

**TECHNICAL REPORT  
FOR THE KULYK LAKE PROPERTY,  
SASKATCHEWAN, CANADA**

**SASKATCHEWAN, CANADA**

NTS 74A/05, 74A/11, & 73A/12  
NAD83 UTM Zone 13N

**REPORT #: 23.3170.SLR**



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**Effective Date:** August 2, 2023

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This Technical Report (as defined herein) was prepared by Axiom Exploration Group Ltd. (Axiom). The quality of information, conclusions, and estimates contained herein are consistent with the level of effort involved in Axiom's services based on

- i. information available at the time of preparation
- ii. data supplied by outside sources, and
- iii. the assumptions, conditions, and qualifications set forth in this Technical Report

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## **1. SUMMARY**

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### **1.1. INTRODUCTION**

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Axiom Exploration Group Ltd. (Axiom) was engaged by Searchlight Resources Inc. (Searchlight) to prepare an independent Technical Report compliant with National Instrument 43-101 on the Kulyk Lake Property (Kulyk Lake, the Project, or the Property), located in northern Saskatchewan, Canada, approximately 165 km north of La Ronge, Saskatchewan and 65 km south of the Key Lake Mine, Saskatchewan (Figure 1-1). This report is based on the information provided by Searchlight, publicly available data, and information collected from the site visit by Axiom personnel.

Searchlight is a Canadian mineral exploration and development company with a focus on the gold, uranium, and battery mineral potential of Saskatchewan, Canada.

This Technical Report has been completed under the requirements of disclosure as per the Canadian Securities Laws and National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) for use by Searchlight.

### **1.2. PROPERTY DESCRIPTION AND OWNERSHIP**

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The Kulyk Lake Property consists of a contiguous claim block comprised of 35 Saskatchewan Mineral Dispositions which covers approximately 33,100.44 hectares (ha). At the time of writing, the claims are 100% owned by Searchlight Resources Inc.

### **1.3. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES AND PHYSIOGRAPHY**

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The Kulyk Lake Property is located approximately 165 km north of La Ronge, Saskatchewan and 65 km south of the Key Lake mine site. The property can be accessed year-round by fixed wing aircraft or helicopter.

The climate in the area can be classified as a sub-arctic climate, Köppen climate classification Dfc (Beck et al., 2018). The region experiences cold winters and cool summers, with approximately 103 frost-free days (ENRC, 2019). Select work can proceed year-round if utilizing appropriately winterized equipment.

The property is located within the Boreal Shield Ecozone and is covered by shield-type boreal forest which consists mainly of pine and spruce with sporadic aspen. In low-lying areas peatlands are common. Throughout the region there are numerous ponds, lakes, streams, and rivers of various sizes (SCDC, 2014).



## **1.4. GEOLOGY AND MINERALIZATION**

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The Kulyk Lake Project is located in the Wollaston Domain of the southeastern Hearn Province, which forms part of the Western Churchill Structural Province. The Wollaston Domain is a northeast trending, tightly folded, linear belt of metamorphosed supracrustal rocks. Previous mapping (McKeough et al., 2010) in the area has identified several lithologies in the Kulyk Lake area including psammopelitic gneiss, calcareous arkose/psammite, arkosic gneiss, granite, and pegmatites.

There is potential for the Kulyk Lake Property to host U+Th+REE mineralization. Mineralization in the Project area is associated with the pegmatitic intrusions and in late, fracture-controlled veins. Both simple and complex type pegmatites contain anomalous concentrations of the REE, typically monazite. In particular, the margins of the pegmatite seem to be preferentially mineralized. There is also an ilmenite-monazite-apatite vein in the Kulyk Lake Trench which contains high amounts of REE. Late veins occur both within the pegmatites and within the folded and faulted meta-sedimentary host rocks (McKeough et al., 2013). Mineralization within the pegmatites is typically primary, with late remobilization of U and REE into fractures and veins (McKeough et al., 2010).

## **1.5. EXPLORATION STATUS**

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The Kulyk Lake Project is an early stage, greenfields project which has seen several generations of exploration. The historical exploration in the project area largely focused on the uranium potential of the region; only more recently has the REE potential of the area been recognized. The bulk of the historical exploration activity in the project area consisted of airborne geophysical surveys and reconnaissance-scale prospecting of radiometric anomalies. Several of the more promising areas have been mapped in detail and some of the historical showings were trenched. Much of the historical work is poorly documented and only partially overlaps the current claims. As this early exploration focused on the uranium potential of the area, details regarding the potential for REE mineralization are often missing.

The more recent exploration work, from approximately 2007 onwards, typically includes REE analysis of the prospecting samples collected from the radioactive pegmatites. The current work completed by Searchlight consists of an airborne radiometric and magnetic survey flown over a portion of the claim block in 2021. This survey identified several anomalies within the Property which merited additional follow-up. In the summer of 2022, a three-phase exploration program, consisting of prospecting, outcrop sampling, and a mobile metal ion soil sampling survey was completed in areas of interest identified by the 2021 airborne survey. During the 2022 exploration program a bulk sample, weighing approximately 30 kg, was collected from the Fanta (Kulyk) Trench.

## **1.6. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

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No mineral resource or mineral reserve estimate has been completed for the Kulyk Lake Property.

## **1.7. INTERPRETATIONS AND CONCLUSIONS**

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The Kulyk Lake Project is an early stage, greenfields project which has seen intermittent exploration, largely focused on the area's uranium potential, since the early 1950's. More recent exploration recognized the REE potential of the area. The historical exploration has identified a number of pegmatites in the project area which contain elevated levels of U and REE. As much of the legacy work dismissed the radioactive pegmatites as uneconomic, modern analysis of these pegmatites, including REE assays should be completed. Considering the historical results from the Property and the current exploration work completed by Searchlight, it is the author's opinion that additional exploration of the Kulyk Lake Property is warranted.

## **1.8. RECOMMENDATIONS**

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Further exploration is recommended on the Kulyk Lake Property. Targets identified by the airborne geophysical survey should be examined; additional geophysics should be completed over the remaining portion of the claim block. Prospecting and geological mapping of the prospective areas should be completed to further refine the geology, with particular attention paid to areas of anomalous radioactivity, the presence of pegmatites, and the mapping of structural features. The mobile metal ion survey should be expanded to cover additional showings.

## **2. INTRODUCTION**

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### **2.1. INTRODUCTION**

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This report summarizes the exploration work performed on the Kulyk Lake Property. Axiom Exploration was contracted by Searchlight to write a National Instrument 43-101 (NI 43-101) Technical Report on the Kulyk Lake Property. Axiom is a Saskatoon, Saskatchewan based Geological, Geophysical, and Environmental Consulting Company.

Searchlight is a Canadian mineral exploration and development company with a focus on the gold, uranium, and battery mineral potential of Saskatchewan, Canada.

### **2.2. TERMS OF REFERENCE**

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Searchlight requested that Axiom review the Kulyk Lake Project and prepare a technical summary for the Property. This technical report has been prepared under the guidelines of Canadian National Instrument 43-101 reporting standards, which may differ from those used by U.S. companies.

All currencies are in Canadian dollars and measurements are in metric units; all elevations are referenced from 'meters above mean sea level'; and all UTM coordinates included in this report were measured in NAD83 / UTM Zone 13N, unless otherwise stated.

### **2.3. PURPOSE OF THE REPORT**

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The purpose of this report is to submit an independent technical evaluation of the exploration potential of the Kulyk Lake Project and to summarize the available data used to formulate this assessment.

The technical information in this report has been prepared by a qualified person in accordance with the NI 43-101 guidelines, but readers are cautioned that the information is subject to inherent uncertainties and potential limitations.

### **2.4. SOURCES OF INFORMATION**

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All interpretations and conclusions for this report are derived from:

- Historical prospecting, geophysical, and geochemical exploration programs as documented in Assessment Reports submitted to the Government of Saskatchewan.
- Unpublished internal reports provided by Searchlight.
- Publicly available geological journal articles, maps, news releases, and similar sources.
- The site visit as completed by Axiom personnel.

## **2.5. SITE VISIT & PERSONAL INSPECTION**

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A site visit to the Kulyk Lake Property was made by Mr. Tyler Fiolleau, P. Geo., of Axiom on July 13, 2023, on behalf of Searchlight (Figure 2-1).



**Figure 2-1: Photograph of the Kulyk Lake Property.**

## **2.6. QUALIFIED PERSON & CONTRIBUTOR**

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The Qualified Person and author for this report is Mr. Tyler Fiolleau, P. Geo. Ms. Kimberley Halpin, M.Sc., G.I.T., also contributed to the preparation of this report.

The author's Statement of Qualification can be found in Section 29.

## 2.7. REPORT TERMINOLOGY

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Common Terminology utilized in this report are listed in Table 2-1:

**Table 2-1: Report Terminology.**

Term	Definition
ha	Hectare
NTS	National Topographic Sheet
ppm	Parts per million
ppb	Parts per billion
NSR	Net Smelter Returns
U	Uranium
Th	Thorium
REE	Rare Earth Elements
TREE	Total Rare Earth Elements
LREE	Light Rare Earth Elements
HREE	Heavy Rare Earth Elements
Y	Yttrium
Nb	Niobium
CREO	Critical Rare Earth Oxides
TREO	Total Rare Earth Oxides
km	Kilometers
m	Meters

<b>Term</b>	<b>Definition</b>
cm	Centimeters
mm	Millimeters
g	Grams
cps	Counts per second
MARS	Mineral Administration Registry Saskatchewan
SMAD	Saskatchewan Mineral Assessment Database
SMDI	Saskatchewan Mineral Deposit Index
AR	Assessment Report
SGS	Saskatchewan Geological Survey
GSC	Geological Survey of Canada
THO	Trans Hudson Orogen
MMI	Mobile Metal Ion

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

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The technical report was prepared by Mr. Tyler Fiolleau, P. Geo. Mr. Fiolleau is a qualified person (QP) for the purposes of NI 43-101, and he fulfills the requirements of an “independent qualified person”.

The QP has not independently researched the title or mineral rights for the Property and express no legal opinion as to the ownership status of the Property.

The QP believes the data and information provided by Searchlight Resources Inc., and the public information available on the Property are essentially complete and correct to the best of their knowledge and that no information was intentionally withheld that would affect the conclusions made herein.



## 4. PROPERTY DESCRIPTION & LOCATION

The Kulyk Lake Property consists of a contiguous claim block comprised of 35 Saskatchewan Mineral Dispositions which total 33,100.44 hectares in size (Table 4-1). At the time of writing the claims are owned 100% by Searchlight Resources Inc.

The Property is located within NAD83 UTM Zone 13N on National Topographic Sheet (NTS) 74A/05, 74A/11, and 74A/12, approximately 165 km north of La Ronge, Saskatchewan (Figure 4-1). The center of the claim block lies at approximately latitude 56.55°N and longitude 105.51°W.

**Table 4-1: Disposition Information.**

Disposition No.	Owner	Effective Date	Good Standing Date	Area (ha)
MC00012707	Searchlight Resources Inc.: 100%	2019-02-04	2024-05-04	592.82
MC00012897	Searchlight Resources Inc.: 100%	2019-04-30	2024-07-29	560.18
MC00012949	Searchlight Resources Inc.: 100%	2019-05-14	2023-08-12	562.60
MC00013078	Searchlight Resources Inc.: 100%	2019-06-05	2023-09-03	755.77
MC00014689	Searchlight Resources Inc.: 100%	2021-03-08	2024-06-06	507.90
MC00014690	Searchlight Resources Inc.: 100%	2021-03-09	2024-06-07	507.95
MC00014693	Searchlight Resources Inc.: 100%	2021-03-09	2024-06-07	526.62
MC00014695	Searchlight Resources Inc.: 100%	2021-03-09	2024-06-07	528.52
MC00014795	Searchlight Resources Inc.: 100%	2021-04-13	2023-07-12	591.05

Disposition No.	Owner	Effective Date	Good Standing Date	Area (ha)
MC00014796	Searchlight Resources Inc.: 100%	2021-04-13	2024-07-12	559.06
MC00014797	Searchlight Resources Inc.: 100%	2021-04-13	2024-07-12	510.73
MC00014798	Searchlight Resources Inc.: 100%	2021-04-13	2024-07-12	563.10
MC00014799	Searchlight Resources Inc.: 100%	2021-04-13	2024-07-12	532.97
MC00014800	Searchlight Resources Inc.: 100%	2021-04-13	2024-07-12	644.48
MC00014801	Searchlight Resources Inc.: 100%	2021-04-13	2023-07-12	560.94
MC00014802	Searchlight Resources Inc.: 100%	2021-04-13	2024-07-12	516.08
MC00015203	Searchlight Resources Inc.: 100%	2021-09-21	2023-12-20	595.63
MC00015204	Searchlight Resources Inc.: 100%	2021-09-21	2023-12-20	826.86
MC00015205	Searchlight Resources Inc.: 100%	2021-09-21	2023-12-20	712.34
MC00015206	Searchlight Resources Inc.: 100%	2021-09-21	2023-12-20	1,090.33
MC00015324	Searchlight Resources Inc.: 100%	2021-09-27	2023-12-26	1,701.79
MC00015475	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	2,267.52
MC00015476	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	3,240.94

Disposition No.	Owner	Effective Date	Good Standing Date	Area (ha)
MC00015477	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	2,481.73
MC00015478	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	3,313.94
MC00015479	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	561.35
MC00015480	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	1,314.58
MC00015482	Searchlight Resources Inc.: 100%	2021-10-01	2023-12-30	880.92
MC00015502	Searchlight Resources Inc.: 100%	2021-10-04	2024-01-02	1,115.67
MC00015503	Searchlight Resources Inc.: 100%	2021-10-04	2024-01-02	1,019.25
MC00015754	Searchlight Resources Inc.: 100%	2021-12-13	2024-03-12	498.88
MC00015755	Searchlight Resources Inc.: 100%	2021-12-13	2024-03-12	790.08
MC00015756	Searchlight Resources Inc.: 100%	2021-12-13	2024-03-12	543.95
MC00015758	Searchlight Resources Inc.: 100%	2021-12-13	2024-03-12	564.98
MC00015759	Searchlight Resources Inc.: 100%	2021-12-13	2024-03-12	558.94

#### **4.1. CROWN MINERAL RIGHTS**

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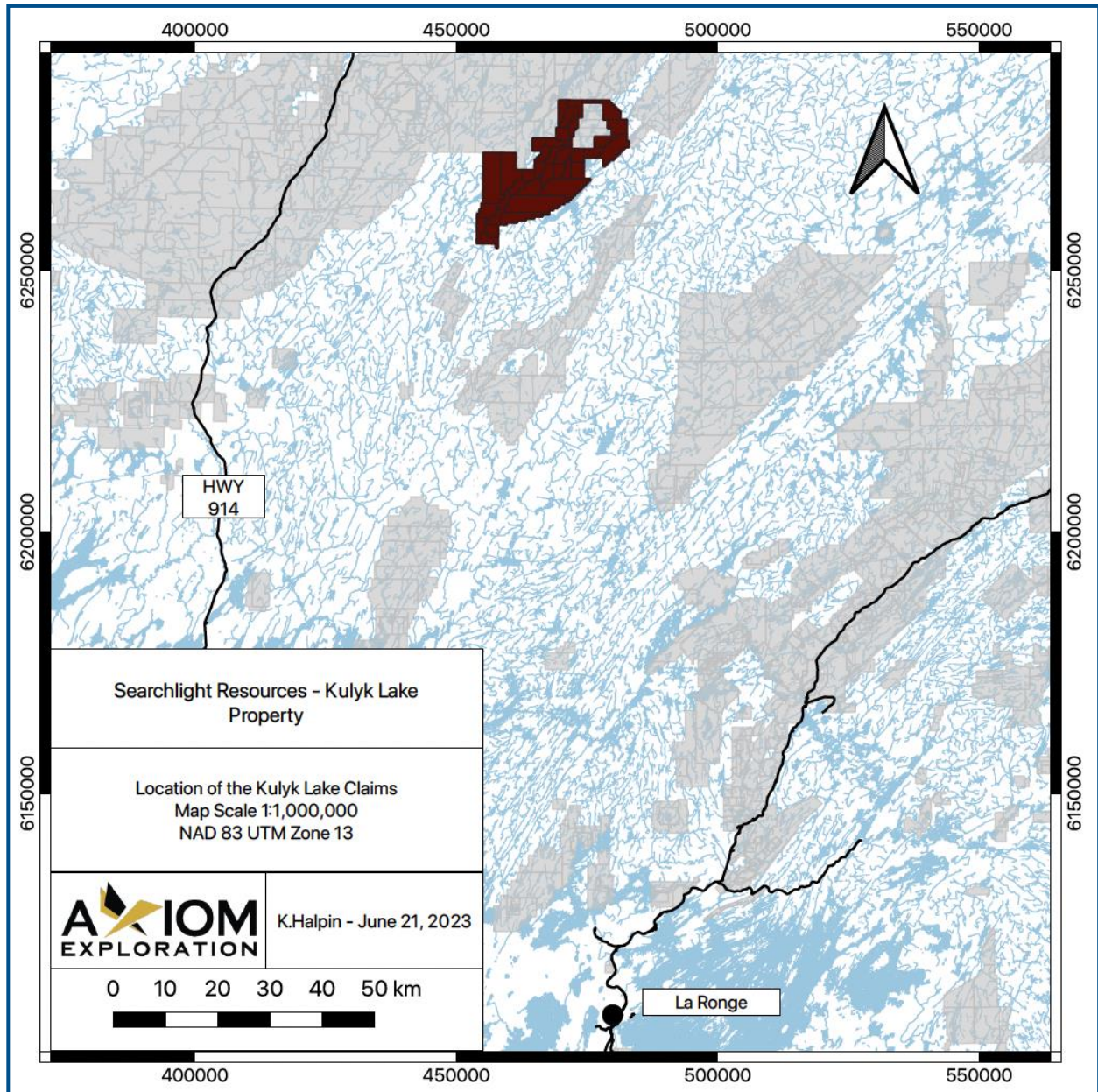
In Canada, natural mineral resources fall under provincial jurisdiction. All mineral resource rights in the Province of Saskatchewan are governed by The Crown Minerals Act (C-50.2) and The Mineral Tenure Registry Regulations, 2012 (C-50.2 Reg 27), that are administered by the Saskatchewan Ministry of Energy and Resources. Mineral rights are owned by the Crown and are distinct from surface rights.

#### **4.2. CROWN RESERVES**

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Crown reserves in Saskatchewan are defined as areas in which Crown minerals are not available for dispositions, including oil and gas leases, potash leases or mineral claims.

Typically, Crown reserves are established to prevent conflicts in resource development and to minimize possible interference between mineral disposition activity and future land use.



**Figure 4-1: Location of the Kulyk Lake Claims in relation to La Ronge, Saskatchewan. Claim location is shown in red. Surrounding Saskatchewan mineral dispositions in grey.**

### **4.3. MINERAL CLAIMS (DISPOSITIONS)**

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Subject to existing legislation, a claim is a defined area where the holder of the claim has the exclusive rights to explore and prospect for the minerals within the claim area and to convert any portion or the entire claim into a lease or into leases. A claim may be held for two years, initially, and thereafter from year to year being subject to the holder spending the required amounts in exploration operations on the claim lands.

To maintain mineral claims in good standing in the Province of Saskatchewan, the claim holder must undertake prescribed minimum exploration work on an annual basis. The current requirements state that \$15/ha per year for claims that have existed for 10 years or less and \$25/ha per year for claims that have existed more than 10 years.

All dispositions pertaining to this report were recorded in 2019 or later and are therefore subject to the minimum work requirement of \$15/ha per year.

### **4.4. MINERAL LEASES**

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Mineral claims in good standing may be converted to mineral lease(s) upon application. Mineral leases allow for mineral extraction, are subject to 10-year terms, and they are renewable.

### **4.5. SURFACE LEASES**

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Surface leases are required for any facilities constructed in support of mineral extraction and have a 33-year maximum terms and which are also renewable.

### **4.6. KULYK LAKE PROPERTY CLAIMS**

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As of December 6<sup>th</sup>, 2012, mineral dispositions are defined as electronic mineral claim parcels within the Mineral Administration Registry System (MARS) using a Geographical Information System (GIS). MARS is a web based and publicly accessible electronic tenure system for applications, issuances, and administration of mineral claims, permits, and leases.

The Kulyk Lake Property consists of a total of 35 Saskatchewan Mineral Dispositions (Figure 4-2). The claims cover an area of 33,100.44 hectares, which at the time of writing, are 100% registered to Searchlight Resources Inc. and are in good standing. Searchlight does not have surface rights associated with the mineral claims that comprise the Property.



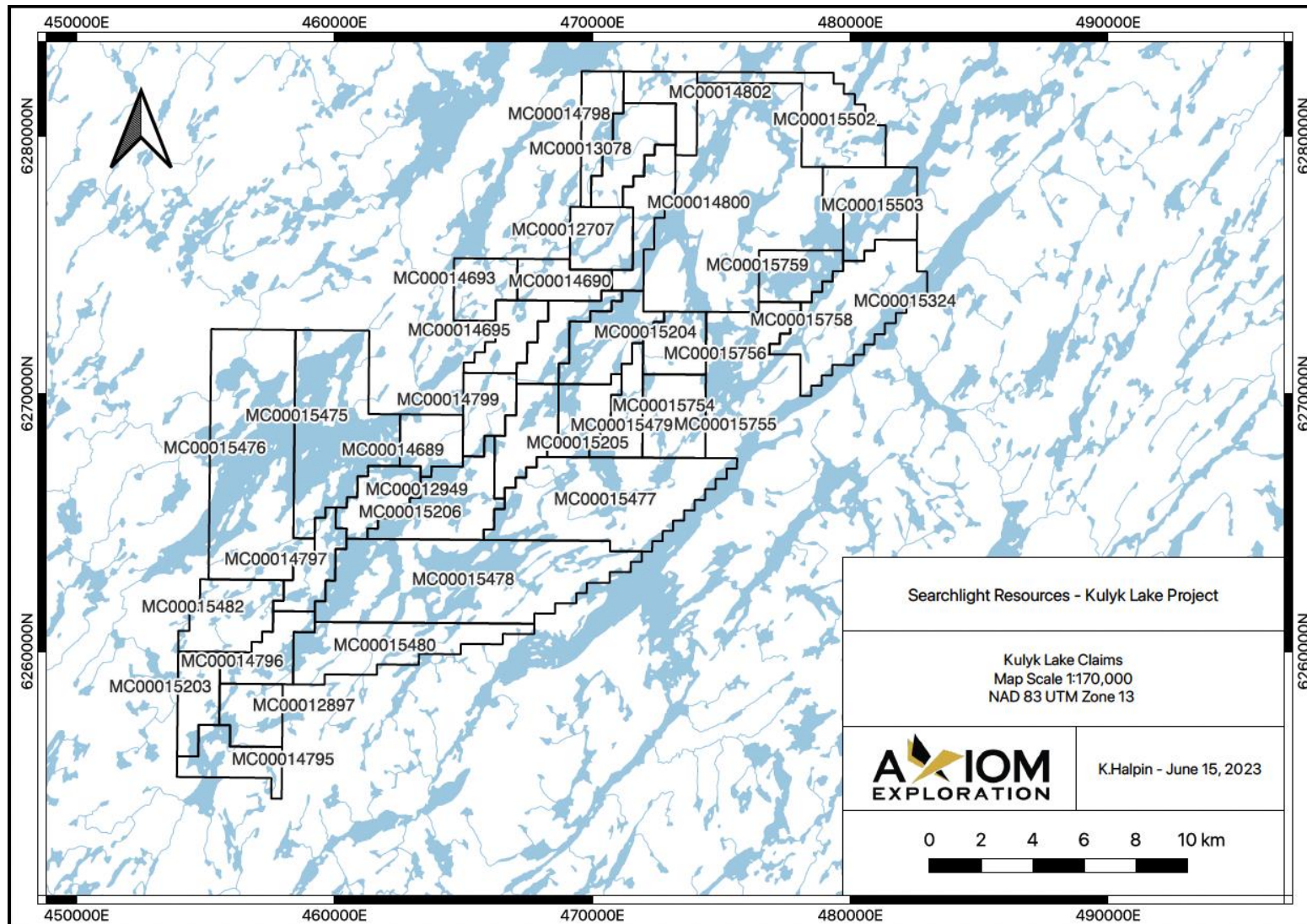


Figure 4-2: Location of the Kulyk Lake Mineral Dispositions.



#### **4.7. PERMIT REQUIREMENTS**

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To conduct exploration activities on Crown land in Saskatchewan permits are required before work can begin. The permits required are dependent on the specific activities in the proposed exploration program. The permits required for exploration on the property may include Forest Product permits, Surface Exploration permits, Temporary Work Camp permits, and Aquatic Habitat Protection permits.

To the best of the author's knowledge, there are no active permits for the Kulyk Lake Project.

#### **4.8. AGREEMENTS AND ROYALTIES**

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To the best of the author's knowledge the Kulyk Lake property is not subject to any royalty or other agreements.

#### **4.9. ENVIRONMENTAL LIABILITIES**

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To the best of the author's knowledge there are no outstanding environmental liabilities and currently no risks that may affect access, title, or the right or ability to perform work on the property. Environmental liabilities that may affect access to the property would include but are not limited to; summer season wildfires or above-average rainfall limiting season road access in the spring and summer.

## **5. ACCESSIBILITY, CLIMATE, PHYSIOGRAPHY, LOCAL RESOURCES & INFRASTRUCTURE**

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### **5.1. ACCESSIBILITY**

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The Kulyk Lake Project is located approximately 165 km north of La Ronge, Saskatchewan. The property can be accessed year-round by fixed wing aircraft or helicopter. Aircraft can be chartered out of Missinipe, Saskatchewan or La Ronge, Saskatchewan.

### **5.2. CLIMATE**

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The Kulyk Lake Project area experiences a subarctic climate (Köppen climate classification Dfc) (Beck et al., 2018). There is a wide range in seasonal temperatures in the project area, with short, cool summers and cold winters. According to Environment and Natural Resources Canada, temperatures in the region typically range from an average low of -18.8° C in January of to an average high of 17.5° C in July. Average annual rainfall in the region is 343.6 mm, while the average annual snowfall is 154.1 cm (ENRC, 2019). Break-up of lake ice typically occurs in May and freeze-up occurs in November. Select exploration activities can be completed year-round if utilizing appropriately winterized equipment.

The property is located within the Boreal Shield Ecozone in the Churchill River Upland Ecoregion. The area is largely covered with shield-type boreal forest consisting mainly of pine and spruce with sporadic fir, alder, birch, and aspen. Low-lying peatland areas may contain black spruce and tamarack (SCDC, 2014).

### **5.3. PHYSIOGRAPHY**

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The physiography of the area is typical of the Canadian Shield; it is largely controlled by the bedrock and structure. The landscape in the project area is characterized by a mix of outcrops, glacial deposits, wetlands, and lakes. Exposed outcrops in the Kulyk Lake area typically cover between 10% to 30% of the surface area (McKeough et al., 2010). Lakes in the region are typically long and narrow; paralleling the bedrock structure and direction of ice movement they are generally aligned in a northeast-southwest direction (SCDC, 2014). The area typically exhibits moderate relief, but locally can be quite rugged with steep, northeastern trending ridges (Ray, 1981). Elevation on the Property ranges from approximately 520 m to 600 m above sea level.

### **5.4. LOCAL RESOURCES**

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The project area contains an abundant supply of water from the numerous lakes, ponds, and streams. The nearest accessible hospital to the claims is in the town of La Ronge located approximately 165 km south of the property. The closest RCMP detachment is located in the community of Pinehouse, Saskatchewan which lies 135 km southwest of the claim area.

## **5.5. INFRASTRUCTURE**

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Infrastructure is very limited in the project area; the closest roadway is Provincial Highway 914 which lies approximately 45 km west of the project area.

Electrical power in northern Saskatchewan is serviced by 138 kV transmission line from the Island Falls generating station to northern areas of the province. This power line extends through Brabant Lake to the Key Lake mine site and passes approximately 50 km northeast of the Kulyk Lake Property.

## **5.6. LOCAL STAKEHOLDERS**

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The closest community to the Project is the northern village of Pinehouse, Saskatchewan, which has a population of 1,013 people. The population center of La Ronge, consisting of the Northern Town of La Ronge, the Northern Village of Air Ronge, and the Kitsaki 156B and Lac La Ronge 156 Indian reserves of the Lac La Ronge First Nation, consists of 5,766 individuals as of 2021 (Stats. Can., 2022). La Ronge is a transit and supply hub for northern Saskatchewan and contains an airport, industrial hub, and plenty of amenities.

Should the Kulyk Lake Project develop into a producing mine the closest town which could facilitate the potential mining activities is La Ronge. The town is situated near the geographic center of Saskatchewan and is connected to southern Saskatchewan via Highway 2. The area houses local businesses, hospital facilities, schools, banks, a regional airport, access to industrial supplies, and all manner of exploration and mining support services.

## **5.7. FIRST NATIONS**

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The Mawdsley Lake and Haultain Lake Reserves, which are both part of the English River First Nation, are located approximately 45 km northwest of the Project area. No population information for these reserves is available (Stats. Can., 2022).

## **6. HISTORY**

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### **6.1. PRIOR OWNERSHIP**

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General interest in the area began in the early 1950's following the staking of a radiometric anomaly in 1952 by Eldorado Mining and Refining Ltd. This was followed by a brief staking rush, with a number of other companies staking claims in the region (Mawdsley, 1957). Claim blocks covering radiometric anomalies in the Kulyk Lake area were staked by Baska Uranium Mines Ltd., Acadia Uranium Mines Ltd., and geologist Gordon Copeland. Interest in the area declined after prospecting revealed that pegmatites were the source of radioactivity.

Following this initial period of interest, the majority of the ground remained unclaimed until the late 1960's when the area saw renewed exploration activity. Since this time there have been several subsequent generations of exploration; the area covered by the current Kulyk Lake claims has been held by numerous owners in several different claim configurations. Great Plains Development Company of Canada Ltd., Foster Lake Mines Ltd., Can-Fer Mines Ltd., International Nuclear Corp., Canadian Dehli Oil Ltd., and TransCanada Resources Ltd. all owned claims in the Project area in the late 1960's.

In the period between 1970 and 2007 the area saw only sporadic interest, with Inexco Mining Company, E and B Explorations Ltd., and Anglo Bomarc owing claims which overlap the current extent of the Kulyk Lake Property.

In 2007 Eagle Plain Resources acquired a claim block which covered much of the current Property. Interest in the Kulyk Lake area now focused on the REE potential of the area, and several additional companies, including Uracon Resources Ltd., Bonaventure Enterprises Inc., and Inner Mongolia Minerals (Canada) Ltd. acquired claims in the area.

The claims which now make up the Kulyk Lake property were acquired by Searchlight by staking starting in 2019. For complete claim details see Table 4-1.

### **6.2. PREVIOUS WORK**

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The earliest recorded work in the Project area occurred in 1953 when Baska Uranium Mines Ltd. discover radioactive pegmatites on the BASKA claims near Kotelmach (Diane) Lake. The Eldorado showing, at Kulyk Lake, was also discovered in 1953 by Eldorado Mining and Refining Ltd. however no record of the original exploration is recorded in Saskatchewan Mineral Assessment Database (SMAD). Mention of the Eldorado work occurs in subsequent assessment reports and is noted by Mawdsley (1957).

Following these initial discoveries, there have been several generations of airborne geophysical surveys completed over portions of the property. Ground prospecting, facilitated by scintillometers, and sampling was typically completed over anomalies identified by the airborne

survey. Limited mapping, typically restricted to the anomalous areas, was completed. Can-Fer completed a regional mapping program in 1969. The more recent work consists of prospecting based on airborne radiometric surveys and the detailed examination of several of the historical showings.

Table 6-1 summarizes the exploration history of the project area. The information has been adapted from the Saskatchewan Mineral Deposit Index (SMDI) and SMAD. Section 6.3 provides more detailed descriptions of the exploration work completed.

**Table 6-1: Summary of Historical Exploration on the Kulyk Lake Project**

Time Period	Description of Work
1953	Baska Uranium completed an airborne radiometric survey followed by ground radiometrics, mapping, and sampling. Trenching is mentioned in the assessment work, but details are limited.
1953	Copeland conducted geological mapping and a ground scintillometer survey of the LM claims.
1953	The NORA claims were mapped and radiometrically prospected by Acadia Uranium.
1967	Great Plains conducted a helicopter scintillometer survey, followed by geological mapping, prospecting, and sampling.
1967	Foster Lake Mines completed geological mapping and a ground radiometric survey, followed by sampling of the identified anomalies. Three trenches were excavated.
1969	Can-Fer Mines Ltd. completed an airborne radiometric survey followed by geological mapping and ground radiometrics.
1969	Air photo interpretation and airborne electromagnetics, magnetics, and radiometric surveys flown by International Nuclear. Ground prospecting traverses of anomalous areas, with detailed geological mapping and sampling of historic showings.

Time Period	Description of Work
1969	Airborne electromagnetics and radiometric surveys flown, followed by ground prospecting.
1970	Inexco performed an airborne radiometric survey followed by outcrop, lake, stream, and soil sampling in the Daly Lake area.
1978	E and B Explorations completed a combined airborne electromagnetic, magnetic, and radiometric survey.
1979	Anglo Bomarc completed airborne EM and magnetics as part of a base metal exploration program.
2007	GEOTEM electromagnetic and magnetic survey of the Kulyk Lake area. Regional scale geological mapping, prospecting, and sampling.
2008	Additional prospecting, mapping, rock sampling, and radon in water sampling was completed by Eagle Plains. Regional and detailed lake bottom sampling for geochemical and radon analysis was also completed at this time.
2008	Uracan completed geological mapping, prospecting, and sampling.
2009	Eagle Plains established 10.2 line-km of grids at the Baska and Eldorado showings. Ground magnetics, EM and VLF surveys were completed. Soil and rock sampling with 186 soil and 7 rock samples collected in the vicinity of the Baska showing and 310 soil and 13 rock samples from the Eldorado area. Geological mapping of the grids. Radon survey.
2010	Trenching and channel sampling of the Kulyk and Eldorado showings. Prospecting and scintillometer surveys.
2014	Prospecting in the Daly Lake area.

### **6.3. SUMMARY OF PREVIOUS WORK**

#### **6.4. 1953: BASKA URANIUM MINES LTD.**

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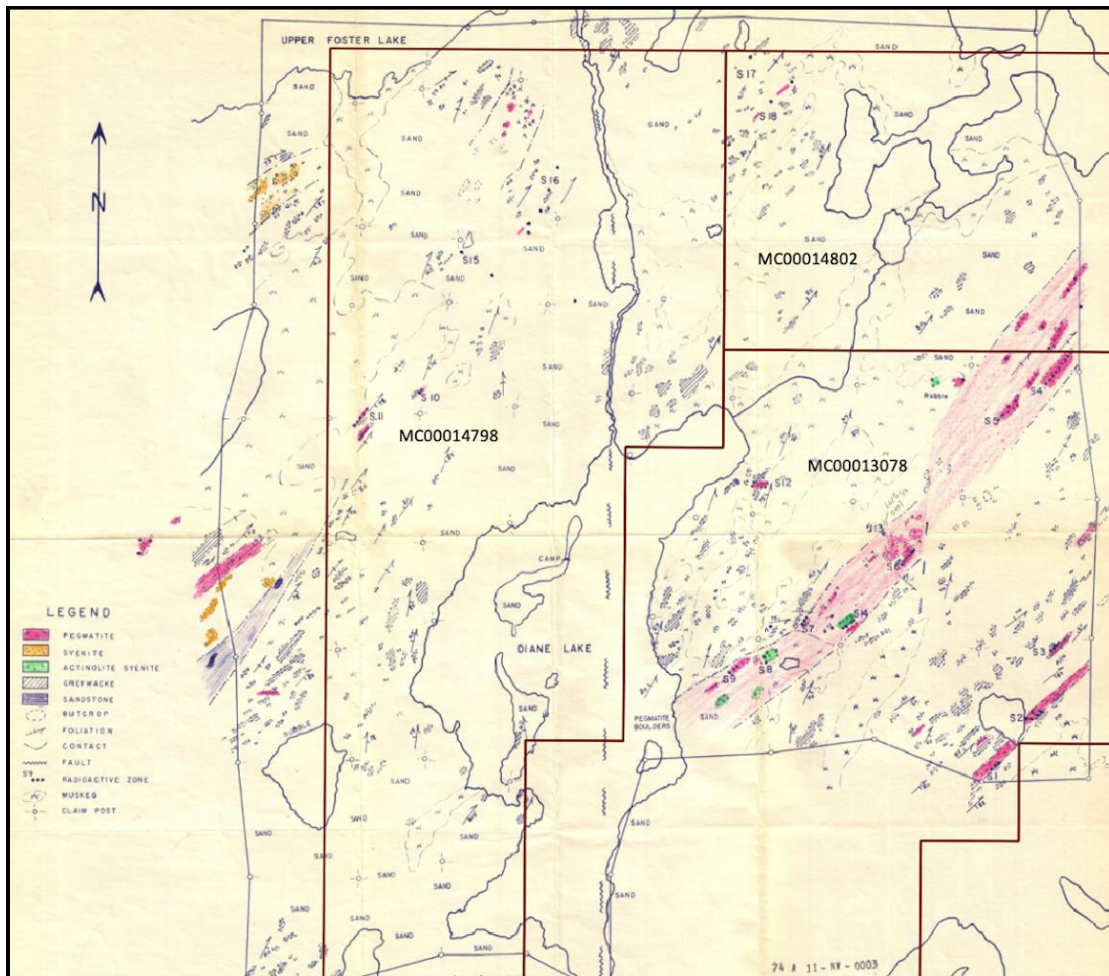
(AR 74A11-0003)

The initial work completed on the BASKA claims consisted of an airborne radiometric survey, however no details of the survey parameters are provided. This survey identified 18 radioactive pegmatites (Figure 6-1). The follow-up consisted of ground radiometrics, trenching, and grab sampling.

Granitic pegmatites and two varieties of syenite were noted in the area; it is unclear if the syenites are a related phase of pegmatite, or the result of intense contact metamorphism. Radioactivity locally increases along intrusive contacts or fractures within the dykes and surrounding host rocks. In the actinolite bearing pegmatite radioactivity was attributed to the presence of disseminated davidite.

No visible uraninite was noted at zone S2, but  $U_3O_8$  assays varied from 0.02% to 0.06%. In pegmatite S13 uraninite crystals up to 6 mm in size were observed. Grab samples from this pegmatite assayed 0.47%  $U_3O_8$  and 1.68%  $U_3O_8$ . S10 consisted of a two-inch-wide vein of quartz, magnetite, and ilmenite which assayed 0.20%  $U_3O_8$ . S8 consisted of actinolite syenite; samples from this area ranged between 0.01% to 0.12%  $U_3O_8$ . Based on the detailed sampling maps it appears that several showings were trenched, however no additional details were provided.





**Figure 6-1: Radioactive Showings identified by Baska Uranium Mines Ltd (AR 74A11-0003). Current claim boundaries overlain in red.**

## **6.5. 1953: GORDON COPELAND**

(AR 74A12-0001)

In 1953 the LM claims, which lie within Kulyk Lake claim MC00014797, were mapped and prospected using a Halross 939 scintillometer. Geological mapping of the claims identified several metasedimentary units, an amphibolite, a granitic gneiss, and late pegmatite dykes (Figure 6-2). Scintillometer readings were collected every 100 feet (30.5 m) on a grid over the claim area. This survey identified a radiometric anomaly at the contact between a pegmatite and amphibolite. A second anomaly was noted to the northwest (Figure 6-3).

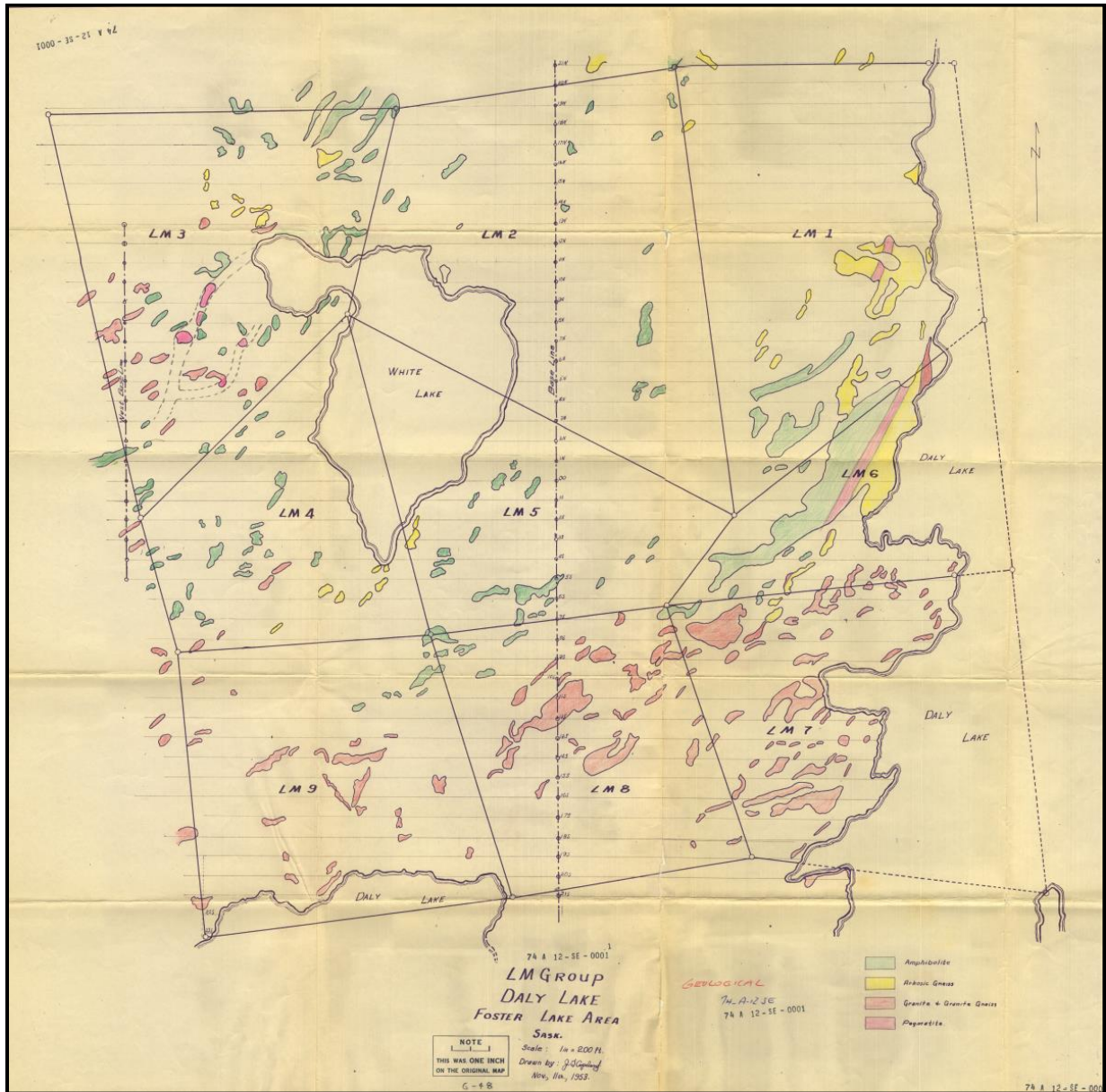


Figure 6-2: Geological Mapping of the LM Claims , which are now covered by MC00014797 (AR 74A12-0001).



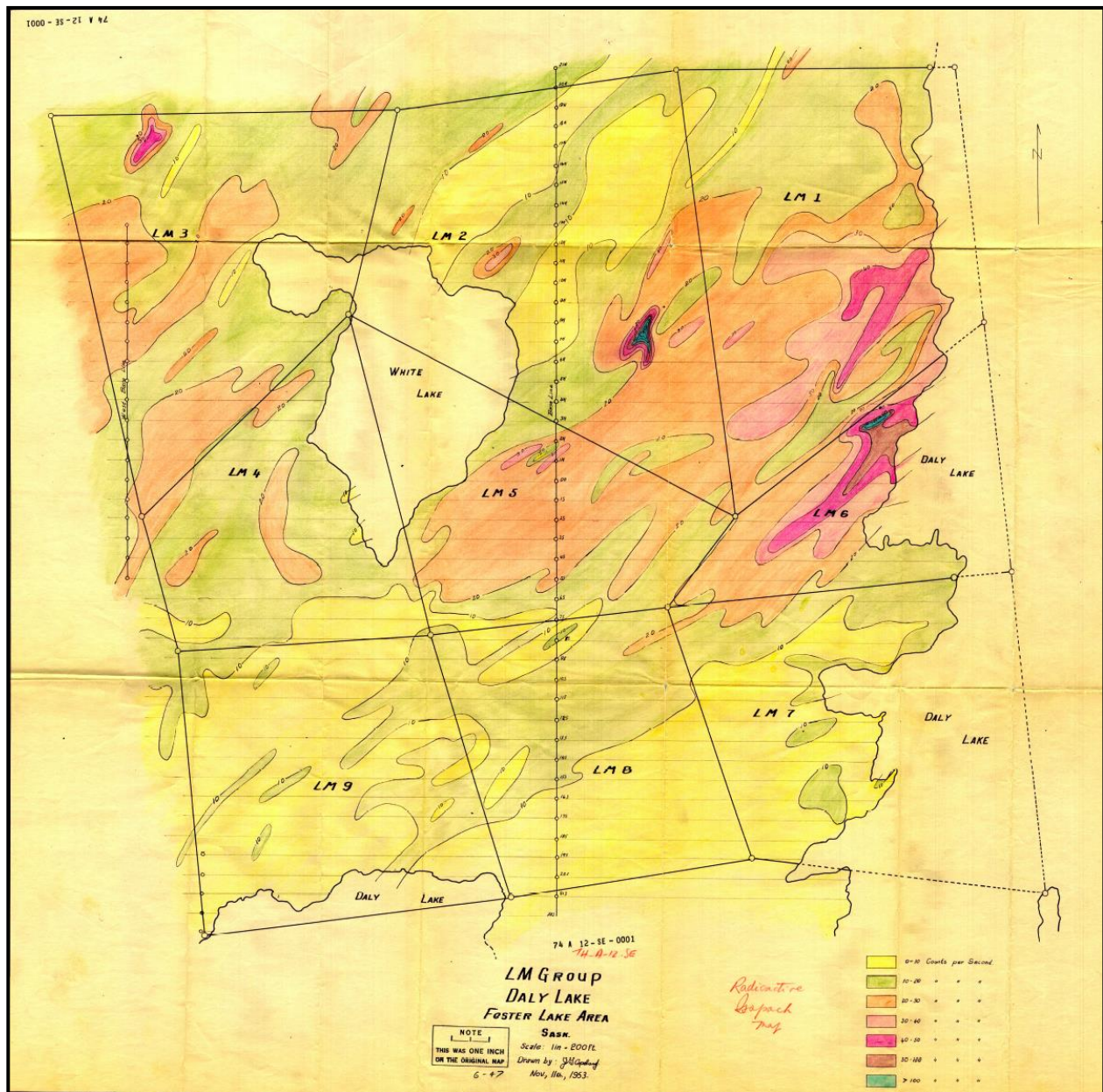


Figure 6-3: Results of LM claim radiometric survey (AR 74A12-0001).

## 6.6. 1953: ACADIA URANIUM MINES LTD.

(AR 74A11-0006)

In the summer of 1953, the NORA claims were geologically mapped and radiometrically prospected (Figure 6-4). NORA-8 and NORA-9 overlap with Kulyk Lake claim MC00015502. Radioactive anomalies were common, but no continuity could be established. The radioactive

anomalies on these claims were all associated with the presence of pegmatites. Locally yellow uranium staining was noted in a small pegmatite dyke on NORA-8.

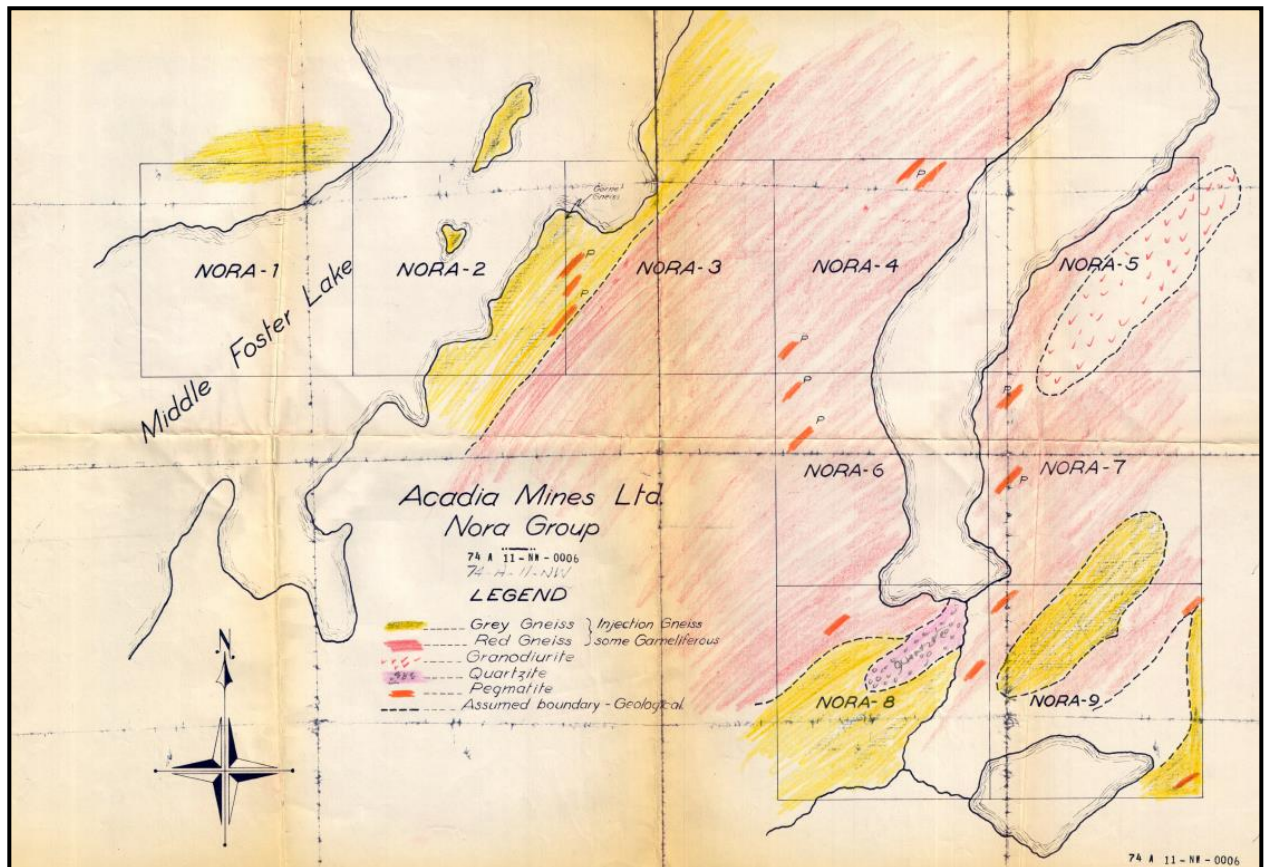


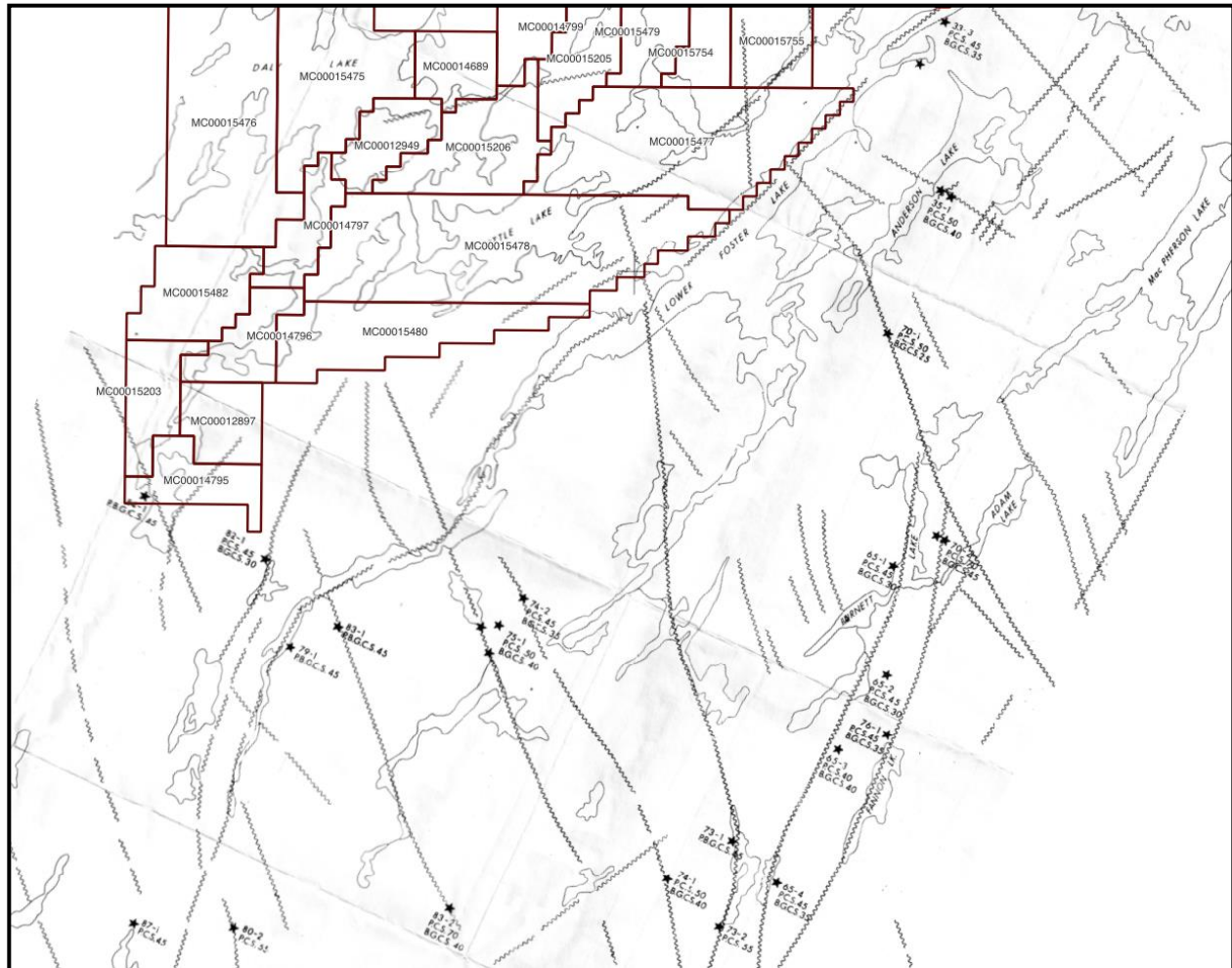
Figure 6-4: Geology of the NORA claims (AR 74A11-0006).

## 6.7. 1967: GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

(AR 74A-0002, AR 74A11-0019, AR 7412-0003)

In 1967 Great Plains conducted a reconnaissance exploration program over Mineral Permit No.1 and the surrounding Foster Lakes area consisting of a helicopter-borne scintillometer survey using a Nuclear Enterprise Limited Mark VI-A scintillometer. The survey was designed to test the radioactivity over fault traces identified by air photo interpretation. This survey identified a number of radiometric anomalies in the Foster Lake region but only one anomaly, 84-1, lies within the current claims on MC00014795. This anomaly consisted of a biotite pegmatite with elevated radioactivity (Figure 6-5).





**Figure 6-5: Location of Radiometric Anomalies Identified by 1967 Airborne Survey (Adapted from 74A-0002). Current claim outlines overlain in red.**

The Lower Foster Lake area was mapped and sampled in the summer of 1967. Several zones of anomalous U, defined by the survey as > 100 ppm U, were identified in the vicinity of Lower Foster Lake, within MC00015324. The anomalous samples range from 100 to 268 ppm U, although no details of the assay procedure or assay certificates accompany the assessment work.

## **6.8. 1967: FOSTER LAKES MINES LTD.**

(AR 74A11-0027, AR 74A11-0028)

In the summer of 1967, a geological and radiometric survey of the EL and BAS claim groups was completed. Radiometric readings were collected every 5-feet (1.5 m) on lines spaced 10-feet (3 m) apart. The highest radioactivity on the EL claims typically corresponded to the margins of the pegmatite; the six samples collected from these areas varied between 0.189% to 1.32% U<sub>3</sub>O<sub>8</sub>,

with an average of 0.630%  $U_3O_8$ . On the BAS claim group, the radioactivity was spotty and low. The two grab samples collected from these claims assayed 0.020%  $U_3O_8$  and 0.042%  $U_3O_8$ .

Following the surveys three trenches were excavated across the pegmatite of interest on the EL claims. Sampling of the trenches was completed; however no details of the results were included.

## **6.9. 1969: CAN-FER MINES LIMITED**

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(AR 74A05-0006)

In June of 1969 an airborne radiometric survey was completed over Can-Fer's Permit No. 1, which covered an area of approximately 230 sq miles. A total of 1,827 line-miles (2,940 line-km) were flown. Any readings exceeding 1.33 times the average background were investigated by a ground crew. The anomalies were prefixed with either a G or an S depending on if the anomalies occur within granitic or sedimentary rocks, respectively. Anomalies S7, S8, G6, and G9 lie within the boundaries of the current claims (Figure 6-6).

Mapping of the area was completed at a scale of one inch to 2,640 feet (Figure 6-7). Ground geophysical surveys were completed in anomalous areas using either a Precision Radiation Instruments Model 111 Standard scintillometer or a McPhar Geophysics Model TV-4 spectrometer. The radioactivity encountered in the mapping area was largely attributed to discrete pegmatite dykes and sills. These radioactive pegmatites typically contain moderate amounts of black biotite disseminated as platy book throughout the rock or localized along fractures or shear planes.



**Figure 6-6: Airborne Radiometric Anomalies Identified by the 1969 Can-Fer Survey (Adapted from 74A05-0006). Current claim outlines overlain in red.**







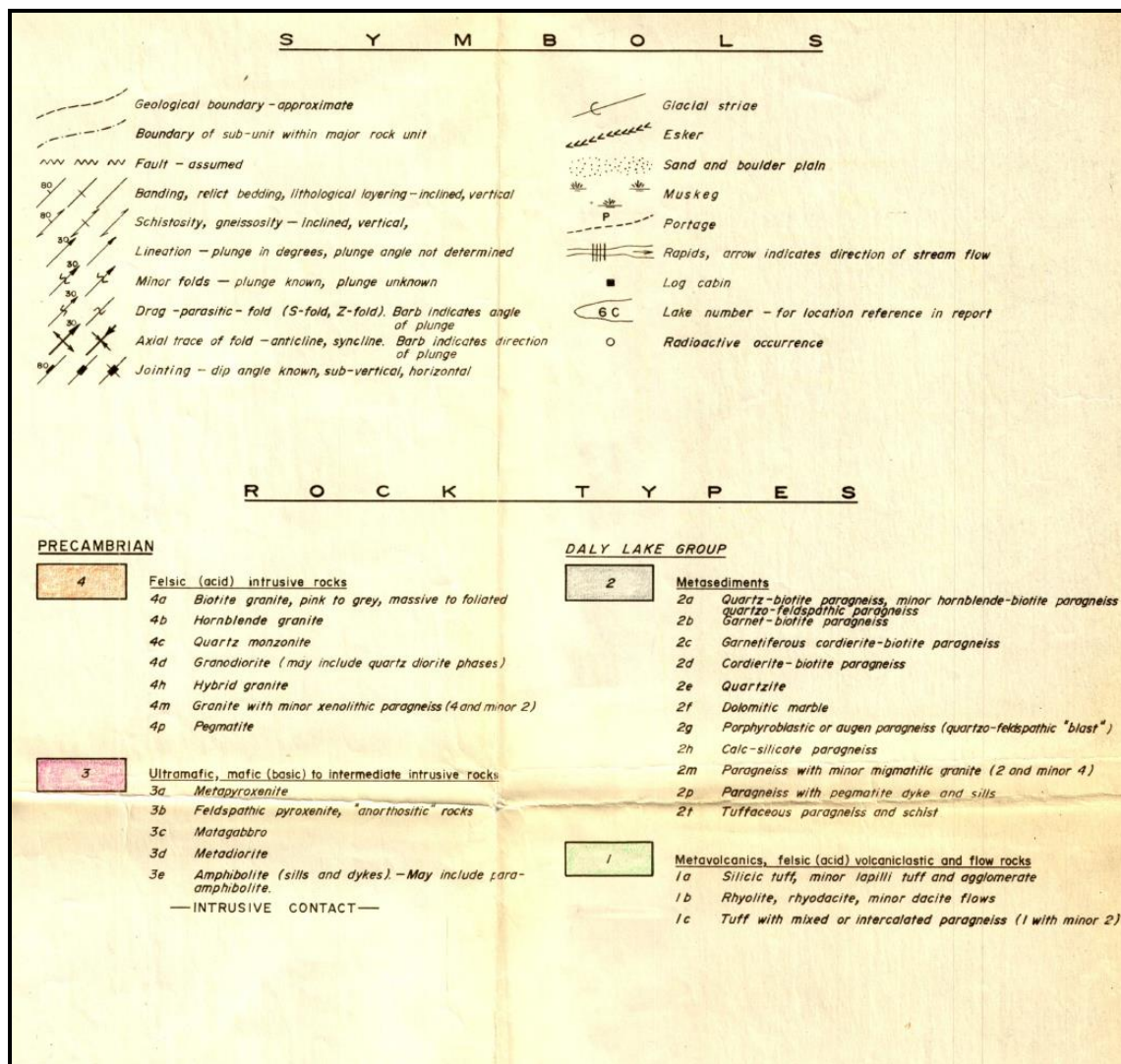


Figure 6-8: Legend for Can-Fer Mapping in Figure 6-7.

## 6.10. 1969: INTERNATIONAL NUCLEAR CORPORATION

(AR 74A12-0005)

In 1969 International Nuclear conducted an exploration program on Permit INC-1 consisting of an air photo interpretation followed by a combined airborne electromagnetic, magnetic, and spectrometer survey. Areas of interest defined during the air photo interpretation included major faults, fault intersections, strike changes along faults, areas of intense faults, fractures or joints, major unconformities, and areas of known uranium occurrences. In total 1,099 line-miles (1,768 line-km) of geophysical data was acquired.

Ground prospecting traverses using a BGS-1S Beta-gamma scintillometer or a GIS-2 or GIS-3 discriminating scintillometer were completed and the area surrounding Kulyk Lake was mapped, with detailed mapping of the Eldorado and Kulyk showings (Figure 6-9 to 6-10). The mineralization at the Eldorado showing was described as thin, greenish-brown coatings of brannerite along fractures in the pegmatite and the surrounding host rock. Some minor yellowish radioactive staining was also noted. The trenches at the Eldorado showing were sampled in 5-foot (1.5 m) intervals. Most of the assay results from the showings were lower than 0.01%  $U_3O_8$ , however one interval in assayed 0.192%  $U_3O_8$ .

The mineralization at the Kulyk Lake showing consisted of a brownish-red monazite and dark davidite or uranothorianite fracture filling surrounded by extensive hydrothermal alteration. The mineralized vein extends for approximately 50 feet (15 m), with an average width of 1 ½ feet (50 cm). The general strike of the vein is  $012^\circ$  with a vertical dip. The sampling intervals at the Kulyk showing were more variable, ranging from 1 to 5 feet (0.3 to 1.5 m). Channel sampling of this showing returned values from 0.030%  $U_3O_8$  to 0.221%  $U_3O_8$  and 0.490%  $ThO_2$  to 1.28%  $ThO_2$ .

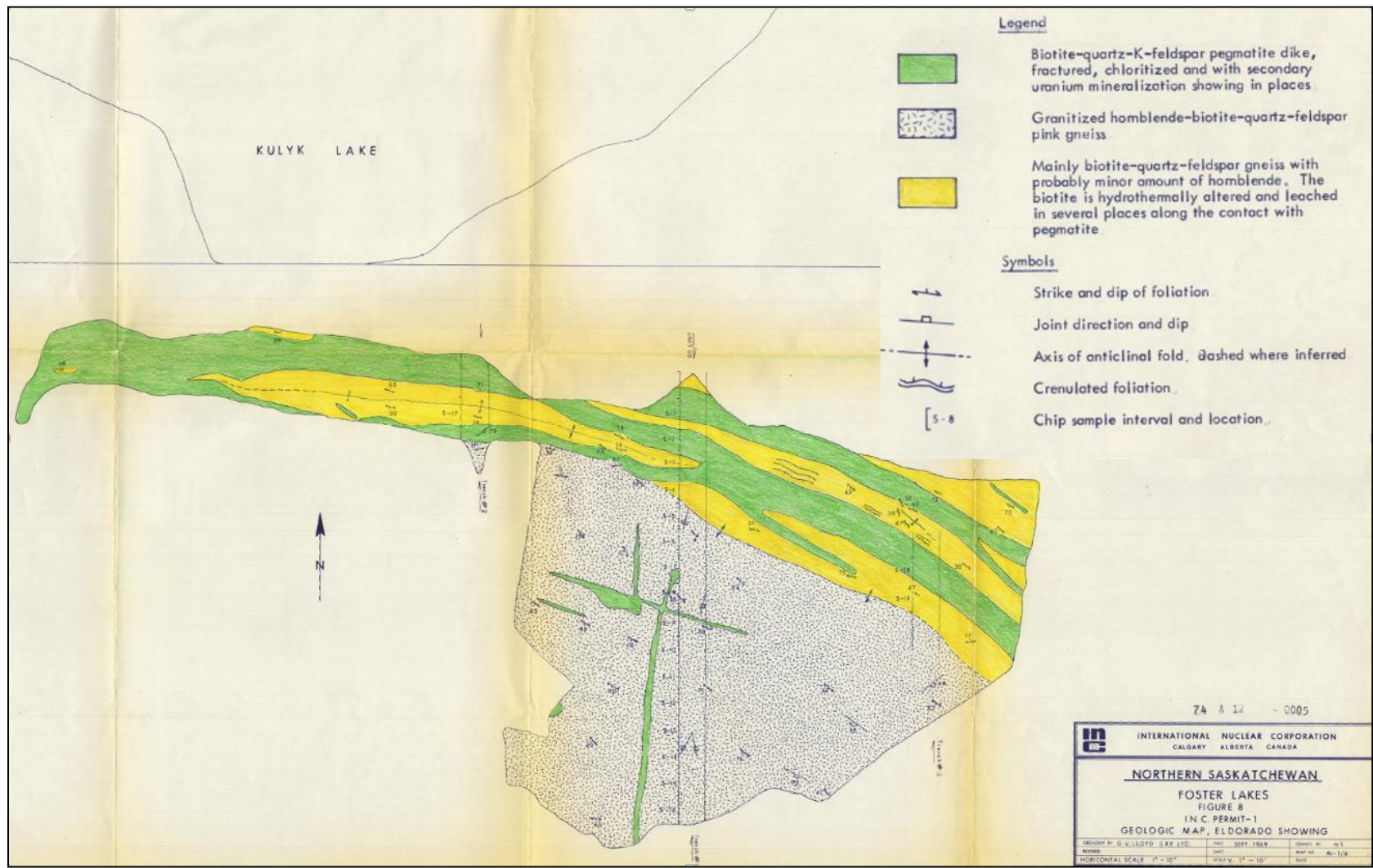


Figure 6-9: Map of the Eldorado Showing (AR 74A12-0005).



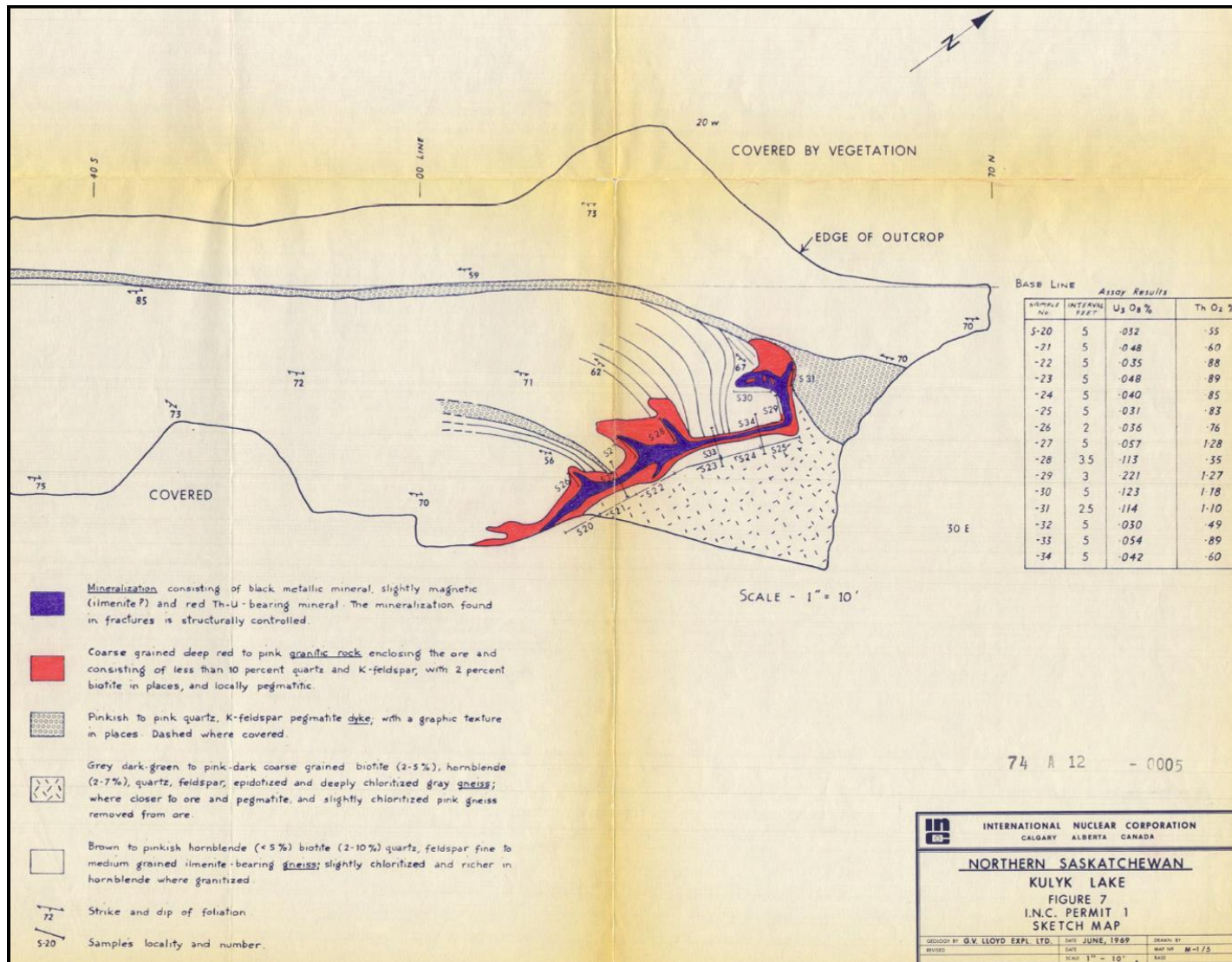


Figure 6-10: Detailed Map of the Mineralized Vein at Kulyk Lake (AR 74A12-0005).

### **6.11. 1969: CANADIAN DELHI OIL LTD. AND TRANS CANADA RESOURCES LTD.**

(AR 74A05-0009)

In 1969 Questor Surveys Ltd. completed an airborne electromagnetic and gamma-ray spectrometer survey of the Lower Foster Lake and Sandfly Lake areas on behalf of Canadian Delhi. A total of 3,457 line-mile (5,563 line-km) of electromagnetic data and 6,914 line-miles (11,127 line-km) of radiometric data was collected during this survey, however only the northernmost portion of the survey overlaps with the current claims.

The conductors are largely confined to long narrow lakes, such as Lower Foster Lake and are attributed to the presence of a graphitic shear or fault zone. The radiometric anomalies were ground checked, mapped and sampled. Typically the elevated radioactivity was associated with biotite rich sections of pegmatite dykes and sills, and along fractures and shear zones.

All anomalies in these reports are referenced by flight line number, however no map showing the flight lines accompanies the reports therefore determining exact location of the anomalies discussed is often impossible.

### **6.12. 1970: INEXCO MINING COMPANY**

(AR 74A12-0006)

In the summer of 1970 radiometric anomalies identified by an unspecified airborne radiometric survey completed in 1969 were ground checked. Many of the airborne anomalies were attributed to pegmatites and were not investigated further.

In total 76 samples were collected and analyzed for Cu, Pb, and U<sub>3</sub>O<sub>8</sub>. Most of the samples returned relatively insignificant values. Only two showings of uranium mineralization were encountered; the first showing consisted of carnotite in a gneissic rock of the Pederson Lake Complex. A sample from this area reportedly assayed 3,200 ppm U, but no assay certificates accompany the assessment work, and no location is provided. The second U showing, at T39-468, which now lies within MC00014693, consisted of gummite staining noted in a radioactive pegmatite. A sample from this location assayed 650 ppm U.

A total of 144 lake and stream sediment samples and 217 soil samples were collected. Lake sediment, stream sediment, and soil samples were analyzed for Cu, Pb, Ni, Zn, and U. Only two areas of anomalous U were noted, both in the Daly Lake area, however detailed prospecting of the area surrounding the anomalies failed to identify any mineralization.

### **6.13. 1978 - 1980: E & B EXPLORATIONS LTD.**

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(AR 74A11-0043, AR 74A11-0046)

In the fall of 1978 a combined airborne electromagnetic, magnetic, and radiometric survey was flown. In total 314 line-miles (505 line-km) of geophysical data was acquired.

Zone 1-A, which lies within MC00015324, consists of a multiple bedrock conductor under Lower Foster Lake. Radioactivity is high across the survey area, but most of the anomalous readings are attributed to thorium with only minor associated uranium values. Locally, however there are several uranium anomalies identified by the survey.

A lake sediment and water sampling program, with a sample spacing of one sample per square kilometer was completed. In total 60 lake water samples and 81 sediment samples were collected. Anomalous radon samples were located in the vicinity of faults across the Lower Foster Lake shear-zone. The lake sediment samples were analyzed for U, Th, Fl, Zn, Cu, Ni, and Pb. Anomalous U and Th in the sediments were attributed to the presence of radioactive pegmatites. The lack of U anomalies in the Lower Foster Lake samples was believed to be related to the depth of the lake. Follow-up prospecting revealed no significant anomalies.

Ground electromagnetic and magnetic surveys were completed in 1980 (Table 6-2). Only the A grids lie within the current Property boundaries. The VLF-EM results from grids A-1 and A-2 showed a number of conductive zones; significant conductors were labelled A through D. The data from the vertical loop suggests a consistent westerly dip of approximately 40° for conductor B. Most of the conductivity in this area is shallow, occurring at 50 m or less depth. The interpretation suggested that conductor B may be a graphitic fault zone which has been intersected by a less conductive fault, A. Both C and D may represent complementary faults related to A (Figure 6-11).

**Table 6-2: 1980 Ground Geophysics Surveys (AR 74A11-0048).**

<b>Grid No.</b>	<b>Line Spacing (m)</b>	<b>Station Interval (m)</b>	<b>VLF (line-km)</b>	<b>Magnetics (line-km)</b>	<b>Horizontal Loop EM (line-km)</b>	<b>Vertical Loop EM (line-km)</b>
A-1	200	25	4.9	6.5	1.2	0.3
A-2	200	25	9	9	-	3.2

In the spring of 1980, a diamond drill program targeting conductors identified during the ground geophysical survey was completed. This limited drill program consisted of two vertical drill holes, totaling 160.4 m. Both holes intersected graphitic pelites and granitic pegmatites, but the down hole probing with a Mount Sopris down-hole gamma ray logging instrument did not register any significant radioactivity. Sampling of the drill core consistently assayed less than 6.5 ppm U.

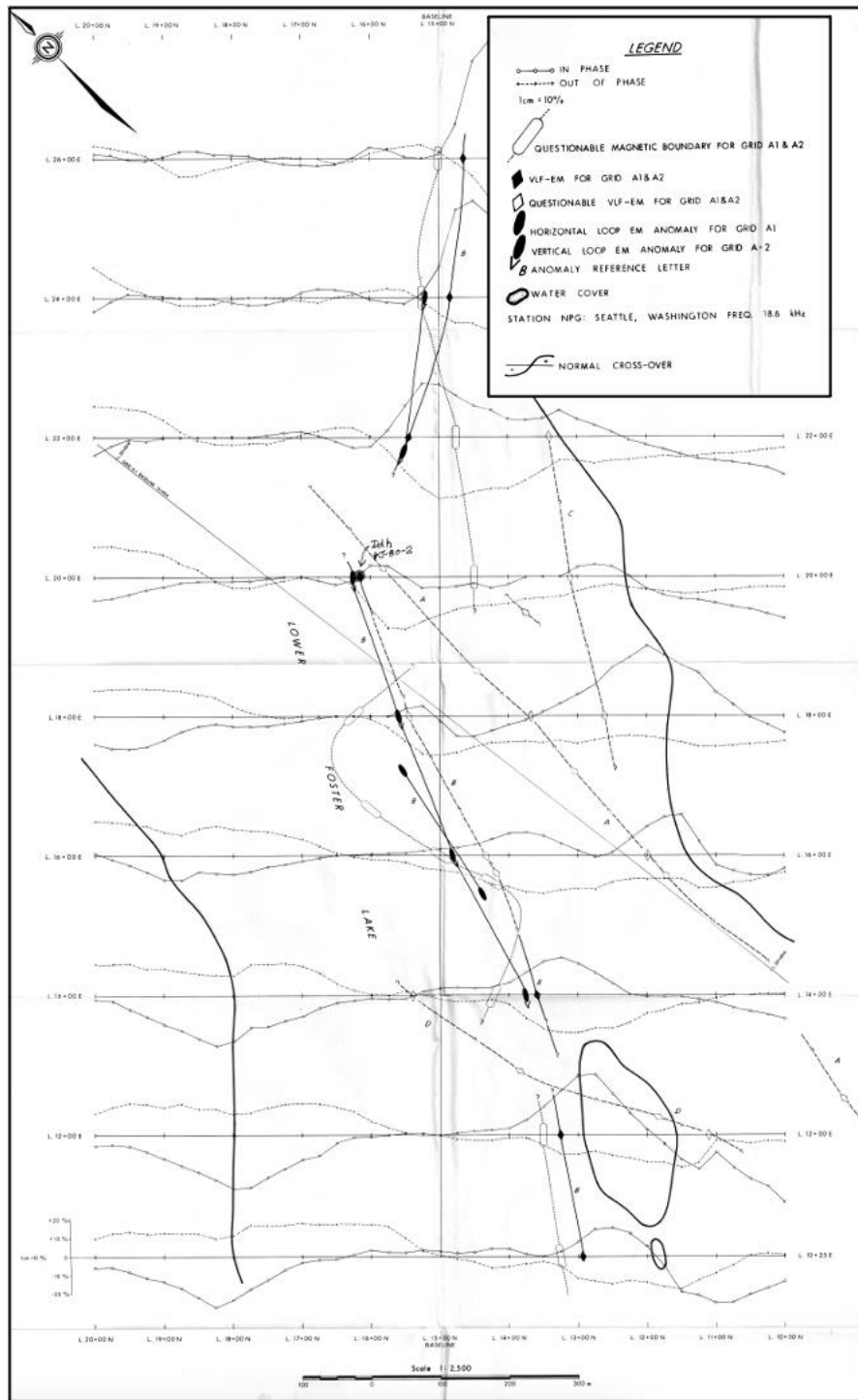


Figure 6-11: Composite Interpretation Map of Grid A-2 (From AR 74A11-0048).



#### **6.14. 1979: ANGLO BOMARC MINES LTD.**

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(AR 74A05-0038)

In 1979 a combined helicopter borne electromagnetic and magnetic survey was conducted to identify targets for base metal exploration. In total 645 line-km were flown, on a narrow northeast-southwest oriented survey block centered over Roper Island on Daly Lake.

Four prospective targets were identified, but no additional work was completed. Only Target T3 lies within the boundaries of the current claim block. The center of this anomaly lies within Roper Bay and is coincident with a contact lineament.

#### **6.15. 2007-2010: EAGLE PLAINS RESOURCES**

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(AR 74A11-0052, 74A11-0053, AR 74A11-0054, AR 74A11-0055)

In the summer of 2007 Fugro Airborne Surveys conducted a GEOTEM electromagnetic and magnetic survey of the Kulyk Lake and Jenny Lake blocks on behalf of Eagle Plains. In total 1,651 line-km of data was collected. Daily data checks were carried out in the field by FUGRO Airborne Surveys geophysicists. Residual magnetic intensity and total conductivity maps were produced by Fugro (Figure 6-12 and 6-13). The detailed geophysical interpretation was completed by Terranotes Ltd.

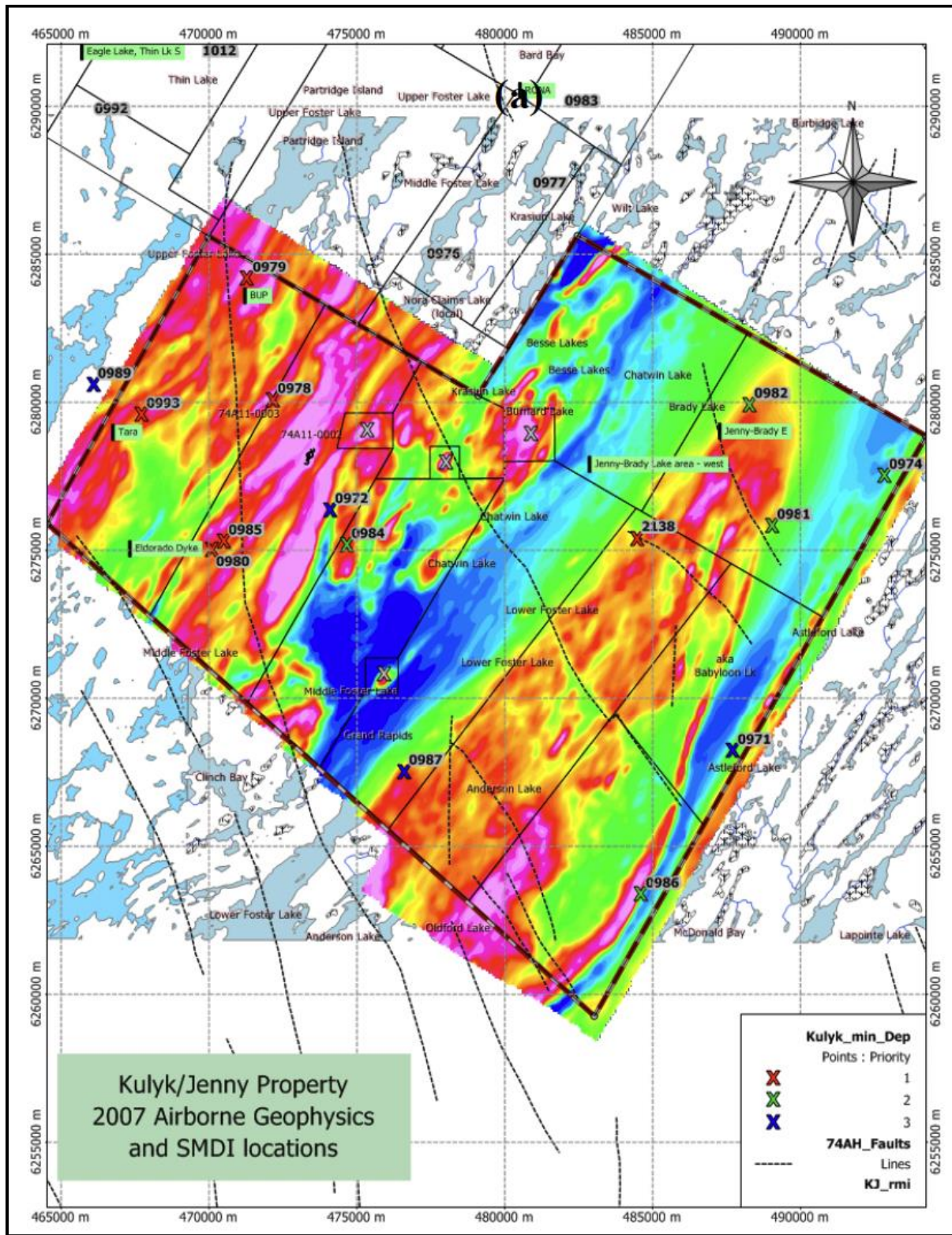


Figure 6-12: Fugro 2007 Magnetics Map (RMI) (AR 74A11-0052).



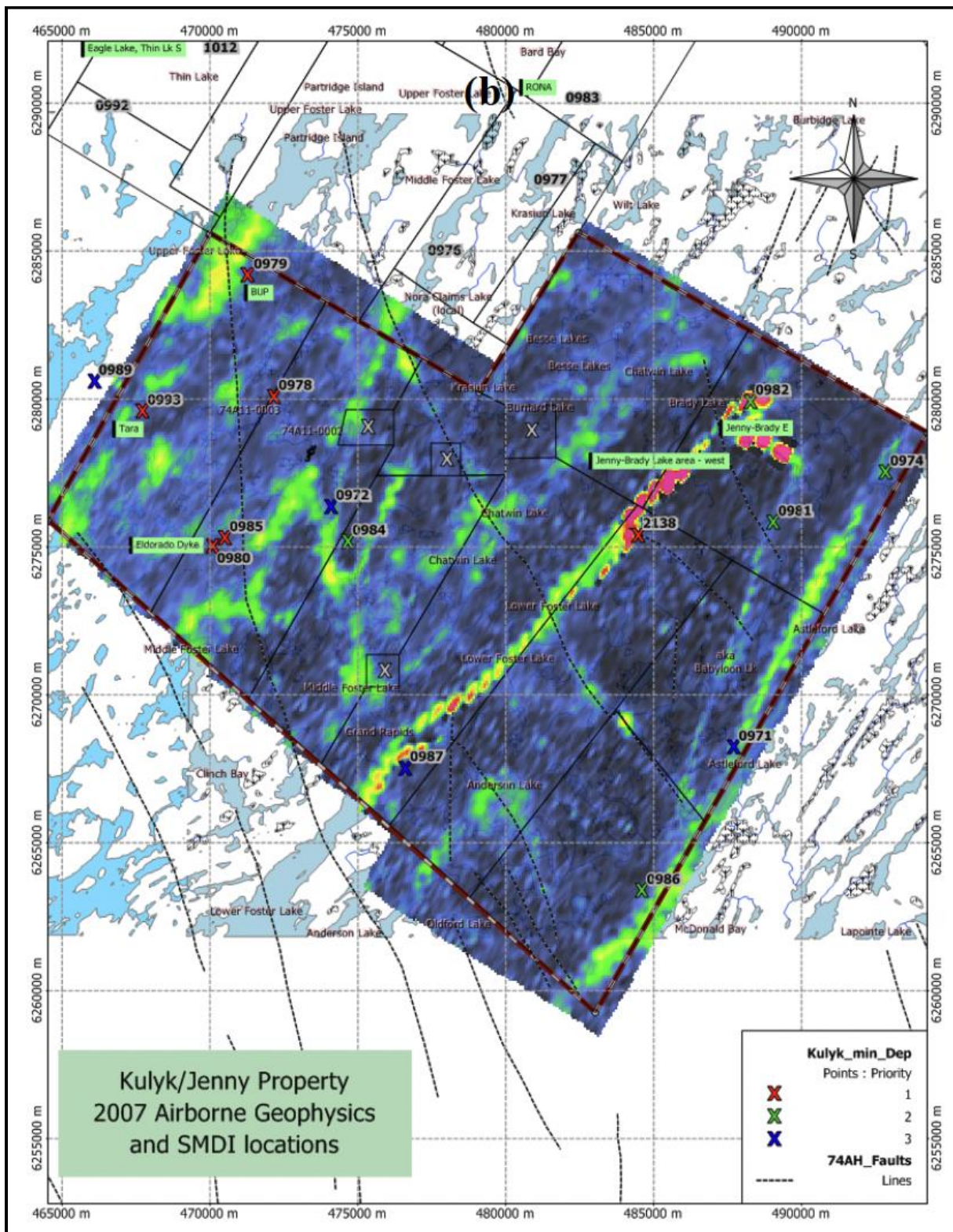


Figure 6-13:Fugro 2007 EM – Total Conductivity Map (AR 74A11-0052).

The 2007 exploration program also included prospecting, sampling, and a regional mapping program. The mapping included lithology, structural measurements, and notes of alteration. The resulting map was not included in the assessment report; the details of the mapping are provided as tables in the appendices of AR 74A11-0052.

A total of 42 rock samples were collected from the historical showings listed in SMDI and sent to SRC for multi-element analysis. A total of 110 lake sediment samples, 23 water samples, and 18 silt samples were also collected.

Sampling of the Baska pegmatite dyke swarm (SMDI 0978), which lies within MC00013078, confirmed the presence of anomalous pegmatites and syenites. The mineralized pegmatites appear to be confined to a 160 m to 300 m wide corridor that is mappable along strike for a minimum of 2,000 m. This corridor can be identified on airborne radiometric maps. It also coincides with a distinct trough on the vertical magnetic gradient map. The dyke swarm has no discernable EM signature.

The two samples collected from the S7 pegmatite assayed 1260 ppm U and 485 ppm U. The S4 and S6 pegmatites both contained anomalous REE with samples assaying 3,865 ppm REE and 949 ppm REE. A GPS controlled grid was established over the Baska showing using 25 m stations and 100 m line spacings. A total of 74 radon-in-soil samples were collected over the grid using an E-Perm Electret system. A three-station anomaly was identified near the southeastern limits of the grid near actinolite rich syenite outcrops.

The mineralization at the Kulyk Lake/Eldorado showings (SMDI 0985 and 0980) is also pegmatite associated; the mineralization is restricted to the biotite rich margins of the dykes and along cross cutting fractures. A sample from the margins of the pegmatite at the Eldorado showing assayed 4,200 ppm U, 4,340 ppm Th, and 1,996 ppm TREE. The Kulyk Lake showing consists of mineralized fractures or veins which strike a 012° oblique to the local gneissosity, dip vertically, and can be traced for 15 m along strike. The veins consist of monazite with possible davidite and uranothorianite. A grab sample from this location assayed 410 ppm U, 87 ppm Th, and 109 ppm TREE. The geophysical signature of this showing is similar to that of the Baska Showing.

In the summer of 2008 a total of 11 rock samples, 110 lake sediment samples, and 23 water samples were collected from the Foster Lake region. The radon analysis was completed at a field laboratory at camp using an AB5-R PYLON portable radon detector. All other samples were sent to SRC for analysis.

The lake sediment sampling indicated anomalous targets at Kotelmach Lake, Kulyk Lake, and the north end of Lower Foster Lake. Lower Foster Lake also displayed anomalous radon values.

In 2009 10.2 line-km of grids were established at the Baska and Eldorado showings. Ground magnetics, EM VLF, and radiometrics were completed on the grids by Highrock Resources Ltd., of La Ronge, Saskatchewan (Figure 6-14 to Figure 6-15).

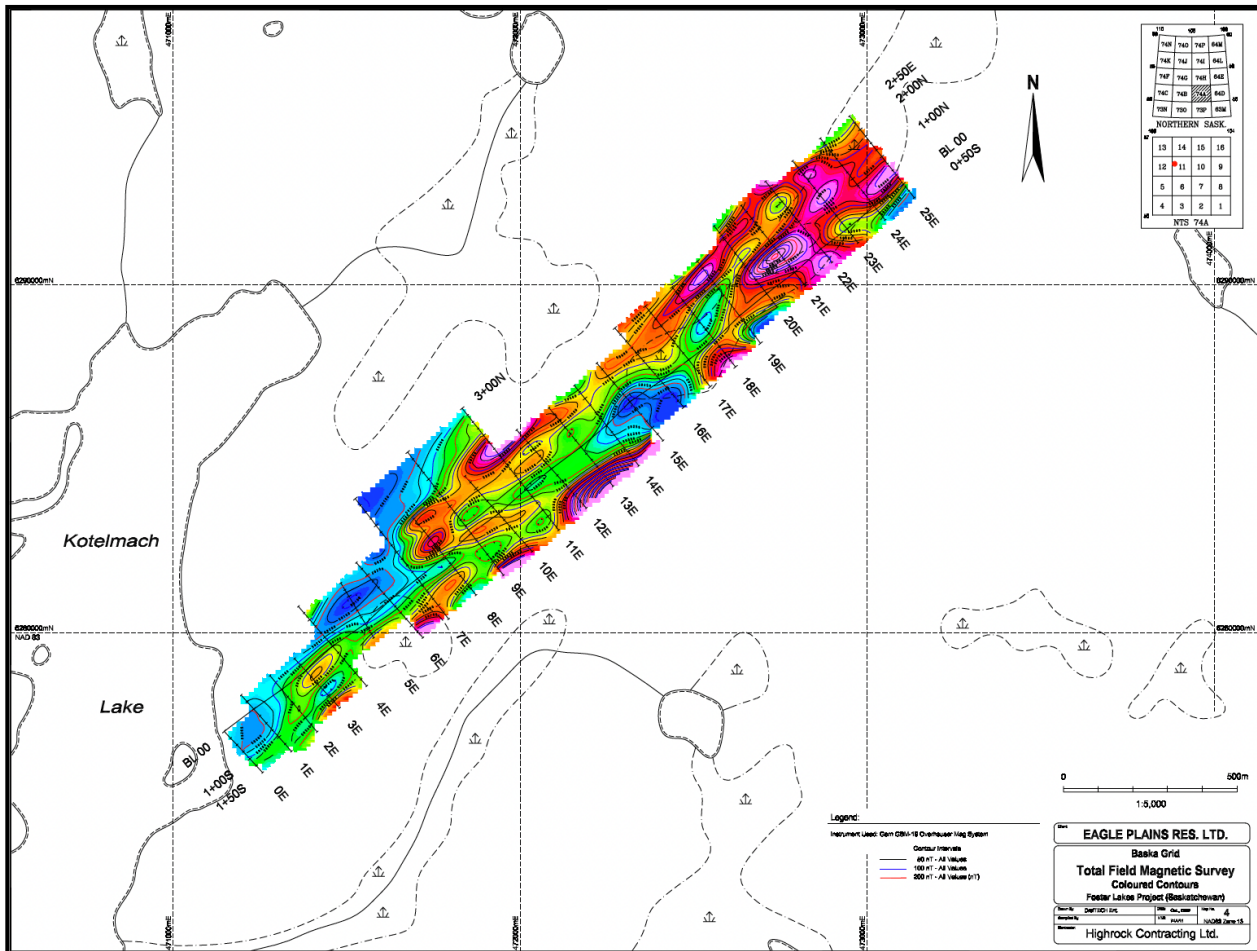
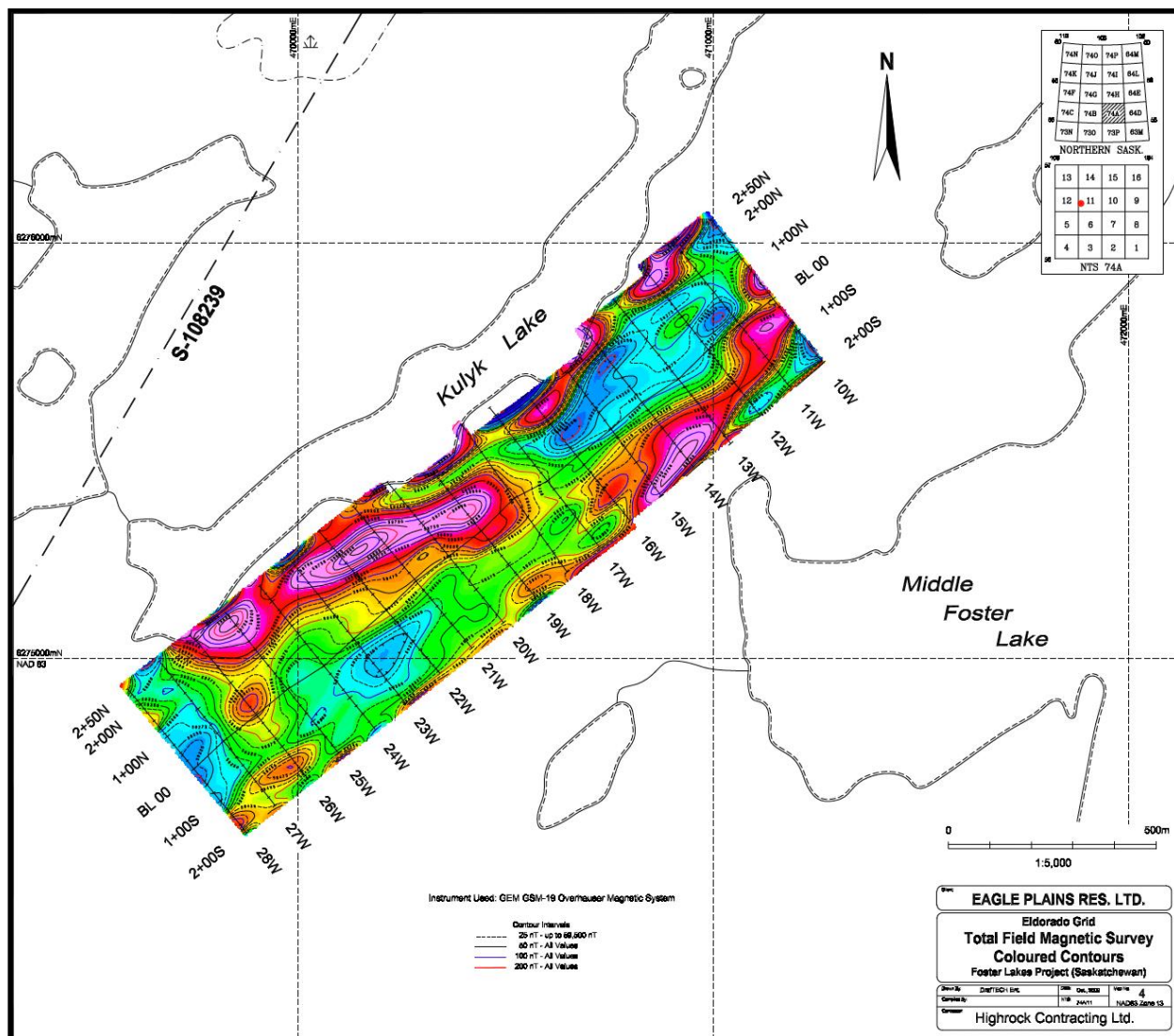


Figure 6-14: Baska Grid Ground Total Field Magnetics (AR 74A11-0053).





**Figure 6-15: Eldorado Grid Ground Total Field Magnetics (AR 74A11-0053).**

A soil geochemistry survey, consisting of 186 B-horizon soil samples from the Baska Grid and 310 samples from the Eldorado Grid was completed. The majority of the anomalous soil samples on the Baska Grid are proximal to known showings. In the Eldorado area La anomalies are more informative than U. The U results were spotty and show little continuity while there are several multi-station La anomaly (Figure 6-16). The highest La values are spatially associated with granite and pegmatite. In most instances there is an observed elevation of Co observed in association with U and La anomalies. The Co anomalies are typically broader than the corresponding La anomalies. Several of the Co anomalies coincide with the interpreted dextral fault, with Brown (2010) suggesting it may be possible to detect structures where fluid flow has occurred.

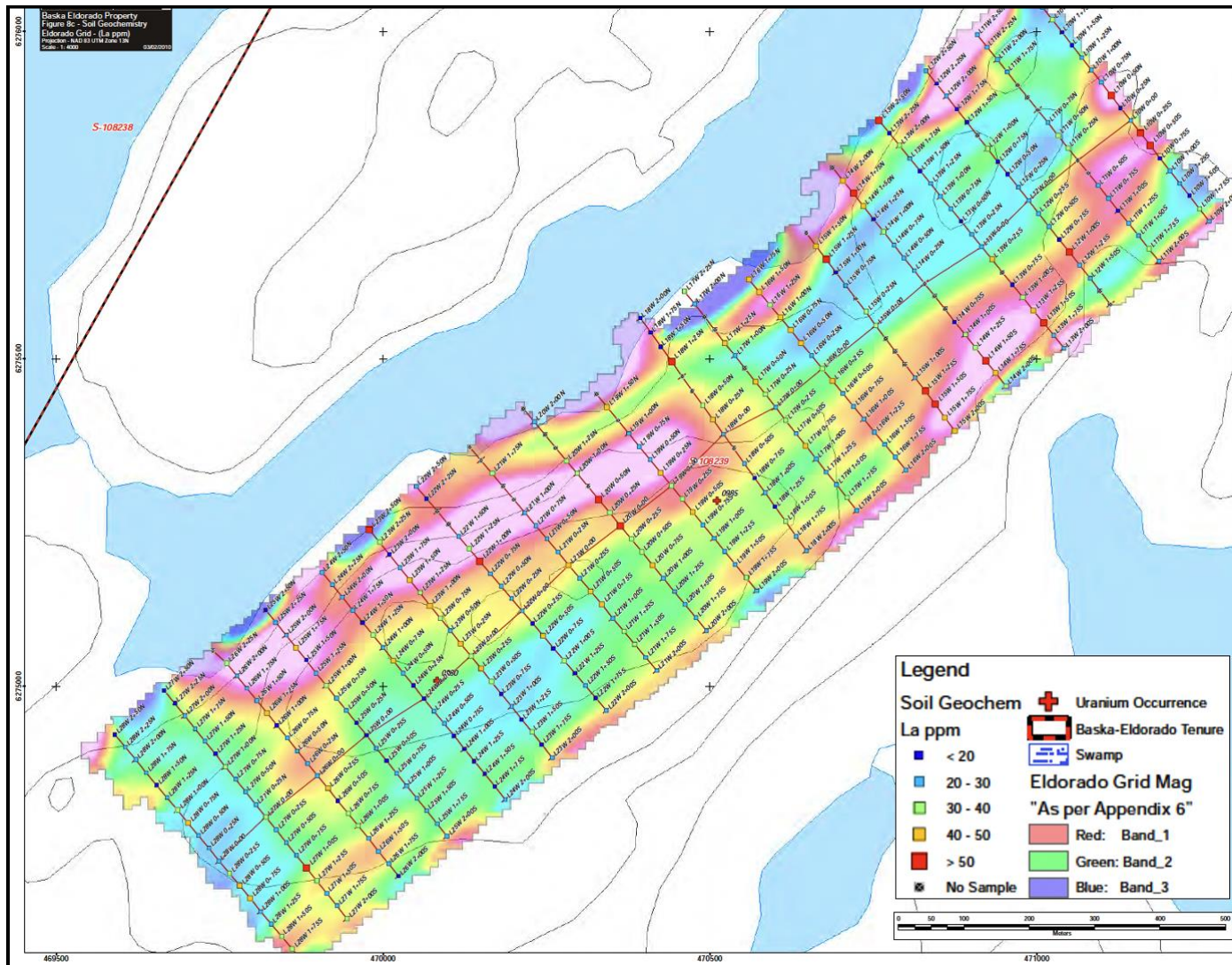


Figure 6-16: La Soil Geochemical Anomalies, Eldorado Grid (Adapted from AR 74A11-0053).

The Baska Grid was mapped at a scale of 1:2,000, with psammopelite, psammite, calcareous arkose/psammite, pegmatite, and actinolite pegmatite noted in the mapping area (Figure 6-17). Brown (2010) states that there is a strong spatial correlation between the known mineralized showings and the intersections of interpreted fold hinge zones with other features, whether lithological or structural. A late, poorly developed fracture set was noted with an orientation of 326/86.

The Eldorado Grid was also mapped at a scale of 1:2,000. In the Eldorado map area seven generalized lithologies were identified; psammopelitic gneiss, calcareous arkose/psammite, granite, calcareous arkose, arkosic gneiss, non-magnetic psammitic gneiss, and pegmatite. This grid is located on the southeastern limb of a gently southwest plunging antiform. The mineralization on this grid occurs within pegmatite sills and cross-cutting mineralized vein systems. A dextral fault with 30 m to 50 m of offset was noted in the central portion of the grid (Figure 6-18).

A total of 7 rock samples from the Baska Grid and 13 rock samples from the Eldorado Grid were sent to the SRC laboratory in Saskatoon, SK for analysis. On the Baska Grid 2 of the 7 samples returned anomalous U; sample AGKJR004 assayed 1,220 ppm U and sample JBKJR022 returned 582 ppm U. At the Eldorado grid 4 of the 13 samples contained over 300 ppm U with 3 of the 4 exceeding 1,000 ppm U. Sample JBKJR019, a 1 m chip sample from the historic trench, assayed 2,680 ppm U. Mapping of the Eldorado grid led to the rediscovery of a second set of trenches located 600 m northeast of the main showing. Three samples, AGKJR001 to 003, collected from this area all returned exceptional TREO assays of 55.9%, 30.6%, and 18.9% TREO.

Four water samples from swamps were collected in 2009 with 2 returning highly anomalous values. Water sample BWKJW005 returned more than 4,000 pCi/l and water sample BWKJW009 returned 74,000 pCi/l. Elevated radioactivity was traced for over 100 m to the SW where a radioactive pegmatite was discovered. The pegmatite sill is approximately 7 m-wide and the strike projection of this pegmatite coincides with both previously mentioned anomalous water samples.



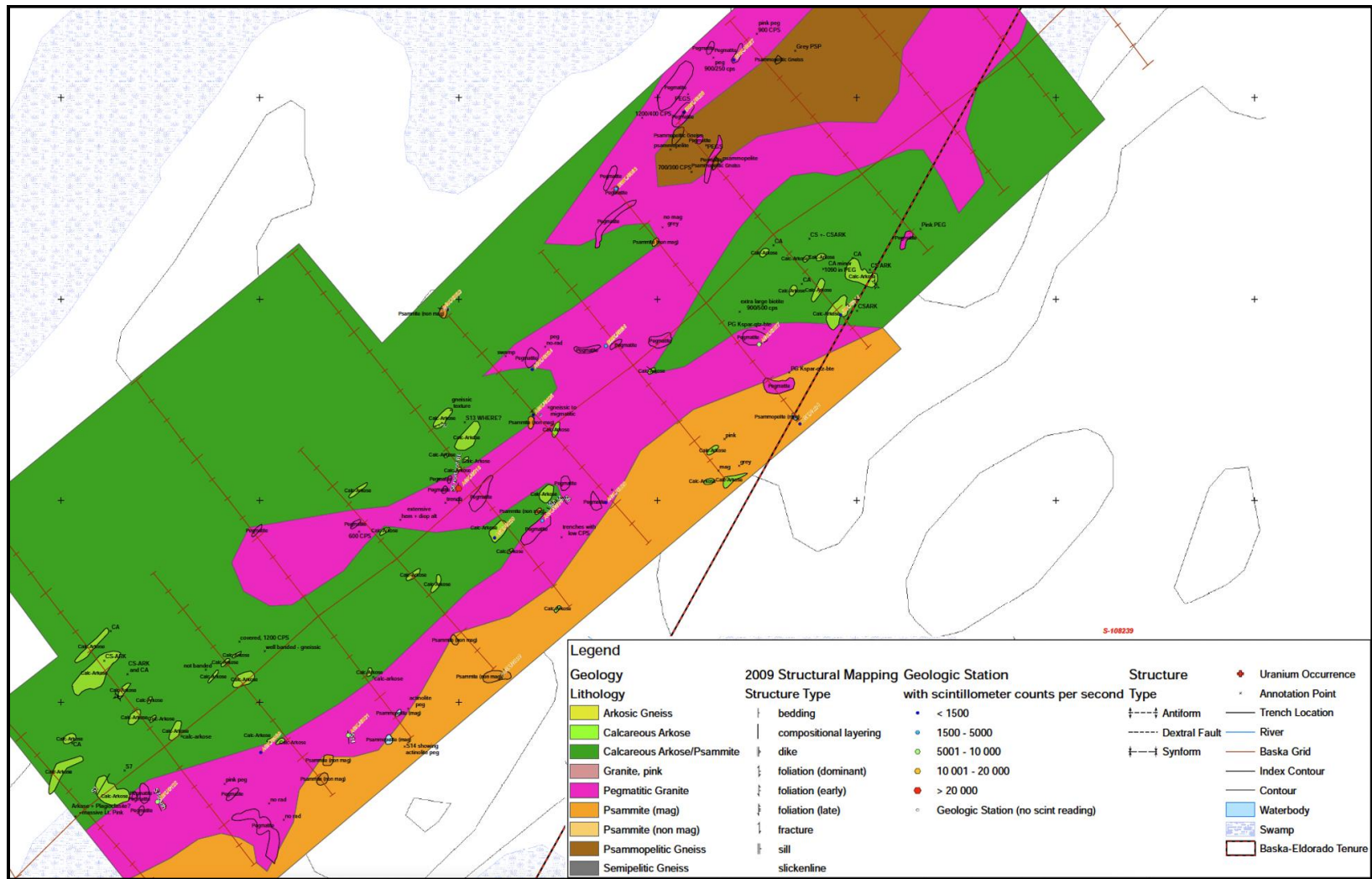


Figure 6-17: Mapping of the Baska Grid . The Grid is centered at approximately 6280500 mN and 472100 mE. (Adapted from AR 74A11-0053).

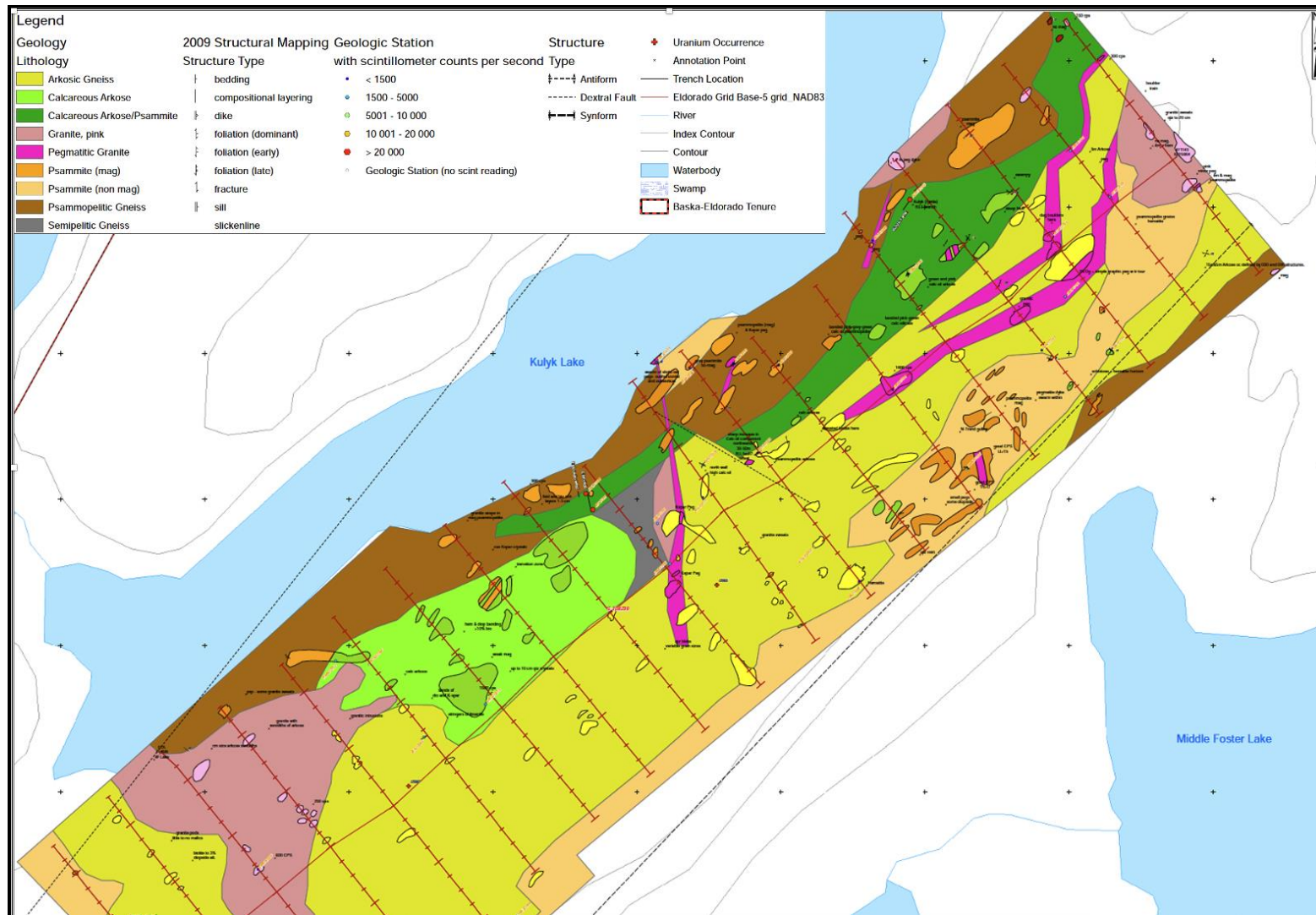


Figure 6-18: Mapping of the Eldorado Grid . Grid is centered at approximately 6275400 mN 70400 mE (Adapted from AR 74A11-0053).

The 2010 exploration program included the completion of 5 trenches totaling 140 m, detailed geological mapping, and 68.8 m of channel sampling. The channel samples were collected across the dykes using a circular saw. The channel dimensions were approximately 12 cm wide by 2 cm deep. The trenching revealed two mineralization systems: a U-REE rich mineralized zone and a U mineralized zone.

A total of 24 channel samples were collected from the Fanta (Kulyk) Trench. The mineralization occurs as discrete veins and stock-works of ilmenite-monazite-apatite hosted in aplite and pegmatite. Two structures appear to control the distribution of the mineralization: a north-northeast trending vein and a west to northwest trending cleavage (Figure 6-19).

The heavy rare earth (HREE) content, defined as Eu to Yb+Y, ranged from 2% to 23% with an average of 6.8%. The trench samples were analyzed by ICP-MS Total Digestion at SRC Geoanalytical Laboratories in Saskatoon. REE analysis by lithium metaborate fusion was selectively performed on the higher-grade samples. Channel sampling results are provided in Table 6-3 and 6-4.

**Table 6-3: Channel Sampling Results from the Fanta (Kulyk) Trench.**

Sample No.	Channel Length (m)	Channel Azimuth	U (ppm)	Th (ppm)	TREE+Y (ppm)	Weighted TREE+Y (ppm)	Meters
DFKJR004	1.25	180	0	188	3,094	24,341	3.35
DFKJR005	0.35	180	0	59	929		
DFKJR006	0.35	180	69	6,790	151,310		
DFKJR007	0.7	180	19	1,910	34,410		
DFKJR008	0.7	180	0	30	434		
DFKJR009	0.65	180	3	30	370	43,790	4.25
DFKJR010	1.05	180	0	43	689		

Sample No.	Channel Length (m)	Channel Azimuth	U (ppm)	Th (ppm)	TREE+Y (ppm)	Weighted TREE+Y (ppm)	Meters
DFKJR011	0.95	180	29	3,360	67,660		
DFKJR012	0.90	180	0	236	3,241		
DFKJR013	0.7	180	101	8,760	168,500		
DFKJR014	1	180	0	36	620		
DFKJR015	1	158	0	53	789		
DFKJR016	0.8	186	3	695	10,440	2,179	5.1
DFKJR017	1.1	158	0	79	871		
DFKJR018	1.2	158	0	26	330		
DFKJR019	0.5	158	75	6,070	106,630		
DFKJR020	1.15	132	0	35	351		
DFKJR021	0.85	96	0	27	524	14,719	3.7
DFKJR022	1.2	76	0	11	247		
Total						20,318	16.4

**Table 6-4: Channel Sampling Results for the Fanta (Kulyk) Trench (AR 74A11-0054).**

Sample No.	Channel Length (m)	Channel Azimuth	U (ppm)	Th (ppm)	TREE+Y (ppm)	Weighted TREE+Y (ppm)	Meters
DFKJR022	0.9	257	3	35	391	100,872	3.75
DFKJR022	0.4	257	0	45	1,004		
DFKJR022	0.7	257	119	12,700	208,380		
DFKJR022	0.6	219	176	20,500	384,700		
DFKJR022	1.15	282	0	53	724		



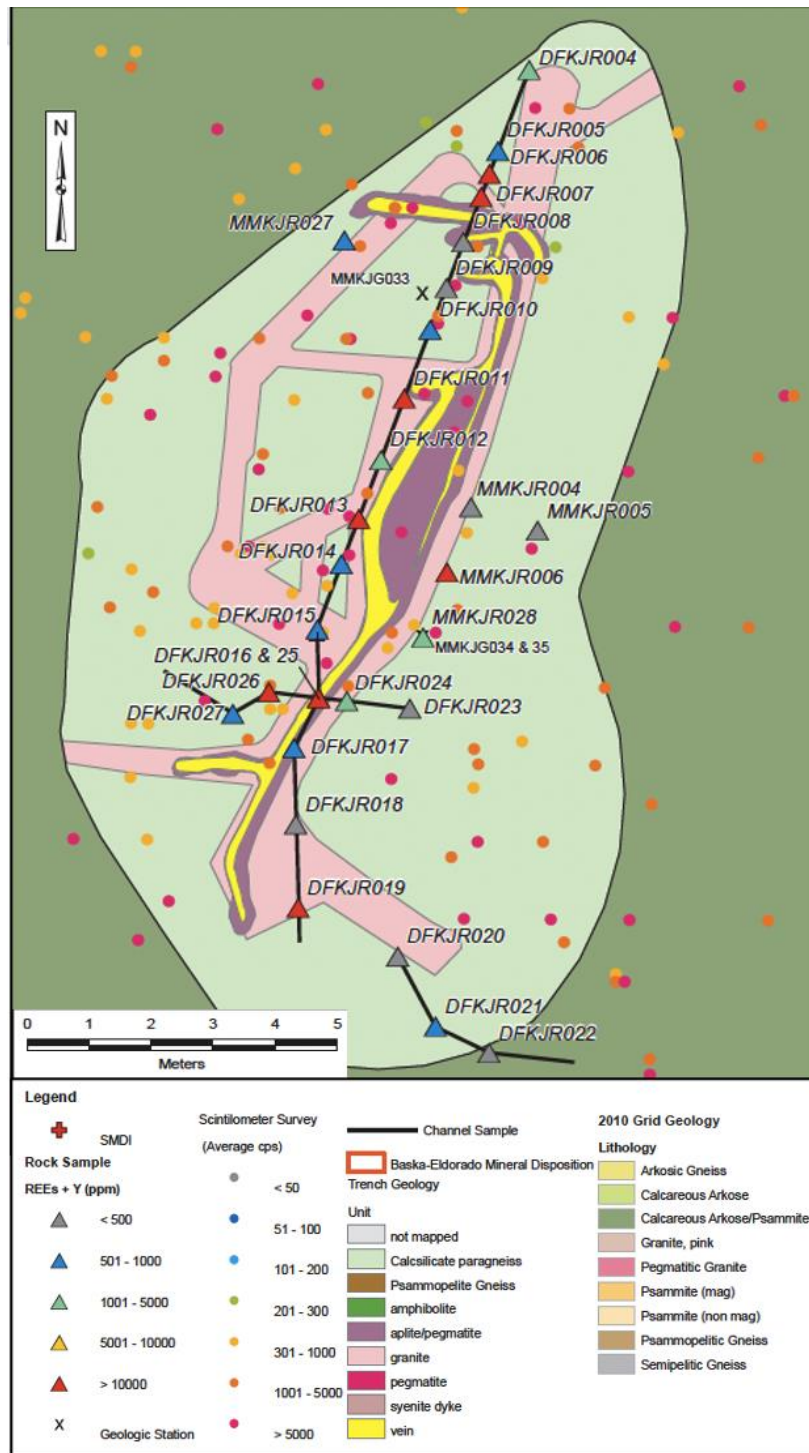


Figure 6-19: Map of the Fanta (Kulyk) Trench (Adapted from 74A11-0054).

An additional 38 channel samples were collected from the Eldorado Trench (Figure 6-20). The mineralization is U dominant with little associated REE or Th and is hosted in, or is proximal to, the pegmatites intruding calc-silicate bearing arkosic gneiss. Textural features suggest that the mineralization may be the result of skarnification or hybridization reactions between the pegmatites and host rocks. The TREE+Y results from these samples range from 145 ppm to a maximum of 4,994 ppm (Table 6-5).

Ground scintillometer surveying of the Eldorado grid at 100 m spacing was completed, with in-fill surveying at 25 m intervals in the vicinity of radiometric anomalies. This survey was completed using a combination of RS-125 spectrometers and Scintrex BGS-1SL scintillometers.

Off-grid prospecting and reconnaissance geological mapping was completed with 44 grab samples collected from newly identified radioactive outcrops, boulders, and zones of geological interest. Sample JBKJR025 from the Th-rich showing assayed 171,000 ppm Th, 350 ppm U, and 1,227 ppm TREE. Sample JBKJR027, collected from the U-rich showing, assayed 6,750 ppm U, 2,280 ppm Th, and 2,025 ppm TREE. These newly identified showings on the west side of Kulyk Lake were referred to as the Yellow Brick Road.

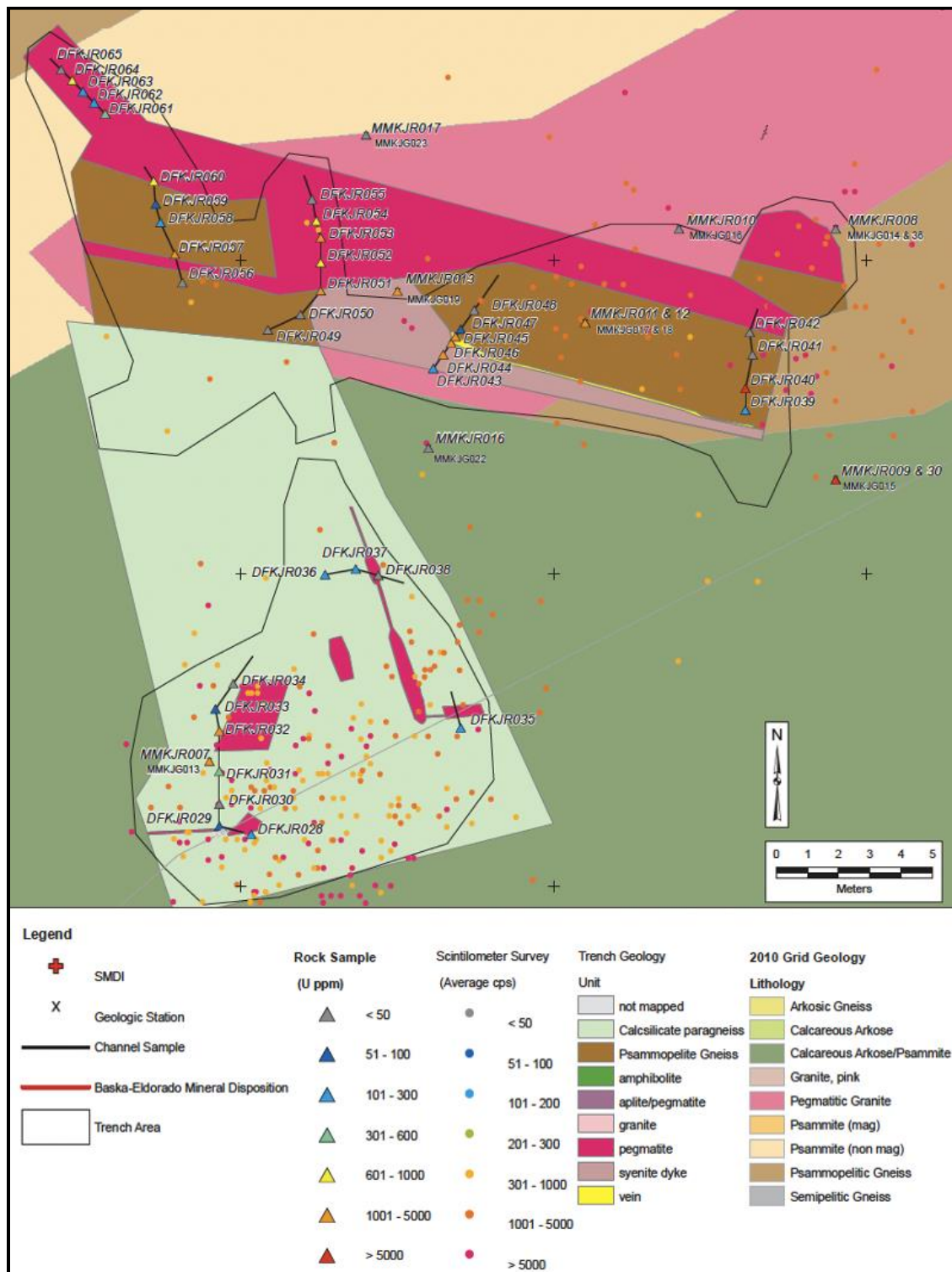


Figure 6-20: Channel Sampling of the Eldorado Trench (Adapted from AR 74A11-0054).



**Table 6-5: Eldorado Trench Channel Sampling Results (AR 74A11-0054).**

SAMPLE No.	Channel Length (m)	U* (ppm)	Th (ppm)	TREE+Y (ppm)	Weighted-U (ppm)	over (m)
DFKJR028	1.05	126	14	585		
DFKJR029	0.7	93	19	428		
DFKJR030	1.06	30	19	300	411	5.11
DFKJR031	1.28	514	128	1,000		
DFKJR032	0.7	<b>1,891</b>	108	921		
DFKJR033	1	81	28	349		
DFKJR034	1.07	7	32	372		
DFKJR035	1.2	108	32	425		
DFKJR036	1	124	7	280	139	2.60
DFKJR037	0.75	266	20	299		
DFKJR038	0.85	45	11	187		
DFKJR039	0.7	158	54	221	2,255	3.31
DFKJR040	1.1	<b>6,658</b>	370	2,352		
DFKJR041	0.73	26	27	309		

SAMPLE No.	Channel Length (m)	U* (ppm)	Th (ppm)	TREE+Y (ppm)	Weighted-U (ppm)	over (m)
DFKJR042	0.78	16	28	375		
DFKJR043	0.53	133	44	221	1,106	2.28
DFKJR044	0.45	<b>1,552</b>	47	932		
DFKJR045	0.25	<b>3,036</b>	1,530	4,994		
DFKJR046	0.3	<b>3,180</b>	41	386		
DFKJR047	0.75	53	25	335		
DFKJR048	1.35	17	2	184		
DFKJR049	1.15	11	20	232		
DFKJR050	1	26	91	635		
DFKJR051	0.9	1,153	39	386	959	3.75
DFKJR052	0.8	896	52	442		
DFKJR053	0.55	2527	48	539		
DFKJR054	0.7	610	65	385		
DFKJR055	0.8	33	29	475		

SAMPLE No.	Channel Length (m)	U* (ppm)	Th (ppm)	TREE+Y (ppm)	Weighted-U (ppm)	over (m)
DFKJR056	0.95	23	32	258	761	3.95
DFKJR057	1.1	2,078	59	1,346		
DFKJR058	0.6	159	18	283		
DFKJR059	0.75	82	27	258		
DFKJR060	0.55	987	60	448		
DFKJR061	0.5	466	24	227	323	2.50
DFKJR062	0.5	242	33	241		
DFKJR063	0.5	160	25	185		
DFKJR064	0.5	727	29	145		
DFKJR065	0.5	18	30	374		

### **6.16. 2008: URACAN RESOURCES LTD. AND BONAVENTURE ENTERPRISES INC.**

(AR 7412-0014)

In the summer of 2008 prospecting using a Sapphymo SPP2 Scintillometers, GR110 Scintillometer, RS125 Spectrometer, and a NITON portable XRD unit identified 3 occurrences that merited channel sampling, the Louise, Emmanuel, and Jon occurrences (Figure 6-21). In total 16 grab samples and 43 channel samples were collected. Individual channel samples were typically 1 to 2 m in length. All samples were sent to SRC in Saskatoon for analysis.

In the Louise area 6 of the 20 channel samples returns assay values of >50 ppm U. Grab samples from the Louise area, collected from area with high scintillometer readings, returned low U assay results. In the Emmanuel area 12 channel samples were collected, with 10 of the 12 samples assaying over 50 ppm U. The Jon occurrence had 8 of the 11 channel samples assay over 50 ppm U.

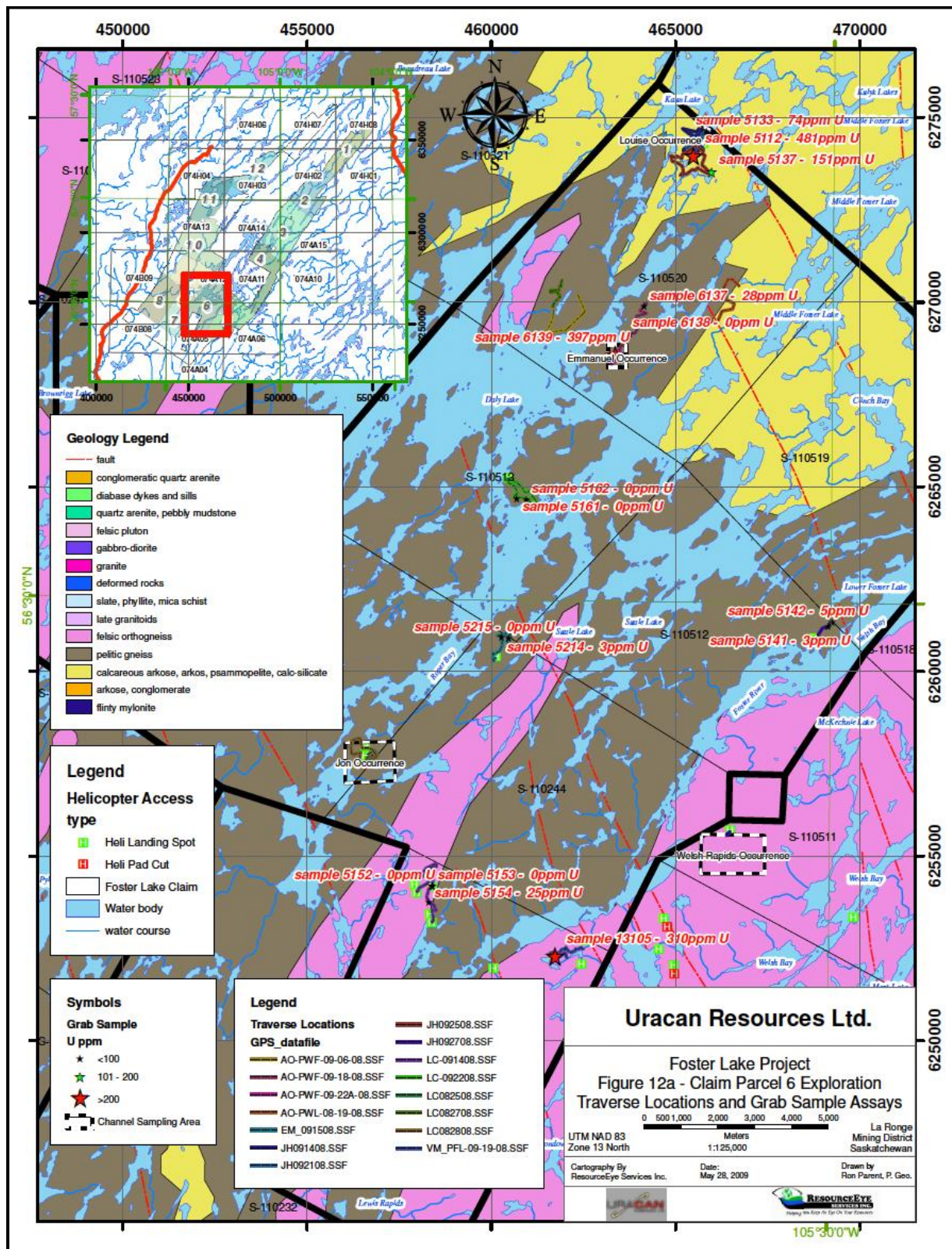


Figure 6-21: Assay Results from the Daly Lake area (AAR 74AA12-0014).



### **6.17. 2014: INNER MONGOLIA MINERALS (CANADA) LTD.**

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(AR MAW00580)

A total of 75 grab samples were collected from areas of anomalous radioactivity identified by prospecting. All samples were sent to SRC in Saskatoon for analysis by partial and total digestion ICP-OES. Most of the samples assayed less than 10 ppm U. The 15 samples which contained higher than 100 ppm U were all collected in the vicinity of the Jon Showing, with the best assay of 419 ppm U obtained from a historic trench. The anomalous area is approximately 1,000 m long by 450 m wide.

The REE content of the samples was not discussed in the assessment report, but the accompanying assay certificates show several Ce values above 1,000 ppm in the vicinity of the Jon Showing, which should be examined further.

### **6.18. HISTORICAL MINERAL RESOURCE & MINERAL RESERVE ESTIMATES**

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No historical mineral resource or mineral reserve estimates have been reported for the Kulyk Lake Property.

### **6.19. HISTORICAL PRODUCTION**

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There has been no historical production from the Kulyk Lake Property.

## **7. GEOLOGICAL SETTING & MINERALIZATION**

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### **7.1. REGIONAL GEOLOGY**

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The Kulyk Lake Project is located in the Wollaston Domain of the southeastern Hearne Province, which forms part of the Western Churchill Structural Province. The Hearne Province in northern Saskatchewan is comprised of the Wollaston, Mudjatik, and Virgin River domains (Figure 7-1) (Card et al., 2007). The Wollaston Domain consists of a northeast-trending, tightly folded, linear belt of Paleoproterozoic metasedimentary rocks and interfolded anatectic granitoids that overlie Archean granitic gneisses. The Wollaston Domain has been subjected to multiphase deformation associated with the 1.86 to 1.78 Ga Trans-Hudson Orogeny (THO) (Yeo and Delaney, 2007).

The western boundary of the Wollaston Domain is transitional into the Mudjatik Domain, which is dominated by Archean to Proterozoic felsic gneisses. To the southeast, the Needle Falls shear zone, a late Paleoproterozoic dextral structure, partially defines the boundary between the Wollaston Domain and the Wathaman Batholith (Yeo and Delaney, 2007). To the northwest the Wollaston Domain is unconformably overlain by the sediments of the Athabasca Group (Card et al., 2007).

The structural history of the region is protracted and includes multiple phases of deformation under both brittle and ductile conditions (Tran et al, 1998). Late brittle faults, which post-date the Trans-Hudson Orogen, are ubiquitous, with various orientations commonly mimicking the orientation of the ductile structures they overprint. These structures can show evidence of multiple episodes of displacement (Card et al., 2007).

The rocks of the Wollaston Supergroup are interpreted by Yeo and Delaney (2007) as a succession of rift, passive-margin, and foreland basin deposits. The Wollaston Supergroup is composed of the <2.075 Ga rift-fill Courtenay Lake Group, the passive margin Souter Group, and the overlying <1.880 Ga Daly Lake-Geikie River groups, which represent a foreland basin succession (Yeo and Delaney, 2007).

Variably foliated granites, leucogranites, amphibolites, and granitic pegmatites intrude the Wollaston Group rocks. The intrusives form planar lenses which are concordant to the regional fabric and also form semi-concordant to discordant dyke swarms (McKeough et al., 2013). Elevated radioactivity in the region is typically associated with widespread late THO pegmatite and granitoid intrusions (McKeough et al., 2010).

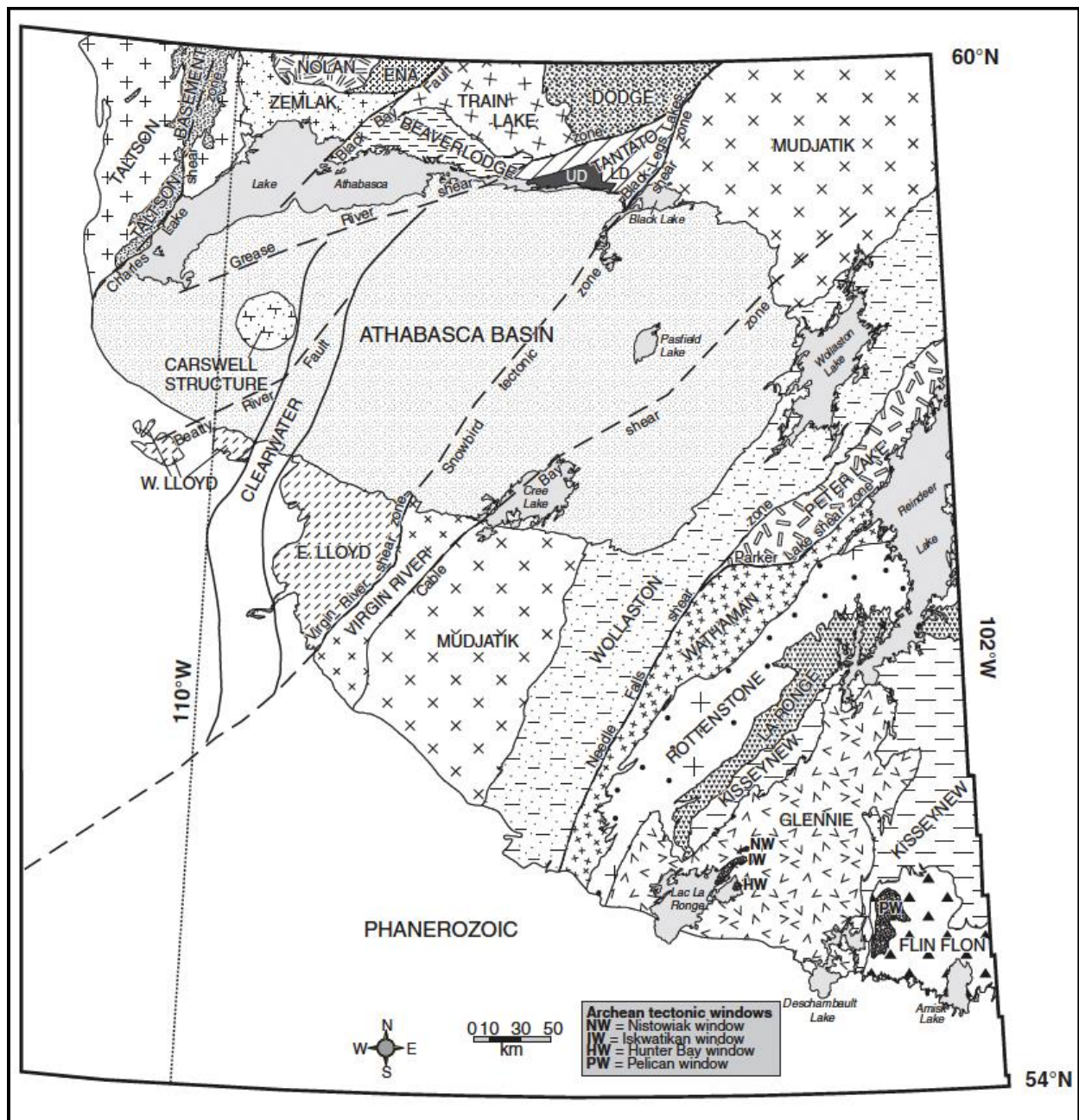


Figure 7-1: Regional Geological Setting of the Kulyk Lake Project . Approximate location of the claims shown by the red star (Adapted from Card et al., 2007).

## 7.2. LOCAL GEOLOGY

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The Project area is underlain by generally northeast-trending belts of Paleoproterozoic metasediments of the Wollaston Supergroup. In the Kulyk Lake area moderately to strongly magnetic, psammopelitic to semipelitic gneisses are common. These gneisses are fine to medium grained and commonly grade into or are interlayered with semipelitic to pelitic and calc-silicate paragneiss (McKeough et al., 2010). Mapping by Ray (1981) suggests that pelitic rocks only occur as a thin basal unit which characteristically contains graphitic layers.

The metasediments unconformably overlie a basement of Archean gneisses (Tran et al., 1998). Basement inliers generally consist of massive to well-foliated granitic rocks which range in composition from syeno-granite to granodiorite. The inliers form elongate, north-northeast trending cores of doubly plunging antiforms, with intervening synforms filled by the metasediments (Ray, 1977).

The Anderson Lake Inlier, which lies to the southeast of the Property, is one of the major structural inliers of the area; it is a large-scale, antiformal Archean basement complex over 45 km in length (Ray, 1981). The Roper Bay Inlier, on the eastern end of Daly Lake, is a smaller Inlier in the Project area. The Roper Bay Inlier consists of moderate to strongly foliated granitoid gneisses of broadly quartz monzonite composition. Abundant elongate or boudinaged amphibolite bodies, ranging from cm to m in width, are common near the contacts (Tran et al., 1998). Tectonic fabrics increase in frequency and intensity towards the margins of the inliers (Ray, 1981).

Of uncertain origin are the Foster Lake Inliers of Ray (1981). The Foster Lake inliers, also referred to as the Suttle Lake and Chatwin Lake Inliers, are two small granitoid masses consisting of foliated biotite monzogranite to granodiorite, with rare amphibolite (Ray, 1981). The Suttle Lake and Chatwin Lake granitoids are believed by Ray (1981) to represent extensively remobilized Archean basement which locally intrudes into the Wollaston Group. Tran et al. (1998) considers the Suttle Lake Intrusive Complex to be an early syn-tectonic intrusive, as opposed to the inlier of Ray (1981).

Intruding the earlier lithologies are several generations of leucogranites, pegmatites, and aplites. Although granitic pegmatites intrude all the Wollaston Supergroup units, they appear especially common in the basal Wollaston metasediments (McKeough et al., 2013). The pegmatites are syn- to post- deformational and intrude as north-, east-, and east-northeast trending dykes, sills, and lenses (McKeough and Lentz, 2011). Laser ablation-inductively coupled plasma-mass spectrometry U-Pb geochronological analysis was performed by McKeough and Lentz (2011) on monazite crystals from a pegmatite at Kulyk Lake, which yielded an age of 1.807 Ga.

The pegmatites intrude near primary fold structures and where major faults and fractures intersect the metasediments; in some instances, these pegmatites exploit foliation-parallel trends that are nearly coincident with the local gneissosity (McKeough et al., 2013). The pegmatites vary substantially in width from 0.1 m to over 10 m wide (McKeough et al., 2013).

Compositionally, the pegmatites range from mineralogically simple to complex. The simple pegmatites range from radioactive to non-radioactive and typically have sharp margins with crystal size increasing towards the center of the pegmatite body. These pegmatites are typically composed of K-feldspar, quartz, and biotite. Accessory phases include monazite, apatite, uraninite-uranothorite, and allanite which are typically located in the metasomatized contacts. The feldspars are variably hematized (McKeough and Lentz, 2011).

The complex pegmatites develop where the pegmatites intrude calc-silicate para-gneisses. These complex pegmatites may display irregularly shaped skarn zones, with gradational contacts between the pegmatite and host calc-silicate (McKeough et al., 2010). These pegmatites are typically 20 cm to 5 m in width and generally display a 5 to 10 cm contact zone between the pegmatite and wallrock (McKeough and Lentz, 2011). The contact zone consists of ferromagnesian minerals such as diopside, actinolite, biotite, and magnetite (McKeough et al., 2013). Accessory minerals consist of monazite, apatite, allanite, uraninite-uranothorite, and rutile (McKeough and Lentz, 2011).

The radioactive pegmatites are typically light rare earth element (LREE) enriched. On the Y-Nb-Ce ternary diagram both the hybridized and simple type pegmatites fall within the fractionated, crustally derived A type granites (McKeough et al., 2013).

Late veins and radiating fractures crosscut all lithologies (McKeough et al., 2010).

Much of the project area is covered by unconsolidated glacial material with intermittent outcrops and ridges. Boulder till and glacio-fluvial material are common. Eskers form prominent, sinuous ridges. Glacial striae are rare, but when noted trend between 210° and 220° (Mawdsley, 1957).



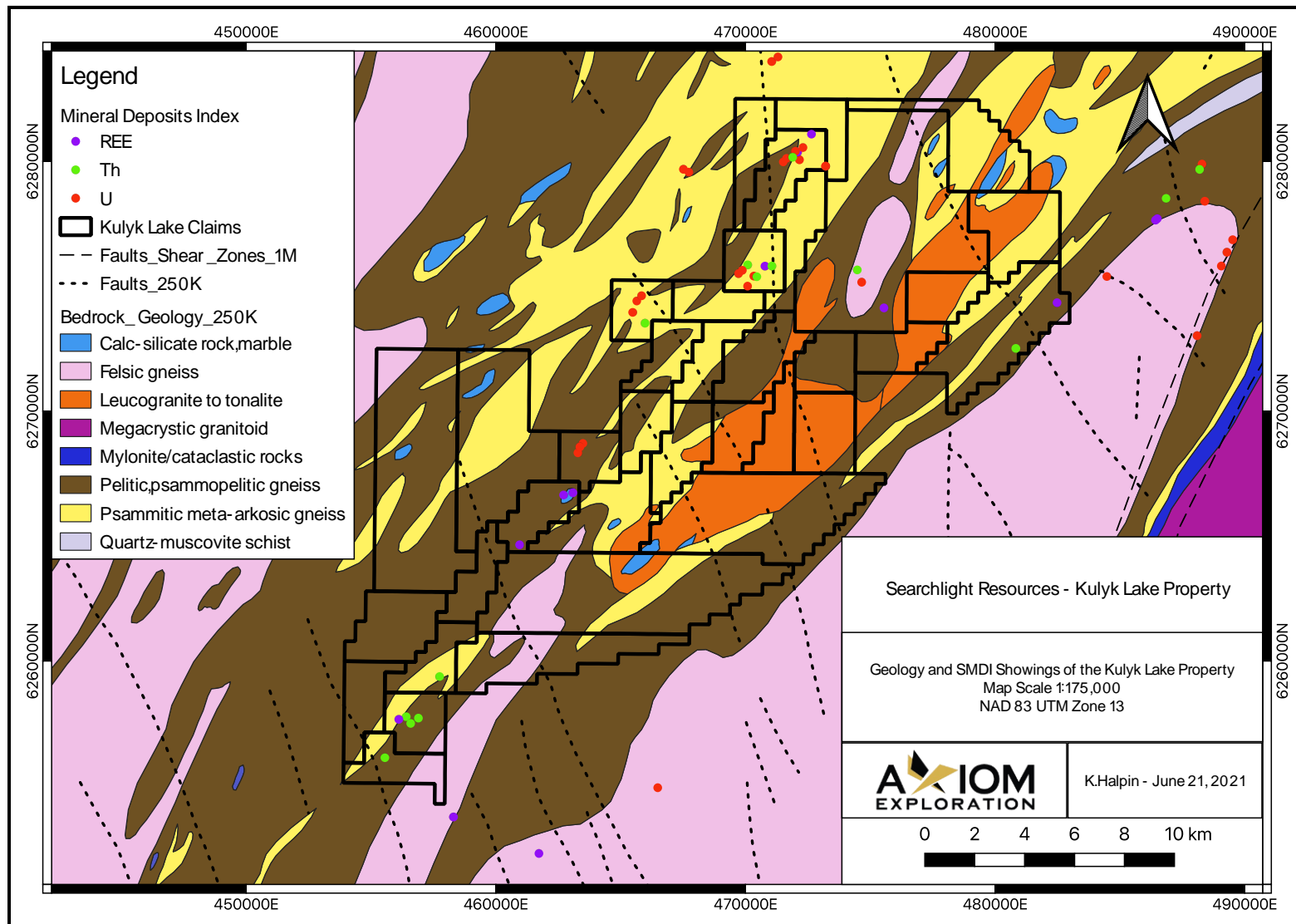


Figure 7-2: Geology of the Kulyk Lake Property (Adapted from SMAD).

### 7.3. SHOWINGS AND MINERALIZATION

Mineralization in the Project area is associated with the pegmatitic intrusions. The U, Th, and REE mineralization is visibly disseminated in the pegmatite and in fracture-controlled veins. In the pegmatites the mineralization is typically primary. The U-Th-REE accessory phases are predominantly less than 2 mm in size and consist of uraninite, thorite, monazite, apatite, and zircon, with rare allanite and xenotime. These minerals are generally associated with biotite in the simple-type granitic pegmatites but also form inclusions in quartz rich zones (McKeough et al., 2013).

There is also late remobilization of the uranium into fractures and veins (McKeough et al., 2010). The veins occur within both the pegmatites and metasediments and along the contact between the host rocks and pegmatites (McKeough et al., 2013).

The U-Th-REE-Y-Nb pegmatite intrusions are highly evolved, ranging from mineralogically simple to complex types (McKeough et al., 2013). The pegmatites are classified by McKeough et al., (2013) as rare-element class, NYF pegmatites and are interpreted to have formed in a late syn- to post-collisional tectonic setting. The pegmatites were progressively enriched through extreme fractionation effects related to multiple pegmatitic injections (McKeough et al., 2013).

The complex type pegmatites are hybridized, due to interactions between the host rocks and pegmatite; these pegmatites often display crude zonation. Saturation of the U-Th-REE occurred at the margins of the hybridized pegmatites (McKeough et al., 2013). Hybridized pegmatites which formed by the interaction between pegmatites and the calc-silicate host rocks, are characterized by elevated U-Th-REE concentrations and may be of greater economic importance than the simple pegmatites of the area (McKeough et al., 2010).

Within the Property area there are 36 showings recorded in the SMDI (Table 7-1). The majority of showings in the project area are associated with pegmatites or granites, with only the Kulyk Lake (SMDI No. 0985) considered a polymetallic vein or shear hosted occurrence. Major showings are discussed in detail below.

**Table 7-1: SMDI Showings within the Kulyk Lake Property.**

SMDI No.	NAME	LOCATION	SHOWING TYPE	SAMPLE TYPE	EASTING	NORTHING
978	Baska Uranium Showings Nos. 2, 8, 10, and 13	Kotelmach Lake Area	U	Outcrop grab	472162.03	6280064.95

SMDI No.	NAME	LOCATION	SHOWING TYPE	SAMPLE TYPE	EASTING	NORTHING
980	Eldorado Dyke U-REE Showing	Kulyk Lake Area - east shore	U	Outcrop Channel	470083.1	6275008.02
985	Kulyk Lake Uranium Showing	Kulyk Lake - east shore	REE	Outcrop grab	470779	6275810
5129	Rock sample JBKJR005	Foster Lakes area	U	Outcrop grab	473208	6279811
5130	Rock sample JBKJR006	Foster Lakes area	U	Outcrop grab	471515	6279982
5135	Rock sample JMKJR001	Foster Lakes area	REE	Outcrop grab	482480	6274346
5136	Rock sample JMKJR003	Foster Lakes area	Th	Outcrop grab	480828	6272516
5137	Rock samples MAKJR008 & MOKJR001	Foster Lakes area	U	Outcrop grab	471646	6280124
5144	Rock sample TMKJR012	Foster Lakes area	REE	Outcrop grab	472085	6280373
5145	Rock sample TMKJR013	Foster Lakes area	REE	Outcrop grab	472643	6281092
5163	Rock sample AGKJR004	Foster Lakes area	U	Outcrop Channel	472000	6280412

SMDI No.	NAME	LOCATION	SHOWING TYPE	SAMPLE TYPE	EASTING	NORTHING
5164	Rock sample AGKJR006	Foster Lakes area	U	Outcrop grab	472302	6280555
5165	Rock samples AGKJR007 & JBKJR023	Foster Lakes area	Th	Outcrop grab	471889	6280167
5166	Rock sample JBKFR021	Foster Lakes area	Th	Outcrop grab	471057	6275814
5167	Rock sample JBKJR022	Foster Lakes area	U	Outcrop grab	473211	6279808
5168	Eldorado Southwest Uranium	Foster Lakes area	U	Trench	470335	6275410
5169	Trenches KJ2010-003 & -004	Kulyk Lake	Th	Trench	470453	6275385
5170	Rock sample JBKJR025	Kulyk Lake	Th	Outcrop grab	470084	6275861
5171	Rock sample JBKJR027	Kulyk Lake	U	Outcrop grab	469721	6275513
5172	Yellow Brick Road showing	Kulyk Lake	U	Trench	469872	6275642
5182	Jon 1 sample location	Lower Foster Lake area	Th	Outcrop Channel	456411	6257771
5183	Jon 2 sample location	Lower Foster Lake area	Th	Outcrop Channel	456898	6257715

SMDI No.	NAME	LOCATION	SHOWING TYPE	SAMPLE TYPE	EASTING	NORTHING
5184	Jon Th-REE-U Occurrence	Lower Foster Lake area	Th	Outcrop Channel	456589	6257505
5187	Rock sample 5112	Middle Foster Lake area	U	Outcrop grab	465480	6273958
5188	Louis 2, 3 & 4 sample locations	Middle Foster Lake area	U	Outcrop Channel	465645	6274413
5189	Louis 5 samples location	Middle Foster Lake area	U	Outcrop Channel	465839	6274623
5191	Emmanuel 1 & 2 sample locations	Middle Foster Lake area	U	Outcrop Channel	463288	6268336
5192	Emmanuel 3 samples location	Middle Foster Lake area	U	Outcrop Channel	463486	6268714
5194	Rock sample 6139	Middle Foster Lake area	U	Outcrop grab	463365	6268572
5197	Rock sample 5162	Lower Foster Lake area	REE	Outcrop grab	460953	6264654
5199	Rock sample 5137	Middle Foster Lake area	Th	Outcrop grab	465978	6273523
5654	Samples 99779 & 99782	Daly Lake	Th	Outcrop grab	455556	6256133
5655	Sample 99787	Daly Lake	REE	Outcrop grab	462714	6266648



SMDI No.	NAME	LOCATION	SHOWING TYPE	SAMPLE TYPE	EASTING	NORTHING
5656	Samples 99788 & 99789	Daly Lake	REE	Outcrop grab	463087	6266738
5657	Sample 99808	Daly Lake	Th	Outcrop grab	457750	6259379
5658	Samples 99820, 99821, 99862, 99864 & 99772	Daly Lake	REE	Outcrop grab	456114	6257666

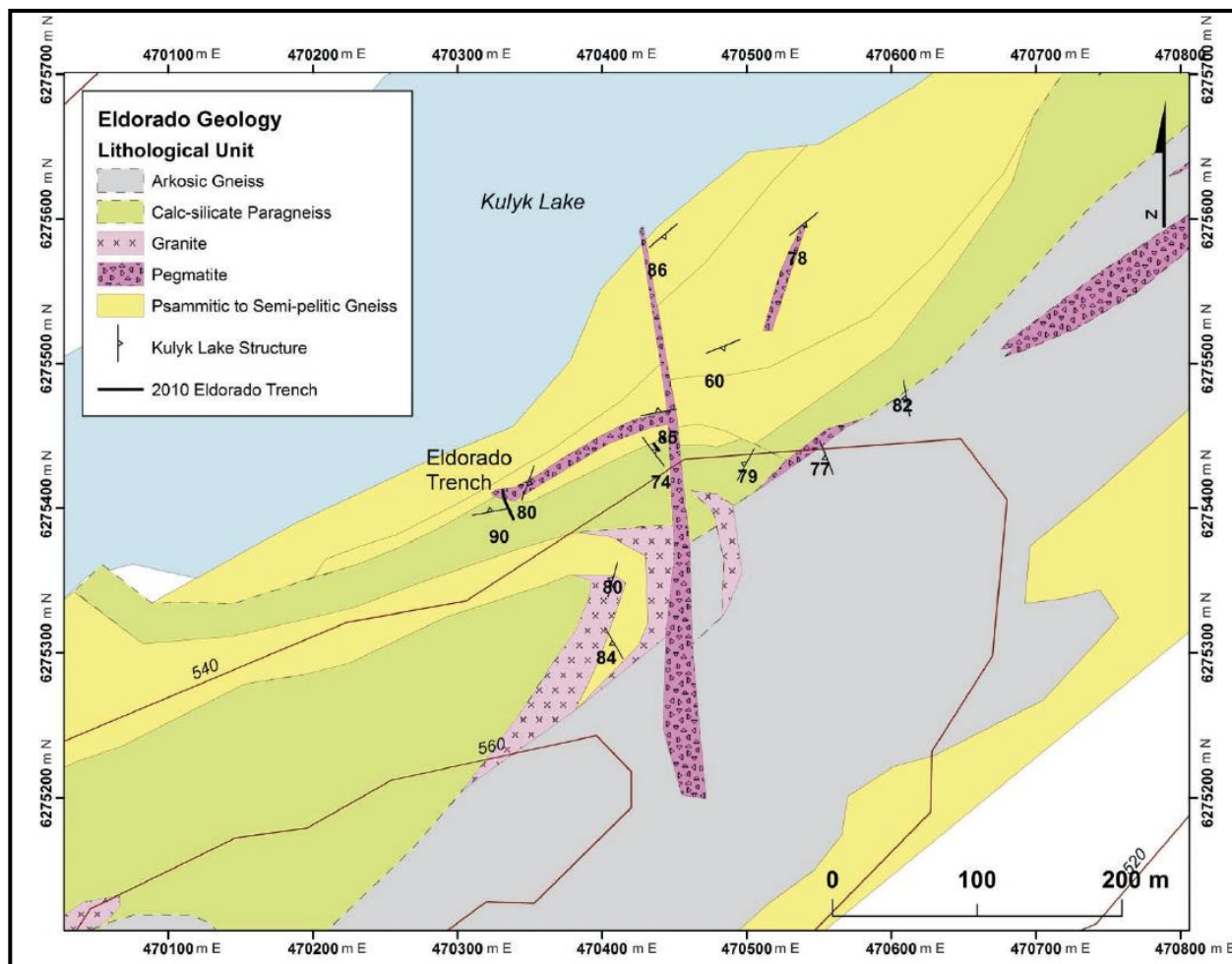
#### 7.4. BASKA URANIUM SHOWING (SMDI 0978)

The Baska Uranium Showings, and surrounding anomalous samples, are located within MC00013078 in the Kotelmach Lake area. The showings consist of several radioactive pegmatites which host anomalous concentrations of uranium. The pegmatites occur as northeast trending bands which intrude the metasediments of the Daly Lake Group.

Showing No. 2 consists of a granitic pegmatite which is anomalously radioactive, but no mineralization was visibly identified. The radioactivity at this showing is concentrated along cross-cutting fractures and along the contact margins of the pegmatite. Samples collected from Showing No. 2 assayed between 0.02% and 0.06%  $U_3O_8$ . Showing No. 8 consists of an actinolite bearing pegmatite with visible davidite mineralization. Samples from this area assayed 0.01% to 0.12%  $U_3O_8$ . Showing No. 10 consists of a pegmatite crosscut by an ilmenite and magnetite bearing quartz vein. A  $U_3O_8$  value of 0.2% was returned from this sample. Showing No. 13 consists of a pegmatite which contains uraninite crystals up to 6 mm in size. Assays from this pegmatite ranged from 0.47% to 1.68%  $U_3O_8$ .

#### 7.5. ELDORADO AND KULYK LAKE SHOWING (SMDI 0980 AND 0985)

A number of showings are clustered around Kulyk Lake on MC00012707. The Eldorado showing is located approximately 60 m southeast of Kulyk Lake. The Eldorado showing consists of an anastomosing radioactive pegmatite with a width of approximately 5 m that is exposed over 70 m of strike length. To the south, calc-silicate para-gneisses are in contact with variably magnetic semi-pelitic gneiss, the contact of which is exploited by the east-northeast trending Eldorado Pegmatite (McKeough and Lentz, 2011) (Figure 7-3).



**Figure 7-3: Geological Mapping of the Eldorado Showing (McKeough and Lentz, 2011).**

The mineralization at the Eldorado Showing is restricted to the margins of the pegmatite and cross cutting fractures. Brannerite, which occurs as thin, greenish-brown fracture coatings, is the main radioactive mineral. A 2007 grab sample assayed 4,200 ppm U, 4,340 ppm Th, and 1,996 ppm REE. Channel sampling in 2010 confirmed the presence of elevated uranium in the pegmatite. For full channels sampling results see Table 6-5.

The Kulyk Lake Showing is located approximately 550 m north of the Eldorado Showing. This showing consists of several fractures hosting brown to red monazite with possible davidite and uranothorianite. The main fracture occurs in red, coarse granite. The fracture can be traced for 15 m along strike and has an exposed width of 0.46 m. The fracture has a vertical dip and is parallel to the surrounding Wollaston gneisses.

The original trenches were relocated in 2009 and resampled for U and REE (Table 7-2). Samples AGKJR001 and AGKJR002 were grab samples collected from the showing. Sample AGKJR003 was a channel sample collected over 0.7 m.

**Table 7-2: 2009 Kulyk Lake Trench Sampling Results.**

Element	Sample No.		
	AGKJR001	AGKJR002	AGKJR003
Th (ppm)	4,580	6,530	1,930
U (ppm)	525	217	84
TREE (%)	22.26	16.2	6.96%
P2O5 (%)	22.6	19.6	11.3%
Ce (ppm)	98,000	73,700	31,700
Dy (ppm)	489	332	183
Er (ppm)	428	306	136
Eu (ppm)	569	388	174
Gd (ppm)	1,810	1,260	610
Ho (ppm)	56	21	32
La (ppm)	67,500	48,200	17,100
Nd (ppm)	38,700	26,800	14,700
Pr (ppm)	10,100	6,870	1,910

Element	Sample No.		
	AGKJR001	AGKJR002	AGKJR003
Sm (ppm)	3,550	2,440	1,110
Tb (ppm)	196	135	66
Y (ppm)	2,120	1,500	826
Yb (ppm)	52	48	31

#### 7.6. JON OCCURRENCE (SMDI 5184)

The JON Occurrence is a cluster of showings located within MC00012897. The showings in this area consist of pegmatites and granitic gneiss which contained anomalous U, Th, and REE. The anomalous area trends northeast and is approximately 1,000 m long by 450 m wide. Sample 99812, collected from a pegmatite in the Jon Occurrence in 2014 by Inner Mongolia Minerals, contained 3% TREE. Sample 99766 from the same exploration program contained 3.26% TREE.

## 7.7. STRUCTURE

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The Project area has experienced several deformational events, which has resulted in a regional dome-and-basin style interference pattern and a dominantly northeast-trending gneissosity. Four deformational phases were recognized during the mapping completed by Tran et al. (1998). The earliest recognized event ( $D_1$ ) resulted in the development of isoclinal folds ( $F_1$ ) and a well-developed penetrative regional foliation ( $S_1$ ). The  $S_1$  foliation is generally steeply dipping and northeast trending. Early  $D_1$  thrust faults also appear to be largely northeast trending (Tran et al., 1998).

The basement inliers are generally doubly plunging  $D_1$  structures. Intense decollement movement occurred along the basement-cover interface with the  $S_1$  foliation increasing in intensity and locally becomes mylonitic in character near the contact (Ray, 1981). Locally, discrete shear zones up to tens of meters wide were observed at the contact by Tran et al (1998). Shear sense indicators are common and indicate consistent oblique sinistral reverse movement. These shear zones are refolded by later generations of folding (Tran et al., 1998).

The second deformation event ( $D_2$ ) produced northeast-trending regional folds ( $F_2$ ) and a steeply northwest dipping penetrative axial planar foliation (Tran et al., 1998). Some of the large scale, isoclinal  $D_2$  folds appear to have suffered displacement and transposition along their limbs (Ray, 1981).

$D_3$  formed open, northwest-trending folds and crenulations ( $F_3$ ) and a local subvertical  $S_3$  axial planar fabric. The fourth deformational event produced steeply dipping to subvertical brittle sinistral faults and shear zones which appear to postdate all other deformational events. These structures are typically subvertical and north to northwest trending (Tran et al., 1998).

## 7.8. METAMORPHISM AND ALTERATION

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The Wollaston Domain has been metamorphosed to upper amphibolite to granulite facies (Yeo and Delaney, 2007). In the Kulyk Lake area two phases of metamorphic mineral growth, which are broadly coeval with  $D_1$  and  $D_2$  are apparent (Tran et al., 1998). Peak metamorphic conditions were interpreted by Tran et al. (1998) to have been approximately 5 kbar and less than 770°C.

Biotite, sillimanite, and cordierite are associated with the  $D_1$  event suggest high-grade metamorphism (Tran et al., 1998). The mineral assemblage present suggest that minimum of upper amphibolite facies metamorphic conditions was reached in the region, although the presence of hypersthene implies granulite facies conditions were achieved in some areas (Ray, 1981).

Localized melting occurred during  $M_2$ , resulting in the segregation and intrusion of minor pegmatites in both the basement and metasediments (Ray, 1981). The anatectic melts which

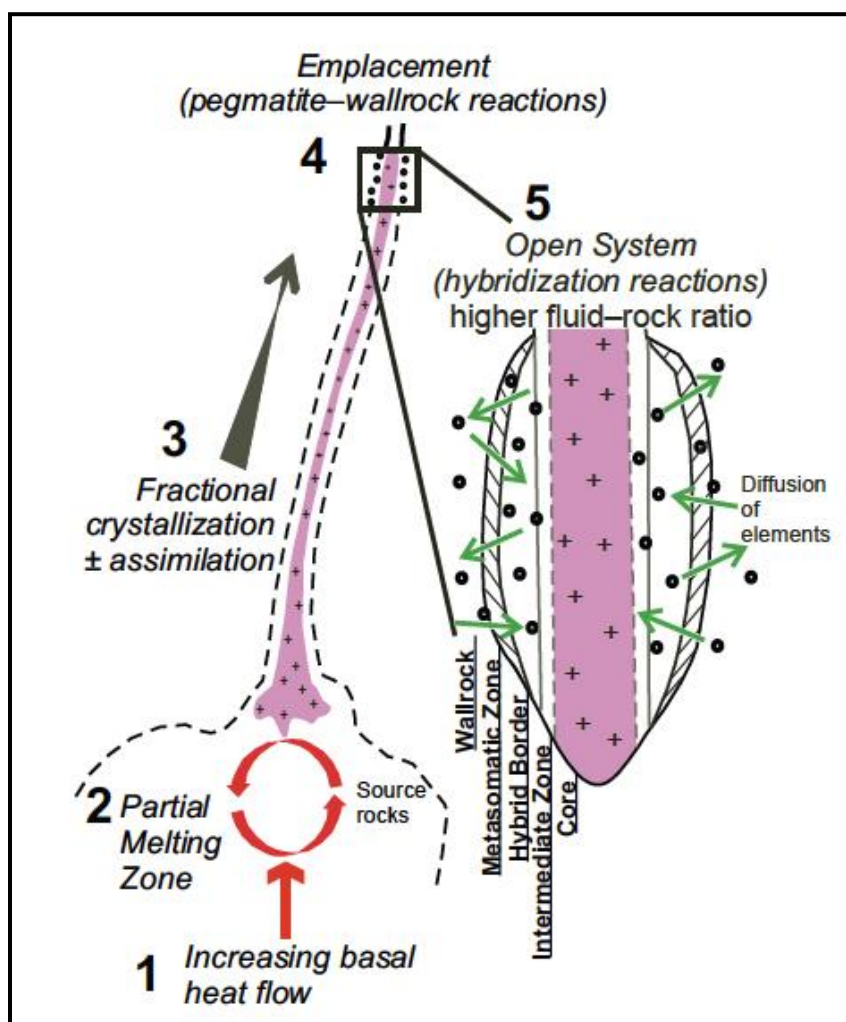


developed during  $M_2$  are often axial planar to  $F_2$  folds but are locally deformed by  $D_3$  folding (Tran et al., 1998)

The majority of the pegmatites post-date both metamorphic events (Tran et al., 1998).

## 8. DEPOSIT TYPES

In the Wollaston Domain of northern Saskatchewan, the majority of the U, Th, and REE mineralized showings are hosted by late tectonic to anorogenic granitoids and pegmatitic intrusions (McKeough et al., 2013). In the Kulyk Lake area, there are both simple and complex, hybridized pegmatites (McKeough and Lentz, 2011). The primary deposit type of interest is intrusive related with the mineralization related to primary magmatic processes, although metasomatic and hydrothermal remobilization of the U and REE should also be considered (Figure 8-1) (Shanyengana et al., 2020; McKeough et al., 2013).



**Figure 8-1: Model of the evolution of the pegmatites at Kulyk Lake (McKeough et al., 2013).**

This type of intrusive related uranium deposit is typified by the Rössing Deposit, Namibia. The Rössing Deposit consists of uranium enriched, sheeted leucogranites hosted by high-temperature, low-pressure metasedimentary rocks which were metamorphosed at upper

amphibolite to granulite facies (Basson and Greenway, 2004). The mineralized leucogranites occur along the flanks of the Rössing Dome and preferentially developed in anticline and dome structures and in surrounding metasedimentary rocks. The host granites are produced by partial melting of a metasedimentary source rock (Basson and Greenway, 2004; Gray et al., 2021). The leucogranites intrude the pelitic to semi-pelitic schists, with rare xenoliths of pelites preserved in some of the more extensive granitic bodies. The metasediments could have provided a reducing environment conducive to the precipitation of uranium (Shanyengana et al., 2020).

The mineralized intrusives of the Rössing Deposit consist of smoky quartz, microcline, albite, and biotite (Bowden et al., 1995). The uranium mineralization occurs as disseminated uraninite within the host leucogranites, remobilized veins, and as secondary mineralization (Shanyengana et al., 2020). Zircon, monazite, apatite, and titanite are noted in association with the uraninite (Bowden et al., 1995).

Although typically some of the lowest grade deposits, uranium deposits in granitic pegmatites can be economically significant if they contain enough tonnage. For example, the Rössing deposit was the world's fifth largest uranium producer in 2021, accounting for 5% of the global production (World Nuclear Association, 2021).

A number of variably radioactive pegmatites similar to the Rössing pegmatites are known to intrude the highly sheared, unconformable contact between the Wollaston Supergroup metasedimentary rocks and the underlying Archean orthogneisses elsewhere in the Wollaston Domain. In the Fraser Lakes area these pegmatites are interpreted by McKechnie (2012) to have formed as a result of partial melting. They are preferentially located along major structural zones including sheared fold limbs, the deformed Archean-Paleoproterozoic contact, and fold noses (McKechnie, 2012). Late faulting and hydrothermal fluid flow has altered the pegmatites and caused the local remobilization of U into fractures and faults (McKechnie, 2012).

There may also be some hydrothermal remobilization of the magmatic REE. The mobility of the REE depends on the temperature, pressure, pH, salinity, and the aqueous complexes available (Williams-Jones, 2015).

## **9. EXPLORATION**

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In 2021, a high-resolution magnetic and radiometric airborne survey was completed in the Kulyk Lake area by Special Projects Inc. (SPI) of Calgary, Alberta on behalf of Searchlight. The purpose of this survey was to identify regional targets on the Kulyk Lake claim block for additional exploration.

In 2022 Searchlight engaged Axiom to complete an exploration program on the Kulyk Lake Property. Phase One of this exploration program consisted of prospecting designed to investigate the U and Th anomalies identified by the airborne radiometric survey completed in 2021. A total of 68 samples were collected for assay and a bulk sample was collected from the Fanta (Kulyk) Trench. Phase Two consisted of a Mobile Metal Ion (MMI) soil sampling program completed over portions of the U and Th anomalies. In total, 242 soil samples and 12 rock samples were collected as part of this program. Phase Three of the exploration program consisted of additional prospecting of target areas not covered by Phase One.

### **9.1. AIRBORNE GEOPHYSICAL SURVEY**

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The high-resolution magnetic and radiometric airborne survey was flown over the Kulyk Lake area between September 17<sup>th</sup> and 20<sup>th</sup>, 2021 by SPI. The survey covered approximately 39 km<sup>2</sup> of the Kulyk Lake claims. The survey was flown in an east-west orientation with a line spacing of 50 m. Tie lines were flown in a north-south orientation with a spacing of 500 m (Figure 9-1). The survey was described as a tight drape, with the terrain clearance described as best effort or as dictated by safety (SPI, 2021). This survey covered all of MC00012707, MC00013078, MC00014690, MC00014693, and MC00014800, and portions of MC00014695, MC00014798, and MC00014801.

### **9.2. SURVEY SPECIFICATIONS**

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The survey was flown using a Cessna A185F aircraft with a fixed sensor boom. The magnetometer was a Scintrex CS-III sampled at 1000 Hz and the vector magnetometer was a Honeywell MR 2300 sampled at 100 Hz. The gamma ray spectrometer was a 16 litre NaI(Tl) spectrometer configured as a 4x4 array with 16 individually digitized one litre detectors each sampled at 80 Ms/S. The gamma ray spectrometer was thermally stabilized, and Compton shielded (SPI, 2021).

Terrain clearance for the survey was provided by LIDAR altimeter, using a RIEGL LD-90 altimeter sampled at 2000/50 Hz. A Novatel OEM-7 L1-L2 GPS provided positional data (SPI, 2021).

A high-resolution digital terrain model suggest that the terrain is relatively flat, with some rolling hills. The elevation in the project area reaches highs of 560 m, with the ridges aligned in a broadly northeastern direction (SPI, 2021) (Figure 9-2).

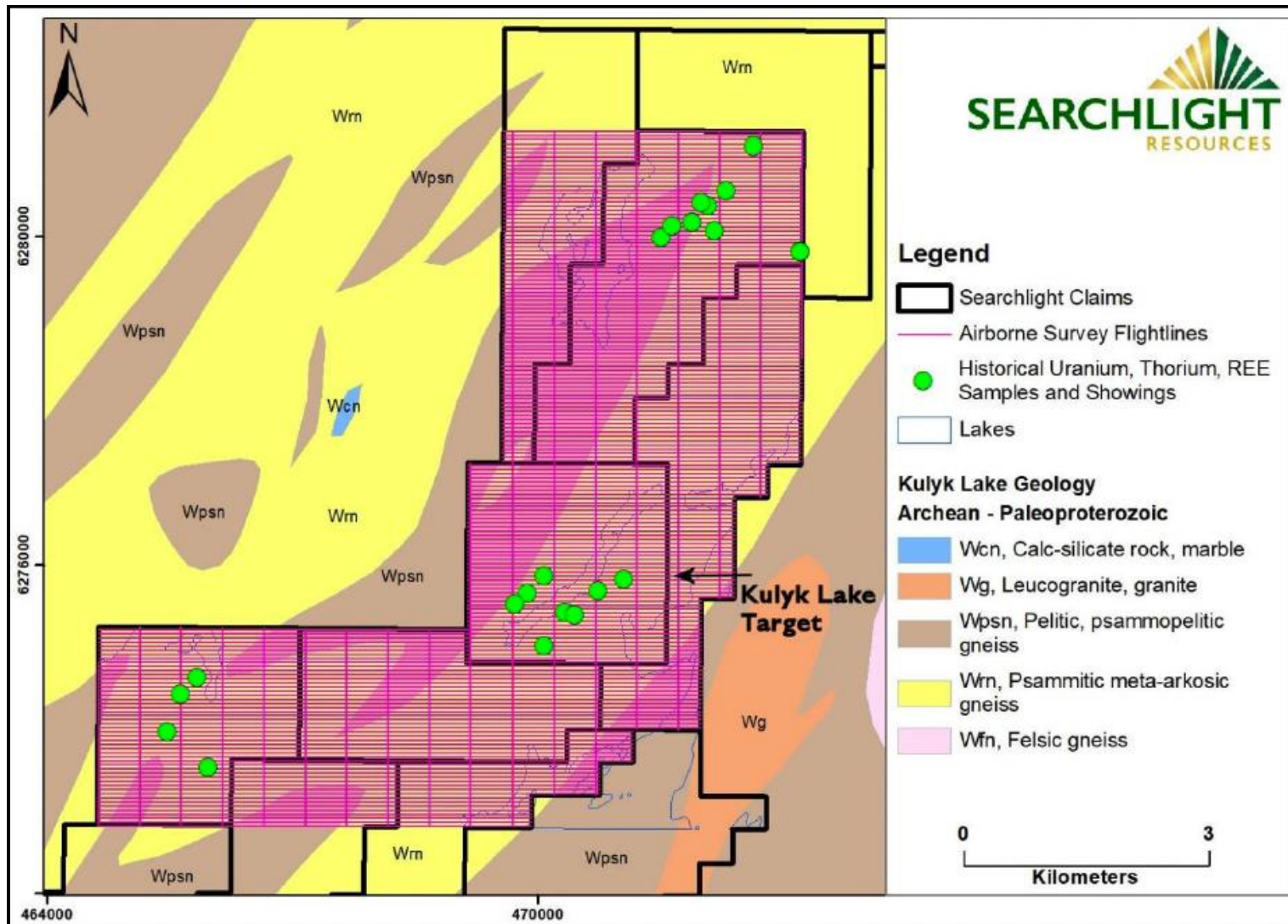


Figure 9-1: Kulyk Lake Survey Area Flight Plan (Searchlight, Oct. 25, 2021).



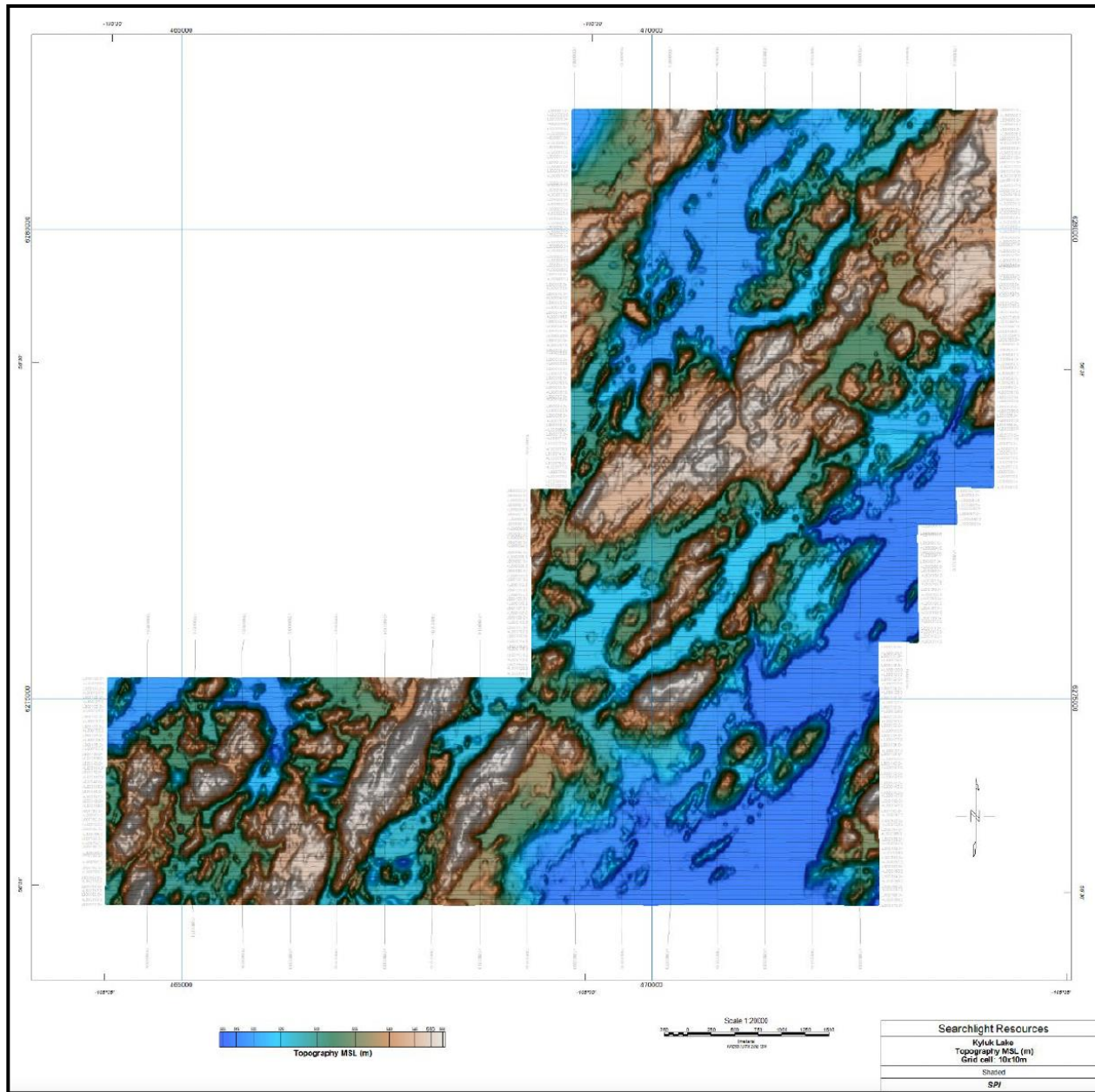


Figure 9-2: Digital Terrain Model of the Kulyk Lake Property (SPI, 2021).

### **9.3. RESULTS AND INTERPRETATION**

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The post-field processing of the data was completed by PKMB Consultants. The total magnetic field map grid was created by interpolating the filtered magnetic data to highlight geological structures in the survey (Figure 9-3). The first vertical derivative and analytical signal were both calculated by PKMB. The first vertical derivative accentuates the shallower source features, although noise is also enhanced (Figure 9-4). The analytical signal is the square root of the sum of the squares of the derivatives in the x, y, and z directions. The analytical signal assisted in locating the edges of the magnetic source bodies (Figure 9-5).

Following the generation of the above products, PKMB completed texture analysis, lineation detection, lineation vectorization, and structural complexity mapping. The information generated was used to develop a contact occurrence density map (Figure 9-6) which measures the local density of intersections between structures or significant orientation changes in structures. The orientation entropy grid highlights regions of potential structural complexity (Figure 9-7).

A preliminary unconstrained magnetic model was run in Voxi. This preliminary model was used as the input for magnetic inversion. The inversion used a mesh of 258x252x41 cells for a total of 2,665,656 cells being inverted. The 3D inversion shows the potential extents of the anomalous areas (Figure 9-8).

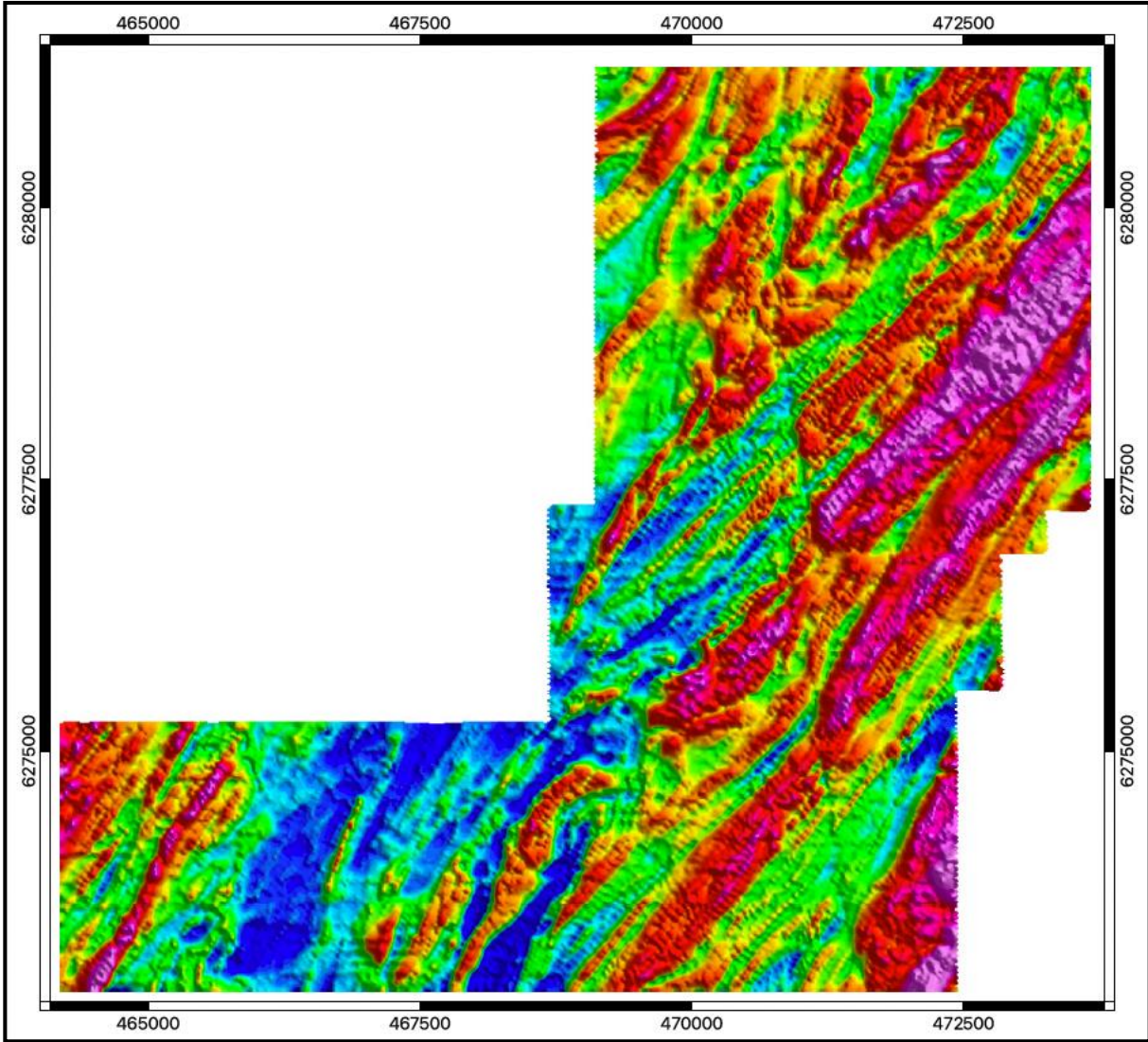


Figure 9-3: Total Magnetic Intensity Map (PKMB, 2021).



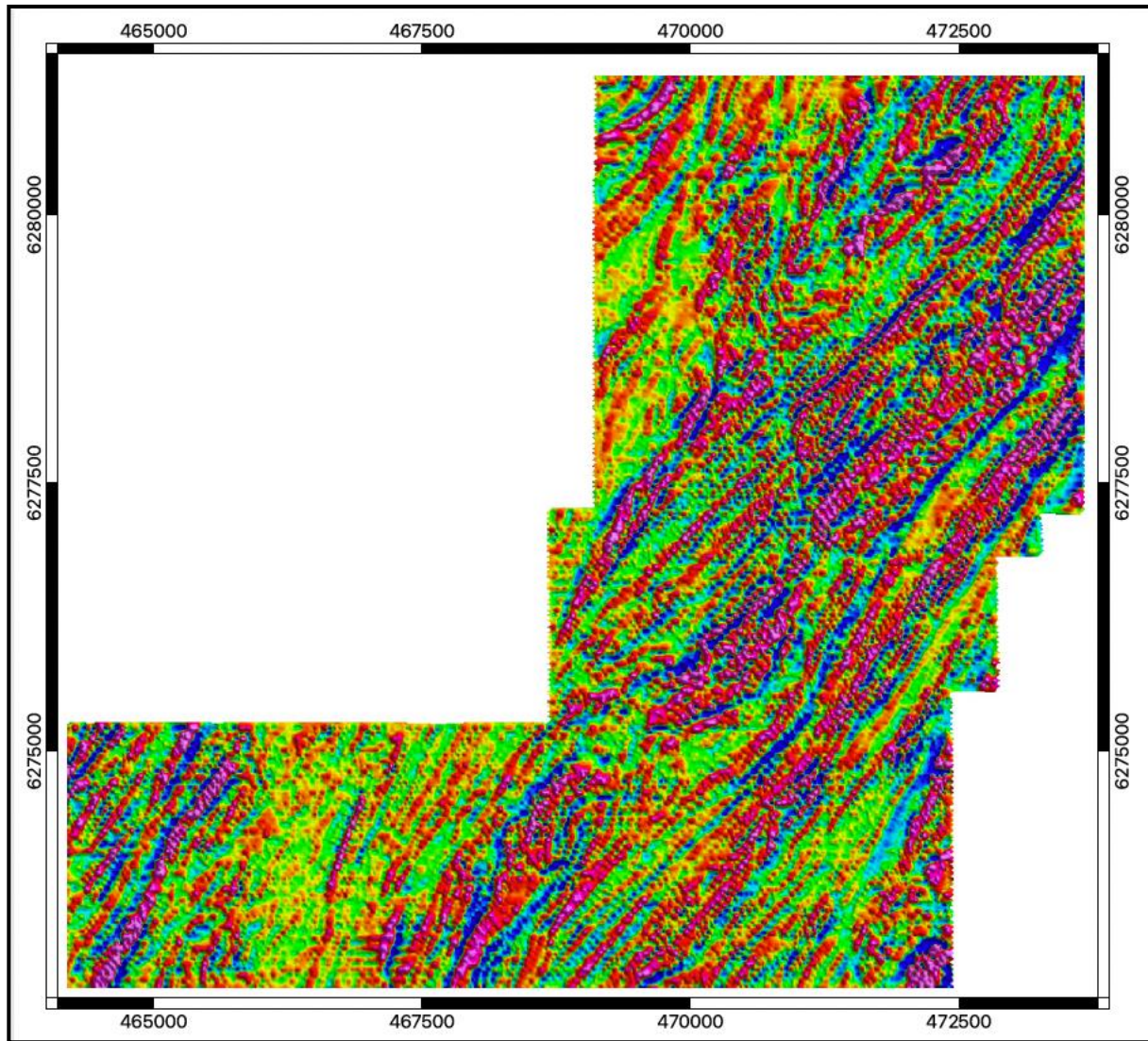
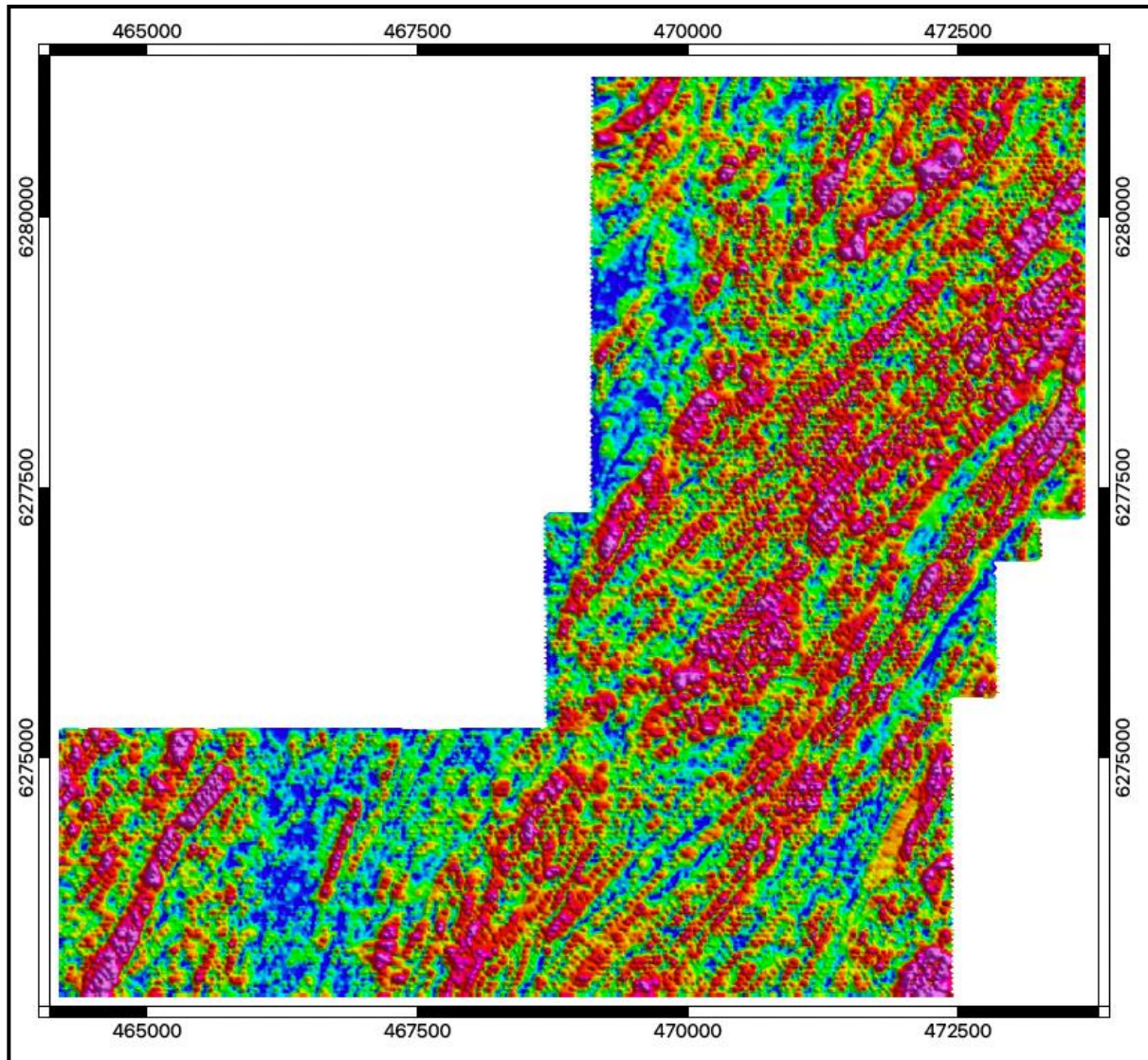


Figure 9-4: First Vertical Derivative (PKMB, 2021).



**Figure 9-5: Analytical Signal (PKMB, 2021).**



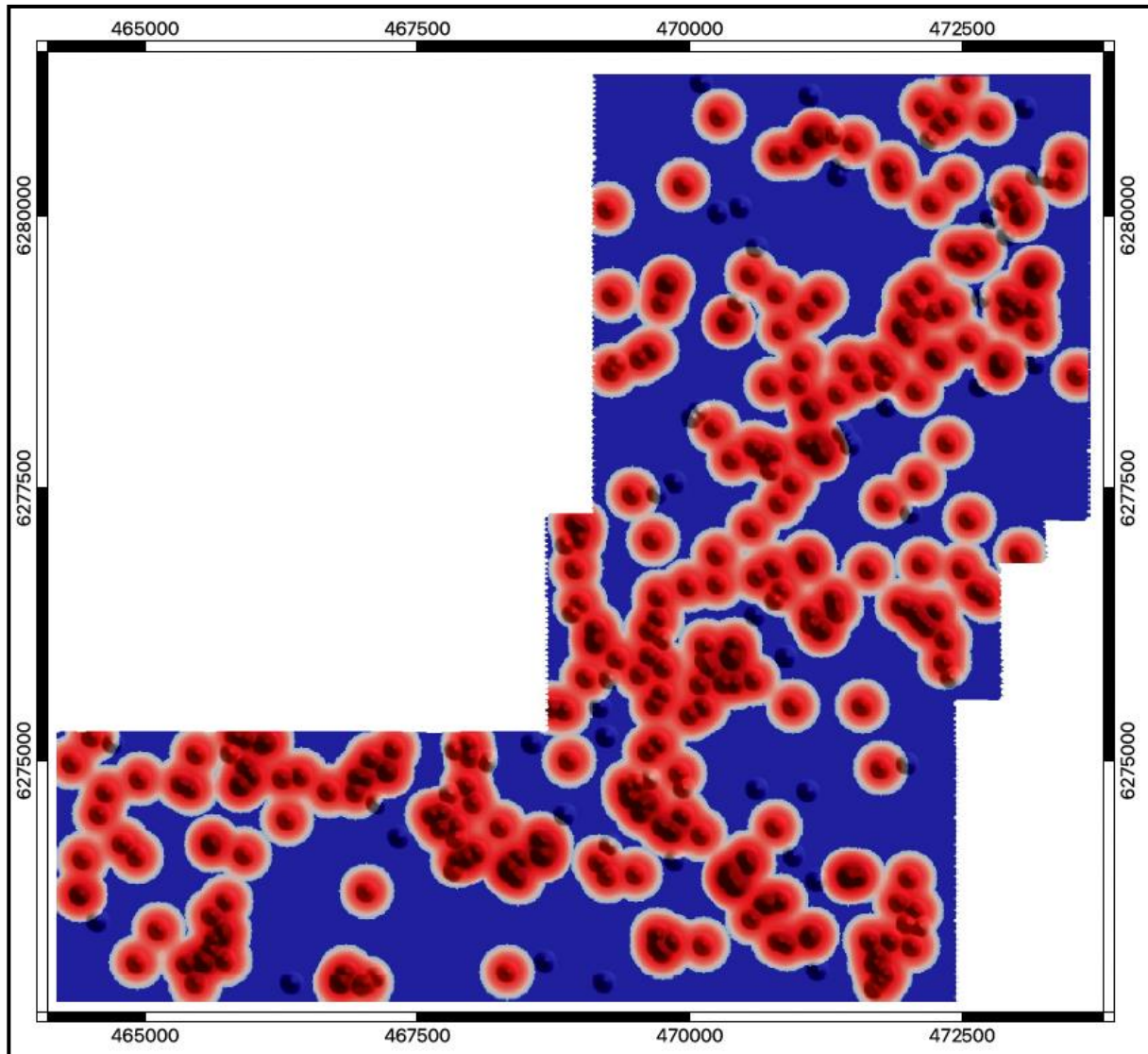


Figure 9-6: Contact Occurrence Density (PKMB, 2021).

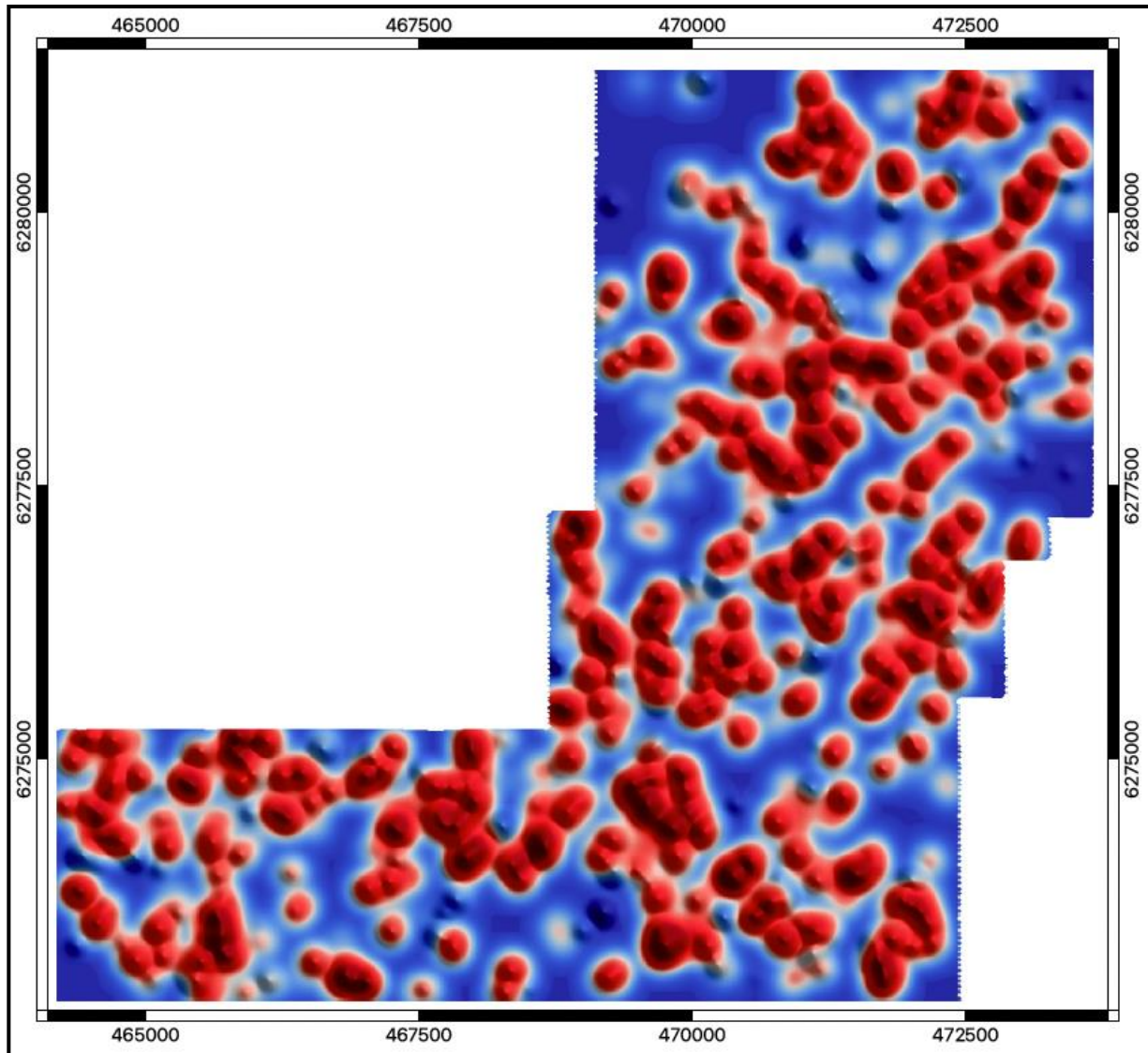
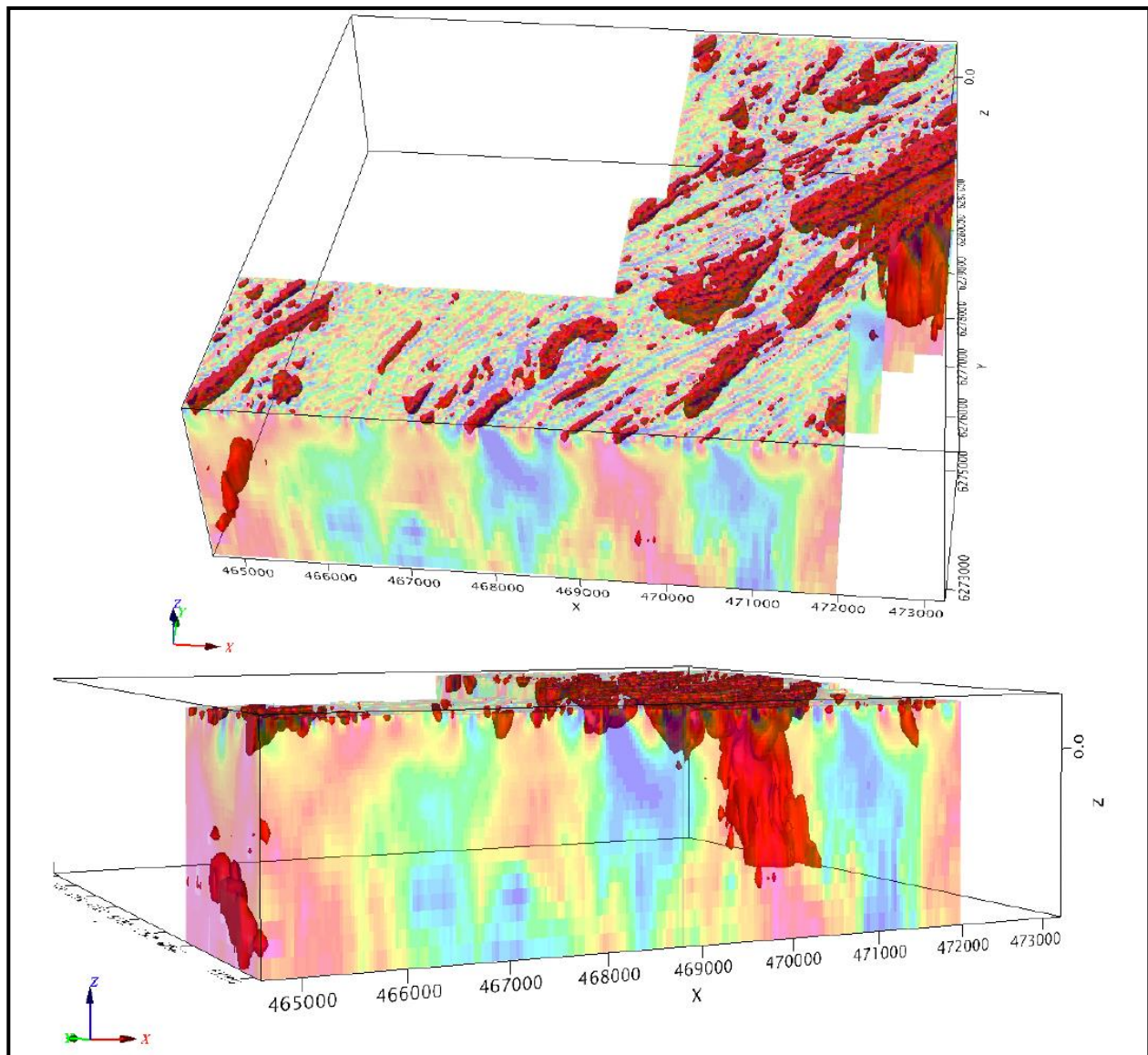


Figure 9-7: Occurrence Entropy (PKMB, 2021).



**Figure 9-8: 3D Magnetic Inversion (PKMB, 2021).**

The results of the airborne radiometric survey outlined significant new zone of elevated thorium and uranium in addition to the several historical REE, U, and Th occurrences (Figures 9-9 and 9-10). The highest Th value obtained from the survey area was 5.3 ppm; this corresponds to the Kulyk Lake Trench, confirming that the mineralized areas can be detected by airborne radiometrics. A broadly northeast trending zone of elevated thorium readings parallels the northwestern shore of Kulyk Lake and extends to the northeast.

The U results also confirmed that the Eldorado Trench can be detected by airborne survey. In addition to the historical showings, this survey identified a new zone of elevated U to the southwest of Kulyk Lake.



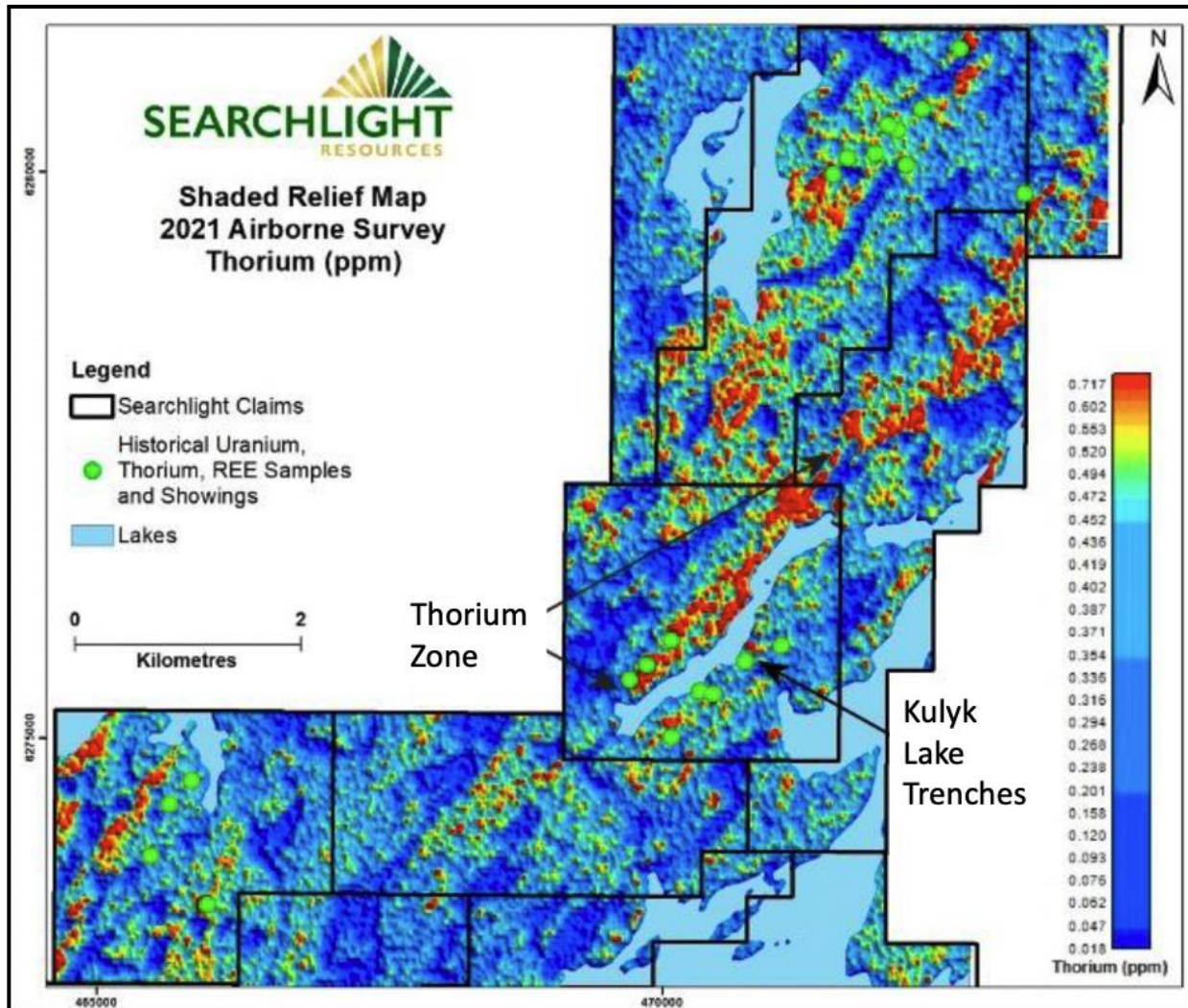


Figure 9-9: Thorium Anomaly Map (Searchlight, Oct. 25, 2021).

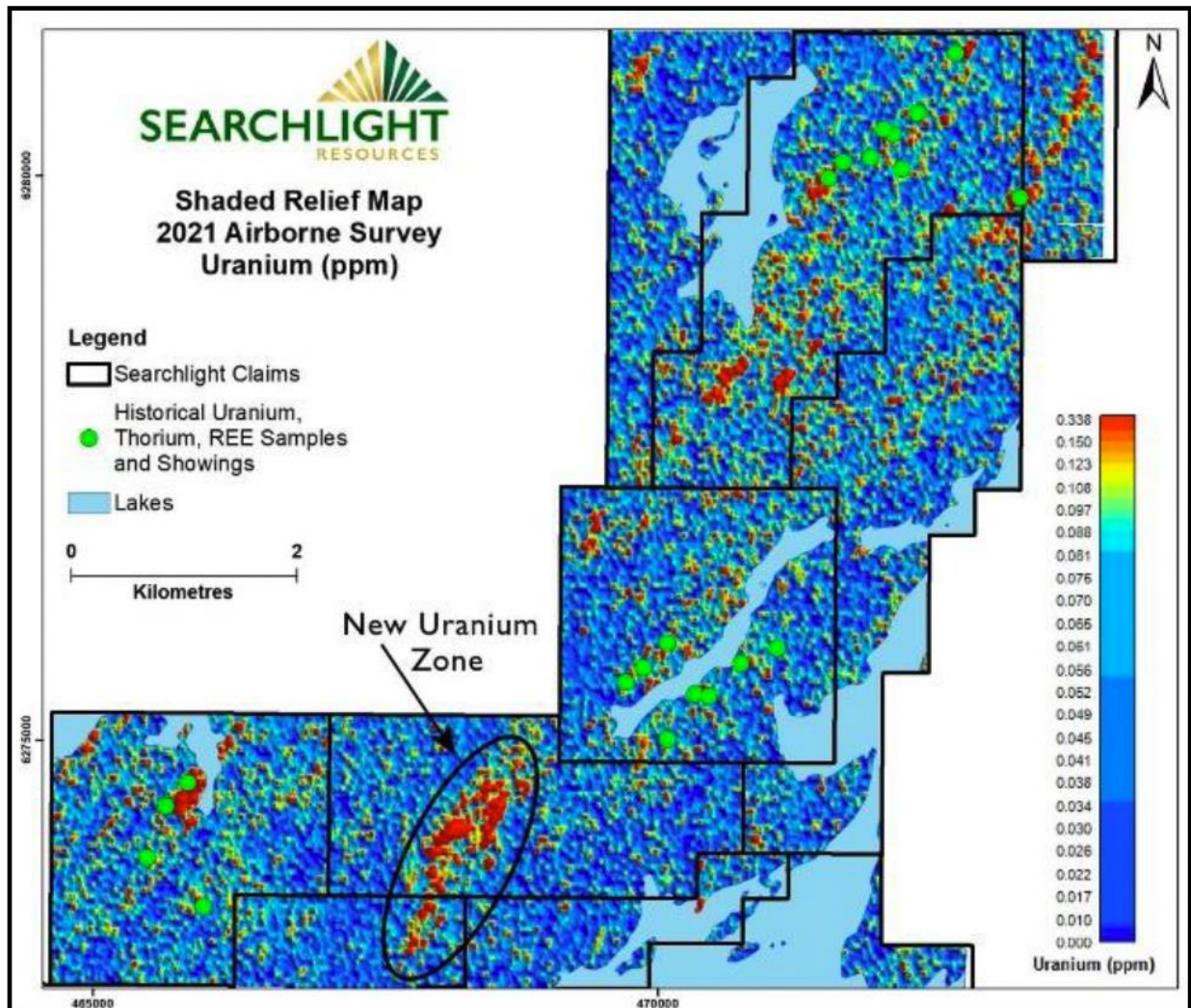


Figure 9-10: Uranium Anomaly Map (Searchlight, Oct. 25, 2021).

#### 9.4. PROSPECTING PROGRAMS

##### 9.5. PHASE ONE

The Phase One prospecting program occurred between June 20<sup>th</sup> and June 28<sup>th</sup>, 2022. This program was designed to investigate anomalous zones detected by the airborne radiometric survey completed in 2021. The Phase One program had three primary objectives: obtaining a bulk sample of the monazite mineralization to further evaluate the Fanta (Kulyk) Showing, prospecting the “Uranium Zone” and “Thorium Zone” identified from the airborne radiometric data (Magee and Cubbon, 2022).

The first objective was collecting a bulk sample of the monazite mineralization from the Fanta (Kulyk) Trench. The Fanta (Kulyk) Trench consists of an ilmenite-monazite-apatite vein hosted by



red pegmatite and aplite dykes. The main granitic pegmatite is conformable with the regional northeast-southwest striking deformation. The mineralized vein approximately follows the pegmatite trend. The average width of the mineralized vein is 10 to 20 cm; due to the narrow width and intimate relationship between the mineralized vein and the host pegmatite both vein and wall rock were collected to accurately represent a plausible extraction grade of the REE (Figure 9-11). The sampling was completed using a chisel and sledgehammer. The approximate coordinates of the bulk sample location are 470781 mE and 6275611 mN (Magee and Cubbon, 2022).

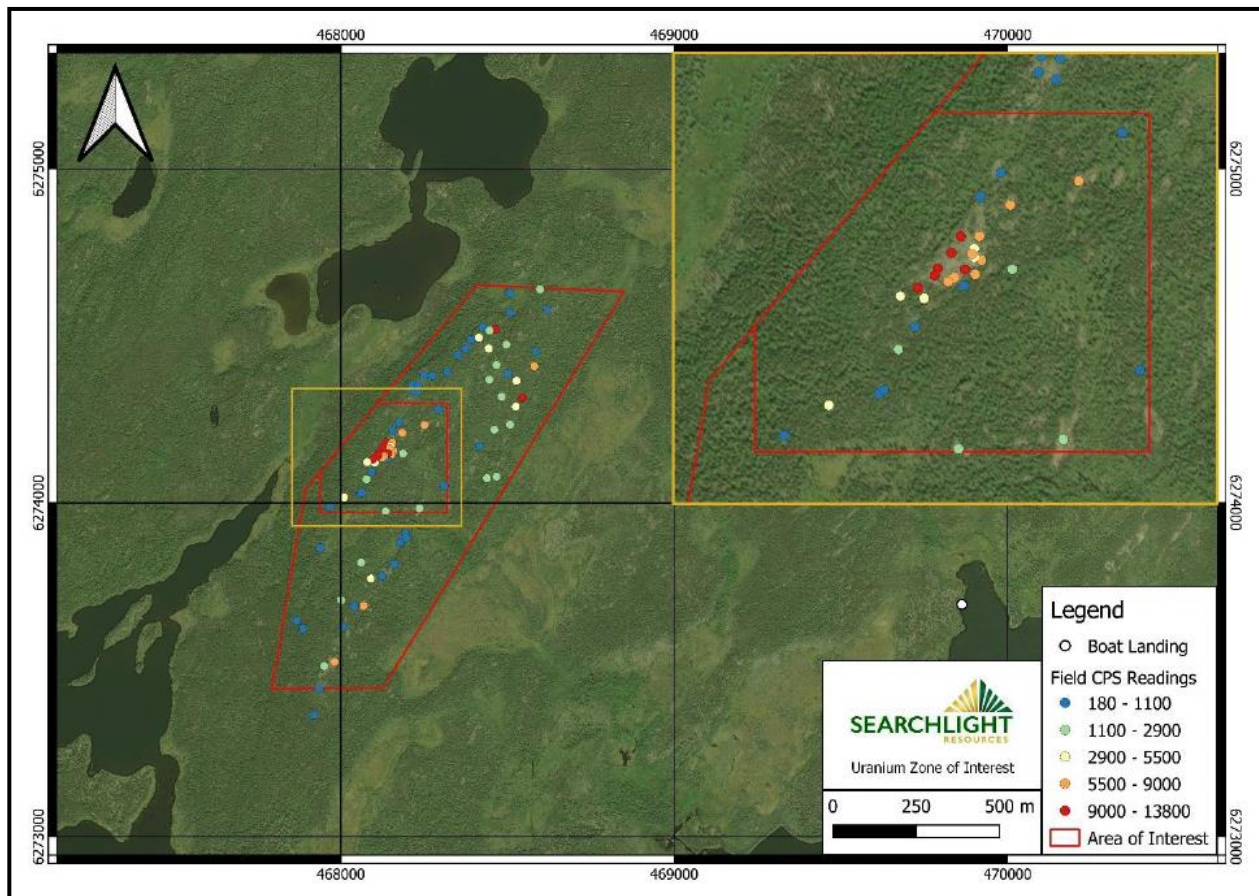


**Figure 9-11: Ilmenite-Monazite-Apatite Mineralization (A) and View (looking north) of the Bulk Sample Area (B).**

Following the collection of the bulk sample prospecting of both the newly identified Uranium Zone and Thorium Zone occurred. Prospecting of these zones was completed using handheld RS-125 and RS-230 gamma ray scintillometers/spectrometers. Waystations were collected approximately every 50 m along the traverse lines. Information collected at waystations consisted of lithology, background and peak cps counts (counts per second), notable structures, and structural measurements (Magee and Cubbon, 2022).

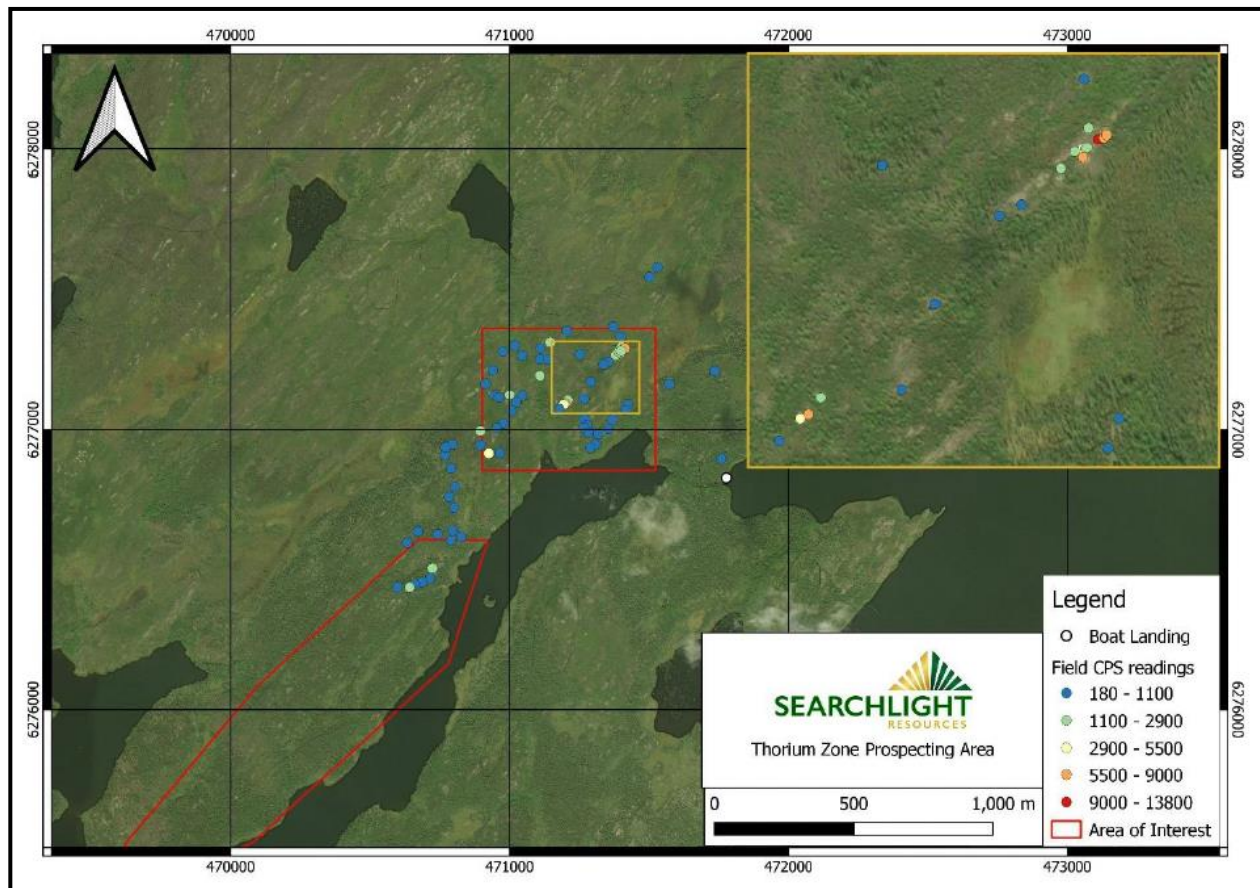
A total of 3 days were spent prospecting the “Uranium Zone”. The objective was to confirm the airborne uranium anomaly and attempt to identify the source of the anomaly. A total of 84 station points and 49 samples were collected from this area. The main uranium anomaly is located on a topographic high with good outcrop exposure. The outcrop consists of a granitic pegmatite with elevated radioactivity of up to 13,000 cps (Figure 9-12).





**Figure 9-12: Uranium Zone CPS Readings (Magee and Cubbon, 2022).**

An additional 2 days were spent prospecting the “Thorium Zone”. Difficult terrain and muskeg hampered the field crews attempt to reach the anomalous Thorium Zone. In total 80 station points and 18 samples were collected from the area northwest of Kulyk Lake. As with the Uranium Zone, the dominant lithology is pegmatite hosted in a semi pelitic gneiss, which is also the source of the majority of the anomalous scintillometer readings. In this area most of the scintillometer reading averaged between 500 and 1,000 cps (Figure 9-13) (Magee and Cubbon, 2022).



**Figure 9-13: Thorium Prospecting Zone CPS Readings (Magee and Cubbon, 2022).**

## 9.6. PHASE TWO

Phase Two consisted of a combined MMI soil sampling and prospecting program completed between August 29<sup>th</sup> and September 6<sup>th</sup> of 2022. The soils sampling occurred over an area of anomalous radioactivity identified during the 2021 airborne geophysical survey. Sampling of Thorium Zone and Uranium Zone took 7 days and 4 days, respectively. The remaining time was spent on follow-up prospecting of anomalous areas identified in Phase One.

The MMI samples were collected from a 50 m by 50 m grid centered over the anomalies. The samples were collected from approximately 15 cm below the organic interface, with slight variations due to soil depth. Variation of sample locations was typically due to the presence of either muskeg or outcrop at the planned location. Data was collected using ArcGIS Field Maps which includes the surrounding vegetation, slope, drainage, soil horizon, color, parent material, matrix material, dominant clasts, depth of sample, sample quality, and coordinates. Very little B horizon soil was observed in the area. The soil generally consisted of fine-grained sand with till as the parent material. Near the edge of muskeg, the organic layer was often thicker, which necessitated sample collection from depths of up to 50 cm. A total of 115 MMI soil samples were

collected from the Uranium Zone, 6 samples from the Northern Thorium Zone, and 127 from the Thorium Zone (Magee and Cubbon, 2022).

Prospecting traverses completed during Phase Two followed up on anomalies identified as part of the Phase One program and examined the 2010 'Yellow Brick Road' showing reported by Brown and McKeough (2011) (Figure 9-14). Prospecting traverses were completed using a handheld RS-230 gamma ray scintillometer/spectrometer. A total of 12 rock samples were collected during the prospecting program. Of the samples collected 5 came from the southern portion of the Uranium Zone. This prospecting confirmed the presence of radioactive granitic pegmatite with counts of up to 7,000 cps (Magee and Cubbon, 2022).

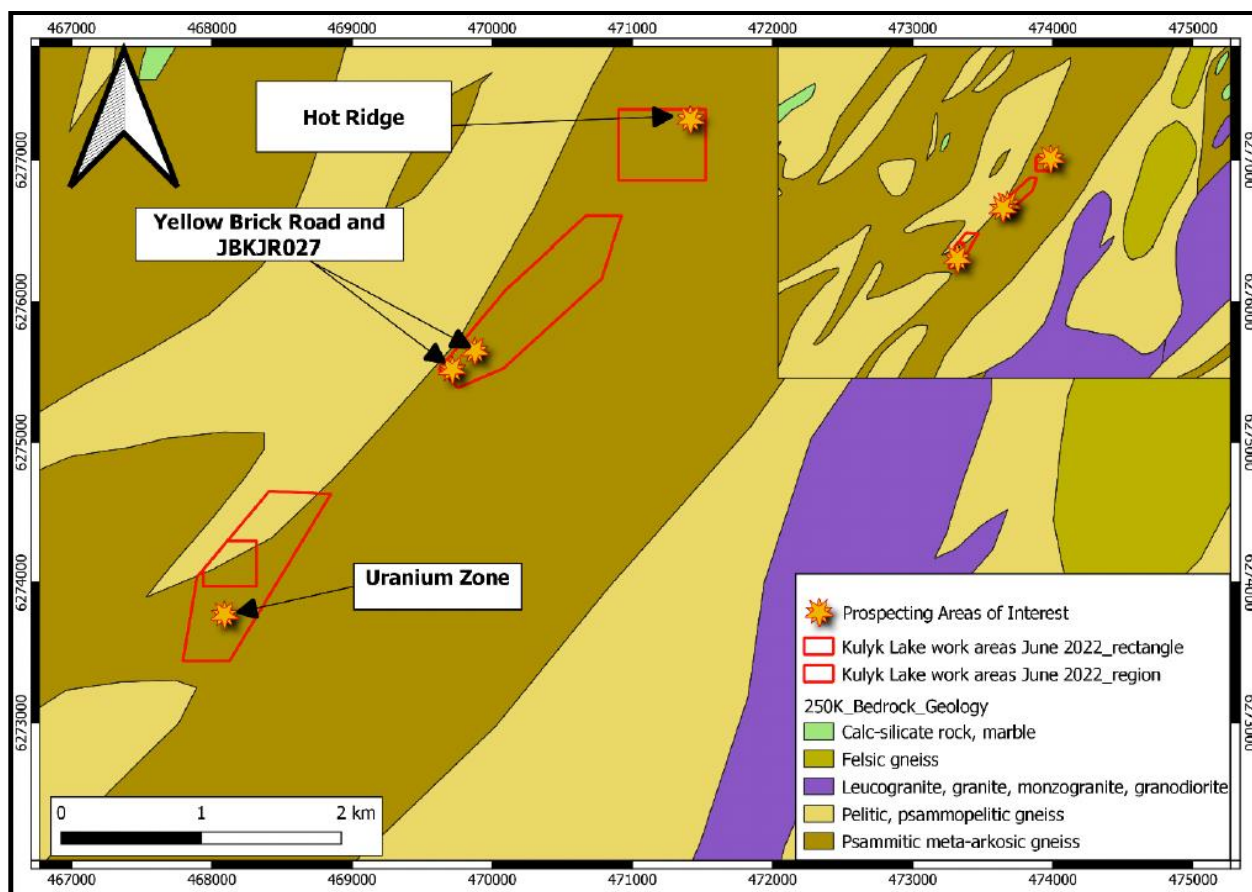


Figure 9-14: Phase Two Prospecting Areas of Interest (Magee and Cubbon, 2022).



The remaining prospecting time was spent at the Yellow Brick Road showing and the Hot Ridge Northern REE Zone. Examination of the Yellow Brick Road showing confirmed the anomalous radioactivity in a weakly clay altered granitic pegmatite with localized graphite. The radioactivity and mineralization are limited to the showing only and do not continue into the surrounding outcrop. Samples collected from this area confirmed the presence of anomalous uranium, but at much lower levels than previously reported. No secondary uranium staining was observed in association with the Yellow Brick Road showing (Magee and Cubbon, 2022).

Follow up sampling of the Hot Ridge confirmed that the REE appear to be associated with a concentration of biotite. An unidentified brown mineral, believed to be monazite, was found in association with the biotite in this area; a sample was collected for confirmation by petrographic analysis. The mineralization in this area may have formed in a pod like structure and seems to be discontinuous in nature. Areas along trend to the north of this area were also prospected but did not display the same elevated radioactivity or presence of mineralization. Samples collected from this location confirmed the presence of anomalous REE (Magee and Cubbon, 2022).

### **9.7. PHASE THREE**

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Phase Three of the exploration program occurred in October of 2022. This program focussed on areas further northeast than the previous two prospecting programs. The prospecting traverses were completed using either a RS-125 or RS-230 gamma ray scintillometer/spectrometer. In total, five days were spent prospecting in the area, with 102 samples collected during this time (Magee and Cubbon, 2022).

The dominant lithology observed during Phase Three was medium to coarse granitic pegmatite dykes. The widths of the dykes are highly variable, ranging from 30 cm up to 20 m. The dykes are typically hosted by either psammopelite or arkose. In the vicinity of several dykes, moderate to strong epidote and chlorite alteration was noted as well as the presence of local tourmaline veins. Elevated scintillometer readings were consistently associated with an increase in the biotite or muscovite content of the pegmatites. The highest observed reading in the area was 10,000 cps (Magee and Cubbon, 2022).

### **9.8. GEOCHEMICAL RESULTS**

#### **9.9. PHASE ONE**

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Of the 74 samples collected during Phase One, 4 samples contained total rare earth element (TREE) values, which is the sum of the analytical values for lanthanum to lutetium and yttrium, of greater than 1,000 ppm. The two best REE assays, obtained from sample 232903 and 232901, were both collected from the northern Thorium Zone prospecting area (Table 9-1).

**Table 9-1: Select REE Results from the Phase One Prospecting Program**

Sample No.	Ce (ppm)	La (ppm)	Dy (ppm)	Nd (ppm)	Pr (ppm)	Tb (ppm)	TREE (ppm)
232903	3,840	1950	34.5	1,500	448	6.49	8,197.82
232901	3,490	1,650	46.8	1350	410	3	7,408.3
232907	1,740	900	22.4	640	190	4.16	3,728.53
232902	662	328	12	252	79	2.32	1,453.83

Samples collected from the Uranium Zone also returned anomalous values. Three samples collected from this area contained U assay values of 0.04% U<sub>3</sub>O<sub>8</sub> or higher. These samples did not contain anomalous REE values (Table 9-2).

**Table 9-2: Select U Results from the Phase One Prospecting Program**

Sample ID	U3O8 (%)	Ce (ppm)	La (ppm)	Dy (ppm)	Nd (ppm)	Pr (ppm)	Tb (ppm)
233054	0.067	8	4	1.56	3.2	0.8	0.19
232911	0.054	15	8	4.68	7.5	1.9	0.56
232915	0.048	17	7	14	10.6	2.4	1.57

### 9.10. PHASE TWO

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The MMI soil sampling survey of the Uranium and Thorium Zones both returned anomalous REE values (Figure 9-15 and 9-16). Both areas contain multi-station REE anomalies. The Uranium Zone also contained anomalous U values (Figure 9-17). The U results from the Thorium Zone are relatively low and spotty. In the Uranium Zone, there is some correlation between the U and REE values.



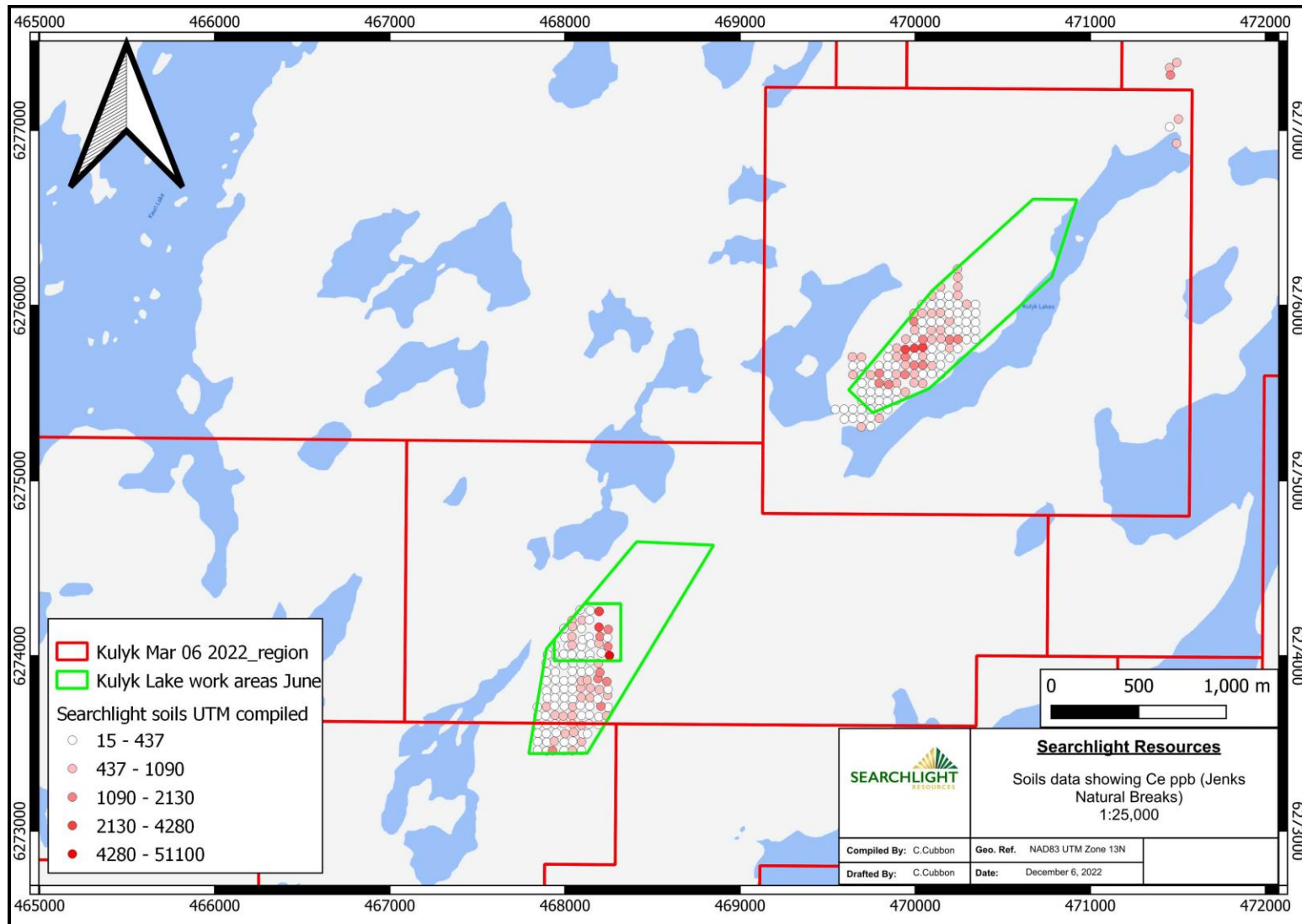


Figure 9-15: Ce (ppb) Results from the MMI Soil Sampling Survey.

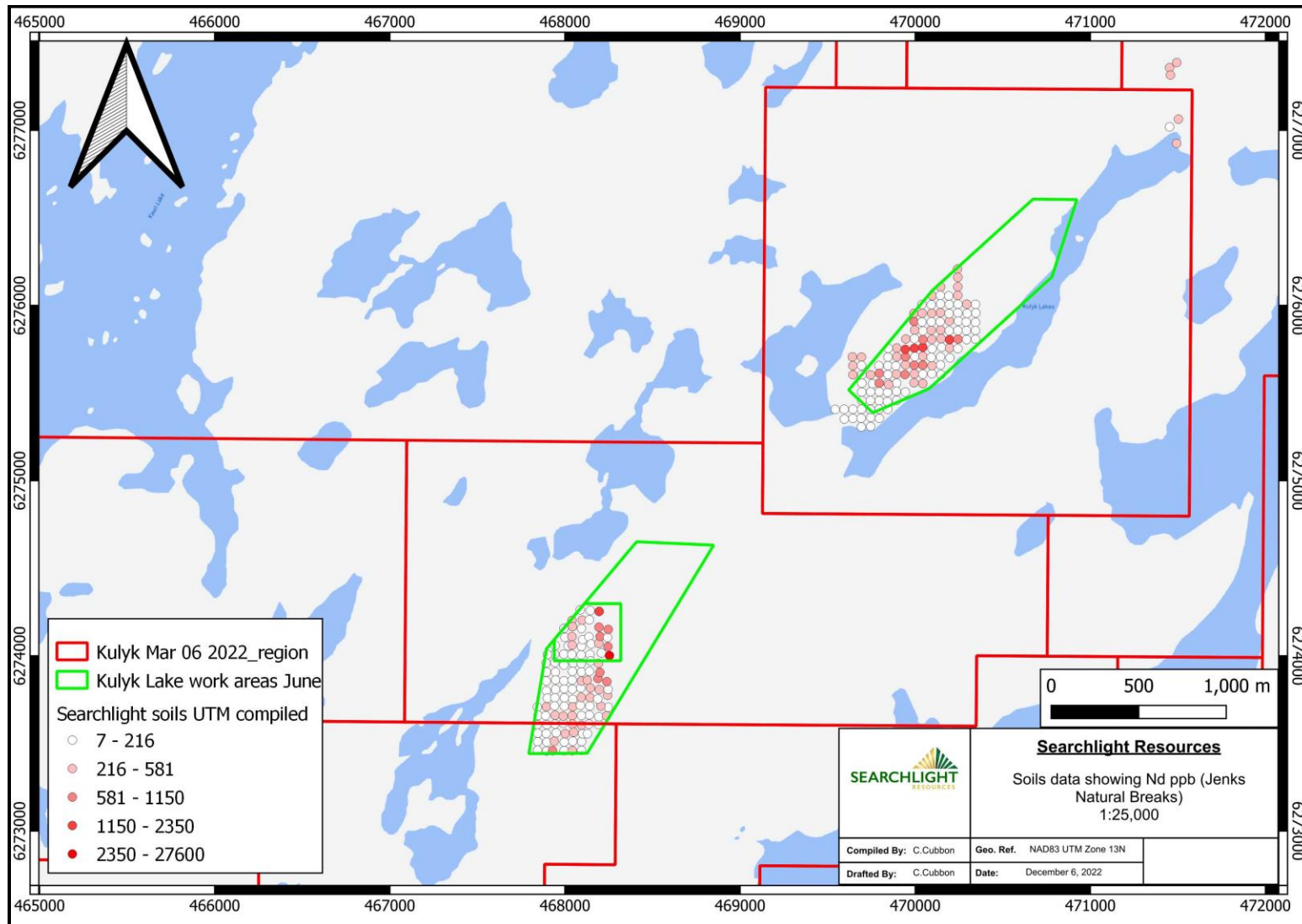


Figure 9-16: Nd (ppb) Results from the MMI Soil Sampling Survey.

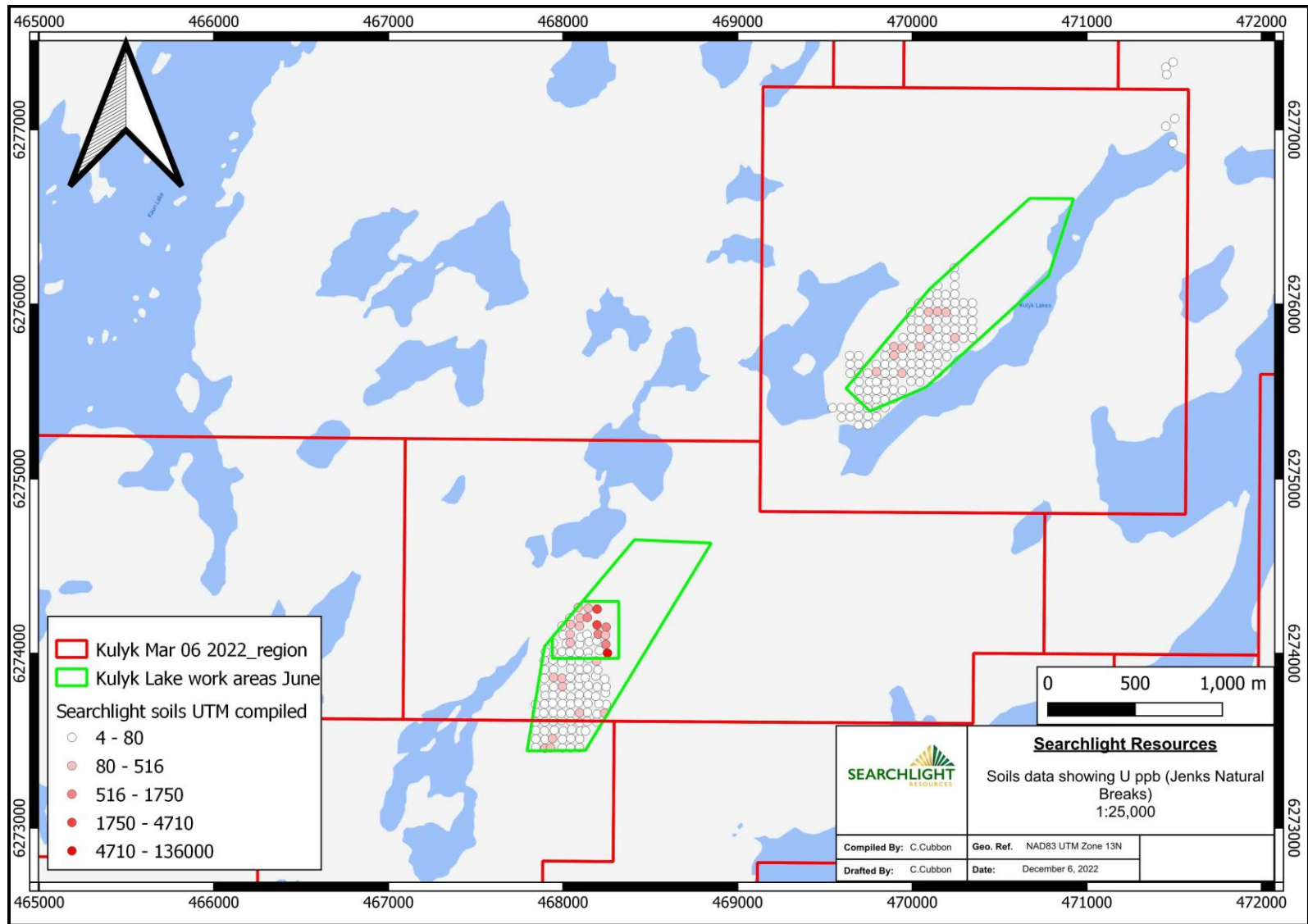


Figure 9-17: U (ppb) Results from the MMI Soil Sampling Survey.

The geochemical results from the outcrop sampling completed in Phase Two confirmed the presence of anomalous REE in Hot Ridge area. Samples 191806 and 191807, both collected from the Hot Ridge, contained 8,092 and 6,984 ppm TREE (Table 9-3). Also confirmed was the presence of anomalous U at the Yellow Brick Road showing, although results were much lower than historically reported. Sample 191812, which was collected from the Yellow Brick Road showing, contained 581 ppm U. Sample 191811, which was collected approximately 210 m southwest of Sample 191812, also contain elevated U. Sample locations shown in Figure 9-18.

**Table 9-3: Litho-geochemical Result from Phase Two Prospecting**

Sample No.	Ce (ppm)	La (ppm)	Dy (ppm)	Nd (ppm)	Pr (ppm)	Tb (ppm)	Th (ppm)	U (ppm)	TREE (ppm)
191801	5	3	1.41	2.5	0.7	0.18	27.9	198	24.96
191802	12	6	4.27	6.7	1.7	0.56	29.2	64.3	66.62
191803	16	7	2.15	14.2	3.6	0.33	15.6	1.54	66.52
191804	11	6	2.49	5.3	1.4	0.33	30.4	8.31	46.14
191805	19	11	2.95	9.8	2.7	0.41	51	28.4	69.18
191806	3,760	1,870	35.5	1,510	480	7.26	2,100	25.6	8,092.8
191807	3,170	1,660	58.2	1,230	325	3	1540	<2	6,948.1
191808	400	200	8.34	149	46.7	1.7	281	6.51	884.04
191809	37	18	1.89	14.8	4.4	0.31	22.2	1.62	94.27
191810	36	16	2.47	15.5	4.6	0.42	15	1.4	98.71

<b>Sample No.</b>	<b>Ce (ppm)</b>	<b>La (ppm)</b>	<b>Dy (ppm)</b>	<b>Nd (ppm)</b>	<b>Pr (ppm)</b>	<b>Tb (ppm)</b>	<b>Th (ppm)</b>	<b>U (ppm)</b>	<b>TREE (ppm)</b>
191811	67	6	3.52	19.2	5.2	0.5	101	531	174.53
191812	192	86	7.48	70.4	20.8	1.16	267	581	441.5

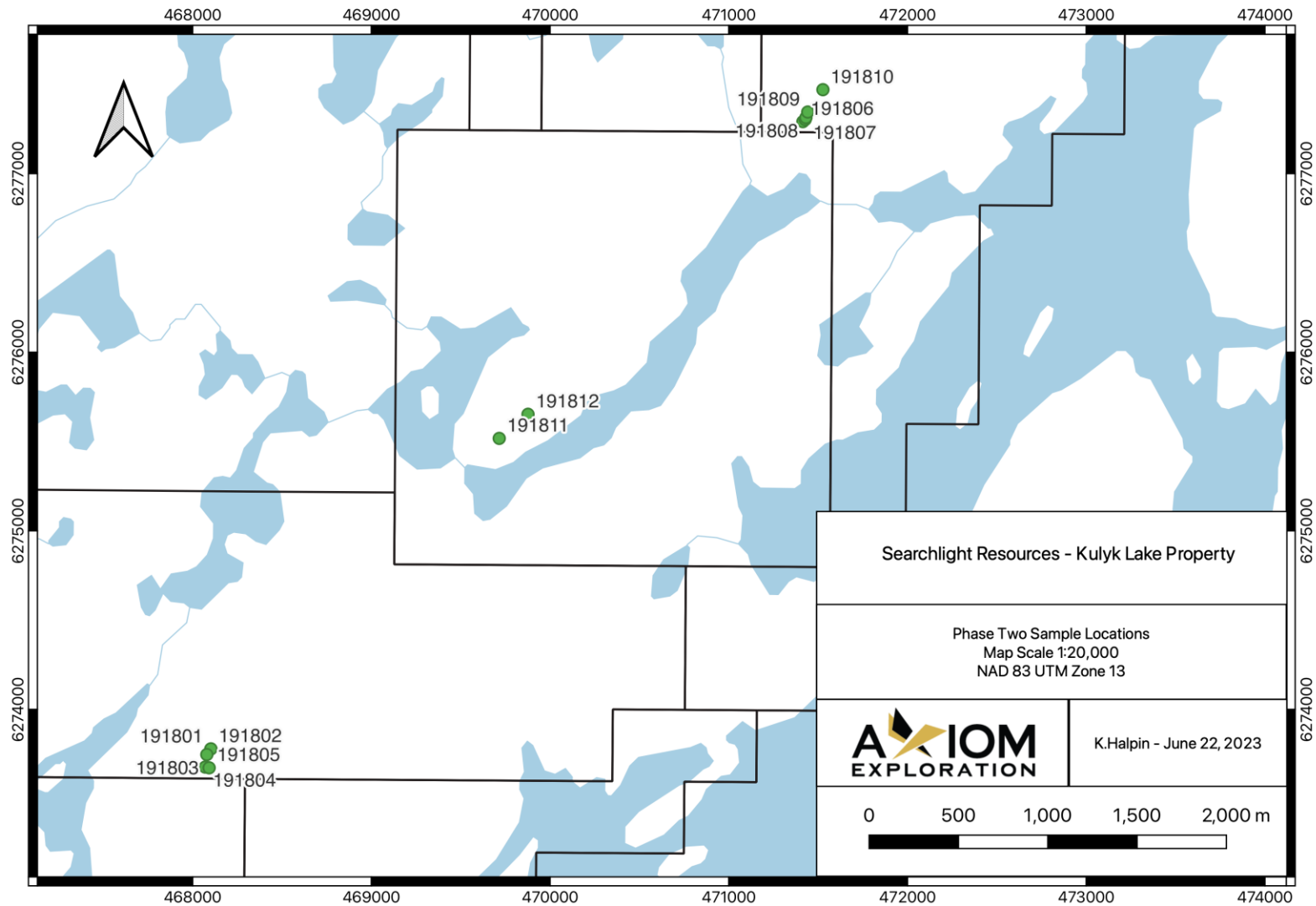


Figure 9-18: Phase Two Sample Locations



**9.11. PHASE THREE**

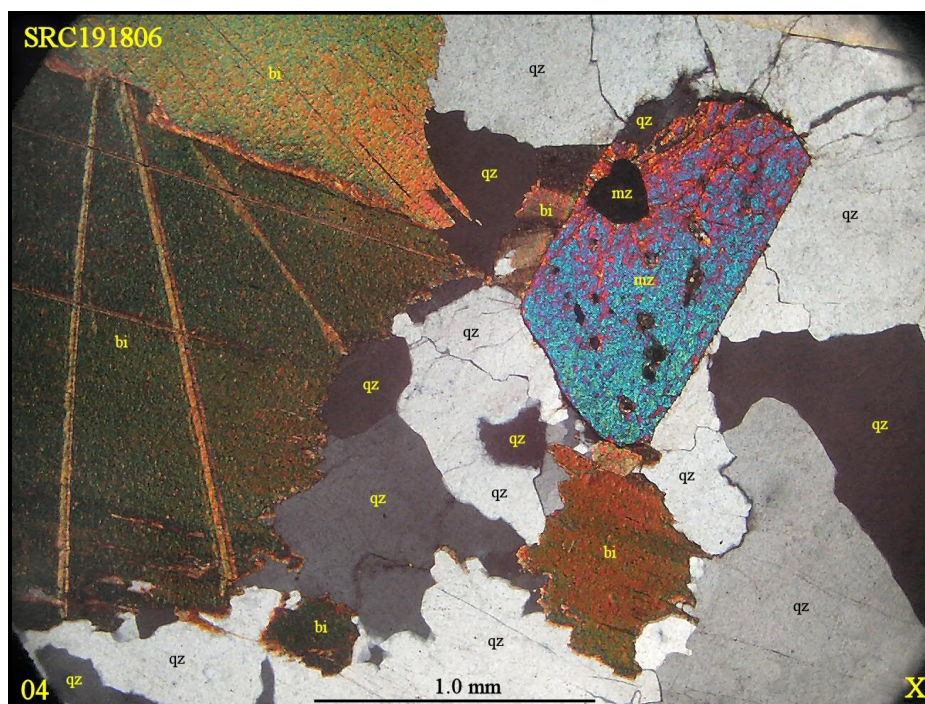
The majority of the samples collected during the Phase 3 prospecting returned assay values of less than 350 ppm TREE. Only 4 of the 102 samples collected from the area exceeded 1,000 ppm TREE, with the peak value of 3,063.91 ppm TREE in sample 191883 (Table 9-4). In terms of U content, the majority of the samples assayed under 10 ppm U, with some sporadic higher values to a maximum of 411 ppm U in sample 191962. The Phase 3 prospecting samples show no correlation between U and REE content, with the highest U assays containing less than 500 ppm TREE. There is a moderate correlation between Th and REE observed in these samples.

**Table 9-4: Select Results from the Phase Three Sampling**

<b>Sample No.</b>	<b>Ce (ppm)</b>	<b>La (ppm)</b>	<b>Dy (ppm)</b>	<b>Nd (ppm)</b>	<b>Pr (ppm)</b>	<b>Tb (ppm)</b>	<b>Th (ppm)</b>	<b>U (ppm)</b>	<b>TREE (ppm)</b>
191883	1,360	707	23.7	606	182	4.84	927	21.6	3,063.91
191852	1,410	718	21.6	548	177	4.41	712	16	3,037.92
191953	661	308	14.6	358	104	3.39	211	1.63	1,547.12
191967	608	307	13.8	206	70	2.71	280	15	1,309.97
191939	444	216	5.57	169	57.2	1.21	350	7.7	938.16
191851	359	175	4.02	125	39.6	0.87	324	8.38	736.24
191951	221	108	6.85	109	31	1.66	155	2.67	522.57
191902	235	118	3.59	88.9	27.3	0.75	131	5.3	504.49

## 9.12. PETROGRAPHY

A total of 6 samples from the Kulyk Lake area were sent to SRC for thin section preparation. The petrographic analysis of these samples was completed by Vancouver Petrographics Ltd., of Langley, BC. Three of these samples, SRC191801, SRC191806, and SRC191807 consist of metamorphosed pegmatite. The pegmatites consist of variable amounts of K-feldspar, quartz, plagioclase, and biotite. Monazite was noted in both SRC191806 and SRC191807, as was an unidentified opaque mineral. The monazite in these samples is often closely associated with biotite, typically occurring as inclusions in the biotite or bordering the biotite (Figures 9-19). Alteration in these samples consisted of slight to moderate sericite or limonite.



**Figure 9-19: Monazite in SRC191806. Crossed polars. Monazite (mz), biotite (bt), and quartz (qz).**

The metamorphosed leuco-granodiorite in SRC191808 is dominated by plagioclase which is slightly to moderately altered to sericite with some hematite. Lesser amounts of quartz, K-feldspar, opaques, monazite, muscovite, and biotite were also noted. Sample SRC191812 consists of a metamorphosed biotite granodiorite which is dominated by relatively fresh plagioclase, with lesser K-feldspar, and minor biotite, quartz, opaques, and monazite. The monazite in this sample appears to be largely altered to an unidentified opaque mineral (Figure 9-20).

Sample SRC191811 displays the contact between a metamorphosed pegmatite and a quartz vein. The quartz vein is recrystallized and contains a few subparallel, slightly braided veinlets of limonite.

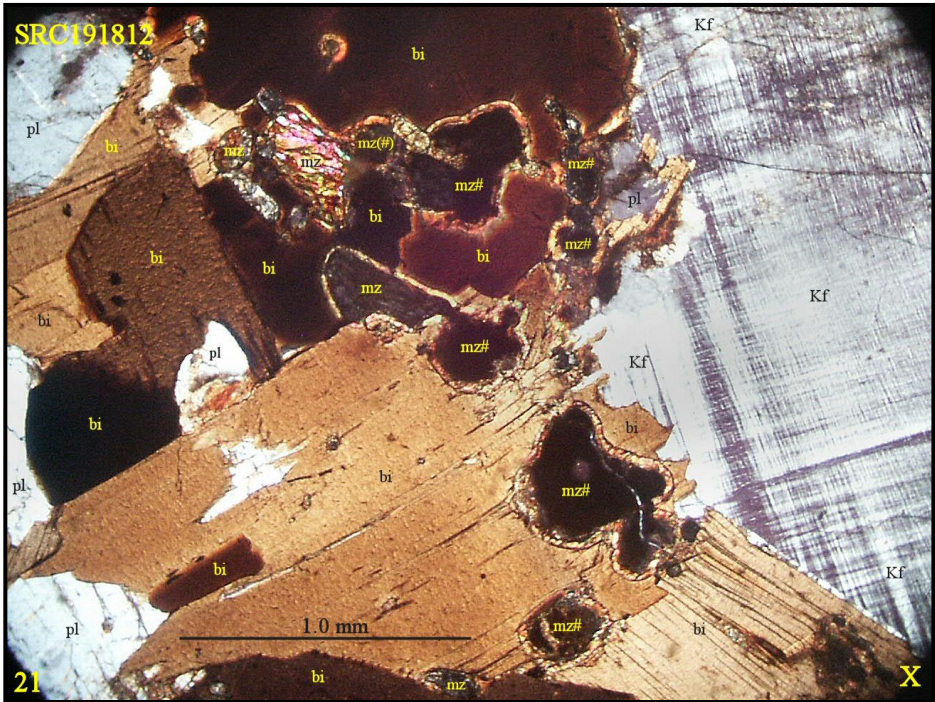


Figure 9-20: Altered monazite in SRC191812. Biotite (bt), K-feldspar (Kf), plagioclase (pl), altered monazite (mz#).

## 10. DRILLING

To date, there has been no drilling completed on the Kulyk Lake Property by Searchlight.

## **11. SAMPLE PREPARATION, ANALYSES, AND SECURITY**

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### **11.1. SAMPLE PREPARATION**

#### **11.2. MMI SAMPLE PREPARATION**

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A total of 251 MMI samples, including blanks and duplicates, were submitted to SGS Minerals (SGS) of Burnaby, BC. Where feasible, attempts were made to ensure that the sample was collected at a consistent depth below the organic-inorganic soil interface. Variations in sample depth typically occurred in areas of poor soil development or in the presence of muskeg. Each MMI soil sample was placed in a Ziploc bag with a sample tag. The individual samples were placed into 20 L pails for shipment to the laboratory for analysis. In total 242 original samples, 5 field duplicate samples, and 4 blanks were shipped to SGS for analysis.

Each MMI sample was weighed by the laboratory, following method code G\_WGH\_KG. No additional preparation or drying occurred.

#### **11.3. ROCK SAMPLE PREPARATION**

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Rock samples, weighing a minimum of 50 to 70 g, were placed in a plastic sample bag with the sample tag inserted. The sample bag was sealed, and the sample ID written on the outside of the bag. The samples were shipped to SRC, of Saskatoon, Saskatchewan for geochemical analysis. A total of 74 samples, including quality control samples, from Phase 1, 12 samples from Phase 2, and 119 samples, including quality control samples, from Phase 3 were sent to SRC.

The samples were prepared as per preparation package core C/S/G. The samples were received by SRC, opened, and sorted. The entire sample was crushed using a primary jaw crusher to 95% <2 mm. A representative subsample was collected by passing the sample through a riffle splitter to split an aliquot for mill grinding. The subsample was homogenized by mild steel grind to 95% <0.106 mm and an aliquot placed in a labeled plastic snap top vial. The equipment was cleaned between each sample using compressed air and brushes.

#### **11.4. ANALYTICAL PROCEDURE**

#### **11.5. MMI ANALYTICAL PROCEDURE**

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The MMI analysis is completed on a 50 g sample and the elements of interest are extracted using a proprietary solution of organic and inorganic compounds. The extracted solution is then analyzed by ICP-MS. The standard MMI exploration package, GE\_MMIM, includes analysis of 53 elements. The elements included and the detection limits are provided in Table 11-1.

**Table 11-1: MMI Lower Limits of Detection (SGS, 2023).**

Element	Detection Limit	Element	Detection Limit	Element	Detection Limit	Element	Detection Limit
Ag	0.5 ppb	Er	0.2 ppb	Nd	1 ppb	Tb	0.1 ppb
Al	1 ppm	Eu	0.2 ppb	Ni	5 ppb	Te	10 ppb
As	10 ppb	Fe	1 ppb	P	0.1 ppm	Th	0.5 ppb
Au	0.1 ppb	Ga	0.5 ppb	Pb	5 ppb	Ti	10 ppb
Ba	10 ppb	Gd	0.5 ppb	Pd	1 ppb	Tl	0.1 ppb
Bi	0.5 ppb	Hg	1 ppb	Pr	0.5 ppb	U	0.5 ppb
Ca	2 ppm	In	0.1 ppb	Pt	0.1 ppb	W	0.5 ppb
Cd	1 ppb	K	0.5 ppb	Rb	1 ppb	Y	1 ppb
Ce	2 ppb	La	1 ppb	Sb	0.5 ppb	Yb	0.2 ppb
Co	1 ppb	Li	1 ppb	Sc	5 ppb	Zn	10 ppb
Cr	100 ppb	Mg	0.5 ppm	Sm	1 ppb	Zr	2 ppb
Cs	0.2 ppb	Mn	100 ppb	Sn	1 ppb		
Cu	10 ppb	Mo	2 ppb	Sr	10 ppb		



Element	Detection Limit	Element	Detection Limit	Element	Detection Limit	Element	Detection Limit
Dy	0.5 ppb	Nb	0.5 ppb	Ta	1 ppb		

### 11.6. SRC ANALYTICAL PROCEDURE

The prospecting samples collected from the Kulyk Lake Property were analyzed using package ICP1T, ICPMST, and U<sub>3</sub>O<sub>8</sub> where necessary. A 0.125 g aliquot of the sample was digested in a hot block digestion system using a mixture of concentrated HF: HNO<sub>3</sub>: HClO<sub>4</sub> until dry. The residue was then dissolved in diluted HNO<sub>3</sub>. The sample was analyzed by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) using a PerkinElmer Optima 5300DV or Optima 8300DV and by Inductively Coupled Mass Spectroscopy (ICP-MS) using a Perkin Elmer Sciex Elan DRC II ICP-MS. The lower limits of detection are provided in Table 11-2.

**Table 11-2: SRC Lower Limits of Detection**

Element	Unit	Limit of Detection
Ag	ppm	0.02
Al <sub>2</sub> O <sub>3</sub>	wt %	0.01
As	ppm	1
Ba	ppm	0.1
Be	ppm	0.1
Bi	ppm	0.1

Element	Unit	Limit of Detection
Mo	ppm	0.01
Na <sub>2</sub> O	wt %	0.01
Nb	ppm	0.1
Nd	ppm	0.1
Ni	ppm	0.1
P <sub>2</sub> O <sub>5</sub>	wt %	0.001

Element	Unit	Limit of Detection
CaO	wt %	0.01
Cd	ppm	0.1
Ce	ppm	1
Co	ppm	0.02
Cr	ppm	1
Cs	ppm	0.1
Cu	ppm	0.1
Dy	ppm	0.02
Er	ppm	0.02
Eu	ppm	0.02
Fe <sub>2</sub> O <sub>3</sub>	wt %	0.01
Ga	ppm	0.1
Gd	ppm	0.1
Hf	ppm	0.1
Ho	ppm	0.02

Element	Unit	Limit of Detection
Pb	ppm	0.001
Pr	ppm	0.1
Rb	ppm	0.1
S	ppm	10
Sc	ppm	0.1
Sm	ppm	0.1
Sn	ppm	0.02
Sr	ppm	1
Ta	ppm	0.02
Tb	ppm	0.02
Th	ppm	0.02
TiO <sub>2</sub>	wt %	0.002
U	ppm	0.02
V	ppm	0.1
W	ppm	0.1

Element	Unit	Limit of Detection
K <sub>2</sub> O	wt %	0.002
La	ppm	1
Li	ppm	1
MgO	wt %	0.002
MnO	wt %	0.002

Element	Unit	Limit of Detection
Y	ppm	0.1
Yb	ppm	0.02
Zn	ppm	1
Zr	ppm	1
U <sub>3</sub> O <sub>8</sub>	wt %	0.001

## 11.7. QUALITY ASSURANCE AND CONTROL

### 11.8. MMI QUALITY ASSURANCE AND CONTROL

The MMI soil sampling, completed as a part of Phase 2, utilized blanks and duplicate samples as part of a quality assurance and quality control (QA/QC) protocol. For the MMI survey a total 4 blanks and 5 field duplicates were inserted into the sample stream. An additional 7 internal duplicates were analyzed as part of the QA/QC protocol at SGS.

The results of the check assays used for QA/QC in the MMI soil sampling program showed an overall high degree of repeatability for the REE. There is a strong agreement between the original and the field duplicate samples assay results (Figures 11-1 and 11-2). The field original U values compared to the field duplicate displayed much higher variability. The internal laboratory duplicates also showed excellent agreement for the REE and U (Figure 11-3 to 11-5). The blanks generally displayed low values for the elements of interest; 3 of the 4 blanks contained less than 11 ppb of Ce, 32 ppb Y, and 6.1 ppb U. The exception was blank SRC191650 which contained over 3x these values.

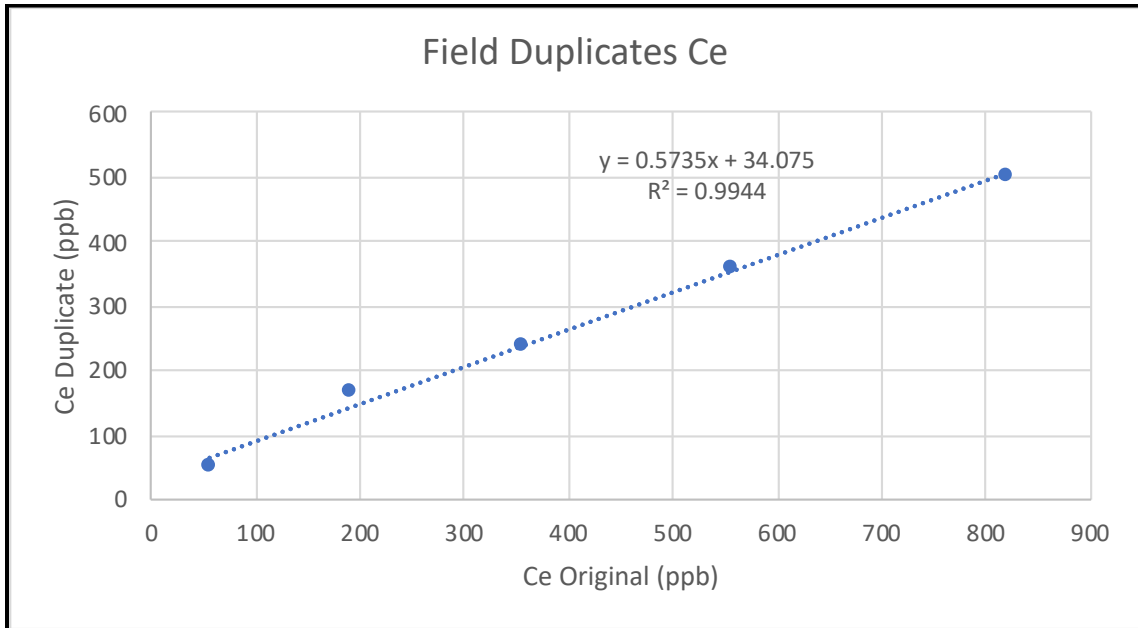


Figure 11-1: Field Duplicate Check Assays for Ce.

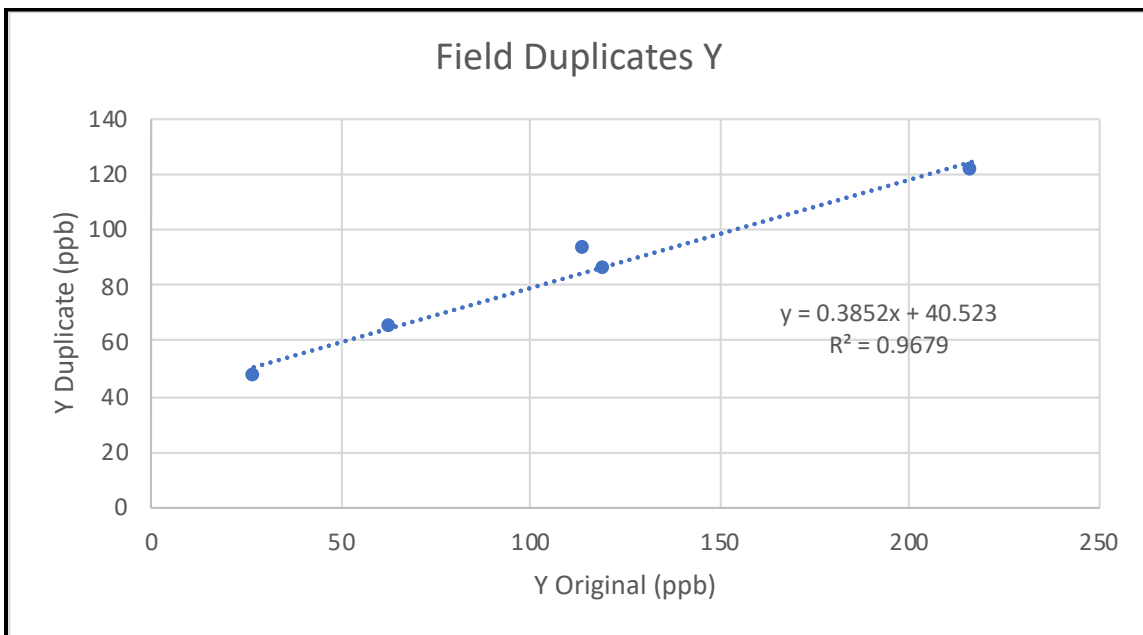


Figure 11-2: Field Duplicate Check Assays for Y.

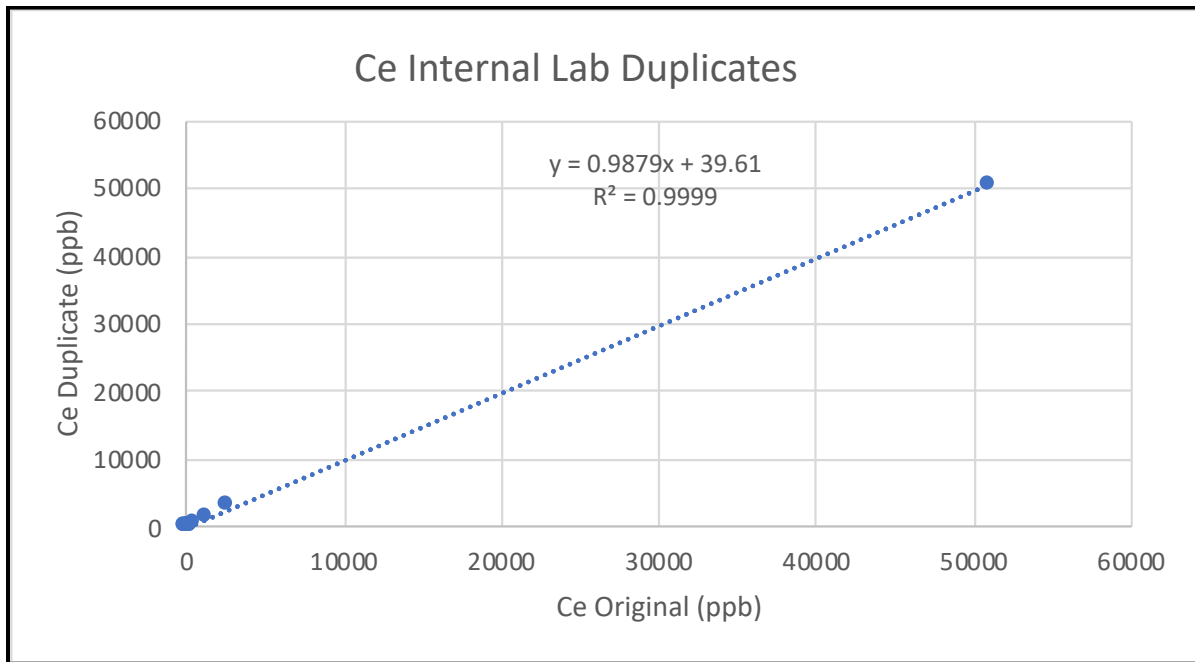


Figure 11-3: Internal Lab Duplicate Check Assays for Ce.

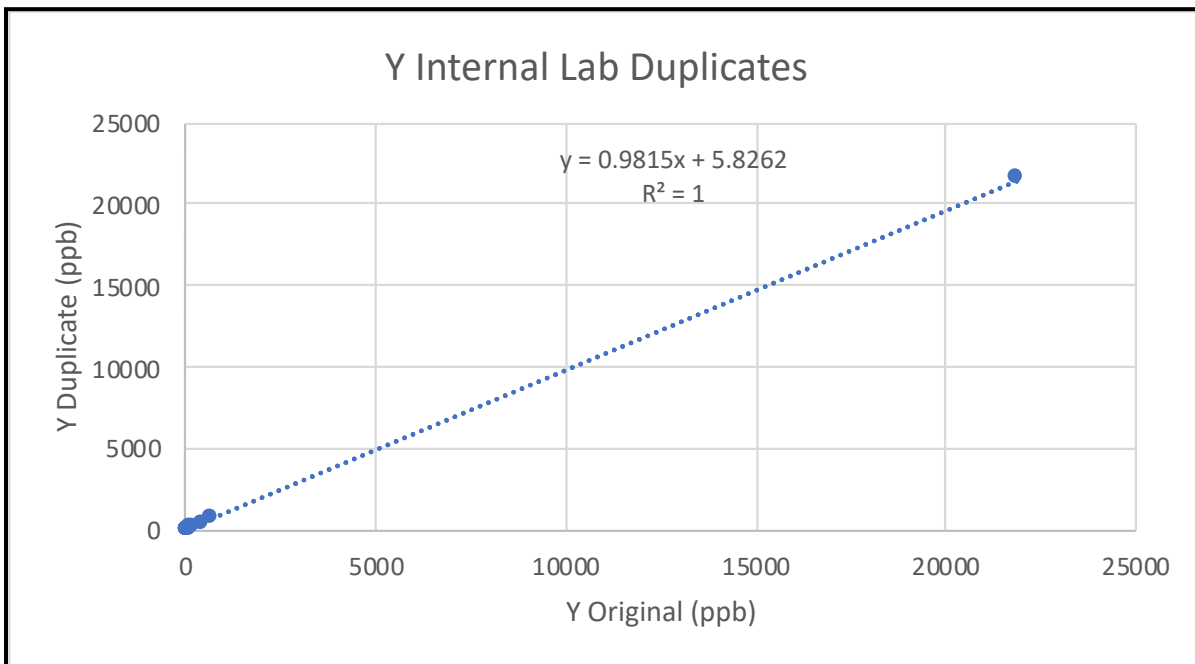
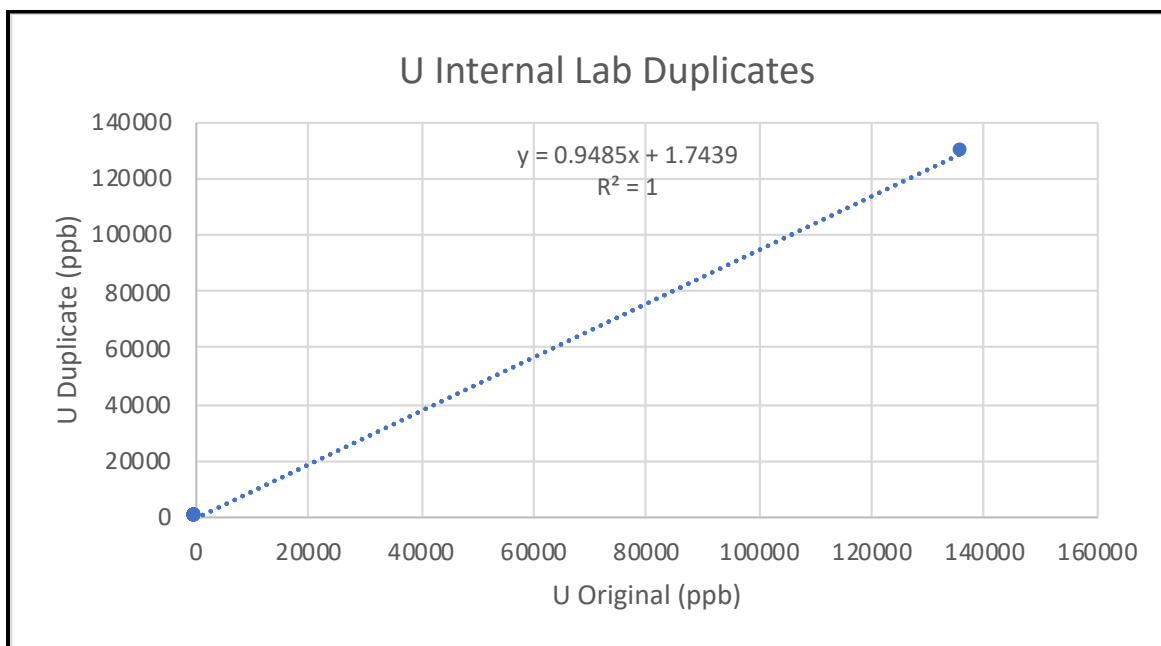


Figure 11-4: Internal Lab Duplicate Check Assays for Y.





**Figure 11-5: Internal Lab Duplicate Check Assays for U.**

### **11.9. LITHO-GEOCHEMISTRY QUALITY ASSURANCE AND QUALITY CONTROL**

The QA/QC protocol for the prospecting program utilized a combination of the insertion of geochemical blanks and duplicate samples into the sample stream; the rate at which the QA/QC material was inserted varied by program Phase. Certified reference material (CRM) was inserted by SRC. The CRM used during the 2022 exploration program included CAR218, DCB01, and BL-4A (Table 11-3). In Phase one the CRM inserted by SRC included DCB01, CAR218, both of which are SRC internal standards, and CANMET BL-4A. Phase two used a combination of DCB01 and CAR218, while Phase three used only DCB01. Details of the QA/QC used in each phase of the prospecting program is summarized in Table 11-4.

**Table 11-3: Certified Reference Material Used for Kulyk Lake Prospecting Program.**

Code	Certified Value Ce	Certified Value Dy	Certified Value Nd	Certified Value Y	Certified Value U	Certified Value Th
CAR218	59 ppm	25.6 ppm	32 ppm	128 ppm	3,014 ppm	34 ppm
DCB01	-	4.16 ppm	43.4 ppm	21.5 ppm	124 ppm	51.9 ppm
BL-4A	-	-	-	-	0.1248 wt%	-

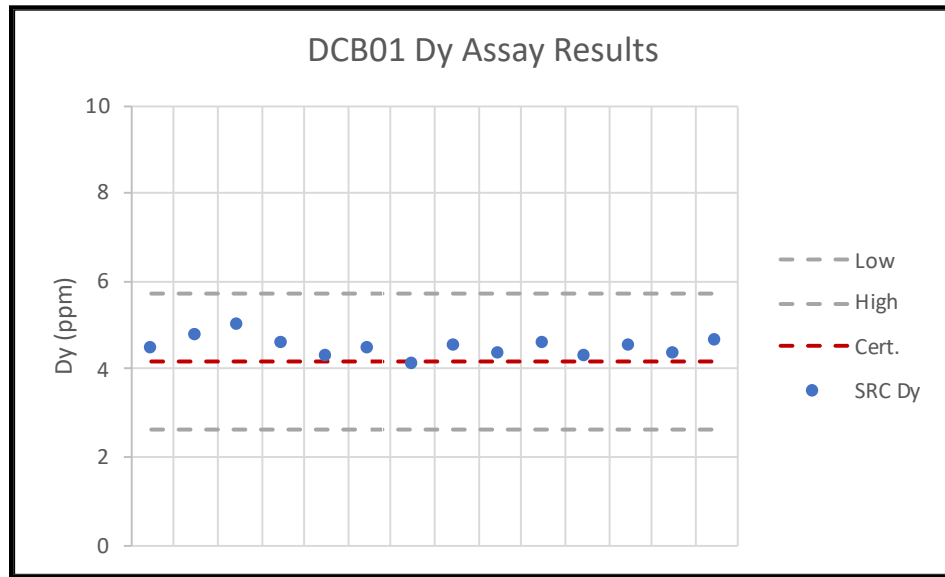
**Table 11-4: Type and Quantity of QA/QC Samples.**

Type	Phase 1 Quantity	Phase 2 Quantity	Phase 3 Quantity
DCB01	4	1	9
CAR218	1	1	-
BL-4A	5	-	-
Blanks	4	-	3
Duplicates	3	2	5

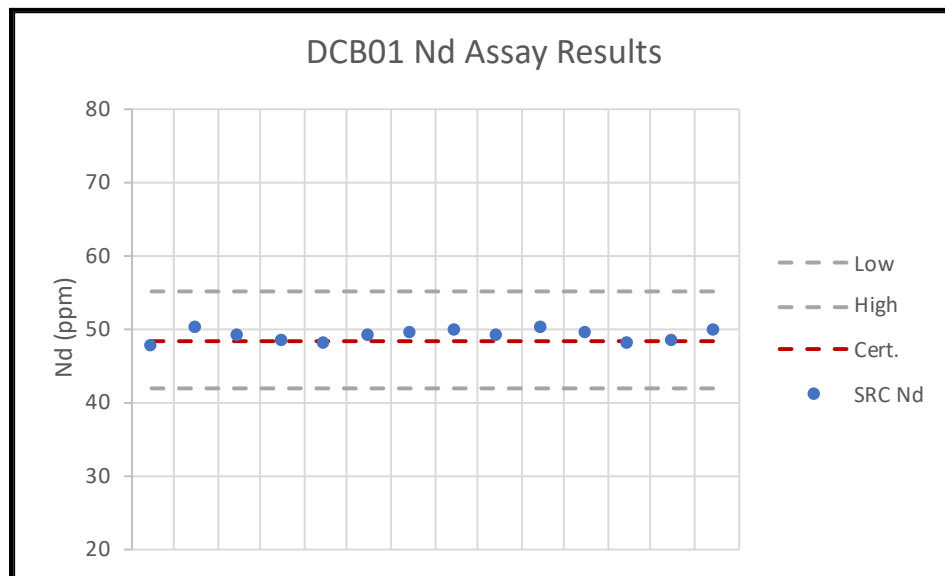
All data collection was performed electronically after review by a laboratory supervisor and transferred into the certificate generation program.

SRC GeoAnalytical Laboratory is an ISO/IEC 17025 accredited laboratory.

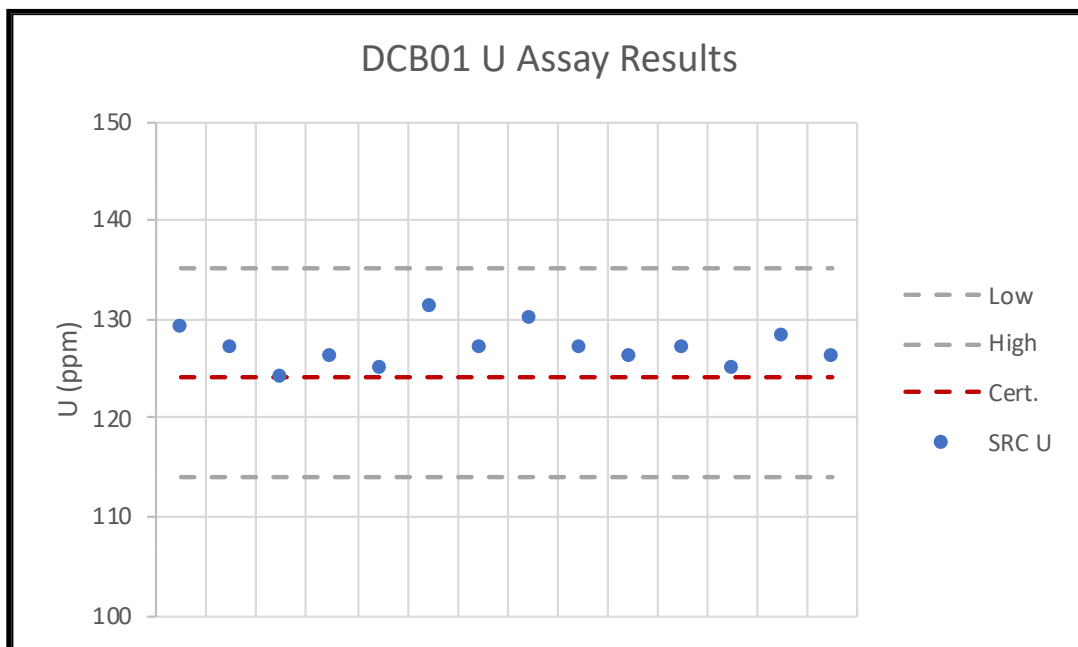
Of the CRM, DCB01 consistently fell within the certified reference range for the elements of interest (Figure 11-6 to 11-8). The results for CAR218, though of limited number, also fell within the reference range of the CRM. For both SRC internal standards only a low and high reference range are provided; no details of how the reference range is calculated are supplied. Analysis of BL-4A was consistently high, with SRC assay values of 0.148 to 0.149 wt %  $U_3O_8$  as opposed to the certified value of 0.1248 wt %  $U_3O_8$ .



**Figure 11-6: Certified Dy value of DCB01 vs SRC Analytical Result . Dark grey dashed lines represent the reference range. Red dashed line represents the certified value of Dy.**



**Figure 11-7: Certified Nd value of DCB01 vs SRC Analytical Result . Dark grey dashed lines represent the reference range. Red dashed line represents the certified value of Nd.**



**Figure 11-8: Certified U value of DCB01 vs SRC Analytical Result . Dark grey dashed lines represent the reference range. Red dashed line represents the certified value of U.**

Results of the duplicate check assays showed an excellent degree of repeatability. The  $R^2$  values for the elements of interest range from 0.9983 to 0.9999 (Figures 11-9 to 11-11).

The blanks used for the prospecting program were CDN-BL-10 blanks from CDN Resource Laboratories Ltd. of Langley, B.C. This blank was prepared from a blank granitic material and is certified for gold, platinum, and palladium. No information on the REE or U content of the blank material is provided.

In the author's opinion the sample security, preparation, and analytical procedure is adequate for the initial stage of exploration. For future exploration work external CRM, preferably matched to the matrix of the samples, should be included as part of the QA/QC protocol. As the CRM used in this exploration contained only low-grade REE, a high grade REE CRM which better matches the expected grade of the samples for the elements of interest should be added. As the project advances, the use of either Li or Na metaborate fusion for sample analysis should be considered.

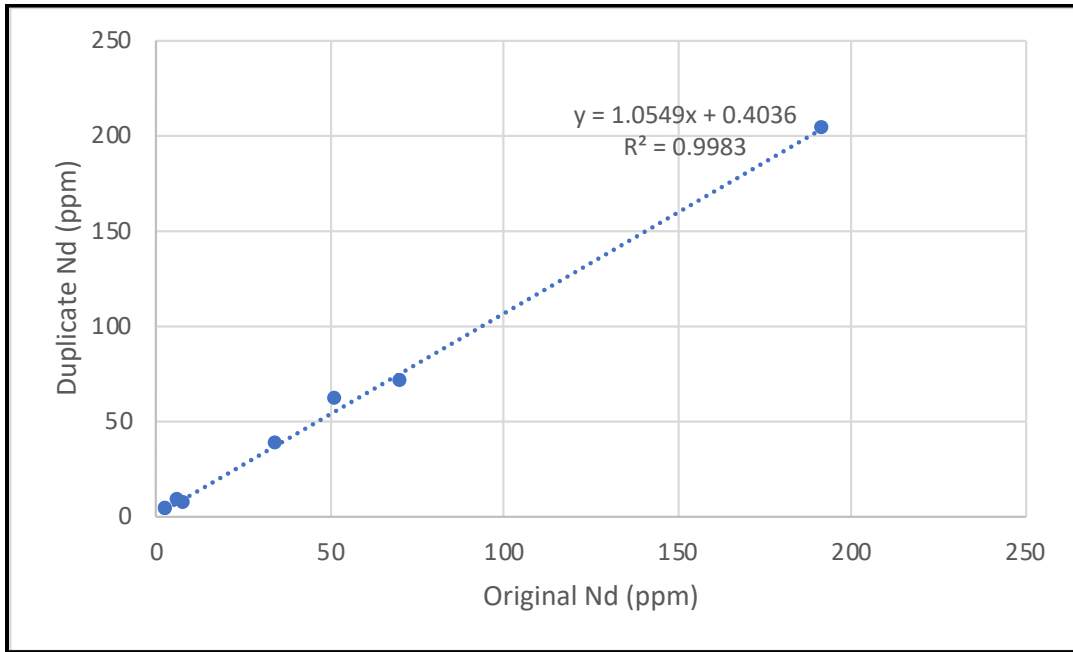


Figure 11-9: Check Assay Results for Nd.

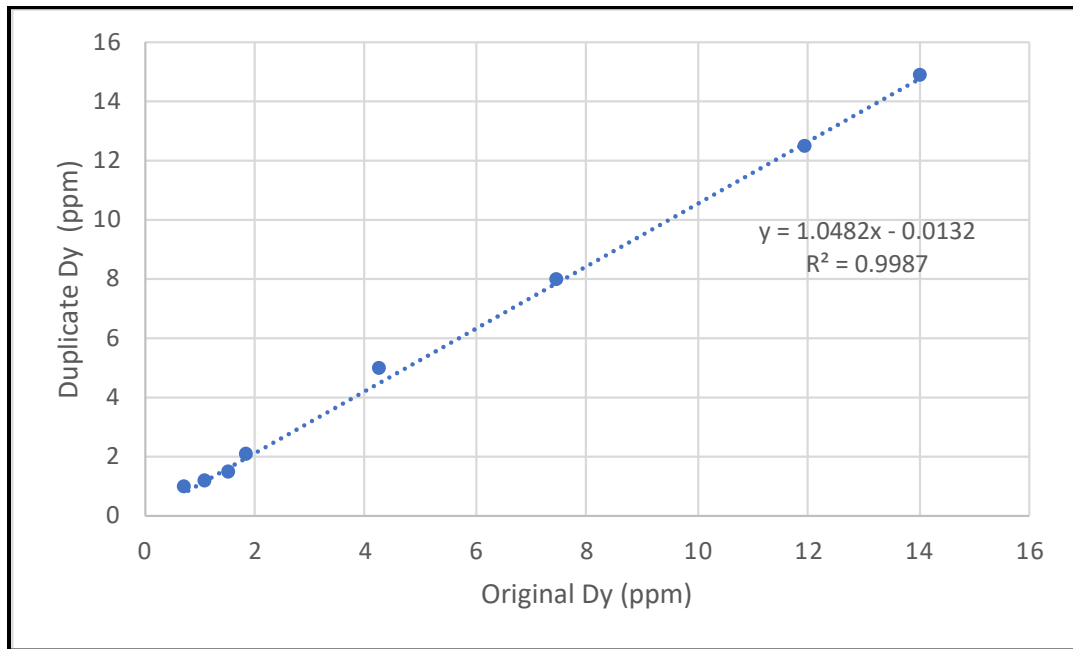
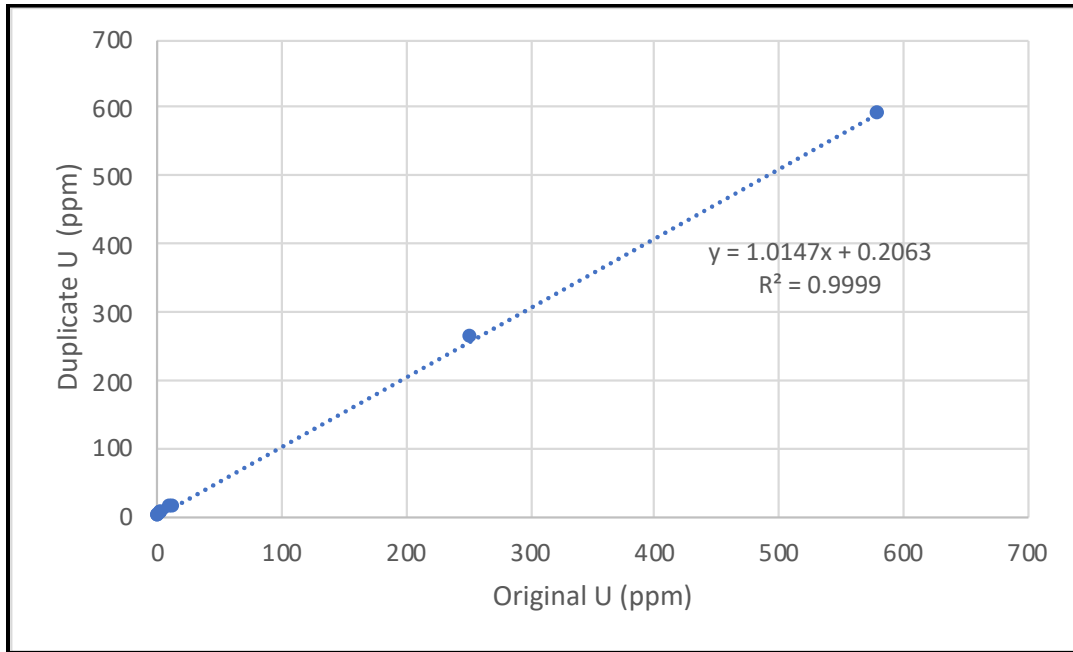


Figure 11-10: Check Assay Results for Dy.





**Figure 11-11: Check Assay Results for U.**

## 12. DATA VERIFICATION

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The author has reviewed all historical exploration work on the Property recorded in publicly available assessment files from the Government of Saskatchewan Ministry of Energy and Resources in the Saskatchewan Mineral Assessment Database. These older, historical records are sometimes incomplete, so relevant details of the exploration results may be missing and should be used with caution.

The more recent work, from 2007 to present, have complete database and all require documentations such as assay certificates. The author has reviewed this data and in the author's opinion, the procedures, policies, and protocols in place for sample collection and analysis are appropriate and consistent with standard exploration practices.

### 12.1. AXIOM SITE VISIT

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Mr. Fiolleau, the QP, completed a site visit to the property, on July 13<sup>th</sup>, 2023, accompanied by support staff from Axiom Exploration Group Ltd. (Axiom). Access to the property was achieved via helicopter. During the site visit Mr. Fiolleau examined the general landscape and surface features of the property.

Mr. Fiolleau was able to land on the "Uranium Zone" hill and confirmed that the lithology of the Property is consistent with the available published geological maps of the area, and that the descriptions and observations recorded by earlier mappers in the historical work reports are accurate and reliable. Three samples were taken on the Uranium Zone (Table 12-2) and have similar values as the previous and show similar values as the 2022 prospecting program. These samples were analyzed at the Saskatchewan Research Council (SRC) Labs.

The Author was not able to reach to the Fanta showing due to no helicopter access but has reviewed the field data from the previous programs as well as the lab results and verifies that the data is correct.

**Table 12-1: Highlighted Assays Results from Field Site Visit.**

Sample ID	UTM_E	UTM_N	U_ppm	K <sub>2</sub> O_pct	Th_ppm
SRC287216	0468148	6274157	163	5.99	20.1
SRC287217	0468151	6274148	111	4.44	35
SRC287218	0468127	6274138	29	4.02	37.1

It is the author's opinion that the verification of the available historical analytical data is adequate for the purposes of this technical report, and it meets industry standards commonly accepted for this level of exploration.

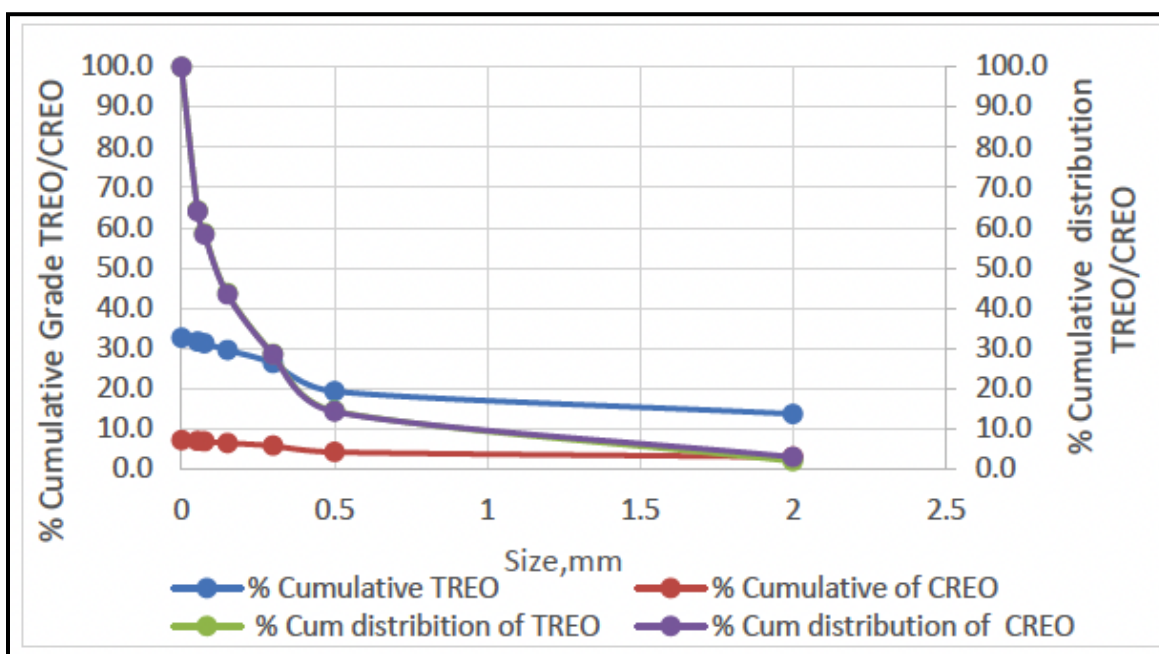
The Property is at the early/prospecting stage. The results from the collected mineral samples will not be used to calculate mineral resource or mineral reserve estimates.

It is the author's opinion that the data used in this report are adequately reliable for the purposes of this technical report.

### 13. MINERAL PROCESSING AND METALLURGICAL TESTING

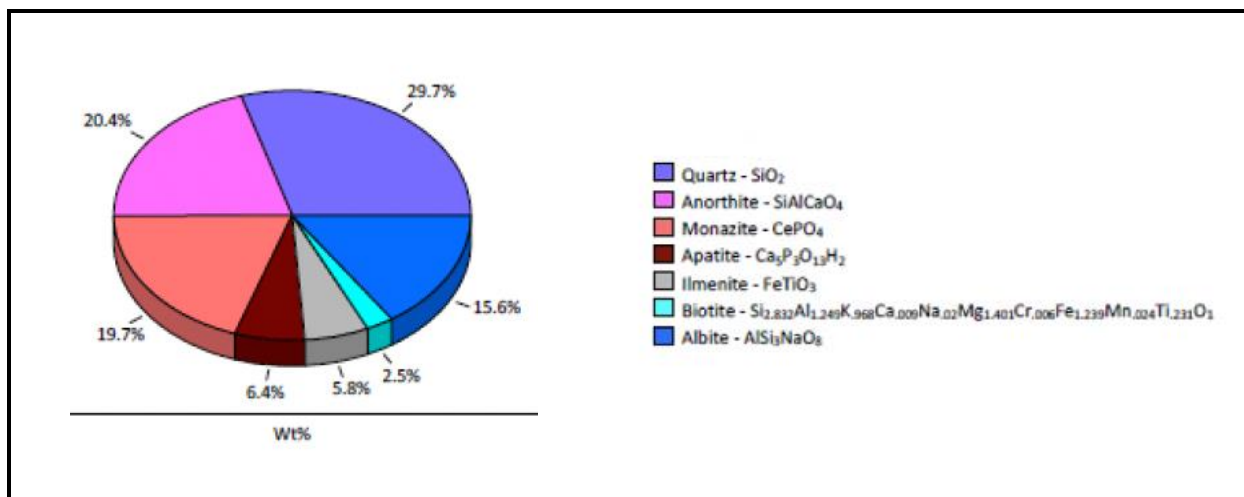
A preliminary beneficiation test has been performed by SRC on monazite ore from the Kulyk Lake Project. The sample consisted of 29.16 kg of monazite ore collected from the Fanta (Kulyk) Trench. The sample was crushed to 100% passing -2.0mm, homogenized, and riffle split to obtain sub-samples for ICP-REE, whole rock, and XRD analysis. A wet particle size analysis was conducted on crushed feed sample at D95=0.5 mm. The radioactivity of the samples was recorded by SRC as 26  $\mu$ sv/h (Adeoye, 2022).

The objective of the preliminary testing program was to determine a potential beneficiation route for the concentration of monazite ore. Greater consideration was placed on the critical rare earth oxides, defined as  $Dy_2O_3+Nd_2O_3+Pr_6O_{11}+Tb_4O_7$ , due to their economic potential. The head feed had 33.67% TREO and 7.35% CREO. The testing demonstrated that as the size of the feed decreases, the grade of TREO and CREO improves due to liberation of the feed, and this is also true for the % cumulative distribution for the rare earth oxide (Figure 13-1).



**Figure 13-1: % Cumulative Grade TREO/CREO and their % Cumulative Distribution (Adeoye, 2022).**

Whole rock analysis was also completed on the feed size fractions. Thorium and phosphate are both associated with the monazite ore, the thorium likely accounts for the radioactivity of the ore sample. Only low, insignificant U was noted in the ore sample. X-ray diffraction analysis (XRD) was performed on the feed sample to determine the mineralogy. The feed sample contained 19.7% monazite with the remaining minerals consisting of quartz, anorthite, albite, apatite, ilmenite, and biotite (Figure 13-2) (Adeoye, 2022).



**Figure 13-2: Mineralogical Composition of Feed Ore (Adeoye, 2022).**

The common physical beneficiation methods for monazite ore include gravity separation, magnetic separation, and electrostatic separation. Beneficiation testing completed included heavy liquid separation to determine the suitability of the ore for gravity separation process. Methylene iodide was used as the separation media. Two specific gravities,  $2.7 \text{ g/cm}^3$  and  $3.1 \text{ g/cm}^3$ , were used for the separation of the ore size fractions. The results indicate that 50.6% TREO at 99.6% recovery was achieved at the +0.3 to 0.5 mm size fraction from the heavy liquid separation. The grade of TREO decreases as the size fractions are reduced in size, which suggest that the monazite bearing minerals are concentrated in the coarse fraction. The presence of ilmenite, which has a similar specific gravity to monazite, may be responsible for the low-grade TREO achievement in the sink. The heavy liquid separation results indicate that the ore is amenable to gravity separation but will require additional beneficiation to achieve a target grade of 60% TREO (Adeoye, 2022).

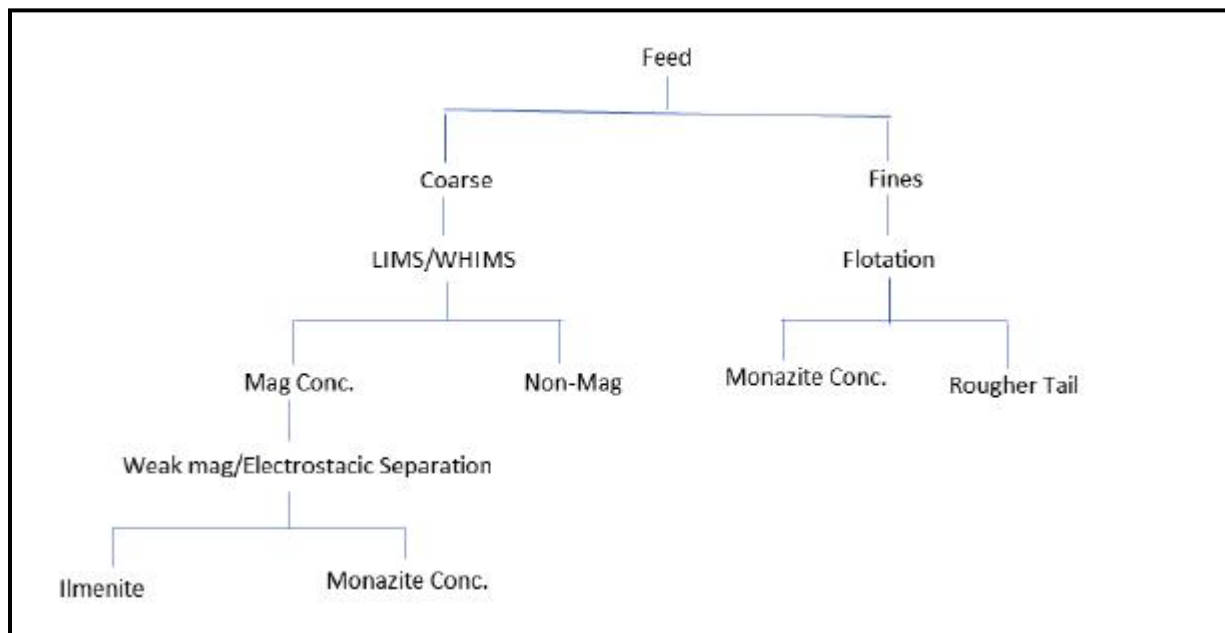
Two dry size fractions from the wet screen particle size separation and one sink size fraction from the heavy liquid separation were tested using a Frantz Magnetic separator. The use of the magnetic separator can concentrate the ore to between 61.2% and 63.1% TREO at a recovery of 98.7% to 99.5%. The rejection of ilmenite, which is weakly magnetic, from the heavy liquid sink separation was critical to meeting the target of 60% TREO (Adeoye, 2022).

Based on the initial magnetic separation results both LIMS and WHIMS separation were explored. The belt LIMS separation did not produce the target grade. Removal of ilmenite from the magnetic concentrate from the LIMS is critical to achieving the desired grade. The difference in conductivity between monazite and ilmenite were used to separate the two minerals using an Eriez electrostatic separator at 25KV. Good separation of the coarse fractions, +0.15 to 0.5 mm, was achieved using this method (Adeoye, 2022).

Testing showed that a WHIMS setting of 0.03 Tesla may be too high, as some monazite may have been removed with the ilmenite. A single pass for the separation of monazite on this equipment may not be adequate; three to four passes may be required. Both Wilfley shaker table and Knelson concentrator were explored for the preconcentration of the ore, but the shaker table showed only poor separation and the Knelson concentrator showed no separation at all (Adeoye, 2022).

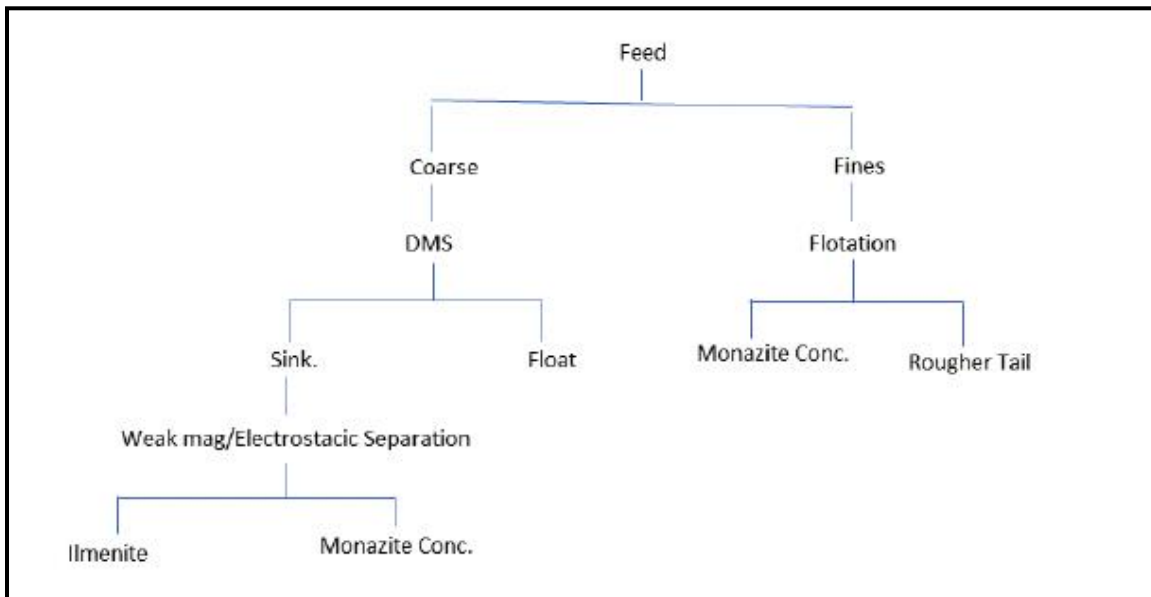
Flotation tests were also completed on the monazite ore. Three collectors were selected for the flotation trials on the <0.053 mm ore sample. The selected collectors were oleic acid, aero 6493 promoter, and ([N4444][DEHP]) (ionic liquid). The ionic liquid collector displayed poor selectivity of the monazite at both ambient and elevated temperatures. The oleic acid and aero 6493 both showed better potential; flotation of the fine size fraction can be concentrated to between 49.8% and 52.8% TREO at three cleaner stages of flotation (Adeoye, 2022).

Based on the results of the testing two potential process options for the concentration of the ore are recommended (Figure 13-3 and 13-4).





**Figure 13-3: Ore Beneficiation Flowsheet No. 1 (Adeoye, 2022).**



**Figure 13-4: Ore Beneficiation Flowsheet No. 2 (Adeoye, 2022).**

Additional reagent optimization studies should be completed to determine the optimized conditions and reagent dosages. Hydrometallurgical test work should also be conducted on the final monazite concentrate from the selected ore beneficiation method to determine the best method for producing rare earth carbonate or chloride (Adeoye, 2022).

## **14. MINERAL RESOURCE ESTIMATES**

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Not applicable at this stage.

## **15. MINERAL RESERVE ESTIMATES**

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Not applicable at this stage.

## **16. MINING METHODS**

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Not applicable at this stage.

## **17. RECOVERY METHODS**

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Not applicable at this stage.

## **18. PROJECT INFRASTRUCTURE**

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Not applicable at this stage.

## **19. MARKET STUDIES AND CONTRACTS**

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Not applicable at this stage.

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

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Not applicable at this stage.

## **21. CAPITAL AND OPERATING COSTS**

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Not applicable at this stage.

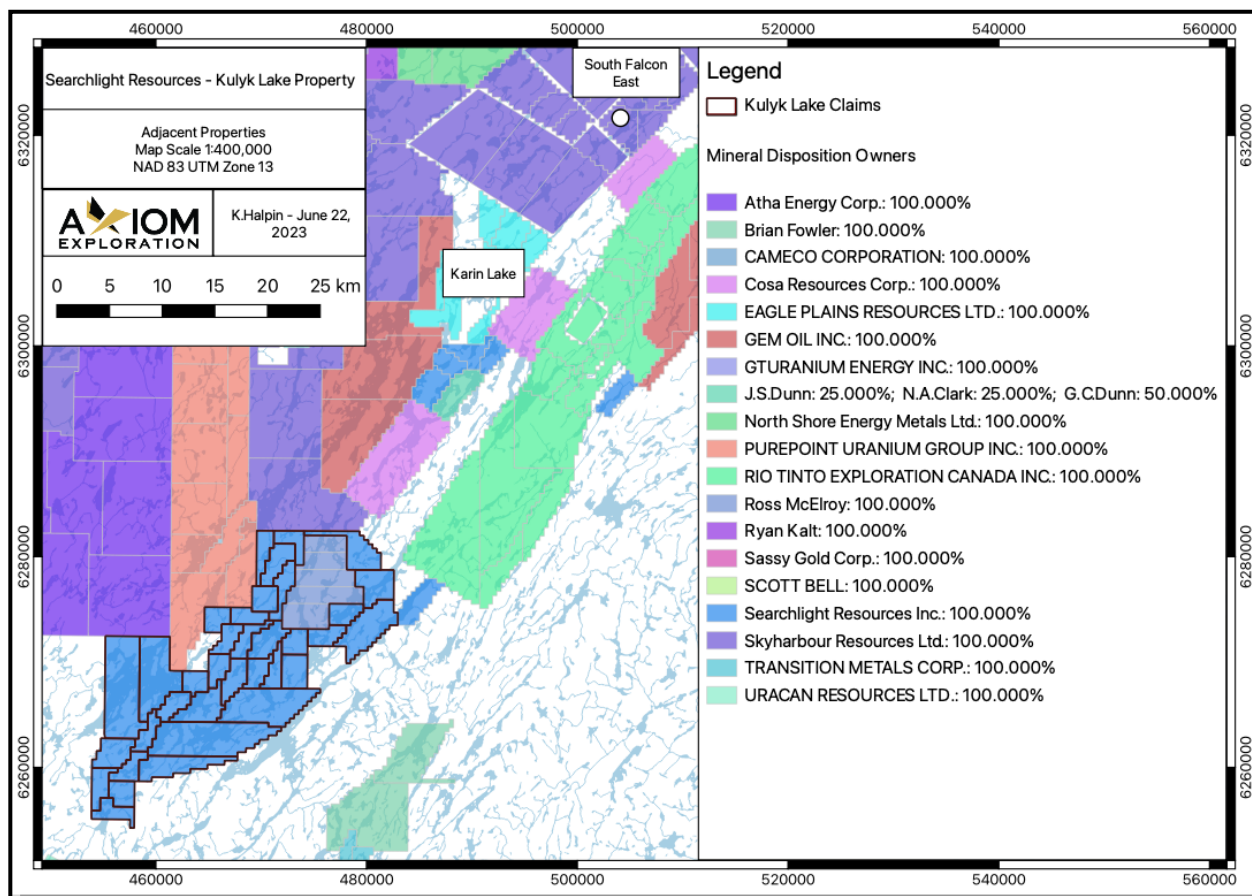
## **22. ECONOMIC ANALYSIS**

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Not applicable at this stage.

## 23. ADJACENT PROPERTIES

Skyharbour Resources Ltd (Skyharbour) has a number of active U+REE exploration projects in the vicinity of the Kulyk Lake Project. The Karin, Foster, South Falcon, and South Falcon East Projects lie to the northeast of the Kulyk Lake Project in the Wollaston Domain and are considered prospective for intrusive related U+REE (Figure 23-1). Eagle Plains Resources also has two projects in the vicinity of the Kulyk Lake Project; the Karin Lake and Eagle Lake Projects are both prospective for intrusive “Rossing Type” mineralization.



**Figure 23-1: Properties Adjacent to the Kulyk Lake Claims. Searchlight claims included in the Kulyk Lake Property are outlined.**

### 23.1. SKYHARBOUR RESOURCES LTD. – SOUTH FALCON PROJECT

The South Falcon Point Uranium Project, which lies approximately 70 km northeast of the Kulyk Lake area, is the most advanced of the adjacent exploration properties; in 2015 Skyharbour Resources Ltd. (Skyharbour) released a NI 43-101 Technical Report on the Falcon Point Uranium Project. This report included an inferred resource for the Fraser Lakes Zone B Deposit of 6.96 Mlbs U<sub>3</sub>O<sub>8</sub> within 10.4 million tonnes at an average grade of 0.03% U<sub>3</sub>O<sub>8</sub> (Armitage, 2015).

The Fraser Lake Zone B consists of approximately 70 mineralized outcrops which have been identified within an antiformal fold nose that is crosscut by an east-west dextral brittle-ductile structure and younger north-northeast and north-northwest brittle faults (Annesley et al., 2010; Armitage, 2015). The uraniferous pegmatites occur within the tectonized contact between Archean granitoids and the basal pelitic metasediments of the Wollaston Supergroup. The tectonized, or sheared, contact folds around Archean granitic dome and is thickest with synformal and antiformal noses (Armitage, 2015).

The Fraser Lakes Zone B Deposit has a strike length of approximately 1,400 m, trends approximately 240° and dips 30° to the north. In cross-section the pegmatite hosted mineralization is tabular in shape. The mineralization ranges from 2 m to 20 m in width over a vertical thickness of approximately 175 m. The mineralization is accompanied by varying degrees of illite, dickite and kaolinitic clay, chlorite, hematite, and fluorite. The uranium occurs in association with Th-REE and there are also elevated concentrations of Cu, Ni, V, Bi, Zn, Co, Pb and Mo found within the pegmatites (Armitage, 2015). Armitage (2015) states that the U-Th-REE mineralization hosted by fractured and altered pegmatites is consistent with 'Rössing Type' uranium mineralization.

***\*Note: The qualified person has been unable to verify the above information and has relied on public disclosures by the owner of the South Falcon Property. The information above is not necessarily indicative of the mineralization on the property that is the subject of this technical report.***

## **23.2. EAGLE PLAINS RESOURCES LTD. – KARIN LAKE PROJECT**

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The Karin Lake Project is located near Upper Foster Lake, approximately 30 km northeast of the Kulyk Lake Property. Similar to the Kulyk Lake Property, Karin Lake lies entirely within the Wollaston Domain. The Karin Lake Property contains 19 known showings, including the Pipe Lake Showing which consists of high-grade pitchblende in fractures. Historically, the exploration of this property focused on the potential for U mineralization, but more recent drilling by Eagle Plains revealed anomalous REE in a pegmatite sill which assayed 2,904 ppm TREE over 5.2 m, including an interval of 13,254 ppm TREE over 0.6 m (Figure 23-2) (Eagle Plains, 2022).

***\*Note: The qualified person has been unable to verify the above information and has relied on public disclosures by the owner of the Karin Lake Property. The information above is not necessarily indicative of the mineralization on the property that is the subject of this technical report.***



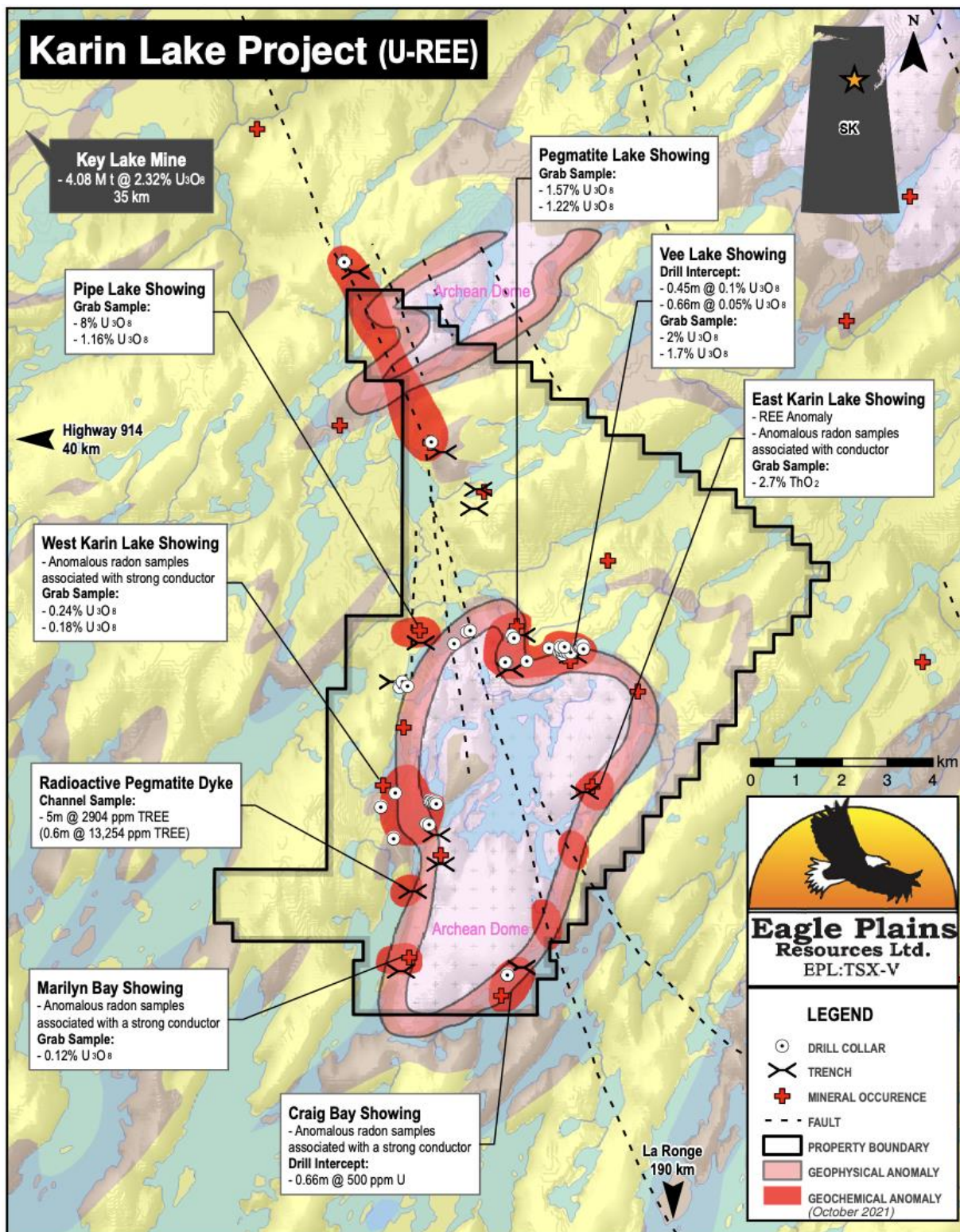


Figure 23-2: Results from Eagle Plain's Karin Lake Project (Eagle Plains, 2022).

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

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All UTM coordinates included in this report were measured in NAD83 / UTM Zone 13N, unless otherwise stated, and all elevations are referenced from 'meters above mean sea level'.

No additional information or explanation is necessary to make this assessment report understandable and not misleading.

## **25. INTERPRETATION AND CONCLUSIONS**

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Considering the historical data and the current exploration work completed by Searchlight, it is the author's opinion that additional exploration of the Kulyk Lake Property is warranted. Several generations of historical exploration have identified a number of pegmatites trends in the project area which contain elevated levels of U; the REE potential of these pegmatites has only been more recently recognized. As much of the legacy work dismissed the radioactive pegmatites as uneconomic, modern analysis of these pegmatites including REE assays should be completed. To assist with this the legacy data for the project area should be compiled, digitized, and integrated with the modern results to help guide the additional exploration.

The airborne radiometric survey completed by Searchlight in 2021 should be expanded to cover the remaining portion of the claim block. The ground truthing completed in 2022 showed that the radiometric data identifies the pegmatite bodies and be further evaluated on the ground. The geophysical anomalies identified by the current airborne survey should be examined in more detail, both by additional geophysical analysis and geological mapping and prospecting.

Additional geological mapping extending from the known showings should be completed to attempt to add continuity between the mineralized pegmatites. Geological mapping should focus on the identification of radioactive intrusive bodies, particularly biotite rich areas as the monazite appear to occur in close association with biotite. Structural mapping should also be included as there may be an association between fold nose and other dilatational zone and the intrusion of mineralized pegmatites. The boundaries between the Wollaston metasediments and Archean Inliers should be examined due to the association between the contact and pegmatites elsewhere in the Wollaston Domain.

The proposed exploration program would provide the additional information need to truly examine the potential of the Kulyk Lake Property. Any proposed exploration is dependent on funding, permitting, contractor availability, and any other reason for which an exploration program may be delayed.

## **25.1. POTENTIAL RISKS**

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As with moving forward on any project there are many risks to be assessed by the operating company. For this project, the author has identified the following potential risks; commodity price risk, geological risk, and license to operate risk.

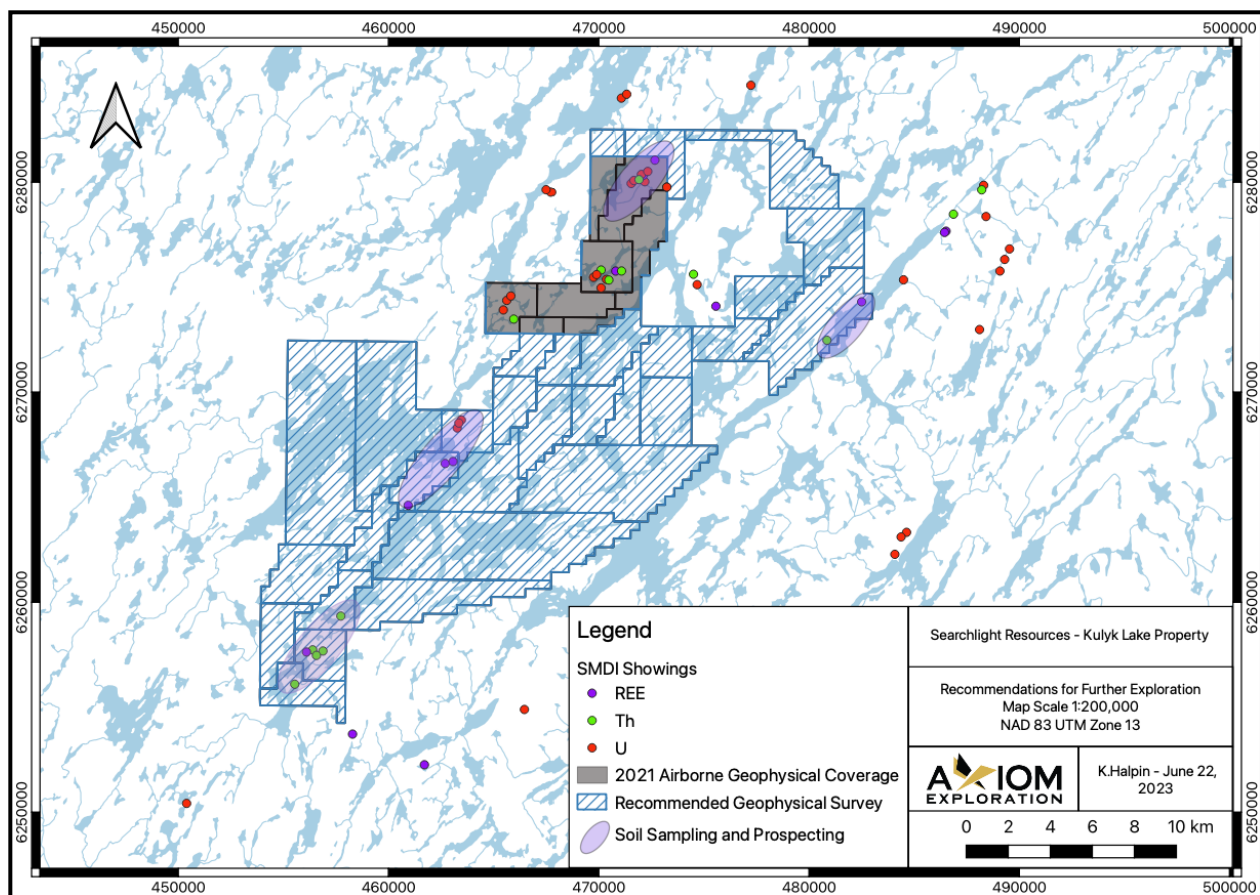
Price fluctuations for commodities can have considerable impacts on the viability of mineral deposits and are susceptible to many factors including war, local, governmental and world politics.

With any exploration property there is a possibility that mineral resources, if present, will not be sufficient to be economic. Mineral resources, if present, may not be easily extracted or smaller than estimated.

Stakeholder and regulator expectations and requirements may have unforeseen challenges in operations and licensing.

## 26. RECOMMENDATIONS

The author believes that the Kulyk Lake Property merits additional follow-up, given the geological setting, and the results obtained from the project area. The airborne geophysical survey completed in 2021 over a portion of the Kulyk Lake Property has identified several anomalous zones, many of which correspond with known historical showings. Given the success of this survey, it should be expanded to cover the remaining portions of the property (Figure 26-1). Anomalous areas identified by the 2021 survey, which have not been prospected should be examine. Additional soil sampling should be completed in the vicinity of the historical showings and any additional anomalous areas identified by the expanded geophysical survey.



**Figure 26-1: Recommended Additional Exploration of the Kulyk Lake Property.**

As there has been little to no detailed mapping, beyond the mapping of individual showings, a reconnaissance mapping program is recommended to set the property in a modern geological framework and produce targets for additional exploration. The mapping should focus on strike projections of the known U-Th-REE showings, identified geophysical anomalies, structural interpretation, and the identification of pegmatites within the claim area. Digitization of the legacy work may also provide additional targets.



Additional mineralogical studies should be completed to confirm the REE mineralogy. In addition to the monazite identified by the current petrographic study, historical reports mention a number of additional U and REE bearing minerals, such as allanite, davidite, brannerite. Accessory minerals, especially REE, U, and Th bearing phases, should be identified by SEM-EDS. Any litho-geochemistry completed should use a lithium metaborate fusion technique to ensure complete analysis of refractory minerals. Use of appropriate REE standards should also be considered.

Ultimately, if the above recommendations show favorable results, drilling will be required to understand the subsurface geology.

Any proposed exploration is dependent on funding, permitting, contractor availability and any other reasons an exploration program may be delayed. A proposed exploration budget is provided below in Table 26-1.

**Table 26-1: Proposed Exploration Budget for the Kulyk Lake Property**

Phase One – Reconnaissance Exploration	
Item	Cost in CDN\$
Airborne Magnetic and Radiometric Survey	~\$250,000
Geophysical Interpretation, Modeling, and Target Generation	\$10,000
Digitizing and Georeferencing Historic Data	\$10,000
Senior Geologist (at \$1150/day)	\$24,150
2 Intermediate Geologist (at \$950/day per geologist)	\$39,900
3 Junior Geologist (at \$575/day per geologist)	\$36,225
Scintillometers	\$10,000
Assays	\$10,500



<b>Phase One – Reconnaissance Exploration</b>	
<b>Item</b>	<b>Cost in CDN\$</b>
Soil Sampling	\$55,000
Petrographic and Electron Microprobe Investigation	\$3,000
Accommodations and Food	\$22,000
Travel Expenses	\$ 9,000
Helicopter Costs	\$156,000
Geological Interpretation and Reporting	\$10,000
Administration (10% of the subtotal)	\$40,000
<b>Total</b>	<b>\$ 645,775</b>

<b>Phase Two – Drilling (Contingent on Phase One Results)</b>	
<b>Item</b>	<b>Cost in CDN\$</b>
Exploration Diamond Drilling Program	\$550,000
<b>Total</b>	<b>\$550,000</b>

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## **28. DATE & SIGNATURE**

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This report titled, "NI 43-101 Technical Report on the Kulyk Property, Saskatchewan, Canada" and dated August 1, 2023, was prepared by the following author:

Dated this 1<sup>st</sup> day of August 2023



**(Original Signed and Sealed) "Tyler Fiolleau"**

Tyler Fiolleau, P. Geo.

Consulting Geologist



## **29. STATEMENTS OF CERTIFICATION**

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### **CERTIFICATE OF QUALIFIED PERSON**

**Tyler Fiolleau, P. Geo.**

I, Tyler Fiolleau, P. Geo., an author and reviewer of this technical report entitled “Technical Report for Kulyk Lake Property”, prepared for Searchlight Resources Inc. and dated August 1, 2023, do hereby certify that:

1. I am currently Vice President Exploration at Axiom Exploration Group Ltd. of 101 - 3239 Faithfull Avenue, Saskatoon, SK, Canada, S7K 8H4.
2. I am a graduate of the University of Saskatchewan, Saskatoon, Saskatchewan, Canada with a bachelor’s degree in Geological Sciences.
3. I am registered as a Professional Geoscientist in the Province of Saskatchewan (APEGS Reg. #13295) and a member in good standing. I have worked as a geologist in the natural resources industry since 2004.
4. I have read the definition of ‘qualified person’ set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a ‘qualified person’ for the purposes of NI 43-101.
5. I have visited the properties which are the subject of this Technical Report on July 13<sup>th</sup>, 2023.
6. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101.
7. I am independent of Searchlight Resources, for whom the report is written and submitting the report. I am independent of the Vendor and Property.
8. My relevant experience for the purpose of the Technical Report is:
  - Participation in; review of and reporting on numerous mining and exploration projects for the purposes of mineral exploration, resource development, environmental regulatory compliance, quality control and due diligence.
  - Previous roles as an exploration geologist and project manager on numerous mineral exploration projects in the Athabasca Basin, Canada.

- Experience as a consultant and supervisor on numerous uranium and rare earth exploration and development projects across western Canada.
- 10. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading. I take responsibility for the items in the Technical Report.

Dated this 1<sup>st</sup> day of August 2023



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(Signed & Sealed) "Tyler Fiolleau"

Tyler Fiolleau, P. Geo.



### **30. CONSENT OF QUALIFIED PERSON**

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Tyler Fiolleau  
Axiom Exploration Group Ltd.  
3239 Faithful Ave

I, Tyler Fiolleau, consent to the public filing of the technical report titled “Technical Report on the Kulyk Lake Property, Saskatchewan, Canada” and dated August 1, 2023 (the “Technical report”) by Searchlight Resources Ltd.