbell County, WY USA

Prepared for:

Uranium Energy Corporation

WWC Engineering

Effective Date: December 31, 2021

Signed Date: January 31, 2022

**S-K 1300 TECHNICAL REPORT SUMMARY MINERAL RESOURCE REPORT**
**RENO CREEK PROJECT CAMPBELL COUNTY, WY USA**

Prepared for: Uranium Energy Corporation
500 North Shoreline Boulevard, Suite 800N
Corpus Christi, TX 78401

Prepared by: WWC Engineering
1849 Terra Avenue
Sheridan, Wyoming 82801
(307) 672-0761
Fax: (307) 674-4265

Prepared under the supervision of: Benjamin J. Schiffer, P.G.

WWC ENGINEERING
Serving the Rocky Mountain region since 1980.
www.wwcengineering.com

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**TABLES**



**FIGURES**

**FIGURES (Continued)**

## 1.0 EXECUTIVE SUMMARY

The Reno Creek Project (Project) consists of five Resource Areas: North Reno Creek, Southwest, Moore, Pine Tree, and Bing. The Project is located in the Pumpkin Buttes Uranium District in Campbell County, Wyoming in the south-central portion of the Powder River Basin (PRB). The Project is located 7.5 miles southwest of Wright, Wyoming. The planned mining method for the Project is by In-Situ Recovery (ISR) mining.

UEC operates the Project under its fully owned subsidiary AUC LLC (AUC) and has executed surface use and access agreements and fee mineral leases with landowners who hold surface and mineral ownership within and outside of the approved ISR Permit to Mine boundary. Additionally, UEC owns a 40-acre site which will house the Central Processing Plant (CPP). UEC also holds unpatented Bureau of Land Management (BLM) lode claims and leases on state land at the Project.

The uranium deposits within the Project area occur in medium to coarse-grained sand facies in the lower portion of the Eocene-age Wasatch Formation. The uranium mineralization occurs as interstitial fillings between and coatings on the sand grains along roll front trends formed at a geochemical interface within the host sandstone aquifers. Sinuous fronts of mineralization occur in up to five sandstone units. Stacking of roll front mineralization occurs at many places throughout the Project causing resources to occur at different stratigraphic levels in the same area.

To date, data from 10,151 drill holes that have been drilled by previous uranium exploration companies on, and nearby, the five Resource Areas are held by UEC. Data from the drilling, including survey coordinates, collar elevations, depths, and grade of uranium intercepts, have been incorporated into UEC's database.

At this time, no construction of uranium processing or uranium recovery wellfields has taken place at the Project and for regulatory purposes is in a pre-construction, standby mode.

The in-place resource was estimated separately for each roll front in each of the Resource Areas. The roll front resources were summed for each unit. The Project contains a measured resource of 12.92 million pounds of $U_3O_8$ in place, an indicated resource of 13.07 million pounds of $U_3O_8$ in-place and contains 1.49 million pounds of inferred mineral resources in-place (Tables 1-1 and 1-2).

Summary capital and operating cost estimates are not included with this Technical Report Summary (TRS) since UEC is reporting the results of an initial assessment (IA). No summary of estimated capital or operational expenditures is provided herein since this is only an IA.

The Project is fully permitted and UEC is in possession of the two primary permitting documents required for operation of the Project: the Wyoming Department of Environmental Quality Land Quality Division (WDEQ/LQD) Permit to Mine and the Nuclear Regulatory Commission (NRC) Source and Byproduct Material License. However, Moore, Pine Tree and Bing Resource Areas are not currently part of either of the key authorizations required to recover uranium.

Key conclusions and recommendations from the QP are bulleted below.

- The QP considers the scale and quality of the mineral resources at the Project to indicate favorable conditions for future extraction.

- UEC develop a Preliminary Feasibility Study for the Project, obtain required regulatory authorizations required to mine at the Pine Tree, Bing, and Moore Resource Areas, and continue to maintain mining claims and mineral leases.

**Table 1-1: Measured & Indicated Mineral Resources**

| Unit | Tons (millions) | Weighted Average Thickness (feet) | Weighted Average Grade (% $U_3O_8$) | Pounds $U_3O_8$ (millions) |
|---|---|---|---|---|
| North Reno Creek | | | | |
| Measured | 7.12 | 14.3 | 0.042 | 5.96 |
| Indicated | 8.05 | 11.7 | 0.036 | 5.76 |
| Southwest Reno Creek | | | | |
| Measured | 4.68 | 12.9 | 0.043 | 3.94 |
| Indicated | 4.08 | 10.4 | 0.038 | 3.08 |
| Moore | | | | |
| Measured | 2.32 | 10.3 | 0.048 | 2.20 |
| Indicated | 2.31 | 9.0 | 0.042 | 1.92 |
| Bing | | | | |
| Measured | 0.30 | 14.6 | 0.038 | 0.23 |
| Indicated | 0.71 | 12.4 | 0.032 | 0.45 |
| Pine Tree | | | | |
| Measured | 0.57 | 14.0 | 0.056 | 0.63 |
| Indicated | 1.83 | 12.2 | 0.051 | 1.87 |
| Reno Creek Project | | | | |
| Measured | 14.99 | 13.2 | 0.043 | 12.92 |
| Indicated | 16.98 | 11.1 | 0.039 | 13.07 |
| M + I Total | 31.99 | 12.1 | 0.041 | 26.01 |

Notes:
1 - Mineral Resources are not mineral reserves and do not have demonstrated economic viability;
2 - Columns may not add due to rounding

**Table 1-2: Inferred Mineral Resources**

| Resource Area | Tons (millions) | Weighted Average Thickness (feet) | Weighted Average Grade (%$U_3O_8$) | Pounds $U_3O_8$ (millions) |
|---|---|---|---|---|
| North Reno Creek | | | | |
| Inferred | 1.57 | 9.7 | 0.040 | 1.26 |
| Southwest Reno Creek | | | | |
| Inferred | 0.20 | 0.86 | 0.033 | 0.13 |
| Moore | | | | |
| Inferred | 0.13 | 8.0 | 0.035 | 0.09 |
| Bing | | | | |
| Inferred | 0.00 | 0.0 | 0.00 | 0.00 |
| Pine Tree | | | | |
| Inferred | 0.02 | 6.8 | 0.040 | 0.01 |
| Reno Creek Project | | | | |
| Inferred Total | 1.92 | 9.5 | 0.039 | 1.49 |

Notes:
1 - Mineral Resources are not mineral reserves and do not have demonstrated economic viability;
2 - Columns may not add due to rounding

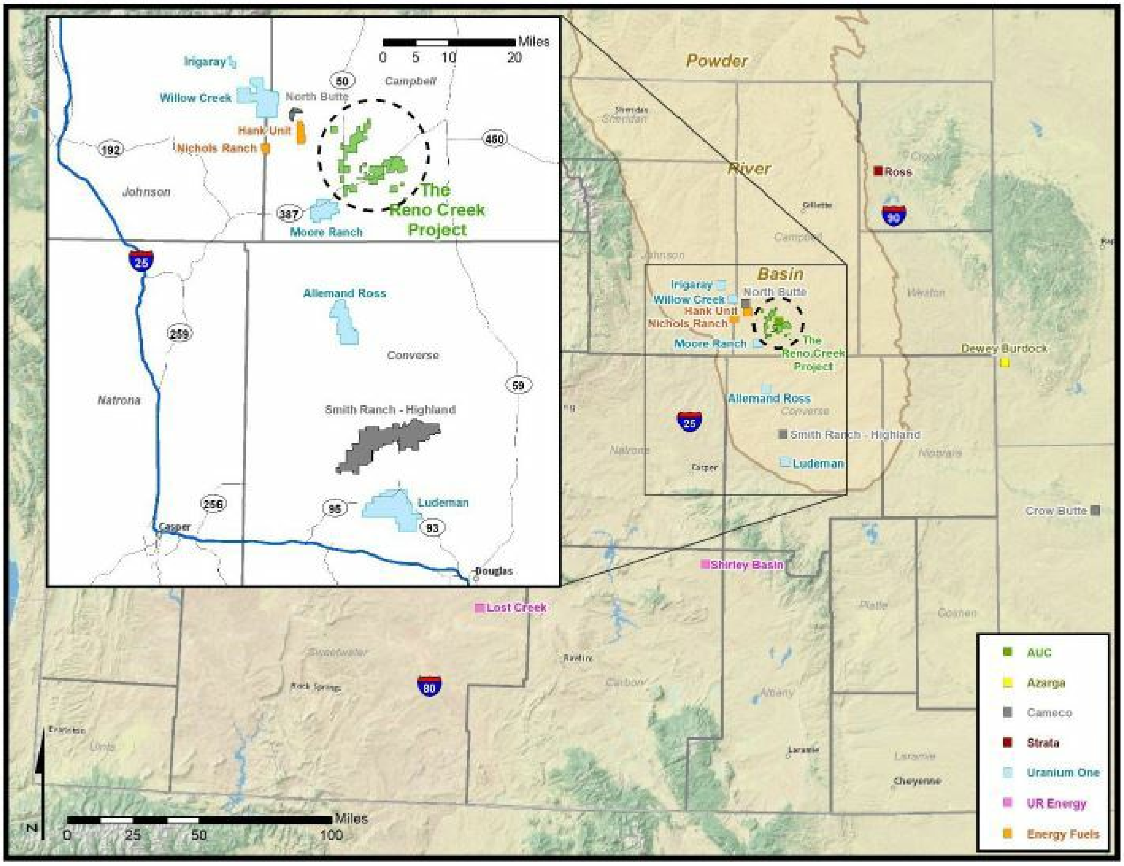
# 2.0 INTRODUCTION

## 2.1 Registrant

This technical report summary (TRS) was prepared for Uranium Energy Corp (UEC) on the Reno Creek In-Situ Recovery (ISR) Project (the Project), located in Campbell County, Wyoming, USA (Figure 2-1). UEC is incorporated in the State of Nevada, with principal offices located at 500 North Shoreline Boulevard, Suite 800N, Corpus Christi, Texas, 78401, and at 1030 West Georgia Street, Suite 1830, Vancouver, British Columbia, Canada, V6E 2Y3.

This independent Technical Report Summary was prepared for UEC by WWC Engineering (WWC) under the supervision of Benjamin Schiffer, P.G.

**Figure 2-1: Project Location Plan**




## 2.2 Terms of Reference

AUC Holdings (US), Inc and AUC LLC (AUC) are fully owned subsidiaries of UEC. The Project is operated by AUC and this TRS has been prepared for UEC to report mineral resources for the Project located in Campbell County, Wyoming.

### 2.3 Information Sources and References

The information and data presented in this TRS was gathered from various sources listed in Section 24 and 25 of this TRS.

Data sources of the estimation of uranium mineral resources for the Project include 10,151 drill holes including survey coordinates, collar elevations, depths, and grade of uranium intercepts.

Units of measurement unless otherwise indicated are feet (ft), miles, acres, pounds (lbs), and short tons (2,000 lbs). Uranium production is expressed as pounds $U_3O_8$, the standard market unit. ISR refers to in-situ recovery, sometimes also termed in-situ leach (ISL). Unless otherwise indicated, all references to dollars ($) refer to United States currency.

### 2.4 Inspection on the Property by Each Qualified Person

Mr. Schiffer completed a site inspection on December 29, 2021.

#### 2.4.1 QP Qualifications

Benjamin Schiffer, P.G. is the independent Qualified Person (QP) responsible for the preparation of this TRS and the mineral estimates herein. Mr. Schiffer is a QP under the S-K 1300 standards responsible for the content of this TRS and a Professional Geologist with 26 years of professional experience.

### 2.5 Previous Technical Report Summaries

UEC has not previously filed a TRS on the Project.

# 3.0 PROPERTY DESCRIPTION

## 3.1 Property Description and Location

The Project is in Campbell County, Wyoming, USA., approximately 7.5 miles southwest of the town of Wright and comprises five separate areas referred to in this TRS as Resource Areas individually named based on exploration history and location (Figure 3-1), called the North Reno Creek, Southwest Reno Creek, Moore, Pine Tree, and Bing Resource Areas.

The contiguous North and Southwest Reno Creek Resource Areas are consolidated and fully permitted for mining by ISR methods. The Moore Resource Area lies approximately five miles to the northwest of the permitted Resource Areas. The Pine Tree Resource Area lies approximately five miles to the southwest of the Permitted Resource Areas, immediately southeast of the intersection of U.S. Highway 387 and Wyoming Highway 50, also known as Pine Tree Junction. The Bing Resource Area lies approximately 5 miles west of the Permitted Resource Areas adjacent to Wyoming Highway 50, three miles north of Pine Tree Junction.

The approximate latitude and longitude location for each Resource Area in State Plane NAD83 is:

| | |
|---|---|
| North/South Reno Creek | latitude 43°40'36.23" north – longitude 105°37'21.87" west |
| Moore | latitude 43°44'50.84" north – longitude 105°43'59.56" west |
| Pine Tree | latitude 43°36'52.22" north – longitude 105°46'35.91" west |
| Bing | latitude 43°39'39.35" north – longitude 105°47'17.33" west |

## 3.2 Mineral Rights

Mineral rights at the Project are a combination of federally administered minerals (unpatented lode claims), State of Wyoming mineral leases, and private (fee) mineral leases. Federal mining claims were staked and recorded consistent with federal and state law, state mineral leases were obtained by submitting a lease application and appropriate fee to the State Board of Land Commissioners, and fee mineral leases are obtained through negotiation with individual mineral owners.

At the Project, UEC holds 549 unpatented lode claims on federally administered minerals, including the claims on and around the CPP site. These claims will remain under UEC's control, provided UEC adheres to the required BLM filing requirements that include annual payments of $165 per claim. Note that the BLM administers no surface rights at the Project, only mineral rights.

UEC has 36 fee mineral leases at the Project. The leases are held through annual payments and if their expiration date comes due, UEC renegotiates the lease to maintain control of the mineral resource.

UEC has 4 State of Wyoming mineral leases which expire in June 2024 and will be renewed by filing the proper paperwork and fee payment of $3/acre leased.

Payments for state and private leases are up to date, as of December 2021. BLM mining claim filing payments are up-to-date but are due on September 1 annually. Private mineral leases expire at different times from early 2022 to 2029. Those expiry dates are monitored by UEC and the leases are renewed as needed per the terms of each individual lease.

Collectively, UEC controls mineral lands within the Project totaling approximately 18,763 acres. The controlled lands consist of 10,980 acres of unpatented lode mining claims, 3,200 acres of State of Wyoming mineral leases, and 4,583 acres of private mineral leases. Mineral ownership status and Resource Areas are shown on Figure 3-1.

**Figure 3-1: Reno Creek ISR Project Mineral Tenure Location Plan and Resource Area Locations**

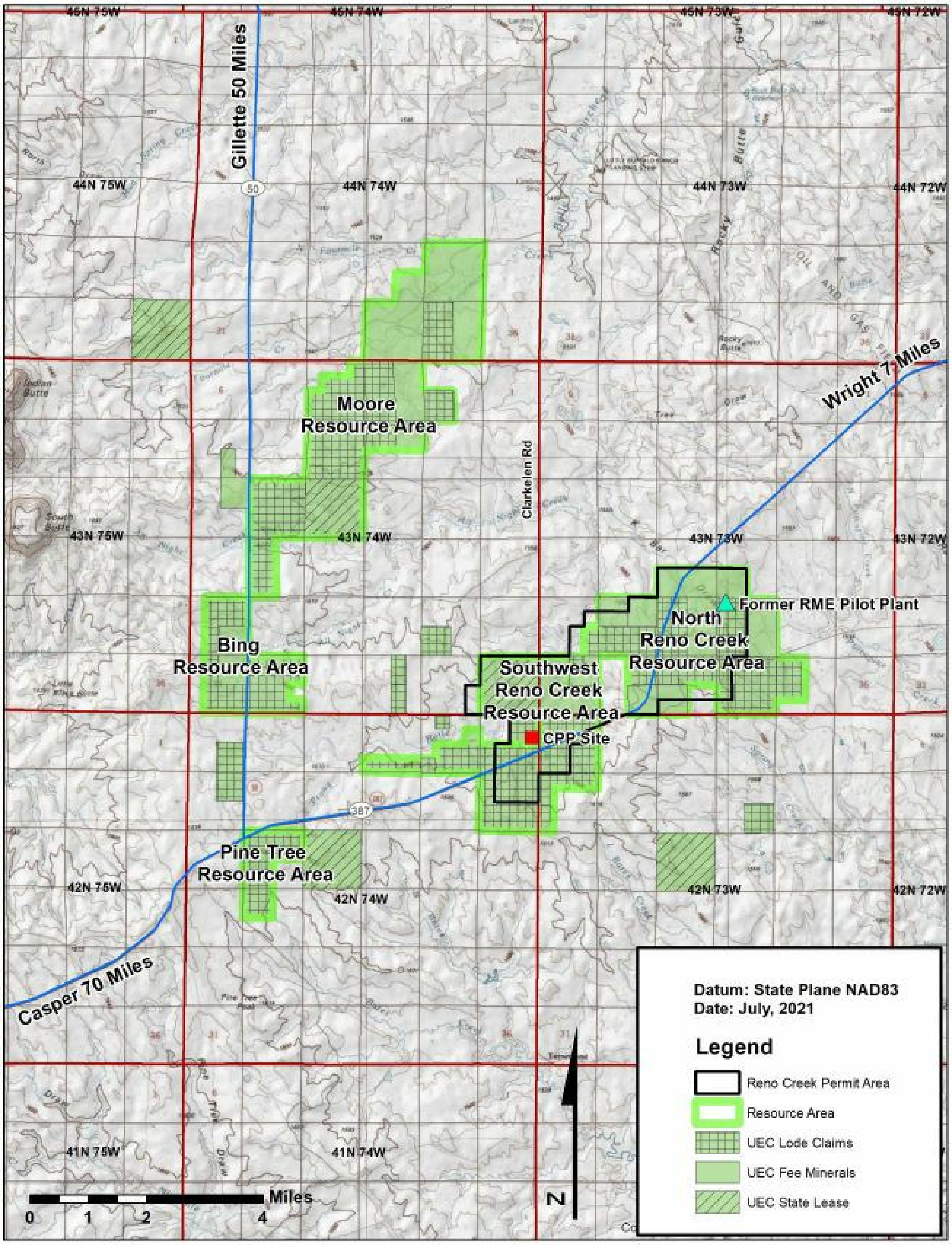


Table 3-1 summarizes the Project acreages and reports the annual holding costs for the Project.

**Table 3-1: Reno Creek ISR Project Mineral Acreage**

| Township and Range | State of Wyoming Leases | Fee Mineral Leases | Federal Lode Mining Claims | Total |
|---|---|---|---|---|
| | (Acres) | (Acres) | (Acres) | |
| T42N R73W | 640 | 0 | 1,000 | **1,640** |
| T42N R74W | 640 | 0 | 2,560 | **3,290** |
| T43N R73W | 0 | 2765 | 2,600 | **2,600** |
| T43N R74W | 1,280 | 976 | 4,460 | **6,716** |
| T44N R74W | 0 | 842 | 360 | **1,202** |
| T44N R75W | 640 | 0 | 0 | **640** |
| **Total Acres** | **3,200** | **4,583** | **10,980** | **18,763** |
| | | | | |
| | Total Annual Cost to Hold Property | $455,782 | | |

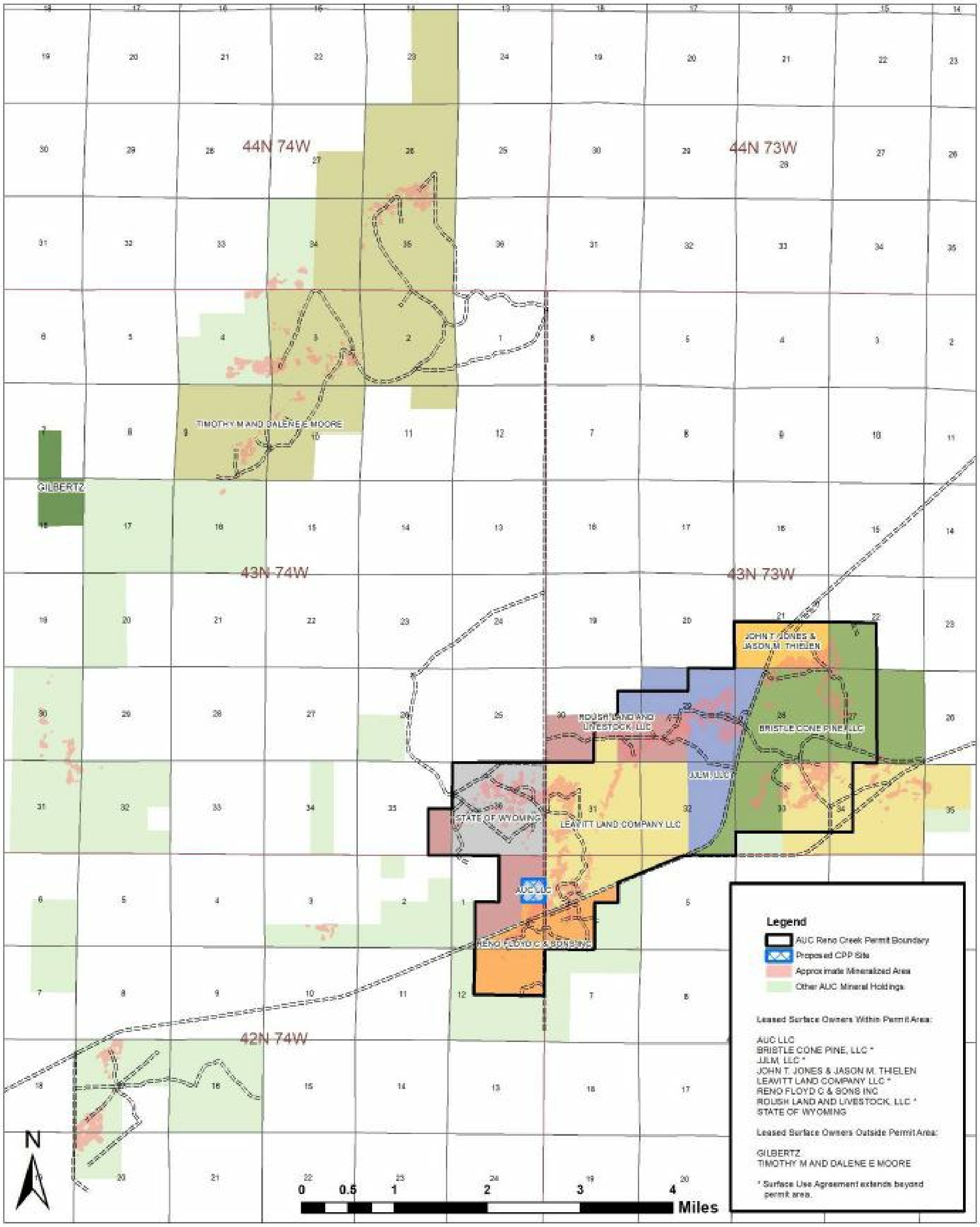
### 3.3 Surface Rights

Surface ownership at the project consists of both fee ranch lands and lands owned by the State of Wyoming. State surface ownership corresponds to state mineral ownership. There are no BLM or other federally administered surface rights within the Project. The general arrangement of surface land status including fee, unpatented mining lode claims, and state leases for the Project is shown in Figure 3-2. UEC has 13 surface use agreements (SUA) across the Project. These leases are normally secured through annual payments and if a lease is due to expire, UEC negotiates a new lease with the surface owner.

UEC executed SUAs with all landowners who hold surface ownership over minerals proposed to be mined within the ISR Permit boundary. However, UEC is currently renegotiating a SUA with one landowner within the Permit boundary. UEC also has two grazing leases with the State of Wyoming and a local rancher who leases the surface. These leases allow UEC to explore and develop the State's mineral resources on the leased sections. These leases are held through annual payments to the State and the rancher.

UEC secured the majority of SUAs needed from landowners within the Moore Resource Area. Additional access agreements associated with the Pine Tree and Bing Resource Areas will be negotiated. UEC purchased the land identified for the CPP.**Figure 3-2: Reno Creek ISR Project Area Surface Ownership Plan**

**Figure 3-2: Reno Creek ISR Project Area Surface Ownership Plan**



### 3.4 Significant Encumbrances or Risks to Perform Work on Property

#### 3.4.1 Existing and Required Permits

The following permits have been or will have been received at the time of the CPP construction:

Combined Source and 11e.(2) Byproduct Material License (10 CFR Part 40) was received from NRC in 2017 and allows UEC to possess radioactive materials (SUA-1602).

Wetland delineation was completed by US Army Corp of Engineers in 2012 and is valid for the duration of the Project;

Aquifer exemption (40 CFR 144, 146) for Class III Underground Injection Control (UIC) injection was approved by the U.S. Environmental Protection Agency (EPA) in October 2015 and is valid for the duration of mining at North and Southwest Reno Creek Resource Areas. Additional exemptions will be required for the other Resource Areas;

An air quality permit was issued by WDEQ/AQD and is required for construction activities;

Groundwater reclassification (WDEQ Title 35-11) approved by WDEQ/WQD in 2015 and is valid for the duration of mining at North and Southwest Reno Creek Resource Areas;

A Class I UIC Permit (Deep Disposal Well) (WDEQ Title 35-11) was approved by WDEQ/WQD in 2015 (Permit number 09-621) and requires renewal every 10 years at North and Southwest Reno Creek Resource Areas and allows disposal of wastewater in deep wells at the Project.

Class III UIC Permit (WDEQ Title 35-11) Permit to Mine & Class III UIC Permit application was submitted January 2013 and approved by WDEQ in July 2015 (PT-824). This is the primary permit to mine which allows injection, recovery, and processing of fluids;

Mineral Exploration Permit (WDEQ Title 35-11) – Approved Mineral Exploration Permit Drilling Notification (DN) #401 is currently in place for the exploration actions of the Project and is valid for the duration of the Project;

Construction Storm Water NPDES Permit (WDEQ Title 35-11) are obtained annually under a general permit based on projected construction activities;

Industrial Stormwater NPDES Permit (WDEQ Title 35-11) - An Industrial Stormwater NPDES will be required for the CPP Area; and

A Class V UIC permit (WDEQ Title 35-11) will be applied for following installation of an approved site septic system during facility construction.

A significant revision to the Permit to Mine was submitted to WDEQ/LQD (WDEQ Title 35-11) in April 2020 to include the North Reno Creek Project and is in progress (AUC 2020). The North Reno Creek Project was purchased after the Permit was issued and is located within the Permit boundary. Permitting for the other Resource Areas will follow as needed as part of the overall mine plan. The regulatory process is well understood and no problems are anticipated.

Wyoming State Engineer’s Office (SEO) groundwater appropriations will be applied for prior to the installation of water supply wells at the Project.

### 3.4.2 Significant Factors and Risks That May Affect Access, Title or Right to Perform Work

Due to its location in the PRB, there is the risk of oil & gas or wind energy development in the area preventing or inhibiting uranium development. Many uranium deposits occur in fairly compact areas and a large horizontal well pad or a wind turbine pad that is sited on top of mineralization could limit the owner's ability to access the mineral resource. There are numerous existing producing oil and gas wells within the Project with additional wells that are permitted or waiting on permits. The closest existing wind turbines to the Project are located on BLM land in T37N, R75W, Section 34 approximately 37 miles to the south of the Project. There is a slight risk of wind development moving to the north as the annual average wind speed at 80 meters at the Project is suitable for commercial wind development.

UEC is in the process of renegotiating a SUA within the permit boundary and additional access agreements associated with the Pine Tree and Bing Resource Areas will need to be negotiated. There is a slight risk that UEC may not receive these agreements needed to perform work.

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

## 4.1 Physiography

The Project area lies within the PRB of Wyoming, which is part of the Northwestern Great Plains eco-region, a semiarid rolling plain of shale and sandstone punctuated by occasional buttes.

Topography in the area ranges from generally flat to gently rolling hills with numerous drainages containing ephemeral streams dissecting the area. Elevations range from approximately 4,500 feet to 5,300 feet above mean sea level.

Vegetation within the Project area consists primarily of sagebrush shrubland and upland grassland, and wheatgrasses, various bunchgrasses, and shrubs. Trees within the Project area are limited in number and extent. Interspersed among these major vegetation communities, within and along the ephemeral drainages, are grassland and meadow grassland.

## 4.2 Accessibility and Local Resources

The nearest community is Wright, WY a small, incorporated town (population approximately 1,800) at the junction of Wyoming Highway 387 and Wyoming Highway 59, located 7.5 miles to the northeast of the Project. Gillette, WY a major local population center with a regional airport, is located along Interstate 90, 41 miles north of the Project via Wyoming Highway 59. The towns of Edgerton and Midwest are in Natrona County, 30 miles and 32 miles southwest of the Project, respectively, on Wyoming Highway 387. Casper, WY is a major population center with a regional airport approximately 80 miles southwest of the Project, on Interstate 25.

Access to North Reno Creek, Southwest Reno Creek, and Pine Tree Resource Areas, from the east and west, is via Wyoming Highway 387. Access to the Bing Resource Area is via Wyoming Highway 50. Access to the Moore Resource Area is via Wyoming Highway 50 and the Clarkelen Road that runs north and south and is a Campbell County-maintained all-weather gravel road.

Private, two-track roads established from the coal-bed methane development and agricultural activity provide access to other areas within the Project. No part of the Project is more than 2 miles from a public, all weather road.

A major north–south railroad, used primarily for haulage of coal, lies approximately 20 miles east of the Project.

## 4.3 Climate

The Project is located in a semi-arid or steppe climate. The region is characterized by cold harsh winters, hot dry summers, relatively warm moist springs and cool autumns. Temperature extremes range from roughly -25° F in the winter to 100° F in the summer. Typically, the “last freeze” occurs during late May and the “first freeze” mid-to-late September.

Yearly precipitation averages about 13 inches. The region is prone to severe thunderstorm events throughout the spring and early summer months and much of the precipitation is attributed to these events. Snow falls throughout the winter months (40 - 50 in/year) but provides much less moisture than rain events.

The predominant wind directions are west and west/southwest with the wind blowing from those directions over 25% of the time. Surface wind speeds are relatively high all year-round, with hourly averages from 11 - 15 mph. Higher average wind speeds are encountered during the winter months while summer months experience lower average wind speeds.

A meteorological station installed at the eastern end of the North Reno Creek Resource Area provided continuous digital hourly-averaged data for eight years. The meteorological data collected include wind speed, wind direction, sigma theta, temperature, relative humidity, barometric pressure, solar radiation, precipitation, evaporation, and evaporation pan water temperature.

## 4.4 Infrastructure

Equipment and supplies needed for exploration and day-to-day operation are available from centers such as Gillette and Casper, WY. Specialized equipment for the well fields or the CPP will likely need to be acquired from outside the state.

The local economy is geared toward coal mining and oil and gas production as well as ranching operations, providing a well-trained and capable pool of workers for ISR production and processing operations. Workers will reside locally and commute to work daily.

As a result of energy development over the past 50 years, all of the Resource Areas have existing or nearby (less than two miles) electrical power, gas, and have adequate telephone and internet connectivity.

UEC purchased 40 acres within the Southwest Reno Creek Resource Area near the intersection of Wyoming Highway 387 and the Clarkelen County Road upon which to build and operate the CPP. The site is equipped with a warehouse and office, power, telephone, water tank, and domestic waste disposal.

UEC will install groundwater wells. The water will be used to construct the CPP and to install the wells needed for mining as well as provide water for exploration and delineation boreholes. There will also be a well that will provide water for the potable water system for the CPP.

# 5.0 HISTORY

## 5.1 Prior Ownership

Between 2004 and 2007, Strathmore Minerals Corporation and American Uranium Corporation acquired lands in what is now the Project area. In 2007, the companies entered into a joint venture partnership to consolidate the Reno Creek properties under the holding company AUC. In 2010, Strathmore Minerals Corporation and American Uranium Corporation sold the North Reno Creek and Southwest Reno Creek Resource Areas and the Pine Tree, Moore, and Bing Resource Areas and the holding company, AUC, to AUC Holdings (US), Inc.

AUC Holdings (US), Inc, was a private company 100% owned by Reno Creek Resources, Inc. Reno Creek Resources, Inc. was a private company 100% owned by Reno Creek Holdings Inc (RCH). RCH was the joint venture company that contained the shares contributed by the Pacific Road Capital Resources Funds and Bayswater Uranium Corporation.

UEC purchased all the issued and outstanding shares of RCH through a share purchase agreement with each of the original Pacific Road Resources Funds and Bayswater Uranium Corporation and thereby acquired AUC and the Project effective as of May 9, 2017.

UEC acquired a portion of what is now the North Reno Creek Resource Area from Uranerz, a wholly owned subsidiary of Energy Fuels Nuclear Inc. effective as of May 1, 2018. The Uranerz property is located immediately adjacent to and within UEC's existing Reno Creek Project Permit boundary. In this report, the property acquired from Uranerz that falls within the Permit boundary is assumed to be part of the North Reno Creek Resource Area. Table 5-1 summarizes the ownership history of the Project.

## 5.2 Type, Amount, Quantity, and Results of Work by Previous Owners

### 5.2.1 Previous Drilling

To date, approximately 10,151 drill holes have been drilled by AUC and former operators on and close to the five Resource areas. Electric log gamma data are available for more than 75% of these holes, and interval data (thickness, grade, and GT) are available for about 95% of the mineralized holes.

### 5.2.2 North Reno Creek and Southwest Reno Creek Resource Areas

Rocky Mountain Energy reports, maps, and cross sections in UEC's possession indicate that Rocky Mountain Energy drilled approximately 5,800 around the North Reno Creek Resource Area of which, 1,083 holes are on the North Reno Creek Resource Area.

Uranerz completed a 50-rotary hole drilling program (20,152 feet) in August 2010. The Uranerz drilling program did not include any core holes.

American Nuclear Corporation and Tennessee Valley Authority drilled approximately 700 holes on the Southwest Reno Creek Resource Area, and while few electric logs are available, maps and data that summarize the results of the work are incorporated into UEC's database and are used for current mapping and resource estimates.

**Table 5-1: Summary of Ownership History**

| Year | Company | Operations/Activity |
|---|---|---|
| **North Reno Creek** | | |
| Late 1960s | Rocky Mountain Energy | Drilled ~5,800 exploration holes at and around North Reno Creek Resource Area delineating ~10 miles of roll front deposits |
| Mid 1970s | Rocky Mountain Energy, Mono Power Company, and Halliburton Services | Partnership formed to develop North Reno Creek Resource Area using ISR methods. |
| 1992 | Energy Fuels Nuclear Inc./International Uranium Corporation | Energy Fuels Nuclear Inc. acquired Rocky Mountain Energy's North Reno Creek Resource Area and later became International Uranium Corporation. |
| 2001 | Rio Algom Mining Corp. | Rio Algom Corp. acquired International Uranium Corporation's property. |
| 2001-2003 | Power Resources Inc. | Power Resources Inc. acquired North Reno Creek Area and dropped claims in 2003. |
| 2004 | Strathmore Minerals Corporation and American Uranium Corporation | Re-staked and filed new mining claims on approximately 16,000 acres. |
| 2007 | AUC | Advanced Project through acquisition of most major permits and required authorizations. |
| 2017 | UEC | Consolidated ownership of multiple resource areas and oversaw technical reporting and auditing of Project resources. |
| **Southwest Reno Creek** | | |
| | American Uranium Corporation and Tennessee Valley Authority JV | Controlled Southwest Reno Creek and drilled ~700 exploration holes. |
| 2007 | AUC | Advanced Project through acquisition of most major permits and required authorizations. |
| 2017 | UEC | Consolidated ownership of multiple resource areas and oversaw technical reporting and auditing of Project resources. |
| **Moore, Pine Tree, and Bing** | | |
| 1960s | Utah International Mining Company | Exploration on Moore and Pine Tree Areas |
| Late 1970s | Pathfinder Mines, Inc. | Utah International Mining Company becomes Pathfinder Mines, Inc. and continues exploration on Moore and Pine Tree Areas |
| 1980s | Rocky Mountain Energy | Obtained ownership of Moore Area, continued exploration drilling until the 1990s |
| 1960s | Cleveland-Cliffs Iron Company | Exploration of Bing Area, drilled several hundred exploration holes and conducted limited hydrologic testing in the 1970s |
| 2007 | AUC | Consolidated the Resource Areas under one owner. |
| 2017 | UEC | Oversaw technical reporting and auditing of Project resources. |

Extensive hydrologic testing was conducted by Rocky Mountain Energy to enable permitting, construction, and operation of an ISR pilot plant located near the northeast portion of the mineralized trend.

Following Rocky Mountain Energy's exit from the project, extensive hydrologic and baseline studies were performed for several years at North Reno Creek by Energy Fuels Inc. and its successor, International Uranium Corporation. International Uranium Corporation was pursuing permits for a commercial operation and installed a monitoring well ring around a mineralized area in Section 29, 43N, R73W.

### 5.2.3 Moore Resource Area

Prior to 2012, drilling was done by several companies in the Moore Resource Area. Wide-spaced drilling on traverse lines was done in the late 1960s by Cleveland-Cliffs, which had a very large land holding in the PRB at that time. Cleveland-Cliffs Iron Company drilled 177 holes in the Section 9, T43N, R74W Resource Area.

Utah International/Pathfinder Mines, Inc. began grid drilling in the late 1960s on their holdings, which included much of the Resource Area in Sections 26 and 35, T44N, R74W and a portion of Section 3, T43N, R74W. The companies drilled over 1,000 holes through the late 1970s and into the early 1980s. Drill spacing over the Resource Area is generally 200 feet with some areas being drilled on 50-100 ft spacing. That drilling resulted in identification of alteration fronts and resources in Sections 26 and 35, T44N, R74W and the east half of Section 3, T43N, R74W.

Upon acquisition of leases and claims in the Moore Resource Area in the 1980's, Rocky Mountain Energy drilled more than 400 holes on the Moore Resource Area now held by UEC. The locations were selected to extend known mineralized trends and to more closely identify alteration fronts.

In 1986, Rocky Mountain Energy installed six wells and conducted a multi-well pump test on the Moore mineralization in Section 26, T44N, R74W. This test work confirmed strongly mineralized roll front trends and determined that favorable saturated ground water conditions exist on the northern deposit on the Moore property.

### 5.2.4 Pine Tree Resource Area

Drilling by Utah International/Pathfinder, Mines Inc., in the 1970s and 1980s resulted in identification of alteration fronts in what is now UEC's Pine Tree Resource Area in Sections 17 and 20, T42N, R74W. More than 560 holes were drilled in and around the Pine Tree Resource Area with two mineralized areas found in Sections 17 and 20, T42N, R74W. The mineralized areas lie about 1,500 feet apart. Drilling was done on a 200-foot offset grid. The majority of drilling was completed by the mid-1970s.

### 5.2.5 Bing Resource Area

From 1968 to 1982, Cleveland-Cliffs Iron Company drilled 109,000 feet in the general Bing Resource Area including wells constructed for pump testing purposes. Cleveland-Cliff Iron Company's pump test data from one of the tests indicated that pumping rates of over 20 gallons per minute (gpm) were achieved.

## 5.3 Historic Production

Limited production (approximately 1,200 pounds of $U_3O_8$) occurred at Rocky Mountain Energy's pilot ISR operation, located in the North Reno Creek Resource Area. Rocky Mountain Energy applied for and received a research and development (R&D) pilot plant license in 1978 from the NRC and WDEQ. Rocky Mountain Energy tested two injection/recovery patterns under the license (Rocky Mountain Energy, 1981, 1982, and 1983). Both were conducted in an area of lower grade mineralization (0.038% $U_3O_8$) than the average of the deposit areas.

In January 1979, Rocky Mountain Energy completed a 100-gpm pilot plant. Two test patterns were installed and operated. Pattern #1 used a sulfuric acid lixiviant at a pH of 1.7 because of high recoveries indicated in amenability tests. Testing at Pattern #1 began in February 1979 and was terminated in November 1979 because results from this pattern were unsatisfactory. Severe permeability losses were noted and despite attempts to improve recovery and injectivity, the acid pattern ultimately proved that this formation could not be leached effectively using acid lixiviants.

Restoration and stabilization of the groundwater of Pattern #1 was acknowledged and signed off by the NRC in March 1986. UEC possesses reports and letters from government agencies documenting hydrologic conditions, operation of the well fields, restoration, and regulatory signoff of the facility (Rocky Mountain Energy, 1983).

Operation of Pattern #2 began in October 1980 using a sodium carbonate ($Na_2CO_3$)/sodium bicarbonate ($NaHCO_3$) lixiviant and hydrogen peroxide ($H_2O_2$) oxidant. Pattern #2 was constructed as a modified five-spot pattern, consisting of two recovery wells, four injection wells, and six monitor wells and operated from October 1980 to December 1980. The results, coupled with the column leach test results, led Rocky Mountain Energy to switch to carbonate lixiviant for additional testing and commercial development. Uranium recovery and average head grade were especially encouraging. Uranium head grade peaked at 65 mg/L and approximately 1,200 pounds of $U_3O_8$ were recovered. In order to demonstrate restoration, leaching was stopped while $U_3O_8$ concentrations were still at 15 mg/L.

Restoration of Pattern #2 began in December 1980 and continued until April 16, 1983. All groundwater parameters returned to baseline ranges with the exception of pH, uranium, and vanadium. Of these parameters, all were either below WDEQ Class I Groundwater Standards or do not have Class I maximum concentration limits (Rocky Mountain Energy, 1983). Pattern #2 pilot testing culminated in regulatory signoff in June 1983 with the approval of carbonate leaching for commercial operations at Reno Creek under Materials License Number SUA-1338.

There has been no production from the Southwest Reno Creek, Moore, Pine Tree, or Bing Resource Areas.

# 6.0 GEOLOGICAL SETTING, MINERALIZATION, AND DEPOSIT

## 6.1 Regional Geology

The Project is in the Pumpkin Buttes Uranium District in the central PRB of Northeastern Wyoming (Figure 6-16-1) which consists of a large north-northwest-trending asymmetric syncline. The basement axis lies near the western edge of the basin, and the present surface axis lies to the east of the basement axis near the Pumpkin Buttes, approximately 10 miles west of the project.

The PRB is filled with sedimentary rocks of marine and continental origin ranging in age from early Paleozoic through Cenozoic. Figure 6-26-2 shows the stratigraphic column in the Project area and includes all of the mineralized stratigraphy. The central part of the basin contains Lance, Fort Union, Wasatch, and White River formation outcrops.

The Upper Cretaceous Lance formation is the oldest of these units and consists of 1,000 to 3,000 feet of thinly-bedded, brown to gray sands and shales (Sharp and Gibbons 1964). The upper part contains minor, dark carbonaceous shales and thin coal seams, indicating a changing depositional environment over time, which was in this case the gradual regression of a shallow inland sea.

The Paleocene Fort Union formation conformably overlies the Lance and consists of continental and shallow non-marine deposits. Flores (2004) divides the Fort Union into three members, the Tullock, Lebo, and Tongue River members (oldest to youngest). The Tullock Member consists of sandstone, siltstone, and sparse coal and carbonaceous shale (Flores 2004). The Lebo Member consists of abundant drab gray mudstone, minor siltstone and sandstone, and sparse coal and carbonaceous shale beds. The Tongue River Member consists of interbedded sandstone, conglomerate, siltstone, mudstone, limestone, anomalously thick coal beds, and carbonaceous shale beds. This member has been mined extensively for its coal beds which can be hundreds of feet thick. The total thickness of the Fort Union formation varies between 2,000 and 3,500 feet (Conoco 1980; Sharp and Gibbons 1964).

The early Eocene Wasatch formation unconformably overlies the Fort Union formation around the margins of the basin. However, the two formations are conformable and gradational towards the basin center and Project area. The relative amount of coarse, permeable clastics increases near the top of Fort Union, and the overlying Wasatch formation contains numerous beds of sandstone that can sometimes be correlated over wide areas. Except in isolated areas of the PRB, the Wasatch-Fort Union contact is arbitrarily set at the top of the thicker coals (locally known as the Badger Coal) or of some thick sequence of clays and silts. The top of the coal is probably the boundary in the Project area.

The Wasatch formation occurs at the surface in the license area. The Wasatch is similar to the Fort Union, but also contains thick lenses of coarse, crossbedded, arkosic sands deposited in a high-energy fluvial environment. These sandstone horizons are the host rocks for several uranium deposits in the central PRB. Within the Project area, mineralization is found in a 50-100-foot-thick sandstone lens which extends over an area of several townships. On a regional scale, mineralization is localized and controlled by facies changes within this sandstone, including thinning of the sandstone unit, decrease in grain size, and increase in clay and organic material content. The Wasatch formation reaches a maximum thickness of about 1,600 feet

**Figure 6-1: Regional Geologic Map of the Powder River Basin Pumpkin Buttes Uranium District**

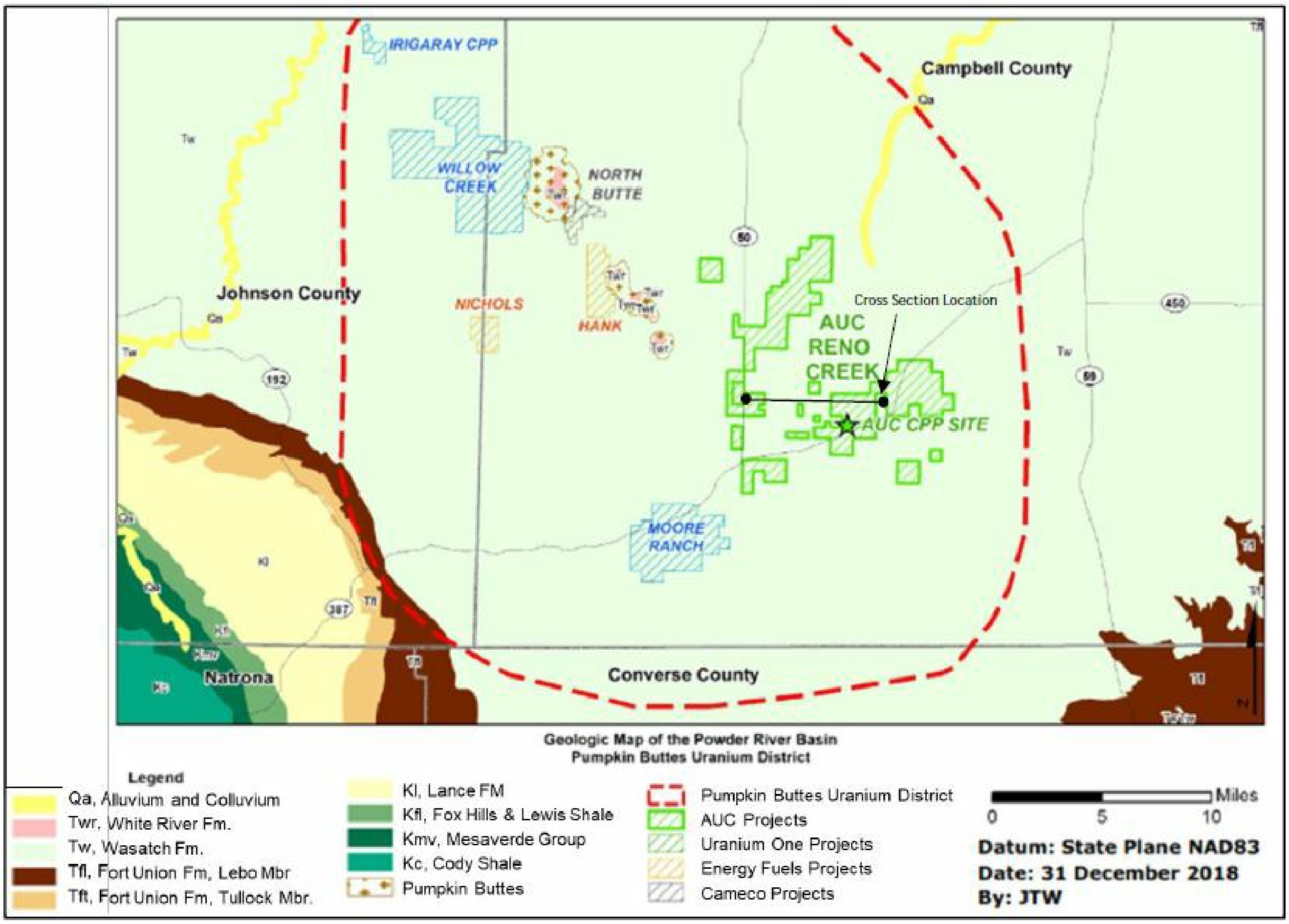
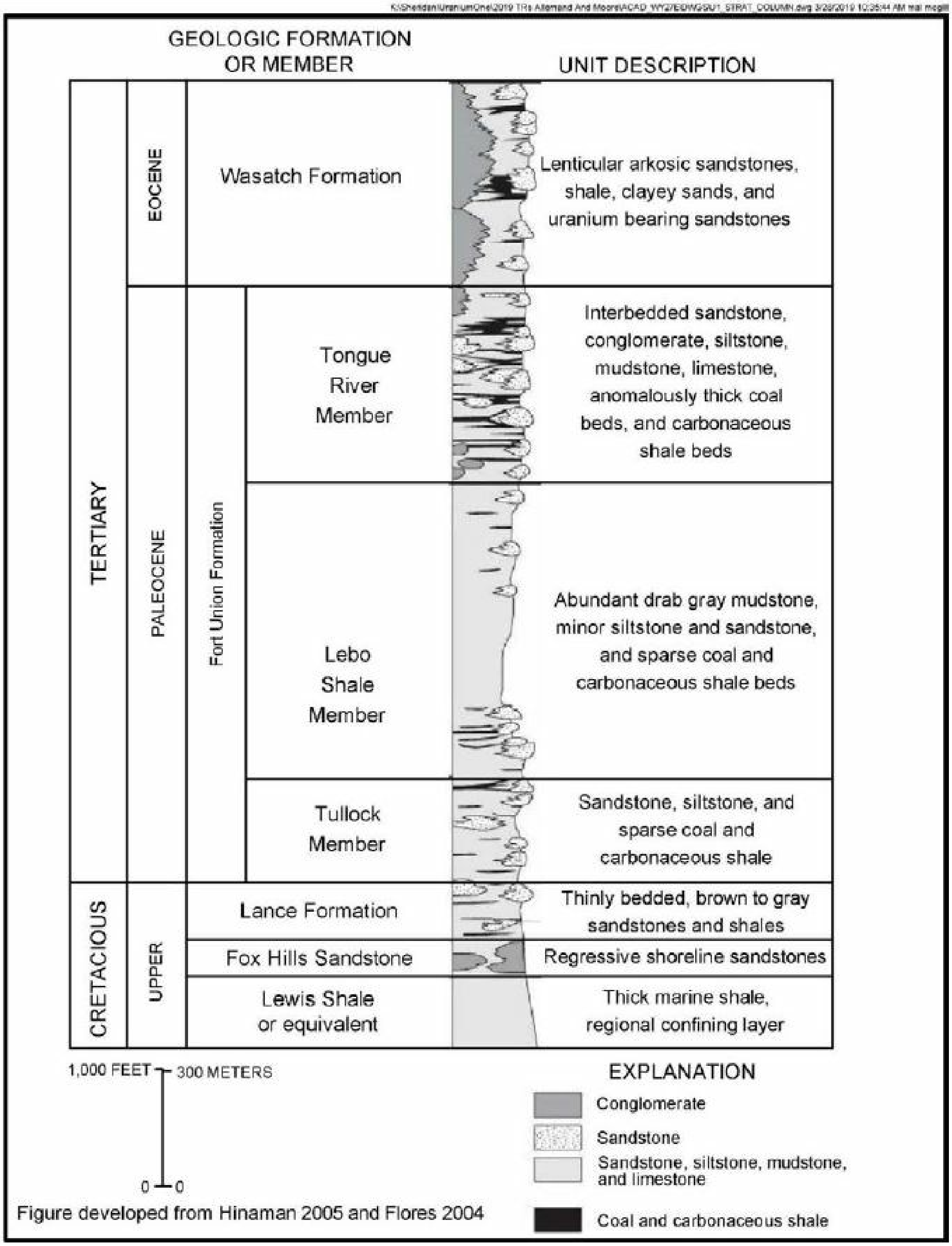


**Figure 6-2: Pumpkin Buttes District Stratigraphic Column**



(1,100 to 1,300 feet in the Project area) and dips northwestward from one degree to two and a half degrees in the central part of the PRB (Conoco 1980; Sharp and Gibbons 1964).

The Oligocene White River formation unconformably overlies the Wasatch formation and has mostly been removed from the basin by erosion during the Paleocene. Remnants of this unit crop out on the Pumpkin Buttes, located approximately eight miles to the north of the Project area, and at the extreme southern edge of the PRB (about 60 miles to the south). The White River consists of clayey sandstone, claystone, a boulder conglomerate and tuffaceous sediments which may be the primary source rock for uranium in the Project area and the southern part of the basin as a whole (Conoco 1980; Sharp and Gibbons 1964). The youngest sediments consist of Quaternary alluvial sands and gravels locally present in larger valleys. Quaternary eolian sands can also be found locally.

### 6.2 Local Geology

Mineralization in the Project area occurs in fluvial sandstones of the lower parts of the Eocene Wasatch Formation. Most of the upper Wasatch Formation has been eroded away. The sandstones are arkosic, fine- to coarse-grained with local calcareous lenses. The sandstones contain minor amounts of organic carbon that occurs as dispersed bits or as stringers. Unaltered sandstones are generally gray while altered sandstones are tan or pink, due to hematite or show yellowish coloring due to limonite (Utah International, 1971).

Pyrite occurs in several forms within the host sandstones. In unaltered sandstones, pyrite occurs as small to large single euhedral crystals associated with magnetite, ilmenite, and other dark detrital minerals. In altered sandstone, pyrite is typically absent, but locally occurs as tarnished, very fine-grained euhedral crystals. In areas of intense or heavy mineralization, pyrite locally occurs as massive, tarnished crystal aggregates (Utah International, 1971).

The Felix Coal seams are laterally continuous in the North and Southwest Reno Creek Resource Areas and extend northward into the Moore and Bing Resource Areas. The Felix Coal seams and the underlying Badger Coal seam provide important correlation points across the entire project area and are readily identified on uranium exploration logs and coal bed methane logs in this portion of the PRB.

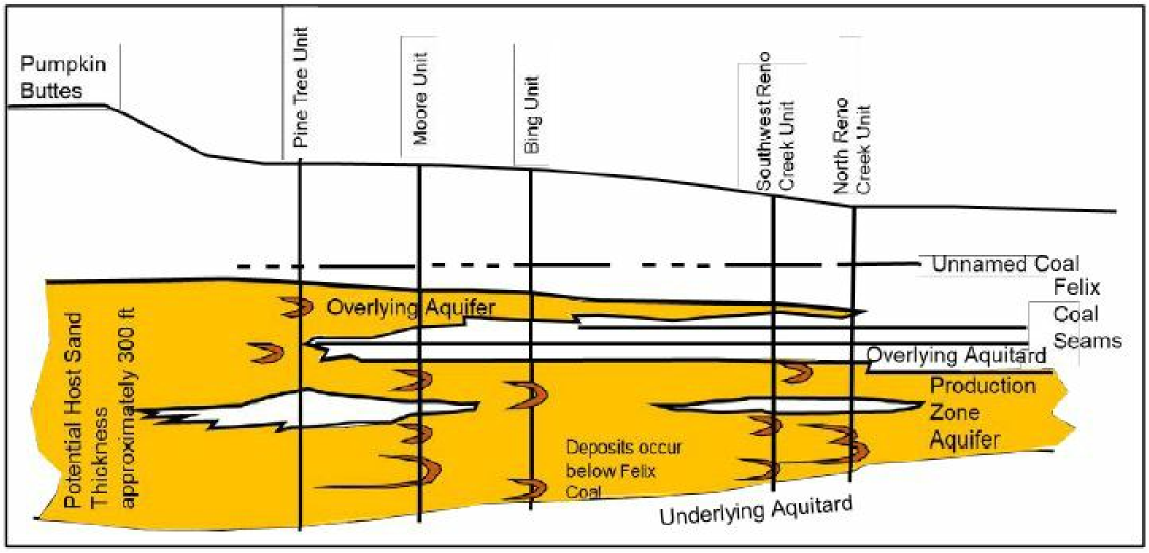
RCH drilling, coupled with historical electric log datasets and coal bed methane gamma ray logs, enabled correlation of major uranium host sandstones and identification of continuous hydrostratigraphic units across the Project. UEC acquired lithologic logs for several hundred coal bed methane pilot holes. In total, UEC has data from approximately 10,151 uranium exploration holes and nearly 1,500 coal bed methane logs in the Project area.

Dips in the area are 1-2.5 degrees to the west. Faults have not been observed or reported in literature in any of the Resource Areas.

Major hydrostratigraphic units present at the Project are described below and discussed in Section 6.3. Impervious mudstone aquitards are shown as green on the drill hole column and the production zone units are shown in yellow (Figure 6-3; Figure 6-4).

The overlying aquifer at North and Southwest Reno Creek, Moore, and Bing Resource Areas overlies the production zone and the Felix Coal marker across the entire area. This overlying

**Figure 6-3: Relation of Roll Front Deposits to Coal Seams and Hydrogeological Features**




aquifer/sandstone is regarded as a host for mineralization at the Pine Tree Resource Area, which does not have an overlying aquifer, as shown on Figure 6-3.

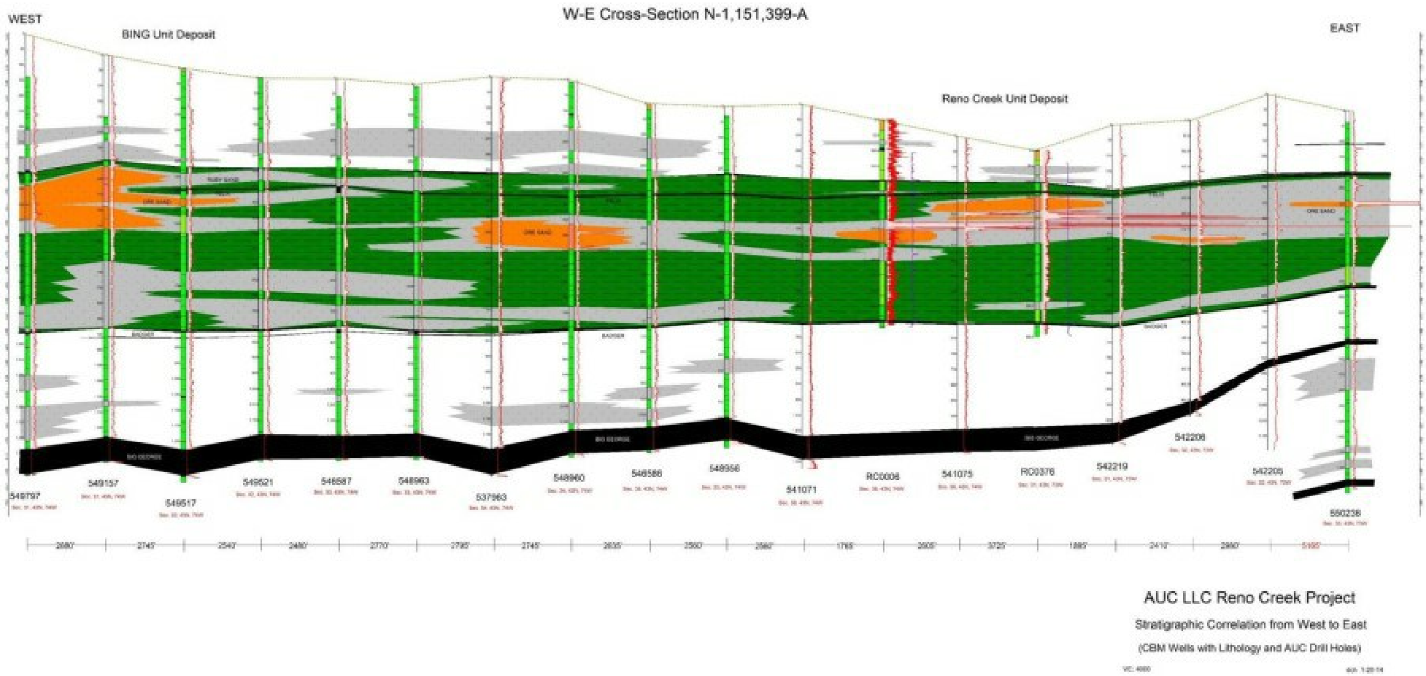
The overlying aquitard is a continuous confining mudstone unit providing isolation between the production zone aquifer and overlying aquifer in the North and Southwest Reno Creek, Moore, and Bing Resource Areas that includes the Felix Coal seams.

The production zone aquifer is the host for uranium deposits at the North Reno Creek, Southwest Reno Creek, Moore, Pine Tree, and Bing Resource Areas. At Pine Tree, the production zone aquifer includes the overlying aquifer and the overlying aquitard, and Felix coal seams are not present.

The underlying aquitard, the lower-most unit of the Wasatch Formation, is a continuous confining mudstone unit providing isolation between the production zone aquifer and underlying discontinuous sandstone units occurring above the Badger Coal seam. The aquitard is approximately 200-250 ft thick and consists of a laterally continuous sequence of undifferentiated mudstones and clays, with discontinuous and often lenticular sandstones. This confining unit is present under the entire Project area.

Figure 6-4 is a west to east cross section that runs from Section 31 of T43N, R74W to Section 33 of T43N R73W through the Bing and the North and Southwest Reno Creek Resource Areas. This cross section was built using coal bed methane well logs. Confining mudstone aquitards are shown as green on the drill hole column and the production zone units are shown in orange in.

**Figure 6-4: Cross Section Across Southwest Reno Creek Resource Area**



### 6.3 Property Geology

#### 6.3.1 Deposit Type

The mineralization within the Project exists as roll-front uranium deposits. Roll-front deposits are hosted within sandstones that are intermittently interbedded with lenses of siltstone and claystone/mudstone. Uranium mineralization occurs as interstitial fillings between and coatings on the sand grains along "roll front" trends formed at geochemical reduction–oxidation (redox) boundaries within the host sandstone aquifers. The redox boundary typically has a "C"-shape with the point of the "C" (or nose) pointing down the hydrogeological gradient.

Uranium minerals in roll front deposits in the unoxidized zone are most commonly uraninite ($UO_2$) and coffinite ($U(SiO_4)_{1-x}(OH)_{4x}$).

#### 6.3.2 Deposit Dimensions

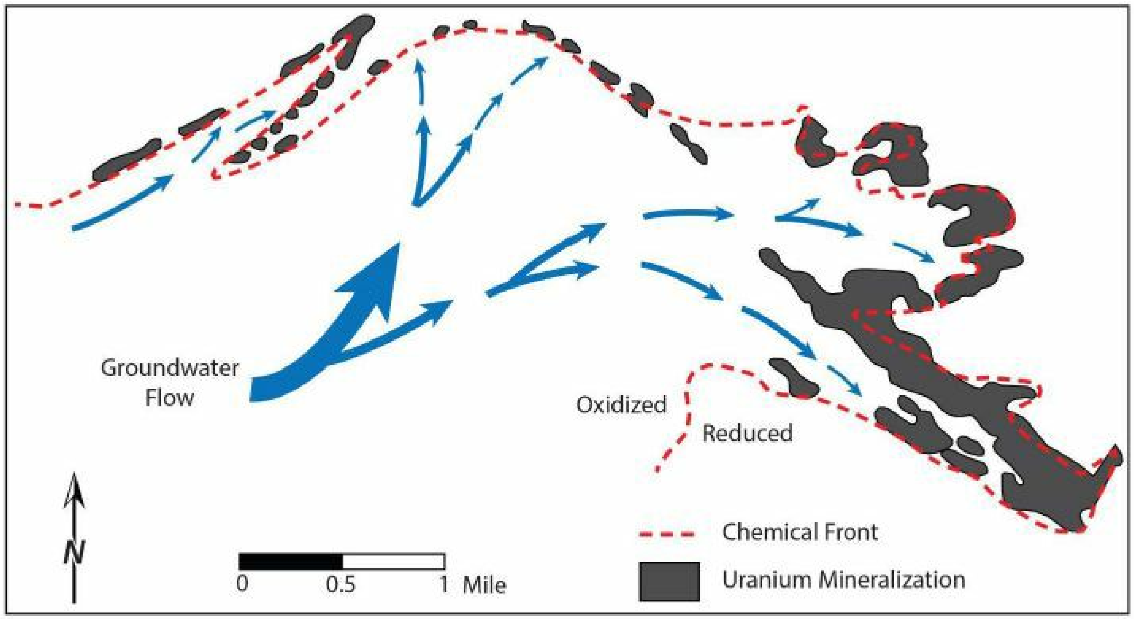
In each of the Resource Areas, uranium is concentrated in typical roll front-type deposits and the concept of a single deposit with x-y-z dimensions is not applicable. Roll front deposits occur at the interface between oxidized and reduced sandstone (redox front) that forms as a result of oxidized groundwater flows down the hydrogeological gradient and oxidizes the host sandstone progressively downward. Redox fronts are typically very long and sinuous (Figure 6-5) and up to tens of miles in length. Recoverable deposits of uranium are sporadically concentrated along that front. Individual redox fronts are many miles long with discrete uranium deposits a few tens of feet thick and tens to a few hundreds of feet wide and a few hundreds of feet long scattered along the front. Thickness and width vary rapidly along strike contributing to the discontinuous nature of the deposits. In the Reno Creek Project, there are at least five levels in the stratigraphy that are favorable for formation of this type of deposit. Individual roll fronts are thus vertically stacked along general trends as is shown in Figure 6-3 and Figure 6-5 through Figure 6-10.

#### 6.3.3 North and Southwest Reno Creek Resource Areas

UEC has data from more than 3,400 drill holes in the North and Southwest Reno Creek Resource Areas that provide detailed information for characterizing the geology. Drill data acquired since 2012 have provided both in-fill and step-out information on the geology and mineralization. RCH drilled extensively in the Southwest Reno Creek (772 holes) and North Reno Creek (174 holes) Resource Areas. In the North and Southwest Reno Creek Resource Areas, the lower-most unit of the Wasatch Formation is the underlying aquitard, which lies below the production zone aquifer and above the Badger coal seam.

The underlying aquitard is approximately 150 feet to 250 feet thick and consists of laterally continuous silt and clay rich mudstones, and locally, discontinuous lenticular sandstones. Based on geologic and hydrologic data at North and Southwest Reno Creek Resource Areas, sandstones within this unit do not meet the requirements of an aquifer.

**Figure 6-5: Schematic Plan Map of Roll Front Uranium Deposits**




The production zone aquifer overlies the underlying aquitard at North Reno Creek and Southwest Reno Creek. The production zone aquifer is a discrete and laterally continuous sandstone ranging from less than 75 feet thick to approximately 220 feet thick. The sandstone unit occasionally contains semi-continuous mudstone lenses that act as local aquitards.

Hydrogeologic investigations by Rocky Mountain Energy, International Uranium Corporation, and RCH are the basis for understanding the groundwater conditions in the North and Southwest Reno Creek Resource Areas, including the position of the water table in relation to mineralization. In the far eastern portion of the North Reno Creek Resource Area, the production zone aquifer is partially saturated, and in some areas, very limited uranium mineralization is present above the water table of the production zone aquifer. Based on work by RCH, mineralization in the uppermost, unsaturated portion of the production zone aquifer in North Reno Creek Resource Area is insignificant (approximately 1% of North Reno Creek mineralization).

Sandstone horizons that host uranium mineralization within the production zone aquifer are typically cross-bedded, graded sequences fining upward from very coarse- at the base to fine-grained at the top, representing sedimentary cycles from 5-20 feet thick. Stacking of depositional cycles resulted in sandstone body accumulations over 200 feet thick.

UEC divided the production zone aquifer host sandstone into five horizons to aid in tracking individual roll fronts. Fronts are mapped based on oxidized and reduced conditions within each

**Figure 6-6: Location of North Reno Creek Resource Area Measured & Indicated Mineral Resources by Alteration Front Level**

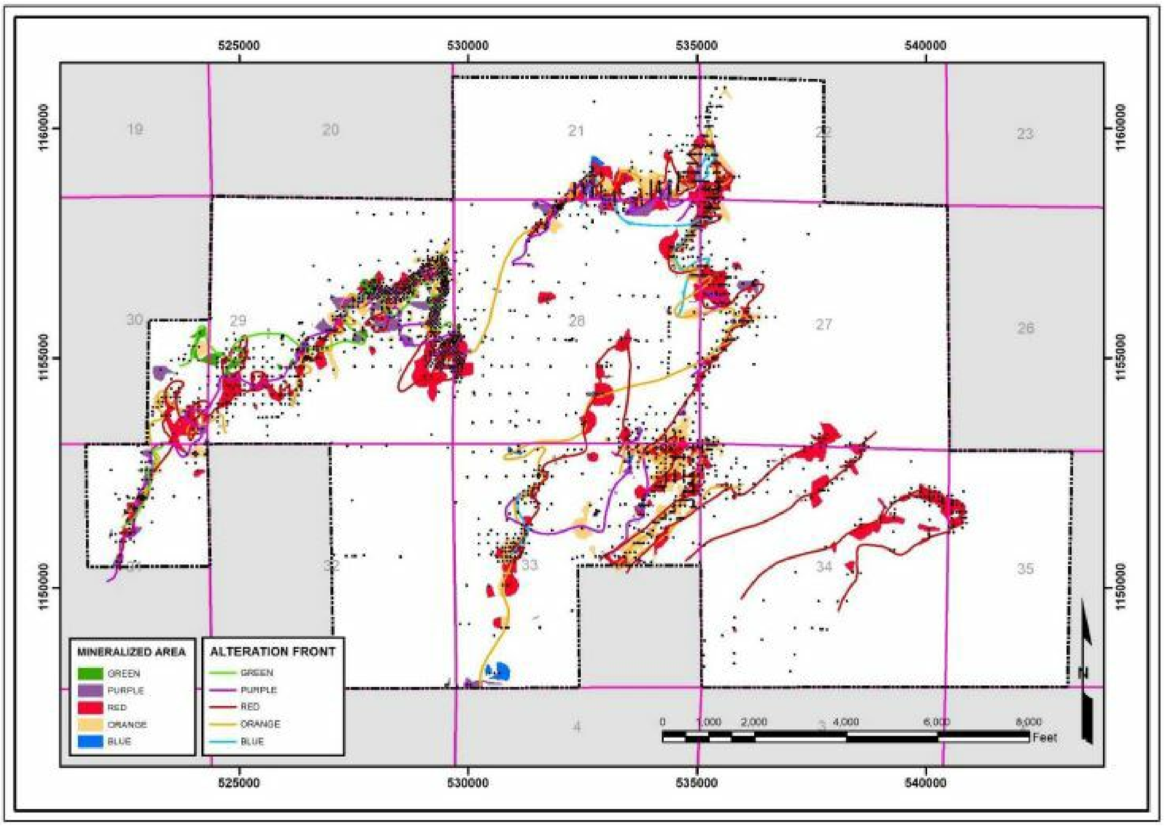


**Figure 6-7: Location of Southwest Reno Creek Resource Area Measured and Indicated Mineral Resources by Alteration Front Level**

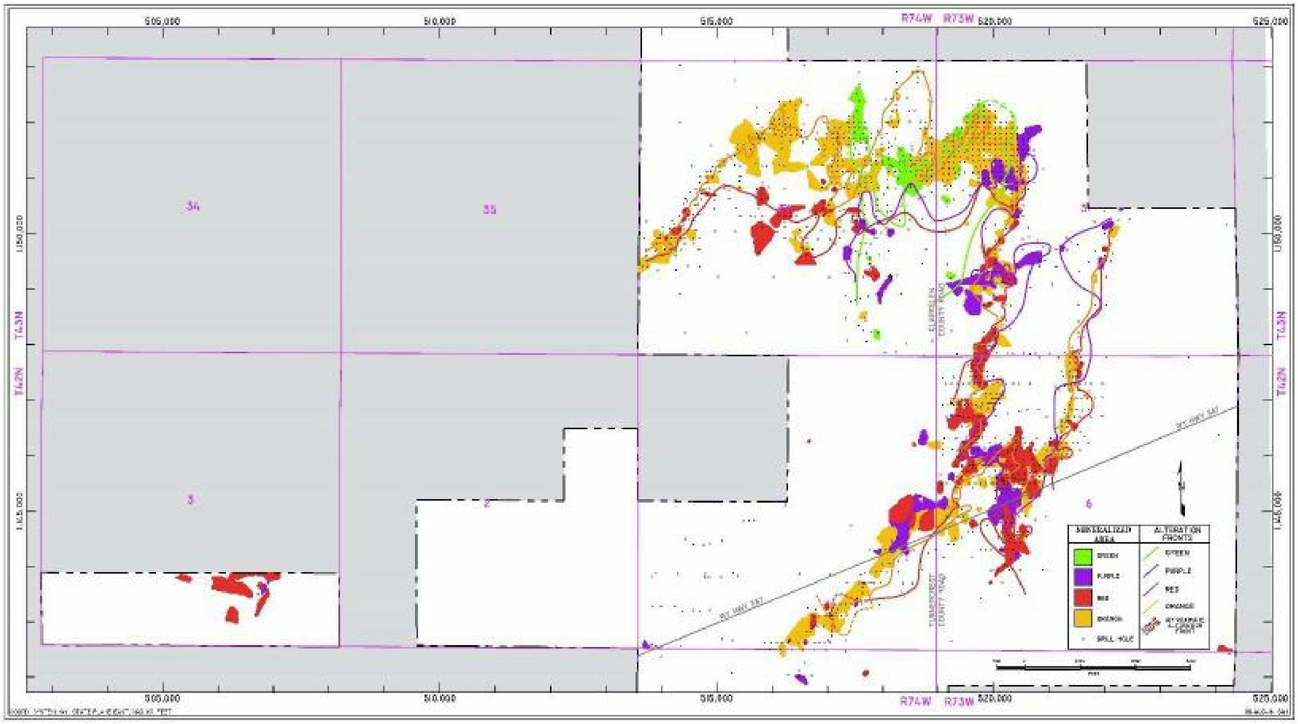


**Figure 6-8: Location of Moore Resource Measured & Indicated Mineral Resources by Alteration Front**

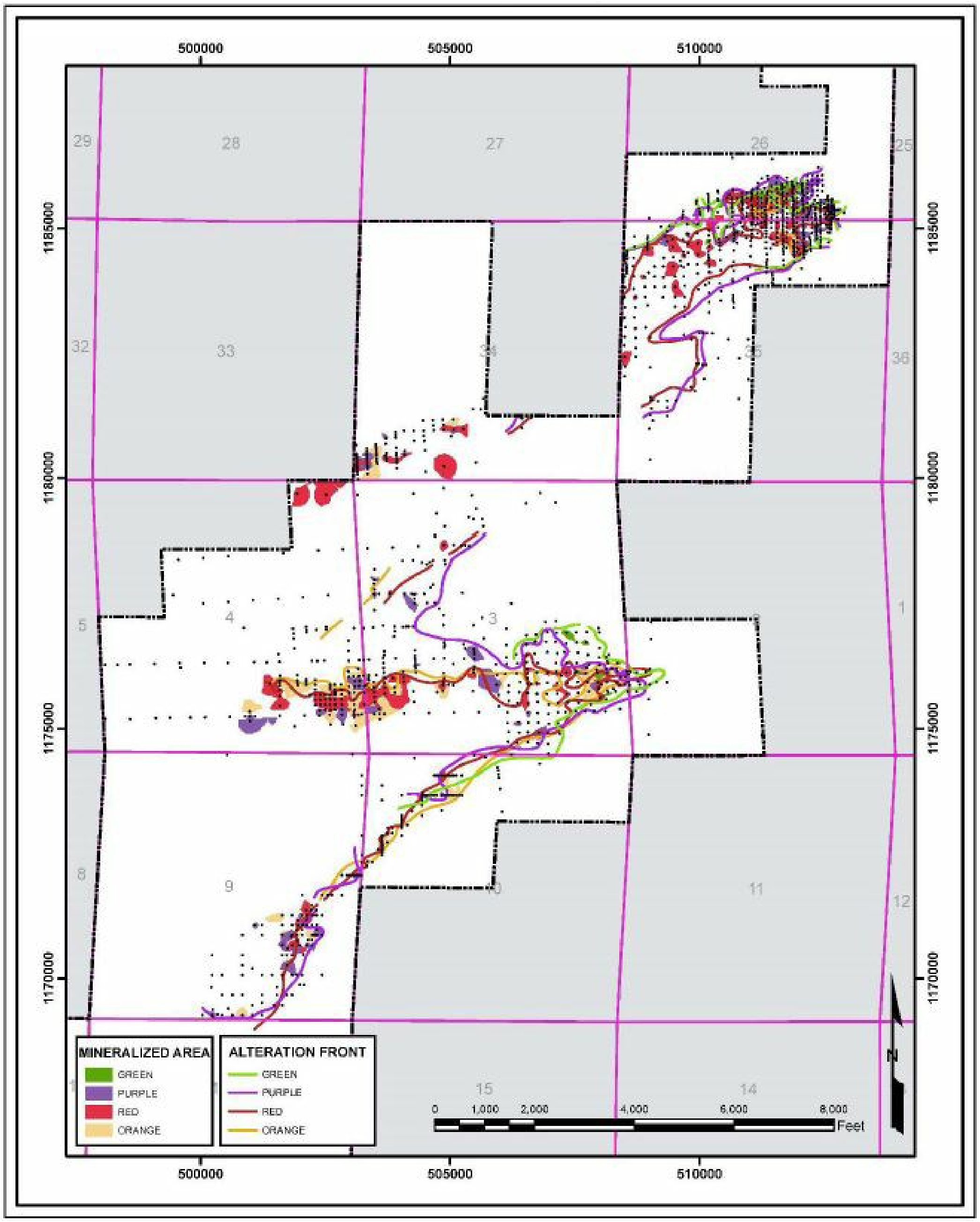


**Figure 6-9: Location of Pine Tree Resource Area Measured & Indicated Mineral Resources by Alteration Front Level**

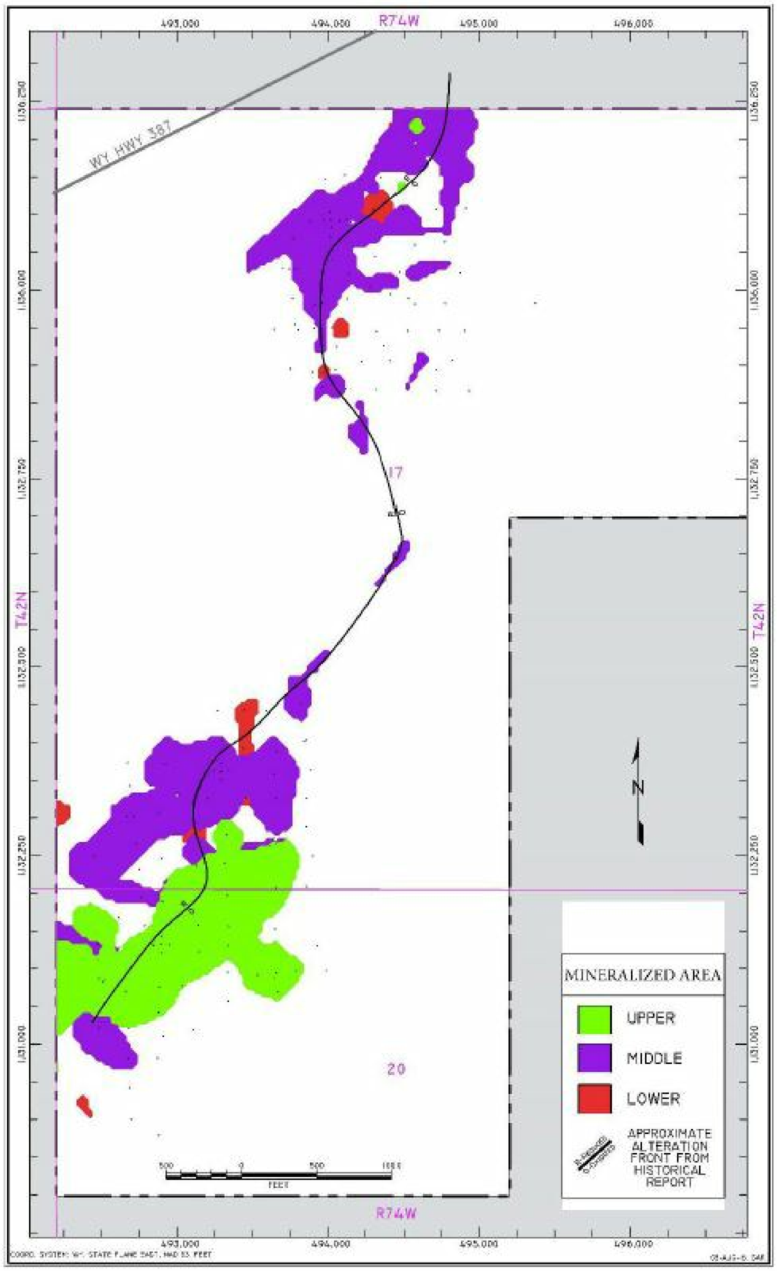
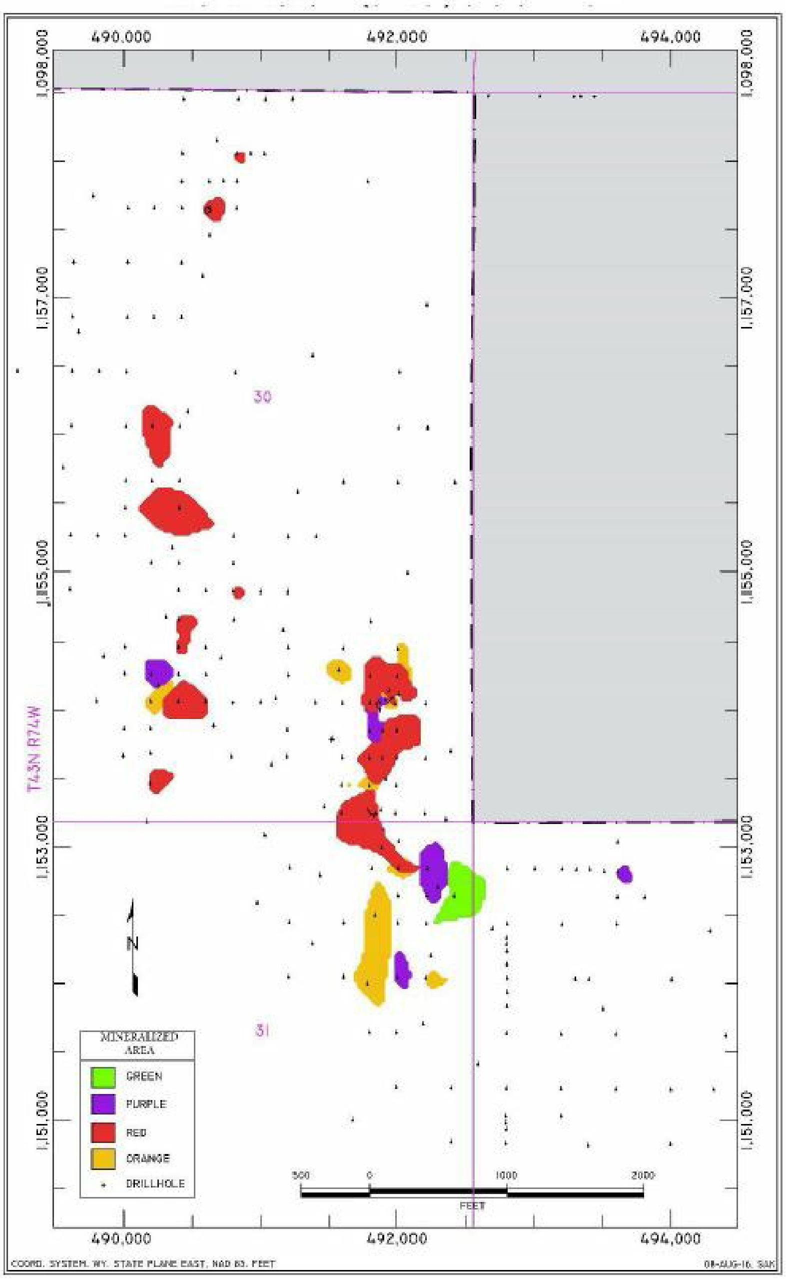


**Figure 6-10: Location of Bing Resource Area Measured & Indicated Mineral Resources by Alteration Front Level**



specific horizon. Oxidization (limonitic and hematitic stained sandstone) is the primary alteration product associated with the up-gradient side of the fronts (referred to as alteration fronts on figures). The uppermost roll front horizon is coded as Green, followed by the Purple, Red, Orange, and Blue with increasing depth.

The Wasatch Formation in both Resource Areas dip slightly to the northwest. No faults have been observed within the area.

Individual mineralized deposit areas and alteration fronts for the North and the Southwest Reno Creek Resource Areas are summarized on Figure 6-6 and Figure 6-7. Fronts are drawn along the projected maximum down gradient extent of the redox interface for each horizon. Mineralized areas where mineral resources are estimated are depicted on the figures using colors corresponding to each horizon.

At the North Reno Creek Resource Area, mineral resources in the Green and Purple horizons are well developed in the northwestern and northern portions of the area. The fronts commonly occur above a mudstone break and are usually distinctly separated from the underlying fronts. Only minor exploration has been conducted to test the Blue (deepest) horizon. An opportunity exists for expansion of mineralization along the blue roll front trend by future drilling programs at the North Reno Creek Resource Area.

In Southwest Reno Creek Resource Area (Figure 6-7), the Green front is well developed in the north-central portion of the Resource Area. The Purple, Red, and Orange fronts display good continuity, are widely distributed, and host the majority of resources in the Southwest Reno Creek Resource Area. The Blue sandstone is not present in this area.

The Purple, Red, and Orange roll fronts are closely related vertically and laterally in the area and sub-rolls are common in all horizons.

#### 6.3.4 Moore Resource Area Geology

Figure 6-8 shows the mineralization distribution. The geology of the Moore Resource Area is the same as the geology of the North and Southwest Reno Creek Resource Areas.

Historical Rocky Mountain Energy cross sections and coal bed methane logs enable correlations of geology in the Moore Resource Area to the geology in other Resource Areas. There are two notably continuous coal beds approximately 40 to 50 ft apart within the upper portion of the section at the Moore Resource Area. The lower coal correlates with the Felix coal seam, which is a marker bed in the North and Southwest Reno Creek Resource Areas. The mineralized host sand lies 5 to 30 ft below this coal bed and at a depth of 200–350 ft below the surface. The host sandstone is 80-150 ft thick.

UEC constructed a series of cross sections to correlate and project mineralized horizons. The uppermost roll front horizon is coded as Green, followed by the Purple, Red, Orange, and Blue with increasing depth.

Geophysical logs were used to construct cross sections where lithologic logs, which provide redox data helpful for tracking fronts are not available. Mapping of alteration fronts Figure 6-8 is based on historical maps and geologic interpretations of gamma log signatures, with thinner high gamma intervals assumed to be “tails” on the oxidized side and thicker mineralized zones are assumed to be in the nose zone in the unoxidized portion of the roll front.

### 6.3.5 Pine Tree Resource Area Geology

Based on regional coal bed methane well log correlations, sandstones hosting mineralization at Pine Tree Resource Area are stratigraphically located slightly higher in the Wasatch section than the host sandstones at North Reno Creek Resource Area and occupy the projected stratigraphic position of the Felix coal seams, which are absent at the Pine Tree Resource Area. The position of the mineralization is based on its stratigraphic relationship above the Badger and Big George coal seams. UEC separated the roll front horizons into Upper, Middle, and Lower fronts at the Pine Tree Resource Area.

Where available, geophysical logs were used to create cross sections. Lithologic logs are scarce so redox data, helpful for tracking individual roll fronts, are limited. UEC lacks historical data regarding the water table that would indicate which, if any, mineralization at Pine Tree may be above the water table.

The location of the redox front in Figure 6-9 is generalized and based on historical data.

### 6.3.6 Bing Resource Area Geology

Coal bed methane and historical geophysical logs and stratigraphy at the Bing Resource Area, indicates that the geology consists of interbedded sand and clay units of the lower Wasatch Formation. Mineralized sandstones appear to be similar to, and correlate with the host units at the Moore, North and South Reno Creek Resource Areas. Interbedded fine-grained sedimentary rocks consist of claystone and mudstone units as well as thin coal seams that range from 2-8 ft thick.

Based on regional correlations of coal bed methane well logs, the Felix coal seam is present in the Bing area. The host sandstone lies below the Felix coal seam at a depth of 350-400 ft below the surface. The host sandstone ranges from 150-200 ft thick.

UEC divided the host sandstone into four horizons to aid in tracking individual roll fronts. The uppermost roll front horizon is coded as Green, followed by the Purple, Red, and Orange with increasing depth. Geophysical logs were used to create cross sections and determine the mineralized roll front horizons. Lithologic logs are scarce so redox data helpful for tracking individual roll fronts are limited. Therefore, alteration fronts and results of ongoing roll front mapping are not included in Figure 6-10.

# 7.0 EXPLORATION

## 7.1 Exploration

Since acquiring the Project, UEC performed no exploration on the property and has relied entirely on legacy data for the updated mineral resource estimates and project planning.

### 7.1.1 Data Acquisition

RCH drilled 1,044 holes between 2010 and 2013 and compiled a database of 10,151 drill holes in the area that included data for about 9,100 drill holes drilled by other operators. Data were acquired by various types of purchase from previous operators in the area and from companies in the petroleum and coal bed methane business. Data purchased included collar location data, downhole surveys, downhole geophysical data, downhole gamma data, $eU_3O_8$ data based on downhole gamma data, and limited geochemical data as well as cross sections, maps, and other interpretative information related to the project. Geophysical logs from coal bed methane are available publicly from the Wyoming Oil and Gas Conservation Commission (WOGCC).

### 7.1.2 Geological Mapping

Surficial geology at the Project is entirely Wasatch Formation, thus, traditional geological mapping of surface outcrops was not done. The geological units and relationships were inferred from interpretation of downhole electric drill logs and lithology logs.

### 7.1.3 Geophysics

Gamma logs were obtained for every borehole and are the basis for all grade determinations and estimation. Electric logs were commonly acquired and used as the basis for geological correlations. Neutron logs were acquired when neutron logging technology became widely available and essentially logs the porosity in the rock mass.

### 7.1.4 Petrology, Mineralogy, and Research Studies

Whole rock mineralogy work by RCH and reports from analytical work by Rocky Mountain Energy in the late 1970s indicate that quartz ranges from 50 to 60%, feldspars comprise approximately 20 to 25%, and clays are present as smectite, kaolinite, and illite and comprises as much as 20% of the total.

Two uranium-bearing samples from the production zone aquifer sandstone were analyzed by QEMSCAN at the Colorado School of Mines for mineralogy, locking and liberation characteristics, mineral associations and grain size distribution (Pfaff, 2012). RCH provided a mineralized core sample from core hole RC0008C, located in Section 36, Township 43 North, Range 74 West, in the Southwest Reno Creek Resource Area. The host rock is a porous sandstone with poorly sorted grains of quartz (40-45%), feldspar (12-18% K-feldspar and 6-10% plagioclase), muscovite (6%), biotite (4-5%), pyroxene (<1%), and amphibole (<1%) set in a porous, clay-fine (mainly kaolinite: 12%) matrix. This rock is classified as arkosic sandstone. Uranium mineralization was found to contain coffinite, uraninite, and pitchblende as primary uranium minerals, and pyrite, as well as rare earth element-bearing, and vanadium-bearing minerals. QEMSCAN confirmed that the main ore minerals in the unoxidized zone are coffinite and pitchblende (a variety of uraninite) (UEC, 2020). Low concentrations of vanadium (~100 ppm) are sometimes associated with the uranium deposits at the Project, based on metallurgical testing conducted by UEC. Of five recently tested core samples, only one exhibited molybdenum (0.6 mg/kg). Selenium was detected in only one sample at 6.9 mg/kg. Arsenic was detected in all samples with concentrations from 1.4 to 14 mg/kg. Scattered lenses of calcium carbonate cement occur throughout the area, but only rarely contain anomalous uranium.

#### 7.1.5 Qualified Person's Interpretation of the Exploration Information

The QP considers the exploration completed to date on the Project to be consistent with industry standards and adequate to support mineral resource estimation.

### 7.2 Drilling On Property

#### 7.2.1 Overview

UEC's database includes 10,151 drill holes, which were drilled by uranium exploration companies prior to UEC's involvement in the Project. Those drill holes are on or near the five Resource Areas held by UEC. Of these, 6,016 drill holes are located on lands controlled by UEC. The historical data sets in UEC's possession were generated by competent mining companies that exercised rigorous standards and used acceptable practices of the day. All available data from geologic reports, drilling, survey coordinates, collar elevations, depths, electric log data, and grade of uranium intercepts, were incorporated into UEC's system. These holes are identified on the resource maps in Section 6.

UEC has drilled no exploration holes.

Most of the drilling was done by conventional rotary methods using a number of bit diameters and configurations. The diameters and bit types are not reported for most of the drilling. Core drilling was performed, but it was very limited.

#### 7.2.2 North and Southwest Reno Creek Resource Area

RCH drilled 946 rotary and core holes and monitor wells at the North and Southwest Reno Creek Resource Areas from 2010 through 2013. Other operators drilled approximately 2,250 holes on or adjacent to, the Resource Area. Those holes were predominantly conventional rotary holes with a very small number of core holes (19 total). All drill holes were used to construct the geological model and are thus considered to support the mineral resource estimates.

Some holes were cased in order to be used as observation, monitor, or water supply wells. All other RCH drill holes were plugged and abandoned in accordance with WDEQ/LQD Chapter 8 and per the WDEQ approved *AUC Reno Creek Project Drilling Notification 401 (DN401*).

### 7.2.3 Moore Resource Area

RCH completed a 98-hole conventional rotary drilling and coring program was completed on the Moore Resource Area in 2012. Prior to that, drilling was performed by several companies in the Moore Resource Area. Widely spaced drilling on traverse lines was done in the late 1960s by Cleveland-Cliffs, which had a very large land holding in the PRB at that time. Cleveland-Cliffs drilled 177 holes in the Section 9, T43N, R74W area. Data acquired by UEC for the Moore Resource Area includes 327 paper logs, reports, cross sections, and an electronic database containing coordinates, natural gamma ray log counts per second (CPS) data, and uranium intercept data for approximately 1,390 holes. Rocky Mountain Energy, Pathfinder, and Cleveland-Cliffs originally generated the data. All drill holes were used to construct the geological model and are thus considered to support the mineral resource estimates.

### 7.2.4 Pine Tree Resource Area

Drilling at Pine Tree Resource Area comprises of more than 400 holes drilled by Utah International/Pathfinder. UEC acquired geophysical logs for 288 of those drill holes as well as Pathfinder's tabulations of survey information and uranium intercept data, all of which have been incorporated into UEC's Pine Tree Resource Area database. Of these holes, 155 logs contained conversion factors (i.e., k-factors, dead times, and water factors). Logs were scanned into electronic format and digitized using Neuralog, Inc. hardware and software. UEC compared intercepts above a 0.05% $eU_3O_8$ cutoff determined from the scanned logs to the intercept listing from Utah International. An adequate correlation was found between the two data sets. A combination of historical intercepts and results of UEC's digitization of the geophysical logs at a 0.01% cut-off grade was used for the current resource estimate.

### 7.2.5 Bing Resource Area

UEC's data acquisition for the Bing Resource Area included approximately 200 electric logs to support the UEC resource estimate but did not include intercept reports. UEC personnel scanned the original electric logs to estimate thickness and grades of $eU_30_8$ for use in resource estimates for the Bing Resource Area. The extracted intercepts, from digitization of the geophysical logs at a 0.01% cutoff grade, were used for the resource estimation and Figure 7-1 show the locations of the 240 pre-UEC holes at the Bing Resource Area.

### 7.2.6 Drill Holes Used in Mineral Resource Estimation

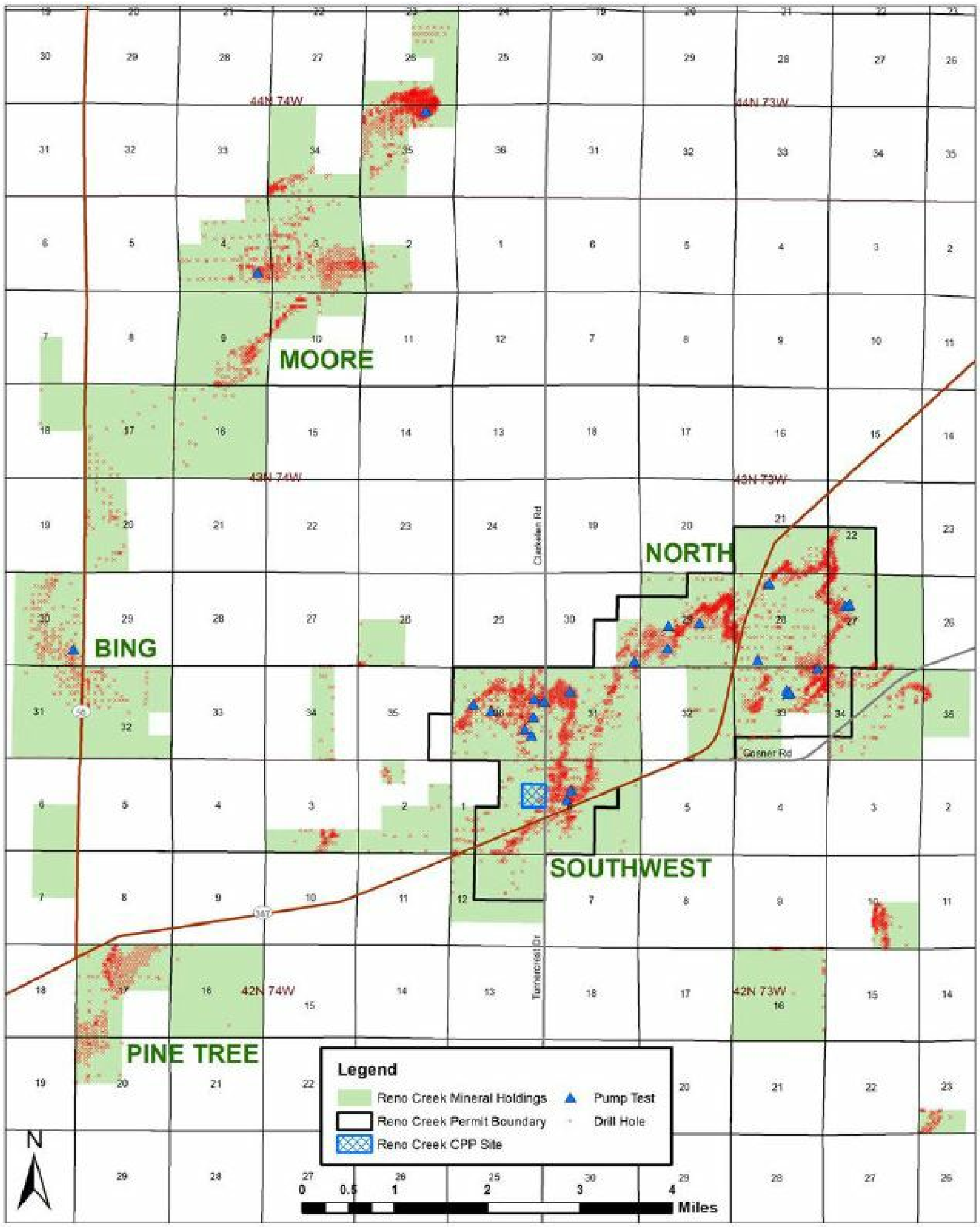
All drill holes in UEC’s database that had geological or geophysical logs were used to support the redox front modeling effort which consisted of mapping the location of the redox fronts which, in turn, supported the mineral resource estimate.

### 7.2.7 Drill Holes Excluded from Mineral Resource Estimation

Drill holes that were reasonably known to exist but for which no geological or geophysical data were discovered were excluded from mineral resource estimation.

Questionable drill hole data that could not be verified were not used in the resource estimation. Assignment of a value of zero (equivalent to designation as a barren point) would not be appropriate because it could be misleading.

**Figure 7-1: Project Pump Test and Drill Hole Locations**



### 7.2.8 Geological Logging

Standard operating procedure for all previous operators was for the driller or his helper to collect cuttings samples on 5-ft intervals and lay those samples out on the ground in rows of 20 samples (100 ft). The site geologist examined the cuttings in the field and recorded lithology and geochemical alteration (redox state). Some samples were collected and archived for later reference. Some site geologists used hand-held gamma-ray detection devices to test for anomalous radioactivity.

Geological logging of uranium exploration holes relies heavily on interpretation of gamma and electrical logs. All holes, by all operators, were probed using a calibrated downhole gamma ray detector to determine $eU_3O_8$ as well as provide lithological information. Most holes had electrical logs that provided, resistivity, gamma, SP (spontaneous potential), single point resistance, and neutron logs, all of which are useful for either grade estimation (gamma) or lithology correlation (all logs). Neutron logs are used primarily for porosity estimation. Hard and electronic copies of lithological logs are stored by UEC in their Glenrock, WY office.

### 7.2.9 Recovery

Core recovery for RCH core holes is considered by UEC staff to be generally good (>90%). Core recovery for previous operators is not known.

### 7.2.10 Collar Surveys

RCH staff surveyed drill hole collar locations using GPS technology with 10-centimeter accuracy to provide easting and northing coordinates and elevations. When historic holes were encountered by RCH staff, those collars were surveyed with GPS technology as well.

Collar surveys for legacy holes drilled in the 1970’s to 1990’s were surveyed by either theodolite and triangulation or by total station. Specific instruments are not recorded for legacy projects.

### 7.2.11 Downhole Surveys

All drill holes were vertical in the project area. In all holes drilled by RCH, downhole deviation surveys provided azimuth and inclination which allowed calculation of true depth and distance from collar location. Deviation rarely exceeded 5 feet.

Some legacy operators performed downhole surveys, but the instruments and methods used were not typically recorded.

### 7.2.12 Comment on Material Results and Interpretation

Drilling was done using methods that were common to the industry at the time the holes were drilled and, are still widely used for uranium exploration. Samples of drill cuttings are not sampled for any type of analysis so there are no factors relating to sampling of cuttings that might impact the mineral resource estimate.

Core was sampled for disequilibrium, metallurgical and hydrogeological studies. Core drilling methods were and are consistent with industry practices at the time the program was conducted. Sampling was consistent with best practices in the uranium industry. There are no factors relating to core sampling that might impact the mineral resource estimate.

The mineralization is nearly flat lying with dips of 1 degree to possibly 5 degrees locally. Drill intercept thicknesses are thus essentially equivalent to true thickness.

The Project was drilled on 50–100 ft spacing within areas with mineral accumulation, and on 200–400 ft spacing in areas yet to be developed. To date, 10,151 drill holes have been drilled on and nearby, the Resource Areas. Electronic log gamma data are available for more than 75% of these holes, and interval data (thickness, grade, and grade–thickness) are available for about 95% of mineralized drill holes.

#### 7.2.13 QP Statements Concerning Drilling Results

Considering the number of drill holes and associated data, the QP did not review all of the drilling information relative to the Project. Rather, the QP reviewed select logs from each of the Resources Areas and evaluated the quality and nature of the work done by previous owners. In the opinion of the QP, previous work by multiple operators/owners was conducted using standard industry practices and procedures meeting regulatory requirements in place at the time the work was conducted.

### 7.3 Hydrogeology

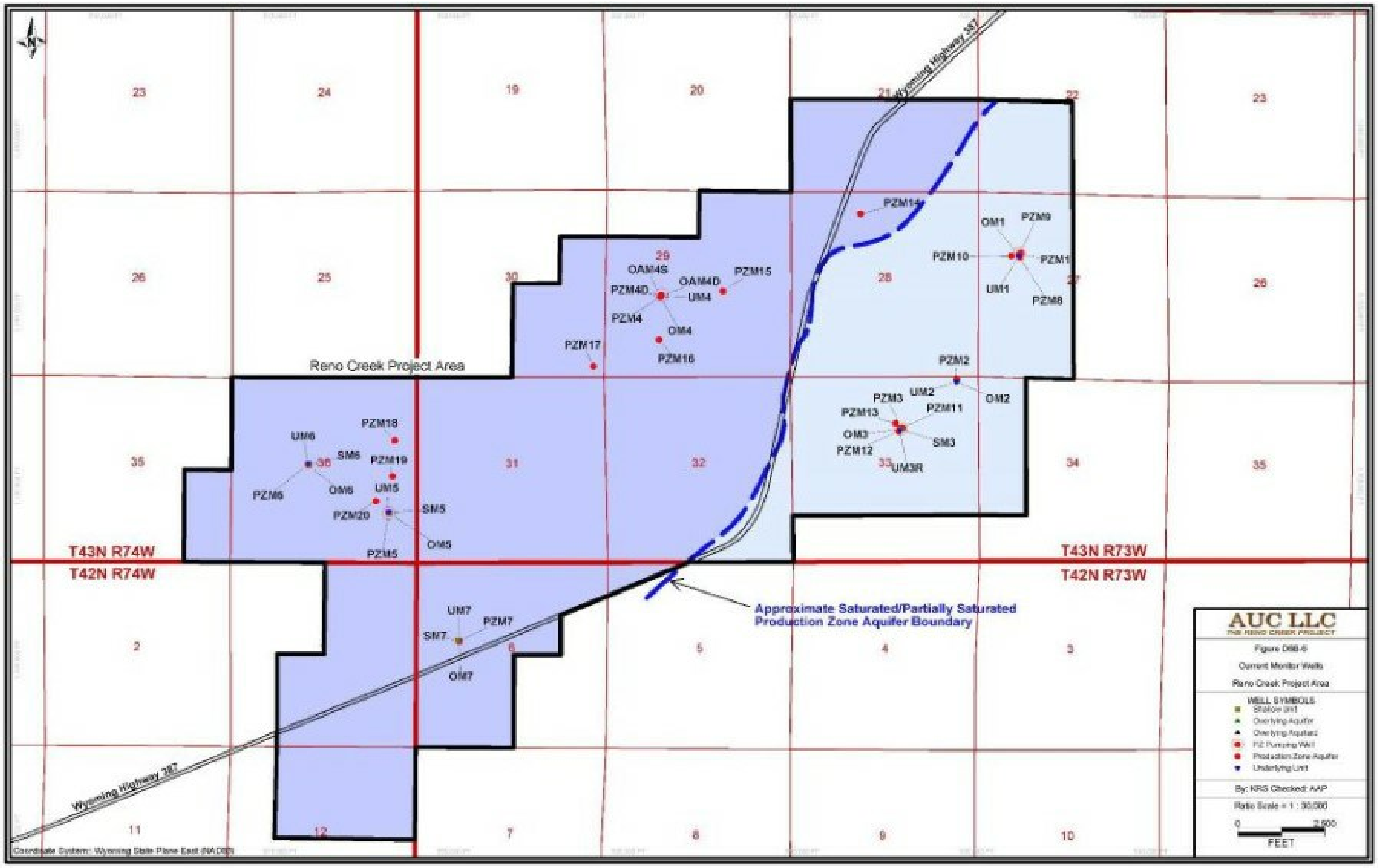
The Project area has a long history of hydrogeologic investigations beginning with hydrologic testing conducted by Union Pacific and Rocky Mountain Energy between 1978 and 1982. These data include geologic characterization and hydrologic pump testing (Rocky Mountain Energy, 1982). Additional investigations by Rocky Mountain Energy included a hydrogeologic integrity study to reveal the natural sealing of mudstones in exploratory boreholes. Energy Fuels Nuclear, Inc. and their successor International Uranium Corporation conducted additional hydrologic investigations in 1993 and 1994 that included multiple pump tests. These test data are of significant value in terms of hydrologic characterization at Reno Creek. International Uranium Corporation conducted extensive exploratory drilling and prepared a Class III UIC Permit to Mine Application and a Source Material License Application for the Reno Creek Project in 1993 and 1994.

RCH collected lithologic, water level, water quality, and pump test data as part of its ongoing evaluations of hydrologic conditions at the Project during 2010 and 2011. RCH conducted the most comprehensive hydrologic testing to date including multi-well and single-well pump testing at four well clusters in the Project area. These well clusters include the PZM1, PZM3, PZM4, and PZM5 well clusters. There are two additional well clusters at the PZM6 and PZM7 locations in the western and southwestern portion of the Project area for the purposes of baseline groundwater monitoring. Figure 7-2 shows the locations of the current monitoring wells utilized in the site hydrologic evaluation.

RCH's approach to hydrologic characterization is consistent with the requirements of both WDEQ Rules and Regulations and NUREG 1569. The objectives of these investigations were as follows:

- Evaluate the aquifer characteristics of transmissivity (T) and storativity (S) within the production zone aquifer within the Project area;

**Figure 7-2: Current Monitor Well Locations**



- Demonstrate geological and hydrologic confinement of the production zone aquifer with respect to overlying aquifer and underlying aquifer (if present) within the Project area;
- Evaluate the presence or absence of hydrologic boundaries within the production zone aquifer within the Project area; and
- Evaluate the transmissivities of overlying aquifer and underlying aquifer (if present) within the Project area.

To that end, RCH, completed four regional multi-well and ten single-well pump tests at the project at the North and Southwest Reno Creek Resource Areas. Historical pump tests were conducted at the Moore and Bing Resource Areas (Figure 7-1). The production zone aquifer in the project area is geologically confined but occurs under fully and partially saturated conditions. The following tests were completed:

- Multi-well pump testing performed in the production zone aquifer has demonstrated adequate hydraulic communication between the production zone aquifer pumping well and the surrounding production zone aquifer monitor wells.
- Geologic data for the project indicate that the overlying and underlying confining aquitards are continuous throughout the area. No responses were observed in the shallow water table unit, overlying aquifer or underlying units during any of the multi-well pump tests performed, indicating that the production zone aquifer is hydraulically isolated from these adjacent stratigraphic units.
- Single-well pump tests were performed on wells screened within the shallow water table unit, overlying aquifer and underlying units in the project area to evaluate the transmissivity of these units in the area.
- Single-well testing data collected from wells completed in the shallow water table unit and underlying unit exhibited extremely low well yields and hydraulic conductivities. Based on these testing results, it was determined that these units do not meet the definition of an aquifer according to 10 CFR Part 40, Appendix A, which states: "Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs." Additionally, the testing data show that these units do not meet the following definition of an aquifer per WDEQ/LQD (Guideline 8 Hydrology Coal and Non-Coal): "A zone, stratum, or group of strata that stores and transmits water in sufficient quantities for a specific use."
- The pump test results provide sufficient aquifer characterization of the production zone aquifer to support state and federal permit applications and demonstrate that the production zone aquifer has sufficient geologic confinement and transmissivity for ISR operations. Test results are similar to historical testing conducted in the Project area. Data from these tests were used to support state and federal permit applications necessary for the North and Southwest Reno Creek Resource Areas and similar data will be used for permits at the other Resource Areas; however, additional pump tests may be required to support permit modifications for the other Resource Areas. Testing by RCH determined that current groundwater conditions remain similar to conditions in the 1980s.

Rocky Mountain Energy conducted a series of hydrogeologic investigations within the Reno Creek Project area in 1982, in order to evaluate exploratory boreholes that were drilled prior to the enactment of well abandonment regulations and determine whether, or not, the boreholes had sealed themselves naturally and no longer represent potential locations for cross-aquifer groundwater flow. The evaluation focused primarily on the integrity of the overlying aquitard between the overlying aquifer and the production zone aquifer. Results of the pump and injection tests indicated that the production zone sand has good permeability and is amenable to ISR recovery. Transmissivity values ranged from 149 to 555 $ft^2$/day; permeability values ranged from 0.9 to 4.1 ft/day; and storativity values ranged from 4.0 x $10^{-5}$ to 1.0 x $10^{-3}$. No responses were observed in the overlying aquifer during any hydraulic testing activities. This demonstrates that the numerous unplugged exploratory boreholes drilled before 1988, do not provide a conduit to crossflow of groundwater between aquifer units, due to the natural sealing capacity of the swelling clays present in confining units with respect to the production zone aquifer.

### 7.3.1 Comment on Results

The pump test results provide sufficient characterization of the production zone aquifer to support state and federal permit applications and demonstrate that the production zone aquifer has sufficient geologic confinement and transmissivity for ISR operations.

In the opinion of the QP, adequate aquifer testing has been conducted to characterize the project for regulatory and high-level operational purposes. Both the permit to mine and material license require additional, mine unit scale aquifer tests to confirm past work and demonstrate communication to perimeter monitor wells along with production zone confinement.

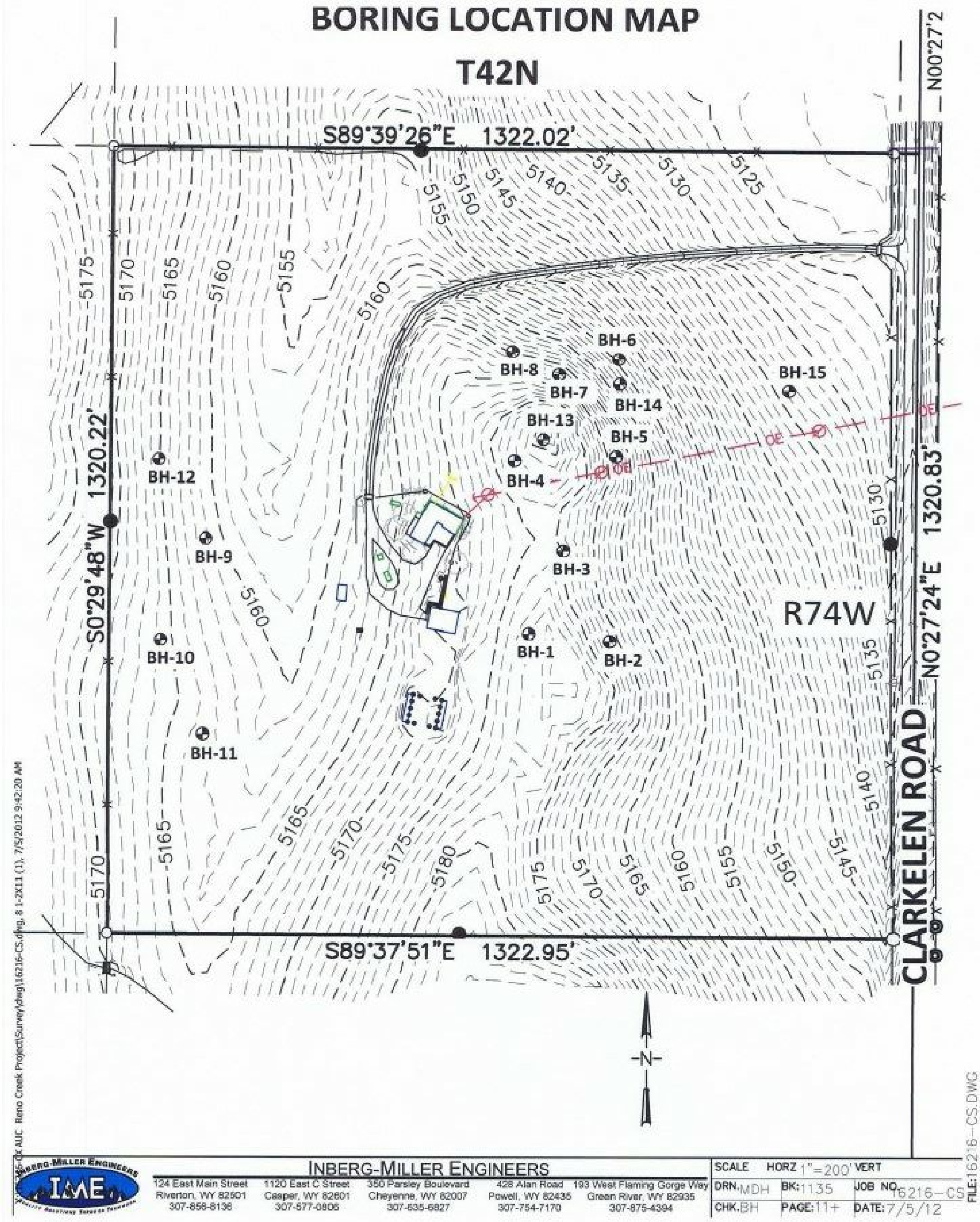
## 7.4 Geotechnical Testing

Geotechnical test borings and analyses have been completed at the Project to determine soil properties for preliminary designs of the CPP and associated infrastructure, foundations, and pond construction. In 2012, Inberg-Miller Engineers (IME) of Casper, WY completed fifteen geotechnical borings to maximum depths of 21.5 ft at the CPP site in T42N, R74W, as shown on Figure 7-3. The borings generally encountered unconsolidated sandy clay and sand overlying weathered to competent sedimentary bedrock. There was no groundwater observed within the borings during drilling operations (IME 2012).

Drilling and sampling was conducted following ASTM International (ASTM) standards for using augers, sampling with a 2-inch split-barrel and standard penetration tests, and sampling with a 2.5-inch split barrel drive sampler (ASTM standards D6151, D1586, and D3550). Samples were logged in the field by an IME representative and were then sealed in containers or tubes for transportation to the laboratory. In the Laboratory, the collected samples were classified visually according to ASTM D2488 and the following tests were performed: 92 Moisture Content tests (ASTM D2216), nine Atterberg Limit tests (ASTM D4318), nine Sieve Analysis tests (ASTM C136 and C117), three Water Soluble Sulfate tests, and four Consolidation-Swell tests (ASTM D2435). Additionally, six percolation tests were completed within the planned drain field and found that percolation rates ranged from 2.0 to 3.5 minutes per inch. Based on the borings and laboratory testing, IME stated that it is unlikely that groundwater would be encountered during construction at the CPP site and that no major difficulties were anticipated for conventional equipment during earthwork construction.

In the opinion of the QP, adequate geotechnical testing has been conducted to plan and design facilities at the CPP site and that the ASTM standards used ensure that the test results are consistent and repeatable.

**Figure 7-3 Geotechnical Boring Location Map**



## 8.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

### 8.1 Sampling Methods

Conventional rotary holes were not sampled. Grade was determined by calibrated downhole gamma detection probes.

RCH collected 717 ft of core from 19 core holes. Sixteen of the locations are within the North and Southwest Reno Creek Resource Areas and three core holes were completed at the Moore Resource Area.

Core samples were collected at the drill by the supervising geologist, boxed and labeled with appropriate identification. Core boxes were transported to the locked warehouse and stored securely until they were sampled and sent for analysis.

When each core hole was completed, it was logged using a downhole geophysical tool using the same procedures as were used for conventional rotary holes.

Core was logged by a staff geologist, scanned with radiation detection equipment to assist sample identification, and samples were identified and marked. Samples were split for analysis in the town of Wright, Wyoming at RCH's core storage facility. Each sample was documented and described in detail, and a sequenced sample identification number was given to each sample. Samples were wrapped in sealed plastic bags with the ID number placed inside the bag and written on the outside of the bag for repetitive reassurance that the correct sample ID would be used. Once all the samples were prepared, a chain of custody form was prepared for each laboratory. Chain of custody forms are on file with UEC. Samples were either hand delivered to local laboratories or shipped to the out-of-town labs.

Laboratories used by RCH for analytical procedures on core samples are described below.

In general, sample preparation and analytical procedures followed standard industry practices. These practices included: measurement and detailed geologic descriptions, evaluation using hand-held scintillometer, correlation with down hole geophysical logs, bagging and sealing to prevent oxidation and boxing to maintain core integrity.

Core Laboratories in Denver, Colorado determined permeability and porosity (P&P), performed laser particle size analyses, and determined mineralogy by X-ray diffraction (XRD). Core Laboratories is independent of RCH and UEC.

Core Laboratories, Houston, Texas performed nuclear magnetic resonance (NMR) effective porosity determinations. Core Laboratories in Houston is independent of RCH and UEC.

Energy Laboratories in Casper, Wyoming performed bottle roll, closed can, radiometric, and chemical analyses of metals including uranium. Energy Laboratories is independent of RCH and UEC and has been accredited by the National Environmental Laboratory Accreditation Council, the NRC, Multi-Agency Radiological Laboratory Analytical Protocols via: EPA, U.S. Department of Defense, U.S. Geological Survey, U.S. Department of Energy, NRC, U.S. Food and Drug Administration, and the National Institute of Standards and Technology.

Bottle roll tests consisted of pulverizing 200 grams to 500 grams of core and adding five pore volumes of lixiviant ($NaHCO_3$ and $H_2O_2$) and then rolling in a bottle for 16-22 hours. The leachate was then separated from the core sample and analyzed for uranium and trace metal concentrations. Six bottle roll stages were performed on various core samples. After the final test, the pulp was assayed for any remaining uranium.

J.E. Litz and Associates, Golden, Colorado performed column leach analyses. J.E. Litz and Associates are independent of RCH and UEC.

The procedure for small column tests was to charge a 2-inch diameter by 18-inch-tall column with as much as 1,000 grams of dry or damp mineralized core. Fresh formation water was used and prepared using a lixiviant solution of $NaHCO_3$ and $H_2O_2$. The solution was then pumped up-flow through the column at approximately one pore volume per day. Effluent discharging the column was sampled daily and analyzed for uranium. At the end of the test, the column was emptied and the solids filtered and washed. A weighted composite of the discharge and filtration solutions was submitted for additional analyses. The residue was dried, de-lumped, blended, and a 1/8-split prepared for uranium analysis.

Weatherford Laboratories, Casper, Wyoming (now Stratum Reservoir**)** performed permeability and porosity and bulk density determinations. Weatherford is independent of RCH and UEC.

Inter-Mountain Labs, Inc. (now Pace Analytical Services, LLC) in Sheridan, Wyoming performed bottle roll, closed can, radiometric, and chemical analyses of metals including uranium on samples obtained since 2012. Inter-Mountain Labs is independent of RCH and UEC and (as Pace Analytical Services, LLC), holds certification for uranium analysis using EPA method 200.8.

Bottle roll tests consisted of pulverizing 200 grams to 500 grams of core and adding five pore volumes of lixiviant ($NaHCO_3$ and $H_2O_2$) and then rolling in a bottle for 16-22 hours. The leachate was then separated from the core sample and analyzed for uranium and trace metal concentrations. Eighteen bottle roll stages were performed on various core samples. After the final test, the pulp was assayed for any remaining uranium.

## 8.2 Density Determinations

Production zone formation bulk density determinations were performed by Weatherford Labs of Casper, WY which was subsequently acquired by Stratum Reservoir.

The tonnage factor used in completing the mineral resource estimate is 17 $ft^3$/ton on a moisture-free (dry bulk density) basis. Reno Creek tabulated bulk density determinations by Rocky Mountain Energy and other historical operators and conducted 20 of its own determinations. The bulk density measurements ranged from approximately 16–18 $ft^3$/ton, with an average of about 17 $ft^3$/ton.

## 8.3 Downhole Geophysical Logging

Many of the currently known uranium deposits in the world were discovered between 1950 and 1980. Those deposits were explored by a variety of techniques, but grade was determined largely by use of calibrated downhole probes that detected and counted gamma radiation. Logs from those probes were then used to determine the grade of uranium in the hole as equivalent $U_3O_8$ ($eU_3O_8$) which was then used for mineral resource estimation. Conventional geochemical methods were slow and some required large core or cuttings samples. Downhole probes provided rapid and reliable grade data at significantly less cost than geochemical methods.

Geophysical logging was routinely conducted for every drill hole completed on the Project by all operators. Geophysical logs typically collected data for gamma ray, single-point resistance, and spontaneous potential. In later years, neutron and drill hole deviation logs were added. Geophysical logging for RCH was conducted by Century Geophysical of Tulsa, Oklahoma, a qualified independent contractor. Information about contractors used by other operators is largely lost, but Century Geophysical was a common contractor.

Natural gamma logs provide an indirect measurement of uranium content by logging gamma radiation in counts per second at one-tenth foot intervals. Counts per second are then converted to $eU_30_8$. The conversion requires an algorithm and several correction factors applied to the counts per second value.

### 8.3.1 Disequilibrium

The great majority of the data available for estimation of mineral resources is radiometric geophysical logging data from which the uranium content is interpreted. Radiometric equilibrium conditions may affect the grade and spatial location of uranium in the mineralization. Generally, an equilibrium ratio (Chemical U3O8 [c] to Radiometric eU3O8 [e]) is assumed to be 1, i.e., equilibrium is assumed. Equilibrium occurs when the relationship of uranium with its naturally occurring radioactive daughter products is in balance. Oxygenated groundwater moving through a deposit can disperse uranium down the groundwater gradient, leaving most of the daughter products in place. The dispersed uranium will be in a favorable state of disequilibrium (c/e = greater than 1) and the depleted area will be in an unfavorable state (c/e = less than 1). The effect of disequilibrium can vary within a deposit and has been shown to be variable from the oxidized to the reduced side of the roll fronts.

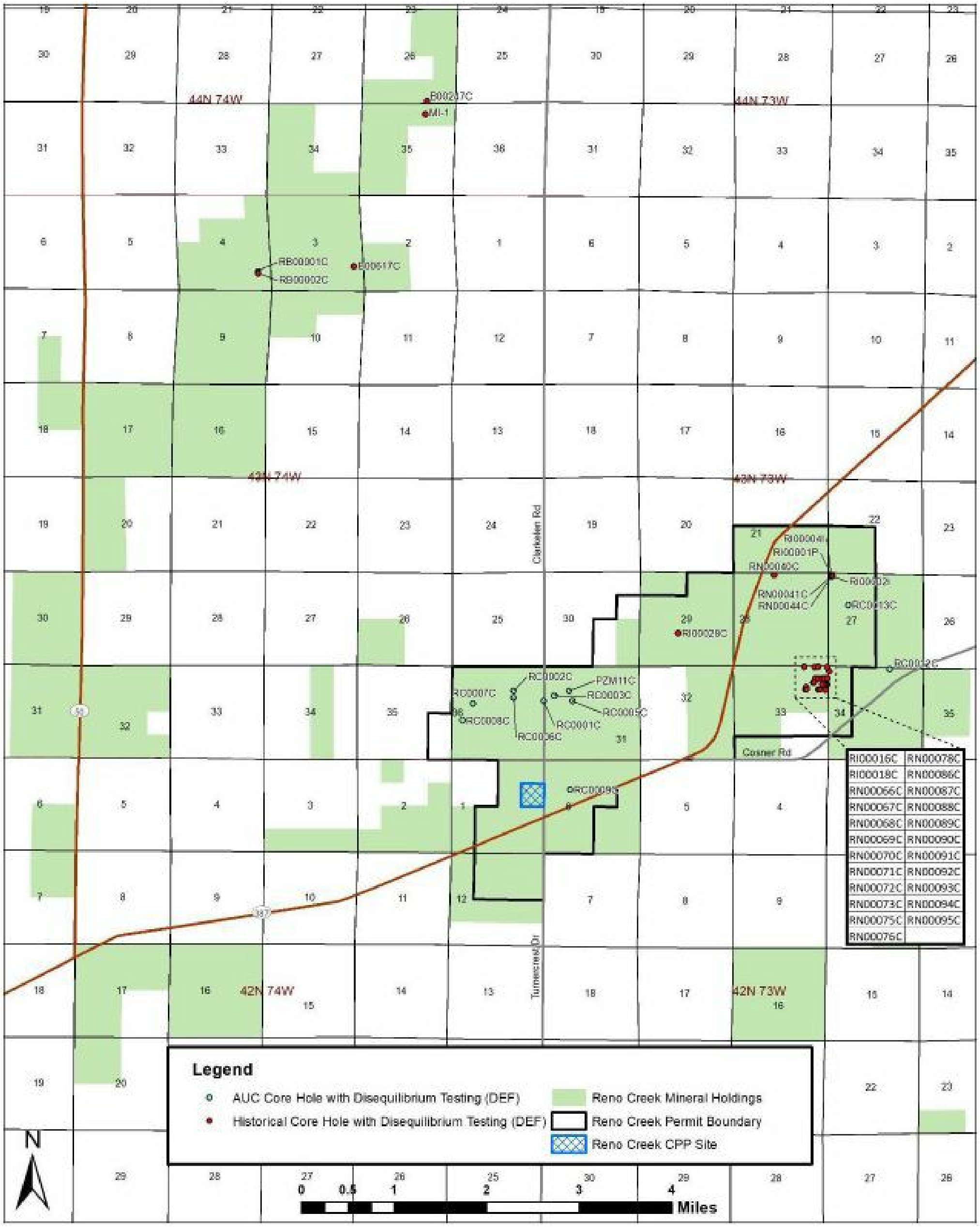
Rocky Mountain Energy conducted extensive coring and assay testing to confirm uranium values and evaluate potential disequilibrium at the Reno Creek and Moore Resource Areas. Twenty-three core holes on the UEC property were tested foot-by-foot through extensive portions of the production zone sandstone, with multiple comparisons run. In some cases, Rocky Mountain Energy tested as much as 130 feet of sandstone; 2 feet to 40 feet were tested bracketing all of the intercepts that met or exceeded the 0.02% $eU_3O_8$ cutoff grade. Twenty core holes were located on the North Reno Creek Resource Area and 3 core holes were on the Moore Resource Area (Figure 8-1).

Rocky Mountain Energy ran three separate comparisons on a foot-by-foot basis.

- Beta minus gamma versus closed can
- Chemical (fluorimetric) analysis versus downhole probe
- Delayed fission neutron versus downhole probe

These tests were designed to estimate a level of potential uranium disequilibrium between a grade derived in a manner that either directly measures uranium or measures an indirect factor that closely relates to uranium concentrations and a radiometric grade from a downhole probe or closed can test (both of which are based on gross gamma ray measurements and the potential fractionation of uranium from its daughter products). Disequilibrium is represented by a ratio between the chemical and radiometric analyses. Favorable measurements exceed 1.0 while unfavorable measurements are <1.0.

**Figure 8-1: Reno Creek Project Core Holes with Equilibrium Test Results**



Thirty-four separate intercepts, averaging greater than 0.02% $eU_3O_8$ (compositing the hundreds of half foot measurements described above), were extracted from the 23-core hole database. The 34 intercepts had 46 comparisons conducted using a combination of methods. Results of these comparisons are shown in the following weighted averages:

- Beta minus gamma versus closed can: 1.80;
- Chemical Analysis versus probe: 1.47;
- Delayed Neutron Fusion versus probe: 1.21.

Of the 46 comparisons, 37 were favorable (≥1.0) and nine were unfavorable (≤1.0). Of the nine unfavorable results, six were >0.8. Three of the nine were <0.8.

Utah International/Pathfinder conducted equilibrium analyses on four drill holes at the Pine Tree Resource Area. They evaluated 57 separate half-foot intervals using a chemical analysis by X-ray fluorescence and compared those measurements to radiometric analyses. Over those samples, the average ratio of chemical to radiometric was 1.10. All the intervals were >0.05% $U_30_8$, which was Utah International's open-pit mining cutoff grade at the time.

No equilibrium data are available for the Bing Resource Area.

### 8.4 Quality Assurance and Quality Control

RCH developed Quality Assurance/Quality Control (QA/QC) procedures to guide drilling, logging, sampling, analytical testing, sample handling, and storage.

#### 8.4.1 Downhole Probe QC

RCH required that each probe be recalibrated on a regular basis at a U.S. Department of Energy test pit. These test pits are located in either Grand Junction, CO or Casper, WY. In addition, and as an on-site QA/QC measure, RCH required that the contract logger re-probe a cased well (UM1, near the former Rocky Mountain Energy pilot plant) to verify that grades, thicknesses, and depths of intercepts remain constant. This check was done approximately twice per month during drilling operations.

QA/QC performed by prior operators is not documented, but most operators required scheduled calibration runs on their geophysical logging equipment.

#### 8.4.2 Groundwater Testing

During the pre-operational baseline collection period, RCH utilized guidance from WDEQ/LQD Guideline 4, WDEQ/WQD Guideline 8 and NRC Regulatory Guides 4.14 and 4.15 to ensure proper quality assurance QA/QC procedures were implemented during all sampling efforts.

All samples were sent to Inter-Mountain Labs (now Pace Analytical Services, LLC) in Sheridan, WY where testing was conducted in accordance with applicable rules and regulations.

Key QA/QC procedures utilized by RCH included:

- Establishing monitor locations and frequency of sampling efforts in accordance with applicable WDEQ and NRC rules and regulations;

- Ensuring all field parameters were stabilized for three consecutive readings prior to sample collection as required when low-flow sampling techniques are used (Guideline 4, Reference Document 10);
- Adhering to all sample preservation and handling requirements;
- Establishing a documented chain of custody program;
- Collecting random duplicate samples as required;
- Collecting field blank samples as required; and
- Maintaining current field equipment calibration schedules as required by the manufacturer

## 8.5 Database

The database management software used for the Project is Microsoft Access. Digital data comprises collar coordinates, downhole intervals, and digitized electric logs. UEC digitized all paper logs that were not previously digitized.

Digital database records consisted of X-Y-Z coordinates, rare downhole surveys, and composited roll front interval data (thickness, grade, and grade-tonnage values). Those data were loaded manually. Gamma probe data were transferred digitally for the 2010-2013 RCH drill effort. Lithologic and geophysical logs are stored electronically and on hard copy by UEC.

A combination of historical intercepts and results of RCH's drilling was used for mineral resource estimation. Those data were interpreted manually, hole-by-hole, composited, and manually entered into the database.

UEC stores downhole logs in electronic format on an in-house secure server and hard copies are filed in the Glenrock, Wyoming office. Electronic files are protected and backed up to prevent damage or loss.

Available historical information in UEC's files forms a physical database that consists of numerous of maps, cross-sections, tables, reports, and approximately 2,000 hard copy logs. Many of these documents are referred to repeatedly during the mineral resource estimation process.

## 8.6 Qualified Person's Opinion on Sample Preparation, Security, and Analytical Procedures

In the opinion of the QP:

- Sample collection, preparation, analysis and security for drill programs are in line with industry-standard methods for roll front uranium deposits, but the data are used only for disequilibrium studies;
- Drill programs included downhole gamma, SP, and single point resistance logs from probes that were calibrated (gamma only) at the test pits in Casper and checked routinely in a local bore hole as a QC measure. Uranium grades ($eU_3O_8$) are based entirely on probe data and are considered to have adequate quality control. Both the probe use and QC measures are in line with uranium industry standard operating procedures;

- QA/QC measures for groundwater testing are adequate and do not indicate any problems with the analytical data;
- Digital database construction and security are adequate. The physical database is properly organized and secure;
- Data are subject to validation, and numerous checks that are appropriate and consistent with industry standards.

The QP is of the opinion that the quality of the uranium analytical data is sufficiently reliable to support mineral resource estimation without limitations on mineral resource confidence categories.

# 9.0 DATA VERIFICATION

## 9.1 Source Material

The UEC database contains 10,151 drill holes drilled by RCH and other former operators on and adjacent to the Resource Areas. Electric log gamma data are available for more than 75% of these holes, and interval data (thickness, grade, and grade-thickness) are available for about 95% of the mineralized holes.

Approximately 50 drill holes were not used in the current resource estimate due to identification of problematic data during recent data validation processes.

Data for 6,191 drill holes were used in the current resource estimate; however, more or less all of the holes supported geological model construction, so essentially all holes were used to support mineral resource estimation. Within the data set, 6,061 holes are within the Project area. The drill hole data consists of logs, surveys, and data generated for those holes.

UEC personnel entered the data into the database and constantly monitored data quality during data entry and when data are extracted for any purposes.

As previously discussed, industry standard methods were utilized at the time of data collection. Available data were from drill maps, cross sections, geophysical logs, and lithologic logs. WWC has worked with UEC contacts to obtain and verify exploration drilling and sampling data was complete, thorough, and accurate. Geophysical logs for historic drillholes were analyzed and evaluated for completeness and sufficiently quality check in the process of developing the drillhole database for the resource modeling. Surveyed monuments or markers documenting the location of abandoned drillholes were not able to be physically inspected during the site visit, however, the database of drillhole locations was checked against the hole location identified on geophysical logs.

## 9.2 Qualified Person's Opinion on Data Adequacy

The historic and more recent exploration data and the overall data adequacy is deemed to be reasonably sufficient by the QP for applying QA/QC techniques and verifying the legitimacy of the data incorporated into this TRS.

# 10.0 MINERAL PROCESSING AND METALLURGICAL TESTING

## 10.1 Introduction

UEC plans to use an ISR mineral extraction process to recover uranium from the host sandstone formations at the Project. UEC will employ a leaching solution composed of an oxidant and sodium bicarbonate for oxidation and complexation reactions to bring the uranium to the surface through a series of injection and recovery wells for additional processing.

In order to verify the proposed uranium recovery method is applicable, RCH drilled 16 core holes within the North and Southwest Reno Creek Resource Areas to provide data regarding the amenability of uranium to leaching and insights regarding geochemistry, physical properties, and hydrologic properties of the sandstone host.

RCH drilled three core holes in the Moore Resource Area for analysis of hydrologic and physical properties.

The following tests and analyses were performed on the core samples:

- Vertical and horizontal permeability and porosity analyses by various methods in major lithologic units including aquitards (claystone, mudstone, siltstone), unmineralized sandstone, and mineralized sandstone;
- Effective porosity;
- Bulk density;
- Grain size analysis;
- Clay content and mineralogy;
- Production zone aquifer sandstone lithology, mineralogy, and petrology;
- Uranium mineral(s) identification;
- Metallurgical testing by bottle roll and column leach using varied oxidants and lixiviant strengths;
- Assays of $U_3O_8$ and closed can radiometric equivalent; and
- Testing provides data regarding amenability of uranium leaching and insights regarding geochemistry at the project.

The proposed mineral processing for the Project will use the same processes that are currently being used or proposed at other ISR operations in Texas, Nebraska and Wyoming. The processes for ISR are typically the following:

- Wellfields for injection of the lixiviant solution and recovery of the uranium which is pumped to the surface by recovery wells and to a CPP;
- Processes in a CPP contain the following:
    - Ion exchange circuit for recovery of the dissolved uranium onto ion exchange resins from the solution;
    - Elution circuit for removal of the uranium from the ion exchange resins into a rich eluate;

- o Yellowcake circuit for precipitation of the uranium as yellowcake from the rich eluate; and
- o Yellowcake dewatering, drying and packaging circuit for filtering, drying, and packaging the yellowcake for shipment.

## 10.2 Physical Testing

### 10.2.1 Permeability and Porosity Measurements

In-situ porosity and permeability are critical factors for the success of an ISR mine. At the North and Southwest Reno Creek Resource Areas, RCH recovered core samples from the overlying and underlying aquitards, the overlying aquifer, and the production zone aquifer. Core from multiple zones was recovered to evaluate the characteristics of each of the lithologic units that are important to mining operations. Core Labs in Denver and Weatherford Laboratories (now Stratum Reservoir) in Casper analyzed samples for porosity and permeability. Samples in the overlying aquifer and production zone aquifer were analyzed using the Klinkenberg Air P&P method. Samples from the underlying and overlying aquitards were analyzed using a liquid porosity and permeability method as well as the Klinkenberg Air P&P method (Table 10-1).

**Table 10-1: Permeability and Porosity Summary**

| Zone | Method | Result | |
|---|---|---|---|
| Production zone aquifer - Moore Resource Area | Air P&P | Average Porosity = 29.8 | Average Permeability |
| | | | Klinkenberg = 3,857 md |
| Production zone aquifer - Reno Creek | Air P&P | Average Porosity = 30.3 | Average Permeability |
| | | | Klinkenberg = 1,944 md |
| Overlying aquitard -Reno Creek | Liquid P&P | Permeability Specific to Brine = 0.00087 md | |
| Underlying aquitard- Reno Creek | Liquid P&P | Permeability Specific to Brine = 0.00058 md | |

Note: P&P = porosity and permeability

Eleven core samples were collected for porosity and permeability analyses from the production zone aquifer at the Moore Resource Area. Analyses were performed by Weatherford Labs in late 2012 and are summarized in Table 10-1. Those results are very comparable to average porosity and permeability values from the production zone aquifer at the North and Southwest Reno Creek Resource Areas. Metallurgical and disequilibrium analyses were not performed using RCH's 2012 core from the Moore Resource Area; however, historical testing results are presented in the Rocky Mountain Energy reports held by UEC.

Core Labs in Houston conducted a single analysis of effective porosity using NMR on a production zone aquifer sandstone sample from core hole RC0007C. The Klinkenberg permeability was 1,801 md and the total porosity was 31.8%; however, the effective porosity of this sample was 23.7%. Effective porosity excludes porosity related to bound water in clays resulting in a lower number. Porosity and permeability are within the normal range of ISR producing facilities and support the QP’s conclusion that the mineralized sandstone is amenable to ISR production of uranium.

### 10.3 Specific Metallurgical Tests

RCH conducted two types of metallurgical testing to verify the amenability of the deposits to ISR, agitation (bottle roll) and column leach tests. Locations of the core holes used for testing are shown on Figure 10-1. Bottle roll tests were performed by Energy Laboratories in Casper and by Inter-Mountain Labs on select core from the North and Southwest Reno Creek Resource Areas to test for recovery of uranium from the host rock. Bottle roll tests were performed on a variety of different portions of core targeting different grades and lithology and are considered by the QP to be reasonably representative of all mineralization at Reno Creek. Tests were performed on 1-4 ft lengths of core.

Results of those tests and historical data are shown in Table 10-2. Recoveries were similar to those tested previously and indicate the mineralization is amenable to leaching.

**Figure 10-1: Core Holes Used for Metallurgical Test Work**

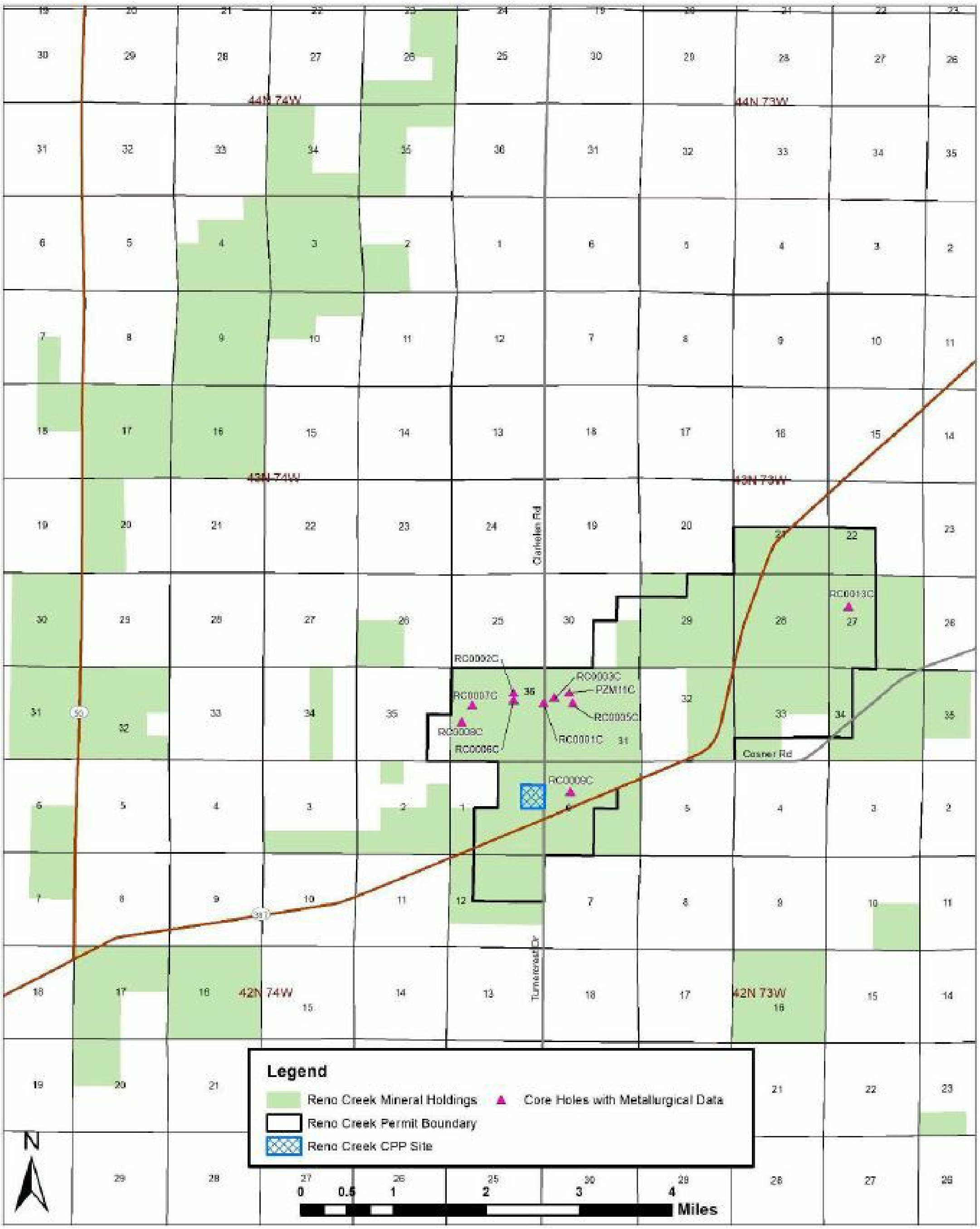


**Table 10-2: Bottle Roll Test Results**

| Hole ID | Depth | Lixiviant | Grams of Core | Bottle Roll Hours | Number of Stages | Percent Recovery |
|---|---|---|---|---|---|---|
| | | **Energy Labs Bottle Roll Results** | | | | |
| RC0001C | 333-335 | $NaHCO_3$, 1 q/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 83 |
| RC0002C | 332-334 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 89 |
| RC0002C | 338.5-341 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 86 |
| RC0006C | 349.5-351.5 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 78 |
| RC0006C | 356-358 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 89 |
| RC0007C | 380-381 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 94 |
| RC0007C | 381-382 | $NaHCO_3$, 1 q/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 80 |
| RC008C | 378.5-380 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 89 |
| RC0009C (1) | 268-271 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 82 |
| RC0009C (2) | 297-300 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 200 | 16 | 6 | 76 |
| **Average** | | | | | | **85** |
| | | | | | | |
| | | **IML Bottle Roll Results (UEC)** | | | | |
| RC0003C | 241-243 | $NaHCO_3$, 1.5 g/L; $H_2O_2$, 0.5 g/L | 500 | 22 | 18 | 82 |
| RC0005C | 306-308 | $NaHCO_3$, 1.5 g/L; $H_2O_2$, 0.5 g/L | 500 | 22 | 18 | 93 |
| RC00OllC | 303-305 | $NaHCO_3$, 1.5 g/L; $H_2O_2$, 0.5 g/L | 500 | 22 | 18 | 92 |
| RCOO13C | 342-346 | $NaHCO_3$, 1.5 g/L; $H_20_2$, 0.5 g/L | 506 | 22 | 18 | 87 |
| **Average** | | | | | | **88** |

Column leach tests were run on 4 core samples from the Southwest Reno Creek Resource Area by J.E. Litz and Associates in 2012 Uranium recoveries varied from 80% to 95% with an average recovery rate of 85.5% (Table 10-3).

**Table 10-3: Column Leach Test Results**

| Hole ID | Footage | Sample ID | Lixiviant | % $U_3O_8$ Recovered |
|---|---|---|---|---|
| RC0009C | 268-271 | 11-11-59R | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 83 |
| RC0009C | 297-300 | 11-11-60 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 84 |
| RC0009C | 297-300 | 11-11-606 | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.106 g/L | 80 |
| RC0002C | 338.5-341 | 11-11-61A | $NaHCO_3$, 1 g/L; $H_2O_2$, 0.5 g/L | 95 |

### 10.3.1 Disequilibrium Study

As discussed in Section 8, RCH performed equilibrium studies on 21 samples from nine cores obtained from Southwest Reno Creek (Table 10-4) Equilibrium studies on core holes, RC0012C and RC0013C, were completed in the North Reno Creek Resource Area in 2013. Locations of core holes sampled and tested for disequilibrium are shown on Figure 8-1

The samples varied in grade and depth to mineralization to test for different variables. Closed can analysis was the method used to determine the percent of radiometric $eU_3O_8$, which was then compared to the $cU_3O_8$ for the same sample. Chemical analysis was conducted by ICP-MS. Twenty-two of 23 samples tested had favorable (>1.0) disequilibrium. The $cU_3O_8$/ $eU_3O_8$ ratio ranged from 0.82 to 1.90, as shown in Table 10-4. Dispersed uranium is considered to be in a favorable state of disequilibrium (c/e >1.0) and the depleted area will be in an unfavorable state (c/e ≤1.0).

The RCH assays, coupled with historical equilibrium studies by Rocky Mountain Energy, confirm the presence of a slightly favorable state of disequilibrium (c/e >1) in the portions of the deposit sampled. RCH and UEC used a 1.0 disequilibrium factor for mineral resource estimation.

## 10.4 Mineralogy

### 10.4.1 Host Rock Characteristics

Sandstones at the Project are arkosic and/or feldspathic in composition. Quartz grains are a major component with moderate amounts of potassium and calcium feldspars. Accessory minerals include pyrite and calcium carbonate cement. Carbonaceous material is occasionally present in reduced portions of the sandstone.

Whole rock mineralogy work performed on core collected by RCH and reports from analytical work by Rocky Mountain Energy in the late 1970s indicate that quartz ranges from 50-60%, feldspars comprise approximately 20-25%, and clays present as smectite, kaolinite, and illite may comprise as much as 20% of the total.

**Table 10-4: Equilibrium Study Results**

| Core Hole | Depth (feet) | $cU_3O_8$ % (assay) | $eU_3O_8$ % (closed can) | c/e ratio |
|---|---|---|---|---|
| RC0001C | 333-335 | 0.03 | 0.026 | 1.16 |
| RC0002C | 332-334 | 0.087 | 0.054 | 1.62 |
| RC0002C | 338.5-341 | 0.289 | 0.253 | 1.14 |
| RC0003C | 241-243 | 0.205 | 0.108 | 1.9 |
| RC0005C | 306-308 | 0.099 | 0.068 | 1.46 |
| RC0006C | 349.5-351.5 | 0.026 | 0.02 | 1.32 |
| RC0006C | 356-358 | 0.11 | 0.061 | 1.79 |
| RC0007C | 380-381 | 0.25 | 0.145 | 1.72 |
| RC0007C | 380-380.5 | 0.173 | 0.135 | 1.28 |
| RC0007C | 381-382 | 0.077 | 0.071 | 1.09 |
| RC0008C | 378.5-380 | 0.84 | 0.562 | 1.49 |
| RC0009C | 268-271 | 0.059 | 0.049 | 1.2 |
| RC0009C | 294-295 | 0.067 | 0.044 | 1.53 |
| RC0009C | 296-297 | 0.061 | 0.039 | 1.57 |
| RC0009C | 297-300 | 0.068 | 0.052 | 1.31 |
| PZM0011C | 281-282 | 0.235 | 0.151 | 1.56 |
| PZM0011C | 282-283 | 0.158 | 0.192 | 0.82 |
| PZM0011C | 298-299 | 0.514 | 0.35 | 1.47 |
| PZM0011C | 299-300 | 0.285 | 0.18 | 1.58 |
| PZM0011C | 300-301 | 0.333 | 0.218 | 1.53 |
| PZM0011C | 303-305 | 0.074 | 0.043 | 1.72 |
| RC0012C | 296.5-297.5 | 0.143 | 0.082 | 1.74 |
| RC0013C | 342-346 | 0.102 | 0.064 | 1.59 |

### 10.4.2 QEMSCAN

Pfaff (2012) reported results from two uranium bearing samples from a sandstone hosted uranium deposit analyzed by QEMSCAN for mineralogy, locking and liberation characteristics, mineral associations and grain size distribution.

The host rock is a porous sandstone with poorly sorted grains of quartz (40-45%), feldspar (12-18% K-feldspar and 6-10% plagioclase), muscovite (6%), biotite (4-5%), pyroxene (<1%), and amphibole (<1%) set in a porous, clay-fine (mainly kaolinite: 12%) matrix. This rock is classified as arkosic sandstone (it is not an arkose, as the feldspar content is <25%), or almost as a feldspathic wacke (sandstones that contain more than 15% clay matrix in between framework grains and the modal abundance of quartz is <40% with feldspar being the second most abundant mineral).

## 10.5 Recovery Estimates

Typical recoveries for ISR operations commonly range from 70 to 85% with the average at about 80%. Bottle roll and column test work at the North and Southwest Reno Creek Resource Areas discussed above suggests that recoveries will be on the order of 80 to 85% which is consistent with typical recoveries seen by other ISR operators in the PRB.

A recovery estimate of 75% is used in this TRS for all deposits to demonstrate reasonable prospects for economic extraction.

## 10.6 Metallurgical Variability

Metallurgical variability across these deposits is largely a function of differences in porosity, permeability, and transmissivity which is adequately characterized by pump testing. Uranium mineralogy is much less of a concern because all of the uranium minerals known from these deposits are soluble in oxidizing groundwater and are deposited when those solutions are reduced.

## 10.7 Deleterious Elements

Deleterious elements are vanadium, arsenic, and selenium. All three elements are present in small quantities, but concentrations are not high enough to be a significant problem as long as the pH of the lixiviant is controlled properly.

## 10.8 Qualified Person's Opinion on Data Adequacy

The QP considers the metallurgical and physical test work and results to date to be adequate to support general process design and selection. Pump testing and core analysis demonstrates that the aquifers have sufficient porosity, permeability and transmissivity to support ISR operations. Equilibrium testing demonstrates that, in general, positive equilibrium exists which indicates that uranium is present where gamma data suggest it is present and at the grade indicated by the probe data. Laboratory leach testing demonstrates that the uranium can be solubilized using a carbonate and oxygen based lixiviant.

# 11.0 MINERAL RESOURCE ESTIMATES

## 11.1 Introduction

Mineral resource estimation for sandstone hosted uranium deposits is traditionally done using various grade x thickness (GT) methods. GT methods are proven to work, but they have a propensity to fail unless done carefully and then carefully checked. Mineral resources in all of the roll front deposits at all of the Resource Areas were estimated using exactly the same methodology so that methodology is described only once. Mineral resource estimates are presented for each Resource Area separately.

## 11.2 Data Preparation

Data preparation included locating, editing, and compiling drill hole location and downhole mineralized interval data for each roll front in each of the Resource Areas. These data were obtained from drill hole core and cutting description logs, electric logs, maps, cross sections, and digital databases acquired from previous operators in the area. Data were also obtained from 1,044 holes drilled and logged by RCH, laboratory analyses completed for RCH, and reports generated by RCH.

The following criteria were used to build databases for roll fronts in the five Resource Areas.

- Coordinate data: when coordinates for historical drill holes from different data sources were available, they were compared, maps were constructed, and a final set of coordinates adopted. In general, X-Y-Z coordinates obtained from multiple sources showed little variance;
- Downhole data: mineralized intervals were identified in each drill hole using characteristics of shape and position of natural gamma radiation from electric logs. Cutoff criteria included 0.01% $eU_3O_8$ grade and a 1.0-ft thickness. These low cutoffs were selected so that the low-end tail of the data distribution would be represented in the estimation methodology. No upper cutoff criteria were applied. Thicknesses and grades were multiplied to obtain GT values;
- Drill holes with roll front code data: north-south and east-west cross sections were constructed and spatial continuity of roll fronts were determined for all Resource Areas. Mineralized intervals were assigned a roll front code (Green, Purple, Red, Orange, Blue, Upper, Middle, or Lower). The codes reflect a local stratigraphic naming convention consistent with those used by operators in the region;
- Alteration front data: core and cutting logs, electric logs, roll front plan maps, and cross sections were used to construct alteration front maps;
- Composited data: mineralized intervals in each drill hole were composited using roll front codes to derive a single composited thickness, grade, and GT value for each roll front in each drill hole;
- Mineralized and barren data: intercept tables were prepared for each roll front. All intervals not meeting grade and thickness cutoffs were assigned mineral thickness and grade values of 0.0.

All work described above was completed by UEC staff and reviewed and verified by the QP.

Separate digital databases were created for each roll front in each of the Resource Areas in the Project, as follows:

- North Reno Creek Resource Area - intervals within the Green, Purple, Orange, and Blue roll fronts;
- Southwest RCH, Moore, and Bing Resource Areas - intervals within the Green, Purple, Red, and Orange roll fronts. The Blue roll front is not present in these Resource Areas;
- Pine Tree Resource Area - intervals in the Upper, Middle, and Lower roll fronts.

Digital database records consist of X-Y-Z coordinates and composited roll front interval data (thickness, grade, and GT values).

Data from the Access database were extracted to Excel tables for use in the resource estimation. RockWorks software was used by RCH and UEC for the mineral resource estimation.

The QP considers the data used for the mineral resource estimate to be adequately prepared and is satisfied that the digital data are adequate for 2-D mineral resource estimation.

### 11.3 Key Assumptions and Basis of Estimate

The mineral resource estimated by RCH and UEC used computerized geologic and volumetric modeling methods. The estimation method used was a two-dimensional Delaunay triangulation in RockWorks.

GT estimation is a commonly used mineral resource estimation method in sandstone-hosted uranium deposits in Wyoming, Colorado, New Mexico, Arizona, and Utah. It has proven to be reasonably easy to apply and provides acceptable estimates of uranium mineral resources.

Mineral resources were estimated only when drill intercepts were:

- bounded above and below by aquitards;
- In permeable and porous sandstone;
- Below the water table.

#### 11.3.1 Geological Models

At each Resource Area, several roll front levels (sub rolls) were modeled on cross section and data for each roll front deposit was manually coded in the database. Those were then estimated individually. The basis for those models were redox state and $eU_3O_8$ data.

#### 11.3.2 Reasonable Prospects of Economic Extraction

Based on the depths of mineralization, average grade, thickness, and GT, it is the QP's opinion that the mineral resources at the Project can be recoverable by ISR methods using a long-term price of $40/lb.

#### 11.3.2.1 Commodity Price

Uranium does not trade on the open market and many of the private sales contracts are not publicly disclosed. UEC used $40/lb as the forecast uranium price for the Project. This is based on the long-term contract price at the end of November 2021 ($43.00 from Cameco's combination of Ux Consulting [UxC] and Trade Tech reports), the spot price at the end of November 2021 ($45.75), UxC's price forecast, and UEC's understanding of market expectations. Table 11-1 below contains the UxC uranium price forecast for Q4 of 2021.

**Table 11-1: UxC Q4 2021 Uranium Price Forecast ($/lb U308)**

| UxC Market Outlook Q4 2021 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| UxC Low price Midpoint | $36.00 | $46.37 | $48.11 | $52.13 | $56.47 |
| UxC Mid price Midpoint | $36.00 | $40.02 | $41.33 | $42.59 | $43.02 |
| UxC High price Midpoint | $36.00 | $43.18 | $44.14 | $46.71 | $48.39 |

In the opinion of the QP, $40/lb is a conservative forecast price for the following reasons. First, at the issuance date, both the long-term price and spot price are greater than $40.00. Second, new physical uranium investment vehicles were created in 2021 such as the Sprott Physical Uranium Trust (Sprott, 2021) and the upcoming physical uranium fund backed by Kazatomprom, the National Bank of Kazakhstan, and Genchi Global Ltd. (Yue Li, 2021) which effectively removed supply from the market. Third, the increasing demand for carbon free energy and plans to construct new nuclear reactors (Murtagh & Chia, 2021) puts further pressure on the supply side of the market. Finally, there has been a steady increase in the uranium price for the last three years with a sharp rise into the $40 range in the second half of 2021 due in part to increased demand from the Sprott Physical Uranium Trust. Due to recent volatility in the uranium market, the QP believes that a conservative forecast price is justified. and that $40/lb is considered reasonable by the QP for use in cutoff determination and to assess reasonable prospects for eventual economic extraction.

### 11.3.3 Cutoff Determination

A cutoff GT of 0.2 for estimating $U_3O_8$ mineral resources for the Reno Creek ISR Project was selected based on UEC's estimated overall project cost per pound of $34.32 to recover the measured and indicated mineral resources. This preliminary cost estimate is only for the purposed of determining cutoff grade and to demonstrate that the mineral resources have reasonable prospects for eventual economic extraction. Project economics and cost would be expected to be evaluated in a future preliminary economic assessment or pre-feasibility study.

### 11.3.4 Composites

All data, within specific sub roll zones, were composited to a minimum GT cutoff of 0.20 when the grade was estimated from gamma logs. Those composites were used in the estimation.

### 11.3.5 Estimation/interpolation Methods

Mineral resources estimated by RCH and UEC used computerized geologic and volumetric modeling methods. The estimation method was a two-dimensional Delaunay triangulation implemented in RockWorks. The Delaunay triangulation method connected data points (drill holes) via a triangular network with one data point at each triangle vertex, and constructed the triangles as close to equilateral as possible. Once the network was determined, the slope of each triangular plate was computed using the three vertex point values. Next, a 25 ft x 25 ft grid was superimposed over the triangular network, and each grid node (grid center) was assigned a Z-value, based on the intercept of the node and the sloping triangular plate. Only grid nodes falling within the boundary of the triangular network (convex hull) were estimated. The distance of the grid node from a drill hole location was computed and whether the node was located within UEC's property boundary. Triangulations and grids for both grade and thickness were constructed. Next, the thickness and grade grids were multiplied to obtain a GT grid. Finally, the mineral resource classification criteria, described in Section 11.6, was applied to the GT grid to obtain a classified mineral resource. Resource pounds were determined by taking the average GT in each GT contour interval and multiplying it by the area and a conversion factor, then dividing that value by the tonnage factor.

## 11.4 Confidence Classification of Mineral Resource Estimate

The continuity of individual roll front deposits is demonstrated by drill hole results, as displayed on plan maps and the cross section in Section 6. Thickness and grade continuity within the Resource Areas is typical of roll front uranium deposits.

For the Project mineral resource estimates, the classification strategy was based on the following three criteria.

1) Distance between a grid cell node (center) and a drill hole location, as follows:

   a. Measured - 0 feet to 50 feet between node and drill hole locations. The measured mineral resource has a level of geologic certainty that is sufficient to support detailed mine planning and final economic viability of the deposit.

   b. Indicated - 50 feet to 250 feet between node and drill hole locations.

   c. Inferred - 250 feet to 500 feet between node and drill hole locations.

2) A GT cutoff of 0.20.

3) Whether the grid cell was within UEC's property boundary.

## 11.5 Mineral Resource Statement

Mineral resources were estimated separately for each roll front in each of the Resource Areas. Mineral resources were summed for each unit. The results of the estimation of measured and indicated mineral resources for the Reno Creek ISR Project are reported in Table 11-2 and inferred mineral resources are reported in Table 11-3.

Maps illustrating spatial distribution of the $U_3O_8$ resource in the five Resource Areas of the Project are presented in Section 6 of this TRS.

**Table 11-2: Measured and Indicated Mineral Resources at the Project**

| Unit | Tons (millions) | Weighted Average Thickness (feet) | Weighted Average Grade ($\%U_3O_8$) | Pounds $U_3O_8$ (millions) |
|---|---|---|---|---|
| North Reno Creek | | | | |
| **Measured** | **7.12** | **14.3** | **0.042** | 5.96 |
| Indicated | **8.05** | **11.7** | **0.036** | 5.76 |
| Southwest Reno Creek | | | | |
| **Measured** | **4.68** | **12.9** | **0.043** | 3.94 |
| Indicated | **4.08** | **10.4** | **0.038** | 3.08 |
| **Moore** | | | | |
| **Measured** | **2.32** | **10.3** | **0.048** | 2.20 |
| Indicated | **2.31** | **9.0** | **0.042** | 1.92 |
| **Bing** | | | | |
| **Measured** | **0.30** | **14.6** | **0.038** | 0.23 |
| Indicated | **0.71** | **12.4** | **0.032** | 0.45 |
| **Pine Tree** | | | | |
| **Measured** | **0.57** | **14.0** | **0.056** | 0.63 |
| Indicated | **1.83** | **12.2** | **0.051** | 1.87 |
| Reno Creek Project | | | | |
| **Measured** | **14.99** | **13.2** | **0.043** | 12.92 |
| **Indicated** | **16.98** | **11.1** | **0.039** | 13.07 |
| **M + I Total** | **31.99** | **12.1** | **0.041** | 26.01 |

Note:
1. Mineral Resources are not mineral reserves and do not have demonstrated economic
2. Totals may not sum due to rounding.

**Table 11-3: Inferred Mineral Resources at the Project**

| Unit | Tons (millions) | Weighted Average Thickness (feet) | Weighted Average Grade ($\%U_3O_8$) | Pounds $U_3O_8$ (millions) |
|---|---|---|---|---|
| North Reno Creek | | | | |
| Inferred | 1.57 | 9.7 | 0.041 | 1.26 |
| Southwest Reno Creek | | | | |
| Inferred | 0.20 | 0.9 | 0.330 | 0.13 |
| Moore | | | | |
| Inferred | 0.13 | 8.0 | 0.035 | 0.09 |
| Bing | | | | |
| Inferred | 0 | 0 | 0 | 0 |
| Pine Tree | | | | |
| Inferred | 0.02 | 6.8 | 0.040 | 0.01 |
| Reno Creek Project | | | | |
| **Total Inferred** | **1.92** | **9.5** | **0.039** | **1.49** |

Note
1. Mineral Resources are not mineral reserves and do not have demonstrated economic viability
2. Totals may not sum due to rounding

### 11.6 Uncertainties (Factors) That May Affect the Mineral Resource Estimate

Factors that may affect the mineral resource estimate include;

- Assumptions as to forecast uranium price;
- Changes to the assumptions used to generate the GT cutoff;
- Changes to future commodity demand;
- Variance in the grade and continuity of mineralization from what was interpreted by drilling and estimation techniques;
- Density assignments;
- Assumptions as to the continued ability to access the site, retain mineral and surface rights titles, maintain environment and other regulatory permits, and maintain the social license to operate.

Mineral resource estimation is based on data interpretation and extrapolation of limited sample volumes to very large volumes. Application of these tools can result in uncertainty or risk. Three elements of risk are identified for the Project.

- Grade interpretation methods: interpreted to be low to moderate risk. Automated grade estimates depend on many factors and interpretation methods assume continuity between samples. A risk exists that a grade estimate at any three-dimensional location in a deposit will differ from the actual grade at that location when it is mined;
- Geological definition: interpreted to be a moderate risk. The geological roll front interpretation by the UEC geologists was checked using several automated techniques. The host units are relatively flat-lying, but there is a possibility of miscorrelation of a horizon when multiple closely spaced intercepts are present. A few uncertain roll front interpretations were noted. Some of the interpretations were revised, but additional work is needed to ensure a remaining small percentage of interpretations are correct.
- Continuity: interpreted to be low risk. The QP and coworkers supervised by the QP reviewed multiple maps, drilling records, and prior work at the Project that demonstrate and confirm the continuity of the roll fronts within the Project.

Mineral resources do not have demonstrated economic viability, but they have technical and economic constraints applied to them to establish reasonable prospects for economic extraction. The geological evidence supporting indicated mineral resources is derived from adequately detailed and reliable exploration, sampling, and testing, and is sufficient to reasonably assume geological and grade continuity. The indicated mineral resources are estimated with sufficient confidence to allow the application of technical, economic, marketing, legal, environmental, social and government factors to support mine planning and economic evaluation of the economic viability of the Project.

The inferred mineral resources are estimated on the basis of limited geological evidence and sampling, but the information is sufficient to imply, but not verify, geological grade and continuity. The QP expects that the majority of the inferred mineral resources could be upgraded to indicated mineral resources with additional drilling.

### 11.7 QP Opinion on the Mineral Resource Estimate

In the opinion of the QP, it is virtually impossible that all issues relating to relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with future work. However, the work undertaken on the Project to date, both through historical in-situ and recent laboratory testing demonstrates that uranium can be extracted using industry common methods and standard leaching technology. Further, through work conducted in support of receiving regulatory authorization, UEC has demonstrated that the host sandstones have the hydraulic properties required for in-situ extraction with adequate confinement by overlying and underlying intervals. Finally, the host sandstones of the Wasatch have been mined in the Pumpkin Buttes Uranium District since the 1970's using ISR technology with many millions of pounds extracted under similar conditions to those at the Project.

## 12.0 MINERAL RESERVE ESTIMATES

This section is not relevant to this Report.

## 13.0 MINING METHODS

This section is not relevant to this Report.

## 14.0 RECOVERY METHODS

This section is not relevant to this Report.

## 15.0 INFRASTRUCTURE

This section is not relevant to this Report.

# 16.0 MARKET STUDIES AND CONTRACTS

This section is not relevant to this Report.

## 17.0 ENVIRONMENTAL STUDIES, PERMITTING, AND PLANS, NEGOTIATIONS, OR AGREEMENTS WITH LOCAL INDIVIDUALS OR GROUPS

This section is not relevant to this Report.

## 18.0 CAPITAL AND OPERATING COSTS

This section is not relevant to this Report.

## 19.0 ECONOMIC ANALYSIS

This section is not relevant to this Report.

## 20.0 ADJACENT PROPERTIES

The Project is located in the PRB of northeast Wyoming. The Project lies in the center of one of the most prolific uranium producing regions for ISR uranium production in Wyoming. The region is home to five producing ISR operations: Cameco's Smith Ranch/Highland; Cameco's North Butte satellite; UEC's Willow Creek; Energy Fuels Nuclear, Inc.'s Nichols Ranch; and Strata Energy's Ross project. Table 20-1 presents the status of operating uranium ISR projects in the PRB. The data presented below has been sourced from the company listed public web sites.

**Table 20-1: Operating Uranium ISR Projects in the Powder River Basin**

| COMPANY | PROJECT | STATUS | CPPs | SATELLITES | LICENSED CAPACITY (mmlbs) |
|---|---|---|---|---|---|
| Cameco | Smith Ranch/Highland[1] | Care and Maintenance | 1 | 5 | 5.5 |
| UEC | Willow Creek | Standby | 1 | 1 | 2.5 |
| Energy Fuels | Nichols Ranch | Care and Maintenance | 1 | 0 | 2 |
| Strata | Ross Project | Operating | 0 | 1 | 3 |

[1] Includes North Butte Satellite

The information from the adjacent properties is not necessarily indicative of the mineral resources for the Project.

## 21.0 OTHER RELEVANT DATA AND INFORMATION

The Project is permitted to produce a maximum of 2.0 million lbs per year of yellowcake with a flow rate of up to 11,000 gpm of lixiviant at the North and Southwest Reno Creek Resource Areas. To the QP's knowledge there is no other additional information or explanation necessary to make this TRS understandable and not misleading.

## 22.0 INTERPRETATION AND CONCLUSIONS

This independent TRS for the Project has been prepared in accordance with the regulations set forth in S-K 1300 (Part 229 of the 1933 Securities Act). Its objective is to disclose the mineral resources at the Project.

### 22.1 Conclusions

Based on the density of drilling, continuity of geology and mineralization, testing, and data verification the mineral resource estimates meet the criteria for indicated or inferred mineral resources as shown in Table 11-1 and Table 11-2.

Assumptions regarding uranium prices, mining costs, and metallurgical recoveries are forward looking and the actual prices, costs, and performance results may be significantly different. The QP is not aware of any relevant factors which would materially affect the mineral resource estimates. Additionally, the QP is not aware of any environmental, regulatory, land tenure or political factors that will materially affect the Project from moving forward to mineral resource recovery operations.

### 22.2 Risks and Opportunities

UEC has not completed a Pre-feasibility nor a Feasibility study to apply detailed capital and operational expenditures to the Project. Since these studies have not been completed for the Project, there has not been a formal demonstration of economic and technical capability. Therefore, since Mineral resources are not mineral reserves and do not have demonstrated economic value there is uncertainty in the Project achieving acceptable levels of mineral resource production with a positive economic outcome. However, in spite of this fact, it is the QPs opinion that the Project risks are low since UEC has fully permitted the Project to the point at which construction and operations can commence.

In addition, the Project is located in a state where ISR projects have been and are operated successfully. The ISR mining method has been proven effective in geologic formations within Wyoming as described herein. Three Wyoming ISR facilities (Nichols Ranch, North Butte, and Willow Creek) are currently or have been in operation recovering uranium from the Wasatch Formation which is the host formation for the Project.

The Project is located in a sparsely populated area in Campbell County, in northeast Wyoming, USA. Electrical power and a major transportation corridor (Wyoming State Highway 387) are located within or near the site. Thus, the basic infrastructure necessary to support an ISR mining operation - power, water and transportation, are located within reasonable proximity of the site.

There are some inherent risks to the Project similar in nature to mining projects in general and more specifically to uranium mining projects.

- Market and Contracts - Unlike other commodities, most uranium does not trade on an open market. Contracts are negotiated privately by buyers and sellers. Changes in the price of uranium can have a significant impact on the outcome of the Project.
- Uranium Recovery and Processing - Bench-scale bottle roll and column tests have been performed on core samples from the Project. A potential risk in the wellfield recovery process depends on whether geochemical conditions that affect solution mining uranium recovery rates from the mineralized zones are comparable or significantly different than previous bench-scale tests. If they prove to be different, then potential mineral resource recovery risks might arise.

- Wellfield Operations - Another potential risk is reduced hydraulic conductivity in the formation due to chemical precipitation or lower hydraulic conductivities within the production zone aquifer. These conditions could limit recovery of the mineral resources delineated across the Project.

## 23.0 RECOMMENDATIONS

The QP considers the scale and quality of the mineral resources determined by this TRS to indicate favorable conditions for future extraction from the Project.

The QP recommends that the mineral resources in this report be used for development of a Preliminary Feasibility Study. Estimated cost based on UEC hiring a third-party engineering firm is $65,000. Additionally, UEC should advance the baseline studies necessary to effectuate regulatory authorizations required to mine at the Pine Tree, Bing and Moore Resources Areas. Estimated costs based on UEC hiring a third-party engineering firm is $400,000. Finally, the QP recommends continuing to maintain federal lode claims, state, and private mineral leases along with surface use agreements to accommodate future drilling and Project development.

# 24.0 REFERENCES

## 24.1 Bibliography

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## 25.0 RELIANCE ON INFORMATION PROVIDED BY THE REGISTRANT

Reliance on information provided by UEC is identified in Table 25-1 below.

**Table 25-1: Information Provided by the Registrant**

| Category of Information | Section of Report | Reason |
|---|---|---|
| Macroeconomic trends, data, and assumptions | Section 11 | The registrant provided data regarding future commodity price estimates. The QP believes that it is reasonable to rely on this information as it was sourced from industry consultants who specialize in uranium price forecasting. |
| Accommodations or commitments to local individuals or groups | Section 3 | The registrant provided data regarding agreements and negotiations with surface owners. The QP believes that it is reasonable to rely on this information as these data were provided by a registered landman with direct knowledge of these negotiations. |

## 26.0 DATE AND SIGNATURE PAGE

### CERTIFICATE OF AUTHOR

I, Benjamin J. Schiffer, Wyoming Professional Geologist, of 1849 Terra Avenue, Sheridan, Wyoming, do hereby certify that:

- I am currently employed by WWC Engineering, 1849 Terra Avenue, Sheridan, Wyoming, USA, as the Environmental Department Manager.
- I graduated with a Bachelor of Arts degree in Geology in May 1995 from Whitman College in Walla Walla, Washington.
- I am a licensed Professional Geologist in the State of Wyoming. My registration number is 3446 and I am a member in good standing. I am a Registered Member of the Society of Mining, Metallurgy and Exploration. My Registration Number is 4170811 and I am in good standing.
- I have worked as a geologist for over 26 years in natural resources extraction.
- I have 16 years' direct experience with uranium exploration, resource analysis, uranium ISR project development, project feasibility and licensing. My relevant experience for the purposes of this analysis includes Field Geologist at COGEMA Mining, Christensen Ranch Mine (now Uranium One America's Willow Creek Project); Restoration Specialist at COGEMA Mining, Holiday-El Mesquite Mine; Project Manager on multiple due diligence assessments of ISR mines and projects in Wyoming, Texas and New Mexico; Permit Coordinator for Strata Energy, Ross ISR Uranium Project, qualified person on the NI 43-101 Preliminary Economic Assessment (PEA) of Anatolia Energy's Temrezli ISR Project in Yozgat, Turkey, qualified person on the NI 43-101 Technical Report on the Resources of the Shirley Basin Uranium Project, Carbon County, Wyoming, USA, August 27, 2014 and qualified person on the NI 43-101 Preliminary Economic Assessment (PEA) of the Shirley Basin Uranium Project, Carbon County, Wyoming, USA, January 27, 2015, qualified person on the NI 43-101 Technical Report on the Resources of the Ludeman Uranium Project, Converse County, Wyoming, USA, January 25, 2019, qualified person on the NI 43-101 Technical Report on the Resources of the Moore Ranch Uranium Project, Campbell County, Wyoming, USA, April 30, 2019, qualified person on the NI 43-101 Technical Report on the Resources of the Allemand-Ross Uranium Project, Converse County, Wyoming, USA, April 30, 2019. Competent Person on the JORC compliant Lance Uranium Project, Technical Report and Mineral Resource Estimate, May 18, 2021.
- I have read the definition of "qualified person" set out in Subpart 1300 of Regulation S-K (S-K 1300) and certify that by reason of my education, professional registration, and relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of S-K 1300.
- I am independent of Uranium Energy Corporation.

Dated this 31[th] day of January 2022
Benjamin J. Schiffer, P.G.

PROFESSIONAL GEOLOGIST
BENJAMIN J. SCHIFFER
PG-3446
01/31/22
WYOMING