# NI 43-101 Technical Report Beaverlodge Project: Beaver River, Don Lake, Black Bay, Lorado, Gulch, and Smitty Uranium Exploration Properties Northern Athabasca Basin, Saskatchewan, Canada

#### Prepared for: Xcite Resources Inc.

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Abbreviation or Acronym	Unit or Description				
1D	1 <sup>st</sup> derivative				
μm	microns				
Ag	Silver				
As	Arsenic				
В	Boron				
Bi	Bismuth				
С	Celsius				
Со	Cobalt				
Cu	Copper				
E	East				
ft	feet				
ha	hectare				
К	Potassium				
km	kilometre				
m	metre				
lbs	pounds				
m²	metre squared (or square metres)				
m³	metre cubed (or cubic metres)				
Ma	million years ago				
MD&A	management discussion & analysis (part of a public company's annual report)				
mE	metres East				
MIMMM	Member of the Institution of Materials, Minerals and Mining				
mm	millimetre				
mN	metres North				
Мо	Molybdenum				
Ν	North				
NAD83	North American Datum 1983				
NE	northeast				
NI 43-101	(Canadian) National Instrument 43-101				
NN	nearest neighbor (geostatistical method)				
Ni	Nickel				
NSR	net smelter return (royalty)				
NTS	National Topographic System (maps, of Canada)				
NW	northwest				
%	percent				
Pb	Lead				
P.Geo	registered Professional Geologist				
ppb	parts per billion				
ppm	parts per billion				
QA/QC	quality assurance/quality control				
QP	Qualified Person (as defined by Canadian National Instrument 43-101)				
RQD	rock quality designation				
S	South				

SDMR	Saskatchewan Department of Mineral Resources
SG	specific gravity
SGS	Saskatchewan Geological Survey
SMDC	Saskatchewan Mining Development Corporation
SME	Saskatchewan Ministry of Environment
SMU	selective mining unit
SRC	Saskatchewan Research Council
SW	southwest (compass point)
t	metric ton (or tonne)
t/m³	metric tons per cubic metre
Th	Thorium
ТНО	Trans-Hudson Orogeny
TSX-V	Venture Exchange of the Toronto Stock Exchange
U	Uranium
U <sub>3</sub> 0 <sub>8</sub>	Triuranium Octoxide
\$CDN	Canadian dollar (ISO Currency code)
\$USD	United States dollar (ISO Currency code)
UTM	Universal Transverse Mercator (co-ordinate system)
V	Vanadium

# 1: Summary

This report has been produced at the request of the management of Xcite Resources Inc. It summarizes all historic work and current exploration carried out by Xcite Resources Inc. on its portfolio of properties in the Beaverlodge Mining District northwest of the Athabasca Basin of northern Saskatchewan, Canada. Dr. Aleksandar Mišković, P.Geo., ("Mišković" or the "Author") of Geotarget Solutions Inc., was contracted by Xcite Resources Inc. to prepare and act as the Qualified Person for an independent National Instrument 43-101 ("NI 43-101") Technical Report to be filed with the Canadian Securities Exchange ("CSE").

# 1.1. Background Information

Xcite Resources Inc. ("Xcite" or "the Company") is a Canadian public mineral exploration company incorporated under the BCBCA on February 8<sup>th</sup>, 2021 in the province of British Columbia. The company is focused on resource exploration in the Beaverlodge District along the northwestern margin of the Athabasca Basin, northern Saskatchewan, Canada. Through a strategic partnership with Eagle Plains Resources, Xcite has secured options on six uranium projects near Uranium City, Saskatchewan, which is the basis of this Report.

# 1.2. Property Description and Ownership

The Xcite Resources Inc. exploration portfolio ("Project") comprises fifteen mineral claims with a total area of 6100.1 hectares (the "Tenures") situated along the northwestern edge of the Athabasca Basin in Saskatchewan. The Project is located approximately 820 km north-northwest of Saskatoon, the largest city in Saskatchewan. It is divided into six separate blocks of contiguous mineral dispositions ("properties"), namely: the Black Bay, Beaver River, Don Lake, Gulch, Larado, and Smitty that surround the northern settlement of Uranium City (E 59.5700° N, 108.6145° W) which is itself not part of the exploration tenure. The claims occupy portions of 1:50,000 scale National Topographic System (NTS) index map sheets 74O/05, 74N/07, 74N/08, 74N/09 and 74N/10.

Three western claims, known as the Smitty Property ("Smitty"), are located approximately 5 kilometres (km) west of Uranium City, Saskatchewan, Canada. The eastern tenure, named Beaver River Property ("Beaver River"), is located approximately 35 km east-southeast of Uranium City and approximately 7 km south-southwest of Nevins Lake. The northern tenure labeled as the Don Lake Property ("Don Lake") is found approximately 4 km north-northeast of Uranium City while the Black Bay Property ("Black Bay") is located ca. 10 km southeast of the settlement. The two southern properties are found on the Crackingstone Peninsula known for containing the past-producing Gunnar uranium mine. They are clustered into the three Lorado claims ("Lorado") located approximately 8 km south-southwest of Uranium City and the three claims of the Gulch Property ("Gulch") that are situated approximately 12 to 20 kilometres (km) directly southwest of Uranium City.

Over the course of the year, the local temperature varies from -28 °C to 22 °C and is rarely below -40 °C or above 28 °C with a mean annual precipitation of ca. 362 mm distributed throughout the year. The summers are comfortable and partly cloudy, and the winters are frigid, snowy, and mostly cloudy. The warm season lasts for 3.7 months, from May 20<sup>th</sup> to September 9<sup>th</sup> with an average daily high temperature above 14 °C while the cold season lasts for 3.3 months, from November 24<sup>th</sup> to March 2<sup>nd</sup>, with an average daily high temperature below -11 °C. The driest weather is in February when an average of 14.8 mm of rainfall occurs with August being the wettest (53.5 mm). The climate does not allow for year-round access and operation which are limited to the period from May to October. As a part of the circumpolar boreal forest vegetative zone common to the Canadian Shield, the area under consideration is extensively vegetated by white and black spruce, balsam fir and aspen. Bogs developed in valley lows are composed of humus and peat layers that measure a few metres to several tens of metres in thickness. The exploration tenures described in this report form the basis of an Option agreement between Eagle Plains Resources Ltd. ("Eagle Plains") and Xcite. The mineral dispositions included under the Xcite Option agreement were acquired by Eagle Plains Resources using the Saskatchewan's Mineral Administration Registry Saskatchewan ("MARS") on-line staking system. All claims that constitute the Project are 100% owned by Eagle Plains and are listed on MARS as being in good standing.

The claims of interest were identified using the Saskatchewan Government Mining and Petroleum GeoAtlas, as well as publicly available historical assessment and work reports filed with the Saskatchewan Government. The chronology of the tenure acquisition is as follows:

- April 19, 2023: Don Lake tenure acquired; one disposition
- June 05, 2023: Black Bay tenure acquired; one disposition
- October 06, 2023: Gulch tenure acquired; three dispositions
- October 26, 2023: Lorado tenure acquired; one disposition
- October 26, 2023: Smitty tenure acquired; two dispositions
- December 01, 2023: additional Smitty tenure acquired; one disposition
- December 05, 2023: Beaver River tenure acquired; two dispositions
- February 02, 2024: additional Gulch tenure acquired; one disposition
- February 02, 2024: additional Lorado tenure acquired; one disposition

On the 14<sup>th</sup> of December, 2023 Eagle Plains and Excite announced the formal execution of six individual option agreements on each of the Black Bay, Beaver River, Don Lake, Gulch, Larado and Smitty projects. Under the terms of the agreement, Xcite may earn an 80% interest in each individual property by completing CDN\$3,200,000 in exploration expenditures, issuing 750,000 common shares of Xcite and making cash payments to Eagle Plains of CDN\$55,000 over four years, according to the following schedule:

Cash Payments (\$55,000)

- \$5,000 on the formal execution of the option agreement (paid);
- an additional \$10,000 in cash (\$15,000 total) on or before December 31, 2024;
- an additional \$10,000 in cash (\$25,000 total) on or before December 31, 2025;
- an additional \$10,000 in cash (\$35,000 total) on or before December 31, 2026;
- an additional \$20,000 in cash (\$55,000 total) on or before December 31, 2027;

Exploration Expenditures (\$3,200,000)

- \$50,000 on or before December 31, 2024;
- an additional \$150,000 (\$200,000 total) on or before December 31, 2025; and
- an additional \$1,000,000 (\$1,200,000 total) on or before December 31, 2026; and
- an additional \$2,000,000 (\$3,200,000 total) on or before December 31, 2027;

Share Consideration (\$750,000)

- 50,000 Shares on the formal execution of the option agreement (paid);
- an additional 100,000 Shares (150,000 total) on or before December 31, 2024;
- an additional 150,000 Shares (300,000 total) on or before December 31, 2025;
- an additional 200,000 Shares (500,000 total) on or before December 31, 2026;
- an additional 250,000 Shares (750,000 total) on or before December 31, 2027.

Upon Xcite fulfilling the terms of any or all of the earn-in agreements, an 80/20 joint venture will be formed, with Eagle Plains retaining a carried interest in all expenditures until delivery by Xcite or its assigns of a bankable feasibility study. Eagle Plains will retain an underlying 2% NSR royalty on each of the properties.

#### 1.3. Geology and Mineralization

The Project straddles the northwestern edge of the Athabasca Basin and predominantly contains Paleoproterozoic rocks of the Beaverlodge and Zemlak Domain, a portion of the Rae Subprovince in Saskatchewan. The Gulch, Lorado, Black Bay, and Beaver River claims are situated completely within the Beaverlodge Domain whereas the Smitty and Don Lake Claims are located within the Zemlak Domain. The NE- SW trending Black Bay fault which outcrops to the east of the Smitty Claims intersects the southeastern edge of the Don Lake Claims and denotes the litho-structural contact between the Beaverlodge and Zemlak Domains. The project hosts a variety of rock types, ranging from Archean basement granites and orthogneisses to the metasedimentary, mafic volcanic, and mixed supracrustal rocks including assemblages from the Murmac Bay Group, Thluicho Lake Group and Martin Group. The southern claims of the Project are overlain by variably altered quartz arenites of the Paleo- to Mesoproterozoic Athabasca Supergroup.

The Project is located in the prolific Beaverlodge District, which is estimated to have historically produced approximately 70 million pounds of  $U_3O_8$  at grades ranging from 0.18 to 0.43%  $U_3O_8$ . The historical Smitty and Lorado mine sites are both located within the Property, with other nearby historical mines including Beaverlodge and Gunnar. These deposits are the type-deposits for Beaverlodge-style mineralization, and historical exploration efforts largely focused on this deposit model. The Property has not been systematically explored for high- grade "unconformity-related" uranium mineralization, found elsewhere within the Athabasca Basin.

The target areas at the Project have several attributes that are favourable for the formation of Beaverlodgestyle and basement-hosted uranium mineralization. Key geological factors include uranium- enriched metamorphic or intrusive bedrock, reactivated and graphitized structures, Athabasca Supergroup sandstone cover in some of the southern claim blocks, and overall favourable basement rock competency contrasts. Uranium mineralization on the Project is largely comprised of uranium oxides (e.g., uraninite) with subordinate uranium silicates (e.g., coffinite, uranophane) and secondary uranyl (oxy) hydroxides (e.g., Curite). Further studies on the composition of mineralized samples are warranted to confirm different uranium species on the Project.

# 1.4. Status of Exploration

While some of the Properties have been locations of active mining by previous operators (Lorado, Smitty, Black Bay), others have not been subject to extensive exploration efforts and can be considered as earlystage exploration. Historical exploration focused predominantly on a Beaverlodge-style target, and the extensive EM conductors were not systematically explored for uranium mineralization by previous operators.

Exploratory trenching and drilling were conducted on several locations within the Don Lake, Beaver and Gulch properties targeting structural corridors with known uranium endowments.

More recently, geological field work including geological mapping, hand-held scintillometer prospecting, geochemical sampling has been conducted by Terra Logic Exploration Inc. however no ground and airborne geophysical surveys nor exploration drill holes have been conducted by Xcite or Eagle Plains.

#### 1.5. Mineral Resource and Mineral Reserve Estimates

There are no current 43-101 compliant mineral resources or reserve estimates on the project.

# 1.6. Interpretations and Conclusions

There exists a historically established potential for Beaverlodge-style and basement hosted uranium mineralization within the Project. This conclusion is based on the presence of a) densely outcropping, largely

NE-SW trending tectonic fabric, b) electro-magnetic conductors that have been confirmed as graphite-rich pelites within or near major faults, c) compelling property-wide evidence for hydrothermal alteration, and d) uranium mineralization with corresponding elevations in pathfinder elements. These factors, along with the presence of a substantial uranium endowment in both basement rocks and Athabasca Basin cover rocks, indicate excellent potential for economic uranium mineralization within the Project. The mineralization, structures, and alteration identified on the claims to date are strong indicators of a presence of significant nearby accumulation of uranium-rich mineralization.

#### 1.7. Recommendations

Based on the evaluation of the available historical and recent information, the author believes that the project warrants renewed and continued investigation and exploration. The presence of historical showings, blast pits, trenching and drill intercepts warrant follow-up drilling, along with systematic exploration of the extensive under-explored EM conductors across the Project.

A two-phase exploration program is recommended to evaluate target areas of the Beaver River property in particular, and to expand knowledge of geology and further evaluate the uranium mineralization at other claim clusters.

During Phase 1 for the Beaver River claims, it is recommended that detailed data compilation is followed up by a 10-day field program to visit known showings, collect representative samples, assess and confirm geology, structure, and styles of mineralization. Subsequent to this, a VTEM survey on the western half of the property or a property wide detailed magnetic and Lidar survey is recommended. The Phase 1 recommendation costs are estimated at C\$300,250.

Phase 2 recommendations consist of a diamond drill program. Portions of the Phase 2 recommended work are dependent on information generated in the first phase, but not contingent on any positive results from the Phase 1 work. For budgeting purposes an estimate has been prepared using an anticipated total of 1,500 m of NQ drilling. Based on current experience, the cost for drilling is expected to be on the order of C\$1.312 million, including additional supporting costs (Table 18). Portions of the second work phase will be dependent on information generated during the first phase.

The cost for Phase 1 and 2 of the proposed exploration programs on the Property is estimated at ca. \$1,612,750 with the details given in the table below.

Phase 1 Field Exploration Program A combination of ground truthing historical results, DGPS surveying, prospecting, soil geochemical surveys, mapping, airborne geophysics	CAD	Phase 2 Diamond Drilling Program A combination of helicopter and road supported drilling 1500 meters of NQ core drilling based out of Uranium City	CAD
Pre-project Expenses: Targeting, management, equipment prep	\$15,000	Pre-project Expenses: Targeting, management, equipment prep	\$15,000
Technical Personnel: Field program	\$50,000	Technical Personnel: Field drill program	\$85,000
Soil 250 samples x \$30/sample	\$7,500	Support personnel/labour, expediting	\$25,000
Rock 50 samples x \$55/sample includes QAQC, blanks	\$2,750	Post-project Deliverables: Data merge, interpretation, report	\$25,000
Airborne EM on selected areas	\$80,000	Analytical: Drill Core 500 samples x \$55/sample includes QAQC, blanks	\$27,500
Trucks, ATV, computer equipment, satellite internet, DGPS	\$15,000	Downhole Gamma Tool \$2000/week x 5 weeks	\$20,000
Helicopter Charter: personnel	\$50,000	Magnetometer \$500/week x 5 weeks	\$10,000
Fuel: helicopter, trucks	\$25,000	Trucks, core logging, computer equipment,satellite internet	\$15,000
Travel & Uranium City accommodation	\$25,000	Downhole survey & core orientation tools \$1000/week x 5 weeks	\$5,000
Food & grocery	\$20,000	Core shack, cutting shack, rock saws \$1000/week x 5 weeks	\$5,000
Miscellaneous: shipping, sampling consumables, repair & maintenance	\$10,000	Helicopter Charter: drill moves / personnel	\$300,000
Grand Total	\$300,250	Fuel: Diamond drill,helicopter, trucks	\$150,000
		Mob, foreman, consumables, coring \$1500/meter x \$300/meter	\$450,000
		Travel & Uranium City accommodation	\$100,000
		Food & grocery	\$40,000
		Miscellaneous: shipping, sampling consumables, repair & maintenance	\$40,000

Grand Total \$1,312,500

Table 1.7. Xcite Resources Inc. Beaverlodge District projected exploration costs for 2024-25.

# 2: Introduction

The Author is independent of both Xcite Resources Inc. and Eagle Plains Resources Ltd., having never been an employee of either company. The report is to be used by Xcite Resources Inc. to support filing with the CSE, the British Columbia Securities Commission and/or any other regulatory bodies in connection with the intended prospectus financing. This report complies with regulatory disclosure and reporting requirements outlined in the Canadian National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"), and the rules and policies of the CSE.

The report is based on field observations, a desktop study taking into consideration publicly accessible geological and property information as cited throughout the report as well as data provided by the Company and Terra Logic Exploration Inc. geological consultancy subcontracted to conduct geological exploration on the Project.

The author visited the Project via turboprop airplane from Fort McMurray, Alberta and locally by terrain vehicle, on foot and by helicopter dropouts between June 19<sup>th</sup> and June 21<sup>st</sup> of 2024. Ground observations of the rock outcrops, significant showings of uranium mineralization and prominent structures together with targeted grab sampling were made on all but the Gulch Property cluster which was examined during a brief airborne visual survey. All observations are found to be consistent with previous publications and data and are detailed and cited below where applicable.

There is no new scientific or technical information about the Properties as of the date of this report and, accordingly, the June 2024 site visit remains current. The Author took steps to independently verify that there has been no material work done on the property since the site visit. The Author also reviewed existing exploration data while engaging in detailed discussions with the principal Terra Logic geologist to ensure proper exploration procedures were implemented. Moreover, the Author directly received assay certificates and geochemical data from ALS Labs in North Vancouver, as the responsible laboratory, for the rock chip samples collected during the field visit.

All maps and coordinates are reported in the North American Datum (NAD 83) datum and Universal Transverse Mercator Zone 12 projection.

Due to the early stage of exploration activities and lack of recent drilling the report does not include a resource estimate. There are no historical resource estimates on the project.

# 3: Reliance on Other Experts

The author is not qualified to conduct legal due diligence or environmental liability assessments. However, the statements in this report regarding ownership of the claims are made in reliance on information accessed, as of the date of this Report, through the Saskatchewan Government interactive mineral claim map system at the following link: <u>https://mars.isc.ca/MARSWeb/publicmap/FeatureAvailabilitySearch.aspx.</u> For the purpose of this report, the author has also relied on ownership information provided by Xcite Resources Inc. as detailed in Section 4.

# 4: Property Description and Location

Xcite Resources Inc.'s project is located in norther Saskatchewan, specifically along the northwestern margins of the Athabasca Basin and consists of six separate blocks of contiguous mineral dispositions ("claim clusters" or "tenures"). The projects consist of two southern claim blocks, known as the Gulch and Lorado claims ("Gulch" and "Lorado"), located approximately 13 to 23 kilometres (km) southwest of Uranium City, Saskatchewan, Canada and are respectively centered at roughly 285,000 m E, 6,598,000 m N (Gulch), and 630,900 m E, 6,597,000 m N (Lorado), Universal Transverse Mercator (UTM) projected coordinate system

using North American Datum 1983 (NAD83), Zone 12N. The western and northern claim blocks are located approximately 3 to 5 km west and north of Uranium City. These claim blocks are dubbed Smitty and Don Lake claims ("Smitty" or "Don Lake"), and are respectively centered at roughly 629,500 m E, 6,606,300 m N (Smitty), and 636,200 m E, 6,609,500 m N (Don Lake) Universal Transverse Mercator (UTM) projected coordinate system using North American Datum 1983 (NAD83), Zone 12N. Finally, the eastern claim blocks comprise Black Bay and Beaver River claims ("Black Bay" and "Beaver River"), located between 15 and 45 km ESE of Uranium City and respectively centered at roughly 642,250 m E, 6,599,000 m N (Black Bay), and 336,000 m E, 6,597,000 m N (Beaver River) Universal Transverse Mercator (UTM) projected coordinate system using North American Datum 1983 (NAD83), Zone 12N. The Project is approximately 820 km north-northwest of Saskatoon, the largest city in Saskatchewan (Figure 4.1).

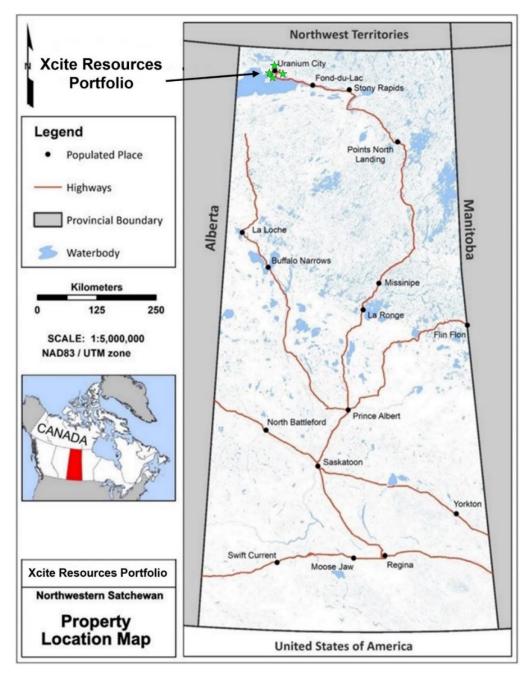


Figure 4.1. Xcite Resources Inc. Beaverlodge District Project location map.

The exploration tenures described in this report form the basis of an Option agreement between Eagle Plains

Resources Ltd. ("Eagle Plains") and Xcite. The mineral dispositions included under the Xcite Option agreement were acquired by Eagle Plains Resources using the Saskatchewan's Mineral Administration Registry Saskatchewan ("MARS") on-line staking system. All claims that constitute the Project are 100% owned by Eagle Plains and are listed on MARS as being in good standing.

The claims of interest were identified using the Saskatchewan Government Mining and Petroleum GeoAtlas, as well as publicly available historical assessment and work reports filed with the Saskatchewan Government. The chronology of the tenure acquisition is as follows:

- April 19, 2023: Don Lake tenure acquired; one disposition
- June 05, 2023: Black Bay tenure acquired; one disposition
- October 06, 2023: Gulch tenure acquired; three dispositions
- October 26, 2023: Lorado tenure acquired; one disposition
- October 26, 2023: Smitty tenure acquired; two dispositions
- December 01, 2023: additional Smitty tenure acquired; one disposition
- December 05, 2023: Beaver River tenure acquired; two dispositions
- February 02, 2024: additional Gulch tenure acquired; one disposition
- February 02, 2024: additional Lorado tenure acquired; one disposition

On the 14<sup>th</sup> of December, 2023 Eagle Plains and Excite announced the formal execution of six individual option agreements on each of the Black Bay, Beaver River, Don Lake, Gulch, Larado and Smitty projects. Under the terms of the agreement, Xcite may earn an 80% interest in each individual property by completing CDN\$3,200,000 in exploration expenditures, issuing 750,000 common shares of Xcite and making cash payments to Eagle Plains of CDN\$55,000 over four years, according to the following schedule:

Cash Payments (\$55,000)

- \$5,000 on the formal execution of the option agreement (paid);
- an additional \$10,000 in cash (\$15,000 total) on or before December 31, 2024;
- an additional \$10,000 in cash (\$25,000 total) on or before December 31, 2025;
- an additional \$10,000 in cash (\$35,000 total) on or before December 31, 2026;
- an additional \$20,000 in cash (\$55,000 total) on or before December 31, 2027;

Exploration Expenditures (\$3,200,000)

- \$50,000 on or before December 31, 2024;
- an additional \$150,000 (\$200,000 total) on or before December 31, 2025; and
- an additional \$1,000,000 (\$1,200,000 total) on or before December 31, 2026; and
- an additional \$2,000,000 (\$3,200,000 total) on or before December 31, 2027;

Share Consideration (\$750,000)

- 50,000 Shares on the formal execution of the option agreement (paid);
- an additional 100,000 Shares (150,000 total) on or before December 31, 2024;
- an additional 150,000 Shares (300,000 total) on or before December 31, 2025;
- an additional 200,000 Shares (500,000 total) on or before December 31, 2026;
- an additional 250,000 Shares (750,000 total) on or before December 31, 2027.

Upon Xcite fulfilling the terms of any or all of the earn-in agreements, an 80/20 joint venture will be formed, with Eagle Plains retaining a carried interest in all expenditures until delivery by Xcite or its assigns of a bankable feasibility study. Eagle Plains will retain an underlying 2% NSR royalty on each of the properties.

# 4.1. Permitting and Mineral Tenure

The Xcite Resources Inc. Beaverlodge District Project consists of fifteen mineral dispositions totaling 6,613.921 ha (Figure 4.2). All of the claims are held 100% by a BC based Eagle Plains Resources Ltd. (Table 4.1). All the mineral dispositions are currently in good standing as of the effective date of this report. The claims that constitute the Project are listed in the online Mineral Administration Registry Saskatchewan (MARS) as being in good standing between various dates in 2023 and various dates between July, 2025 and March of 2026 with the 18<sup>th</sup> of July, 2025 as the earliest expiry date (Table 4.1). Mineral resource rights in the Province of Saskatchewan are governed by The Crown Minerals Act (Saskatchewan) and The Mineral Tenure Registry Regulations (Saskatchewan), which are administered by the Saskatchewan Ministry of Energy and Resources. Mineral rights are owned by the Crown and are distinct from surface rights. The mineral tenures that constitute the Property do not grant surface rights.

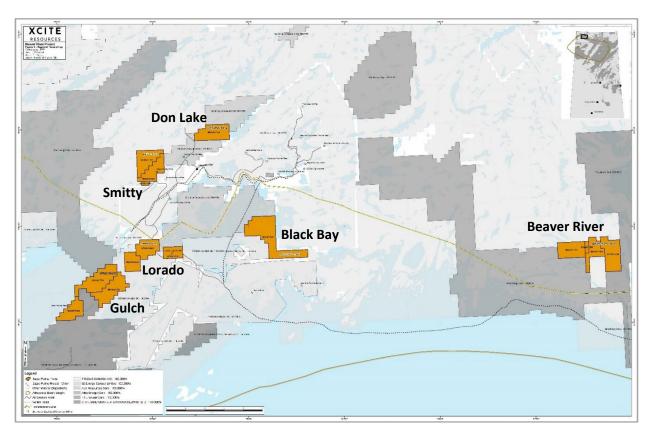


Figure 4.2. Xcite Resources Inc. Beaverlodge District Project mineral disposition map (exploration licences and district claims). See text for coordinate locations.

# 4.2. Royalties and Other Agreements

Eagle Plains will retain an underlying 2% NSR royalty on the Property pursuant to the Net Smelter Returns Royalty Agreement established in Schedule "B", one half of which may be bought back at any time upon payment to EPL of C\$2,000,000 (for a remaining net NSR royalty of 1%).

Disposition	Area (ha)	Property (claim cluster)	Effective date	Good To	Tenure Owner
MC00017110	465.26	BEAVER RIVER	4/19/2023	7/18/2025	EAGLE PLAINS RESOURCES LTD.
MC00017988	48.54	BEAVER RIVER	12/1/2023	3/1/2026	EAGLE PLAINS RESOURCES LTD.

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347.92	BEAVER RIVER	12/5/2023	3/5/2026	EAGLE PLAINS RESOURCES LTD.
593.11	BEAVER RIVER	12/5/2023	3/5/2026	EAGLE PLAINS RESOURCES LTD.
1454.83				
1113.55	BLACK BAY	6/5/2023	9/3/2025	EAGLE PLAINS RESOURCES LTD.
1113.55				
524.10	DON LAKE	4/19/2023	7/18/2025	EAGLE PLAINS RESOURCES LTD.
524.10				
397.91	GULCH	10/6/2023	1/4/2026	EAGLE PLAINS RESOURCES LTD.
694.70	GULCH	10/6/2023	1/4/2026	EAGLE PLAINS RESOURCES LTD.
592.81	GULCH	10/6/2023	1/4/2026	EAGLE PLAINS RESOURCES LTD.
310.73	GULCH	2/2/2024	5/3/2026	EAGLE PLAINS RESOURCES LTD.
1996.15				
245.13	LORADO	10/26/2023	1/24/2026	EAGLE PLAINS RESOURCES LTD.
398.02	LORADO	2/2/2024	5/3/2026	EAGLE PLAINS RESOURCES LTD.
643.15				
394.74	SMITTY	10/26/2023	1/24/2026	EAGLE PLAINS RESOURCES LTD.
455.10	SMITTY	10/26/2023	1/24/2026	EAGLE PLAINS RESOURCES LTD.
32.30	SMITTY	12/1/2023	3/1/2026	EAGLE PLAINS RESOURCES LTD.
882.14				
	593.11         1454.83         1113.55         524.10         524.10         397.91         694.70         592.81         310.73         1996.15         245.13         398.02         643.15         394.74         455.10         32.30	593.11       BEAVER RIVER         1454.83          1113.55       BLACK BAY         1113.55       BLACK BAY         1113.55       DON LAKE         524.10       DON LAKE         524.10       GULCH         694.70       GULCH         592.81       GULCH         310.73       GULCH         1996.15          245.13       LORADO         398.02       LORADO         643.15          394.74       SMITTY         455.10       SMITTY         32.30       SMITTY	593.11         BEAVER RIVER         12/5/2023           1454.83         1113.55         BLACK BAY         6/5/2023           1113.55         DON LAKE         4/19/2023           524.10         DON LAKE         4/19/2023           524.10         GULCH         10/6/2023           694.70         GULCH         10/6/2023           592.81         GULCH         10/6/2023           310.73         GULCH         2/2/2024           1996.15         IO/26/2023           245.13         LORADO         2/2/2024           643.15         IO/26/2023           394.74         SMITTY         10/26/2023           32.30         SMITTY         10/26/2023	593.11         BEAVER RIVER         12/5/2023         3/5/2026           1454.83         12/5/2023         3/5/2026           1113.55         BLACK BAY         6/5/2023         9/3/2025           524.10         DON LAKE         4/19/2023         7/18/2025           524.10         DON LAKE         10/6/2023         1/4/2026           694.70         GULCH         10/6/2023         1/4/2026           592.81         GULCH         10/6/2023         1/4/2026           510.73         GULCH         2/2/2024         5/3/2026           1996.15         I         2/2/2024         5/3/2026           1996.15         LORADO         2/2/2024         5/3/2026           398.02         LORADO         2/2/2024         5/3/2026           643.15         I         10/26/2023         1/24/2026           394.74         SMITTY         10/26/2023         1/24/2026

Table 4.1. Xcite Resources Inc. Beaverlodge District Project mineral dispositions with validity dates.

# 4.3. Environmental Liabilities

The author is not aware of any environmental liabilities associated with the Project. To the extent known, an environmental baseline study was not conducted.

# 4.4. Annual Expenditures

In Saskatchewan, a mineral claim can be held for the first two years without any exploration expenditure requirements. Subsequently, the claim holder is required to spend a certain amount of dollars/hectare on exploration activities on each disposition to maintain the claim, and any excess expenditures may be carried forward to keep claims in good standing. Contiguous claims can be grouped to a maximum size of 18,000 ha, allowing for costs to be applied across the claim group.

The mineral dispositions are defined by the Mineral Tenure Registry Regulations (2012). Assessment expenditures required to maintain claims in good standing in Saskatchewan for claims held under 10 years is currently CDN \$15/ha (with a minimum of \$240/claim per assessment work period), and CDN \$25/ha (with a minimum of \$400/claim per assessment work period) for claims held for more than 10 years.

Records of work expenditures and a geological report must be submitted to Saskatchewan's Ministry of Energy and Resources through the online Mineral Administration Registry Saskatchewan ("MARS"). This work assessment report must be received by the Ministry of Economy within 90 days after the end of the work period for it to be applied to that work period.

To maintain the Property claims at their current sizes, a total of at least CDN \$636,208.96 must be spent annually.

#### 4.5. Required Permits

Mining and mineral exploration activities in Saskatchewan are regulated under The Mineral Industry Environmental Protection Regulations, 1996. Surface disturbance permits are required to conduct mineral exploration activities on the Property. These permits are obtained through the Saskatchewan Ministry of Environment and Resources. Depending on the nature of the activities being undertaken, additional permits may also be required. Such activities may include but are not limited to road construction, temporary camps, water use, timber harvesting, and drilling on land or ice. Regulatory bodies including the Saskatchewan Water Security Agency, and the Department of Fisheries and Oceans Canada may need to be contacted, as is outlined in the Mineral Exploration Guidelines for Saskatchewan, developed by the Saskatchewan Mineral Exploration and Government Advisory Committee (SMEGAC). A SMEGAC updated version is available at <a href="http://saskmining.ca/ckfinder/userfiles/files/BMP%20August%202016">http://saskmining.ca/ckfinder/userfiles/files/BMP%20August%202016</a> Draft.pdf.

Presently, mineral exploration permits may take up to four months to obtain from the regulators, depending on the level of disturbance proposed and the extent of the Duty to Consult (DTC) necessary based on the project location. Fees are associated with some of the permits including timber harvesting and temporary work camps.

As of the effective date of this technical report, Eagle Plains Resources Ltd. holds a "grassroots" permit issued by the Ministry of Environment of the Government of Saskatchewan to conduct ground prospecting and geochemical sampling on all six property claims of the Beaverlodge Project. No applications have been made for additional drilling or trenching.

# 4.6. Other Significant Factors and Risks

There are no other significant risks or factors that affect access, title or the right and ability to perform work on the Project.

# 5: Accessibility, Climate, Local Resources, Infrastructure and Physiography

# 5.1. Accessibility

The Property is accessible in summer via helicopter, float plane, or boat, and in winter via the Shasko Bay to Fond-du-Lac section of the seasonal Athabasca Ice Road (Figure 1). The Property lies on the northwestern shores of Lake Athabasca, which is sizeable enough to safely land float planes. The southwestern claims of the Project area are accessible via the partially maintained gravel Highway 962 from Uranium City and its airport, a drive of up to 25 km. Typically, scheduled commercial flights are also available to Uranium City three or four times weekly from Saskatoon. Flights to Uranium City can also be arranged on an on-demand basis through several charter companies, operating mainly from Saskatoon or Fort McMurray. The Stony Rapids airport is roughly 180 km east of the Property. Fort McMurray airport is approximately 330 km southwest of the Project.

# 5.2. Topography, Elevation and Vegetation

The topography of northern Saskatchewan is characterized by northeast-trending glacial geomorphological features such as low hills, ridges, drumlins, and eskers, with lakes and muskeg common in low-lying areas. The Black Bay Property overlies the northern shore of Lake Athabasca, including peninsulas extending into the lake and several islands. The topography is comprised of ridged to hummocky crystalline bedrock forming broad, steeply sloping terrain and discontinuous veneers of sandy to organic till within intervening valleys. Elevations on the Project range from approximately 215 - 400 m above sea level (asl). Rivers, lake discharge channels and alluvial fans are typically oriented in a southwesterly direction following the elongated hills and ridges. Glacial till thicknesses vary from only a

few centimeters on ridges to over 25 m thick in low lying areas. Bogs developed in valley lows are composed of humus and peat layers that measure a few metres to several tens of metres in thickness.

The Project is covered by Boreal Forest common to the Canadian Shield. The most common trees are trembling aspen and balsam poplar with white spruce, balsam fir, and black spruce. Poorly drained fens and bogs are covered with low, open stands of tamarack and black spruce.



Figure 5.1. Panoramic view of the western Beaver River's claim cluster Vic Zone towards northwest, taken in June of 2024. It illustrates the typical physiography and vegetation of the Project area. The norther settlement of Uranium City is located 40 km away.

# 5.3. Climate and Operational Periods

The Xcite's Beaverlodge Project is situated within the Tazin Lake Upland ecoregions of Saskatchewan, straddling the boundary between the Taiga Shield and the Boreal Shield ecozones of Canada. The climate for the region is classified as continental subarctic (Peel et. al., 2007). Winters are described as long (seven months), dry, and cold with a mean temperature of -21.5° Celsius (°C). Ice generally forms on lakes in late October and ice break-up typically occurs in mid-May. Summers are short and cool, characterized by a mean temperature of +11°C with the highest temperatures often recorded in late July. Forest fires are infrequent in the area, and average annual precipitation is 200 to 375 millimeters (mm).

Operational periods conform to those typical of northern Canadian conditions. Summer conditions typically span the period June to October, with "shoulder" freeze and thaw periods separating the summer window from the main winter season between December and April. Mines currently operating in northern Saskatchewan include SSR Mining's Seabee gold mine, and Cameco Corp's Cigar Lake and McArthur River uranium mines. These mines operate 365 days per year with personnel flown into site on a rotational basis.

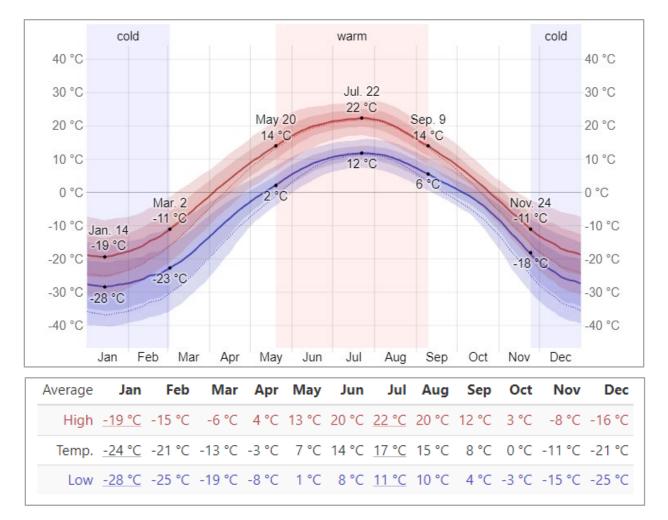


Figure 5.2. Climate chart for the northern settlement of Uranium City, Saskatchewan (weatherspark.com).

#### 5.4. Infrastructure and Local Resources

Uranium City was a major regional center established to service uranium mines that developed during the mining boom of the 1940's and 1950's. In 1982, Uranium City's population peaked at 5,000 people but with the mine closures culminating in 1983 the population has now declined to less than 100 permanent residents. Uranium City is a functioning Municipality with 91 current residents according to the Government of Saskatchewan.

Uranium City is serviced by the Uranium City Airport ("CYBE"), an approximate 10-minute drive seven kilometres east of the town. The airport is located at an elevation of 312 m. The runway is 1,200 m long by 30 m wide and consists of treated gravel, providing good access for a range of large aircraft.

Gasoline, diesel, and aviation fuel are available from a bulk fuel provider in Uranium City. There is no conventional hotel-style accommodation currently available in town, however local operators do provide limited catered accommodation, and houses can be rented for short- or long-term use. Fortune Bay Corp. currently owns a house in Uranium City. A small grocery store operates in town, but most supplies are sourced from Saskatoon, Stony Rapids or Fort McMurray. A medical facility with a full-time stationed nurse is maintained in Uranium City.

Stony Rapids is located 150 km east of Uranium City and is the logistics and business hub for northern Saskatchewan. In the summer months a barge service operates between Uranium City and Stony Rapids, which is directly accessible all year by vehicle from Saskatoon via Highway 905.

Electrical power for Uranium City and the region (115 kV transmission grid) is supplied from hydroelectric stations operated by SaskPower (Charlot River 10 MW, Waterloo 8 MW and Wellington 5 MW), Saskatchewan's provincial power authority. A branch of this electrical power line runs directly through the Property, although this line is not currently active or maintained. The Fredette River water treatment plant provides municipal water for the community of Uranium City.

All Xcite Resources Inc.'s exploration activities on the Project have been carried out based out of Uranium City. Winter operations can be facilitated by road, ice road and snowmobile access, while summer drilling and prospecting operations are normally conducted with helicopter support. All drill cores can be stored in various locations in Uranium City that can be converted to logging facilities and core storages.

The Project contains sufficient space for an open pit or underground mining operation, including space for waste rock piles and tailings facilities. Water is readily available from Lake Athabasca. The Project overlies brownfield and wilderness land owned by the province of Saskatchewan, referred to as "Crown Land". Subject to the typical regulatory permitting processes, including the Government fulfilling its duty to consult with local communities, there are no surface right issues that would impact access to the Project for exploration activities.

# 6: Mining History

The following section is summarized from Terra Logic Exploration Inc. internal reports including Damant (2024), Butler (2024), McKeough (2024), and McNeil (2024) which themselves draw upon government filed reports given in respective tables below.

# 6.1. Beaver River Property

Exploration in the Beaver River area began in 1954 when Nu-Age Uranium Mines Ltd. conducted geological mapping and trenching. Workers mapped small scale E-W trending faults and noted that pitchblende is most often vein-hosted and associated with graphite, pyrite, hematite, and chlorite disseminations in the wall rock.

In 1955, Keno Oils Ltd. completed eight diamond drill holes (627m). Drilling intersected narrow sulfide zones in most holes and encountered two radioactive zones (>1000 counts/minute). The essays yielded up to 0.18% U<sub>3</sub>O<sub>8</sub> over 0.3m and is the first uranium occurrence discovered on the property (SMDI 1553).

In 1967 and 1968, Numac Oil and Gas Ltd. conducted airborne scintillometer surveys and prospecting resulting in the discovery of the Cluster showing (SMDI 1555). However, this showing was determined to

be uneconomic, and the radiation anomaly was attributed to high thorium concentrations.

In 1968, Trans-Canada Oils Ltd. conducted an airborne scintillometer survey in the eastern Beaver River property and identified a radioactive anomaly. The company then drilled 17 diamond drill holes with accompanying down-hole probing and geochemistry in addition to geological mapping, prospecting, trenching, and scintillometer surveys. No economic mineralization was discovered.

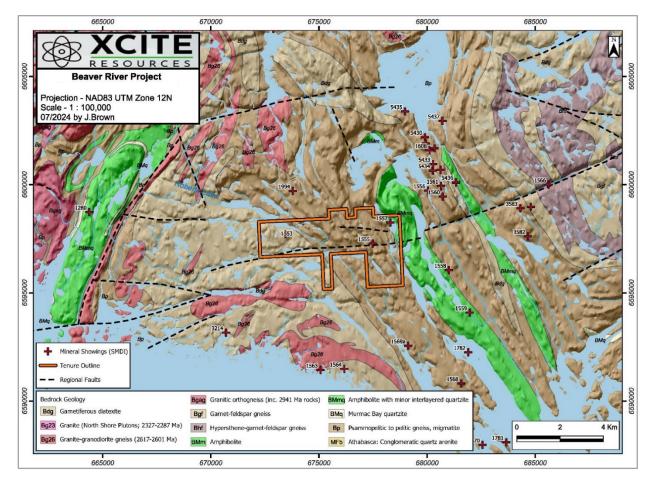


Figure 6.1. Property geology of the Beaver River claims upon geology from Saskatchewan Energy and Resources 1:250,000 compilation; SMDI – Saskatchewan Mineral Deposit Index (Brown, 2024).

In 1969, Trans-Canada Resources Ltd. conducted exploration around the uranium mineralization previously drilled by Keno Oils Ltd. including an airborne scintillometer survey, mapping, trenching, prospecting and relogging core from previous drilling. Sampling of vein material uncovered during trenching yielded average assays of  $31.2\% U_3O_8$  and was followed up with diamond drilling. One diamond drill hole was completed and intersected a mineralized zone over 0.61m assaying 2.08% Cu, 1.10% Ni, 0.06% U\_3O\_8, 0.06 oz/ton Au, and 0.70 oz/ton Ag which was named the VIC U-Cu-Ni zone (SMDI 1551). Further drilling was recommended to investigate along-strike continuations of the zone. In 1973, Trans-Canada Resources Ltd. conducted further work southeast of the mineralization including trenching and a radon scintillometer survey, after which the claim lapsed.

In 1974, Kintla Explorations Ltd. resumed exploration around the VIC U-Cu-Ni zone including trenching and rock sampling of old trenches. Assays of mineralized vein samples yielded  $16.1\% U_3O_8$  and 0.54%

U3O8. Assays of combined wall rock and vein samples yielded 1.28%  $U_3O_8$ , 0.54%  $U_3O_8$ , and 1.30%  $U_3O_8$ . Exploration of the VIC zone outlined a linear high-grade zone up to 1097m in length.

In 1975, Denison Mines Ltd. conducted exploration in the western Beaver River property including geological mapping, rock sampling, scintillometer surveys, and a petrologic analysis of the VIC U-Cu-Ni mineralization.

In 1976, Kintla Explorations Ltd. explored for an along-trend continuation of the VIC U-Cu-Ni zone to the southeast which included trenching and sampling of old trenches. Chip samples returned assays of up to 29.89%  $U_3O_8$  over 0.3m (SMDI 1994).

In 1978, G.E.S Management completed trenching and geological mapping in the eastern Beaver River property but did not report any significant findings.

In 1979, Bonn Energy Corporation completed geological mapping and scintillometer prospecting in the northeast Beaver River property and uncovered a radioactive vein ca. 10cm thick trending off-tenure. A handheld scintillometer registered 16,000 cps and the showing was named the Charlie Showing.

In 1980, Kintla Explorations Ltd. conducted additional scintillometer prospecting in the western Beaver River property but did not report any significant findings.

In 1981, the Saskatchewan Mining Development Corporation conducted geological mapping and prospecting in the eastern Beaver River property and discovered disseminated vein-hosted graphite and pyrite. Airborne EM from an unknown assessment report had previously identified EM conductors in this area which were attributed to graphite and pyrite, leading to the conclusion of low economic potential for uranium mineralization in the area.

In 2013, Fission 3.0 Corporation flew an airborne magnetic survey (50m line spacing) over the eastern Beaver River property as part of a larger survey. In 2016, the company flew an airborne VTEM survey (200m line spacing) over the same area and identified NNW trending conductive zones. In 2019, Fission 3.0 Corporation conducted prospecting in the area of the VIC U-Cu-Ni zone including resampling of historical trenches. Rock sample assays returned up to 1.10 wt.%  $U_3O_8$ , 14 g/t Au, and 9720 ppm Cu over a semi-continuous length of >100m (Table 6.1.)

Report	Year	Company	Work Completed		
7405-0007	1954	Nu-Age Uranium Mines Ltd.	Trenching, geological mapping		
74005-0015	1954	N/A	Geological mapping		
74005-0016	1955	Keno Oils Ltd.	8 DDH (2058'), DDH geochemistry, downhole probing		
74005-0020	1967	Numac Oil & Gas Ltd.	Airborne scintillometer survey		
74005-0041	1968	Numac Oil & Gas Ltd.	Prospecting, airborne radiometric and scintillometer survey		
74005-0057	1968	Trans-Canada Oils Ltd.	Airborne scintillometer survey		
74005-0040	1968	Trans-Canada Oils Ltd.	17 DDH (3236'), DDH probing, geological mapping, prospecting, trenching, rock geochemistry, scintillometer surveys		

74005-0051	1969	Trans-Canada Resources Ltd.	1 DDH (94m), relogging core from 74005-0016, airborne scintillometer survey, mapping, trenching, prospecting, DDH geochemistry, rock geochemistry
74005-0065	1973	Trans-Canada Resources Ltd.	10 trenches (4562 sq ft.), line cutting, scintillometer surveys
74005-0066	1974	Kintla Explorations Ltd.	5 trenches (546 cu ft.), rock sampling, rock geochemistry
74005-0067	1975	Denison Mines Ltd	Geological mapping, rock sampling, scintillometer survey, petrology
74005-0077	1976	Kintla Explorations Ltd.	3 trenches, rock sampling in old trenches, rock geochemistry
74005-0071	1978	G.E.S. Management	trenching, geological mapping
74005-0085	1979	Bonn Energy Corporation	Geological mapping and scintillometer prospecting
74005-0078	1980	Kintla Explorations Ltd.	Scintillometer prospecting
74N09-0290	1981	Saskatchewan Mining Development Corporation	Prospecting, geological mapping, rock sampling, rock geochemistry
MAW01057	2013	Fission 3.0 Corp	Airborne magnetic survey (50m line spacing)
MAW01945	2016	Fission 3.0 Corp	Airborne VTEM survey (200m line spacing)
MAW02575	2019	Fission 3.0 Corp	Prospecting, rock geochemistry

Table 6.1. Summary of historic assessment reports for the Beaver River Property.

#### 6.2. Don Lake Property

Historical work on the Don Lake Property commenced in 1948 when N. Millar ran a program of geological traverses with Geiger counters, in conjunction with the Geological Survey of Canada. At least six areas of anomalous radioactivity were located, but not prospected, studied or mapped. That same year, geological mapping and a radioactivity survey, using Geiger-Mueller counters, was carried out on the Don Claims by Eldorado Mining & Refining Company Ltd. A total of 35 radioactive anomalies were located and staked, 13 of which hosted pitchblende.

In 1950, Aurora Yellowknife Mines Ltd. ran a program of systematic prospecting and scintillometer survey of the area, followed by trenching, blasting and sampling of certain anomalously high radioactive showings. This work resulted in the discovery of 28 radioactive occurrences on the property, majority of which hosted pitchblende and were associated with one of the three faults, Black Bay Fault, Townend Fault and Crackingstone Fault. Ten of these 28 radioactive occurrences became showings and are listed as Radioactive Occurrence 50-CC3-10 and 50-CC3-44 (SMDI 1383), Midas Cu-U Showing (1384) and Townend Fault Uranium Showings Nos. 2, 3, 4, 45, 46, and 47 (SMDI 1385; Table 6.2.). Extensive trenching was carried out at the radioactive anomalies 50-CC3-2, 3, 4, 8, 10 and 23. Assay plans for 50-CC3-23 report an average grade of 0.85 lbs  $U_3O_8$  per ton, over a width of 28 feet, for a length of 120 feet (74N10-0056).

In that same year, Eldorado Mining and Refining Company Ltd. used their results from the 1948 fieldwork to determine the location of three shallow diamond drillholes over Zone A that totaled 170.9 m. The most encouraging intercept came from hole D-1 which assayed an average  $2.0\% U_3O_8$  (1.7% U) from 163.0-165.0 ft (74N10-0345). The claims were allowed to lapse since no economic mineralization was intersected.

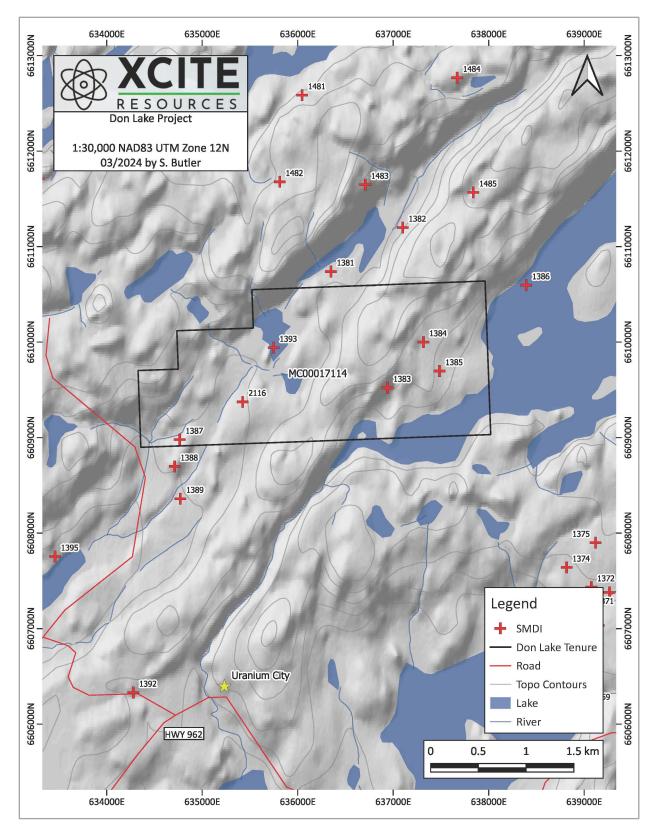


Figure 6.2. The Don Lake Property with SMDI mineral showings described in the text (Butler, 2024).

In 1951, Amaz Athabasca Uranium Mines Ltd. created five geological maps, with labelled geostations and some radioactive zones outlined. Unfortunately, there is no legend for these maps and no assessment report submitted for the work done in this year.

In 1951 and 1952, Leadridge Mining Company Ltd. carried out a diamond drill program of 52 holes, totalling 6,422.2 m, seven of which occur within current claim boundaries. These included holes drilled from the hanging wall side of the Black Bay Fault, near the Townend Fault Uranium Showings Nos. 3 and 4. Two of these holes are reported to have intersected small U<sub>3</sub>O<sub>8</sub> percentages across narrow widths (SMDI 1385). There is little information about drilling results as no assessment report was filed this year and no assays are available.

In 1952, Basalt Uranium and Explorations Ltd. ran a program of geological mapping, trenching and diamond drilling. Twenty-nine diamond drillholes were completed for a total of 870.8 m. Negligible results from drilling and promising results from trenching are reported, but no assays are available to support these claims. There is mention of the completion of a magnetometer survey, but no data pertaining to this is enclosed with the assessment report.

In 1954, it is reported by T.H. Patching (74N10-0336) that Eldorado Mining and Refining Company Ltd. remapped the area at a scale of 1in = 100 ft. However, there is no assessment report filed for this work. Patching also reported that in the years 1956 and 1957 Dr. L. Tremblay of the Geological Survey of Canada ran a geological mapping program in the area as part of a larger Beaverlodge District mapping program (74N10-0336).

In 1958, Azor Mines Ltd. carried out a program of trenching and stripping just south of the current claim boundaries on Azor #10 and #8 trenches. A total of 8.35 m<sup>3</sup> of rock trenching and 16.42 m<sup>3</sup> of stripping was completed. However, the results of this work are unknown (74N10-0243). It is also reported that Azor Mines Ltd. drilled 10 short diamond drill holes over the area of the Azor Mines Claims U-Cu Showing. None of the core was anomalously radioactive (SMDI 1387), but an assessment report for this work could not be located.

Matrix Exploration Ltd. acquired the property in 1966 and carried out surface work in the form of prospecting and radiometric surveys (74N10-0336). A map identifying the location of radiometric anomalies is provided, however numerical values of the anomalies are not included.

Additionally, in November of 1966, Augustus R. Hawker completed a program of prospecting and trenching. Thirty-five locations were trenched and sampled (74N10-0243). It is reported that in 1967, Eldorado Mining and Refining Company Ltd. detail mapped and prospected the property, re-examining all old showings (SMDI 1383). However, the assessment report this work pertains to, 74N10-0219, was not located.

Tobe Mines Ltd. acquired the property in 1967 and examined 20 trenches in detail, mapped and described them and completed magnetometer and scintillometer surveys. No significant results are reported for this year of exploration. The following year another exploration program was carried out comprised of a scintillometer survey, detailed geological mapping of radiometric anomalies, trenching and 4 shallow diamond drillholes totaling 187.5 m. Two significant radioactive anomalies, occurrences 13-1 and 13-2, were discovered by the scintillometer survey. Drilling was focused on occurrence 13-1 and revealed the presence of a small radioactive zone which drilling indicates thickens at depth to the west. Assays from a 3 ft section of this zone intercepted in hole No. 13-103 reported 0.15% U<sub>3</sub>O<sub>8</sub> from 18 to 21 ft (sample

1656; 74N10-0419). A total of six trenches were blasted at occurrence 13-1 and chip samples were sent for assay, with  $U_3O_8$  percentages ranging from 0.02 to 0.226 (74N10-0419). A sample from trench No. 5, which was reported to host massive pyrrhotite and significant chalcopyrite, assayed 0.226 %  $U_3O_8$ , 2.28% Cu and 0.3 oz Ag (sample 1300; 74N10-0419).

Additionally, in 1968, Tobe Mines Ltd. completed a scintillometer survey and 4 diamond drillholes totaling 243.8 m. Three holes: 6-101, -102 and -104, were drilled in regions of anomalous radioactivity discovered by the scintillometer survey and the fourth hole, 6-103, was drilled into a magnetometer anomaly to determine presence of copper mineralization. Hole 6-103 was unsuccessful in intercepting anomalous copper mineralization. The other three holes did not indicate the presence of significant uranium mineralization. Out of the three holes, Hole 6-102 intercepted the best uranium grades, assaying 0.07%  $U_3O_8$  from 168-170 ft (74N10-0428).

In 1969, Matrix Exploration Ltd. acquired the Gussie Claims, which are located immediately south of the southwest corner of the current Don Lake disposition and may minorly overlap the property boundary. A program of reconnaissance geology, geological mapping, systematic prospecting, trenching and a scintillometer survey was carried out. Several new radioactive anomalies were identified and results from the 1966 scintillometer survey were verified.

Work was also done on the Don Lake Claims this year, the majority of which overlap with the current Don Lake disposition, by Matrix Exploration Ltd. A program of prospecting, a scintillometer survey, stripping and trenching of radioactive anomalies and the completion of 37 diamond drillholes, totaling 1,200 m was carried out. Prospecting efforts were focused around zones A, B and C and the general area between Don, Little Frog and Mingy Lakes. Stripping and trenching were carried out in areas that were determined to be promising through prospecting. The best uranium assays from trenching came from trench 102 which assayed  $3.02\% U_3O_8$  (sample 23360) and trench 50 which assayed  $8.6\% U_3O_8$  (4.60% chemical  $U_3O_8$ ; sample 23408; 74N10-0422). Thirty-seven diamond drill holes over the three mineralized zones, A, B and C were completed. Seventeen holes were drilled in zone A, 12 holes in zone B and 8 holes in zone C. Nineteen of these holes contained radioactive sections and significant uranium values over minable widths. The highest assay obtained came from zone A in a 1 ft intersection from hole No. 23 which assayed 0.81% Cu and  $10.7\% U_3O_8$  (9.08% U; sample 993) (AF 74N10-0422). This hole is about 300 ft away from hole No. 1, drilled by Eldorado in 1950, from which a 2 ft section averaging  $2\% U_3O_8$  (1.7% U) is believed to have been obtained (74N10-0345).

In 1970, Norcan Mines Ltd. completed a four-hole, 316.4m, diamond drill program on the M.E. 3 Claims, just west of Fredette Lake. Drillholes targeted mineralization near the Black Bay Fault. Hole No. 3 was drilled to test the vertical extension of radioactive fractures in a prospect pit and intersected anomalous radioactivity within a zone of distinctive brown altered "intrusive lava." The alteration was noted to extend vertically and laterally, making it a future exploration target of interest. Assays from hole 3 are 0.75%  $U_3O_8$  from 33-34 ft and hole 2 intersected 0.40%  $U_3O_8$  from 92-92.4 ft (74N10-0445).

From 1973 to 1975, Augustus R. Hawker carried out programs of extensive trenching on the property. In 1973, a total of eight trenches were dug on the Nothing Claims No. 1, 4 and 8, totaling 98.1 m<sup>3</sup>. Eight samples, one for each trench, were sent for assay and analyzed for Au, Ag, Cu and Zn. The best results came from trench 4 and 5 which assayed 2.00 % Cu and 1.96% Cu, respectively (74N10-0453). In 1974 and 1975, trenching was focused on the ARH 1 (S88035) & 2 (S88036) Claims, towards the southwest of Don Lake. A total of 8 trenches and 25.6 m<sup>3</sup> was excavated from ARH 1 and five trenches and 13.0 m<sup>3</sup> was excavated from ARH 2. No assays were reported for this work.

In 1976, Matrix Exploration Ltd. conducted a scintillometer survey on the property totaling 2.8-line km. Readings were taken at 100 ft intervals. Small occurrences of radioactive anomalies near Mingy Lake were discovered.

In 1977, Kodiak Developments Corporation Ltd. carried out a program of reconnaissance geological and geochemical surveys, radiometric (25km) and VLF-EM (25 km) surveys, blasting, drilling, sampling and assaying. This work was mostly focused to the west of Don Lake. Selective grab samples from trenches 1 and 3 on Claim ARH 2 reportedly assayed 1.0 %  $U_3O_8$  and 1.2%  $U_3O_8$ , respectively (74N10-0486). Geophysical surveys revealed several linear areas, 100 to 500 m in length, of above average radioactive background. Additionally in 1977, Kodiak Developments Corporation Ltd. conducted geophysical surveys on the area between Don Lake and Fredette Lake. Ground VLF-EM (30.3km), magnetometer (magnetic) (15km) and scintillometer (radiometric) (37.87km) surveys were completed. Readings were taken at stations 25 m apart on lines with 100 m spacing. From these geophysical surveys, anomalous zones as large as 1000 ft by 2000 ft were identified; although at the time of writing the report, the author mentions that the geophysical data had yet to be examined in detail and interpreted.

In 1978, Matrix Exploration Ltd. conducted an examination of the property that included reviewing previous assessment reports, prospecting, repairing the access road, establishing property boundaries, clearing out existing trenches in Zones A & B, and a 350.5 m scintillometer traverse from mineralized Zone A to B. The main radioactive areas focused on during this work are Zones A, B and C, which occur within the Middle Mineralization Belt, Zone C and D located near the southeastern part of Don Lake, with Zone C extending towards Little Frog Lake and Little Frog Cross Structure, consisting of two radioactive areas to the immediate north and south of Little Frog Lake. The scintillometer survey revealed radiometric highs clustered near Zones A and B. Historical, preliminary 'reserves' were calculated for Zone A to be 30,701 lbs  $U_3O_8$ , allowing for dilution of 20%, based on an average grade of 0.71%  $U_3O_8$  and the dimensions of 170 ft x 40 ft x 5.11 ft (74N10-0502).

There was a hiatus of exploration on the property until 1997 when Greater Lenora Resources Corporation conducted a 2,391 line-km airborne DIGHEM-V geophysical survey, including total magnetics, total radiometry and apparent resistivity with 200 m line spacing. This survey was flown over Areas 1, 2, and 3, mostly focused on property south of Uranium City. The northern portion of Area 1 overlaps the southeast corner of the current Don Lake disposition, near Fredette Lake. Several EM anomalies typical of massive sulphide responses were reported. Work in 1998 was focused around the eastern side of Fredette Lake and further up to Anne Lake towards the northeast. The exploration program consisted of geochemical surveys and the re-logging and re-sampling of historic core from the area of the Contact Lake uranium showing.

In 2000, Sander Geophysics Ltd. flew an airborne geophysical survey of the Uranium City area for the Geological Survey of Canada and Saskatchewan Energy and Mines, with the purpose to obtain gamma-ray spectrometric, aeromagnetic and VLF-EM data. Survey lines were spaced at 500 m intervals with orthogonal 7000 m spaced control lines. Corrected data were filtered and interpolated to a 100 m grid for the 1:250k and 1:50k maps using a minimum curvature algorithm technique (Carson et al., 2001).

The most recent work near the property was conducted by Pelican Minerals Inc. in 2013. A program of geological mapping, prospecting and rock sampling (to confirm historic assays) was carried out focused around Bellegarde and Clark Lakes. One gold target and two uranium targets were identified, but do not lie within current claim boundaries. Details of the above work are presented below in Table 6.2.

Report	Year	Company	Work Completed
74N10-0057	1948	N. Millar	Geological mapping, prospecting, ground scintillometer survey, trenching, blasting and sampling
74N10-0056	1950	Aurora Yellowknife Mines Ltd.	Systematic prospecting and scintillometer survey of the area, followed by trenching, blasting and sampling of certain anomalously high radioactive showings
74N10-0345	1950	Eldorado Mining and Refining Company Ltd.	Geological mapping and radioactivity survey
74N10-0128	1951	Amaz Athabasca Uranium Mines Ltd.	Geologic mapping
74N10-0077	1951-1952	Leadridge Mining Company Ltd.	52 DDH (6422.2m)
74N10-0160	1952	Basalt Uranium and Explorations Ltd.	Geological mapping, trenching, 29 DDH (870.8m), and magnetometer survey
74N10-0251	1958	Azor Mines Ltd.	Prospecting and trenching
74N10-0243	1966	Hawker, Augustus R.	Prospecting and trenching
74N10-0336	1966	Matrix Exploration Ltd.	Prospecting and radiometric survey
74N10-0429	1967-68	Tobe Mines Ltd.	20 trenches examined in detail, scintillometer survey
74N10-0419	1968	Tobe Mines Ltd.	Scintillometer survey, detailed geologica mapping of radiometric anomalies, 4 DDH (187.5m) and trenching
74N10-0428	1968	Tobe Mines Ltd.	Scintillometer survey, 4 DDH (243.8m)
74N10-0391	1969	Matrix Exploration Ltd.; Richard J. Harrison	Prospecting; reconnaissance program of checking geology and 1966 radiometric survey results (with scintillometer) geological mapping.
74N10-0422	1969	Matrix Exploration Ltd.	Prospecting, scintillometer survey, stripping and trenching, 37 DDH (1200m)
74N10-0445	1970	Milburn, L.W.	4 shallow DDH (316.4m) and 3 probe radioactive logs
74N10-0453	1973	Hawker, Augustus R.	Trenching
74N10-0459	1974-75	Hawker, Augustus R.	Trenching
74N10-0494	1976	Matrix Exploration Ltd.	Grid scintillometer survey
74N10-0486	1977	Kodiak Developments Corporation Ltd.	Reconnaissance geological and geochemical surveys, radiometric (25km) and VLF-EM (25 km) surveys, blasting drilling, sampling and assaying

74N10-0496	1977	Kodiak Developments Corporation Ltd.	Ground EM (30.3km), magnetic (15km) and radiometric (37.87km) surveys
74N10-0502	1978	Matrix Exploration Ltd.	Repairing access road, establishing property boundaries, cleaning out existing trenches, scintillometer traverse (350.5m), examination of property, prospecting and reviewing previous reports by Geiger (1969) and Patching (1969)
74N-0007	1997	Greater Lenora Resources Corporation	Airborne DIGHEMV geophysical survey (2391km), including total magnetics, total radiometry and apparent resistivity
74N09-0349	1998	Greater Lenora Resources Corporation	Outcrop sampling, re-logging and re- sampling of historic DDH from Contact Lake
MAW00451	2013	Pelican Minerals Inc.	Geologic mapping, prospecting and rock sampling (confirming historic assays)

Table 6.2. Summary of historic assessment reports for the Don Lake Property.

# 6.3. Black Bay Property

Historical exploration work on the Black Bay Property commenced in the early 1950s. However, the Beaverlodge area was geologically mapped by the Geological Survey of Canada prior to this, by Alcock in 1935 (Memoir 196) and again in 1948 and 1949 (Memoir 296) (74N07-0025, SMDI 1296).

Between 1952 and 1952, Pole Star Mines Ltd. conducted geological mapping and diamond drilling in the Wabba Lake area. A total of 4 diamond drill holes were completed, totalling 298.70 m. Four selected intercepts of core were assayed for WO3 but produced nil results (74N08-0028).

In 1953, Bluegrass Raymond Mines Ltd. conducted a geological and Geiger survey and trenching on the Hazel Claims. Fairly consistent low radiometric readings were explained by thick overburden. A single strong radiometric anomaly was located on Hazel Claim No. 3, along a northwest trending fault. This was stripped and trenched but there are no analytical results reported (74N09-0038).

Between 1953 and 1954, Black Bay Uranium Ltd. geologically mapped the property in conjunction with a scintillometer survey and trenching. Readings for the scintillometer survey were taken every 50 ft (15.2 m) on traverses running 200 ft (60 m) apart in a N-S direction. Four radioactive anomalies, A, B, C and D, were located in the southwest corner of Gretta claim No. 31, which lies near the middle of the current tenure. These anomalies became the surface showings A or Powder Zone, B Zone and C Zone of SMDI 1296. Trenching on anomaly C revealed a 0.9 m by 3 m lens of pitchblende and uranium oxides. At anomaly D, a narrow shear, strong radioactivity was reported in two trenches, where uranium stain was noted. This work also revealed the C-2 zone on Gretta claim No. 22, just north of Wabba Lake. These anomalous areas were trenched, and an exploration adit was sunk near the C-2 zone (SMDI 1296). In 1955, the adit was advanced by 182.9 m and three underground drill holes (S-6, -13 and -17) were completed. Drilling totaled 469.39 m and was based from the adit level and from a sublevel 21.3 m above the adit on Gretta claim No. 22. Most of the ore above the adit was stopped and stockpiled. In mid-1956, an inclined winze was sunk from the adit to explore the zone to a vertical depth of about 152.4 m (74N07-0025). No analytical results for this work are available, however, it was reported in the Financial Post "Survey of Mines" that ore was intersected 731.5 m below surface (74N08-0234, SMDI 1296). Shipments of ore were

shipped to the Lorado custom mill between 1958 and 1960 (SMDI 1296).

In 1953, Rowan Consolidated Mines Ltd. conducted geological and Geiger surveys on the Van Group claims. Three radioactive occurrences were located and a 0.53 m wide sample from one occurrence assayed  $0.36\% U_3O_8$  (74N08-0025). In 1955, 9 diamond drill holes were completed totalling 984.2 m. Five drill holes were located just south of Wabba Lake on Van claim No. 2 (S- 14052), with four located within current tenure, and the remaining four were drilled just north of Cornwall Bay on Van claim No. 17 (S- 114067), outside of current tenure. Radioactivity was encountered in a number of holes, but there are no analytical results (74N08-0025).

In 1953, Edoran Oil Corporation Ltd. conducted a reconnaissance Geiger counter-geological survey on the Cal claims, with a concentration of the northern and western islands outside of current tenure. In 1955, 18 diamond drill holes, totalling 2782.5 m were completed, 7 of which, holes EU-6 to -12, are located within current tenure. A small amount of radioactivity was intercepted in a fracture within hole EU-9, but no analytical results are available (74N09-0089).

Between 1953 and 1956, Brunston Mining Company Ltd. ran a program of a ground Geiger survey, trenching and 29 diamond drill holes totalling 1567.93 m on the Herb and Peg claims, parts of which overlap the current tenure in southwest. Readings for the Geiger counter survey were taken every 15.24 m with 61 m line spacing. Four anomalous zones of radioactivity were located, two of which became Brunston Mining Uranium Zone No. 1 and No.3 showings (SMDI 1363 & 1364). The best drilling intercepts occurred at Zone No. 1 in holes 1A and 9, assaying 0.130% U<sub>3</sub>O<sub>8</sub> over 0.6 m (from 35-36 ft hole 1A) and 0.210% U<sub>3</sub>O<sub>8</sub> over 0.3 m (from 56-57 ft hole 9; 74N10-0138). Assays from trenching at Zone No. 3 returned 0.06% to 6.25% U<sub>3</sub>O<sub>8</sub> (SMDI 1364).

In 1955, Blue Grass Uranium Mines Ltd. conducted an exploration program consisting of geological mapping, prospecting with Geiger counters, trenching, stripping and bulldozing and diamond drilling. High Geiger counter results aided in the discovery of a new showing, the Bluegrass Uranium Zone (SMDI 1295) on Hazel claim No. 1. Samples from trench 21, the new western extension of the B zone, assayed 3.78%  $U_3O_8$  over 0.3 m by 0.3 m (sample 710) and 3.62%  $U_3O_8$  over 0.3 m by 0.6 m (sample 528) (74N09-0111). A total of 33 diamond drill holes were completed on the Hazel claims, totalling 1658.72 m. Results from drilling returned 0.88%  $U_3O_8$  (sample 520) and 0.80%  $U_3O_8$  (sample 521), but could not be matched to a drill hole. Sample 514 from hole A-19 assayed 0.66%  $U_3O_8$  over 0.3 m (from 54.25 m to 54.55 m; 74N09-0111).

In 1955, Canadian Astoria Minerals Ltd. conducted geological mapping, a Geiger counter survey and diamond drilling on the Ike claims, southwest of current tenure. A total of 12 diamond drill holes were completed, totalling 474.11 m. The best intercepts were 0.01 oz/ton Au and 0.15 oz/ton Ag over 0.64 m (from 68-70.1 ft in hole 6) and 0.01 oz/ton Au and 0.22 oz/ton Ag over 0.48 m (from 13.9-15.1 ft in hole 3) (74N07-0066).

In 1955, Reward Uranium Ltd. conducted diamond drilling with Geiger probing and a ground EM survey on the Wak and Kam claims near Wabba Lake. Eight diamond drill holes were completed, totalling 776.63 m, but there are no available assays. Four conductor zones were delineated from the 9.97 line-km ground EM survey (74N08-0019).

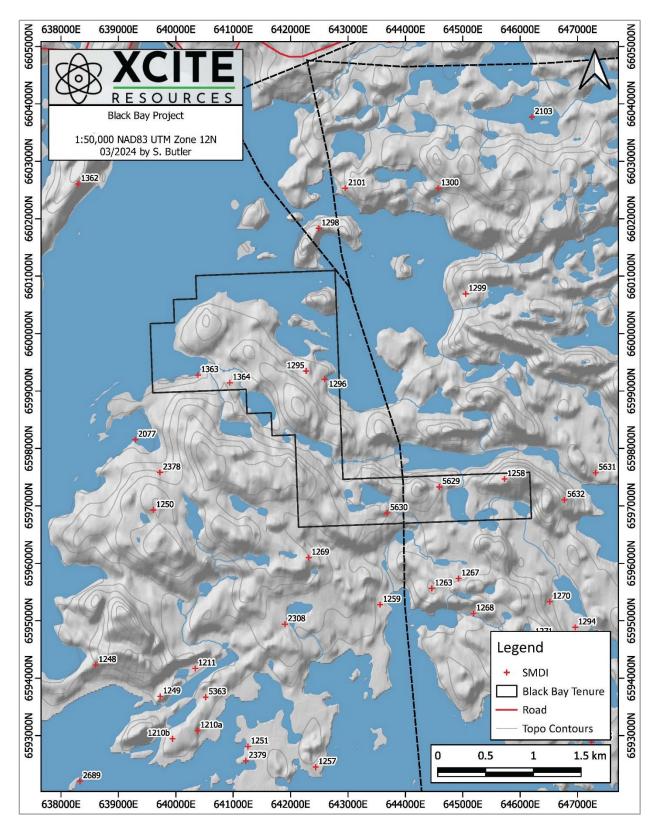


Figure 6.3. SMDI mineral showings within the Black Bay Property described in the text (Butler, 2024).

In 1955, Scintilore Mines Ltd. conducted geological mapping and Geiger-prospecting on the Bearcat Lake

area, about 4 km northeast from current tenure boundaries. Grab sample from Bearcat No. 2 Showing assayed  $0.11\% U_3O_8$  (radiometric assay) and  $0.05\% U_3O_8$  (photo-fluorometric assay; 74N09-0090).

In 1955, Ebor Uranium Mines Ltd. ran a program of geological and scintillometer surveys, trenching and diamond drilling on the Jet claims, which correspond to the northern area of current tenure. Six diamond drill holes were completed, totalling 626.12 m. A few radioactive zones were intercepted, but there are no available assays (74N10-0144).

In 1967, Mokta (Canada) Ltd. conducted prospecting, a ground Geiger survey and an airborne scintillometer survey on claim CBS 305 near Cornwall Bay, south of current tenure. The airborne scintillometer survey did not result in any anomalies, but Zone 1, an envelope of higher background radioactivity, was discovered. The assessment report for this work mentions diamond drilling, but there are no logs or location of holes included in the report (74N08-0036).

In 1967, Bearcat Uranium Ltd. conducted a 79.82 line-km airborne scintillometer survey on CBS 391 in the Bearcat Lake area, about 4 km northeast of current tenure. This work identified a total of nine radioactive anomalies (74N09-0179).

In 1967, Majestic Mines Ltd. conducted a review of work completed on three claims, CBS 357, CBS 365 and CBS 366, and provided recommendations for further work (74N09-0234). In the same year they ran a program on their Murmac Bay property consisting of detailed scintillometer survey of valleys and draws, prospecting, examination of previous located occurrences, dewatering and sampling of Brunston Mining Co. Ltd shaft, partial stripping of the Powder Zone and diamond drilling. A total of nine holes (341.68 m) were drilled, four holes within the Powder Zone and five within Blue Grass 'B' Zone. No assays were run as there was insufficient radioactivity in the drill holes to warrant further expenditure. Grab samples from historical drill core from the Blue Grass 'B' Zone at 12.8m depth report 9.64% U<sub>3</sub>O<sub>8</sub> (sample 1) and 16.74% U<sub>3</sub>O<sub>8</sub> (sample 2; 74N09-0178). Strong radioactivity was noted near the Powder Zone and a showing was encountered in a quartz pebble conglomerate. A full petrography report was completed for the lithology. The following year an additional six diamond drill holes were completed, totalling 488.9 m. They were drilled to test the extent and grade of the quartz pebble conglomerate, however, only one of the six holes intercepted it.

In 1968, Dejour Mines ran a program of an airborne scintillometer survey, localized ground scintillometer prospecting, geological mapping (1"=200' and 1"=800' scale), x-ray diffraction spectrometer mineral survey, line cutting, stripping and trenching on Claim Block 411, centered around Wabba Lake. No significant radiometric anomalies were discovered. A total of 424.5 m<sup>2</sup> of rock was trenched and stripped, but no assays accompanied this work. The mineral survey consisted of 470 samples analyzed through X-ray diffraction spectrometry for mica, amphibole, chlorite, quartz, plagioclase feldspar and albite (74N08-0038).

In 1969, Motka (Canada) Ltd. and Pathfinder Uranium and Nickel Mines Ltd. conducted line cutting, a ground scintillometer survey and geological mapping on Claim Block 305 near Goldfields Bay and Cornwall Bay, to the south of the current tenure. The scintillometer survey totaled 42.7 km, with readings taken every 30.5 m revealing radioactive anomalies (74N08-0072).

In 1969, Dejour Mines conducted line cutting, trenching and a ground scintillometer survey on Claim Block 411. The scintillometer survey totaled 7.42 km, with readings taken every 30.5 m. Several areas with scintillometer readings 2 to 3 times background level were located in the north. Trenching and stripping

was performed on four of these areas, totalling 106.9 m<sup>3</sup>. The majority of the work done was focused to the west and to the north of Wabba Lake, outside of current tenure(74N08-0085).

In 1970, Norcan Mines Ltd. ran a program of diamond drilling, detailed ground scintillometer survey, geological mapping and mineralogical survey on Claim Block 305. A total of two diamond drill holes were completed, totalling 92.96 m. All work done this year was to the south of the current tenure (74N08-0071).

From 1972 to 1975, Sampson, W.F. ran an exploration program on Claim Block 1133, outside of current tenure. The program consisted of line cutting, ground scintillometer surveys, and stripping and trenching. The first scintillometer survey totaled approximately 17.7 km with 30.5 m spacing between readings and revealed anomalous radioactivity at trench 3. An estimated total of 146.37 m3 of rock was stripped and trenched from 11 trenches immediately to the east of the current claim boundaries (74N08-105). A fault was discovered in quartzite of trench 9A, which could have significance for a southern extension of mineralization. A second 13.8 km scintillometer survey west of the work area the previous year was undertaken in conjunction with 100.5 m3 of rock trenched and stripped from 6 trenches(74N08-0107). No analytical results are available for this work.

In 1978, Saskatchewan Mining and Development Corporation conducted a 636-line km airborne electromagnetic survey with 400 m line spacing centred around Mackintosh Bay. A number of individual conductors were intersected and grouped into 17 zones, two of which minorly overlap the tenure in the southeast (74N08-0123). In the same year they also conducted a program of geological evaluation and mapping, prospecting, airborne and ground geophysical surveying, diamond drilling geochemical lake sediment and soil surveying. The majority of the work was focused in the Fredette Lake area, outside of tenure, however, geochemical lake sediment sampling occurred within tenure. Three geochemical lake sediment anomalies were located in the Mackintosh area (74N09-0285).

In 1979 and 1980, Saskatchewan Mining and Development Corporation ran a program of airborne input surveys, prospecting, geological mapping, basal till sampling, sampling of radioactive showings and diamond drilling at Fredette, Bearcat, Mackintosh and Netell areas (74N09-0286). Current tenure corresponds to the Mackintosh area, although most of the work done is outside of current claim boundaries. A ground scintillometer survey and an airborne 92.37-line km VLF-EM survey were completed revealing numerous strong conductors along linear east-west belts across the Bearcat-Mackintosh areas. Numerous pitchblende-filled veinlets occurring as en-echelon lenses or fractures in dolomitic quartzite were located in the Bearcat Lake area, 4 km northeast of current tenure. Sampling from Bearcat No. 1 zone returned 0.471% U<sub>3</sub>O<sub>8</sub> (sample U90-107), Bearcat No. 2 returned 0.520% U<sub>3</sub>O<sub>8</sub> (sample U90-114), 0.335% U3O8 (sample U90-111) and 0.309% U<sub>3</sub>O<sub>8</sub> (sample U90-112; 74N09-0286). Chip samples over widths of 0.10-0.20 m from Bearcat No. 3 returned up to 2.285% U<sub>3</sub>O<sub>8</sub>, 13.9 ppm Au, 80 ppb Pt and 15 ppb Pd (74N09-0286). Sixteen diamond drill holes were completed in the Bearcat-Mackintosh area, totalling 1158.5 m. Analytical results from hole BC- 4 drilled at Bearcat No. 2 zone returned 0.2147% U<sub>3</sub>O<sub>8</sub> and 0.4378% Cu from 54.5-55.0 m (sample U9D-205; 74N09-0286).

Between 1987 and 1988, Saskatchewan Mining and Development Corporation conducted an exploration program focused on the Bearcat Lake area, 4 km northeast of the tenure. The showings were geologically mapped and sampled, 1979-80 drill core from the Bearcat No. 1 and No. 2 Zones were re-sampled for Au, Pt and Pd and two diamond drill holes, totalling 159.41 m were completed. Re-sampled drill hole BC-01 returned 410 ppb Au over 0.75 m (from 52.47-53.22 m) (74N08-140). Drill holes BC88-01 and -02, which were completed to test the Bearcat No. 2 zone, returned a maximum assay of 705 ppb Au over 1 m

(sample 5085, from 50.6-51.6 m, hole BC88-2; 74N08-0140).

In 1987, Mary Ellen Resources conducted geological mapping and lithogeochemical sampling in conjunction with a scintillometer survey to explore for gold, platinum and palladium. The best analytical results came from a sample of blasted fragments from trench 3 that assayed 170 ppb Au (sample 6640) with 10,000+ cps from the scintillometer survey (74N08-0143). Although lithogeochemical results were not encouraging as to the presence of economic gold, platinum and palladium mineralization, there is an indication that slight gold enrichment is in association with radioactivity/ uranium mineralization. There was a hiatus of exploration on the property until 1997 when Greater Lenora Resources Corporation conducted a 2391 line-km airborne DIGHEM-V geophysical survey, including total magnetics, total radiometry and apparent resistivity with 200 m line spacing. This survey was flown over Areas 1, 2, and 3, mostly focused on property south of Uranium City. Area 2 overlaps the current Black Bay disposition. Several EM anomalies typical of massive sulphide responses were reported (74N-0007). This survey covers most of the present-day showings excluding SMDIs 1363, 5629 and 5630.

In 2000, Sander Geophysics Ltd. flew an airborne geophysical survey of the Uranium City area for the Geological Survey of Canada and Saskatchewan Energy and Mines, with the purpose to obtain gamma-ray spectrometric, aeromagnetic and VLF-EM data. Survey lines were spaced at 500 m intervals with orthogonal 7000 m spaced control lines. Corrected data were filtered and interpolated to a 100 m grid for the 1:250k and 1:50k maps using a minimum curvature algorithm technique (Carson et al., 2001).

In the winter of 2006 and 2007, Dubnick, R. conducted an airborne VTEM and MAG survey on the S-107229, S-107230 and S-107231 claims, south of Wabba Lake. A total of 27.37 line-km was flown with 200 m line spacing. Zones of strong electromagnetic conductors of E-W and NW-SE orientation were identified and considered to be reflective of the graphitic schist in the region (74N08-0158). This survey covers the eastern half of the 2023 property including SMDIs 1296, 1258, 5629, and 5630.

In 2010, Dubnick, R. conducted prospecting on the S-107229 claim. Analytical highlights from prospecting returned 174.9 ppm Ag, 3 ppm Au and >10000ppm Pb (sample 50966) and sample #50964, which produced 15ppm Ag, 0.2 ppm Au and 9762 ppm Pb (sample 50964) (74N08-0164). Sample 50956 from coarse grained quartz in a granite assayed 0.1288% U (1288 ppm) and became). showing 50956 (SMDI 5629) (74N08-0164). Summary references of the above work are represented below in Table 6.3.

Report	Year	Company	Work Completed
74N08-0028	1952-53	Pole Star Mines Ltd.	4 DDH (298.704m) and geological mapping
74N09-0038	1953	Bluegrass Raymond Mines Ltd.	Geological and Geiger surveys and trenching
74N09-0113	1953	Acadia Uranium Mines Ltd.	Geological and ground Geiger counter surveys
74N07-0025	1953-55	Black Bay Uranium Ltd.	Geological mapping, scintillometer survey, trenching, 3 DDH (469.39m) and underground development
74N08-0025	1953-55	Rowan Consolidated Mines Ltd.	Geological and Geiger survey and 7 DDH (906.78m)
74N09-0089	1953-55	Edoran Oil Corp. Ltd.	Reconnaissance geological - Geiger counter survey and 18 DDH (2782.519m)
74N10-0138	1953-56	Brunston Mining Co. Ltd.	29 DDH (1567.93m), local ground Geiger survey and trenching

74N09-0111	NO9-0111 1955 Blue Grass Uranium Mines Ltd.		Geological mapping, 31 DDH (1658.72m), prospecting with Geiger counters, trenching, stripping and bulldozing		
74N07-0066	1955	Canadian Astoria Minerals Ltd.	12 DDH (474.1164 m), geological mapping and Geiger counter survey		
74N08-0019			8 DDH (776.63 m) with Geiger probe records, and ground EM survey (9.97 line-km)		
74N09-0090	1955	Scintilore Mines Ltd.	Geological mapping and Geiger-prospecting		
74N10-0144	1955	Ebor Uranium Mines Ltd.	6 DDH (626.12m), trenching, geological and scintillometer surveys		
74N08-0036	1967	Mokta (Canada) Ltd.	Prospecting, airborne scintillometer survey and Geiger survey		
74N09-0179	1967	Bearcat Uranium Ltd.	Airborne scintillometer survey (79.82 line-km)		
74N09-0234	1967	Majestic Mines Ltd.	Review of previous work completed on the property		
<b>74N09-0178</b> 1967-68		Majestic Mines Ltd.	Detailed localized scintillometer survey, examination of previous located occurrences, dewatered and sampling of shaft (previous sunk by Brunston Mining Co. Ltd.), 9 DDH (341.68m) in 1967 and an additional 6 DDH (488.9m) in 1968		
74N08-0038	<b>4N08-0038</b> 1968 Dejour Mines		Airborne scintillometer survey, localized ground scintillometer prospecting, geological mapping, x-ra- diffraction spectrometry mineral survey, line cutting stripping and trenching (totalling 424.5m <sup>2</sup> )		
74N08-0072	74N08-00721969Motka (Canada) Ltd. / Pathfin Uranium and Nickel Mines Ltd.		er Line cutting (42.97-km), ground scintillometer survey (100ft spacing) and geological mapping		
74N08-0085	74N08-0085 1969 Dejour Mines		Line cutting, trenching (totalling 106.9m <sup>3</sup> ) and a 7.42-km ground scintillometer survey (100ft spacing)		
74N08-0071	<b>08-0071</b> 1970 Norcan Mines Ltd.		2 DDH (92.96m), detailed ground scintillometer survey, geological mapping and mineralogical survey		
74N08-0105	<b>74N08-0105</b> 1972-74 Sampson, W.F.		Line cutting and 17.7-km ground scintillometer survey (100ft spacing) stripping and trenching (11 trenches totalling 146.37m <sup>3</sup> )		
74N08-0107	1975 Sampson, W.F.		Scintillometer survey (13.8km - 100ft spacing), stripping and trenching (6 trenches totalling 100.5m3), grid establishment and line cutting		
74N08-0123	1978	Saskatchewan Mining and	636-line km airborne electromagnetic survey (400m		
		Development Corporation	line spacing)		
74N09-0285	1978	Saskatchewan Mining and Development Corporation	Geological evaluation and mapping, prospecting, airborne and ground geophysical surveying, geochemical lake sediment and soil surveying and 11 DDH (975.6m)		
74N09-0286	Saskatchewan Mining and 74N09-0286 1979-80 Development Corporation		Airborne input surveys, prospecting, geological mapping, sampling of radioactive showings, basal till sampling and 16 DDH (1158.5m)		

74N08-0140	1987-88	Saskatchewan Mining and Development Corporation	Geologically mapped and sampled the showings, re sampled 1979-80 drill core and completed 2 drill holes (159.41m)		
74N08-0143			Geological mapping and lithogeochemical sampling in conjunction with scintillometer surveying		
74N-0007 1997 Greater Lenora Resources Corporation			2391 line-km airborne DIGHEMV geophysical survey, including total magnetics, radiometrics and apparent resistivity		
74N08-0158	2006-07	Dubnick, R.	Airborne VTDEM and MAG survey (27.37 line- km)		
74N08-0164	2010	Dubnick, R.	Prospecting		

Table 6.3. Summary of historic assessment reports for the Black Bay Property.

### 6.4. Lorado Property

Pitchblende was first reported in the Lorado claim cluster area in 1930 and from 1944 to 1948 prospectors discovered and staked numerous radioactive showings in Beaverlodge area.

In 1948, John Ross followed up on radioactive discoveries in the area (from the Geological Survey of Canada) and noted pitchblende within red "hematized" granite. John noted that there were two known major faults in the area less than 1 mile apart on the same strike length, that had yet to be prospected, or Geiger counted. This could have been the first indication of the Black Bay Fault and the ABC Fault.

In 1952, the property was optioned to Consolidated Mining and Smelting Company of Canada. Exploration activities carried out included geological mapping, prospecting, and rock sampling. A small diamond drill program was completed late in 1952, over 5 drill holes for a total of 957 feet.

In 1953 Salmo Prince Mines conducted prospecting, rock sampling, and follow-up diamond drilling (3 holes) on their Whiz-Rye property. There are no accompanying maps or figures with this report, but the descriptions of the locations of the radioactive showings are east of the Black Bay Fault, so it is assumed the showings and drilling took place on the Lorado west tenure block. There are no analytical results for the drilling, but the drill logs do exist. On the prospecting program, 9 radioactive showings were samples and 3 of them were drilled (No.4 showing, No.5 showing, and No.1 showing). The drilling was completed to depths between 20 - 50 meters. Radioactive chips and grab samples were taken from sheared and fractured "red altered" rock. Grab samples returned up to 0.46% U<sub>3</sub>O<sub>8</sub> and chip samples returned up to 0.40% U<sub>3</sub>O<sub>8</sub> over 1.0 meter. No drilling analytical was provided within this report.

In 1953, historical work in the Lorado Mine area began by Lorado Uranium Mines Ltd. Geological mapping and radiometric surveys, diamond drilling, and initial level planning were completed. The first 4 holes were drilled in 1953, totalling 1012 feet. The first initial drilling results within the Lorado Mine area were 0.84% U<sub>3</sub>O<sub>8</sub> over 1.0 m, 0.12% U<sub>3</sub>O<sub>8</sub> over 2.0 m, 0.23% U<sub>3</sub>O<sub>8</sub> over 2.0 m, and 0.10% U<sub>3</sub>O<sub>8</sub> over 3.5 m.

Property interest spiked in 1954 as the tenure was purchased by Uranium Ridge Mines Ltd. Focus was given to the No.1 Zone, and Uranium Ridge first put a deep trench over the zone over a strike length of 300 feet. To further evaluate the No.1 Zone, an adit was driven along a vein for 100 feet. Between 1954 to 1955 a total of 74 drill holes, totalling 22,000 feet, were drilled in the vicinity of the No.1 Zone. A complete set of analytical results were not provided within the report. However, it was noted (from

newspaper clippings) that assay results from some of the initial holes returned an average of 0.793%  $U_3O_8$  and 1.507%  $V_2O_5$  over 6.175 feet of the vein (presumably the vein where the adit was put in).

In 1954, Duvex Oils and Mines Ltd conducted radioactive surveys and prospecting on their Terry claims (Lorado west block). Massive conglomerates of the Athabasca series were mapped, with a faulted contract to the east (the ABC Fault) into a quartzite unit. With the exception of small increases in radioactivity surrounding pegmatite sills, no anomalous radioactivity was located on the property.

In 1954, Anuwon Uranium Mines Ltd conducted geological mapping parallel to the ABC Fault zone. Radioactive occurrences were found in various locations along the contact between conglomerates and quartzites, as well as within the quartzites, along the south-end of the lake that parallels Highway 962 (south-west of SMDI 1439).

Later in 1954, Atominerals Exploration Ltd completed 5 short diamond drill holes on various radioactive occurrences off the western most bay of Beaverlodge Lake, though there is no map that exists within this report, the description makes the author believe it would lie within the western Lorado claim block. A total of nine radioactive showings were identified, occurring within granite and quartzites. Grab samples from the showings returned between 0.26% U<sub>3</sub>O<sub>8</sub> and 0.94% U<sub>3</sub>O<sub>8</sub>. No analytical results were included for the drilling in this report.

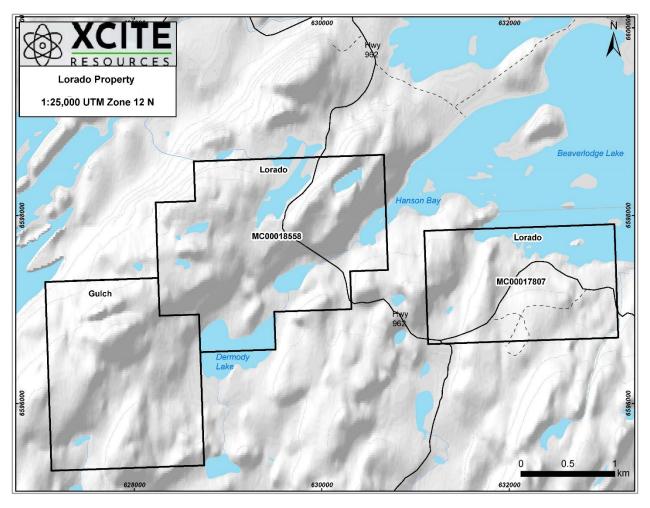
In 1955, Imperial Mines and Metals acquired the ground (above) from Atominerals Exploration. Imperial Mines and Metals completed a ground-EM survey over most of the property, identifying strong NE-trending to ENE-trending conductors. The geophysicist interpreting the data described that the EM anomalies aligned well with NE-striking faults containing graphite and coincident radioactive showings.

In 1955, Commercial Minerals Ltd completed a geological mapping east of Black Bay and extending to the north-east up to Martin Lake. Mylonitic rocks of the Murmac Bay group were encountered with minor granite intrusives, striking to the NE with nearly vertical dips. Radioactive mineralization was encountered along contacts between Athabasca conglomerates and red granites. One grab sample from the contract of the red granite returned up to  $0.11\% U_3O_8$ .

In 1956, Uranium Ridge Mines Ltd. carried out further exploration activities to identify the extent of the Lorado extension zone. The area was explored from the 1st level of the Lorado Mine by 700 ft of lateral work and 4399 ft of diamond drilling. The work carried out during this program was unsuccessful in identifying adequate ore reserves. Therefore, interest in the property ceased.

In 1958, the Lorado Mine (property) was leased to Haymac Mines (by Uranium Ridge). Approximately 700 tons of ore were obtained by sorting through the stockpile of development ore, which returned 350 tons at  $0.53\% U_3O_8$  and 175 tons at  $0.75\% U_3O_8$ .

In 1968, Gunnex Ltd completed an EM survey and diamond drilling program on the ground that was held by Uranium Ridge Mines during the 1950's. The location map does not give enough detail in the report to determine where the work was completed. The EM survey noted strong EM anomalies at contacts between graphitic-phyllite and quartzites. The strongest conductor is noted immediately north-west of the adit portal, on strike with the adit structures (could this be the vein?); it was assumed to be caused by the same structure as within the adit. A total of 1, 008 feet was drilled to test for uranium zones over three EM anomalies. Strongly graphitic structures were intersected, with moderate radioactivity, up to 0.011% U<sub>3</sub>O<sub>8</sub> over narrow widths.



*Figure 6.4. Claim outlines of the Lorado property described in the text.* 

In 1978, Western Mines Ltd completed geological mapping and prospecting, EM-Mag airborne geophysical survey, VLF-EM airborne geophysical survey, and 1 diamond drill hole. The drill hole was completed on the south-east shore of Dermody Lake (Lorado west block). Four NE-trending EM conductors (A, B, C, D) were defined by the airborne geophysical surveys. A 64.3 m drill hole intersected graphitic horizons within a mica schist, with no uranium mineralization.

In 1978, Tobe Mines Ltd completed 1 drill hole in the Hanson Bay vicinity. The location map showing the drill hole location appears to be just south of an existing adit, in the Lorado east block (south of the Lorado Mine area). The drill hole returned 4.26 ft of 0.61%  $U_3O_8$  and 3.93 ft of 0.081  $U_3O_8$ . The drill hole successfully tested a surface radioactive anomaly along a north-trending fault. Further surficial mapping and radiometric surveying was recommended.

In 1979, a regional airborne EM survey was flown over the Uranium City by Springfield Consulting (no other company was listed in this report). Thirty-nine zones were identified as having conductors.

In 1980, Esso Minerals Canada completed VLF-EM and HLEM ground surveys and located 2 conductors under Hanson Bay. A follow-up drill program consisting of 2 holes, totalling 198 m was completed. No significant radioactivity was intersected. No analytical results were provided in the report. Graphitic and pyritic horizons were intersected, which explained the EM conductors. Alteration consisting of chlorite,

hematite, and epidote was prevalent throughout the 2 drill holes, with minor hematite-filled fractures and brecciated zones with chlorite.

In 1991, the property was staked by Rod Dubnik as showing S-103635. Exploration activities by Dubnik occurred in 1993 and 1994 and consisted of prospecting and rock sampling in order to localize kimberlitic outcrops on the Lorado property. Kimberlitic ilmenite was discovered in 1/3 samples; however, the program was overall unsuccessful.

The Lorado property was purchased by GLR Resources Inc. in 2005 and carried out prospecting, geochemical sampling (e.g., rock, soil) and biogeochemical sampling (e.g., twigs). Sample locations for rock, soil, and twig samples prioritized areas in proximity to quartz veining and highly radiometric areas. Results of the program revealed favourable results from twig samples (up to 49.4 ppm U) and lesser values reported from soil (373 ppb Au) and rock samples.

In 2010, JNR Resources completed a Full Tensor Gravity Gradiometer survey, totalling 617-line kilometers. Six gravity zones of interest were prioritized from the high- survey data. The gravity anomalies of interest show good correlation with strong VTEM response and/or correlate with NE-trending magnetic and structural zones. Recommendations for ground HLEM (and magnetics) were provided in the report.

In 2017, Fission 3.0 Corp completed a ground geophysical DC Resistivity and HLEM surveys, as well as a follow-up prospecting and sampling program. A total of 50 rock samples were collected, with scintillometer readings. Multiple conductors were identified in the Dermody Lake area (western Lorado claim block). Grab rock samples in this area did not return any significant results; scintillometer readings were between 100 – 200 cps.

In 2019, Fission 3.0 Corp conducted prospecting, scintillometer surveying, and rock sampling around the Dermody Lake area. Grab samples returned up to 135 ppm U, from hematite-altered granitoid rock. The prospecting program centered around following up historical VTEM conductors, however no surficial correlation to conductors was determined from this program. The conclusions were that areas of enhanced conductivity could be related to very thin conductive structures or deeper geological features (lithologies).

Report	Year	Company	Work Completed	
74N10-0057, 0128	1949	John S. Ross	Prospecting, Mapping	
74N10-0059, 0193	1949-1951	Amax Athabasca Uranium Mines Ltd	Prospecting, Mapping, 3 DDH	
74N10-01921952Consolidated Mining and Smelting		Prospecting, Sampling, 5 DDH		
74N10-0158 1953 Salmo prin		Salmo prince Mines	Prospecting, Sampling, 3 DDH	
74N07-0003	1953-1955	Lorado Uranium Mines Ltd.	Geological mapping, DDH, mine planning, and core assays	
74N07-0086	1954	Duvex Oils and Mines Ltd.	Prospecting	
74N10-0141, 0163	1954	Anuwon Uranium Mines	Prospecting, 2 DDH	
74N07-0027	1954	Atominerals Exploration	Prospecting, Sampling, 5 DDH	
74N07-0028	1955	Imperial Mines and Metals	Ground-EM, Prospecting	
74N10-0137	1955	Commercial Minerals Ltd.	Prospecting, Mapping	

74N07-0046	1951-1957	Uranium Ridge Mines Ltd	32 DDH records, trenching, sampling
74N07-0047	1957	L. R. Northey	6 trenches and mapping
74N07-0206	1968	Gunnex Ltd.	Airborne EM, 3 DDH
74N07-0168	1967-1968	Western Nuclear Mines Ltd.	Airbourne radiometric survey
74N07-0276	1978	Western Mines Ltd.	EM-Mag airborne, 1 DDH
74N07-0281	1979	Springfield Consulting	Airborne EM
74N10-0509	1979	Springfield Consulting	Airborne EM
74N07-0297	1980	Esso Minerals Canada	VLF-EM, HLEM, 2 DDH
74N07-0330	1993	Rod Dubnick	Kimberlite prospecting, sampling
74N07-0331	1993	Rod Dubnick	Kimberlite prospecting, sampling
74N07-0332	2005	GLR Resources Inc.	Prospecting, rock sampling, soil and biogeochemical sampling
74N07-0344	2010	JNR Resources Inc.	Airborne gravity
MAW02182	2017	Fission 3.0	Ground HLEM, Prospecting, Sampling
MAW02663	2019	Fission 3.0	Prospecting, Sampling

Table 6.4. Summary of historic assessment reports for the Lorado Property.

### 6.5. Gulch Property

In 1950, Search Corporation Ltd. conducted an exploration program on the LL Concession, consisting of geological mapping and a radiometric survey. Work was concentrated to the southwestern area of current tenure. This work resulted in the discovery of pitchblende-bearing fractures at radioactive zones along the shore of Lake Athabasca (74N07-0101).

In 1953, Gold Eagle Mines Ltd. conducted geological mapping, Geiger-prospecting and trenching of radioactive occurrences on the Ore group of claims, which correspond to northeastern Gulch tenure. Approximately 60 radioactive locations were identified and noted to occur in regions of heavy granitization. Seven different locations were trenched, two of which were reported to contain uranium staining. Radiometric assays of prospecting samples return up to  $0.11\% U_3O_8$ , but chemical assays of the same samples returned no appreciable results (74N07-0042).

In 1953, Northern Uranium Ltd. conducted geological mapping, a radiometric survey and trenching on the Arko and Gulch claims, which correspond to southwestern current Gulch tenure. Ratemeter Geiger counters were used for the radiometric survey, with readings taken every 50 ft along 300 ft spaced lines. This work resulted in the discovery of the Gulch and Racu zones (SMDI 1221 & 1225). Chip samples from pitchblende bearing fractures at Gulch zone's C zone returned up to 15.00%  $U_3O_8$  over 0.025 m (1 inch) and A zone returned up to 1.84% over 0.15 m (6 inches) (74N07-0072).

In 1953, Baska Uranium Mines Ltd. conducted diamond drilling, a radiometric survey and trenching on the Di claim group, which corresponds to central Gulch tenure. A total of 8 diamond drill holes were completed, totalling 590.4 m. The best uranium drilling intercept was from hole K2, which returned 0.02% U<sub>3</sub>O<sub>8</sub> over 0.40 m (from 57.6-58 m; 74N07-0080). Seventeen radioactive occurrences were discovered, measuring up to 1500 cps on a handheld scintillometer, with occurrences of pitchblende and uranium staining. A grab sample from showing 53 K 102, Duvex Oils and Mines A Radioactive Zone (SMDI 1224),

returned 2.23% U<sub>3</sub>O<sub>8</sub> (74N07-0080).

In 1953, Duvex Oils and Mines Ltd. conducted diamond drilling, geological mapping and ratemeter radiometric surveying on the Ledo Lake claims, which correspond to central Gulch tenure. A total of 12 diamond drill holes were completed, totalling 944 m. There are no available drill assays. The "Ledo Lake Showing" measured up to 12,000 cpm and samples from the three pits returned 0.63%, 0.38% and 0.32%  $U_3O_8$  equivalent (74N07-0098).

In 1953, Tache Lake Mines Ltd. conducted geological mapping, ratemeter radiometric surveying and trenching on the Tache Lake claims, which correspond to central Gulch tenure. Readings from the ratemeter radiometric survey were taken every 50 ft with 300 ft line spacing. Only two small areas of rather low radioactivity were identified with the highest reading being 1400 cpm. Geological mapping revealed certain geological features of importance and a program of detailed Geiger- prospecting was recommended (74N07-0099).

Between 1953 to 1954, Bouscadillac Gold Mines Ltd. conducted geological mapping, prospecting, radiometric surveying and diamond drilling on the Sil group of mineral claims, which correspond to eastern Gulch tenure. The Geiger radiometric survey revealed two areas with higher than background radioactivity, however, close examination proved the radioactivity to be very small in areal extent and it was determined these areas do not warrant further work. In 1954, a total of three diamond drill holes were completed, totalling 382.6 m. No drill assays are available (74N07-0110).

Between 1953 to 1955, New Marlon Gold Mines Ltd. conducted geological mapping, prospecting, radiometric surveying and diamond drilling on the Pox group of mineral claims, which correspond to central Gulch tenure. The radiometric survey consisted of a systematic detailed Geiger counter survey that identified nine showings of radioactivity. However, it was reported that none of the nine showings displayed sufficient radioactivity to be of economic interest. Small amounts of trenching and stripping were done on the radioactive showings, but there are no assays available. A total of six diamond drill holes were completed in 1955, totalling 1005.84 m. An assay from hole 1 returned  $0.09\% U_3O_8$  and a reading of 4000 cpm over 0.15 m (from 621.5-622.0 ft) (74N07-0109).

Between 1953 and 1957, Gulch Mines Ltd. and New Bidlamaque Gold Mines conducted geological mapping, radiometric surveying, trenching, diamond drilling and underground development and mining at the Gulch Uranium Mine and Racu Uranium Zone (SMDI 1221 and 1225), which correspond to southwestern Gulch tenure. Over this time, a total of 180 diamond drill holes were completed, totalling over 16,572 m. Highlights from drilling include: Hole U2-71 assayed 2.54% U<sub>3</sub>O8 over 0.30 m (from 246.0-247.0 ft, sample 866) and 1.12% U<sub>3</sub>O<sub>8</sub> over 0.30 m (from 247.0-248.0 ft, sample 867), Hole U2-2 assayed 1.48% U<sub>3</sub>O<sub>8</sub> over 0.34 m (from 341-342.1 ft, sample 043) and 1.16% U<sub>3</sub>O<sub>8</sub> over 0.30 m (from 342.1-343.1 ft, sample 044) and Hole U2-58 assayed 1.45% U₃O<sub>8</sub> over 0.30 m (from 37.0-38.0 ft, sample 574) and 1.39%  $U_{3}O_{8}$  over 0.30 m (from 38.0-39.0 ft, sample 575) (74N07-0068). Trench sample 5 from Gulch Zone A returned 3.00% U<sub>3</sub>O<sub>8</sub> over 0.15 m and trench samples from Gulch Zone C returned 2.51% U<sub>3</sub>O<sub>8</sub> over 0.12 m and 1.87% U<sub>3</sub>O<sub>8</sub> over 0.18 m (sample 160 & 327; 74N07-0068). Underground development consisted of a 253.3 m shaft with three levels, and in 1955, a 79.3 m adit driven into the Black Bay escarpment, located 121.9 m southwest of the mine. From this adit, a shaft was sunk to a depth of 160.0 m and stations were cut at 106.7 m (350 ft) and 152.4 m (500 ft) below the lake level. This shaft was deepened to 253.0 m and a further two levels were established at 198.1 m (650 ft) and 243.8 m (800 ft) below the lake level. Overall, 1663 m of lateral workings were dug, mostly on the 152.4 m (500 ft) and about 10,668 m of drilling was completed on three levels. Between 1953 and 1957, reserves were calculated to be approximately 598,000 tons grading  $0.126\% U_3O_8$  to a depth of 122 m (400 ft). Development work on the 152.4 m (500 ft) level of the mine outlined 11 ore shoots ranging in length from 18.3-48.8 m and in width from 1.2-4.3 m. In March of 1957, underground operations ceased, and total deposit reserves were re-calculated at 854 tons per vertical foot grading  $0.121\% U_3O_8$  (SMDI 1221).

In 1954, Duvex Oils and Mines Ltd. conducted geological mapping, radiometric surveying and trenching on the Emco and Terry claims, which correspond to central Gulch tenure. A detailed Geiger counter survey was carried out on 50 ft traverse intervals with 400 ft line spacing. No anomalous radioactivity of economic significance was encountered (74N07-0086).

In 1954, Kix Uraniums Ltd. conducted geological mapping, prospecting, trenching and Geiger surveying on the Soo and Tops group of claims, which correspond to northern Gulch tenure. One area of radioactivity identified by the Geiger survey was five times background and consisted of fractures in red granite located north of current tenure. Three rock trenches, totalling 67.28m<sup>3</sup>, were completed at the zone of anomalous radioactivity. Representative samples from these trenches assayed 0.02% to 0.06% U<sub>3</sub>O<sub>8</sub> (74N07-0054).

In 1954, Uranium City Mining and Development Company Ltd. conducted geological mapping, trenching and scintillometer surveying on the Lucy group of claims, which correspond to central Gulch tenure. Readings from the scintillometer survey were taken at 75 ft intervals, reduced to 50 ft near mineralization zones, with 200 ft line spacing. No new showings were identified. The previously known Lucy U-Cu showing, a 3.0 m by 15.2 m lens of radioactive red granite, was mapped in detailed. The northerly trench yielded 0.12%  $U_3O_8$  over 6.1 m and the southernly trench yielded 0.37%  $U_3O_8$  over 3.0 m (74N07-0104; SMDI 1223).

In 1955, Commercial Minerals Ltd. conducted geological mapping, geological traverses with scintillometer, stripping and trenching, and mineralogical and petrological investigations on the Fat claims, which correspond to northern Gulch tenure. Two radioactive showings were located at the north side of claim Fat 2. A selected sample from the north trench assayed 0.11% U<sub>3</sub>O<sub>8</sub> (74N10-0137).

In 1956, Black Cliff Mines Ltd. conducted a diamond drill program on the Lucy claim group, which correspond to central Gulch tenure. A total of seven diamond drill holes were completed, totalling 919 m. No assay results for this work are available (74N07-0103).

In 1965, Eldorado Mining and Refining Ltd. conducted geological mapping and a hydrochemical survey on approximately 3108 km2 within the Beaverlodge District. A total of 2468 hydrochemical samples were collected and analyzed for  $U_3O_8$  content, total heavy metals, total alkalinity, temperature and specific conductance. Current tenure corresponds to map sheet 74N07 – Crackingstone Peninsula, where several high  $U_3O_8$  contours, greater than 2.0 ppb, were delineated, but no significant heavy metal assay values were returned (74N09-0195).

In 1966, Western Nuclear Mines Ltd. conducted a regional airborne scintillometer survey and subsequent trenching and channel sampling on discovered anomalies. The airborne survey covered a total of 7339 line-km. The distance between flight lines varied from 61-122 m for detailed surveying, up to 400-800 m for reconnaissance surveying. Zones were considered anomalous if readings of radioactivity were at least twice the background count. A total of 27 radioactive zones were located, two of which, anomaly A-7 and No. 4 are located within current tenure. Anomaly No. 4 was located on CBS-276 and -277, it consisted of two small northwest trending anomalies of about 20 units in a general 5-unit background area. These anomalies were not ground-confirmed, as they occurred outside of Western Nuclear Mines Ltd. tenure

(74N-0002).

In 1967, Fosco Holdings conducted a 40.9 line-km airborne scintillometer survey and scintillometer prospecting on claim block CBS-294, which corresponds to northeastern Gulch tenure. Flight lines were oriented northwest-southeast with 122 m spacing. Ground clearance was maintained at 30.5 m. No anomalous radioactivity was recorded within the claim block; however, several anomalies were located in the area adjacent to the claim boundary. Detailed scintillometer prospecting of the claim located 17 minor radioactive occurrences related to fractures parallel to and in the footwall of the Black Bay fault (74N07-0153).

In 1967, Mokta Canada Ltd. conducted reconnaissance geological surveying in conjunction with ground scintillometer surveying and an airborne scintillometer survey. The number of radioactive zones was reported as "very poor" and of very little extent. None of the zones located were considered of economic importance (74N07-0156).

From 1967 to 1968, Western Nuclear Mines Ltd. conducted geological mapping, an airborne scintillometer survey, chip sampling and XRD mineralogical survey on CBS-368, which correspond to northern Gulch tenure. Flight lines for the airborne scintillometer survey were spaced at 61 m intervals. A large anomalous zone of radioactivity was located (Anomaly No. 1) and investigation by ground crews determined the anomaly consisted of seven separate anomalous zones (A1-6 and A- 10). Only weak to moderate radioactivity was located at the zones and none proved to warrant further investigation. Field work was concentrated along the northeast of CBS-368, due to the proximity to Uranium Ridge, Lorado Mines, the Berg fault and presence of faulting and fracturing. Mineralization was located within pitchblende bearing fractures associated with faulting. Mineralogical survey identified pervasive albitization throughout the property and detailed surveys and diamond drilling were recommended (74N07-0168).

From 1967 to 1968, Gulch Mines Ltd. and Gunnex Ltd. conducted geological mapping, radiometric surveying and diamond drilling on the Gulch Project, which corresponds to southwestern Gulch tenure. In 1967, geological and Geiger counter survey was completed on portions of CBS-276 and CBS-277 not previously mapped and surveyed by Gulch Mines Ltd. in 1953. Readings were taken every 30.5 m, with 61 m line spacing. No new radioactive zones were located. Twenty diamond drill holes were completed, totalling 2889 m. Drilling was focused on intercepting the Black Bay fault zone and footwall area from the shore of Lake Athabasca, a few hundred feet from the Gulch Mine. This zone was tested over a strike length of 1219.2 m. Hole 67-16 returned  $0.70\% U_3O_8$  over 0.61 m across a pitchblende-bearing veinlet (from 930-932 ft, sample 8147) (74N07-0172).

In 1968, Gunnex Ltd. conducted geological mapping, radiometric surveying, trenching and diamond drilling on CBS-360, which correspond to the Gulch Mine area and southern Gulch tenure. Readings for the ground Geiger survey were taken every 7.6 to 15.2 m, with 30.5 m line spacing. Radioactivity was strongest at showing RA-1 (Racu Uranium Zone, SMDI 1225) where trenching was completed. Assays from chip sampling trench 3 returned  $0.39\% U_3O_8$  over 2.1 m on the north end and  $0.26\% U_3O_8$  over 2.4 m, trench 4 returned  $0.23\% U_3O_8$  over 2.1 m and trench 5 returned  $0.19\% U_3O_8$  over 1.4 m (74N07-0219). A total of 18 diamond drill holes were completed, totalling 1386.5 m. Hole P-5 returned  $0.10\% U_3O_8$  over 0.34 m (from 39.5-40.6 ft, sample 8266) and 0.28% Cu over 0.61 m (from 93.5-95.5 ft, sample 8270) (74N07-0219).

In 1969, Pathfinder Uranium and Nickel Mines Ltd. conducted a program consisting of a ground scintillometer survey followed by reconnaissance geology and prospecting on CBS-309, which corresponds

to northwestern Gulch tenure. The 33 line-km scintillometer survey was carried out with 30.5 m line spacing and although low radioactivity was encountered, related structures that may be significant to mineralization were identified (74N07-0217).

In 1970, Norcan Mines Ltd. conducted geological mapping, detailed ground scintillometer and prospecting, and an XRD mineralogical survey on CBS-309, which corresponds to northwestern Gulch tenure. A total of 85 samples were collected for the mineralogical survey and the presence of highly albitized rock was noted. The report states that historic drill core was re-logging and radiometric probed, however, no core logs or assays accompany the assessment report (74N07-0216).

In 1970, Matrix Exploration Ltd. conducted a ground scintillometer survey, followed by detailed systematic prospecting and trenching on CBS-360, which corresponds to southern Gulch tenure. Five areas were identified as warranting further work, two of which are located within current claim boundaries, areas four of the D14, K7 and K99 showings and five of the Gulch Zone Extensions. It appears that no trenching or sampling occurred in these zones (74N07-0218).

In 1974, Gulch Mines Ltd. conducted lake bottom sonic profiling and an underwater radiometric survey on CBS-276, which corresponds to southwestern Gulch tenure. The surveys were run on 65 lines oriented as perpendicular as possible to the Black Bay fault. A total of 41.36 line-km was surveyed with 76.2 m line spacing. Three radiometric anomalies were located, returning 400-500 cps (2 to 3 times background radioactivity). The first was about 305 m northeast of the Gulch Adit, the second along the Black Bay fault but about 800 m further northeast, and the third within the vicinity of a rock reef about 305 m northeast of Fox Islands. It was recommended that diamond drilling should be focused on each of the anomalies (74N07-0252).

In 1975, Gulch Mines Ltd. followed up their previous exploration program with diamond drilling. A total of 17 diamond drill holes were completed, totaling 1457.2 m. Drilling was focused on the anomalies discovered by the 1974 lake bottom sonic profiling and underwater radiometric surveys. Hole 75-9 returned 0.110 %  $U_3O_8$  over 0.37 m (from 296.6-297.8 ft, sample 781) and hole 75-10 returned 0.10%  $U_3O_8$  over 0.30 m (from 209.5-210.5, sample 813; 74N07-0259).

In 1976, Metalur Ltd. conducted an airborne spectrometer survey, lake sediment and water geochemistry survey, geochemical soil sampling, radon in soil gas measurements, ground radiometric prospecting and examination of old radioactive occurrences and trenching on claims, two of which, CBS-2670 and -2686, correspond to central Gulch tenure. Most of the work completed was focused on CBS-2666, which is south of the current claim boundaries. The airborne scintillometer survey consisted of 371.8 line-km with line spacing ranging from 152.4 to 213.4 m. A total of 49 radiometric anomalies were discovered, four of which were recorded in claim block CBS-2670 and attributed to radioactive waste from the Gunnar Mine, and nine of which were recorded in claim block CBS-2686, one of which was coincident with a radioactive trench. A total of 74 lake sediment and 105 lake water samples were collected and analyzed for uranium content. Three uranium values of 0.0074% U, 0.0071% U and 0.0051% U were recorded from lake sediment samples from the northern part of claim block CBS-2686 (samples 23, 21 & 20; 74N07-0261). A total of 288 soil samples were collected at 30.5 m intervals along fault zones. Radon in soil gas surveys were also performed along fault zones, but no anomalous zones were identified.

In 1978, Saskatchewan Mining Development Corporation conducted airborne INPUT surveying, geological mapping, prospecting, geochemical surveying, VLF surveying, magnetic surveying and vertical loop EM surveying on their Crackingstone Project, which corresponds to central and southern Gulch tenure. The

INPUT survey revealed the presence of numerous conductors and served as a basis for further work on the property. Almost all of the INPUT anomalies were attributed to graphitic metasediments. A geochemical survey was conducted with samples taken at 25 m intervals on lines 36W and 38W (200 m apart). No geochemical anomalies were discovered. A 12.4 line-km VLF survey was completed, with readings taken every 25 m on 200 m spaced lines. A 23.5 line-km of magnetic surveying was completed, with readings taken every 25 m on 200 m spaced lines. A 50 line-km vertical loop survey was completed with a transmitter receiver separation of 200 m. These geophysical surveys identified northeastsouthwest trending strong conductors (74N07- 0286). The following year, a follow up program of ground radiometric prospecting, geological mapping, 181.2 line-km ground VLF-EM and magnetic surveying and overburden drilling and sampling was conducted by Saskatchewan Mining Development Corporation. The Langley Bay – Milliken Lake grid overlaps a small section of southeastern Gulch tenure. During this work three distinct types of radioactive occurrences were discovered: vein-type occurrences associated with easterly trending cross-faults, occurrences associated with syn-tectonic or post-tectonic pegmatites and occurrences in quartz-pebble conglomerates. A total of 131 radioactive occurrences were identified, the majority are of the vein-type, hosted by amphibolite and located along east-west trending cross faults. Geochemistry and petrography of the vein-type occurrences indicate a strong positive correlation between U, generally in the form of pitchblende and Fe (hematite), Cu (chalcopyrite), Pb and As. Conductors identified by ground VLF electromagnetic surveying were indicated to coincided with the trace of metapelite schist and less commonly, with quartzite-felsic gneiss contact through geological mapping. Several clusters of anomalous samples were outlined by overburden drilling, but they occur outside current tenure (74N07-0299).

In 1978, Western Mines Ltd. conducted reconnaissance geological surveying, ground VLF-EM surveying, airborne EM and magnetic surveying and diamond drilling on their Milliken Lake Property, which corresponds to central Gulch tenure. The ground VLF-EM survey was completed over 2 line-km with 100 m line spacing. The 224 line-km airborne Input EM and magnetic surveys, with 200 m spacing, delineated northeast trending conductors parallel to lithologic units, mostly attributed to graphite horizons or fault zones. Two areas of interest were outlined by this work. The first, an EM conductor that was thought to be associated with a graphitic zone and an area of weakly anomalous uranium content in the quartzite unit. This area was drill tested by a single diamond drill hole, totaling 64.3 m, on the south shore of Dermody Lake, to the east of current claim boundaries (74N07-0276). The extension of the Jug Bay Fault was the second area of interest.

The following year, Western Mines Ltd. conducted a program of geological mapping and radiometric surveying to inform later diamond drilling on the extension of the Jug Bay Fault. Detailed geological mapping was carried out to outline the Jug Bay Fault. Known occurrences at McNie Lake and near Rainbow Lake were also sampled during the survey work (SMDI 2084). Uranium mineralization was present in fracturs within the basal conglomerate and sandstone and within mineralized stratigraphic horizons in the siltstone. Chip sampling returned 0.063% U<sub>3</sub>O<sub>8</sub> over 0.6 m from McNie Lake occurrences and 0.038% U<sub>3</sub>O<sub>8</sub> over 1.0 m from the occurrence west of Rainbow Lake (samples 203 and 380; 74N07-0287). An alpha meter survey was completed and identified a linear zone of anomalous radioactivity from east of McNie Lake up northeast towards the west of Dermody Lake. A detailed alpha meter survey was done over this zone that confirmed the anomaly to extend over 1.1 km of strike length of the Jug Bay fault zone. After this work was completed diamond drilling was recommended to test this zone. A total of four diamond drill holes were completed, totalling 281.4 m. No anomalous radioactivity was detected in the core by probing or scanning with a scintillometer and no assay results are reported (74N07-0295).

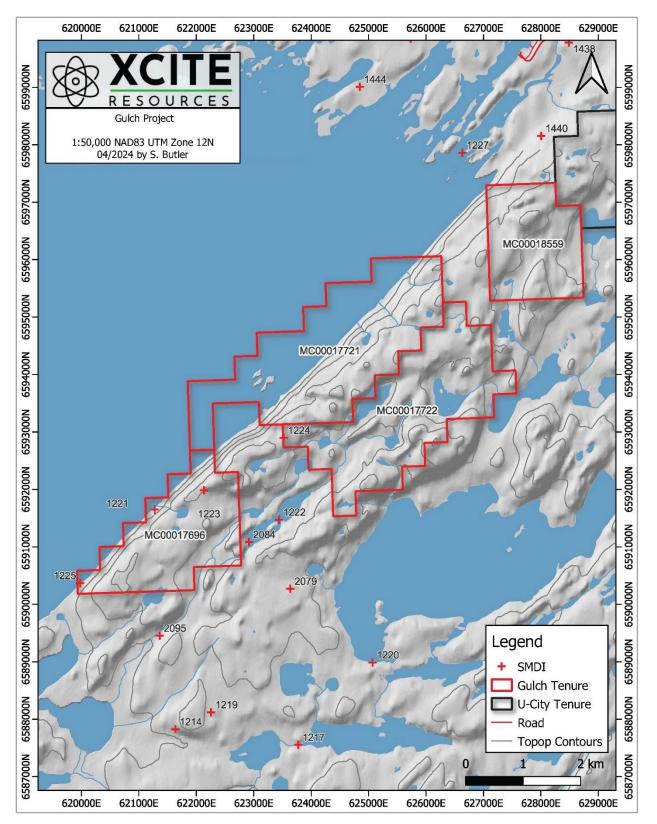


Figure 6.5. SMDI mineral showings within the Gulch Property described in the text (2024, Butler).

In 2006, JNR Resources Inc. conducted helicopter-borne VTEM and magnetic surveying on their Cracking Stone Project. The Cracking Stone West Block corresponds to Gulch tenure. A total of 7733 line-km of geophysical surveying were completed with 200 m line spacing. 759.5 line-km completed were on the West Block, where 248 anomalies were identified. It was interpreted that these anomalies were caused by the presence of either graphite, metal sulphides or saline fluids. (74N-0009).

The following year, JNR Resources Inc. conducted a 3758 line-km high sensitivity aeromagnetic three axis gradiometer survey on the Cracking Stone Block, the southern portion of which covers Gulch tenure. Line spacing was 150 m for geophysical surveying. A total of eight northeast- southwest trending magnetic highs with strong conductor axes zones were identified, three of which occur within Gulch tenure (zones 3-W–5W; 74N07-0334). Dr. Haoping Huang, principal of Geo-EM, LLC, reprocessed and interpreted the VTEM data, concentrating on estimating the B-field VTEM response and preparing conductivity-depth images of selected lines. His results were presented to JNR in a document: "Report on VTEM Data Interpretation for Cracking Stone Project in the Athabasca Basin", dated June 14, 2007.

In 2007, Canalaska Uranium Ltd. conducted 2D seismic and bathymetric subsurface surveying, diamond drilling, ground surveying and prospecting, geological mapping and grid sampling on their Lake Athabasca Project. Gulch tenure is only overlapped by the geophysical survey, all other work occurs to the west and southwest of current claim boundaries. A total of 1210 line-km of 2D seismic and bathymetric subsurface surveying offshore of Lake Athabasca area was completed (74N07-0335).

In 2007, Red Rock Energy Inc. conducted airborne EM input and magnetic surveying on the Red Blocks 3 and 4. Southern Gulch tenure is overlapped by Red Block 3. A total of 906 line-km of geophysical surveying were completed over the two blocks. Details of the survey are reported to be in Fugro Airborne Surveys Field Logistics Report, but it is not included in the assessment report available. Target zones were delineated from the geophysical surveys, represented by plate conductors and wide zone basement conductors, but none are located within current tenure (74N07-0336).

In 2010, JNR Resources Inc. conducted airborne full tensor gravity gradiometer surveying on the East and West Blocks of their Crackingstone Project Area. The Cracking Stone West Block corresponds to Gulch tenure was flown at nominal 300m line spacing. A total of 617 line-km of geophysical surveying was completed with 150-300 m line spacing. Three zones of interest within the West Block were delineated from surveying and were found to coincide with EM and magnetic anomalies from the 2006 VTEM survey (zones G-1W, G-2W, and G-3W). All three are on strong, high conductance, VTEM responses situated around the northwest margin of a stock-like gravity high that closely correlates with a similar stock-like magnetic high. Mapped geology is not all that suggestive of higher density (or magnetic) lithologies, and geophysics may therefore indicate a shallow buried intermediate intrusion, perhaps adding interest to the nearby conductors (74N07-0344). The report includes an advanced geophysical interpretation by C.S. Ludwig incorporating recent historical survey data including the 2006 VTEM survey, 2007 magnetic gradiometry survey, and the present 2010 tensor gravity gradiometry survey results.

In 2013, Fission 3.0 Corp. conducted airborne magnetic surveying on their Thompson Lake Property, which corresponds to central and northern Gulch tenure. A total of 355 line-km of geophysical surveying was completed at 50 m line spacing. The Zone 5-W zone of interest identified by JNR Resources Inc.'s 2006 VTEM survey was included within the survey area. The area surveyed was found to be characterized by a northeast-southwest trending magnetic fabric, parallel to the Black Bay Fault, and is permeated with a lattice of dominant structural corridors aligned in both E-W and N-S directions (MAW00775). An advanced interpretation report by D. Bingham is included in the appendix which incorporates an analysis of previous

VTEM, magnetic and gravity survey results.

In 2015, Unity Energy Corp. and Aldever Resources Inc. conducted scintillometer-prospecting, chip and channel sampling and pack-sack diamond drilling on their Gluch Mine Project, which corresponds to southwestern Gulch tenure. A total of 66 chip and channel samples were collected. Uranium results from these samples range from trace to 0.0419 % U (sample 100169), with an average of 0.053% U (MAW01772). The chemical analyses verified the geological mapping observations that anomalous U is associated with structural lineaments which transect the property. Interestingly, one of these lineaments hosted anomalous copper grades, with analytical results of up to 0.77% Cu from a heavily malachite-stained fracture zone near Racu Uranium Zone (sample 100160; SMDI 1225; MAW01772). The highest anomalous zone of radioactivity came from the project's Langley Bay showing, which is south of current tenure. A total of 51 shallow pack-sack diamond drill holes were completed, totalling 22.01 m. A sample was taken from each drill hole. The best intercepted uranium mineralization came from hole GUL15-018, located near the Racu Uranium Zone (SMDI 1225), which returned 0.0221% U over 0.14 m (sample 100318, from 0-014 m; MAW01772).

In 2017, Fission 3.0 Corp. conducted scintillometer-prospecting, ground DC resistivity surveying, horizontal loop electromagnetic (HLEM) surveying on their Thompson Lake Property, which corresponds to central and northern Gulch tenure. The ground DC resistivity survey consisted of 4.8 line-km and the HLEM survey consisted of 1.6 line-km. The geophysical surveys were located southwest of Dermody Lake, and northeast-southwest conductors were identified. A total of 50 rock samples were collected while prospecting. Hematitic argillite at the "Lido" Lake showing returned up to 0.292%  $U_3O_8$  (sample 202319; MAW02182).

In 2019, Fission 3.0 Corp. conducted prospecting on their Midas Property, which corresponds to northeastern Gulch tenure. The focus of fieldwork was to investigate a possible relationship between historic VTEM conductivity anomalies from the 2006 JNR Resources Inc. airborne survey and relating uranium bearing structures or lithologies. In most cases, the cause for localized increased conductivity could not be established in the field, and the causes remain unknown. As a result, very few mineralized or radioactive samples were obtained during the program. A secondary objective, which was briefly investigated in the field, was an examination of Martin Group rocks near the Martin unconformities (both structural and angular) which also did not yield any mineralized or radioactive rocks of note. A total of 26 rock samples were collected. An outcrop sample near the western edge of Bisschop Lake returned 0.31% U (sample 210266; MAW02663).

Report	Year	Company	Work Completed		
74N07-0101	1950	Search Corporation Ltd.	Geological mapping and radiometric surveying		
74N07-0042	1953	Gold Eagle Mines Ltd	Geological mapping, Geiger prospecting and trenching		
74N07-0072 1953 Norther		Northern Uranium Ltd.	Geological mapping, radiometric surveying and trenching		
74N07-00801953Baska Uranium Mines Ltd.		Baska Uranium Mines Ltd.	. 8 DDH (590.4 m), radiometric surveying and trencl		
<b>74N07-0098</b> 1953 Duvex Oils and Mines Lt		Duvex Oils and Mines Ltd.	12 DDH (944 m), geological mapping and radiometric surveying		

74N07-0099	1953	Tache Lake Mines Ltd.	Geological mapping, radiometric surveying and trenching		
74N07-0110	1953-54	Bouscadillac Gold Mines Ltd.	3 DDH (382.6 m), geological mapping, prospecting and radiometric surveying		
74N07-0109			6 DDH (1005.84 m), geological mapping, prospecting and radiometric surveying		
74N07-0068	1953-57	Gulch Mines Ltd.	180 DDH (>16572 m) with geochemistry, trenching, underground development and mining		
74N07-0086	1954	Duvex Oils and Mines Ltd.	Geological mapping, radiometric surveying and trenching		
74N07-0054	1954	Kix Uraniums Ltd.	Geological mapping, prospecting, trenching and Geiger surveying		
74N07-0104	1954	Uranium City Mining and Development Company Ltd.	Geological mapping, trenching and scintillometer surveying		
74N10-0137	74N10-0137 1955 Commercial Minerals Ltd.		Geological mapping, geological traverses with scintillometer, stripping and trenching, and mineralogical and petrological investigations by R.W. Johns		
74N07-0103	1956	Black Cliff Mines Ltd.	7 DDH (919 m)		
74N09-0195	1965	Eldorado Mining and Refining Ltd.	. Geological mapping and hydrochemical survey		
74N-0002	1966	Western Nuclear Mines Ltd.	Airborne scintillometer surveys (7339 line- km), trenching and channel sampling		
74N07-0153	N07-0153 1967 Fosco Holdings		Airborne scintillometer survey (40.9 line-km) and scintillometer prospecting		
74N07-0156	<b>107-0156</b> 1967 Mokta Canada Ltd.		Geological reconnaissance, ground and airborne scintillometer surveys		
74N07-0172	72 1967-68 Gulch Mines Ltd. and Gunnex Lt		td. 20 DDH (2889 m), geological mapping and radiometric surveying		
74N07-0168 74N07-0219			Geological mapping, airborne scintillometer survey, chip sampling and XRD mineralogical survey 18 DDH (1386.5 m), geological mapping, radiometric surveying and trenching		
74N07-0217	1969	Pathfinder Uranium and Nickel Mines Ltd.	Reconnaissance geology, prospecting and a ground scintillometer survey		
74N07-0216	<b>4N07-0216</b> 1970 Norcan Mines Ltd.		Geological mapping, scintillometer reconnaissance, prospecting, XRD mineralogical survey and re-logging of historic drill core		
74N07-0218	1970	Matrix Exploration Ltd.	Ground scintillometer survey, detailed prospecting and trenching		
74N07-0252	<b>74N07-0252</b> 1974 Gulch Mines Ltd.		Lakebottom sonic profiling and underwater radiometric survey (41.36 line-km)		

74N07-0259	1975	Gulch Mines Ltd.	17 DDH (1457.2 m) with geochemistry and gamma probing		
74N07-0261	1976	Metalur Ltd.	Airborne spectrometer survey, lake sediment and lake water geochemistry		
<b>74N07-0276</b> 1978 Western Mines Ltd.		Western Mines Ltd.	1 DDH (64.3 m), reconnaissance geology survey, ground VLF-EM survey and airborne EM and magnetic survey (224 line-km)		
74N07-0286	1978	Saskatchewan Mining Development Corporation	Geological mapping, prospecting, airborne INPUT survey (12.4 line-km VLF and 23.5m line-km magnetics) and vertical loop EM survey (50 line-km)		
74N07-0299	1979	Saskatchewan Mining Development Corporation	Ground radiometric prospecting, geological mapping, ground VLF-EM and magnetic surveys (181.2 line-km) and overburden drilling/sampling		
74N07-0287	1979	Western Mines Ltd.	Geological mapping and a radiometric survey		
74N07-0295	1979	Western Mines Ltd.	4 DDH (281.4 m)		
74N-0009	2006	JNR Resources Inc.	Helicopter VTEM and magnetic survey (759.5 line-km)		
74N07-0334	<b>74N07-0334</b> 2007 JNR Resources Inc.		Airborne gradiometer survey (758 line-km)		
74N07-0335	74N07-0335 2007 Canalaska Uranium Ltd.		2D seismic & bathymetric subsurface survey (1545 line-km), 7 DDH (1525 m) radiometrically probed, geological mapping, ground survey, prospecting of historical showings, Grid sampling of lake bottom sediments, basement & sandstone outcrops and soil		
74N07-0336	<b>4N07-0336</b> 2007 Red Rock Energy Inc.		Airborne EM (input) and magnetic survey (906-line km)		
74N07-0344	2010	JNR Resources Inc.	Airborne gravity gradiometer survey (617 line-km)		
MAW00775	2013	Fission 3.0 Corp.	Airborne magnetic survey (355 line-km)		
MAW01772	2015	Unity Energy Corp. and Aldever Resources Inc.	51 packsack DDH (22.01 m), prospecting, chip and channel sampling and a scintillometer survey		
MAW02182	MAW02182 2017 Fission 3.0 Corp.		Prospecting, rock geochemistry, ground DC resistivity survey (4.8 line-km), HLEM survey (1.6 line-km), scintillometer prospecting and structural measurements		
MAW02663	2019	Fission 3.0 Corp.	Prospecting and rock geochemistry		

Table 6.5. Summary of historic assessment reports for the Gulch Property.

### 6.6. Smitty Property

Historical work on the Smitty property (Table 6.6) commenced in the 1950s by Rix Uranium Mines Ltd. as they discovered a total of 167 radioactive occurrences. The company carried out prospecting and radiometric surveying programs, whereby 50 of the 167 discovered occurrences were deemed of economic interest. The Smitty showing, along with the No. 62 Zone showing, Leonard showing, and the Rix No. 7 showing were the only occurrences that were eventually explored underground.

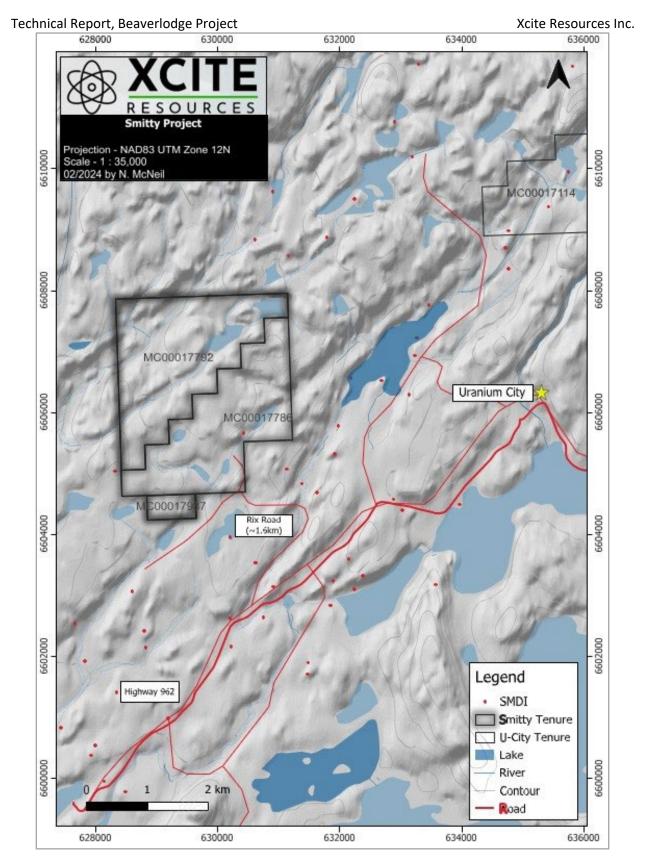


Figure 6.6. SMDI mineral showings within the Smitty Property described in the text (2024, McNeil).

#### Technical Report, Beaverlodge Project

#### Xcite Resources Inc.

The work carried out by Rix Uranium Mining Ltd. on the Smitty showing comprised diamond drilling and trenching, which totaled several thousand feet between 1950 and 1951. In 1952, a mine shaft was emplaced at 125 feet and 250 feet below the surface, in order to further develop the area into a two-level mining exploration structure. Ongoing exploration into 1953 allowed for the discovery of favourable pitchblende mineralization in the sub-surface shear breccias and warranted exploration activities to enter the production stage of the program. In 1954, Rix Uranium Mining Ltd. formed a contract with Eldorado Mill and thus began shipping 100 tonnes of ore per day. This led to the Smitty mine becoming the first privately owned Uranium producer in Canada.

As the Smitty Mine continued to develop, the "62" Zone was discovered in 1955 within the second level of the mine (~250 feet below surface). Although the ore zone is smaller in size, it is mineralogically and structurally similar to the original Smitty showing. The discovery of the '62' Zone encouraged further exploration, and in 1956 the mine was deepened an additional 260 feet to develop levels at 375 feet and 512 feet below the surface. Exploration drilling was ongoing and revealed further mineralization potential, which justified mine development to the 760-foot level. In 1957, the addition of three new levels brought the overall total mine levels to seven. Drilling and mine/level plans were ongoing over the next few years in order to maximize the level of ore production. The average ore grade reported for the mine from 1953-1957 was greater than 0.20%  $U_3O_8$ .

In 1960, ore reserves became depleted and the Smitty Mine was subsequently closed. It was reported that the Smitty mine had produced a total of 283,075 tonnes of ore between 1950 to 1960.

Additional work was carried out by Tobe Mines Ltd. in 1967 that encompassed an evaluation report on the Smitty Mine. The company assayed samples on the property and completed a geological scintillometer survey to determine the potential of re-opening the mine. Due to uncertainty in the ore reserves, and the low price of uranium in 1967, the mine remained closed pending market improvements.

By the end of 1967, a private consulting firm (S. E. Loutitt) purchased the project, and carried out exploration activities between 1967 to 1969. The program was comprised of seven diamond drill holes surrounding Emu Lake. Results of this program were unfavorable, as the ore intersections were sparse compared to those completed by Rix Uranium Mining Ltd. Based on the limited work completed, the operator concluded that ore grades are better near the historical mine site, with limits to prospectivity along southwest strike. S.E. Loutitt completed an additional six drill holes between 1967 and 1968 west of the '62' Zone showing. The results of this program were more favourable, and the mineralization discovered was named the 'West Zone'. Exploration activities continued until 1969 with additional trenching and geological mapping. Scintillometer survey results revealed elevated radioactivity in the area. In addition, six DDH were drilled but were not assayed.

Report Year		Company	Work Completed
74N10-0023	1950	Goldfields Uranium Mines Ltd.	Prospecting and geological mapping
74N10-0086	1951	Goldfields Uranium Mines Ltd.	45 DDH and assay plans
74N10-0128	1951	Amax Athabasca Uranium Mines Ltd.	Geological and occurrence mapping
74N10-0121	1950	Rix Athabasca Uranium Ltd.	Shaft geology, surface drill holes
74N10-0112	1951	Rix Athabasca Uranium Ltd.	Shaft area mapping, surface mine plans

74N10-0113	1952	Rix Athabasca Uranium Ltd.	1 <sup>st</sup> level and above development: 9 DDH
74N10-0114	1953	Rix Athabasca Uranium Ltd.	2nd level development: 17 DDH, level plans, increased U mineralization
74N10-0115	1954	Rix Athabasca Uranium Ltd.	3rd level development: 9 DDH, level plans, ore production sent to mill
74N10-0116	1955	Rix Athabasca Uranium Ltd.	4th level development: 5 DDH , level plans, '62' Zone discovery
74N10-0117	1956	Rix Athabasca Uranium Ltd.	5th level development: level geology plans to deepen
74N10-0110	1957	Rix Athabasca Uranium Ltd.	DDH location and mine plans
74N10-0118	1957	Rix Athabasca Uranium Ltd.	6th level development: DDH and level plans to deepen
74N10-0119	1958	Rix Athabasca Uranium Ltd.	Surface DDH logs and drill plans
74N10-0120	1959	Rix Athabasca Uranium Ltd.	Surface DDH logs and drill plans, mine shut down in 1960
74N10-0095	1959	Rix Athabasca Uranium Ltd.	2 DDH records
74N10-0328	1967	Bomarc Mines Ltd.	DDH and trenching
74N10-0333	1968	Tobe Mines Ltd.	Scintillometer survey and assays
74N10-0505	1979	Little 3 Transport and Salvage Ltd.	1 trenching and stripping plan
74N10-0515	1979	Saskatchewan Mining Development Corporation	Prospecting, evaluation, DDH, till sampling

Table 6.6. Summary of historic assessment reports for the Smitty Property.

### 6.7. Historical Mineral Resources: Beaverlodge District

The discovery of gold in Lodge Bay in the early 1930s sparked renewed prospecting interest on the northern shores of Lake Athabasca, known as the "Beaverlodge District". This resulted in the discovery of the first commercially developed Canadian uranium deposits that were mined between the late 1930s and 1982. Information relating to these deposits and their historical production is derived from the online Saskatchewan Mineral Deposit Index ("SMDI") database that can be searched using the occurrence name. In total, the Beaverlodge District is estimated to have produced approximately 70 million pounds of  $U_3O_8$  at grades ranging from 0.18 to 0.43%  $U_3O_8$ . These past producers are all located within ca. 25 km of the Project boundary. Only the former Smitty and Lorado deposits are located within the Project boundaries (Figure 4.2.).

The Eldorado or Beaverlodge Mine first went into production in 1932 to produce radium, later shifting focus to uranium, silver, and copper, and was in production intermittently until final closure in 1982. The dominant period of production was between 1952 and 1982, during which time ore from several nearby deposits was processed through the Beaverlodge Mill. The major contributor was the Ace-Fay-Verna deposit, from which 9 million tonnes of ore at 0.25% U<sub>3</sub>O<sub>8</sub> was mined yielding approximately 40.5 million pounds of U<sub>3</sub>O<sub>8</sub>. Other smaller contributors included the Dubyna Mine and Bolger Mine.

The Nicholson Mine first went into production in 1935, however the exact early production is not recorded, and operations were halted until, following some additional development work, production began again during the period 1955 to 1959, during which time approximately 14,000 tonnes of ore were

mined by underground methods at an average grade of  $0.33 \% U_3O_8$ .

Gunnar Mine was in production from 1955 until 1965, during which time about 5.5 million tonnes of ore were mined from both open pit and underground operations at an average grade of  $0.175\% U_3O_8$ . The Lorado Mine (SMDI 1228) was in production between 1957 and 1960 during which time approximately 95,000 tonnes of ore were mined from underground operations at an average grade of  $0.19\% U_3O_8$ . The mine closed late in 1960 due to contract sales by the parent company. The Black Bay Uranium Mine was developed and mined by underground methods during the period 1954 to 1958, yielding limited production of 1,375 tonnes of ore at an average grade of  $0.17\% U_3O_8$ . Finally, the Tena uranium occurrence was mined on a small scale between 1957 and 1959 via an included shaft. A total of 1,307 tonnes of ore were mined in batches yielding grades varying from 3.0 to  $0.55\% U_3O_8$ .

Underground development at the Smitty Mine (SMDI 1413) started in 1952 and included a shaft and a number of sublevels. Initially, 100 tons of ore per day were shipped. By the end of 1957, ore containing 600,000 lbs  $U_3O_8$  had been shipped. Between 1958 and 1959, a further 70,000 of ore (which reportedly graded slightly over 0.20%  $U_3O_8$ ) was shipped. The mine closed in 1960 after the ore was depleted.

The reader is cautioned that the above referenced historical mineral resource estimates are considered historical in nature and as such are based on prior data and reports prepared by previous property owners. A qualified person has not done sufficient work to classify the historical estimates as current resources and the Author is not treating the historical estimates as current resources. Significant data compilation, re-drilling, re-sampling and data verification may be required by a qualified person before the historical estimate on the Property can be classified as a current resource. There can be no assurance that any of the historical mineral resources, in whole or in part, will ever become economically viable. In addition, mineral resources are not mineral reserves and do not have demonstrated economic viability. Even if classified as a current resource, there is no certainty as to whether further exploration will result in any inferred mineral resources being upgraded to an indicated or measured mineral resource category.

The "Resource" described above fall under the National Instrument 43-101 definition of a "historic estimate" meaning that the calculations were prepared prior to the February 1st, 2001, implementation of NI 43-101 and therefore do not conform to NI 43-101 standards. No NI 43-101 compliant resource estimates exist to date on the Property. The estimation methodology and variables are unknown and cannot be substantiated so the statement cannot be considered to meet the requirements of NI 43-101 for either Mineral Resources or Mineral Reserves.

## 6.8. Summary of Historical Exploration Approach

The vast majority of the historical exploration efforts described in the sections above were focused on a "Beaverlodge-style" deposit model, targeting high-tonnage and lower-grade fault-hosted mineralization at surface, consistent with the other deposits discovered in the area. Radioactive anomalies were identified at surface, with subsequent drill testing of the down-dip and along-strike extents of any mineralized structures. This early exploration approach did not systematically evaluate the area for "unconformity-related" deposits subsequently discovered elsewhere proximal to the margin of the Athabasca Basin. These deposits are spatially associated with highly structured graphite-rich rocks that manifest as electromagnetic ("EM") conductors in geophysical survey. Later exploration efforts by SMDC, their successor Cameco, and CanAlaska did include airborne and ground EM survey which identified extensive conductor anomalies on the property that were confirmed through limited drilling to include graphite-rich lithologies. These graphite-rich rocks are by nature extremely soft relative to the adjacent quartzite and granitoid lithologies and do not outcrop at surface; they occur in deeply weathered valleys

and are covered by transported glacial tills, soil, and small lakes. Surface exploration efforts (hand-held scintillometer prospecting and geochemical sampling) will therefore not have effectively explored these targets, which despite some limited recent drill testing, remain largely unexplored, presenting compelling exploration targets.

# 7: Geological Setting and Mineralization

This section is based on descriptive information from recent field observations and interpretations included in the 2024 Terra Logic Exploration Inc. internal reports (Damant, 2024a, Butler, 2024a, Butler, 2024b, Butler, 2024c; McKeough, 2024; McNeil, 2024) as well as publicly available information. The following descriptions reflect the current understanding of the geology and mineralization of the Project.

## 7.1. Regional Geological Setting

The Xcite Resources Inc. Project is situated in the Western Churchill Structural Province of the Canadian Shield, which is divided into the Hearne Subprovince to the east, and the Rae Subprovince to the west, separated by a 1.9 billion year (Ga) old crustal-scale structural discontinuity termed the Snowbird Tectonic Zone (SBTZ; Figure 7.1.). The Taltson and Trans-Hudson orogenies are marginal to the sub-provinces with the Taltson to the northwest and Trans-Hudson to the southeast of Rae craton (Dieng et al., 2014). The Property lies partially within the southwestern interior of the Beaverlodge Domain and the eastern portion of the Zemlak Domain (Kennicott et al., 2015; Figure 7.1. A), which are structurally dominated by the northeast to southwest trending Island Bay, Black Bay and St. Louis Fault systems (Ashton et al., 2000; Ashton, 2008). The Beaverlodge Domain hosts Archean to Paleoproterozoic rocks within the southwest segment of the Rae Subprovince, which has undergone numerous metamorphic and deformational events while the overlying Athabasca Supergroup remains unmetamorphosed (Kennicott et al., 2015; Ashton et al., 2000). Exemplary summaries for the local geology have been compiled by Ashton et al. (2000), in "Summary of Investigations 2000, Volume 2, Saskatchewan Geological Survey" and by K.E. Ashton (2008) in "Geological Compilation of the Uranium City Area, Beaverlodge and Zemlak Domains (parts of NTS 74N/06 and 74N/07) south sheet". These have been used as the primary sources for the geological description below.

The Property is located within the Murmac Bay Group which forms part of two domains: the Zemlak and Beaverlodge Domain. The Black Bay Fault is the dividing line between the two domains. The rocks adjacent to the Black Bay Fault have been highly sheared, metamorphosed, foliated and in some places mylonitized. The crystalline basement in the Project area contains Archean-age granitoids and plutons of the Arrowsmith Orogen that are unconformably overlain by the Murmac Bay Group. The 2330 to 1930 million year (Ma) old Murmac Bay Group comprises a metasedimentary package primarily comprised of psammitic to pelite gneiss with intercalated quartzite, mafic volcanics, calc-silicate, dolostone, gabbroic to komatiitic intrusive rocks, and an interlayered banded iron formation. Murmac Bay rocks have endured at least three metamorphic phases ranging from lower to upper-amphibolite facies with local advancements to granulite facies. Evidence indicates early metamorphism was a product of a widespread tectonic event, while later metamorphism resulted from coinciding deformational events. Geochronological work completed at Donaldson Lake estimates the age of the third metamorphic phase to be 1,800 Ma. Historically, the crystalline basement rocks of the Murmac Bay Group were suggested to be a part of the Tazin Group sedimentary package, and later renamed to the 'Fay Mine Complex' based on the work completed by Eldorado Nuclear Ltd. within their Ace-Fay-Verna mines property. However, recent mapping suggests that the rocks, and their metamorphic history, are correlative with the 2,330 to 1930 million year (Ma) old rocks present within the Paleoproterozoic Murmac Bay Group.

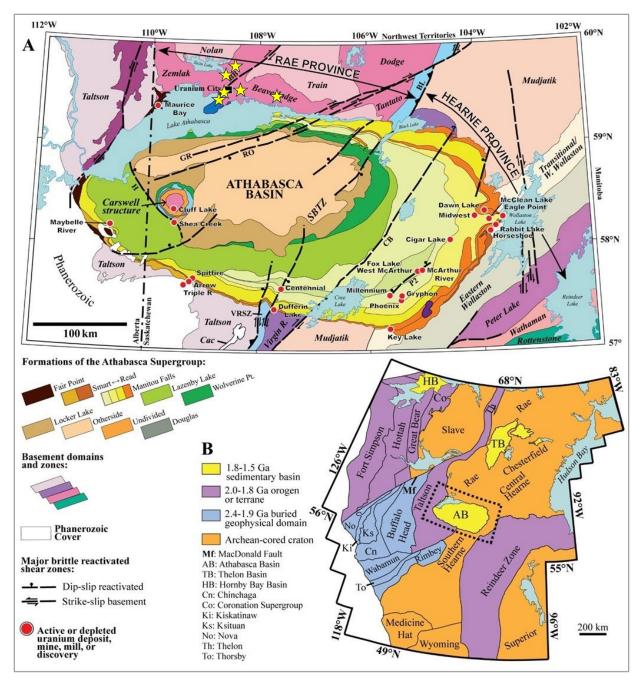


Figure 7.1. A) Structural domains of the Churchill structural province and regional Athabasca Basin geology in northern Saskatchewan and Alberta. The Xcite Resources Inc. project properties are shown with yellow stars; B) Cratonic map of western Laurentia with dashed inset shown in A) in the context of continent-scale tectonics. (modified after Hillacre et al., 2021).

The Murmac Bay Group was sequentially superimposed by the Taltson Magmatic Suite (1.97 to 1.92 Ga), which was later unconformably overlain by the arkose to conglomerates of the Thluicho Lake Group (1.92 to 1.82 Ga) (Ashton, 2008; Ashton and Hartlaub, 2008). The siliciclastic red-bed sequences of the mid to late Paleoproterozoic Martin Group (1,820 Ma) were uncomfortably deposited on the Thluicho Lake and Murmac Bay Groups. The Martin Group is characterized by sandstones, siltstones, and conglomerates,

along with mafic and lamprophyre dykes. The sequence is not well exposed, but limited observation shows truncation by the Black Bay Fault to the west and that the rocks are relatively unmetamorphosed or folded.

The rocks in the Project area were subject to significant brittle-ductile to brittle deformational events that produced widespread folding, faulting, shearing, fracturing, brecciation, and cataclasis. The major crustal-scale structures in the Project area comprise the northeast to southwest trending Black Bay Fault (BB in Figure 7.1.) and St. Louis Fault systems. Evidence of at least four major deformational events has been suggested. The D1 deformational event is related to the Taltson Orogen resulting in a regional east-south-east oriented foliation and mylonitic fabrics, which are overprinted by tight to isoclinal folds attributed to D2 deformation. The D3 deformational event contributed to regional dextral shearing and significant cataclasis, in addition to regional folding with z-folds commonly observed. Brittle-ductile deformational features tend to be northeast- striking and are suggested to be associated with deformation along the Snowbird Tectonic Zone, while brittle deformation is considered a product of the Slave Indenter (D3-D4) (Ashton and Hartlaub, 2008). The most recent deformational event, D4, a product of the Trans-Hudson Orogeny and presumably the Slave Indenter, resulted in north- to northeast-striking regional folding and the deposition of the Martin Group (Ashton et al., 2000; Ashton and Hartlaub, 2008).

The Athabasca Basin is an erosional remnant of a large Paleoproterozoic to Mesoproterozoic sedimentary basin, which spans most of northern Saskatchewan and into northern Alberta (Figure 7.1.). The basin comprises a series of mainly continental, unmetamorphosed siliclastic rocks, predominantly sandstone, of the Athabasca Supergroup (Bosman and Ramaekers, 2015). They were deposited approximately 1,710 to 1,500 Ma, superimposing the Martin Group and locally unconformably overlying the Murmac Bay Group. The Athabasca Supergroup siliciclastic rocks consist of unmetamorphosed, flat-lying quartz-rich sandstone to polymictic conglomerates of the Manitou Falls Group (Bosman and Ramaekers, 2015).

## 7.2. Local Geology

The Xcite Resources Inc. Project consists of six separate claim blocks located within the Rae sub-province and contain Paleoproterozoic crystalline basement rocks of the Beaverlodge and Zemlak Domains. The Smitty and most of Don Lake claims are situated in the Zemlak domain (Figure 7.2.) whereas the Lorado, Black Bay, Gulch and Beaver River claims are located within the Beaverlodge Domains. The western margin of the Gulch and Lorado claims, which overlies the Crackingstone Peninsula, hosts the NE-SW striking Black Bay Fault, which represents the litho-structural contact between the Beaverlodge and Zemlak Domains.

The Smitty and most of Don Lake properties are located within the Zemlak Domain and are underlain by a variety of foliated to gneissic granitoid rocks of inferred Archean age, as well as locally graphitic psammopelitic to pelitic gneisses and migmatites, and widespread leucogranites of inferred early Proterozoic and/or late Archean age (Cameco, 2008). Rock units observed include: 1) variably magnetic orthogneisses, 2) pelitic gneissic to migmatites and derived diatexites, 3) locally garnetiferous leucogranites, and 4) rocks that are too altered and mylonitized to classify (Ashton et al., 2004).

The Lorado, Black Bay, Gulch and Beaver River claims are all located within the Beaverlodge Domains and host northern margin of the Athabasca Basin, which trends erratically through Nisewuk, Grouse, Stewart, Johnston, and Halifax Islands along the southernmost point of the Crackingstone Peninsula. This unconformable contact displays windows of the Murmac Bay Group quartzite/quartz-feldspathic gneisses overlain by 1.71 to 1.50 Ga Athabasca Supergroup sandstones, breccias, and basal conglomerates, which outcrop intermittently on the islands and are occasionally stratigraphically reversed. To the south of the Athabasca Basin unconformity margin (7.2.), Athabasca Supergroup sandstones (Manitou Falls Read, Bird

Formation, and basal conglomerates) overlie crystalline basement lithologies, ranging in thickness from several metres to 84 metres in drill hole sections. Alteration types observed in the Murmac Bay Group rocks on the Property include clay alteration, chloritization, silicification, and widespread hematization.

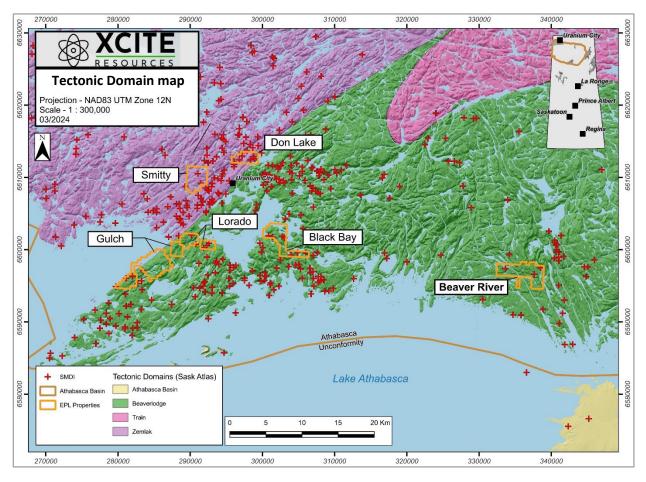


Figure 7.2. Simplified tectonic domain map of the Xcite Resources Beaverlodge Project, northern Saskatchewan with regional SMDI showings (Damant, 2024).

The oldest rocks on the Project include heavily mylonitized 3.0 to 2.3 Ga Archean basement granites and mixed orthogneisses, which comprise the core of the Crackingstone Peninsula. Protracted semi-continuous deformation  $(D_1-D_4)$  through general E-W shortening created multiple generations of folds (F<sub>1</sub>-F<sub>4</sub>), widespread ductile shear zones (D<sub>1</sub>-D<sub>3</sub> related), and significant brittle - ductile and brittle faults (D<sub>4</sub> related) which impart a strong regional structural grain and control on uranium mineralization in the Beaverlodge Uranium District.

Folded 2.33 to 1.93 Ga Murmac Bay Group rocks flank the eastern and southern edges of the Crackingstone Peninsula but also occur as in-folded remnants in the southeastern Zemlak domain. The Murmac Bay Group comprises repeating layers of quartzite, gabbro-ultramafic rocks, mafic volcanics, psammopelitic to pelitic metasediments, and mixed supracrustal rocks.

The Murmac Bay Group lies unconformably on circa 3.0 Ga Elliot Bay granite which is exposed on the eastern side of the Crackingstone Peninsula (Figure 7.2.), Here metamorphosed saprolite and basal

conglomerate lie directly on a paleosurface developed at the contact with the Elliot Bay Granite. Higher in the stratigraphy the Murmac Bay Group comprises quartzite, metagraywacke, metapelite and lesser amounts of metamorphosed carbonates, iron-stone and mafic volcanics. The metamorphic rocks have been variably deformed and metamorphosed during multiple tectono- thermal events including the 1.94-1.92 Ga Taltson orogeny (McDonough et al., 2000), 1.91-1.90 Ga amphibolite-facies metamorphism associated with deformation in the Snowbird Tectonic Zone (Ashton et al., 2009a), and a regionally extensive lower-temperature metamorphic overprint at 1.8 Ga associated with the Trans-Hudson orogeny. A middle-amphibolite facies peak metamorphic assemblage is apparent in mafic lithologies, which have abundant hornblende porphyroblasts; however, retrograde chlorite after hornblende is common. The Murmac Bay Group is intruded by 2326 ±15 Ma Mackintosh Bay granite, 2321±3 Ma Gunnar granite, 2999±7 Ma Cornwall Bay granite (Ashton et al. 2013) and a number of smaller granite bodies (e.g. the Box Mine granite) that are either undated or have poorly constrained ages. Penecontemporaneous gabbro and ultramafic dikes, sills and stocks also intruded the Murmac Bay Group. The strata are folded about steep- dipping NE-SW trending axial planes. Along the Crackingstone Peninsula the folding is isoclinal but in the eastern portion of the property some folds are broad and open.

Hematization is by far the most pervasive alteration phase, affecting both basement rocks and overlying Athabasca sandstones. Hematite is associated with pre-Athabasca weathering in the Murmac Bay Group rocks and associated with diagenetic and epigenetic processes in the Athabasca Supergroup rocks. Hematized fault zones and metre-scale quartz-hematite breccias are commonly observed in basement rocks on the Project. Chloritization is largely restricted to the basement rocks on the Project, present as pale to dark green replacements of ferromagnesian minerals and fracture linings. Chloritization is locally very apparent, with pervasive silica flooding in both Athabasca and Murmac Bay Group lithologies proximal to the unconformity and with intensely silicified orthogneisses in the basement. Silicification is also prominent in the form of hydrothermal quartz veins, drusy vugs, stockworks, and metre-scale breccia/dilation zones in the basement rocks. Clay alteration is dominated by illite and chlorite-clay mixtures, with local kaolinite and boron- rich dravite clay. Clay alteration is most apparent along the Athabasca-Murmac unconformity and in highly strained metapelite units. Kaolinite and dravite clays are more commonly hosted within structures rather than concentrated along the unconformity contact.

## 7.3. Project Rock Descriptions

Below are the descriptions of the geology observed on the Black Bay Property. The rock descriptions have been taken from the Saskatchewan Energy and Mines, Saskatchewan Geological Survey:

- Geological Compilation of the Uranium City Area, Zemlak Domain (parts of NTS 74N/6/11, and /12), West Sheet" (Ashton, K.E., 2008)
- Compilation Bedrock Geology, Tarzin Lake, NTS Area 74N (Ashton, K.E., 2009), and
- Athabasca Group + Martin Group = Athabasca Supergroup? Athabasca Basin multiparameter drill log compilation and interpretation, with updated geological map; in Summary of Investigations 2015, Volume 2 (Boseman, S.A. and Ramaekers, P., 2015).

### Athabasca Supergroup

Manitou Falls Group

- Read Formation: The Read formation is comprised of three informal members 1) Conglomerate to mudstone; 2) quartz arenite; 3) quartz arenite with intraclasts;
- Bird Formation: Conglomeratic quartz arenite.

### Zemlak Domain

Mylonites

- Mylonitic rocks of unknown origin: grey to brown phyllonite-mylonite to ultra-mylonite containing mm- to cm scale feldspar ± quartz relicts and local cm-scale oval feldspar blasts in a very finegrained, flinty to recrystallized quartz-feldspathic matrix; feldspar, quartz, chlorite, sericite; nonmagnetic;
- Mylonitized pink granitoid rocks: grey-green and pink, fine- to medium-grained chlorite- sericite schistose rocks containing pink mm- to cm-scale granitic remnants; non-magnetic.

Intrusives

- Pelitic migmatite-diatexite: gray, brown to white, medium to coarse grained, homogeneous to gneissic; generally mylonitized with about 30% white medium- to coarse-grained feldspar porphyroclasts; 20% biotite ± garnet; non-magnetic;
- Amphibolite: black, fine to medium grained; variably layered; 50% hornblende Sillimanite pelitic diatexite (formerly Rogers Lake Granite): grey-brown, medium to coarse grained; rounded feldspars; massive granitic rock containing 10% foliated biotite-sillimanite clots; non-magnetic;
- Seriate Anatectic Granite: pink to white, medium- to coarse-grained (1-10 mm); massive to weakly foliated; contains lenticular to angular amphibolite xenoliths and biotite-rich schlieren; 1-15% biotite ± hornblende, trace allanite; rarely magnetic;
- Leucogranite-leucogranodiorite (1930 Ma): salmon pink to red, fine to medium grained, homogeneous to gneissic, cataclastic to mylonitic, cm-scale zones of anastomosing shear fractures, mm-scale feldspar porphyroclasts, 1-5% biotite variably replaced by chlorite (up to 25% where metasomatized in shear zones); occurs as sheets up to hundreds of metres thick, grades into injection migmatite, locally contains up to 50% host orthogneiss; generally non-magnetic.

Murmac Bay Group and Coeval Intrusive Rocks

- Undifferentiated Murmac Bay Group rocks: Mainly psammopelitic gneiss and migmatite interlayered on scale of tens of metres to metres;
- Amphibolite: black, fine to medium grained; variably layered; 40-50% hornblende ± diopside; variably magnetic.

2.3 Ga Intrusives (Arrowsmith Orogen)

- Non-Magnetic Orthogneiss: grey, white to buff, or pink, fine to medium grained; foliated, gneissic, variably sheared, locally layered on cm scale, 0-20% biotite variably replaced by chlorite ± sericite; injected by up to 20% medium-grained granite sheets, ca. 10% variably dismembered mafic dykes, and up to >50% leucogranite sheets up to tens of metres thick;
- Magnetic Granitic to Granodioritic Orthogneiss: pink, brick red or grey, fine to medium grained; foliated, gneissic, variably sheared with locally beaded feldspars, 0-20% biotite ± hornblende ± allanite; minor hornblende granite; commonly injected by ca. 20% medium- grained granite sheets and ~10% variably dismembered mafic dykes.

### Beaverlodge Domain

Intrusives

• Garnetiferous Diatexite or "S" type Granites: white, pale pink to grey, medium coarse, homogeneous to locally gneissic; K-feldspar, biotite, garnet ± orthopyroxene; non-magnetic.

Syn-metamorphic Granitoids

• Leucogranite-Leucogranodiorite (1933 Ma): salmon pink to red, fine to medium grained,

homogeneous to gneissic, cataclastic to mylonitic 1-5% biotite and chlorite, magnetite ± allanite, occurs as sheets and injection migmatite, variably magnetic.

Murmac Bay Group and Coeval Intrusive Rocks

- Quartzite, minor feldspathic quartzite: white, fine to medium grained recrystallized quartz arenite, locally cross-bedded; non-magnetic;
- Mafic Volcanic Rocks: black, fine grained; layered local amygdules, rare plagioclase phenocrysts, 40–50% hornblende, variable magnetic;
- Gabbro: dark green, fine to coarse grained, locally multi-phase, 50-70% hornblende aggregates, non-magnetic.

2.3 Ga Intrusives (Arrowsmith Orogen)

• Granite (North Shore Plutons. 2327-2287 Ma): pink, coarse grained, homogeneous, massive to foliated, locally gneissic, 5-10% biotite/chlorite ± hornblende ± magnetite; porphyritic at the margins of Gunner and Mackintosh Bay Granites; generally non- magnetic.

Archean Granitoids

• Granite-tonalite (3060-3000 Ma): pink to white, medium grained, massive-to-foliated, schistose where altered, locally exhibit positively weathered quartz, 2-15% white mica, 1-10% biotite mostly replaced by chlorite, commonly intruded by sheets of leucogranite and gabbro dykes.

### 7.4. Mineralization

Occurrences of uranium mineralization are abundant in the Uranium City area and have been explored and documented since the 1940s. Additional information on historical discoveries and the locations of significant deposits and uranium occurrences / showings are provided in Section 6.

Uranium mineralization at the Gunnar Mine (produced 19.25 million pounds of  $U_3O_8$  between 1955 and 1964) was comprised of pitchblende and secondary U-oxides in a steeply dipping pipe- shaped orebody within albitized and carbonatized granite. The Gunnar deposit, and the nearby Eldorado Beaverlodge (Ace-Fay-Verna) mine deposits, are type localities for "Beaverlodge" type uranium mineralization. Beaverlodge deposits are structurally controlled, with mineralization hosted in veins and breccia-fills within basement rocks.

These Beaverlodge-style deposits differ from the higher-grade "Unconformity-related" uranium deposits. Unconformity-related deposits are typically higher grade than Beaverlodge-style deposits, and often comprise "perched" uranium mineralization within the Athabasca Supergroup sandstones, mineralization at the Athabasca- basement unconformity contact, and within the basement rocks proximal to and within reactivated graphitic faults and shear zones. These deposit types are discussed in more detail in Section 7.5. Uranium mineralization on the Black Bay Project is present as both Beaverlodge and unconformity-related types, within the Athabasca Supergroup sandstones and basement rocks.

Beaverlodge-style basement hosted uranium occurrences on the Project consist of vein- and fracturehosted uraninite and/or other uranium oxides ± base metals and/or calcite, with associated hematitelimonite alteration. The Saskatchewan Mineral Deposit Index (SMDI) has documented numerous uranium showings of this type across the Project, which are commonly associated with "Gunnar Mine style" carbonate-hematite alteration.

## 8: Deposit Types

The Project area has potential for two distinct types of uranium deposits: 1) high-grade Athabasca- style "Unconformity-related" deposits, and 2) lower-grade "Beaverlodge-style" structurally controlled deposits. Recent exploration efforts by Standard Uranium and Fortune Bay have focused on exploring for Unconformity-related deposits, primarily in the older basement rocks that occur immediately below the sub-Athabasca unconformity (either present or eroded away).

Canada was the world's largest uranium producer for several years, accounting for approximately 22% of world output, but in 2009 was overtaken by Kazakhstan (World Nuclear Association, 2022). A significant portion of the world's uranium production comes from the Athabasca Basin high-grade deposits, namely the McArthur River and Cigar Lake mines in northern Saskatchewan. Canada plays a significant role in meeting future world demand for uranium, with known resources of 606,600 tonnes of U<sub>3</sub>O<sub>8</sub> (514,400 tonnes U) in addition to continued exploration (World Nuclear Association, 2022).

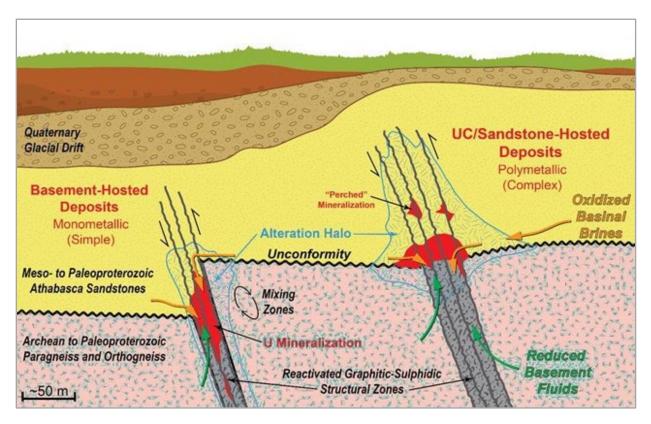


Figure 8.1. Schematic cross-section of unconformity-related uranium deposit sub-types.

Unconformity-related uranium deposits have been well described in the literature, notably by Jefferson et al. (2007). Unconformity-related uranium deposits in the Saskatchewan comprise massive pods, veins, and/or disseminations of uraninite spatially associated with the unconformable contact between the Paleoproterozoic to Mesoproterozoic ( $\leq$ 1.74 to  $\leq$ 1.5 Ga) siliciclastic Athabasca Basin and underlying older metamorphic basement rocks. The underlying crystalline basement rock comprise tectonically interleaved metasedimentary and Archean to Proterozoic granitoid rocks. Structurally controlled uraninite  $\pm$  polymetallic minerals have been discovered at, above, and/or below the unconformity surface (8.1.). Two major, long-lived hydrothermal ore-forming events are recorded taking place at 1600 to 1500 Ma and 1460 to 1350 Ma, with subsequent remobilization and recrystallization events at approximately 1176 Ma,

900 Ma, and 300 Ma. Beaverlodge-style epigenetic vein uranium ± polymetallic mineral deposits predate the Athabasca unconformity-related deposits; however, it is theorized that they developed through similar processes at the unconformity of the Martin Group and/or Murmac Bay Group.

Unconformity-related uranium deposits are broadly divided into two sub-types: monometallic and polymetallic (Figure 8.2.). Monometallic uranium mineralization is partially to completely basement-hosted, occurring in veins, breccia matrices, and as mineral replacements in reactivated fault zones. Trace metals can be present in addition to uranium in monometallic deposits. Polymetallic mineralization occurs at or near the unconformity contact as semi-massive, sub-horizontal replacement bodies, with variable amounts of other metals including nickel, cobalt, lead and arsenic, and trace gold, platinum, copper, iron, and rare earth elements. In polymetallic-type deposits, a zone of high-grade mineralization is typically enveloped by a zone of lower grade mineralization. McArthur River, Eagle Point, and Arrow are examples of monometallic type uranium deposits, while Cigar Lake, Key Lake, and McClean Lake are examples polymetallic type uranium deposits.

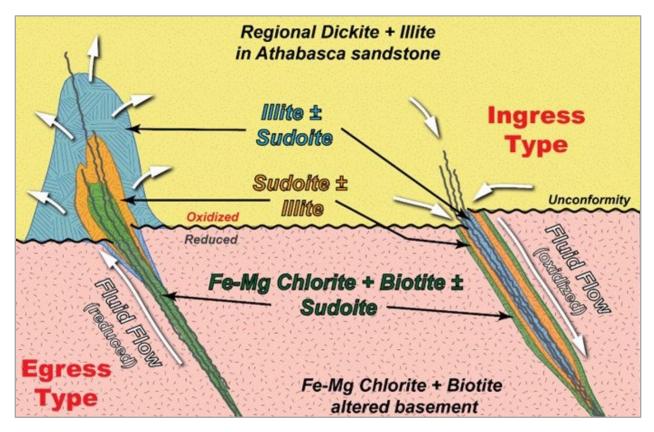


Figure 8.2. Schematic cross-section of egress and ingress type unconformity-related uranium deposits and associated alteration phases (after Quirt, 2003).

Uranium oxide as uraninite (UO<sub>2</sub>), commonly in its amorphous form pitchblende, is the sole commodity in the monometallic sub-type and principal commodity in the polymetallic sub-type. Uraninite is commonly structurally hosted in these deposits, filling extensional features in reactivated graphitic fault zones, in addition to replacing rock matrix in sandstones. Some of the known deposits in the Athabasca Basin include both sub-types and transitional types, with monometallic deposits tending to be basement-hosted, and polymetallic deposits typically hosted within the basal siliciclastic strata and paleo-weathered

basement at the unconformity contact.

Although classified as one deposit type, unconformity-related uranium deposits in the basin exhibit two end-member fluid flow and alteration patterns relating to fault zone structural geometry and the influence of the flat-lying topography of the unconformity surface affecting hydrothermal fluid movement through the subsurface (Jefferson et al., 2007). Relatively low-temperature (ca. 200°C) oxidized uraniumbearing hydrothermal fluids mixing with reduced basement-derived fluids results in precipitation of uraninite and associated alteration halos of chlorite, illite, dravite, and/or silicification (Jefferson et al., 2007). Alteration halos can be generally classified as either 'egress' or 'ingress' type (Figure 8.2.). Egress type alteration occurs at or above the unconformity as a plume shape or flattened elongate bell shape that tapers upwards, which typically extend hundreds of metres outwards from sandstone-hosted mineralization e.g., Cigar Lake deposit. Egress type alteration results from hydrothermal fluid flow out of the basement, focused along structures. Ingress type alteration is typically much more discrete and occurs dominantly as halos within the basement rock along structural conduits and results from basinal fluid flow into the basement along the structure e.g., Arrow deposit.

# 9: Exploration

As of the effective date of this report, Xcite Resources Inc. has not completed any field exploration work on the property. Early-stage exploration activities by Terra Logic Exploration Inc. include desktop data reviews, compilation and syntheses.

Exploration datasets available include compiling a GIS database of mineral occurrences, historic geochemical surveys as well as historic aeromagnetic, radiometric and EM data. The currently available datasets are described below. Drilling completed on the Beaver River Property is described in Section 10.

## 9.1. Mineral Occurrences

### **Beaver River Property**

There are five SMDI reports associated with two mineral occurrences within the Beaver River property which are prospective for monometallic and polymetallic Beaverlodge-type uranium mineralization. This type of mineralization is characterized by fault-controlled uranium deposits predominantly occurring in reactivated fault zones and lesser magmatic- and volcanic-related varieties.

The most prominent occurrence on the Beaver River property is the polymetallic "VIC" U-Cu-Ni zone which occurs along a fault zone striking 300° and dipping 75° to the south (Figure 9.1.1.; SMDI 1551, 1553, and 1994). The fault zone comprises brecciated sulfide-rich (up to 20%) fine-grained chlorite-altered mafic schist adjacent to garnet biotite gneiss country rock. Mineralization occurs in fracturing filling quartz veins hosting pyrite, molybdenite, chalcopyrite, malachite, graphite, pitchblende, and uraninite. Assays of channel samples in this zone yield up to 29.89% U3O8 over 0.3m (74005-0077; SMDI 1994). Drilling of the zone returned assays of 0.18% U3O8 over 0.3m (74005-0016) and 2.08% Cu, 1.10% Ni, 0.06% U3O8, 0.06 oz/ton Au, and 0.70 oz/ton Ag over 0.61m (74005-0051).

The other mineral occurrence on the Beaver River property is called the Combined Mining Uranium Showing and comprises northeast-trending pitchblende-bearing fractures adjacent to and cross-cutting a lamprophyre dyke (Figure 3, SMDI 1557). The dyke strikes 40-70° and crosscuts metasedimentary country rock and an amphibolite sill. Mineralization was noted over a strike length of 137.2m and assays from trenches yielded 0.23% U3O8 over 0.5m and 1.77% U3O8 over 0.9m.

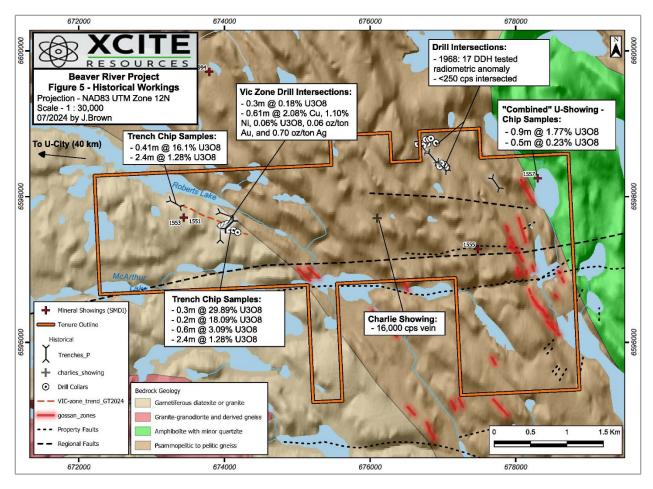


Figure 9.1.1. Property geology of the Beaver River property and notable exploration discoveries. Geology from Saskatchewan Energy and Resources 1:250,000 compilation. DDH – diamond drill hole; SMDI – Saskatchewan Mineral Deposit Index.

## **Don Lake Property**

Uranium mineralization at Don Lake claims is present as disseminated pitchblende, sometimes lenticular, appearing typically hosted in fractures or veins within brecciated and mylonitized zones associated with larger faults on the property (Figure 9.1.2.). Three promising zones of radioactivity and U mineralization have been identified as Zones A, B and C of the Don Lake Uranium Deposit (SMDI 1393).

Radioactive mineralization in Zone A, the most important of the three, is concentrated in one vein system with a known length of 213.4 m that crosses the trend of a northeast-striking lineament. Seven trenches and 19 drill holes have been completed over the zone, with historical (non-43-101 compliant) reserves estimated in 1978 to be 30,701 lbs  $U_3O_8$  (74N10-0502).

Zone B is considered to be a continuation of Zone A. The host rocks are highly granitized to cataclastites or migmatites. Assays returns varied from 0.02% to 1.17%  $U_3O_8$  (0.016% to 0.14% U) but because the uranium is dispersed in a series of veins and fractures it is difficult to make reserve calculations. Zone C occurs along a band of northwest-striking basic rocks. Assays from trenches and drill holes returned from 0.03% to 3.02%  $U_3O_8$  (0.025% to 2.56% U), with drill holes returning lower assays than the trenches.

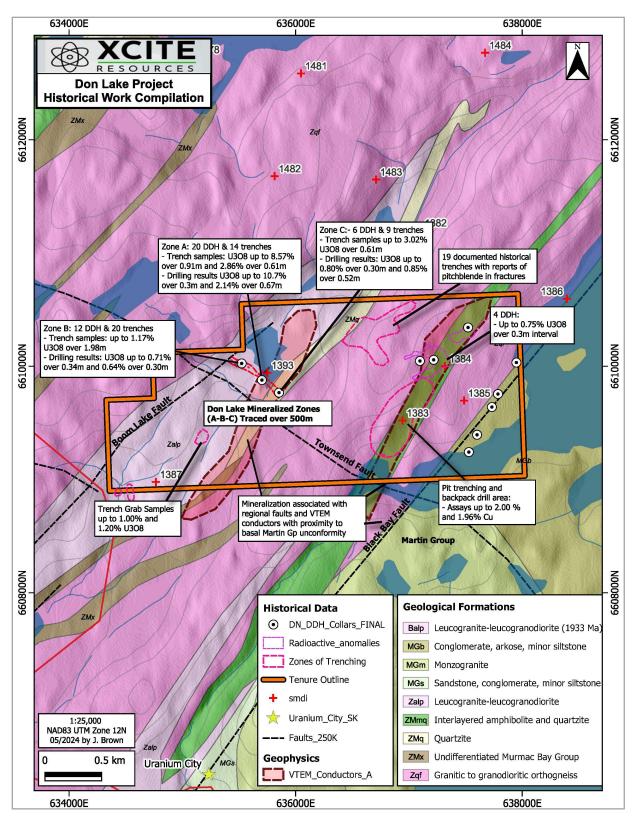


Figure 9.1.2. Property geology of the Don Lake property and notable exploration discoveries. Geology from Saskatchewan Energy and Resources 1:250,000 compilation. DDH – diamond drill hole; SMDI – Saskatchewan Mineral Deposit Index.

In addition to these zones, the property is host to five other mineral occurrences that are also registered with the Saskatchewan Mineral Deposit Index (SMDI).

The mineral of interest for all six mineral occurrences is pitchblende, with associated concentrations of chalcopyrite, pyrite, chalcocite, specular hematite and rare concentrations of galena, sphalerite and umangite. These are reported as vein, fracture or shear infill habit often associated with larger faults on the property.

In Radioactive Occurrence 50-CC3-10 and -44 (SMDI 1383; (Figure 9.1.2.), pitchblende occurs as a finenetwork, in a strike-fracture in jasperioid granite gneiss, along strike with the Crackingstone Fault. A sample from trench No. 4 assayed 2.00% Cu.

The host shears of the Midas Cu-U Showing (SMDI 1384) belong to an east- northeast-trending zone of en-echelon shears which occur on the northwest side of the Crackingstone Fault. Assays of this zone report up to 1.27% Cu.

Showings associated with the Townend Fault Uranium Showings (SMDI 1385) host pitchblende in fracture splays and breccia zones. A 10 ft (3.1 m) channel sample taken across a width of 1.0 ft (0.30 m) assayed  $1.63\% U_3O_8$ .

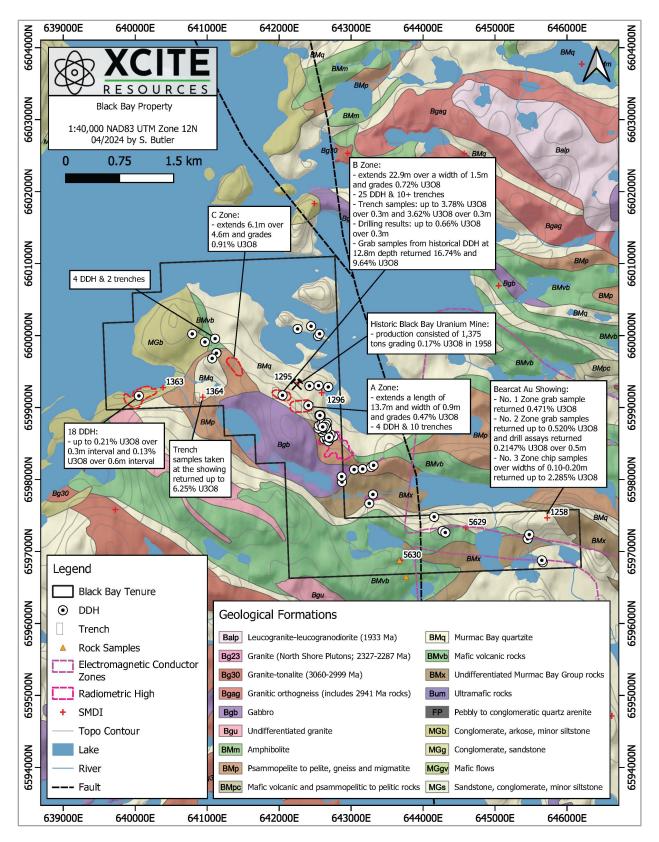
The AZOR Mines Claims U-Cu Showing (SMDI 1387) consists of a northwest-trending, overburden-filled depression presumed to be the surface expression of a fault, which crosses an outcrop of northeast-striking granitized amphibolite. A shear zone striking 055° and dipping 65°NW has been exposed in the depression for a strike length of 9.1 m by a narrow trench and may represent a splay from the postulated fault. A second occurrence 305 m west of this showing consists of a few narrow fractures containing quartz, pyrite and pitchblende, trending northwest cutting a gossan zone. Two grab samples from this area in 2013 assayed 0.019%  $U_3O_8$  and 0.014%  $U_3O_8$ .

The rocks immediately surrounding the A.R. Hawker Trench ARH-2 (SMDI 2116) are composed of dark red, fractured granite gneisses which have been brecciated and locally foliated. They generally have a rotten appearance and carry sulphide mineralization. The granites have been subjected to deformation consisting of mylonitization, brecciation, and fracturing accompanied by dilation cavitation with subsequent deposition of quartz at shallow depths as evidenced by drusy cavities and net vein structure. The sulphide and uranium mineralization in this area is likely structurally controlled. Chip samples from muck rock returned a maximum  $1.2\% U_3O_8$ , with surface rock returning  $0.78\% U_3O_8$ .

### Black Bay Property

The main commodities of economic interest on the Black Bay Property are uranium and gold. There are seven SMDIs that occur within the Black Bay tenure, five of which host uranium and two of which host gold (Figure 9.1.3.).

The historic Black Bay Uranium Mine (SMDI 1296) showing consists of tension fractures, largely restricted to drag folds in the quartzite within 9.1 m of the contact with gabbro, which are filled with hematite and graphite accompanied by lesser amounts of pitchblende. Several small ore shoots are distributed in a glassy white quartzite adjacent to the contact for a strike length of 152.4 m and a down dip distance of 731.5 m. Three main shoots were discovered and named the A, B, and C Zones (Figure 5). The A Zone, or the Powder Zone, extends a length of 13.7 m and width of 0.9 m and grades 0.47% U3O8. Zone B extends 22.9 m over a width of 1.5 m and grades 0.72% U3O8 and Zone C extends 6.1 m over 4.6 m and grades of



*Figure 9.1.3. Property geology of the Black Bay claims and notable exploration discoveries.* 

0.91% U<sub>3</sub>O<sub>8</sub> (SMDI 1296). In 1954, an adit was sunk near the showing. The ore from the adit was stoped and stockpiled. It has been reported that by the end of 1958, 1,375 tons of ore grading 0.17% U3O8 were shipped to the Lorado custom mill. Early in 1960, a further 0.333 tons of ore were shipped to the mill.

Approximately 0.6 km west-northwest of the Black Bay Uranium Adit is the Bluegrass Uranium Zone (SMDI 1295) showing, consisting of a brecciated zone in the quartzite adjacent to the contact with the gabbro which hosts pyrite, chalcopyrite, graphite, hematite and pitchblende. Trenching and diamond drilling at the showing. "28 samples" returned an average grade of  $0.88\% U_3O_8$  (SMDI 1295, 74N09-0111).

In the western portion of the Black Bay tenure are the Brunston Mining Uranium Zones No. 1 (SMDI 1363) and No. 3 (SMDI 1364). Zone No. 1 consists of scattered radioactive fractures that occur in arkose just above the Martin Formation unconformity. Diamond drilling was completed over the showing and the best assay returned was  $0.21\% U_3O_8$  over 0.6 m (74N10-0138). Zone No. 3 consists of a brecciated area of about 19.3 m<sup>2</sup> that hosts pitchblende within a unit of reddened quartzite containing pitchblende, pyrite, chalcopyrite, hematite and quartz. Trench samples taken at the showing returned from 0.06% to 6.25%  $U_3O_8$  (SMDI 1364).

Showing Sample 50956 (SMDI 5629) consists of a sample of quartz in a granite that assayed 1288 ppm U (74N08-0164). This showing was discovered in conjunction with samples 50964 and 50966 (SMDI 5630) which showed elevated Au, Ag and Pb values. Sample 50964 associated with galena and pyrite in white and green quartz assayed 0.2ppm Au, 0.2 ppm Au and 9763 ppm Pb (74N08-0164). Sample 50966 associated with galena throughout light green quartz assayed 3.0 ppm Au, 175 ppm Ag, >10,000 ppm Pb (74N08-0164). It is postulated that these are vein-hosted showings (SMDI 5630).

The Bearcat Au Showing (SMDI 1258) is the most eastern located showing on the property. It consists of three separate showings, Bearcat No. 1, No. 2 and No. 3 (A and B) Zones, located along the western shoreline of Bearcat Lake. Bearcat No. 1 Zone (or the Bearcat Uranium Occurrence) consists of a fine-grained chlorite-sericite schist hosted radioactive fracture that is exposed in a series of trenches. The visible mineralization present in the fractures consists of pyrite and yellow uranium oxide. Grab sample U90-107 returned  $0.471\% U_3O_8$  (74N09-0286).

The Bearcat No. 2 Zone consists of a radioactive mineralization at the contact between a well- laminated, locally hematized and diopside, white to maroon-grey quartzite and inter-banded chert and a well foliated chlorite schist that was later intruded by pegmatitic felsic segregations. The quartzite contains, locally, trace to 1% specularite and pyrite along laminae. Yellow uranium oxide stain (up to 10,000 cps) has been found within a series of small en-echelon chlorite schist lenses within the quartzite and within the contact between the quartzite and the chlorite schist. Minor pyrite, chalcopyrite, graphite and malachite and associated gold values are also found within the radioactive lenses. Grab samples taken by Saskatchewan Mining and Development Corporation (SMDC) returned 0.520% U<sub>3</sub>O<sub>8</sub>, 0.335% U<sub>3</sub>O<sub>8</sub> and 0.309% U<sub>3</sub>O<sub>8</sub> (samples U90-114, -111 and -112, respectively) (74N09-0286). Analytical results from hole BC-4 drilled at Bearcat No. 2 zone returned 0.2147% U<sub>3</sub>O<sub>8</sub> and 0.4378% Cu from 54.5-55.0 m (sample U9D-205) (74N09-0286). Drill hole BC88-02 returned a maximum assay of 705 ppb Au over 1 m (from 50.6-51.6 m, sample 5085) (74N08-0140).

The Bearcat No. 3 Zone comprises two showings, A and B. The A showing consists of a narrow radioactive quartzose stringer hosted within a well-banded, hematitic, pyritic quartzite that contains diopside interbands. The fracture hosts yellow uranium oxide and minor tremolite altered to talc. Chip samples over

widths of 0.10-0.20 m returned up to 2.285%  $U_3O_8$ , 13.9 ppm Au, 80 ppb Pt and 15 ppb Pd (74N09-0286). The B showing consists of a small outcrop of well-laminated quartzite with diopside inter-bands that hosts trace amounts of specularite, pyrite and graphite. Scintillometer readings of up to 10,000 cps are localized in two areas of intense orange hematite stained, boudinage amphibole-quartz-biotite schist that is interlayered within the quartzite.

#### Lorado Property

The primary commodity of economic interest on the Lorado property is uranium. Mineralization is hosted in granitic gneisses and brecciated or mylonitized units from the Murmac Bay group rocks and is present typically in the form of pitchblende. The property is host to four mineral occurrences that are registered with the Saskatchewan Mineral Deposit Index (SMDI). These SMDIs are reported in Table 9.1.

The historic Lorado Deposit, otherwise known as the Lorado Uranium Mine or the Pyrite Zone, led to the development of the Lorado Mine. The Lorado mine produced 95,000 tonnes of 0.19% U3O8 between 1957 and 1960. The mineralization is hosted by moderately south-east dipping graphitic and chlorite schists that are structurally overlain to the east by quartzite and underlain to the west by sheared pyrite-graphite schists. The main structural control is fracturing along the base of the limbs of a gently to moderately northeast-plunging fold. In contrast to uranium deposits and showings north and northeast of Beaverlodge Lake, hematite is conspicuously missing from the wall rocks in the immediate Lorado Mine area.

SMDI	Name	Property	Commodity	Status	Туре	Deposit Type
1228	Lorado Uranium Mine	74N07	U	Developed Prospect	Former Mine	Beaverlodge-Type Uranium +/- Polymetallic
1229	Pitchie Uranium Zone 1	74N07	U +/- Cu, V	Developed Prospect	Former Mine	Beaverlodge-Type Uranium +/- Polymetallic
3239	Sample BS1861-1-1	74N07	REE	Developed Prospect	Glacial Till	N/A
1439	IDEAL Claims Uranium Showing	74N07	U	Developed Prospect	Outcrop Grab	Beaverlodge-Type Uranium +/- Polymetallic

Much of the uranium mineralization on the property occurs as pitchblende and is spatially associated with disseminated pyrite and chalcopyrite, with minor bornite, chalcocite, specular hematite and vanadinates.

Table 9.1. SMDI – Saskatchewan Mineral Deposit Index of Lorado mineral occurrences.

#### **Gulch Property**

The main commodities of economic interest on the Gulch Property are uranium and incidental copper. There are four SMDIs that occur within the Gulch tenure (Table 9.2., Figure 9.1.4.).

The historic Gulch Uranium Mine (SMDI 1221) is located on a prominent escarpment on Black Bay, approximately 20 km southwest of Uranium City. The adit is 30 m from the shoreline. The Black Bay fault, striking N52°E and dipping 65° to 69°SE, structurally controls the ore shoots. Uranium mineralization is present as pitchblende and associated with northwest-trending fractures, hosting variably amounts of

pyrite, chalcopyrite, galena and smaltite. A total of 11 ore shoots have been outlined, varying from 18.3 to 48.8 m in length and 1.2 to 4.3 m in width, between the 500 ft and 800 ft (152 m and 244 m) levels. Between 1953 and 1957, Gulch Mines Ltd. reported a deposit of approximately 598,000 tons grading 0.126% U308 to a depth of 122 m, open at both ends of the structure (74N07-0068). In 1955, a 260 ft (79.3 m) adit was driven, an 830 ft (253.0 m) shaft was sunk from the adit, and lateral work was started (74N07-0068). Gulch Mines Ltd. reported the total deposit reserve as 854 tons per vertical foot grading 0.121% U308 in March of 1957 (74N07-0068). Shortly after, underground operations ceased. In 1975, drill indicated reserves of 201,000 tons of ore grading 0.09% U308 (0.05% cut-off) with a further 315,000 tons of possible reserves grading 0.09% U308 were reported (Energy, Mines and Resources Canada, 1990).

SMDI	Name	Property	Commodity	Status	Туре	Deposit Type
	Gulch Uranium Mine or			Past Producing	g Former	Beaverlodge-Type
	Gulch Uranium	74N07		Mine with	mine	Uranium +/-
	Zone/Depo sit or Arkose		U	Reserves/		Polymetallic
1221	No. 2 Adit			Resources		
	LUCY Claims Trenched					Beaverlodge-Type
1223	U-Cu	74N07	U, Cu	Occurrence	Outcrop	Uranium +/-
	Occurrence				Grab	Polymetallic
	Duvex Oils and Mines A					Beaverlodge-Type
	and B Radioactive				Outcrop	Uranium +/-
1224	Zones	74N07	U	Occurrence	Grab	Polymetallic
	Racu Uranium Zone					Beaverlodge-Type
1225		74N07	U, Cu	Occurrence	Outcrop	Uranium +/-
					Grab	Polymetallic

Table 9.2. SMDI – Saskatchewan Mineral Deposit Index of Gulch mineral occurrences.

The Lucy Claims Trenched U-Cu Occurrence (SMDI 1223) consists of sheared red granite with yellow uranium staining over an area 15 m long and 6.1 m wide, striking N50°E and dipping 30°SE. Four isolated blobs of yellow uranium staining, the largest of which is 0.6 to 0.9 m in diameter, comprise the showing. The showing has been trenched and a chip sample over 0.3 m assayed 0.37% U308 (74N07-0104).

The Duvex Oils and Mines A Radioactive Zone (SMDI 1224) consists of hematite-pitchblende- bearing fractures in mylonite near the base of the Martin Formation basal unconformity. Assays of grab samples from A Zone returned up to 2.23% U3O8 (74N07-0080). The B Radioactive Zone (SMDI 1224) is located approximately 1 km northeast of A Zone and consists of small amounts of U3O8 mineralization within the Martin Formation rocks on the southwestern shore of Middle Size Lake.

The Racu Uranium Zone (SMDI 1225) consists of radioactive fractures striking 325° to 335° up to 9.1 m long in the hanging wall of the Black Bay fault. Grab sample assays of up to 0.0218% U (sample 100153) and 0.12% Cu (sample 100155) were reported, and packsack diamond drill hole assays of up to 0.0221% U over 0.14 m (sample 100318, GUL15-18, from 0-014 m; MAW01772) and 0.0560% Cu over 0.16 m (sample 100325, GUL15-025, from 0-0.16m; MAW01772).

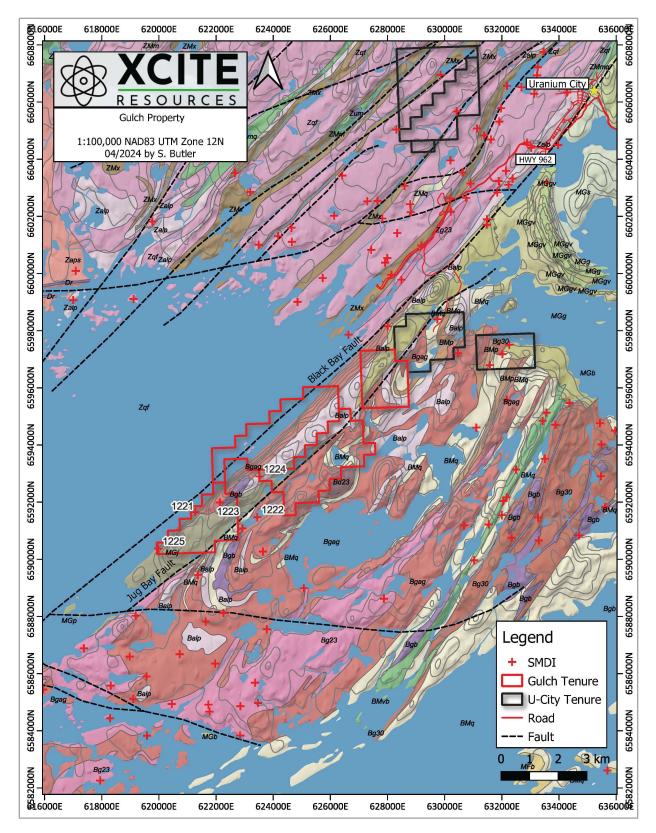


Figure 9.1.4. SMDIs within the Gulch property claims Geology from Saskatchewan Energy and Resources 1:250,000 compilation.

# Technical Report, Beaverlodge Project Smitty Property

The only commodity of economic interest on the Smitty property, or the Beaverlodge region, is uranium. The property is host to two mineral occurrences that are registered with the Saskatchewan Mineral Deposit Index (SMDI: Table 2). The tenure is host to the historic Smitty Deposit (SMDI 1413), otherwise known as the Rix No. 27 Showing or Smitty Showing, that led to the development of the Smitty Mine. Mineralization is present as an irregularly shaped body containing disseminated pitchblende typically hosted in a breccia-mylonite zone. Ore zones identified on the tenure have formed stockworks of fine-fractures, or veins, that develop into a flattened, pip-like body that extends ~240m down dip, 90m along the strike, and can be up to 10m wide. Discovery by way of surface radioactivity was made in 1950, with a shaft emplaced in 1952, and production by 1953.

Initial mining operations ceased after 1959 with final development of up to 7 levels. It is reported that the average grade of the ore is slightly greater than 0.20% U3O8 (SMDI 1413).

The mineral of interest for both mineral occurrences is pitchblende, with lesser concentrations of sphalerite, chalcopyrite, galena, and pyrite occurring in the matrix of the brecciated units. Sulfide minerals show no spatial relationship with the faulting in the area (Ashton et al., 2001). Specifically, for SMDI 1407, pitchblende is described as forming in the fractures of the diabase dykes of the Murmac Bay Group. Mineralization is described as fine-grained, disseminated pitchblende occurring in calcite.

Samples taken from the SMDI 1407 location returned an average of 2494 ppm U3O8 from several samples (exact number not specified; 2115 ppm U), whereby channel samples taken over regular intervals and assays from three DDH in the same area returned 0.05% U3O8 (0.100% U). Further work completed in the area in 1979 by the Saskatchewan Mining Development Corporation identified anomalous radioactivity along a narrow 0.3m by 200m wide shear zone. The radioactivity is suspected to be associated with the pink diabase and pink-grey pegmatite hosted within the previously mentioned shear zone.

Although the showing was sampled, the extent of the showing was too limited, and the grade was not elevated enough to warrant high potential. Nothing further has been reported on the showing past 1979.

SMDI	Name	Property	Commodity	Status	Туре	Deposit Type
	Goldfields Uranium Mines Uranium Occurrence 50-	74N10	U	Developed Prospect	Outcrop Channel	Beaverlodge- Type Uranium
1407	DD-36		C C		0.10.1.10	+/- Polymetallic
	Smitty Uranium Mine or Smitty U Showing or Rix U			Developed		Beaverlodge-
1413	Showing No. 27	74N10	U	Prospect	Mine	Type Uranium +/- Polymetallic

Table 9.3. SMDI – Saskatchewan Mineral Deposit Index of Smitty mineral occurrences.

# 9.2. Work Completed

#### **Beaver River**

Historical fieldwork (prospecting and trenching) was typically conducted in localized areas and does not encompass the entirety of the Beaver River property. The majority of work completed was focused on the "VIC" U-Cu-Ni trend in the west and around pitchblende-bearing fractures in the east. Surface geochemistry was limited to float, rock, chip, and channel samples likely due to the thin or non-existent soil horizons on the property reflecting its northerly latitude.

Diamond drilling on the property was conducted from 1955–1969, but no drilling has been attempted since. Approximate locations of 1955 and 1968 diamond drill hole collars in the west were digitized, however maps from different reports do not agree on the collar locations with errors of up to 250m. Diamond drill hole collars in the east were digitized and appear to be more accurately mapped than those in the west. and Intersections of monometallic and polymetallic Beaverlodge-type uranium mineralization were identified with significant assay results reported (Figure 9.1.).

Interpreted NW-SE trending EM conductors and magnetic anomalies from airborne geophysical surveys were digitized across the eastern portion of the property (Figure 9.2.1.). Most geophysical surveys were scintillometer surveys from 1955-1980 and were not useful or possible to digitize.

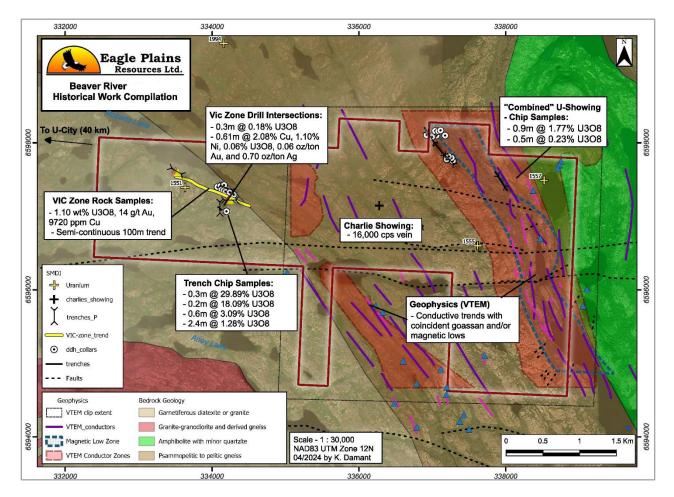


Figure 9.2.1. Summary of historic work done on Beaver River property including interpreted NNW-SSE linear geophysical anomalies. Geology from Saskatchewan Energy and Resources 1:250,000 compilation.

#### Don Lake

The Don Lake property is host to Beaverlodge-type uranium mineralization which is common to the Uranium City area. Hydrothermal pathways such as faults, breccias, and veins are the primary locations for mineralization based on past producing occurrences in the region. Lithologic contrasts between orthogneiss (granite), paragneiss, migmatites, and quartzites are ideal locations for fault formation and reactivation

necessary for hydrothermal fluid permeability and Beaverlodge-type uranium mineralization. Diabase and pegmatite dyke systems are also important markers of structure, some of which appear to have significant spatial control on mineralization in the region.

Historic work completed on the property was focused around the known six mineral occurrences, with the majority of work occurring over the 1950s and into the 1970s. Extensive trenching and prospecting have been carried out on the property with favourable results. Numerous geophysical surveys have been conducted with results indicating the presence of anomalous zones.

Diamond drilling at mineralized Zone A has proved promising, with a 1 ft intersection in hole No. 23 drilled in 1969 assaying 0.81% Cu and 10.7% U3O8 (9.08% U; sample 993) (AF 74N10-0422). This hole is about 90 m away from hole No. 1, drilled by Eldorado in 1950, from which a 2 ft section averaging 2% U3O8 (1.7% U) is believed to have been obtained (74N10-0345).

#### **Black Bay**

The Black Bay property is host to Beaverlodge-type uranium mineralization which is common to the Uranium City area. Hydrothermal pathways such as faults, breccias, and veins are the primary locations for mineralization based on past producing occurrences in the region. Lithologic contrasts between orthogneiss (granite, gabbro), paragneiss, migmatites, and quartzites are ideal locations for fault formation and reactivation necessary for hydrothermal fluid permeability and Beaverlodge-type uranium mineralization. Diabase and pegmatite dyke systems are also important markers of structure, some of which appear to have significant spatial control on mineralization in the region. Historic work completed on the property was focused around the known seven mineral occurrences, with the majority of work occurring over the 1950s and into the 1970s.

Extensive trenching and prospecting have been carried out on the property with favourable results, with trenching samples from the B Zone assaying 3.78% U3O8 over 0.3 m by 0.3 m (sample 710) and 3.62% U3O8 over 0.3 m by 0.6 m (sample 528) (74N09-0111). Numerous geophysical surveys have been conducted with results indicating the presence of anomalous zones and numerous strong conductors along linear east-west belts across the Bearcat-Mackintosh areas have the possibility to extend over current tenure.

Diamond drilling at mineralized B Zone has proved promising, with returns assaying 0.66%  $U_3O_8$  over 0.3 m (from 54.25 m to 54.55 m, hole A-19, sample 514) (74N09-0111). Grab samples from historical drill core at 12.8m depth report 9.64% U3O8 (sample 1) and 16.74%  $U_3O_8$  (sample 2; 74N09-0178).

#### Lorado

The Lorado property is host to uranium mineralization with strong spatial association to the well-developed fault systems on the tenures. Historic work completed on the properties focused predominantly in/around the Lorado Uranium Mine. Six years of mine exploration and production at the Lorado Mine increased the economic importance of the property and led to various geochemical and geophysical surveys to be carried out on the adjacent properties over the last 60 years.

A majority of the historical work completed on the Lorado east tenure block was during the late 1940's to 1950's and as such, the spatial constraints on the data are quite poor (e.g. locations of drill holes, grab samples, etc). In addition to this, most of the historical reports pre-1978 did not provide any records of analytical analyses.

Early historical work carried out in the Lorado area led to the discovery of multiple uranium showings, that eventually developed into the Lorado Mine. The first shaft was started in 1954, which opened up a small high-grade orebody that was described as "vein-like". Initial drilling results returned up to 0.793% U3O8 and 1.5% V2O5 over approximately 6.175 feet of the main ore shoot. Between 1957 and 1960 a total of 95,000 tonnes of 0.19% U<sub>3</sub>O<sub>8</sub> were produced.

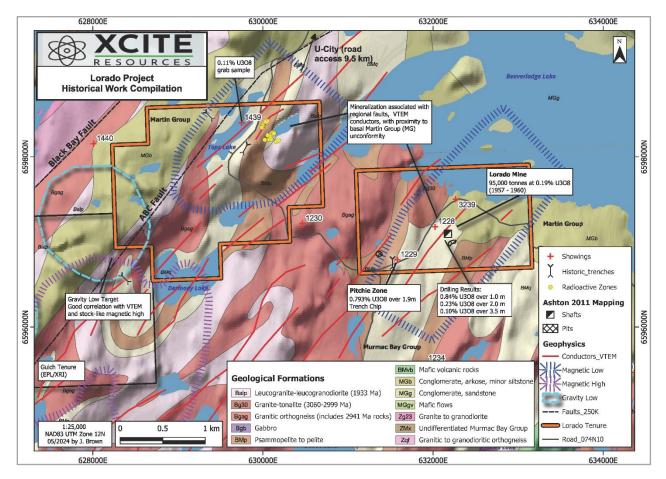


Figure 9.2.2. Historical work compilation of the Lorado property claims.

Some biogeochemical sampling was carried out in the Lorado Mine area by GLR Resources, who reported anomalous values for the twig sampling (49.4ppm U), indicating that geochemical methods may provide indicators for uranium mineralization in the area.

Recent historical work (between 2010 – 2019) by JNR Resources and Fission 3.0 was mainly focused on the NE-trending area that parallels Lake Athabasca, partially covering the Lorado west tenure block. Airborne geophysical Mag, VTEM, and ground HLEM surveys were completed between the two companies. Gravity anomalies of interest show good correlation with strong VTEM response and/or correlate with NE-trending magnetic and structural zones, none of which have ever been drill-tested.

#### Gulch

The Gulch property is host to uranium +-copper mineralization which is common to the Uranium City area.

Hydrothermal pathways such as faults, breccias, and veins are the primary locations for mineralization based on past producing occurrences in the region. Lithologic contrasts between orthogneiss (granite), paragneiss, migmatites, and quartzites are ideal locations for fault formation and reactivation necessary for hydrothermal fluid permeability and Beaverlodge-type uranium mineralization. Diabase and pegmatite dyke systems are also important markers of structure, some of which appear to have significant spatial control on mineralization in the region. Fault-shear-vein hosted mineralization on the property is predominantly prescribed to the Beaverlodge uranium deposit model, with spatial association to the Martin Lake basin (Figure 9.2.3.). However, with the current Athabasca basin margin exposed within 10km of the current property, basement-hosted sub- Athabasca unconformity mineralization is also a valid deposit model type for consideration.

Historic work completed on the property was focused around the known mineral occurrences, with the majority of work occurring over the 1950s and into the 1970s. From 2006 to 2013, a number of modern highquality geophysical surveys (airborne VTEM, magnetic and gravity gradiometric surveys, culminating in ground-based DC-resistivity and HLEM surveys) was completed over the majority of the current property region (Figure 9.2.3).

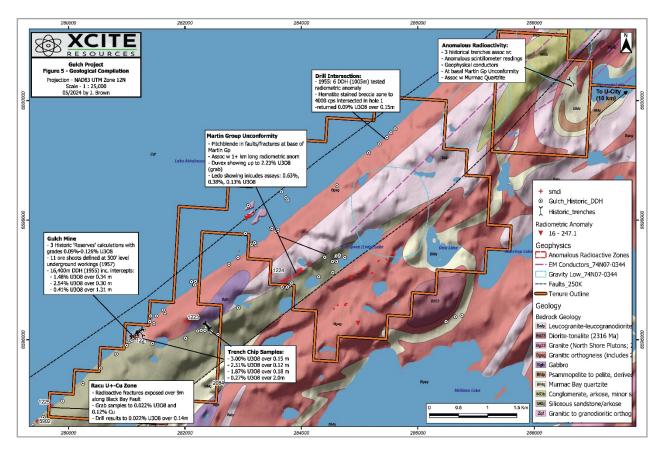


Figure 9.2.3. Historical work compilation of the Gulch property claims.

Extensive trenching and prospecting have been carried out on the property with favourable results. A grab sample from Duvex Oils and Mines A Radioactive Zone (SMDI 1224) returned 2.23% U3O8 (74N07-0080). Chip samples from Gulch C Zone returned up to 15.00%  $U_3O_8$  over 0.025 m and A zone returned up to 1.84%

over 0.15 m (74N07-0072). Trench sample 5 from Gulch Zone A returned  $3.00\% U_3O_8$  over 0.15 m and trench samples from Gulch Zone C returned  $2.51\% U_3O_8$  over 0.12 m and  $1.87\% U_3O_8$  over 0.18 m (sample 160 & 327; 74N07-0068).

Grab samples from the "Ledo Lake Showing" returned 0.292%  $U_3O_8$  (sample 202319; MAW02182) and up to 0.63%  $U_3O_8$  equivalent (74N07-0098). An outcrop sample near the western edge of Bisschop Lake returned 0.31% U (sample 210266; MAW02663). The Lucy U-Cu Showing's northerly trench yielded 0.12% U3O8 over 6.1 m and the southernly trench yielded 0.37% U3O8 over 3.0 m (74N07-0104; SMDI 1223). Assays from chip sampling trenches at the Racu Uranium Zone (SMDI 1225) returned 0.39%  $U_3O_8$  over 2.1 m, 0.26% U3O8 over 1.4 m (74N07-0219).

Numerous diamond drill programs have been conducted on the property. Historic drilling highlights include drill holes near the Gulch Mine that returned assayed 2.54% U3O8 over 0.30 m (Hole U2-71, from 246.0-247.0 ft, sample 866) and 1.12% U3O8 over 0.30 m (Hole U2-71, from 247.0-248.0 ft, sample 867; 74N07-0068). Drill hole 67-16, collared near the Gulch Mine, returned 0.70% U3O8 over 0.61 m across a pitchblende-bearing veinlet (from 930-932 ft, sample 8147; 74N07-0172). Drill hole P-5, collared near the Gulch Mine, returned 0.10% U3O8 over 0.34 m (from 39.5-40.6 ft, sample 8266) and 0.28% Cu over 0.61 m (from 93.5-95.5 ft, sample 8270; 74N07-0219).

Reserves at the historic Gulch Mine were calculated, between 1953 to 1957, to be approximately 598,000 tons grading  $0.126\% U_3O_8$  to a depth of 122 m (400 ft). Development work on the 152.4 m (500 ft) level of the mine outlined 11 ore shoots ranging in length from 18.3-48.8 m and in width from 1.2-4.3 m. In March of 1957, underground operations ceased, and total deposit reserves were re-calculated at 854 tons per vertical foot grading 0.121% U3O8 (SMDI 1221; 74N07-0068).

#### Smitty

Beaverlodge-type uranium mineralization is common to the Uranium City area. Hydrothermal pathways such as faults, breccias, and veins are the primary locations for mineralization based on past producing occurrences in the region. Lithologic contrasts between paragneiss, migmatites, and quartzites are ideal locations for fault formation and reactivation necessary for hydrothermal fluid permeability and Beaverlodge-type uranium mineralization. Diabase and pegmatite dyke systems are also important markers of structure, some of which appear to have significant spatial control on mineralization within the Smitty property. Historic work completed on the property focused predominantly on the original Smitty showing, as well as the '62' Zone showing.

Following 10 years of mine development and production by Rix Athabasca Uranium Ltd., U ore reserves became depleted at the main showings in the area (e.g., Smity showing, '62' Zone). More recent work carried out included prospecting, geochemical sampling (e.g., till), and DDH exploration programs that revealed favourable results for the property.

Historical work completed in 1979 in the Bushell area revealed drilling interval (DD-97; AR 74N10-0515) that averaged 0.47% U3O8 across 0.9m for 10m. Further south of the showing, till assay results from the E-W fault valley in Finis Lake returned anomalous results for U; however, the returns for metalliferous elements were not favourable. Although scintillometer surveys have been completed on the tenure, the results have not been favourable in regions with anomalous geochemical results. No scintillometer surveys have been conducted in this area with favourable results.

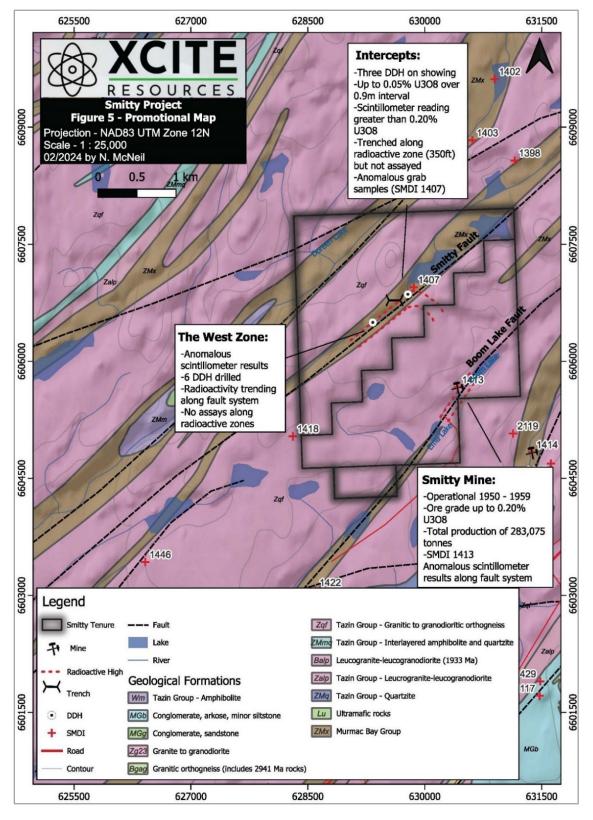


Figure 9.2.4. Historical work compilation of the Smitty property claims.

#### 9.3. Historic Geochemistry (Beaver River)

Regional litho-geochemical exploration datasets were collected from the mid-1950s through the 1980s and up to 2019 (Table 6.1.; Figure 9.3.). Surface geochemistry was limited to float, rock, chip, and channel samples likely due to the thin or non-existent soil horizons on the property reflecting its northerly latitude.

Historical fieldwork was typically conducted in localized areas and did not encompass the entirety of the Beaver River property. The majority of work completed was focused on the westerly VIC U-Cu-Ni trend comprising polymetallic veins and fracture fill hosted in a fault zone striking 300° and dipping 70° to the southwest over a strike length of 1097 m. Focus of sampling in the east was pitchblende-bearing fractures trending 40-70° adjacent to and penetrating a lamprophyre dyke are found in the NE corner of the property.

The westerly VIC zone has historically returned promising assay results including a chip sample over 0.3m assaying 29.89%  $U_3O_8$ . The 2019 resampling of historical trenches of the VIC U-Cu-Ni zone returned assays of up to 1.10 wt.%  $U_3O_8$ , 14 g/t Au, and 9720 ppm Cu over a semi-continuous length of >100m. Channel samples assay at the easterly pitchblende-bearing fractures returned up to 1.77%  $U_3O_8$  over 0.9m (Figure 9.3.; SMDI 1557).

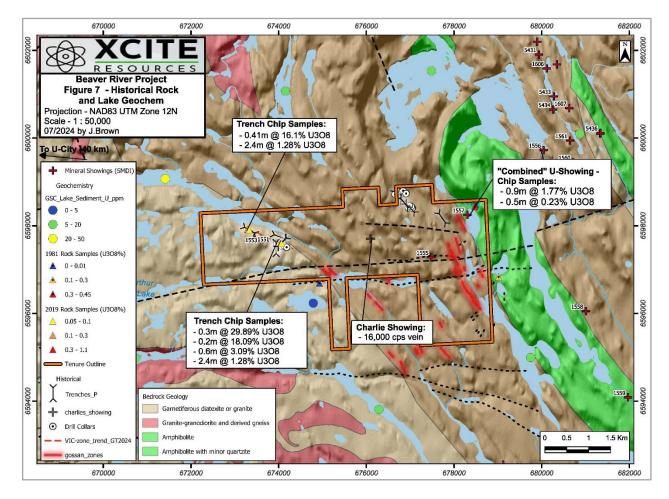


Figure 9.3. Historic lake sediment, trench and rock chip geochemistry of the Beaver River property with gossans. Geology from Saskatchewan Energy and Resources 1:250,000 compilation.

#### 9.4. Historic Geophysics (Beaver River and Gulch)

Partial property-scale electromagnetic (EM), gamma ray radiometrics along with aeromagnetic data for Beaver River and Gulch property claims are available for review.

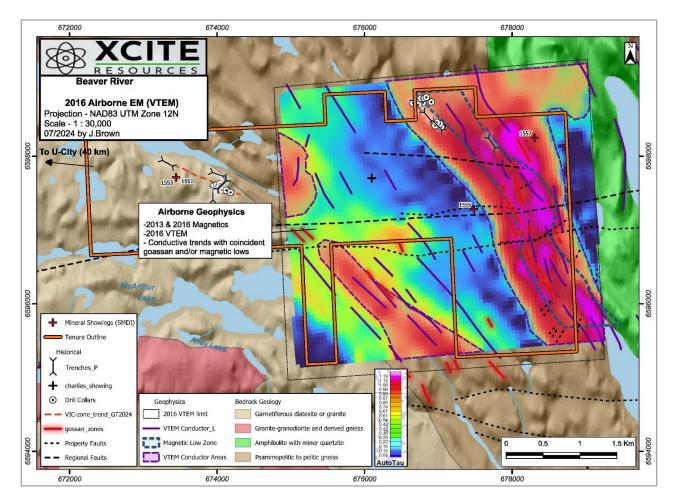


Figure 9.4.1. Partial historic airborne TEM electromagnetic survey map of the Beaver River property.

The pre-1981, airborne EM identified EM conductors in the eastern Beaver River area which were attributed to graphite and pyrite. The 2016 airborne VTEM survey at 200m line spacing over the over the eastern Beaver River property identified NNW trending conductive zones. The 2013 airborne magnetic survey at a 50m line spacing over the eastern Beaver River property revealed Interpreted NW-SE trending low-magnetic trends often associated with feeder fault systems to uranium mineralization (Figures 9.2.1. and 9.4.2.).

As pertaining to the Gulch property claims, Figure 9.4.4. illustrates historic EM, gravity and radiometrics coverage. JNR Resources Inc. conducted helicopter-borne VTEM and magnetic surveying on their Cracking Stone Project in 2006. The Cracking Stone West Block corresponds to Gulch tenure. A total of 7733 line-km of geophysical surveying were completed with 200 m line spacing. 759.5 line-km completed were on the West Block, where 248 anomalies were identified. It was interpreted that these anomalies were caused by the presence of either graphite, metal sulphides or saline fluids. (74N-0009).

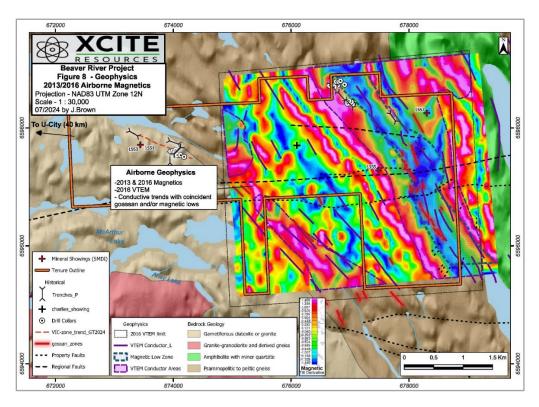
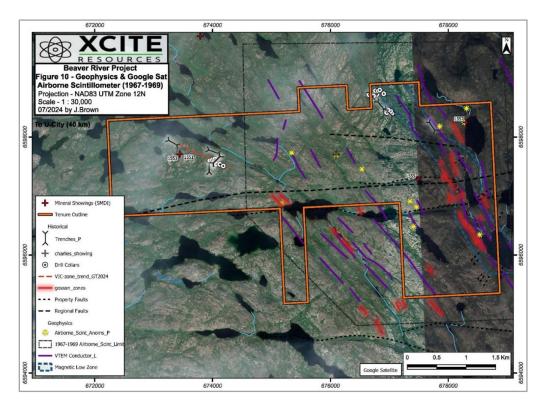
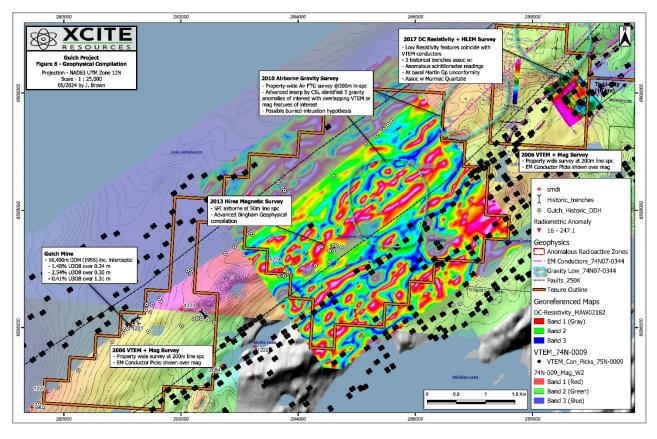


Figure 9.4.2. Partial historic airborne magnetic survey map of the Beaver River property.



*Figure 9.4.3.* Partial historic airborne gamma ray radiometric survey map of the Beaver River property.

The 2010 airborne full-tensor, gravity gradiometer surveying of the West Crackingstone Project corresponding to the Gulch claims was flown at nominal 300m line spacing. A total of 617 line-km of geophysical surveying was completed with 150-300 m line spacing. Three zones of interest within the West Block were delineated from surveying and were found to coincide with EM and magnetic anomalies from the 2006 VTEM survey (zones G-1W, G-2W, and G-3W). All three are on strong, high conductance, VTEM responses situated around the northwest margin of a stock-like gravity high that closely correlates with a similar stock-like magnetic high. Mapped geology is not all that suggestive of higher density (or magnetic) lithologies, and geophysics may therefore indicate a shallow buried intermediate intrusion, perhaps adding interest to the nearby conductors (74N07-0344). The report includes an advanced geophysical interpretation by C.S. Ludwig incorporating recent historical survey data including the 2006 VTEM survey, 2007 magnetic gradiometry survey, and the present 2010 tensor gravity gradiometry survey results.



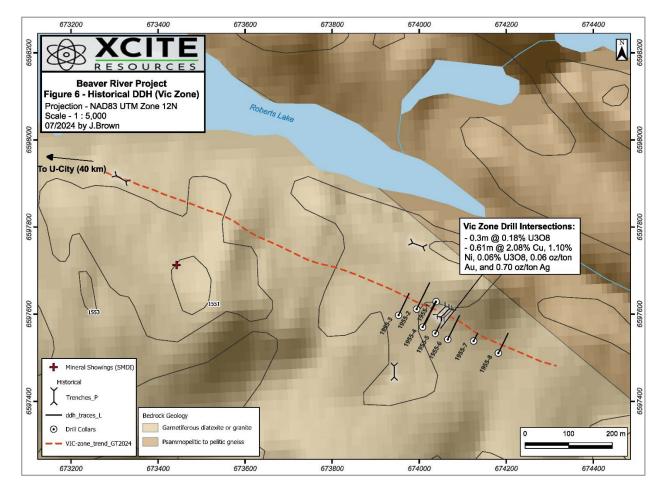
*Figure 9.4.4.* Partial historic airborne time-domain electromagnetic survey map of the Gulch property.

In 2013, Fission 3.0 Corp. conducted airborne magnetic surveying on their Thompson Lake Property, which corresponds to central and northern Gulch tenure. A total of 355 line-km of geophysical surveying was completed at 50 m line spacing. The Zone 5-W zone of interest identified by JNR Resources Inc.'s 2006 VTEM survey was included within the survey area. The area surveyed was found to be characterized by a northeast-southwest trending magnetic fabric, parallel to the Black Bay Fault, and is permeated with a lattice of dominant structural corridors aligned in both E-W and N-S directions (MAW00775). An advanced interpretation report by D. Bingham is included in the appendix which incorporates an analysis of previous VTEM, magnetic and gravity survey results.

In 2017, Fission 3.0 Corp. conducted scintillometer-prospecting, ground DC resistivity surveying, horizontal loop electromagnetic (HLEM) surveying on their Thompson Lake Property, which corresponds to central and northern Gulch tenure. The ground DC resistivity survey consisted of 4.8 line-km and the HLEM survey consisted of 1.6 line-km. The geophysical surveys were located southwest of Dermody Lake, and northeast-southwest conductors were identified. A total of 50 rock samples were collected while prospecting. Hematitic argillite at the "Lido" Lake showing returned up to 0.292%  $U_3O_8$  (sample 202319; MAW02182).

# 10: Drilling

No drilling is currently in process or has, to date, been undertaken by Xcite Resources Inc. Historic drilling on Beaver River property includes 9 diamond drill holes (DDH). The following is a description of diamond drilling completed by XX on the Property to date. To the Author's knowledge, there are no drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.



*Figure 10. Historic diamond core drilling of the VIC zone of western Beaver River property.* 

Diamond drilling on the property was conducted from 1955–1969, but no drilling has been attempted since. Approximate locations of 1955 and 1968 diamond drill hole collars in the west were digitized and shown below. Diamond drill hole collars in the east were digitized and appear to be more accurately mapped than those in the west. and Intersections of monometallic and polymetallic Beaverlodge-type uranium

mineralization were identified with significant assay results reported

Drilling of the VIC zone of the western Beaver River property returned assays of 0.18% U3O8 over 0.3m (74O05-0016) and 2.08% Cu, 1.10% Ni, 0.06% U3O8, 0.06 oz/ton Au, and 0.70 oz/ton Ag over 0.61m (74O05-0051).

The nature of uranium mineralization in the VIC U-Cu-Ni drill cores differs slightly between the westerly and those in the eastern segment of the trend which may reflect local differences in geology between the orthogneiss dominant rocks in the west and the paragneiss dominant rocks in the east. Mineralization in the west is found along a 300°/70°S oriented chlorite-altered fault zone comprising polymetallic occurrences including chalcopyrite, molybdenite, malachite, uraninite, and pitchblende (SMDI 1551, 1553, and 1994). Mineralization in the east is fracture-controlled and related to lamprophyre dykes striking 040-070° comprising monometallic pitchblende (SMDI 1557).

# 11: Sample Preparation, Security, and Analyses

#### 11.1. Field Sampling protocols (Sample Preparation)

For on-going exploration programs, standard sampling procedures are being implemented. Coordinates of sampling points are recorded with a handheld GPS in the NAD83 UTM Zone 12 coordinate system. General metadata such as sampling date and sampler responsible are routinely being recorded. Field notes are taken by pen and paper and transcribed into a digital format (Microsoft Excel templates) on a daily basis.

Rock chip and grab samples are collected from outcrops or boulders of interest using a rock hammer. About 1 kg were collected from fine-grained, homogeneous lithologies whereas 2-3 kg were collected from more heterogeneous lithologies. Rock textures and mineralogy, as visible macroscopically, are described in the field. All samples are bagged with identifying sample tickets, packaged in plastic bags which are then sealed with numbered security tags for shipment.

#### 11.2. Chain of Custody (Security)

During the June 2024 site visit, each collected sample was marked with a unique sample number on a plastic bag and with a paper sample tag put inside. After logging, sampling, and shipment preparation, samples were transported directly from the project site to a certified laboratory of choice by the staff. Radioactive samples above the mandated threshold were transported in shielded steel containers.

Upon arriving at a laboratory, bar codes are usually assigned to samples after which they are prepared (crushed, pulverized and/or sieved depending on the type of material). The analytical laboratory is independent of the issuer. Certified laboratories (SRC, ALS) place a large emphasis on confidentiality and data security. Appropriate steps are taken to protect the integrity of samples at all processing stages and access to their premises is restricted by an electronic security system and patrolled by security guards 24 hours a day.

After the completion of analyses, data is sent securely to the issuer via electronic transmission. The results are provided as a series of PDFs and an Excel spreadsheet.

#### 11.3. Quality Assurance and Quality Control

No certified reference materials, blanks or duplicates were used during the June 2024 field visit and

concurrent sampling. Eagle Plains' QA/QC protocol normally involves insertion of one sample blank, one CRM standard and one duplicate for every 30 samples.

QA/QC of all sample processed at SRC is carried out to ensure integrity of results at a level of confidence appropriate for an exploration-stage project. On sample receipt, reference laboratories (e.g. SRC, ALS) insert additional blanks and reference materials as well as duplicates as per their standard operating procedure. The results are reported in the laboratory certificates.

Review of the QA/QC above suggests that the analytical data are and will be sufficiently well constrained to use for the purpose of exploration. All processes performed at the SRC laboratory are subject to a strict audit program, which is performed by approved trained professionals. Based on the data validation and the results of the standard, blank, and duplicate analyses, The QP is of the opinion that the assay databases are of sufficient quality for the purposes of exploration.

Based on the June 2024 field visit, the field sampling protocols are considered adequate for the type of exploration carried out at the Beaverlodge Project. Since the aim of geochemistry at this early stage of exploration is primarily to identify anomalies and spatial patterns of element distribution the above QA/QC protocol is considered fit for purpose although additional certified reference materials and blanks might be required for drilling, trenching and channel sampling (ca. 5% blanks and 5% reference materials).

#### 11.4. Analytical Procedures (Analyses)

In general, the analytical methods and protocols are of high quality and adequate for the stage of exploration and the type of samples collected.

Geochemical characterization of samples taken on the Project claims will be conducted by the Saskatchewan Research Council ("SRC") Geoanalytical Laboratories (ISO/IEC 17025:2005 accredited) for multi-element characterization and uranium assay. Samples are screened upon receipt by SRC, and samples with significantly elevated radioactivity were identified and separated out for the SRC "ICP1" multi-element uranium exploration package, with an additional assay for U3O8 in weight percentage. Analysis of the remaining samples are carried out through the SRC "ICP-MS2" basement exploration package. Sample preparation for all samples included drying, jaw crushing to 60% passing -2 mm, and pulverizing to 90% passing -106 microns.

The ICP1 package includes ICP-OES on a total digestion and ICP-MS on a partial digestion, with U3O8 assay carried out by partial digestion and analysis by ICP-OES. The ICP-MS2 package consists of three separate analyses, including (1) ICP-MS on a partial digestion, (2) ICP-OES for major and minor elements on a total digestion and (3) and ICP-MS analysis for trace elements on the total digestion. This overall ICP-MS2 package includes results for four lead isotopes 204Pb, 206Pb, 207Pb and 208Pb. Partial digestions are performed on an aliquot of sample pulp, which is digested in a mixture of concentrated nitric: hydrochloric acid (HNO3:HCl) in a test tube in a hot water bath, and then diluted using deionized water. Total digestions are performed on an aliquot of sample pulp. The aliquot is digested to dryness in a Teflon tube within a hot block digestion system using a mixture of concentrated HF:HNO3:HClO<sub>4</sub>. The residue is dissolved in dilute HNO3. Additional analysis for Boron content was obtained for all samples through NaO<sub>2</sub>/NaCO<sub>3</sub> fusion followed by ICP-OES.

# 12: Data Verification

All geological data has been reviewed and verified by the Author as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. The Author did not verify prior grab or core sampling as there was none conducted by Eagle Plains or Xcite. In the Author's opinion, the samples taken during the June 2024 site visit by the Terra Logic geologist on behalf of Xcite provide an adequate procedure. The Author believes the work was carried out in accordance with the Canadian Institute of Mining (CIM) Mineral Exploration Best Practice Guidelines.

As mentioned above, historic exploration datasets occasionally lack the metadata required to evaluate their suitability and reliability of the data. Geochemical data verification on historic drilling was not carried out due to lack of original analytical certificates and lack of access to drill core or other drilling sample materials. Thus, historic drilling data could not be verified.

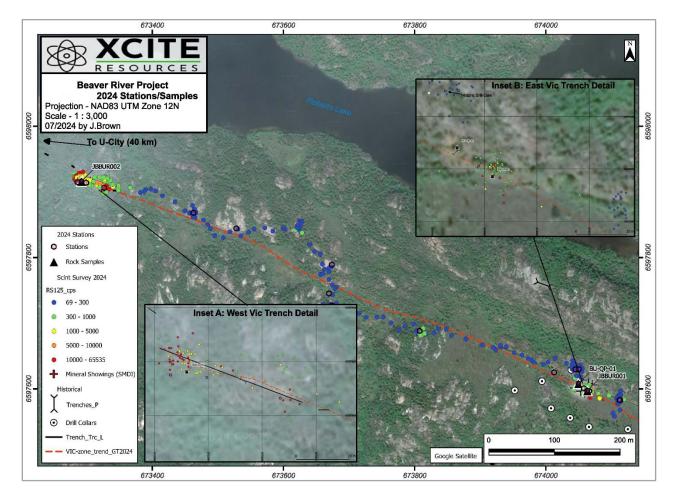
#### 12.1. Site Visit Validation

The Author visited Property together from June 19<sup>th</sup> to 21<sup>st</sup>, 2024 via chartered turbo propeller airplane from Fort McMurray, Alberta. The author conducted airborne visual surveys of all the Project claims and examined aspects of the mainland and island terrain, outcrop, and vegetative cover. Apart from Gulch claims, all other five project properties were visited, photographed and sampled although the focus of the visit was on the showings on the Beaver River and Don Lake Claims.

The terrain on the Project is rocky and forested with several instances of bare outcrops amongst forest with a thin cover of soil. Trees are largely mature, with patches of relatively new growth populated by smaller spruce trees. Don Lake, Smitty, and Lorado outcrops were visited by terrain vehicle and on foot while filed work on the Beaver River, Black Bay, and Gulch claims was facilitated by helicopter out of Uranium City.

Thirty-six field stations were recorded, six of which were samples for geochemical characterization at ALS Laboratories in North Vancouver (Table 12.1). The representative grab samples were shipped to the laboratory by the Author (Figure 12.3) with the assay values provided in Table 12.2. below. Photographs of the filed areas are provided in Figures 12.1.4. to 12.1.8. Extensive on-site discussions between the author and Terra Logic's geologist Jarrod Brown, P.Geo. were had, pointing out specific units and surface features of interest including sheared graphitic (metapelite) zones, structurally controlled alterations, and outcrops of elevated radioactivity within basement granitoid phases.

The Project's preliminary exploration procedures and protocols were found to meet industry-standard practices. There is no new scientific or technical information about the Property as of the date of this report and, accordingly, the 2024 site visit remains current. The Author took steps to independently verify that there has been no material work done on the property since the site visit in June 2024. The Author received all new assay certificates directly from ALS Laboratories in Vancouver (the responsible laboratory), for the verification samples taken on site.



*Figure 12.1.1. June 2024 field track and stations of the western Beaver River Property VIC zone visited by the Author. Continuous-mode scintillometer readings and two verification field samples were taken.* 

Station ID	Property	Easting	Northing	Notes
LO-1	Lorado	-108.653	59.492	2.0 Ga Martin Group schistic arkose
LO-2	Lorado	-108.665	59.491	Lorado mine shaft
LO-3	Lorado	-108.666	59.491	FeOx stained high cps float
LO-4	Lorado	-108.667	59.492	Graphite coated pelites
LO-5	Lorado	-108.667	59.492	Highly FeOx stained, high cps pelite within fractured quartzite; possibly a redox horizon
LO-6	Lorado	-108.668	59.492	FeOx stained pelite; LO-QP-01
LO-7	Lorado	-108.668	59.492	Hematite stained quartzite
LO-8	Lorado	-108.668	59.492	Murmac Bay quartzite; 170 cps (showing 1228)
LO-9	Lorado	-108.669	59.492	568 ppm U and 24 ppm Th (showing 1228)
LO-10	Lorado	-108.691	59.491	Mesoarchean granitic orthogneiss foliated along 280° (SE of showing 1230)
LO-11	Lorado	-108.706	59.497	Chlorite muscovite paraschist

LO-12	Lorado	-108.707	59.501	Pinkish Th-bearing leucogranite fractured along 180° and 135°; 52 ppm U and 376 ppm Th (south of showing 1439)
LO-13	Lorado	-108.707	59.502	High-Th leucogranite (south of showing 1439)
SM-1	Smitty	-108.690	59.568	Reddish, intensely fractured, high cps leucogranite adjacent to Smitty Mine
SM-2	Smitty	-108.690	59.568	Yellow secondary U mineralization; up to 56,000 cps; <b>SM-QP-01</b>
SM-3	Smitty	-108.691	59.568	Mafic enclave within bleached (sodic altered) leucogranite
DN-1	Don Lake	-108.631	59.580	Trench 2 km SW of licence boundary with 14,000 cps
DN-2	Don Lake	-108.614	59.598	Faulted leucogranite orthogneiss (fractures oriented at 055/60)
DN-3	Don Lake	-108.613	59.597	5,600 cps (showing 1387)
DN-4	Don Lake	-108.607	59.598	Mylonitic orthogneiss
DN-5	Don Lake	-108.603	59.602	Trench in silicified, FeOx stained orthogneiss with pyrite and Cu sulfohydroxides (15,900 cps); <b>DN-QP-01</b>
DN-6	Don Lake	-108.602	59.603	Blast pit with 15,000 cps
DN-7	Don Lake	-108.597	59.605	Trenches in FeOx stained granitic orthogneiss with 4,900 cps
DN-8	Don Lake	-108.596	59.605	18,400 cps (446 ppm U and 46 ppm Th); <b>DN-QP-02</b>
DN-9	Don Lake	-108.596	59.605	Blast pit with yellow staining of uranium secondary hydroxides with up to 23,000 cps
DN-10	Don Lake	-108.596	59.605	Blast pit
BB-1	Black Bay	-108.482	59.504	Mine pit in pinkish quartzite
BB-2	Black Bay	-108.483	59.505	Yellow secondary U mineralization in quartzite fractured along 120° and 045° (65,000 cps; 0.456% U and 288 ppm Th); <b>BB-QP-01</b>
BU-1	Beaver River	-107.926	59.481	FeOx stained granitic migmatite fractured along 100° in the Vic Zone (up to 500 cps)
BU-2	Beaver River	-107.927	59.481	Blast pit with fault gauge and malachite
BU-3	Beaver River	-107.927	59.481	25,000 cps; <b>BU-QP-01</b>
BU-4	Beaver River	-107.927	59.481	Historic drill core in orthogneiss migmatite
BU-5	Beaver River	-107.928	59.481	Faulted FeOx stained orthogneiss migmatite
BU-6	Beaver River	-107.933	59.482	Bleached tonalitic orthogneiss
BU-7	Beaver River	-107.936	59.483	Leucotonalite gneiss with 300 cps
BU-8	Beaver River	-107.939	59.484	50-m trench along 120° azimuth within FeOx stained gneiss with yellow U secondary mineralization and up to 65,000 cps

 Table 12.1. Field stations recorded by the Author during the June 2024 visit including the locations of six

 representative samples taken of uranium mineralization.

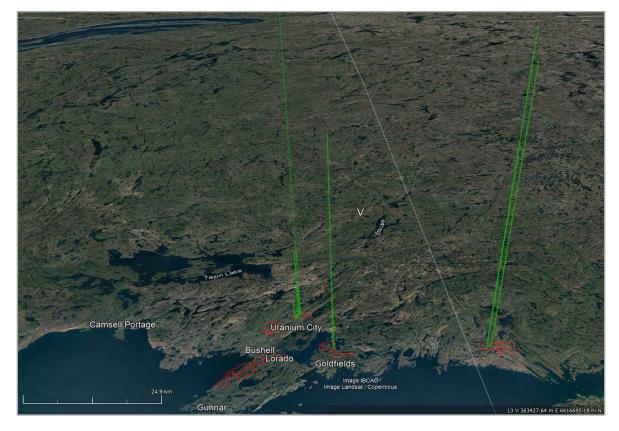


Figure 12.1.2. Relative total gamma ray scintillometer readings from outcrops by location from east to west: Beaver River, Black Bay and Don Lake property claims taken during the June 2024 upon a Google Earth satellite imagery of the Beaverlodge District, northern Saskatchewan (after J. Brown).



Figure 12.1.3. Grab samples taken by the Author from various Project claims and assayed by ALS Labs.

Sample ID	Ag (g/t)	Co (ppm)	Cr (ppm)	Cu (ppm)	U₃O <sub>8</sub> (%)
Lab method	ME-MS61U	ME-MS61U	ME-MS61U	ME-MS61U	U-XRF15b
LO-QP-01	0.3	1	106	15	0.004
SM-QP-01	0.29	14	11	3	0.116
DN-QP-01	8.08	282	35	53	0.004
DN-QP-02	0.51	17	78	20	0.003
BB-QP-01	6.72	168	40	183	1.792
BU-QP-01	0.33	55	89	789	0.131
55 4. 01	0.55			, 33	0.15

 Table 12.2. Laboratory assays of representative samples taken from all but Gulch property by the Author.



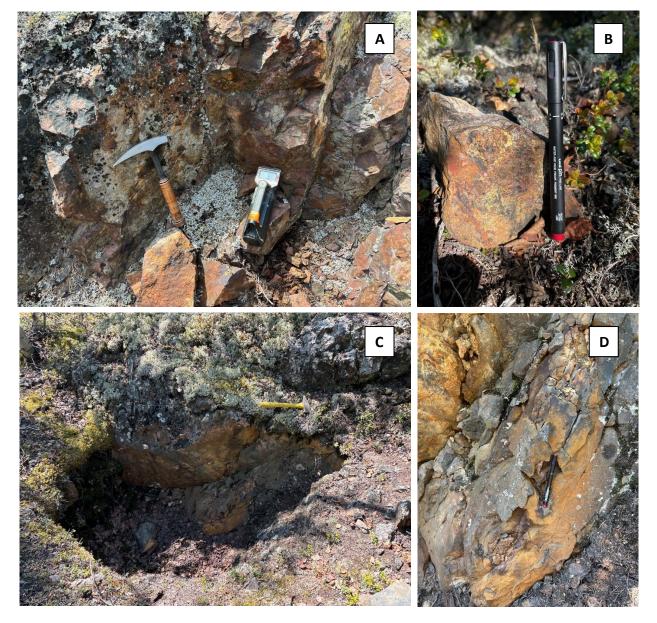
*Figure 12.1.4. U-Cu mineralization along a 1.5 km traverse of the VIC trend, western Beaver River property.* 



Figure 12.1.5. A) Historic drill hole remains at east-central VIC trend at the Beaver River property; B) Bleached tonalitic orthogneiss; C) and D) a 75 m long historic trench in a zone of uranium mineralization at the westernmost VIC trend with up to 66,000 cps scintillometer measurements of secondary uranium oxyhydroxide.



*Figure 12.1.6. A) Mylonitic orthogneiss of central Don Lake property; B), C) and D) 50 m long trench in silicified, FeOx stained orthogneiss with pyrite and Cu sulfohydroxides (up to 15,900 cps readings).* 



*Figure 12.1.7. A) Trenches in FeOx stained granitic orthogneiss with 4,900 cps; B), C) and D) Blast pits at Zone A-B-C of central Don Lake property with yellow staining of U secondary hydroxides (up to 23,000 cps).* 



Figure 12.1.8. A) and B) Historic Black Bay Uranium Mine with yellow secondary U mineralization in quartzite fractured along 120°/045° with 0.456% U and 288 ppm Th; C) A blast pit in pinkish quartzites.

#### 12.2. Qualified Person's Opinion

In the opinion of QP Miskovic, Eagle Plains and Xcite Resources Inc.'s exploration databases contain no significant errors or omissions which validates the databases for the purposes of generating subsequent addition exploration work and eventually drill targets. Limited verification of the projects data, used for generating exploration targets, has been undertaken by the author including cross-sections and maps, examining internal reports as well as an independent site visit to the Project.

# 13: Mineral Processing and Metallurgical Testing

To date no metallurgical testing or mineral processing has been undertaken by Xcite Resources Inc. on materials extracted from their exploration licenses in the Beaverlodge District. Given the early stage of exploration, it is not known whether a mineral processing flowsheet similar to other operating uranium mines in norther Saskatchewan would be adequate.

# 14: Mineral Resource Estimates

There are no current mineral resource estimates on any of the project claims.

# **15: Adjacent Properties**

All the information in this section was obtained from the websites and public disclosures of current owners and operators of adjacent properties. Various companies and individuals hold claims either adjacent to or near to Xcite's project and are actively exploring for uranium, rare earth element, or precious metal mineralization. Most of these properties are still at an early stage of exploration (Figure 15), whereas some have mineral resources in other commodities. Adjacent properties with significant exploration are discussed below, beginning with those that have mineral resource and reserve estimates, followed by those at an earlier stage of exploration.

#### 15.1. Adjacent Properties with Mineral Resource Estimates

There are no properties adjacent to the Xcite Beaverlodge Project with uranium resource estimates. The only adjacent property with a compliant mineral resource estimate ("MRE") is the Goldfields project.

The Goldfields Gold Project ("Goldfields"), 100% owned by Fortune Bay Corporation ("Fortune Bay"), is adjacent to the south edge of the Black Bay property and lies north of the Athabasca Basin margin (Figure 15). Goldfields hosts the Box and Athona gold deposits, both of which have mineral resource estimates prepared in accordance with the Canadian Securities Administrators' National Instrument 43-101. Fortune Bay has published a Goldfields project NI 43-101 technical report on preliminary economic assessment with an effective date of October 31, 2022.

The effective date of the updated mineral resource statement is September 1st, 2022 (Ausenco Engineering Canada Inc., 2022). The updated Goldfields MRE prepared by SRK with an effective date of September 1, 2022, uses a cut-off grade of 0.3 g/t Au constrained within a conceptual open- pit shell and an Au price of USD \$1,800/oz. The Box gold deposit has an Indicated mineral resource of 729,700 oz Au at a grade of 1.44 g/t Au and Inferred mineral resource of 112,800 oz Au at 1.08 g/t Au. The Athona gold deposit has Indicated mineral resources of 250,200 oz Au at a grade of 1.06 g/t Au and Inferred mineral resources of 98,000 oz Au at a grade of 0.80 g/t Au (Ausenco Engineering Canada Inc., 2022).

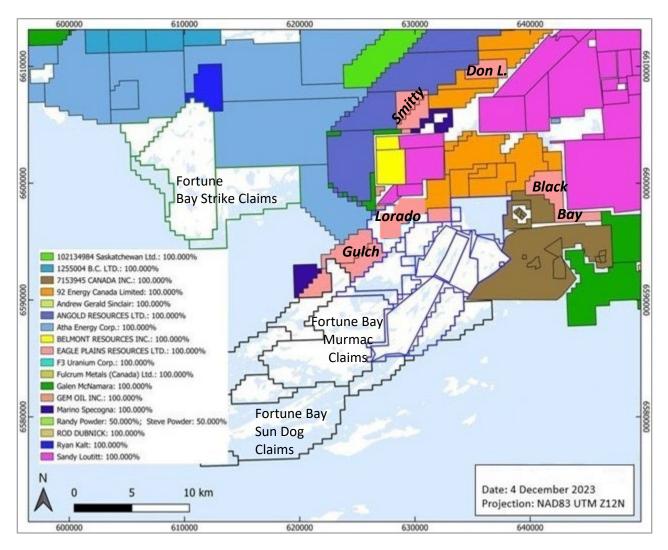


Figure 15. Adjacent exploration properties

# 15.2. Adjacent Properties at Early Stage of Exploration

Multiple early-stage projects are located adjacent to Xcite Resources Inc. Project, including Fortune Bay Corp., F3 Uranium Corp., 92 Energy Ltd., Gem Oil Inc., and Atha Energy Corp. (Figure 15).

F3 Uranium Corp.'s non-contiguous Midas project is located north of the Black Bay Property and straddles the regional Black Bay fault/shear zone, which is associated with several historical uranium deposits of the Beaverlodge area. F3 Uranium completed an airborne magnetic and radiometric survey in 2013 on the project and a prospective survey in 2017.

92 Energy Ltd.'s Powerline project lies north of Black Bay, sharing claim borders with Atha Energy Corp. (Figure 60). On December 7<sup>th</sup> 2023, Atha Energy entered into a definitive arrangement agreement to acquire 92 Energy Ltd. Once the agreement is finalized, Atha will be 100% owner of 92 Energy's Powerline project. Currently, Atha Energy has an ongoing airborne electromagnetic and magnetic survey covering the North Summit project area.

Fortune Bay's Black Bay project is an early-stage exploration property located south of Gulch and Lorado property claims at the very tip of the Crackingstone Peninsula.

#### 16: Other Relevant Data and Information

All relevant data and information regarding the Project are included in other sections of this Technical Report. There is no other relevant data or information available that is necessary to make the Technical Report understandable and not misleading.

#### **17: Interpretation and Conclusions**

The Beaverlodge Project exploration programs to date have successfully demonstrated that unconformityrelated hydrothermal mineralizing systems have been active in all the claim blocks. The proximity to the Athabasca Basin margin, presence of under-explored extensive graphitic conductors with associated encouraging structure and alteration, and the intersection of uranium mineralization in multiple historic drill holes clearly highlights that the Project is worthy of further investment and exploration and that the Unconformity-related deposit model is a viable exploration target in addition to the historically established Beaverlodge-style deposit model. Several surface showings require follow up drilling as well as further exploration and drilling along the extents of the prospective EM conductors is clearly warranted.

#### 17.1. Beaver River Property Claims

Most exploration in the region has focused on localized areas in the western and eastern portions of the Beaver River property. Historic exploration for Beaverlodge-type uranium deposits targeted radioactive zones identified from airborne scintillometer surveys followed up with geological mapping, trenching, and prospecting. The VIC U-Cu-Ni showing in the west and smaller showings in the northeast portion of the property were the focus of most exploration efforts. The nature of uranium mineralization differs slightly between these zones which may reflect local differences in geology between the orthogneiss dominant rocks in the west and the paragneiss dominant rocks in the east. Mineralization in the west is found along a 300°/70°S oriented chlorite-altered fault zone comprising polymetallic occurrences including chalcopyrite, molybdenite, malachite, uraninite, and pitchblende (SMDI 1551, 1553, and 1994). Mineralization in the east is fracture-controlled and related to lamprophyre dykes striking 040-070° comprising monometallic pitchblende (SMDI 1557).

#### 17.2. Black Bay Property Claims

Thera are five uranium and two gold SMDIs on the property. The U mineralization at past producing Black Bay Uranium Mine was traced down dip for 731.5 m The "A Zone", or the Powder Zone, extends a length of 13.7 m and width of 0.9 m and grades  $0.47\% U_3O_8$ , "Zone B" extends 22.9 m over a width of 1.5 m and grades  $0.72\% U_3O_8$  and "Zone C" extends 6.1 m over 4.6 m and grades  $0.91\% U_3O_8$ . The U mineralization, commonly present as pitchblende and hosted within fractures, veins and shears is associated with lithological contacts or faults. It appears that elevated Au values are associated with U mineralization.

#### 17.3. Lorado Property Claims

The model of mineralization expected on the Lorado Properties is analogous to structurally controlled, metasomatic basement-hosted (Murmac Bay group rocks and granitoids) uranium mineralization, in addition to high-grade unconformity style uranium mineralization related to the Martin Group.

The rocks underlying the Lorado Property were involved in a long and complex history of deformation and metamorphism, alteration and mineralization. Repeated reactivation along major faults over a protracted

period is revealed through a range of fault rocks, spanning from mylonite to breccias and veins. Each deformation event is associated with a period of uranium mineralization in this region, with the major mineralization hosted by breccias.

The presence of a magnetic-high airborne geophysical feature (see Figure 5; overlaps Dermody Lake and extends down into the Gulch Property), may indicate a stock-like, deeper intrusive body. When considering the uranium mineralization model below (Ashton et al., 2019), the presence of a deeper intrusion adds interest to the corresponding structures, specifically the ABC Fault (formed during D3), which was likely reactivated during a later deformation event (D4). Furthermore, the ABC Fault also corresponds to NE-trending historical EM conductors and a gravity low, that could conceivably represent alteration along the major structure.

#### 17.4. Gulch Property Claims

There is an inordinate number of showings on Gulch property claims located proximal to margins of Martin Group lithologies, adding credence to the prospectivity of the flat lying 'unconformity' at the base of this assemblage where it is in contact with basement Murmac Bay lithologies. A first pass assumption for prospectivity on the property is to search for basement hosted faults and fractures that are in proximity to basal Martin group lithologies. Considering its proximity to the property, the Gunnar- deposit model where mineralization is more intrusion-related is also a possibility. Buried intrusions have been inferred from the gravity and magnetic geophysical data which can offer additional vectors for exploration.

#### **18: Recommendations**

Additional exploration work is recommended to test for the presence of economically viable uranium deposits within the Beaverlodge Project.

#### **Beaver River**

Recommendations for continued exploration on Beaver River property are as follows:

- 1. Tier II data compilation including digitizing geophysics and diamond drill logs, and field work including geological mapping, airborne VTEM and magnetic surveys, localized (ground) EM and IP (resistivity) surveys along airborne EM conductors and mineralized showings, and diamond drilling. This approach would allow for the identification of potential mineralized fault and vein systems and determining how these structures persist at depth. Exploration should aim to identify fault intersections as zones of interest based on the target model of fracture-fill and vein-hosted uraninite and pitchblende primarily associated with fault zones. Diamond drilling should be considered along the VIC U-Cu-Ni zone to investigate promising assay results from historical exploration, as well as along any newly identified geophysical anomalies.
- 2. Geological mapping and geochemical sampling should be conducted along mapped regional faults, NW-SE trending gossans, and the VIC U-Cu-Ni zone (Figure 4). Discrepancies between historical reports on the location of trenches and drilling require follow-up to confirm exact location of the mineralized trend Previous mapping was also limited by property boundaries at the time of mapping and the mineralized trend may be larger in extent than previously described. Occurrences of NW-SE trending gossans should be remapped and sampled, particularly in the east where a coinciding conductive high and magnetic low trend parallel to linear gossan showings. Similar mapping efforts could be made along the radioactive vein of the "Charlie Showing" in the center of the Beaver River property.

- 3. Geophysical data from airborne VTEM and magnetic surveys is available for the eastern half of the Beaver River property (Figure 5). Data should be digitized and mapped to visualize where higher resolution surveys are needed to refine regional features. New airborne VTEM and magnetic surveys should be completed over the western portion of the property which is highly prospective for a mineralized fault or vein system. These surveys would be beneficial in outlining any magnetic low-and conductivity trends often associated with feeder fault systems to uranium mineralization. Ground EM and IP (resistivity) surveys should be conducted over airborne anomalies, previously described mineral occurrences, and mapped fault zones to better understand the nature of geologic structures and any associated alteration patterns.
- 4. There has been limited diamond drilling done within the Beaver River property between 1955 and 1969. Diamond drilling will be the ultimate test to investigate previously described uranium mineralization and the prospectivity of geophysical anomalies. Drilling should be prioritized along the VIC U-Cu-Ni zone in the western portion of the property to investigate the lateral and vertical continuity of the mineralized trend. Drilling should also be considered in the eastern Beaver River property where NW-SE trending gossans coincide with a geophysical anomaly of overlapping conductive highs and magnetic lows (Figure 9.2.1).

#### Don Lake

Exploration on the Don Lake property should be focused on structurally associated vein-, shear- and brecciahosted uranium particular to the Beaverlodge uranium model, with additional consideration for sub-Athabasca-basin, basement-hosted unconformity-style uranium mineralization. The structurally controlled nature of the U mineralization indicates the importance of faulting on the tenure.

Uranium exploration should focus on the brecciated and mylonitized units hosted along fault zones, or fault valleys on the property. Historically, U mineralization forms along fractures of highly brecciated, hematite metasediments or in the shear zones in the fault system. Regions hosting intense alteration (e.g., hematite, chlorite, carbonate, silica) near faults are favourable. Emphasis should also be given to assessing the distribution of granitoid host rocks on the property for the purpose of assessing granite-related uranium mineralization akin to the Gunnar deposit model (Ashton, 2010).

Further work on the Don Lake property should aim to constrain the uranium mineralization and includes, but is not limited to:

- 1. Pre-field research and targeting (e.g., Tier 2 data compilation, digitizing data)
- 2. Revisit known workings (trenches, drill collars) to confirm geolocations, and re-assess styles and grades of mineralized zones
- 3. Additional ground-truthing (e.g., prospecting, mapping) on the tenure
- 4. Geochemical sampling (e.g., soils, tills, rocks) along the fault valley, and adjacent fault, on the tenure
- 5. Scintillometer surveying over Mineralized Zones A, B, C and D, near most recent anomalous zones to constrain radioactive regions
- 6. A modern, property-wide detailed airborne magnetic and electromagnetic +- radiometric survey (e.g., <100m line-spaced VTEM survey and/or mag-radiometric survey).

#### Black Bay

Further work on the Black Bay property should replicate the one done on Don Lake with addition of fully assess the efficacy of the 1997 DIGHEM and 2006 VTEM partial geophysical surveys to determine if a modern,

property-wide detailed airborne magnetic and electromagnetic +/- radiometric survey (e.g., <100m line-spaced VTEM survey and/or mag-radiometric survey) is warranted.

#### Lorado

Further work on the Lorado property should replicate the one done on Black Bay with addition of ground-truthing (e.g. geological reconnaissance and prospecting) and scintillometer surveying over high prioritized targets:

- a. Airborne geophysical anomalies derived from modern Mag-EM and Radiometric surveys
- b. Areas with historical gravity lows and/or coinciding EM conductors and/or fault zones (e.g. ABC Fault and corresponding historical EM conductor).
- c. Areas of historical radioactivity (e.g. south-east of SMDI 1439).

Known workings should be revisited to confirm geo-locations and assess uranium grades and styles of mineralization.

#### 18.1. Budget Estimates

A two-phase exploration program is recommended at the Beaverlodge Project to generate drill targets on the Beaver River property previously defined by mapping, grab sampling, DGPS and airborne electromagnetic surveying.

#### **Beaver River**

During Phase 1 for the Beaver River claims, it is recommended that detailed data is followed up by a weeklong field program to visit known showings, collect representative samples and assess and confirm geology, structure, and style of mineralization. Subsequent to this, a VTEM survey on the western half of the property, and/or a property wide detailed magnetic and Lidar survey. The Phase 1 recommendations are estimated at ca \$300,250.

Phase 2 recommendations consist of a diamond drill program. Portions of the Phase 2 recommended work are dependent on information generated in the first phase, but not contingent on any positive results from the Phase 1 work. For budgeting purposes an estimate has been prepared using an anticipated total of 1,500 m of NQ drilling, as shown in Table 12. Based on current experience the cost for this drilling is expected to be on the order of C\$1.312 million, including additional supporting costs.

Phase 1 Field Exploration Program A combination of ground truthing historical results, DGPS surveying, prospecting, soil geochemical surveys, mapping, airborne geophysics	CAD	Phase 2 Diamond Drilling Program A combination of helicopter and road supported drilling 1500 meters of NQ core drilling based out of Uranium City	CAD
Pre-project Expenses: Targeting, management, equipment prep	\$15,000	Pre-project Expenses: Targeting, management, equipment prep	\$15,000
Technical Personnel: Field program	\$50,000	Technical Personnel: Field drill program	\$85,000
Soil 250 samples x \$30/sample	\$7,500	Support personnel/labour, expediting	\$25,000
Rock 50 samples x \$55/sample includes QAQC, blanks	\$2,750	Post-project Deliverables: Data merge, interpretation, report	\$25,000
Airborne EM on selected areas	\$80,000	Analytical: Drill Core 500 samples x \$55/sample includes QAQC, blanks	\$27,500
Trucks, ATV, computer equipment, satellite internet, DGPS	\$15,000	Downhole Gamma Tool \$2000/week x 5 weeks	\$20,000
Helicopter Charter: personnel	\$50,000	Magnetometer \$500/week x 5 weeks	\$10,000
Fuel: helicopter, trucks	\$25,000	Trucks, core logging, computer equipment,satellite internet	\$15,000
Travel & Uranium City accommodation	\$25,000	Downhole survey & core orientation tools \$1000/week x 5 weeks	\$5,000
Food & grocery	\$20,000	Core shack, cutting shack, rock saws \$1000/week x 5 weeks	\$5,000
Miscellaneous: shipping, sampling consumables, repair & maintenance	\$10,000	Helicopter Charter: drill moves / personnel	\$300,000
Grand Total	\$300,250	Fuel: Diamond drill,helicopter, trucks	\$150,000
		Mob, foreman, consumables, coring \$1500/meter x \$300/meter	\$450,000
		Travel & Uranium City accommodation	\$100,000
		Food & grocery	\$40,000
		Miscellaneous: shipping, sampling consumables, repair & maintenance	\$40,000
		Grand Tota	\$1,312,500

Table 18. Projected exploration expenses for 2024-25.

The estimated cost for the Phase 1 and 2 exploration programs on the Property is C\$1,612,750 including \$80,000 for geophysical surveys (Table 18).

Given the prospective nature of the property, it is the Author's opinion that the Property merits further exploration and that the proposed plans for further work are properly conceived and justified. The Author recommends that further exploration as proposed, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

#### 19: References

Ashton, K.E., Knox, B., Bethune, K.M., and Marcotte, J., 2006. Bedrock geology of the area west of Fond-du-Lac (NTS 74O), south-central Beaverlodge Domain, Rae province, in SOI 2006, v. 2, Saskatchewan Geological Survey Miscellaneous Report, 2006, v. 2, Paper A-1.

Ashton, K.E., Rayner, N.M., and Bethune, K.M., 2009. Meso- and Neoarchean granitic magmatism, Paleoproterozoic (2.37 Ga and 1.93 Ga) Metamorphism and 2.17 Ga provenance ages in a Murmac Bay Group pelite; U-Pb SHRIMP ages from the Uranium City area: v. 2, Saskatchewan Geological Survey, Saskatchewan Ministry of Energy and Resources, Summary of Investigations 2009, Miscellaneous Report, 2009-4, v. 2, Paper A-5, 9 p.

Ashton, K., Boivin, D., Heggie, G., 2001. Geology of the Southern Black Bay Straight Belt: Sask. Geol. Surv. Summ. Invest. 2001, Vol. 2CD; p50-63.

Ashton. K.E., Kraus. J., Hartlaub. R.P. and Morelli. R., 2000. Uranium City Revisited: A New Look at the Rocks of the Beaverlodge Mining Camp: in Summary of Investigations 2000. Volume 2. Saskatchewan Geological Survey. Sask. Energy Mines. Misc. Rep. 2000-4.2.

Ashton, K.E. and Normand, C., 2012. Bedrock geology of the Ace-Fay-Verna-Dubyna mines area, Beaverlodge uranium district; *in* Summary of Investigations 2012, Volume 2, Saskatchewan Geological Survey, Sask Ministry of the Economy, Misc Rep. 2012-4.2, Paper A-3, 21p.

Ashton, K.E., Chi G., Rayner, N.M., and McFarlane, C., 2013. Geological history of granitic rocks hosting uranium mineralization in the Ace-Fay-Verna-Dubyna mines area, Beaverlodge uranium district; in Summary of Investigations 2013, Volume 2, Saskatchewan Geological Survey, Sask Ministry of the Economy, Misc. Rep. 2013-4.2, Paper A-1, 23p.

Ashton, K.E., Card, C.D., Chi, G., 2019. Post-metamorphic Rocks, Alteration and Mineralization of the Beaverlodge Uranium District and the Fond du Lac Gravity Low: A 1000 km Long Zone of Elevated Mineral Potential, PowerPoint Presentation <u>https://publications.saskatchewan.ca/#/products/103663</u>.

Beck, L.S., 1969. Uranium Deposits of the Athabasca Region; Sask. Energy Mines Rep. 126, p96.

Butler, S., 2024. The Black Bay Project. Terra Logic Exploration Inc. Internal Report.

Butler, S., 2024. The Don Lake Project. Terra Logic Exploration Inc. Internal Report.

Butler, S., 2024. The Gulch Project. Terra Logic Exploration Inc. Internal Report.

Carson, J.M., Holman, P.B., Shives, R.B.K., Ford, K.L., Ashton, K., Slimmon, W., 2001. Total Air Absorbed Dose Rate Map, Potassium Map, Uranium Map, Thorium Map, Uranium/Thorium Map, Uranium/Potassium Map, Thorium/Potassium Map, Ternary Radioelement Map, Magnetic Anomaly Map (Residual Total Field), Magnetic First Vertical Derivative Map. Uranium City, Saskatchewan; NTS 74N/08, 74N/09, 74N/10, Geological Survey of Canada, Scale: 1:50,000.

Damant, K., 2004. The Beaver River Project. Terra Logic Exploration Inc. Internal Report.

Dieng, S., K. Kyser, and L. Godin., 2015. Genesis of multifarious uranium mineralization in the Beaverlodge area, northern Saskatchewan, Canada. Economic Geology 110, p. 209-240.

Energy, Mines and Resources Canada, 1990. Canadian Mineral Deposits Not Being Mined in 1989, Energy, Mines and Resources Canada, Mineral Bulletin 223.

Hartlaub, R.P. and Ashton, K.E., 1998. Geological investigations of the Murmac Bay Group, Lake Athabasca North Shore Transect. In: SOI 1998, SGS, SEM Misc. Rep. 98-4, p. 17–28.

Jefferson, C.W., Thomas, D.J., Gandhi, S.S., Ramaekers, P., Delaney, G., Brisbin, D., Cutts, C., Quirt, D., Portella, P., and Olson, R.A., 2007. Unconformity associated uranium deposits of the Athabasca Basin, Saskatchewan and Alberta, in Goodfellow, W.D., ed., Mineral Deposits of Canada: A Synthesis of Major Deposit-Types, District Metallogeny, the Evolution of Geological Provinces, and Exploration Methods: Geological Association of Canada, Mineral Deposits Division, Special Publication No. 5, p. 2

McKeough, M., 2024. The Lorado Project. Terra Logic Exploration Inc. Internal Report.

McNeil, N., 2024. The Smitty Project. Terra Logic Exploration Inc. Internal Report.

Normand, C., 2013. Bedrock Geology of the Nevins Lake Area, Central Beaverlodge Domain and Investigations of REE Distribution in the Historic Nisto Mine, Southeastern Tantato Domain, and in Historic Mines in the Uranium City Area, Beaverlodge and Zemlak Domains, Summary of Investigations 2012, Volume 2, Saskatchewan Geological Survey, Sask. Ministry of the Economy, Misc. Rep. 2012-4.2, Paper A-4, 24p.

# 20: Date and Signature Page

This report entitled "Technical Report on Beaverlodge Project: Beaver River, Don Lake, Black Bay, Lorado, Gulch, and Smitty Uranium Exploration Properties, Northern Athabasca Basin, Saskatchewan, Canada" and with an effective date of September 6<sup>th</sup>, 2024, was prepared on behalf of Xcite Resources Inc. and is signed and sealed by the author Aleksandar Miskovic, P.Geo. on September 6<sup>th</sup>, 2024.

# Certificate of Qualified Person

I, Aleksandar Miskovic, Geologist, PhD, P.Geo. do hereby certify that:

- 1. I am a consultant geologist providing services through Geotarget Solutions Inc., a sole-proprietor registered company under the laws of British Columbia Canada.
- 2. I am a Qualified Person for purposes of this instrument.
- 3. I am independent from Xcite Resources inc. My business address is 6948 Sperling Avenue, Burnaby, BC, V5E 2W2, Canada.
- 4. I have no previous involvement with Xcite Resources Inc. nor their Beaverlodge Project in northern Saskatchewan.
- 5. This certificate applies to the technical report entitled "Beaverlodge Project: Beaver River, Don Lake, Black Bay, Lorado, Gulch, and Smitty Uranium Exploration Properties, Northern Athabasca Basin, Saskatchewan, Canada – Excite Resources Inc." date effective September 6<sup>th</sup>, 2024 (the "Technical Report") with respect to the Beaver River, Don Lake, Black Bay, Lorado, Gulch, and Smitty exploration license claims northwest of the Athabasca Basin, northern Saskatchewan (the "Property").
- 6. I visited the Project claims once for 3 days between June 19<sup>th</sup> and 21<sup>st</sup> of 2024.
- 7. As the sole author of this report, I am responsible for all sections of this report.
- 8. I have read the NI 43-101 instrument and this report. The report, to the best of my knowledge, has been prepared in compliance with this instrument.
- 9. To the best of my knowledge, information, and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
- 10. I am a practicing geologist and a registered member of the Association of Professional Engineers and Geoscientists of British Columbia, Canada (EGBC), registration number 135051. I am entitled to use the seal affixed to this report.
- 11. I graduated with a diploma in Earth Sciences from Simon Fraser University in Burnaby, BC, Canada in 2001.
- 12. I obtained a MSc degree PhD degree in geology from McGill University, Montreal, QC, Canada in 2004.
- 13. I obtained a PhD degree in geology from the University of Geneva, Switzerland in 2008.
- 14. I have practiced my profession continuously since 2001.
- 15. I have worked extensively on a variety of ore deposits including epithermal and porphyry style deposits and polymetallic base and precious metal deposits in North and South America as well as Eastern Europe. During this time, I have worked with geochemical, mineralogical, remote sensing and geophysical data collected on deposits and exploration projects similar to the Beaverlodge Project.

Date:

September 6th, 2024

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Signature:

(Signed) "Dr. Aleksandar Miskovic"



# Appendix: ALS Analytical Request Form and Assay Certificate (June 2024 Site Visit)

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	JBLOR002,JBSMR002 JBDNR002 JBBUR002 DN-QP-02 TRUSH - PREMIUM S RE Name SAMPLE RESIDUE ARCH Return Ip retained by the lab. ge Pulp samples. rse unpulverised rejects. actions.	Solutions Sample In Miskovic Are Ro Ar Miskovic Are Ro Ar Pub 6-7577	Solutions       Sample Type:         ar Miskovic       ✓         ar Miskovic       ✓         6-7577       S-Soil       DC-D         2024        A-Solution (contar         2024       Other          101        HAZ         101       HAZ          101       HAZ          101       HAZ          102       Sample Prepara       (Prep Code)         JBDNR002       PREP-31          JBDNR002       ""       ""         JBBUR002       ""       ""         IMAEDAROS       ENTROS       Image: Sample Prepara         IMAEDAROS       PREP-31       ""         JBBUR002       ""       ""         IDN-QP-02       ""       ""         Image: Sample Prepara       Image: Sample Prepara       Image: Sample Prepara         Image: Sample Prepara	Solutions       Sample Type:         ar Miskovic       P. Rock       SD-SedIment         6-7577       S-Soil       DC-Drill core         6-7577       S-Soil       DC-Drill core         6-7577       S-Soil       DC-Drill core         101       A-Solution (contact the lab)         2024       Other         101       HAZARDOUS         101       HAZARDOUS         2024       Other         101       HAZARDOUS         101       HAZARDOUS         2024       Sample Preparation (Prep Code)         JBDNR002       ""         JBDNR002       ""         JBDNR002       ""         JBDNR002       ""         JBDNR002       ""         JBDNR002       ""         IN-QP-02       ""         INAMEDIATES       Intersector         Return	Solutions Sample Type: Overlinit R   rr Miskovic P. Pulp P. G. Percussion   6-7577 S-Soil D. C. Drill core apply)   0.1 S-Soil D. C. Drill core apply)   101 A-Solution (contact the lab) 0 ther   101 HAZARDOUS MATERIA Image: Contact the lab) 0 ther   101 HAZARDOUS MATERIA   101 Sample Preparation (Prep Code) Ar   1BLOR002, JBSMR002 PREP-31 ME-MS81   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   JBBUR002 Image: Contact the lab) Image: Contact the lab)   Image: Contact the lab, Image: Contact the lab) Image: Contact the lab)   Image: Contact the lab, Image: Contact the lab) Image: Contact the lab)   Image: Contact the lab, Image: Contact the lab) Image: Contact the lab)   Image: Contact the lab, Image: Contact the lab) Image: Contact the lab)   Image: Contact the lab, Image: Contact the lab) Image: Contact the lab)   Image: Contact the lab, Image: C	Solutions Sample Type: Overfimit Requirements:   Ir Miskovic P Pulp   6-7577 P Solution (contact the lab)   6-7577 A Solution (contact the lab)   101 HAZARDOUS   101 HAZARDOUS   101 Sample Preparation (Prep Code)   101 Image Preparation (Preparation)   101 Image Preparation (Prep Code)   101	R DETAILS  R DETAILS  SAMPLE AND ANALYSIS DETAILS  Solutions  R Rock  Solutions  R Rock  Solutions  R Rock  Solutions  R Rock  Solution  R Rock  Solution (contact the lab)  Conter  R Rock  Solution (contact the lab)  R Rock  R Roc	Solutions       Sample Type:       Overlimit Requirements:       Special Instruction         Image: Second Public Decomposition Composition Compositio

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#### CERTIFICATE VA24175357

Project: U-City 43-101 P.O. No.: U-City 43-101

This report is for 15 samples of Rock submitted to our lab in Vancouver, BC, Canada on 28-JUN-2024.

The following have access to data associated with this certificate:

ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
PUL-QC	Pulverizing QC Test	
CRU-31	Fine crushing - 70% < 2mm	
SPL-21	Split sample - riffle splitter	
PUL-31	Pulverize up to 250g 85% <75 um	
DIS-REJ21	Disposal of R/B Split after analysis.	
	ANALYTICAL PROCEDURES	
10000		

ALS CODE	DESCRIPTION	INSTRUMENT
U-XRF15b	Fusion XRF- Uranium Ore Grade	XRF
OA-NOR10	NORM Readings	
ME-MS61U	4A Multi-element ICP-MS + Uranium	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: Saa Traxler, Director, North Vancouver Operations



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Project: U-City 43-101

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									C	ERTIFIC	CATE O	F ANAL	YSIS	VA2417	75357	
Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS61U Ag ppm 0.01	ME-MS61U Al % 0.01	ME-MS61U As ppm 0.2	ME-MS61U Ba ppm 10	ME-MS61U Be ppm 0.05	Bi ppm 0.01	ME-MS61U Ca % 0.01	ME-MS61U Cd ppm 0.02	ME-MS61U Ce ppm 0.01	ME-MS61U Co ppm 0.1	ME-MS61U Cr ppm 1	ME-MS61U Cs ppm 0.05	ME-MS61U Cu ppm 0.2	ME-MS61U Fe % 0.01
BLOR001		1.98	1.51	2.54	7.3	30	0.91	1.06	1.47	0.06	43.9	25.9	45	0.27	22.9	12.30
BSMR001		2.36	0.05	6.28	2.0	360	2.93	0.38	6.75	0.06	33.5	30.9	82	1.02	23.7	8.30
BLOR002		1.10	2.42	3.70	182.0	70	2.57	4.38	0.38	0.15	5.18	37.2	66	0.95	68.3	17.60
BSMR002		1.84	1.62	5.94	12.0	980	1.79	1.04	8.38	0.37	234	189.5	15	1.65	8.9	2.92
BDNR001		1.98	2.56	0.39	16.1	80	0.33	12.40	0.58	0.04	21.9	206	27	0.09	5470	5.74
BBBR001		0.88	23.4	0.66	2690	360	1.74	13.35	0.54	0.72	29.6	296	67	0.09	357	1.23
BDNR002		0.94	2.58	1.28	17.9	160	1.64	10.25	1.33	0.06	69.9	45.5	141	0.10	971	14.80
BBUR001		1.54	0.55	5.37	19.9	760	1.40	19.20	0.06	0.11	74.5	16.4	57	0.52	2460	5.87
BBUR002		0.60	0.95	5.95	30.5	760	4.67	1825	0.05	0.02	83.9	195.5	76	0.74	272	5.37
LOQP-01		2.84	0.30	7.42	28.5	350	1.53	1.54	0.01	0.18	90.7	1.2	106	4.64	14.7	1.15
SMQP-01	2	2.54	0.29	7.60	2.4	270	2.93	1.96	1.89	< 0.02	217	14.1	11	0.25	3.4	2.66
DN-QP-01		4.36	8.08	0.48	20.9	50	0.15	7.14	0.04	< 0.02	12.05	282	35	<0.05	53.3	5.93
DN-QP-02		3.28	0.51	9.31	11.2	360	1.49	5.57	0.33	0.02	100.5	17.2	78	0.31	20.4	6.94
BB-QP-01		3.12	6.72	0.84	1365	170	1.35	6.40	0.13	0.16	21.9	167.5	40	0.08	183.0	1.64
BU-QP-01		3.24	0.33	7.23	3.0	610	2.33	19.25	0.06	0.08	109.5	54.7	89	1.06	789	7.49

114.5 90.3

8.9 169.0

28.4 1.6 15.2 52.4 84.9

7.9 5.3

1.2 11.3 7.1

0.6 0.7 3.5 4.3 1.0

13.4 24.5 117.5

198.5 217

277 20.1 354 31.1 195.0

3.06

1.520

VA24175357 ME-MS61U

Ni

ppm 0.2

148.0 65.0 184.5

16.7 36.0

522 76.3 200

331 10.2

6.1

20.7 30.4 359 174.5

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ME-MS61U

Ρ ppm 10

1590 660

2050

510 20

760

40

1030 910 410

ME-MS61U РЬ

ppm 0.5

36.3 211

122.0

1535 136.0

3160 211 73.0 3290 14.9

96.9

100.5 48.3 1270 103.5

ALS		Phone: +1	Statement of the	21 Fax: +	-1 604 984 ( try	0218		44 - SUIT CRA	E 12TH AV E 200 NBROOK ect: U-Cit	BC V1C 2	R7		
Sample Description	Method Analyte Units LOD	ME-MS61U Ga ppm 0.05	ME-MS61U Ge ppm 0.05	ME-MS61U Hf ppm 0.1	ME-MS61U In ppm 0.005	ME-MS61U K % 0.01	ME-MS61U La ppm 0.5	ME-MS61U Li ppm 0.2	ME-MS61U Mg % 0.01	ME-MS61U Mn ppm S	ME-MS61U Mo ppm 0.05	ME-MS61U Na % 0.01	ME-MS61U Nb ppm 0.1
JBLOR001		8.44	0.20	1.7	0.015	0.29	25.9	37.7	1.77	499	29.1	0.02	5.4
JBSMR001		19.35	0.14	2.4	0.157	0.07	13.1	65.6	4.06	1320	0.51	2.36	6.0
JBLOR002		13.70	0.25	2.4	0.013	0.78	2.6	56.7	1.43	468	74.2	0.02	7.7
JBSMR002		20.5	0.19	3.8	0.111	0.55	160.0	34.2	0.67	661	39.1	3.49	8.3
JBDNR001		1.26	0.10	0.2	0.397	0.04	9.4	6.0	0.33	242	7.12	0.11	0.6
JBBBR001		1.79	0.54	0.4	0.022	0.17	6.0	13.1	0.04	47	11.65	0.02	0.6
JBDNR002		8.75	0.27	0.6	0.126	0.05	33.7	19.6	0.76	843	9.86	0.06	2.8
JBBUR001		15.40	0.13	3.5	0.111	3.59	42.1	45.2	0.68	348	8.08	0.13	5.6
JBBUR002		26.2	0.40	5.7	0.035	1.71	45.5	120.5	0.88	105	27.8	0.04	8.9
LOQP-01		22.7	0.14	6.3	0.038	3.74	57.4	26.2	0.57	44	29.8	0.05	21.7
SMQP-01		19.05	0.21	7.5	0.089	0.65	120.0	22.2	0.86	383	2.94	4.79	21.8
DN-QP-01		1.06	0.14	0.6	0.007	0.05	7.6	2.1	0.01	46	5.63	0.31	1.2
DN-QP-02		24.2	0.20	10.5	0.038	1.69	65.8	23.8	0.88	289	2.31	4.82	23.3
BB-QP-01		2.00	0.25	0.5	0.011	0.17	8.6	26.5	0.12	50	5.92	0.02	0.5
BU-OP-01		21.7	0.26	5.7	0.060	2.75	58.2	60.4	1.20	156	13.15	0.10	11.6



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									C	ERTIFI	CATE O	F ANAL	YSIS	VA241	75357	
Sample Description	Method Analyte Units LOD	ME-MS61U Rb ppm 0.1	ME-MS61U Re ppm 0.002	ME-MS61U S % 0.01	ME-MS61U Sb ppm 0.05	ME-MS61U Sc ppm 0.1	ME-MS61U Se ppm 1	ME-MS61U Sn ppm 0.2	ME-MS61U Sr ppm 0.2	ME-MS61U Ta ppm 0.05	ME-MS61U Te ppm 0.05	ME-MS61U Th ppm 0.01	ME-MS61U Ti % 0.005	ME-MS61U TI ppm 0.02	ME-MS61U U ppm 0.1	ME-MS61U V ppm 1
JBLOR001		13.7	0.053	>10.0	1.18	8.8	12	1.8	67.2	0.41	0.29	6.89	0.159	1.94	17.6	324
BSMR001		2.6	0.002	0.03	< 0.05	44.3	1	3.9	439	0.39	< 0.05	2.29	0.794	0.04	1290	2000
BLOR002		40.9	0.070	>10.0	3.88	11.8	16	2.8	8.8	0.60	0.54	9.65	0.211	11.85	41.3	1165
BSMR002		25.6	0.203	1.11	0.05	26.1	2	1.7	401	0.35	0.58	19.00	0.174	0.94	8840	602
BDNR001		2.4	0.004	3.34	0.05	0.9	8	0.7	12.2	0.05	1.15	0.78	0.014	0.11	462	612
BBBR001		6.4	0.028	0.07	34.9	88.8	71	<0.2	103.5	0.06	2.66	5.24	0.039	1.14	>10000	54
BDNR002		2.5	0.204	0.83	0.21	11.6	22	1.8	26.7	0.15	1.62	3.08	0.047	0.20	852	2590
BBUR001		151.5	0.010	1.17	0.37	11.5	5	1.1	79.2	0.49	0.61	13.35	0.116	1.06	212	58
BBUR002		101.0	0.122	0.67	0.48	33.6	114	0.8	55.9	0.64	0.70	18.75	0.274	1.01	1340	382
LOQP-01		145.5	0.005	0.03	0.90	25.5	7	2.5	109.0	1.41	0.07	15.00	0.560	5.61	31.4	667
SMQP-01		20.7	0.011	0.17	< 0.05	9.7	2	3.0	188.5	1.42	0.05	43.4	0.345	0.52	986	151
DN-QP-01		1.9	0.007	4.40	0.08	0.9	35	0.3	21.2	0.08	5.93	1.28	0.030	0.08	36.0	113
DN-QP-02		32.0	0.002	2.10	< 0.05	20.5	12	3.1	158.5	1.75	0.55	22.3	0.758	0.17	27.8	242
BB-QP-01		5.0	0.005	0.02	24.3	34.1	33	0.2	42.6	< 0.05	0.76	5.51	0.039	0.27	>10000	36
BU-QP-01		150.5	0.004	0.29	0.08	19.4	3	1.1	59.7	0.64	0.51	23.5	0.340	1.02	1110	134



Sample Description JBLOR001 JBLOR001 JBLOR002 JBSMR002 JBDNR001

JBBBR001 JBDNR002

JBBUR001 JBBUR002 LOQP-01

SMQP-01 DN-QP-01 DN-QP-02

BB-QP-01 BU-QP-01

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						Project: U-City 43-101	
						CERTIFICATE OF ANALYSIS	VA24175357
Method Analyte Units LOD	ME-MS61U W ppm 0.1	ME-MS61U Y ppm 0.1	ME-MS61U Zn ppm 2	ME-MS61U Zr ppm 0.5	U-XRF155 U % 0.008		
	3.6 1.7 5.8 0.9 1.0	16.9 42.3 11.8 47.4 4.7	114 75 18 160 13	63.9 79.9 86.3 134.5 7.9			



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Project: U-City 43-101

#### CERTIFICATE OF ANALYSIS VA24175357

		CERTIFICATE COM	IMENTS					
		LABOR	ATORY ADDRESSES					
	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.							
Applies to Method:	CRU-31	DIS-REJ21	LOG-22	ME-MS61U				
	OA-NOR10	PUL-31	PUL-QC	SPL-21				
	U-XRF15b	WEI-21						