

Technical Report on Resources Shirley Basin Uranium Project Carbon County, Wyoming, USA

Report for NI 43-101

Effective Date: August 27, 2014

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**Form 43-101F1
Technical Report**

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1.0 Summary

Western Water Consultants, Inc., d/b/a WWC Engineering, has been retained by Ur-Energy Inc. (URE) and its subsidiary, Pathfinder Mines Corporation (PMC), to oversee and supervise preparation of this independent Technical Report for the Shirley Basin Uranium Project (the Project), in accordance with Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). The objective is to disclose, for the first time, a uranium resource estimate for the Project that meets the established definitions and guidance of NI 43-101. The estimate results from analysis of historical data on the Project and recent confirmation drilling. An independent technical report is necessary to comply with NI 43-101, Section 5.3(1)(c).

The Project consists of approximately 3,437 acres and is located in central southeast Wyoming, approximately 40 miles due south of the city of Casper (Figure 1). The Project lies within the northern portion of the historic Shirley Basin Mining District, the second largest uranium producing district in Wyoming with over 50 million pounds of production of U_3O_8 from 1960 to 1992. The initial uranium discovery within this remote basin was made by Teton Exploration in 1955. URE's Shirley Basin land holdings were established by Utah Mining Corporation in 1957 by staking unpatented mining claims and leasing State of Wyoming and private mineral rights. After several mergers and corporate name changes, all interests were conveyed to what is now PMC in 1976. PMC was purchased by COGEMA in the 1980s. In December 2013 URE, through a U.S. subsidiary, acquired PMC.

The Shirley Basin is a small, structural basin formed during the Laramide Orogeny of Late Cretaceous to Early Tertiary age. During this orogeny, basement uplifting within the surrounding Granite and Shirley Mountains to the west and southwest and within the Laramie Mountains to the east and northeast formed a broad, shallow, southward-plunging basin. Within this basin, post-Laramide Tertiary sediments were unconformably deposited onto an eroded surface of mid Cretaceous strata. These Cretaceous sediments dip approximately 2-12° to the southwest. The Tertiary sediments dip approximately 1° to the north. Coarse-grained arkosic sandstones of the Tertiary-age Wind River Formation are the primary host rocks for uranium deposits in Shirley Basin. The uranium mineralization occurs as roll front type deposits (Figures 9 & 10) formed where uranium precipitated from oxidizing groundwater when it contacted reduced host rock.

After the cessation of open pit uranium mining operations at Shirley Basin in 1992, two historical resource areas on the Project were identified as potentially suitable resources for solution mining. These two areas are the 1) FAB Resource Area or FAB Trend and 2) Area 5 Resource Area (Figure 4). PMC had completed over 3,200 drill holes

(1.2 million ft. of drilling) in the delineation of these two resource areas, resulting in an approximate 100-ft. grid of drill holes throughout. These resources are primarily located within the “Main” and “Lower” Sandstones of the Eocene-age Wind River Formation.

In May 2014, URE completed a confirmation drilling campaign within the FAB Trend and Area 5. The primary goals of the program were:

- Confirmation of the location and nature of mineralization as reported by historical PMC data;
- Stratigraphic investigation to confirm lithology and to confirm overlying and underlying hydrogeological confinement; and
- Collection of core for leach testing and analysis of uranium, mineralogy, trace metals, disequilibrium, permeability, porosity and density.

Drilling consisted of 14 near-vertical rotary drill holes, including 2 core holes. The drill hole data confirmed the presence and nature of the uranium mineralization and substantiated the validity of historical PMC data. Gamma and Prompt Fission Neutron (PFN) logging of the confirmation drill holes verified the presence of high-grade, roll front type uranium mineralization in locations identified by historical PMC data and exhibited similar grade and thickness values. The gamma results include a total of 13 intercepts containing mineralization, which meets or exceeds criteria defined by URE as potentially economic for the Project (i.e., Grade x Thickness (GT) \geq 0.25 with a minimum grade cutoff of 0.020% eU₃O₈). The seven best intercepts had GTs ranging from 2.02 to 4.01, with an average grade of 0.24% eU₃O₈. The drilling results also provided valuable information regarding the distribution and character of the Main and Lower Wind River Formation host sandstones.

Based upon data from the above-described historical and confirmation drilling, the current resource estimate yielded a total of 8.816 million pounds eU₃O₈ in the Measured and Indicated categories. The URE resource estimation is based on geologic cutoffs as described above. The current resources at the Project are reported in Table 1. Mr. Schiffer, a Wyoming Professional Geologist (PG) and the independent QP, is of the opinion that the classification of the resources as stated meets the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) definitions as adopted by the CIM Council on May 2014. The mineral resource estimates in this report, based on historical and recent drilling, were reviewed and accepted by Mr. Schiffer.

Recommendations for further work on the Project are summarized in the following bullets. None is contingent upon positive results of the other.

- Complete permitting and baseline data acquisition efforts at an estimated cost of \$1,200,000, and

- Advance geological and engineering aspects of the Project sufficient for Preliminary mine studies at an estimated cost of \$350,000.

Table 1. Shirley Basin Uranium Project Resource Summary-July 2014

RESOURCE AREA	MEASURED			INDICATED		
	AVG GRADE % eU ₃ O ₈	SHORT TONS (X 1000)	POUNDS (X 1000)	AVG GRADE % eU ₃ O ₈	SHORT TONS (X 1000)	POUNDS (X 1000)
FAB TREND	0.280	1,172	6,574	0.119	456	1,081
AREA 5	0.243	195	947	0.115	93	214
TOTAL	0.275	1,367	7,521	0.118	549	1,295
MEASURED & INDICATED				0.230	1,915	8,816

Notes:

1. Sum of Measured and Indicated tons and pounds may not add to the reported total due to rounding.
2. Based on grade cutoff of 0.020 % eU₃O₈ and a grade x thickness (GT) cutoff of 0.25 GT.
3. Measured and Indicated Mineral Resources as defined in Section 1.2 of NI 43-101 (the CIM Definition Standards [CIM Council, 2014]).
4. All reported resources occur below the historical, pre-mining static water table.
5. Average grades are calculated as weighted averages.

2.0 Introduction

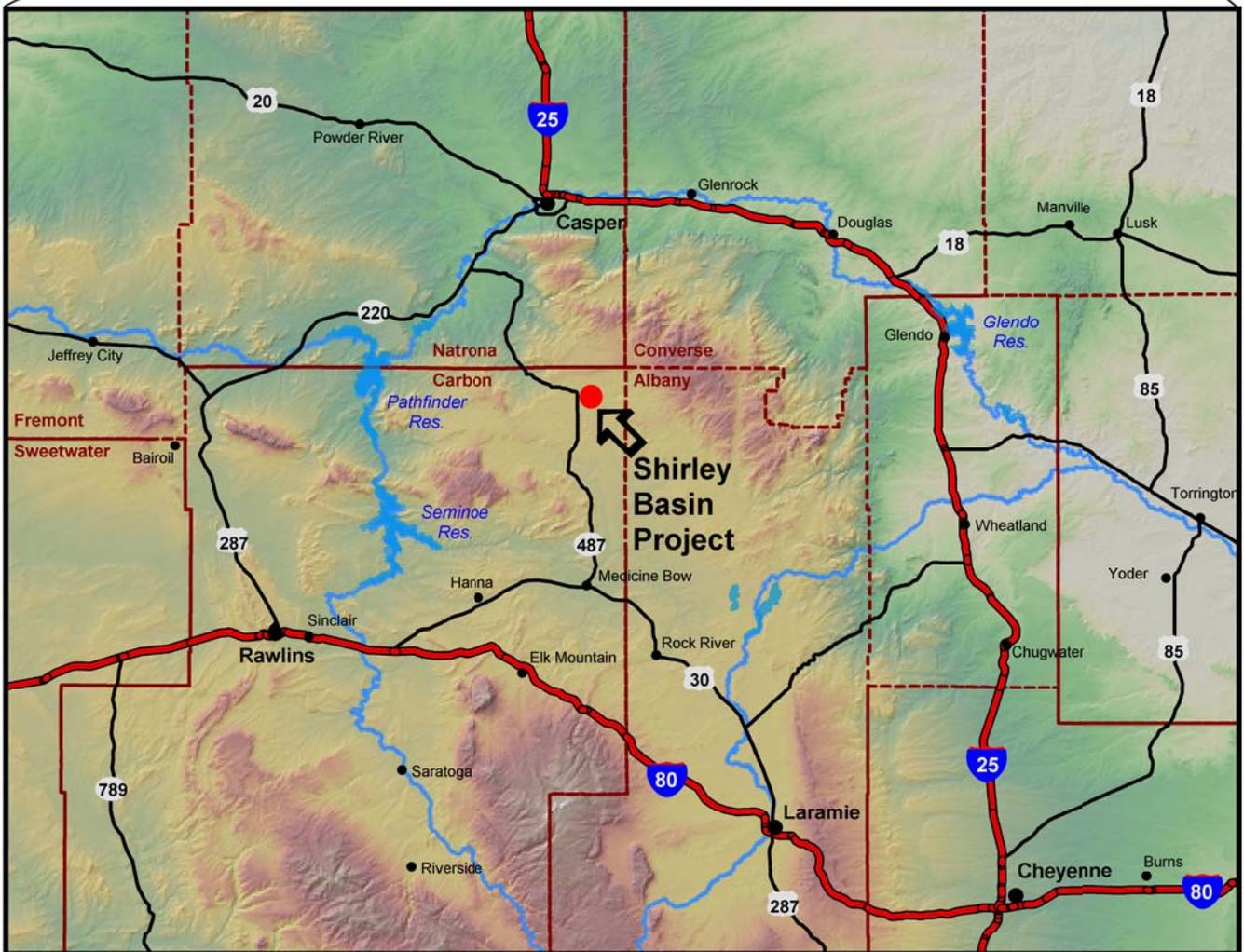
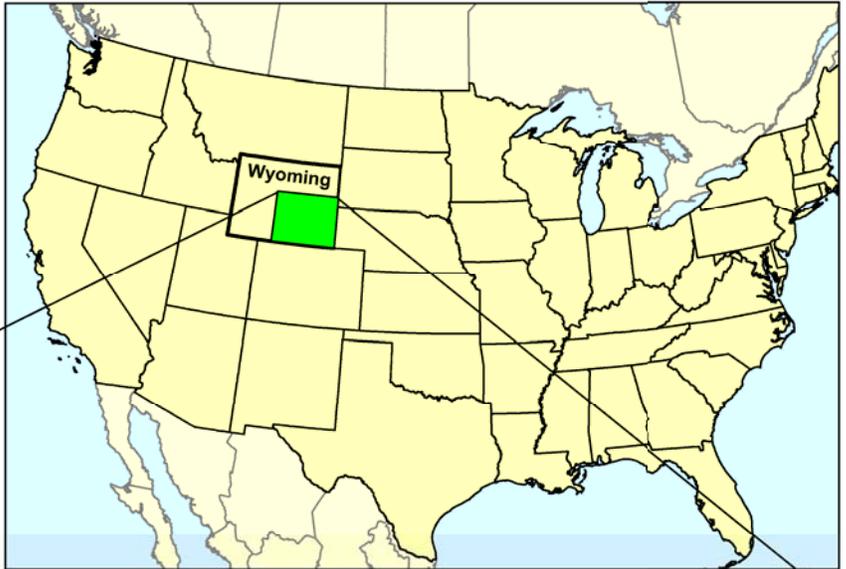
WWC Engineering has been retained by URE to oversee and supervise preparation of this independent Technical Report for the Project, located in central southeastern Wyoming (see Figure 1). This report has been prepared for URE in accordance with the guidelines set forth under Canadian National Instrument (NI) 43-101 "Standards of Disclosure for Mineral Projects" to disclose, for the first time, a mineral resource estimate for the Project. This NI 43-101 Technical Report also presents an independent validation of the estimate of Measured and Indicated Mineral Resources as defined in Section 1.2 of NI 43-101. Estimates of Mineral Reserves have not been prepared.

This Technical Report was prepared to disclose the results of resource estimates for the recently acquired Project, including the initial drilling program to confirm historical data. A review by an independent party is necessary to comply with NI 43-101, which requires an independent review to support scientific or technical information that relates to a mineral project on a property material to the issuer.

Completion of this report was under the direction and supervision of Mr. Benjamin J. Schiffer, P.G., WWC Engineering. Mr. Schiffer has personal work experience on the Shirley Basin Uranium Project while working for COGEMA Mining from 1995-1999. URE Chief Geologist Cal VanHolland, P.G., a contributor to this report, also worked for COGEMA and conducted an evaluation of the Shirley Basin site during this same time period. Swayne Redinger, Engineer-in-Training at WWC Engineering, assisted Mr. Schiffer on Quality Assurance/Quality Control (QA/QC) support for the report. Though not a qualified person, Mr. Redinger has direct work experience with *in situ* recovery (ISR) of uranium through multiple projects in Wyoming and internationally with particular focus on resource estimation and amenability.

Mr. Schiffer is an independent QP as defined by NI 43-101 and visited the site most recently on May 13, 2014. The purpose of the visit was to observe the geography and geology of the Project site, verify the drilling done at the site by URE and view the location of the uranium resource areas and gain knowledge on existing site infrastructure. Additionally, Mr. Schiffer has approved the technical disclosure contained in this report and has verified the sampling, analytical and test data underlying the mineral resource estimate.

Content for this Technical Report is based on information provided by URE and generally accepted uranium ISR practices. Mineral resource estimates are based on historical exploration, delineation and production drilling, and results of recent confirmation drilling provided by URE and independently evaluated by Mr. Schiffer.




Shirley Basin Project
Figure 1
Location Map
 Pathfinder Mines Corporation

URE was incorporated on March 22, 2004 and is a junior exploration company engaged in the identification, acquisition, evaluation, exploration, development and operation of uranium mineral properties in the United States. The Company operates the Lost Creek ISR uranium facility in south-central Wyoming. The Lost Creek processing facility has a two million pounds per year nameplate design capacity. URE's U.S. land portfolio includes properties in the Great Divide Basin, Shirley Basin, Gas Hills and the Black Hills region of Wyoming.

Historical exploratory and mine-development drilling on the Project is the primary source of information and data for the mineral resource estimates. The historical drilling of approximately 3,200 uranium exploration holes was conducted by a series of companies, including Utah Construction and Mining, PMC and Getty Oil Company. The mineral resource estimate is based on unpublished data including:

- Lithologic and geophysical logs;
- Drill hole location data;
- Mineral intercept data and grade calculations; and
- Cross sections constructed from geophysical logs.

A more detailed discussion of the drilling programs on the Project is provided in Sections 6.0 and 10.0.

Units of measurement, unless otherwise indicated, are feet (ft.), miles, acres, pounds avoirdupois (lbs.), and short tons (2,000 lbs.). Uranium is expressed as pounds U_3O_8 , the standard market unit. All references to dollars (\$) are in U.S. dollars. Grades reported for historical resources and the mineral resources reported and used herein are percent eU_3O_8 (equivalent U_3O_8 by calibrated geophysical logging unit). ISR refers to *in situ* recovery, sometimes also termed ISL or *in situ* leach.

The following is a list of abbreviations and acronyms used in this report.

AEC	U.S. Atomic Energy Commission
AQD	Air Quality Division of Wyoming Department of Environmental Quality
BGS	Below Ground Surface
BLM	U.S. Bureau of Land Management
COC	Chain of Custody
CPS	Counts per Second
DEF	Disequilibrium Factor

District	Shirley Basin Mining District
DOE	U.S. Department of Energy
EMP	Electron Microprobe
EPA	U.S. Environmental Protection Agency
Fm	Formation
Getty	Getty Oil Company
GPM	Gallons per Minute
GT	Grade X Thickness
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
IML	Inter-Mountain Labs, Inc.
ISL	<i>In Situ</i> Leach
ISR	<i>In Situ</i> Recovery
LQD	Land Quality Division of Wyoming Department of Environmental Quality
Lucky Mc	Lucky Mc Uranium Corporation
NEPA	National Environmental Policy Act
NRC	U.S. Nuclear Regulatory Commission
Petrotomics	Petrotomics Company
PFN	Prompt Fission Neutron
PMC	Pathfinder Mines Corporation
Project	Shirley Basin Uranium Project
QA/QC	Quality Assurance/Quality Control
QP	Qualified Person
SEO	Wyoming State Engineer's Office
Teton	Teton Exploration
Tidewater	Tidewater Oil Company
Twdr	Tertiary Wind River Formation
Twr	Tertiary White River Formation
UIC	Underground Injection Control
UII	Utah International Inc.
Uranium One	Uranium One Americas, Inc.
URE	Ur-Energy Inc.

Utah	Utah Mining Corporation
Utah CM	Utah Construction and Mining Company
VP	Vice-President
WDEQ	Wyoming Department of Environmental Quality
WG&F	Wyoming Department of Game and Fish
WQD	Water Quality Division of Wyoming Department of Environmental Quality
WWC Engineering	Western Water Consultants d/b/a WWC Engineering
XRD	X-Ray Diffraction

3.0 Reliance on Other Experts

This Technical Report has been prepared under the supervision of Benjamin J. Schiffer, P.G. John Cash, VP of Regulatory Affairs for URE, provided information on the regulatory status and environmental liabilities on the Project.

In addition to URE personnel routinely reviewing land status and title records, Mr. Schiffer has relied on formal title reports prepared for URE from time to time by outside mineral title attorneys. Davis Graham & Stubbs LLP prepared title reports in 2014 related to the lands controlled by PMC within the FAB Trend and Area 5. The QP has relied on aspects of the conclusions set forth in those reports in Sections 1.0 and 4.0.

4.0 Property Description and Location

4.1 Location and Size

The Project consists of approximately 3,437 acres and is located in central southeast Wyoming, approximately 40 miles due south of the city of Casper. As shown in Figure 1, the Project is in an unpopulated area located in the northeastern portion of Carbon County, Wyoming. It is centered at approximately 42 degrees, 22 minutes North latitude and 106 degrees, 11 minutes West longitude, in Township 28 North, Range 78 West, within the 6th Principal Meridian.

The Project is located in the northern portion of the historic Shirley Basin Mining District. This was the second largest uranium producing district in Wyoming, with over 51 million pounds of U₃O₈ production from 1960 through 1992. Surface mining ceased in 1992 and the mined areas underwent extensive reclamation activities (i.e., backfilling of pits, re-contouring of overburden piles, re-vegetation, etc.). Figure 2 illustrates the results of this reclamation. Most of the old mine areas are now rolling grasslands, with four pit lakes occupying the low lands. One of the lakes on a nearby property is now being used for recreational purposes.



Figure 2. Photo from FAB Trend looking Northeast over Reclaimed PMC Pit 3

4.2 Mineral Tenure

The Project currently includes 2,866 acres of mineral rights. This total consists of 1,615 acres of U.S. lode mining patents (11 patents), 752 acres of federal unpatented lode mining claims (37 claims), 160 acres held by one private mining lease, and 339 acres (4 tracts) of Company-acquired fee minerals. Table 2 summarizes the mineral title position of URE at the Project.

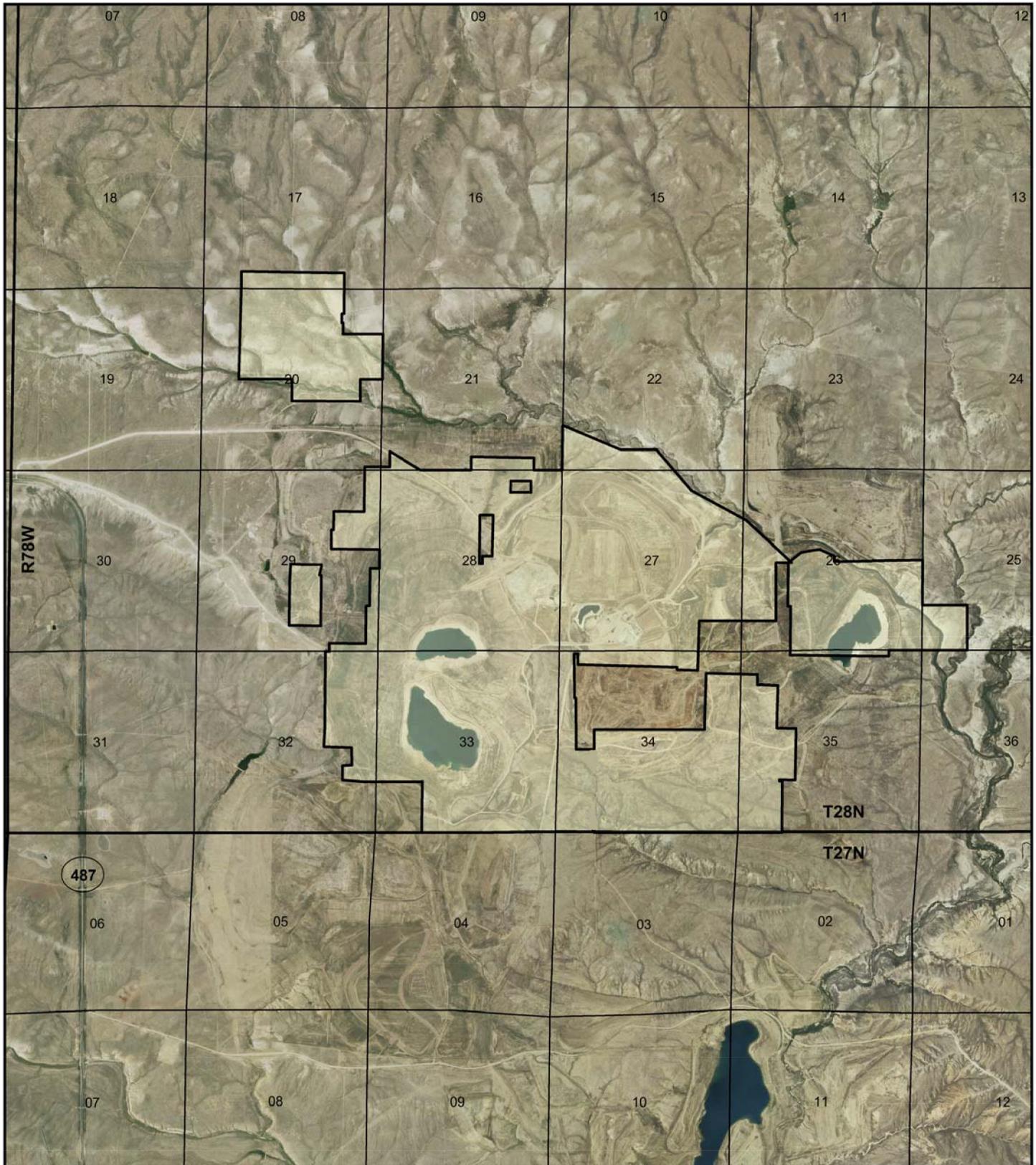
Table 2. Shirley Basin Uranium Project Mineral Title Position

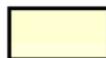
Property	Serial # or Legal Location	Acres
U.S. Patent Nos. (lode)	1198523, 1207111, 1207112, 1231199, 49-68-0029, 49-69-0017, 49-69-0020, 49-69-0025, 49-73-0065, 49-73-0072, 49-73-0073	1,615 acres
37 Unpatented Lode Claims	WMC251621, WMC251623, WMC251625, WMC255170, WMC255172, WMC295574 through WMC295601, WMC297733 through WMC297735, and WMC298825	752 acres
Private Mining Lease	Portions of Sections 25 and 26, Township 28 North, Range 78 West, 6 th Principal Meridian	160 acres
Company-acquired Fee Minerals (4 separate tracts)	Portions of Sections 20, 22, 26, and 27, Township 28 North, Range 78 West, 6 th Principal Meridian	339 acres
Total Mineral Acres: 2,866 acres		

Additionally, the Company owns 536 acres of patented millsite claims (five patented claims: 49-69-0016, 49-73-0074, 49-79-0007, 49-79-0008, and 49-86-0009) and holds approximately 35 acres of unpatented millsite claims (seven unpatented claims: WMC247755 through WMC247761) for a total property position of approximately 3,437 acres (see Figure 3). The surface of all unpatented lode mining claims is controlled by the U.S. Bureau of Land Management (BLM), with URE possessing the right to use as much of the surface as is necessary for exploration and mining of the claims, subject to compliance with all federal, state and local laws and regulations. Surface use on BLM-administered federal lands is under federal regulations.

4.3 Title to Property

URE, through its wholly-owned subsidiary PMC, owns the patented lands at the Project and controls the federal unpatented lode mining claims, unpatented millsite claims and private lease interests which make up the balance of the Project, and through which legal access to the Project is provided. The mineral interests on the lands on which the reported resources are located are 100% owned or controlled by URE, subject to the royalty interests described here.



 PMC Land

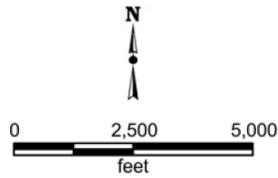


Figure 3
Property Map
Shirley Basin Project

Pathfinder Mines Corporation

The Project is subject to a December 2013 mortgage securing a financing agreement with RMB Australia Holdings Ltd, recorded in Carbon County, Wyoming on December 27, 2013 (Rec. Bk. 1247, pg. 25).

Title to the unpatented mining claims is subject to rights of *pedis possessio* against all third-party claimants as long as the claims are maintained. The unpatented mining claims and millsite claims do not have an expiration date. Affidavits have been timely filed with the BLM and recorded with the Carbon County Recorder attesting to the payment of annual maintenance fees to the BLM as those fees are established by law from time to time. In addition to routine periodic land status reviews by the Company, formal mineral title reports are prepared from time to time for URE by mineral title attorneys.

4.4 Royalties, Taxes and Fees

As a part of the December 2013 Amended and Restated Share Purchase Agreement for the acquisition of PMC, Shirley Basin is subject to a 5% production royalty under certain conditions. That royalty will be limited by the following uranium market conditions: (i) if the reported spot price exceeds \$55 prior to June 30, 2016 the 5% gross royalty is capped at \$6,625,000; (ii) if the reported spot price exceeds \$45 but does not exceed \$55 prior to June 30, 2016 the royalty cap is reduced to \$3,700,000; (iii) if the reported spot price does not exceed \$45 prior to June 30, 2016 the royalty is terminated. The amount of production royalty, if triggered, may be purchased back at any time at URE's election. This production royalty pertains to all of the Project area, including production from the FAB and Area 5 Resource Areas. There are no other production royalties at the FAB Resource Area.

Within Area 5, approximately 202 acres are subject to a formulaic royalty interest which totals approximately 0.5%; of these acres, approximately 83 acres in the northern portion may be encumbered by an additional 0.5% royalty. On two other tracts at Area 5 (30 acres in the southern portion and 40 acres in the southeastern portion), uranium and associated minerals are subject to different formulaic royalties which are approximately 1%.

URE is also required to pay various state and local taxes related to production and the ownership of property. These taxes are in the form of severance, ad valorem, gross products, personal, and real property taxes. There is no state income tax in Wyoming. Maintenance fees will be paid to the BLM on an annual basis, pursuant to the existing regulations, for the unpatented mining claims and millsite claims held at the Project.

4.5 Environmental Liabilities

The environmental liability for the Project falls under the jurisdiction of the State of Wyoming, Department of Environmental Quality (WDEQ)-Land Quality Division (LQD), which regulates the conventional mine and associated infrastructure, and the U.S. Nuclear Regulatory Commission (NRC), which regulates the tailings facility.

The current cost estimate to reclaim the disturbance resulting from conventional mining is \$7.54 million, and URE maintains a reclamation bond to cover these costs. This estimate, approved by the LQD, includes third-party costs for applying topsoil, demolition of the existing buildings, removal of roads, correction of the slope failure on the south end of Pit Lake 8, final seeding, and other miscellaneous reclamation work. No other environmental liabilities are known.

The current cost estimate to reclaim the tailings facility is \$2.17 million as approved by the NRC, and URE maintains a bond to cover these costs. This estimate includes the third-party costs for closure of the 11e.(2) byproduct material disposal cell, revegetation, long-term monitoring and other miscellaneous costs. Water seepage from the tailings facility has impacted shallow groundwater at the toe of the dam. In response to this seepage, PMC submitted an Alternate Concentration Limit Plan to the NRC, which was subsequently approved. To date, the water quality in the shallow aquifer is well within the range approved by the NRC with no trends of concern and therefore no further restoration is now required or expected.

4.6 Permitting

In order to initiate ISR a number of permits will be required from federal, state and local agencies.

The NRC will require PMC to apply for and obtain an amendment to the existing Source and Byproduct Material License pursuant to 10 CFR Part 40 regulations. The application must address a number of matters including but not limited to: groundwater quantity and quality, aquifer characteristics, surface water quality, wildlife, vegetation, radiologic characteristics of air and soil, archaeological and cultural resources, meteorological data, soils and operations and reclamation plans. The need for archaeological surveys will be greatly minimized since the area has already been largely disturbed by historical conventional mining. The NRC will complete a National Environmental Policy Act (NEPA) analysis (Environmental Impact Statement or Environmental Assessment) as part of its licensing action pursuant to 10 CFR Part 51 regulations.

Since greater than 5 acres of disturbance will occur on lands managed by the BLM, the BLM will require the submittal of a Plan of Operations for review and approval. The

Plan of Operations typically is the same document as the Permit to Mine amendment submitted to the State of Wyoming and described below. The BLM will also need to complete a NEPA analysis, however; since the amount of BLM administered land to be affected is relatively small it is likely that the BLM may act as a cooperating agency with the NRC instead of completing a separate NEPA review.

The involvement of the U.S. Environmental Protection Agency (EPA) will depend on the method(s) of wastewater disposal, which have not yet been determined. If Class I Underground Injection Control (UIC) well(s) are utilized, the EPA must consider the issuance of an aquifer exemption if the receiving aquifer has a total dissolved solids concentration less than 10,000 mg/L. If holding or evaporation ponds are constructed, the EPA will review the plans pursuant to 40 CFR Part 61 Subpart W. Prior to ISR, the production zone aquifer must be exempted from classification as an underground source of drinking water (USDW) under the Safe Drinking Water Act. The EPA must review the Class III UIC Aquifer Exemption Statement of Basis prepared jointly by the WDEQ/LQD and Water Quality Division (WQD). The EPA ultimately has authority to approve or deny the proposed aquifer exemption. The WQD will also issue a permit for domestic wastewater disposal at a future facility (e.g., septic tank and drainfield).

The State of Wyoming, through the various divisions of its WDEQ, plays a significant role in the review of a proposed *in situ* mine. The LQD takes the lead role by reviewing the amendment to the existing Permit to Mine. This amendment contains a description of the ambient environmental condition of the site in a similar format as the license application sent to the NRC. However, since the LQD does not have jurisdiction over radiologic hazards, the health physics program is not submitted as part of the Permit to Mine amendment. As mentioned previously, LQD, in conjunction with WQD, considers whether to recommend to the EPA issuance of a Class III aquifer exemption. Prior to commencing the 14-hole confirmation drilling program, URE completed a Drilling Notification with LQD and posted a reclamation bond.

The Project is located within a designated Greater Sage Grouse “core area” in accordance with the stipulations in the Wyoming Governor’s Executive Order 2011-05. The LQD, with significant input from the Wyoming Department of Game and Fish (WG&F), will review the potential impacts of the mine on Greater Sage Grouse and determine if those impacts comply with the Governor’s Executive Order.

The WDEQ Air Quality Division (AQD) will require an air quality permit prior to beginning construction at the site. Since the project will be a satellite facility with minimal chemical processing, the air quality permit will focus primarily on dust control.

The Wyoming State Engineer's Office (SEO) manages the usage of water throughout the state and will require Block Permits for each 40 acres of ISR wellfield. The permit application requires a description of the well construction technique, depth of water withdrawal, and volume of water to be used. Recently, the SEO determined that monitor wells do not require a permit up to a specific diameter, so baseline monitor wells can be installed without specific SEO authorization.

The proposed facility lies wholly within Carbon County. Carbon County regulates land usage and will require review and approval of proposed operations by the Planning and Zoning Commission.

4.7 Other Significant Factors and Risks

There are ongoing reclamation and surface stabilization activities associated with historical mining, but no other significant factors and risks have been identified that may affect access, title, or the right or ability to perform work on the Project.

5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Topography, Elevation and Vegetation

The Project is located in the northeastern portion of the Shirley Basin, which is a high, intermontane basin encompassing approximately 500 square miles in south-central Wyoming. The Basin lies within the Wyoming Basin Physiographic Province within the Rocky Mountain System and is situated between the Central and Southern Rocky Mountain Provinces (Dyman 2005). It is bounded on the north and east by the Laramie Range, on the west by the Granite Mountains and on the southwest by the Shirley Mountains.

Elevations in the Shirley Basin Mining District (District) range from approximately 6,900 to 7,300 ft. Topography is dominated by low rolling hills mildly dissected by minor ephemeral drainages. This is locally modified by overburden dumps and mine pits from past operations which may diverge from natural ground level by as much as 250 ft. Most pits and dumps in the District have been re-contoured and re-vegetated.

Primary drainage in the District is provided by the perennial Little Medicine Bow River, which lies approximately one-half mile east of the Project. A secondary perennial drainage, Spring Creek, flows through the northern and northeastern portions of the Project.

Vegetation in the Project is dominated by cool season perennial grasses and sagebrush. The grasses are a combination of native species and revegetated species in reclaimed areas of historical mining. The sagebrush (*Artemisia tridentata*) is generally short and stunted, but is well adapted to the cold winter temperatures and limited precipitation that characterize the Shirley Basin. Other vegetation identified at the Project includes perennial forbs, cushion plants, semi-shrubs, cacti, shrubs and lichens.

Land use in the Shirley Basin is limited almost exclusively to summer range livestock grazing, with seasonal recreational hunting.

5.2 Access

The Project area is served by Wyoming Highway 487 as depicted on Figure 1. Wyoming Highway 487 is a State maintained, two-lane, sealed, asphalt road providing year around access. Access to this highway from the north (Casper) is via Wyoming Highway 220, and access from the south (Laramie or Rawlins) is via US Highway 30/287. Once on the Project, there is a crown-and-ditched mixed gravel and pavement access road to the former mill site area. In addition to the designated routes, there are

a number of tertiary or ‘two-track’ roads that traverse the area for recreation and grazing access, as well as various other uses, including mineral exploration.

5.3 Proximity to Population Centers

The Project is located in a remote area. The nearest town is Medicine Bow, with a population of less than 300 people, located about 35 miles south of the Project. Casper, Wyoming is approximately 50 miles (by road) north of the Project. Casper, with a population of 55,316 (U.S. Census 2010), has well-established infrastructure and service industry capabilities. The city of Laramie, Wyoming (population 31,000) is located approximately 78 miles south-southeast of the Project. Rawlins, Wyoming (population 9,100) is located approximately 66 miles to the southwest. Federal and Wyoming highways link all these cities to the Project (see Figure 1).

5.4 Climate and Operating Season

The climate of the Shirley Basin ranges from arid in the central portions to semi-arid along the flanks. There is a National Oceanic and Atmospheric Administration-sponsored, calibrated and maintained meteorological station located at the Heward Ranch, approximately 2.5 miles northeast of the Project. For the period of record from 1971 to 2000, the average annual precipitation measured at this station was 10.05 inches. Temperatures range from moderate in the summer to harsh in the winter. As recorded at the Heward Ranch station, average maximum temperatures in the summer (June, July and August) range from 71.8° to 78.8° Fahrenheit (F), while average minimum temperatures in the winter (December, January and February) range from 1.6° to 1.7° F. Due to the high elevation of Shirley Basin, summers are short, but the weather is favorable for working most of the year. However, there can be periods of time when exploration and drilling activities on the Project will be affected by winter weather, spring storms or adverse ground conditions.

5.5 Surface Rights and Property Infrastructure

URE controls the surface rights on lands over the FAB and Area 5 Resource Areas, as presently known, within the Project. Specifically, the FAB and Area 5 Resource Areas are located on lands where locatable minerals and surface rights to mine those minerals were acquired through the United States Patenting Act of June 17, 1943 (62 Stat. 467) by URE’s predecessors-in-interest. Through these patents, URE controls the surface rights over all areas in the two resource areas except Patent No. 49-69-0017 (Area 5); however, there are in place perpetual surface use and access agreements for the purpose of mining the minerals granted under the patent. In addition, URE has surface use and access agreements on 70 acres of fee surface, contiguous to Area 5, on which URE owns the minerals.

Site infrastructure is excellent. A well-graded road traverses the Project. The former mill facility has been dismantled and disposed; however, several support facilities remain, including a modular field office building and a large heated wash and lubrication bay which is currently used for storage and equipment maintenance. A regional power transmission line (64 kV) passes through the northern portions of the Project. Also, an existing energized power line leads to a transformer bank near the field office, and from there a currently inactive power line extends to the FAB Trend. An NRC-licensed active waste disposal site for 11e.(2) byproduct disposal is currently operating adjacent to the fully reclaimed tailings complex. Heavy equipment on-site for that operation include a D-9 bulldozer and a medium sized backhoe.

Water supply needs are currently limited to drilling water, which is being supplied by a water supply well capable of producing over 25 gallons per minute (gpm). A backup water well is also present but has not been utilized to date. Water impounded in the reclaimed mine-pits is also suitable for use in drilling and would be available pending construction of approach ramps.

6.0 History

The Shirley Basin Mining District (District) is the second largest uranium producing district in Wyoming. It has a rich mining history that includes the first commercial uranium ISR operation in the United States and the earliest development of roll front geologic concepts. Over 51 million pounds of uranium were produced from this district from 1960-1992, including over 28 million pounds produced from the lands currently controlled by URE.

The initial uranium exploration and early discoveries within this remote basin were made by Teton Exploration (Teton) in 1954 and 1955. However, this remained largely unknown to the public until July 1957 when a land rush swept the region. Utah Mining Corporation (Utah) acquired a large land position at this time in search of additional resources to feed its Lucky Mc Mill in the Gas Hills Mining District. Utah's position focused mainly on the northern portions of the District.

Other significant early operators in the District were Tidewater Oil Company (Tidewater) (later, Getty Oil Company (Getty) and Kerr-McGee Nuclear. Both focused primarily in the southern portions of the District. Petrotomics Company (Petrotomics), a wholly-owned subsidiary of Tidewater, started an open-pit mine/mill operation in 1962 just south of the Utah property and operated through 1985. Kerr-McGee Nuclear and Jenkins & Hand also mined several pits south of Petrotomics and processed their ore through the Petrotomics Mill.

6.1 Prior Ownership and Ownership Changes

Most of the initial land acquisition throughout much of the Project was conducted by Utah and Tidewater (particularly Tidewater in the western FAB Resource Area) in the late 1950s. Area 5 and the eastern FAB Resource Areas were initially acquired by Utah from third parties who had located unpatented lode claims. By 1963, Utah had acquired title and interest to the unpatented lode claims from the various third parties, and after doing so, merged with Utah Construction and Mining Company (Utah CM). In 1968 Utah CM patented the lode claims, which make up the majority of the Area 5 and eastern FAB Resource Areas. In 1973, Utah CM conveyed its interests to Utah International Inc. (UII). In 1976, UII conveyed its interest to Lucky Mc Uranium Corporation (Lucky Mc), which subsequently changed its name to Pathfinder Mines Corporation (PMC). PMC was purchased by COGEMA in the 1980s, and, in December 2013, URE acquired PMC.

Additionally, between 1996 and 2009, PMC staked nine unpatented lode mining claims at FAB. In 2005, PMC acquired a 100% interest (subject to a royalty) on 70 contiguous acres from two mineral and surface fee owners southeast of, and contiguous to, Area 5.

With respect to portions of the FAB Resource Area, Tidewater initially located unpatented lode claims, then sought and received patents (early 1960s). Tidewater then merged with Getty, who received additional patents for lode and millsite claims (1973), which completes the interests in the western FAB Resource Area. Subsequently, in 1984, Getty conveyed its interest to Getty Mining Company, which subsequently conveyed the interest to Petrotomics. In 1985, Petrotomics deeded all of its interest in what is now the FAB Resource Area to PMC.

6.2 Exploration and Development by Previous Owners and Operators

Because of experience gained at the Gas Hills, Utah's exploration operations at Shirley Basin were well managed and extremely efficient. After staking mining claims, Utah immediately commenced a successful exploratory drilling program in July of 1957, highlighted in a September 13, 1957 report describing exploration drilling which noted, "forty-four deep holes have been completed" and "an estimated 150,000 tons at 0.75% eU₃O₈ (2,250,000 lbs. eU₃O₈) of potential ore is indicated by the drilling to date." This was obviously a preliminary estimation and not a reliable resource calculation, but it does illustrate how quickly the area was evaluated. This is not considered as current mineral resources or mineral reserves, as this material was some of the first uranium mined at Shirley Basin.

These early exploration activities continued through December 1958, when the deposit area was turned over to Utah's mine development staff. By this date, over 300 exploration drill holes had been completed by Utah throughout the deposit, delineating 956,500 tons of ore, averaging 0.69% eU₃O₈ for a total of 13.2 million pounds eU₃O₈ (Bailey 2011). A Qualified Person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves and the issuer is not treating the historical estimate as current mineral resources or mineral reserves. In fact, most of this resource has been removed by past mining operations.

6.3 Significant Historical Mineral Resource and Mineral Reserve Estimates

When PMC open-pit operations within the District ceased in 1992, substantial resources remained in the ground. COGEMA formed an ISL Resource Assessment Group in 1994 to evaluate remaining identified resources on the property and their suitability for ISR. The primary resource area was called the FAB Resource Area or FAB Trend and is primarily located in the southern portions of Sections 33, 34 & 35, Township 28 North, Range 78 West (Figure 4). The majority of this resource represents the connecting mineral trend within the Main Sand between past production in the Pit 2/8 complex and that in Pit 3. The Pit 2/8 complex, produced approximately 18 million lbs. of U₃O₈ and Pit 3, produced approximately 7 million lbs. U₃O₈. Pre-stripping of portions of the FAB Trend had been initiated adjacent to Pit 8, and also at the east end of the trend adjacent

to Pit 3. Pre-stripping had progressed to approximately 50-75 ft. in depth by the time mining was ceased. A second resource area (Area 5 Resource Area), located in the northwest portion of the Property (Figure 4), was also evaluated by the ISL Resource Assessment Group.

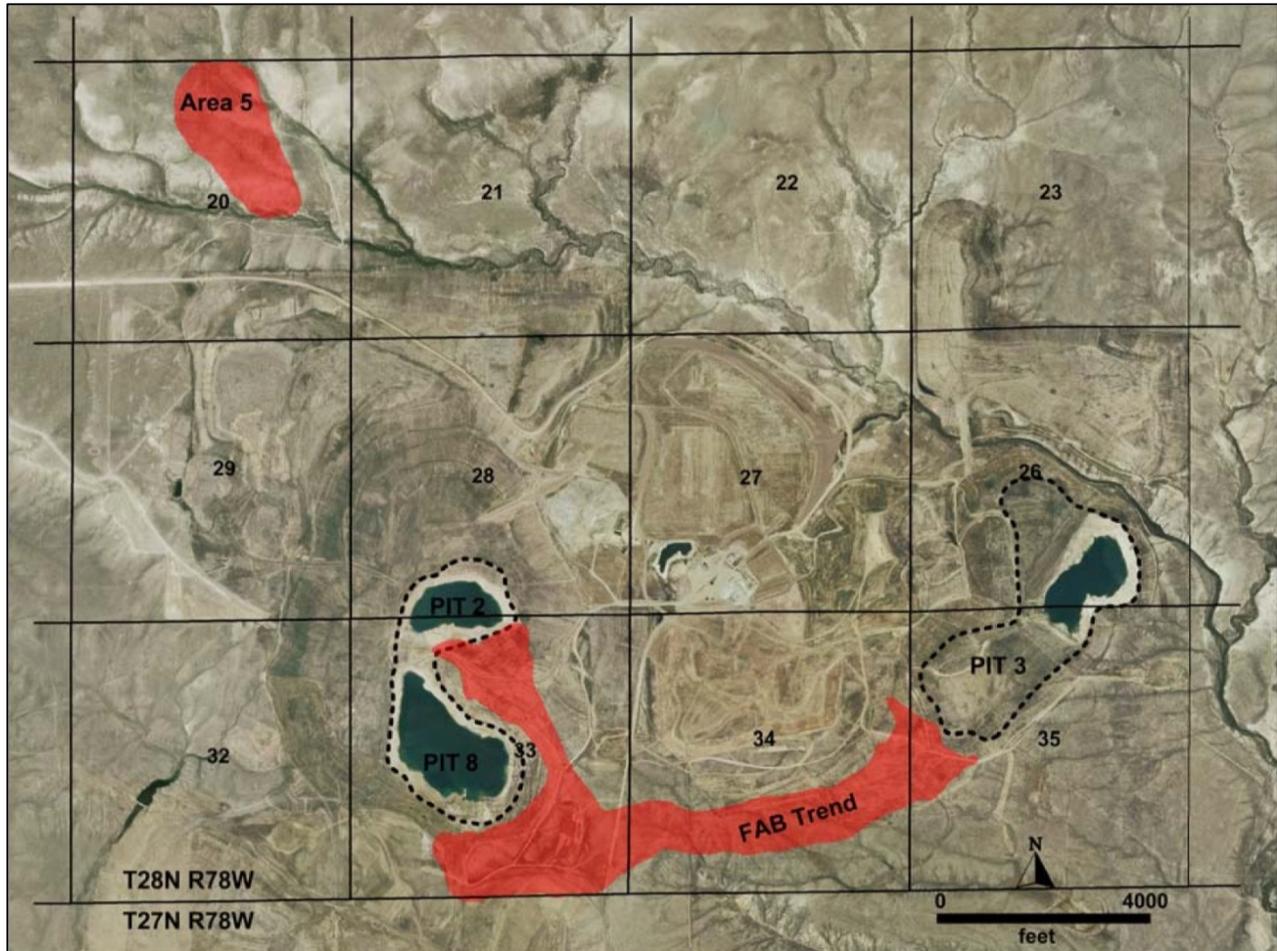


Figure 4. Shirley Basin Uranium Project Resource Areas

In annual uranium reserve summary reports from 1994 to 1998, PMC identified approximately 7.0 million lbs. of U_3O_8 in the FAB Trend and Area 5 as resources potentially mineable by solution methods. These earlier resource estimates are relevant as these provide an indication of the mineralization in the area; however, they do not differentiate resources in terms of currently recognized resource categories (Measured, Indicated and Inferred) and they do not meet the CIM definition standards and guidelines for the reporting of exploration information, mineral resources and mineral reserves for the purpose of NI 43-101. URE is not treating this historical estimate as current mineral resources or mineral reserves and it is superseded by the current mineral resource estimate in Section 14.0 of this report.

In 2010, AREVA completed a more comprehensive resource evaluation for the FAB Trend and Area 5. Termed a 'GT Layer Resource Model,' it was largely a geostatistical approach based on mineralized intercept data from historical delineation drill holes completed in the two resource areas. GT values for mineralized holes were accumulated per each 10-ft. elevation slice. The resulting GT values were contoured for each elevation slice using a kriged or distance-weighted average GT contour method, and the sub-total resources for each slice were calculated. The totals listed in Table 3 represent the total of all slices and include some mineralization in the White River Formation. No geological interpretation was involved. The estimation was done using multiple GT cutoffs for both the FAB Trend and Area 5.

Table 3. 2010 PMC Shirley Basin Uranium Project Resource Summary

GT	Cutoff	0.01	0.10	0.25	0.50	1.00
FAB Area	lbs U ₃ O ₈	15.81M	12.43M	9.28M	6.25M	3.43M
	Avg GT	0.025	0.359	0.631	1.035	1.784
	Avg Grade	0.030%	0.138%	0.218%	0.322%	0.493%
Area 5	lbs U ₃ O ₈	2.58 M	1.47M	0.80M	0.35M	0.10M
	Avg GT	0.022	0.239	0.450	0.772	1.334
	Avg Grade	0.016%	0.106%	0.188%	0.275%	0.461%
Total Resource	lbs. U ₃ O ₈	18.39M	13.90M	10.08M	6.60M	3.53M

This resource estimate is relevant as it provides an indication of the magnitude of remaining resources in the FAB and Area 5 Resource Areas. However, not all of the above resources should be considered as suitable for ISR production. Also, this resource estimate does not differentiate resources in terms of currently recognized resource categories (Measured, Indicated and Inferred) and does not meet the CIM definition standards and guidelines for the reporting of exploration information, mineral resources and mineral reserves for the purpose of NI 43-101. URE is not treating this historical estimate, which is superseded by the current mineral resource estimate in Section 14.0 of this report, as current mineral resources or mineral reserves.

6.4 Production

No production has taken place within Shirley Basin since 1992. Prior to that time, based on internal PMC reports, a combined 51,263,100 lbs. of uranium were mined from the District. Of this total, PMC (and its predecessor company - Utah) produced 28,263,100 lbs. PMC's total production was the result of a combination of underground mining, ISR operations and open-pit mining. Historical production within the District is listed in Table 4.

Table 4. Shirley Basin Historical Uranium Production (1960-1992)

Company	Method	Pounds U ₃ O ₈
Utah	Underground	1,200,000
Utah	In-situ Leach	1,500,000
Utah/PMC	Open Pit	25,563,100
Petrotomics	Open Pit	22,000,000
Homestake/Others	Open Pit	1,000,000
Total		51,263,100

Underground Mining – Utah began underground mine construction in June 1959. Underground methods were selected because portions of the reserves were too deep for open-pit mining under the small production quotas allocated at the time by the U.S. Atomic Energy Commission (AEC). The first ore was produced in March 1960. The ore was transported to Utah's Lucky Mc Mill in the Gas Hills Uranium District for processing. Unstable mining conditions, attributed to the unconsolidated nature of the ore sands and high flow of groundwater, resulted in high mining costs. Near the end of this mining phase, 4,000-5,000 gpm had to be pumped from the mine in order to maintain the operation. Underground drifting stopped in November 1963 when the decision was made to switch to solution mining. A total of 110,000 tons of ore were mined from underground operations containing 1.2 million lbs. of uranium.

ISR Operations – It was recognized early in the underground mining phase that the troublesome issues related to unconsolidated permeable host sands and high groundwater flow could be positive factors for ISR. For this reason, research into ISR began in 1961. This research focused on the site hydrological conditions, optimum geometry of wellfield patterns and production/injection well designs.

Commercial ISR operations commenced in 1963 and continued into 1970, when dewatering associated with open-pit mining stopped operations. These were the first commercial ISR operations in the U.S. and were considered technologically and economically successful. Produced mining solutions were pumped to a uranium recovery plant on the property, containing ion exchange, elution and stripping columns. A uranium slurry from this plant was concentrated and shipped to the Lucky Mc Mill for final processing. A total of 1.5 million lbs. of uranium was produced through ISR methods.

Open-Pit Mining – In November 1968, Utah announced plans to initiate large-scale open-pit mining operations and to construct a 1,800 ton/day mill on its Shirley Basin property. Overburden stripping began in 1969 and the first production through the mill was in 1971. These mining operations continued until 1992 and produced a total of 25,563,100 lbs. of uranium.

7.0 Geological Setting and Mineralization

7.1 Regional Geological Setting

The Shirley Basin is a small, structural basin with a complex structural history. The latest and most prominent structural events were associated with the Laramide Orogeny of Late Cretaceous to Early Tertiary age. During this orogeny, basement uplifting within the surrounding Granite and Shirley Mountains to the west and southwest and within the Laramie Mountains to the east and northeast, formed a broad, shallow, southward-plunging basin. Within this basin, post-Laramide Tertiary sediments were unconformably deposited on an eroded surface of mid Cretaceous strata. These Cretaceous sediments dip approximately 2-12° to the southwest.

7.2 Shirley Basin Stratigraphy

Cenozoic and Mesozoic sediments present on the surface and in the sub-surface at Shirley Basin are illustrated stratigraphically on Figure 5. The following summarizes the geologic formations below and above the host sandstones of the Eocene-age Wind River Formation.

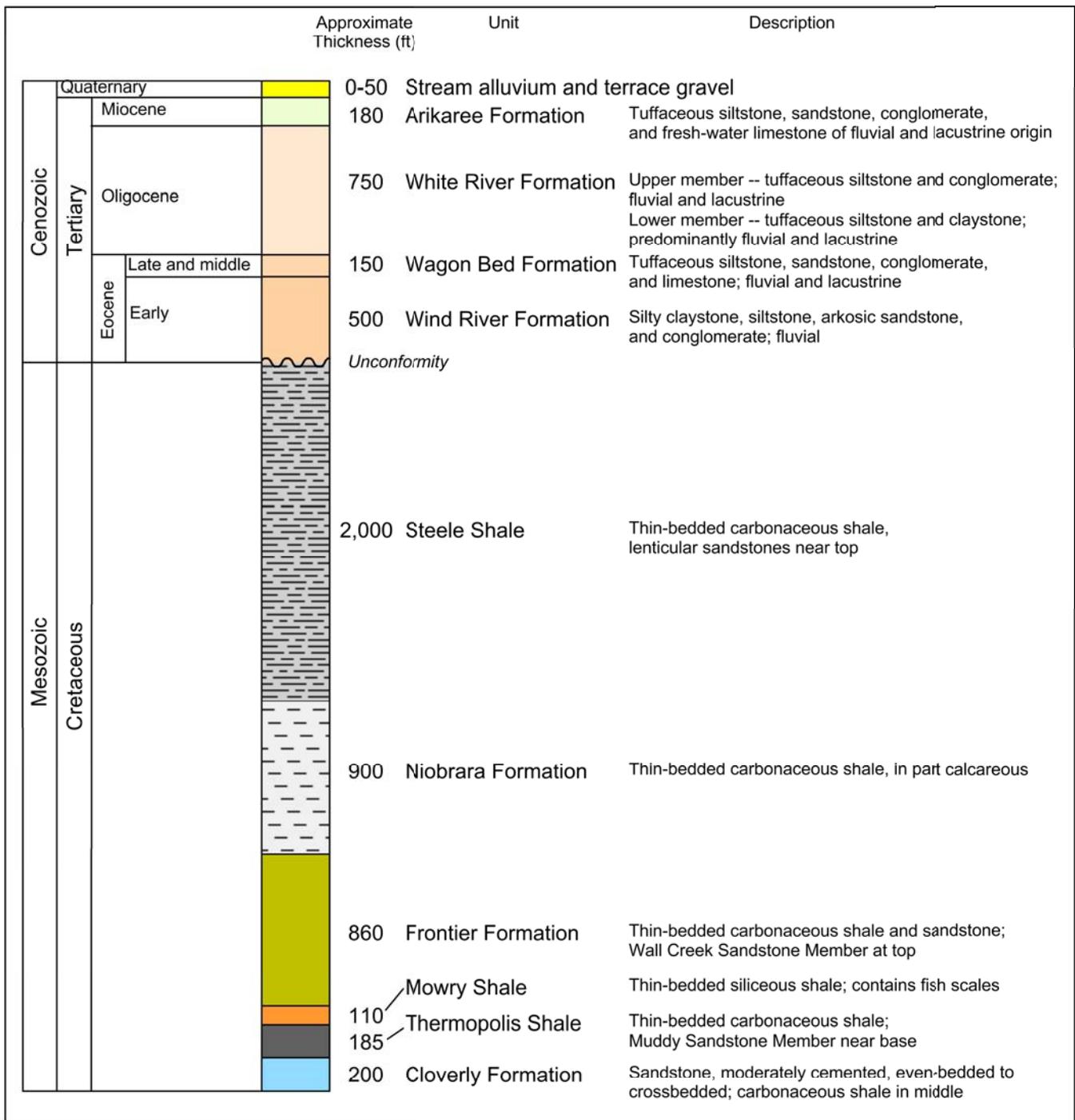
Quaternary – Thin sequences of alluvial sediments can be found along intermittent and perennial stream drainage systems. These fine-grained sediments have been eroded from Tertiary and Cretaceous rocks.

Arikaree Formation (Miocene), fluvial and lacustrine – This formation consists of alternating beds of fine to medium-grained, calcareous, light-gray, tuffaceous sandstones; lenticular conglomerates; and fresh-water limestones. The maximum thickness of this formation is 180 ft. While the Arikaree is not present within the District, exposures on the periphery of the structural basin have been described by Harshman, 1972.

White River Formation (Oligocene), fluvial and lacustrine – This thick sequence of tuffaceous sediments has a maximum thickness of 750 ft. An upper member consists of tuffaceous siltstones, interbedded with coarse-grained sandstone and boulder conglomerates. A lower member is predominately tuffaceous siltstones, but contains sequences of claystones, sandstones, conglomerates and fresh-water limestone. Locally the White River Formation contains secondary amounts of uranium mineralization.

Wagon Bed Formation (Eocene), fluvial and lacustrine – Where present, it consists of interbedded coarse-grained arkosic sandstones, silicified siltstones and claystones, and fresh-water limestones. The maximum observed thickness of this formation is 155 ft. It is not present in the Project area, having been removed by erosion prior to deposition of the White River Formation.

Shirley Basin Project Stratigraphic Column



Modified from Harshman, 1972



Shirley Basin Project

**Figure 5
Stratigraphic Column**

Pathfinder Mines Corporation

Wind River Formation (Eocene), fluvial – This formation is the primary host for uranium deposits in the Shirley Basin and consists of sequences of medium to coarse-grained arkosic sandstones, interbedded with claystone shale, clayey siltstones and thin lignites. Locally, there are intervals of boulder conglomerates, although these have not been observed within the Project area. The maximum thickness of this formation ranges from 450-550 ft.

Steele Shale (Cretaceous), marine – This is the youngest Cretaceous formation recognized in the Shirley Basin. This formation consists of thin-bedded, dark gray clay shale and some siliceous, medium-grained, light-gray sandstones. The Steele Shale is soft and easily eroded. It has an estimated thickness of 1,500-2,000 ft. This formation has been removed by pre-Tertiary erosion in the Project area and is present only in the far northeastern portion of the District.

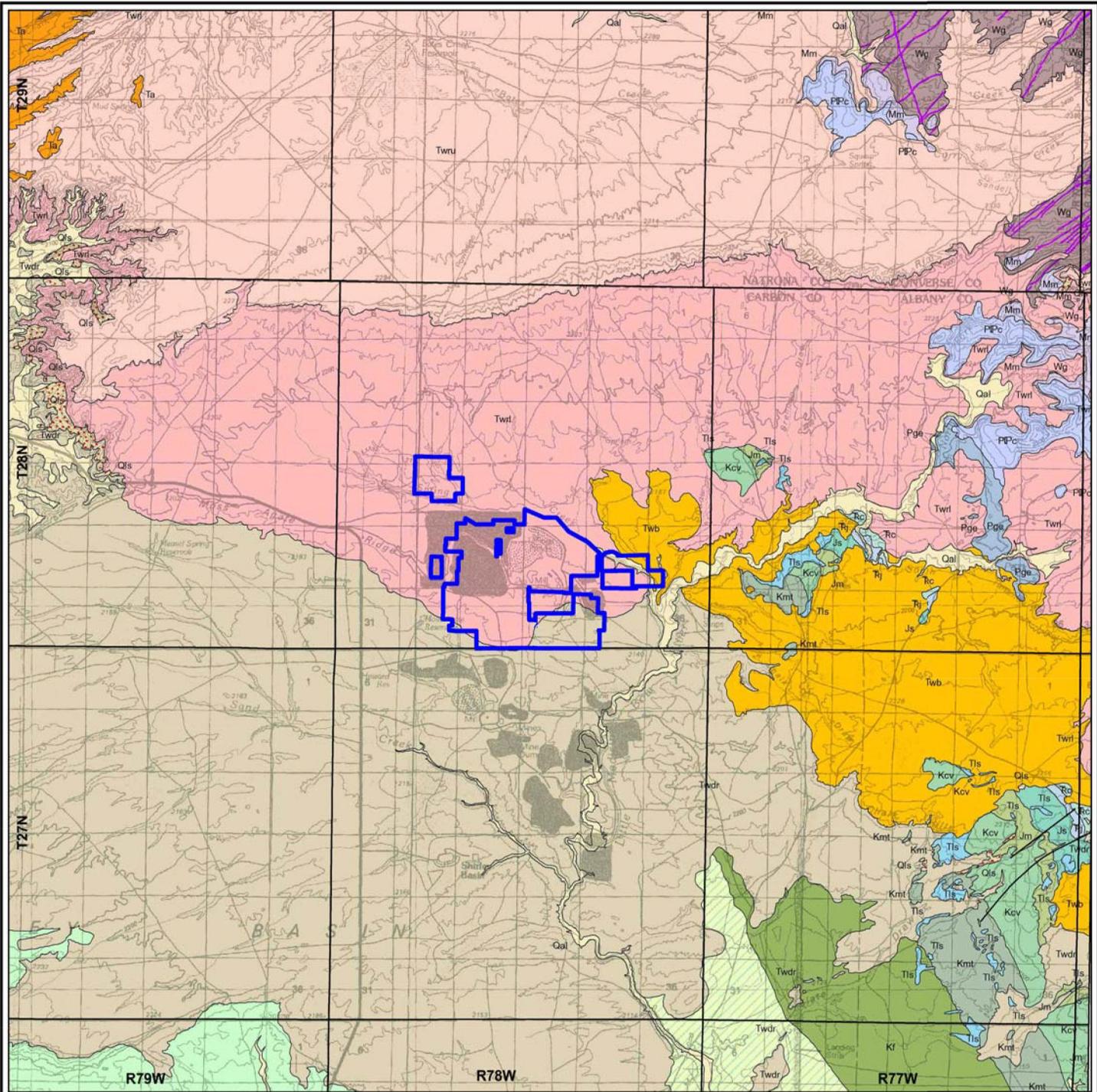
Niobrara Formation (Cretaceous), marine – This formation consists of dark gray to black locally calcareous shale, interbedded with thin limey sandstones. Total estimated thickness of this formation is 900 ft.

Frontier Formation (Cretaceous), marine – The majority of the formation consists of gray to dark gray, thin-bedded carbonaceous shale. The top of the Frontier Formation is represented by the Wall Creek Sandstone member. This member consists of a series of fine to medium-grained sandstones, interbedded with dark gray shale. The sands are cemented with calcium carbonate and are very resistive to erosion. They have also been a prolific oil producer throughout Wyoming. Thickness is approximately 110 ft. Total estimated thickness of the Frontier Formation (including the Wall Creek Sandstone) is 900 ft.

7.3 Project Geology

In the Project area, the primary hosts for uranium mineralization are arkosic sandstones of the Eocene-age Wind River Formation. This formation was unconformably deposited on gently-dipping shales and sandstones of the Cretaceous-age Niobrara and Frontier Formations. The White River Formation unconformably overlies the Wind River Formation and outcrops on the surface throughout most of the Project, with thicknesses ranging from a thin veneer in the FAB Resource Area to over 250 ft. in Area 5 (see Figure 6). The Wagon Bed Formation has been eroded and is not present in the Project area.

The Wind River sediments in the Project area were deposited as part of a large fluvial depositional system. The lithology of the Wind River Formation is characterized by thick, medium to coarse-grained, arkosic sandstones separated by thick claystone units. Sandstones and claystones are typically 20 - 75 ft. thick. Minor thin lignite and very carbonaceous shale beds occur locally. These fluvial sediments are located within a large northwest-trending paleochannel system with a gentle 1° dip (Bailey 2011).



Source: Jones and Gregory, 2011 (USGS OFR 11-8)

Legend

- | | | |
|--|--|----------|
| Quaternary | Jurassic | PMC Land |
| Qal Alluvium | Jm Morrison Formation | |
| Qls Landslide block or debris | Js Sundance Formation | |
| Tertiary | Triassic | |
| Tls Tertiary landslide | Trc Chugwater Formation | |
| Ta Arikaree Formation | Paleozoic | |
| Twru Upper White River Formation | Pge Goose Egg Formation | |
| Twrl Lower White River Formation | PPc Casper Formation | |
| Twb Wagon Bed Formation | Mm Madison Limestone | |
| Twdr Wind River Formation | Precambrian | |
| Cretaceous | Wg Precambrian granite and gneiss, undivided | |
| Ks Steele Shale | Mafic dike | |
| Kf Frontier Formation | | |
| Kmt Mowery and Thermopolis Shales, undivided | | |
| Kcv Cloverly Formation | | |



Shirley Basin Project

Figure 6
Geology Map

Pathfinder Mines Corporation

The average thickness of the Wind River Formation within the Project area is approximately 230 ft. (see Figure 7). The two most dominant sandstones are named the Main and Lower Sands. The Lower Sand represents the basal sand unit of the Wind River Formation and in places lies directly above the underlying Cretaceous formations. The Main Sand typically lies approximately 15 - 25 ft. above the Lower Sand. Locally the two merge where the intervening claystone unit is absent. Typical thickness of the Lower Sand ranges from 25 - 50 ft. and that of the Main Sand from 40 - 75 ft. Less dominant sands are common within the Wind River Formation. One in particular has been referred to as the Upper Sand and is present within much of the FAB Trend, lying approximately 25 ft. above the Main Sand. Claystone units are normally at least 10 ft. thick and commonly are 20 - 50 ft. thick.

Mineralized core of the Main Sandstone, from URE's 2014 confirmation drilling program, was described by geologists as medium- to coarse-grained, friable sandstone. Laboratory testing of physical parameters of these core samples yielded an average horizontal permeability (to air) of 3,319 millidarcies, and an average porosity of 26.8%. In addition, similar testing of an overlying claystone unit yielded a vertical permeability of 4.56 millidarcies, and a sample from the underlying claystone unit had a vertical permeability of 0.93 millidarcy. The results of these initial tests indicate conditions are suitable for ISR of uranium.

Bulk density analyses were also conducted on two core samples from the Main Sands. These analyses yielded an average tonnage factor (density) of 15.7 cubic (cu.) ft. per ton for the host sandstone. This compares favorably to the historical PMC tonnage factor of 16.0 cu. ft. per ton, which was used in URE's current resource estimates.

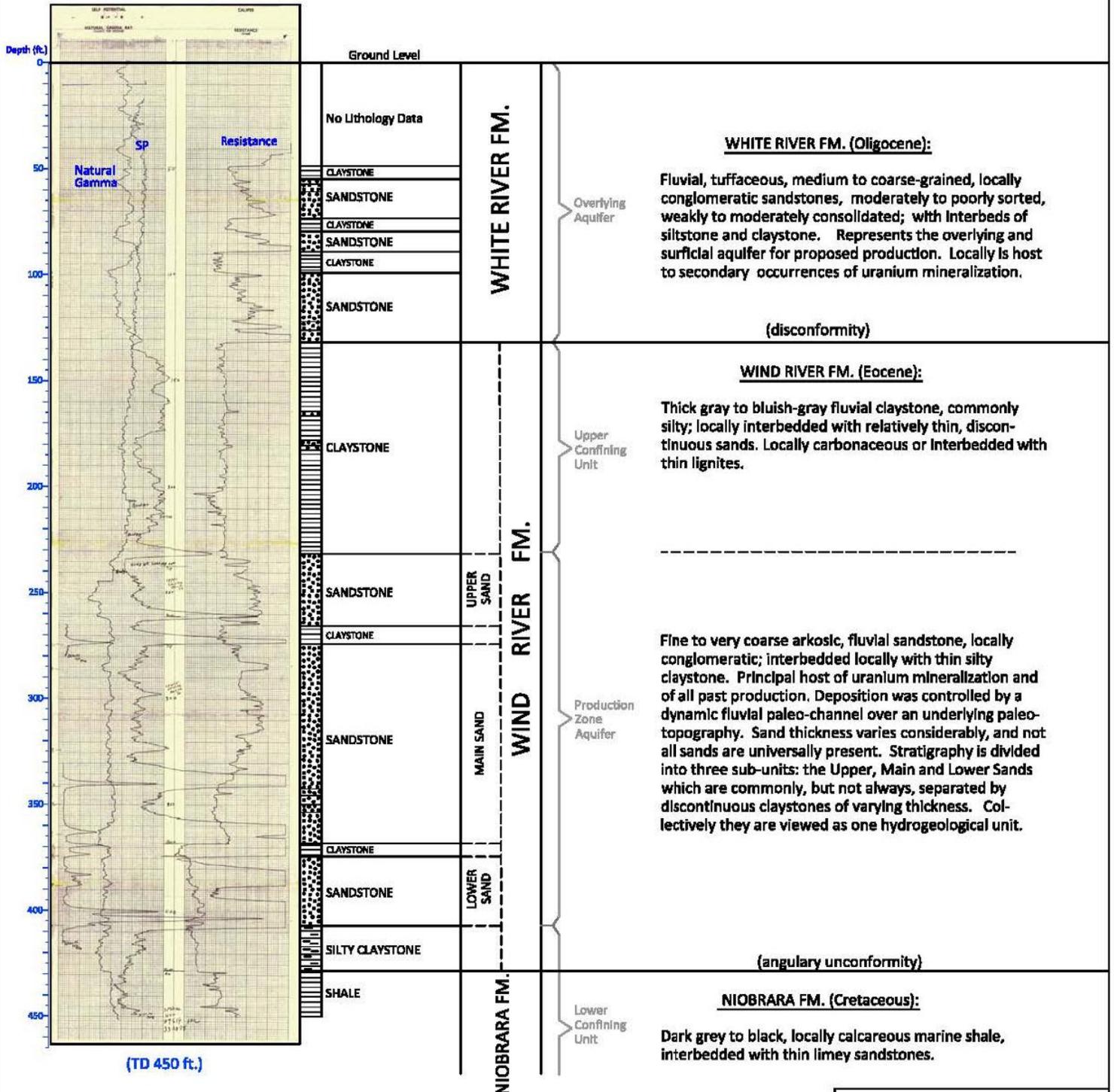
The average depth to the top of the Main Sand in the FAB Trend is approximately 270 ft. and the average depth to the base of the Lower Sand is 400 ft. Area 5 is down-dip therefore the units are slightly deeper. The average depth to the top of the Main Sand in Area 5 is approximately 360 ft. and the average depth to the base of the Lower Sand is 490 ft.

Regional alteration systems related to roll front development followed the Wind River Formation depositional patterns. Two major alteration systems developed, one in the Lower Sand and one in the Main Sand. Major ore bodies in the southern portions of the District were mainly in the Lower Sand and lower alteration system. PMC's Pit 3 was mined only in the Main Sand. Pits 2 and 8 were mined in both sands and both alteration systems.

TYPE LOG - SHIRLEY BASIN PROJECT

Hole ID: 33-16-009

1,621,905 E / 1,004,652 N (WY State Plane; NAD 83)



Shirley Basin Project
Figure 7
Type Log

Pathfinder Mines Corporation

7.4 Significant Mineralization

All uranium mineralization at the Project occurs as roll front deposits. Virtually all significant mineralization, including all of the past production, is hosted by the Main Sand or the Lower Sandstone. Limited uranium mineralization has also been encountered in the less dominant upper Wind River Formation sandstones and in sandstones of the overlying White River Formation. These upper sandstones, however, are viewed as marginal targets and evaluation to date has been limited.

Each of the primary host sands is occupied by a regional roll front alteration system which closely follows the depositional patterns established by Wind River-age fluvial paleo channels. The alteration systems, in turn, develop multiple stacked roll fronts at their terminal ends or lateral edges, such that the Main Sand has as many as ten distinct roll fronts and the Lower Sand up to five roll fronts.

The FAB Trend is the major target for potential uranium ISR. Mineralization occurs primarily in the Main Sand and represents an arcuate trend which links past Main Sand production in Pit 2 to that in Pit 3. The FAB Trend occurs on the northern and northeastern flank of the regional Main Sand alteration system (see Figure 8). The trend represents a composite of multiple stacked roll front mineral horizons spanning a length of approximately 11,000 ft. (2 miles) and varying in width from 250–1,000 ft. Mineralization occurs within a 200-ft. depth interval, ranging from 200-400 ft. Within a given roll front, mineralization exhibits strong horizontal continuity parallel to the direction of the reduction-oxidation (redox) interface.

Mineralization in Area 5 is also viewed as an objective for uranium ISR. Mineralization in Area 5 is hosted in both the Main and Lower Sands near the northern terminus of those regional alteration tongues. Resources occur in two loosely defined, north-south oriented trends which are located along the lateral flanks of the alteration tongues (see Figure 8). The western trend contains the richest concentrations of mineralization. The eastern trend is less defined and holds fewer resources. The western trend is approximately 3,000 ft. long by 1,000 ft. wide, and the eastern trend is approximately 2,500 ft. long by 500 ft. wide. Together, the two trends represent a resource area approximately 3,000 ft. long by 2,000 ft. wide. Similar to the FAB Trend, each sand hosts multiple stacked roll fronts. Depth to mineralization in the Main Sand in Area 5 ranges from 380-500 ft. and from 470-530 ft. in the Lower Sand. Geometry of the individual roll fronts in this area is very similar to that described above for the FAB Trend.

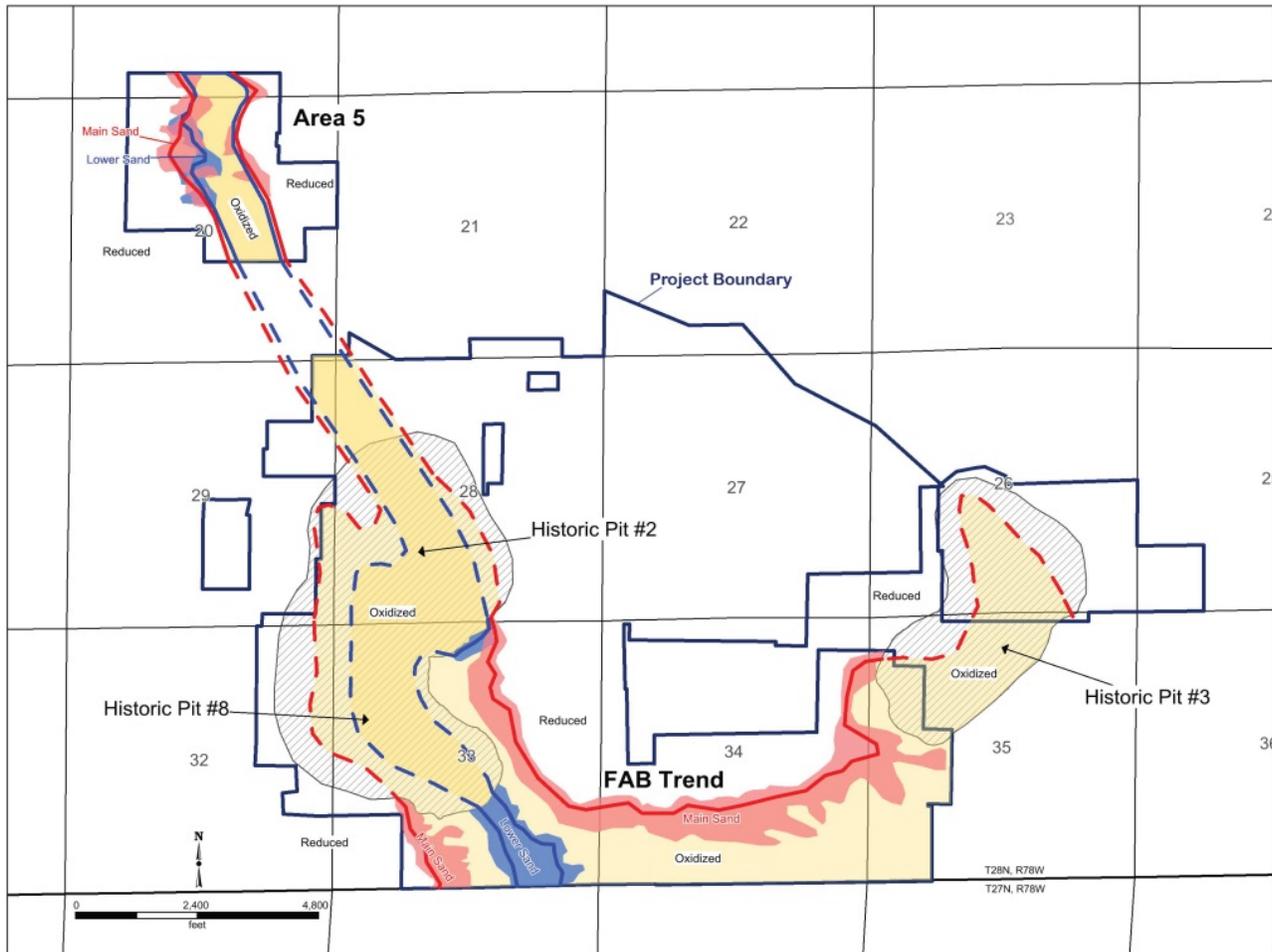


Figure 8. Mineralized Trends

For a detailed explanation of roll front mineralization on the Project, please see Section 8.0 - Deposit Type, Section 10.0 – Drilling and Section 14.0 – Mineral Resources Estimates.

8.0 Deposit Type

Uranium mineralization identified throughout the District occurs as roll front-type deposits. Because of the extensive uranium exploration activities conducted in the Shirley Basin during the early years of the U.S. uranium industry (the late 1950s through early 1960s), many of the fundamental concepts of the roll front model were developed by early Shirley Basin geologists studying the underground and open-pit workings. Harshman, 1972, provides a detailed analysis of the geology and uranium deposits of the Shirley Basin area.

The photograph shown in Figure 9 was taken in one of the Shirley Basin open pits and illustrates a cross sectional view of a roll front. In this case, the roll front has migrated from left to right. The crescent shape configuration of the mineralization within the sand is clearly evident. Oxidized sand (lighter color) is observed within the mineralized envelope. Colors in this photo are distorted due to the age of the photo.

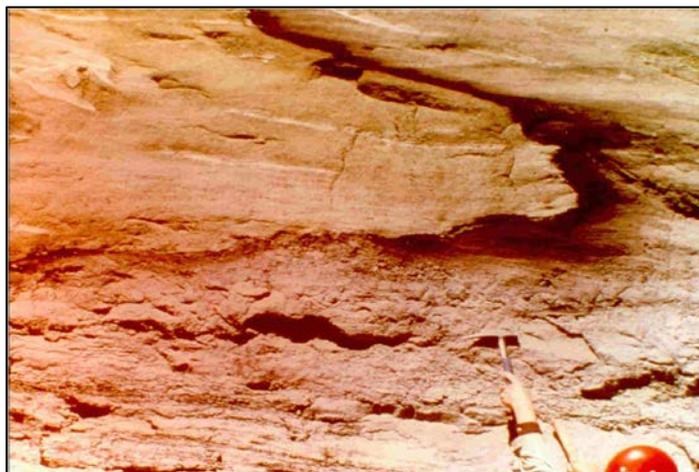


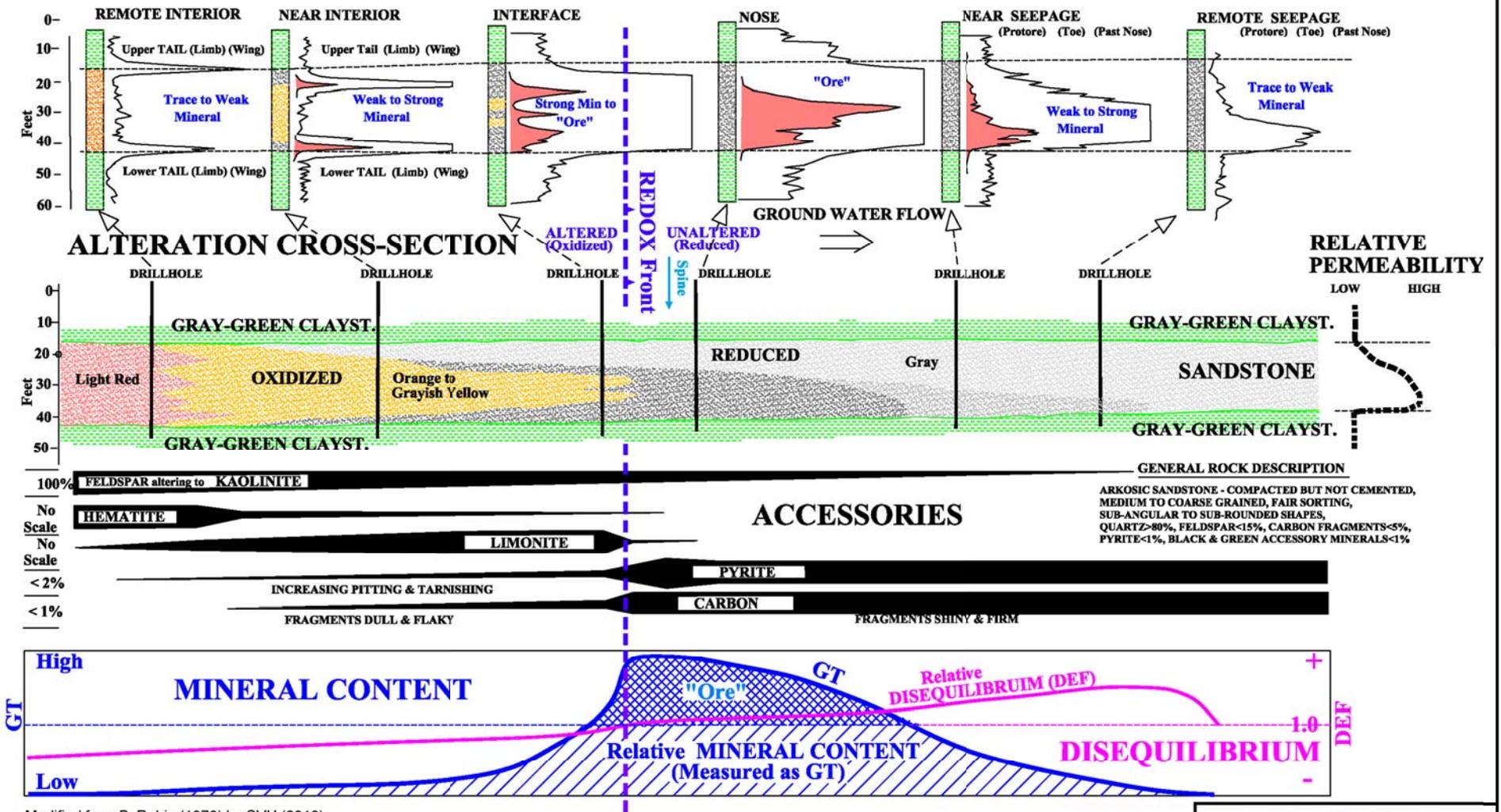
Figure 9. Photo of Shirley Basin Roll Front

The formation of roll front deposits is largely a groundwater process that occurs when uranium-rich, oxygenated groundwater interacts with a reducing environment in the subsurface and precipitates uranium. The most favorable host rocks for roll fronts are permeable sandstones within large aquifer systems. Interbedded mudstone, claystone and siltstone are often present and aid in the formation process by focusing groundwater flux. The geometry of mineralization is dominated by the classic roll front “C” shape or crescent configuration at the alteration interface as shown conceptually in Figure 10. The highest grade portion of the front occurs in a zone termed the “nose” within reduced ground just ahead of the alteration front. Ahead of the nose, at the leading edge of the solution front, mineral quality gradually diminishes to barren within the “seepage” zone. Trailing behind the nose, in oxidized (altered) ground, are weak remnants of mineralization referred to as “tails” which have resisted re-mobilization to the nose due to association with shale, carbonaceous material or other lithologies of lower permeability. Tails are generally not amenable to ISR because the uranium is typically found within strongly reduced or impermeable strata, therefore making it difficult to leach.

Shirley Basin

TYPICAL ROLLFRONT CHARACTERISTICS

RADIOMETRIC CROSS-SECTION - Gamma Signature - Zonation



Modified from B. Rubin (1970) by CVH (2010)



Shirley Basin Project
Figure 10
 Conceptual Uranium
 Roll Front Deposit

Pathfinder Mines Corporation

There are two potential sources of the uranium for the District: (1) leaching of uraniumiferous Oligocene volcanoclastics which once covered the region and (2) weathering and leaching of uraniumiferous Archean granite of the Laramie and Shirley Mountains (north, east and southwest of the District) which also represent the provenance of the arkosic sands within the Wind River Formation in the District.

Oxygenated surface water passing through the overlying thick sequences of volcanoclastic material leached metals, including uranium. These metal-enriched fluids may have also leached additional uranium from the granitic content of the arkosic sands which compose the aquifers. The enriched, oxidizing fluids subsequently entered the regional groundwater systems within the basin and migrated down-gradient through the aquifers as large oxidizing geochemical cells referred to as solution fronts.

Uranium precipitated in the form of roll front deposits at the leading edge of the geochemical cells where they encountered reducing geochemical environments within the host sands. Mineral quality was enhanced where groundwater flux was focused horizontally by paleochannels or vertically by aquitards. Continuity of these conditions produced a significant accumulation of uranium at the redox interface. Renewed supply of oxygen to the system allowed slow migration of the uranium deposit down-dip over geologic time.

The oxidized mineralizing solutions typically carry and precipitate other metals in addition to uranium. At Shirley Basin, Harshman (1974) documented the deposition of vanadium, selenium and epigenetic iron as pyrite in close association with the uranium roll front.

The reducing environment in the host sand is generally the result of carbonaceous material within the formation or leaked reductant gases originating from deep hydrocarbon sources. Pyrite is inherently associated with both and is a significant indicator of a reducing environment. Reduced sands are typically light to medium gray and represent the regional framework prior to mineralization. The reducing environment is subsequently altered by the passage of the oxidizing solution front. Alteration typically involves oxidation of pyrite and other iron-bearing minerals to limonite/goethite, or locally hematite, and destruction of carbonaceous material. As a result, altered (oxidized) sands in Shirley Basin are typically yellowish green, pale yellow and, less commonly, reddish brown in color.

Mineralization within a roll front varies considerably in size and shape, but is generally long, narrow and sinuous in map view. The total length of a mineral trend may extend for several miles. Commonly, a deposit or mineral trend will consist of a composite of multiple roll fronts. Typical width of an individual roll front is generally 25-100 ft.

However, in the case of multiple fronts, the composite width may be several hundred feet across. Typical thickness of an individual roll front is roughly 5-25 ft. and the composite thickness of multiple fronts may be as much as 70 ft.

Roll front development in the District is the product of two large, regional geochemical alteration systems, or tongues, each occupying either the Main Sand or the Lower Sand of the Wind River Formation. Multiple individual roll fronts developed at the terminal ends and also along the lateral perimeters of these regional tongues. Where concentrations of uranium were sufficiently rich, these roll fronts were developed as mines, each mine addressing multiple fronts.

9.0 Exploration

No site-specific exploration surveys, other than the confirmatory drilling program described in the following section, have been conducted by URE on the Project. An extensive review of historical PMC drill hole data information, however, was undertaken by URE in order to estimate existing uranium resources within the property boundaries. Over 3,200 drill holes in the FAB Trend and Area 5 were evaluated.

This evaluation included the use of historical down-hole electric logs, lithology logs, drill hole location maps, summaries of mineralized drill hole intercepts and survey coordinates for drill holes. Procedures used in the verification and utilization of these historical data, as well as results of this evaluation, are described in Section 12.0 Data Verification and Section 14.0 Mineral Resource Estimate.

10.0 Drilling

Since acquiring the Project, URE has completed a limited drilling campaign within the FAB Trend and Area 5 Resource Area. The primary goals of the program were:

- Confirmation of the location and nature of mineralization as reported by historical PMC data;
- Stratigraphic investigation to confirm lithology and to confirm overlying and underlying hydrogeological confinement; and
- Collection of core for leach testing and analysis of uranium, mineralogy, trace metals, disequilibrium, permeability, porosity and density.

The drilling campaign was completed in May 2014 and consisted of 14 near-vertical rotary drill holes, including 2 core holes for a total drilling footage of 6,588 ft. (see Table 5). In the FAB Trend, drilling consisted of eight rotary holes and the two core holes (see Figure 12). The remaining four rotary holes were drilled in Area 5 (see Figure 13). All drilling was mud-rotary type conducted by contracted drill rigs. The drill rigs are truck-mounted, water well-style rigs rated to depths of 1,000-1,500 ft. The non-core holes served a dual purpose of mineral confirmation and stratigraphic investigation. All were positioned in locations intended to approximate that of selected historical drill holes with the goal of replicating reported mineralization. In addition, the lithology of overlying and underlying clay units was evaluated as potential aquitard for ISR. The total depth of these holes extended at least 60 ft. below the mineralized zones to evaluate the lithology and hydrogeological characteristics of underlying Wind River claystones and Cretaceous shales.

Table 5. Summary of 2014 URE Drilling Results

Resource Area	# Holes	Total Drilled Depth (ft.)	Avg Depth (ft.)	# Holes with Potentially Economic Mineral	# Mineral Intercepts (gamma)	# PFN Logged Holes	# PFN Logged Intercepts
FAB	10	4,260	426	8	9	6	8
AREA 5	4	2,328	582	2	4	1	2
Total	14	6,588		10	13	7	10

The rotary drill hole data confirmed the presence and nature of the uranium mineralization and substantiated the validity of historical PMC data. Open-hole gamma and PFN logging of the confirmation drill holes verified the presence of high-grade roll front uranium mineralization in locations identified by historical PMC data and exhibited similar grade and thickness values. The majority of the mineral intercepts were interpreted as encountering the “nose” portion of the roll front system within the targeted

sandstone. Deviation surveys were conducted on these near-vertical drill holes, revealing an average bottom-hole deviation of only 3.19 ft. As shown in Table 6, the gamma results include a total of 13 intercepts containing mineralization which meets or exceeds criteria defined by the Company as potentially economic for the Project (i.e., $GT \geq 0.25$ with a minimum grade cutoff of 0.020% eU_3O_8). The PFN results on 10 of these logged gamma intercepts show an average Disequilibrium Factor of 1.03, indicating that the uranium mineralization is at or near chemical equilibrium and confirms that measurement of mineralization by gamma methods is a valid tool at the Project. Additional discussion on disequilibrium is contained in Section 13.0.

Table 6. Summary of Mineralized Intercepts – 2014 Confirmation Drilling

Hole No.	Depth (ft.)	Thickness (ft.)	Grade (eU_3O_8 ⁽¹⁾)	GT (gamma)	GT (PFN)
A5-002	427.5	9.5	0.067%	0.64	---
A5-004	403.0	6.5	0.147%	0.96	1.03
A5-004	415.0	6.5	0.059%	0.39	0.38
A5-004	528.5	11.0	0.039%	0.43	---
FAB-002	311.5	8.0	0.502%	4.02	3.27
FAB-004	223.5	6.0	0.056%	0.34	0.33
FAB-004	255.0	12.0	0.230%	2.76	2.30
FAB-005	242.0	12.5	0.321%	4.01	4.51
FAB-006	331.0	19.0	0.160%	3.04	---
FAB-007	312.0	9.0	0.224%	2.02	2.01
FAB-007	322.0	7.0	0.076%	0.53	0.62
FAB-008C	242.0	13.0	0.225%	2.93	3.32
FAB-009C	331.0	19.0	0.189%	3.59	4.02

⁽¹⁾ % eU_3O_8 is a measure of gamma intensity from a decay product of uranium and is not a direct measurement of uranium. Numerous comparisons of eU_3O_8 and chemical assays of Shirley Basin core samples, along with historical mining experience indicate that eU_3O_8 is a reasonable indicator of the chemical concentration of uranium.

The drilling results also provided valuable information regarding the distribution and character of the Main and Lower Sandstone of the Wind River Formation. Hydrogeological confinement above the host sandstones is provided by competent overlying Wind River shale generally in excess of 20 ft. thick, and underlying confinement is provided by both Wind River and Cretaceous shales, which, in combination, are typically in excess of 50 ft. thick.

The seven best intercepts had GTs ranging from 2.02 to 4.01, with an average grade of 0.24% eU_3O_8 . Included within these mineralized intercepts are several significantly higher grade intervals:

2.5 ft. of 1.02% eU_3O_8 (hole FAB-002)

2.5 ft. of 0.74% eU_3O_8 (hole FAB-004)

2.5 ft. of 0.67% eU_3O_8 (hole FAB-005)

The two core holes were approximately 10 ft. offsets of two URE non-core holes which were representative of the mineral character in the FAB Trend. Coring was done only in selected intervals for the purpose of collecting undisturbed samples for various types of analyses. Results of the analyses are discussed in Section 13.0. A total of 64.9 ft. was cored. Average core recovery for the two holes was 80.3%. Field processing of the core is described in Section 11.0. All holes were geophysically logged from surface to total depth by a geophysical logging unit owned and operated by URE (see Section 11.0). Both core holes were PFN logged in addition to gamma logging. Coring provided 33 samples on one-foot intervals which have been sent to laboratories for various chemical analyses and testing of physical properties (see Section 11.0).

All 14 drill holes and core holes were plugged and abandoned in accordance with LQD regulations. The holes were cemented from the bottom of the hole to the surface. After the cement dried and settled, the holes were “topped-off” with bentonite chips to within 10 ft. of the surface. A cement cap was placed from a depth of 10 ft. to 2 ft. from the surface. The remaining 2 ft. of hole was filled with soil.

No drilling, sampling or recovery factors were recognized that could materially impact the accuracy and reliability of the resource estimates presented in this Technical Report.

11.0 Sample Preparation, Analysis and Security

All mineralization at the Project occurs at depth and does not outcrop. Therefore, investigation of the mineralization is accomplished solely by means of drilling. Similarly, “sampling” of mineralization is accomplished by one or more of three methods derived from the drilling activities including: 1) down-hole geophysical logging, 2) coring, and 3) drill cuttings. These are described in the following subsections.

11.1 Down-hole Geophysical Logging

All holes drilled on the Project by URE and its predecessors have been geophysically logged using a down-hole electronic probe. This is standard practice for the U.S. uranium industry. There are two basic types of logs: 1) gamma log and 2) PFN log. A discussion of these follows.

Gamma Logs:

Gamma logs provide an indirect measurement of uranium content in the host rock. They detect the gamma irradiated by a progeny of uranium decay under the presumption that chemical equilibrium exists between the source uranium and its progeny. A vehicle-mounted electronic probe is lowered down the hole to total depth and then the natural gamma radiation of the formation is measured as the probe is drawn to the surface. Modern logging instruments collect gamma radiation measurements on 0.1-ft. depth intervals. An industry standard U.S. Department of Energy (DOE) algorithm is used by the logging unit software to convert the gamma ray readings, measured in counts per second (cps), into mineral grade reported as equivalent percent uranium (% eU₃O₈). The results are reported in 0.5-ft. increments. Mineralized intervals (intercepts) are then defined by applying these pre-established grade cutoffs to the report:

- Thickness of each mineralized zone (ft.) exceeding grade cutoff. Mineralized thickness from gamma logs is considered an accurate representation of the true thickness because the strata are essentially horizontal and drill holes are nearly vertical,
- Average grade within the thickness interval (% eU₃O₈),
- Depth (below ground surface) to the top of the intercept (ft.), and
- GT (Grade x Thickness): Calculated as the average grade multiplied by thickness for each intercept interval (%-ft., but usually expressed without units).

Gamma logs are customarily accompanied by Spontaneous Potential (SP) and Single-Point Resistance (Res) or multi-point resistivity curves. In combination, SP and

Resistance curves are commonly referred to as an electric log (E-Log) and are used to interpret formation lithology.

Historical logging by Utah/PMC was done by company-owned and operated units. Log formats that were employed by Utah/PMC varied considerably over the years. Despite the variation in this historical down-hole gamma data, the overall quality of the data was sufficient to successfully guide PMC mining efforts for over 30 years and to allow consistent mapping of subsurface sandstones and mineralized intervals for this uranium resource analysis.

URE geophysical logging data are obtained using a Company-owned and operated logging unit which employs technology from Geolnstruments, Inc. of Nacogdoches, Texas. Down-hole measurements include gamma logs, single-point resistance, spontaneous potential (SP), and hole deviation. Quality control on the logging unit is performed by calibration of the logging unit at the Casper, Wyoming DOE test pit (known source concentration) no less than once a month during periods of drilling activity. Calibration is performed using industry established procedures. URE maintains detailed calibration records. When employed by URE, logging contractors are required to calibrate in the same fashion and on a similar schedule.

PFN Logs:

The PFN tool provides a direct down-hole analysis of true uranium content by means of in-place fission of ^{235}U initiated by the emission of high energy neutrons. It is used by URE to verify the grades of mineral intercepts previously reported by gamma logging. PFN logging is accomplished by a down-hole probe in much the same manner as gamma logs; however, only the mineralized interval plus a buffer interval above and below are logged. After review of the gamma log from each drill hole, the URE field geologists determine if any intercepts warrant PFN logging based on the GT of the gamma intercepts ($\text{GT} \geq 0.10$). If selected by the field geologist, and if the PFN tool is available within a reasonable timeframe, the hole will be logged by PFN. As such, the PFN results are employed only as a confirmation of gamma-derived results, but not as a complete replacement or duplication of them. Quality control for the PFN is performed at the DOE test pit in a manner similar to that described previously for the gamma tool.

Output of the PFN logging is in much the same format as that from the gamma logging tool. For any given intercept, GT values are derived from both the gamma and PFN data. Comparison of the values yields a Disequilibrium Factor (DEF) reported as the ratio of GT values: $\text{PFN GT} \div \text{Gamma GT}$. Thus, a value greater than 1.0 indicates chemical enrichment compared to gamma, and a value less than 1.0 represents chemical depletion (Rosholt, 1959).

11.2 Coring

In the U.S. uranium industry, coring typically is done on only a small percentage of drill holes. The primary purposes for collecting core has been to provide relatively undisturbed samples for chemical analyses and host rock physical properties. Chemical analyses typically are for uranium to evaluate disequilibrium and also for trace elements and constituents of interest. Physical properties of interest are typically permeability, porosity and density. Cored intervals are normally limited to select intervals. Rarely are holes cored from surface to total depth.

Utah/PMC conducted numerous historical coring activities within the FAB Trend, Area 5 and the mined open-pits. Complete records of these activities are not available, but it is understood that most of the chemical analyses were conducted by in-house laboratories at either the Lucky Mc or Shirley Basin mill sites. Records indicate that, based on the results of these coring studies, a DEF of 1.066 (slightly enriched with respect to chemical uranium) was uniformly applied to all down-hole gamma logging intervals by Utah/PMC.

Core samples were obtained from two core holes drilled by URE within the FAB Trend in 2014. Core holes were located as close offsets of URE confirmation holes that showed mineral intercepts of interest. Select intervals within the holes were cored by means of a mud-rotary drilling rig employing a 10-ft. long, split-tube core barrel. Core recovery for the two holes was 80%. URE-specified field procedures for handling of core included:

- Core was measured after removal from core barrel to determine percentage of core recovery,
- Core was described in detail by URE geologists,
- Core was photographed in the field,
- Core was scanned in the field on 0.5 ft. intervals with a hand-held scintillometer to identify sections of higher radioactivity for sampling. The scintillometer results were also employed at a later date to provide a detailed depth correlation and comparison between the gamma log and driller's core depths. Depth correlation accuracy of approximately 0.5 ft. is normally obtained, and
- Core was then vacuum sealed in plastic bags.

Samples selected for laboratory chemical analyses were later cut in 1-ft. intervals, split by hand longitudinally and bagged by URE employees for shipping. In addition,

selected samples were tested for density, permeability and other physical features, as well as leach amenability. Samples for leach testing were vacuum sealed again immediately after selection and prior to shipping to the lab.

11.3 Drill Cuttings

During drilling of all holes, cuttings are collected at 5-ft. depth intervals. Detailed descriptions of each of these samples are then documented by the Company's field geologists. Drill cutting samples are valuable for lithologic evaluation, confirmation of electric log (E-log) interpretation, and for description of redox conditions based on sample color. Identifying redox conditions in the host formation is critical for the interpretation and mapping of roll fronts. Note, however, that cuttings samples are not analyzed for uranium content because there is considerable dilution and mixing that occurs as the cuttings are flushed to the surface. In addition, the samples are not definitive with regard to depth due to variation in the lag time between cutting at the drill bit and when the sample is collected at the surface.

11.4 Analyses and Security

After collection and documentation in the field, cores derived from URE's drilling activities at the Project were delivered to Inter-Mountain Labs, Inc. (IML) for chemical and gamma analyses for uranium, as well as analyses for associated elements. IML is an independent, commercial laboratory in Sheridan, Wyoming and considered to be qualified to secure, handle and analyze samples in accordance with industry standards. IML has an industry-standard, internal QA/QC system including routine equipment calibration and the use of standards, blanks, duplicates and spikes. The lab is licensed by the NRC, is EPA-certified and accredited by the National Environmental Laboratory Accreditation Program. EPA Method 200.8 was used for radionuclide analyses and EPA Method ASA9 29-2.2 was used for the analyses of organic compounds. For multi-element analysis, results were obtained using inductively coupled plasma mass spectrometry (ICP-MS) using EPA Method 6010C. For these analyses, core samples were subjected to a three-acid digestion (EPA Method 3050).

Physical properties of the core (porosity, permeability and density) were measured by Weatherford Laboratories of Casper, Wyoming. Weatherford Laboratories provides rock property analyses, geochemical testing and specialized core testing services to the oil and gas industry worldwide. Testing procedures were performed in accordance with standards presented in the American Petroleum Institute Report 40 – Recommended Practices for Core Analysis. Two samples from the mineralized Main Sandstone of the Wind River Formation (the primary host rock for the Project) were submitted for analyses, along with a core sample from the overlying and underlying clay horizons.

Hazen Research, Inc. has been contracted to perform mineralogical studies on two selected core samples. This work will consist of three separate analyses:

1. X-Ray Diffraction (XRD) analysis - Each sample will be analyzed by XRD to determine the major mineral constituents.
2. Electron Microprobe (EMP) analysis - Each as-received sample will be mounted in a polished section for EMP analysis to characterize the uranium minerals in terms of their mode of occurrence, textural features, specific associations, and intergrowth relationships.
3. QEMSCAN analysis - For quantitative mineralogy, each polished section will be subjected to QEMSCAN analysis, which will provide a detailed mineral abundance analysis.

Data from historical sampling were obtained from Utah/PMC records. Because these companies were considered to be reputable exploration/production companies, previous samples are assumed to have been collected, secured and analyzed in accordance with standard industry practices at the time.

11.5 Quality Control Summary

URE maintains a number of quality control procedures associated with its coring program:

- Scanning the core with a scintillometer to provide a detailed depth correlation and comparison between the gamma log and driller's core depths;
- Vacuum sealing core in plastic bags to prevent contamination;
- Completing a Chain of Custody (COC) Record for all core samples sent to laboratories for analyses;
- Obtaining a signature on the COC Record (along with instructions) from the URE person who relinquished the samples to the laboratory;
- Receiving a signed COC Record from the laboratory with the signature of the individual who received the samples;
- Validation of laboratory quality control procedures which typically include method blanks of low metal concentrations and spikes of known metal concentrations;
- Evaluation and comparison of results against previous analysis and other projects (outlier test or similar, i.e., 'red face check'); and
- Sample splits between two laboratories and subsequent analysis.

Other project quality control procedures included the detailed logging of drill cuttings by URE geologists to gain an understanding of redox conditions within host sandstones and also the consistent calibration of both the in-house gamma logging and PFN logging units at the Casper, Wyoming DOE test pit.

11.6 Opinion on Adequacy

In the opinion of Mr. Schiffer, URE sample collection methods, preparation, security and analytical procedures used by contract laboratories is adequate and typical of the U.S. uranium industry.

12.0 Data Verification

Data supporting this Technical Report come almost exclusively in the form of drilling data gained from historical drilling activities by previous operators and those conducted by URE since acquisition of the Project. Quality control of URE drill data has been discussed in Section 11.0. The tabulations of mineral intercepts compiled by URE are consistent with the original down-hole gamma logs and the geophysical operator's mineral intercept calculations. URE has verified historical drill data by conducting confirmation drilling and coring in the Project adjacent to historical exploration holes with results which validate the historical data (see Figure 11). The tabulations of mineral intercepts compiled by URE have been confirmed by Mr. Schiffer to be consistent with the original down-hole electric logs and the geophysical operator's mineral intercept estimate.



Figure 11. Photo of URE Confirmation Drilling

Furthermore, historical mineral intercept data of previous operators on the Project have been evaluated and selectively checked for accuracy. For those historical drill holes with gamma log interpretation sheets and down-hole probe K-factors (calibration factors), a selective confirmation of uranium intercept grade and thickness was performed by re-calculation, using standard methods established by the AEC. For those historical drill holes with gamma log interpretation sheets and no K-factors, a selective review of the process used for conversion from counts per second (cps) on gamma logs to percentage eU_3O_8 was made. In these cases, the previous operators had developed a conversion factor, which included dead time correction, a water factor, a DEF and a K-factor that were applied to the cps values from the gamma log in order to derive a percentage of eU_3O_8 .

After a review of that data, it is Mr. Schiffer's opinion that the historical mineral intercept data are valid, do not require re-calculation and are suitable for resource estimation in this Technical Report.

13.0 Mineral Processing and Metallurgical Testing

Previous mineralogical studies by Utah/PMC and Harshman (1972), consisting of thin sections and polished sections of Shirley Basin mineralization, show the primary uranium mineral in these deposits to be uraninite (UO_2). It is found coating sand grains, filling interstitial spaces between sand grains and filling fractures within sand grains. Uraninite is a common uranium mineral in sedimentary, roll front deposits and is soluble in the bicarbonate lixiviants used in modern ISR operations. As discussed in Section 11.0, URE collected core samples from uranium mineralization for additional mineralogical studies.

As described in Section 10.0, preliminary analyses using a down-hole PFN logging tool indicate that the uranium mineralization from URE's recent confirmation drilling program is at or near chemical equilibrium. PFN logging provides a direct measurement of chemical uranium, and a positive DEF of 1.03 was determined for all 2014 confirmation drill holes that were logged with this method. Utah/PMC analyzed sufficient uranium mineralization at its Shirley Basin mining operation to assign a positive DEF to its historical ore reserve calculations. This DEF, as shown on many down-hole gamma logs, was 1.066 as discussed above. A complete and meaningful comparison between PFN results and ICP-MS analyses was not possible due to the 20% core loss on URE's recent confirmation drilling program. However, chemical uranium analyses, along with "closed can" analyses (to provide gamma values), will be conducted on recently collected core samples of the mineralization to confirm DEF results.

ICP-MS analyses were conducted on 11 mineralized samples ($\geq 0.020\%$ eU_3O_8) to obtain values for uranium as U_3O_8 . These values ranged from 0.036% to 0.672% U_3O_8 , with an average value of 0.341% U_3O_8 . Based on uranium grades, from historical mining and down-hole logging operations, these chemical analyses are considered to be representative of uranium grades within the Project.

There is a suite of trace metals that is commonly precipitated along with uranium in roll front deposits. Harshman (1974) published diagrams showing the relationship between various trace metals and uranium at several uranium mining districts, including the Shirley Basin Mining District. These diagrams show a strong correlation between uranium and pyrite (FeS_2), along with minor correlations between uranium and vanadium, arsenic and selenium. As expected, ICP-MS analytical results for iron (Fe) and sulfur (S) were high, confirming the strong relationship between uranium and FeS_2 . Iron values averaged 1.2% and sulfur values averaged 1.1%. The minor relationships were also confirmed with vanadium averaging 94 ppm, arsenic averaging 5.8 ppm and selenium being detected in only one sample with a value of 18 ppm. These trace

metals are common and expected in sedimentary roll front deposits and should not have a significant effect on potential economic extraction.

Energy Labs of Casper, Wyoming performed duplicate analyses for chemical uranium and 11 other analytes on four randomly selected core samples using the same analytical testing methodologies. The results from Energy Labs compared favorably with those from IML. Not surprisingly, there were variations seen in analytes with very low concentrations; however, average chemical uranium values were very close. On a composite basis, the relative percent difference in uranium values between the two labs was only 3.6%.

Ten mineralized core samples have also been sent to IML for compositing and use in an agitation leach study. Results of this study will be incorporated into preliminary mine planning as discussed in Section 26.1.

14.0 Mineral Resource Estimate

The mineral resources for the Project reported in this section have been estimated utilizing the GT contour method. The GT contour method is well accepted within the uranium ISR industry and is suited to guide detailed mine planning and estimates of recoverable mineral resources for roll front-type deposits such as those found in the Project. A discussion of the methodology is presented in Section 14.4. See also the notes below Tables 1 and 7.

14.1 Assumptions

Resources within the Project are identified recognizing that roll front mineralization occurs in long, narrow, sinuous bodies which are found adjacent and parallel to alteration (redox) fronts. These commonly occur in multiple, vertically stacked horizons, each of which represents a unique resource entity. Resource classification requires horizontal continuity within individual horizons. Accumulation of resources in a vertical sense (i.e., accumulating multiple intercepts per drill hole) is not valid in ISR applications. Individual roll front mineral horizons are assumed to be no wider than 50 ft., unless sufficient information is available to establish otherwise.

In addition, certain assumptions were incorporated throughout all estimates:

1. The unit density of mineralized rock is 16.0 cu. ft. per ton, based on numerous core density measurements by PMC.
2. All geophysical logs are assumed to be calibrated per normal accepted protocols, and grade calculations are accurate.
3. All mineral classified as a resource occurs below the historical, pre-mining static water table.

14.2 Cutoff Selection

Mineral reportable as resources must be below the historical, pre-mining static water level and meet the following cutoff criteria (see also Section 14.4):

Minimum Grade: 0.020% eU₃O₈

Grade measured below this cutoff is considered as zero value.

Minimum GT (Grade x Thickness): 0.25

Intercepts with GT values below this cutoff are mapped exterior to the GT contours employed for resource estimation, given zero resource value and, therefore, are excluded from reported resources.

Minimum Thickness: No minimum thickness is applied but is inherent within the definition of GT (Grade Thickness).

The cutoffs used in this report are typical of ISR industry standard practice and represent appropriate values relative to current ISR operations. Experience at other ISR operations and URE's recent experience at its Lost Creek ISR Project have demonstrated that grades below 0.020% can technologically be successfully leached and recovered, given supporting economics. Due to the nature of roll front deposits and production well designs, the incremental cost of addressing low grades is minimal (given the presence of higher grades). Furthermore, a GT cutoff of 0.25 is representative of past ISR operations in similar geologic and economic conditions. Note, however, that the above cutoffs were selected without direct relation to any associated commodity price. Definition of the term potentially economic as applied by URE is subjective and employed simply to identify higher quality mineral which could potentially be pursued for production.

14.3 Resource Classification

Resource estimates were prepared using parameters relevant to the proposed mining of the deposit by ISR methods. The methodology relies on detailed mapping of mineral occurrences to establish continuity of intercepts within individual host sandstone units. The mineral resource estimates in this report were reviewed and accepted by the QP, Mr. Schiffer.

URE employs a conservative resource classification system which is consistent with standards established by the CIM. Mineral resources are identified as Measured, Indicated and Inferred based on the density of drill hole spacing, both historical and recent, and continuity of mineralization within the same mineral horizon (roll front).

In simplest terms, to conform to each classification, resources determined using the GT contour method (see Section 14.4) must meet the following criteria:

1. Meet the 0.020% grade cutoff,
2. Occur within a contiguous mineral horizon (roll front),
3. Fall within the mapped 0.25 GT contour, and
4. Extend no farther from the drill hole than the radius of influence specified below for each category.

Employing these considerations, mineral which meets the above criteria is classified as a resource and assigned a level of confidence via the following drill spacing guidelines:

Measured:

≤100 ft. (i.e., mineral on trend, within the 0.25 GT contour, and which does not extend beyond 100 ft. from any given drill hole with potentially economic mineralization)

Indicated:

100 - 200 ft. (i.e., mineral on trend, within the 0.25 GT contour, and which extends from 100 ft. - 200 ft. from any given drill hole with potentially economic mineralization)

Inferred:

200 - 400 ft. (i.e., mineral on trend, within the 0.25 GT contour, and which extends from 200 ft. - 400 ft. from any given drill hole with potentially economic mineralization)

URE resources are contained in the designated FAB and Area 5 Resource Areas. PMC's historical drilling had focused on these designated resource areas to support future mining operations. This drilling consisted of a 100-ft. grid throughout the FAB and most of Area 5 Resource Areas, and included multiple drill hole fences at 10-ft. to 50-ft. spacing. Due to this high density drilling within the resource areas, all resources were classified as Measured or Indicated, with no resources in the Inferred category. See Section 14.4 Methodology for additional discussion.

14.4 Methodology

Fundamentals

The Project resources are defined by utilizing both historical and recent drilling information. The basic unit of mineral identity is the "mineral intercept" and the basic unit of a mineral resource is the "mineral horizon," which is generally synonymous to a roll front. Mineral intercepts are assigned to named mineral horizons based on geological interpretation by URE geologists founded on knowledge of stratigraphy, redox, and roll front geometry and zonation characteristics. Resources are derived and reported per mineral horizon (i.e., per roll front). In any given geographic area, resources in multiple mineral horizons may be combined into a "resource area" (further defined in Section 14.3).

Mineral Intercepts

Uranium intercepts are derived from drill hole gamma logs and represent where the drill hole has intersected a mineralized zone. Calculation of uranium content detected by gamma logs is traditionally reported in terms of mineral grade as eU₃O₈% on 0.5 ft.

depth increments. A mineral intercept is defined as a continuous thickness interval in which the uranium concentration meets or exceeds the grade cutoff value, which is 0.020% for the Project. Uranium values below the cutoff grade are treated as zero value with regard to resource estimation. A mineral intercept is defined in the following terms:

- Thickness of the mineralized interval that meets cutoff criteria,
- Average Grade of mineral within that interval, and
- Depth (bgs) to the top of that interval.

In addition, a GT value is assigned to each mineral intercept. GT is a convenient and functional single term used to represent the overall quality of the mineral intercept. It is employed as the basic criterion to characterize a potentially economic intercept, which at the Project is defined as $GT \geq 0.25$. Intercepts which do not make the potentially economic GT cutoff are excluded from the resource calculation, but may be taken into consideration when drawing GT contours. As noted above, use of the term potentially economic by URE is applied in a generic sense and has no direct relation to any associated commodity price.

Each intercept is assigned to a stratigraphic and mineral horizon by means of geological evaluation. The primary criterion employed in assignment of mineral intercepts to mineral horizons is roll front correlation. Depth and elevation of intercepts are secondary criteria which support correlation. The evaluation also involves interpretation of roll front zonation (position within the roll front) by means of gamma curve signature, redox state, lithology and relative mineral quality (see Figure 10). Mineral intercept data and associated interpretations are stored in a drill hole database inventoried per drill hole and mineralized horizon. Using GIS software, this database is employed to generate map plots displaying GT values and interpretive data for each mineral horizon of interest. These maps become the basis for GT contouring as described below.

GT Contouring and Resource Estimation

For the map plots of GT values mentioned above, the GT contour lines are drafted honoring all GT values. Contours are carefully drawn by URE geologists to reflect knowledge of roll front geology and geometry. The GT contour maps thus generated for each mineral horizon form the foundation for resource calculation. In terms of geometry, the final product of a GT-contoured mineral horizon typically represents a mineral body that is fairly long, narrow, sinuous, and which closely parallels the redox front boundary. The following parameters are employed to characterize the mineral body:

-
- Thickness: Average thickness of intercepts assigned to the mineral horizon (inherent in GT values)
- Grade: Average grade of mineral intercepts assigned to the mineral horizon (inherent in GT values)
- Depth: Average depth of mineral intercepts assigned to the top of the mineral horizon
- Area: Defined as the area interior to the 0.25 GT contour lines, more specifically:
- Width: Defined by the plan-view breadth of the 0.25 GT contour boundaries. Where sufficient data are unavailable (i.e., wide-spaced drilling) the width is assumed to be no greater than 50 ft.
- Length: Defined by the endpoints of the 0.25 GT contour boundaries. Where sufficient data are unavailable, length is limited to 400 ft. (i.e., 200 ft. on either side of a drill hole containing potentially economic intercept(s) – Indicated Resource category).

For resource estimation the area of a mineral horizon is further partitioned into banded intervals between GT contours, to which the mean GT of the given contour interval is applied. Area values for each contour interval are then determined by means of GIS software. Once areas are derived and mean GT values are established for each contour interval, resources are then calculated for each contour interval employing the following equation. Resources per contour interval are then compiled per mineral horizon and per mineral 'pod' as discussed below.

$$\text{POUNDS} = \frac{\text{AREA} \times \text{GT} \times 20}{\text{TF}}$$

Where:

- POUNDS = Resources (lbs.)
- AREA = Area measured within any given GT contour interval (ft²)
- GT = Mean GT within any given contour interval (%-ft.)
- 20 = Conversion constant: grade percent and tons to unit lbs. (1% of a ton)
- TF = Tonnage Factor: Rock density, a constant (=16.0 cu. ft./ton). (Enables conversion from volume to weight)

In map-view resources for any given mineral horizon often occur in multiple 'pods' rather than a single continuous body. Individual pods are then compiled per mineral horizon, summed and categorized by level of confidence (Measured or Indicated) using the

criteria discussed in Section 14.3. The resource calculation process is streamlined using the same GIS software in which the mapping and GT contouring took place.

As is evident, the GT contour method for resource estimation is dependent on competent roll front geologists for accurate correlation and accurate contour depiction of the mineral body. Uranium industry experience has shown that the GT contour method remains the most dependable for reliable estimation of resources for roll front uranium deposits.

14.5 Resource Estimation Auditing

The resource estimate detailed herein was evaluated for quality control and assurance using the following methods.

1. Random historical log files from PMC and others within the FAB Trend and Area 5 Resource Area were examined in detail to confirm gamma interpretations as well as grade calculations.
2. Multiple historical logs were reviewed to confirm geologic and grade continuity in both the FAB Trend and Area 5 Resource Area.
3. Drilling density as depicted on maps and observed in the field was evaluated to demonstrate that the uranium mineralization at the Project was consistent with CIM resource definitions.
4. Gamma and PFN probe calibration logs were reviewed.
5. Detailed examination of significant resource bearing roll front systems was conducted in collaboration with URE geologists to confirm log interpretations, continuity of mineralization and nature of GT contour development.
6. Random mineralized pods within the resource model were evaluated to confirm the area assigned to the particular GT contour.
7. Resource classification methods and results were reviewed against standard industry practices and CIM resource definitions for at least 25 pods of mineralization.

In summary, Mr. Schiffer accepts PMC and URE interpretations as having been properly done and as reasonable representations of the mineral present. These interpretations provide a reasonable basis for the calculation of uranium mineral resources at the Project.

14.6 Summary of Resources

Mineral resources are summarized in Table 1, and also in Table 7 where they are listed by Resource Area and mineral horizon. Individual mineral horizons are related to the stratigraphy at the Project as illustrated in Figure 7 and consist of mineralized trends

(roll fronts) in the 1) White River Formation (Twr) sandstones and 2) Wind River Formation (Twdr) sandstones. The Wind River sandstones are further split into the Upper, Main and Lower sand units.

The current mineral resource estimate for the Project has a total of 8.816 million lbs. in the Measured and Indicated categories. This total consists of 7.521 million lbs. of Measured Resources and 1.295 million lbs. of Indicated Resources. There are no reported Inferred Resources because of the high drilling density at the site. Historical delineation drilling was conducted on a 100-ft. grid, including multiple drill hole fences with drill holes spaced as close as 10-50 ft. The average depth to the top of these resources is 312 ft. bgs. These resource totals and average grade of these resources are reflected in Tables 1 and 7.

Figure 12 illustrates the location of resources as defined by outlines of the 0.25 GT contour mineral 'pods' and trends for the FAB Trend, and Figure 13 shows the same for Area 5. Figure 14 is a cross section that illustrates the mineralization and strata in the FAB Trend. Note the change in the original topography, due to pre-stripping in areas adjacent to historical open-pit mining operations.

Table 7. Shirley Basin Uranium Project - Resource Summary by Mineral Horizon

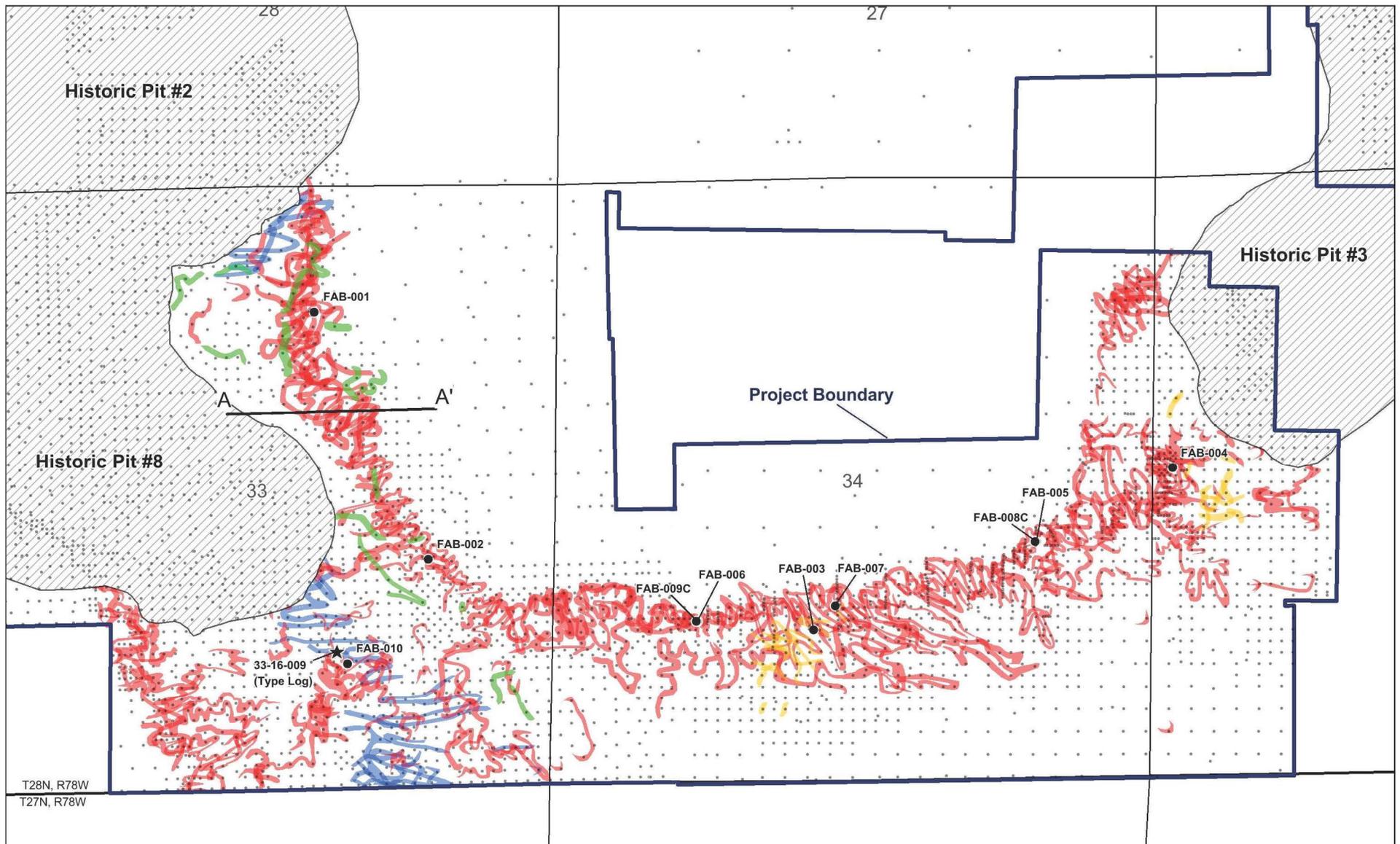
		FAB								
		Measured			Indicated			Measured+Indicated		
Mineral Interval		Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds	Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds	Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds
Twr		0.101	71,273	143,818	0.060	10,940	13,156	0.095	82,214	156,975
Twdr	Upper	0.180	44,434	159,761	0.136	30,461	82,768	0.162	74,895	242,529
	Main	0.297	972,857	5,779,880	0.115	374,445	859,718	0.246	1,347,302	6,639,598
	Lower	0.294	83,288	490,433	0.158	39,845	125,834	0.250	123,133	616,266
		0.280	1,171,853	6,573,891	0.119	455,691	1,081,476	0.235	1,627,544	7,655,368

		Area 5								
		Measured			Indicated			Measured+Indicated		
Mineral Interval		Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds	Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds	Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds
Twr		---	---	---	---	---	---	---	---	---
Twdr	Upper	---	---	---	---	---	---	---	---	---
	Main	0.250	152,128	762,143	0.116	71,084	164,769	0.208	223,212	926,912
	Lower	0.217	42,591	184,647	0.112	21,830	48,791	0.181	64,421	233,438
		0.243	194,719	946,790	0.115	92,914	213,559	0.202	287,633	1,160,350

		Project Total								
		Measured			Indicated			Measured+Indicated		
Mineral Interval		Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds	Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds	Avg. Grade (%e U ₃ O ₈)	Short Tons	Pounds
Twr		0.101	71,273	143,818	0.060	10,940	13,156	0.095	82,214	156,975
Twdr	Upper	0.180	44,434	159,761	0.136	30,461	82,768	0.162	74,895	242,529
	Main	0.291	1,124,986	6,542,023	0.115	445,528	1,024,48	0.241	1,570,514	7,566,509
	Lower	0.268	125,878	675,080	0.142	61,676	174,624	0.227	187,554	849,704
		0.275	1,366,572	7,520,682	0.118	548,606	1,295,036	0.230	1,915,177	8,815,717

Notes:

1. Twr – Tertiary White River Formation
2. Twdr – Tertiary Wind River Formation
3. Sum of Measured and Indicated tons and pounds may not add to the reported total due to rounding.
4. Based on grade cutoff of 0.020% eU₃O₈ and a grade x thickness cutoff of 0.25 GT.
5. Measured, Indicated, and Inferred Mineral Resources as defined in Section 1.2 of NI 43-101 (the CIM Definition Standards (CIM Council, 2014)).
6. Resources are reported through July 2014.
7. All reported resources occur below the historical, pre-mining static water table.



T28N, R78W
T27N, R78W

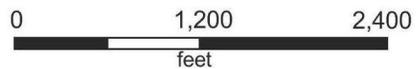
Legend

Resource Polygons \geq 0.25 GT

-  White River
-  Wind River - Upper Sand
-  Wind River - Main Sand
-  Wind River - Lower Sand

Drill Holes

-  2014 Confirmation Drill Hole
-  Historic Drill Hole
-  Type Log Location



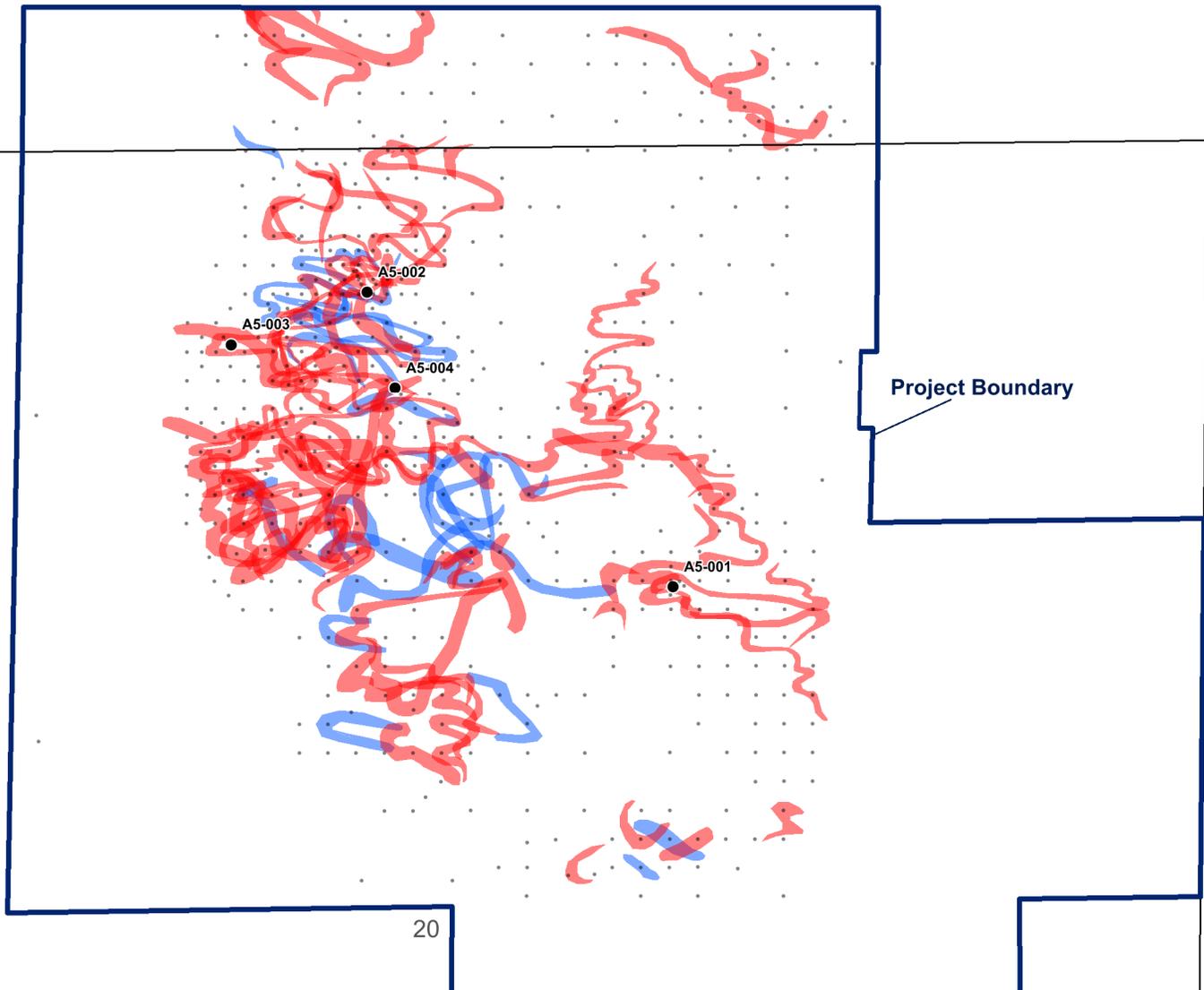
Shirley Basin Project

Figure 12
FAB Trend Resources
0.25 GT Outlines

Pathfinder Mines Corporation

17

16



Project Boundary

21

20

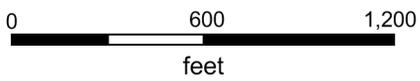
Legend

Resource Polygons ≥ 0.25 GT

-  White River
-  Wind River - Upper Sand
-  Wind River - Main Sand
-  Wind River - Lower Sand

Drill Holes

-  2014 Confirmation Drill Hole
-  Historic Drill Hole



Shirley Basin Project

Figure 13
Area 5 Resources
 0.25 GT Outlines

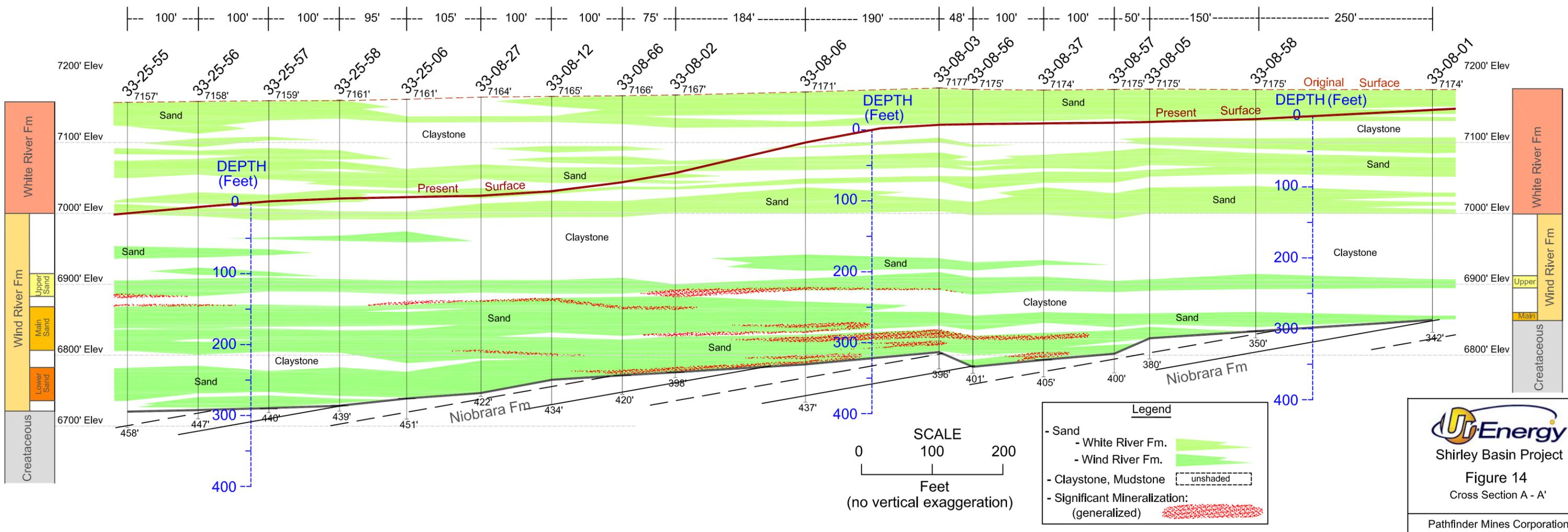
Pathfinder Mines Corporation

A
West

CROSS SECTION A-A'

A'
East

----- Fab Trend -----



14.7 Mineral Resource Estimate Risk

To the extent known, there are no current environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors which could materially affect the accessibility of the estimated resources.

Potential future risks to the accessibility of the estimated resource may include future designation of the Greater Sage Grouse as an endangered species by the U.S. Fish and Wildlife Service. The Property lies within a Greater Sage Grouse core area as defined by the state of Wyoming, which could potentially have an impact on future expansion operations. However, URE continues to work closely with the WG&F and the BLM to mitigate any potential impacts on Greater Sage Grouse.

As is typical for mineral resource estimates, there is risk of improper interpretation of geological data such as grade or continuity. Improper geological data interpretation could impact the estimated resource estimate, either positively or negatively. URE has expended considerable effort to ensure the accuracy and validity of drilling and mineral data used as the foundation of the resource estimates, as discussed in Section 7.0, Section 11.0 and Section 12.0. Additionally, geologists contributing to this Technical Report are thoroughly trained in understanding the nature of roll front uranium deposits to ensure realistic and accurate interpretations of the extent of mineralization.

15.0 Mineral Reserves

There are no current mineral reserves on the Project.

16.0 Mining Methods

This section is not applicable for this Project.

17.0 Recovery Methods

This section is not applicable for this Project.

18.0 Project Infrastructure

This section is not applicable for this Project.

19.0 Market Studies and Contracts

This section is not applicable for this Project.

20.0 Environmental Studies, Permitting and Social or Community Impact

This section is not applicable for this Project.

21.0 Capital and Operating Costs

This section is not applicable for this Project.

22.0 Economic Analysis

This section is not applicable for this Project.

23.0 Adjacent Properties

Adjacent Properties refers to non-URE mineral properties of interest in close proximity to the Project. Several mineral properties adjacent to or in close proximity to the Project contain unconfirmed uranium resources. As shown in Figure 15, uranium exploration projects, along with past producing properties, are situated within three distinct regions of the Shirley Basin: 1) East Shirley Basin, 2) Central Shirley Basin and 3) West Shirley Basin. All past production has taken place in the East Shirley Basin region. Identified in Figure 15 are uranium exploration/production companies that have developed major property holdings in the District.

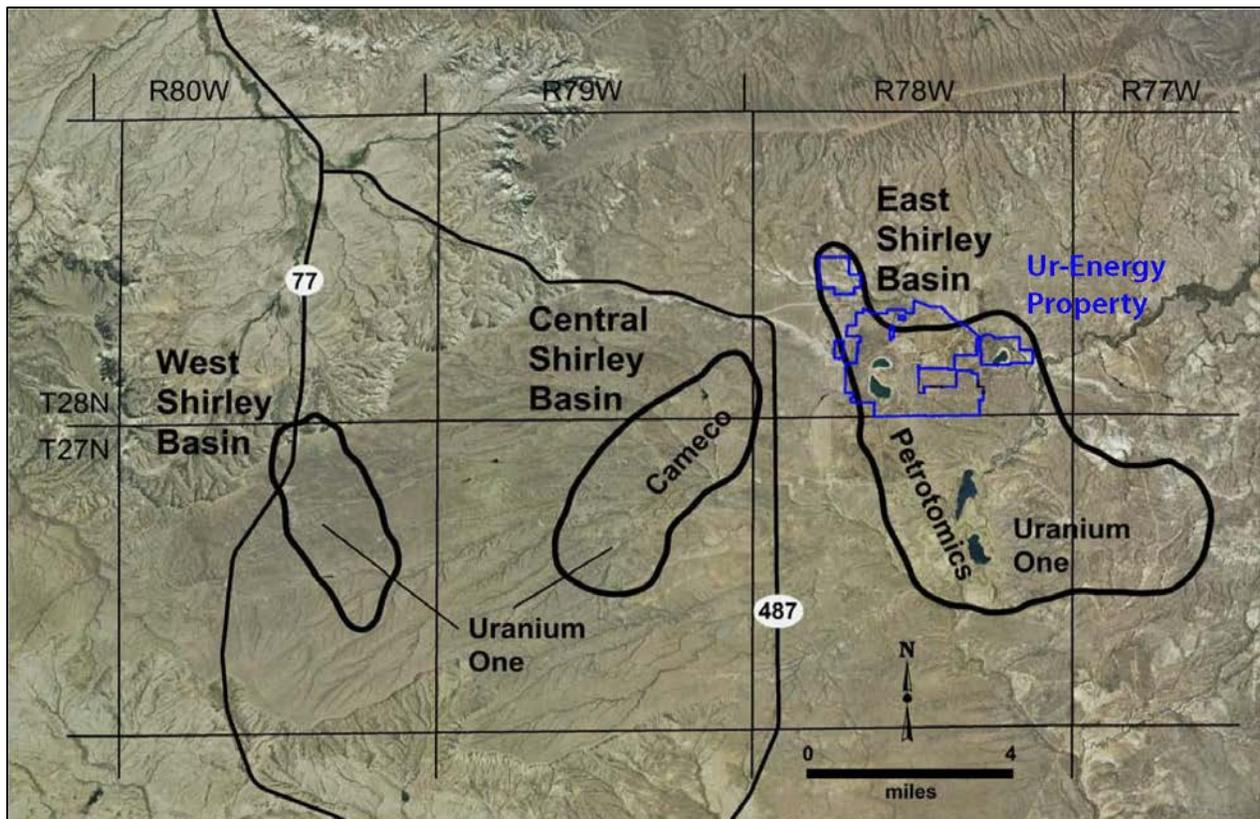


Figure 15. Adjacent Properties

1. East Shirley Basin – URE’s Project is located in the northern portion of the area. The historical Petrotomics mine and mill complex, now in perpetual care with the DOE, is immediately south of the Project. Uranium One Americas, Inc. (Uranium One) controls a large exploration project, consisting of unpatented mining claims and State of Wyoming leases, in the southern portion of this area.
2. Central Shirley Basin – Cameco controls the majority of the Central Shirley Basin area through unpatented mining claims and a State of Wyoming lease. On its website, Cameco identifies 4.4 million lbs. of Measured and Indicated Resources,

averaging 0.126% U₃O₈ on this property (Cameco, 2014). Uranium One also has some unpatented mining claims in this area.

3. West Shirley Basin – Uranium One controls one small exploration project in this area, consisting of unpatented mining claims.

This Technical Report addresses only property and deposits controlled by URE and not the Adjacent Properties identified in Figure 15. Mr. Schiffer believes that any information available on resources on the Adjacent Properties would not necessarily be indicative of the mineralization present at the Project.

24.0 Other Relevant Data and Information

There is no other relevant data or information to include.

25.0 Interpretations and Conclusions

In conclusion, through its acquisition of PMC and subsequent drilling and data analysis programs, URE has successfully advanced the Project. Specific relevant results and interpretations are as follows:

- URE, in coordination with Mr. Schiffer, conducted an intensive, log-by-log roll front mapping exercise that used more than 3,200 geophysical logs and resulted in a series of detailed GT contour maps of Area 5 and the FAB Trend. In the opinion of Mr. Schiffer, this method of resource estimation optimizes the data collected from drilling and is an established method for providing preliminary wellfield designs and layouts necessary for uranium ISR.
- The White River hosted mineralization does not indicate the same geological consistency as the Wind River host intervals. Roll front mapping and GT contours developed within these sediments in support of the resource estimate and for mine planning purposes indicate most trends are relatively narrow.
- The confirmation drilling results support data collected by PMC and others regarding depth, grade and thickness of multiple mineralized intercepts distributed spatially and stratigraphically within the Area 5 and FAB Resources Areas.
- The coring program recovered mineralized and unmineralized core from potential future mining areas that confirms the presence of uranium concentrations consistent with those measured in-place by downhole logging. In addition, this core enables URE to measure key critical physical properties that support resource estimation (bulk density), the ability to move mining fluids (horizontal permeability), confine mining fluids (vertical permeability of over and underlying shales) and confirm that host sandstone interstitial volumes (i.e., porosity) are consistent with typical ISR targets in Wyoming.
- Mineralized core collected by URE will be used in ongoing leach studies to demonstrate amenability to common oxidants and complexing agents used in the U.S. uranium industry.

Mr. Schiffer is not aware of any significant risks or uncertainties that could reasonably be expected to affect the reliability of or confidence in the exploration information or resource estimate detailed in this Technical Report.

26.0 Recommendations

Mr. Schiffer recommends additional work programs on the Project in order to continue advancing it toward a goal of uranium ISR operation. These programs would be 1) preliminary mine planning (to include hydrologic testing) and 2) environmental baseline monitoring. These are separate programs, which may be conducted simultaneously. One program is not contingent upon positive results of the other. Information and data from these programs may be factored into the decision to pursue future federal and state mine permit and license applications for the Project.

26.1 Preliminary Mine Planning

Additional field work and geological/technical analyses are required to assess the viability of the Project as an ISR facility. These tasks include:

- Utilizing historical PMC drill hole data, continue detailed mapping of host sands and mineralized fronts throughout the FAB Trend and Area 5 Resource Area;
- Complete pump test wells and conduct five hydrologic tests (four in FAB Trend and one in Area 5) to examine aquifer characteristics in the resource areas;
- Progress geological and engineering aspects of the Project sufficient for application of capital and operational costs in an advanced technical report; and
- Analyze agitation leach studies on core collected during the confirmation drilling program.

The estimated costs of these tasks are approximately \$350,000.

26.2 Environmental Baseline Monitoring

The collection of environmental baseline data is required to support amendments to the existing WDEQ-LQD Permit to Mine and NRC License. Data collection should comply with WDEQ-LQD Guideline 4 and NRC NUREG-1569 and Regulatory Guide 4.14 and indicate the following resource areas:

- Archeology;
- Groundwater quality and quantity;
- Surface water quality;
- Geology (stratigraphy, mineralogy, and physical properties);
- Meteorology (temperature, wind speed and direction, humidity, and sun intensity);
- Radiometric (direct gamma, airborne particulate, and radon);

-
- Soil;
 - Vegetation; and
 - Wildlife.

The estimated cost of this environmental baseline monitoring program is approximately \$1,200,000.

27.0 References

- Bailey, R.V. and Gregory, Robert W., The Shirley Basin Mine and the Development of the Roll-Front Model of Uranium Ore Deposits: A Historical Perspective, Wyoming State Geological Survey Memoir 6, 2011.
- Cameco, (2014) <http://www.cameco.com/exploration/reserves/> as of July 16, 2014.
- CIM Council, 2014 CIM Definition Standards on Mineral Resources and Reserves, Adopted by CIM Council on May 10, 2014.
- Dyman, Thaddeus S. and Condon, Steven M., U.S.G.S., Geologic Assessment of Undiscovered Oil and Gas Resources, Hanna, Laramie and Shirley Basins Province, Wyoming, 2005.
- Harshman, E.N., Formation of Uranium Ore Deposits, Proceedings of a Symposium, Athens, International Atomic Energy Agency, 1974, pp. 169-183.
- Harshman, E.N., USGS Professional Paper 745, Geology and Uranium Deposits, Shirley Basin Area, Wyoming, 1972.
- Harshman, E.N., USGS Professional Paper 450-D, Alteration as a guide to uranium ore, Shirley Basin, Wyoming, 1962.
- Rosholt, John N. Jr., USGS Professional Paper 1084-A, Natural Radioactive Disequilibrium of the Uranium Series, 1959.
- USGS, A Tapestry of Time and Terrain, Physiographic Regions of the Lower 48 United States, April 2003 a website: <http://tapestry.usgs.gov/physiogr/physio.html> .
- U.S. Census Bureau, 2010. <http://quickfacts.census.gov/qfd/states/56/5613150.html>

APPENDIX A: CERTIFICATE OF QUALIFIED PERSON

CERTIFICATE OF QUALIFIED PERSON

Technical Report for Shirley Basin Uranium Project, Carbon County, Wyoming, August 27, 2014

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

- I have been retained by Ur-Energy Inc., 10758 W. Centennial Road, Suite 200, Littleton, Colorado, to prepare and supervise the preparation of the documentation for the “Shirley Basin Uranium Project Technical Report, August 27, 2014” (the “Technical Report”) to which this Certificate applies.
 - I am currently employed by WWC Engineering, 1849 Terra Avenue, Sheridan, Wyoming, USA, as a Senior Geologist/Project 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 19 years in natural resources extraction.
 - I have 9 years’ direct experience with uranium exploration, resource analysis, uranium ISR project development, project feasibility and licensing. My relevant experience for the purposes of the Shirley Basin Uranium Project includes Field Geologist at COGEMA Mining, Christensen Ranch Mine (now Uranium One America’s Willow Creek Project); Restoration Specialist at COGEMA Mining, Holiday-EI 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 and qualified person on the NI 43-101 assessment (PEA) of Anatolia Energy’s Temrezli ISR Project in Yozgat, Turkey.
 - I have read the definition of “qualified person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, professional registration, and relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
 - Most recently, I visited the Shirley Basin Uranium Project with representatives of Ur-Energy on May 13, 2014.
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- I am responsible for the preparation and/or supervision of the preparation of all sections of the Technical Report.
 - I am independent of Ur-Energy Inc. as described in Section 1.5 of NI 43-101.
 - I have previously worked at the Shirley Basin Uranium Project, while employed by COGEMA Mining Inc. (1995 – 1999), with responsibilities including evaluating the resource base of the FAB Trend.
 - I have read NI 43-101 and certify that this Technical Report has been prepared in compliance with NI 43-101.
 - To the best of my knowledge, information and belief, at the effective date of the Technical Report, August 27, 2014, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 27th day of August, 2014

/s/ **Benjamin J. Schiffer**

SME Registered Member, Registration Number 4170811
Professional Geologist, Wyoming (No. 3446)

Benjamin J. Schiffer, P.Geo.
