NI 43-101 TECHNICAL REPORT FOR THE ANGILAK PROPERTY, KIVALLIQ REGION, NUNAVUT, CANADA

Photo: Nutaaq Camp, August 2022.

Prepared For:

ValOre Metals Corporation
1020 - 800 West Pender St.
Vancouver, BC V6C 2V6
Canada

Labrador Uranium Inc.
401 – 217 Queen St. West
Toronto, ON M5V 0R2
Canada

Prepared by:

APEX Geoscience Ltd.
#100, 11450 - 160 ST. NW
Edmonton AB T5M 3Y7
Canada

Michael B. Dufresne, M.Sc., P. Geol., P.Geo.
Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat.

Effective Date: March 1st, 2023
Signing Date: March 31st, 2023

Contents

Tables

Figures

1 Summary

1.1 Issuer and Purpose

This technical report has been prepared by APEX Geoscience Ltd. ("APEX") on behalf of ValOre Metals Corp. ("ValOre" or the "Company"), a Vancouver, British Columbia based mineral exploration company listed on the TSX Venture Exchange and Labrador Uranium Inc. ("Labrador" or the "Purchaser"), a Toronto based mineral (uranium) exploration company listed on the Canadian Securities Exchange (CSE) which has entered into an arrangement agreement to purchase the Angilak Property (the "Property", the "Angilak Property" or the "Project") by way of a court-approved plan of arrangement. This technical report summarizes the Company's exploration work for the Angilak Property, a uranium focussed exploration project in the Kivalliq Region of Nunavut. The intent of this report is to provide a summary of the Company's prior exploration, which commenced in 2008, and recent exploration work completed during 2022 on the Property.

This report was prepared by qualified persons ("QPs"), as such term is defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"), in accordance with disclosure and reporting requirements set forth in NI 43-101, Companion Policy NI 43-101CP, Form NI 43-101F1, and the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Mineral Exploration Standards and Best Practice Guidelines (2014, 2018, 2019). The effective date of this Report is March 1, 2023.

1.2 Authors and Site Inspection

The authors of this technical report are Michael Dufresne, M.Sc. P. Geol., P.Geo. and Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat. of APEX Geoscience Ltd. (APEX). The authors are independent of ValOre and are Qualified Persons (QPs) as defined in NI 43-101. The authors have been involved in all aspects of mineral exploration and mineral resource estimations for precious, base metal and uraniferous mineral projects and deposits in Canada, United States of America and internationally.

Mr. Dufresne takes responsibility for the preparation and publication of sections 1 to 8 and 13 to 27 of the technical report. Mr. Dufresne is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), British Columbia (EGBC), Nunavut/Northwest Territories (NAPEG) and New Brunswick (APEGNB) and has worked as a geologist for more than 40 years since his graduation from university. Mr. Dufresne has been involved in all aspects and stages of mineral exploration in North America and abroad, for a number of commodities and deposit types, including uraniferous vein, sandstone and unconformity hosted deposit types.

Mr. Schoeman takes responsibility for the preparation and publication of sections 9 to 12 and contributed to sections 1, 2 and 25 to 28 of the report. Mr. Schoeman is a Professional Geologist with APEGA and has worked as a geologist for more than 35 years since his graduation from university. Mr. Schoeman has been involved in all aspects and stages of mineral exploration in North America and abroad, for a number of commodities and deposit types, including uraniferous deposit types.

Mr. Dufresne has had prior involvement with the project as a QP and visited the Property on several occasions between 2007 and 2012 but did not conduct a recent site visit. Mr. Schoeman completed a site inspection of the Property on August 13, 2022. The site inspection enabled the QP to verify, by handheld GPS, the collar stake positions for several drillholes and review drill core from at the Nutaaq Camp core shack. Two radioactive mineralized zones were observed in a 2022 core hole. No verification core samples were collected since radioactive core material cannot be transported on commercial passenger aircraft. The core material was confirmed to be radioactive with a handheld scintillometer instrument.

1.3 Property Location, Description and Access

The Angilak Property is located 350 kilometres west of Kangiqliniq (Rankin Inlet) and 225 kilometres southwest of Baker Lake in the Kivalliq Region of Nunavut. The Angilak Property hosts the Lac 50 Uranium Deposit. The Property is bound between Latitudes 62° 27’ and 62° 48’ North and Longitudes 98° 21’ and 99° 24’ West, (North American Datum 1983 (NAD83), Universal Transverse Mercator (UTM) Zone 14 coordinates: 6925000m N and 6960000m N and 486000m E to 527500m E) and is within the 1:50:000 National Topographic (NTS) map sheets 065 J/06, J/07, J/09, J/10, J/11, and J/15. The Property comprises 55 Crown issued mineral claims and 1 mining lease, as well as an Inuit Owned Land (IOL) parcel (RI30-001) for a total area of 67,329.69 hectares. ValOre has acquired the right to conduct exploration work on the IOL parcel under a Mineral Exploration Agreement (MEA) with Nunavut Tunngavik Inc. (NTI). Land use permits enabling exploration work to be conducted on the Property have been issued, amended and renewed by the Kivalliq Inuit Association (KIA) for parts of the Property covering the IOL and by CIRNAC for the Crown Lands.

1.4 Geology and Mineralization

The Angilak Property is located within the Western Churchill Province, a large Archean craton that experienced significant crustal shortening and uplift during the Proterozoic, where the subsequent gravitational collapse led to the deposition of several rift basins, including the Baker Lake Basin. Two major structural corridors surround the Property: the Snowbird Tectonic Zone to the northwest, and the Tyrrell Shear Zone to the southeast. The structural corridors formed as a result of the assembly of the Churchill Province and were later reactivated by tectonic activity in the Proterozoic. The Archean basement rocks underlying the Property consist of tonalite-granodiorite gneisses and granitoids, as well as the metasedimentary and metavolcanic greenstones of the Henik Group. These are unconformably overlain by the Angikuni and Yathkyed sub-basins (Baker Lake Group). The Lac 50 Uranium Deposit is located adjacent to the northeastern margin of the Angikuni sub-basin and is hosted in Archean metasedimentary and metavolcanic rocks of the Henik Group. Mineralization at the Lac 50 Deposit is structurally and stratigraphically controlled and bears similarities to Beaverlodge-type vein deposits.

1.5 Historical Exploration

Previous exploration by a variety of companies during the late 1970’s and early 1980’s in the Yathkyed Lake region resulted in the discovery of numerous uranium plus base metals plus silver showings and the Lac 50 Uranium Deposit, a Beaverlodge-type vein or structural uranium deposit. Exploration was resumed in 2007, which entailed data compilation, followed by geological mapping, prospecting and field verification of historical work, including verifying historical trench and drilling locations and collecting grab samples from historical showings. The rock grab samples comprised Angikuni sub-basin sedimentary rocks collected just above or adjacent to the basal unconformity along the northwestern margin of the Angikuni sub-basin. The Rock samples returned assays of up to 0.87% U_3O_8, 2.45% Cu, 31.9 grams per tonne (g/t) gold (Au) and 1,170 g/t silver (Ag).

Documentation of drilling done by Pan Ocean (later Aberford Resources) in the late 1970’s and early 1980’s at the Lac 50 Deposit area is not available in government assessment reports. Miller et al. (1986) report several historical drillholes with high grade uranium intersected over very narrow widths at the Lac 50 area. The historical drilling is summarized in Setterfield (2007), Dufresne (2008), and Dufresne and Sim (2011).

During the 2008 to 2010 field seasons, the Company re-logged and re-sampled 147 historical drillholes from the Lac 50 area. Highlights from the re-sampling work are summarized in Dufresne and Sim (2011). Though there is an extensive collection of historical Lac 50 drill core stored onsite and available for sampling, there were also many missing and deteriorating core boxes as well as a paucity of information on the collar locations and orientations for the historical drillholes. Thus, the information gathered through the re-logging was used only to guide drilling and could not be utilized in the drillhole database for any resource modelling. Drilling at the Lac 50 Deposit by the Company from 2009 to 2012 has superseded all of the historical drilling conducted by Pan Ocean (Dufresne and Sim, 2011; Dufresne et al., 2012).

1.6 Recent Exploration

The exploration season of 2008 marked the first work program in over 25 years at the Angilak Property, and included 5,620 line-km of airborne TDEM, magnetics, and radiometrics, and Property wide prospecting and mapping.

In 2009, Kivalliq Energy Corporation (Kivalliq Energy) completed a ground VLF-EM survey over IOL parcel RI30-001 and identified a 9-km-long conductive trend hosting the historical Lac 50 Uranium Deposit. This was followed up with an initial 16 hole core drilling program totalling 1,745 m at the Lac 50 Main Zone and successfully intersected U_3O_8 mineralization in 12 drillholes.

Kivalliq Energy drilled over 16,600 m in 107 holes at the Lac 50 Main Zone and surrounding geophysical targets in 2010.

In 2011, a total of 30,500 m were drilled in 241 holes, 5,470 line-km of EM-magnetics were flown, and ground geophysics was completed. New uraniferous zones were discovered and drilled which included: Western Extension, Eastern Extension, Blaze, Pulse and Spark.

The largest exploration program in Kivalliq Energy's history ($C20 million) was conducted in 2012, with a focus on resource expansion and new discoveries. In total, 38,856 metres (m) were drilled in 211 holes in conjunction with extensive ground geophysical surveys. New uraniferous zones discovered included: J4, Ray, Hot, Flare, Southwest and Nine Iron. Kivalliq Energy also expanded the Angilak land position by 32,375 hectares.

Exploration in 2013 consisted of 2,100 m of drilling in 14 holes along with ground geophysical surveys. New zones of uranium mineralization were discovered at J1 and ML during the program.

In 2014, a total of 963 soil samples along with 1,078 line-kilometres of airborne Time Domain Electromagnetics (TDEM) and magnetics geophysical surveying were completed. In 2015, a total of 958 m in 9 holes were completed at Dipole target, resulting in the first significant uranium discovery outside of the Lac 50 trend. Additional soil results confirmed kilometre-scale uranium anomalies along the Dipole and RIB geophysical trends.

In 2016 soil sampling expanded the area of uranium anomalism, extending the uranium signature associated with the Dipole target to over 3.5 km in length. Trenching at the Yat target confirmed the presence of a high grade polymetallic zone in a bedrock and uranium soil anomaly along 1.6 km long EM conductor.

1.7 Exploration Conducted in 2022

Magnetometer and very low frequency electromagnetic (VLF-EM) surveys were conducted during spring 2022 covering 1,547.62 line-kilometres with 80,329 VLF-EM measurements collected over 3 priority grids in the Lac 50 East area, an area straddling the RIB and Dipole targets and further southwestward to the Property boundary. A soil sampling program was conducted in the summer of 2022 resulted in the collection of 880 soil samples which were submitted for Enzyme Leach analysis.

A RC drill program was conducted during spring 2022 with 3,165.35 m drilled in 27 holes on the Dipole (17 holes), Yat (4 holes) and J4 West (6 holes) targets. The RC drilling was used to follow up on 2015 core drilling at Dipole, historical 2013 core drilling at Yat and core and RC drilling at J4 West. A diamond drilling program was conducted during summer 2022 with 3,590 m drilled in 26 holes at the Dipole (16 holes) and J4 West (10 holes) targets. Diamond drilling at the Dipole target tested the extension potential northeast along strike of the drilling completed in 2015, as well as following up on the diamond drilling in 2015 and RC drilling in 2022 to test the mineralization extension at depth. Diamond drilling at the J4 West target tested the potential for a sinistral off-set and continuation of mineralization to the southwest of the J4 deposit.

1.8 Historical Mineral Resource Estimates

An initial maiden Inferred Mineral Resource Estimate (MRE) was completed for Kivalliq Energy in 2010 and subsequently updated in 2012 and 2013 based on additional drilling completed over that period. The most recent mineral resource estimate was completed in 2013 for the Angilak Property by Robert Sim, P.Geo., with the assistance of Dr. Bruce Davis, FAusIMM, and published in Dufresne et al., 2013.

The author and QP Mr. Dufresne, has reviewed the 2013 mineral resource estimate (MRE). Mr. Dufresne's assessment of the 2013 MRE is as follows: the construction and estimation process for the MRE in large part is in line with current CIM standards and guidelines (CIM, 2014 and 2019) and uses the current CIM classification framework, even though it was constructed in 2013. However, there are likely changes required to the financial information utilized in 2013 to evaluate reasonable prospects for eventual economic extraction (RPEEE), and there is not enough information provided by Mr. Sim and Mr. Davis in Dufresne et al. (2013) to determine whether the MRE from 2013 would change applying constraints such as an open pit and in particular constraining underground shapes to bracket the underground portion of the MRE. For these reasons, the author and QP Mr. Dufresne have classified the 2013 MRE as a historical MRE and therefore is are not treating it or any part of it as a current MRE.

The 2013 MRE was calculated for six mineralized zones: Lac 50 Main, Lac 50 Western Extension, Lac 50 East Extension, J4 Upper, J4 Lower and Ray (Table 1.1). Nominal block sizes measuring 5 m x 5 m x 5 m were used for the Lac 50 portion of the MRE and 5 m x 3 m x 3 m block sizes were used for the J4 portion of the estimate. Grade (assay) and geological information was derived from work conducted by the Company (Kivalliq Energy) during the 2009, 2010, 2011 and 2012 field seasons including substantial new drilling at the time. Although extensive drilling was conducted on the Lac 50 Deposit in the early 1980's and much of the core remains on the Property, this older dataset could not be properly validated due to unknown collar locations and drillhole orientations and, as a result, none of it was used during the development of the resource models for the 2013 historical MRE (Dufresne et al., 2013).

The Lac 50 resource block model was generated from 256 drillholes and 6,173 samples with a total core length of 3,188 m, all of which were competed by Kivalliq Energy from 2009 to 2012. The J4/Ray resource block model was generated from a total of 79 drillholes and 1,363 samples with a total core length of 725 m, with all holes completed between 2009 to 2012.

The bulk density database contains a total of 1,579 samples that were collected and measured during the 2010 to 2012 drilling programs. Within the mineralized domains, composited bulk densities at Lac 50 range from 2.35 t/m^3 to 3.77 t/m^3, with a mean of

2.85 t/m^3. At J4, composited bulk densities range from 2.52 t/m^3 to 3.52 t/m^3, with an average of 2.84 t/m^3 (Dufresne et al., 2013).

Block model U_3O_8 grade interpolation was completed using ordinary kriging (OK). Estimates for silver, molybdenum and copper were completed using an inverse distance weighting method (ID^2, Dufresne et al., 2013).

Table 1.1 provides the historical estimated inferred MRE for the Lac 50 Deposit, broken out into 3 different areas, and the J4/Ray deposits, also broken out into 3 different areas at a cut-off grade of 0.2% U_3O_8 (Dufresne et al., 2013).

Table 1.1. Historical 2013 Inferred MRE Summary by zone at a 0.2% U_3O_8 cut-off (After Dufresne et al., 2013).

							Contained			
Number of holes used	**Zone**	**ktonnes**	**U_3O_8%**	**Ag g/t**	**Mo%**	**Cu%**	**U_3O_8 (Mlbs)**	**Ag (koz)**	**Mo (Mlbs)**	**Cu (Mlbs)**
143	Lac 50 Main	892	0.825	13.5	0.230	0.17	16.2	387	4.5	3.3
67	Lac 50 W Ext.	709	0.506	17.5	0.044	0.33	7.9	399	0.7	5.2
46	Lac 50 E Ext.	304	0.569	20.1	0.167	0.28	3.8	197	1.1	1.9
63	J4 Upper	592	0.698	23.3	0.145	0.28	9.1	443	1.9	3.7
52	J4 Lower	258	0.938	45.8	0.279	0.24	5.3	379	1.6	1.4
16	Ray	76	0.525	29.9	0.366	0.10	0.9	73	0.6	0.2
	Total	**2,831**	**0.693**	**20.6**	**0.167**	**0.25**	**43.3**	**1878**	**10.4**	**15.6**

The authors are treating this 2013 estimate as a “historical mineral resource” and the reader is cautioned not to treat it, or any part of it, as a current mineral resource. The mineral resource estimate was calculated in accordance with NI 43-101 and CIM standards at the time of publication and predates the current CIM Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019).

The authors of this Technical Report have not done sufficient work to classify the historical estimate as a current mineral resource or reserve. A thorough review of all the 2013 resource information and drill data by a QP, along with the incorporation of subsequent exploration work and results, which includes some drilling around the edges of the deposit, would be required in order to produce a current mineral resource estimate for the Property. The future MRE will need to evaluate the open pit and underground potential taking into consideration the current cost and pricing conditions or constraints, along with continuity of the resource blocks.

The historical resource summarized above has been included simply to demonstrate the mineral potential of the Lac 50 Deposit and the Angilak Property. ValOre, Labrador Uranium and the Authors consider the 2013 MRE to be reliable and relevant for the further development of the Project; however, Labrador Uranium, ValOre and the authors are not treating the historical estimate as a current mineral resource.

1.9 Metallurgical Work to Date

In June 2012, the Saskatchewan Research Council (SRC) commenced a metallurgical testing program that built on first pass work completed in 2010. The initial 2010 results indicated alkaline leaching as the most effective extraction process for the Lac 50 Deposit uranium mineralization. The objective of the 2012 program was to investigate uranium alkaline leaching optimization and perform a preliminary evaluation of the purity levels of a final yellowcake product. The SRC aggregated a master composite sample weighing approximately 60 kilograms by blending and homogenizing 166 quarter-split and half-split pulp reject samples from 51 core holes. The sampled 2010 and 2011 core holes represent 3.2 km of strike length of uranium mineralization along the Lac 50 Main Zone, Western Extension and Eastern Extension. A head grade sample from the 2012 composite assayed 0.737 % U, 0.217% Mo, 0.667% Cu, 0.221% Zn, 0.231% Pb and 26.7 g/t Ag. Optimized results from alkaline leaching indicate that 94.1% of uranium can be extracted in 48 hours and 95.9% of the uranium extracted in 72 hours with a final yellowcake product that contained 71.9% uranium. It is encouraging at this early stage that the assayed impurities in the yellowcake product are below the maximum allowable concentration limits without penalty for uranium ore concentrate specifications. Additional metallurgical work is warranted.

1.10 Conclusions and Recommendations

Although this project is at an intermediate stage of exploration, the historical MRE has been considered with respect to potential economic viability in the past. The historical MRE forms a relatively continuous zone exhibiting thickness and grade properties which suggest that there is potential for future economic extraction of the deposit through a combination of open pit and underground mining methods. Further work is required to bring the historical mineral resource in line with current standards for a current MRE.

Based upon the results of exploration conducted to date, the authors recommend that the following work be completed at the Angilak Property during 2023:

1. Ground geophysical surveys employing a number of EM, magnetic and gravity techniques at grids designed to provide coverage over existing airborne targets, especially those that are spatially associated with known uranium showings and/or uranium bearing float that could be derived from such targets,
2. Soil and/or till sampling surveys over a number of prospective ground EM conductors which have little or no outcrop,
3. Further expansion and infill resource drilling to expand the current historical MRE immediately along strike and at depth below the Lac 50 Trend uranium deposits, and confirm and update the historical MRE into a current MRE.
4. Prioritization of drilling from frozen lakes during early spring, both along strike from Lac 50, and pre-resource targets Property-wide.
5. Detailed Property-wide geological prospecting and mapping at under-explored targets which host high-grade U_3O_8 rock samples.
6. Exploration drilling including:

   a) follow-up drilling at the Blaze, Spark, Pulse, Hot, Nine Iron, and RIB prospects;
   b) drilling at a number of conductors in the immediate vicinity of the Lac 50 Deposit area, including conductors along strike that could represent extensions to Lac 50 and proximal parallel conductors that could represent similar prospective graphite-sulphide zones with uranium mineralization;
   c) reconnaissance drilling at a number of exploration targets outside of the Lac 50 Deposit resource area identified and advanced by prior exploration and the 2022 exploration program.

7. Consideration and integration of IOCG-type deposit exploration initiatives Property-wide, with attention given to the Archean granitoid intrusion to the west of Lac 50.
8. Investigation into the presence of basin-hosted (perched) and/or unconformity-hosted uranium mineralization (e.g., KU target).
9. Studies at the Lac 50 Deposit resource area to determine reasonable prospects for future economic extraction and the drillhole spacing required to achieve Inferred, Indicated, and/or Measured mineral resources.
10. Further mineralogical and metallurgical testwork focused on the Lac 50 Deposits.
11. Baseline environmental monitoring and archaeological studies in support of future scoping and/or pre-feasibility studies.
12. Initiation of preliminary engineering and development studies as well as economic studies to give an initial view of project viability and guide future advancement of the project.

The authors recommend an exploration program for the Angilak Property that includes: targeted infill drilling in the Lac 50 resource area and resource expansion drilling within the Lac 50 area with exploration drilling target areas such as RIB, Nine Iron, Hot and Dipole. Phase 1 drilling is estimated to cost $CDN6,458,000 and does not include the community consultation, archeological work and continued environmental baseline studies which needs to run concurrently with such a drill program. An airborne radiometric survey is recommended that will cover the entire Property and will deploy up-to-date technology and eliminate the patchwork of the currently available historical radiometric data. To provide future targets for drill follow-up, a large enzyme leach soil sampling program of 6,500 samples is recommended that will cover the Property from Dipole, westward and is estimated to cost $2,430,000. The total estimated cost of the Phase 1 exploration program is $10,730,000, including contingency but not including GST.

A Phase 2 exploration program would be contingent on the results of Phase 1 and should include a further $8,600,000 in infill and MRE expansion drilling along with exploration drilling, metallurgical drilling (HQ/PQ), additional metallurgical testwork of $200,000, along with initiation of geotechnical work and additional baseline environmental studies. The total cost for the recommended Phase 2 program is approximately $13,300,000, including contingency but not including GST.

2 Introduction

2.1 Issuer and Purpose

This Technical Report has been prepared by APEX Geoscience Ltd. (“APEX”) on behalf of ValOre Metals Corp. (“ValOre” or the “Company” - formerly Kivalliq Energy Corp. “Kivalliq Energy”), a Vancouver, British Columbia based mineral exploration company listed on the TSX Venture Exchange and Labrador Uranium Inc. (“Labrador” or the “Purchaser”), a Toronto, Ontario based mineral (uranium) exploration company listed on the Canadian Securities Exchange (CSE) which has entered into an arrangement agreement to purchase the Angilak Property (the “Property” or the “Project”) by way of a court-approved plan of arrangement. The Company has operated in Nunavut since 2008, and on June 28, 2018, Kivalliq Energy officially changed its name to ValOre Metals Corp. The Company holds a land package totalling 67,329.69 hectares in the Kivalliq Region of Nunavut, referred to as the Angilak Property (the “Property” or the “Project”; Figure 2.1).

The intent and purpose of this Technical Report is to provide as summary of the status of the Property, including a summary of prior and recent exploration programs completed by the Company from 2008 to 2022. This report is intended as an update to previous Technical Reports completed on the Angilak Property, which include the reports by Dufresne and Sim (2011), Dufresne et al. (2012), and Dufresne et al. (2013). All three reports are available for download on SEDAR (www.sedar.com).

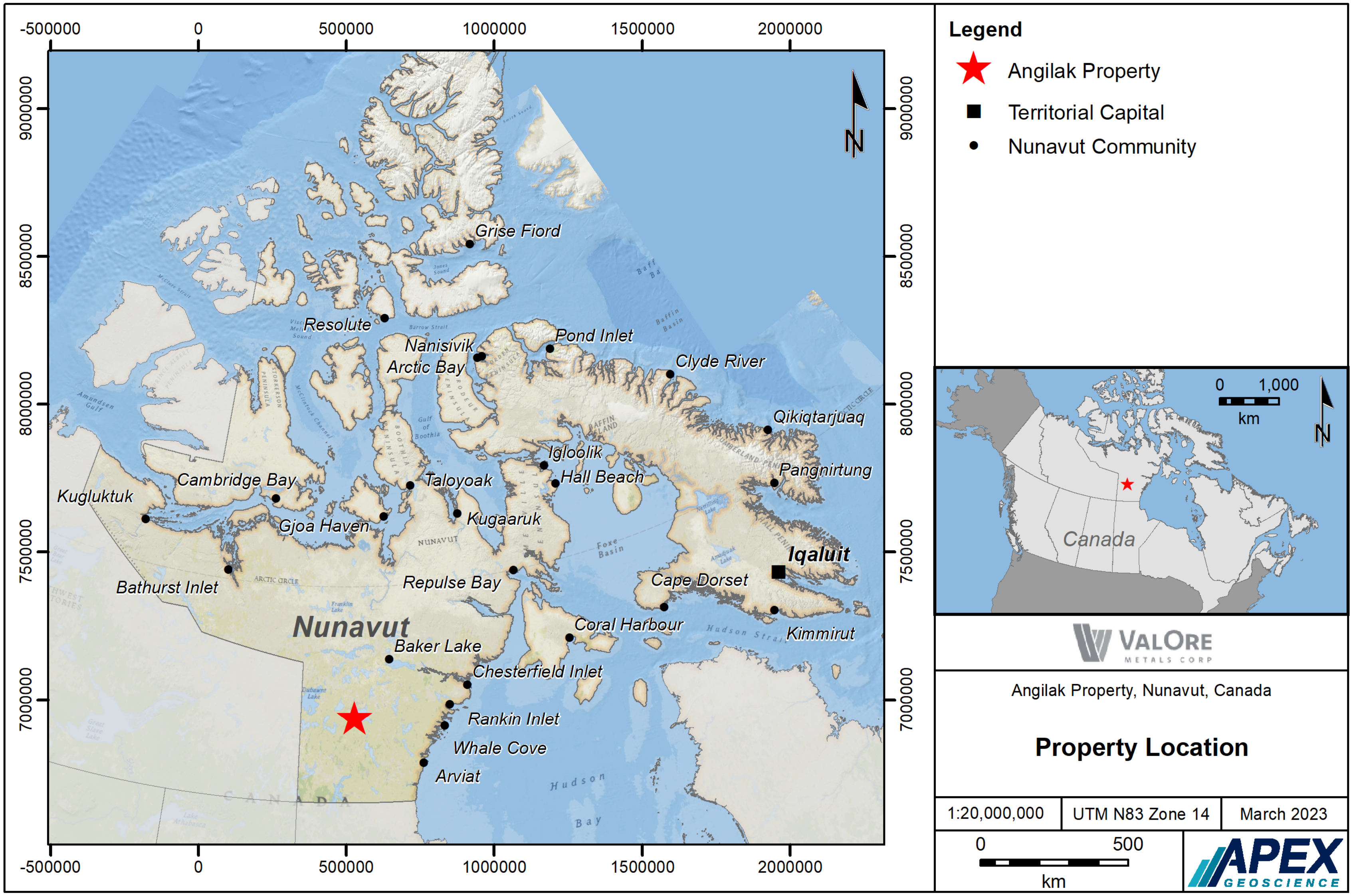
This report was prepared by qualified persons (QPs), as such term is defined by National Instrument 43-101 (NI 43-101) – Standards of Disclosure for Mineral Projects, in accordance with disclosure and reporting requirements set forth in NI 43-101, Companion Policy NI 43-101CP, Form NI 43-101F1, and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Mineral Exploration Standards and Best Practice Guidelines (2014, 2018, 2019). The effective date of this Report is March 1, 2023.

2.2 Authors and Site Inspection

The authors of this Technical Report are Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo. and Mr. Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat. of APEX. Both authors are independent of ValOre, and are QPs as defined in NI 43-101. The CIM and NI 43-101 defines a Qualified Person as “an individual who is a geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association.”

Mr. Dufresne takes responsibility for the preparation and publication of sections 1 to 8 and 13 to 28 of the technical report. Mr. Dufresne is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), British Columbia (EGBC), Nunavut/Northwest Territories (NAPEG) and New Brunswick (APEGNB) and has worked as a geologist for more than 40 years since his graduation

Figure 2.1. Angilak Property and Location.



from university. Mr. Dufresne has been involved in all aspects and stages of mineral exploration in North America and abroad, for a number of commodities and deposit types, including uraniferous vein, sandstone and unconformity hosted deposit types.

Mr. Schoeman takes responsibility for the preparation and publication of sections 9 to 12 and contributed to sections 1, 2 and 25 to 28 of the technical report. Mr. Schoeman is a Professional Geologist with APEGA, and has worked as a geologist for more than 35 years since his graduation from university. Mr. Schoeman has been involved in all aspects and stages of mineral exploration in North America and abroad, for a number of commodities and deposit types, including uraniferous vein, sandstone and unconformity hosted deposit types.

Mr. Dufresne has had prior involvement with the project as a QP and visited the Property on a number of occasions between 2007 and 2012 but did not conduct a recent site visit. Mr. Schoeman completed a site inspection of the Property on August 13, 2022. The site inspection enabled the QP to verify, by handheld GPS, the collar stake positions for a number of drillholes and review drill core at the Nutaaq Camp core shack. Two radioactive mineralized zones were identified in a 2022 core hole. No verification core samples were collected because radioactive core material cannot be transported on commercial passenger aircraft. The core material was confirmed to be radioactive with a handheld scintillometer instrument.

2.3 Sources of Information

This Technical Report is based on a compilation of historical information and recent exploration completed on the Property. The majority of the background information in this report concerning the historical work, geology, and environment of the Property are sourced from a previous Technical Report completed by Dufresne et al. (2013). That Technical Report is referenced in section 4, 5, 6, 7, 8, 9, 10, and 11. All sources of information are listed in Section 27 References.

The authors have reviewed all government and miscellaneous reports, and a selection of the commercial laboratory analytical data provided by ValOre as discussed in Section 12. The QP has deemed that these reports and information, to the best of his knowledge, are valid contributions. The senior author takes ownership of the ideas and values as they pertain to the current technical report.

2.4 Units of Measure

With respect to units of measure, unless otherwise stated, this Technical Report uses:

- Abbreviated shorthand consistent with the International System of Units (International Bureau of Weights and Measures, 2006).
- ‘Bulk’ weight is presented in both United States short tons (tons; 2,000 lbs or 907.2 kg) and metric tonnes (tonnes; 1,000 kg or 2,204.6 lbs.).

- Geographic coordinates are projected in the Universal Transverse Mercator ("UTM") system relative to Zone 15 of the North American Datum ("NAD") 1983.
- Currency in Canadian dollars (CDN$), unless otherwise specified (e.g., U.S. dollars, US$; Euro dollars, €).

3 Reliance on Other Experts

The Authors are not qualified to provide an opinion or comment on issues related to legal agreements, mineral titles, royalties, taxation, environmental matters. The Authors relied on ValOre to provide all pertinent information concerning the legal status of ValOre, as well as current legal title information for the mineral claims and material environmental information that relate to the Property. Mr. Colin Smith, Vice President of Exploration for ValOre provided a summary of the status of the mining claims on January 31, 2023 via Email. The relevant information related to these matters is summarized in Section 4 of this Report.

The Authors did not attempt to verify the legal status of the 55 mining claims, the single mining lease and single IOL Agreement that comprise the Property. However, the mineral claim and mining lease information and status is available online and was confirmed on the Government of Canada Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) website under the Nunavut Map Viewer as of the signed date of this Report by the authors.

4 Property Description and Location

4.1 Description and Location

The Angilak Property is located 350 kilometres west of Kangiqliniq (Rankin Inlet) and 225 kilometres southwest of Baker Lake in the Kivalliq Region of Nunavut. The Property currently comprises a total area of 67,329.69 hectares, measuring approximately 43 kilometres east-west by approximately 38 kilometres north-south, and encompasses multiple exploration targets (Figure 4.1, Figure 4.2). Due to the implementation of the Nunavut Map Selection (NMS) system on January 30, 2021, a number of adjoining claims were expanded, resulting in overlapping boundaries. A number of these overlapping boundaries were successfully reduced in 2022, however errors in the NMS system prevented the reduction of two claims with overlapping boundaries on the Property. These overlapping units will be reduced in 2023. The total area of the Angilak Property was calculated using land area rather than the listed claim area to ensure the reported area of the Angilak Property is accurate. The Property is bound between Latitudes 62° 27' and 62° 48' North and Longitudes 98° 21' and 99° 24' West, (North American Datum 1983 (NAD83), Universal Transverse Mercator (UTM) Zone 14 coordinates: 6925000m N and 6960000m N and 486000m E to 527500m E) and is within the 1:50:000 National Topographic (NTS) map sheets 065 J/06, J/07, J/09, J/10, J/11, and J/15. Figure 2.1 depicts the general location of the Angilak Property.

The Property comprises 55 crown issued mineral claims (59,735.04 ha) and one (1) mining lease (198.00 ha), as well as Inuit Owned Land (IOL) parcel RI30-001 (7,396.65 ha) which is administered by Nunavut Tunngavik Inc. (NTI) (Figure 4.1).

Table 4.1. Land Tenure Status for the Angilak Property.

Tenure Type	Tenure Name	Claim Number	Record Date	Anniversary Date	Hectares	Owner (%)
Claim	DIP 01	100039	8-Nov-21	8-Nov-24	1,234.91	ValOre Metals Corp. (100%)
Claim	DIP 02	100040	8-Nov-21	8-Nov-24	1,234.91	ValOre Metals Corp. (100%)
Claim	KU 1	100041	8-Nov-21	8-Nov-24	671.97	ValOre Metals Corp. (100%)
Claim	KU 2	100042	8-Nov-21	8-Nov-24	634.65	ValOre Metals Corp. (100%)
Claim	KU 3	100043	8-Nov-21	8-Nov-24	560.02	ValOre Metals Corp. (100%)
Claim	KU 4	100044	8-Nov-21	8-Nov-24	466.68	ValOre Metals Corp. (100%)
Claim	KU 5	100045	8-Nov-21	8-Nov-24	634.65	ValOre Metals Corp. (100%)
Claim	KU 6	100046	8-Nov-21	8-Nov-24	934.34	ValOre Metals Corp. (100%)
Claim	KU 7	100047	8-Nov-21	8-Nov-24	1,121.20	ValOre Metals Corp. (100%)
Claim	KU 8	100048	8-Nov-21	8-Nov-24	1,121.20	ValOre Metals Corp. (100%)
Claim	KU 9	100049	8-Nov-21	8-Nov-24	1,121.20	ValOre Metals Corp. (100%)
Claim	KU 10	100050	8-Nov-21	8-Nov-24	1,121.20	ValOre Metals Corp. (100%)
Claim	KU 11	100051	8-Nov-21	8-Nov-24	672.53	ValOre Metals Corp. (100%)
Claim	KU 17	100122	8-Nov-21	8-Nov-24	1,122.73	ValOre Metals Corp. (100%)
Claim	KU 18	100123	8-Nov-21	8-Nov-24	1,122.74	ValOre Metals Corp. (100%)
Claim	KU 19	100124	8-Nov-21	8-Nov-24	1,122.74	ValOre Metals Corp. (100%)
Claim	KU 20	100125	8-Nov-21	8-Nov-24	1,122.74	ValOre Metals Corp. (100%)
Claim	KU 21	100121	8-Nov-21	8-Nov-24	1,197.65	ValOre Metals Corp. (100%)
Claim	KV 16	101144	3-Sep-21	3-Sep-27	1,306.05	ValOre Metals Corp. (100%)
Claim	KV 27	101429	3-Sep-21	3-Sep-27	1,121.15	ValOre Metals Corp. (100%)
Claim	VK 1	100319	13-Sep-21	13-Sep-23	1,195.98	ValOre Metals Corp. (100%)
Claim	TAL 2	100320	1-Nov-21	1-Nov-23	1,114.33	ValOre Metals Corp. (100%)
Claim	TAL 7	100321	1-Nov-21	1-Nov-23	1,112.77	ValOre Metals Corp. (100%)
Claim	VGR-5	100322	18-May-21	18-May-24	1,430.97	ValOre Metals Corp. (100%)
Claim	ANG1	101511	26-Oct-21	26-Oct-23	1,234.91	ValOre Metals Corp. (100%)
Claim	ANG2	101513	26-Oct-21	26-Oct-23	1,122.57	ValOre Metals Corp. (100%)
Claim	ANG3	101514	26-Oct-21	26-Oct-23	1,122.57	ValOre Metals Corp. (100%)
Claim	ANG4	101515	26-Oct-21	26-Oct-23	934.20	ValOre Metals Corp. (100%)
Claim	ANG5	102065	26-Oct-21	26-Oct-23	934.20	ValOre Metals Corp. (100%)
Claim	ANG6	102066	26-Oct-21	26-Oct-23	1,121.03	ValOre Metals Corp. (100%)
Claim	ANG7	102067	26-Oct-21	26-Oct-23	1,121.03	ValOre Metals Corp. (100%)
Claim	ANG8	102068	26-Oct-21	26-Oct-23	653.17	ValOre Metals Corp. (100%)
Claim	ANG9	102069	26-Oct-21	26-Oct-23	802.45	ValOre Metals Corp. (100%)
Claim	ANG10	101516	26-Oct-21	26-Oct-23	1,195.27	ValOre Metals Corp. (100%)

Tenure Type	Tenure Name	Claim Number	Record Date	Anniversary Date	Hectares	Owner (%)
Claim	ANG11	102070	26-Oct-21	26-Oct-23	560.21	ValOre Metals Corp. (100%)
Claim	ANG12	101517	26-Oct-21	26-Oct-23	1,175.29	ValOre Metals Corp. (100%)
Claim	ANG13	102071	26-Oct-21	26-Oct-23	1,119.44	ValOre Metals Corp. (100%)
Claim	ANG14	101518	26-Oct-21	26-Oct-23	1,044.84	ValOre Metals Corp. (100%)
Claim	ANG15	102072	26-Oct-21	26-Oct-23	1,306.12	ValOre Metals Corp. (100%)
Claim	ANG16	101519	26-Oct-21	26-Oct-23	671.97	ValOre Metals Corp. (100%)
Claim	ANG17	102073	26-Oct-21	26-Oct-23	1,006.53	ValOre Metals Corp. (100%)
Claim	ANG18	101520	26-Oct-21	26-Oct-23	1,229.92	ValOre Metals Corp. (100%)
Claim	ANG19	102074	26-Oct-21	26-Oct-23	1,006.32	ValOre Metals Corp. (100%)
Claim	ANG20	102075	26-Oct-21	26-Oct-23	168.10	ValOre Metals Corp. (100%)
Claim	ANG22	101521	26-Oct-21	26-Oct-23	1,286.96	ValOre Metals Corp. (100%)
Claim	ANG23	101522	26-Oct-21	26-Oct-23	1,120.59	ValOre Metals Corp. (100%)
Claim	ANG31	102733	19-Nov-21	19-Nov-23	1,854.95	ValOre Metals Corp. (100%)
Claim	ANG32	102734	19-Nov-21	19-Nov-23	1,742.48	ValOre Metals Corp. (100%)
Claim	ANG33	102735	19-Nov-21	19-Nov-23	1,686.20	ValOre Metals Corp. (100%)
Claim	ANG34	102736	20-Nov-21	20-Nov-23	1,010.38	ValOre Metals Corp. (100%)
Claim	ANG35	102737	20-Nov-21	20-Nov-23	1,177.97	ValOre Metals Corp. (100%)
Claim	ANG36	102738	20-Nov-21	20-Nov-23	1,345.89	ValOre Metals Corp. (100%)
Claim	ANG37	102739	20-Nov-21	20-Nov-23	1,046.01	ValOre Metals Corp. (100%)
Claim	ANG38	102802	14-Feb-22	14-Feb-24	1,867.50	ValOre Metals Corp. (100%)
Claim	ANG39	102803	14-Feb-22	14-Feb-24	1,566.66	ValOre Metals Corp. (100%)
Lease	L-6247	-	29-Aug-18	28-Aug-39	198.00	ValOre Metals Corp. (100%)
IOL	RI30-001	-	01-Apr-07		7,396.65	ValOre Metals Corp. (100%)
				Total	67,329.69	

Under the Nunavut Mining Regulations (NMR), the duration of a recorded mineral claim is 30 years, beginning on its recording date, plus any extensions, unless the recorded claim is taken to lease or cancelled. In order to keep a mineral claim in good standing a holder of a recorded claim must do work that incurs a cost annually beginning on the day on which the claim is recorded for each unit (approximately 18 to 19 ha) included in the recorded claim as follows:

- $45 in respect of the first year;
- $90 in respect of the second to fourth years;
- $135 in respect of the fifth to seventh years;
- $180 in respect of the eighth to tenth years;
- $225 in respect of each of the eleventh to twentieth years; and
- $270 in respect of each of the twenty-first to thirtieth years.

Figure 4.1. Angilak Property Land Tenure.

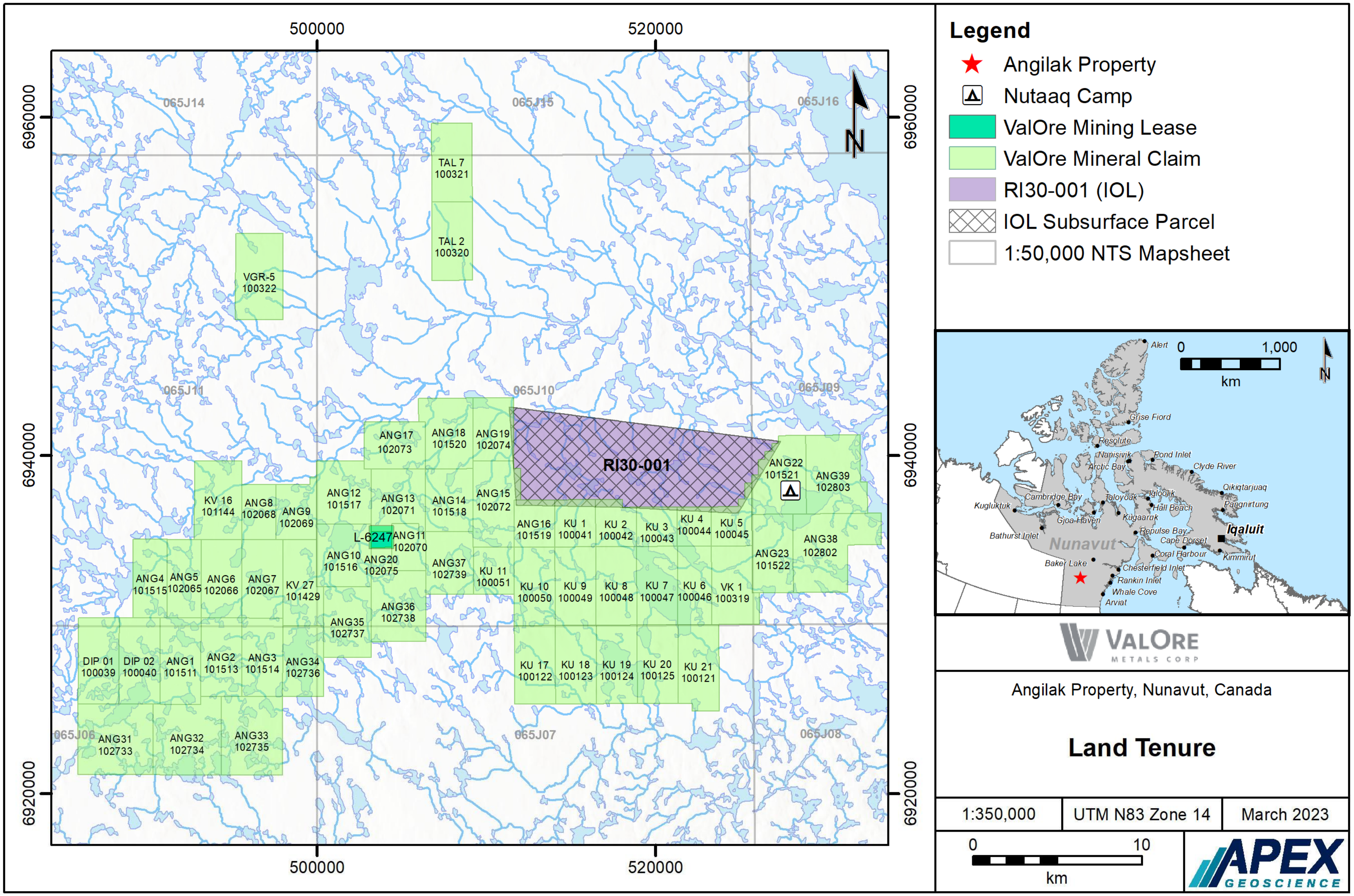
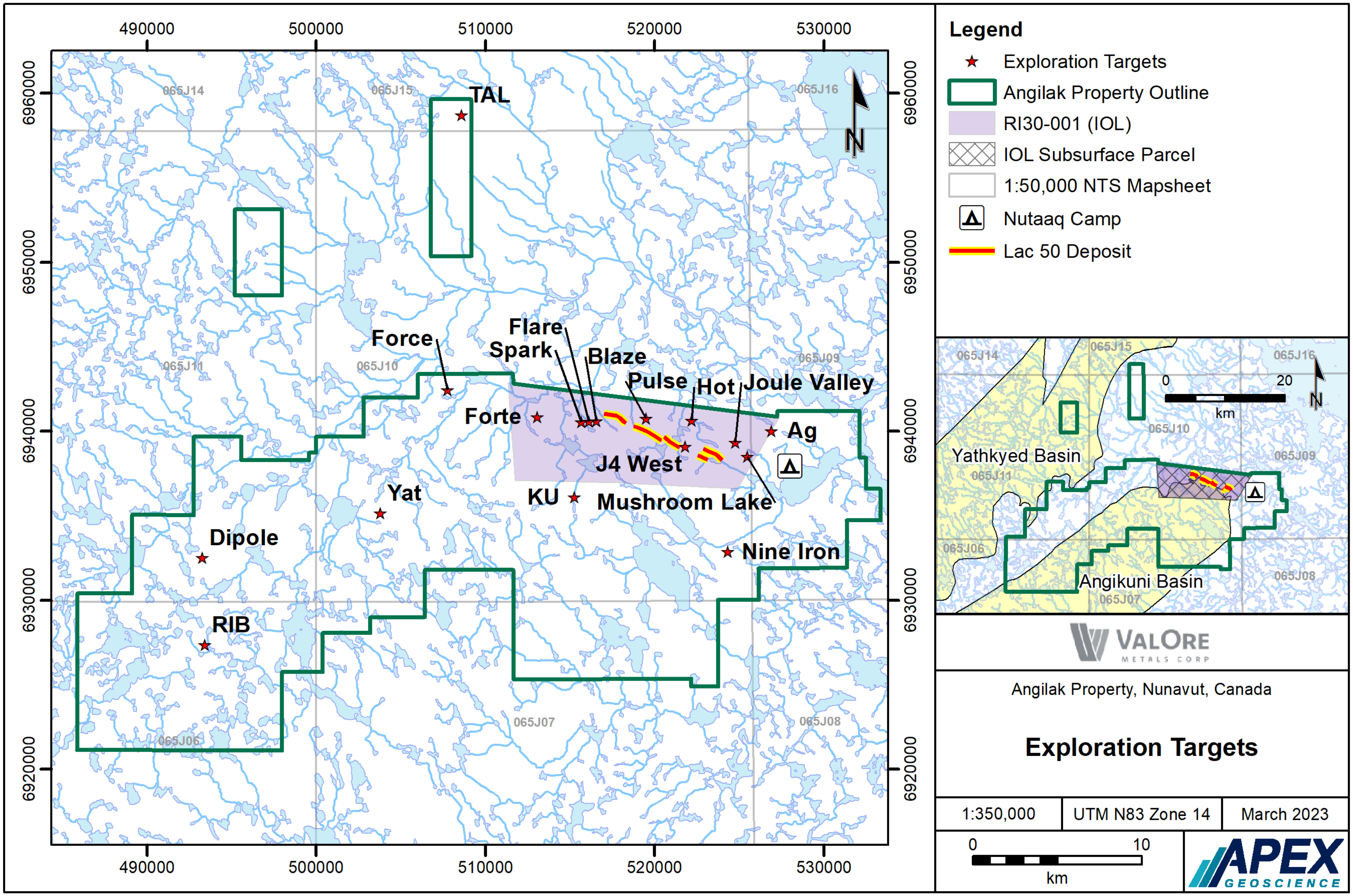


Figure 4.2. Angilak Property Exploration Targets.



At any time during the life of the mineral claim, the holder may apply to convert all or a portion of the mineral claim to a mining lease, as long as a certificate of work has been issued in respect of the claim that allocates to the claim a total cost of work of at least $1,260 per unit. No exploration work is required once the application to convert the mineral claim to a lease is filed with the mining recorder. The application to convert a mineral claim to a mining lease must be accompanied by a legal survey. No exploration is required for granted mining leases. A mining lease is normally granted for a term of 21 years and is renewable for further terms. Mining of any mineral product may only be conducted on a mining lease.

The holder of the mining lease that was issued before November 1, 2020 is required to pay an annual rental fee of $2.50 per hectare during the first term and $5.00 per hectare during each renewed term before that date. The annual rent for a lease that is issued on or after November 1, 2020 and for any lease that is renewed on or after that date is $10 per hectare.

Work and fees for IOL Parcel RI30-001 are described in a Mineral Exploration Agreement (MEA RI30-001) between the Company and NTI, and are as follows:

Annual fees:

- $1.00 per hectare in respect of the first year;
- $2.00 per hectare in respect of the second to fifth years;
- $2.50 per hectare in respect of the sixth to tenth years; and
- $4.00 per hectare in respect of the eleventh to twentieth years.

Exploration Work:

- $4.00 per hectare in respect of the first and second years;
- $10.00 per hectare in respect of the third to fifth years;
- $18.00 per hectare in respect of the sixth to tenth years;
- $30.00 per hectare in respect of the eleventh to fifteenth years; and
- $40.00 per hectare in respect of the sixteenth to twentieth years.

4.2 Surface Tenure

The surface rights for the 55 mineral claims and the single mining lease are owned by the Crown and administered by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). Under the Territorial Land Use Regulations (TLUR) a Land Use Permit (LUP) must be obtained from CIRNAC to conduct any work, including ground disturbing work such as drilling, mining or establishment of a camp.

The surface rights for the IOL parcel are owned by the Inuit and administered in the Kivalliq Region by the Kivalliq Inuit Association (KIA). Under the 1993 Nunavut Land Claims Agreement (the NLCA) the Regional Inuit Associations (RIAs) administer access through the issuance of Land Use Licences and Surface Leases, as well as other forms of authorization. A Land Use Licence must be obtained from the regional RIA prior to any access to an IOL.

The Nunavut Planning Commission (NPC), Nunavut Impact Review Board (NIRB) and the Nunavut Water Board (NWB) are institutions of the Nunavut government also established under the Agreement, which provide a regime for land use planning and project assessment.

Under the NLCA and the Nunavut Planning and Project Assessment Act (NUPPA) all activities that require a land or water use authorization from CIRNAC, NWB or an RIA must be submitted as a Project Proposal to the NPC to ensure conformity to the Regional Land Use Plan, if one exists, and to determine whether the activities require screening from NIRB to assess the potential environmental and socioeconomic impacts prior to approval of the required project authorizations. The NWB primary function is to license uses of water and deposits of waste within the Nunavut Settlement Area.

Any future mining on a mineral claim will require conversion to a mining lease, in addition to obtaining surface leases from CIRNAC. On the subsurface IOL Parcel, a production lease must be obtained from the KIA prior to mining.

4.3 Royalties and Agreements

The NMR employ a sliding royalty scheme that ranges from 0 to 14% of the “value” of the output of the mine, with allowable deductions including mining and processing, storage, handling and transportation, reclamation, depreciation, exploration, etc., essentially representing a “Net Profits Interest” (NPI) Royalty. This royalty will be applicable to mining on any of the Crown mineral claims or mining leases.

The IOL lands are subject to an underlying 12% NPI Royalty payable on all minerals to NTI. The MEA (as defined below) requires annual exploration work to be done or payments made in lieu of work, advance royalty payments of C$50,000/year (to be credited against the 12% NPI Royalty), and a bonus payment of C$1,000,000 within 60 days of receipt a NI43-101 report that demonstrates a measured mineral resource of at least 12 million pounds of uranium oxide. Upon a production decision at the Angilak Property, NTI can elect to have a 25% participating interest in the Project or collect a 7.5% NPI royalty (in addition to the 12% NPI Royalty).

In 2017, the Company granted a 1% Net Smelter Returns (NSR) Royalty to Sandstorm Gold Ltd. (Company News Release dated January 16, 2017) payable on all mineral products produced from the Angilak Property.

4.4 Environmental Liabilities, Permitting and Significant Factors

Physical work within the mineral claims, other than indirect (airborne) surveys, requires a number of permits and approvals. The mineral claims are subject to land use rules administered by CIRNAC on behalf of the Federal Government. The 1993 NLCA gave Inuit title to 356,000 km^2 of land. Inuit Owned Lands (IOL) comprise several parcels for which Inuit hold surface and/or subsurface title. Work within IOL lands requires notification of the applicable Regional Inuit Association (RIA). In the case of the Angilak

Property and IOL Parcel RI-30, ValOre must obtain and hold land use licenses issued by the Kivalliq Inuit Association (KIA). In order to conduct any surface disturbances including trenching, drilling and mining or to construct a camp, appropriate land use permits are required. The KIA administers the surface rights on behalf of the Inuit people. NTI administers the subsurface rights for IOL Parcel RI-30 and has a Mineral Exploration Agreement (MEA) in place with ValOre.

Table 4.2 lists the active permits and licences issued for exploration activities on the Angilak Property. A Nunavut Water Board (NWB) licence authorizes ValOre's water use on the Property.

Table 4.2. 2022 Land Use Permits and Licenses.

Issuing/Screening Agency	Date Issued	File Number
KIA	August 1, 2008	KVL308C09
NIRB	July 31, 2008	08EN052
CIRNAC	August 15, 2019	N2019C0013
NWB	April 12, 2022	2BE-ANG2227

Currently, there are a number of 45 gallon drums (370) that contain drill cuttings from the prior drilling campaigns and are stored in a containment storage area west of the main Angilak (Nutaaq) camp. The vast majority of these drums contain non-radioactive cuttings or background radioactivity and will need to be disposed of in a local sump. There are a number of drums (estimated at 15) that contain some radioactive drill cuttings. These drums will need to be eventually removed and disposed of in a government approved facility.

The Authors are not aware of any environmental liabilities to which the Property may be subject. The Authors understand that Labrador has yet to perform any ground disturbance work and to the authors knowledge, there is no significant historical work which would result in any environmental liabilities on the Property. At some time in the future, Labrador may be required to transfer the ValOre permits or apply for new permits to conduct exploration.

The Authors are not aware of any other significant factors or risks that would affect access, title, or the ability to perform work on the Property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Angilak Property is located 350 kilometres west of Kangiqliniq (Rankin Inlet) and 225 kilometres southwest of Baker Lake in the Kivalliq Region of Nunavut. Access to the Property is reliant on helicopters and fixed wing aircrafts. There is a 250 m long gravel airstrip 1.5 km west of the Nutaaq camp. Exploration at the Property is typically conducted between the months of February and October. Local access to and around the Project site is by either helicopter, float plane or wheeled fixed wing aircraft such as a Single Otter. Due to the commercial-grade airport and the relatively close distance, Baker Lake and Rankin Inlet are the logical mobilization points for all supplies and people. All required infrastructure for exploration can be brought in each field season as there is usually a Single Otter available in Baker Lake or Rankin Inlet.

5.2 Site Topography, Elevation and Vegetation

The Property is situated in the "barren lands," a large region of almost flat, treeless tundra characterized by poor bedrock exposure and extensive swampy areas with abundant small, shallow lakes. Elevation at the Property ranges from 150 m above sea level (asl) to 250 m asl. Locally maximum relief ranges from 30 m to 75 m but is more commonly less than 20 m. Glacial deposits in the area are extensive thus limiting rock exposure to less than a few percent of the total Property area.

5.3 Climate

The climate is best described as continental-arctic with short cool summers and long cold winters with minimal precipitation. Average summer high temperatures can reach up to 20^{o}C, while average winter temperatures are in the order of -30^{o}C to -35^{o}C. Snow is generally on the ground until the first week of June and ice does not leave the mid-sized lakes until the third week of June. Nearby Yathkyed Lake has ice cover usually until early or mid July. Smaller lakes freeze over around the end of September. Therefore, most of the year the Angilak Property is covered with snow, except between June and the end of September. Permafrost is present from 1 m to unknown depths in mid-summer. The thawed active layer is thick enough by mid to end June to allow till sampling and induced polarization surveys. Diamond drilling to 200 m depths can usually be accomplished without salt or propane based upon past experience.

5.4 Local Resources and Infrastructure

There is no permanent infrastructure on the Property. However, the Nutaaq camp is a winterized semi-permanent camp that can operate most of the year. There is an esker airstrip located approximately 1.5 km west of the Nutaaq camp. Exploration at the Property is typically conducted between the months of February and October. Local access to and around the Project site is by either helicopter, float plane or wheeled fixed wing aircraft such as a Single Otter. Due to the commercial-grade airport and the relatively close distance, Baker Lake, Rankin Inlet and/or Arviat are the logical mobilization points for all supplies and people. All required infrastructure for exploration can be easily brought in each field season as there is usually a Single Otter available in Baker Lake or Rankin Inlet. The gravel airstrip at Baker Lake is roughly 1,279 m in length and is regularly serviced by commercial airlines. Most supplies and materials required to conduct basic exploration programs can be obtained in Baker Lake and what cannot be immediately procured can be brought in by barge or by cargo aircraft to Baker Lake. During the winter months "cat train" services operating from Baker Lake and Rankin Inlet offer overland freight haulage of bulk loads, fuel and equipment on cargo sleds.

Access to water for drilling and camp use is readily available across the Property from abundant glacial lakes and ponds. All required power for the Nutaaq camp and drilling is supplied by diesel generators. All drilling waste is stored onsite until it can be shipped out as backhaul loads to Yellowknife or Baker Lake for proper collection and disposal. Numerous eskers around the Property serve as potential storage areas and lay down sites. During the authors' Property visit the camp and drill sites, drill cuttings storage sites, and fuel storage sites have been observed to be clean, properly bermed where required and in general are in an orderly state.

The Angilak Property lies about 225 km southwest from Baker Lake and 325 km southwest from the tidewater of Rankin Inlet in the Kivalliq Region of Nunavut. Both Baker Lake and Rankin Inlet receive shipped and barged supplies during August through to the end of October once the sea is free of ice. Shipping is generally out of Montreal, QC or out of Churchill, MB. The deep-water port of Churchill is 260 km to the southeast of Arviat and is connected to southern Canada via rail. Barging directly from Churchill, MB to Baker Lake, Rankin Inlet and Arviat can be conducted from July to October.

The Property can be accessed year-round. Most exploration activities associated with fieldwork and drilling can likely be conducted year-round, although there may be periods from December to March, where snow conditions and temperatures may temporarily impede work. Sufficient water for exploration is available via local sources. The surface rights are a combination of Federal Government ownership and Inuit ownership.

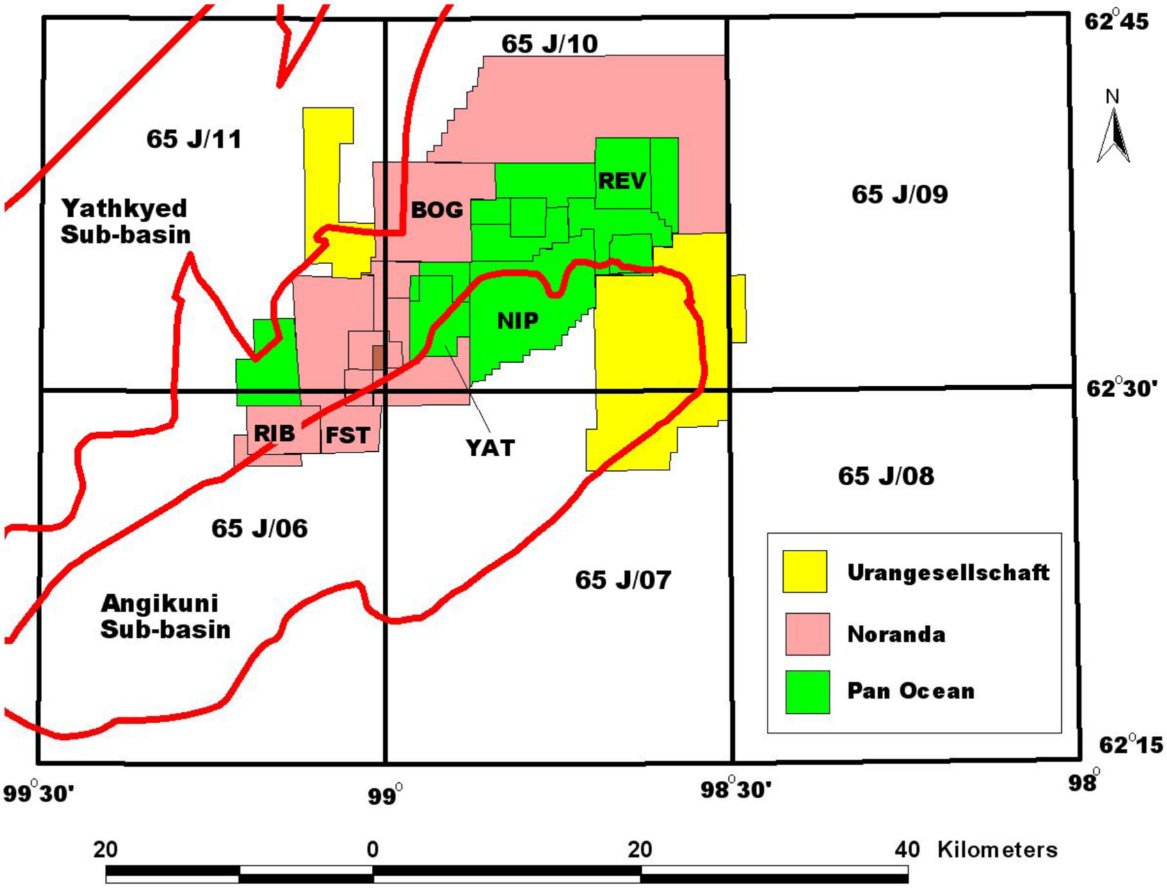
In the opinion of the Authors, the Property is of sufficient size to accommodate potential exploration and mining facilities, including waste rock disposal and processing infrastructure. There are no other significant factors or risks that the Authors are aware of that would affect access or the ability to perform work on the Property.

6 History

6.1 Introduction

Previous exploration by other companies in the area is summarized below and highlights the most relevant historical exploration, organized by company and year. Report numbers refer to numbers given to each assessment report by CIRNAC. The bulk of the historical exploration for uranium was completed between 1976 and 1981 and was concentrated along the northern margin of the Angikuni sub-basin as shown by the historical mineral claim position for the late 1970's (Figure 6.1). The most important exploration was completed by Urangesellschaft, Noranda and Pan Ocean (later Aberford Resources) as shown in Table 6.1. The Lac 50 Uranium Deposit was discovered by Pan Ocean, but there is very little documentation or data that exists and is publicly available for the historical work completed on the deposit. Previous exploration by other companies in the region is covered in detail in Setterfield (2007), Dufresne (2008), Dufresne and Sim (2011), and Dufresne et al. (2012 and 2013).

Figure 6.1. Historical Land Tenure, late 1970's (Dufresne et al., 2013)



Numerous polymetallic showings and one uranium deposit have been discovered in the project area by various exploration companies since the 1960's. Most showings occur close to the northern boundary of the Angikuni sub-basin, within both Archean basement and younger overlying basin-fill material. The high concentration of showings proximal to the unconformity between the basement and Proterozoic Angikuni sub-basin is partially due to a high volume of exploration targeting unconformity-related uranium, which is ideally applicable to this area (Jefferson et al., 2007). Indeed, this was the model used by previous exploration companies in the late 1970's, and much of the mineralization noted to date, including the Lac 50 Deposit, probably relates to this model. However, many of the showings, particularly within the basin, have significant amounts of copper (Cu) and silver (Ag). Miller (1993) suggested a red bed copper mineralization model to explain this mineralization. Recently, companies such as Western Mining Corporation (WMC), Kaminak, Kivalliq and ValOre have suggested that the iron oxide copper gold (IOCG) deposit model is a possible explanation for some of the polymetallic showings.

Table 6.1. Summary of Historical Work

Company	Years	Type of Work Conducted	Assessment Report #
Bluemont Minerals	1970	Airborne scintillometer survey, hydrogeochemical survey and minor mapping.	060294
Shell Minerals	1976	Prospecting.	080653
Comaplex Resources	1978	Regional prospecting, airborne radiometric survey, prospecting, mapping, VLF, lake bottom and water surveys.	081292
Essex Minerals	1976-1979	Geological, minor trenching, soil and water geochemical surveys and ground radiometric surveys. IP/EM/emanometer surveys. Mapping and diamond drilling.	080661, 081087
Urangesellschaft	1975-1981	Lake sediment and water survey, prospecting/mapping, soil sampling, scintillometer survey, chip sampling, trenching and ground magnetics. VLF, IP and Max-Min surveys. Diamond drilling and minor gravity surveying.	080810, 080619, 062011, 080977, 080981, 081091, 081451
Noranda Exploration	1975-1980	Airborne radiometric, magnetic and VLF-EM surveys. Mapping, prospecting, lake sediment sampling, soil sampling and radon emanometer surveys. Diamond drilling, ground magnetics, VLF and IP surveys.	080152, 080659, 080725, 080926, 080990, 081173, 081066
Pan Ocean	1975-1981	Airborne radiometric/magnetic/VLF survey, mapping, ground radiometric/magnetic/EM surveys, sampling, soil surveying, prospecting, diamond drilling, frost boil geochemistry survey, lake sediment sampling and water survey.	080598, 080597, 080618, 061692, 061562, 080714, 061814, 061815, 080945, 081075, 081072, 081082, 081368, 081358, 081387, 081433, 081453, 081361, 080715
Royal Bay/Leeward Capital/Taiga Consultants	1993-1994	Geological mapping, ground magnetics and heavy mineral sampling of areas targeted as possible kimberlite pipes.	083221, 083235, 083288, 083287
Western Mining Corporation	1995	Mapping, ground magnetic/gravity surveys, diamond drilling and lakeshore/till/stream sediment sampling.	083608, 083616, 083649

Exploration for uranium ceased abruptly at Lac 50 and the surrounding area when Pan Ocean divested its uranium projects in 1982. This was in large part due to accidents at the Three Mile Island Nuclear Power facility in 1979 and at Chernobyl in 1986 combined with the decline in oil prices during the mid 1980's. These events had a strong negative impact on uranium consumption and kept prices below $US10 per pound throughout the 1980's, which curtailed global exploration and development.

In 1993, Nunavut Tunngavik Incorporated (NTI) was formed to manage land and implement the Nunavut Land Claims Agreement (NLCA), which itself was established in 1993. Along with the formation of the territory of Nunavut in 1999, came the establishment of 37,000 km^2 of subsurface land parcels of Inuit Owned Land, including IOL Parcel RI30-001, which is situated over the historic Lac 50 Uranium Deposit. In 2007, NTI announced its new pro-uranium policy and expressed interest in forming a partnership with exploration companies to conduct uranium exploration on IOL parcels in Nunavut. That same year, NTI and Kaminak Gold Corporation (Kaminak) signed a landmark uranium partnership to explore IOL parcel RI30-001 and Kaminak's surrounding federal mineral claims (Dufresne, 2008). This led to the creation of Kivalliq Energy Corporation as a spin out company of Kaminak in 2008, formed with the express purpose to explore and advance the Angilak Property.

In 2007, Kaminak commissioned GeoVector Management Inc. (GeoVector) to conduct a detailed compilation followed by a field program based on this compilation (Setterfield, 2007). Kaminak's in-house technical team, along with GeoVector personnel, conducted geological mapping, prospecting and field verification of historical work, including verifying historical trench and drilling locations during 2007 (Setterfield, 2007). APEX Geoscience Ltd. (APEX) personnel were contracted by Kaminak and conducted a follow-up property visit later the same season, and between the two field programs, a total of 26 rock grab samples were collected from a number of historical showings in 2007 (Dufresne, 2008).

Although the work completed by Kaminak personnel during 2007 was reconnaissance in nature it confirmed and demonstrated the potential for a number of styles of uranium mineralization that could be related not only to unconformity and vein-type uranium models but potentially also to IOCG style of mineralization. Rock grab samples collected by Kaminak personnel yielded assays of up to 0.87% U_3O_8, 2.45% Cu, 31.9 grams per tonne (g/t) gold (Au) and 1,170 g/t silver (Ag) within Angikuni sub-basin sedimentary rocks just above or adjacent to the basal unconformity along the northwestern margin of the Angikuni sub-basin. Kaminak personnel visited the historic Lac 50 Deposit area as well, where several outcrops were noted to yield significant radioactive readings.

6.2 Historical Drilling

Documentation of drilling done by Pan Ocean (later Aberford Resources) in the late 1970's and early 1980's at the Lac 50 Deposit area is not available in government assessment reports. Miller et al. (1986) reported the presence of a number of high grade uranium results from historical drillholes intersections over very narrow widths at the Lac 50 area. The historical drilling is summarized in Setterfield (2007), Dufresne (2008), and Dufresne and Sim (2011).

During the 2008, 2009 and 2010 field seasons, the Company re-logged and re-sampled 147 historical drillholes from the Lac 50 area. Highlights from the re-sampling work are summarized in Dufresne and Sim (2011). There is an extensive collection of historical Lac 50 drill core stored onsite and available for sampling, however many of the core boxes were missing or deteriorating and there is a paucity of information on collar locations and orientations for the historical drillholes. The information gathered through the re-logging was used only to guide drilling and could not be utilized in the drillhole database for any resource modelling. Drilling at the Lac 50 Deposit by the Company from

2009 to 2012 has superseded all of the historical drilling conducted by Pan Ocean (Dufresne and Sim, 2011; Dufresne et al., 2012).

6.3 Historical Mineral Resource Estimates

6.3.1 Aberford and Miller et al. (1986) Historical Mineral Resource

Pan Ocean (later Aberford Resources) conducted extensive drilling in the late 1970's and early 1980's at Lac 50 on IOL Parcel RI30-001, as evidenced by reporting and figures provided by Miller et al. (1986). The long section of the Lac 50 Uranium Deposit provided by Miller et al. (1986) shows at least 58 drillholes over a strike length of 1 km down to a depth of close to 250 m below surface. The "Main Zone" deposit is described as a vein-type hydrothermal derived deposit which resembles the classical uranium bearing veins of the Beaverlodge District in Saskatchewan (Miller et al., 1986; Setterfield, 2007). The 1982 Aberford Annual Report states that the deposit *"contains approximately 11.6 million pounds of uranium oxide with grades averaging 1.03%."* No additional information was provided in the annual report. Miller et al. (1986) published the above description of the deposit geology and indicated that *"detailed ground prospecting revealed numerous fracture-controlled pitchblende-hematite-carbonate veins within the Archean metavolcanics adjacent to the overlying conglomerate. These veins form the Lac 50 deposit contains drill indicated reserves of 14 million pounds of* U_3O_8*. The deposit has not as yet been fully delineated"*. Although the resource number quoted by Miller et al. (1986) differs somewhat from the number quoted by Aberford in their annual report, it is clear that Aberford conducted extensive drilling in the late 1970's and early 1980's at Lac 50.

The authors of this Technical Report, Labrador Uranium and ValOre are treating the resource estimates provided by Aberford and Miller et al. (1986) as "historical mineral resources" and not as "current" mineral resources. There is insufficient historical information available to properly assess the data quality, estimation parameters and standards by which the estimates were categorized. The historical mineral resources utilize resource categories that are not recognized in current CIM definition standards (CIM, 2014) and best practices guidelines (CIM, 2019). The mineral resource estimates were calculated prior to the implementation of NI 43-101 and the standards set forth in even the oldest versions of the CIM definition standards and best practice guidelines (CIM, 2005). The historical mineral resource described above has been included simply to demonstrate the historically proposed mineral potential of the Angilak Property and in particularly for the Lac 50 area and for work conducted by companies other than Issuer.

6.3.2 Dufresne et al. (2013) Historical Mineral Resource

An initial maiden Inferred Mineral Resource Estimate (MRE) was completed for Kivalliq Energy in 2010 and subsequently updated in 2012 and 2013 based on additional drilling completed over that period. The most recent mineral resource estimate was completed for the Angilak Property by Robert Sim, P.Geo, with the assistance of Dr. Bruce Davis, FAusIMM, and published as a current resource in 2013 (Dufresne et al., 2013).

The author and QP Mr. Dufresne has reviewed the 2013 historical MRE. Mr. Dufresne's assessment of the 2013 historical MRE is as follows: the construction and estimation process for the historical MRE in large part is in line with current CIM standards and guidelines (CIM, 2014 and 2019) and uses the current CIM classification framework, even though it was constructed in 2013. However, there are likely changes required to the financial information utilized in 2013 and there is not enough information provided by Mr. Sim and Mr. Davis in Dufresne et al. (2013) to assess how the reasonable prospects for eventual economic extraction (RPEEE) were evaluated. It is unclear whether the historical MRE from 2013 would change by applying constraints such as an open pit and in particular constraining underground shapes to bracket the underground portion of the MRE. For this reason, the author and QP, Mr. Dufresne, Labrador Uranium and ValOre have classified the 2013 MRE as a historical MRE and therefore they are not treating it or any part of it as a current MRE.

The 2013 historical MRE was calculated for six mineralized zones: Lac 50 Main, Lac 50 Western Extension, Lac 50 East Extension, J4 Upper, J4 Lower and Ray (Table 6.2). Nominal block sizes measuring 5 m x 5 m x 5 m were used for the Lac 50 portion of the MRE and 5 m x 3 m x 3 m block sizes were used for the J4 portion of the estimate. Grade (assay) and geological information was derived from work conducted by Kivalliq Energy during the 2009, 2010, 2011 and 2012 field seasons including substantial new drilling at the time. Although extensive drilling was conducted on the Lac 50 Deposit in the early 1980's and much of the core remains on the Property, this older dataset could not be properly validated due to unknown collar locations and drillhole orientations. As a result, none of the historical drilling prior to 2009 was used during the development of the resource models for the 2013 historical resource (Dufresne et al., 2013).

The Lac 50 MRE block model was generated from 256 drillholes and 6,173 samples with a total core length of 3,188 m, all of which were competed by Kivalliq Energy from 2009 to 2012. The J4/Ray resource block model was generated from a total of 79 drillholes and 1,363 samples with a total core length of 725 m, with all holes completed between 2009 to 2012.

The bulk density database contains a total of 1,579 samples that were collected and measured during the 2010, 2011 and 2012 drilling programs. Within the mineralized domains, composited bulk densities at Lac 50 range from 2.35 t/m^3 to 3.77 t/m^3, with a mean of 2.85 t/m^3. At J4, composited bulk densities range from 2.52 t/m^3 to 3.52 t/m^3, with an average of 2.84 t/m^3 (Dufresne et al., 2013).

Block model U_3O_8 grade interpolation was completed using ordinary kriging (OK). Estimates for silver, molybdenum and copper were completed using an inverse distance weighting method (ID^2, Dufresne et al., 2013).

Table 6.2 provides the historical inferred MRE for the Lac 50 Deposit, broken out into 3 different areas, and the J4/Ray deposits, also broken out into 3 different areas at a cut-off grade of 0.2% U_3O_8 (Dufresne et al., 2013).

Table 6.2. Historical 2013 Inferred MRE Summary by zone at a 0.2% U_3O_8 cut-off (After Dufresne et al., 2013).

							Contained			
Number of holes used	**Zone**	**tonnes ('000's)**	**U_3O_8%**	**Ag g/t**	**Mo%**	**Cu%**	**U_3O_8 (Mlbs)**	**Ag (koz)**	**Mo (Mlbs)**	**Cu (Mlbs)**
143	Lac 50 Main	892	0.825	13.5	0.230	0.17	16.2	387	4.5	3.3
67	Lac 50 W Ext.	709	0.506	17.5	0.044	0.33	7.9	399	0.7	5.2
46	Lac 50 E Ext.	304	0.569	20.1	0.167	0.28	3.8	197	1.1	1.9
63	J4 Upper	592	0.698	23.3	0.145	0.28	9.1	443	1.9	3.7
52	J4 Lower	258	0.938	45.8	0.279	0.24	5.3	379	1.6	1.4
16	Ray	76	0.525	29.9	0.366	0.10	0.9	73	0.6	0.2
	Total	**2,831**	**0.693**	**20.6**	**0.167**	**0.25**	**43.3**	**1878**	**10.4**	**15.6**

The authors of this Technical Report, Labrador Uranium and ValOre are treating this 2013 estimate as a "historical mineral resource" and the reader is cautioned not to treat it, or any part of it, as a current mineral resource. The mineral resource estimate was calculated in accordance with NI 43-101 and CIM standards at the time of publication and predates the current CIM Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019).

The authors of this Technical Report have not done sufficient work to classify the historical estimate as a current MRE or reserve. A thorough review of all the 2013 resource information and drill data by a QP, along with the incorporation of subsequent exploration work and results, which includes some drilling around the edges of the historical MRE subsequent to the publication of the resource, along with a full review of the economic parameters utilized to determine RPEEE today would be required in order to produce a current MRE for the Property. The future MRE will need to evaluate the open pit and underground potential taking into consideration the current cost and pricing conditions or constraints, along with continuity of the resource blocks.

The historical MRE summarized above has been included simply to demonstrate the mineral potential of the Lac 50 trend and the Angilak Property. ValOre, Labrador Uranium and the authors of this Technical Report consider the 2013 MRE to be reliable and relevant for the further development of the Project; however, Labrador Uranium, ValOre and the authors are not treating the historical estimate as a current mineral resource.

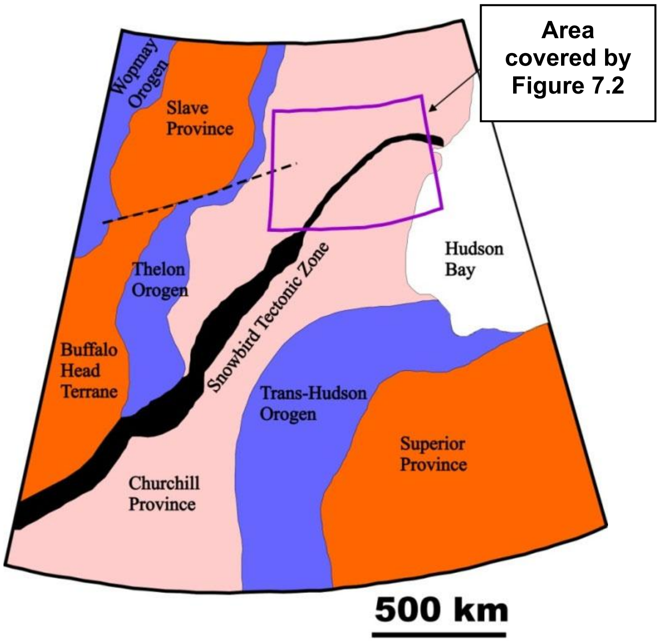
7 Geological Setting and Mineralization

7.1 Regional Geology

The Angilak Property occurs within the Churchill province, a large Archean craton. The Churchill province is welded to the Superior province by the Trans-Hudson orogen, a northwest-dipping subduction zone and to the Slave province and Buffalo Head Terrane by the Thelon/Taltson orogen, an east-dipping subduction zone.

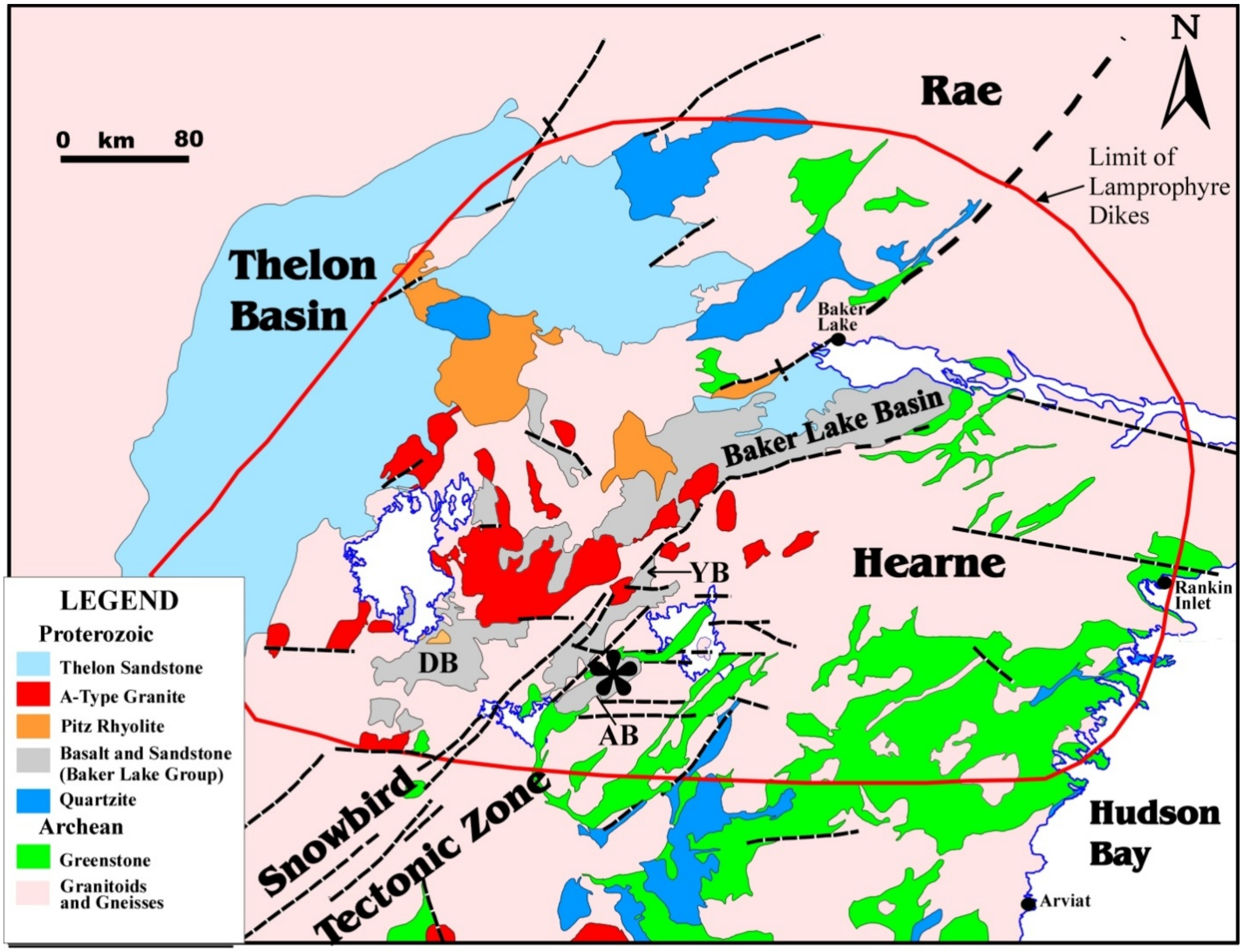
The Churchill Province is comprised of the Rae Domain to the northwest and the Hearne Domain to the southeast, sutured together along the northeast-trending Snowbird Tectonic Zone (Figures 7.1 and 7.2) The Rae Domain is characterized by Mesoarchean basement upon which late Archean supracrustal rocks of the Prince Albert Group were deposited (Hoffman, 1990; Zaleski et al., 2000). While the Hearne Domain is composed mainly of late Archean juvenile tholeiitic greenstone belts with associated plutonic and sedimentary rocks (Sandeman et al., 2004). No in situ Mesoarchean crust has yet been identified in the Hearne Domain (MacLachlan et al., 2005), but inherited zircons (Henderson and Loveridge, 1990) and Nd isotopic signatures (Aspler et al., 2000; Sandeman et al., 1999) indicate at least some involvement of Mesoarchean crust in the vicinity of the Snowbird Tectonic Zone.

Figure 7.1. Simplified Tectonic Setting of the Slave, Churchill, and Superior Provinces (Dufresne et al., 2013).



**The Rae Domain is northwest of the Snowbird Tectonic Zone (STZ); the Hearne Domain is southeast of the STZ.*

Figure 7.2. Geology of the Thelon/Baker Lake Area (Dufresne et al., 2013).



***The star is the centre of the compilation area. Modified after Miller et al. (1987), Peterson and Rainbird (1990) and Gall et al. (1992). DB, YB and AB are Dubawnt, Yathkyed and Angikuni Sub-basins respectively.**

The Snowbird Tectonic Zone is a major crustal feature that stretches over 3,000 km from Hudson Bay to southern Alberta (Figures 7.1 and 7.2), and which has undergone a protracted, polyphase tectonic history (Mills et al., 2000). Various researchers have suggested that the Snowbird Zone is representative of an Archean intracontinental fault structure (Hanmer et al., 1994a, 1994b) while others maintain that it is a Proterozoic collisional suture (Hoffman, 1988). While the timing and tectonic significance of this structure are poorly understood, the fault zone likely played a major role in accommodating far-field stresses established by both the Thelon-Taltson and Trans-Hudson Orogeny's. During these orogenic events, the Churchill Province underwent significant crustal shortening and uplift, followed by northeast-directed "tectonic escape" and gravitational collapse (Peterson et al., 2002). This gravitational collapse led to the formation of the rift basins that host the Baker Lake Group (Rainbird et al., 2003) and may have had a significant influence on magmatic activity and metallic mineralization in the area.

In Nunavut, syn- to post-orogenic sedimentation occurred throughout the Thelon-Taltson/Trans-Hudson hinterland from approximately 1.83-1.75 billion years ago (Ga), beginning with deposition of the Baker Lake Group and culminating in the deposition of the Thelon Formation (Rainbird et al., 2003).

Volcanic and sedimentary rocks of the Thelon and Baker Lake basins have been assigned to the Dubawnt Supergroup, which has in turn been subdivided into the (oldest to youngest) Baker Lake, Wharton and Barrensland groups (Table 7.1, Figure 7.2). Deposition of the Dubawnt Supergroup seems to have begun around 1.83 Ga and was probably completed by ca. 1.72 Ga (Peterson et al. 2002). Unconformities are present at the bases of all three formations of the Dubawnt Supergroup.

The Baker Lake Group, which is restricted to the Baker Lake basin system, consists of the South Channel, Kazan, Christopher Island and Kunwak formations (Table 7.1). The ~1,800 m thick South Channel formation consists of conglomerate with minor lenses of sandstone. The ~1,000 m thick Kazan Formation (locally called the Angikuni Formation) is dominated by red sandstones, with local mudstones, which commonly have desiccation cracks (Blake, 1980). The sandstone is geochemically similar to the overlying Christopher Island Formation, suggesting that early potassic volcanic rocks were eroded to form the lowermost sediments within the basin (Cousens, 1999). The Christopher Island Formation (CIF) is up to 2,500 m thick, and is composed of potassic to ultrapotassic, dominantly subaerial lava flows with lesser pyroclastic rocks, debris flows and conglomerates (Peterson and Rainbird, 1990; Rainbird and Peterson, 1990). This formation is interpreted as the extrusive equivalent of the more widespread minette (a variety of lamprophyre) dykes shown in Figure 7.2 and Table 7.1 (LeCheminant et al., 1987). A widespread suite of mafic syenitic plugs, the Martell Syenite, is also thought to feed the CIF (Smith et al., 1980). The Kunwak Formation (up to 2 km thick) is a coarse red-bed sequence with lesser interlayered debris flows and conglomerates (Rainbird and Peterson, 1990; Gall et al., 1992).

The Baker Lake group is unconformably overlain by the Wharton group, which consists principally of the Pitz Formation (Figure 7.2). This formation is up to 200 m thick, erratically distributed between the Thelon and Baker Lake basins and consists of grey to red rhyolite to dacite with lesser sedimentary rocks, typically red beds (Gall et al., 1992).

Rhyolites of the Pitz Formation are commonly ignimbritic, and locally contain fluorite and/or topaz (LeCheminant et al., 1980). Widespread granites, which display rapakivi textures and contain fluorite (i.e., are A-type granites), are interpreted as intrusive equivalents to Pitz Formation volcanics (Gall et al., 1992). These granites have been assigned to the 1.76 Ga Nueltin Suite (Peterson and van Breeman, 1999; Peterson, 1996). Available ages for the Pitz Formation cluster in the 1.76 to 1.75 Ga range, almost 100 million years (Ma) later than CIF (Miller et al., 1989). The Barrensland Group overlies the Wharton Group and is mostly restricted to the Thelon Basin. The Amer/Hurwitz groups are early Proterozoic in age and were deposited prior to 1.83 Ga, when deposition of the Baker Lake Group commenced (Rainbird et al., 2003). The above sequence of events is summarized in Table 7.1.

Table 7.1. Sequence and timing of regional geology events and lithologies (Dufresne et al., 2013).

Age (Ma)	Group	Formation	Lithology
ca. 1270	MacKenzie Dykes		Diabase and gabbro dykes
ca. 1720	Barrensland Group		
		Lookout Point	Dolostone
		Kuungmi	Subaerial Basalt
Minimum 1720		Thelon	Arenitic Pink Sandstone
ca. 1750	Nueltin Suite		Rapakivi A-Type Granite
ca. 1760	Wharton Group	Pitz	Fluorite-bearing Rhyolite
ca. 1830	Martell Syenite		Mafic Syenite; Carbonatite?
ca. 1830	Dyke Swarm	Christopher Island?	Lamprophyre & Minette
ca. 1850-1810	Hudson Suite		A-Type Granite
ca. 1840-1785	Baker Lake Group		
		Kunwak	Red-bed sandstone
		Christopher Island	Ultrapotassic minette lavas; volcaniclastics
		Kazan	Red-bed sandstone
		South Channel	Conglomerate, sandstone; regolith
Paleoproterozoic; >2100 Ma	Hurwitz and Amer Groups	Various	Quartzite, dolomite, arkose, iron-formation
	Tulemalu-MacQuoid		Gabbro and diabase dykes
Archean; >2500 Ma	Various	Various	Granitoid rocks (Snow Island Intrusive Suite)
			Greenstone Belts
			Gneissic granitoids

Uranium dominated polymetallic showings are abundant in the Baker Lake basin system. Mineralization including U-Cu ± Ag ± Au ± Pb ± Mo ± Zn occurs in fractures in Dubawnt Supergroup rocks or Archean basement, U-Cu-Ag ± Mo mineralization occurs in Kazan Formation red-beds adjacent to lamprophyre dykes, minor U-Cu-Ag-Au mineralization is associated with the unconformity at the base of the Thelon Basin, and minor U-Cu-Zn mineralization occurs associated with diatreme breccias (Miller, 1980; Miller et al., 1986).

The main diatreme breccia occurrence is east of Baker Lake and consists of angular, close-packed to sparse, clasts of Archean gneiss in a matrix of phlogopite-porphyritic, mafic "syenite" similar in appearance to flows of the CIF. The breccia cuts Archean gneiss and is variably carbonatized, chloritized and/or hematized, and contains a 10 m wide pod of pitchblende, chalcopyrite and minor sphalerite and pyrite (Miller, 1980). Similar breccias with no mineralization occur elsewhere. Red-bed copper mineralization is known in the Angikuni sub-basin at the base of the CIF (Miller, 1993).

Low grade REE-U-Th mineralization occurs near some of the alkalic dykes associated with the CIF (LeCheminant et al., 1987) and one syenite intrusion southwest of Dubawnt Lake contains up to 1% zirconium (Miller and Blackwell, 1992). Minor base metal (Pb-Cu ± Ag ± Zn) mineralization occurs in fluorite-bearing veins cutting the CIF spatially associated with a rapakivi granite (LeCheminant et al., 1980). Microdiamonds have been documented in minette dykes southeast of Baker Lake and have been reported from an interpreted diatreme near Dubawnt Lake.

7.2 Property Geology

The Lac 50 Uranium Deposit is located adjacent to the northeastern margin of the Angikuni Lake sub-basin and is hosted in Archean metasedimentary and metavolcanic rocks of the Henik Group (Dufresne and Sim, 2011; Figure 7.3). In the deposit area the dominant outcropping lithology is massive and pillowed propylitized metabasalt-meta andesite (Figures 7.3 and 7.4).

Prospecting and mapping completed by Bridge et al. (2010) in the area of the Lac 50 Deposit has identified northeast striking fracture-controlled pitchblende-hematite-carbonate veins cutting east-southeast striking Archean metavolcanics that outcrop north and east of the overlying conglomerates of the Angikuni Sub-Basin. The geology of the Project area, as presented in Figures 7.3 and 7.4, has been compiled from geological mapping by Company personnel and Taiga, historical assessment reports and regional mapping programs by the Geological Survey of Canada (Stacey and Barker, 2013). A schematic stratigraphic column for the Property is presented in Figure 7.5 with crosscutting relationships verified by field observations by the Company, and Taiga personnel. Mapping by ValOre personnel took place during the summer field seasons of 2010 to 2012 and expanded on initial work performed by GeoVector in 2008 and 2009. The programs were designed to validate existing maps and geological knowledge as well as providing a geological context for the various uranium showings on the Property (Stacey, 2010; Stacey and Barker, 2012 and 2013).

Geologically, the Angilak Property is situated between two very large fault systems: the Snowbird Tectonic Zone to the northwest, and the Tyrrell Shear Zone to the southeast (Figure 7.3). These fault zones initially formed during the assembly of the Archean Rae-Hearne sub-Provinces and were reactivated periodically in response to Proterozoic orogenic events. Transpressional tectonics between these two fault zones had a profound effect on the crustal geometry of the region, establishing an overall northeast-trending structural fabric defined by faults, isoclinal folds and shear zones. Many of these faults were reactivated with the initiation of extensional tectonics in the Mid Proterozoic, resulting in the northeast trending sedimentary basins of the Baker Lake Group. Archean basement rocks have undergone upper greenschist to lower amphibolite-facies metamorphism, while the sedimentary cover sequences are essentially unmetamorphosed.

Figure 7.3. Geology of the Angilak Property (Modified after Stacey and Barker, 2013).

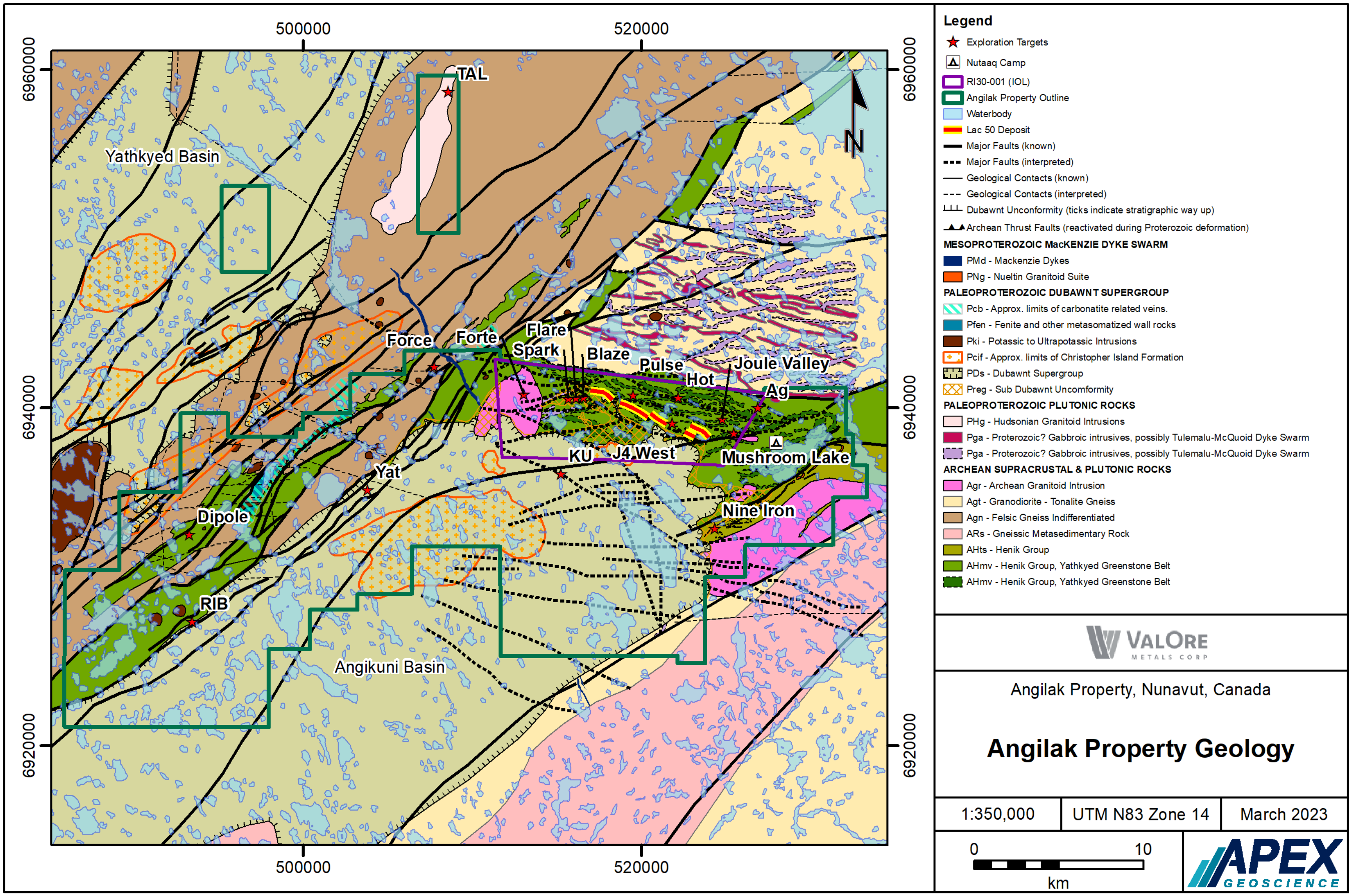


Figure 7.4. Geology of the Lac 50 Deposit Area (Modified After Stacey and Barker, 2013).

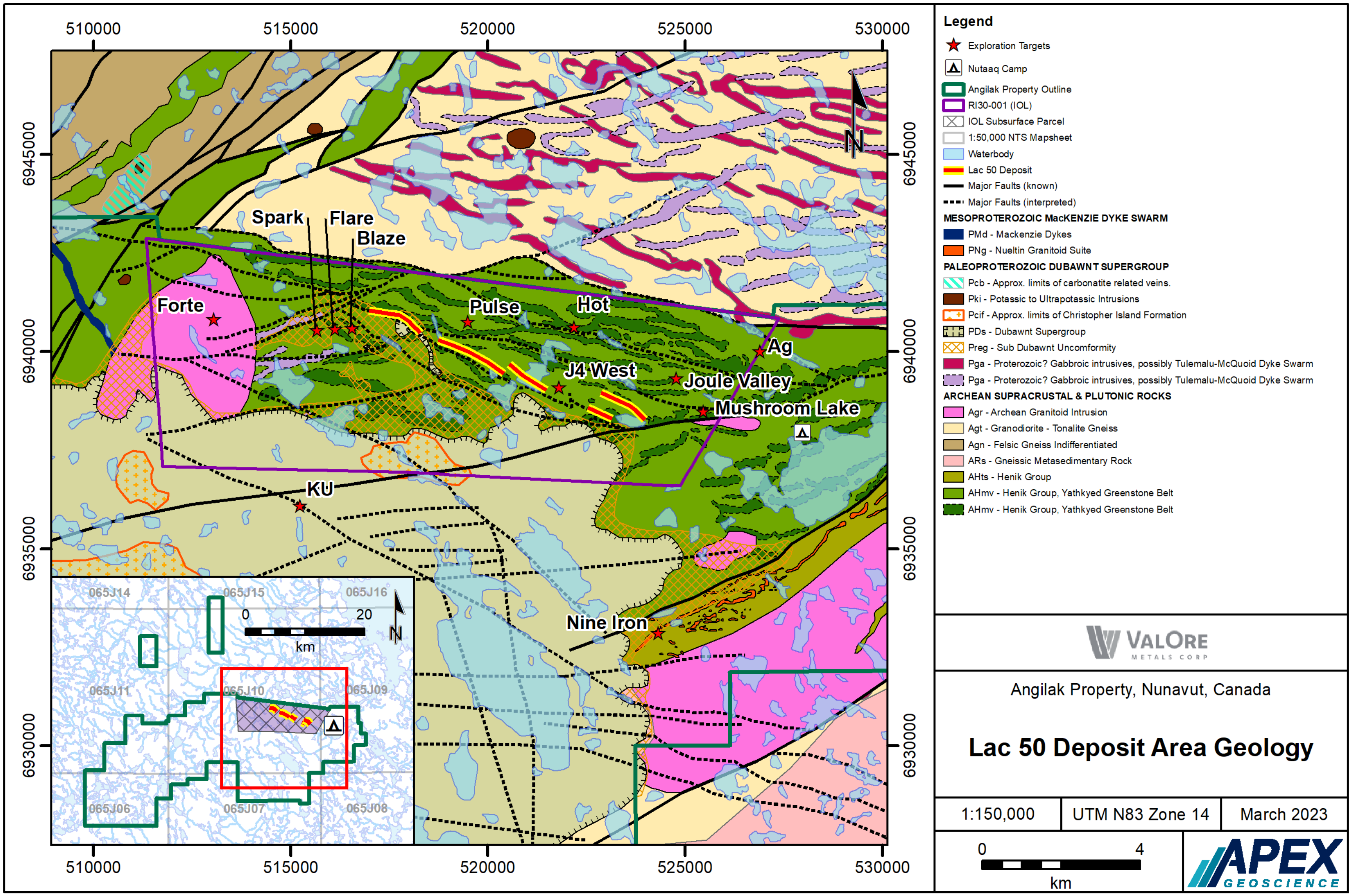
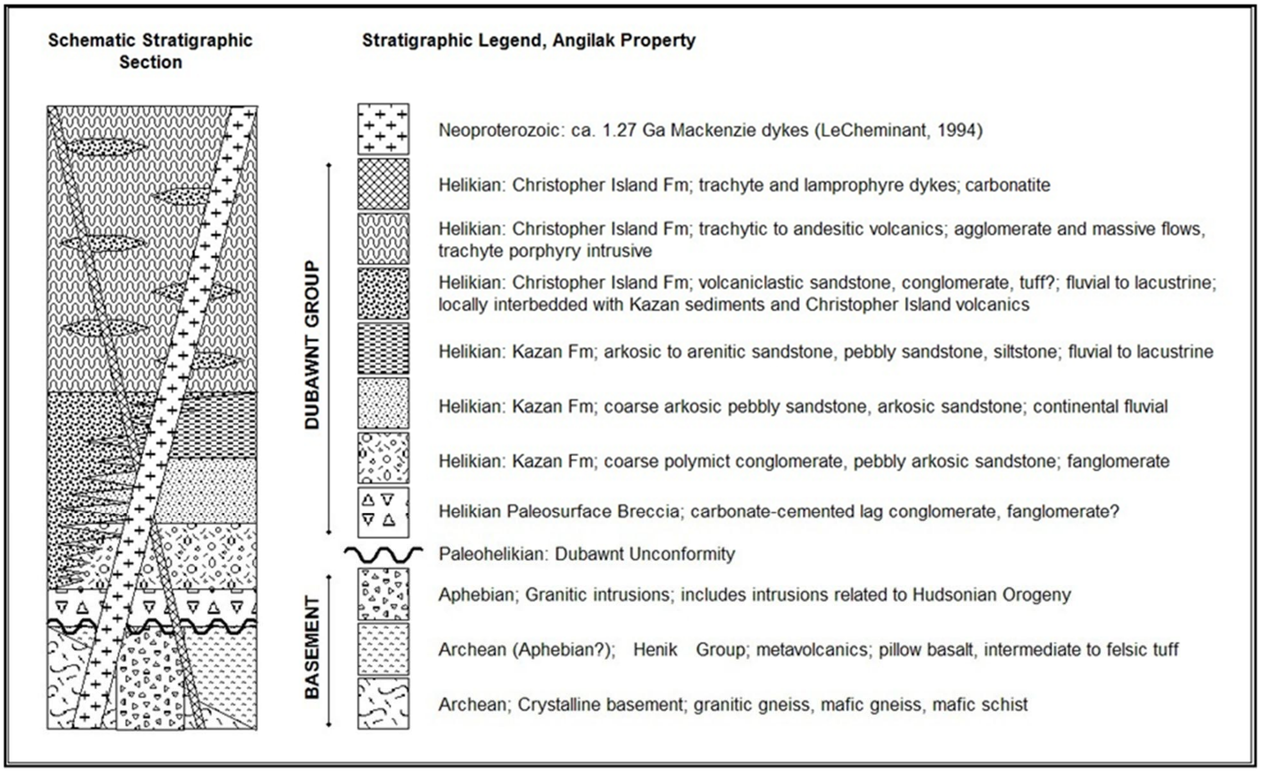


Figure 7.5. Generalized schematic stratigraphic section for the Angilak Property (Dufresne et al., 2013).



Stacey and Barker (2013) have defined three structural domains within the boundaries of the Angilak Property based on evidence from field relationships, new geological mapping, and geophysical surveys (Figure 7.3). These comprise the central/western gneissic belt, the Volcanic Block, and the southeastern compressive zone (Figure 7.3; Stacey and Barker, 2013). These three domains are structurally and lithologically distinct, having undergone related, but variable degrees of deformation and metamorphism

The dominant structural fabric is defined by major 1st-order fault zones in the central/western gneissic belt and trends northeast-southwest (NE-SW), as shown on Figure 7.3. Regional mapping completed by the Geological Survey of Canada suggests that the largest of these structures root in the Snowbird Tectonic Zone near Angikuni Lake to the southwest (Tella et al., 2007). All rock fabrics in the gneissic basement trend NE-SW and dip steeply toward the NW or SE. Crystalline basement in this area is composed of granitoid gneiss, gabbro, and granitoid intrusions. Geological mapping in 2012 identified the presence of mafic volcanic rocks imbricated with gneissic basement in the central gneissic belt and was able to correlate these with Henik Group volcanics in the Volcanic Block. This correlation was previously unrecognized due to higher strain and metamorphic grade of the greenstones in the central gneissic belt (Stacey and Barker, 2013).

The eastern half of the Property is partially underlain by mafic to felsic volcanic rocks of the Yathkyed greenstone belt (termed the "Volcanic Block" by the Company). In contrast to the western part of the Property, this structural domain trends east-southeast and dips moderately (50°-70°) toward the south. The Volcanic Block is bounded by major fault zones: these faults are currently designated as “2nd-order” faults, but they may in fact be 1st-order faults that have been folded or faulted around a major synformal axis centered in the middle of the Property (Figure 7.3). If this were the case, then the southwest- and east-southeast -trending segments of the greenstone belt may define the limbs of a regional fold structure.

The geometry of greenstone packages in the central gneissic belt suggests that at least some of these rocks were imbricated with gneissic basement rocks during Archean and/or Proterozoic “thick-skinned” thrust faulting. It is therefore possible that the Volcanic Block started out as a northeast-trending thrust slice which was rotated around to an east-southeast orientation during Proterozoic dextral deformation, possibly related to Trans-Hudsonian orogenesis. It should be noted that the metamorphic grade of the Volcanic Block is somewhat lower than those observed in the western and far southeastern parts of the Property. Within this part of the belt, greenschist-grade mineral assemblages dominate, while the western half of the Property is more representative of lower to middle amphibolite-facies metamorphism. The far southeastern part of the Angilak Property is characterized by high-pressure, moderate-temperature metamorphism in the upper amphibolite facies. The mechanism responsible for this discrepancy in metamorphic grade is not well understood, but it is thought that the Volcanic Block occupied a higher structural position in the crust (i.e., closer to surface) than the surrounding higher-grade rocks during peak metamorphism (Stacey and Barker, 2013).

The third structural domain is located in the far southeastern part of the Property, in what is known as the Nine Iron (formerly BIF) area (Figure 7.3). In contrast to the Volcanic Block, this part of the Property is composed largely of metasedimentary rocks of turbiditic affinity, with very few mafic volcanic flows. Rock fabrics trend northeast and dip moderately (50°-70°) toward the southeast. Metamorphic mineral assemblages and rock fabrics in this area indicate that this domain underwent extreme compressive deformation, largely unaccompanied by lateral shearing (Stacey and Barker, 2013). This is evidenced by the extreme flattening fabric visible in the rocks, as well as a general lack of lineations which would be apparent if strike-slip shearing had been a significant contributor to deformation in this zone. The presence of undeformed leucosomatic partial melt material parallel to the flattening fabric is further evidence that lateral shearing did not occur during peak metamorphism in this domain (Stacey and Barker, 2013).

Within each of these structural domains, several orders of faults and shear zones are present, ranging from 1st order domain bounding faults to 4th and even 5th order structures (Stacey and Barker, 2013). Most higher-order structures can be deduced from geophysics and air photo lineaments, but many of the smaller lower-order faults are only observed in drill core. First- and 2nd order faults may have originated in the Archean, and in most cases were reactivated as strike-slip faults during Proterozoic deformation. Late brittle faults (E-W to NW-SE-trending) transect and locally offset domain boundaries. Uranium mineralization can be correlated with fault zones at all scales, excepting the latest episodes of east-west brittle faulting. In the central/western gneissic belt, uranium mineralization seems to be associated with NE- to E-W-trending 1st to 2nd order faults. Within the Volcanic Block, uranium mineralization is exemplified by the Lac 50, Blaze and Joule (J4, Ray) deposits, which seem to be contained in 2nd to possibly 3rd order faults and breccia zones. In the southeastern compressive zone, uranium seems to be contained in narrow northeast-trending veins, which are parallel to 1st order fault structures and S1 foliations in this domain. However, the distribution of uranium mineralization in the Nine Iron area suggests that 3rd order faults at high angles to S1 may be a focus mechanism for mineralizing fluids, which then diffused into structures parallel to the foliation (Stacey and Barker, 2013).

A detailed overview of the geology and main lithologies encountered within the Angilak Property are provided in detail in Dufresne and Sim (2011) and Stacey and Barker (2012; 2013). The critical lithologies are summarized below with much of the information taken from Stacey and Barker (2012; 2013).

7.2.1 Archean Basement

The Archean component of the Property is dominated by felsic to intermediate gneiss, granitic to tonalitic intrusive rocks and gabbros, which extend northeast-southwest across the property. In general, basement rocks underlying the northwestern half of the property comprise granite and granitic gneisses, while those underlying the southeast half of the property are more granodioritic to tonalitic in composition and tend to be more massive rather than gneissic. The more massive granitoid rocks are interpreted to be younger than the gneisses, and have been assigned by Peterson (1994, 1996) to the ca. 2.6 Ga Snow Island Intrusive Suite. Migmatitic textures have been observed in basement gneisses at a number of locations on the property, indicating that metamorphic grades were locally high enough to induce at least some degree of partial melting.

Archean volcanic and metasedimentary rocks assigned to the Henik Group (Eade, 1986) are found in the eastern part of the property, where they underlie much of the northern part of the Angikuni Sub-basin (Figures 6.5). An Archean age of 2485 ± 62 Ma (K-Ar, hornblende) is indicated for the Henik Group in this area (Miller et al, 1986). Known collectively as the “Volcanic Block” or the “Yathkyed-Angikuni Greenstone Belt,” the lithological package extends southwestward beneath the sub-basin to Angikuni Lake. Immediately north of the central part of the Angikuni Sub-basin, mafic volcanic rocks are metamorphosed to amphibolite facies, while the main part of the Volcanic Block northeast of the sub-basin does not exceed greenschist facies metamorphism. Primary volcanic textures such as pillows, breccias, and lapilli are preserved at greenschist and lower amphibolite grades but are largely destroyed where metamorphic grades are higher and structural deformation is more severe. Deformation is strongest along the northwest and southeast margins of the greenstone belt, where mylonite zones separate metavolcanic rocks from adjacent gneissic and granitic basement.

The Henik Group in the project area is composed primarily of massive to pillowed basalt and subvolcanic gabbro, with local thin pyroclastic horizons comprising felsic to intermediate to mafic tuff. Fragmental, ashy, and water-lain tuffs can be interpreted where primary rock textures are preserved in outcrop and drill core. Basaltic sequences can be several tens to hundreds of metres thick, while tuff layers rarely exceed ten metres (m) in thickness. All layers are transposed parallel to the steep regional foliation; possibly as a result of isoclinal folding associated with Archean tectonics and the Proterozoic Hudsonian Orogeny. Mineralogy in the basalt comprises chlorite + actinolite ± hornblende assemblages; garnet is locally found adjacent to quartz monzonitic dykes. The general absence of garnet and the prevalence of chlorite-actinolite assemblages indicate that metamorphic conditions less than middle amphibolite facies were predominant. Sheared metasedimentary rocks, including psammite-semipelite, wacke, and iron-formation, are observed along the southeast flank of the Volcanic Block.

In the eastern part of the Angilak property, the east-southeast structural orientation of the Volcanic Block differs greatly from the regional northeast-southwest trend exhibited by most basement units (Figure 7.5). The exact mechanism by which the Volcanic Block has rotated is poorly understood.

7.2.2 Hudsonian Granitoid Intrusions

Though Hudsonian-aged intrusions are found throughout the Western Churchill Province, large expanses of this granite are not particularly common on the Angilak property. However, the faulted northern boundary of the Volcanic Block and several large northeast-trending fault systems to the west seem to have been loci for sheet-like intrusion of pink, equigranular granite and rare pegmatite interpreted as being related to Hudsonian plutonism. Rather than forming discrete plutons, this granite has only been observed as dyke-like bodies, sometimes intruded in a stockwork fashion in proximity to major faults.

7.2.3 Helikian Paleosurface Breccia (Unconformity Surface)

The term Helikian Paleosurface Breccia (“Hpb”) was coined by Urangesellschaft personnel in the mid 1970’s to describe the strongly paleo weathered angular “lag conglomerate” locally exposed at the base of the Dubawnt Unconformity. The term is descriptive and highly appropriate, due to the fact that the horizon was developed in situ from the weathering of rocks directly below the unconformity. The Hpb has been observed on top of both mafic volcanic rocks of the Henik Group, and rare occurrences on top of basement gneisses are noted further to the west. Clast composition of the Hpb is highly dependent on the underlying lithology. A common feature of the Hpb, which is independent of clast composition, is a sandy matrix rich in iron carbonate and hematite. The matrix presumably formed during paleoweathering and is of a composition and texture which is unique to the Hpb. The carbonate-rich matrix may represent caliche-type evaporative cement and could be an indication of weathering in an arid environment.

The Paleosurface Breccia tends to have higher background radioactivity than the underlying basement (500 – 1000 counts per second) but is essentially unmineralized. Elevated background radioactivity of the Hpb is interpreted to be the result of uraniferous fluids migrating along the unconformity surface and precipitating minor amounts of uranium around clasts, in fractures, and in the matrix of the Hpb. This unit in itself is not considered to be prospective for significant uranium mineralization.

The unit provides direct evidence of paleoweathering prior to deposition of the Dubawnt Supergroup and serves as a recognizable marker horizon within the overall stratigraphic sequence. In contrast to the Sub-Athabasca Unconformity in Saskatchewan, the Angilak Property did not undergo deep regolith weathering.

7.2.4 Baker Lake Group (Dubawnt Supergroup)

The Baker Lake Group is represented in the project area by the parallel Yathkyed (north) and Angikuni (south) Sub-basins, which extend northeast-southwest across the property (Figures 7.3). Though regional maps by Eade (1986), Peterson (1994), and Tella et al. (2007) all show the sub-basins to be comprised completely of volcanic rocks of the Christopher Island Formation (CIF), more detailed mapping by Miller (1993), Company personnel, and other exploration companies has proven that conglomerate and sandstone of the South Channel and Kazan Formations are present as well. The Late Proterozoic Thelon Formation is not found in the project area. Historically, the Helikian Paleosurface Breccia and the coarse-grained conglomeratic units directly above the unconformity are grouped with the South Channel Formation, while overlying finer-grained sandstone, siltstone, and mudstone units define the Kazan Formation. For the purposes of this report, the Paleosurface Breccia is defined as a separate entity, rather than being lumped with the South Channel Formation.

7.2.5 South Channel Formation (SCF)

The South Channel Formation (SCF) is the lowermost unit of the Baker Lake Group and directly overlies the Helikian Paleosurface Breccia. The transition from Hpb to South Channel rocks is quite sharp, though coarse clasts of re-sedimented Hpb can be found in the lowermost levels of the SCF. South Channel sediments mainly comprise poorly sorted, coarse to very coarse fluvial and fanglomerate-type conglomerates which display a wide variety of clast compositions. Clasts are rounded to subrounded granitic and gneissic rocks which have been transported a significant distance from their source. Rounded white vein quartz pebbles are common. In proximity to Archean greenstone basement, a significant portion of the clasts (20 – 50%) comprise angular, hematite-altered volcanics, which suggests both distal and proximal sources of sedimentation for the SCF. Trachytic clasts are also observed in some areas, indicating that at least some local sedimentation was derived from the Christopher Island Formation. The matrix of the basal conglomerates is composed of angular, coarse to very coarse feldspathic sand and gravel containing up to 50% quartz grains. In other areas the matrix is mainly feldspathic.

The SCF varies between several metres and several tens of metres in thickness, and fines upwards into coarse pebbly sandstones with conglomeratic lenses or channels. Local siltstone and mudstone layers sandwiched between coarse-grained conglomerates are indications that parts of the SCF were deposited in a quiescent lacustrine to deltaic environment. The coarser-grained conglomerate was presumably laid down in a fluvial setting, suggesting subdued paleotopography crossed by relatively high-energy braided streams.

The boundary between the SCF and the overlying Kazan Formation is conformable and gradational and is typically defined where coarse conglomerate and poorly-sorted coarse sandstone give way to well sorted, fine-grained arkosic sandstone, siltstone, and mudstone.

7.2.6 Kazan Formation (KF)

The Kazan Formation (KF) unit is composed primarily of fine to medium-grained, moderately to well sorted, pink to maroon sandstone, siltstone, and mudstone. Vein quartz pebbles persist in coarser pebbly sandstone layers, in contrast to quartz-poor Christopher Island Formation sediments. Siltstone layers commonly contain mud cracks, indicating periods of subaerial desiccation. Local finely interbedded sandstone, siltstone, and mudstone varves are indications of seasonally-variable sedimentation in lacustrine settings.

Kazan sediments are flat lying to gently dipping (typically less than 5 degrees), though rare fault blocks can be tilted as much as 30 degrees and local warping has been observed in immediate proximity to fault zones. Bedding is typically massive, and channel-fill sedimentary structures are noted locally. Fault-related deformation within the Kazan Formation seems to have occurred almost entirely within the brittle strain field, leading to widespread fracturing and local brecciation around faults but almost no folding. In some cases, faults cutting through the Baker Lake Group may be related to the reactivation of pre-existing basement faults and as such present a highly attractive target for unconformity-style uranium mineralization.

Radiometrically, the Kazan Formation exhibits higher background radioactivity than the underlying basement rocks. Background levels of 250 – 350 counts per second (CPS) are the norm, though individual hematitic fractures and bedding planes can run as high as several thousand CPS. Hematite-altered radioactive fractures may have formed during the mobilization of uranium through the sedimentary package, whereas the origin of radioactive beds is more ambiguous. These beds may have been mineralized by uraniferous fluids percolating laterally along the unconformity (epigenetic) or through syngenetic deposition from uranium-rich source rocks. The widespread presence of red-bed-type copper mineralization may provide an indication that some uranium mineralization is epigenetic and possibly related to the fluid event(s) that deposited copper-bearing minerals in the sandstones.

7.2.7 Christopher Island Formation

The Christopher Island Formation ("CIF") is composed primarily of trachytic to andesitic volcanic flows, pyroclastic fragmental volcanics and agglomerate, syenitic intrusions and volcaniclastic sedimentary rocks. Though the CIF largely overlies the Kazan Formation, significant overlaps of the depositional units exist, and in some areas

CIF flows and sediments are complexly interfingered with Kazan-type sediments. A criterion for identification of parent lithology is the presence or absence of white vein quartz pebbles: quartz pebbles are not found in the CIF but may be present in rocks of Kazan parentage. In the absence of quartz pebbles, it can be very difficult to assign a specific parentage to sedimentary rocks which contain trachytic clasts; however, Kazan sediments typically contain at least some quartz in the matrix, while CIF sediments are primarily feldspathic. Trachytic agglomerates can be coarse to very coarse grained and in some cases clasts can exceed one m in diameter. Clasts are angular and supported by a trachytic microcrystalline to aphanitic groundmass. Typical CIF agglomerates have clast sizes on the order of 20 – 30 cm, composed primarily of trachyte with some andesitic clasts. Coarser-grained agglomerates may be associated with vent-proximal volcanic facies, though the relationship between texture and vent proximity is poorly understood.

In contrast to the volcaniclastic sediments and agglomerates, volcanic flows are easily identified by their composition and texture. Trachytes are pink to red and tan coloured and andesites are purplish-brown to grey. Both are fine-grained and variably porphyritic: trachytes tend to contain K-feldspar phenocrysts and local biotite phenocrysts, whereas andesites are primarily biotite-phyric. Vesicular and/or amygdaloidal textures are commonly observed in andesitic rocks. Coarse K-feldspar-phyric syenite porphyry dykes are found throughout the property and are especially common in and around fault zones. Several U-Cu-Ag-Au showings may be hosted by or partially derived from trachytic bodies intruding CIF volcanics, CIF/Kazan sediments and gneissic basement, respectively. CIF dykes generally seem to be less than a few metres in width but can be much wider in places.

Uranium mineralization within the CIF has so far been limited to hematitic fracture fillings and occasional high-grade pitchblende ± hematite ± Cu-sulphide veins. Radiometrically, the CIF has the highest background signature of any rocks in the study area, commonly averaging 350 – 450 CPS in outcrop. Most of this background radioactivity is related to the highly potassic composition of the CIF, though background levels of uranium are slightly higher in the CIF than in the Kazan and South Channel Formations. Though the hydrothermal circulation system in the area is not fully understood, CIF volcanism may have been a significant contributor of fluid to the system and may also have been a source of uranium for remobilization to other areas on the property.

7.2.8 Syenite, Lamprophyre and Carbonatite (CIF)

Syenitic bodies throughout the property constitute the feeder system for Christopher Island volcanism. Dykes and stocks of syenitic composition are concentrated around major fault zones, as shown in Figure 7.3. Two conspicuously large intrusions occur on the northern and southern boundaries of the property and are interpreted as large, possibly zoned, alkalic complexes.

Lamprophyre dykes and stocks are common throughout the property and are related to CIF volcanism. The dykes are a distinctive brown colour and contain fine to coarse biotite and hornblende phenocrysts in a quartz-free, massive, fine-grained feldspathic matrix. Lamprophyric dykes were presumably emplaced during regional crustal extension and trend northeast-southwest throughout the property. To date, no significant uranium mineralization has been observed in proximity to lamprophyre dykes, though occasional radioactive, hematite-altered hairline fractures have been noted.

7.3 Mineralization

The Baker sequence records the initial and principal phases of development of the Baker Lake basin (Rainbird et al., 2003). Aspler et al. (2004) expanded on this idea and proposed that basin formation by strike-slip cannot be ruled out; however, a more appropriate model is likely regional uplift and extension within the west portion of the Western Churchill province due to terminal collision and post-collision convergence in the Trans-Hudson orogen. The base of the Baker Lake Group consists of coarse alluvial red beds from the South Channel Formation that are overlain by finer grained distal equivalents from the Kazan Formation (Donaldson, 1965; Rainbird et al., 2003). In the Angikuni sub-basin, the Kazan Formation is equivalent to a similar sedimentary succession called the Angikuni Formation (Blake, 1980). The Christopher Island Formation (CIF) is a suite of ultra-potassic lava flows and volcaniclastic deposits that have been found intercalated with overlying the strata of the South Channel and Angikuni Formations (Eade, 1986; Rainbird et al., 2003). Aspler et al. (2004) interpreted the conformable contact with the CIF and lack of volcanic detritus in the section to indicate that the Angikuni Formation was deposited between and during periods of active volcanism. SHRIMP U-Pb geochronological studies have yielded age groupings at 2.7 and 2.6 Ga for the 1.84 – 1.79 Ga Baker sequence (Rainbird and Davis, 2007). These ages are consistent with a proximal uplands source, and have been correlated to the northwestern Hearne domain (Rainbird and Davis, 2007)

Numerous mineral showings were discovered by various exploration companies during the late 1970’s and early 1980’s. Most of the showings occur close to the northern boundary of the Angikuni sub-basin, within both Archean basement and later basin-fill sedimentary and volcaniclastic material (Figure 7.3). A partial reason for the distribution of known mineralization could be that the most intense exploration effort was focused in this area, and it is likely the area of the unconformity with the most amount of outcrop. The important regional U-Cu-Au-Ag showings are discussed and located on maps and summarized in the history section above and are discussed in detail in Setterfield (2007), Dufresne (2008) and Dufresne and Sim (2011).

The Lac 50 Uranium Deposit is structurally and stratigraphically controlled and is hosted within a graphite-chlorite tuffaceous metasediment interlayered within the Archean basement metavolcanics. Mineralization consists of disseminated pitchblende with sulphides and as fracture-controlled, brecciated hematite-pitchblende-quartz-carbonate veins within the tuff. Uranium and sulphides occur in widths up to 16.4 m within a sheared tuffaceous host unit up to 17.4 m wide. The deposit strikes southeast at 110 to 120 degrees and dips south, variably between -45 and -80 degrees. Mineralization occurs as southwest plunging shoots within the plane of the tuff unit and has been traced by drilling to a vertical depth of approximately 400 m and along a strike length of 3.5 km. Lac 50 is described as a basement hosted, vein-hydrothermal type, unconformity associated uranium deposit. Mineralization discovered during 2012 at the J4 and Ray targets is similar in all aspects to the Lac 50 mineralization.

The majority of the mineralization on the Property occurs within or very proximal to a graphite and sulphide bearing tuff horizon. Generally, a number of sulphides are present within this horizon and may accompany uranium mineralization including pyrite, chalcopyrite, molybdenite, galena and sphalerite. Uranium mineralization generally consists of pitchblende (uraninite) and coffinite along with minor amounts of uranium oxide (U_3O_7), brannerite, uranophane, potassium uranyl fluoride hydrate [$K_3(UO_2)_2F_7 \cdot 2H_2O$] and richetite ($PbU_4O_{13} \cdot 4H_2O$) based on mineralogical work conducted by Morton and Grammatikopoulos (2011).

Mineralization at the Lac 50 Deposit and proximal showings can be divided into four types: (1) disseminated pitchblende with base metals in intensely fractured carbonaceous-sulphide-chert exhalite and adjacent tuffaceous metasediments; (2) carbonate + pitchblende + hematite ± chlorite breccias, in which pitchblende aggregates on clast and breccia margins; (3) discrete pitchblende veins that cut across exhalite tuff metasediments and; (4) quartz + carbonate + sulphides and pitchblende gash veins. The discrete pitchblende veins tend to be found throughout the hanging wall basalt and tuffs, and tend to have no preferred orientation. These “gash veins” range in size from a few millimetres to up to a metre across and can be almost barren to hosting several percent U_3O_8. Some of the largest gash veins can be correlated between drillholes on the same drillhole fence, but the majority cannot.

The elemental signature of the Lac 50 Deposit is U+Ag+Mo+Cu+Pb+Zn. The mineralization is accompanied by complex alteration involving hematization, chloritization, carbonatization, silicification and albitization. The deposit is described as a vein-type hydrothermal derived deposit which resembles the classical uranium bearing veins of the Beaverlodge District in Saskatchewan (Miller et al., 1986; Setterfield, 2007). Banerjee et al. (2010) and Bridge et al. (2010), indicate that the alteration associated with the Lac 50 Deposit is low temperature hydrothermal and consists of widespread pervasive hematite - chlorite alteration in and around the deposit along with carbonate in and around veins within the main zone. Bridge et al. (2011) have dated the main Lac 50 uranium mineralization at 1,828 ± 30 Ma with slight resetting at 1,437± 31 Ma.

8 Deposit Types

The following is reproduced, with minor formatting changes, from a previous Technical Report completed on the Property by Dufresne et al. (2013) and summarizes the most likely mineral deposit types that might be encountered on the Angilak Property. These interpretations are based on examining historical assessment reports and field visits to key outcrops and mineral occurrences by field crews from the Company, APEX and Taiga Consultants (Taiga) during fieldwork between 2008 and 2012. The region is host to numerous polymetallic showings that contain variable amounts of U ± Cu ± Ag ± Au, which were discovered in the late 1970's but have received minimal attention since that time. The various deposit types are ranked as high, moderate, and low probability of occurring in the region. The most important deposit type discovered to date and host to the Lac 50 Resource is the Beaverlodge-type vein or structure hosted uranium deposit.

8.1 Beaverlodge-Type Uranium Deposits

The primary target of exploration on the Angilak Property is Precambrian Beaverlodge-type vein or structure hosted uranium deposits. The past-producing Beaverlodge uranium district is located in northern Saskatchewan and produced over 68 million pounds of uranium up until production ceased in 1982 (Beck, 1986). These types of deposits are commonly referred to as "vein-type" hydrothermal uranium deposits due to mineralization being hosted in near-vertical vein-like structures associated with faults and shear zones. Uranium ore minerals are typically pitchblende and uraninite and grades are typically on the order of 0.1 to 0.5% U_3O_8. Beaverlodge deposits were relatively small and low grade compared to the more prolific "unconformity-related" uranium deposits found in the Athabasca and Thelon Basins. For example, published resource calculations on the Kiggavik Deposit near Baker Lake are approximately 134 million pounds of U_3O_8 (Areva Resources Canada Inc., 2009).

A number of exploration companies and government scientists have compared the uranium occurrences in the Baker Lake and Angikuni Basins to the Beaverlodge examples and suggested they formed in similar environments. Al Miller of the Geological Survey of Canada described several uranium showings from IOL Parcel RI30-001 in a paper published in 1986, including the Lac 50 Uranium Deposit (Miller at al., 1986). Similarities between the classic Beaverlodge occurrences and Lac 50 include: 1) narrow, pod-like uranium shoots hosted in discrete fault zones, 2) age of host rocks and hydrothermal alteration assemblages, and 3) grade and distribution of uranium minerals. The overall characteristics of the Lac 50 Uranium Deposit appear similar to the Beaverlodge examples, however, when considered in a regional context the Lac 50 deposit may represent just one of many mineralization styles in the area whose formation can be attributed to magmatic processes associated with iron oxide – copper – gold deposits, or a variant on high grade basement hosted deposits, similar to Eagle Point in the Athabasca region of Saskatchewan. The potential for discovery of additional vein-type, hydrothermal, basement hosted uranium deposits in the district is considered high and the discovery of mineralization at the J4 and Ray targets during 2012 illustrates the potential of the region for further discoveries.

8.2 Iron Oxide Copper Gold (IOCG) Deposits

Historical uranium exploration in the Project area occurred prior to the development of IOCG deposit models. The best-known example of this class of ore deposit is the prolific Olympic Dam poly-metallic deposit located in Australia and discovered by Western Mining Corporation (WMC). The regional geology of the Yathkyed area shares many geological similarities with known IOCG districts, including: age of host rocks, the presence of an extensional tectonic regime that produced continental-derived mafic and felsic rocks, ultrapotassic magmatism and craton-scale structural breaks. WMC recognized these similarities and conducted an exploration program 10 km south of IOL Parcel RI30-001 in 1995. However, WMC focused their efforts within the Angikuni basin itself and had purposely avoided uranium occurrences due to economic and political conditions. Most if not all of these regional characteristics have been recognized in the Angilak Property as outlined by Dufresne (2008). On a deposit scale there are many distinctive features of ICOG deposits however, there can be extreme variability in the presence or absence of a number of key characteristics.

In 2007, Kaminak personnel conducted a one-week reconnaissance field program which covered RI30-001 and Archean basement rocks north and east of IOL Parcel RI30-001. At the outcrop scale, Kaminak recognized a number of key textural features of the IOCG deposit class: including the presence of brecciated and silicified felsic intrusive rocks displaying strong hematite and carbonate alteration. Overall, metal content of the mineralized zones (Au-Cu-U-Ag) and the composition of alteration assemblages (Si-Na-K-Ba-P) are consistent with accepted IOCG characteristics. For these reasons, the IOCG potential is considered high, and this type of deposit model should be strongly considered when targeting the U-Cu-Au-Ag occurrences on the Property.

8.3 Unconformity-Related Uranium Deposits

The concentration of showings proximal to the unconformity between basement and the (Mid- Proterozoic) Angikuni sub-basin would suggest that an unconformity-related uranium deposit model (Jefferson et al., 2007) is applicable to this area. Indeed, this was the model used by previous exploration companies in the late 1970's, and much of the mineralization noted to date, including the Lac 50 Uranium Deposit, probably relates to this model. However, many of the showings, particularly within the basin, have significant amounts of Cu and Ag. MIller (1993) suggested a red bed Cu mineralization model to explain this mineralization.

The overall geological potential for "unconformity-related" uranium deposits at the Angilak Property is considered moderate. These deposits are characterized by small tonnage but very high-grade U grades (sometimes over 25% U_3O_8). Some of the world's most prolific uranium deposits fall within this category of mineral deposits and include the Athabasca and Thelon Basins of northern Canada. A key factor in the formation of these deposits is the presence of the unconformity that separates Mid-Proterozoic clastic sandstone rocks from underlying Lower-Proterozoic graphitic pelites and associated Proterozoic "basement" rocks.

Within the Angilak Project area, the GSC has correlated the basin rocks of the Yathkyed and Angikuni sub-basins to the Lower-Proterozoic rocks of the Baker Lake group. The critical sub-Thelon unconformity either never existed or has been eroded away. The Archean-Proterozoic unconformity that is present in the area is a rift-related margin and as such would have been deposited fairly rapidly in a sedimentary environment, which is somewhat different from the environment that is interpreted and considered necessary to form traditional unconformity-related uranium deposits.

8.4 Unconformity-Related Banded Iron Formation Uranium Deposits

Since 2011, surface exploration work recognized a southwest uranium mineralized trend located about 10 km southeast of the Lac 50 deposits, referred to as the Nine Iron trend and formerly known as the “BIF Zone” (ValOre News Release, 2012). Unlike the Volcanic Block, the package of mafic igneous rocks hosting the Lac 50 Trend uranium deposits, the Nine Iron Zone is predominantly hosted by intermediate to felsic tuff and volcaniclastic metasedimentary rock, with subordinate mafic volcanic flows (Stacey and Barker, 2012 and 2013). The Nine Iron trend is outlined by a distinct, 9-kilometre-long magnetic geophysical anomaly extending below the contact or ‘unconformity’ with the Angikuni sub-basin.

The uranium mineralization at Nine Iron trend is unconformity-related and associated with a banded iron formation (BIF). The emplacement of mineralization is structurally controlled and related to competency contrasts between the sedimentary and igneous layers. Uranium mineralization along the Nine Iron trend occurs over a 3 km long reactivated shear zone on the margin of the Yathkyed Greenstone Belt and within a package of mylonitized iron formation and tuffaceous volcano-sedimentary rock (Stacey and Barker, 2012 and 2013; ValOre News Release, 2012). Five surface samples have returned grades between 15% and 30.3% U_3O_8. In keeping with the geochemical signature of uraniferous veins throughout the Property, strong uranium mineralization in the Nine Iron Zone is accompanied by significant Cu, Zn, Pb and Ag values (Stacey and Barker, 2012 and 2013).

8.5 Carbonatite-Related Deposits

In 2011, Kivalliq prospectors discovered a number of carbonatite occurrences in outcrop and float on the Angilak Property. Unlike hydrothermal carbonate veins, carbonatite bodies are emplaced in a molten or semi-molten state and have mineral assemblages that reflect their magmatic origin. Mineralogy can be highly variable, but is dominated by various carbonate minerals (calcite, ankerite, magnesite, etc.) with subordinate silicate minerals. Carbonatite bodies are typically associated with zoned alkalic intrusive complexes, though they are also found as veins, dykes, or small isolated plugs. Carbonatite is a very highly fractionated, late-stage magmatic phase, and as such tends to become enriched in incompatible elements. Notable carbonatite occurrences with economic concentrations of Rare Earth Elements (REEs), phosphates, copper, iron, precious metals, and/or other commodities include: Oka, Québec; Mountain Pass, California; Jacupiranga, Brazil; and Palabora, South Africa (Verwoerd, 1986; Bell, 1998). In Canada, carbonatites are relatively common, and have been mapped throughout the Canadian Shield and British Columbia.

The presence of carbonatite on the Angilak Property is not unusual, considering the enormous volume of alkalic magma that was produced during the Christopher Island volcanic event. In outcrop, carbonatite is spatially associated with subvolcanic syenite and lamprophyre, and was probably emplaced in the waning stages of CIF volcanism. At this early stage of exploration, the size, distribution, and mineral tenor of carbonatites on the Property are poorly understood; however, the richness of some carbonatite deposits elsewhere in the world makes the Angilak occurrences an attractive exploration target. The association of carbonatite with zoned alkalic complexes is favourable from a geophysical standpoint, as they typically form concentric magnetic anomalies which are easily targeted for prospecting and drilling.

8.6 Red Bed Copper Deposits

Miller (1993) described a number of copper occurrences in the Angikuni Sub-basin which he attributed to red bed copper mineralization. These showings contain disseminated, stratiform and stratabound copper sulphide at or near the contact between the uppermost Kazan and lowermost Christopher Island Formations. Visually, copper-bearing strata are easily identified by their bleached grey to light pink colour, which contrasts sharply with orange-pink to maroon colours in unmineralized rock. This is characteristic of redox alteration: minerals associated with bleaching include chlorite, carbonate, and rare albite, formed when oxidized strata were invaded by copper-bearing reducing fluids. Elevated radioactivity locally accompanies copper mineralization, but most of these occurrences are non-radioactive, and spatially associated uranium may have formed through different processes than that which deposited copper in the rocks. This idea is reinforced by the fact that uranium tends to be concentrated in discontinuous fractures or veinlets, while copper sulphides are disseminated. If uranium and copper were deposited during the same fluid event, the uranium should be stratiform/stratabound and disseminated, rather than concentrated in discrete veinlets. However, the mechanisms of uranium emplacement in the sandstone packages are not well understood, and contemporaneous copper and uranium mineralization could have occurred on a local scale.

Though red bed copper occurrences on the Property are interesting and provide insight into the fluid history of the region, they are not considered a high-priority exploration target at this time. This may change if evidence for large-tonnage deposits is uncovered, but the showings described by Miller (1993) have so far proven to be of limited areal extent and the potential for large red bed copper occurrences is considered to be low.

8.7 Archean Mesothermal Gold and VMS Deposits

The potential for Archean mesothermal gold mineralization on the Property is considered low to moderate. The Kivalliq region is host to several significant gold deposits of this type, most notably Meadowbank and Meliadine. Portions of the Property are underlain by Archean pillowed mafic volcanic rocks that Eade (1986) has correlated with the Archean Henik Group. Similar rocks located 60 km to the southeast are host to high grade (>10 g/t Au) surface occurrences known as the “SY” group of showings. Nonetheless, no significant shear zones or domains of high strain have been documented on the Property and the observed mafic volcanic rocks are essentially devoid of important alteration minerals that are indicative of Archean mesothermal gold deposits (i.e., sulphides, quartz veining and carbonate). For these reasons the mesothermal gold potential is downgraded, however the presence of Archean metavolcanic sequences suggests gold may be present as a by-product in other deposit types.

As with mesothermal gold, the potential for volcanogenic massive sulphide (VMS) mineralization is considered low. These deposits are typically rich in copper, zinc and lead and are associated with bi-modal (mafic to felsic) volcanic centers. Important examples of this deposit type in Nunavut are the High Lake and Izok Lake deposits located in the central Kitikmeot. Occurrences of these types of deposits in the Kivalliq district are rare but small occurrences have been documented in the Kaminak Lake area approximately 150 kilo east of the Property. However, no VMS-like known occurrences are known in the Property region and as a result the potential for this style of mineral deposit is considered low.

8.8 Diamonds

Over the first decade of the 2000's concerted exploration in the Kivalliq region has resulted in numerous kimberlite and diamond discoveries particularly near Rankin Inlet and other parts of the northern Kivalliq region near Kugaaruk and Naujaat. Nonetheless, no kimberlite bodies have been reported in the Yathkyed to Angikuni Lake areas. In the mid-1990's Leeward drilled 2 holes approximately 30 kilometres southwest of the Project area which targeted kimberlite. They reported finding a "weathered kimberlite" which has since been determined to be a lamproite, however, no diamonds were reported. BHP Billiton obtained prospecting permits in the Yathkyed area, then allowed the permits to lapse in February 2007. However, a till sampling program at Starfield Resources' Ferguson Lake Property (80 km northeast of the Angilak Property) identified a diamond in one till sample. Drilling in 2009 intersected a kimberlite dyke (Starfield Resources Inc., News Release, April 28, 2010). Overall, the potential for diamonds on the Property is considered low, however all future exploration programs should have some knowledge of kimberlite identification and indicator mineral chemistry.

9 Exploration

9.1 ValOre Exploration 2008 to 2012

Between 2008 and 2012, the Company conducted exploration work on the Property including ground geophysical surveys, airborne geophysical surveys, diamond drilling, reverse circulation (RC) drilling, soil sampling, rock sampling, geological mapping, and prospecting. Exploration carried out from 2008 to 2012 is described in detail by Aeroquest International (2008), Stacey (2010), Dufresne and Sim (2011), Dufresne et al. (2012), Stacey and Barker (2012), Stacey and Barker (2013), and Dufresne et al. (2013). The drilling programs completed from 2009 to 2012 are discussed in Section 10 Drilling.

In 2008, exploration on the Property consisted of airborne and ground geophysical surveying, prospecting, rock sampling, and confirmation of historical drill collar locations. A combined magnetic, electromagnetic (EM) and radiometric AeroTEM III airborne geophysical survey was completed over the Property in May 2008, for a total of 5,620-line km (Aeroquest International, 2008; Figure 9.16). Aurora Geosciences Ltd. (Aurora) was contracted to complete ground geophysical surveys on the Property, as well as conduct an orientation survey at the Lac 50 Deposit to determine the best methods for surveying the area. Magnetic (MAG), radiometric, and very low frequency electromagnetic (VLF-EM) ground geophysical surveys were completed on the Property totalling of 140-line km. A field work program was completed by the Company, GeoVector, and APEX personnel with the objective of verifying and expanding information on several historical showings and drilling locations across the Property. During this program, 130 rock grab and historical drill core samples were collected, and the collar locations for 123 historical drillholes were verified (Dufresne and Sim, 2011).

The 2009 exploration program on the Property consisted of ground geophysical surveying, a diamond drill program, and the re-logging of historical drillholes. MAG and VLF-EM ground geophysical surveys were completed by Aurora totalling 631.2-line km. The surveys resulted in the identification of a 9-km long trend of parallel VLF-EM conductors that are clearly associated with the Lac 50 Uranium Deposit (Dufresne and Sim, 2011).

In 2010, exploration work completed on the Property included geochemical rock sampling, diamond drilling, environmental baseline monitoring, and the construction of the Nutaaq camp. A total of 290 samples were collected from in-situ outcrop and glacial float on the Property. A total of 51 of these samples returned greater than 1% U_3O_8, including one sample that returned 47.8% U_3O_8. A total of 38 showings on the Property were sampled, and results from 17 historical showings proved significant enough for follow-up exploration (Stacey, 2010; Dufresne and Sim, 2011).

During 2011, the Company completed airborne and ground geophysical surveys, rock and soil sampling programs, diamond drilling, as well as continued environmental monitoring. A helicopter mounted DIGHEM MAG, frequency domain EM, and radiometric survey was completed by Fugro Airborne Surveys in August 2011 on behalf of the Company. A total of 5,471-line km was surveyed, and successfully defined major conductive trends on the Property (Dufresne et al., 2012). Two separate companies completed ground geophysical surveys on the Property on behalf of ValOre in 2011.

MEG Systems Ltd. (MEG) completed a two-phase gravity ground survey program at seven major target areas on the Property in order to aid drill planning. A total of 1,605 stations were surveyed focusing on seven main target areas. Weak to moderate gravity lows were observed at the VGR northeast, Yat and IM76 target areas, while the MM64 grid showed no anomalous results. The gravity results for the IM76 and VGR grids indicated potential for unconformity associated clay alteration and uranium. The Yat grid yielded a weak gravity anomaly associated with a conductive fault zone. Follow-up RC drilling on the “bullseye” gravity low at VGR proved that the anomaly was caused by clay alteration of bedrock (Dufresne et al., 2012).

Aurora completed MAG and VLF-EM ground surveys at 24 target areas on the Property for a total of 1,597.5-line km. All of the grids surveyed during the Aurora ground geophysical program yielded VLF-EM conductors of interest with at least minor uranium mineralization on surface with the exception of one or two conductors (Stacey and Barker, 2012). The only new conductor identified by the survey was spatially associated with the AG Showing (Dufresne et al., 2012; Stacey and Barker, 2012).

The aim of the 2011 program was to discover new mineral occurrences, to revisit areas of interest identified by the 2010 field program and to identify mineralization and geological trends on the Property. The work was carried out by personnel from the Company, Taiga, and APEX. During the program 273 rock grab samples and 348 soil samples were collected from 26 different target areas on the Property. Three soil sampling grids were completed to cover areas of interest identified during the 2010 prospecting program. The rock sampling program identified the Nine Iron, Dipole, and Ag showings on the Property (Dufresne et al., 2012; Stacey and Barker, 2012).

Exploration work completed on the Property during 2012 included geophysical surveys, prospecting, geological mapping, diamond and RC drilling, rock sampling, and continued environmental baseline monitoring. The ground geophysical surveys completed by the Company and contractors on the Property in 2012 are as follows: (1) MEG completed a gravity survey; (2) Aurora completed capacitively couple resistivity (OhmMapper), mag, and VLF-EM surveys; (3) the Company completed multi-channel radiometric surveys (Table 9.1; Dufresne et al., 2013). In 2012, a helicopter supported geological mapping and prospecting program was carried out by Taiga and Discovery Consultants personnel on behalf of ValOre (Stacey and Barker, 2013).

9.1.1 Geophysical Surveys and Data Review 2012

Condor Consulting Inc. (Condor) was contracted by the Company in spring 2012 to complete a review of all previous geophysical data to aid in the planning of additional geophysical surveys in 2012 (Dufresne et al., 2013). This review involved the reinterpretation and reprocessing of airborne geophysical data, the comparison and reconciliation of airborne EM and ground VLF data at the Lac 50 Deposit, and the generation of new potential uranium targets. The results of this review are presented in detail in Condor Consulting Inc. (2012) and Dufresne et al. (2013).

Two phases of gravity surveys totalling 2,556 gravity stations over two grids were completed by MEG in 2012 (Dufresne et al., 2013). The gravity method was used to test the detection of anomalies due to density variations of rock types that contain uranium mineralization, clay alteration or fault zones (Figure 9.1). Weak gravity anomalies were identified at the Yat target grid that are associated with a conductive fault zone (Dufresne et al., 2013).

Magnetics, VLF-EM and resistivity (OhmMapper) surveys were carried out by Aurora from April to May, 2012 (Dziuba, 2012; Dufresne et al., 2013). The program totalled 309-line km over four grids. The purpose of these surveys was to supplement previous work and better define subsurface conductors and magnetic bodies at priority target areas. A total of 139-line km of OhmMapper surveying was completed on the LC-Ohm grid (Figure 9.2). A total of 72-line km of MAG/VLF-EM surveying was completed at AG and Nine Iron (Figure 9.3). A 98-line km grid of MAG surveying was completed at the northern TAL area (Figure 9.4).

Table 9.1. Summary of 2012 gravity, resistivity, magnetic/VLF-EM, and radiometric surveys (Dufresne et al., 2013).

Survey Type	Grid	Target Description	Comments
Gravity	Yat	hydrothermal alteration	Confirmed presence of clay alteration
Capacitively Coupled Resistivity	LC-Ohm	Resistive features for comparison to conductors identified by VLF-EM surveys	Highly Responsive to Subsurface conductive bodies
Magnetics/VLF-EM	AG	Conductive/geological/structural features	Areas of interest identified
Magnetics/VLF-EM	Nine Iron	Conductive/geological/structural features	Areas of interest identified
Magnetics	TAL	Geological and structural features	Areas of interest identified
Multi-channel Radiometrics	FX	Test ability to define boundaries of carbonatite body that are known to be weakly radioactive	Inconclusive results
Multi-channel Radiometrics	AG	Overburden covered radiometric anomalies; drill tested by Urangesellschaft in late 1970s	Moderate to strong radiometric anomalies correspond to areas of known surface mineralization
Multi-channel Radiometrics	Force	Overburden covered radiometric anomalies	No radiometric anomalies generated that were not already known from prospecting
Multi-channel Radiometrics	Forte	Overburden covered radiometric anomalies	Radiometric anomalies generated associated with volcanics (high-grade gash veins) and conglomerate (low-grade disseminated uranium)
Multi-channel Radiometrics	J2-J3-J4	Test if valleys hosting Ray, J4 zones presented recognizable radiometric anomalies	Anomalous radioactivity in J4 valley represents near-surface expression of J4 zone; anomalous radioactivity foot/hanging wall of Ray is due to numerous narrow gash veins exposed on surface
Multi-channel Radiometrics	Nine Iron	Overburden covered radiometric anomalies	Radiometric anomalies were drill tested positively at Nine Iron NE but inconclusive at central and SW areas

Figure 9.1. 2012 MEG Ground Gravity Survey (Dufresne et al., 2013).

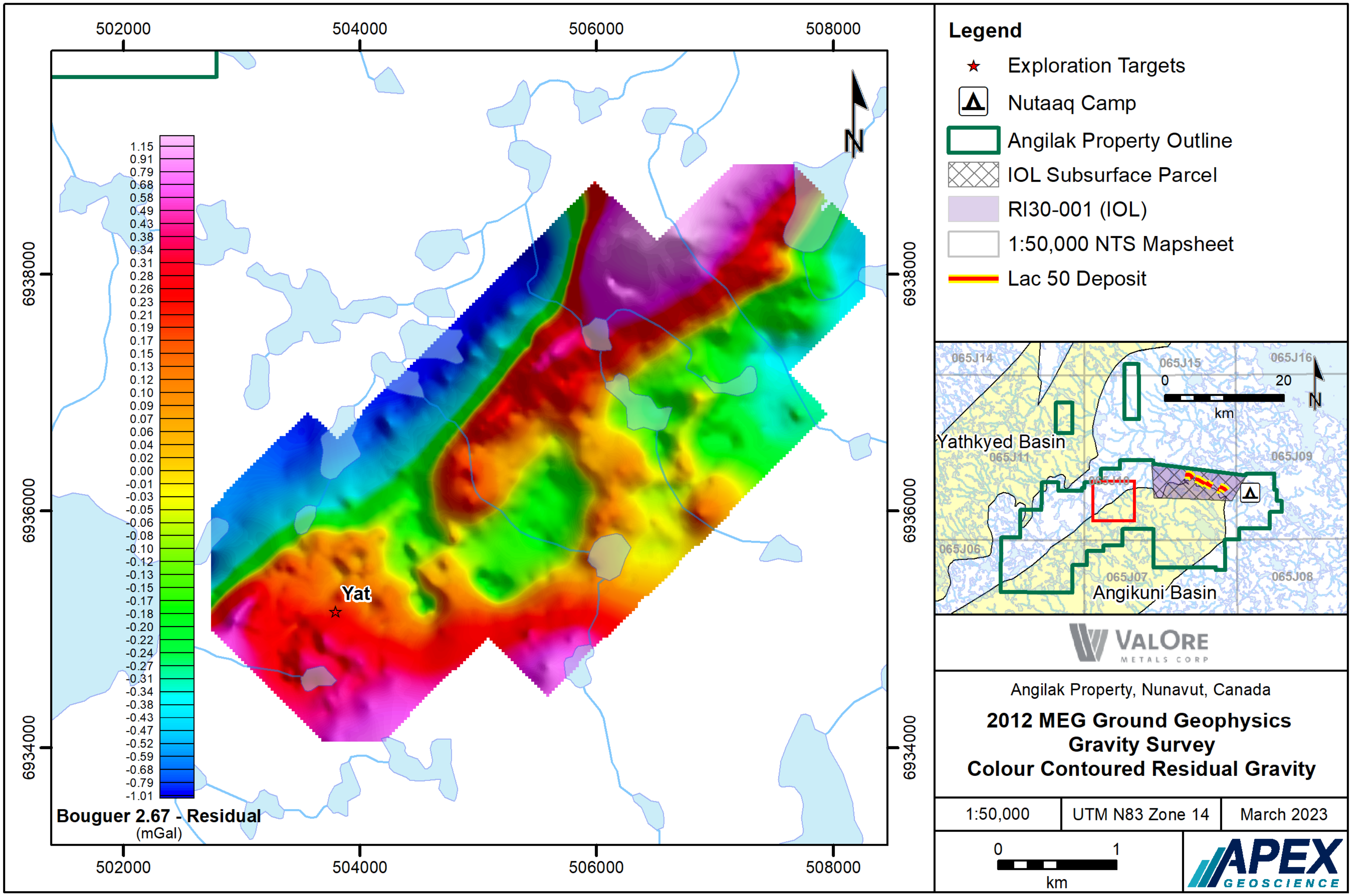


Figure 9.2. 2012 Aurora OhmMapper Capacitively Coupled Resistivity Survey (Dufresne et al., 2013).

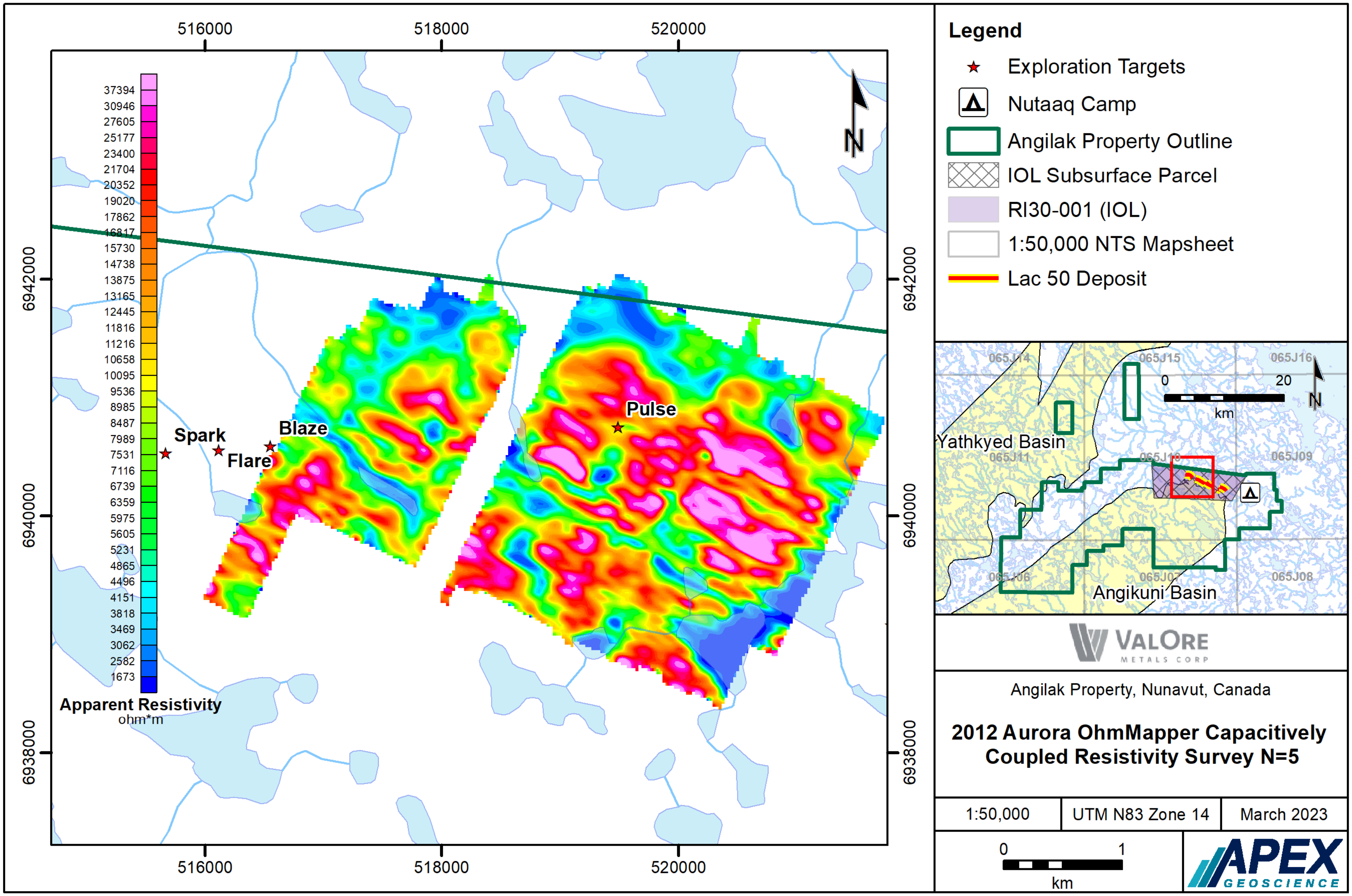


Figure 9.3. 2012 AG and Nine Iron Ground Magnetics Surveys (Dufresne et al., 2013).

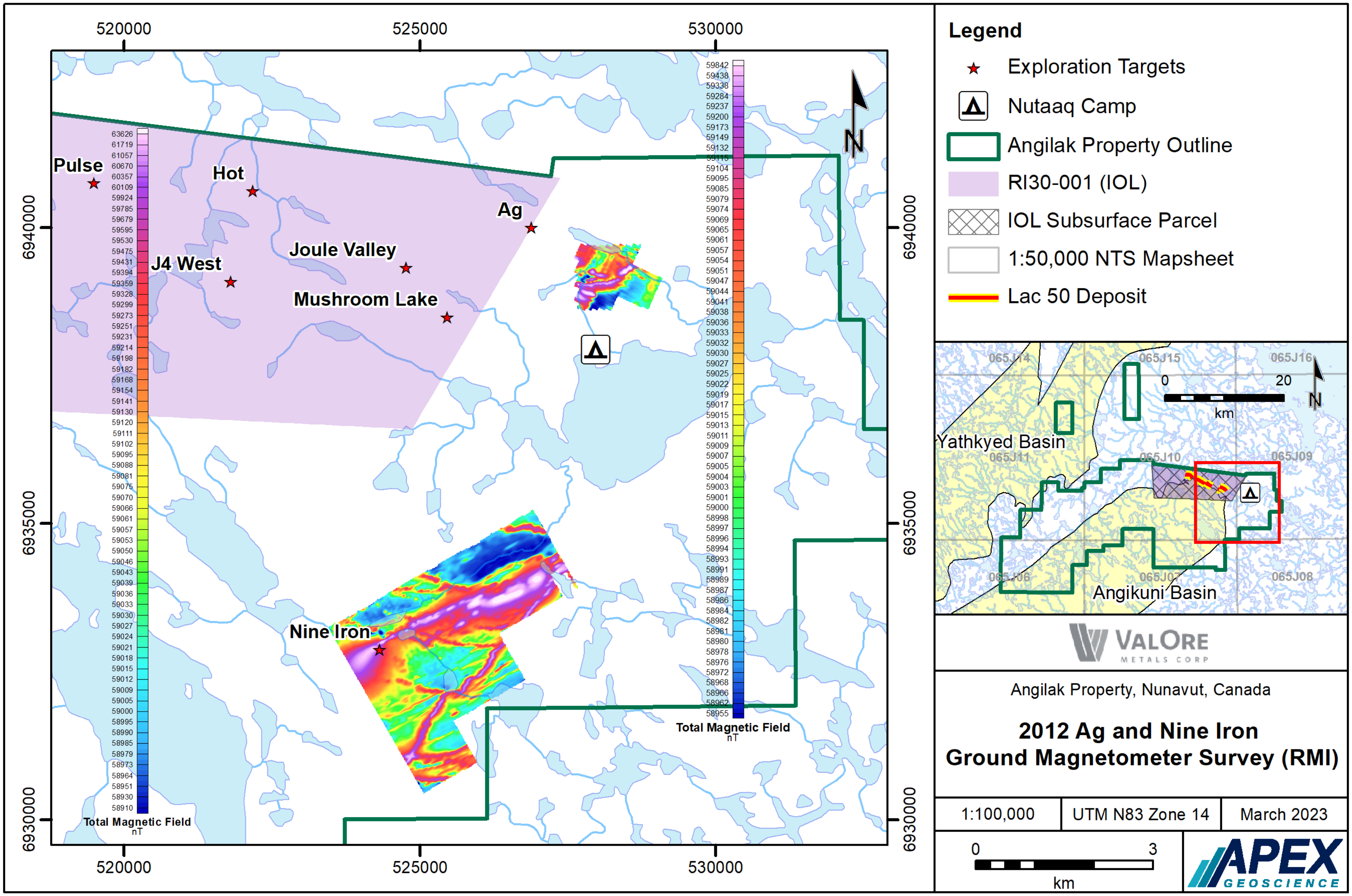


Figure 9.4. 2012 TAL Ground Magnetics Survey (Dufresne et al., 2013).

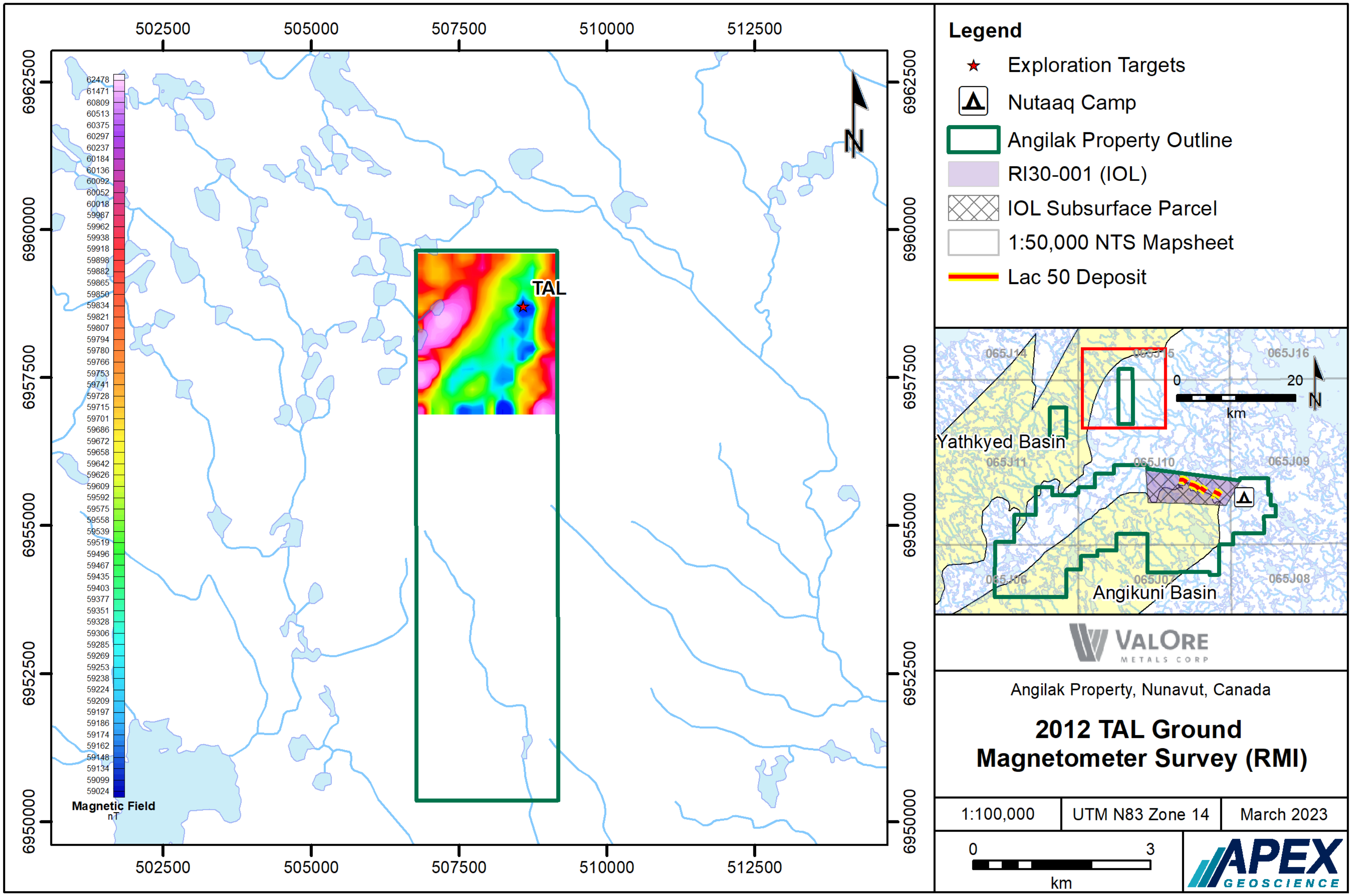
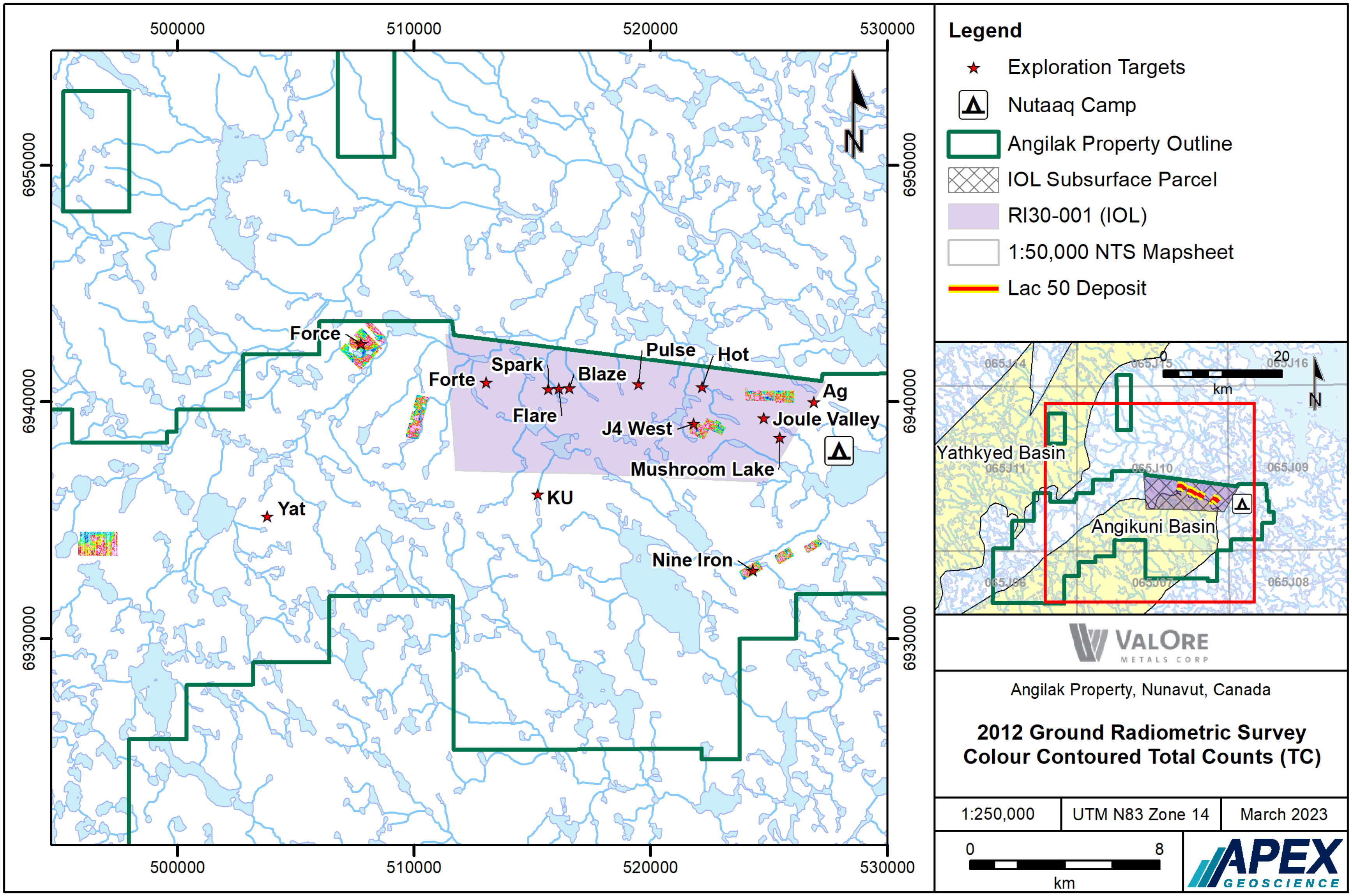


Figure 9.5. 2012 Ground Radiometric Surveys (Dufresne et al., 2013).



Multi-channel ground radiometric surveys were completed by the Company in July, 2012. A total of 196-line km were conducted over eight targeted areas in order to test the potential to identify subtly elevated background radioactivity (Figure 9.5). Overall, the results of the radiometric survey were deemed to be ineffective or inconclusive at most targets, with some moderate to strong anomalies being identified at the Forte and Nine Iron targets in association with known outcrops and structures with uranium mineralization (Dufresne et al., 2013; Stacey and Barker, 2013).

9.1.2 Geological Mapping and Rock Sampling 2012

In 2012, a helicopter supported geological mapping and prospecting program was carried out by Taiga and Discovery Consultants personnel on behalf of the Company (Stacey and Barker, 2013). The goal of the geological mapping program was to examine in detail the areas of interest identified during 2010 – 2011 prospecting programs, to follow up on geophysical anomalies (resistivity, VLF-EM, EM, gravity) identified by airborne and ground surveys completed between 2008 – 2012 and to produce a new geological map of the area relating known mineral showings to geological features such as faults, shear zones or specific rock units (Dufresne et al., 2013).

The geological mapping program resulted in the identification of three structurally and lithologically distinct domains in the Property area: the Central/Western Gneissic Belt, the Volcanic Block, and the Southeastern Compressive Zone (Stacey and Barker, 2013). Within the Central Gneissic Belt, mapping identified several slices of metavolcanic rocks, which are a part of the Archean Henik Group (Dufresne et al., 2013). The Dipole target occurs within one of these greenstone belts (Figure 9.6). The geological mapping program focused on the J4-Ray area of the Lac 50 Deposit within the Volcanic Block, which has relatively good outcrop exposure (Dufresne et al., 2013). This detailed mapping resulted in the better understanding of the structures and mineralized vein systems present at the J4-Ray area (Dufresne et al., 2013). The Southeastern Compression Zone, which hosts the Nine Iron showing is located to the southeast of the Volcanic Block (Dufresne et al., 2013). The geological mapping program identified strong compressional fabrics through the area, which are interpreted as being a result of Proterozoic deformation (Dufresne et al., 2013; Stacey and Barker 2013). At the Nine Iron showing, several rock grab samples returned significant Au values of up to 14.4 g/t Au (Table 9.2).

A total of 95 rock grab samples were collected during 2012 from in-situ bedrock as well as from cobbles and boulders found in glacial till. Assay highlights for the rock samples are presented in Table 9.2. Samples were sent for multi-element geochemical assay and whole rock lithogeochemical characterization. A total of 19 samples returned assays in excess of 0.1% U_3O_8, with many yielding significant concentrations of Ag, Cu, Mo, Pb and Zn. Samples with assays in excess of 0.5% U_3O_8 were obtained from the target areas: J4, Nine Iron, and Yat (Figure 9.6, Dufresne et al., 2013).

Figure 9.6. 2012 Field mapping results at the Angilak Property. Red stars indicate location of rock grab samples. Significant mineralized trends are labeled (Stacey and Barker, 2013).

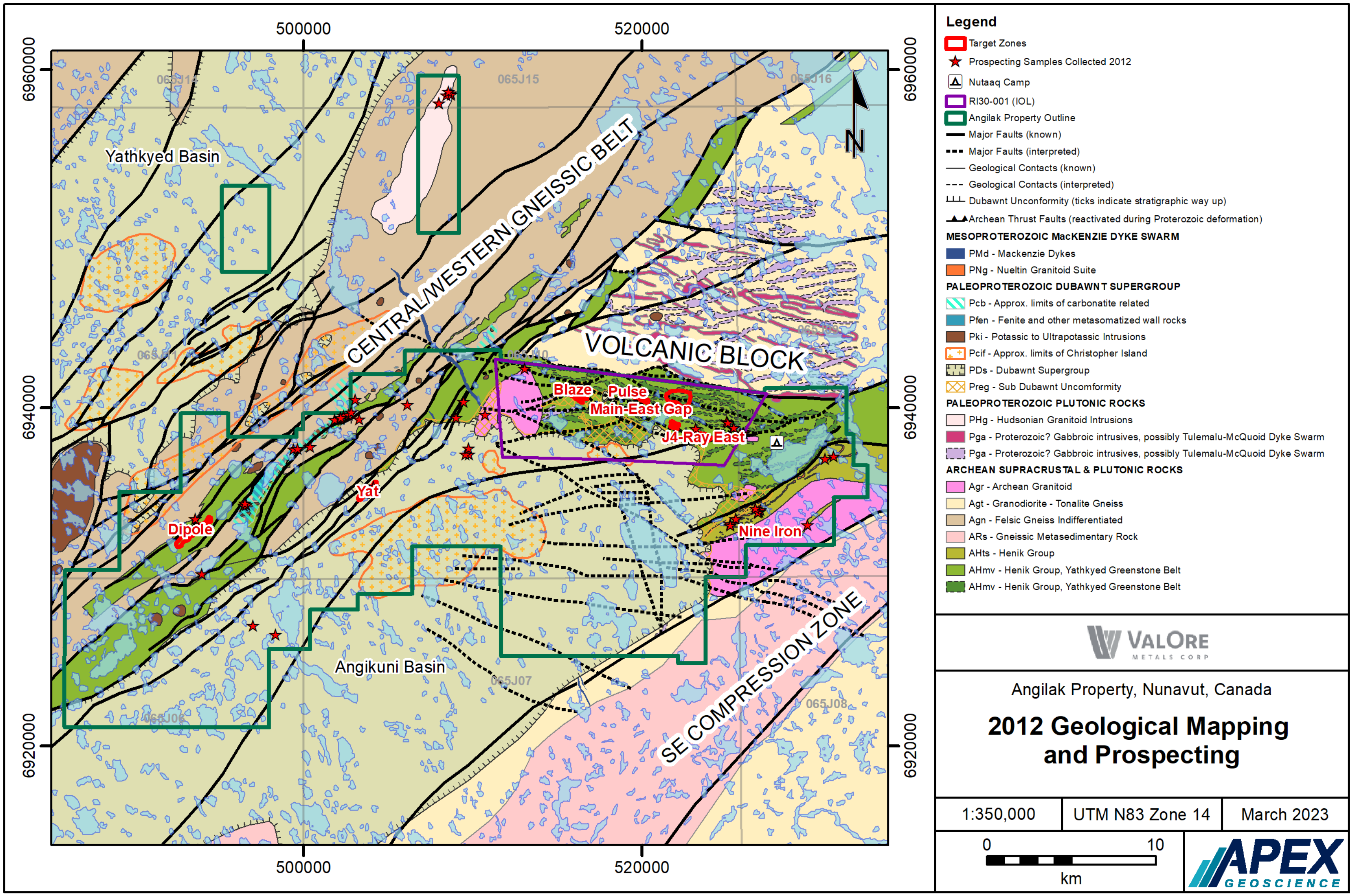


Table 9.2. Summary of assay highlights for rock samples collected during 2012 geological mapping program (Dufresne et al., 2013).

Sample #	U (ppm)	U_3O_8 (%)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	Au** (g/t)	Pt** (g/t)	Pd** (g/t)	Zone
255099	1020	0.116	0.02	2	0.03	0.00	-	-	-	BOG
255238	3500	0.387	0.01	0.3	0.11	0.01	-	-	-	Devil Lake
255072	2320	0.268	0.01	3.7	0.21	0.01	0.00	0.00	0.00	Force South
255068	3500	0.39	0.08	9.2	0.04	0.01	0.04	0.00	0.00	Forte
255069	93	-	3.43	70.5	0.01	0.00	0.00	0.00	0.00	Forte
255070	732	-	1.02	26	0.02	0.01	0.00	0.00	0.00	Forte
255231	2830	0.312	0.08	16.7	0.13	0.01	0.08	0.00	0.03	J4 area
255232	5350	0.621	0.17	13.5	0.27	0.01	0.04	0.00	0.01	J4 area
255233	1950	0.228	0.00	1.3	0.02	0.01	0.01	0.00	0.01	JML
255051	1510	0.182	0.20	1.1	0.03	0.01	0.00	0.00	0.00	Joule Valley
255052	202	-	1.90	276	0.36	0.00	0.22	0.00	0.00	Joule Valley
255055	2290	0.268	0.06	0.7	0.11	0.01	0.03	0.00	0.00	Nine Iron
255056	8010	0.933	0.43	19.2	0.79	0.05	0.05	0.00	0.02	Nine Iron
255057	12700	1.5	0.01	5.8	0.45	0.01	0.00	0.00	0.00	Nine Iron
255080	66	-	0.01	0.5	0.00	0.00	14.4***	0.00	0.00	Nine Iron
255081	27	-	0.05	0.9	0.00	0.00	9.12***	0.00	0.00	Nine Iron
255059	1540	0.172	0.03	2.7	0.03	0.01	0.01	0.00	0.00	Nine Iron East
255088	1360	0.146	0.04	0.6	0.06	0.01	-	-	-	North Central area
255064	41	-	0.04	8.5	0.57	0.67	0.00	0.00	0.00	TAL
255226	32	-	0.43	18.9	0.33	0.00	0.00	0.00	0.00	TAL
255073	44	-	1.11	42	0.01	0.01	0.00	0.00	0.00	Yat
255085	13600	1.57	1.61	101	3.64	0.01	123.6***	4.27	9.39	Yat
255086	1040	0.112	0.54	6800	0.81	0.01	84.6***	0.88	3.18	Yat

***For exact analytical techniques see Dufresne et al. (2013). All samples were subject to ICP analysis at the Saskatchewan Research Council (SRC). Results >1000 ppm U were re-analysed by SRC's U_3O_8 assay; 1 ppm = 1g/t; 10000 ppm = 1%; Conversion to U_3O_8% = ppm x 0.01179%.**
****Some samples were subject to analysis by Lead fusion Fire Assay and AAS finish to obtain results for Au, Pt and Pd. Fire Assay results for Au, Pt and Pd are reported by SRC in ppb; 1000 ppb = 1 ppm = 1 g/t.**
*****Samples with Au values >1 g/t were re-analysed using a Metallic Screen Assay (in g/t) at the SRC.**

9.2 ValOre Exploration 2013 to 2016

ValOre continued exploration on the Property from 2013 to 2016, and completed rock sampling, soil sampling, geophysical surveys, trenching and channel sampling, and heavy mineral sampling. Results of the rock and soil sampling programs completed on the Property from 2013 to 2016, including historical rock samples from 2007 and 2008, are presented in Figures 9.7 and 9.8 respectively. The drilling programs carried out in 2013 and 2015 are detailed in Section 10. No exploration work was completed on the Property from 2017 to 2021. In July of 2017, maintenance was performed on the Nutaaq camp. In July 2018, a Property visit was completed in order to conduct camp

Figure 9.7. Rock sampling overview at the Angilak Property 2007 to 2016.

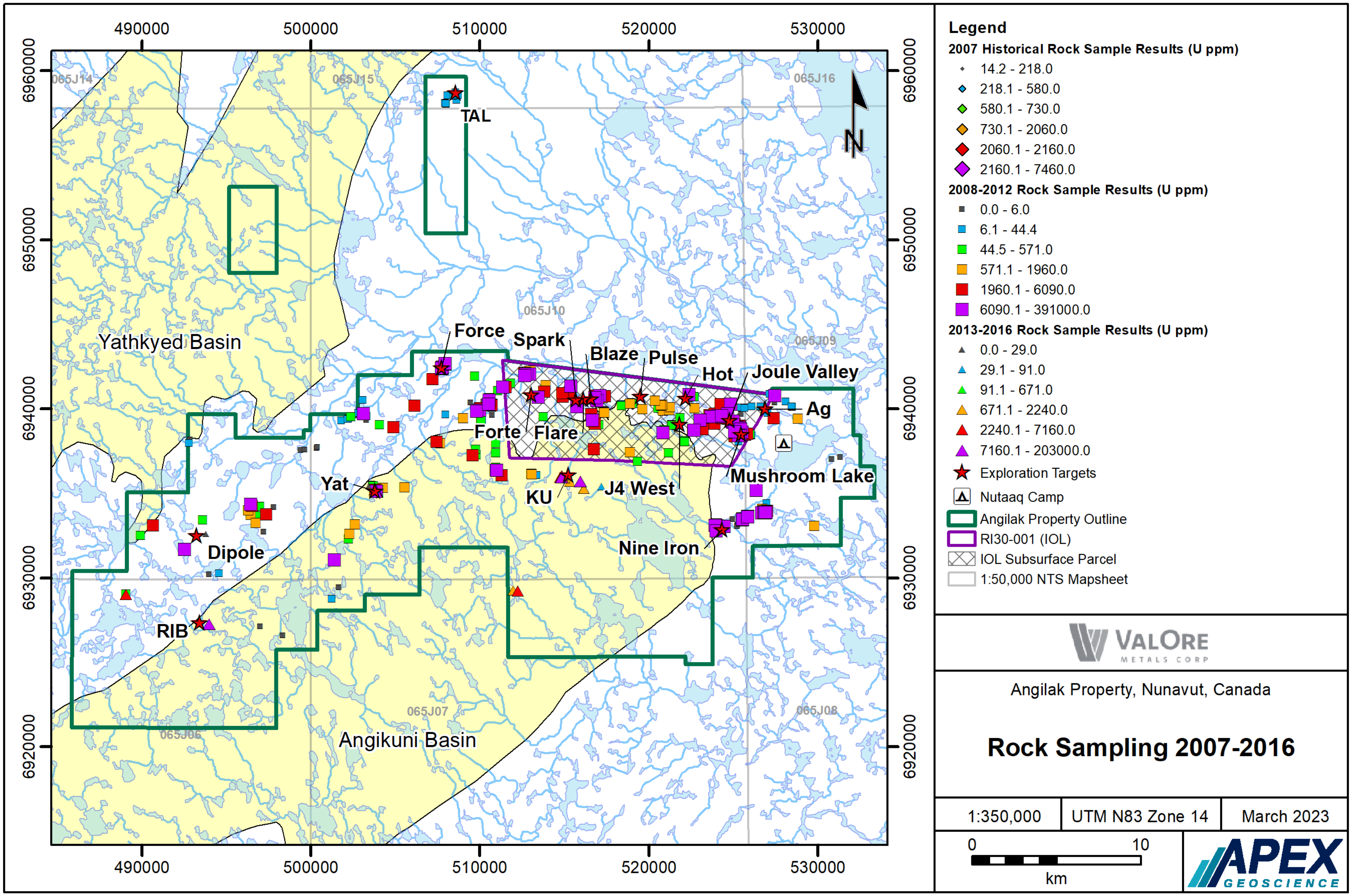
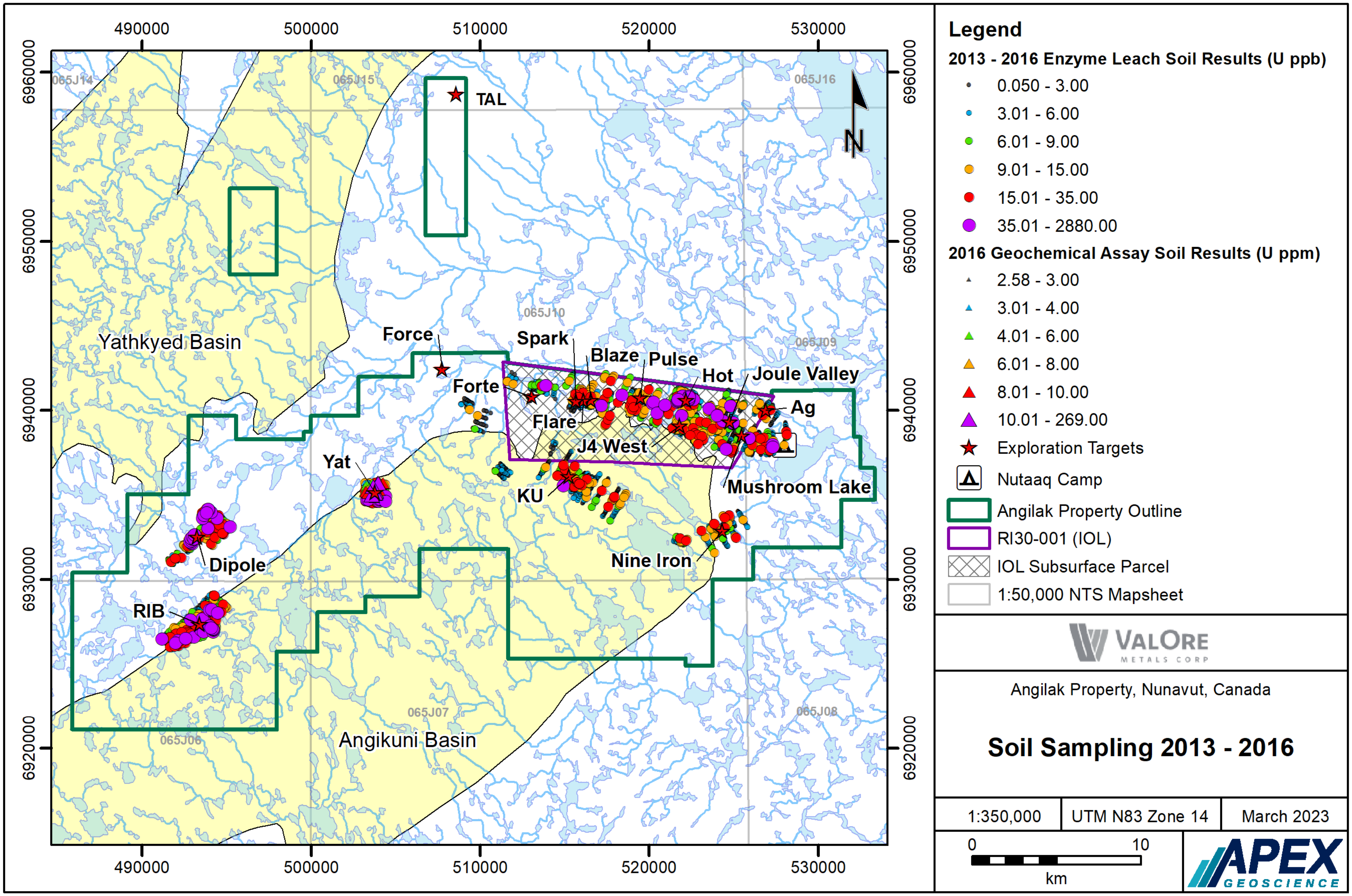


Figure 9.8. Soil sampling overview at the Angilak Property 2013 to 2016.



maintenance, as well as complete a legal land survey over a single claim being taken to lease.

9.2.1 Exploration Program 2013

Exploration during the 2013 field season included ground geophysical surveys, prospecting, and soil sampling. Over two weeks in July 2013, a soil sampling program was carried out with the objective of identifying surface anomalies relating to bedrock conductors in order to guide further drilling, as well as to test the effectiveness of the Enzyme Leach analytical method. A total of 1,538 samples were collected for Enzyme Leach analysis, focusing on the Lac 50 Deposit area, the KU target, and the Nine Iron trend (Figure 9.9).

The KU target is located within the Proterozoic Angikuni Basin south of the Lac 50 trend. The KU soil sampling grid identified an anomalous uranium in soil trend over an area of historical trenches that were dug in the 1980’s. The soil sampling program at the Nine Iron trend identified multiple uranium-in-soil anomalies using the enzyme leach method (Figure 9.9). The majority of these uranium-in-soil anomalies are spatially correlated with the northeast-southwest oriented geophysical signature, identified in the April 2013 ground geophysical program, that strikes beneath the Angikuni basin in the Nine Iron trend area (Figures 9.10, 9.11). At the KU target area, 16 rock samples were collected for geochemical assay (Figure 9.12). Highlights from this include samples 25546 and 25457 which returned 12,800 ppm U and 9,480 ppm U respectively.

The 2013 soil sampling program focused the majority of sampling efforts at the Lac 50 trend area, where abundant uranium-in-soil anomalies were identified that correlate well with known mineral showings and associated geophysical signatures (Figure 9.9). At the Hot trend, a significant and broad uranium-in-soil anomaly of up to 2,880 ppb U was identified. In addition, the soil sampling program identified a uranium-in-soil anomaly that extends along the J4 VLF-EM northwest-southeast oriented conductor. The 2013 soil sampling program was successful in confirming the effectiveness of the enzyme leach method, as well defining anomalous uranium-in-soil trends associated with geophysical conductors in the Lac 50 deposit area.

Figure 9.9. Soil sampling at the Lac 50 trend area 2013 to 2016.

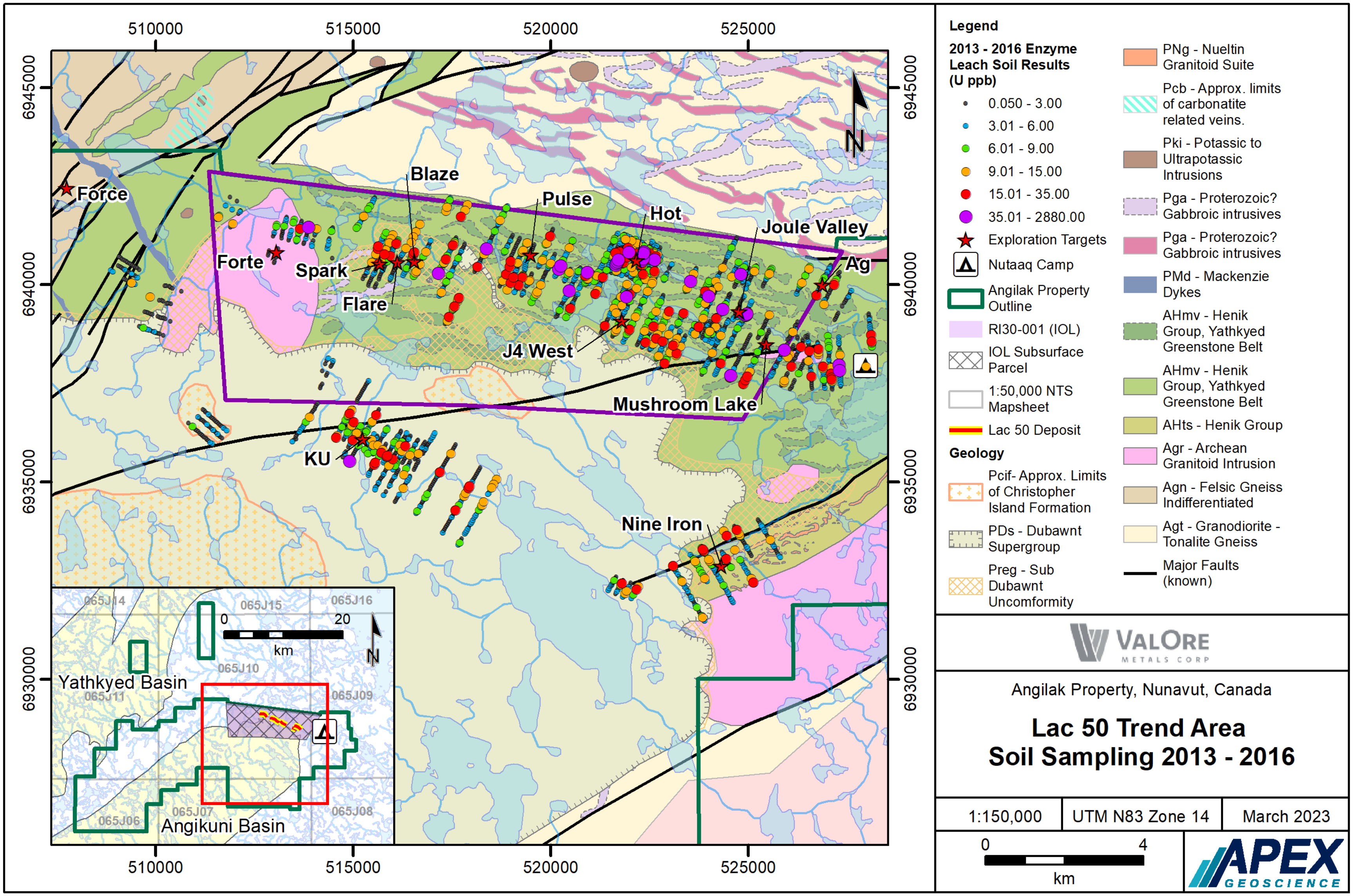


Figure 9.10. Ground Magnetometer Geophysical Survey Compilation.

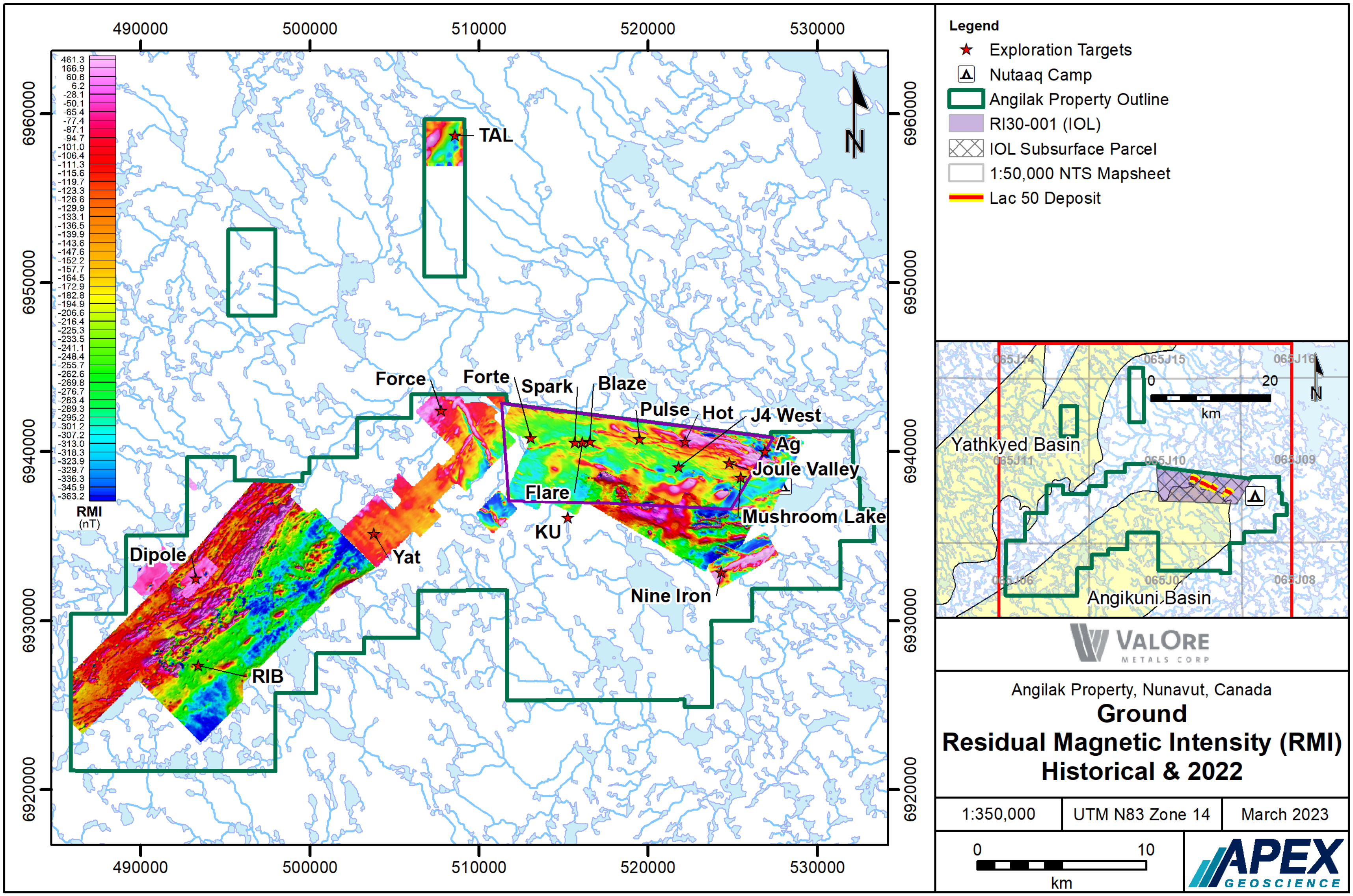


Figure 9.11. Ground VLF-EM Geophysical Survey Compilation.

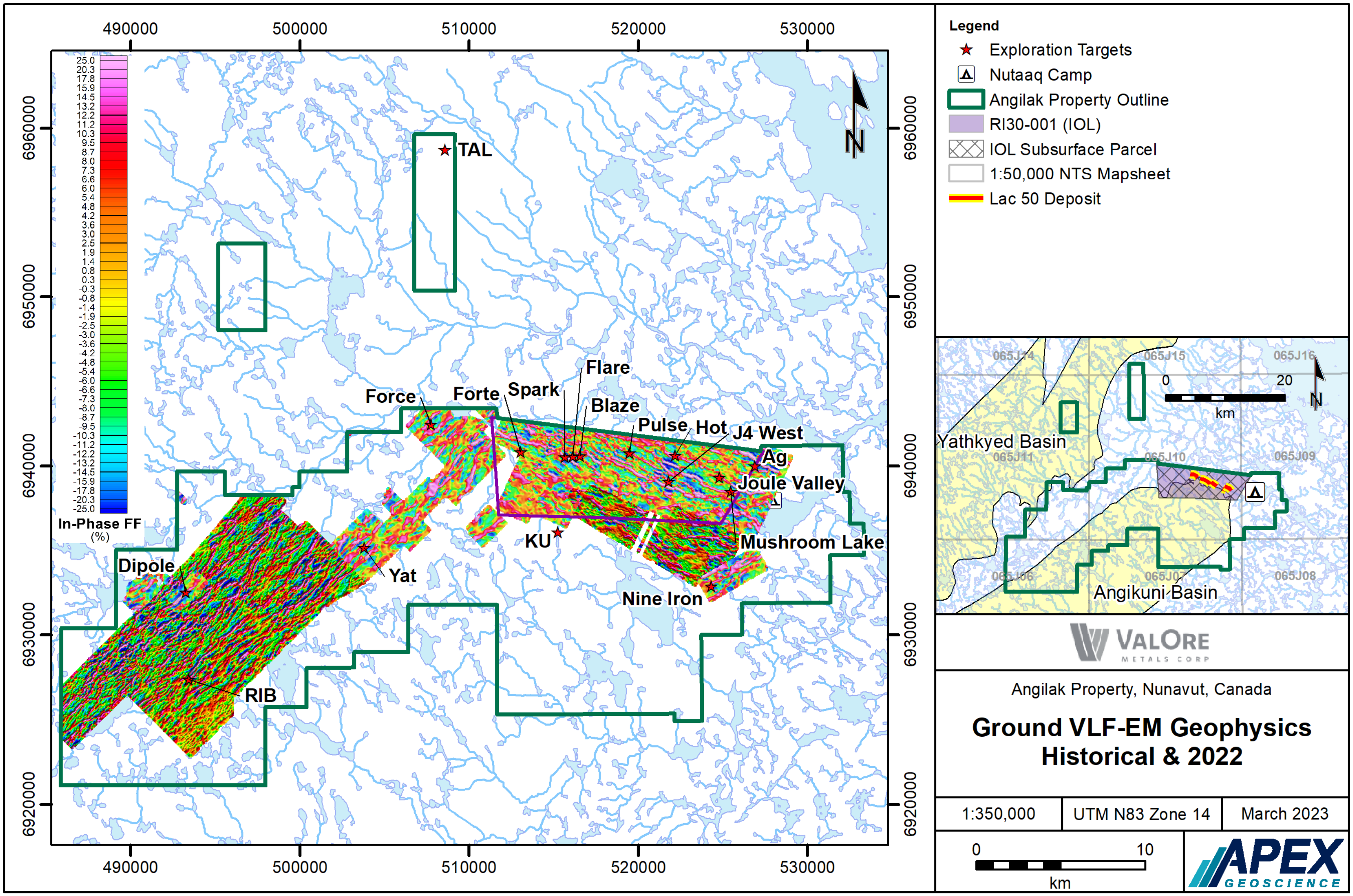
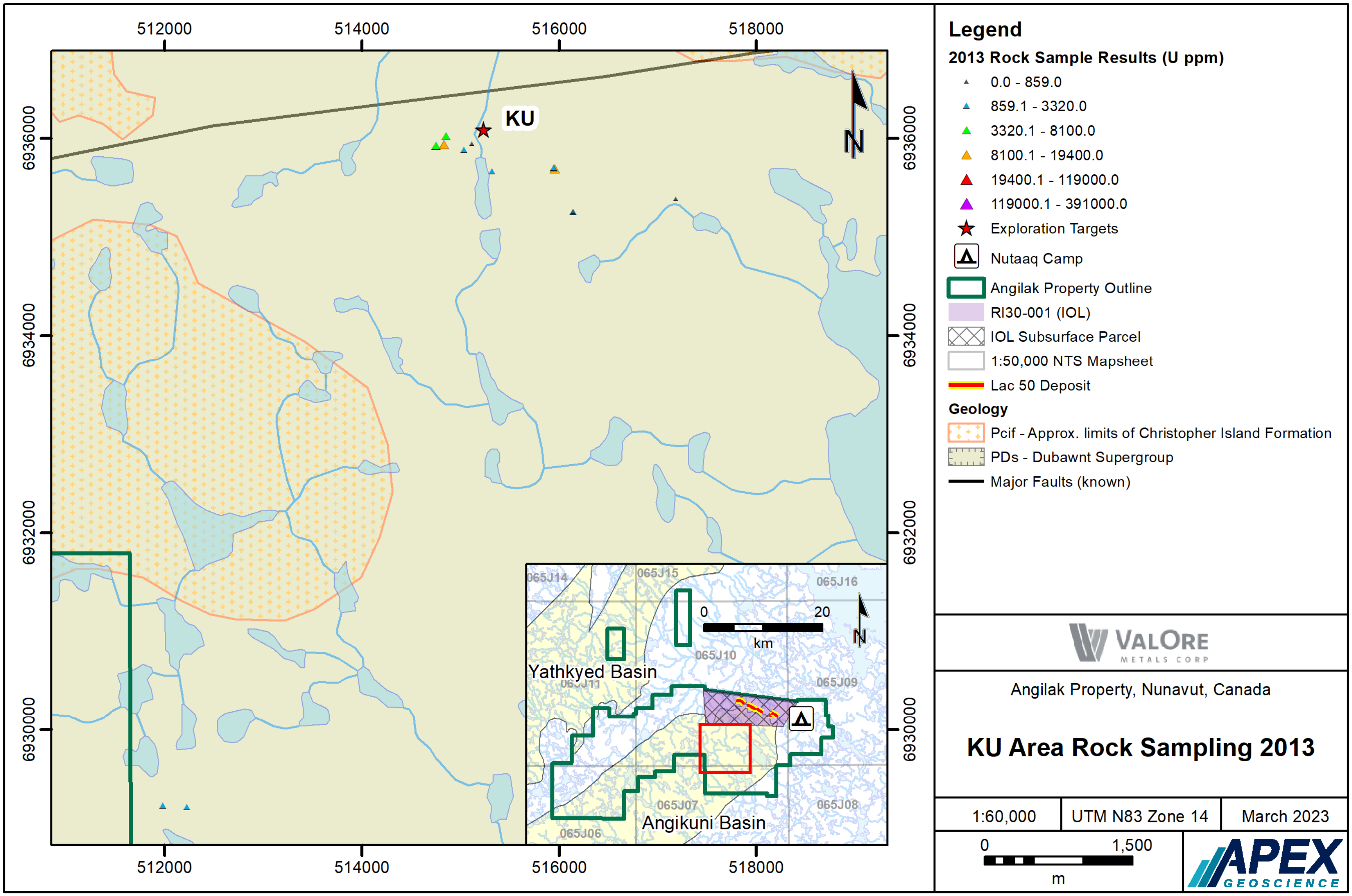


Figure 9.12. Rock sampling at KU target 2013.



On behalf of the Company, Aurora completed several ground geophysical surveys in order to expand previous survey grids in areas of interest. The geophysical surveys completed in 2013 are summarized in Table 9.3 (all coordinates refer to UTM NAD83 Zone 14). A total of 591.6 line-km of OhmMapper data was collected at the Lac 50 and KU grids with a line spacing of 100 metres (m). The Geometrics OhmMapper system was used for data collection and utilized the variable offset dipole-dipole resistivity array with “n” separations of 1 - 8. A total of 300.9 line-km of MAG and VLF-EM survey data were acquired from grids over the KU, Nine Iron and Dipole trends using 100 metre spacings. VLF measurements were taken every 20 m, and data was collected at 24.0, 24.8 and 25.2 kHz. All ground MAG and VLF-EM geophysical data was collected with a GSM-19V Overhauser Magnetometer/VLF and a GSM-19 Overhauser Base Magnetometer. A total of 9.5 km of Extremely Low Frequency (ELF) data was collected with an Orange Geophysics ELF-EM system in the Lac 50 trend area, with measurements taken every 25 m along lines spaced 100 m apart. Frequencies measured during the ELF survey were 11, 22, 45, 90, 180, 360, 720, and 1440 Hz. The results of the 2013 Mag and VLF surveys are presented in Figures 9.10 and 9.11, which are compilations of the ground geophysical survey results that have been completed on the Property to date.

Table 9.3. Summary of geophysical surveys at the Angilak Property in 2013.

Grid	Survey Method	Approx. Centroid Easting (m)	Approx. Centroid Northing (m)
Lac 50 Ohm Grid	OhmMapper, ELF	519000	6940500
KU Grid	OhmMapper, Mag/VLF-EM	517000	6935250
Nine Iron Grid	Mag/VLF-EM	520500	6932500
BIF Extension Grid	Mag/VLF-EM	523500	6932000
Dipole Grid	Mag/VLF-EM	419500	6931500

9.2.2 Exploration Program 2014

In 2014, the Company continued exploration work on the Property and completed an airborne geophysical VTEM survey and a soil sampling program. The Company carried out a soil sampling program during the 2014 field season, with the goal of identifying anomalies below surface overburden using the enzyme leach analytical method. A total of 1,514 soil samples were collected from sampling grids over multiple target areas on the Property, with significant uranium-in-soil anomalies identified at the Dipole, RIB, Hot, KU, and Nine Iron trends (Figure 9.8).

The Dipole target is located at the western edge of the Property within a northeast-southwest oriented greenstone belt of the Archean Henik Group and was identified as a prospective zone in 2011 when a rock grab sample returned 2.24% U_3O_8 and 116 g/t Ag (Dufresne et al., 2013). In 2014, a soil sampling grid was designed to cover the VLF-EM conductor previously identified by a ground geophysical survey in 2011 (Figures 9.13 and 9.14). A soil sampling grid was also completed over the RIB target just four kilometres south of Dipole (Figures 9.13 and 9.14). This sampling program successfully identified a several kilometre long uranium-in-soil trend over the Dipole target that coincides with a northeast-southwest trending electromagnetic (EM) conductor, with 107 enzyme leach samples returning greater than 6.0 ppb uranium (Figure 9.14). A uranium-in-soil anomaly at the RIB trend was also confirmed to coincide with a linear EM conductor trend, where 74 out of 211 enzyme leach soil samples returned greater than 6.0 ppb uranium (Figure 9.14).

On behalf of the Company, Geotech Airborne Geophysical Surveys (Geotech) was contracted to complete an airborne VTEM survey on two grids over the Dipole-RIB trend and the KU-Nine Iron area from September 4th to 13th 2014. The survey equipment was mounted in an AW119Ke helicopter owned by Geotech. Principal geophysical sensors included a versatile time domain electromagnetic (VTEM plus) system, and horizontal magnetic gradiometer. Ancillary equipment included a GPS navigation system and a radar altimeter. The airborne VTEM survey successfully identified several large conductors and EM anomalous zones at the Dipole and RIB trend, which were subsequently confirmed by the enzyme leach soil sampling program that followed, and also identified anomalies at the KU-Nine Iron trend zone (Figure 9.15). The results of the 2014 airborne VTEM survey were integrated with previous survey results obtained in 2004 and 2008, to produce a Total Magnetic Intensity Map covering the majority of the Property (Figure 9.16).

9.2.3 Exploration Program 2015

Exploration work completed on the Property in 2015 included soil sampling and prospecting. The Company carried out a helicopter supported soil sampling program over the RIB and Yat target zones, where 408 samples were collected for enzyme leach analysis. The prospecting program targeted historical showings, explored for new occurrences of uranium mineralization, and followed up on anomalies identified by previous geophysical surveys.

The 2015 soil sampling program at RIB in-filled and extended the previous sampling grid from 2014 (Figures 9.13 and 9.14). A total of 383 samples were collected at 50 m intervals, and grid lines were spaced 100 m or 200 m apart. This expansion better delineated the several kilometre long uranium-in-soil anomalies spatially associated with the northeast-southwest oriented EM conductors identified by previous airborne and ground geophysical surveying (Figure 9.14). During the prospecting program at the Dipole-RIB trend, rock grab sample number 16859 taken from within the RIB soil grid returned 6.27% U_3O_8, 0.26% Cu, 1.16% Mo, and 144 g/t Ag (Figure 9.13). Sample number 16853 returned 0.76% U_3O_8, 0.30% Mo, and 14.9 g/t Ag and was sampled approximately 5 km southwest along strike of the Dipole trend (Figure 9.13).

Figure 9.13. Dipole – RIB Trend Geochemical Sampling Uranium Results 2007 – 2016 (See Figure 7.3 for geology legend).

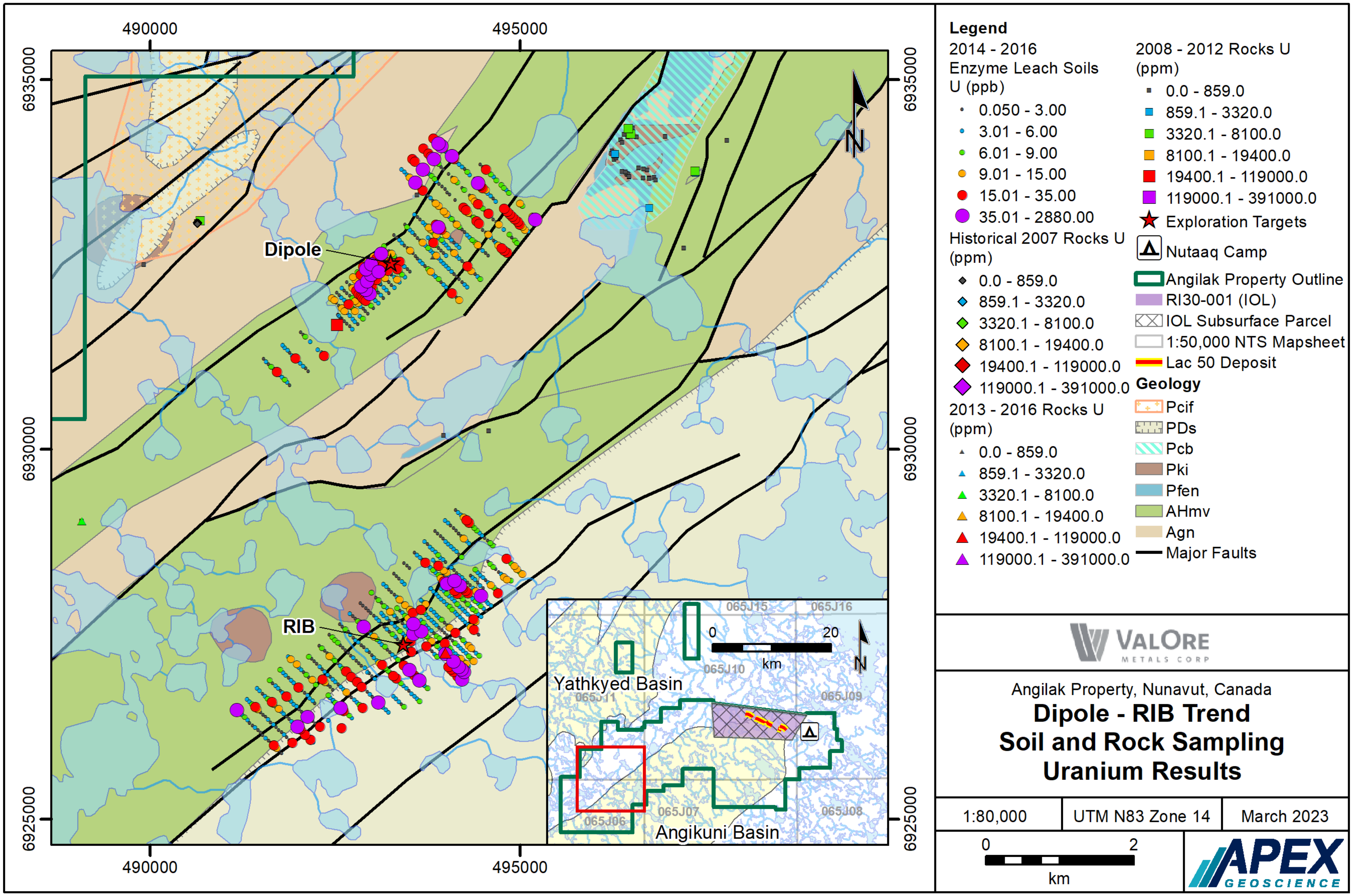


Figure 9.14. Dipole – RIB Trend Geochemical Sampling Uranium Results 2007 – 2016 with Ground VLF-EM Survey Results (See Figure 7.3 for geology legend).

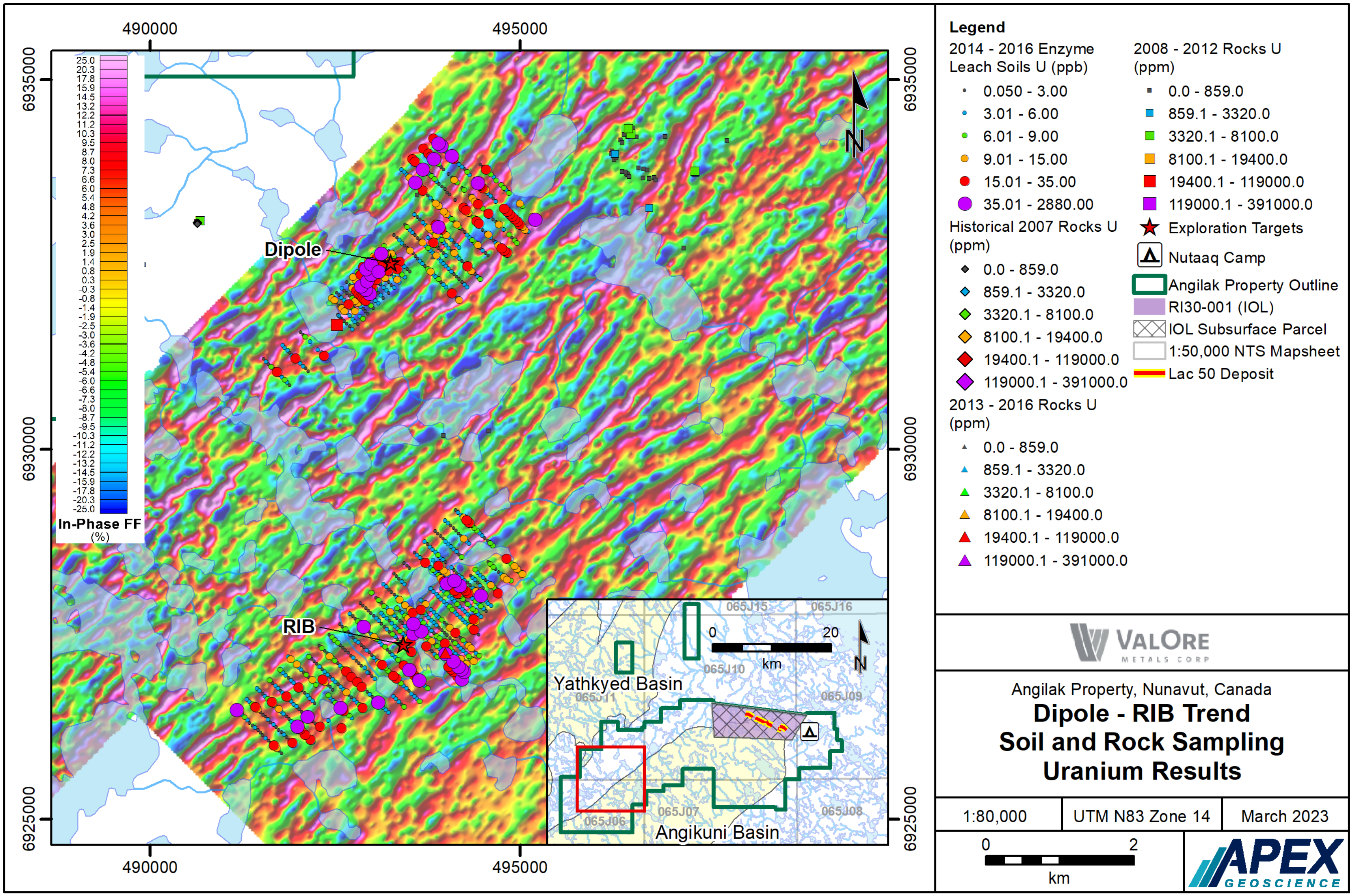


Figure 9.15. Airborne VTEM Survey 2014.

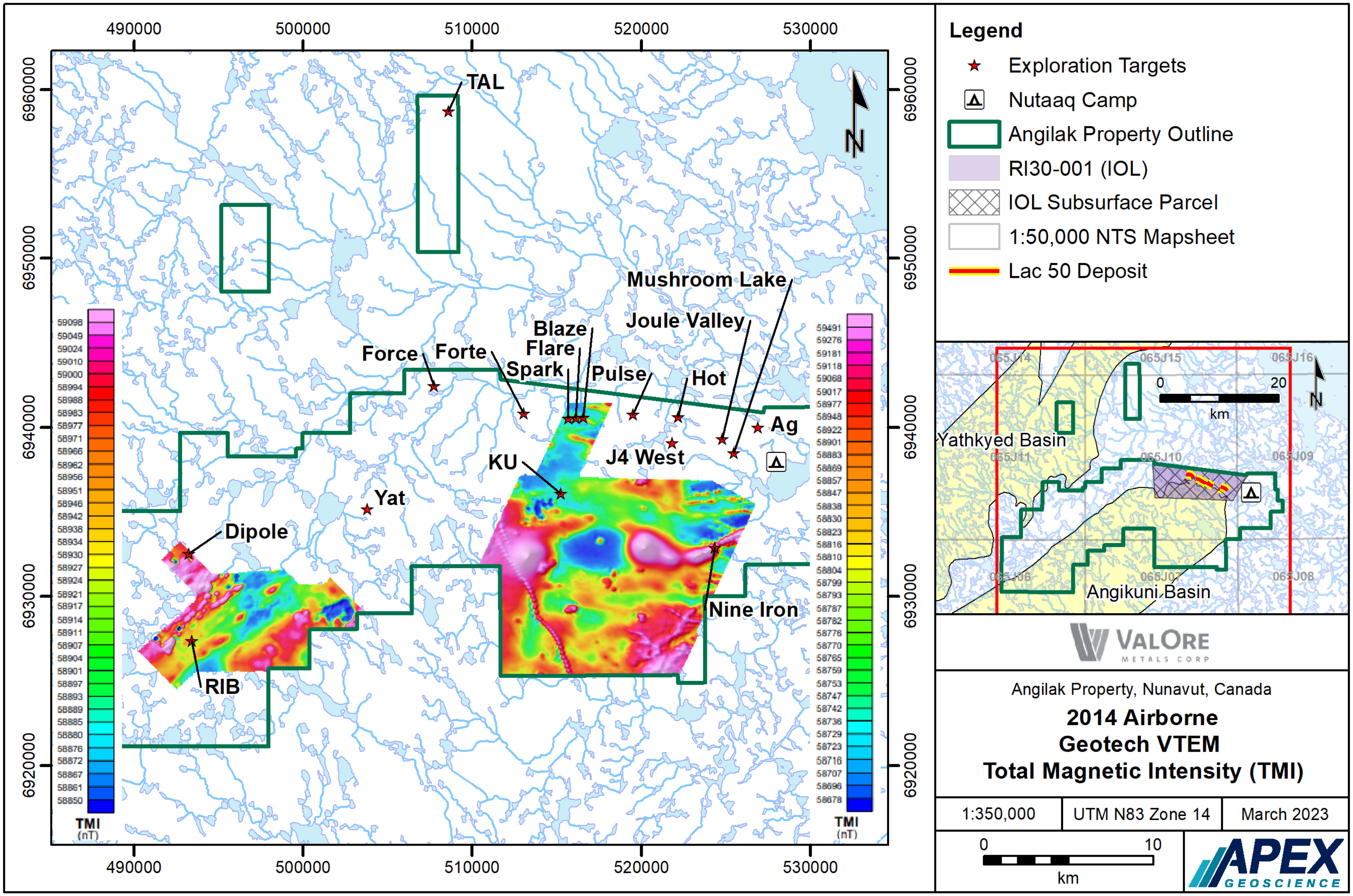
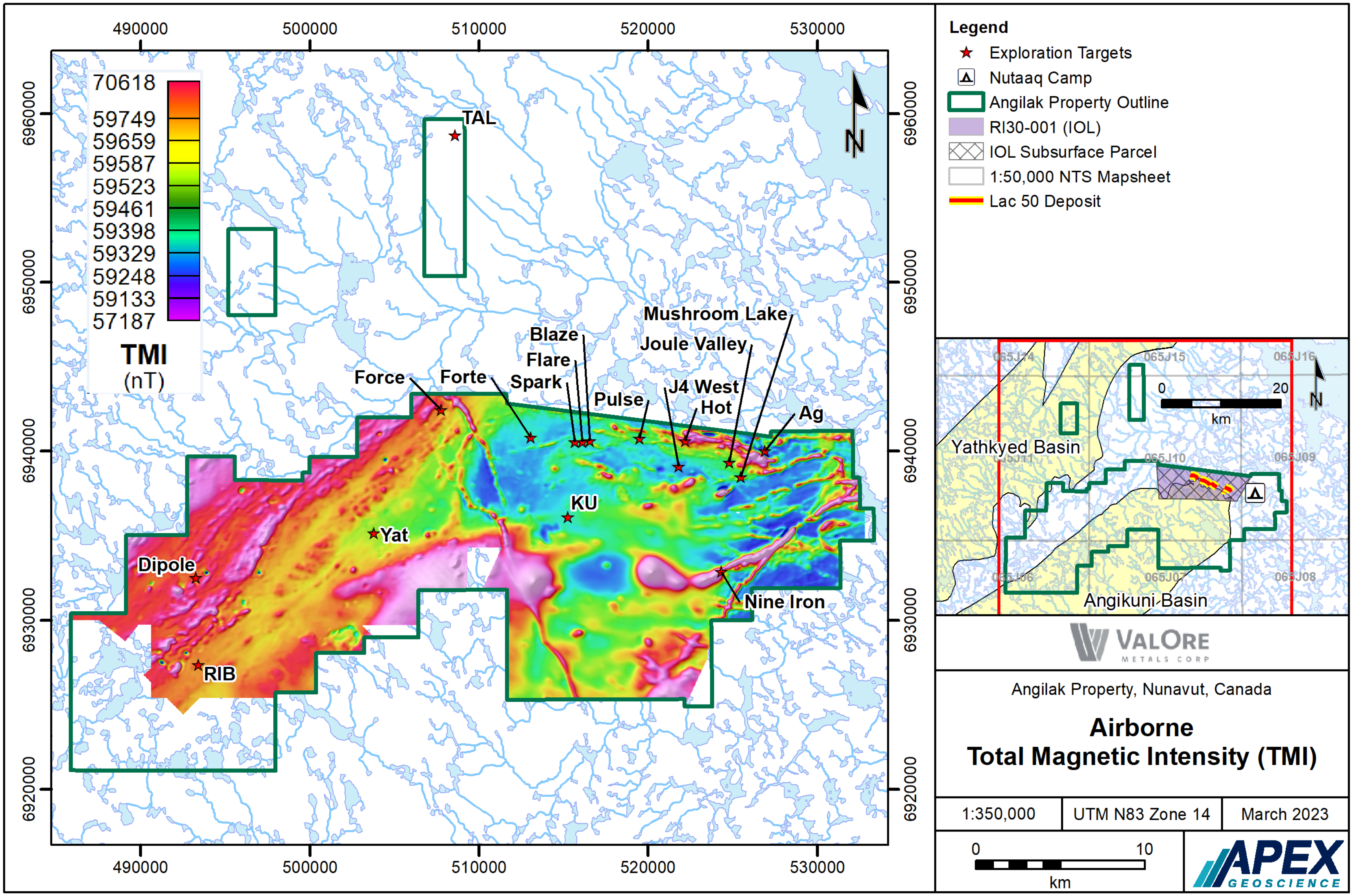


Figure 9.16. Airborne VTEM Survey TMI Results Compilation from 2004, 2008, and 2014 Data.



The Yat zone consists of polymetallic U-Cu-Ag-Au mineralization near the northern margin of the Angikuni Basin and is located within a strong magnetic low zone (Figure 9.17c). Northeast-southwest oriented EM conductors are also present in the Yat area, identified by ground VLF-EM geophysical survey results (Figure 9.17d). In 2015, the company followed up on grab samples collected from 2007 and 2012 that returned anomalous U-Cu-Ag-Au results. Three boulders at Yat were sampled in 2015, and two returned significant polymetallic results. Sample 16854 returned 1.82% U_3O_8, 6.8 % Cu, 211 g/t Au, and 80,900 g/t Ag (Figure 9.17a and 9.17b). Sample 16855 returned 7.07 % U_3O_8, 1.68 % Cu, 0.5 g/t Au, and 244 g/t Ag (Figure 9.17a and 9.17b). A minor enzyme leach soil sampling program of 25 samples was completed over the Yat area where a historical rock sample collected by Kaminak in 2007 returned 0.21 % U_3O_8, 1.1 % Cu, 31.9 g/t Au, and 1,170 g/t Ag. The sampling grid successfully identified a uranium-in-soil anomaly, confirming the mineralized grab sample from 2011, with soil samples returning up to 92.5 ppb uranium (Figure 9.17).

9.2.4 Exploration Program 2016

In 2016, exploration work completed on the Property included a soil sampling program, heavy mineral sampling, trenching and channel sampling, as well as rock sampling. The Company completed a helicopter supported soil sampling program in July 2016 targeting the Yat and Dipole zones. A total of 504 soil samples were collected, including 9 duplicate samples, from these two target areas for enzyme leach analysis (Figures 9.13 and 9.17).

The soil sampling program at Yat greatly expanded on the previous sampling done in 2015 (Figure 9.17). Uranium-in-soil anomaly trends overlay northeast-southwest oriented EM conductors that transect the Yat area, with enzyme leach samples returning up to 129 ppb U (Figure 9.17d). Minor Ag anomaly trends were also identified at Yat that correlate with the same linear conductors (Figure 9.17d). An additional 172 samples were collected from the Yat area for conventional geochemical analysis, which also highlighted uranium-in-soil anomalies in the Yat area, where soil samples returned up to 269 ppm U (Figure 9.8). Rock sampling within the soil sampling grid over the strong magnetic low zone returned multiple anomalous geochemical assay results for U and Ag. Sample number 18939 returned 26,000 ppm U and 3200 ppm Ag, and sample number 18937 returned 201,000 ppm U and 358 ppm Ag (Figure 9.17a and 9.17b).

The 2016 soil program at the Dipole trend was designed to extend upon the 2014 enzyme leach sampling grid (Figure 9.13 and 9.14). Results of the soil program identified uranium-in-soil anomalies northeast of the 2014 soil sampling grid, expanding the uranium-in-soil anomaly zone at Dipole to over approximately 3.5 km. This new extended uranium anomaly overlays the central Dipole EM conductor, as well as overlaying a parallel EM conductor approximately 1.5 km to the east (Figure 9.14).

The trenching program involved the re-trenching of 3 historical Pan Ocean trenches and the digging of eight new trenches in the Yat area (Figure 9.18). A total of 49 channel samples were collected from the trenches for geochemical analysis. In addition to the trenching program, rock sampling was completed at the Yat target. Radioactive, brecciated carbonate veining with sulphides, secondary yellow uranium staining and malachite was identified in several trench areas. Mineralization occurs as 1.0-1.5 m wide structural zones of narrow veins and stringers in sandstone, conglomerate and Christopher Island volcanics of the Proterozoic Angikuni Basin, striking northeast and parallel to the larger Yat EM conductor. Veining, adjacent wall rocks, and mineralized boulders encountered while excavating were sampled. Highlights from the channel and rock sampling program at Yat are presented in Table 9.4. The heavy mineral sampling program ran concurrently with the trenching program, and 39 till samples were collected with the purpose of testing the heavy mineral expression in tills down ice of circular magnetic signatures to determine if they could be kimberlitic in origin.

Table 9.4. Assay Highlights for the Trenching and Rock Sampling Program at Yat Target 2016.

Sample	Type	% U_3O_8	% Cu	Ag (g/t)	Au (g/t)	Pt (g/t)	Pd (g/t)	Trench	Width (cm)
18924	Channel	2.5	16.2	417	1.28	0.01	0.03	KIV-16-T03	50
18922	Channel	1.4	3.73	67.8	1.55	0.37	1.2	KIV-16-T03	55
18902	Channel	0.66	1.67	48.5	0.05	0	0	KIV-PO-T6	69
A00576	Channel	0.35	0.17	17.8	1.05	0.93	0.57	KIV-PO-T5	75
A00560	Channel	0.32	0.13	373	2.92	0.58	6.36	KIV-PO-T5	65
A00619	Rock	23.6	22.7	879	5.25	0.05	0.11	KIV-16-T03 cover	Float
18939	Rock	3	1.28	3200	43.31	7.8	56.31	KIV-PO-T5 cover	Float

Figure 9.17. Yat Target Geochemistry and Geophysics Compilation.

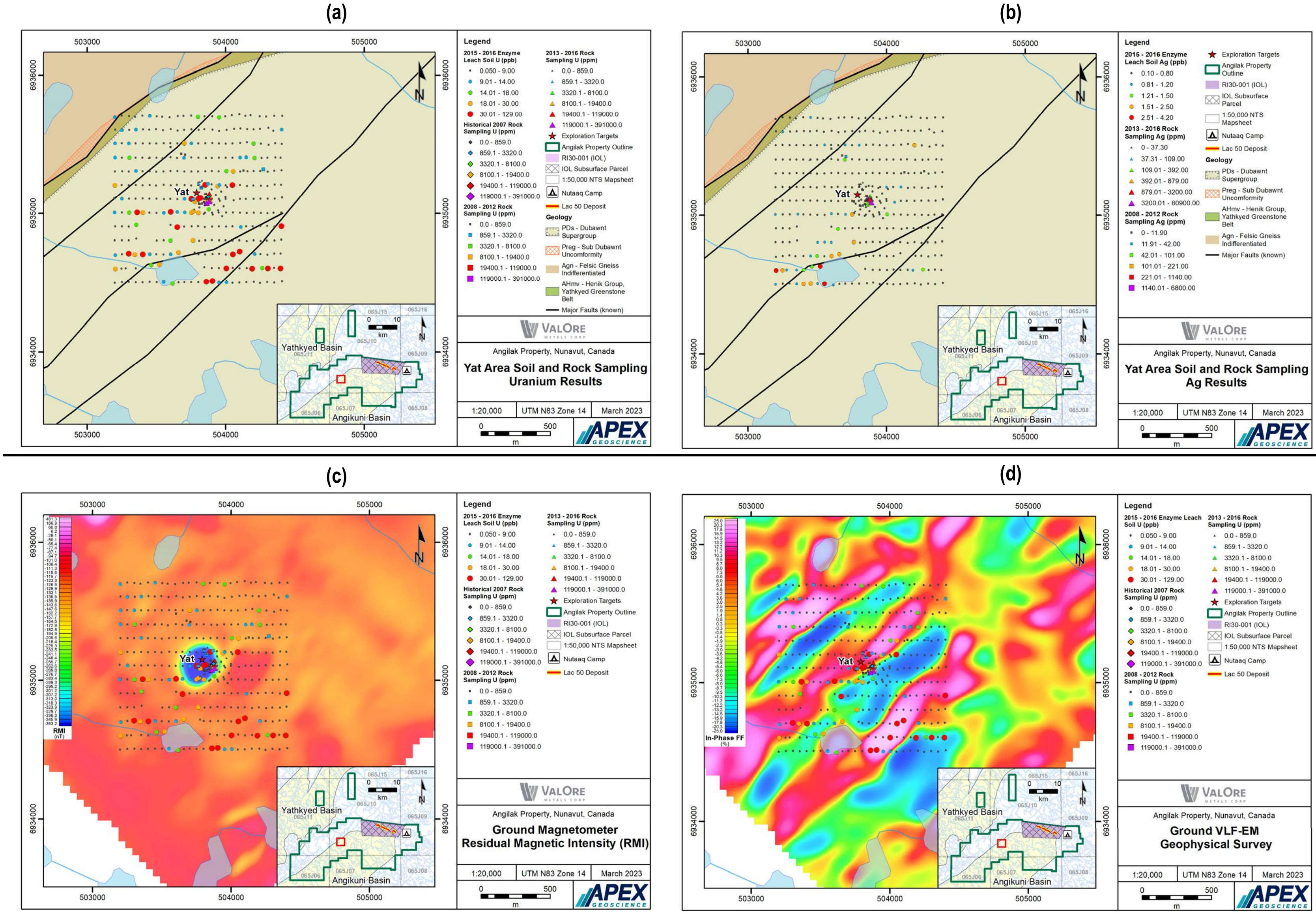


Figure 9.18. Trenching and Rock Sampling Program at the Yat Target 2016.

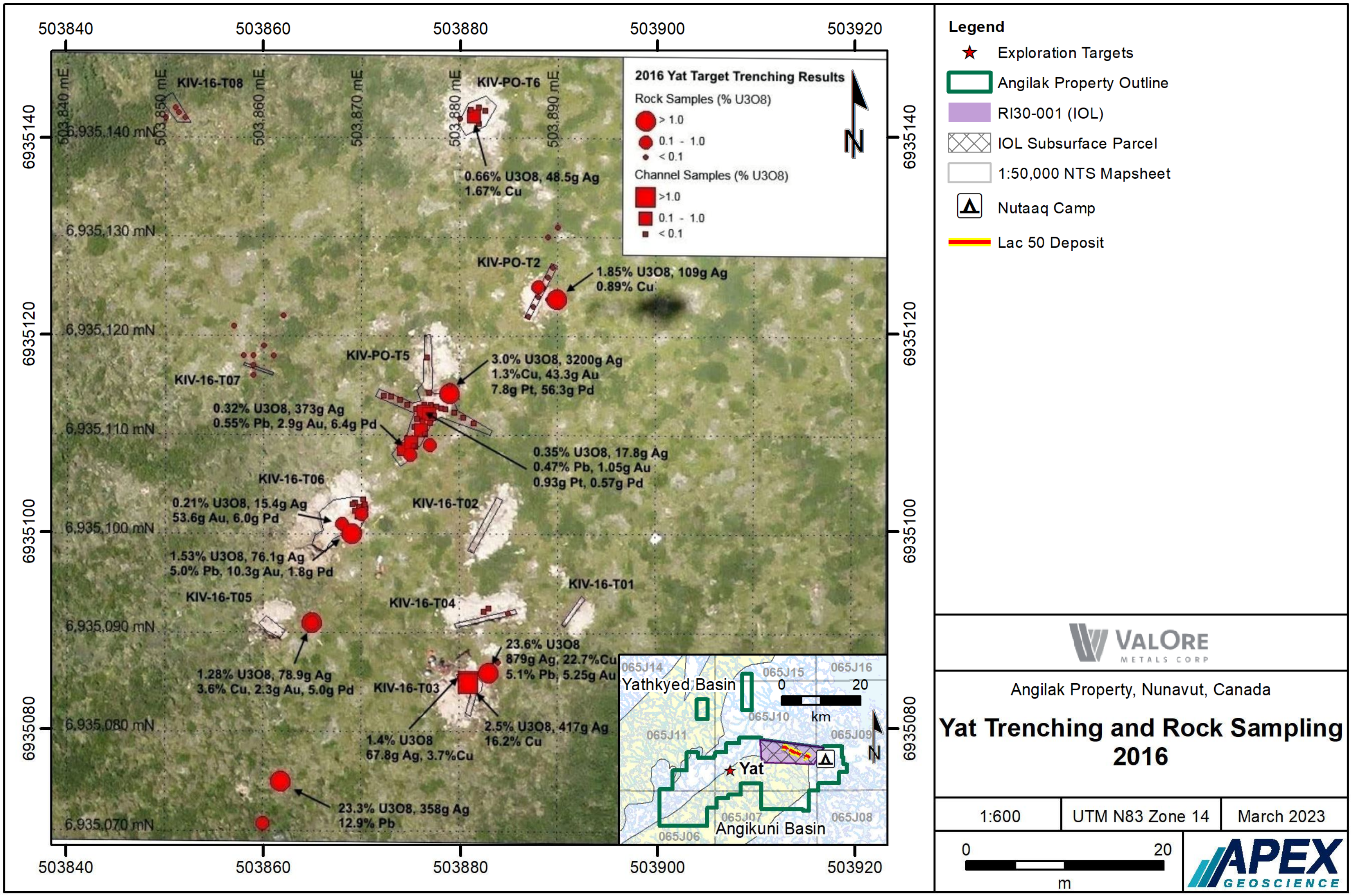
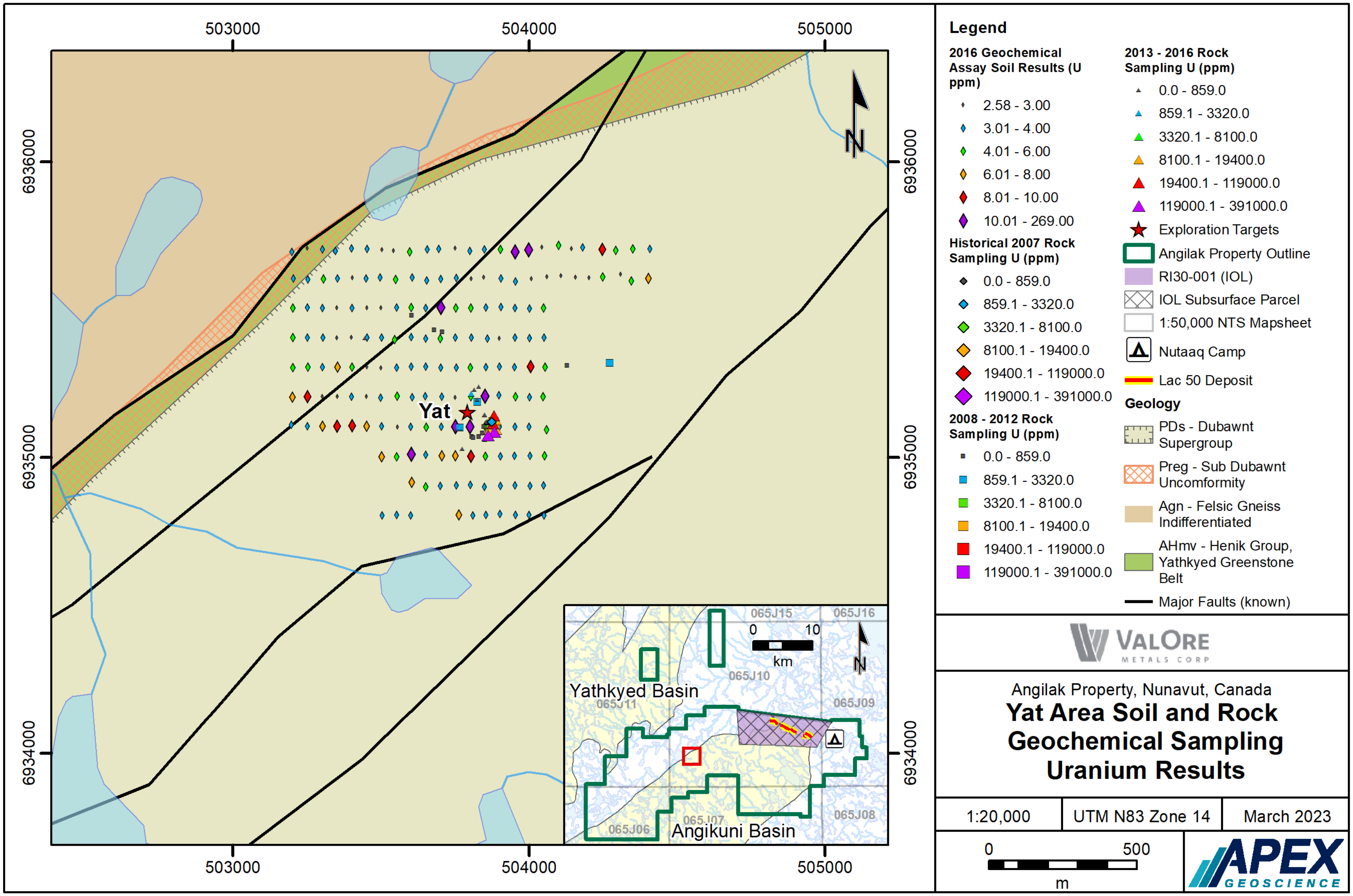


Figure 9.19. Conventional Geochemical Assay of Soil Samples at the Yat Target 2016.



9.3 ValOre Exploration 2022

Exploration work completed on the Property in 2022 included ground geophysical surveys and a soil sampling program. Magnetics and very low frequency electromagnetic (VLF-EM) surveys were conducted by the Company during the spring of 2022. A 14-day helicopter-supported soil sampling program was conducted in the summer of 2022 prior to diamond drilling. The diamond and RC drilling programs completed in 2022 are discussed below in Section 10.

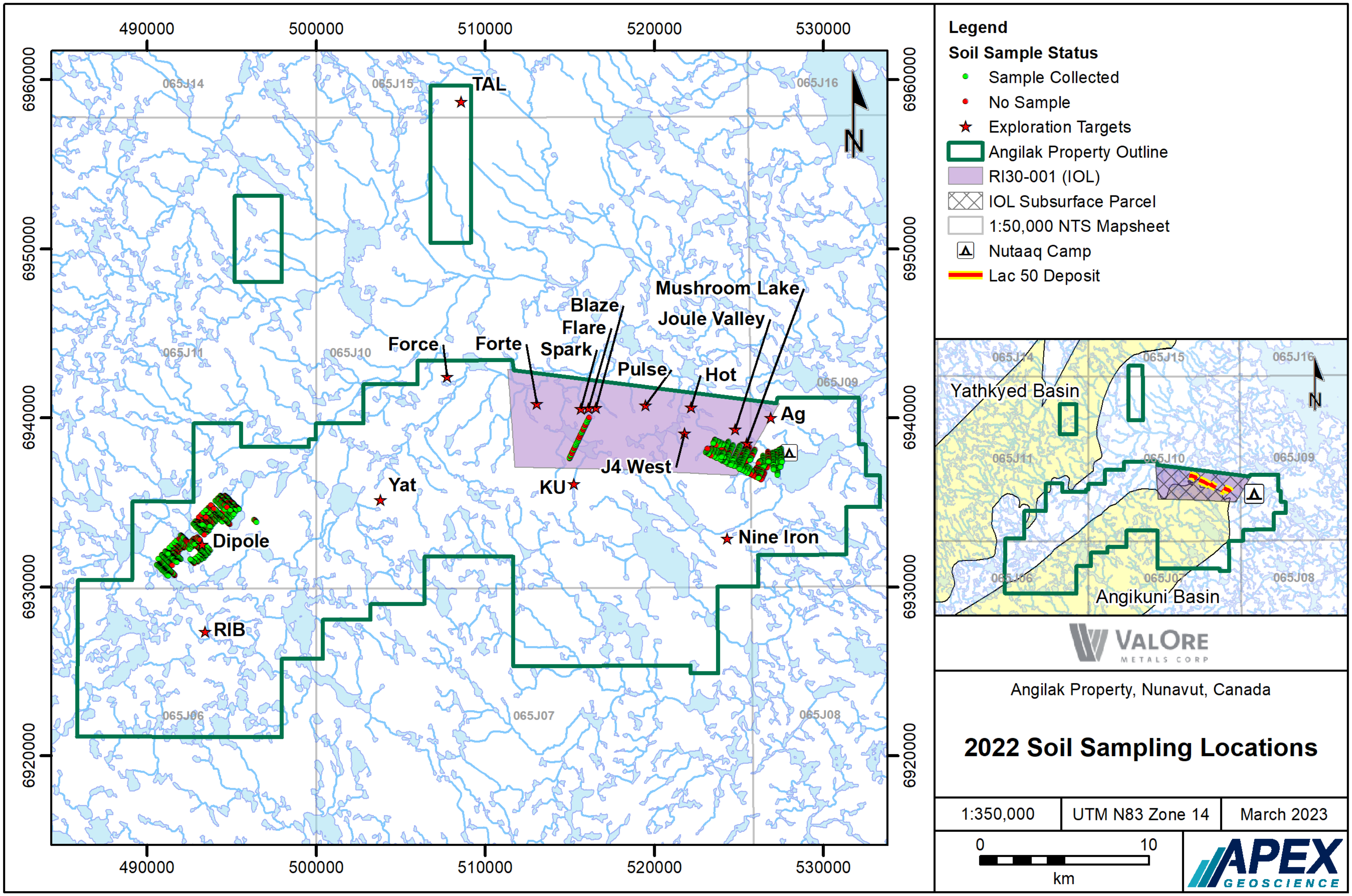
9.3.1 Soil Sampling 2022

During the 2022 summer field season, the Company conducted a helicopter-supported soil sampling program from July 17th to July 31st, 2022. During the 14-day program a 4-person crew collected 880 soil samples, as well as 16 duplicate soil samples for a total of 896 samples, across three priority targets: Lac 50 East grid, Dipole grid and the Noranda East traverse. The goal of the soil geochemical survey was to classify and prioritize bedrock conductors for drilling by identifying those conductors which have associated surface geochemical anomalies. Enzyme leach analysis was chosen due to its sensitivity in detecting mineralization beneath deep overburden, which in some areas has been shown to be superior and more cost effective to that of conventional soil assays. Soil sample locations collected in 2022 are presented in Figure 9.20 and summarized in Table 9.5.

Table 9.5. Summary of 2022 Soil Sampling Program.

Sampling Target	Sample Collected	No Sample Collected
Lac 50 East	370	73
Dipole	483	170
Norand East	27	27
Total	880	270

Figure 9.20. Soil Sampling Locations 2022.



9.3.1.1 Results

No results have been received to date.

9.3.2 Ground Geophysical Surveys 2022

In April of 2022, the Company conducted ground magnetics and VLF-EM surveys over several priority grids across the Property on behalf of the Company. Starting on April 14th, a ground magnetics and VLF-EM survey was completed on Priority Grid 5 (Figure 9.21). The surveying at Priority Grids 1 and 2 was subsequently started on April 22nd. The planned survey grid lines were oriented perpendicular to the strike of the dominant structures within the target areas. A sampling rate of 1 second for magnetic data and 20-metre station spacing for VLF data was selected to provide nominal sampling along the traverse lines. Details of each Priority Grid are presented below in Table 9.6. A total of 1,547.62-line km and 80,329 VLF-EM measurements were completed in 2022. The results of the 2022 ground geophysical surveying are presented in Figures 9.22 and 9.23.

Table 9.6. Summary of 2022 Ground Geophysical Surveying Grids.

Grid	Azimuth	VLF-EM Station Spacing (m)	VLF-EM Frequencies (kHz)	Total Line-path (km)	VLF-EM Points
Priority-1	135°	20	21.4, 24.8, 25.2	765.17	3,8371
Priority-2	135°	20	21.4, 24.8, 25.2	503.41	2,5412
Priority-5	25°	20	24.0, 24.8, 25.2	279.04	1,6546
			Total	1547.62	80,329

9.3.2.1 Survey and Grid Parameters

The ground magnetics surveying was performed using a GEM GSM-19V Overhauser walking magnetometer and VLF system with an integrated GNSS receiver. The magnetometer records the total magnetic intensity readings and position of each readings using a cycle time of one second. To account for the diurnal variations in the magnetics survey data, GEM GSM-19 base magnetometers are set up at locations near the ground magnetics survey grid where the total magnetic intensity is recorded every three seconds using a clock that had been synchronized with the walking magnetometer's GNSS clock.

Overlap levelling lines are surveyed at the beginning of each day to facilitate the calculation of DC shifts that can occur between daily magnetics measurements. The DC shifts are due to changes in the base station location/sensor height, and changes in the background magnetic signature of the magnetometer and operator. By resurveying overlap lines each day and after any equipment or operator changes, a levelling correction can be calculated and used to level the daily magnetic datasets to a common magnetic datum.

The VLF survey was completed in conjunction with the magnetic survey using the GEM GSM-19V Overhauser magnetometer/VLF system. The VLF measurements include the in-phase and out-of-phase components of the vertical magnetic field, recorded as percentage of the horizontal magnetic field. Both components of the horizontal magnetic field are recorded but only the highest power component is used to compute the in-phase and out-of-phase response. Total magnetic field amplitude was recorded in pico-tesla (pT). Over the course of the survey, different VLF transmitters were utilized. These stations were chosen as they are within reasonable distance from the property and the bearing to these transmitters provides maximum coupling of bodies in nearly perpendicular directions. The transmitters are also subject to regular maintenance, which typically followed a one day per week schedule. The VLF transmitters used are 24.0 kHz-NAA (Cuttler, Maine USA), 24.8 kHz-NLK (Seattle, Washington USA), 25.2 kHz-NML (LaMoure, North Dakota USA). The VLF transmitters had planned maintenance on a weekly basis with 24.0 kHz-NAA on Mondays, 24.8 kHz-NLK on Tuesdays, and 25.2 kHz-NML on Thursdays.

9.3.2.2 Survey Methodology

The ground magnetics survey method is based on measuring the variations in the magnetic field derived from lateral differences in the magnetization of the subsurface. Total magnetic intensity measurements recorded during a survey consists of the scalar addition from three main components: Earth’s magnetic field, the local magnetic field resulting from magnetic minerals and bodies, and any external fields resulting from the interactions between solar winds and Earth’s ionosphere.

To account for temporal variations in the Earth’s magnetic field over the period of the magnetic survey, a nearby base station records the local diurnal variation at a fixed location. A diurnal correction is performed by subtracting the magnetic signal recorded by the base station from the magnetic survey data collected on a nearby grid. It is assumed the readings recorded on the grid have been subjected to the same diurnal variations observed at the base station.

The magnetic survey measurements are recorded at locations covering an area of interest. Measurement locations are distributed such that their separation does not exceed the anticipated depth to the causative sources. Typically, a survey grid is comprised of parallel survey lines spaced from 25 to 200 m apart. The spacing of readings along parallel survey lines is much less than the line-spacing, on the order of several decimetres to several metres. This grid layout has an inherent bias in its sampling scheme. To address this, survey lines are oriented orthogonal to the dominant strike direction or a favoured structural orientation, accentuating lateral variations in magnetization along a preferential direction.

The VLF electromagnetic method is used to detect conductivity contrasts in the subsurface. Very low frequency (15 to 30 kHz) electromagnetic fields broadcast by distant globally positioned radio transmitters interact with conductive bodies in the vicinity of a VLF measurement location. Each transmitter generates a primary electromagnetic source field with a fixed and known frequency. The primary source fields may propagate over thousands of kilometres from a transmitter and arrive at survey locations. Over large distances the electromagnetic field geometry is assumed to be a plane wave with a propagation direction bearing from the transmitter location. Electromagnetic coupling occurs between the primary source field and conductive bodies in the subsurface, producing a secondary or induced electromagnetic field. Because of the plane wave assumption, the vertical component of the magnetic field for a specified transmitted frequency is assumed to be resultant solely from the induced secondary field. This allows measurements along a profile of the in-phase and out-of-phase vertical and horizontal magnetic field components for a specified VLF frequency to identify variations in the conductive properties of the subsurface.

Detectable VLF responses occur under specific conditions, which are determined by the location of the survey site relative to the transmitter location, the orientation and depth of the conductive body being energized, and the conductivity contrasts existing between the energized body and the host rock. Electromagnetic induction of conductive bodies will be greatest in linear geometries with a strike direction parallel to the bearing to the transmitter location (transverse electric orientation). To improve the likelihood of detecting conductive bodies having any orientation, multiple transmitters that are in orthogonal bearing directions from the survey area can be employed. VLF survey measurements are typically recorded at locations (stations) spaced from 5 to 25 m apart along a series of regularly spaced traverse lines. The survey lines form a grid covering an area of interest where variations in the conductive properties of the subsurface are to be investigated.

9.3.2.3 Survey Quality Assurance – Quality Control

Daily the data from the base and walking magnetometer and VLF is loaded onto field computers, where the data is imported into Geosoft Oasis montaj (Geosoft) for review and processing. Each day's survey data is stored in a Geosoft database labelled according to its date and then processed together with all data from that day.

The magnetic survey equipment uses a GNSS receiver to determine and record positions during the surveying. The locations and UTC time of the geophysical measurement are derived from the GNSS signal, and the number of satellites being tracked by GNSS receiver is appended to the measurements to provide a measure of confidence for the GNSS data.

Inaccuracies in the GNSS station locations can usually be attributed to poor connectivity to satellite constellations. This occurs when the GNSS receiver is in a position with a limited view of the sky. If the satellite signal takes multiple ray paths to reach the receiver, after reflecting off trees, hills, or other objects on or near the survey grid, noise is introduced in the positioning system. The positions are more likely to be of poor quality when the number of satellite signals being tracked is fewer, so a threshold is set on the minimum number of satellites required to obtain a confident position. Poor-quality position measurements requiring additional corrections can be filtered by calculating the distance and direction travelled between subsequent readings, and thresholding outlying values.

The GEM magnetometers rank the signal quality of the measurements based on electrical principles inherent to the Overhauser method. Each magnetic measurement receives an associated signal quality value, ranging from 00 to 99, where 99 is an optimal measurement. Poor-quality magnetic measurements are omitted from both the base and walking magnetometer datasets. If the poor-quality measurements persist over an extended distance (typically greater than half the line spacing), the line segment is flagged for resurveying.

A fourth order difference filter is used to review and filter the noise level of the base magnetometer measurements. Once the base data is deemed acceptable, the diurnal measurements are merged to the walk magnetometer data, based on the time channels, and diurnal corrections are completed. Levelling corrections are calculated by computing a constant shift to an overlap profile that is required such that the amplitudes match a control overlap profile done at the start of a survey. After the daily magnetics dataset has been diurnally corrected and levelled, it is merged into a compilation database with magnetics data collected on previous days. When overlapping line segments exist, an additional leveling check can be performed.

During survey operations, the locations of any cultural objects (culverts, drill stems, construction equipment, powerlines, fences, etc.) are recorded. The magnetic responses of cultural objects typically present as high-frequency, high-amplitude spikes and troughs but can vary drastically in strength and extent. Recorded cultural noise is manually removed from the merged magnetic dataset.

Figure 9.21. Grids for the 2022 Ground Geophysics Program.

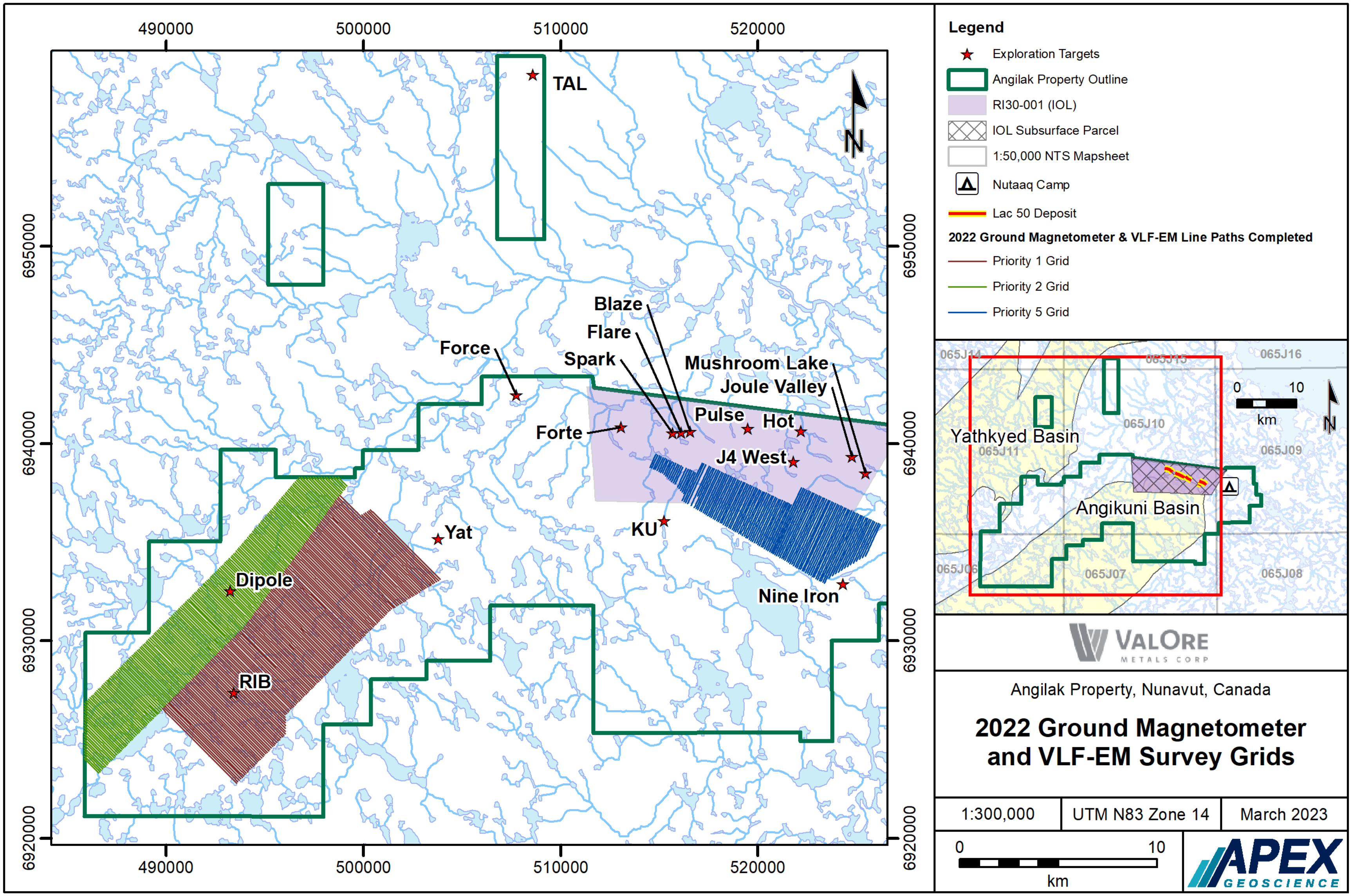


Figure 9.22. Ground VLF-EM Geophysical Survey 2022.

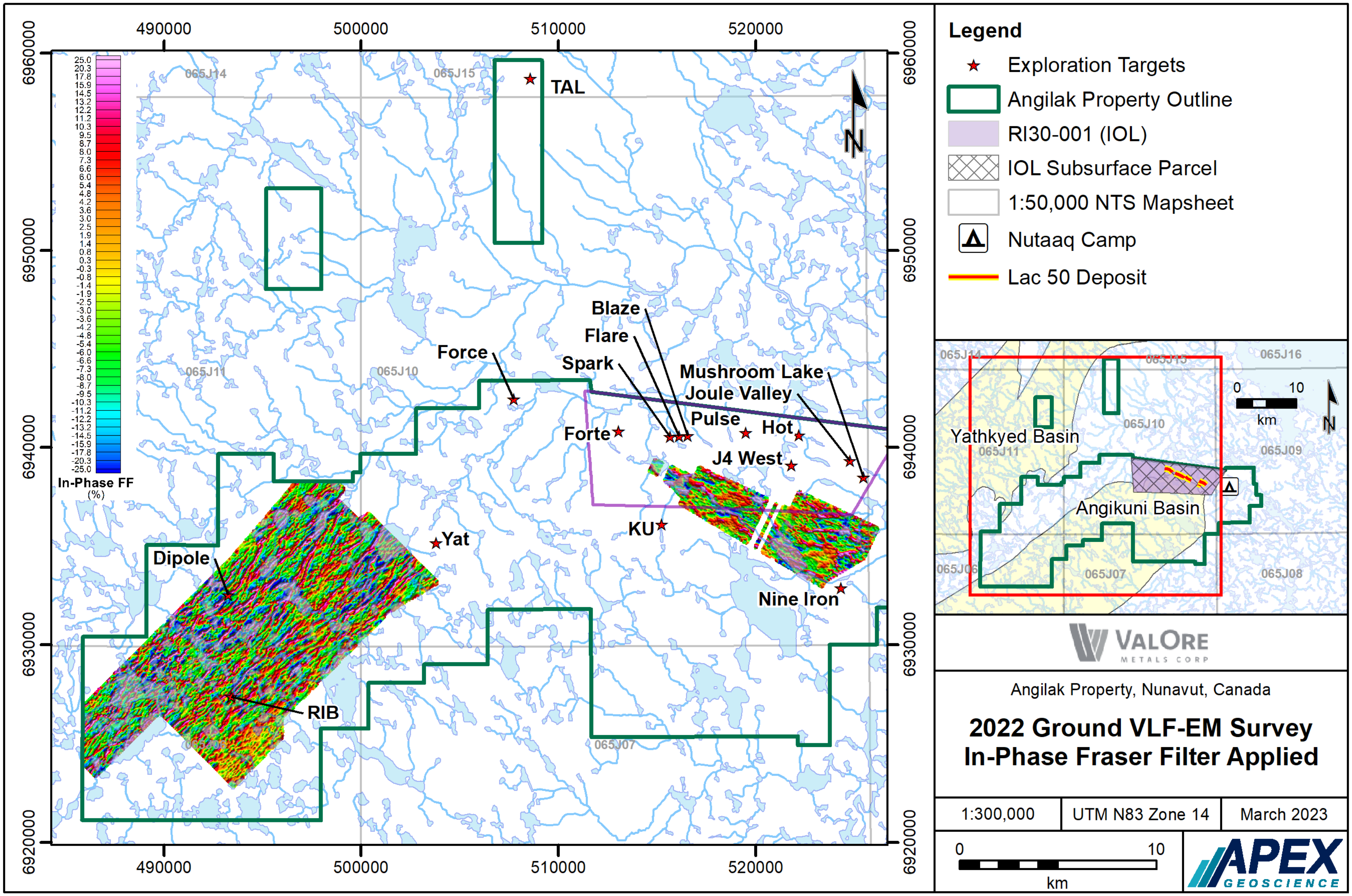
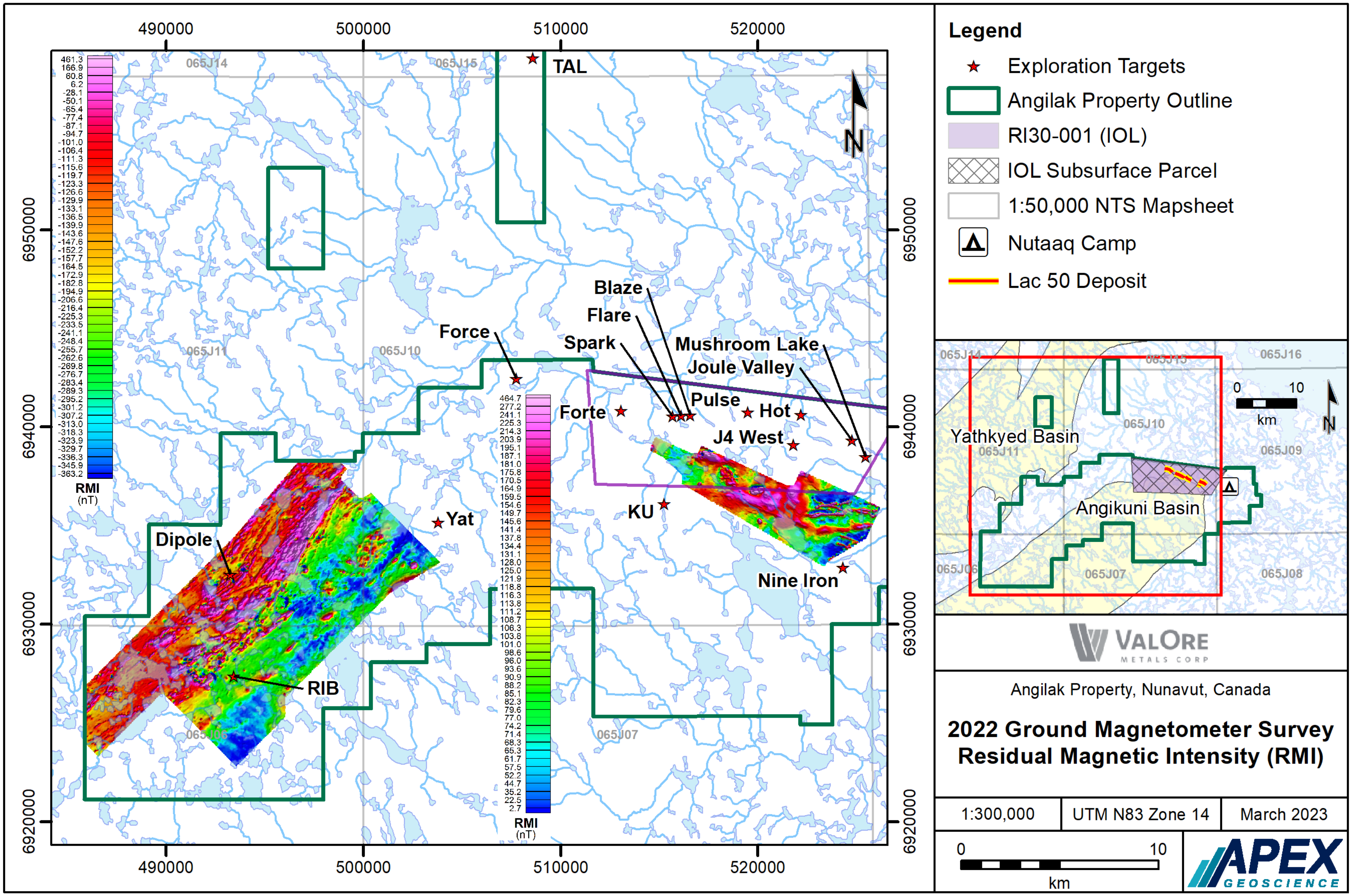


Figure 9.23. Ground Magnetics Geophysical Survey 2022.



10 Drilling

10.1 ValOre Drilling 2009 to 2012

This subsection summarizes the drilling completed on the Property from 2009 to 2012 and is sourced from a previous Technical Report completed for the Property by Dufresne et al. (2013). Detailed summaries of the drill programs completed from 2009 to 2012 are covered in Dufresne and Sim (2011), Dufresne et al. (2012), and Dufresne et al. (2013). An overview map of all drilling completed on the Property to date is presented in Figure 10.1.

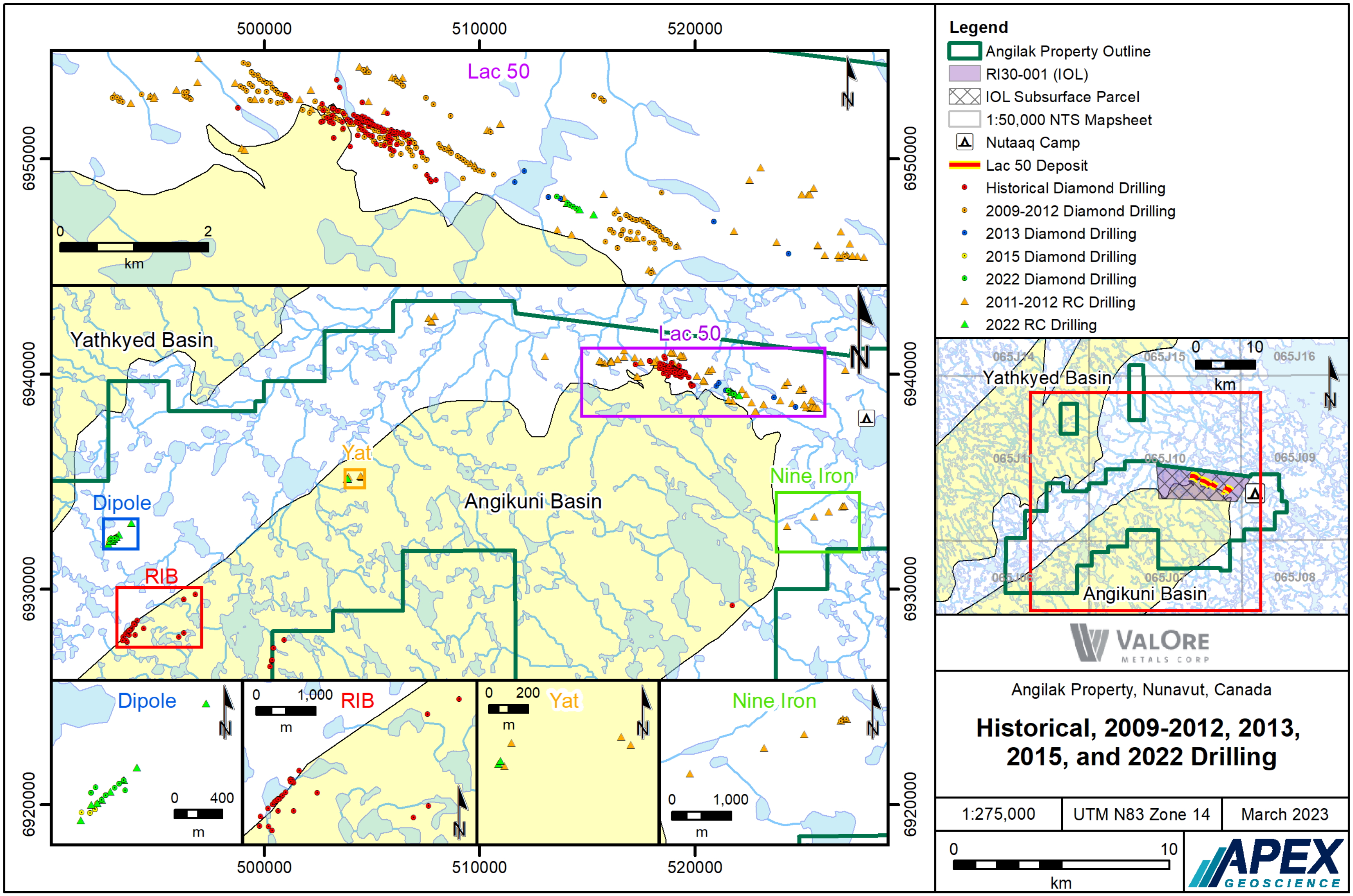
The objective of diamond drill program in 2009 was to verify and test the continuity of the Lac 50 Deposit. A total of 16 drillholes were completed for a total of 1,745 m drilled. Of these holes 15 drillholes targeted the Lac 50 Deposit, and 12 drillholes intersected intervals of significant uranium mineralization. The drill program results showed that the “Main Zone” of uranium mineralization is relatively predictable, dipping approximately 70 degrees to the south with a strike of 116 degrees (Dufresne et al., 2013).

The 2010 diamond drill program targeted the Lac 50 Deposit area with the objective of generating enough data needed to calculate a mineral resource estimate (Dufresne and Sim, 2011). A total of 107 drillholes were completed for a total of 16,606 m drilled. Of these holes 103 drillholes targeted the Lac 50 Deposit, and 88 drillholes intersected anomalous uranium mineralization (Dufresne et al., 2013).

In 2011, a reconnaissance RC drill program was completed on the Property, where 88 RC holes were completed for a total of 6,411.36 m drilled. Anomalous intersections in the Lac 50 Deposit area were followed-up with diamond drilling. A total of 153 diamond drillholes were completed in 2011 for a total of 23,849 m drilled. The diamond drill program targeted the Lac 50 Main Zone along with it’s eastern and western offset extensions, and reconnaissance drilling targeted the Blaze, Ag, J9, Joule-Mushroom Lake, Pulse, and Spark prospect areas.

The 2012 diamond drill program targeted the Lac 50 Main Zone, the J4/Ray zone, the Pulse zone, and the Nine Iron zone. A total of 172 drillholes were completed for a total of 33,583 m drilled. In 2012, RC drilling was utilized as an exploration tool to target areas with geophysical or geochemical anomalies identified in previous exploration programs. A total of 5,273 m in 38 RC holes were completed in 2012.

Figure 10.1. Drillhole Location Overview for the Angilak Property.



10.2 ValOre Drilling 2013

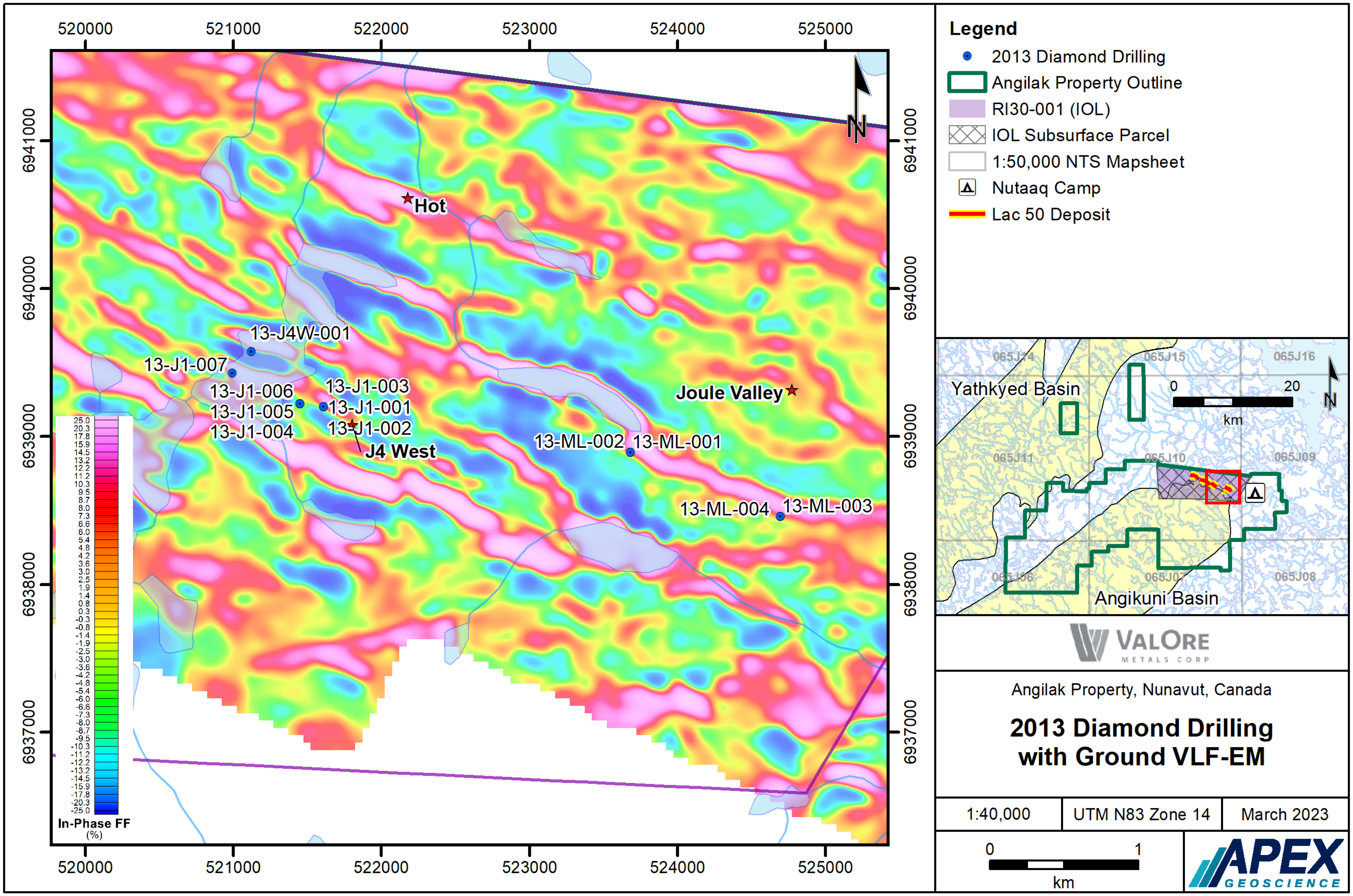
In April and May of 2013, a total of 1,650.8 m of diamond drilling were completed in 12 drillholes targeting the J1 Zone, Mushroom Lake (ML), and J4 West Zone. All holes were drilled with an azimuth of 26 degrees and dips ranging from -45 to -90 degrees. Four drillholes were completed at the ML Zone, which is an approximately 1.5 km long, east-west oriented VLF-EM conductor located to the northeast of the J4 deposit (Figure 10.2). Two of the drillholes targeting the ML "EM" conductor encountered intervals of anomalous uranium mineralization, including a 1.2 m core-length interval of 1.42 % U_3O_8 in hole 13-ML-001 (Table 10.1). Seven diamond drillholes targeted the J1 zone, which is an approximately 1 km long VLF-EM conductor that is located 800 m to the west of the J4 deposit (Figure 10.2). Detail logging of core identified that mineralization occurs as thin carbonate veins in host rocks similar to that seen in the Lac 50 Deposit area (ValOre News Release, 2013). Highlights from the drilling completed at the J1 Zone are presented in Table 10.1. No significant mineralization was encountered in drillhole 13-J4W-001 that targeted the J4 West Zone.

Table 10.1. Assay Highlights for 2013 Diamond Drilling Program (ValOre News Release, 2013).

Target	Hole ID	From (m)	To (m)	Interval (m)	Est. True Width (m)	U_3O_8 (%)	Cu (%)	Mo (%)	Ag (g/t)
ML Zone	13-ML-001	90.2	94.5	4.3	4.3	0.46	0.48	0.15	53.6
ML Zone	Includes	90.2	91.4	1.2	1.2	1.42	0.64	0.40	139.0
ML Zone	13-ML-002	101.1	103.8	2.7	2.4	0.01	0.30	0.00	6.7
J1 Zone	13-J1-001	38.0	39.4	1.4	1.3	0.06	0.08	0.01	8.3
J1 Zone	13-J1-002	60.1	60.5	0.4	0.3	1.06	0.28	0.03	3.6
J1 Zone	13-J1-003	77.2	78.3	1.1	0.6	0.56	0.05	0.28	15.5
J1 Zone	Includes	77.2	77.7	0.5	0.3	1.31	0.09	0.66	33.9
J1 Zone	13-J1-004	76.3	76.7	0.4	0.4	0.09	0.01	0.00	2.8
Qtz Carb Vn	13-J1-005	16.6	17.0	0.4	NA	0.17	0.02	0.00	1.1
J1 Zone	13-J1-005	114.8	115.1	0.30	0.2	0.15	0.05	0.07	9.2
J1 Zone	13-J1-006	180.8	183.5	2.7	1.3	0.03	0.04	0.01	3.9

***All samples are subjected to ICP1 Analysis by Saskatchewan Research Council Geoanalytical Laboratories "SRC" in Saskatoon, Canada. ICP1 results >1,000 ppm U are subjected to SRC U_3O_8 Assay; ICP1 results for Cu, Mo and Ag are reported by SRC in parts per million (ppm). 1 ppm = 1gm/t, 10,000 ppm = 1%; Intervals include ICP U analysis in ppm converted to U_3O_8%. Conversion to U_3O_8% = ppm x 0.01179.**

Figure 10.2. Diamond Drilling Program at J1, J4 West and Mushroom Lake 2013.



10.3 ValOre Drilling 2015

The 2015 diamond drill program focused on the Dipole target, with the objective of testing a prominent VLF-EM conductor and coincident uranium-in-soil anomaly (Figure 10.3). Nine drillholes were completed at Dipole for a total of 958 m, and all nine holes intersected radioactive intervals. All drillholes were drilled at an azimuth of 135 degrees, with dips ranging from -45 to -90 degrees. The diamond drilling program at Dipole successfully delineated a 25 to 48 m wide area of steeply dipping zones of mineralization that extend approximately 150 m along strike, with multiple mineralized intervals being encountered in all holes. Hole 15-DP-009 returned the highest assay interval of 2.34 % U_3O_8, 1.14 % Mo, and 44 g/t Ag over a 1.3 m interval. Assay highlights from the 2015 diamond drilling program at Dipole are presented below in Table 10.2.

Table 10.2. Assay Highlights from Diamond Drilling at Dipole 2015 (ValOre News Release, 2015).

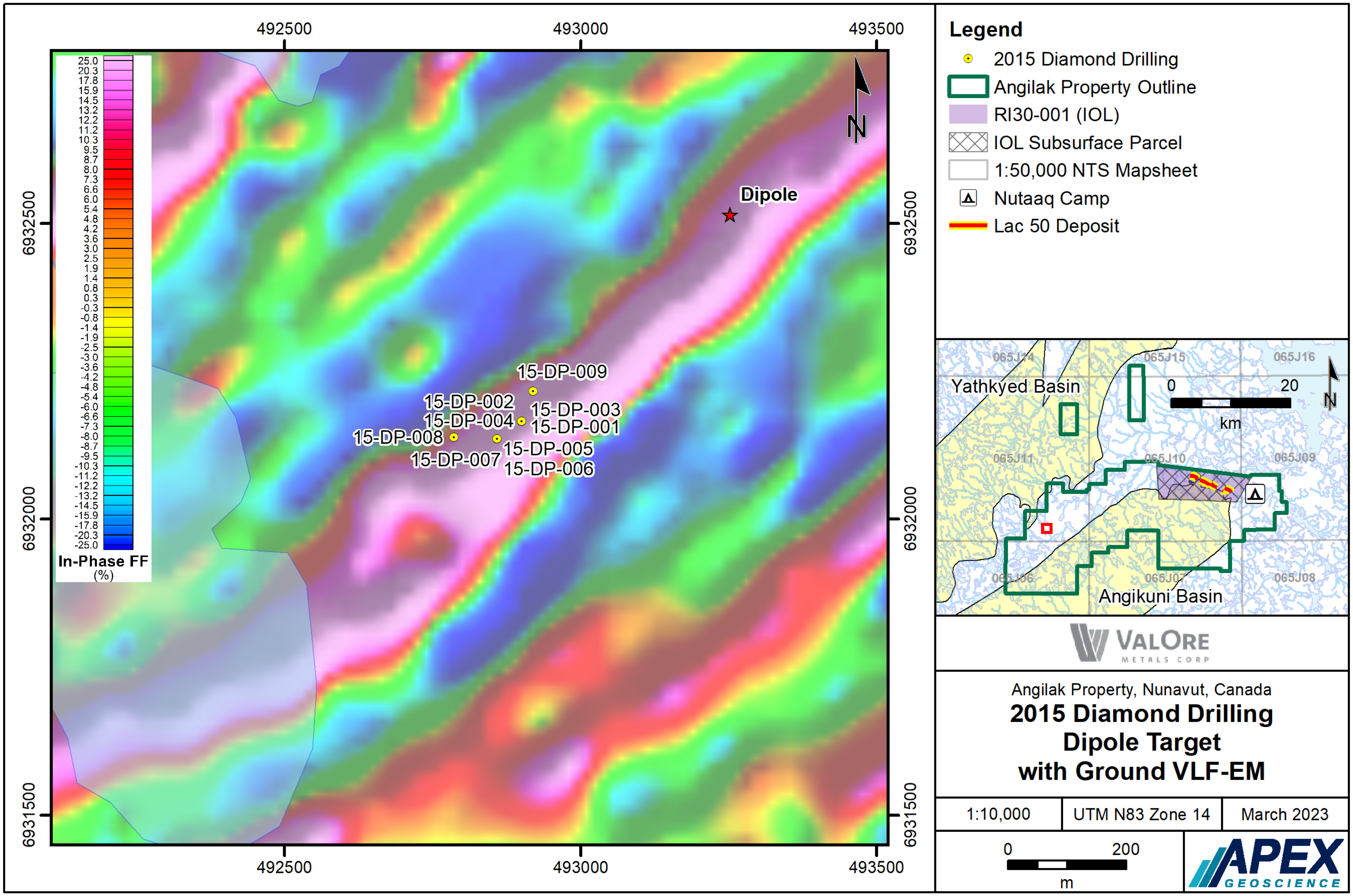
Drillhole ID	From (m)	To (m)	[1]Interval (m)	U_3O_8 (%)	Mo (%)	Ag (g/t)
15-DP-001*	21.6	22.6	1.0	0.05	0.62	9.9
15-DP-002	38.1	39.9	1.8	0.02	0.36	4.3
15-DP-002	73.1	78.0	4.9	0.07	0.01	2.0
Includes	75.5	77.6	2.1	0.14	0.00	1.4
15-DP-003	23.0	24.0	1.0	0.09	0.29	5.5
15-DP-003	34.4	35.4	1.0	0.03	0.26	5.0
15-DP-003	68.5	70.4	1.9	0.14	0.01	2.2
15-DP-004	56.0	57.5	1.5	0.13	0.50	6.6
15-DP-004	99.5	101.9	2.4	0.02	0.04	3.6
15-DP-005	27.9	35.9	8.0	0.17	0.16	6.7
Includes	27.9	29.8	1.9	0.37	0.04	3.1
and Includes	34.0	35.0	1.0	0.42	0.71	27.4
15-DP-005	91.0	94.0	3.0	0.02	0.05	5.0
15-DP-006	35.5	42.2	6.7	0.18	0.13	4.2
Includes	35.5	36.7	1.2	0.35	0.09	7.0
and Includes	39.1	41.1	2.0	0.34	0.11	4.6
15-DP-006	107.8	111.3	3.5	0.01	0.05	5.1
15-DP-007	74.9	78.6	3.7	0.06	0.61	6.7
15-DP-007	108.7	112.0	3.3	0.07	0.45	5.3
15-DP-008	79.0	80.3	1.3	0.12	0.12	14.9
15-DP-008	135.2	136.7	1.5	0.02	0.03	6.1
15-DP-009	27.8	31.3	3.5	0.88	0.46	17.6
Includes	28.3	29.6	1.3	2.34	1.13	44.0
15-DP-009	46.4	53.1	6.7	0.21	0.25	3.8
Includes	49.3	50.4	1.1	0.77	0.62	7.9
15-DP-009	57.4	62.3	4.9	0.04	0.06	1.3
15-DP-009	78.2	80.0	1.8	0.03	0.02	1.8

***Hole 15-DP-001 lost at 23.5m due to drilling conditions.**

[1] All "From", "To" and "Interval" measurements are metres (m) down-hole. True widths are yet to be determined.

All samples are subjected to ICP1 Analysis by SRC in Saskatoon, Canada. ICP1 results >1,000 ppm U are subjected to SRC U_3O_8 Assay; ICP1 results for Cu, Mo and Ag are reported by SRC in parts per million (ppm). 1 ppm = 1gm/t, 10,000 ppm = 1%; Intervals include ICP U analysis in ppm converted to U_3O_8%. Conversion to U_3O_8% = ppm x 0.0001179.

Figure 10.3. Diamond Drilling Program at Dipole 2015.



10.4 ValOre Drilling 2022

10.4.1 Reverse Circulation (RC) Drilling

ValOre contracted Northspan Explorations Ltd. (Northspan) to complete a reverse circulation (RC) drill program on the Angilak Property during Spring 2022. The full RC drilling equipment was flown into Nutaaq Camp with a Basler DC3 on wheel skis from Baker Lake. A total of 3,165.35 m (10,385 ft) in 27 holes were drilled from April 22nd to June 14th, 2022. The model of RC drill used was a Hornet heli-portable rig, which drills a 4" hole using a rotary percussion drilling technique, pulverizing rock into chips of 1 cm or less. Proposed pads were located and aligned with the use of a Devico DeviSight that uses a dual GPS system to accurately measure and record location and azimuth. Once the drill was set up on the pad, the drill was aligned to the correct azimuth and dip by a geologist with the use of the Devico DeviAligner, followed by a check with a Brunton compass to ensure accuracy. Downhole surveys were not completed on the RC drillholes completed in 2022.

10.4.1.1 Dipole

At the Dipole target, a total of 17 RC holes were completed in 2022 for a total of 2,141 m. The objective of the RC program at Dipole was to test the extension of mineralization along strike to the northeast along the coinciding VLF-EM conductor and uranium-in-soil trends, in addition to testing the down-dip extension of the shallow uranium mineralization encountered in the 2015 diamond drillhole program (ValOre News Release, 2022). Locations of the 2022 RC holes at Dipole are presented in Figure 10.4.

All RC holes were drilled at an azimuth of 135 degrees and dips varied from -45 to -70 degrees, with multiple drillholes being completed at one pad. In the main zone at Dipole, drillholes were spaced at 50 m, and step out drilling along strike was spaced 100 to 150 m apart. A regional step-out hole was completed 800 m to the northeast along strike of the main Dipole zone.14 out of 17 RC holes drilled at Dipole encountered shallow uranium mineralization ranging in interval widths of 1.5 to 22.9 m. Wide zones of Ag-Mo-Cu mineralization was also encountered in multiple Dipole RC holes. Assay highlights of the RC drilling program at Dipole are presented below in Table 10.3.

Figure 10.4. RC and Diamond Drillhole Locations at Dipole 2022.

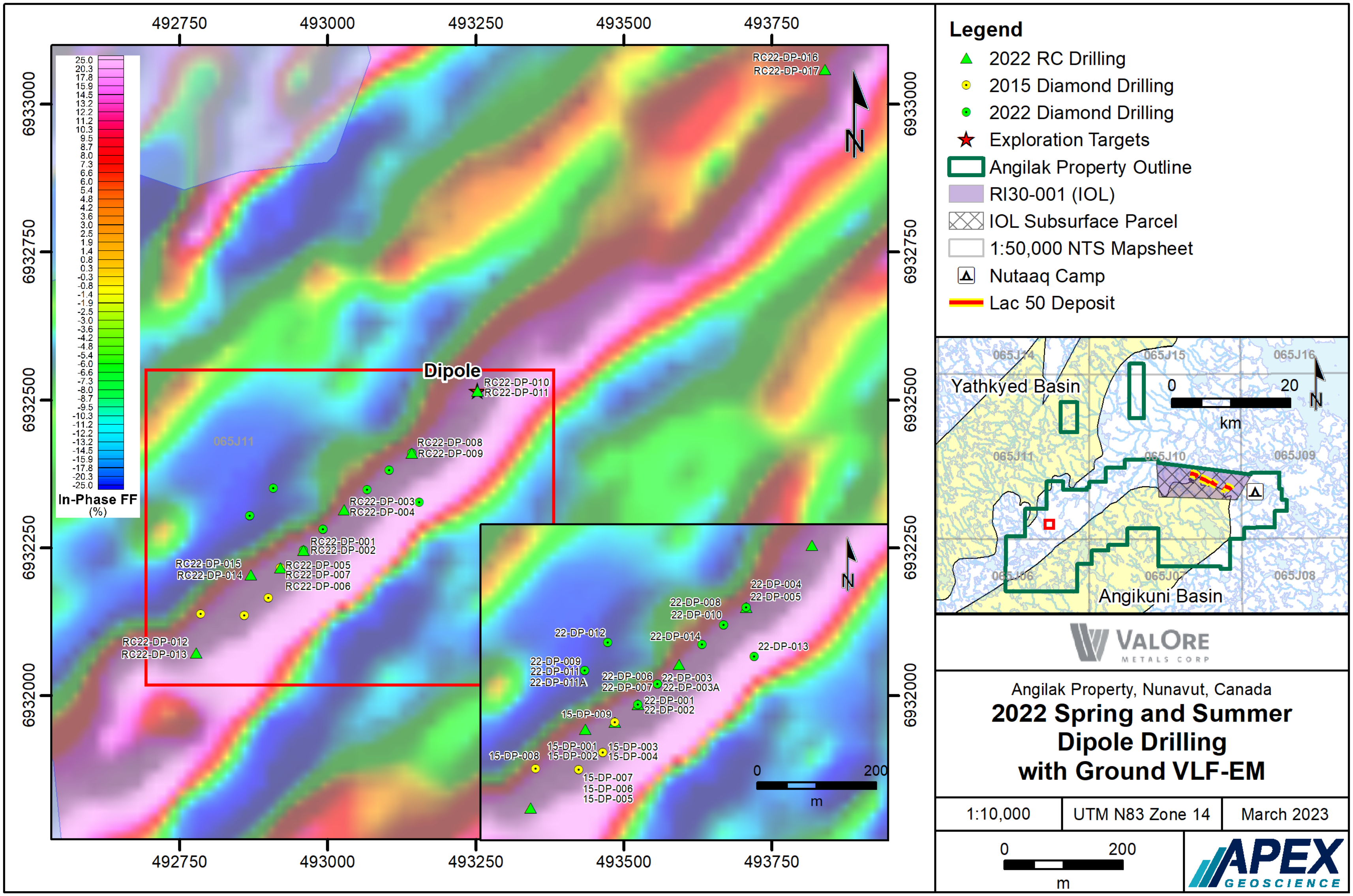


Table 10.3. Assay Highlights for RC Drilling at Dipole 2022.

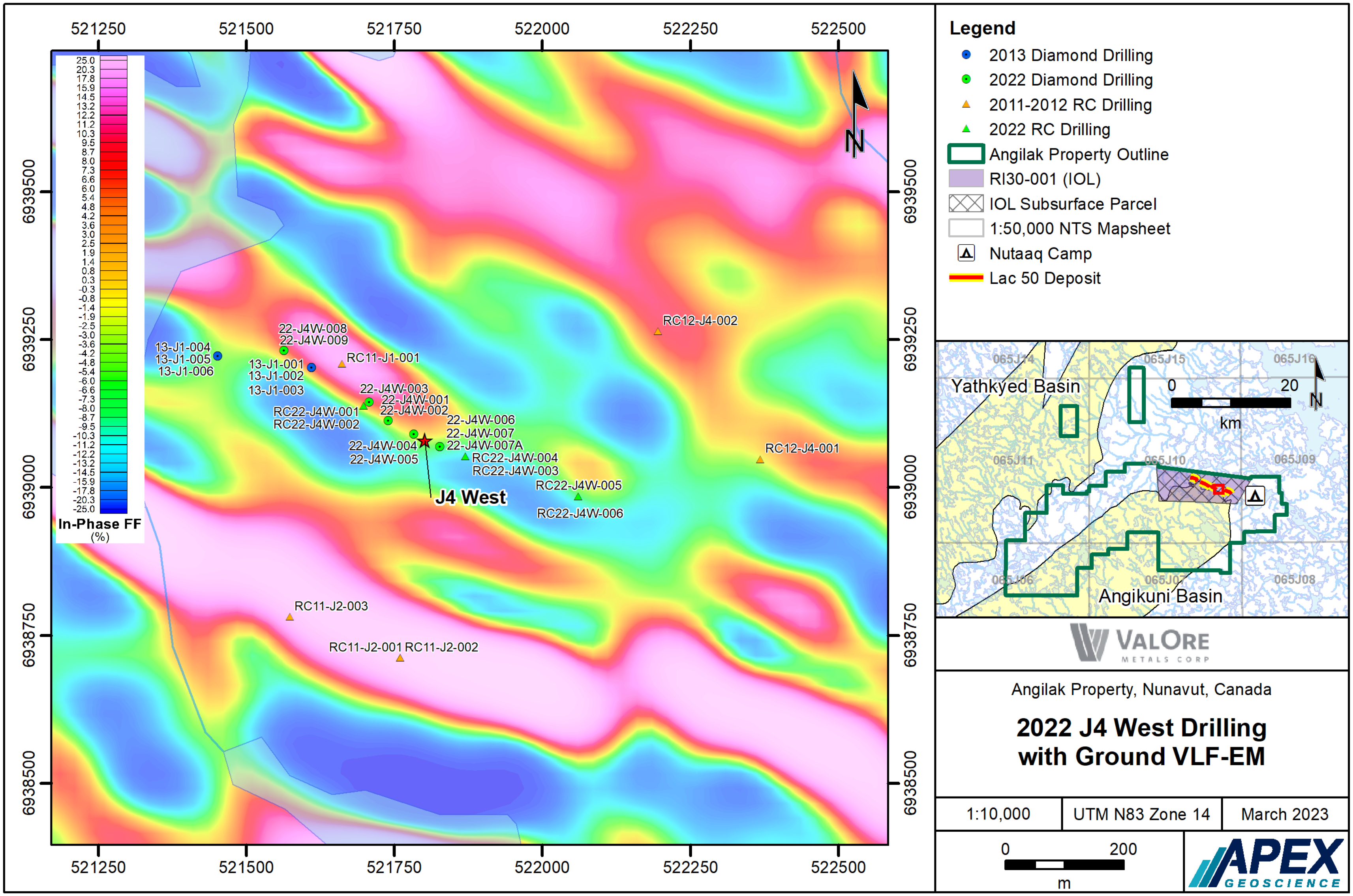
Drillhole	From (m)	To (m)	*Interval (m)	U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
RC22-DP-001	64	65.5	1.5	0.02	1.07	0.01	0.02
RC22-DP-001	70.1	71.6	1.5	0.03	0.97	0.01	0.01
RC22-DP-002	36.6	38.1	1.5	0.09	0.91	0.01	0.04
RC22-DP-002	73.2	80.8	7.6	0.05	1.34	0.02	0.02
includes	77.7	79.3	1.5	0.12	2.38	0.02	0.02
RC22-DP-003	65.5	67.1	1.5	0.01	4.47	0.03	0.03
RC22-DP-004	76.2	77.7	1.5	0.02	3.84	0.02	0.04
RC22-DP-005	30.5	32	1.5	0.52	7.1	0.03	0
RC22-DP-005	47.2	54.9	7.6	0.59	5.97	0.06	0.01
includes	47.2	50.3	3.1	1.34	12	0.08	0
and includes	48.8	50.3	1.5	2.21	16.5	0.1	0
RC22-DP-006	47.2	48.8	1.5	0.16	26	0.46	0.02
RC22-DP-006	77.7	79.3	1.5	0.11	11.3	0.46	0.07
RC22-DP-007	65.5	68.6	3.1	0.38	6.05	0.02	0
RC22-DP-007	93	96	3.1	0.42	3	0.04	0
RC22-DP-007	109.7	114.3	4.6	0.18	8.97	0.18	0.02
includes	111.3	112.8	1.5	0.42	11.7	0.03	0
RC22-DP-007	131.1	150.9	19.8	0.08	8.86	0.27	0.03
includes	132.6	144.8	12.2	0.1	10.21	0.33	0.03
RC22-DP-008	50.3	73.2	22.9	0.01	1.76	0	0.04
RC22-DP-009	53.3	73.2	19.8	0.02	1.43	0	0.04
RC22-DP-010	94.5	96	1.5	0.02	4.38	0.01	0.05
RC22-DP-011	80.8	82.3	1.5	0.01	1.27	0	0.02
RC22-DP-012	22.9	24.4	1.5	0.01	0.06	0	0.01
RC22-DP-014	80.8	82.3	1.5	0.25	13.05	0.7	0.07
RC22-DP-015	76.2	77.7	1.5	0.11	10.35	0.76	0.04
RC22-DP-015	170.7	181.4	10.7	0.02	6.94	0.2	0.02

***All "From", "To" and "Interval" measurements are metres down-hole. True widths are yet to be determined.**

10.4.1.2 J4 West

A total of six RC holes were completed at the J4 West target in 2022 for a total of 642 m drilled (Figure 10.4). The J4 West target is approximately 500 m southwest of the J4 mineralized zone and is interpreted to be a mineralized extension that is sinistrally off-set from the historical resource mineralization (ValOre News Release, 2023a). Mineralization at J4 West is observed to be a sheared section of hematite-altered, graphite and sulphide bearing tuff that is hosted within a foliated basalt and gabbro sequence (ValOre News Release, 2023a). Drillholes were spaced at 200 m apart and were drilled towards the north-northwest at dips of -65 and -45 degrees. Four of the six RC drillholes encountered anomalous uranium mineralization at the central and western zones at J4 West, the two

Figure 10.5. RC and Diamond Drillhole Locations at J4 West 2022.



RC holes that were drilled at the eastern extent did not intersect anomalous CPS readings and hence were not sent for analysis. Two RC holes, RC22-J4W-001 and RC220J4W-002, intersected U_3O_8 intervals above 0.20 %. Assay highlights of the RC drilling program at J4 West are presented below in Table 10.4.

Table 10.4. Assay Highlights for RC Drilling at J4 West 2022.

Drillhole	From (m)	To (m)	*Interval (m)	U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
RC22-J4W-001	50.3	53.3	3.1	0.21	10.6	0.1	0.01
RC22-J4W-002	57.9	59.4	1.5	0.38	15.1	0.08	0.05
RC22-J4W-003	56.4	57.9	1.5	0.12	3.2	0.06	0.02
RC22-J4W-004	73.2	74.7	1.5	0.05	14.8	0.1	0.05

*** All "From", "To" and "Interval" measurements are metres down-hole. True widths are yet to be determined.**

10.4.1.3 Yat

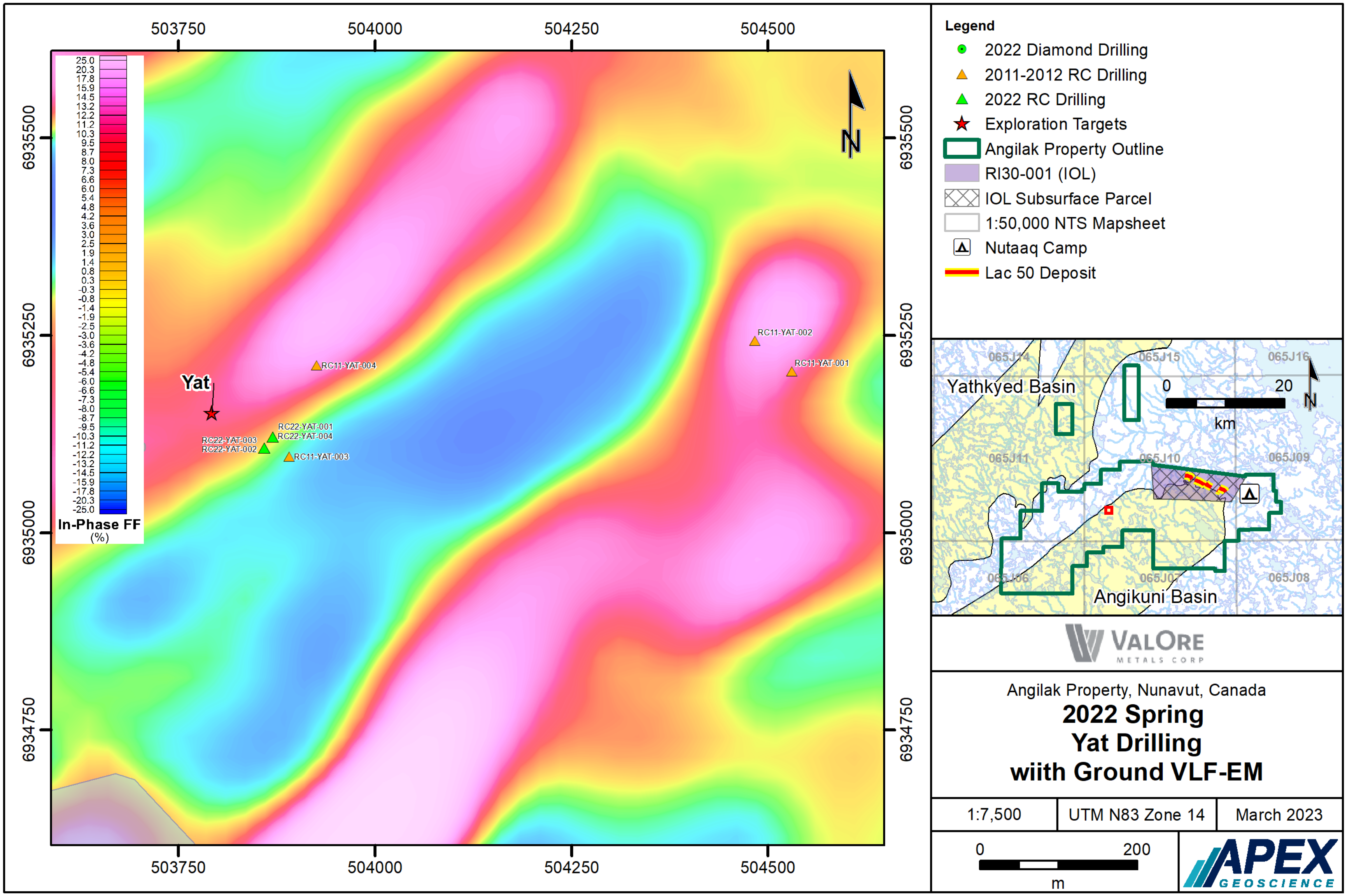
Four RC holes were completed at the Yat target in 2022 for a total of 383 m drilled (Figure 10.6). The four holes were drilled from two pads, drilling on an azimuth of 135 degrees at dips of -45 and -65 degrees. The objective of the Yat RC drilling program was to test at depth the high-grade polymetallic Pd-Pt-Au-Ag-U results returned from the trench channel and boulder sampling program carried out in 2016. Three out of four RC drillholes intercepted shallow zones of Cu-Ag mineralization as well as local zones of anomalous uranium mineralization (ValOre New Release, 2023a). The high-grade polymetallic mineralization encountered in the 2016 sampling program is interpreted to be confined to discrete, discontinuous veins hosted in the Proterozoic sedimentary and volcanic rocks of the Angikuni Basin. Assay highlights of the Yat RC drilling in 2022 are presented below in Table 10.5.

Table 10.5. Assay Highlights for RC Drilling at Yat 2022.

Drillhole	From (m)	To (m)	*Interval (m)	U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
RC22-YAT-002	6.1	39.6	33.4	0.01	4.4	0.01	0.15
includes	30.5	32	1.5	0.1	31	0	0.43
RC22-YAT-003	1.5	44.2	42.6	0	4.3	0.01	0.15
includes	1.5	6.1	4.6	0	20.8	0	1.1
RC22-YAT-004	1.5	65.5	63.8	0	3.2	0.01	0.11
includes	33.5	38.1	4.6	0.02	6.1	0.01	0.66

*** All "From", "To" and "Interval" measurements are metres down-hole. True widths are yet to be determined.**

Figure 10.6. RC Drilling Locations at Yat 2022.



10.4.2 Diamond Drilling

ValOre contracted 518 Drilling Ltd. from Woodlands, MB, during the summer of 2022 to complete diamond drilling on two targets at the Angilak Property: Dipole and J4 West. ValOre owns two Boyles 37 heli-portable drill rigs, staged at the Property from historical drilling undertaken from 2009-2015. A total of 3,590 m of diamond drilling in 26 holes was completed from July 22nd to September 3rd, 2022. Drill pads were initially located with the use of handheld GPS and a Devico DeviSight with dual GPS to accurately measure and record location and azimuth. Once set up on the pad, the drill was aligned to the correct azimuth and dip by a geologist with the use of the Devico DeviAligner followed by a check with a Brunton compass to ensure accuracy. After completion, the drillholes were surveyed using a Stockholm Precision Tools (SPT) MagCruiser configured in a multi-shot setting. Surveys were started at the bottom of the hole with data being recorded at 9-metre intervals. The MagCruiser records inclination, magnetic azimuth, magnetic field and temperature. Downhole survey data that showed unrealistic hole orientations or a magnetic field in excess of 80,000 nT was considered suspect and the survey was repeated or discarded.

10.4.2.1 Dipole

A total of 16 diamond core holes were completed from eight pads at the Dipole target in 2022 for a total of 2,664 m drilled (Figure 10.4). The objective of the drill program was to test the extension potential northeast along strike of the drilling completed in 2015, as well as following up on the diamond drilling in 2015 and RC drilling in 2022 to test mineralization extension with depth. Fourteen core holes encountered anomalous uranium mineralization (>0.01% U_3O_8), while the remaining two core holes were discontinued at 16 m and 6 m depth due to poor drilling conditions (ValOre New Release. 2023b). The 2022 diamond drilling results strengthen the interpretation that Dipole is geologically similar to the Lac 50 Deposit area, where the uranium mineralization is associated with sheared to brecciated pitchblende-sulphide bearing graphitic tuffs hosted within sequences Archean mafic-intermediate volcanics (ValOre New Release. 2023b). Intervals of uranium mineralization were encountered at vertical depths of approximately 15 to 250 m, and assay highlights are presented below in Table 10.6.

Table 10.6. Assay Highlights for Diamond Drilling at Dipole 2022.

Drillhole	Azimuth / Dip (°)	From (m)	To (m)	[2]Interval (m)	[1]U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
22-DP-001	135 / -70	49.18	50.38	1.2	0.11	8.7	0.16	0.01
includes	135 / -70	49.84	50.38	0.54	0.23	15.7	0.3	0.01
22-DP-002	135 / -75	57.83	58.47	0.64	1.1	42.8	0.98	0.03
and	135 / -75	101.71	102.42	0.71	0.41	3	0.05	0.02
22-DP-003A	135 / -45	97.69	98.25	0.56	0.03	3	0	0.03
22-DP-004	135 / -70	79	80.36	1.36	0.05	4.5	0	0.19
and	135 / -70	129.82	134.54	4.72	0.02	5.3	0.02	0.04
22-DP-005	135 / -82	110.5	116.8	6.3	0.01	1.4	0	0.04

Drillhole	Azimuth / Dip (°)	From (m)	To (m)	[2]Interval (m)	[1]U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
and	135 / -82	171.81	173.77	1.96	0.02	4.4	0	0.05
22-DP-006	135 / -65	75	76	1	0.34	11.8	0.1	0.02
22-DP-007	135 / -82	103.22	103.9	0.68	0.02	4.3	0.1	0.03
and	135 / -82	107	108.09	1.09	0.02	4.2	0.01	0.03
and	135 / -82	136.13	137.54	2.13	0.02	5.3	0.05	0.02
22-DP-008	135 / -45	141.73	142.36	0.63	0.61	6.2	0.05	0.05
22-DP-009	135 / -55	166.93	167.43	0.5	0.24	7.2	0.3	0.01
and	135 / -55	171.57	172.08	0.51	0.32	5.8	0.03	0.03
and	135 / -55	175.34	175.87	0.53	0.29	4.1	0	0.02
22-DP-010	135 / -70	152.46	155.15	1.54	1.4	179	1.9	0.34
includes	135 / -70	153.4	154	0.6	3.4	332	3.4	0.56
22-DP-011A	135 / -70	223.86	224.54	0.68	0.02	6.1	0.34	0.03
and	135 / -70	262.44	264.6	2.16	0.02	1	0	0
22-DP-012	135 / -62	288.95	289.53	0.58	0.54	6.9	0.05	0.02
22-DP-013	135 / -45	21.28	22.16	0.88	0.06	3.6	0	0.01
and	135 / -45	38.45	38.98	0.53	0.06	4.6	0.03	0.03
22-DP-014	135 / -45	57	60.24	3.24	0.06	3	0	0.06
and	135 / -45	130	130.57	0.57	0.1	5.3	0.01	0.02

[1]Core samples submitted to Saskatchewan Research Council Geoanalytical Laboratories (“SRC”) in Saskatoon, Saskatchewan, for assay via ICP1, ICP2, and U_3O_8. ICP1 results >1,000 ppm U are subjected to SRC % U_3O_8 assay; ICP1 results for Cu, Mo and Ag are reported by SRC in parts per million (ppm). 1 ppm = 1 g/t, 10,000 ppm = 1%.
[2]All "From", "To" and "Interval" measurements are metres down-hole. True widths are yet to be determined.

10.4.2.2 J4 West

At the J4 West target, ten diamond core holes were completed in 2022 for a total of 926 m drilled (Figure 10.5). The objective of the diamond drill program was to further test the potential for a sinistral off-set and continuation of mineralization to the southwest of the J4 deposit. Ten holes were completed from five pads and were all drilled at an azimuth of 26 degrees, and at inclinations of -45 to -90 degrees (ValOre News Release, 2023b). One drillhole (22-J4W-007) was stopped at 31 m depth due to poor drilling conditions. Eight out of nine core holes sent for analysis returned anomalous uranium results, and the highlights are presented below in Table 10.7. Detailed logging of core from J4 West identified mineralization styles, alteration assemblages, and host lithologies that bear strong similarity to those observed at the J4 deposit.

Table 10.7. Assay Highlights for Diamond Drilling at J4 West 2022.

Drillhole	Azimuth / Dip (°)	From (m)	To (m)	[2]Interval (m)	[1]U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
22-J4W-001	026 / -45	55.65	56.3	0.65	0.4	8.4	0.06	0.07
22-J4W-002	026 / -75	73.55	74.27	0.72	0.1	3.5	0.04	0.05
22-J4W-003	026 / -90	79.87	80.59	0.72	0.6	27.5	0.21	0.02
22-J4W-004	026 / -45	54.02	54.6	0.58	0.02	4.1	0.03	0.01

Drillhole	Azimuth / Dip (°)	From (m)	To (m)	[2]Interval (m)	[1]U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)
22-J4W-005	026 / -75	69.34	70.62	2.25	0.02	5.1	0.12	0.01
22-J4W-006	026 / -45	53.99	54.58	0.59	0.06	3.1	0.03	0.01
22-J4W-007A	No Significant Results							
22-J4W-008	026 / -45	18.63	19.81	2.25	0.06	6.1	0.05	0.04
22-J4W-009	026 / -75	77.44	78.14	0.7	0.02	2.9	0.01	0.01

[1]Core samples submitted to Saskatchewan Research Council Geoanalytical Laboratories ("SRC") in Saskatoon, Saskatchewan, for assay via ICP1, ICP2, and U_3O_8. ICP1 results >1,000 ppm U are subjected to SRC % U_3O_8 assay; ICP1 results for Cu, Mo and Ag are reported by SRC in parts per million (ppm). 1 ppm = 1 g/t, 10,000 ppm = 1%.

[2]All "From", "To" and "Interval" measurements are metres down-hole. True widths are yet to be determined.

11 Sample Preparation, Analyses and Security

11.1 Sample Collection, Preparation and Security – 2009 to 2015

The procedures and methodology for drill core handling, core logging and sampling during 2009, 2010, 2011 and 2012 were the same and are provided in detail in Dufresne and Sim (2011), Dufresne et al. (2012) and Dufresne et al. (2013) and are summarized below. Identical procedures for drillhole core handling, core logging and sampling during the 2013 and 2015 diamond drilling programs were followed by ValOre personnel and forms part of the summary below.

Core samples collected during the 2009, 2010, 2011 and 2012 diamond drilling programs as well as 2013 and 2015, comprised half split NQ drill core. The 2009 drilling was based out of the Yat camp approximately 25 km west of Lac 50, but core was logged, sampled and stored in a core shack set up adjacent to the racks of historic core located approximately 1 km east of the Lac 50 deposit. All core from the 2010, 2011, 2012, 2013 and 2015 programs was logged, sampled and stored at the Nutaaq logging facilities since all drilling was conducted from Nutaaq Camp from 2010 onward. Core samples were split using a core splitter. The drill core was generally competent and recovery near or at 100%, therefore core recovery was seldom an issue for sampling. The authors are not aware of any factors related to the drilling and, more specifically, core recovery that would materially impact the reliability of results. Sample intervals were selected based upon both lithology and radiometrics. Mineralized zones were completely sampled along with one or more 0.5 to 1.0 m wall rock buffer samples usually collected on either side any intersected zones. The samples were then placed in plastic bags with identification tags and were sealed with secure plastic ties. The samples were subsequently packed into plastic pails and sealed with tamper proof lids and security tags if they were weakly radioactive. The security seal numbers for each shipment were recorded and were later reconciled with the numbers faxed back to camp by the laboratory following the receipt of each shipment. The laboratory also confirmed the condition of the security tags. Sample transmittal forms were filled out to include shipment numbers along with sample sequences and total numbers of samples. The samples were loaded on fixed-wing charter aircraft for transport from camp to Yellowknife or occasionally samples were flown to

Baker Lake where they were received by SK Construction and loaded onto a charter aircraft to Yellowknife. The samples were accepted in Yellowknife by Discovery Mining Services and then were loaded onto trucks for transportation to the SRC Laboratory in Saskatoon, Saskatchewan.

Radioactive samples were handled and packed differently than non-radioactive samples. If the sample was less than roughly 50 cm and/or was less than about 5000 CPS, it was packed in a plastic pail with non-radioactive samples surrounding it to buffer any radiation, ensuring the pail met the criteria of Class 7 excepted packages. If a sample was too large or too radioactive to be successfully buffered to be shipped using a plastic pail, it was packed into a LSA1 metal drum with lead shielding, labeled according to Class 7 dangerous goods criteria, sealed and then shipped as above.

There were no significant issues identified with respect to sample shipments or sample security during the 2009, 2010, 2011 and 2012 as well as the 2015 drilling programs.

11.2 Analytical Procedures – SRC – 2009 to 2015

The analytical procedures and methodology for drill core assaying during 2009 to 2012 were the same and are provided in detail in Dufresne and Sim (2011), Dufresne et al. (2012) and Dufresne et al. (2013) and are summarized below. Identical analytical procedures and methodology for drill core assaying during 2013 and 2015 were followed by SRC's laboratory in Saskatoon and forms part of the summary below.

Samples collected during 2009 to 2012 as well as the 2013 and 2015 drilling programs comprised half split NQ core. All samples were analyzed for U_3O_8 and a multi-element suite by SRC, Saskatoon. The SRC facility operated in accordance with ISO/IEC 17025:2005 (CAN-P-4E), General Requirements for the Competence of Mineral Testing and Calibration laboratories and was accredited by the Standards Council of Canada. The SRC laboratory is independent of ValOre, Labrador Uranium, APEX and the authors.

The samples were first analyzed by SRC's ICP-OES multi-element Uranium exploration ICP1 method. The method analyzed for multi-elements including Ag, Mo, Cu, Pb, Zn and a suite of rare earth elements. ICP results U>1000 parts per million (ppm) were analyzed using SRC's ISO/IEC 17025:2005-accredited U_3O_8 Assay method.

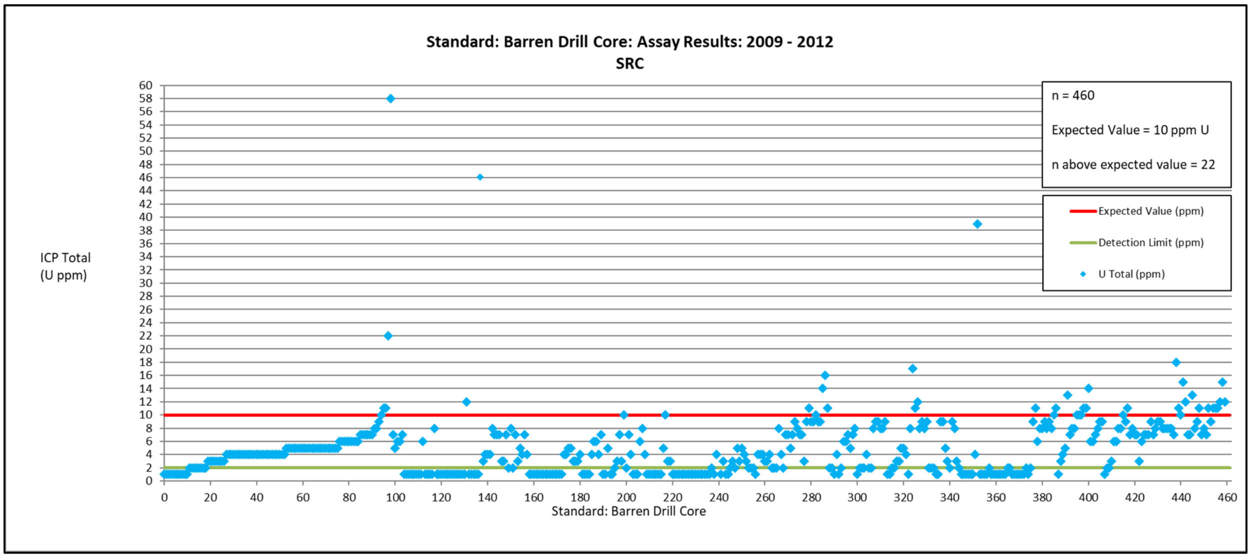
11.3 ValOre Drilling 2009 to 2012

11.3.1 Quality Assurance – Quality Control (QA-QC)

Field blanks

During the 2009 and 2010 core drilling programs barren footwall gabbro from hole DDH 09-775-01 was inserted into the sample stream at a rate of 1 every 20 samples as split core, both halves were submitted to check the results against each other. Due to logistical problems associated with radioactive material, SRC (the primary analytical laboratory) inserted a series of blank samples, internal pulp duplicates and prepared standards into the sample stream. During the 2011 drill program additional non-mineralized gabbro drill core was sourced from DDH 10-LC-061 and inserted as blank material. Blank material during 2012 comprised non-mineralized gabbro or basalt from hole DDH 10-LC-061 or DDH 11-LC-006. The core was marked in 0.5 m intervals and split, so that each half of the core was considered a sample and the halves could be checked against each other. Figure 11.1 shows the results for 460 field blanks inserted by the Company with 20 samples assaying above the expected value of 10 ppm U.

Figure 11.1. Company inserted Barren Drill Core as Blanks – 2009 to 2012



Pulp Duplicates - sent to umpire laboratory

A proportion of samples were re-assayed for U_3O_8 at SGS Mineral Services (SGS) during 2010. The SGS laboratory is independent of ValOre, Labrador Uranium, APEX and the authors. The check assay results for U_3O_8 produced an R-squared value of 0.99 when SRC and SGS results were compared for the same analytical procedure (Dufresne and Sim, 2011). A total of 210 sample pulps from the 2011 drill program were sent from the SRC laboratory to SGS in Lakefield, Ontario as duplicate sample checks. The check assay results of 2011 for U_3O_8 produced an R-squared value of 0.9986 when SRC and SGS results were compared for the same analytical procedure (Dufresne et al., 2012).

Certified Reference Material (CRM)

ValOre purchased certified reference material (CRM or standard) for insertion into the sample stream during 2011 and 2012 from the Canada Centre for Mineral and Energy Technology in Ottawa, Ontario. Four certified uranium CRMs were used: BL2-A, BL4-A, BL5 and CUP 1. The performance of the standards was evaluated using the criterion that assay results fell within 3 standard deviations (3SD) from the certified value based on the standard deviation reported by the manufacturer.

Results are presented using statistical process control charts (control charts, for short). In the chart the "accepted" or certified value is shown as a red horizontal line with control limits at 2SD as blue lines and 3SD as orange lines. The assay result values for the standard appear on the chart as blue diamonds. The assay result values for the standard appear on the chart as blue diamonds.

Figures 11.2 to 11.5 provide the results for all 4 CRMs used by the Company with a summary of the certified values in Table 11.1 and the number of failures and mislabeled CRMs encountered. There is no indication of systematic assaying problems in the uranium values.

Figure 11.2. Company inserted Standard BL2-A – 2011

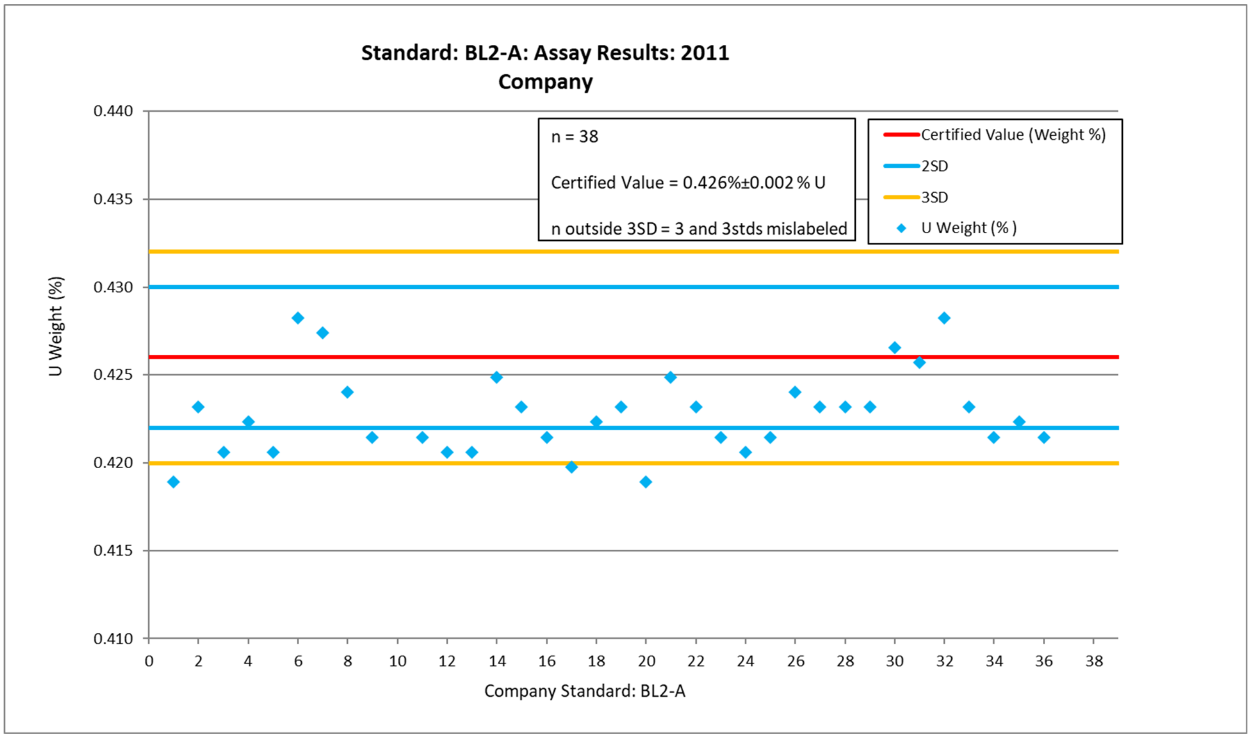


Figure 11.3. Company inserted Standard BL4-A – 2011 and 2012

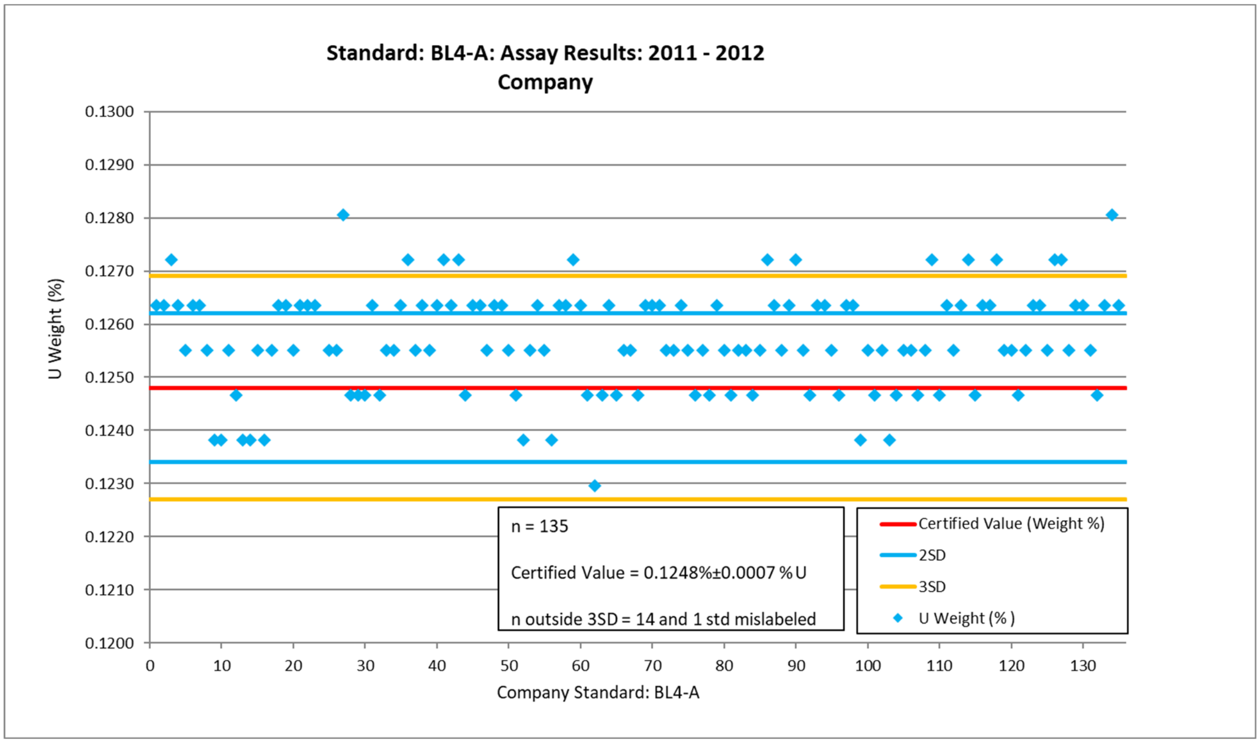


Figure 11.4. Company inserted Standard BL5 – 2011 and 2012

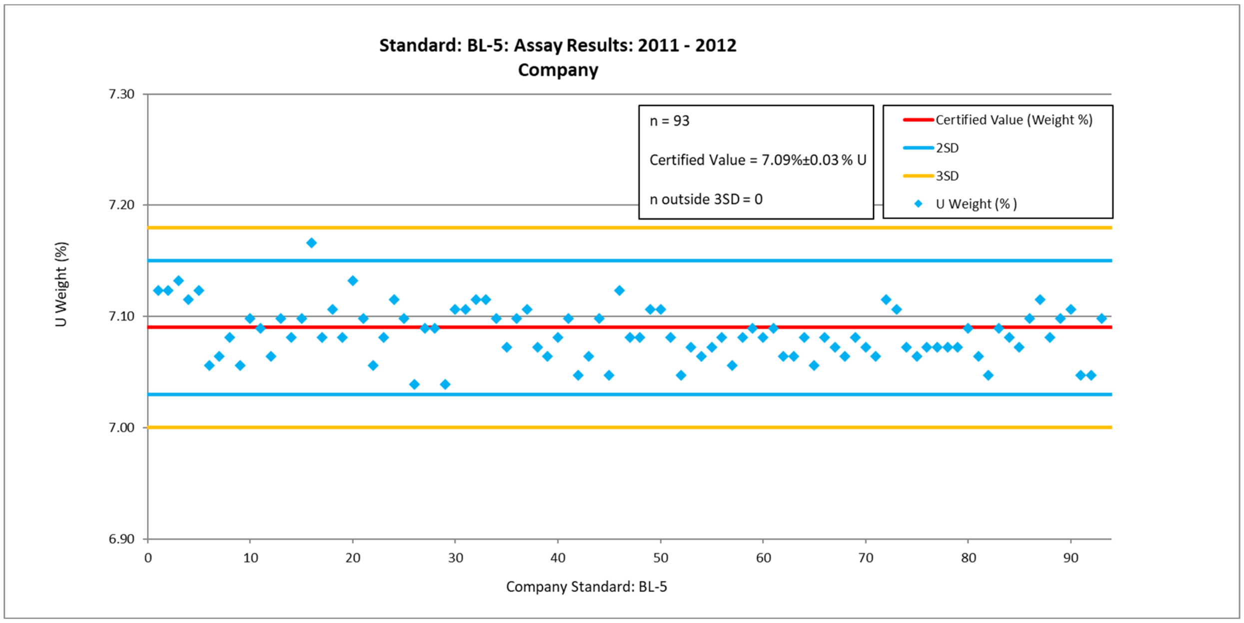


Figure 11.5. Company inserted Standard CUP 1 – 2012

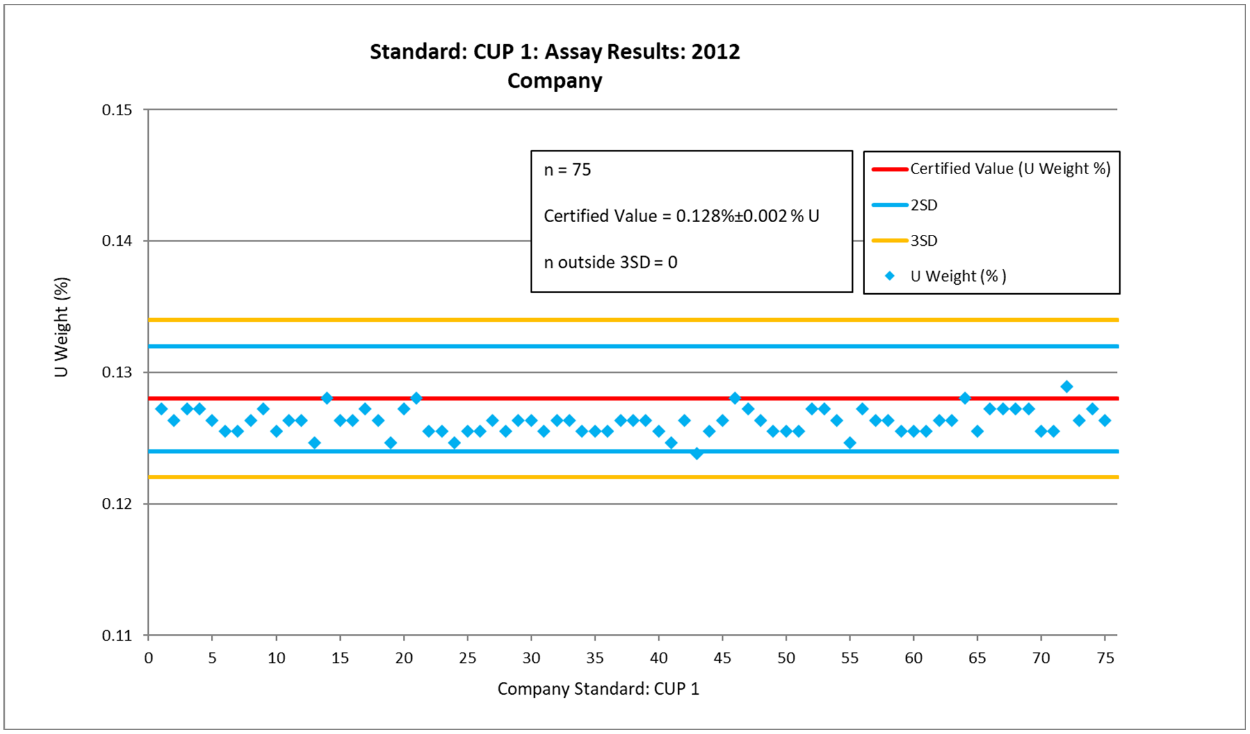


Table 11.1. Company inserted CRMs and Barren Drill Core 2009 to 2012

CRM	Type	Certified Value (% U)	1 SD (% U)	Used	Passed / Failed
BL2-A	Uranium CRM	0.426	0.002	38	3 failed, 3 CRMs mislabeled
BL4-A	Uranium CRM	0.1248	0.0007	135	14 failed, 1 CRM mislabeled
BL5	Uranium CRM	7.09	0.03	93	Passed
CUP 1	Uranium CRM	0.128	0.002	75	Passed
Barren Drillcore	Company Blank	Expected value: 10 ppm U	-	460	22 failed

Figures 11.6 to 11.10 provide the results for 5 CRMs used by SRC with a summary of the certified values in Table 11.2 and the number of failures encountered. There is no indication of systematic assaying problems in the uranium values.

Figure 11.6. SRC inserted Standard BL2-A – 2011

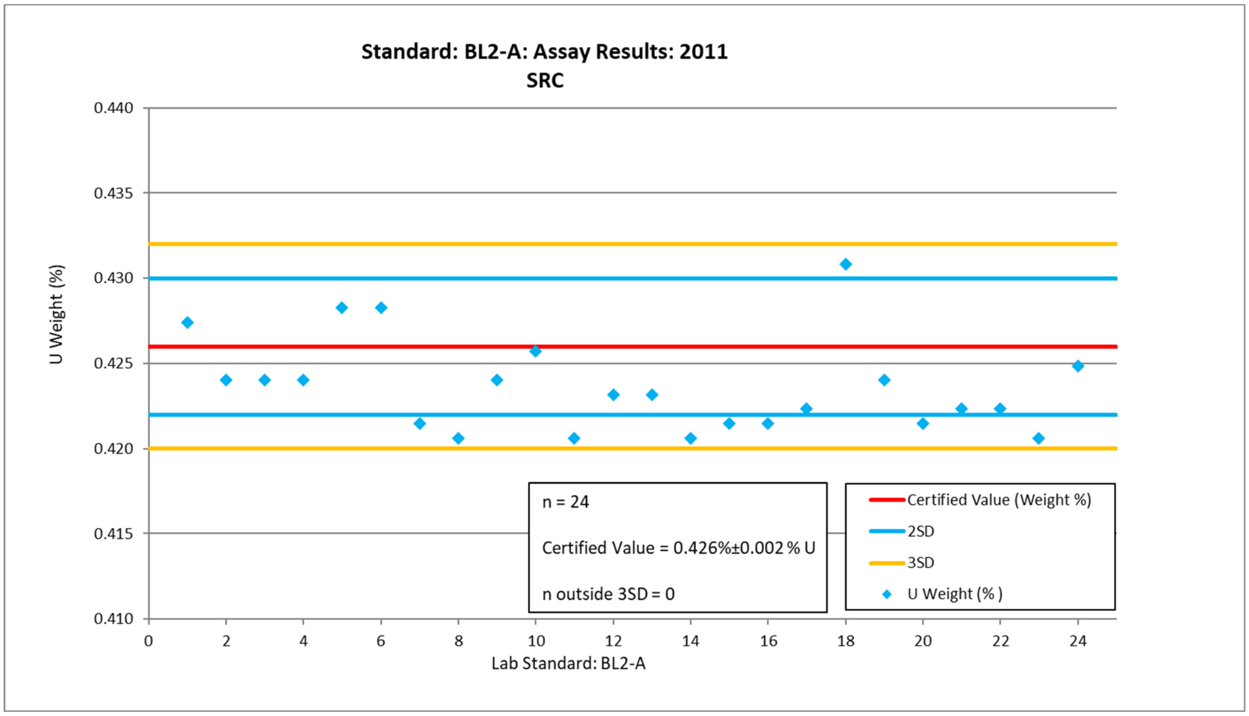


Figure 11.7. SRC inserted Standard BL3 – 2011

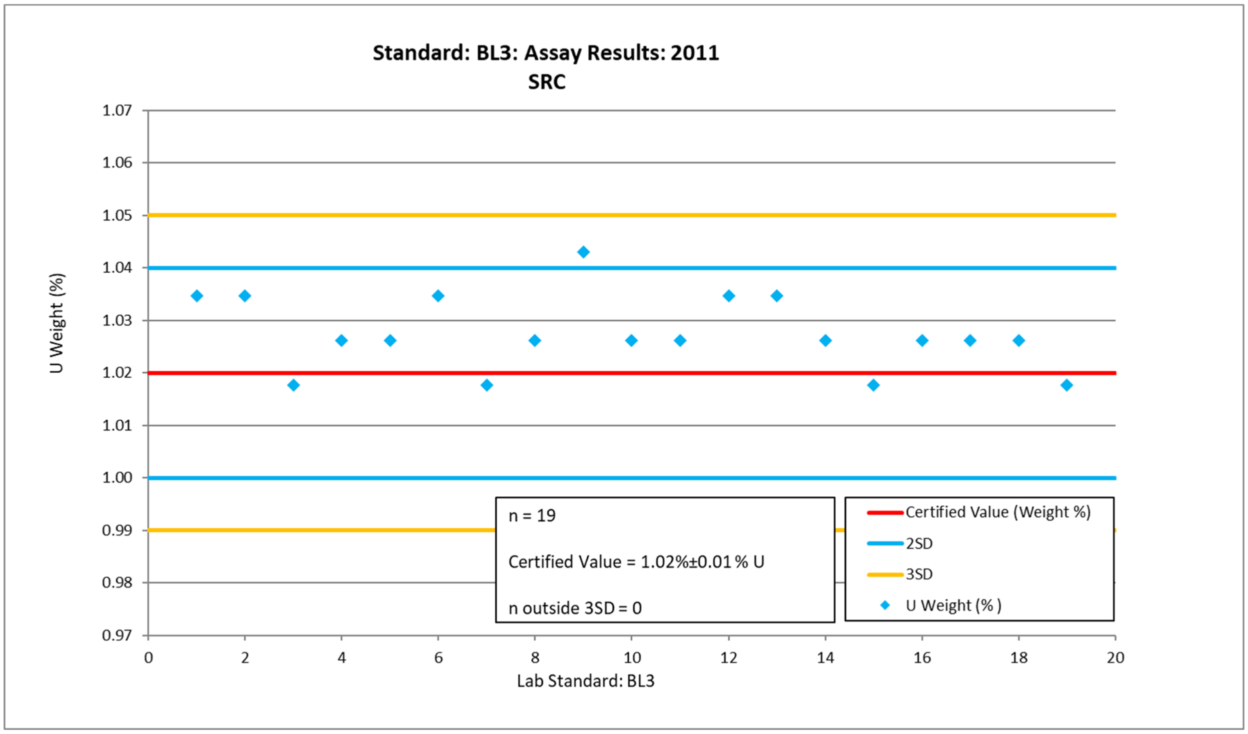


Figure 11.8. SRC inserted Standard BL4-A – 2011

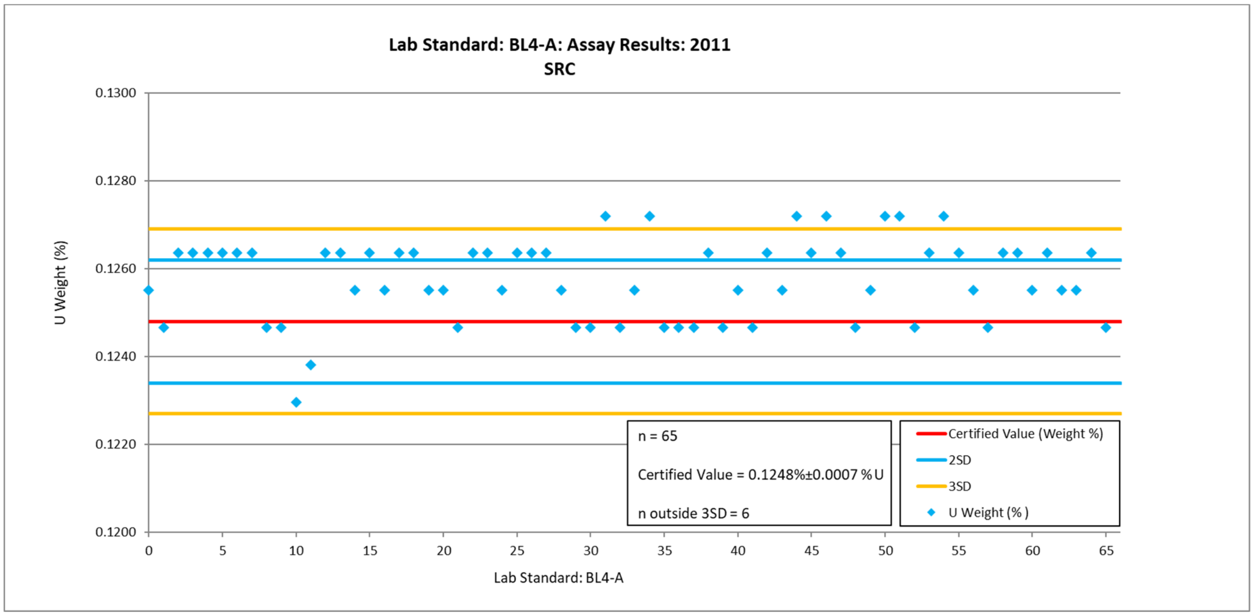


Figure 11.9. SRC inserted Standard BL5-A – 2011

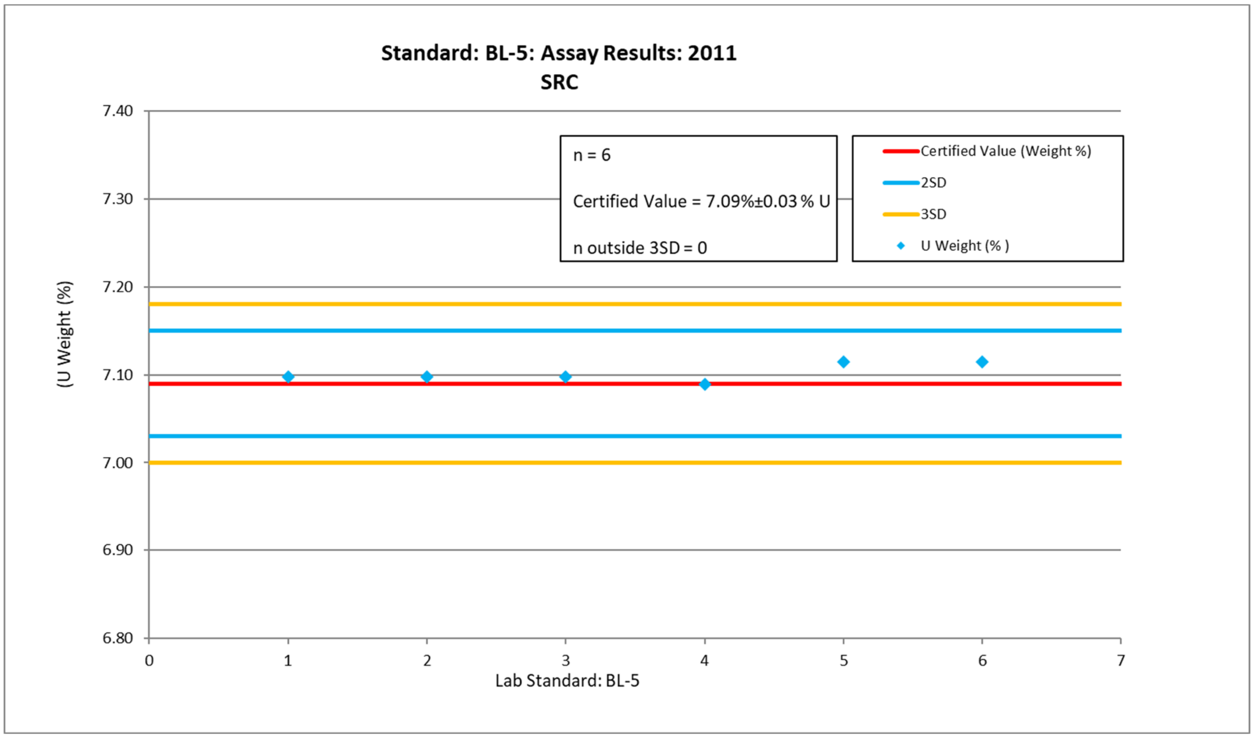


Figure 11.10. SRC inserted Standard CAR110 – 2011

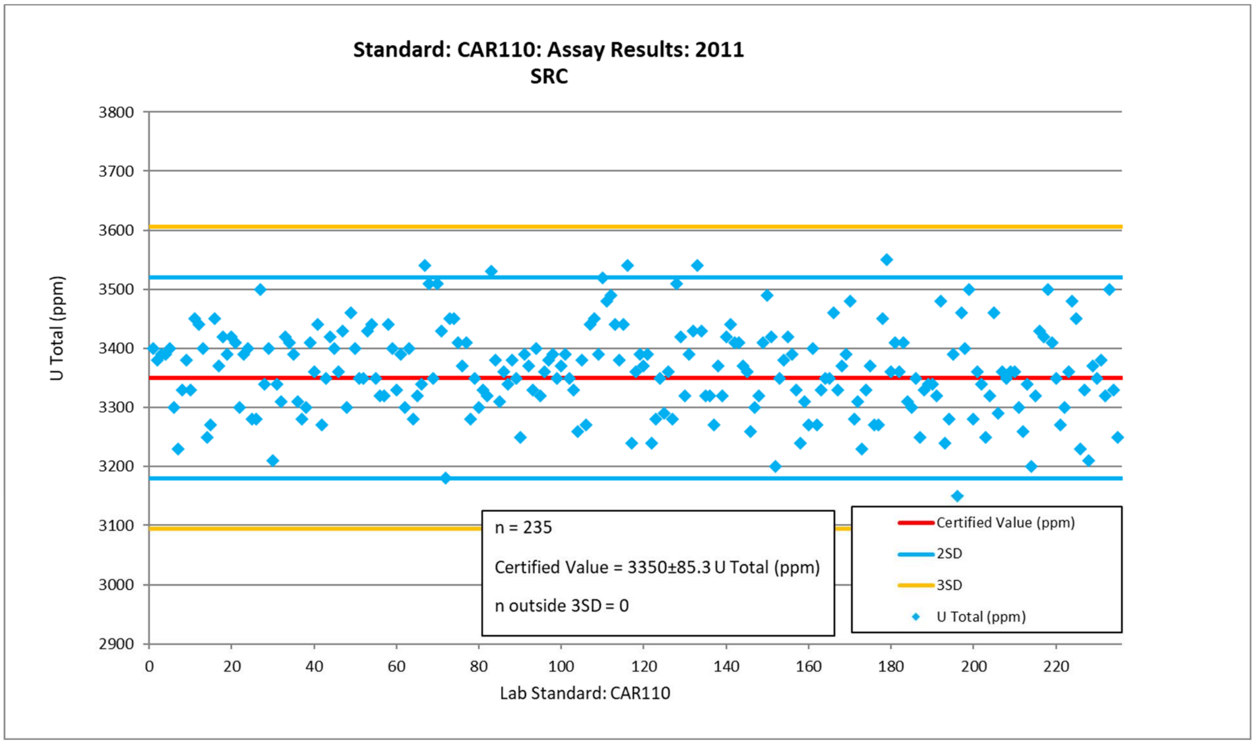


Table 11.2 SRC inserted CRMs 2009 to 2012

CRM	Type	Certified Value (% U)	1 SD (% U)	Used	Passed / Failed
BL2-A	Uranium CRM	0.426	0.002	24	Passed
BL3	Uranium CRM	1.02	0.01	19	Passed
BL4-A	Uranium CRM	0.1248	0.0007	65	Passed
BL5	Uranium CRM	7.09	0.03	6	Passed
CAR110	Uranium CRM	3350 (ppm U)	85.3 (ppm U)	235	Passed

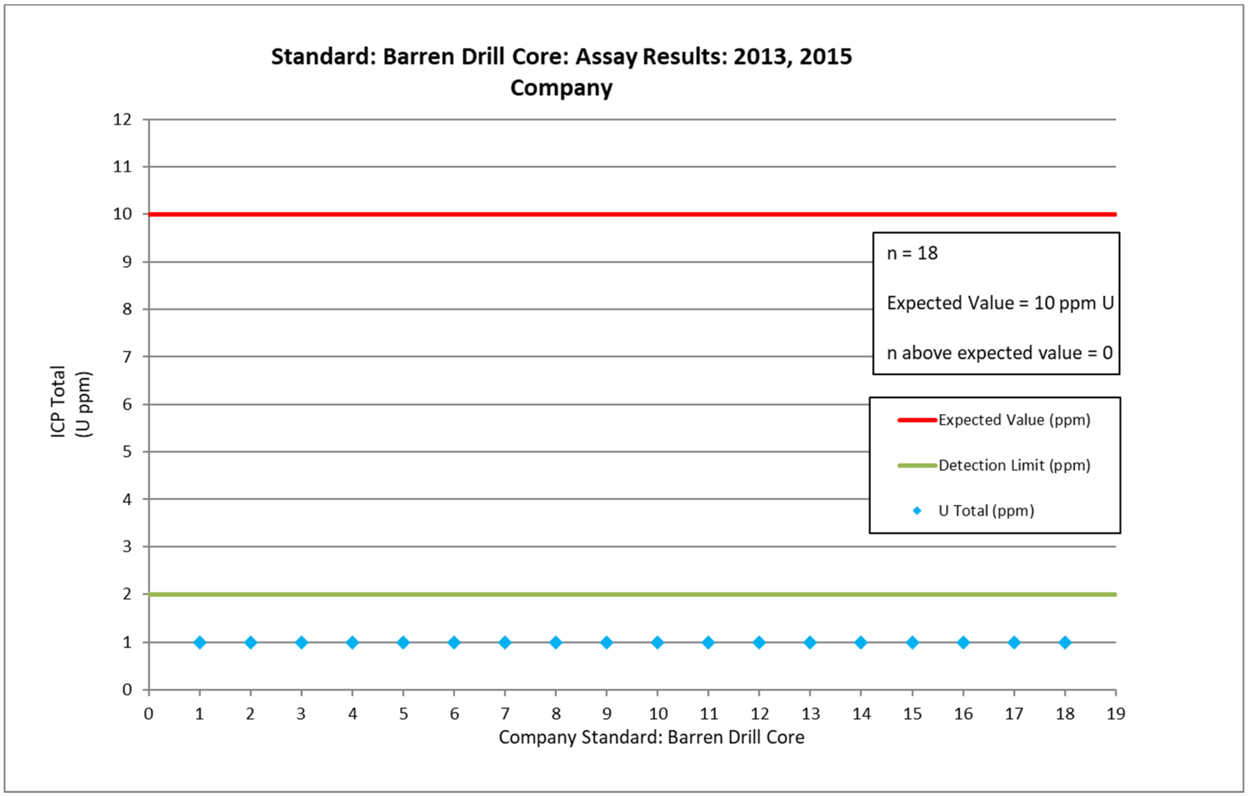
11.4 ValOre Drilling 2013 and 2015

11.4.1 Quality Assurance – Quality Control

Field blanks

Blank material during 2013 and 2015 comprised non-mineralized gabbro or basalt drill core from drillhole DDH 10-LC-061 (2013) or DDH 11-LC-112 (2015). The core was marked in 0.5 m intervals and split, so that each half of the core was considered a sample and the halves could be checked against each other. Figure 11.11 shows the results for 18 field blanks inserted by the Company with no samples assaying above the expected value of 10 ppm U.

Figure 11.11. Company inserted Barren Drill Core as Blanks – 2013 and 2015



Certified Reference Material

ValOre purchased certified reference material (CRM or standard) for insertion into the sample stream during 2013 and 2015 from the Canada Centre for Mineral and Energy Technology in Ottawa, Ontario. Three certified uranium CRMs were used: BL4-A, BL5 and CUP 1. The performance of the standards was evaluated using the criterion that assay results fell within 3 standard deviations from the certified value based on the standard deviation reported by the manufacturer.

Results are presented using statistical process control charts (control charts, for short). In the chart the “accepted” or certified value is shown as a red horizontal line with control limits at 2SD as blue lines and 3SD as orange lines. The assay result values for the standard appear on the chart as blue diamonds. The assay result values for the standard appear on the chart as blue diamonds.

Figures 11.12 to 11.5 provide the results for all 4 CRMs used by the Company with a summary of the certified values in Table 11.1. There is no indication of systematic assaying problems in the uranium results.

Figure 11.12. Company inserted Standard BL4-A – 2013 and 2015

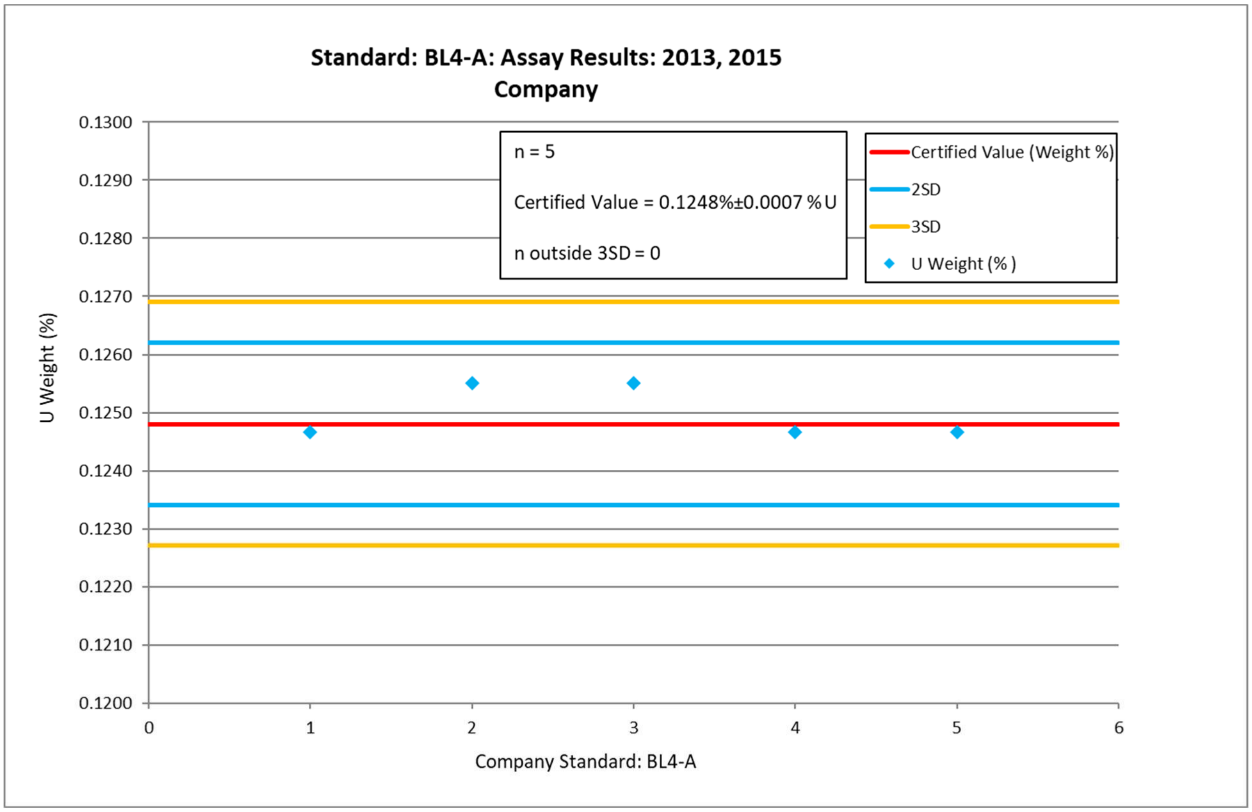


Figure 11.13. Company inserted Standard BL5 – 2013 and 2015

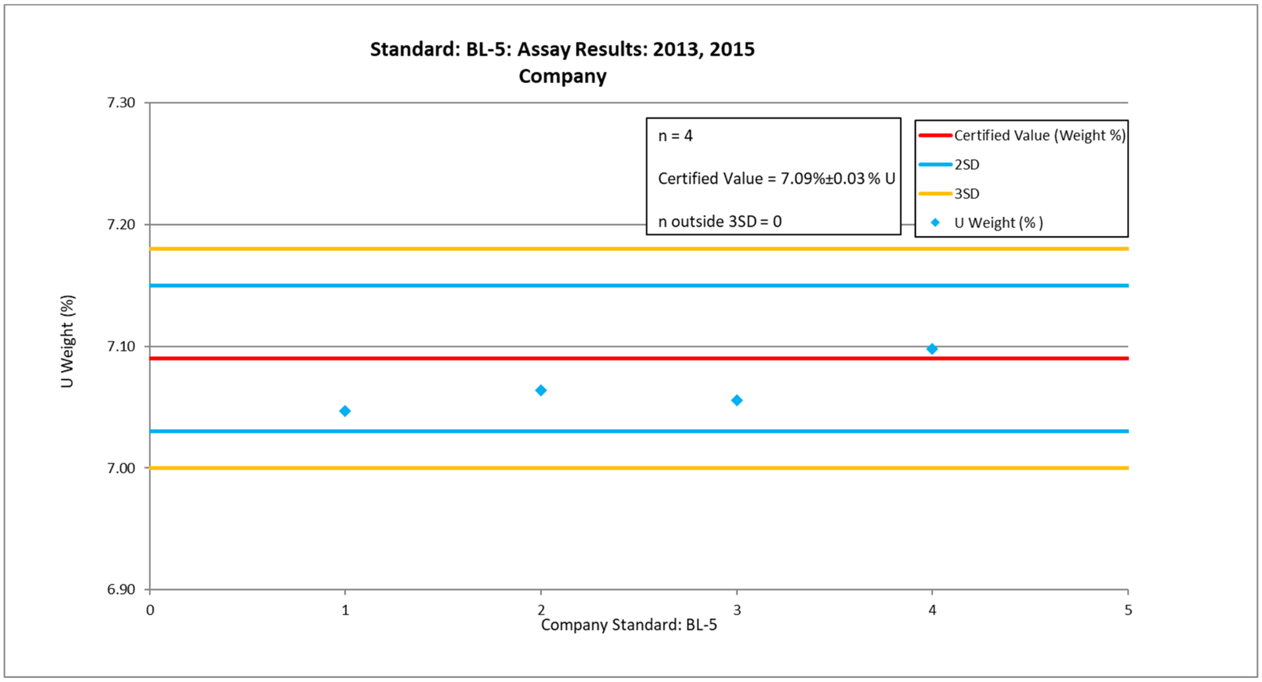


Figure 11.14. Company inserted Standard CUP 1 – 2013 and 2015

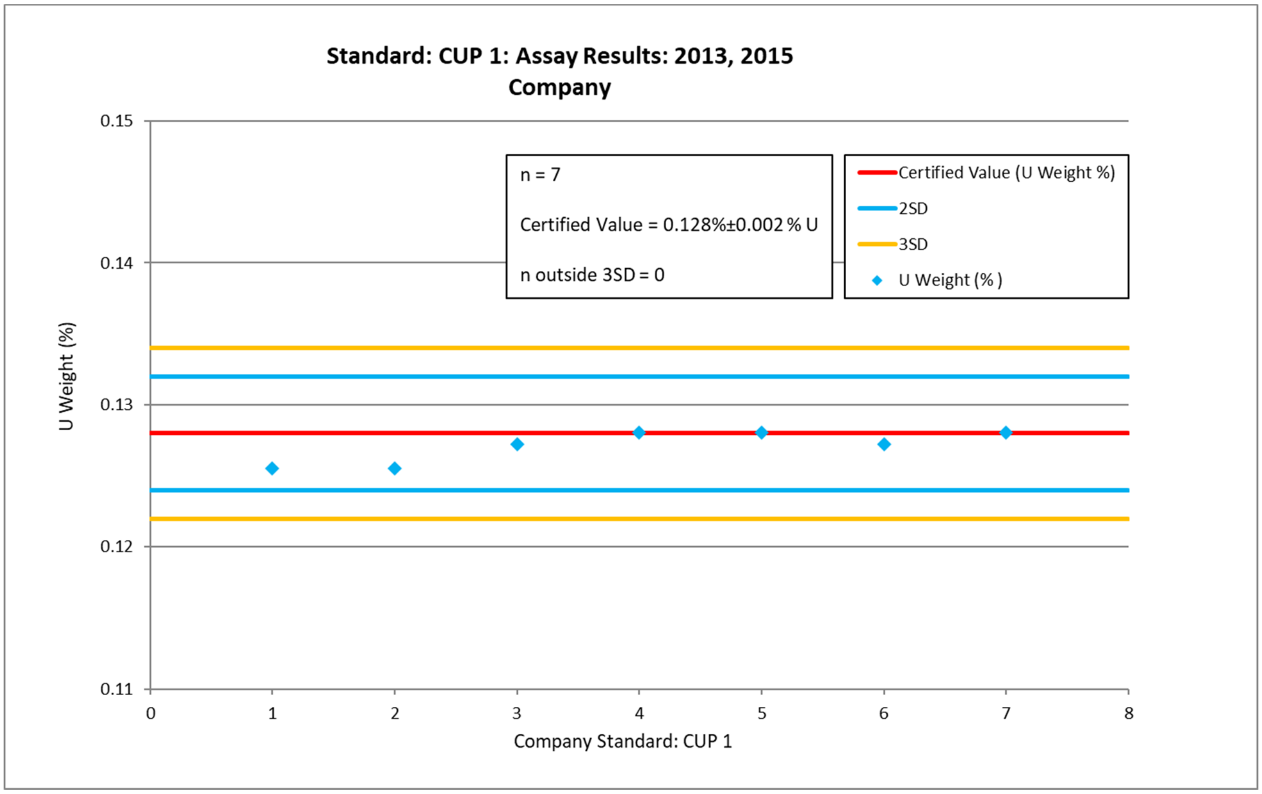


Figure 11.15. Company inserted Barren Drill Core as Blanks - 2013 and 2015

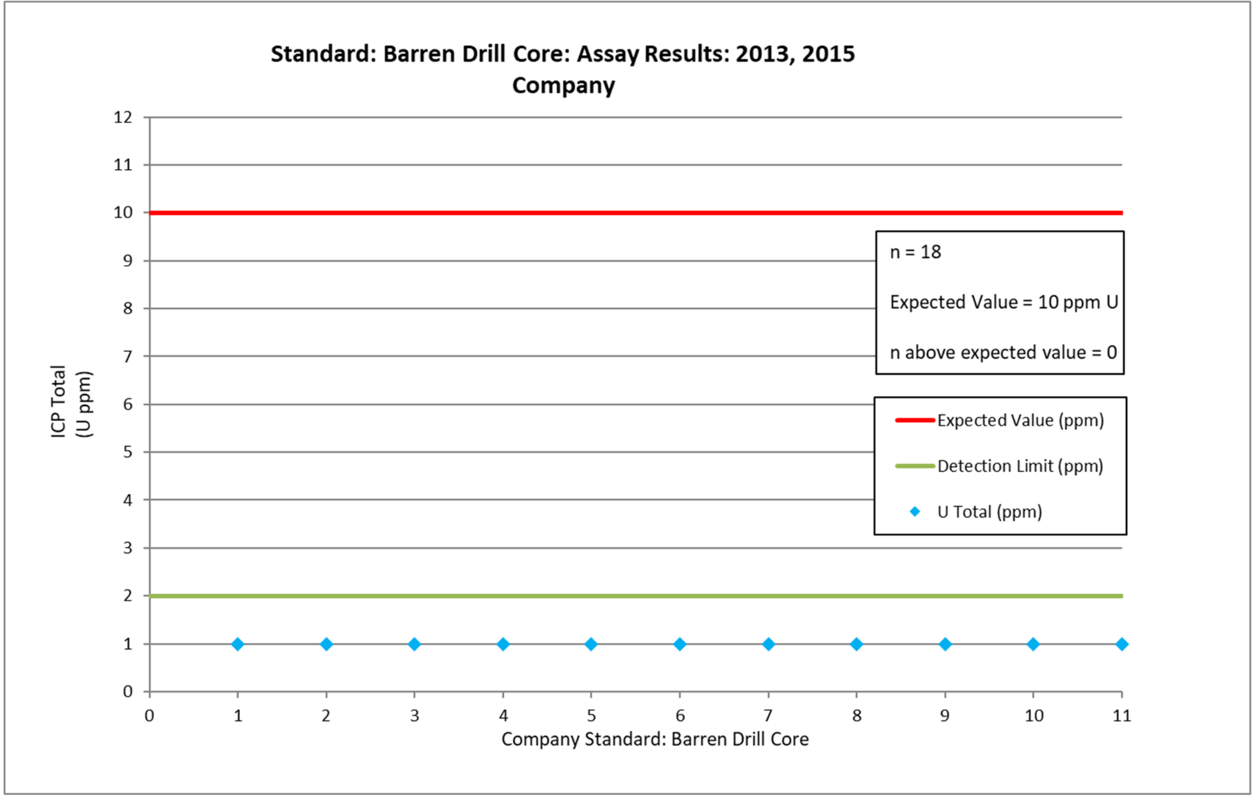


Table 11.3. Company inserted CRMs and Barren Drillcore 2013 and 2015

CRM	Type	Certified Value (% U)	1 SD (% U)	Used	Passed / Failed
BL4-A	Uranium CRM	0.1248	0.0007	5	Passed
BL5	Uranium CRM	7.09	0.03	4	Passed
CUP 1	Uranium CRM	0.128	0.002	7	Passed
Barren Drillcore	Company Blank	Expected value: 10 ppm U	-	18	Passed

Figures 11.16 to 11.17 provide the results for 2 CRMs used by SRC with a summary of the certified values in Table 11.4 and the number of failures encountered. There is no indication of systematic assaying problems in the uranium results.

Table 11.4 SRC inserted CRMs for 2013 and 2015

CRM	Type	Certified Value (% U)	1 SD (% U)	Used	Passed / Failed
BL4-A	Uranium CRM	0.1248	0.0007	2	Passed
CAR110	Uranium CRM	3350 (ppm U)	85.3 (ppm U)	9	Passed

Figure 11.16. SRC inserted Standard BL4-A - 2013

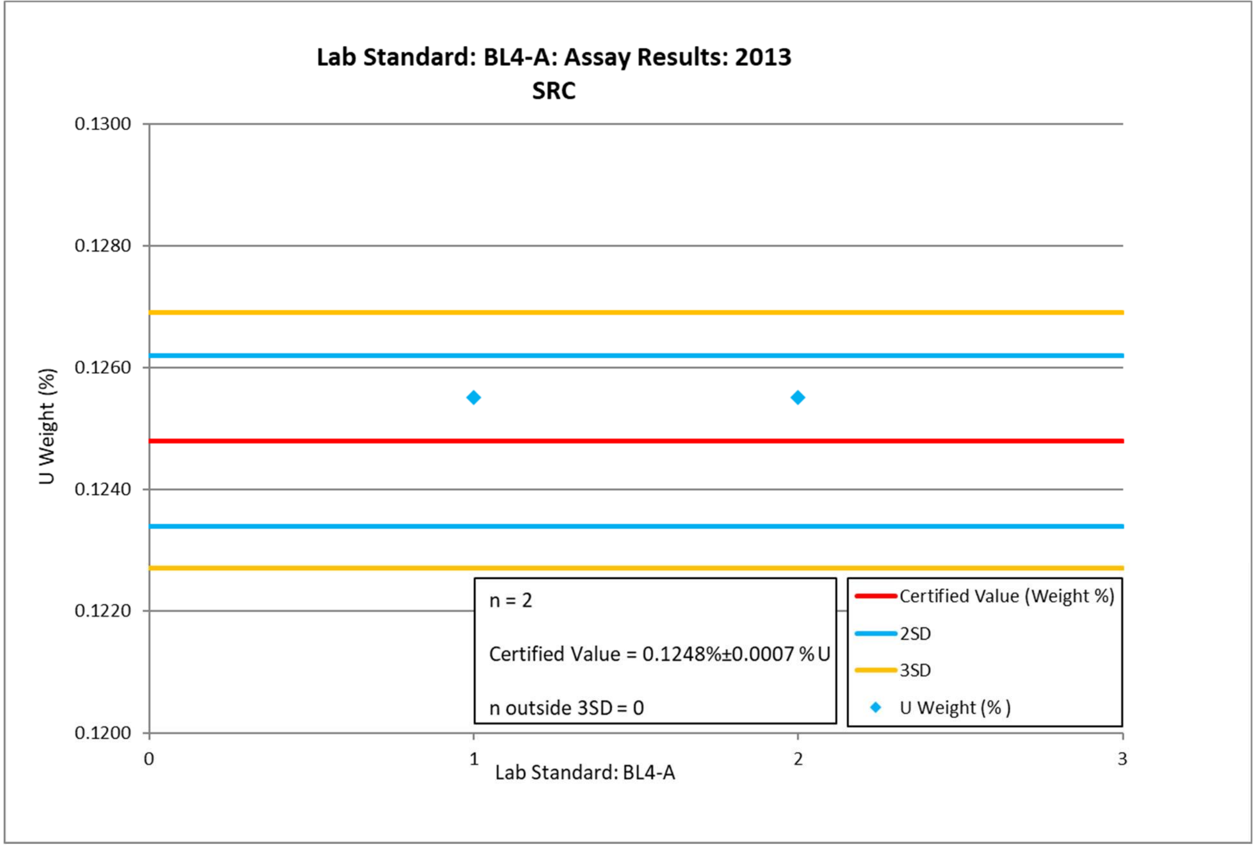
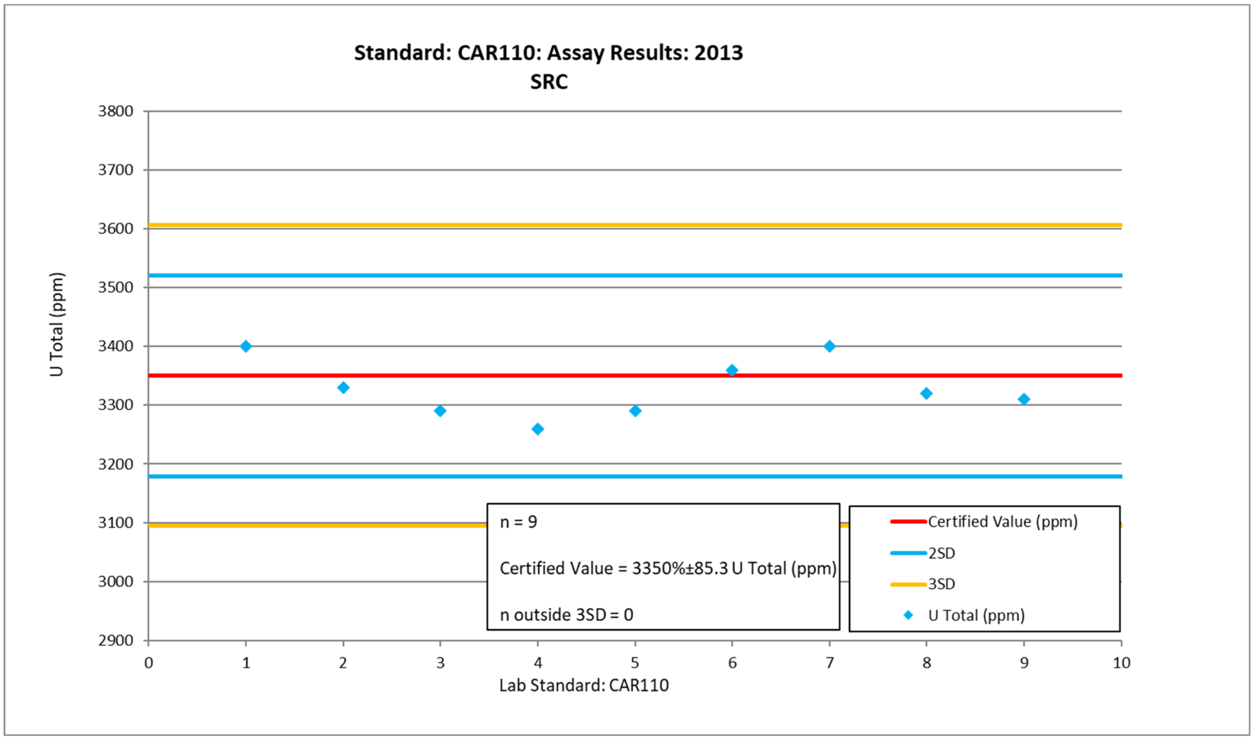


Figure 11.17. SRC inserted Standard CAR110 – 2013



11.5 ValOre Soil Sampling 2022

11.5.1 Sample Collection, Preparation and Security

Soil samples were collected from the B horizon within 3 m of the proposed GPS coordinates. Sample depth, colour, moisture, material present and horizon thickness were recorded, if clasts were present, clast geometry and size were described and recorded as well. Furthermore, soil sites were described with vegetation type, landform, slope, and likelihood of disturbance recorded at each site. Two photos were taken at each sample site, one of the sample materials collected and one of the local area.

At many proposed sample sites, the surface conditions prevented the collection of a sample. Situations where no sample could be taken include: (1) where the O horizon extended past 1m depth and no viable sample could be identified within 3 m of the proposed point, (2) localized areas where the surface was covered with cobble to boulder sized clasts, no viable soil from the B horizon could be recovered beneath the clasts.

A total of 926 samples were sent for analysis during the program; 880 of which were soil samples with 16 duplicates and 30 QA/QC samples. Batches of samples were placed within 20-litre pails and sealed with a tamper proof lid. All samples were sent to Activation Laboratories Ltd. (ActLabs) in Ancaster, Ontario for Enzyme Leach Analysis.

11.5.2 Analytical procedures

Once the samples arrive at ActLabs the samples are dried at 40^{o}C , sieved through 80 mesh screens (177 µm). All Samples were analyzed using Enzyme Selective Extraction (ESE).#A 0.75 g sample of -60 mesh B soil horizon material is leached in enzyme matrix containing a glucose oxidaze solution at 30^{o}C for 1 hour. The enzyme reacts with amorphous MnO_2 dissolving it. The metals are complexed with the gluconic acid present. ESE extraction targets amorphous mixed oxide coatings. By selectively removing the amorphous manganese dioxide from these coatings, the mixed oxide coatings collapse, releasing trapped trace elements. The resultant solutions are analyzed by ICP-MS. The ESE analysis has a detection limit of 0.1 ppb for uranium. ESE was chosen for its sensitivity to mineralization through deep overburden.

11.5.3 Quality Assurance – Quality Control

For each laboratory tray of 54 samples there is one blank, three duplicates, 4 standards and 46 samples. Actlabs is an accredited mineral laboratory with ISO 17025:2017 accreditation for specific registered tests (Actlabs 2021). The ActLabs laboratory is independent of ValOre, Labrador Uranium, APEX and the authors.

The QA/QC measures employed in the field during the 2022 soil sampling program included the insertion of a field duplicate, certified standard, or certified blank pulp alternating every 20 samples (5% of data). Duplicates were taken in the field, scooped from the same hole as the previous sample. The purpose of the standard and blank reference material is to detect analytical biases or drift between sample batches, and to ensure that rigorous analytical and preparation processes are in place.

11.5.3.1 Certified Reference Material (CRM)

ValOre purchased certified reference material (CRM or standard) for insertion into the sample stream. The uranium certified reference material was purchased from OREAS North America, Sudbury, Ontario, Canada. One certified uranium CRM was used during the 2022 soil sampling program: Oreas 23b. The CRM was inserted randomly with a total of 15 QA/QC CRMs inserted into the sample stream of 880 samples. The performance of the standards was evaluated using the criterion that assay results fell within 3 standard deviations from the certified value based on the standard deviation reported by the manufacturer.

Certified pulp blank material was inserted randomly with 15 QA/QC certified pulp blanks inserted into the sample stream of 880 samples. Certified pulp blank material was purchased from OREAS North America, Sudbury, Ontario, Canada. One certified pulp blank was used: Oreas 22h.

CRM results for the 2022 soil sampling program are pending.

11.6 ValOre Reverse Circulation (RC) Drilling 2022

11.6.1 Sample Collection, Preparation and Security

During spring 2022 program a Hornet RC drill used. The drill produced roughly 20 litres (5 gallons) of rock chips per five-foot run of drill rod. Return air with suspended solids was run through dual cyclones where rock chips were separated from the fines. The fines were collected by a Camfil Farr industrial dust collector. All material was tested for radioactivity at the drill by means of a handheld scintillometer.

Geological samples were collected over five-foot drill runs with a small portion being cleaned and put into a chip tray for logging under a binocular microscope in Nutaaq camp. Where elevated levels of radiation were encountered for measurements on the handheld scintillometer greater than 350 CPS, the entire 20-litre pail was collected as the geological sample and sealed with a tamper proof lid at the drill site after a barcoded sample tag was inserted. The sealed sample pails were temporarily stored in an isolated location behind the Nutaaq core shack in preparation for shipment to a commercial laboratory. A total of 401 samples were collected in plastic pails at the drill and 21 QA/QC samples were added to the sample batches. QA/QC samples were inserted every 20 samples, alternating between CRMs and certified coarse blank material purchased from OREAS. Plastic pails filled with sample material exceeding 5,000 CPS on the outside were put into steel pails to reduce the CPS readings. All sample pails were flown to Baker Lake and onward on cargo planes to Yellowknife. From Yellowknife, the sample pails were transported by a contracted carrier, Manitoulin, from Discovery Mining’s warehouse to Vancouver and Saskatoon, respectively. No irregularities in the sample shipment process were reported.

11.6.2 Analytical procedures - ALS

A total of 135 RC samples were sent to ALS Laboratories (ALS) North Vancouver, BC facility. Once in ALS’s lab the samples were logged into ALS computer-based tracing system, weighed (WEI-21) and dried at 60°C (DRY-22). The samples were crushed to 70% less than 2 mm, (CRU-31) and the sample was riffle split (SPL-21). A 250 g split sample was pulverised to better than 85% passing 75 microns (µm)(PUL-31). Two analytical techniques were used: a four-acid digestion with Inductively Coupled Plasma Mass Spectrometry (ICP-MS) (ME-MS61U) and Au by fire assay and Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) (Au-ICP21).

In the four-acid digestion a prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric, and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and analyzed by ICP-MS. Following this analysis, the results are reviewed for high concentrations of bismuth, mercury, molybdenum, silver, and tungsten and diluted accordingly. Samples meeting this criterion are then analyzed by ICP-MS. Specific uranium CRMs are inserted and used for superior quality control.

In the Au fire assay the samples are mixed with flux composed of PbO and SiO_2 with variable amounts of borax, soda ash and other reagents. The samples are heated at high temperature (>1,000°C) to decompose rock lattices and allow gold within the sample to be collected into a lead button. The button is placed in a porous cupel and heated again in an oxidising environment to convert lead to lead oxide that is absorbed into the cupel, leaving the precious metals behind as a doré bead or prill. The gold content of the prill is then determined with ICP-AES analysis.

11.6.3 Quality Assurance – Quality Control - ALS

Quality assurance and quality control (QA/QC) measures at ALS include routine screen tests to verify crushing and pulverizing efficiency, sample preparation duplicates (every 50 samples), and analytical quality controls (blanks, standards, and duplicates). Quality control samples are inserted with each analytical run, with the minimum number of QC samples dependant on the rack size specific to the chosen analytical method. Results for quality control samples that fall beyond the established limits are automatically red-flagged for serious failures and yellow-flagged for borderline results. Every batch of samples is subject to a dual approval and review process, both by the individual analyst and the Department Manager, before final approval and certification (ALS Minerals, 2012). ALS North Vancouver is certified with ISO/IEC 17025:2005 accreditation from the Standards Council of Canada. The ALS laboratory is independent of ValOre, Labrador Uranium, APEX and the authors.

11.6.4 Analytical procedures - SRC

A total of 266 RC samples were sent to the Saskatchewan Research Council (SRC) facility in Saskatoon, SK. Once in SRC's lab, the samples were prepared and analyzed. RC samples were jaw crushed. A subsample was split out using a sample riffle splitter. The subsample was pulverized and the pulp was transferred to a barcode labeled plastic snap top vial. The subsample was pulverized using a puck and ring grinding mill. The grinding mills were cleaned between samples using steel wool and compressed air or silica sand. The subsamples were used in partial digestion (ICP1), total digestion (ICP1), Au fire assay (Au 2), and U_3O_8 assay (U_3O_8).

During partial digestion analysis an aliquot of pulp was digested in a digestion tube, in a mixture of HNO_3:HCl, in a hot water bath, and was diluted with deionized water prior to ICP-OES analysis. The partial digestion is used for analysis of a suite of 16 metallic elements. The partial digestion will not dissolve all the elements completely. Some elements such as Ag, As, Bi, Cd, Co, Cu, Hg, Mo, Mn, Ni, P, Pb, U, V, and Zn will be very "near" to total dissolution. Other elements are more refractory in nature and will only be partially dissolved.

During total digestion analysis an aliquot of pulp was digested to dryness in a hot block digestion system using a mixture of concentrated $HF:HNO_3:HClO_4$. The residue was dissolved in diluted HNO_3 and was diluted with de-ionized water prior to ICP-OES analysis. The total digestion method is used for analysis of a suite of 46 elements. The tri-acid digestion will completely dissolve most elements since the crystalline matrix of the sample is destroyed. Occluded minerals in the matrix are exposed and dissolved by the acids. Only those elements found in refractory minerals may not be dissolved.

During fire assay an aliquot of sample pulp was mixed with standard fire assay flux in a clay crucible and a silver inquart was added. The mixture was fused in a fire assay oven. The fusion melt was poured into a metal form and cooled. The lead bead was recovered and put into the oven for cupellation until only the precious metal bead remained. The bead was then parted in a solution heated in a boiling water bath until the silver dissolved. The solution containing the silver was decanted, leaving the gold in the test tube. Aqua Regia was added to the gold in the test tube and heated in the boiling water bath until the gold dissolves. The sample was then diluted to volume and analyzed by ICP-OES. This method is suitable for all pulverized and core samples for the determination of gold. The detection limit for Au using this method is 1 ppb.

During U_3O_8 assay an aliquot of pulp was digested in a mixture of HCl:HNO_3, then diluted to volume using deionized water. Samples were diluted prior to analysis by ICP-OES. Partial digestion is used in this analytical method however this is designed for high grade uranium samples with additional Fe_2O_3 standards being used to correct for interference of iron in the analysis with a detection limit of 0.001 %.

11.6.5 Quality Assurance – Quality Control - SRC

Quality control measures and data verification procedures applied include the preparation and analysis of reference materials, duplicates, and blanks. The selection of reference material is based on the radioactivity level of the samples to be analyzed. An additional certified Fe_2O_3 standard is analyzed to correct for interference of iron in the analysis. Instruments are recalibrated after every 20 samples; multiple standards are analyzed before and after each recalibration. In the U_3O_8 assay an additional certified Fe_2O_3 standard is analyzed to correct for interference of iron in the analysis. Instruments are recalibrated after every 20 samples; multiple standards are analyzed before and after each recalibration. The limits for the QC parameters are monitored and all samples which do not meet requirements are flagged for repeat preparation and analysis. All QC controls must pass before the results for the sample can be reported. QC results are included in the final report (SRC 2019). SRC is certified with ISO/IEC 17025:2005 accreditation from the Standards Council of Canada. The SRC laboratory is independent of ValOre, Labrador Uranium, APEX and the authors.

11.6.6 Quality Assurance – Quality Control - Field

Quality control samples were inserted into the RC sample stream which included CRMs and certified coarse blanks. Due to the dust suppression measures that were followed when working with dry RC sample material, no sample splitting was conducted to produce field duplicates.

ValOre staff inserted unmarked CRMs at every 20th sample position, as specified in the quality sample handling procedure for a total of 5% of check samples. There was every indication that the procedure was being strictly followed and QC sample coverage was adequate for the drilling.

Certified coarse blank material was inserted randomly using a pre-assigned tag number 40. Certified coarse blank material was purchased from OREAS North America, Sudbury, Ontario, Canada.

11.6.6.1 Certified Reference Material (CRM)

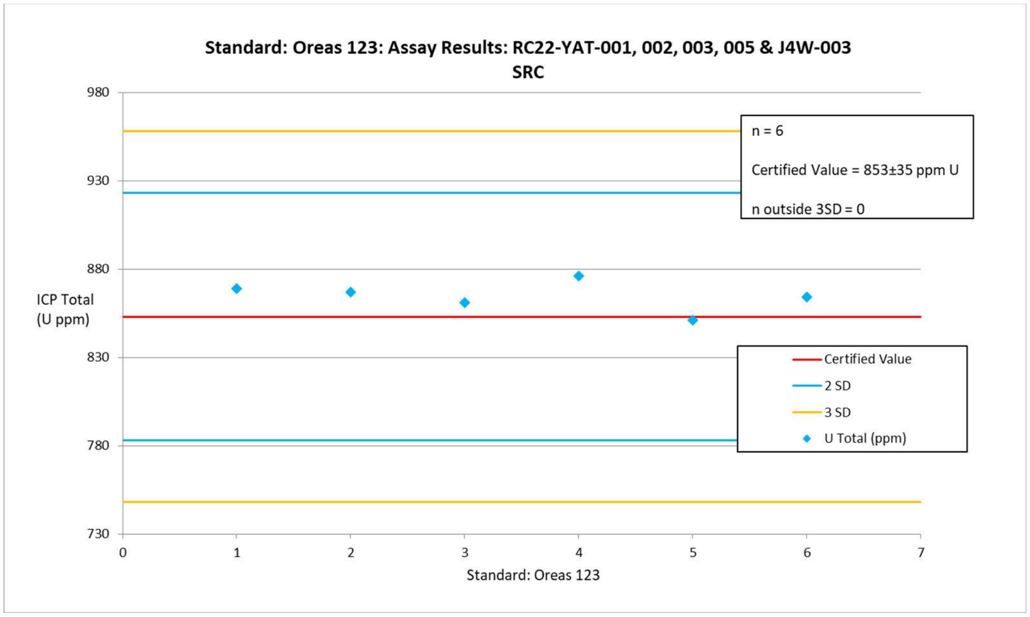
ValOre purchased CRMs for insertion into the sample stream. The uranium certified reference material was purchased from OREAS North America, Sudbury, ON, Canada. Two certified uranium CRMs were used: Oreas 123 and Oreas 124. The performance of the standards was evaluated using the criterion that assay results fell within 3 standard deviations from the certified value based on the standard deviation reported by the manufacturer.

Results are presented using statistical process control charts (control charts, for short). In the chart the “accepted” or certified value is shown as a red horizontal line with control limits at 2SD as blue lines and 3SD as orange lines. The assay result values for the standard appear on the chart as blue diamonds.

Results for all standards, except one analysed at ALS for Oreas 124, Figure 11.19 (b), fall within control limits (Figures 11.18 and 11.19). There is no indication of systematic assaying problems in the uranium values.

Figure 11.18. Standard Oreas 123 – Uranium results

(a) SRC Laboratories



(b) ALS Laboratories

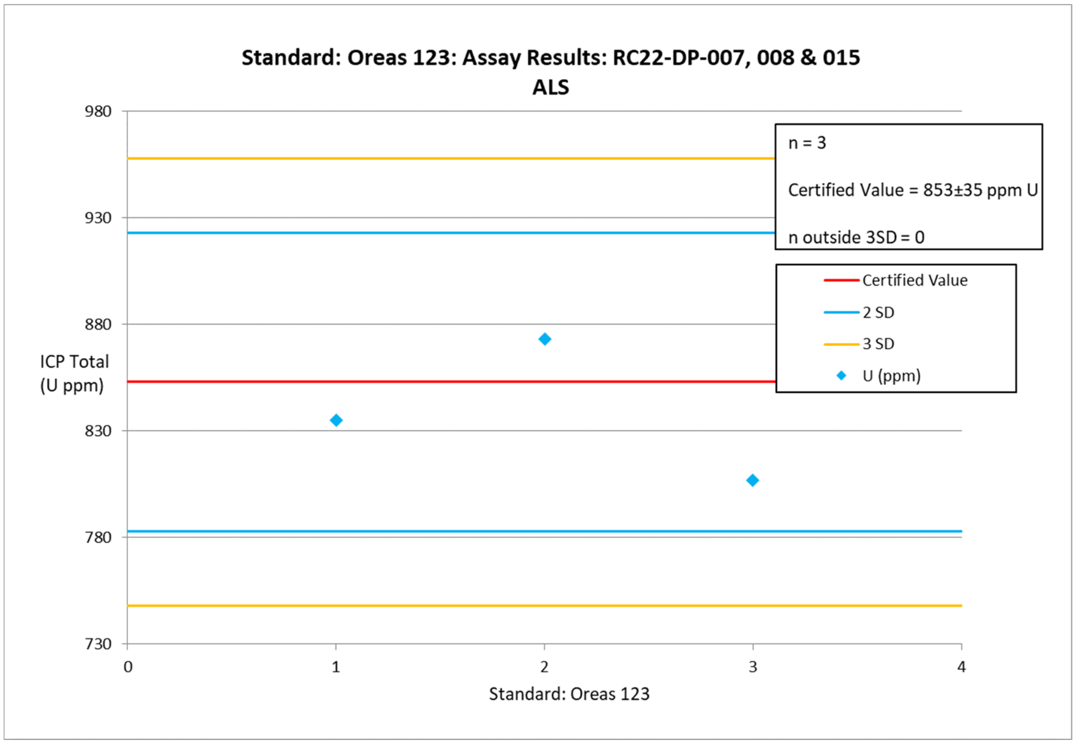
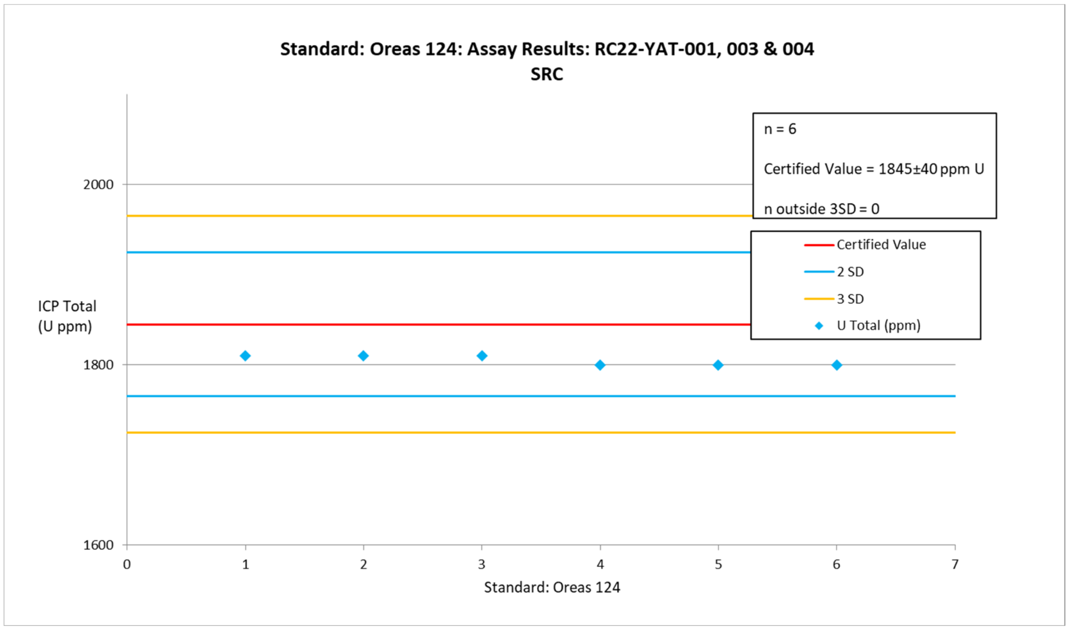
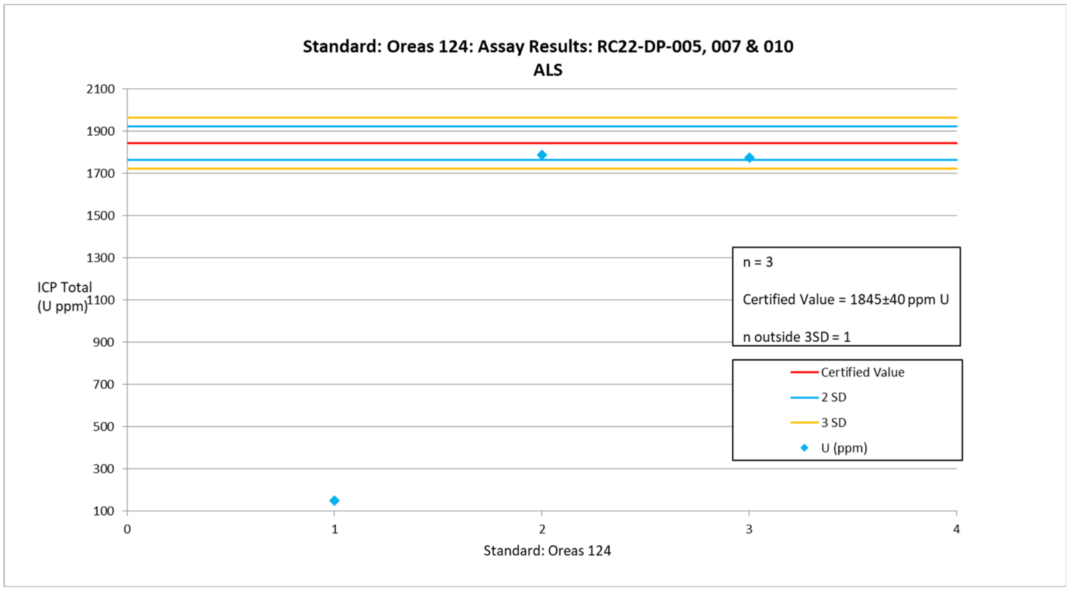


Figure 11.19. Standard Oreas 124 – Uranium results

(a) SRC Laboratories



(b) ALS Laboratories

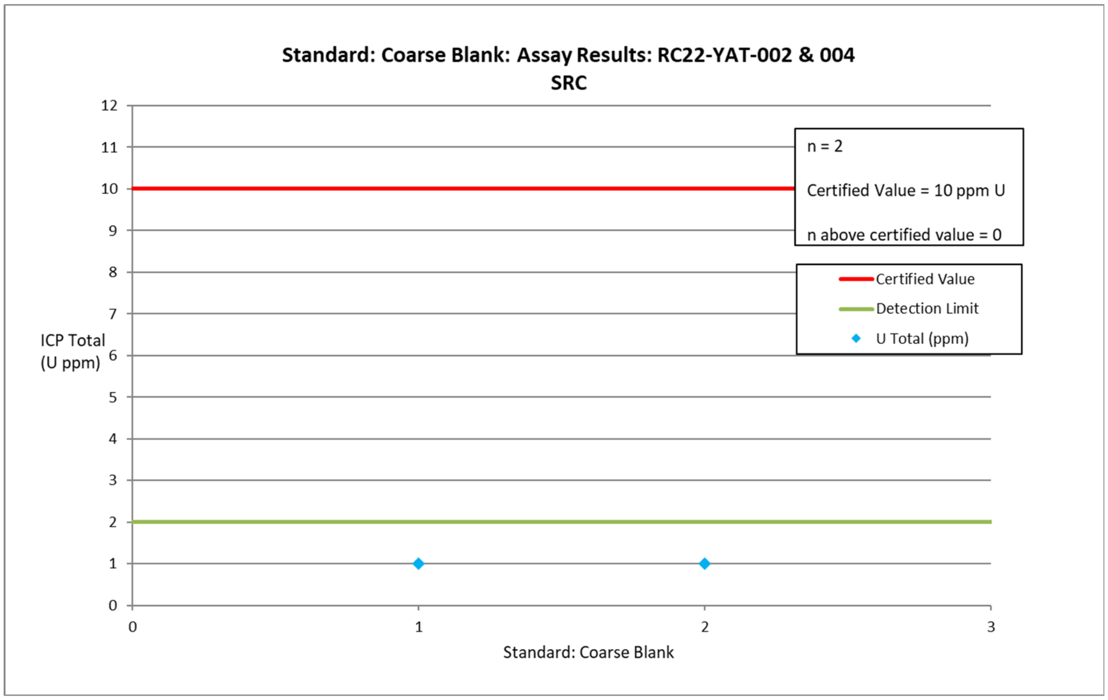


11.6.6.2 Certified Coarse Blank Samples

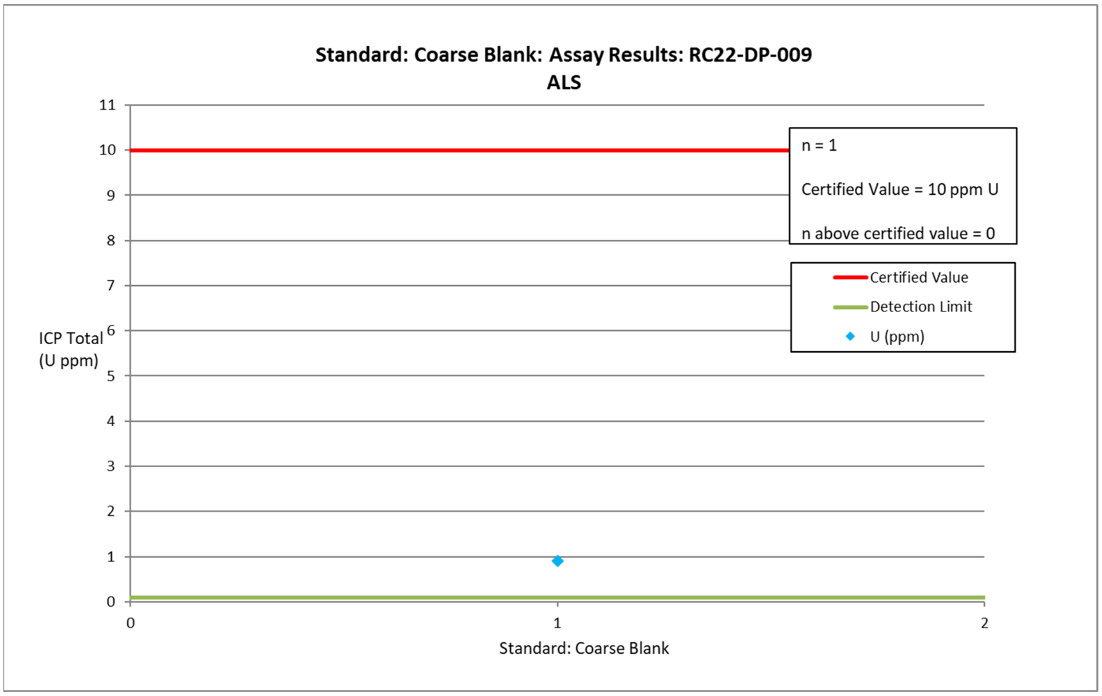
No control results exceeded the control limit for the certified coarse blank material assays (Figure 11.20).

Figure 11.20. Certified Coarse Blank Samples – Uranium results

(a) SRC Laboratories



(b) ALS Laboratories



11.6.6.3 Summary of QA/QC Results – RC program

During the RC drill program 18 CRMs were inserted into the sample stream and only 1 analysis at ALS failed for Oreas 124 (Figure 11.22b; Table 11.5). All 3 of the certified coarse blank samples passed their analyses at ALS and SRC.

Table 11.5 Summary of CRM results for the 2022 RC Program

CRM	Type	Certified Value (ppm)	1 SD	Used	Passed / Failed
Oreas 123	Uranium CRM	853	35	9	Passed
Oreas 124	Uranium CRM	1845	40	9	1 Failed (ALS)
OREAS	Coarse Silica Blank	<10	-	3	Passed

11.7 ValOre Diamond Drilling 2022

11.7.1 Sample Collection, Preparation and Security

Drill core was placed in wooden core boxes, 30 m from the drill and lids were secured to the boxes with filament tape. Core boxes were flown by helicopter back to camp twice a day in a long line basket. Once the core was received, a core shack technician verified the drillhole and box numbers marked on the core boxes written by the drill crew. The technician organised the boxes in order on the logging tables. The technician measured the core box intervals and recorded the information. A labeled aluminum tag was stapled on the left side of each core box with the hole name, to and from depths, azimuth, dip, and box numbers. The technician measured the core for recovery and rock quality designation (RQD) marking the core with the subsequent measurements. Drill core was generally observed to be competent with excellent core recovery rates at or near 100% except in fault zones rich in graphite.

Drill core was logged at ValOre's logging facility at Nutaaq camp. Lithology, alteration, mineralization, veining, structures and radiation were recorded in the geological logs. Upon completion of the geological log, the core was scanned for radiation with a scintillometer. Sections of core with readings over 350 CPS were isolated and rescanned to determine exactly where the radioactive zone begins and ends.

A geologist selected and marked the sample interval with a core marker on the core and stapled a sample tag at the beginning of each sample. Sample intervals were selected based upon mineralization, radiation, lithology, and structure. Sample thickness ranged from 0.5 to 1.5 m, where there as radioactivity present a buffer sample of 0.5 to 1.5 m was taken above and below the radioactive zone. Sample intervals adhered to geology contacts where these were identified. Marked sample intervals were identified and recorded in a master spreadsheet. Sample numbers were assigned and the sample information (e.g., drillhole number, from, to, type of sample, i.e., core, standard, blank or duplicate) was recorded in sample books and within the geological logs. The entire drillhole was photographed followed by splitting with a hydraulic splitter to minimize dust generation. Quality control samples were inserted into the sample stream (standards and blanks) and duplicate samples were identified. After splitting, core was placed in storage behind the core shack, any core boxes with radioactivity above 500 CPS were moved to the hot core storage area.

Core samples collected during 2022 diamond drilling program comprised half split NQ drill core and were split using a hydraulic core splitter. The samples are placed in plastic bags with identification tags, sealed with secure plastic ties and subsequently packed into plastic pails sealed with tamper proof lids. If the outside surface of the plastic pail measured greater than 5,000 CPS, the core was packed into an IP3 steel drum for shipping. Radioactive core was packed into the center of the drum surrounded by non-radioactive core on all sides. Sample submittal forms were filled out to include shipment numbers along with sample sequences and total numbers of samples. All core samples, including QA/QC samples inserted at site, were flown to Baker Lake and onward on cargo planes to Yellowknife and road transported to the SRC Laboratory in Saskatoon, SK.

11.7.2 Analytical procedures

Once at the SRC Laboratory, the core samples were prepared and analyzed. Core samples were jaw crushed. A subsample was split using a sample riffle splitter. The subsample was pulverized and the pulp was transferred to a barcode labeled plastic snap top vial. The subsample was pulverized using a puck and ring grinding mill. The grinding mills were cleaned between samples using steel wool and compressed air or silica sand. The subsamples were used in partial digestion (ICP1), total digestion (ICP1), Au fire assay (Au2), and U_3O_8 assay (U_3O_8).

During partial digestion analysis an aliquot of pulp was digested in a digestion tube, in a mixture of HNO_3:HCl, in a hot water bath, and was then diluted with de-ionized water prior to ICP-OES analysis. The partial digestion was used for analysis of a suite of 16 metallic elements. The partial digestion will not dissolve all the elements completely. Some elements such as Ag, As, Bi, Cd, Co, Cu, Hg, Mo, Mn, Ni, P, Pb, U, V, and Zn will be very "near" to total dissolution. Other elements are more refractory in nature and will only be partially dissolved.

During total digestion an aliquot of pulp was digested to dryness in a hot block digestion system using a mixture of concentrated HF:HNO_3:$HClO_4$. The residue was dissolved in diluted HNO_3 and was then diluted with deionized water prior to ICP-OES analysis. The total digestion was used for analysis of a suite of 46 elements. The tri-acid digestion completely dissolves most elements since the crystalline matrix of the sample is destroyed. Occluded minerals in the matrix are exposed and dissolved by the acids. Only those elements found in refractory minerals may not be dissolved.

During fire assay an aliquot of sample pulp was mixed with standard fire assay flux in a clay crucible and a silver inquart was added. The mixture was fused in a fire assay oven. The fusion melt was poured into a metal form and cooled. The lead bead was recovered and put into the oven for cupellation until only the precious metal bead remained. The bead was parted in a solution heated in a boiling water bath until the silver dissolved. The solution containing the silver was decanted, leaving the gold in the test tube. Aqua Regia was added to the gold in the test tube and heated in the boiling water bath until the gold dissolved. The sample was diluted to volume and analyzed by ICP-OES. This method is suitable for all pulverized and core samples for the determination of gold. The detection limit for Au using this method is 1 ppb.

During U_3O_8 assay an aliquot of pulp was digested in a mixture of HCl:HNO_3, then diluted to volume using deionized water. Samples were diluted prior to analysis by ICP-OES. Partial digestion was used in this analytical method however this was designed for high grade uranium samples with additional Fe_2O_3 standards being used to correct for interference of iron in the analysis with a detection limit of 0.001 %.

11.7.3 Quality Assurance – Quality Control

Quality control samples were inserted into the core sample stream as CRMs and certified coarse blanks. Duplicate samples were split from half split core with a hydraulic splitter.

ValOre staff inserted unmarked CRMs and field duplicates at every 20th sample position, as specified in the quality sample handling procedure. Approximately 5% of all core samples were CRMs, certified coarse blanks and field duplicates. There was every indication that the procedure was being strictly followed and QC sample coverage was adequate for the drilling.

Certified coarse blank material was inserted randomly using a pre-assigned tag number at the rate of one in every 50 samples. Certified coarse blank material was purchased from OREAS North America, Sudbury, Ontario, Canada.

11.7.3.1 Certified Reference Material (CRM)

ValOre purchased certified reference material (CRM or standard) for insertion into the sample stream. The uranium certified reference material was purchased from OREAS North America, Sudbury, Ontario, Canada. Four certified uranium CRMs were used: Oreas 120, Oreas 122, Oreas 123 and Oreas 124. The performance of the standards was evaluated using the criterion that assay results fell within 3 standard deviations from the certified value based on the standard deviation reported by the manufacturer.

Results are presented using statistical process control charts (control charts, for short). In the chart the “accepted” or certified value is shown as a red horizontal line with control limits at 2SD as blue lines and 3SD as orange lines. The assay result values for the standard appear on the chart as blue diamonds.

Results for all standards fall within control limits (Figures 11.21 to 11.24). There is no indication of systematic assaying problems in the uranium results.

Figure 11.21. Standard Oreas 120 – Uranium results

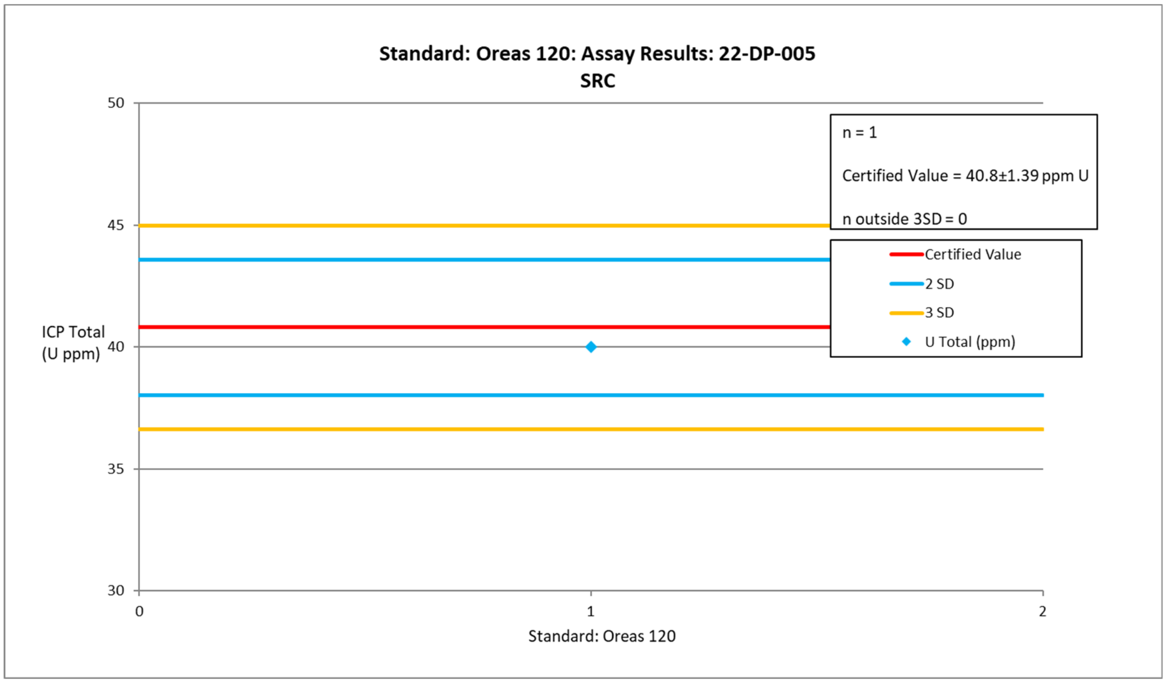


Figure 11.22. Standard Oreas 122 – Uranium results

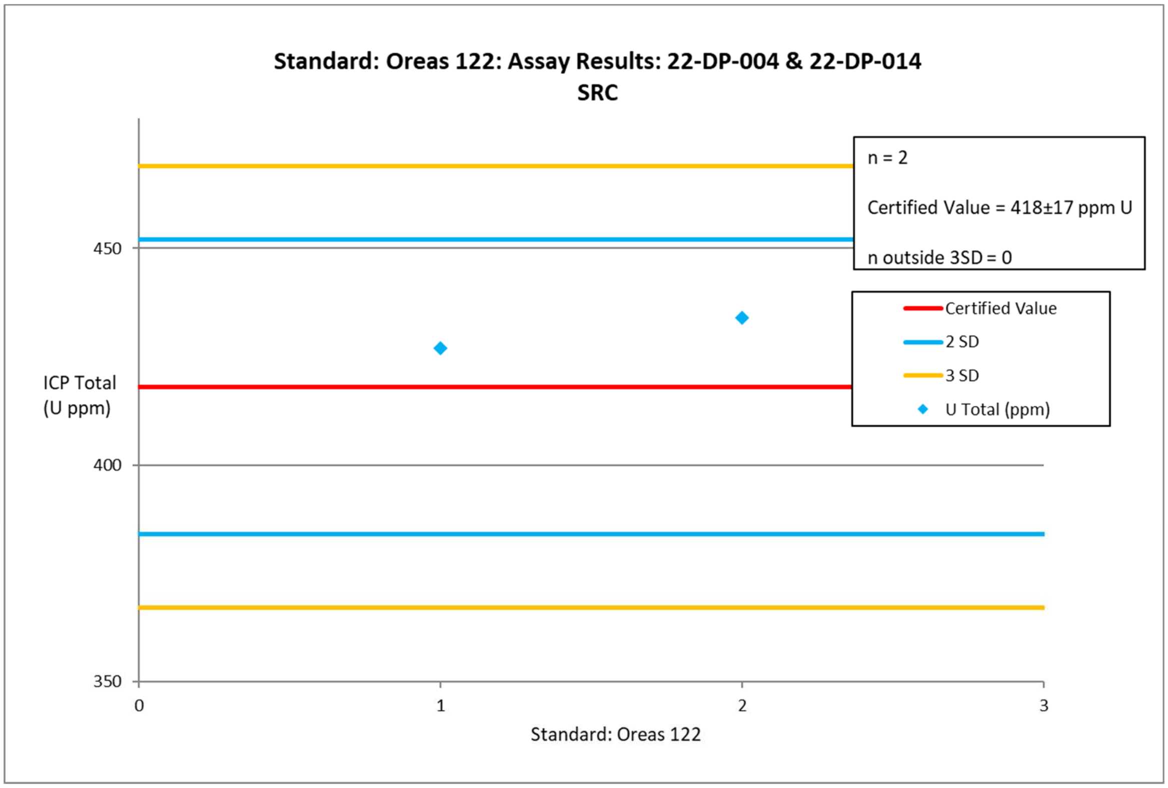


Figure 11.23. Standard Oreas 123 – Uranium results

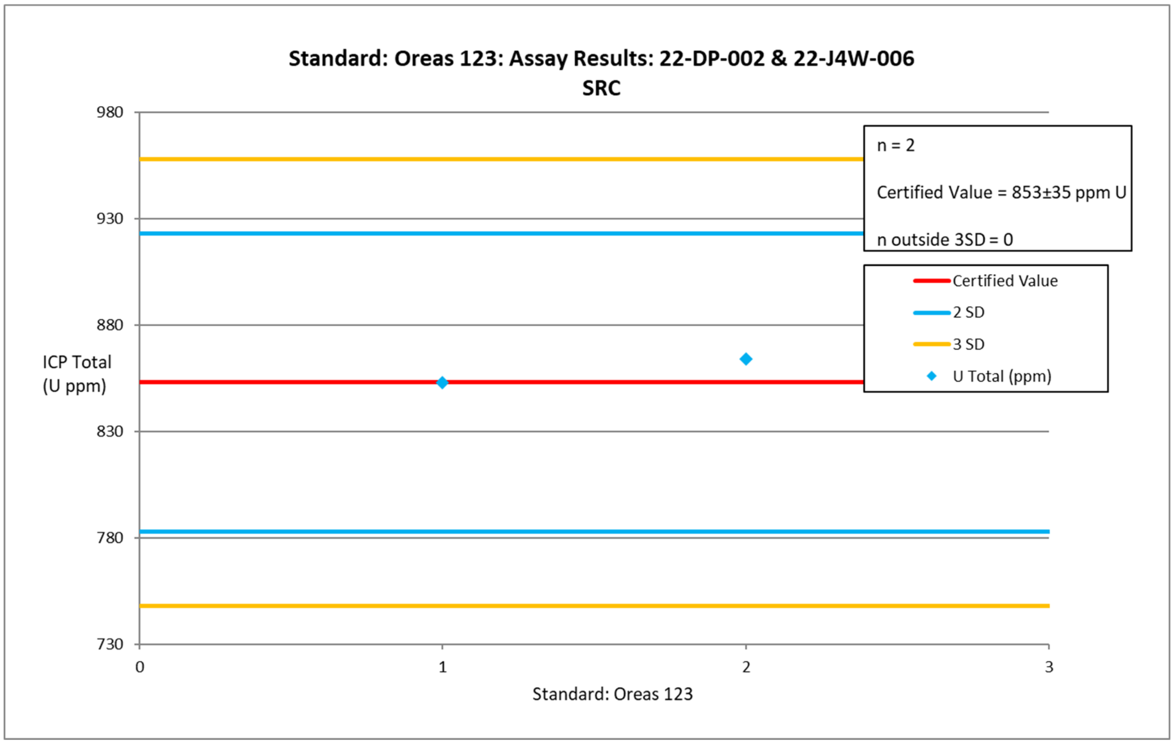
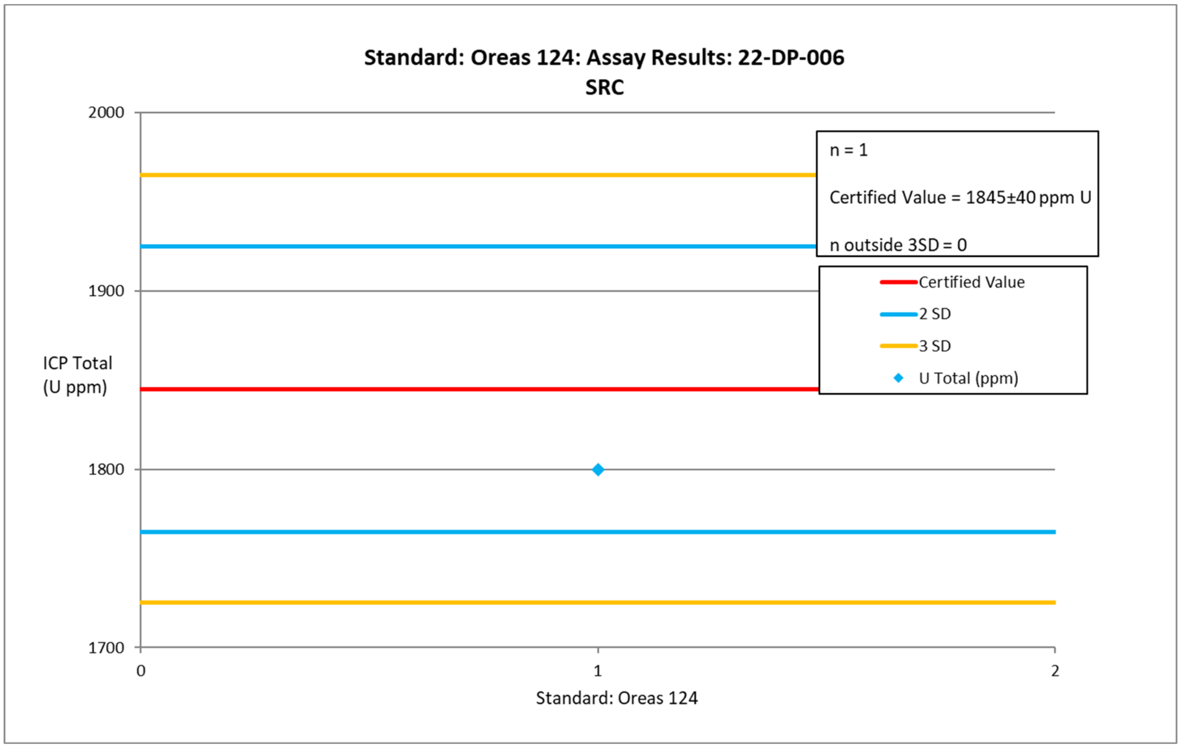


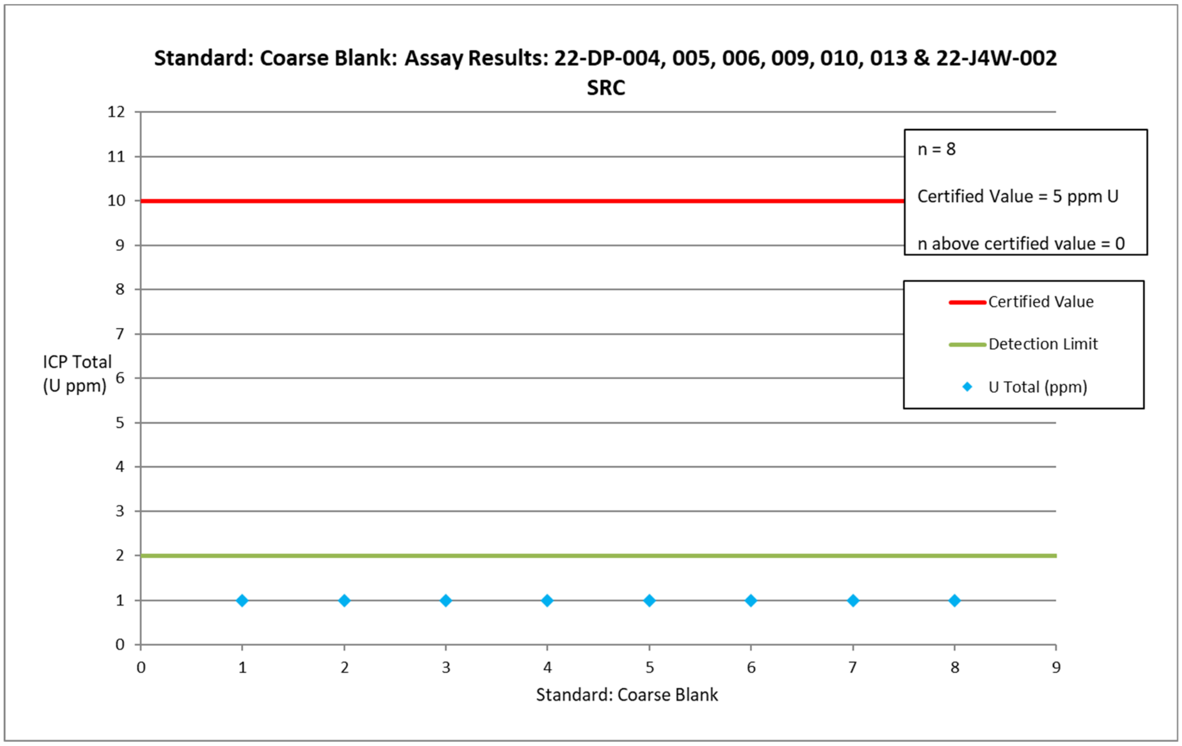
Figure 11.24. Standard Oreas 124 – Uranium results



11.7.3.2 Certified Coarse Blank Samples

No control results exceeded the control limit for the certified coarse blank material assays (Figure 11.25).

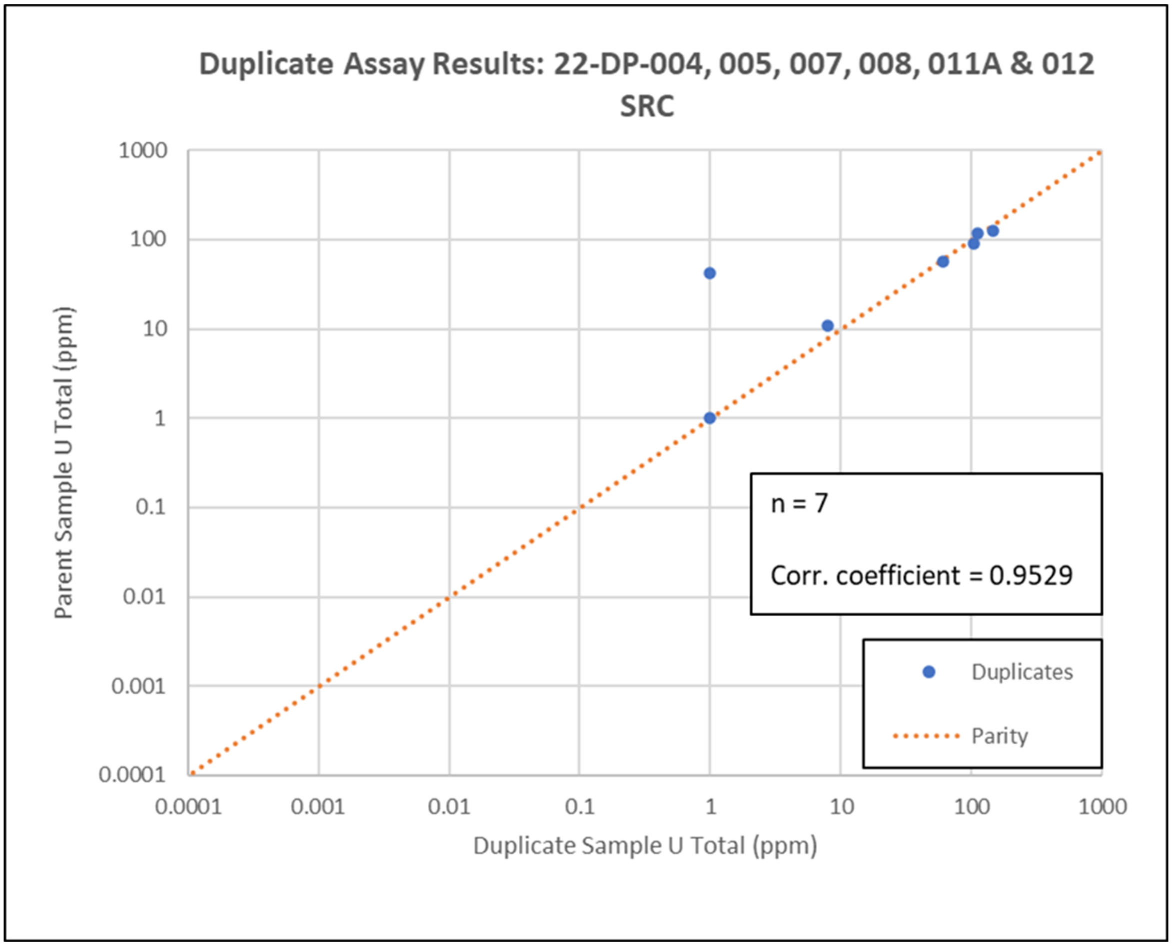
Figure 11.25. Certified Coarse Blank Samples – Uranium results



11.7.3.3 Duplicate Core Samples

A total of 7 duplicate core samples were collected to assess sample preparation bias. Figure 11.26 shows the uranium assays for original samples versus field duplicates. Duplicate core samples were taken at random approximately every 25th sample by splitting the remaining core in half, leaving one quarter core for reference in the core box. The comparison returned a correlation coefficient of 0.9529. One duplicate from 22-DP-012 returned an assay of 1 ppm U versus the parent assay result of 42 ppm U. When this pair is eliminated from the calculation, a correlation coefficient of 0.9878 is obtained, indicating that there was no bias in the sample preparation procedures.

Figure 11.26. Duplicate Core Samples – Uranium results



11.7.3.4 Summary of QAQC Results – Diamond Drill program

During the diamond drill program 6 CRMs were inserted into the sample stream with no failed analyses (Table 11.6). All 8 the certified coarse blank samples passed their analyses at SRC.

Table 11.6 Summary of CRM results for the 2022 Diamond Drill Program

CRM	Type	Certified Value (ppm)	1 SD	Used	Passed / Failed
Oreas 120	Uranium CRM	40.8	1.39	1	Passed
Oreas 122	Uranium CRM	418	17	2	Passed
Oreas 123	Uranium CRM	853	35	2	Passed
Oreas 124	Uranium CRM	1845	40	1	Passed
OREAS	Coarse Silica Blank	<10	-	8	Passed

11.8 Adequacy of Sample Collection, Preparation, Security and Analytical Procedures

Based upon a review of ValOre's (formerly Kivalliq's) 2008 to 2022 sample collection, sample preparation, security, analytical procedures, and QA/QC procedures used at the

Angilak Project, it is the opinion of the author and QP that they are appropriate for the type of mineralization that is being evaluated and the stage of the Project. The QA/QC measures, including the insertion rates and performance of blanks, standards, and duplicates for the 2022 drilling indicate the observed failure rates are within expected ranges and no significant assay biases were apparent. For future infill and delineation drilling programs it is recommended that a comprehensive follow-up QA/QC program be employed. The QA/QC program should include the re-analysis of failures outside of the accepted ranges for standards that are within anomalous mineralized zones. The re-runs should include 10 samples above the failed standard, the standard, and 10 samples below the failed standard.

Based upon the evaluation of the drilling, sampling and QA/QC programs completed by ValOre and reviewed by APEX personnel, it is Mr. Dufresne’s opinion that the ValOre Project’s drill and assay data are appropriate for use as used herein and in future resource modelling and estimation work.

12 Data Verification

12.1 Data Verification Procedures

The Authors’ data verification comprised a review of the available exploration data for the Angilak Property, including soil and rock geochemical data along with airborne, ground magnetics and VLF-EM geophysical data and all drilling data in particular for the work conducted by ValOre (formerly Kivalliq) from 2008 to 2022.

The soil and rock sampling data were provided in Excel spreadsheets and ESRI shapefile formats. The Authors imported the sampling data into ArcGIS software to check for any obvious geospatial errors. All sample sites appeared to be correctly located. The soil and rock datasets were compared against copies of the laboratory certificates and found to be free of errors.

Airborne and ground geophysical data from work conducted between 2008 and 2016 were provided as either Geosoft Montaj^{TM} databases or as ASCII line data. All data was reviewed for completeness. The airborne and ground geophysical images from the various surveys completed over the years were all brought into ArcGIS software for review and verification. The 2022 ground magnetics and VLF-EM geophysical data were provided as line data and were processed by APEX personnel and were brought into ArcGIS software for review and verification. The QA/QC procedures applied during the processing were deemed sufficient to provide quality data.

ValOre provided APEX personnel with a compiled digital drill database as a Microsoft Access database that was dated from 2017. Upon preliminary review the database looked to be complete. This database contained a combination of historical data compilations from Kivalliq and ValOre, as well as original assay certificate data and geological logs from the 2009 to 2015 drilling programs. The drillhole database included collar coordinates, downhole survey information, geological interval data, and assay information. In addition, ValOre provided the drillhole database compiled by Mr. Rob Sim, the QP responsible for the prior historical resource estimates. A total of 471 drillholes for 78,806 m of diamond drilling were identified in the database. All of the 2022 drilling data was provided by ValOre at the end of the 2022 seasons in raw excel and pdf format.

A brief and concise check program was completed by APEX personnel comparing about 10% of the 2009 to 2015 drilling data to the original drill logs, assay certificates, and collar coordinates, and the compiled access database. The Access database comes with verification tools and these were employed to assist in the data verification. Original assay certificates and geological logs were used to check the Access database for various generations of drilling. APEX personnel and co-author Mr. Dufresne verified that the original data (including the pre-2022 drilling data) were adequately digitized and properly imported into the Access database. Approximately 10% of the historical (pre-2022) drillhole data, including collars, downhole surveys (if present), geology and assays were checked against hardcopy paper logs and certificates in order to verify the historical data in the Access database. Minor typos and column mismatches were found and rectified, but overall, the drillhole database is considered to be accurate and acceptable for future resource estimation and for the purposes used in this Technical Report.

The entire 2022 drillhole database provided by ValOre was checked and validated against pdf hard copy assay certificates and geological logs. No database issues were identified. The entire 2009 to 2022 drillhole database provided by ValOre is considered well validated and suitable for use as used herein and for use in any future mineral resource estimation work.

In the Authors' opinion, the Angilak Project exploration data are free of any material or systematic errors and are considered well validated and of sufficient quality for use in this Technical Report.

12.2 Qualified Person Site Inspection

Mr. Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat., co-author of this Technical Report and QP, visited the J4 West prospect, approximately 6.5 km northwest of Nutaaq Camp at the Angilak Property on August 13, 2022 and verified, by handheld GPS, the drillhole collar positions on one pad for the 2013 diamond drillholes: 13J1-001, 002 and 003 and the drillhole collar positions for two RC holes completed during the 2022 spring program, drilled from one pad, RC22-J4W-001 and 002 (Table 12.1).

During the site visit, Mr. Schoeman inspected drill core from hole 22-DP-010 at the Nutaaq Camp core shack. Mr. Schoeman's observations were made as described in Table 12.1, two radioactive mineralized zones were identified, the first at 86 m to 86.10 m and the second at 153.5 m to 153.87 m. The two zones are distinguished from each other in that the first intersection is not as intensely potassic/hematite altered and brecciated as the lower, far more radioactive, and graphite rich brecciated tuff (Table 12.1).

No verification core samples were collected because radioactive core material cannot be transported on commercial passenger aircraft. However, the radioactivity and the presence of uranium in the mineralized zones was confirmed with the use of hand held scintillometer.

Table 12.1 QP Site inspection and verification completed: August 13, 2022.

Prospect	Collar Verification	BH Id	Azimuth	Dip	X N83Z14	Y N83Z14	Comments
J4 West	Diamond Drilling - 2013 Season	13J1-001	026	-45	521608	6939200	Drilled from 1 pad, Confirmed
		13J1-002	026	-78			
		13J1-003	Vertical	-90			
	RC Drilling - 2022 Spring	RC22-J4W-001	026	-45	521697	6939139	Drilled from 1 pad, Confirmed
		RC22-J4W-002	026	-65			
Prospect	**Mineralization in core verification**	**BH Id**	**From (m)**	**To (m)**	**Description**		
Dipole	Diamond Drilling - 2022 Summer	22-DP-010	82	82.1	thin zone of moderate radioactive mineralization hosted by pervasive chlorite altered, with weak local potassic/hematite alterated, brecciated tuff, low disseminated pyrite minz.		
			153.5	153.9	potassic/hematite alteration hosted by brecciated, interbedded tuff, cross cutting foliation hosting graphite, strong radioactive mineralization associated with graphite, mod pyrite minz.		

12.3 Validation Limitations and Adequacy of the Data

The QPs have reviewed the adequacy of the exploration information and the visual, physical, and geological characteristics of the mineralization of the Property and found no significant issues or inconsistencies that would cause one to question the validity of the data provided by ValOre.

Based upon the evaluation of the drilling, sampling and QA/QC programs completed by historical operators and ValOre and as reviewed by APEX personnel, it is Mr. Dufresne’s opinion that the Angilak drill and assay data are appropriate for use as used in this Technical report and for use in any future resource modelling and estimation work.

13 Mineral Processing and Metallurgical Testing

13.1 SGS Mineralogy Analysis

In February, 2013 SGS provided ValOre a mineralogical characterization of 14 samples (Grammatikopoulos and Morton, 2013). Ten samples were collected from radioactive mineralized intersections representative of mineralization of the Lac 50 Deposit, in addition to four samples from the Blaze Zone (Table 13.1). The purpose of the investigation was to determine the overall mineral assemblage with an emphasis on the characterization of uranium minerals and their associated minerals. The mineralogical investigation included analyses with QEMSCAN™ technology (Quantitative Evaluation of Materials by Scanning Electron Microscopy), Scanning Electron Microscope equipped with an Energy Dispersive Spectrometer (SEM-EDS), optical microscopy, X-ray Diffraction (XRD) and Electron Microprobe Analysis (EMPA).

Table 13.1. Samples collected for mineralogical analysis conducted at SGS.

Sample #	Hole ID	From (m)	To (m)	Interval (m)	Sample Type	Description
90001	11-LC-036	185.5	185.6	0.1	Petrograph	Hematite altered U-carbonate veining within moderate to strongly altered fine grained basalt with trace sulphides.
90002	11-LC-075	103.3	103.36	0.06	Petrograph	Sheared, brecciated basalt; silica-carbonate-hematite alteration
90003	11-LC-102	92.64	92.7	0.06	Petrograph	Mafic tuff; chlorite-albite-quartz-epidote alteration; trace sulphides; hematite-altered U mineralization
90004	11-BZ-005	52.82	52.89	0.07	Petrograph	Fine grained pillowed, amygdaloidal basalt; moderate hematite-carbonate-graphite alteration; 3% fine grained pitchblende within veinlets
90005	11-BZ-010	49.8	49.88	0.08	Petrograph	Hematite-altered, oxidized, U-mineralized basalt; quartz-carbonate-graphite veining and brecciation
90006	11-BZ-019	99.65	99.7	0.05	Petrograph	Fine grained, moderately hematite altered basalt; quartz-carbonate stringers- minor U-minerals
90007	11-BZ-017	68.6	68.68	0.08	Petrograph	Hematite-altered basalt with sulphides-carbonate-quartz-hematite alteration
90008	11-LC-030	99.15	99.2	0.05	Petrograph	Quartz-carbonate-hematite altered basalt with quartz-carbonate-sulphide-U veining
90009	11-LC-043	112.9	112.97	0.07	Petrograph	Brecciated and sheared basalt; quartz-carbonate-hematite-sulphide alteration associated with U veining
90010	11-LC-056	100.6	100.66	0.06	Petrograph	Pitchblende bearing veinlet within weakly hematized, foliated fine grained basalt
90011	11-LC-083	127.11	127.18	0.07	Petrograph	Brecciated and sheared basalt; silica-hematite-sulphide alteration with fracture-controlled pitchblende stringers
90012	11-LC-066	92.06	92.12	0.06	Petrograph	Sheared and brecciated basalt/tuff; strong hematite-iron carbonate-chlorite alteration associated with U mineralization
90013	11-LC-094	191.13	191.2	0.07	Petrograph	Brecciated, foliated mafic tuff; quartz-carbonate-epidote-pyrite-graphite-albite alteration; U minerals
90014	11-LC-116	297.7	297.75	0.05	Petrograph	Shear zone; hematite-carbonate-sulphide alteration; 80% carbonate veining

The mineralogical investigation revealed that the samples consist mainly of carbonates (calcite, ankerite and dolomite), feldspars (plagioclase and K-feldspars), quartz, chlorite, hematite, mica, apatite, zircon, barite and kaolinite (Table 13.2). Sulphides included pyrite, chalcopyrite, galena, molybdenite, bornite and covellite; although sulphides show an erratic distribution, it was shown that carbonate rich rocks have very low sulphide content (Grammatikopoulos and Morton, 2013). The overall mineral abundances determined from the mineralogical work are provided in Table 13.3 below with a picture of their spatial distribution provided in the QEMSCAN^{TM} as Figure 13.1.

Table 13.2. Summary of Modal mineralogy.

Sample ID	90001	90002	90003	90004	90005	90006	90007	90008	90009	90010	90011	90012	90013	90014
Sulphides	2.9	8.2	10.8	2.2	5	0.6	16	1.1	0.3	0.2	2.9	0.1	15.2	0.2
U-Minerals	58.1	0.6	25.9	0.2	8.4	0.4	21.1	18.2	8.9	12.4	2.9	0.1	8.8	0.6
Feldspars	19.7	42.9	6.8	10.7	38.4	24.6	2.1	3.3	0.4	1.1	17.3	27.4	5.4	0.3
Quartz	2.5	4.5	21.3	8.9	1.9	11.6	1.9	9.5	2.8	2.1	13.6	10.1	51.1	5.6
Micas/Clay	5.3	13.1	3.6	16.8	11.3	17.9	2.9	2.3	3.4	6.8	8.9	14.1	5.2	3.7
Chlorite	0.7	0.9	0.2	39.3	17.8	28.4	7.9	2.3	5.3	17.7	20.1	6.3	0	5.1
Carbonates	6.7	23.1	30.2	13.2	13.8	6.6	32	53.9	77.7	58.3	30.1	31.8	13.4	82.8
Fe-(Ti)-Oxides	0.5	3.1	0.3	2.7	1.7	3.5	13.2	8.2	0.3	0.2	0.2	2.7	0.1	0.2
Apatite	1.2	0.2	0	0.3	0.5	0.2	0.6	0	0.1	0.2	2.3	1.1	0	0
Other	2.4	3.5	0.8	5.6	1.4	6.3	2.4	1.3	0.8	1.1	1.7	6.2	0.7	1.4

Figure 13.1. QEMSCAN™ Pseudo Image of Sample 90001 illustrates structural control of uranium mineralization among silicates and carbonates.

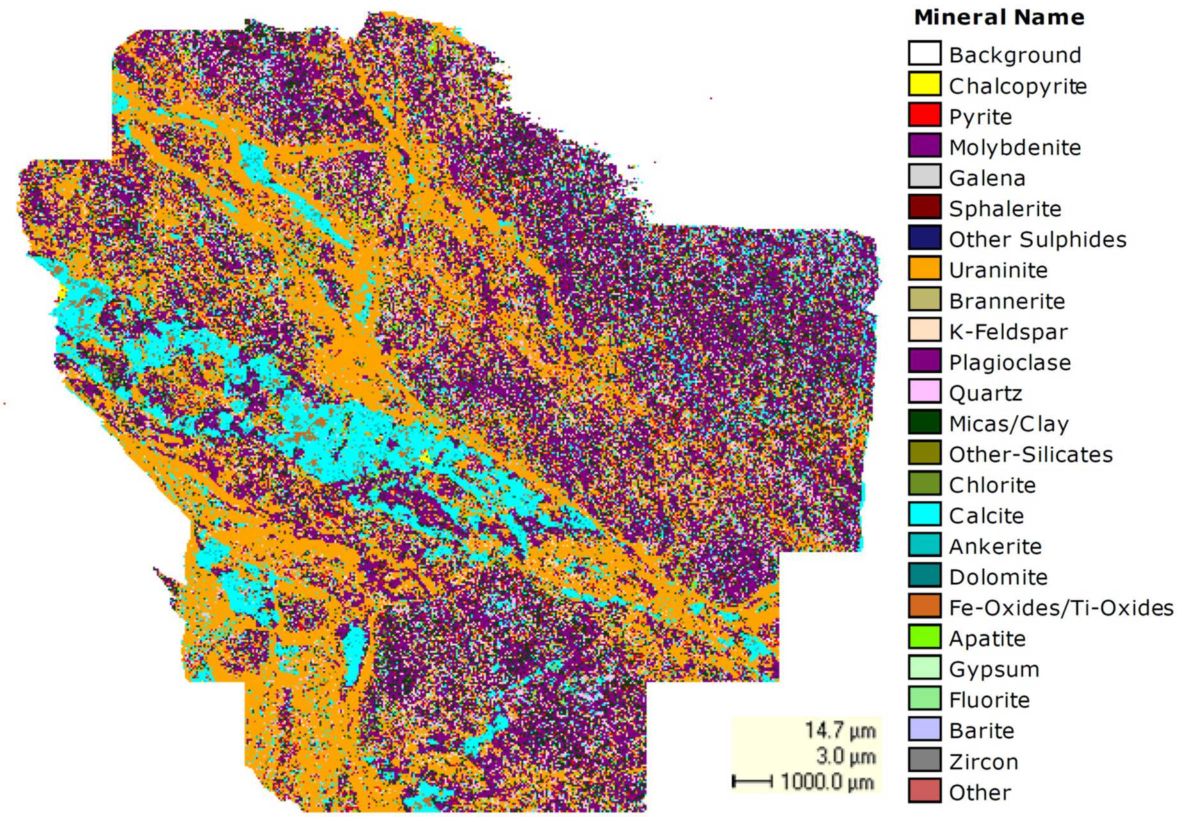


Table 13.3. Mineral abundance (wt. %) for each sample.

Sample		90001	90002	90003	90004	90005	90006	90007	90008	90009	90010	90011	90012	90013	90014
Fraction		-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um	-1000/+3um
Mass Size Distribution (%)		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Calculated ESD Particle Size		14642	9741	6196	4302	7228	13851	16002	15205	15746	11597	9359	15353	12855	10569
		Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
Mineral Mass (%)	Chalcopyrite Pyrite Molybdenite Galena Sphalerite Other Sulphides Uraninite Brannerite Coffinite K-Feldspar Plagioclase Quartz Micas/Clay Other-Silicates Chlorite Calcite Ankerite Dolomite Fe-(Ti)-Oxides Apatite Gypsum Fluorite Barite Zircon Other	0.0	0.0	8.4	0.7	0.1	0.0	0.5	0.8	0.0	0.0	2.6	0.0	0.1	0.0
		2.2	7.9	1.5	1.2	2.4	0.5	8.3	0.0	0.0	0.0	0.1	0.1	13.0	0.0
		0.2	0.0	0.2	0.0	2.4	0.0	7.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
		0.5	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.7	0.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.0	0.3	0.4	0.2	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.0	0.2	0.0
		57.8	0.6	25.8	0.2	7.1	0.3	20.9	18.1	8.7	12.2	2.2	0.1	8.6	0.6
		0.2	0.0	0.1	0.0	1.2	0.0	0.2	0.1	0.3	0.2	0.7	0.0	0.2	0.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		2.0	5.1	2.5	1.8	0.5	2.1	0.1	0.0	0.0	0.0	0.1	8.4	3.3	0.0
		17.7	37.8	4.3	9.0	37.8	22.5	2.0	3.2	0.4	1.1	17.2	19.0	2.1	0.3
		2.5	4.5	21.3	8.9	1.9	11.6	1.9	9.5	2.8	2.1	13.6	10.1	51.1	5.6
		5.3	13.1	3.6	16.8	11.3	17.9	2.9	2.3	3.4	6.8	8.9	14.1	5.2	3.7
		1.0	3.4	0.4	5.2	1.1	6.1	0.8	1.0	0.7	0.9	1.1	5.8	0.5	1.1
		0.7	0.9	0.2	39.3	17.8	28.4	7.9	2.3	5.3	17.7	20.1	6.3	0.0	5.1
		6.3	19.1	30.1	12.4	13.6	6.5	12.5	50.8	75.8	57.6	30.0	22.6	10.0	81.7
		0.4	2.1	0.0	0.3	0.2	0.1	5.1	3.1	1.8	0.7	0.0	1.0	0.9	1.1
		0.0	1.9	0.0	0.5	0.0	0.0	14.4	0.0	0.0	0.0	0.0	8.2	2.5	0.0
		0.5	3.1	0.3	2.7	1.7	3.5	13.2	8.2	0.3	0.2	0.2	2.7	0.1	0.2
		1.2	0.2	0.0	0.3	0.5	0.2	0.6	0.0	0.1	0.2	2.3	1.1	0.0	0.0
		0.1	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
		0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.2
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mean Grain Size by Frequency (µm)	Chalcopyrite Pyrite Molybdenite Galena Sphalerite Other Sulphides Uraninite Brannerite Coffinite K-Feldspar Plagioclase Quartz Micas/Clay Other-Silicates Chlorite Calcite Ankerite Dolomite Fe-Oxides/Ti-Oxides Apatite Gypsum Fluorite Barite Zircon Other	71	22	131	30	27	24	42	42	26	23	50	30	28	22
		25	55	44	39	26	44	30	22	22	22	22	33	117	23
		24	22	32	23	38	24	51	22	23	22	23	24	29	25
		23	22	23	22	22	23	23	24	31	27	24	23	23	40
		23	33	22	37	0	22	22	0	0	0	0	22	28	23
		22	23	23	23	22	23	23	23	49	33	23	24	22	22
		96	24	60	22	37	29	59	52	58	58	27	25	35	39
		24	23	26	0	24	24	25	27	25	25	24	22	24	25
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		26	27	28	32	25	33	34	24	22	22	24	29	29	22
		57	70	31	42	65	48	35	40	29	46	65	35	29	40
		27	26	73	36	26	40	26	35	30	31	68	31	213	33
		27	30	33	32	27	33	27	27	30	29	29	29	34	33
		23	24	25	25	23	25	25	24	24	23	23	24	23	24
		24	24	24	71	37	50	64	38	53	78	64	30	23	68
		51	47	115	39	69	38	34	117	283	189	82	41	54	263
		27	25	29	23	23	22	27	29	28	25	22	25	26	26
		24	32	31	29	22	22	41	22	22	22	25	44	40	22
		36	29	27	47	26	47	54	56	29	29	23	28	24	30
		26	23	25	27	25	26	32	25	26	26	40	34	23	28
		23	24	23	23	23	23	24	23	22	23	22	22	23	27
		22	22	22	22	22	22	22	22	22	22	22	22	22	22
		22	22	22	22	22	22	22	23	22	22	22	22	22	22

The detailed analyses determined that the most abundant uranium minerals in the Lac 50 Deposit are uraninite (commonly known as pitchblende) and coffinite, with trace amounts of brannerite and uranophane (Grammatikopoulos and Morton, 2013). Uranium mineralization is closely associated with mainly carbonates, chlorite and sulphides (particularly pyrite, chalcopyrite and galena).

The occurrence of uranium is complex and shows dissolution and re-crystallization textures. Uranium mineral grains exhibit rugged outlines, irregular grain boundaries and form fine grained outliers within the associated gangue minerals. Uranium minerals are generally fine grained but form coarse polycrystalline aggregates, layers or distinct domains. The mesoscopic appearance of the uranium minerals is characterized as patchy and disseminated. Microscopically, uranium minerals reveal net veining, discontinuous thin (micrometre in nature) layers that area clearly secondary in nature. Other textures include discontinuous rims and fine-grained inclusions in micro-fractures (Grammatikopoulos and Morton, 2013). Figure 13.1 shows uranium minerals as fine and coarse disseminations, structurally controlled and associated with sulphides and carbonates.

13.2 SRC Metallurgical Test Work

In June 2012, ValOre engaged the Saskatchewan Research Council (SRC) to perform a second phase alkaline leaching program for the Lac 50 Deposit using sulphide flotation to optimize the alkaline leach (Zhang, 2013). The SRC program was intended to follow up on first phase metallurgical testing initiated in 2010 by SGS Mineral Services (SGS), a division of SGS Canada Inc. of Lakefield, Ontario. SGS was engaged to examine uranium recovery from a composite of laboratory pulp rejects from drill core submitted to SRC for geochemical analysis during ValOre's 2009 drilling program (Brown and Todd, 2011; Dufresne and Sim, 2011). SGS examined a variety of leach conditions and sample grinds. Uranium extraction results were good, with up to 98% dissolution from acid leach tests and up to 94.7% dissolution from alkaline leach tests. Acid consumption, attributed to a high carbonate content in the Lac 50 composite, with rates up to 489 kg/t was considered high.

Alkaline leaching is typically preferred for high carbonate content uranium deposits. The 2012 SRC metallurgical testing program was designed to investigate uranium alkaline leaching optimization after the removal of sulphide minerals by flotation (Zhang, 2013). The testing was expanded in late 2012 to include a preliminary evaluation of the purity levels of the yellowcake product. A summary of the work conducted by the SRC is provided below and is taken from Zhang (2013).

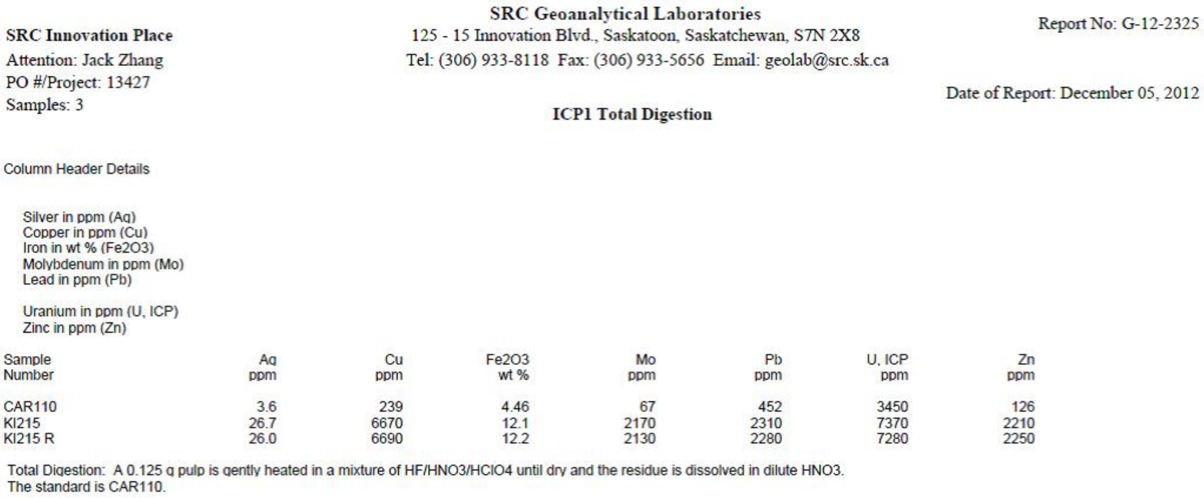
There are two reasons to float the sulphide minerals. First, the sulphide minerals consume reagents during the alkaline uranium leaching. The removal of sulphides from the alkaline leach feed will reduce reagent consumption. In addition to uranium , the Lac 50 Deposit contains elevated contents of Ag, Mo, Cu, Zn and Pb. The majority of these metals occur as sulphide minerals, from which the metals are not extracted by either alkaline leaching or atmospheric acid leaching.

The objectives of the 2012 SRC tests were to maximize uranium extraction through optimizing the alkaline leaching process for flotation tailings; maximize the recovery of sulphides through flotation and compare yellowcake product purity levels to ASTM C967-13 uranium concentrate specifications.

13.2.1 Sample Receiving and Preparation

The SRC mineral processing group received from SRC Geoanalytical Labs, 166 crushed quarter split and half split pulp reject samples weighing approximately 60 kg. The samples were derived from core submitted to SRC from 51 drillholes for geochemical analysis. The holes were part of ValOre's 2010 and 2011 diamond drilling programs on the Lac 50 Main Zone, Western Extension and Eastern Extension uranium deposits. A master composite sample was made by aggregating, blending and homogenizing the crushed drill core sample pulp rejects. The composite sample was split into two individual samples of approximately 30 kg each. The first of these was ground to 100% passing 200 mesh (74 µm) using a ball mill. A head grade sample was taken from the resulting composite and analyzed by SRC's ICP 1 total digestion method. It contained 0.737% U, 0.217% Mo, 0.667% Cu, 0.221% Zn, 0.231% Pb and 26.7 g/tonne Ag. The SRC assay certificate is included as Table 13.4 below (SRC Report No: G-12-2325).

Table 13.4. SRC assay certificate for Report No. G-12-2325.



SRC Geoanalytical Laboratories
125 - 15 Innovation Blvd., Saskatoon, Saskatchewan, S7N 2X8
Tel: (306) 933-8118 Fax: (306) 933-5656 Email: geolab@src.sk.ca

SRC Innovation Place
Attention: Jack Zhang
PO #/Project: 13427
Samples: 3

Report No: G-12-2325

Date of Report: December 05, 2012

ICP1 Total Digestion

Column Header Details

Silver in ppm (Ag)
Copper in ppm (Cu)
Iron in wt % (Fe2O3)
Molybdenum in ppm (Mo)
Lead in ppm (Pb)

Uranium in ppm (U, ICP)
Zinc in ppm (Zn)

Sample Number	Ag ppm	Cu ppm	Fe2O3 wt %	Mo ppm	Pb ppm	U, ICP ppm	Zn ppm
CAR110	3.6	239	4.46	67	452	3450	126
KI215	26.7	6670	12.1	2170	2310	7370	2210
KI215 R	26.0	6690	12.2	2130	2280	7280	2250

Total Digestion: A 0.125 g pulp is gently heated in a mixture of HF/HNO3/HClO4 until dry and the residue is dissolved in dilute HNO3.
The standard is CAR110.

13.2.2 Mineralogical Analysis

A quantitative mineralogical microprobe scan was performed on a sample of the homogenized composite ground to 100% passing 20 µm to get good liberation of the sulphide minerals. As shown in Figure 13.2, the results of the scan indicate that the composite sample is dominated by carbonate minerals, primarily calcite and dolomite, with subordinate quartz and other gangue silicates. Pyrite is the dominant sulphide mineral present but chalcopyrite is also observed in the samples. Three uranium-bearing minerals are present in the sample: uraninite, coffinite and trace amounts of uranophane.

Sulphide flotation is performed to remove the sulphide minerals which consume sodium carbonate and oxygen in an alkaline uranium (U) leach circuit. Test charges were ground to 100% passing 200 mesh (74 µm). Several different xanthate collectors and hydroxamate acid were tested. Flotation tests were performed at the same flotation conditions except that one stage cleaner flotation was conducted when the hydroxamate acid was used as collector. A schematic flotation process is shown in Figure 13.3.

The target of the flotation optimization is to maximize sulphide recovery to the float concentrate. Greater than 95% of the uranium can be recovered through alkaline leaching of flotation tails. A flotation test using a mixed collector made from KAX 51 and a butyldithiophosphate at the ratio of 2/1 at a pH of 10.5 yielded good flotation results. The flotation conditions are summarized in Table 13.5. The collector conditioning time, collector dosage, flotation temperature, feed size and pH were investigated.

Figure 13.2. Quantitative mineral abundances.

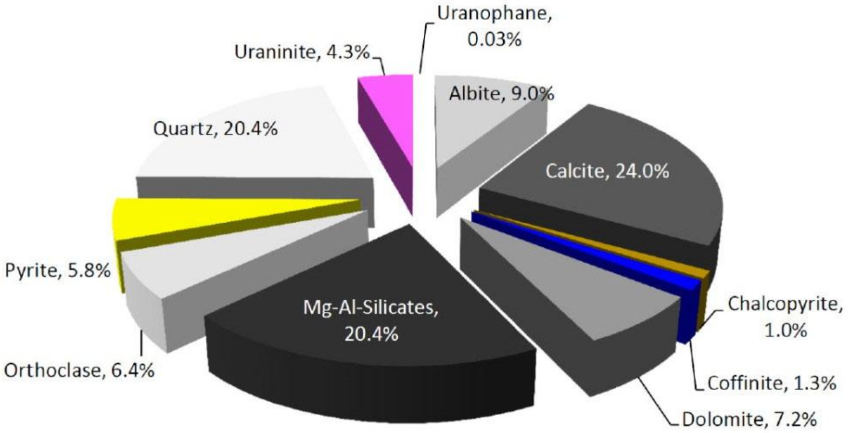


Figure 13.3. Schematic flotation process.

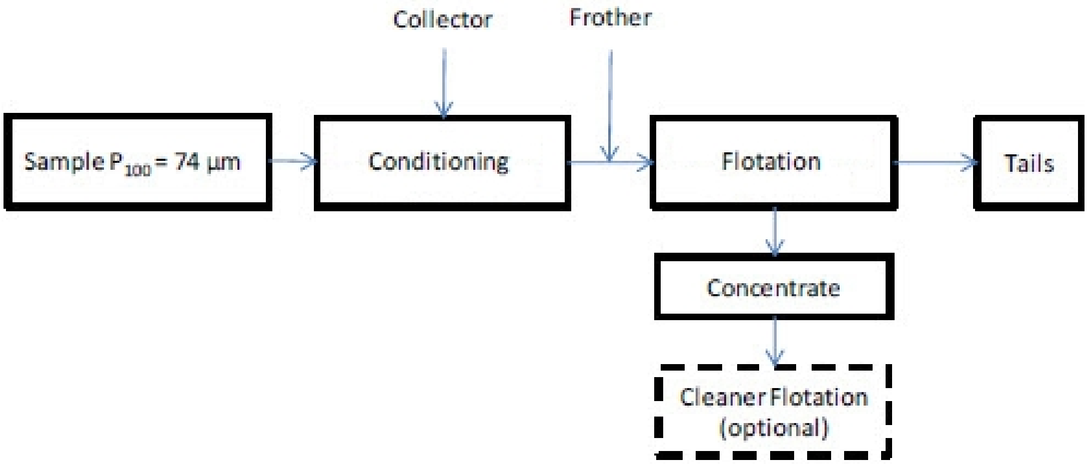


Table 13.5. Flotation conditions.

Test	Conditions							
	Mixed Collector		MIBC		Feed Size	pH	Temp.	Flot. Time
	Dosage (kg/tonne)	Cond. Time (mins)	Dosage (kg/tonne)	Cond. Time (mins)	(mesh)		(°C)	(mins)
1	0.03	5	0.17	0.5	-200	10.5	65	5

The flotation results are shown in Table 13.6. The results indicate that the mixed collector was able to recover 70.4% of Cu, 50.2% of Ag, 86.1% of Zn, 37.6% of Pb, and 80.5% of total S and 94.6% sulphide. The consumption of collector was low at 0.03 kg/tonne. Frother (MIBC) consumption was 0.17 kg/tonne. The sulphide flotation results remain subject to further improvement by optimization.

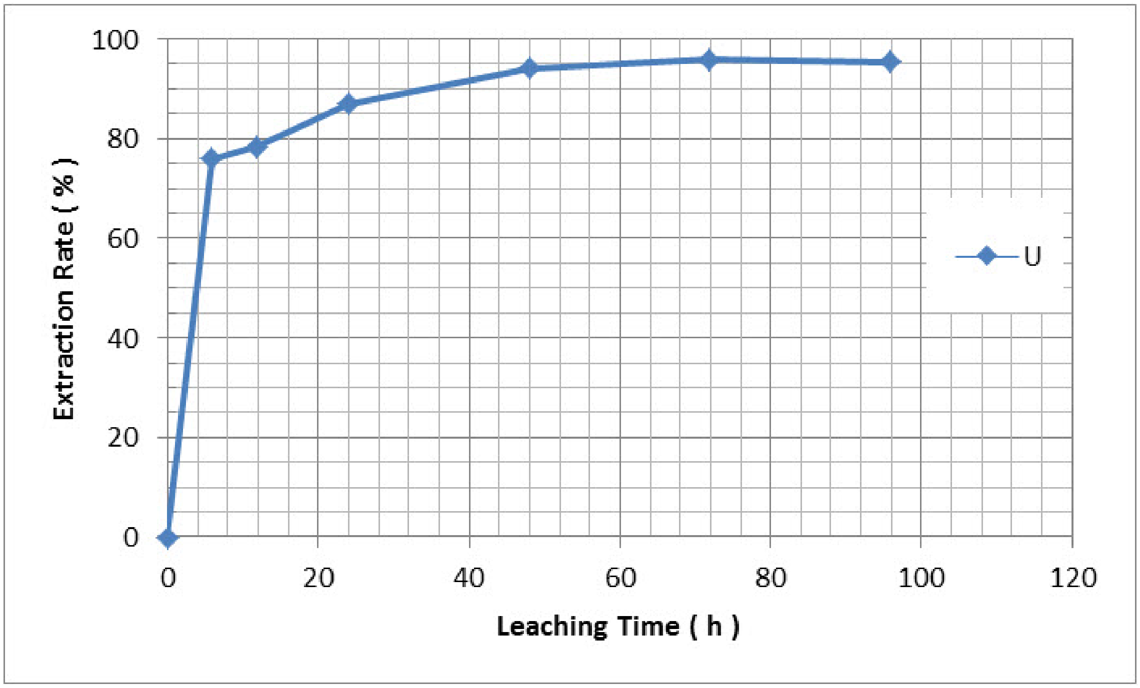
Table 13.6. Flotation results using a mixed collector at pH of 10.5.

	Feed		Concentrate	Tails	Recovery (%)
	Direct Assay	Calculated Assay			
Mass, g	200	197.7	15.6	182.1	7.8
Ag, ppm	27.2	25.15	160	13.6	50.2
Cu, ppm	6520	6196.56	55300	1990	70.4
Mo, ppm	2320	1611.77	9290	954	45.5
Pb, ppm	2360	2348.30	11200	1590	37.6
U, ppm	7140	7253.07	9390	7070	10.2
Zn, ppm	2260	2199.58	24000	332	86.1
C, %	3.99	4.05	3.13	4.13	6.1
S, %	2.93	2.50	25.5	0.53	80.5
Sulfide, %	1.81	1.87	22.4	0.11	94.6

13.2.3 Alkaline Leaching

Due to the high carbonate content of the composite feed, alkaline leaching is considered to represent a viable extraction process for the Lac 50 Deposit uranium mineralization. Alkaline leaching optimization tests have been highly encouraging. Optimized results, as shown on Figure 13.4 indicate that at 70°C, atmospheric pressure, 50% pulp density, sufficient oxidation and a reagent addition rate of 70 kg/t (50 kg $Na2CO3$ and 20 Kg $NaHCO3$), 94.1% of the uranium was extracted in 48 hours and 95.9% of the uranium was extracted in 72 hours from the composite sample. An advantage of alkaline leaching for the Lac 50 Deposit mineralization is low reagent consumption. At this stage of bench testing, consumption rates have not yet been accurately determined. A second advantage of alkaline leaching is that the process is very selective resulting in a pregnant leaching solution that is clean with low impurity levels.

Figure 13.4. Optimized alkaline leaching kinetics for uranium.



The high selectivity of alkaline leaching has at least three benefits: 1) simple subsequent processes to produce yellowcake; 2) unlike the raffinate handling from acid leaching circuits, no complicated effluent treatment processes are needed; 3) simplified tailings handling with the ability to utilize tailings for backfill during mining.

13.2.4 Comparative Whole Ore and Float Tails

As a first step toward optimization, a series of alkaline leaching tests were performed using whole ore and flotation tails at various temperatures. Tests demonstrate that 50-60% of the uranium from whole ore samples can be extracted in the first 6 hours. After 6 hours, the leaching rate slows but uranium extraction continues to increase with leaching time. As shown on Figure 13.5 for the whole ore sample, the highest final uranium extraction (94.9%) was achieved at 70°C and the lowest final uranium extraction (75.0%) was at 90°C. Alkaline leaching was conducted using solution containing 50 g/L Na_2CO_3 and 20 g/l $NaHCO_3$.

Figure 13.6 shows the leaching of the flotation tails sample. In the flotation tails sample, the sulphide minerals are partially removed. The leaching of the flotation tails sample showed the same pattern as the whole ore sample. Over 50% of the uranium was extracted in the first 6 hours. After 6 hours the leaching rate slows but uranium extraction continues to increase with leaching time. In comparison to the whole ore leaching, higher final extraction rates are generally achieved with the flotation tails. The uranium extraction was 83.4% at 60°C, 94.4% at 70°C, 91.0% at 80°C, and 80.6% at 90°C, respectively.

Figure 13.5. Whole ore uranium alkaline leach at variable temperatures.

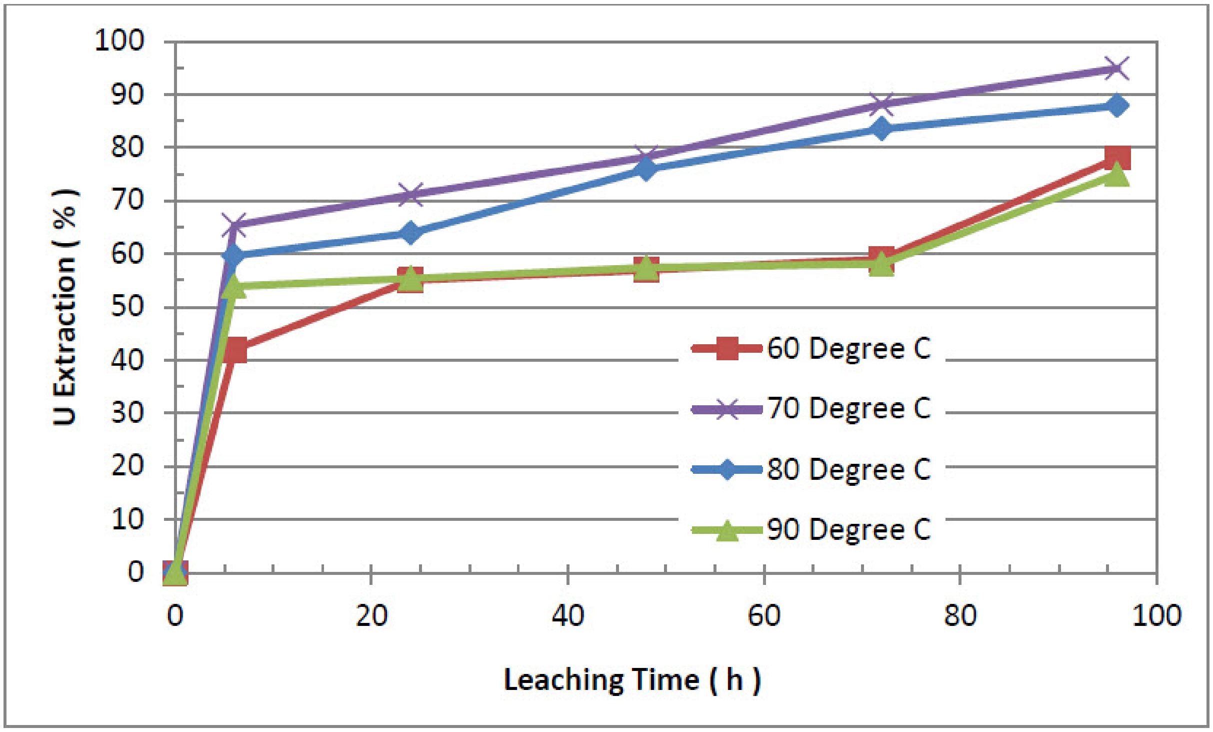
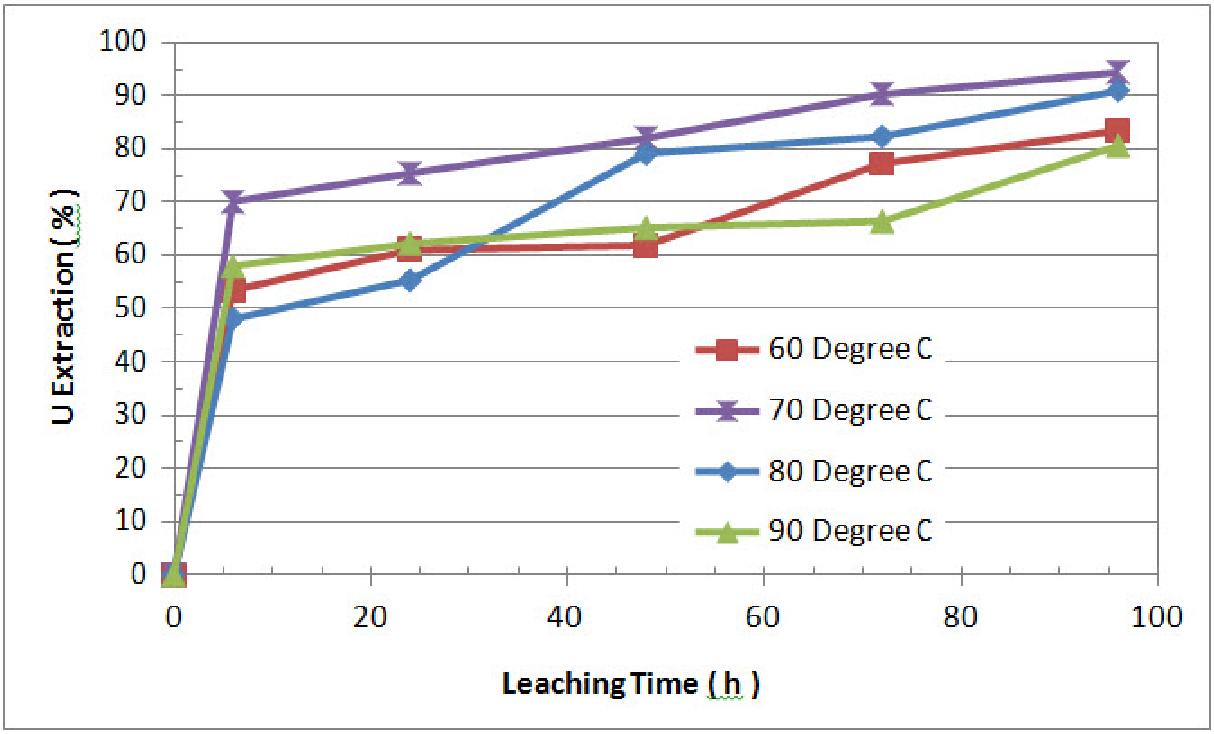


Figure 13.6. Flotation tails uranium alkaline leach at variable temperatures.



The leaching results of both the whole ore sample and flotation tails sample showed a leaching temperature of 70°C gave optimum uranium extraction rates of approximately 95%. In an alkaline leach operation, alkaline leach solution is recycled for re-use. If too much sulphide is present in the feed material, reagent consumption is excessive and therefore an initial sulphide flotation is recommended.

13.2.5 Effects of Oxidation

Hydrogen peroxide was used as the oxidant in alkaline leach tests. With alkaline leaching optimization tests (the temperature variation tests) hydrogen peroxide was added from the second hour of leaching. In a plant operation, pressurized oxygen will be supplied continuously during the leaching process. To assess hydrogen peroxide utilization more fully, batch addition of hydrogen peroxide was compared to continuous addition. Significant improvement of leaching kinetics was achieved by adding hydrogen peroxide slowly but continuously. Figure 13.7 shows the comparison of leaching kinetics at 70°C using batch and continuous addition of hydrogen peroxide. When the hydrogen peroxide was added continuously, leaching completion was almost reached in 48 hours. Only slight improvement was observed when the leaching time increased from 48 hours to 72 hours and 96 hours. The continuous addition of hydrogen peroxide, or continuous oxidation, more accurately simulates the oxidation of field operations. Oxidation will play a critical role in optimizing leaching kinetics. The reduction of leaching time from 96 hours to 48 hours has the potential to reduce operating costs significantly.

13.2.6 Effects of Feed Size

The sulphide flotation tails using different feed grind sizes were alkaline leached as well to investigate the effects of grind size on leaching kinetics and uranium extraction. Figure 13.8 shows the leaching kinetics of uranium utilizing different size fractions. Oxidant, hydrogen peroxide, was added continuously in all of the tests. It is interesting to see that very similar leaching kinetics and uranium extraction were achieved with the various size feeds. The -200 mesh feed and the -400 mesh had almost identical leaching kinetics and final uranium extraction. However, the -635 mesh feed had slightly slower leaching kinetics and final uranium extraction. This indicates that feed with size smaller than -200 mesh has very little effect on the leaching kinetics.

Figure 13.7. Leaching kinetics with different oxidation.

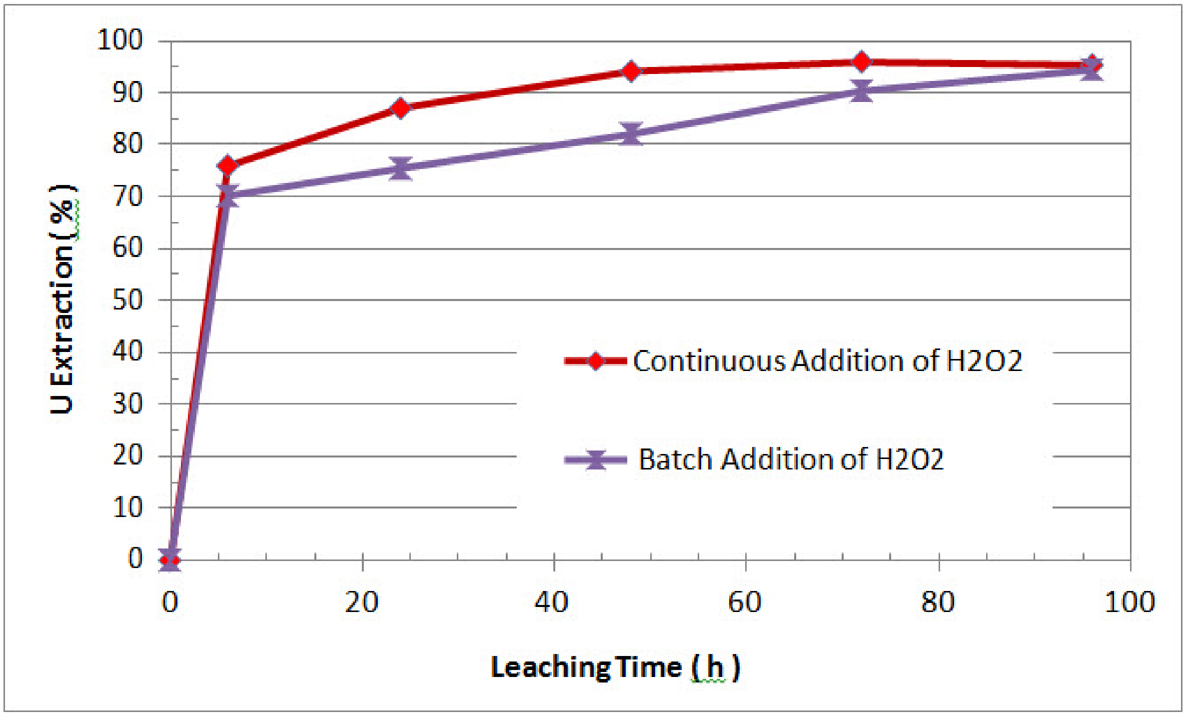
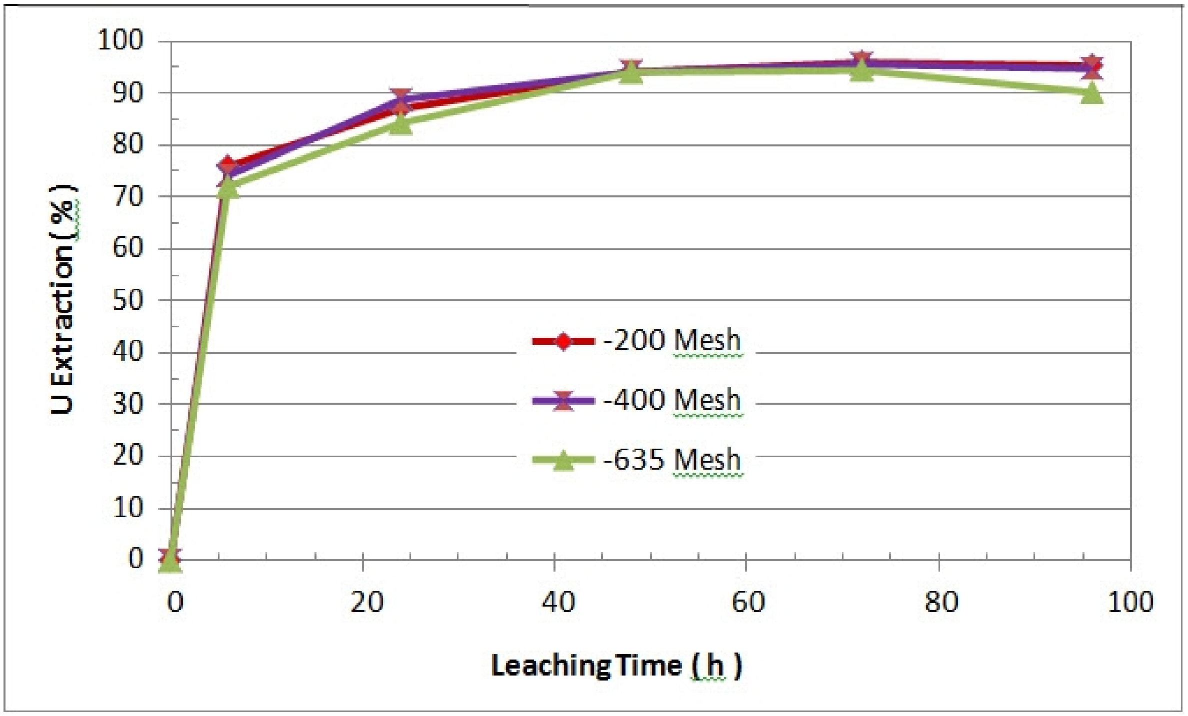


Figure 13.8. Leaching kinetics of different size feeds.



13.2.7 Yellowcake Production Test

With the encouraging results from the alkaline leaching tests, a decision was made to investigate the purity of a yellowcake product from the Lac 50 Deposit composite. A preliminary yellowcake precipitation was performed. Direct sodium hydroxide precipitation was performed first to produce sodium diuranate ($Na_2U_2O_7$). The sodium hydroxide precipitation was conducted at 70°C for 6 hours. Over 99% of uranium in the pregnant solution was precipitated as sodium diuranate. The sodium diuranate was then purified through acidification and hydrogen peroxide (H2O2) precipitation. The uranium value attained was 71.9% for a final yellowcake product.

Both the sodium diuranate and final yellowcake samples were analysed for several impurities and uranium, the results for which are shown compared with Impurity Maximum Concentration Limits from ASTM C967-123 specifications in Table 13.7. Assayed impurities fell below the Maximum Concentration Limit Without Penalty standard specifications for uranium ore concentrate. Low impurity levels achieved in preliminary yellowcake tests are very encouraging at this early stage of testing.

13.2.8 SRC Recommendations

Based upon the results of the SRC's metallurgical test work and specifically the alkaline leaching program for the Lac 50 Deposit, the SRC provided a number of recommendations for further studies going forward to assist with future process engineering and economic studies:

- Continue sulphide flotation tests to maximize sulphide recovery to flotation concentrate,
- Continue sulphide flotation concentrate acid leaching tests to maximize uranium dissolution,
- Additional alkaline leach tests to maximize uranium recovery,
- Initiate yellowcake precipitation tests using dilute sodium hydroxide solution for pH control to minimize reagent cost,
- Initiate testing of a composite from the Lac 50 J4 deposit, discovered in 2012,
- Continue processing tests of the leached sulphide flotation concentrate to produce a potentially marketable by-product, and
- Initiate a bench-scale pilot plant test of the optimized unit operations to optimize the integrated process.

Table 13.7. Impurity of the preliminary Angilak yellow product.

Specifications	ASTM C967-13 (Mass%, Uranium Basis)		ValOre (Mass%, Uranium Basis)
Component	**Limit without Penalty**	**Limit without Rejection**	**YC Product**
Uranium (U)	N/A	65% min.	71.9%
Arsenic (As)	0.05%	0.1%	0.0009%
Barium (Ba)	N/A	N/A	0.0001%
Boron (B)	0.005%	0.1%	N/A
Cadmium (Cd)	N/A	N/A	0.00006%
Calcium (Ca)	0.05%	1%	0.02%
Carbonate (CO_3)	0.2%	0.5%	0.069%
Chromium (Cr)	N/A	N/A	0.018%
Fluoride (F)	0.01%	0.1%	N/A
Halides (Br, Cl, I)	0.05%	0.1%	N/A
Iron (Fe)	0.15%	1%	<0.01%
Lead (Pb)	N/A	N/A	0.007%
Magnesium (Mg)	0.02%	0.5%	N/A
Mercury (Hg)	N/A	N/A	N/A
Moisture (H_2O)	2%	5%	N/A
Molybdenum (Mo)	0.1%	0.3%	0.0004%
Phosphorus (PO_4)	0.1%	0.7%	0.03%
Potassium (K)	0.2%	3%	<0.002%
Selenium (Se)	N/A	N/A	<0.0001
Silica (SiO_2)	0.5%	2.5%	N/A
Silver (Ag)	N/A	N/A	0.0003%
Sodium (Na)	1%	7.5%	<0.01%
Sulfur (S)	1%	4%	0.125%
Thorium	0.1%	2.5%	0.00006%
Titanium	0.01%	0.05%	<0.002%
^{234}U	56 µg/gU	62 µg/gU	N/A
Vanadium (V)	0.06	0.3%	<0.0001%
Zirconium (Zr)	0.01%	0.1%	N/A

14 Mineral Resource Estimates

No current Mineral Resource Estimates (MREs) have been completed on the Angilak Property. Historical MRE's are discussed in Section 6.

Sections 15-22 are not included in this Technical Report for the Angilak Property as they are not required.

23 Adjacent Properties

The Kiggavik Project was a proposed uranium mine and milling operation located in the Kivalliq region of Nunavut, approximately 200 km northeast of Kivalliq's Angilak Property and 80 km west of Baker Lake. The Kiggavik Project is host to 127 million pounds of uranium with an average grade of 0.55% U_3O_8. Areva (now Orano Canada) completed an initial feasibility study and submitted a Draft Environmental Assessment Study to the Nunavut Impact Review Board. Following public hearings in March 2015, the Nunavut Impact Review Board (NIRB) recommended Kiggavik not be approved at that time. NIRB stated it does not intend for the project not to proceed at any time, but that it should be resubmitted when a project start date and development schedule can be provided. Orano stills retains ownership of the mining lease covering the Kiggavik deposit.

In 2022, Forum Energy (Forum) expanded their land position around the Orano leases to encompass 95,518 ha of prospective land. Forum Nunavut Uranium Project (Thelon Basin) covers two high-grade unconformity style uranium deposits – Tatiggaq and Qavvik and the Ayra uranium showing.

The tenure ownership of the area surrounding the Angilak project can be seen in Figure 23.1.

24 Other Relevant Data and Information

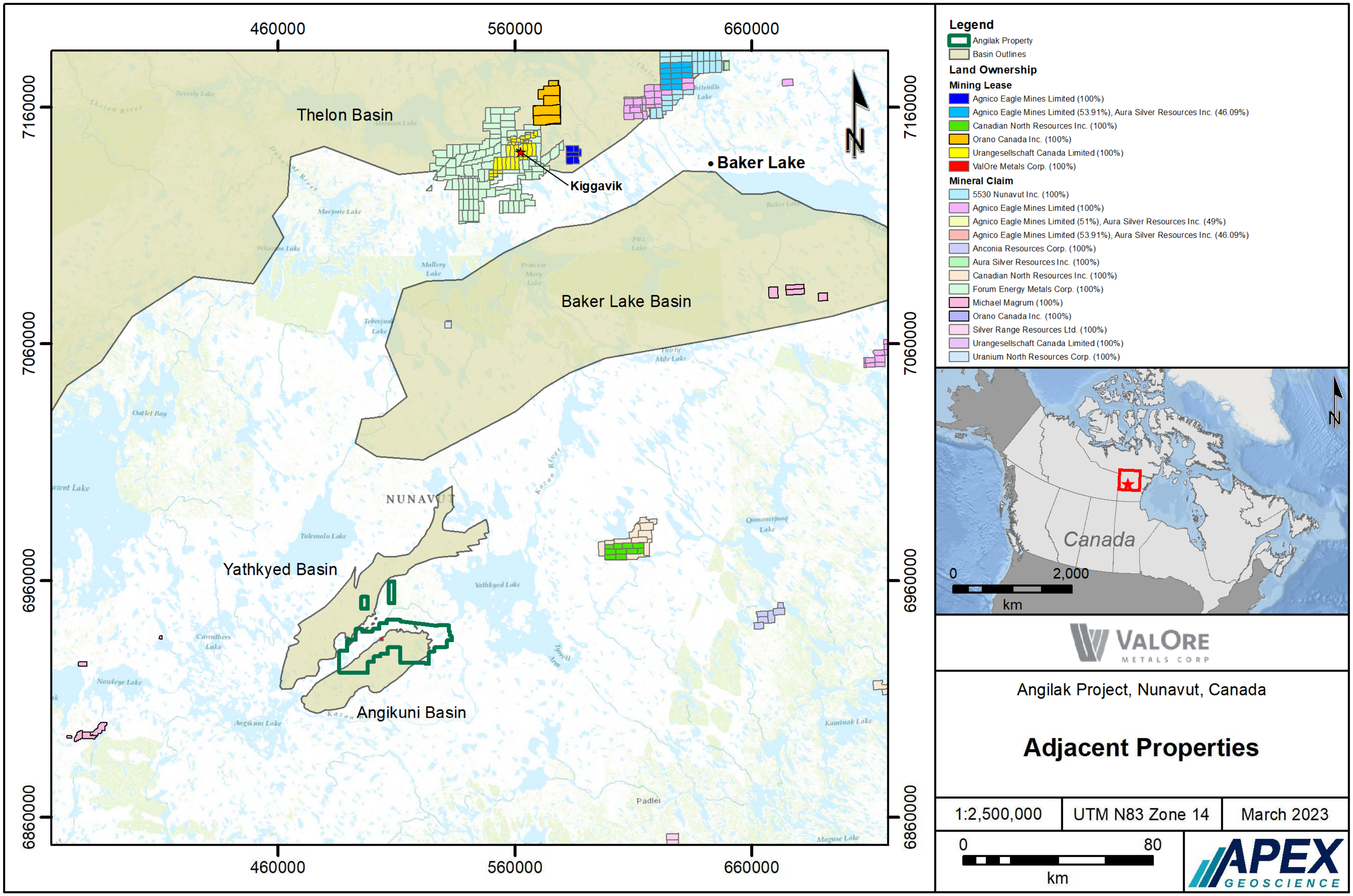
There is no other relevant data and information to report at this time.

25 Interpretation and Conclusions

The Angilak Property is located 350 kilometres west of Kangiqliniq (Rankin Inlet) and 225 kilometres southwest of Baker Lake in the Kivalliq Region of Nunavut. The Angilak Property hosts the Lac 50 Deposit and is 67,329.69 hectares in size.

The Angilak Property is located within the Western Churchill Province, a large Archean craton that experienced significant crustal shortening and uplift during the Proterozoic, where the subsequent gravitational collapse led to the deposition of several rift basins, including the Baker Lake Basin.

Figure 23.1. Tenure Ownership of Area Surrounding the Angilak Property.



Two major structural corridors surround the Property: the Snowbird Tectonic Zone to the northwest, and the Tyrrell Shear Zone to the southeast. These corridors formed as a result of the assembly of the Churchill Province and were later reactivated by tectonic activity in the Proterozoic. The Archean basement rocks underlying the Property consist of tonalite-granodiorite gneisses and granitoids, as well as the metasedimentary and metavolcanic greenstone belt rocks of the Henik Group. These are unconformably overlain by the Angikuni and Yathkyed sub-basins (Baker Lake Group). The Baker Lake Basin and the associated Angikuni and Yathkyed sub-basins were formed as a result of these tectonic processes. The contact between these Proterozoic basins and the Archean represents an unconformity that has been targeted globally for uranium, a deposit type termed "unconformity style uranium". The most prolific occurrences of this deposit type are found in the Athabasca basin in northern Saskatchewan.

Although historical exploration in the Yathkyed Lake area targeted unconformity style uranium, a vein-type hydrothermal uranium deposit, the Lac 50 Deposit, was found on IOL Parcel RI30-001. The Lac 50 Deposit lies within the Property and is located adjacent to the northeastern margin of the Angikuni sub-basin. It is hosted in Archean metasedimentary and metavolcanic rocks of the Henik Group. Mineralization at the Lac 50 Deposit is structurally and stratigraphically controlled and bears similarities to Beaverlodge-type vein or structural uranium deposits.

25.1 Previous Exploration

Previous exploration by a variety of companies during the late 1970's and early 1980's in the Yathkyed Lake region resulted in the discovery of numerous uranium ± base metals ± silver showings and the Lac 50 Deposit, a Beaverlodge style, vein-type uranium deposit. Most of the showings occur close to the western, northern and northeastern boundary of the Angikuni sedimentary sub-basin, within both Archean basement and later basin-fill sedimentary and volcaniclastic material and were the product of exploration for unconformity style uranium mineralization as the main target.

The exploration season of 2008 marked the first work program in over 25 years at the Angilak Property. The 2008 exploration program completed by Kivalliq Energy (now ValOre) included 5,620 line-km of airborne TDEM, magnetics, and radiometrics, and Property wide prospecting and mapping.

In 2009, Kivalliq Energy (now ValOre) completed ground VLF-EM survey over IOL RI30-001 and identified a 9 km-long conductive trend hosting the historical Lac 50 Deposit. This was followed up with an initial 1,745 m drill program at the Lac 50 Main Zone and successfully intersected U_3O_8 mineralization in 13 of 14 drillholes.

Kivalliq Energy (now ValOre) drilled over 16,600 m at the Lac 50 Main Zone and surrounding geophysical targets in 2010. In 2011, 30,500 m were drilled, 5,470 line-km of EM-magnetics were flown, and ground geophysical surveys were completed. New zones of uranium mineralization discovered and drilled included: Western Extension, Eastern Extension, Blaze, Pulse and Spark.

The largest exploration program in Kivalliq Energy's history ($20M) was conducted in 2012, with a focus on resource expansion and new discoveries. In total, 38,856 m were drilled in conjunction with extensive ground geophysical surveys. New zones of uranium mineralization were discovered which included: J4, Ray, Hot, Flare, Southwest and Nine Iron. Kivalliq also expanded the Angilak land position by 32,375 hectares.

Exploration in 2013 consisted of 2,100 m of drilling and ground geophysical surveying. New mineralized zones discovered included J1 and ML.

In 2014, 963 soil samples and 1,078 line-kilometres of airborne TDEM and magnetics geophysical were completed. In 2015, 958 m drilled at Dipole target, resulting in the first significant uranium discovery outside of the Lac 50 Deposit area. Additional soil results confirmed kilometre-scale uranium anomalies along the Dipole and RIB geophysical trends.

Soil sampling in 2016 expanded the area of uranium anomalism, extending the Dipole uranium signature to over 3.5 km. Trenching at the Yat target confirmed the presence of a high-grade polymetallic zone in bedrock and uranium-in-soil anomaly along a 1.6 km-long EM conductor.

25.2 Exploration Conducted in 2022

In spring 2022 ValOre conducted ground magnetics and VLF-EM surveys covering 1,547.62 line-km with 80,329 VLF-EM measurements collected over 3 priority grids in the Lac 50 East area, an area straddling the RIB and Dipole targets and further southwestward to the Property boundary. A soil sampling program was conducted in the summer of 2022, where 880 soil samples were collected and submitted for Enzyme Leach analysis.

A RC drill program was conducted during spring 2022 with 3,165.35 m drilled in 27 holes on the Dipole (17 holes), Yat (4 holes) and J4 West (6 holes) targets. The RC drilling was used to follow up on core drilling results at Dipole from 2015, historical drilling at Yat and core and RC drilling at J4 West from 2013. A diamond drilling program was conducted during summer 2022 with 3,590 m drilled in 26 holes at the Dipole (16 holes) and J4 West (10 holes) targets. Diamond drilling at the Dipole target tested the extension potential northeast along strike of the drilling completed in 2015, as well as following up on the diamond drilling in 2015 and RC drilling in 2022 to test mineralization extension with depth. Diamond drilling at the J4 West tested the potential for a sinistral off-set and continuation of mineralization to the southwest of the J4 deposit.

25.3 Metallurgical Work to Date

In June 2012, the Saskatchewan Research Council (SRC) commenced a metallurgical testing program that built on first pass work completed in 2010. The initial 2010 results indicated alkaline leaching as the most effective extraction process for the Lac 50 Trend uranium resource. The objective of the 2012 program was to investigate uranium alkaline leaching optimization and perform a preliminary evaluation of the purity levels of a final yellowcake product. The SRC aggregated a master composite sample weighing approximately 60 kilograms by blending and homogenizing 166 quarter-split and half-split pulp reject samples from 51 core holes. The sampled 2010 and 2011 core holes represent 3.2 km of strike length of uranium mineralization along the Lac 50 Main Zone, Western Extension and Eastern Extension. A head grade sample from the 2012 composite assayed 0.737 % U, 0.217% Mo, 0.667% Cu, 0.221% Zn, 0.231% Pb and 26.7 g/t Ag. Optimized results from alkaline leaching indicate that 94.1% of uranium can be extracted in 48 hours and 95.9% of the uranium extracted in 72 hours with a final yellowcake product that contained 71.9% uranium. It is encouraging at this early stage that the assayed impurities in the yellowcake product are below the maximum allowable concentration limits without penalty for uranium ore concentrate specifications. Additional metallurgical work is warranted.

25.4 Historical Mineral Resource Estimate

An initial maiden Inferred historical MRE was completed for Kivalliq Energy in 2010 and subsequently updated in 2012 and 2013 based on additional drilling completed over that period. The most recent historical MRE was completed in 2013 for the Angilak Property by Robert Sim, P.Geo., with the assistance of Dr. Bruce Davis, FAusIMM, and published in Dufresne et al., 2013.

The author and QP Mr. Dufresne, has reviewed the 2013 historical MRE. Mr. Dufresne's assessment of the 2013 historical MRE is as follows: the construction and estimation process for the historical MRE in large part is in line with current CIM standards and guidelines (CIM, 2014 and 2019) and uses the current CIM classification framework, even though it was constructed in 2013. However, there are likely changes required to the financial information utilized in 2013 to evaluate RPEEE, and there is not enough information provided by Mr. Sim and Mr. Davis in Dufresne et al. (2013) to assess whether the historical MRE from 2013 would change applying constraints such as an open pit and constraining underground shapes to bracket the underground portion of the historical MRE. For these reasons, the author and QP Mr. Dufresne has classified the 2013 MRE as a historical MRE and therefore the authors, ValOre, and Labrador are not treating it or any part of it as a current MRE.

The 2013 historical MRE was calculated for six mineralized zones: Lac 50 Main, Lac 50 Western Extension, Lac 50 East Extension, J4 Upper, J4 Lower and Ray (Table 1.1). Nominal block sizes measuring 5m x 5m x 5m were used for the Lac 50 portion of the MRE and 5m x 3m x 3m block sizes were used for the J4 portion of the estimate. Grade (assay) and geologic information was derived from work conducted by the Company (Kivalliq) during the 2009, 2010, 2011 and 2012 field seasons including substantial new drilling at the time. Although extensive drilling was conducted on the Lac 50 Deposit in the early 1980s and much of the core remains on the property, this older dataset could not be properly validated due to unknown collar locations and drillhole orientations and, as a result, none of it was used during the development of the resource models for the 2013 historical mineral resource (Dufresne et al., 2013).

The Lac 50 resource block model was generated from 256 drillholes and 6,173 samples with a total core length of 3,188 m, all of which were competed by Kivalliq from 2009 to 2012. The J4/Ray resource block model was generated from a total of 79 drillholes and 1,363 samples with a total core length of 725 m, with all holes completed between 2009 to 2012.

The bulk density database contains a total of 1,579 samples that were collected and measured during the 2010, 2011 and 2012 drilling programs. Within the mineralized domains, composited bulk densities at Lac 50 range from 2.35 t/m^3 to 3.77 t/m^3, with a mean of 2.85 t/m^3. At J4, composited bulk densities range from 2.52 t/m^3 to 3.52 t/m^3, with an average of 2.84 t/m^3 (Dufresne et al., 2013).

Block model U_3O_8 grade interpolation was completed using ordinary kriging (OK). Estimates for silver, molybdenum and copper were completed using an inverse distance weighting method (ID^2, Dufresne et al. 2013).

Table 25.1 provides the historical inferred MRE for the Lac 50 Deposit, broken out into 3 different areas, and the J4/Ray deposits, also broken out into 3 different areas at a cut-off grade of 0.2 % U_3O_8 (Dufresne et al., 2013).

Table 25.1. Historical 2013 Inferred MRE Summary by zone at a 0.2% U_3O_8 cut-off (After Dufresne et al., 2013).

							Contained			
Number of holes used	**Zone**	**ktonnes**	**U_3O_8%**	**Ag g/t**	**Mo%**	**Cu%**	**U_3O_8 (Mlbs)**	**Ag (koz)**	**Mo (Mlbs)**	**Cu (Mlbs)**
143	Lac 50 Main	892	0.825	13.5	0.230	0.17	16.2	387	4.5	3.3
67	Lac 50 W Ext.	709	0.506	17.5	0.044	0.33	7.9	399	0.7	5.2
46	Lac 50 E Ext.	304	0.569	20.1	0.167	0.28	3.8	197	1.1	1.9
63	J4 Upper	592	0.698	23.3	0.145	0.28	9.1	443	1.9	3.7
52	J4 Lower	258	0.938	45.8	0.279	0.24	5.3	379	1.6	1.4
16	Ray	76	0.525	29.9	0.366	0.10	0.9	73	0.6	0.2
	Total	**2,831**	**0.693**	**20.6**	**0.167**	**0.25**	**43.3**	**1878**	**10.4**	**15.6**

The authors are treating this 2013 estimate as a “historical mineral resource” and the reader is cautioned not to treat it, or any part of it, as a current mineral resource. The MRE was calculated in accordance with NI 43-101 and CIM standards at the time of publication and predates the current CIM Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019).

The authors of this Technical Report have not done sufficient work to classify the historical estimate as a current MRE or reserve. A thorough review of all the 2013 resource information and drill data by a QP, along with the incorporation of subsequent exploration work and results, which includes some drilling around the edges of the deposit subsequent to the publication of the 2013 MRE, along with a full review of the economic parameters utilized to determine RPEEE today would be required in order to produce a current MRE for the Property. The future MRE will need to evaluate the open pit and underground potential taking into consideration the current cost and pricing conditions or constraints, along with continuity of the resource blocks. ValOre, Labrador Uranium and the authors consider the 2013 historical MRE to be reliable and relevant for the further development of the Project; however, Labrador Uranium, ValOre and the authors are not treating the historical estimate as a current mineral resource.

25.5 Conclusions

Although this project is at an intermediate stage of exploration, the historical MRE has been considered with respect to potential economic viability in the past. The historical MRE forms a relatively continuous zone exhibiting thickness and grade properties which suggest that there is potential for future economic extraction of the deposit through a combination of open pit and underground mining methods, but further work is required to bring the historical MRE up to current standards for a current mineral resource.

25.6 Risks and Uncertainties

With respect to risks and uncertainties, the authors have not done sufficient work to classify the historical 2013 MRE presented in Section 6, as a current MRE. The 2013 MRE is considered as a historical MRE by the authors based on several factors including:

a) it predates current CIM standards and guidelines,
b) the current financial conditions to determine RPEEE have changed,
c) further drilling has been conducted around the edges of the Lac 50 Deposit area and at other zones,
d) it is unclear the specific mining and cost elements used to determine RPEEE in 2013 and it is not clear whether the application of up-to-date RPEEE principals will have an effect on the size of a current MRE versus the historical MRE
e) the metallurgical work is at an early stage, although encouraging recovery results have been obtained to date.

Additional risks and uncertainties include:

- Although the moratorium on uranium mining was lifted in Nunavut in 2007, the potential future of uranium mining in Nunavut is considered somewhat controversial.
- The Angilak Project is far away from any communities and road access and is a high cost exploration project and likely to be a potentially high cost development project.
- New Caribou Protection areas are being considered that will shut down large portions of Nunavut for exploration and development. These do not directly impact the current land position but are located in the nearby vicinity.

- Due to new land use planning initiatives by the government and Inuit organizations, some uncertainly exists with respect to issuance of land use permits to conduct exploration in eastern Nunavut.
- There are large tracts of land with prospective targets that could result in the discovery of more uranium mineralization, but a significant amount of additional exploration and drilling may need to be completed.

Any future exploration work and/or subsequent technical reports should be prepared in accordance with guidelines established by the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (2019), CIM Definition Standards for Mineral Resources and Mineral Reserves (2014), and NI 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 Technical Report and related consequential amendments. Future Technical Reports that capture any new exploration work conducted by ValOre should discuss any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information, mineral resource or mineral reserve estimates, or projected economic outcomes.

26 Recommendations

Based upon co-author's Mr. Schoeman's site visit, the historical exploration work discussed in this Technical Report, the current drilling completed by ValOre and the historical MRE, it is the opinion of the authors of this Technical Report that the Angilak Property is a "Property of Merit" warranting further exploration work.

Based upon the results of exploration conducted to date, the authors recommend that the following work be completed at the Angilak Property during 2023:

1. Ground geophysical surveys employing a number of EM, magnetic and gravity techniques at grids designed to provide coverage over existing airborne targets, especially those that are spatially associated with known uranium showings and/or uranium bearing float that could be derived from such targets,
2. Soil and/or till sampling surveys over a number of prospective covered ground EM conductors with little or no outcrop,
3. Further expansion and infill resource drilling to expand the current historical MRE immediately along strike and at depth below the Lac 50 Trend uranium deposits, and confirm and update the historical MRE into a current MRE,
4. Exploration drilling including: a) follow-up drilling at the Blaze, Spark and Pulse, Hot, Nine Iron, Dipole and RIB prospects; b) drilling at a number of conductors in the immediate vicinity of the Lac 50 Trend deposit area, including conductors along strike that could represent extensions to Lac 50 and proximal parallel conductors that could represent similar prospective graphite-sulphide zones with uranium mineralization; and c) reconnaissance drilling at a number of exploration targets outside of the Lac 50 Trend resource area identified and advanced by prior exploration and the 2022 exploration program.

5. Studies at the Lac 50 Trend resource area to determine reasonable prospects for future economic extraction and the spacing required to convert achieve Inferred, Indicated, and/or Measured mineral resources,
6. Further Mineralogical and Metallurgical work focused on the Lac 50 Trend deposits,
7. Baseline environmental monitoring in support of future scoping and/or pre-feasibility studies, and
8. Initiate preliminary engineering and development studies as well as economic studies to give an initial view of project viability and guide future advancement of the project.

The authors recommend a Phased exploration program for the Angilak Property. Phase 1 of the exploration should include: targeted infill and step-out drilling in the Lac 50 Deposit area; resource expansion drilling within the Lac 50 area; exploration drilling at priority target areas including but not limited to RIB, Nine Iron, Hot, and Dipole. Phase 1 drilling is estimated to cost $6,458,000 and does not include the community consultation, archeological work and continued environmental baseline studies which needs to run concurrently with such a drill program. An airborne radiometric survey is recommended that will cover the entire Property and will deploy up-to-date technology and eliminate the patchwork of current, dated radiometric data. To provide future targets for drill follow-up, a large enzyme leach soil sampling program of 6,500 samples is recommended that will cover the Property from Dipole, westward and is estimated to cost $2,430,000. The total estimated cost of the Phase 1 exploration program is $10,730,000, including contingency but not including GST (Table 26.1).

A Phase 2 exploration program would be contingent on the results of Phase 1 and should include a further $8,600,000 in infill and MRE expansion drilling along with exploration drilling, metallurgical core drilling (HQ/PQ), additional metallurgical test work of $200,000, along with initiation of geotechnical work and additional baseline environmental studies. The total cost for the recommended Phase 2 program is approximately $13,300,000, including contingency but not including GST (Table 26.1).

Table 26.1 Proposed budget for the recommended exploration.

Activity Type				**Cost**
Phase 1				
Activity Type	**Drillholes**	**Total (m)**	**Cost per meter**	
Diamond Drilling: Exploration, MRE Confirmation & Expansion	30	6000	$1,050	$6,308,000
Core Assays				$150,000
Resource Modelling Studies				$65,000
Airborne Radiometric Survey				$590,000

Soils		6500		$1,740,000
Soil Assays				$690,000
Community Consultations				$75,000
Archeology & Environmental Baseline Studies				$150,000
			Contingency	$962,000
			Phase 1 Total Activities Subtotal	$10,730,000
Phase 2				
Diamond Drilling: Infill, MRE Expansion, Exploration	40	8000	$1,050	$8,400,000
Core Assays				$200,000
HQ/PQ Metallurgical Holes	15	3000	$1,050	$3,150,000
Additional Metallurgical Test work				$100,000
Geotechnical Work				$100,000
Additional Environmental Baseline Work				$100,000
Resource Modelling				$50,000
			Contingency	$1,200,000
			Phase 2 Total Activities Subtotal	$13,300,000

APEX Geoscience Ltd.
APEGA Licence # 5284;
EGBC Licence # 1003016

"Signed and Sealed"

Michael B. Dufresne, M.Sc., P.Geol., P.Geo.

"Signed and Sealed"

Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat.

Edmonton, Alberta, Canada
Effective Date: March 1, 2023
Signing Date: March 31, 2023

27 References

Aeroquest International, (2008). Report on a Helicopter-Borne AeroTEM System Electromagnetic, Magnetic & Radiometric Survey. Aeroquest Job # 08-091. Unpublished report prepared by Aeroquest International on behalf of Kivalliq Energy Corp., 32 p.

Areva Resources Canada Inc., (2009). The Kiggavik Project; Project Proposal. Issued November, 2008.

Aspler, L.B., Chiarenzelli, J.R., and Cousens, B.L., (2004). Fluvial, lacustrine and volcanic sedimentation in the Angikuni sub-basin, and initiation of ~1.84-1.79 Ga Baker Lake Basin, western Churchill Province, Nunavut, Canada. Precambrian Research v. 129, p. 225-250.

Aspler, L.B., Hofer, C. and Harvey, B.J.A. (2000). Geology of the Henik, Montgomery, and Hurwitz Groups, Sealhole and Fitzpatrick Lakes area, Nunavut. Geological Survey of Canada, Current Research 2000-C12, 10 p.

Banerjee, N.R., Bridge, N.J., Finnigan, C.S., Ward, J., and Berry, A. (2010). An Oxygen Isotopic Study of the Lac 50 Uranium Deposit, Nunavut, Canada: Implications for Mineralization and Exploration. Goldschmidt Conference Abstracts 2010.

Beck, L.S., (1986). General geology and uranium deposits of the Beaverlodge District. In Uranium Deposits of Canada, Evans, E.L. (ed.), CIM Special Volume 33, p. 85-94.

Bell, K., Kjarsgaard, B. A. Simonetti, A. (1998). Carbonatites - Into the Twenty-First Century. Journal of Petrology, v. 39, no. 11-12, p. 1839-1845.

Blake, D.H. (1980). Volcanic rocks of the Paleohelikian Dubawnt Group in the Baker Lake-Angikuni Lake area, District of Keewatin, N.W.T. Geological Survey of Canada Bulletin 309, 39 p.

Bridge, N.J., Banerjee, N.R., Finnigan, C.S., Ward, J., and Berry, A., (2010). Alteration systematics of the Lac 50 Uranium Deposit, Nunavut, Canada: implications for exploration; draft submitted for publication in Economic Geology.

Bridge, N.J., (2011). The Lac 50 Unconformity Associated Uranium Deposit, Nunavut, Canada. Unpublished M.Sc. Presentation.

Brown, J. and Todd, I.A. (2011). A preliminary investigation into uranium extraction processes from the Lac 50 Deposit. Unpublished Interim Report prepared by SGS Canada Inc. on behalf of Kivalliq Energy Corporation, 6 p.

CIM Standing Committee on Reserve Definitions (2005). CIM Definition Standards for Mineral Resources & Mineral Reserves. Adopted by CIM Council December 11, 2005.

CIM Standing Committee on Reserve Definitions (2014). CIM Definition Standards for Mineral Resources & Mineral Reserves. Adopted by CIM Council May 19, 2014.

CIM Mineral Resource & Mineral Reserve Committee (2019). CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines. Adopted by CIM Council November 29, 2019.

Condor Consulting Inc., (2012). Geophysical Assessment of Airborne and Ground Geophysical Data of Angilak Property for Kivalliq Energy Corporation, 93 p.

Cousens, B.L. (1999). Geochemistry and geologic setting of the Baker Lake Group, Angikuni Lake to Yathkyed Lake. Indian and Northern Affairs Canada, Geology Division, Open File 1999-05, 56 p.

Donaldson, J.A., (1965). The Dubawnt Group, District of Keewatin and Mackenzie. Geological Survey of Canada, Paper 64-20,11 p.

Dufresne, M.B., (2008). Technical report on the Yathkyed Uranium Project, Kivalliq Region, Nunavut. Technical Report prepared on behalf of Kaminak Gold Corporation and Kivalliq Energy Corporation, April 28th, 2008. 64 p. www.sedar.com

Dufresne, M.B. and Sim, R., (2011). Technical report on the Angilak Project, Kivalliq Region, Nunavut. Technical Report prepared on behalf of Kivalliq Energy Corporation, March 24th, 2011. 118 p. www.sedar.com

Dufresne, M.B., Sim, R. and Davis B., (2012). Technical report And Resource Update for the Angilak Project, Kivalliq Region, Nunavut. Technical Report prepared on behalf of Kivalliq Energy Corporation, March 1st, 2012. 100 p. www.sedar.com

Dufresne, M.B., Sim, R. and Davis, B. (2013). Technical Report and Resource Update for The Angilak Property, Kivalliq Region, Nunavut. Technical Report prepared on behalf of Kivalliq Energy Corporation, March 1st, 2013. 174 p. www.sedar.com

Dziuba, F. (2012). Field Report – Angilak Project, Ground Geophysics Spring 2012. Unpublished report prepared by Aurora Geosciences on behalf of Kivalliq Energy Corp., 5 p.

Eade, K.E. (1986). Precambrian geology of the Tulemalu Lake-Yathkyed Lake area, District of Keewatin. Geological Survey of Canada Paper 84-11, 31 p.

Gall, Q., Peterson, T.D. and Donaldson, J.A. (1992). A proposed revision of early Proterozoic stratigraphy of the Thelon and Baker Lake basins, Northwest Territories. Geological Survey of Canada Paper 92-1C, p. 129-137.

Grammatikopoulos, T. and Morton, N. (2013). An investigation by High Definition Mineralogy into the Mineralogical and Chemical Characterisation of Fourteen Samples to Determine the Occurrence of the Uranium Minerals from the Lac 50 Uranium Deposit. 179 p.

Hanmer, S., Williams, M., and Kopf, C. (1994a). Striding-Athabasca mylonite zone: implications for the Archean and Early Proterozoic tectonics of the western Canadian Shield. Canadian Journal of Earth Sciences. v. 32, no. 2, p. 178-196.

Hanmer, S., Parrish, R., Williams, M., and Kopf, C. (1994b). Striding-Athabasca mylonite zone: Complex Archean deep-crustal deformation in the East Athabasca mylonite triangle, northern Saskatchewan. Canadian Journal of Earth Sciences, v. 31, no. 8, p. 1287-1300.

Henderson, J.B. and Loveridge, W.D. (1990). Inherited Archean zircon in the Proterozoic Thelon Tectonic Zone: U-Pb geochronology of the Campbell granite, south of McDonald fault, District of Mackenzie, Northwest Territories; in Radiogenic Age and Isotopic Studies: Report 3, Geological Survey of Canada, Paper 89-2, p. 63-70,

Hoffman, P.F. (1988). United Plates of America, the Birth of a Craton: early Proterozoic assembly and growth of Laurentia. Ann. Rev. Earth Planet. Sci. v. 16, p. 543-603.

Hoffman, P.F. (1990). Subdivision of the Churchill Province and extent of the Trans-Hudson Orogen. In The Early Proterozoic Trans-Hudson Orogen of North America. Edited by J.F. Lewry and M.R. Stauffer, Geological Association of Canada, Special Paper 37, p. 15-39.

Jefferson, C.W., Thomas, D.J., Gandhi, S.S., Ramaekers, P., Delaney, G., Brisbin, D., Cutts, C., Portella, P. and Olson, R.A. (2007). Unconformity Associated Uranium Deposits, in Mineral Resources of Canada: A Synthesis of Major Deposit-types, District Metallogeny, the Evolution of Geological Provinces, and Exploration Methods. To be published jointly by the Geological Survey of Canada and the Mineral Deposits Division of the Geological Association of Canada. Available at: http://gsc.nrcan.gc.ca/mindep/synth_dep/uranium/index_e.php

LeCheminant, A.N., Miller, A.R., Booth, G.W., Murray, M.J. and Jenner, G.A. (1980). Geology of the Tebesjuak Lake map area, District of Keewatin: a progress report with notes on uranium and base metal mineralization. Geological Survey of Canada Paper 80-1A, p.339-346.

LeCheminant, A.N., Miller, A.R. and LeCheminant, G.M. (1987). Early Proterozoic alkaline igneous rocks, District of Keewatin, Canada: petrogenesis and mineralization. In Geochemistry and Mineralization of Proterozoic Volcanic Suite, edited by T.C. Pharaoh, R.D. Beckinsale and D.Rickard, Geological Society of London Special Publication 33, p.219-240.

MacLachlan, K., Davis, W.J., Relf, C. (2005). U/Pb geochronological constraints on Neoarchean tectonism: multiple compressional events in the northwestern Hearne Domain, Western Churchill Province, Canada. Canadian Journal of Earth Sciences, v. 42, no. 1, p. 85-109.

Miller, A.R. (1980). Uranium geology of the eastern Baker Lake Basin, District of Keewatin, Northwest Territories. Geological Survey of Canada Bulletin 330, 63 p.

Miller, A.R. (1993). Redbed copper occurrences in the lower Proterozoic Baker Lake Group, Dubawnt Supergroup, District of Keewatin, Northwest Territories. Geological Survey of Canada Paper 93-1C, p.159-170.

Miller, A.R. and Blackwell, G.W. (1992). Petrology of alkaline rare earth element-bearing plutonic rocks, Enekatcha Lake (65 E/15) and Carey Lake (65 L/7) map-areas, District of Mackenzie. Geological Survey of Canada Open File 2484, p.129-134.

Miller, A.R., Stanton, R.A., Cluff, G.R. and Male, M.J. (1986). Uranium deposits and prospects of the Baker Lake Basin and subbasins, Central District of Keewatin, Northwest Territories. In Uranium Deposits of Canada, edited by E.L. Evans, Canadian Institute of Mining and Metallurgy, Special Volume 33, p.263-285.

Miller, A.R., Cumming, G.L. and Krstic, D. (1989). U-Pb, Pb-Pb, and K-Ar isotopic study and petrography of uraniferous phosphate-bearing rocks in the Thelon Formation, Dubawnt Group, Northwest Territories, Canada. Canadian Journal of Earth Sciences, v.26, p.867-880.

Morton, N. and Grammatikopoulos, T. (2011). An investigation by high definition mineralogy into the mineralogical and chemical characterization of ten samples to determine the occurrence of uranium minerals from the Lac 50 Uranium Deposit. Unpublished Draft Report prepared by SGS Canada Inc. on behalf of Kivalliq Energy Corporation, 104 p.

Peterson, T.D. (1994). Geology, Dubawnt River, N.W.T. Geological Survey of Canada Open File 2922, Scale 1:500,000.

Peterson, T.D. (1996). Geology of the Dubawnt Lake Area, Nunavut-Northwest Territories. Geological Survey of Canada Bulletin 580, 50 p.

Peterson, T.D. and Rainbird, R.H. (1990). Tectonic and petrological significance of regional lamproite-minette volcanism in the Thelon and Trans-Hudson hinterlands, Northwest Territories. Geological Survey of Canada Paper 90-1C, p.69-79.

Peterson, T.D. and van Breeman, O. (1999). Review and progress report of Proterozoic granitoid rocks of the western Churchill Province, Northwest Territories (Nunavut). Geological Survey of Canada Paper 1999-1C, p.119-127.

Peterson, T.D., van Breeman, O., Sandeman, H. and Cousens, B. (2002). Proterozoic (1.85-1.75 Ga) igneous suites of the Western Churchill Province: granitoids and ultrapotassic magmatism in a reworked Archean hinterland. Precambrian Research, v.119, p.73-100.

Rainbird, R.H. and Peterson, T.D. (1990). Physical volcanology and sedimentology of lower Dubawnt Group strata, Dubawnt Lake, District of Keewatin, N.W.T. Geological Survey of Canada Paper 90-1C, p.207-217.

Rainbird, R.H., and Davis, W.J. (2007). U-Pb detrital zircon geochronology and provenance of the late Paleoproterozoic Dubawnt Supergroup: Linking sedimentation with tectonic reworking of the western Churchill Province, Canada. Geological Society of America Bulletin 119, p 314-328.

Rainbird, R.H., Hadlari, T., Aspler, L.B., Donaldson, J.A., LeCheminant, A.N. and Peterson, T.D. (2003). Sequence stratigraphy and evolution of the Paleoproterozoic intracontinental Baker Lake and Thelon basins, western Churchill Province, Nunavut, Canada. Precambrian Research, v.125, p.21-53.

Sandeman, H.A., MacLachlan, K., and Relf, C. (1999). Preliminary geochemical and Nd isotopic investigations of Archean volcanic and volcaniclastic rocks of the Yathkyed greenstone belt, Kivalliq region, Northwest Territories; in Radiogenic Age and Isotopic Studies: Report 12; Geological Survey of Canada, Current Research 1999-F, p. 43-52.

Sandeman, H.A. Hanmer, S. Davis, W.J., Ryan, J.J. and Peterson, T.D. (2004). Neoarchaean volcanic rocks, Central Hearne supracrustal belt, Western Churchill Province, Canada: geochemical and isotopic evidence supporting intra-oceanic, supra-subduction zone extension. Precambrian Research, v. 134, no. 1–2, p. 113-141

Setterfield, T. (2007). Compilation of the Angikuni Area, Keewatin District, Nunavut. Unpublished report compiled for Kaminak Gold Corporation. 43 p. (including 6 maps as well as a GIS data set).

Smith, T.E., Tetley, N. and Hudec, P.P. (1980). Proterozoic mafic syenites from Baker Lake, N.W.T., Canada. Precambrian Research, v.13, p.167-179.

Stacey, J.R. (2010). Summary Report on Prospecting and Geological Mapping, 2010, on t he Angilak Property. Unpublished report prepared by Taiga Consultants Ltd, 68 p.

Stacey, J.R. and Barker, J.C. (2012). Summary Report on Prospecting, Geological Mapping, Geophysics, and Reverse-Circulation Drilling, 2011 on the Angilak Property. Unpublished report compiled by Taiga Consultants Ltd. 142 p.

Stacey, J.R. and Barker, J.C. (2013). Summary Report on Geological Mapping, Prospecting, Ground Geophysics, and Reverse-Circulation Drilling, 2012 on the Angilak Property, Central Nunavut, Canada. Kivalliq Internal Report prepared by Taiga Consultants Ltd, 204 p.

Starfield Resources Inc. (2010). Starfield Resources Provides Update on Diamond Exploration at Ferguson Lake. Starfield Resources Inc. News Release, April 28, 2010. www.starfieldres.com.

Tella, S., Paul, D., Berman, R.G., Davis, W.J., Peterson, T.D., Pehrsson, S.J. and Kerswill, J.A. (2007). Bedrock geology compilation and regional synthesis of parts of the Hearne and Rae Domains, western Churchill Province, Nunavut-Manitoba; Geological Survey of Canada, Open File 5441, scale 1:550,000.

ValOre Metals Corporation (2012). Kivalliq Commences 35,000 Metre Drill Program at Angilak Property. Company News Release, April 4, 2012, www.valoremetals.com

ValOre Metals Corporation (2013). Kivalliq Reports Assay Results from 2013 Drilling at the ML and J1 Zones. Company News Release, June 27, 2013. www.valoremetals.com

ValOre Metals Corporation (2015). Kivalliq Announces Significant Uranium Assays from Dipole Discovery. Company News Release, October 19, 2015. www.valoremetals.com

ValOre Metals Corporation (2022). ValOre RC Drilling, Soil Sampling Geochemistry and Kilometre-Scale VLF-EM Conductors Showcase Regional Exploration Potential at Dipole and RIB Targets, Angilak Property Uranium Project, Nunavut, Canada. Company News Release, November 15, 2022. www.valoremetals.com

ValOre Metals Corporation (2023a). ValOre RC Drilling Confirms Mineralized Uranium Envelope at J4 West Target. Company News Release, January 23, 2023. www.valoremetals.com

ValOre Metals Corporation (2023b) ValOre Drills 1.54 m @ 1.40% U_3O_8, 179 g/t Ag, 1.9% Mo and 0.34% Cu from a depth of 152.46 m, Angilak Property Uranium Project, Nunavut, Canada. Company News Release, March 2, 2023. www.valoremetals.com

Verwoerd, W.J. (1986). Mineral deposits associated with carbonatites and alkaline rocks. In: Anhausser, C.R. & Maske, S. (Eds.), Mineral Deposits of Southern Africa, II. Geol. Soc. S. Afr., Johannesburg, p. 2173-2191.

Zaleski, E., Perhrsson, S., Duke, N., Davis, W.J., L'Heureux, R., Greiner, E. and Kerswill, J.A. (2000). Quartzite Sequences and Their Relationships, Woodburn Lake Group, Western Churchill Province, Nunavut; Geological Survey of Canada, Current Research 2000-C7, 10 p.

Zhang, J. (2013). Final Report, Sulphide Flotation and Alkaline Leaching-Recovery of U, Mo, Cu, Zn, Ag and Pb. Unpublished Draft Report prepared by Saskatchewan Research Council, Mining and Minerals Division on behalf of Kivalliq Energy Corporation, SRC Publication No 13427-4C13, 15 p.

28 Certificate of Author

I, Michael Dufresne, M. Sc., P. Geol., P.Geo. do hereby certify that:

1. I am President and a Principal of APEX Geoscience Ltd., 11450 – 160th Street NW, #100, Edmonton, Alberta, Canada, T5M 3Y7.
2. I graduated with a B.Sc. Degree in Geology from the University of North Carolina at Wilmington in 1983 and a M.Sc. Degree in Economic Geology from the University of Alberta in 1987.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists ("APEGA") of Alberta since 1989, a Professional Geoscientist with the Association of Professional Engineers and Geoscientists ("APEGBC") of British Columbia since 2012 and a Professional Geoscientist with the Nunavut – NWT Association of Professional Engineers and Geoscientists ("NAPEG") since 2016. I have recently been accepted as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB) in 2022.
4. I have worked as a geologist for more than 40 years since my graduation from University and have extensive experience with the exploration for, and the evaluation of (including resource estimation), base and precious metal deposits along with uranium deposits of various types.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for Sections 1 to 8 and 13 to 28 of the Technical Report titled "Technical Report for the Angilak Property, Kivalliq Region, Nunavut, Canada", with an effective date of March 1st, 2023 (the "Technical Report"). I have not recently visited the Angilak Property.
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.
10. I was a co-author and QP for several previous Technical Reports for the Property from 2008 to 2013, the most recent of which is dated March 1st, 2013.

Signing date: March 31st, 2023
Edmonton, Alberta, Canada

"Signed and Sealed"

Michael B. Dufresne, M.Sc., P.Geol., P.Geo.

I, Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat., do hereby certify that:

1. I am a Senior Geologist of APEX Geoscience Ltd., #100, 11450-160th Street NW, Edmonton, Alberta, Canada T5M 3Y7.
2. I graduated with a B.Sc. Degree in Geology from the University of Port Elizabeth in South Africa in 1985, a B.Sc. Honours in Geology from the University of Cape Town in South Africa in 1989 and with a M.Sc. in Geology from Rhodes University in Grahamstown in South Africa in 1996.
3. I am and have been registered as a Professional Natural Scientist in the Geological Sciences with the South African Council for Natural Scientific Professions since 2003 (Licence# 400121/03). I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta since 2013 (Licence # 161717).
4. I have worked as a geologist for more than 32 years since my graduation from University and have been involved in all aspects of mineral exploration and evaluation for precious and base metal deposits in South Africa, Argentina, Ghana, Niger, Yemen, USA and Canada.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I am responsible for sections 9 to 12 and contributed to sections 1, 2 and 25 to 28 of this Technical Report titled *"Technical Report on the Angilak Property, Kivalliq Region, Nunavut, Canada"*, with an effective date of March 1, 2023 (the "Technical Report"). I visited the Angilak Property on August 13, 2022.
7. I am not aware of any scientific or technical information with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I am independent of the Property and the issuer applying all of the tests in section 1.5 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I have had no prior involvement in the Property.

Signing Date: March 31st, 2023
Edmonton, Alberta, Canada

"Signed and Sealed"

Philo Schoeman, M.Sc., P.Geo., Pr.Sci.Nat.