NTS 65 J/06, J/09, J/10, J/11 and J/15

Technical Report And Resource Update For The Angilak Property, Kivalliq Region, Nunavut, Canada

Property Location Centre:
Latitude 62° 34' 33"N
Longitude 98° 41' 41" W
Kivalliq District, Nunavut

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1.0 SUMMARY

Kivalliq Energy Corporation's (Kivalliq) Angilak Property is located in the Kivalliq District of Nunavut, Canada, approximately 325 kilometres (km) west of Rankin Inlet. The Property consists of 340,268.26 acres of land held as 139 mineral claims and an Inuit Owned Land (IOL) Parcel (RI-30), for which Kivalliq has acquired the right to explore and develop subsurface minerals through a signed Exploration Agreement between Kivalliq and Nunavut Tunngavik Incorporated (NTI). The IOL Parcel contains the Lac Cinquante Uranium Deposit. This Technical Report has been prepared on behalf of Kivalliq and provides a summary of the 2012 exploration along with a resource update for the project.

In terms of geologic setting, the Angilak Property is located in the Western Churchill Province, a large Archean Craton that has experienced structural and metamorphic overprint in the Proterozoic. Tectonic activity in the early Proterozoic resulted locally in tectonic collapse and the formation of rift basins which have been superimposed on the Archean crust. 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.

Previous exploration by a variety of companies during the late 1970s and early 1980s in the Yathkyed Lake region resulted in the discovery of numerous uranium + base metals + silver showings and the Lac Cinquante Uranium 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. The Lac Cinquante Uranium Deposit had a reported historic resource that, due to the paucity of available technical information and data, did not comply with any of the resource categories set out in National Instrument (NI) 43-101 and the "CIM Definition Standards on Mineral Resources and Ore Reserves" dated, November 27, 2010.

Kivalliq conducted drilling on the Lac Cinquante deposit during 2009 and 2010 that resulted in the identification of a 43-101 compliant maiden resource. Drilling tested mineralization associated with the Lac Cinquante Main Zone deposit down to a depth of 275 metres (m), and along an east-strike length of 1,350 m. During 2009 to 2010, a total of 139 drill holes totaling 18,350 m were completed with all but 5 out of the 139 drill holes completed within the current Lac Cinquante resource area.

A maiden mineral resource model was generated in early 2011 using data derived from the 2009 and 2010 drilling and was prepared under the direction of Mr. Robert Sim, P.Geo. An Inferred Mineral Resource of 810,000 tonnes at an average grade of 0.792 percent (%) uranium oxide (U_3O_8) using a cut-off grade of 0.2% U_3O_8 was calculated for the Lac Cinquante Main Zone in early 2011. On January 17, 2012 Kivalliq announced an updated Lac Cinquante Inferred Mineral Resource Estimate of 1,779,000 tonnes at an average grade of 0.69% U_3O_8 using a cut-off grade of 0.2% U_3O_8 totalling 27.1 million pounds (12.3 million kilograms) U_3O_8. This resource estimate was based on additional drilling at the Lac Cinquante Main Zone and the discoveries of the Main Zone offsets: the Eastern and Western Extensions.

During the 2012 exploration campaign, 173 diamond drill holes totaling 33,583 m were completed. A total of 14 holes were drilled at the Main Zone of the Lac Cinquante Deposit as defined between 2009 – 2011; a total of 4 were drilled on the offset Eastern Extension of Lac Cinquante, 13 were drilled on the

offset Western Extension of the Lac Cinquante Deposit and 11 holes were drilled on the newly discovered Southwest Zone, totaling 42 holes at Lac Cinquante. The segments are inferred to be offset by northeast trending left-lateral faults. The deepest uranium intersection on the Lac Cinquante Deposit was drilled in 2012 by hole 12-LC-007 on the Western Extension, with a weighted average of 0.33% U_3O_8 over 5.0 m core length at 365 m below surface.

Another 63 core holes totaling 12,756 m were drilled at the J4 Zone, 16 holes totaling 2,796 m were drilled at the Ray Zone, 27 holes totaling 3,830 m were drilled at the Pulse Zone and 5 holes totaling 841 m were drilled at the Nine Iron Trend (formerly the BIF Zone showing). The remaining 20 holes were drilled at 5 additional prospects, including the Spark Zone, J2E conductor, Flare Zone, Hot Swamp showing and OHM conductor. These zones, with the exception of the Nine Iron Trend, are now collectively referred to as being part of the Lac 50 (Lac Cinquante) Trend. The Lac 50 Trend is a 3 km wide by 15 km long southeast-striking structural trend within Archean volcanic rocks adjacent to an unconformity with Proterozoic sediments of the Angikuni sub-basin.

Reconnaissance drilling highlights include 0.85% U_3O_8, 56 grams per tonne (g/t) Ag and 0.53% molybdenum (Mo) over 3.0 m core length at the Hot Zone, and 2.42% U_3O_8, 137.4 g/t Ag and 0.25% copper (Cu) over 6.1 m core length at the J4 Zone. The deepest uranium interval intersected on the Angilak Property to date was drilled in 2012 at the J4 Zone, at a depth of 383 m below surface by hole 12-774-015 with a weighted average of 0.20% U_3O_8 over 1.4 m core length.

In addition to diamond drilling, a total of 5,273 m of reverse circulation (RC) drilling in 38 holes was completed in 2012 testing 8 different reconnaissance prospects. Drilling targeted geophysical anomalies and/or surface mineralization identified during the 2011 field season. A total of 21 RC holes generated anomalous radioactivity greater than 500 counts per second (cps). Two anomalous radioactivity zones were discovered by RC drilling within three kilometres of the Lac Cinquante resource area and a third zone was discovered 10 km southeast from Lac Cinquante. These discoveries, the Flare Zone, J4 Zone and the Nine Iron trend, were followed up with core holes. Additional reconnaissance targets, such as the Mushroom Lake, the North Anomaly and VGR prospects, yielded anomalous radioactivity and warrant diamond drilling as part of the 2013 drilling campaign.

During 2012, 11 weeks of prospecting, geological mapping and rock sampling resulted in the collection of 95 rock grab samples, 18 of which were designated for whole rock geochemistry in order to confirm ambiguous lithological units. The goals of the 2012 prospecting and mapping program were to gain a greater understanding of the nature and distribution of rock types and geological structures on the property, and to place uranium showings on the property into a geological context. A total of 8% of the 77 rock grab samples returned assays in excess of 0.5% U_3O_8, with several yielding significant Au, Ag, Cu, Mo, lead (Pb) and zinc (Zn) values.

Six different geophysical surveys were completed in 2012 totaling 930 line kilometres (ln-km). Gravity surveys were conducted by MEG Systems Ltd (MEG), a seismic reflection survey was completed by Frontier Geosciences Inc (Frontier), a capacity coupled resistivity survey (OhmMapper), ground magnetic and very low frequency electromagnetic (VLF-EM) surveys were conducted by Aurora Geosciences Ltd (Aurora), and multi-channel ground radiometric surveys were completed by Kivalliq field staff.

Based upon the results of the 2012 core drilling campaign, an update to the Lac Cinquante Mineral Resource estimate has been prepared under the direction of Mr. Robert Sim, P.Geo. with assistance from Dr. Bruce Davis, FAusIMM. On January 15, 2013, Kivalliq announced a significant (almost 60%) increase for the Lac 50 Trend Inferred Mineral Resource Estimate of 2,831,000 tonnes (3,121,000 tons[t]) at an average grade of 0.69% U_3O_8 (13.8 lbs/t) using a cut-off grade of 0.2% U_3O_8 (4.0 lbs/t) totalling 43.3 million pounds (19.6 million kilograms) U_3O_8. The increase in the Inferred Mineral Resource from the previous 2012 estimate is primarily attributed to the addition of the newly discovered J4 and Ray deposits, situated near surface and 1.8 km along strike from the eastern margin of the Lac Cinquante Eastern Extension.

For comparison purposes, the mineral inventory contained within the deposits is presented as a series of U_3O_8 cut-off thresholds in Table 1.1. Table 1.2 presents the Inferred Mineral Resource estimate as a summary by zones within the Lac 50 Trend. The estimated inferred mineral resource for the Lac 50 Trend deposits is presented at a base case cut-off grade of 0.2% U_3O_8 (4.0 lbs/t), which is considered reasonable based on assumptions derived from other deposits of similar type, scale and location.

Table 1.1: 2013 Lac Cinquante Trend Inferred Mineral Resources Summary

Cut-off Grade (U_3O_8%)	Tonnes (T x 1000)	U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)	U_3O_8 (M lbs)	Ag (oz x 1000)	Mo (M lbs)	Cu (M lbs)
Lac Cinquante									
0.1	2,547	0.53	13.7	0.13	0.23	30.0	1123	7.1	12.7
0.2	***1,906***	***0.67***	***16***	***0.15***	***0.25***	***28.0***	***983***	***6.3***	***10.4***
0.3	1,479	0.79	17.2	0.17	0.25	25.6	818	5.5	8.3
0.4	1,136	0.92	17.7	0.19	0.25	23.0	647	4.8	6.3
0.5	882	1.06	18.9	0.22	0.25	20.5	534	4.3	4.9
J4/Ray									
0.1	1,039	0.69	28.4	0.19	0.25	15.7	947	4.3	5.7
0.2	***925***	***0.75***	***30.1***	***0.20***	***0.26***	***15.3***	***895***	***4.1***	***5.2***
0.3	791	0.84	31.7	0.21	0.25	14.6	806	3.7	4.3
0.4	553	1.04	38	0.26	0.25	12.7	675	3.1	3
0.5	495	1.11	40.1	0.27	0.25	12.1	637	2.9	2.7
Combined Lac Cinquante and J4/Ray									
0.1	3,585	0.58	18	0.14	0.23	45.7	2070	11.4	18.4
0.2	***2,831***	***0.69***	***20.6***	***0.17***	***0.25***	***43.3***	***1878***	***10.4***	***15.6***
0.3	2,270	0.80	22.3	0.18	0.25	40.2	1624	9.2	12.6
0.4	1,689	0.96	24.3	0.21	0.25	35.7	1322	7.9	9.4
0.5	1,377	1.08	26.5	0.24	0.25	32.6	1171	7.2	7.7

Note: base case cut-off limit of 0.2% U_3O_8 is highlighted in the table.

Table 1.2: 2013 Inferred Mineral Resource Summary by Zone (0.2% U_3O_8 cut-off)

Zone	Tonnes (T x 1000)	U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)	U_3O_8 (M lbs)	Ag (oz x 1000)	Mo (M lbs)	Cu (M lbs)
Lac 50 Main	892	0.83	13.5	0.23	0.17	**16.2**	387	4.5	3.3
Lac 50 Western Extension	709	0.51	17.5	0.04	0.33	**7.9**	399	0.7	5.2
Lac 50 Eastern Extension	304	0.57	20.1	0.17	0.28	**3.8**	197	1.1	1.9
J4 Upper	592	0.70	23.3	0.15	0.28	**9.1**	443	1.9	3.7
J4 Lower	258	0.94	45.8	0.28	0.24	**5.3**	379	1.6	1.4
Ray	76	0.53	29.9	0.37	0.1	**0.9**	73	0.6	0.2
Total	**2,831**	**0.69**	**20.6**	**0.17**	**0.25**	**43.3**	**1878**	**10.4**	**15.6**

Note 1: Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. Note 2: The quality and grade of the reported inferred resource in these estimations are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category. Note 3: Contained metal values may not add due to rounding.

The mineral resource estimate consists of the Main Zone, Western Extension, Eastern Extension, J4 and Ray Zones, now collectively referred to as the Lac 50 Trend uranium deposits. Due to proximity, the Main Zone, Western Extension and Eastern Extension are often grouped together and referred to as simply as the Lac Cinquante Deposit and the J4 and Ray Zones as the J4 Zone. In addition to the Lac Cinquante and J4 deposits, nearby zones of uranium mineralization within the Lac 50 Trend resource area have been discovered such as Hot, Pulse, Blaze, Spark and Flare. However, the level of exploration on these proximal zones is currently insufficient to support estimates of NI 43-101 compliant mineral resources.

As a result of the 2012 drilling, the 2013 resource for the Lac Cinquante Deposit is marginally larger than the early 2012 resource, from 27.1 to 28.0 million pounds (using a 0.2% U_3O_8 cut-off). The discovery and delineation of the J4 and Ray Zones during the most recent field season has contributed to an increase of almost 60% to the mineral resource estimate, from 28.0 to 43.3 million pounds (using a 0.2% U_3O_8 cut-off). The Lac 50 Trend deposits remain open in both directions along strike and at depth. Further drilling is recommended to test for possible extensions of the Lac 50 Trend resource.

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 Trend 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.

Although this project is at a very early stage and little is known with respect to potential mining or metallurgical properties, the resource has been considered with respect to potential economic viability as required by NI 43-101. When subjected to estimated technical and economic operating parameters, the base case mineral resource forms a relatively continuous zone exhibiting thickness and grade properties which suggest that there are reasonable prospects for the economic extraction of the deposit through a combination of open pit and underground mining methods.

Based upon the results of exploration conducted to date, the authors recommend that the following work be completed at the Angilak Property during 2013.

1. Ground geophysical surveys employing a number of electromagnetic (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 resource drilling to expand the current Inferred Resource immediately along strike and at depth below the Lac 50 Trend uranium deposits,
4. Exploration drilling including: a) follow-up drilling at the Blaze, Spark and Pulse 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 Cinquante 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 the 2012 exploration program.
5. Studies at the Lac 50 Trend resource area to determine spacing required to convert existing Inferred Mineral Resources to Indicated or Measured,
6. Further Mineralogical and Metallurgical work focused on the Lac Cinquante 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 proposed exploration program for 2013 should include 25,000 m of diamond drilling in over 100 holes at Lac Cinquante and at certain exploration targets at an average all-in cost of $500/m for a total cost of $12.5million, 3,000 m of RC drilling to test exploration targets across the Angilak Property using the helicopter portable Hornet RC drill rig at an average cost of $400/m for a total cost of about $1.2 million, about 100 line-km of ground geophysical surveys at a total cost of about $0.12 million, further prospecting, rock sampling, soil sampling, geological mapping, baseline environmental monitoring along with further mineralogical, metallurgical and resource studies at a total cost of about $1.2 million. The total proposed exploration program cost to be conducted during 2013 is estimated at about $15 million.

2.0 INTRODUCTION

APEX Geoscience Ltd. (APEX) was retained in 2012 to prepare a technical report on the Angilak Property (the "Property") on behalf of Kivalliq Energy Corporation (Kivalliq). The Angilak Property is located in the Kivalliq District of Nunavut, approximately 225 kilometers (km) south of Baker Lake and is comprised of 139 mineral claims and a single Inuit Owned Land (IOL) Parcel totaling 340,268.26 acres.

On January 31st, 2008, Kaminak Gold Corporation (Kaminak) announced that it signed a Memorandum of Understanding (MOU) with Nunavut Tunngavik Incorporated (NTI) extending to Kaminak the uranium and all other subsurface mineral rights to IOL Parcel RI-30 resulting in Kaminak acquiring the Lac Cinquante Uranium Deposit (Kaminak Gold Corporation, 2008a). Kaminak announced that it formalized and completed the agreement with NTI for the Angilak Property and IOL Parcel RI-30 on May 8th, 2008 (Kaminak Gold Corporation, 2008b; Dufresne, 2008).

On February 21st, 2008, Kaminak announced that it intended to spin out all of its uranium assets including the Angilak Property, which contained the Lac Cinquante Uranium Deposit, into Kivalliq (Kaminak Gold Corporation, 2008c). The spin out was completed on July 4th, 2008 and included all of Kaminak's federally issued mineral claims and prospecting permits, as well as the mineral rights to IOL Parcel RI-30, which is administered by NTI (Kaminak Gold Corporation, 2008b,c,d,e).

The historic Lac Cinquante Uranium Deposit has been 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; Dufresne, 2008). The Deposit was reported to contain a historic non 43-101 compliant resource of 11.6 million pounds (Mlbs) of uranium oxide (U_3O_8) at a grade of 1.03 percent (%) (Aberford Resources Ltd., 1982; Miller *et al*., 1986; Dufresne, 2008).

In May 2007, GeoVector Management Inc. (GeoVector) was contracted by Kaminak to produce a compilation for National Topographic System (NTS) sheets 65 J/06, 65 J/07, 65 J/09, 65 J/10 and 65 J/11 in the Kivalliq District of Nunavut. Data was compiled into a GIS database using Universal Transverse Mercator (UTM) Zone 14 and North American Datum 1983 (NAD83). All UTM co-ordinates presented herein are in NAD83. The compilation included geology, mineral occurrences, geophysics, geochemistry and previous work (Setterfield, 2007). The compilation was assembled by Dr. Tom Setterfield, P. Geo., who is a Qualified Person as defined in National Instrument (NI) 43-101. Much of the background information presented in this technical report has been taken from Setterfield (2007).

In March 2011, Kivalliq announced the first NI 43-101 compliant mineral resource estimate for the Lac Cinquante Uranium Deposit: an Inferred Mineral Resource of 810,000 tonnes at an average grade of 0.792% U_3O_8 using a cut-off grade of 0.2% U_3O_8 (Dufresne and Sim, 2011). On January 17, 2012 the company announced an updated Lac Cinquante Inferred Mineral Resource Estimate of 1,779,000 tonnes at an average grade of 0.69% U_3O_8 using a cut-off grade of 0.2 % U_3O_8 totalling 27.13 Mlbs U_3O_8 (Dufresne *et al*., 2012). The Technical Report herein updates the Inferred Mineral Resource estimate at Lac Cinquante and additional discoveries on the Angilak Property.

The lead author, Mr. Michael Dufresne, M.Sc., P.Geol., a principal of APEX, and an independent and Qualified Person as defined in NI 43-101, conducted a property visit to the Angilak Property between September 10th and September 12th, 2012. The second author, Mr. Robert Sim, P.Geo., President of SIM Geological Inc. (SGI) and an independent and Qualified Person, was unable to conduct a property visit during 2012, however, the third author, Dr. Bruce Davis of BD Resource Consulting Inc. conducted a property visit on August 16th and 17th, 2012. Mr. Sim is responsible for the Mineral Resource Estimate presented in Section 14 of the Technical Report. Dr. Davis collaborated with the authors in the construction of Sections 12 and 14 of the Technical Report.

The authors, in writing this report, use sources of information as listed in the references. The report is a compilation of proprietary and publicly available information as well as information obtained during property visits, and research by government and university geoscientists. Government reports were prepared by qualified persons holding post-secondary geology, or related university degree(s), and are therefore deemed to be accurate based upon the work conducted by the authors. For those reports which were written by others who may or may not be qualified persons, the information in those reports is deemed to be reasonably accurate, based on the data review , field visits and work conducted by the authors and APEX's involvement in property wide exploration during 2008 to 2012. However, they are not the basis for this report.

The Technical Report summarizes the available historic geological, geophysical and geochemical information for the Property along with the results of the 2012 exploration program conducted by Kivalliq and APEX personnel. APEX personnel were involved in all aspects of the 2012 drilling campaign and portions of the surface exploration conducted during 2012. Much of the surface exploration conducted between 2010 and 2012 was conducted by Taiga Consultants Ltd. (Taiga) and is well summarized in reports by Stacey (2010) and Stacey and Barker (2012 and 2013).

3.0 RELIANCE ON OTHER EXPERTS

Kivalliq's Angilak Property is located in the Kivalliq District of Nunavut, approximately 225 km south of Baker Lake. The Angilak Property consists of 101 officially recorded mineral claims, 38 pending mineral claims plus NTI IOL Parcel RI-30, comprising a total area of 137,701.80 hectares (340,268.26 acres) in the Kivalliq region of southern Nunavut Territory. The claims have not been legally surveyed and have a variety of expiry dates ranging from October 26, 2012 to October 26, 2019. The authors have made no attempt to verify the legal status and ownership of the Property, nor are they qualified to do so. However, Aboriginal Affairs and Northern Development Canada's (AANDC) SID or GeoViewer website (http:// aadnc-aandc.gc.ca) shows that all of the 101 officially recorded mineral claims and the 38 recently staked and pending mineral claims are recorded in the name of Kivalliq and that they are all active and in good standing as of February 15, 2013. The current legal status of NTI IOL Parcel RI-30 has not been verified by the authors.

The surface rights for the vast majority of the property, except for NTI IOL Parcel RI-30, fall under the jurisdiction of and are governed by AANDC a division of the Federal Government of Canada. The surface rights for NTI IOL Parcel RI-30 are owned and governed by the Kivalliq Inuit Association (KIA) and the Nunavut Government. In order to conduct any surface disturbances including trenching, drilling, mining or to construct a camp, appropriate land use permits are required and have been obtained by Kivalliq. In addition, any activities that involve water use including camp activities, drilling, mining and ore processing require a water licence from the Nunavut Water Board. Kivalliq has obtained the necessary permits and licences to conduct their current level of exploration activities to date. During their field visits, the authors observed no environmental and/or land use issues or problems but have made no attempt to verify the environmental status of the project and nor are they legally qualified to do so.

4.0 PROPERTY DESCRIPTION AND LOCATION

Kivalliq's Angilak Property is located in the Kivalliq District of Nunavut, approximately 225 km south of Baker Lake, 325 km west of Rankin Inlet and 820 km east of Yellowknife (Figure 4.1). Currently, the Angilak Property consists of 101 recorded mineral claims, 38 pending mineral claims plus NTI IOL Parcel RI-30, comprising a total area of 137,701.80 hectares (340,268.26 acres) in the Kivalliq region of southern Nunavut Territory (Figure 4.2). The property measures 50 km, in an east-west direction, by approximately 35 km north-south (Figure 4.2). Kivalliq currently has a 100% interest in the 139 mineral claims and IOL Parcel RI-30, subject to normal future government and NTI royalties, and terms in an NTI Inuit Owned Lands Mineral Exploration Agreement dated April 1, 2007 (Dufresne, 2008).

As shown on Figure 4.2, all mineral claims and the IOL Parcel RI-30 are contiguous and extend north, south, east and west between latitudes 62° 26' and 62°47' North and longitudes 98° 21' and 99°24' West in NTS map areas 65 J/06, 65 J/09, 65 J/10, 65 J/11 and 65 J/15 (UTM coordinates: 6925000N to 6962000N and 480000E to 535000E, NAD83, Zone 14).

Details of the Project's land tenure are provided in Table 4.1. Between 2007 and 2009, mineral tenure originally consisted of four NT prospecting permits and 36 recorded mineral claims. However, all the prospecting permits were replaced by 54 mineral claims staked in September 2009. A further 11 mineral claims were staked and recorded in the fall of 2011. An additional 15 mineral claims were staked in March of 2012, and 23 mineral claims were staked in October, 2012 for a total of 322,017.08 acres in existing mineral claims. The IOL Parcel RI-30 is 18,251.18 acres in size (Table 4.1). The 38 mineral claims staked during 2012 are still pending and awaiting final approval from the Nunavut Mining Recorders office. Exploration work from the 2010 and 2011 exploration programs was filed with the Nunavut Mining Recorder's office on January 26, 2012 (Ward *et al*., 2012) and has recently been approved. An assessment report covering the 2012 exploration program was filed on February 8th, 2013 and is waiting approval (Ward *et al*., 2013). Assessment credits were applied to all claims with 2012 and 2013 anniversary dates. These assessment filings will keep all of the current mineral claims in good standing until at least 2014, with most claims extended to between 2017 and 2019. All claims, permits and IOL Exploration Agreements were originally registered to numbered company 974134 NWT Ltd., or Kaminak and have been transferred to Kivalliq. Annual exploration credits and an assessment report have been filed with NTI, fulfilling work requirements on IOL Parcel RI-30 until 2016 (Maynes and McNee, 2012).

The Angilak Property occurs in the "Barren lands," a large region of almost flat, tree-less tundra characterized by poor bedrock exposure and extensive swampy areas with abundant small, shallow lakes. Access is reliant on helicopters and fixed wing aircraft. Access to the property is regularly via wheel or ski equipped light fixed wing aircraft from Rankin Inlet, Baker Lake or Arviat. Access to exploration sites is from the Nutaaq Camp Lake and a 250 m long esker airstrip located 7.5 km east of Lac Cinquante. Movement around the property is mostly achieved by contract helicopter and snowmobiles in the winter/spring months. Exploration and re-supply for the past two years has generally been conducted from about late February to October.

Mineral claims are granted for a maximum term of 10 years. The holder of the mineral claim is entitled to hold the claim for 10 years if the holder conducts mineral exploration work to the value of 4 dollars ($) per acre during the first two years and $2 per acre during each subsequent year (Northwest Territories and Nunavut (NT) Mining Regulations, C.R.C., c.1516). Expenditure in excess of the required annual amount during any period may be credited to the mineral claim against future expenditure

Figure 4.1: Angilak Property location

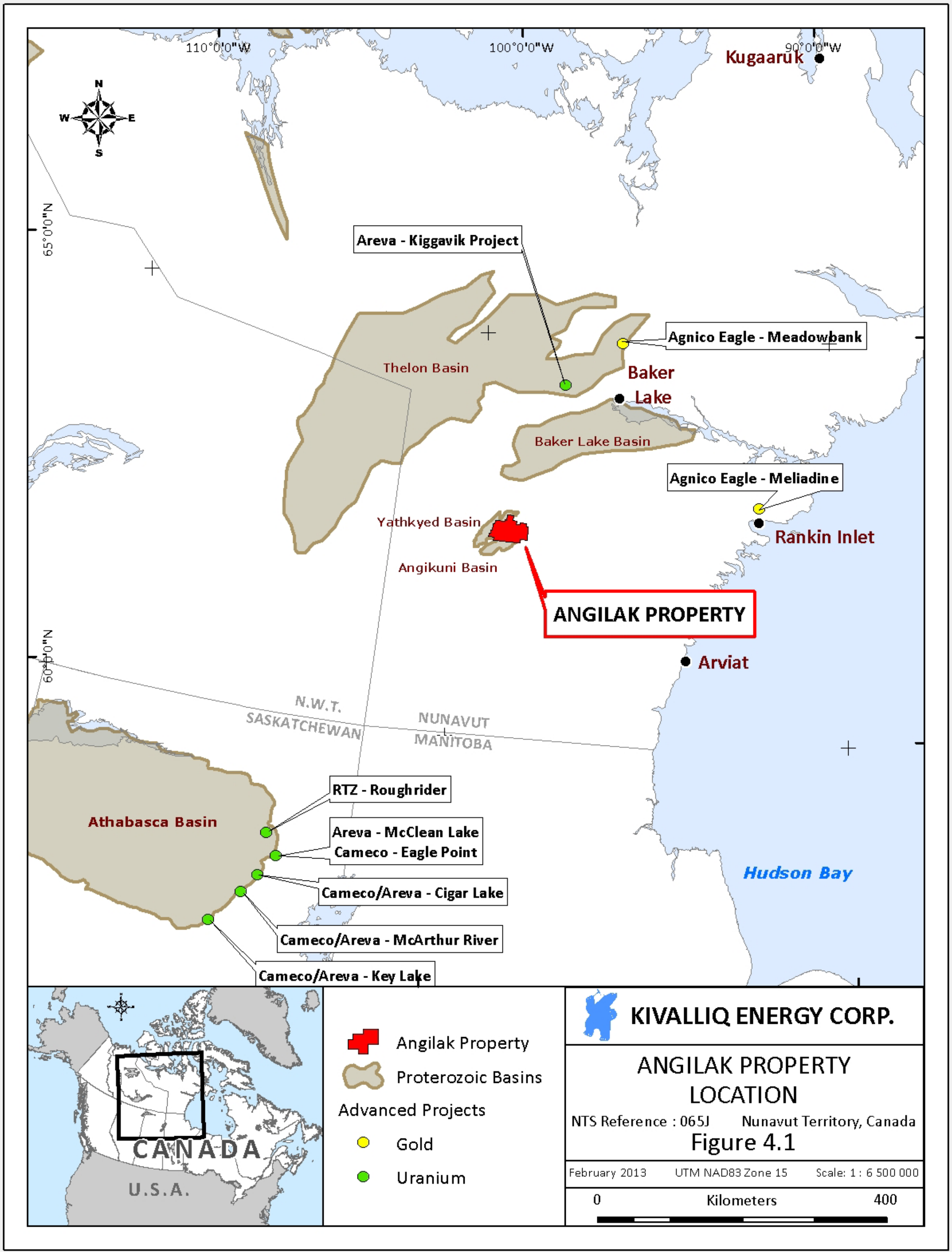


Figure 4.2: Angilak Property land tenure

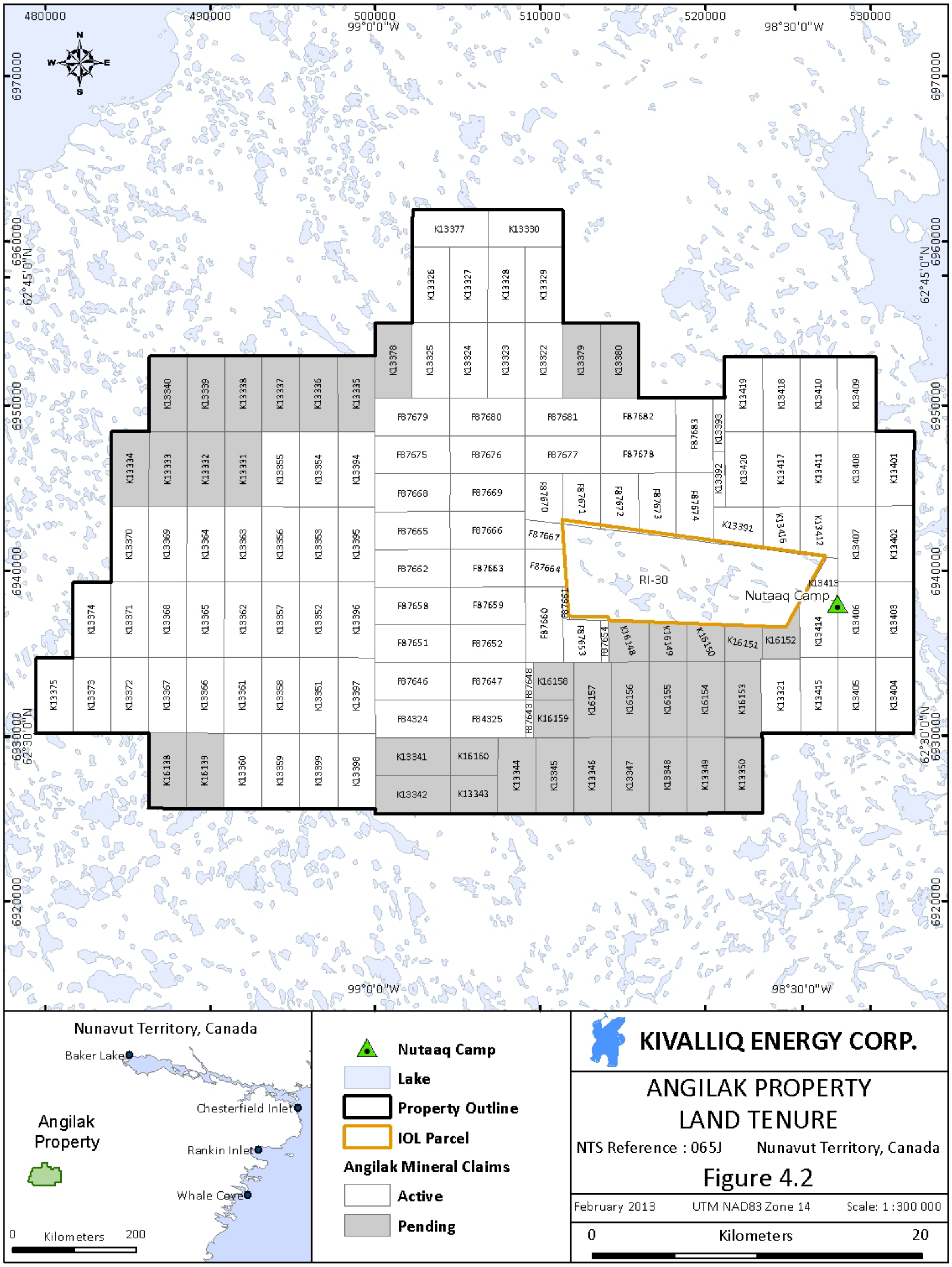


Table 4.1: Angilak Property Land Tenure

Claim Name	Claim No.	Area (acres)	Record Date	Anniversary Date*	NTS Sheet	Status (February 22, 2013)	Owner
DIP 01	K16138	2,582.50	08-Nov-12	08-Nov-14	65 J/06/11	Pending	Kivalliq
DIP 02	K16139	2,582.50	08-Nov-12	08-Nov-14	65 J/06/11	Pending	Kivalliq
KU 01	K16148	1,482.00	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 02	K16149	1,367.00	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 03	K16150	1,308.00	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 04	K16151	1,243.00	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 05	K16152	1,263.00	08-Nov-12	08-Nov-14	65J/09/10	Pending	Kivalliq
KU 06	K16153	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 07	K16154	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 08	K16155	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 09	K16156	2,582.50	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 10	K16157	2,582.50	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 11	K16158	1,361.00	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 12	K16159	1,361.00	08-Nov-12	08-Nov-14	65 J/10	Pending	Kivalliq
KU 13	K16160	1,602.00	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 14	K13343	1,616.00	08-Nov-12	08-Nov-14	65J/07	Pending	Kivalliq
KU 15	K13344	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 16	K13345	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 17	K13346	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 18	K13347	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 19	K13348	2,582.50	08-Nov-12	08-Nov-14	65J/10/07	Pending	Kivalliq
KU 20	K13349	2,582.50	08-Nov-12	08-Nov-14	65J07	Pending	Kivalliq
KU 21	K13350	2,582.50	08-Nov-12	08-Nov-14	65J07	Pending	Kivalliq
KV 01	K13355	2,582.50	26-Oct-09	26-Oct-18	65 J/11	Active	Kivalliq
KV 02	K13354	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 03	K13394	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 04	K13370	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 05	K13369	2,582.50	26-Oct-09	26-Oct-14	65 J/11	Active	Kivalliq
KV 06	K13364	2,582.50	26-Oct-09	26-Oct-12	65 J/11	Active	Kivalliq
KV 07	K13363	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 08	K13356	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 09	K13353	2,582.50	26-Oct-09	26-Oct-17	65 J/11	Active	Kivalliq
KV 10	K13395	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 11	K13374	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 12	K13371	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 13	K13368	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 14	K13365	2,582.50	26-Oct-09	26-Oct-14	65 J/11	Active	Kivalliq
KV 15	K13362	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 16	K13357	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 17	K13352	2,582.50	26-Oct-09	26-Oct-18	65 J/11	Active	Kivalliq
KV 18	K13396	2,582.50	26-Oct-09	26-Oct-19	65 J/11	Active	Kivalliq
KV 19	K13375	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 20	K13373	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 21	K13372	2,582.50	26-Oct-09	26-Oct-15	65 J/11	Active	Kivalliq
KV 22	K13367	2,582.50	26-Oct-09	26-Oct-15	65 J/11	Active	Kivalliq
KV 23	K13366	2,582.50	26-Oct-09	26-Oct-14	65 J/11	Active	Kivalliq
KV 24	K13361	2,582.50	26-Oct-09	26-Oct-16	65 J/11	Active	Kivalliq
KV 25	K13358	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 26	K13351	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 27	K13397	2,582.50	26-Oct-09	26-Oct-13	65 J/11	Active	Kivalliq
KV 28	K13360	2,582.50	26-Oct-09	26-Oct-13	65 J/06/11	Active	Kivalliq
KV 29	K13359	2,582.50	26-Oct-09	26-Oct-16	65 J/06/11	Active	Kivalliq
KV 30	K13399	2,582.50	26-Oct-09	26-Oct-13	65 J/06/11	Active	Kivalliq
KV 31	K13398	2,582.50	26-Oct-09	26-Oct-14	65 J/06/11	Active	Kivalliq
KV 32	K13419	2,582.50	26-Oct-09	26-Oct-13	65 J/10	Active	Kivalliq

Claim Name	Claim No.	Area (acres)	Record Date	Anniversary Date*	NTS Sheet	Status (February 22, 2013)	Owner
KV 33	K13418	2,582.50	26-Oct-09	26-Oct-13	65 J/09/10	Active	Kivalliq
KV 34	K13410	2,582.50	26-Oct-09	26-Oct-15	65 J/09	Active	Kivalliq
KV 35	K13409	2,582.50	26-Oct-09	26-Oct-15	65 J/09	Active	Kivalliq
KV 36	K13393	605.15	26-Oct-09	26-Oct-19	65 J/10	Active	Kivalliq
KV 37	K13392	577.35	26-Oct-09	26-Oct-15	65 J/10	Active	Kivalliq
KV 38	K13420	2,582.50	26-Oct-09	26-Oct-13	65 J/10	Active	Kivalliq
KV 39	K13417	2,582.50	26-Oct-09	26-Oct-13	65 J/09/10	Active	Kivalliq
KV 40	K13411	2,582.50	26-Oct-09	26-Oct-16	65 J/09	Active	Kivalliq
KV 41	K13408	2,582.50	26-Oct-09	26-Oct-13	65 J/09	Active	Kivalliq
KV 42	K13401	2,582.50	26-Oct-09	26-Oct-13	65 J/09	Active	Kivalliq
KV 43	K13391	1,658.18	26-Oct-09	26-Oct-13	65 J/10	Active	Kivalliq
KV 44	K13416	1,468.20	26-Oct-09	26-Oct-13	65 J/09/10	Active	Kivalliq
KV 45	K13412	1,648.07	26-Oct-09	26-Oct-19	65 J/09	Active	Kivalliq
KV 46	K13407	2,582.50	26-Oct-09	26-Oct-14	65 J/09	Active	Kivalliq
KV 47	K13402	2,582.50	26-Oct-09	26-Oct-13	65 J/09	Active	Kivalliq
KV 48	K13413	1,008.35	26-Oct-09	26-Oct-19	65 J/09	Active	Kivalliq
KV 49	K13414	1,918.54	26-Oct-09	26-Oct-19	65 J/09	Active	Kivalliq
KV 50	K13406	2,582.50	26-Oct-09	26-Oct-14	65 J/09	Active	Kivalliq
KV 51	K13403	2,582.50	26-Oct-09	26-Oct-13	65 J/09	Active	Kivalliq
KV 52	K13415	2,582.50	26-Oct-09	26-Oct-15	65 J/09	Active	Kivalliq
KV 53	K13405	2,582.50	26-Oct-09	26-Oct-15	65 J/09	Active	Kivalliq
KV 54	K13404	2,582.50	26-Oct-09	26-Oct-13	65 J/09	Active	Kivalliq
RK 01	K13341	2,582.50	18-May-12	18-May-14	65J/07/10/11	Pending	Kivalliq
RK 02	K13342	2,582.50	18-May-12	18-May-14	65 J06/07	Pending	Kivalliq
TAL 01	K13322	2,567.00	01-Nov-11	01-Nov-13	65 J/10	Active	Kivalliq
TAL 02	K13323	2,544.00	01-Nov-11	01-Nov-13	65 J/10	Active	Kivalliq
TAL 03	K13324	2,567.00	01-Nov-11	01-Nov-13	65 J/10	Active	Kivalliq
TAL 04	K13325	2,567.00	01-Nov-11	01-Nov-13	65 J/10	Active	Kivalliq
TAL 05	K13326	2,563.00	01-Nov-11	01-Nov-13	65 J/10/15	Active	Kivalliq
TAL 06	K13327	2,571.00	01-Nov-11	01-Nov-13	65 J/10/15	Active	Kivalliq
TAL 07	K13328	2,539.00	01-Nov-11	01-Nov-13	65 J/10/15	Active	Kivalliq
TAL 08	K13329	2,567.00	01-Nov-11	01-Nov-13	65 J/10/15	Active	Kivalliq
TAL 09	K13330	2,537.00	01-Nov-11	01-Nov-13	65 J/15	Active	Kivalliq
TAL 10	K13377	2,550.00	01-Nov-11	01-Nov-13	65 J/15	Active	Kivalliq
TAL 11	K13378	2,525.00	18-May-12	18-May-14	65 J10/11	Pending	Kivalliq
TAL 12	K13379	2,582.50	18-May-12	18-May-14	65 J/10	Pending	Kivalliq
TAL 13	K13380	2,582.50	18-May-12	18-May-14	65 J/10	Pending	Kivalliq
VGR 01	K13340	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 02	K13339	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 03	K13338	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 04	K13337	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 05	K13336	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 06	K13335	2,582.50	18-May-12	18-May-14	65 J10/11	Pending	Kivalliq
VGR 07	K13334	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 08	K13333	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 09	K13332	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VGR 10	K13331	2,582.50	18-May-12	18-May-14	65 J11	Pending	Kivalliq
VK 01	K13321	2,572.00	13-Sep-11	13-Sep-13	65 J/10	Active	Kivalliq
YK 01	F84324	2,582.50	07-Mar-07	07-Mar-13	65 J/10	Active	Kivalliq
YK 02	F84325	2,582.50	07-Mar-07	07-Mar-14	65 J/10	Active	Kivalliq
YK 03	F87643	258.7	07-Mar-07	07-Mar-14	65 J/10	Active	Kivalliq
YK 06	F87646	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 07	F87647	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 08	F87648	256.37	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 11	F87651	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 12	F87652	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 13	F87653	1,541.88	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq

Claim Name	Claim No.	Area (acres)	Record Date	Anniversary Date*	NTS Sheet	Status (February 22, 2013)	Owner
YK 14	F87654	308.04	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 18	F87658	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 19	F87659	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 20	F87660	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 21	F87661	122.31	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 22	F87662	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 23	F87663	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 24	F87664	1,372.19	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 25	F87665	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 26	F87666	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 27	F87667	1,011.86	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 28	F87668	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 29	F87669	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 30	F87670	1,556.09	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 31	F87671	1,655.11	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 32	F87672	1,853.16	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 33	F87673	2,037.06	07-Mar-07	07-Mar-15	65 J/10	Active	Kivalliq
YK 34	F87674	2,220.97	07-Mar-07	07-Mar-15	65 J/10	Active	Kivalliq
YK 35	F87675	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 36	F87676	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 37	F87677	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 38	F87678	2,582.50	07-Mar-07	07-Mar-16	65 J/10	Active	Kivalliq
YK 39	F87679	2,582.50	07-Mar-07	07-Mar-15	65 J/10	Active	Kivalliq
YK 40	F87680	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
YK 41	F87681	2,582.50	07-Mar-07	07-Mar-14	65 J/10	Active	Kivalliq
YK 42	F87682	2,582.50	07-Mar-07	07-Mar-15	65 J/10	Active	Kivalliq
YK 43	F87683	2,582.50	07-Mar-07	07-Mar-17	65 J/10	Active	Kivalliq
RI-30	RI-30	18,251.18	01-Apr-07	01-Apr-16	65 J10/11	Active	Kivalliq
TOTAL		**340,268.26**					

*Pending final approval of assessment report filed February 8, 2013

requirements. 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. 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. The holder of the mining lease is required to pay to the government an annual rent of $1.00 per acre per year for the initial 21 year term and $2.00 per acre per year for each subsequent term. Mining of any mineral product may only be conducted on a mining lease. The NWT and NT Mining Regulations employ a sliding royalty scheme that ranges from 0 to 13% 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 Profit Royalty”. At a net profit of $5 million the payable royalty is 5%, and at a net profit of $40 million the payable royalty reaches the maximum of 13% (NWT and NT Mining Regulations, C.R.C., c.1516).

Physical work within the mineral claims, other than indirect (airborne) surveys, requires a number of permits and approvals. The vast majority of the lands held as mineral claims are subject to land use rules administered by the AANDC on behalf of the Federal Government. The 1993 Nunavut Land Claims Agreement gave Inuit title to 356,000 km^2 of land. Inuit Owned Lands comprise a number of 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, Kivalliq must obtain and hold land use licenses issued by the 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 an agreement in place with Kivalliq (Dufresne, 2008).

Local Inuit communities such as Arviat and Baker Lake have to be notified and consulted. Water use activities (i.e. a camp or drilling) within Nunavut require a Water License to be granted by the Nunavut Water Board (Article 12 of Nunavut Land Claims Agreement) whether for mineral claims administered by AANDC or on Inuit Surface Title Lands administered by the KIA. To establish an exploration camp on Crown Lands in Nunavut requires a land use permit issued by AANDC. All IOL land use licences, water licenses and AANDC land use applications are screened by the Nunavut Impact Review Board (NIRB) under Article 13 of Nunavut Land Claim Agreement. NIRB screens project proposals to determine whether they may have significantly adverse environmental and socioeconomic impact potential.

All the appropriate work permits from the KIA and the Nunavut Water Board have been issued to Kivalliq. During the field visits the authors did not observe nor are they aware of any environmental issues associated with the Property. Kivalliq has a policy of progressive reclamation. As work is completed at one site, the area is cleaned and reclaimed shortly after the move to the next site. As well, Kivalliq conducts environmental baseline monitoring to spot any contamination issues related to drilling, storage of fuel and their camp. No issues have been identified to date.

5.0 ACCESSIBILITY, LOCAL RESOURCES, INFRASTRUCTURE, CLIMATE AND PHYSIOGRAPHY

5.1 Introduction

The closest community to the Angilak Property is the hamlet of Baker Lake, NT located 225 km to the north-northeast. Rankin Inlet, NT is located 325 km to the east and Yellowknife, NWT is located 820 km to the west of the project area. Baker Lake has daily commercial flights to and from Winnipeg, MB and commercial flights to and from Yellowknife three times weekly depending upon winter or summer schedules. Rankin Inlet and Arviat have daily commercial flights to and from Winnipeg, MB. Yellowknife is serviced daily by commercial airline flights to major centers in the south and hosts a well-developed infrastructure of mineral exploration related companies including fixed wing and helicopter charter companies and expeditors.

The Angilak Property occurs in the "Barren lands," a large region of almost flat, tree-less tundra characterized by poor exposure (1 to 10%) and extensive swampy areas with abundant small, shallow lakes so access is reliant on helicopters, although locally tundra wheeled and float planes can be employed. Access to the property is regularly via wheel or ski equipped light fixed wing aircraft from Rankin Inlet, Baker Lake or Arviat. Access to exploration sites is from the Nutaaq Camp Lake and a 250 m long esker airstrip located 7.5 km east of Lac Cinquante.

5.2 Short-Term Access 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 to October. Local access to and around the Project site is by either helicopter, float plane or wheeled fixed wing aircraft such as a Twin Otter or Single Otter. Due to the commercial-grade airport and the relative 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 Twin Otter or Single Otter available in Baker Lake or Rankin Inlet.

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. There is a deep water port in Churchill, MB that is connected to railway facilities. Commercial barge services from the railhead in Churchill and from the port of Montreal, QC provide bulk cargo transportation to all coastal communities including Baker Lake, Rankin Inlet and Arviat during the summer months. There is an existing proposal by the Nunavut Government to construct an all season road connecting Churchill to Arviat and Rankin Inlet. However, such infrastructure is likely many years off.

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 from 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 visits the camp and drill sites, drill cuttings storage sites, fuel storage sited have been observed to be clean, properly bermed where required and in general in an orderly state

5.3 Long-Term Access and Infrastructure

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 sea ice of Rankin Inlet does not permit regular shipping although with improved ice breaking technology and further global warming it is possible that future regular shipping to Rankin Inlet could occur.

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. Nunavut Connections, a recently formed joint venture between Inuit stakeholders and OmniTRAX Canada, the owner of the private railway at Churchill is seeking to improve shipping and resupply throughout Nunavut including Baker Lake, Rankin Inlet and Arviat.

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. The gravel airstrip at Baker Lake is roughly 1,279 m in length and is regularly serviced by commercial airlines including First Air, Calm Air and Kivalliq Air.

5.4 Climate and Physiography

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°C to -35°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 end of September. Therefore, majority of the year is usually covered with snow, except between June to 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.

The Property occurs in the "Barren lands," a large region of almost flat, tree-less tundra characterized by poor bedrock exposure and extensive swampy areas with abundant small, shallow lakes. Elevation of 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 area.

6.0 HISTORY

6.1 Introduction

Previous exploration by other companies in the area is summarized below and highlights the most relevant historic exploration, organized by company and year. Report numbers refer to numbers given to each report by AANDC. The bulk of the historic 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 historic 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 Cinquante Uranium Deposit was discovered by Pan, but there is very little documentation or data that exists and is publicly available for the historic work completed on the deposit. Previous exploration by other companies in the region is covered in detail in Setterfield (2007), Dufresne (2008) and Dufresne and Sim (2011).

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

Exploration for uranium ceased abruptly at Lac Cinquante 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.

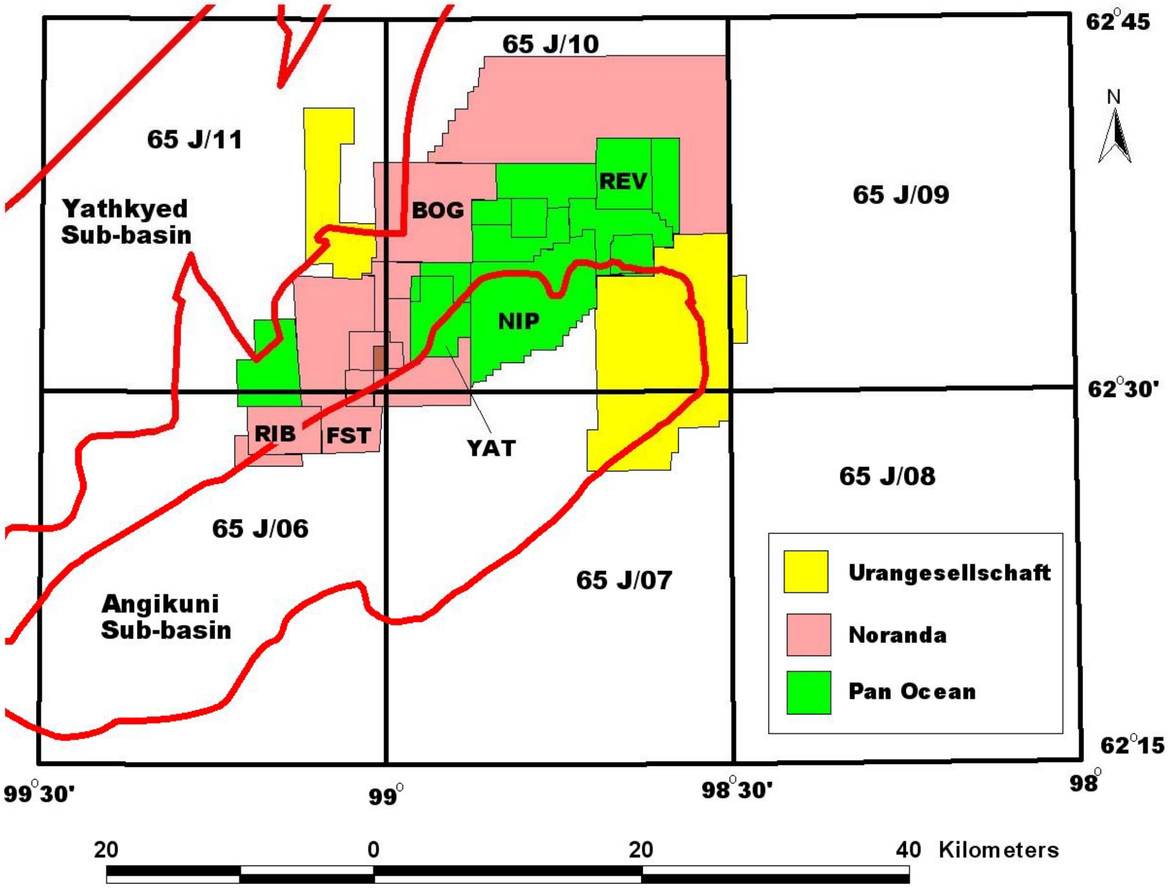


Figure 6.1: Historic Land Tenure, late 1970's

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 square kilometres (km^2) of subsurface land parcels of Inuit Owned Land, including IOL Parcel RI-30, which is situated over the historic Lac Cinquante 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 signed a landmark uranium partnership to explore IOL parcel RI-30 and Kaminak's surrounding federal mineral claims (Dufresne, 2008). This led to the creation of Kivalliq 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 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 historic work, including verifying historic trench and drilling locations during 2007 (Setterfield, 2007). APEX personnel 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 at a number of historic showings in 2007 (Dufresne, 2008).

Table 6.1: Summary of Previous Work

Company	Years	Type of Work Conducted	AANDC 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

Although the work completed by Kaminak and APEX personnel during 2007 was reconnaissance in nature it confirmed and demonstrated the potential for a number of styles of uranium related mineralization that could be related not only to unconformity and vein-type uranium models but also to the potentially highly attractive IOCG style of mineralization. Rock grab samples collected by Kaminak and APEX 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 Cinquante Deposit area as well, where several outcrops were noted to yield significant radioactive readings.

6.2 Historic Drilling

Documentation of drilling done by Pan Ocean (later Aberford Resources) in the late 1970's and early 1980's at the Lac Cinquante Deposit area is not available in government assessment reports. From Miller *et al.* (1986) it is evident that a number of historic high grade uranium drill intersections were obtained over very narrow widths at the Lac Cinquante area. The historic drilling is summarized in Setterfield (2007), Dufresne (2008) and Dufresne and Sim (2011).

During the 2008, 2009 and 2010 field seasons, Kivalliq and APEX personnel re-logged and re-sampled 147 historic drill holes from the Lac Cinquante area. Highlights from the re-sampling work are summarized in Dufresne and Sim (2011). Though there is an extensive collection of historic Lac Cinquante 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 collar locations and orientations for the historic drill holes. Thus, the information gathered through the re-logging was used only to guide Kivalliq drilling and could not be utilized in the drill hole database for any resource modeling. Drilling at the Lac Cinquante Deposit by Kivalliq from 2009 to 2012 has superseded all of the historic drilling conducted by Pan Ocean (Dufresne and Sim, 2011; Dufresne *et al*., 2012).

6.3 Historic Mineral Resource

Pan Ocean (later Aberford Resources) conducted extensive drilling in the late 1970's and early 1980's at Lac Cinquante on IOL Parcel RI-30, as evidenced by reporting and figures provided by Miller *et al.* (1986). The long section of the Lac Cinquante Uranium Deposit provided by Miller *et al.* (1986) shows at least 58 drill holes 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 Cinquante deposit which 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 Cinquante.

The Lac Cinquante resource estimate provided by Aberford and Miller *et al.* (1986) is considered historic in nature and due to the paucity of available detailed data and technical information (in particular for drilling) does not comply with any of the resource categories set out in National Instrument 43-101 and the "CIM Definition Standards on Mineral Resources and Ore Reserves" dated, November 27, 2010. The resource quoted above is historic in nature and is superseded by the Mineral Resource Estimates provided in Dufresne and Sim (2011), Dufresne *et al*. (2012) and updated in section 14 herein.

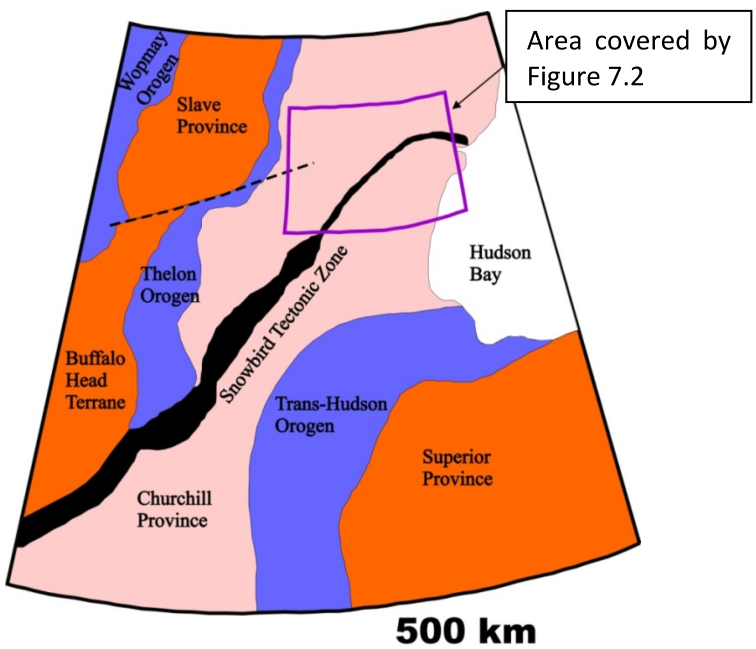
7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Angilak Property occurs within the Western 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*. 2000a, 2000b). While the Hearne Domain is composed mainly of late Archean juvenile tholeiitic greenstone belts with associated plutonic and sedimentary rocks (Sandeman *et al*., 2004a, 2004b). No in situ Mesoarchean crust has yet been identified in the Hearne Domain (MacLachlan *et al*., 2005), but inherited zircons (Loveridge *et al*., 1988) and Nd isotopic signatures (Aspler *et al*., 1999; Sandeman *et al*., 1999) indicate at least some involvement of Mesoarchean crust in the vicinity of the Snowbird Tectonic Zone.

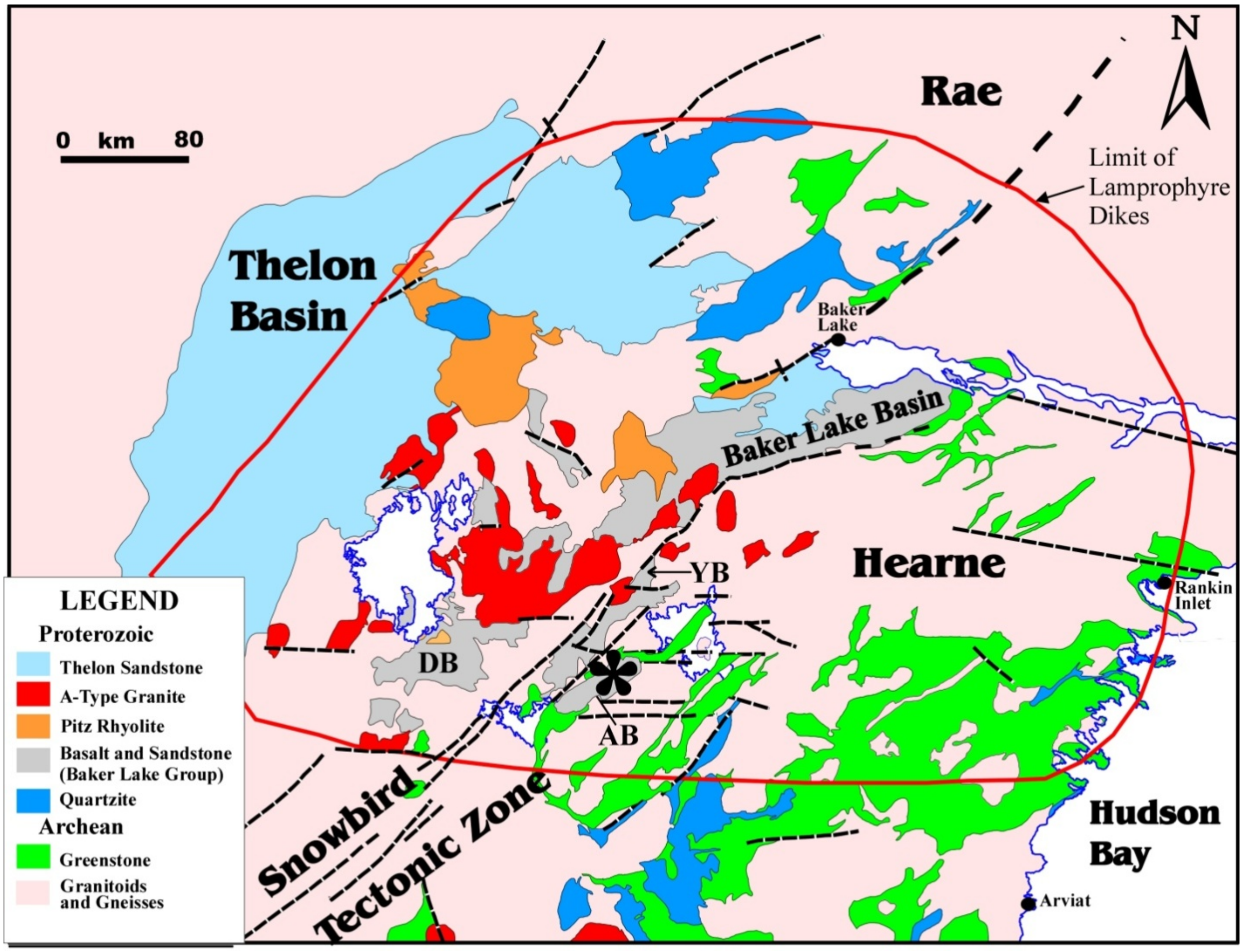
Figure 7.1: Simplified Tectonic Setting of the Slave, Churchill and Superior Provinces



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

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; Sanborn-Barrie *et al*., 2001; Baldwin *et al*., 2003). Various researchers have suggested that the Snowbird Zone is representative of an Archean intracontinental fault structure (Lewry & Collerson, 1990; Hanmer *et al*., 1994a, 1994b) while others maintain that it is a Proterozoic collisional suture (Hoffman, 1988; Ross *et al*., 1995). 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 Orogenies. 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.

Figure 7.2: Geology of the Thelon/Baker Lake Area



*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

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 (Ashton *et al*., 2009; 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.

Table 7.1: Sequence and timing of regional geology events and lithologies

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

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 syentic 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.

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 dikes, 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 dikes 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 dikes southeast of Baker Lake and have been reported from an interpreted diatreme near Dubawnt Lake.

7.2 Local Geology

The Lac Cinquante 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-metaandesite (Figures 7.3 and 7.4).

Prospecting and mapping performed by Bridge *et al.* (2010) in the area of the Lac Cinquante 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 recent geological mapping by Kivalliq 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 Kivalliq, APEX and Taiga personnel. Mapping by Kivalliq personnel took place during the summer field seasons of 2010 to 2012, and expanded on initial work performed by GeoVector and APEX 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).

Figure 7.3: Geology of the Angilak Property (modified after Stacey and Barker, 2013)

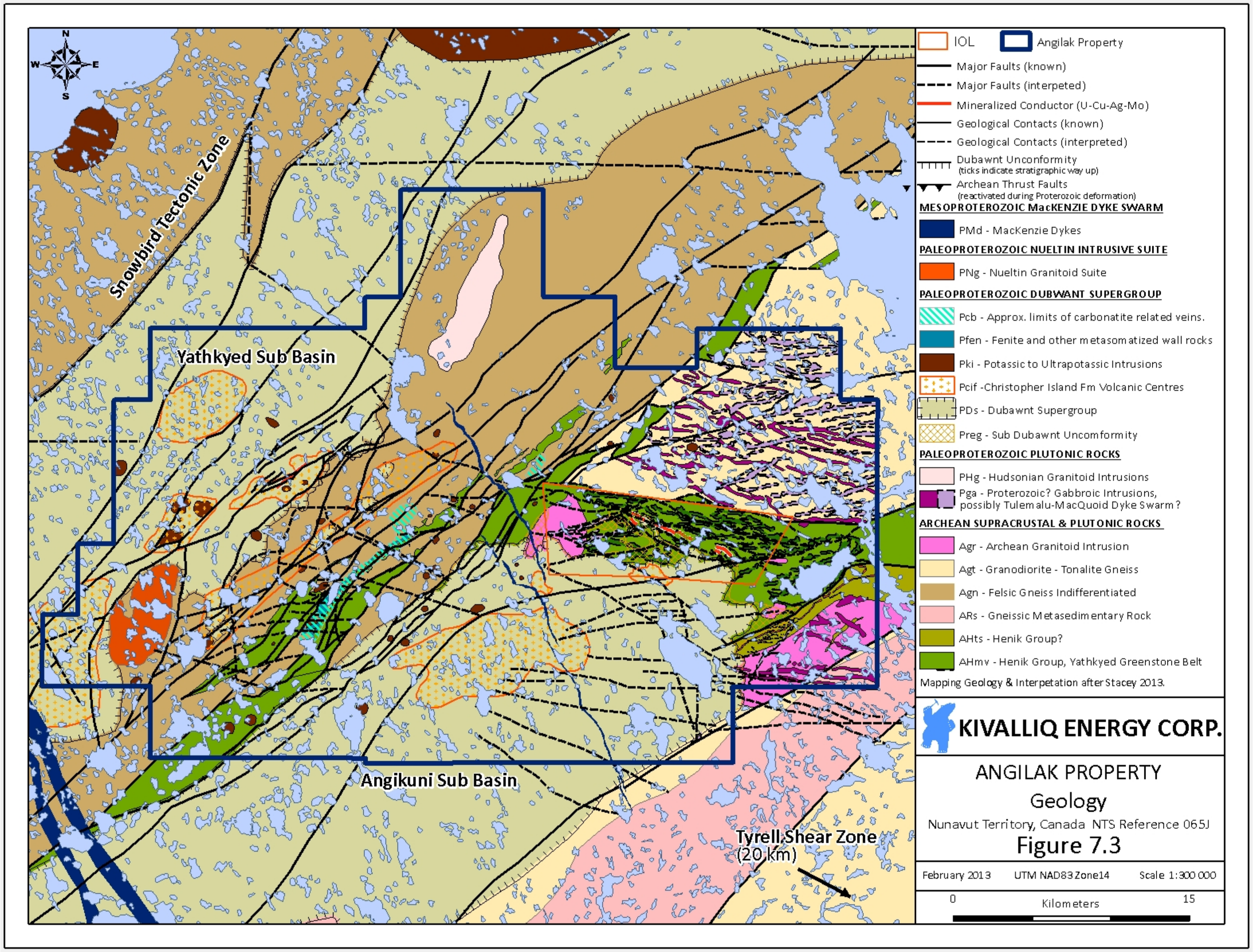


Figure 7.4: Geology of the Lac 50 Trend

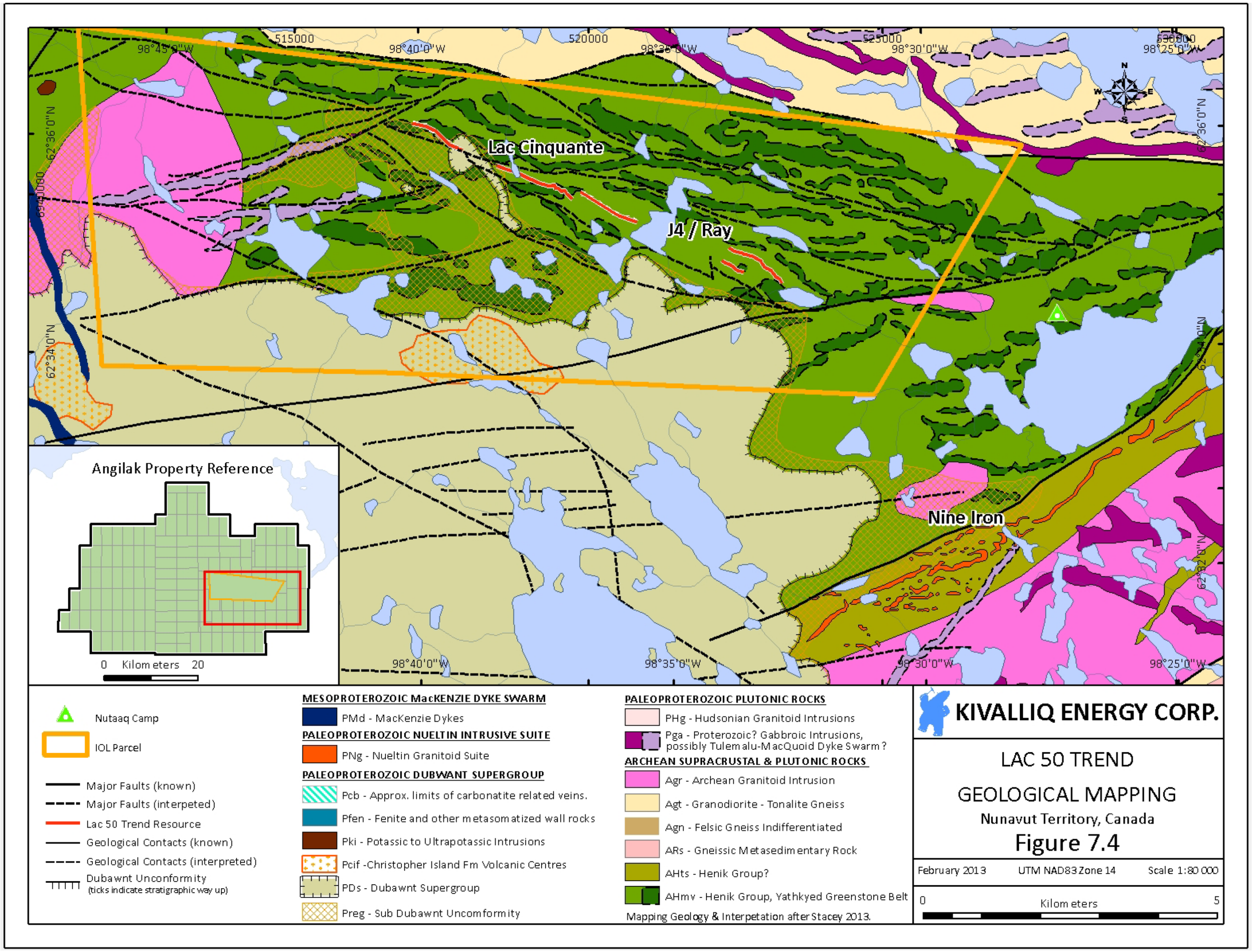
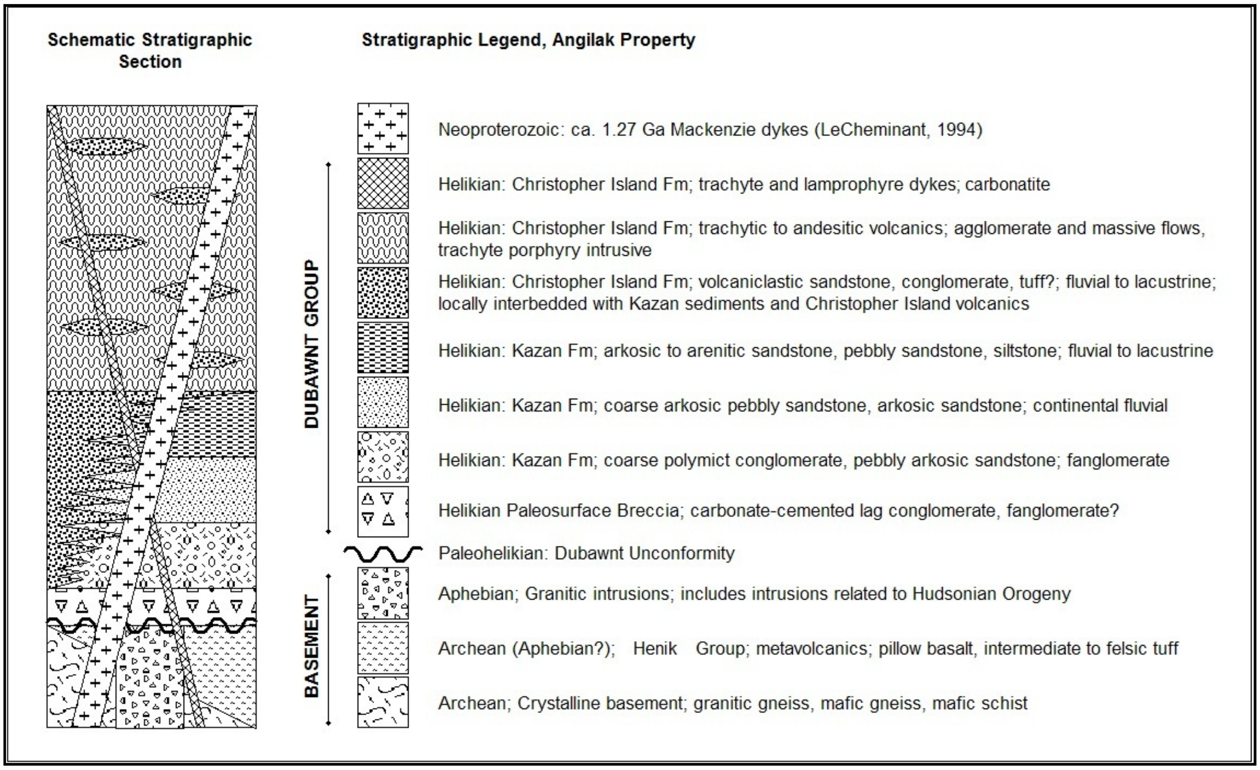


Figure 7.5: Generalized schematic stratigraphic section for the Angilak Property



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.

Stacey and Barker (2013) based on evidence from field relationships, new geological mapping and geophysical surveys, have defined three structural domains within the boundaries of the Angilak property (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 the geological map in 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 Kivalliq personnel). In contrast to the western part of the property, this structural domain trends ESE 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 SW- and ESE-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 NE-trending thrust slice which was rotated around to an ESE 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 airphoto 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

E-W 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 Cinquante, 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, U seems to be contained in narrow NE-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).

7.3 Angilak Property Lithologies

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).

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 7.5). 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 meters thick, while tuff layers rarely exceed ten meters 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.

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.

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 paleoweathered 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.

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 underlain completely by volcanic rocks of the Christopher Island Formation (CIF), more detailed mapping by Miller (1993), Kivalliq 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.

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 meters and several tens of meters 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.

Kazan Formation (KF)

In the Kazan Formation (KF), coarse conglomeratic layers disappear and the 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.

Christopher Island Formation (CIF)

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 meters 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-sulfide 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.

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.

7.4 Mineralization

The Lac Cinquante deposit is located in the Angikuni sub-basin of the Baker Lake basin and consists of an unconformity bounded succession of sedimentary strata and volcanic successions from the Baker Lake Group (Figures 7.3 and 7.5). 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 redbeds 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, and 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. Recent 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 disussed in detail in Setterfield (2007), Dufresne (2008) and Dufresne and Sim (2011).

The Lac Cinquante 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 Cinquante 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 Cinquante 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 Cinquante Deposit and proximal showings can be divided into four types: (i) disseminated pitchblende with base metals in intensely fractured carbonaceous-sulphide-chert exhalite and adjacent tuffaceous metasediments; (ii) carbonate + pitchblende + hematite ± chlorite breccias, in which pitchblende aggregates on clast and breccia margins; (iii) discrete pitchblende veins that cut across exhalite tuff metasediments and; (iv) 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 millimeters to up to a meter across, and can be almost barren to hosting several percent U_3O_8. Some of the largest gash veins can be correlated between drill holes on the same drill hole fence, but the majority cannot.

The elemental signature of the Lac Cinquante Deposit is U+Ag+Mo+Cu+Pb+Zn. The mineralization is accompanied complex alteration involving hematization, chloritization, carbonitization, 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 Cinquante 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 Cinquante uranium mineralization at 1,828 ± 30 Ma with slight resetting at 1,437 ± 31 Ma.

8.0 DEPOSIT TYPES

The following 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 Kivalliq, APEX and 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 Cinquante mineral resources 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 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 RI-30 in a paper published in 1986, including the Lac Cinquante Uranium Deposit (Miller *at al.*, 1986). Similarities between the classic Beaverlodge occurrences and Lac Cinquante include: i) narrow, pod-like uranium shoots hosted in discrete fault zones, ii) age of host rocks and hydrothermal alteration assemblages, and iii) grade and distribution of uranium minerals. The overall characteristics of the Lac Cinquante Uranium Deposit appear similar to the Beaverlodge examples, however, when considered in a regional context the Lac Cinquante 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 RI-30 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 RI-30 and Archean basement rocks north and east of IOL Parcel RI-30. 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 Cinquante Uranium Deposit, probably relates to this model. However many of the showings, particularly within the basin, have significant amounts of Cu and Ag, and Miller (1993) has 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 Cinquante Trend deposits, referred to as the Nine Iron Trend and formerly known as the "BIF Zone" (Kivalliq Energy Corp News Release January 12, 2012). Unlike the Volcanic

Block, the package of mafic igneous rocks hosting the Lac Cinquante 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; Kivalliq Energy Corp News Release January 12, 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).

The geological potential for the BIF/unconformity-related uranium mineralization is high, and is considered a high priority follow up target for 2013 drilling.

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 (Gold *et al*. 1966; Heinrich, 1966; Verwoord, 1986; Bell, 1989; Hoover, 1992). 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 sulfide 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 sulfides 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 kilometers 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

Within the past decade 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 Kuggarruk and Repulse Bay. 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 kilometers southwest of the project area which were targeted for kimberlite. They reported finding a "weathered kimberlite" which has since been determined to be a lamproite, however, no diamonds were reported. Most recently BHP Billiton Ltd. obtained prospecting permits in the Yathkyed area and although no information on the results is currently available, they presumably found no kimberlite since they 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 Ltd, 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.

9.0 SURFACE EXPLORATION

9.1 Kivalliq Surface Exploration 2008 to 2011

Surface exploration at the Angilak Property by Kivalliq has been ongoing since 2008, and has included airborne geophysics, ground geophysics, geological mapping, sampling, prospecting and drilling. The details of the exploration carried out from 2008 to 2011 is covered by Aeroquest International (2008), Stacey (2010), Dufresne and Sim (2011), Dufresne *et al*. (2012), Stacey and Barker (2012).

The first modern day airborne geophysical survey completed on the Angilak property was conducted in May 2008, and was a combined magnetic, electromagnetic (EM) and radiometric AeroTEM III survey that totaled 5,620 line kilometers (ln-km) of surveying (Aeroquest International, 2008). Subsequently in 2008, ground geophysics was conducted on 6 grids, including one or more of magnetic (MAG), radiometric and very low frequency electromagnetic (VLF-EM) surveys. Orientation surveys were also conducted over the Lac Cinquante Deposit to confirm its geophysical signature and to determine the best techniques for surveying at the Angilak Property. Magnetic and VLF-EM methods were identified as the best techniques. Aurora Geosciences Ltd. (Aurora) conducted the ground geophysics surveys.

Field work in 2008 was conducted by Kivalliq, GeoVector and APEX personnel with over 100 man-days of work. The focus of the field program was to confirm the presence of and retrieve information for a large number of historic surface showings, grids, geophysical anomalies and drill holes as it had been more than 25 years since any significant exploration had been conducted for uranium on the property. A total of 130 rock grab and core samples were collected, and the collars for 123 historic drill holes were identified and recovered during 2008 (Dufresne and Sim, 2011).

Field work in 2009 was restricted to grid establishment and ground geophysical surveys in preparation for the summer drilling program. Ground geophysics, including 631.2 ln-km of magnetic and VLF-EM surveying, was conducted in April and May 2009 by Aurora Geosciences (Dufresne and Sim, 2011). The surveys resulted in the identification of a 9 km long trend of parallel VLF-EM conductors that are clearly associated with the Lac Cinquante Uranium Deposit. Several similar and parallel conductors to Lac Cinquante have yielded other surface anomalies and uranium discoveries.

During 2010, a 4-person prospecting program conducted by Taiga on behalf of Kivalliq from July through to September resulted in the collection of 290 grab samples from bedrock and glacial float, with many of the samples yielding anomalous results for U, Au, Ag, Cu, Mo and Zn. Over 38 showings were sampled, and while the majority of these showings had been identified in historic exploration, several new showings were discovered. A total of 51 of the samples collected during the 2010 program yielded greater than 1% U_3O_8 with 17 samples yielding greater than 5% U_3O_8 up to as high as 47.8% U_3O_8 along with significant quantities of Au, Ag, Cu and Mo. A total of 17 showings examined were considered significant and recommended for follow-up exploration (Stacey, 2010; Dufresne and Sim, 2011).

Exploration work in 2011 consisted of a 5,471 line-km DIGHEM helicopter borne magnetic, frequency domain EM and radiometric survey over the Angilak Property conducted by Fugro Airborne Surveys from August 5 to August 29, 2011. The 2011 airborne survey was successful at imaging the major conductive trends on the property, but the more subtle conductors such as the VLF-EM conductor associated with the Lac Cinquante Deposit was not immediately evident in the data (Dufresne *et al*., 2012).

Ground geophysical surveying was conducted by two different companies in 2011, MEG Systems Ltd. (MEG) and Aurora. MEG conducted a two phase gravity surveying program between April and May and then again between August and September, 2011. 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 "bulls-eye" gravity low at VGR proved that the anomaly was caused by clay alteration of bedrock. Test surveys over the basement greenstone-hosted conductors were largely inconclusive due to a lack of density contrast between the conductors and their host rocks, though a weak positive gravity anomaly is associated with the massive sulfide layer at Lac Cinquante (Dufresne *et al*., 2012).

Aurora conducted magnetic and VLF-EM surveys concurrently over a number of target areas during 2011. A total of 1,597.5 ln-km of MAG/VLF-EM data were acquired during two periods at 24 separate target areas between April and May and between July and August, 2011. 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).

A helicopter-supported prospecting and sampling program was conducted over 12 weeks beginning in July and ending in September 2011 (Stacey and Barker, 2012). The goals of the program were to search for new mineral occurrences, to examine in detail the areas of interest identified from the 2010 prospecting and geophysical surveys, and attempt to identify geological and mineralization trends to improve target generation for future work. The work was conducted by personnel from Taiga, Kivalliq and APEX (Stacey and Barker, 2012). More than 26 target areas were examined resulting in collection of 273 rock grab samples and 348 soil geochemical samples. Three soil sample grids were included to cover areas of interest located in the 2010 prospecting program. A total of 10% of the samples (27 samples) returned assays in excess of 1% U_3O_8, with many yielding significant concentrations of Ag, Cu, Mo, Pb and Zn. The prospecting and rock sampling resulted in the discovery of two new significant showings on the Angilak Property, the BIF zone (now known as the Nine Iron trend area) and the AG showing (Dufresne *et al*., 2012; Stacey and Barker, 2012).

9.2 Kivalliq Surface Exploration 2012

Exploration work in 2012 included numerous ground geophysical surveys, prospecting, mapping and sampling along with environmental baseline monitoring (Stacey and Barker, 2013). In addition to surface exploration in 2012, a total of 33,583 m of diamond drilling in 173 holes was completed from March 18 to September 15, 2012. A reverse circulation (RC) drilling program was also conducted totaling 5,273 m in 38 RC holes between May 4 and August 30, 2012. The results of the drilling programs are discussed below in Section 10.

Six different types of ground geophysical surveys were conducted by four different companies between April 30 and September 7, 2012: MEG performed gravity surveys; Aurora completed capacitively coupled resistivity (OhmMapper), magnetics and VLF-EM surveys; Frontier Geosciences Inc. (Frontier) carried out a seismic reflection survey; Kivalliq personnel conducted multi-channel radiometric surveys.

An 8-week helicopter-supported prospecting and geological mapping program was conducted between June 15 and September 17, 2012. A 3-week follow-up program was completed in October 2012 to stake a number of mineral claims and further examine areas of interest identified during the 2012 field season. The goals of the 2012 prospecting and mapping program were to examine in detail the areas of interest identified during 2010 – 2011 prospecting seasons, 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. The work was carried out by personnel from Taiga and Discovery Consultants (Stacey and Barker, 2013). A total of 95 rock grab samples were collected.

9.3 2012 Condor Geophysical Review and Interpretation

Condor Consulting Inc. (Condor) was commissioned to carry out a review and interpretation of all of the Kivalliq geophysical data collected since 2008; this review was strategically completed in May – June of 2012, prior to further ground geophysical work planned for the 2012 season. The analysis included: 1) reprocessing and reinterpretation of the two (AeroTEM IV time domain and DIGHEM frequency domain) airborne surveys, with particular emphasis on delineating more subtle conductive targets, similar to the Lac Cinquante Deposit; 2) reconciliation of the airborne EM and ground VLF, to compare responses over known mineralization at Lac Cinquante; and 3) generation of new targets, with potential for uranium and other types of mineralization.

It is worthwhile to note that the Lac Cinquante uranium deposit is a vein-type deposit that is structurally controlled and spatially associated with a weak to moderate VLF conductor, which is interpreted to be caused by graphite-chlorite and sulphides hosted in a faulted and sheared metasedimentary zone that hosts the uranium mineralization within a predominantly volcanic package of rocks. Lac Cinquante does not have any clear magnetic response. Parts of the three zones (West, Main and East) correlate with weak magnetic trends but other trends transect the deposit areas. In general, the magnetic trends appear to bear little relationship to the VLF trends.

Condor indicates that the quality of the AeroTEM IV data appears to be mediocre; the quality of the DIGHEM data appears to be reasonably good (Condor, 2012). Aeroquest carried out a conductor picking exercise of the AeroTEM IV data resulting in the identification of 36 strong, well-defined conductors. Subsequently, Condor carried out a complete re-analysis of the data and picked an additional 8 conductors classified as medium (likely discrete bedrock conductors) and an additional 257 weak conductors (possible bedrock conductors but likely edges of conductive surficial cover).

The reconciliation of airborne EM to ground VLF over known mineralization at Lac Cinquante allowed other similar or stronger VLF anomalies identified elsewhere to be analyzed within the Volcanic Block. Most VLF anomalies seem to correlate with small lakes or patches of conductive overburden, or at edges of wider lakes and valleys. The DIGHEM profiles provide a very useful means of screening the VLF conductors to determine if they are likely to be caused by steeply-dipping bedrock conductors (ie. faults). The DIGHEM responses can be very subtle, but when directly correlated with VLF conductors, they have the potential to be definitive.

Based upon a re-analysis of the DIGHEM data, Condor picked 64 new target zones of potentially steep-dipping bedrock conductors, with or without correlating magnetic responses (Condor, 2012). Most of the target zones (about 30 of 64) are located within the Volcanic Block of the Angilak Property. Many of the targets were reviewed by J. Stacey of Taiga in order to correlate targets with known surface geological features; however, only a handful of the picked Condor targets are associated with significant surface exposure and other potential indicators of mineralization such as known fault zones, contacts such as unconformity surfaces or intrusive bodies, or massive sulphide occurrences and warrant immediate follow-up exploration.

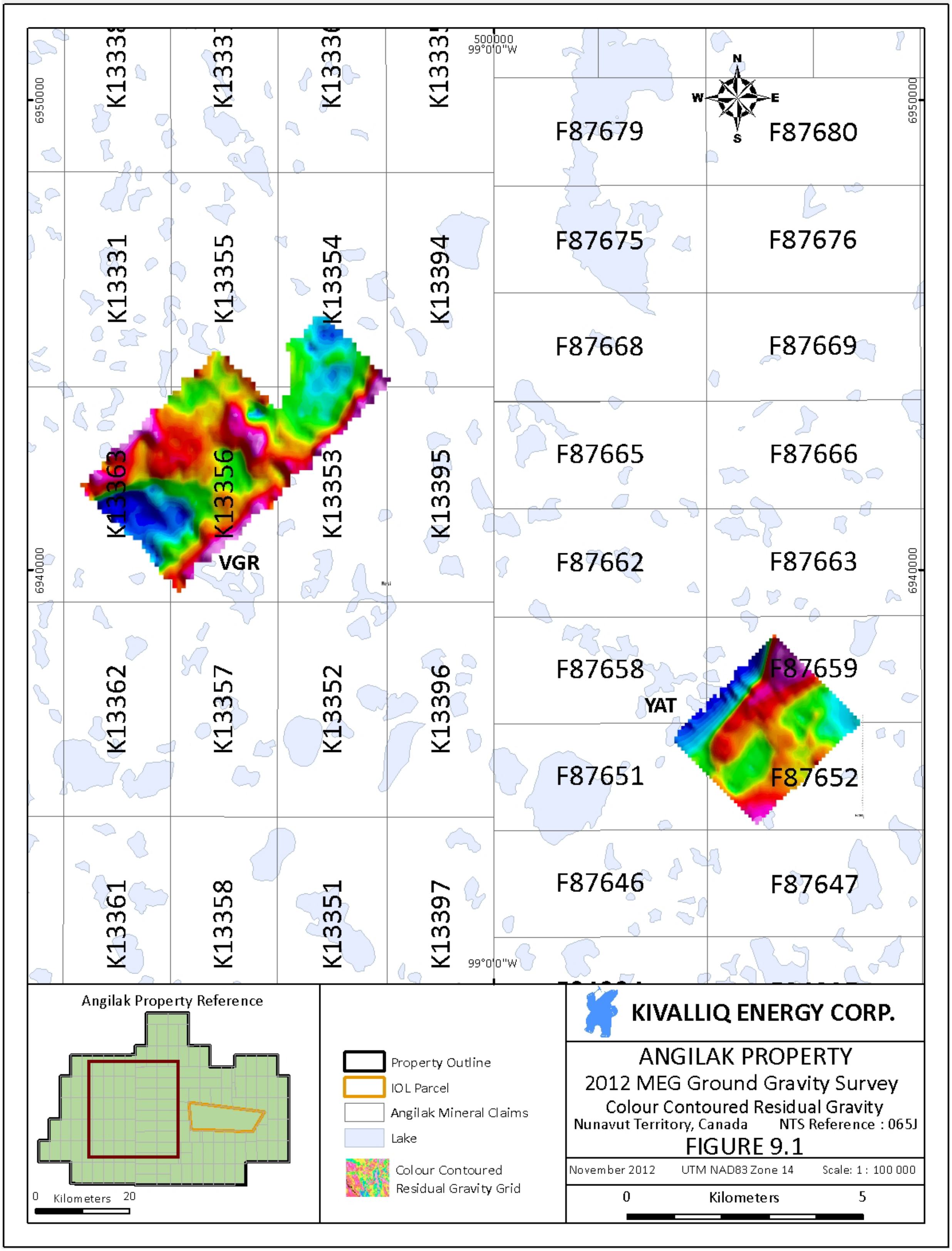
9.4 2012 Ground Geophysical Surveys

Six different types of ground based geophysical surveys were conducted during the 2012 exploration season by four companies. Two phases of gravity surveys were completed totaling 2,556 gravity stations over two grids; the gravity method was employed in order to test the detection of anomalies due to density variations of rock types that contain uranium mineralization, clay alteration or fault zones. Magnetics, VLF-EM and resistivity (OhmMapper) surveys conducted during the exploration program totaled 309 ln-km; the purpose of these surveys were to supplement previous work and better define subsurface conductors and magnetic bodies at priority target areas. Ground radiometric surveys totaled 196 ln-km and were conducted over eight targeted areas in order to test the potential to identify subtly elevated background radioactivity. A 2.0 kilometre shot gun seismic reflection line was shot as a test of the capacity of the method to evaluate acquisition parameters, determine the depth to the unconformity and to detect possible high density uranium deposits.

MEG Systems Ltd: Gravity Surveys

The gravity surveys were carried out over two phases from April 30 to June 4 and from July 30 to August 23, 2012 by MEG Systems Ltd. of Calgary, Alberta (MEG Systems Ltd., 2012). A total of 2,556 stations were acquired generally at 100 m intervals with a line spacing of 100 m, though in key areas station spacing was increased to 50 m for greater resolution of anomalies. In total, 258.5 ln-km of gravity data was collected in the two key areas of VGR and YAT target areas (Figure 9.1). Gravity control was achieved by establishing a permanent gravity and GPS base near camp on a rock outcrop. A LaCoste-Romberg gravity meter (G-239) was used for the gravity surveys and has a reading resolution of 0.01

Figure 9.1: Gravity surveys at VGR and YAT areas (red to purple is high; blue is low)



milliGals (mGal); however, low soft ground and changing weather conditions limited accuracy in some cases to 0.03 mGal. The results of the ground gravity surveys are discussed in detail in the Angilak Gravity Survey report prepared by MEG (MEG Systems Ltd., 2012).

The grids were designed to continue and extend a ground gravity survey started in 2011. Gravity lows may indicate extensive subsurface clay alteration, which may be the result of large alteration halos produced by hydrothermal systems associated with unconformity related or structurally hosted uranium deposits. Gravity surveys have been utilized in other major uranium regions of the world with some success, particularly in areas where unconformity related deposits are potentially present.

The ground gravity surveys were much smaller in area than the ground magnetic and VLF-EM surveys (discussed below) and targeted specific conductors or conductive trends associated with surface uranium mineralization. Three grids, between 1,250 x 550 m and 3,000 x 2,800 m in size, were completed over the VGR and YAT areas to test for gravity lows associated with clay alteration in a sandstone host (Figure 9.1; MEG Systems, 2012).

Weak to moderate gravity lows were observed at the VGR, and YAT target areas (Figure 9.1). The VGR grid indicates potential for unconformity related clay alteration and uranium mineralization. Follow-up RC drilling on the "bulls-eye" gravity lows at VGR confirmed that the anomaly is caused by weak to moderate carbonate and clay alteration of bleached sandstones (Stacey and Barker, 2013). The anomalies are located along a major conductive fault zone, an association that is consistent with the alteration model for unconformity-style uranium and deserves further work.

The YAT grid, yielded weak gravity anomalies associated with a conductive fault zone, which may indicate clay alteration (Figure 9.1). Gravity anomalies identified in 2011 – 2012 do not underlie surface mineralization at the YAT and IM-76 showings (Figure 9.1); however, the broad weak gravity anomalies are spatially associated with mineralization elsewhere along the trend and require RC and/or core drilling to test these targets.

Aurora Geosciences Ltd.: Magnetic, VLF-EM and Resistivity Surveys

Total field magnetics, capacitively coupled resistivity (OhmMapper) and VLF-EM surveys were carried out by Aurora of Yellowknife, NWT from April 18 to May 23, 2012 over a number of target areas (Dziuba, 2012). A total of 309 ln-km over 4 grids were surveyed including fill-in lines between several grids to allow them to be combined into one larger data set (Figures 9.2 to 9.4; Table 9.1). The OhmMapper survey consisted of 139 ln-km on the LC-Ohm Grid. A total of 72 ln-km of MAG/VLF-EM data were completed over the AG and Nine Iron grids. The unexpected two-month shutdown of the Jim Creek, Washington (NLK) VLF transmitting station resulted in a magnetics only 98 ln-km grid over the Tal area. The primary objective of these surveys was to overlap and extend previous ground geophysical data in order to explore potential conductive trends and to extend zones of interest that were previously drill tested. The results of the resistivity, ground magnetic and VLF-EM surveys are summarized below, in Table 9.1, and by Stacey and Barker (2013) and Ward *et al*. (2013).

Historically, VLF-EM techniques have been used with great success in locating basement conductors throughout the Canadian Shield, and the Kivalliq Angilak Property is no exception. The 2008 VLF-EM survey confirmed the presence of a distinct VLF-EM conductor associated with the Lac Cinquante Deposit, an observation that was made historically when the Lac Cinquante Deposit was discovered in

Figure 9.2: MAG Surveys at Nine Iron, AG and Tal areas (red to purple is high; blue is low)

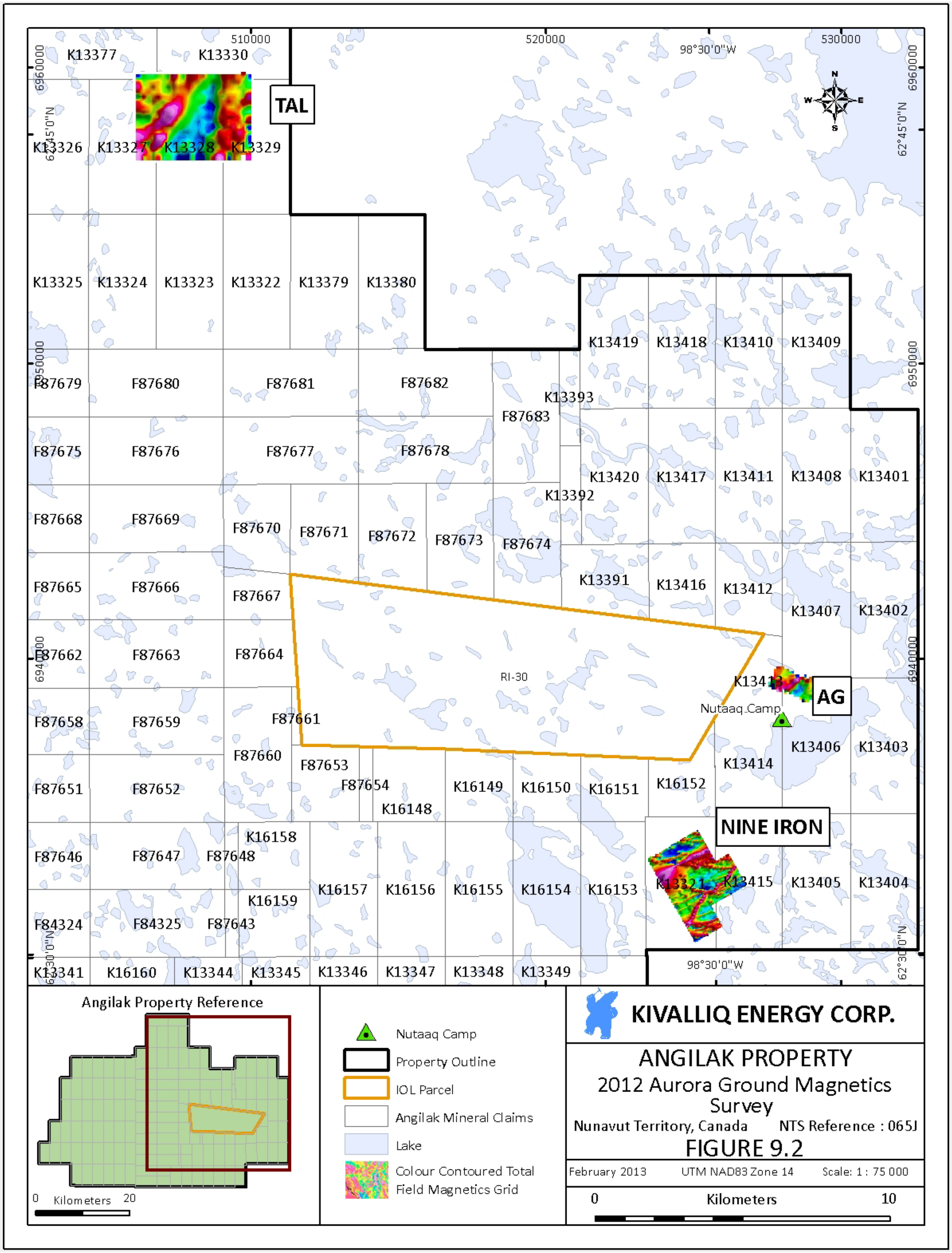


Figure 9.3: VLF Surveys at AG and Nine Iron zones (red to purple is high; blue is low)

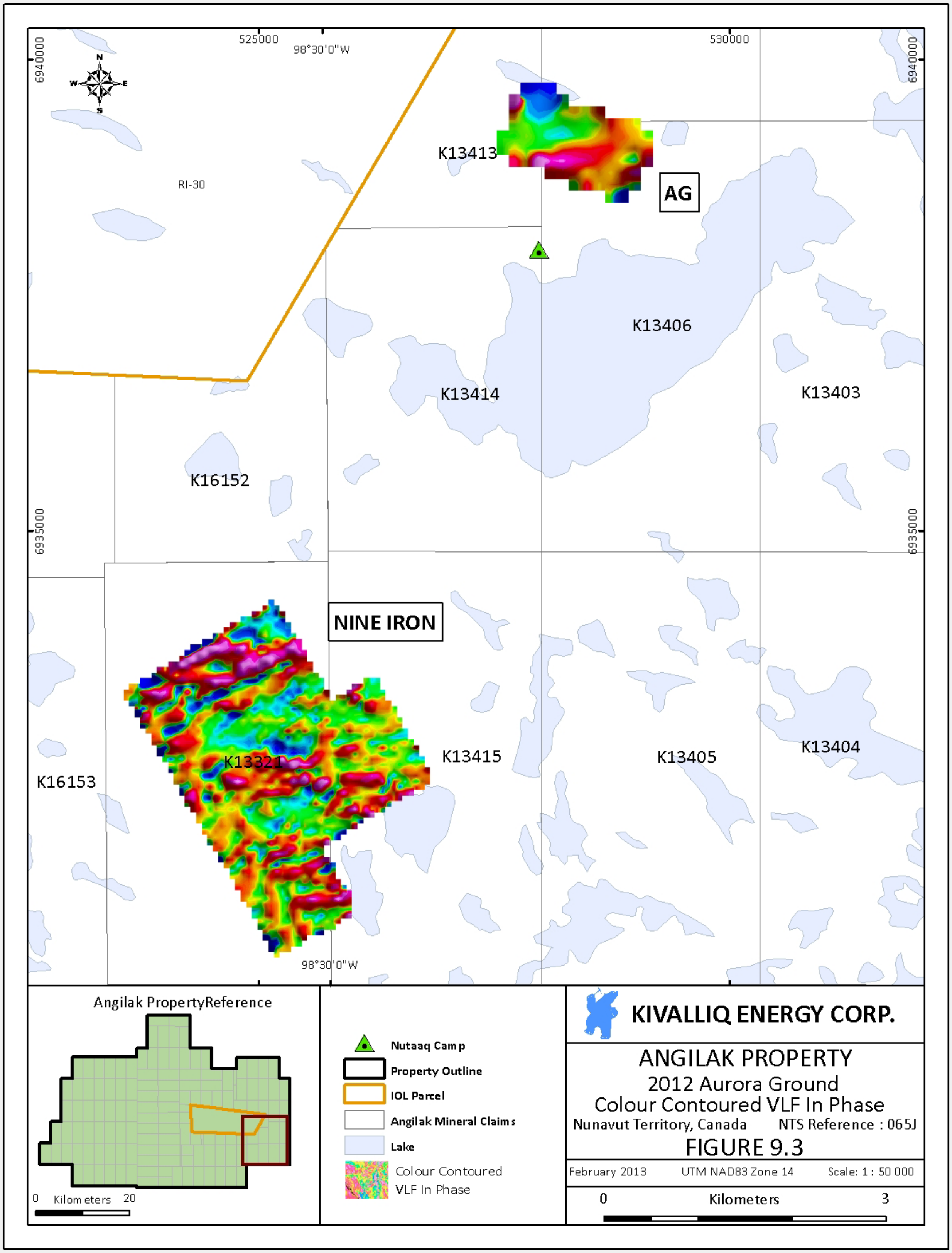


Figure 9.4: Capacitively coupled resistivity (OhmMapper) survey within IOL RI-30. Depth slice N = 5 (30 – 40 m depth) provides a better picture of subsurface due to fewer dropped lines of data. Conductors appear as resistivity lows (blue and green colours); resistors appear in red.

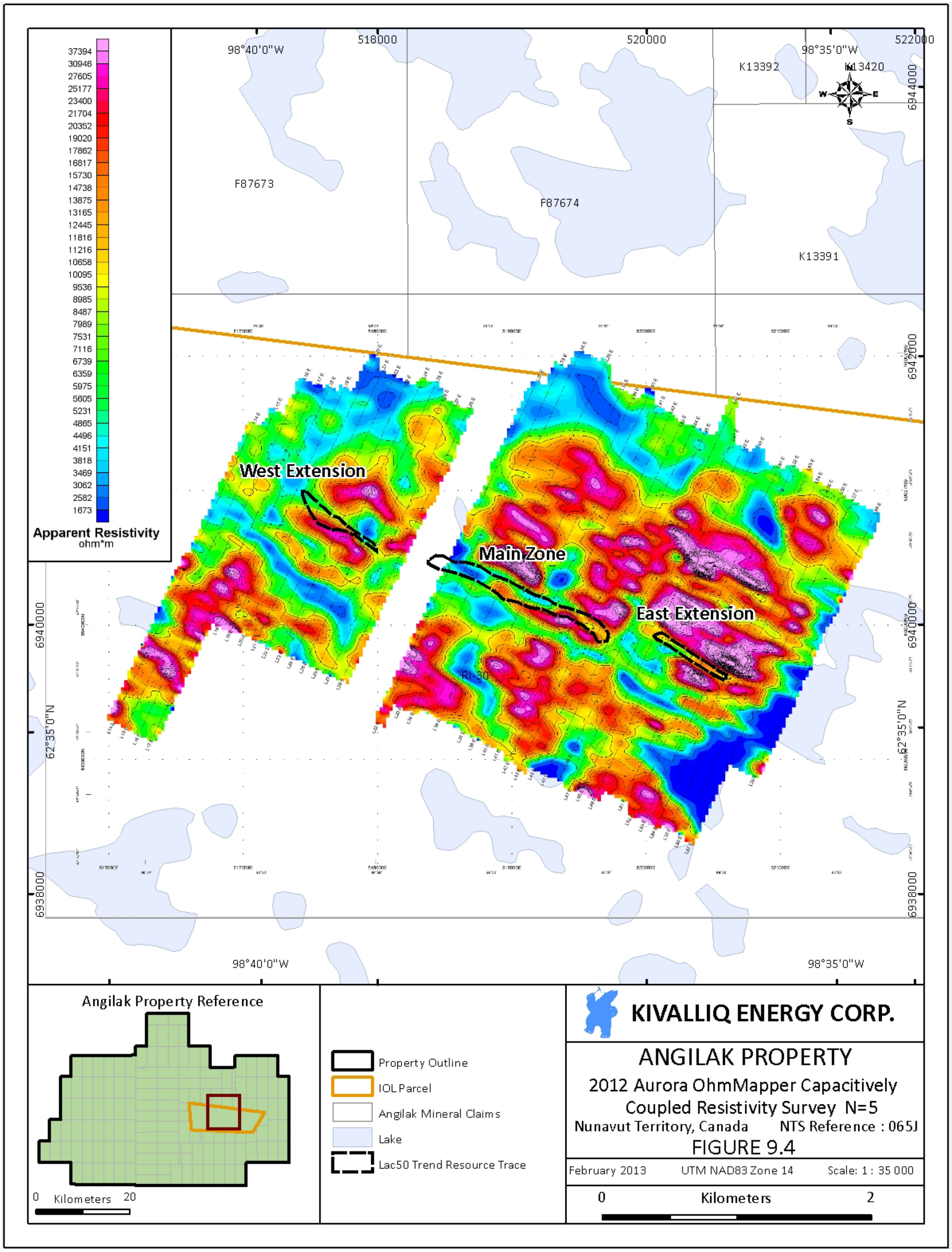


Table 9.1: Summary of 2012 gravity, resistivity, magnetic/VLF-EM, radiometric and seismic surveys

Survey Type	Grid	Centroid_E	Centroid_N	Target Description	Comments
Gravity	VGR	496108	6944287	hydrothermal alteration	Confirmed presence of clay alteration
Gravity	YAT	503945	6935369	hydrothermal alteration	Confirmed presence of clay alteration
Capacitively Coupled Resistivity	LC-Ohm	519000	6940500	Resistive features for comparison to conductors identified by VLF-EM surveys	Highly Responsive to Subsurface conductive bodies
Magnetics/VLF-EM	AG	528500	6939000	Conductive/geological/structural features	Areas of interest identified
Magnetics/VLF-EM	Nine Iron	525000	6932500	Conductive/geological/structural features	Areas of interest identified
Magnetics	TAL	508000	6958250	Geological and structural features	Areas of interest identified
Seismic	VGR	495975	6943886	Evaluate method in order to determine unconformity depth, geological features	Insufficient energy from shotgun method; unconformity depth estimated
Multi-channel Radiometrics	AJ	525000	6940250	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	FX	496800	6933700	Test ability to define boundaries of carbonatite body that are known to be weakly radioactive	Inconclusive results
Multi-channel Radiometrics	Force	508090	6942350	Overburden covered radiometric anomalies	No radiometric anomalies generated that were not already known from prospecting
Multi-channel Radiometrics	Forte	510300	6939200	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	522175	6938650	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/hangingwall of Ray is due to numerous narrow gash veins exposed on surface
Multi-channel Radiometrics	Nine Iron	525672	69333110	Overburden covered radiometric anomalies	Radiometric anomalies were drill tested positively at Nine Iron NE but inconclusive at central and SW areas

the 1970s (Dufresne and Sim, 2011). Additional moderate to strong conductors were identified in each survey block, many of which are spatially associated with uranium mineralization in outcrop and float. The VLF-EM data is of sufficiently high resolution to allow it to be used to guide drilling operations on conductive fault zones.

A total of 72 line-km of combined VLF-EM/MAG surveys were completed over the AG and Nine Iron (formerly BIF) zones using 25, 50 and 100 m line spacings and station readings taken every 20 m. Very

Low Frequency station data were collected at 24.0, 24.8 and 25.2 kHz. All ground magnetic and VLF-EM geophysical data were collected using a GEM/Overhauser GSM-19 MAG/VLF system and a GEM/Overhauser or Proton Precession GSM-19 MAG system. The data was diurnally corrected against a time synchronized GSM-19 Base Magnetometer.

The 2012 VLF-EM/MAG surveys were designed to supplement and enhance the resolution of VLF-EM/MAG surveys completed in 2011. The surveys resulted in the identification of several moderate to strong conductors and better definition of subsurface conductors once the new data was integrated with the 2011 data (Figure 9.3). A strong conductor near the northern edge of the Nine Iron target area survey represents a sulfide-rich horizon which was mapped in outcrop. The moderate conductors located in the central part of the Nine Iron grid are not complemented by surface exposure; however, they may be a response to the conductive top of the banded iron formation unit in the area (Stacey and Barker, 2013). The Ag survey was a small grid designed to define whether a southeastern extension of the Ag Zone conductor (identified in the 2009 ground VLF-EM survey over the IOL RI-30 parcel) is present in this area. Figure 9.3 shows that the southeastern extension of the Ag Zone is offset and extends toward the east-southeast beneath overburden.

The magnetics only grid was completed over the Tal area and covered 98 ln-km. Public government magnetic data characterized the Tal area as being underlain by a strong magnetic low, surrounded by a ring of elevated magnetics which may be reflective of a buried granitoid intrusion (Stacey and Barker, 2013). The ground magnetic survey was conducted to confirm the central magnetic low and determine if the boundaries of the suspected intrusion could be interpreted from the ground magnetic pattern. Figure 9.2 shows that an intense ovoid magnetic low was defined by the ground survey and it has the potential to correspond to an intrusion (Stacey and Barker, 2013).

The OhmMapper survey was focused on the area immediately surrounding the Lac Cinquante Deposit, covering an area approximately 3 x 4.5 km (Figure 9.4). A total of 139 ln-km was completed at a line spacing of 100 m. The survey was designed as a test of the OhmMapper system, to determine how the system responded to known conductors identified by VLF-EM in 2010 and 2011. The main, eastern and western Lac Cinquante VLF-EM conductors associated with uranium mineralization at these locations show up well as a resistivity lows and are identified easily by the survey as well as a number of other less well defined conductors that show up as resistivity lows (Figure 9.4). The survey data indicates that the OhmMapper system is highly responsive and sensitive to subsurface conductive bodies and is able to image conductors up to depths of 50 – 60 m, compared to the 35 – 40 m depth penetration typically resulting from the VLF-EM method. In particular, a conductive sulfide-graphite horizon (the Southwest/South Zone) was defined as a fairly obvious resistivity low that was previously defined only by a very weak response based upon VLF-EM alone (Figure 9.4).

Frontier Geosciences Inc: Seismic Survey

A two kilometre “shotgun” seismic reflection survey line was completed by Frontier of North Vancouver, BC, between August 31 and September 7, 2012. The seismic profile was designed as a test to determine if seismic reflection surveys could be a useful tool for determining basin geometry and estimating depth to the basal unconformity. Shotgun seismic uses 10-gauge blank shotgun shells spaced every 5 m to generate seismic pulses along the line, rather than the explosives typically used for seismic imaging in the oil and gas industry. Geophones used were 8 hertz (Hz) Oyo Geospace Geophones and the sampling interval was 0.125 milliseconds (ms). All seismic data was collected using a Geometrics Geode Seismic Recorder.

The survey line was conducted over the VGR Zone in order to locate the unconformity that hosts the uranium mineralization (Figure 9.5). Reverse circulation drilling in the area was not sufficiently deep enough to intersect the unconformity contact. Results indicate that the shotgun method does not generate sufficient energy to definitively identify geological surfaces such as faults and the basal unconformity surface. Near surface velocity is estimated to be 3,600 metres per second (m/s) and is determined from refraction seismic analysis during seismic processing. Explosives-based seismic methods may need to be employed in future if the shotgun method proves to be of too low a resolution to image the geological features of interest.

Based on surface geology, the unconformity outcrops approximately 250 m to the southeast off the end of the seismic line. The final processed and interpreted seismic section shows a strong anomalous reflector interpreted to be the unconformity contact visible in the southeast portion of the seismic line, at an estimated depth of 200 m (Figure 9.6). This suggests that the unconformity contact plane geometry dips approximately 39 degrees to the northwest from the outcrop (Stacey and Barker, 2013). In addition, very preliminary interpretations suggest some steeply dipping faults are detectable on the seismic section; however, the throw on the faults is too small to detect seismically due to relatively small movement of the reflectors. At the northwest portion of the seismic line, another anomalous reflector may indicate the presence of high density rock such as a layered volcanic rock. However, without drilling and geophysical logging data to calibrate the seismic data, the cause of most reflection anomalies cannot currently be confirmed. The seismic reflection survey provides promise as a technique to model the Proterozoic – Archean unconformity where it is buried but it likely will require a stronger energy source such as drill holes with proper explosive charges.

Kivalliq Energy Corp: Radiometric Surveys

Multi-channel ground radiometric surveys were conducted by Kivalliq personnel between July 1 and July 27, 2012 over six targeted areas that totaled 196 ln-km (Figure 9.7). Grids were completed at the FX, Force, Forte, Joule, AJ and Nine Iron targets (Figure 9.7). Standard line spacing was 50 m, though 25 m line spacing was used in the Nine Iron area in order to better define scattered radiometric anomalies. The instrument used to collect data was a PGIS-1 portable gamma-ray spectrometer from Pico Envirotec Inc., which integrates a 2.1 litre Thallium-activated Sodium Iodide (“NaI(Tl)”) crystal with an advanced GPS satellite navigation system for accurate positional information. The unit takes several readings per second, resulting in a nearly continuous stream of data along the survey lines. Parameters measured by the spectrometer include Total Count (TC) radioactivity, uranium, thorium, and potassium, and the unit can be configured to measure other radionuclide such as cesium or rubidium.

Field personnel in 2012 determined that the most useful data comes from the Total Count and uranium channels, which in the Angilak area tend to form more cohesive radiometric anomalies than other channels. As expected, the strongest radiometric anomalies were found to occur around outcropping and subcropping uranium mineralization. It was hoped that subtly elevated background radioactivity associated with mineralization in overburden-covered fault zones would be visible to the spectrometer, but anomalies tended to be spotty or discontinuous, and highly dependent on the proximity of mineralized zones to surface (e.g. gash veins in outcrop or mineralized boulders in overburden). The unit did not provide any useable data in areas covered by thick overburden.

Figure 9.5: 2012 Frontier seismic survey line path location

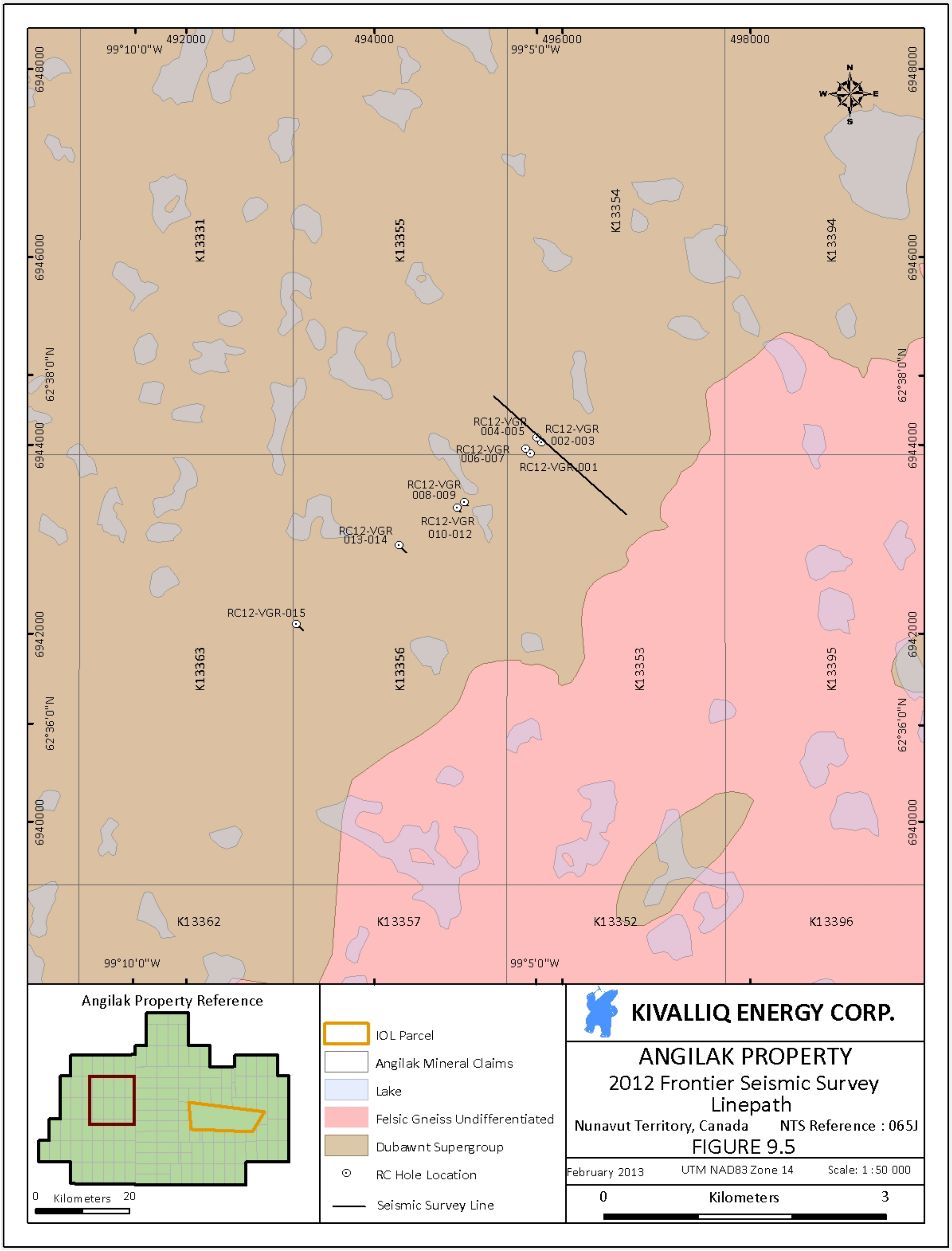


Figure 9.6: Interpreted and processed seismic line section:
(1) blue line denotes unconformity; (2) red line denotes volcanic boundaries; (3) pink lines represent faults; (4) black lines indicates nearby drill holes are drawn in black; (5) blue numbers along edge are depth estimates.

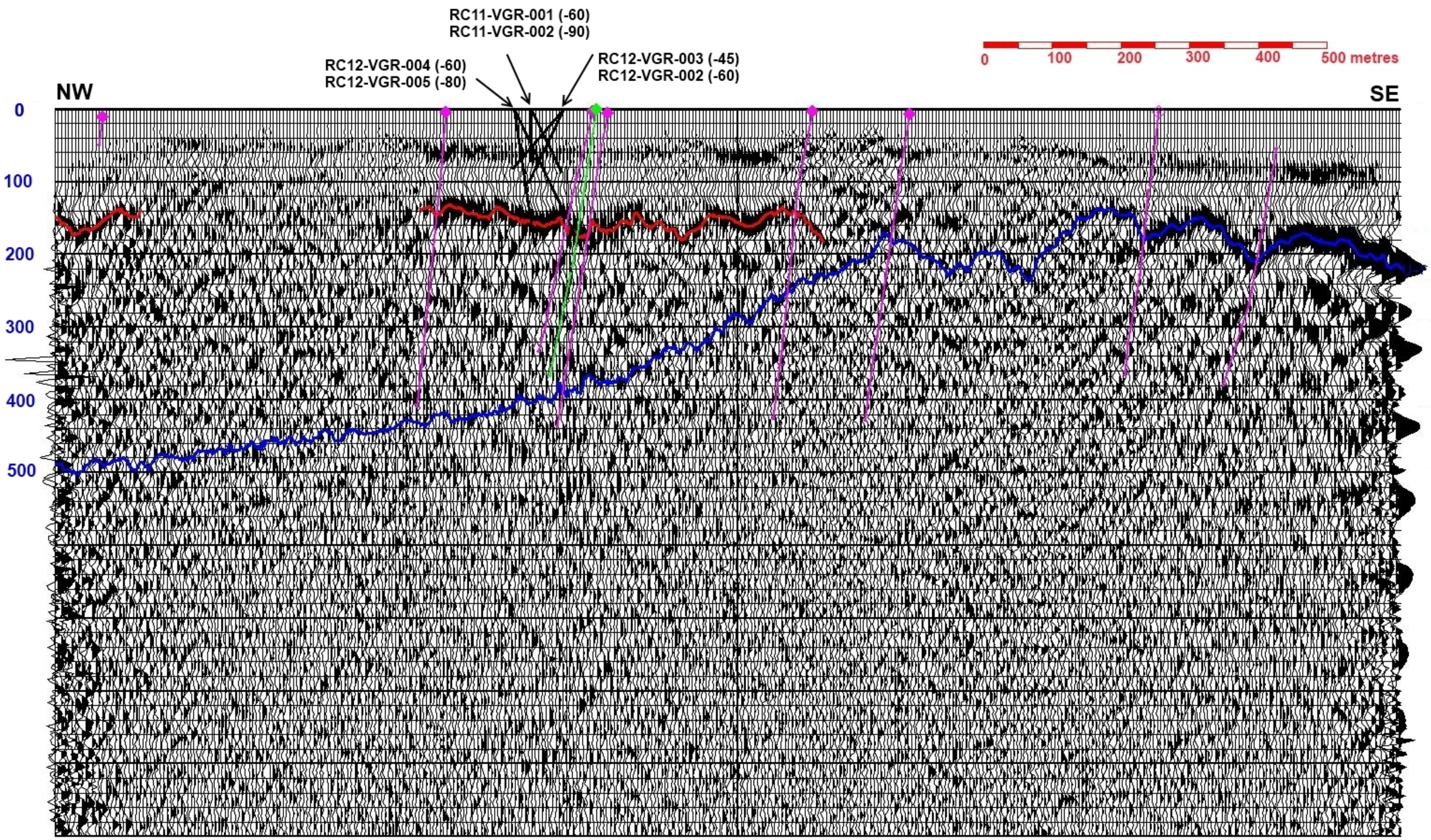
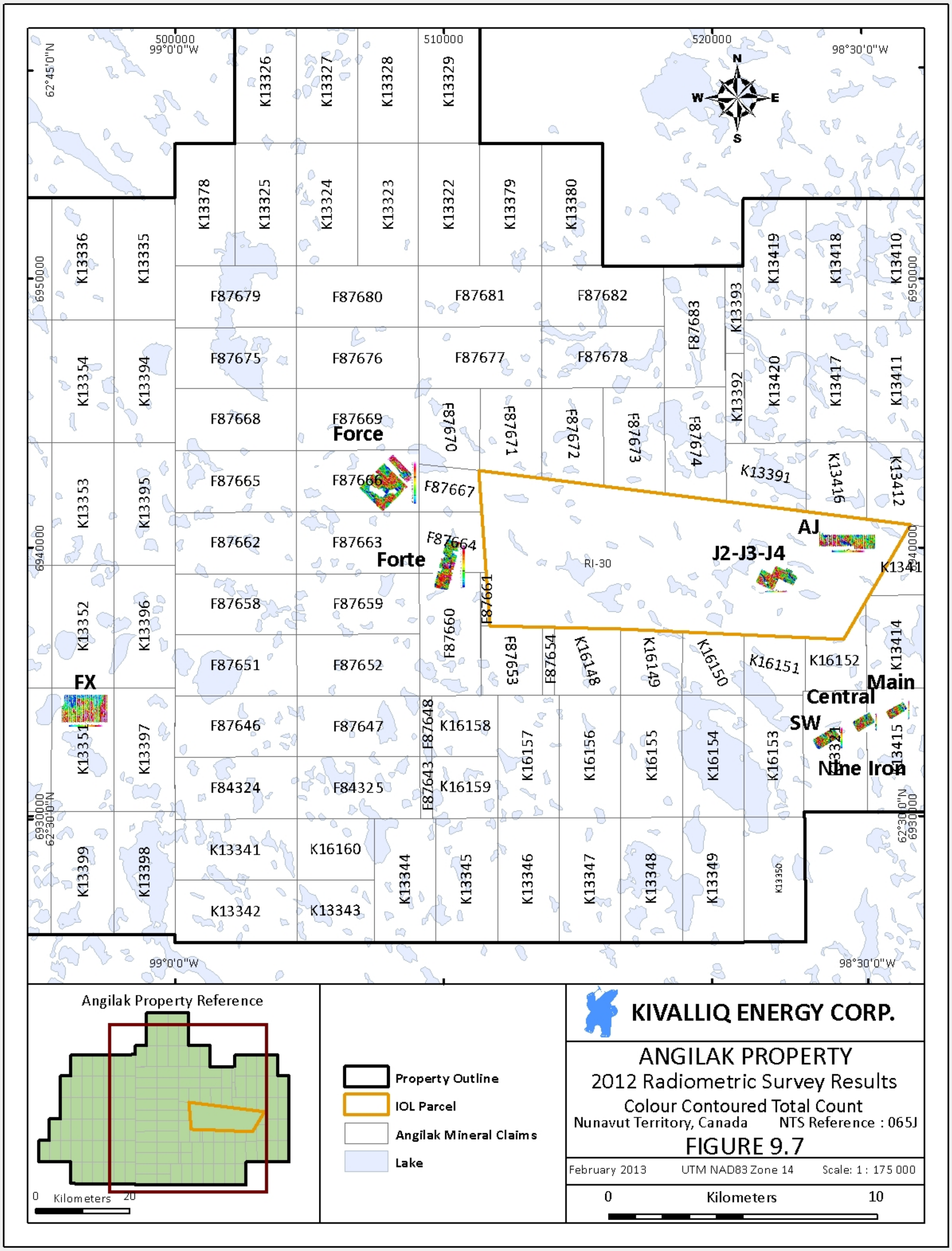


Figure 9.7: Radiometric survey grids at FX, Force, Forte, Joule, AJ and Nine Iron areas (red to purple is high, blue is low)



In general, the radiometric surveys conducted during 2012 proved fairly ineffective or inconclusive at a number of targets including FX, Force, Joule and the AJ grids particularly where any significant overburden exists. Anomalous radioactivity was identified on some of these grids but was generally associated with known outcropping uranium bearing outcrops or structures (Figure 9.7). Moderate to strong radiometric anomalies were identified at the Forte, Nine Iron and at a couple of locations at the Joule grid generally coincident with known outcropping uranium mineralized rocks and structures (Figure 9.7; Stacey and Barker, 2013).

9.5 Geological Mapping, Prospecting and Rock Sampling

Prior to 2012, geological field work was focused on prospecting and the collection of radioactive and/or sulfide-bearing samples as a measure and proof of the widespread distribution of uranium mineralization around the Property. Although prospecting and rock sampling were integral parts of the 2012 program, the emphasis of the 2012 fieldwork was on geological mapping and providing a geological context for known mineralization on the Property. A new interpretation of the structural framework of the Angilak property was completed in 2012, which may be important for the development of future exploration programs, and is discussed in detail in Stacey and Barker (2013). Based on evidence from field relationships and geophysical surveys, it seems that there are at least three structural domains within the boundaries of the Angilak Property (Figure 9.8). These comprise: 1) the central/western gneissic belt; 2) the Volcanic Block, and 3) the southeastern compressive zone (Stacey and Barker, 2013). These three domains are structurally and lithologically distinct, having undergone variable degrees of deformation and metamorphism (Stacey and Barker, 2013).

The most prospective areas identified for uranium and polymetallic mineralization outside of the Volcanic Block to date are shown in Figure 9.8. They comprise: 1) the Dipole area; 2) the VGR trend; 3) the YAT trend, 4) the Forte area, and 5) The Nine Iron trend (formerly "BIF" area). Of these five areas of interest, only the VGR and Nine Iron trends saw any drilling in 2012. Both of these targets returned low-grade uranium mineralization in RC drill cuttings and/or diamond drill core and require further work even though to date no high grade drill intersections have been obtained in these areas. A summary of the geology and results to date for these prospective areas is provided below and is summarized from Stacey and Barker (2013).

During 2012, a prospecting crew was active for 11 weeks between June and October. The crew conducted geological mapping and limited rock grab sampling from outcrop, subcrop and glacial float across the Angilak Property. A total of 95 surface rock grab samples were collected and geological mapping was conducted at several prospective zones across the property. This work included follow-up work on historic showings and showings discovered during the 2011 field season, as well as work focused on new geophysical targets. The work was designed to advance existing high priority target areas and identify new mineralized zones on the property (Table 9.2; Figure 9.8).

Of the 95 rock grab samples collected during 2012, a total of 74 are considered to represent in-situ bedrock sources, with the remaining 21 samples collected from cobbles and boulders found in glacial till. Of the 74 grab samples, 18 samples were collected for whole-rock lithogeochemical analysis to identify rock types and to attempt to classify these rock types into known lithological units. A total of 25% of the samples (19 of 77 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 four target areas: J4, Nine Iron, VGR East and YAT (Table 9.2; Figure 9.8).

Figure 9.8: Geological map and prospective zones of the Angilak Property compiled from field mapping in 2012. Red stars indicate location of surface grab samples (outcrop and float) assaying ≥ 0.1% U_3O_8. Significant mineralized trends are labeled (Stacey and Barker, 2013)

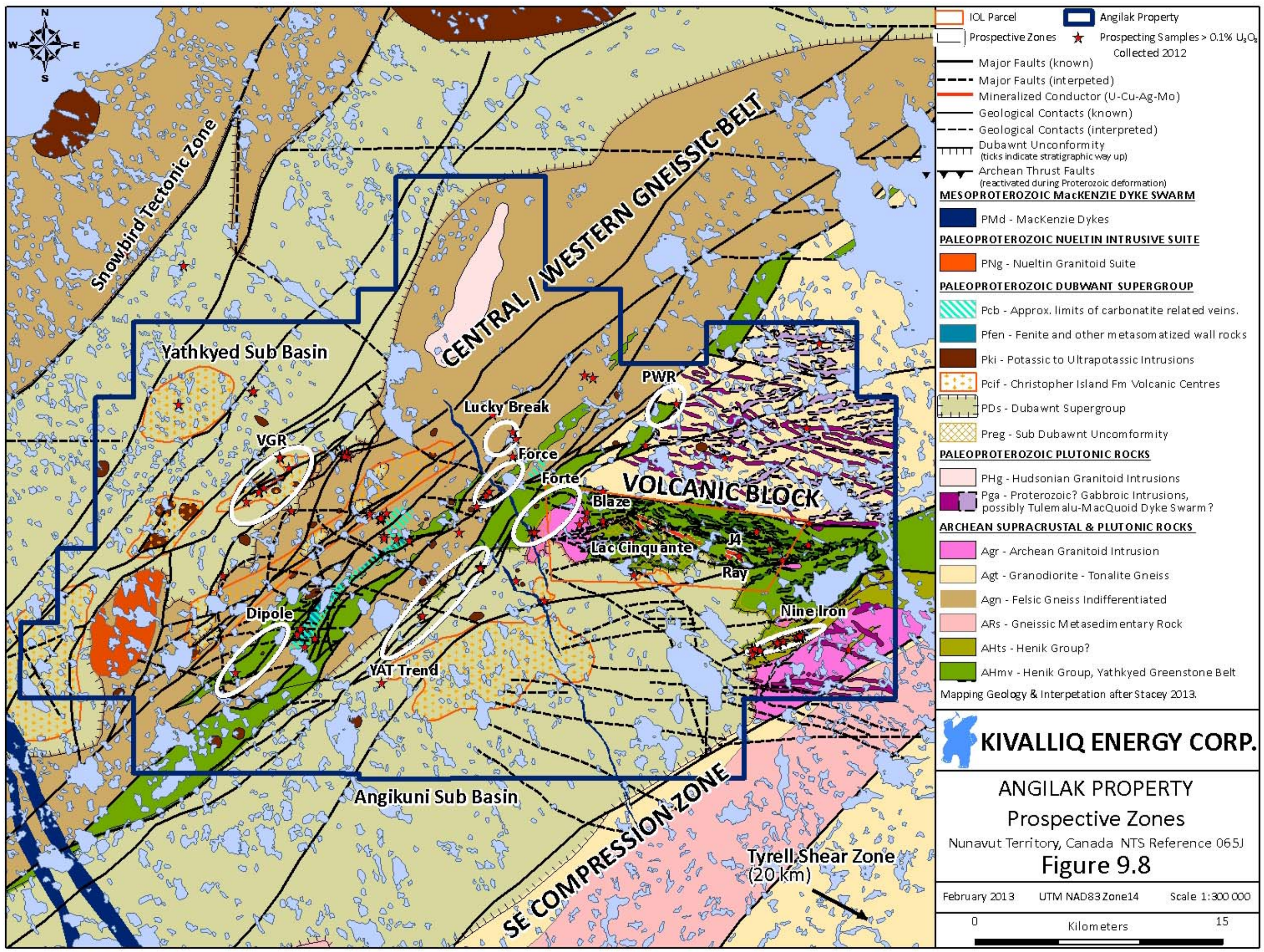


Table 9.2: Summary assay highlights for surface rock samples collected during 2012

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
255260	12	-	0.83	17.2	0.52	0.00	-	-	-	VGR
255100	352	-	2.19	184	0.02	0.01	-	-	-	VGR East
255255	3810	0.456	0.03	7.3	0.36	0.01	-	-	-	VGR East
255256	10800	1.25	0.21	61.6	1.24	0.02	-	-	-	VGR East
255257	14100	1.65	0.32	33.4	0.78	0.03	-	-	-	VGR East
255261	2520	0.289	0.31	3.6	0.04	0.03	-	-	-	VGR South
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 section 12.0 below. All samples were subject to ICP analysis at the 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.

Central/Western Gneissic Belt

One of the most profound insights gained through extensive and detailed field mapping in 2012 by Stacey and Barker (2013) was the recognition of several strips of Henik Archean metavolcanic rocks within the central gneissic belt (Figure 9.8). This is especially significant due to the fact that at least one highly prospective conductor associated with surface uranium mineralization has been identified and occurs within one of these greenstone slices (the Dipole prospect, Figure 9.8). The discovery of significant uranium mineralization similar in style to that discovered at Lac Cinquante and spatially associated with the Dipole conductor greatly increases the prospectivity of the central gneissic belt, extending the limits of known subsurface mineralization outside of the main Volcanic Block into a wider district-scale distribution. High-grade uranium has been found on surface in outcrop and float throughout the southwestern part of the central gneissic belt. Even though limited drilling has been completed to date in this area and has failed to intersect significant subsurface mineralization the prospect for new discoveries remains high. If drilling in 2013 is able to define a mineralized system at Dipole or one of the other high priority targets areas, then it stands to reason that any moderate to strong conductors contained in central gneissic belt greenstone packages may become significant exploration targets. This includes conductors in the Force, Lucky Break, and possibly PWR areas (Stacey and Barker, 2013).

The Dipole showing was initially discovered by Kivalliq prospectors in 2011, and comprises a volume of radioactive beach sand and local mineralized float boulders situated at the southwest end of a strong, 2 km-long conductor (Dufresne *et al.*, 2012; Figure 9.8). Geological mapping in the area in 2012 positively identified that the conductor is contained within mafic volcanic rocks that are correlative with Henik Group volcanics in the vicinity of Lac Cinquante. Several large mineralized boulders on the radioactive beach contain breccia textures and alteration assemblages that are virtually indistinguishable from mineralized breccias in the Lac 50 Trend. No significant rock grab samples were collected from the Dipole target area in 2012 as the focus was placed on detailed geological mapping but in 2011, rock grab samples assayed up to 2.24% U_3O_8 and 116 g/t Ag from angular blocks and boulders at the edge of a lake and directly on strike with the main conductor trend (Dufresne *et al*., 2012; Figure 9.8). The similarities between the mineralized zones along the Lac Cinquante Trend and the mineralization identified at the Dipole prospect serve to place Dipole in the top tier of targets for exploration drilling in 2013. Due to the absence of Proterozoic sedimentary cover, the uranium mineralization discovered in this area to date is classified as “basement-hosted” similar in style to the Lac Cinquante mineralization.

Detailed field mapping in the VGR area resulted in a better understanding of the location of the basal unconformity in the Yathkyed sub-basin Stacey and Barker, 2013). In contrast to the 2011 geological map, the surface trace of the unconformity was shifted by Stacey and Barker (2013) toward the northwest and segmented to reflect the presence of a strip of gneissic basement rocks between the VGR unconformity and Christopher Island volcanic rocks on the north side of Siuraq Creek (or the Moose River). The volcanic outcrops along the river do not display any evidence of clastic sedimentation, suggesting that these flows were deposited directly on Archean basement without prior deposition of basal conglomerate and/or sandstone. The linear distribution of volcanic outcrops along the river suggests that the underlying fault zone was a major conduit for magma ascension during Christopher Island volcanism. On the southern edge of the Yathkyed sub-basin, the unconformity dips shallowly to the northwest. It was hoped that RC drilling on the VGR structure would be able to intersect the unconformity at depths less than 200 m, which would have been the case if the unconformity dipped uniformly toward the northwest. However, drilling failed to intersect the unconformity surface, possibly indicating the presence of basin-bounding growth faults which cause major increases in sediment thickness toward the center of the basin. Historical drilling in the southern Angikuni sub-basin suggests that similar growth faults were active during deposition of both basins. This is to be expected with rift-related sedimentation and volcanism, as evidenced by similar growth faults in modern volcano-sedimentary basins such as the East African Rift Valley.

At VGR, disseminated Cu and U minerals are discontinuously associated with an alteration halo surrounding an approximately 4 km-long magnesian carbonate vein (Figure 9.8). Rock grab samples collected during 2012 yielded up to 1.65% U_3O_8 (Table 9.2; Figure 9.8). The mineralized shell ranges from less than a metre to several metres in width around the vein system, though the carbonate vein itself does not seem to contain appreciable uranium mineralization. The vein occupies what is considered to be a reactivated fault zone, which may have propagated from a major basement fault up through the overlying basin as a sedimentary growth fault. Prospecting to the southwest along strike of the main VGR showing identified additional areas of alteration and uranium mineralization with values up to 3.75% U_3O_8 (2011 prospecting in Dufresne *et al*., 2012), extending the known mineralized trend to 4 km strike length along a conductor with 5 km of strike length (Figure 9.8). As such, the VGR trend represents one of the better settings on the property for unconformity-style uranium mineralization. Gravity surveys in 2011 and 2012 identified several negative gravity anomalies overlying both the main fault and smaller splays at VGR. RC drill testing of these gravity anomalies identified the presence of clay alteration at depth, but to date no significant U mineralization has been found below these clay zones. However, their presence is highly encouraging for future exploration, as most of the high grade unconformity-style deposits in Saskatchewan are located below zones of intense clay alteration.

The YAT trend represents another highly prospective fault system for unconformity-style mineralization. This 5 km-long trend is located on the northwestern edge of the southern Angikuni sub-basin and comprises a potentially reactivated fault system with sporadic surface uranium occurrences along its length (Figure 9.8). The main YAT showing comprises an 80 – 100 m long string of sulfide-bearing radioactive subcrops extending northeast along a saddle between hilly outcrops of Baker Lake sediments and volcanic flows. Surface radioactivity ranges from <1,000 cps in more sulfide-rich samples to >24,000 cps in strongly mineralized pitchblende-sulfide veins. The main radioactive zone is 30 – 40 m long and dies out towards the southwest where it is replaced by lower-radioactivity, but higher sulfide-content rocks. A grab sample collected by GeoVector in 2007 and confirmed by APEX personnel in 2008 returned values of 31.9 g/t Au, 1,170 g/t Ag, 1.18% Cu, and 0.25% U_3O_8 (Dufresne, 2008). The gold values were confirmed in 2011 and several samples from the zone assayed 0.9 to 1.4% U_3O_8. A reported historical sample assayed 2.88% U_3O_8, presumably in high-grade vein material (Stacey and Barker, 2012). Mineralization is accompanied by hematite and clay alteration, which forms haloes around veins and patchy matrix-replacement textures in sandstone. Rock grab samples collected during 2012 from the YAT trend yield up to 1.57% U_3O_8 (Table 9.2; Figure 9.8). Assay results from sample 255085 on the YAT trend returned values of 109.4 g/t Au, 4.3 g/t Pt and 9.4 g/t Pd (highest gold value on the property to date). Grab sample 255086, also from the YAT trend, returned the highest silver value at 6,800 g/t Ag with 56.8 g/t Au and 3.2 g/t Pd (Table 9.2).

Most of the YAT trend is covered by Quaternary sediment, and bedrock only outcrops at the northeastern (IM-76) and southwestern (YAT) parts of the trend (Figure 9.8). The primary structure continues below cover to the SW of the YAT showing, but to date no outcrop or float mineralization has been identified on this portion of the fault zone. However, historical drilling by Noranda in the “RIB” area SW of YAT identified the presence of a weakly-mineralized graphitic fault zone which may be part of, or related to, the YAT trend. Both the YAT and IM-76 areas display radioactive surface mineralization and alteration consistent with high-level sandstone-hosted uranium deposition associated with basement fault zones. There is a strong possibility that the YAT trend is underlain by mafic volcanic rocks correlative with the Henik Group in the Volcanic Block. In this respect, the YAT trend may be even more prospective for undiscovered mineralization than VGR, as it is more likely to be underlain by a lithological unit that has been proven to contain significant uranium mineralization elsewhere on the property. Gravity surveys along the trend in 2012 identified the presence of several weak (<0.5 milligal) negative gravity anomalies overlying suspected fault zones, which is encouraging for future exploration of the area. Due to the subtle nature of these anomalies, additional detailed gravity readings may be required to bring them up from the status of “interesting gravity features” to well-defined drill targets.

Spatially associated with the central gneissic belt are a series of narrow fenitized zones related to the emplacement of carbonatitic stocks, dykes, and veins in a narrow NE-SW-trending strip running down the axis of the gneissic belt (Figure 9.8). This lithological unit comprises host rocks that have been heavily metasomatized by carbonatitic fluids, and now have an overall potassic composition due to the removal of elements such as Ca, Na, Al, and Fe, and the addition of K, Ti, Th, and Zr. Stacey and Barker (2012) first recognized the presence of fenite and carbonatite on the property in 2011, and completed preliminary mapping of the fenitized belt in 2012 (Stacey and Barker, 2013). Though carbonatite-related veins and dykes occasionally spill over into greenstone packages, felsic to intermediate granitoid gneisses seem to be the most common host for these unusual rocks. The distribution of carbonatite and fenite through the central gneissic belt seems to be most commonly associated with large 1st order faults and secondary splays off of them (Stacey and Barker, 2013).

Volcanic Block

Detailed field mapping within the Volcanic Block was concentrated around the J4-Ray area of the Lac 50 Trend, due to relatively good bedrock exposure compared to the Lac Cinquante or Blaze zones (Figure 9.8). As a result of this mapping, the understanding of the structural and lithological framework of this part of the Volcanic Block has improved over that of previous field seasons (Stacey and Barker, 2013). At J4, the mineralized vein systems (of which there are two subparallel zones) are developed along a 2nd to 3rd order reactivated shear/fault zone, and are crosscut by 3rd to 4th order structures at high angles to the mineralized zone (Stacey and Barker, 2013). The vein systems are spatially associated with graphitic sulfide-bearing horizons, the location of which probably had a profound influence on the development and spatial distribution of structures which were subsequently mineralized. A new uranium resource has been identified at the J4-Ray area and is discussed in detail in the following sections. The propensity for higher-grade uranium mineralization around cross-faults suggests that the high-angle structures may have been significant conduits for mineralizing fluids, which precipitated uranium and other metals in chemically- and structurally-favourable traps.

The Forte area is situated on the western side of the Volcanic Block in the “Big Bend”, a structurally complex zone where the greenstone belt changes orientation from NE-SW to an ESE trend (Figure 9.8). The core of this zone is intruded by a large granitic body interpreted to be of Archean age. The southern part of the Forte area is overlain by radioactive Proterozoic conglomerate, and narrow, high-grade U-Cu veins have been mapped at several locations in Henik volcanic rocks north of the unconformity (Stacey and Barker, 2013). A VLF-EM survey in 2011 identified the presence of a moderate conductor coincident with the NNE-trending edge of the granitic body which is spatially associated with surface mineralization. Rock samples collected during 2012 returned assays of up to 0.39% U_3O_8 (Table 9.2; Figure 9.8). Also Forte yielded the highest Cu result in sampling to date with 3.4% Cu and 70.5 g/t Ag in sample number 255069 (Table 9.2). The Forte conductor has never been drill-tested, though two holes were drilled into the conglomerate package south of the area by Noranda. The presence of a conductor along the edge of the granitic body is encouraging for future exploration in this area. If the granite acted as a rigid body during deformation, adjacent volcanic rocks may have been more severely broken up by faulting/folding and brecciation than elsewhere on the property. If this theory is valid, the granite-volcanic contact may represent a zone of structural and/or chemical complexity that has the potential to host significant uranium mineralization. A similar structural regime exists at Areva Canada’s Kiggavik deposit near Baker Lake, though this deposit is hosted by metasedimentary rocks beneath the Thelon unconformity rather than volcanics below the Dubawnt unconformity. Nevertheless, the structural similarities between Kiggavik and Forte are indications that the Forte area merits a systematic test of the main conductor along the granite-volcanic contact.

Southeastern Compression Zone

The Nine Iron trend is located within the southeastern compression zone on the southeast edge of the Volcanic Block (Figure 9.8). The area consists of a strip of turbiditic metasedimentary rocks in structural contact with underlying Henik volcanics (Stacey and Barker, 2013). The southwestern end of the Nine Iron trend is overlain by Proterozoic sedimentary rocks of the Angikuni sub-basin. Bedding along the Nine Iron trend is transposed parallel to the S1 foliation and dips moderately (45 – 70°) to the SE. The area was originally named the “BIF” area due to the presence of a banded Iron-Formation horizon extending NE-SW through the central part of the package. Southeast of the BIF horizon, the package is intruded by a large granodioritic body interpreted to be Archean in age. The strong flattening fabrics observed throughout the Nine Iron trend are interpreted to have formed due to extreme compression of the metasedimentary belt as it was squeezed between the rigid granodiorite pluton and the southeast leading edge of the Volcanic Block during Proterozoic deformation (Stacey and Barker, 2013).

Narrow radioactive veins are found throughout the Nine Iron trend, primarily in areas of thin overburden cover. Grab samples collected in 2012 from the mineralized veins yield up to 1.5% U_3O_8 (Table 9.2). The Nine Iron trend yielded multiple high grade Au results with rock grab samples collected during 2012 yielding 14.4 g/t and 9.12 g/t Au in samples 255080 and 255081 respectively (Table 9.2). In addition, prospecting during 2011 yielded 5 samples between 16 and 30.3% U_3O_8 (Dufresne *et al*., 2012). Veins seem to have formed along planes of competency contrast, such as psammite-pelite and BIF-psammite bedding contacts, and around the margins of Proterozoic trachytic dykes. The majority of these veins are oriented subparallel to the dominant foliation, and range in length from a few tens of centimetres to several metres. To date, no individual veins have been found that measure more than a few centimetres in width, but the overall vein package in the metasedimentary hangingwall of the BIF horizon may be up to 50 m wide. The presence of this vein-rich horizon in the subsurface was confirmed by limited RC and core drilling around the main Nine Iron showing in 2012, but so far this area seems to be of too low grade to constitute a mineral resource in and of itself. However, the fact that the area is fertile for uranium mineralization is highly encouraging for the potential for unconformity-style uranium beneath the sedimentary basin to the southwest (Stacey and Barker, 2013). Further exploration is warranted at and along trend from the Nine Iron Trend showings.

10.0 DRILLING

10.1 Introduction

The 2012 diamond drilling program was performed by Major Drilling Group International Ltd. (Major) from a division office based in Winnipeg, MB. Major employed three Boyles 17A fly rigs to drill NQ sized drill core. The 2012 drill program was based out of the Nutaaq camp, located 10 km east of the Lac Cinquante Deposit. Diamond drilling was conducted between March 18 and September 15, 2012 by Major, under the supervision of Kivalliq and APEX personnel. Reverse circulation (RC) drilling was conducted between May 4 and August 30, 2012 by Northspan Explorations Ltd. (Northspan) of Kelowna, BC under the supervision of Kivalliq personnel. APEX personnel were involved with the drilling and sampling program from June 6 to September 17, 2012.

During 2012, a total of 173 diamond drill holes totaling 33,583 m were completed (Figures 10.1 to 10.3). Of these drill holes, 14 holes were drilled on the Lac Cinquante Main Zone deposit as defined in 2009 – 2011, four were drilled on the offset Eastern Extension of Lac Cinquante, 13 were drilled on the offset Western Extension of the Lac Cinquante Deposit and 11 holes were drilled on an offset Southwest Extension totaling 42 holes at Lac Cinquante (Figure 10.1; Appendices 1 to 4). Additionally, 63 holes were drilled on the J4 conductor, 16 holes were drilled on the Ray zone, 27 holes were drilled on the Pulse zone and 5 holes were drilled on the Nine Iron trend (formerly the BIF Zone prospect) as shown on Figure 10.2. The remaining 20 holes were drilled on 5 additional prospects: one hole drilled at the Spark Zone, 7 holes at the Flare Zone, 7 holes at the Hot Swamp showing, three holes drilled on the J2E conductor and two holes drilled at the OHM conductor (Figure 10.3). A total of 38 RC holes totaling 5,273 m were completed during 2012 testing 8 different reconnaissance target areas across the Angilak Property (Figure 10.2). Drill collar data, core assay data, specific gravity sample data and drill sections are provided at the end of the report in Appendices 1 to 4.

10.2 Kivalliq Drilling 2009 to 2011

The focus of the 2009 drilling program conducted by Kivalliq was to verify the presence and continuity of the historic Lac Cinquante Uranium Deposit. A total of 15 holes were drilled at Lac Cinquante, of which 12 intersected significant radioactive zones. The drilling program identified the “Main Zone” of uranium mineralization as being fairly predictable with an azimuth of 116° and a dip of roughly -70° to the south (Figure 10.1; Dufresne and Sim, 2011). One exploration hole drilled during the 2009 program did not intersect anomalous radioactivity.

Kivalliq’s 2010 drilling program continued the previous season’s work of testing the uranium and polymetallic mineralization at Lac Cinquante with the intent of generating sufficient data to complete a mineral resource calculation. A total of 103 holes were drilled into the Lac Cinquante Deposit in 2010 (Figure 10.1), two were drilled proximal to Lac Cinquante (they are now considered to be included in the Western Extension) and two exploration holes were completed (Dufresne and Sim, 2011). A total of 88 of the 103 drill holes completed at Lac Cinquante during 2010 encountered anomalous uranium mineralization. Drilling by Kivalliq during 2009 and 2010 at the Lac Cinquante Deposit area resulted in the identification of a maiden Inferred Mineral Resource of 810,000 tonnes at an average grade of 0.792% U_3O_8 using a cut-off grade of 0.2% U_3O_8 (Dufresne and Sim, 2011).

During 2011, a total of 153 diamond drill holes totaling 23,849.14 m were completed. Of these drill holes, 26 holes were drilled on the Lac Cinquante Main Zone (Central) Deposit as defined in 2009 and 2010, 44 were drilled at the offset Eastern Extension of Lac Cinquante and 50 were drilled at the offset Western Extension of the Lac Cinquante Deposit, totaling 120 holes at Lac Cinquante (Figure 10.1; Dufresne *et al*., 2012). Another 23 holes totaling 3,371.36 m were drilled at the Blaze prospect. The remaining 10 holes were drilled on 5 additional prospects, with 1 hole drilled at the AG showing, 2 holes drilled at the J9 conductor, 4 holes drilled at the Joule-Mushroom Lake showing, 2 at the Pulse showing and 1 at the Spark conductor (Dufresne *et al*., 2012). Reconnaissance drilling highlights included 0.44% U_3O_8, 12.8 g/t Ag and 0.59% Cu over 2.3 m core length at the Pulse prospect, and 1.01% U_3O_8, 83.0 g/t Ag, 1.48% Cu and 0.28% Mo over 25.4 m core at the Blaze Zone (Dufresne *et al*., 2012).

Drilling during 2011 resulted in the identification of three distinct mineralized sections within the Lac Cinquante Deposit occurring over 3.8 km of strike length and interpreted to be the Main Zone mineralization off-set by faults. Based upon the results of the 2011 core drilling campaign, the Lac

Figure 10.1: Lac Cinquante Area diamond and RC drilling 2009 - 2012

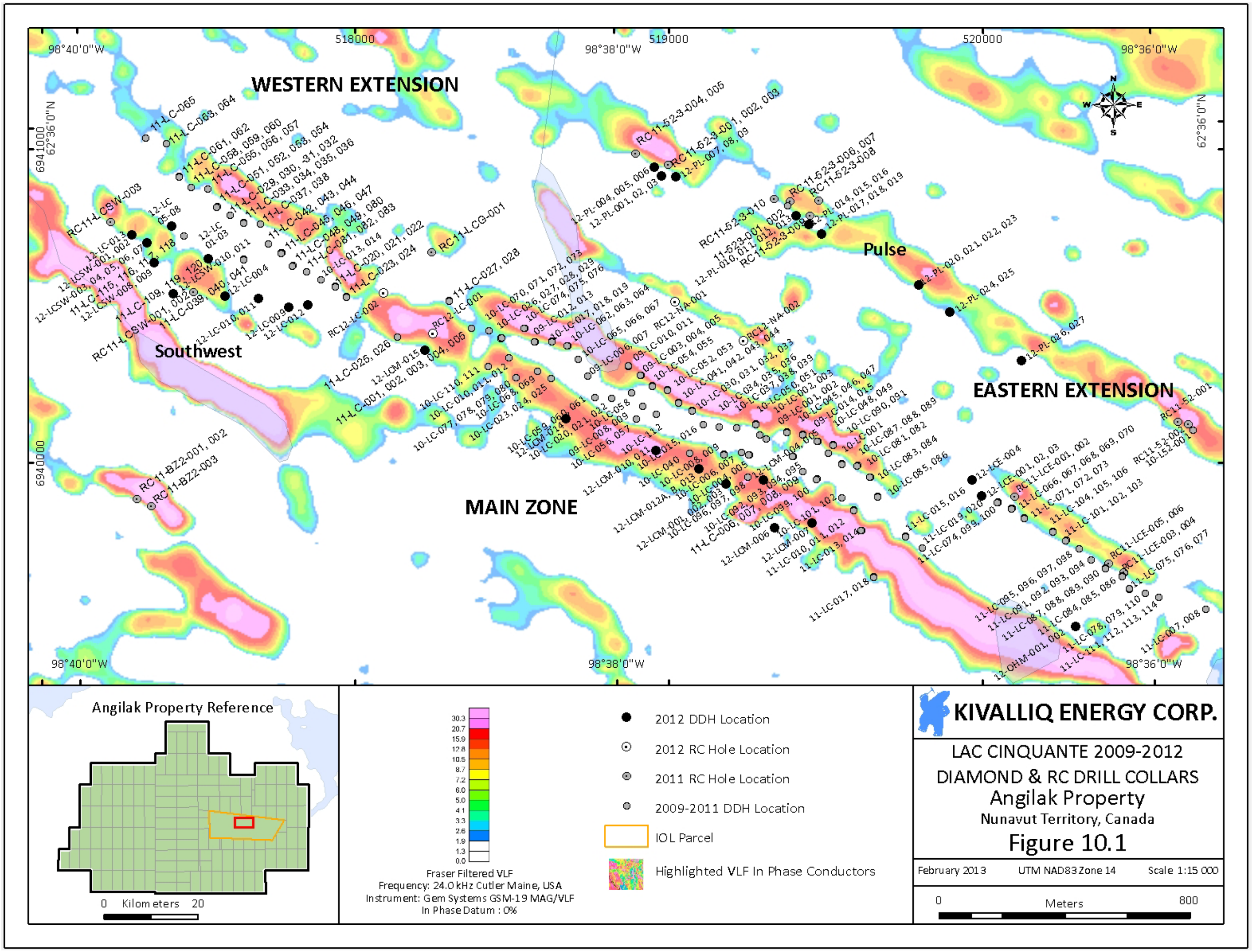


Figure 10.2: J4 and Ray area diamond and RC drilling 2011 – 2012

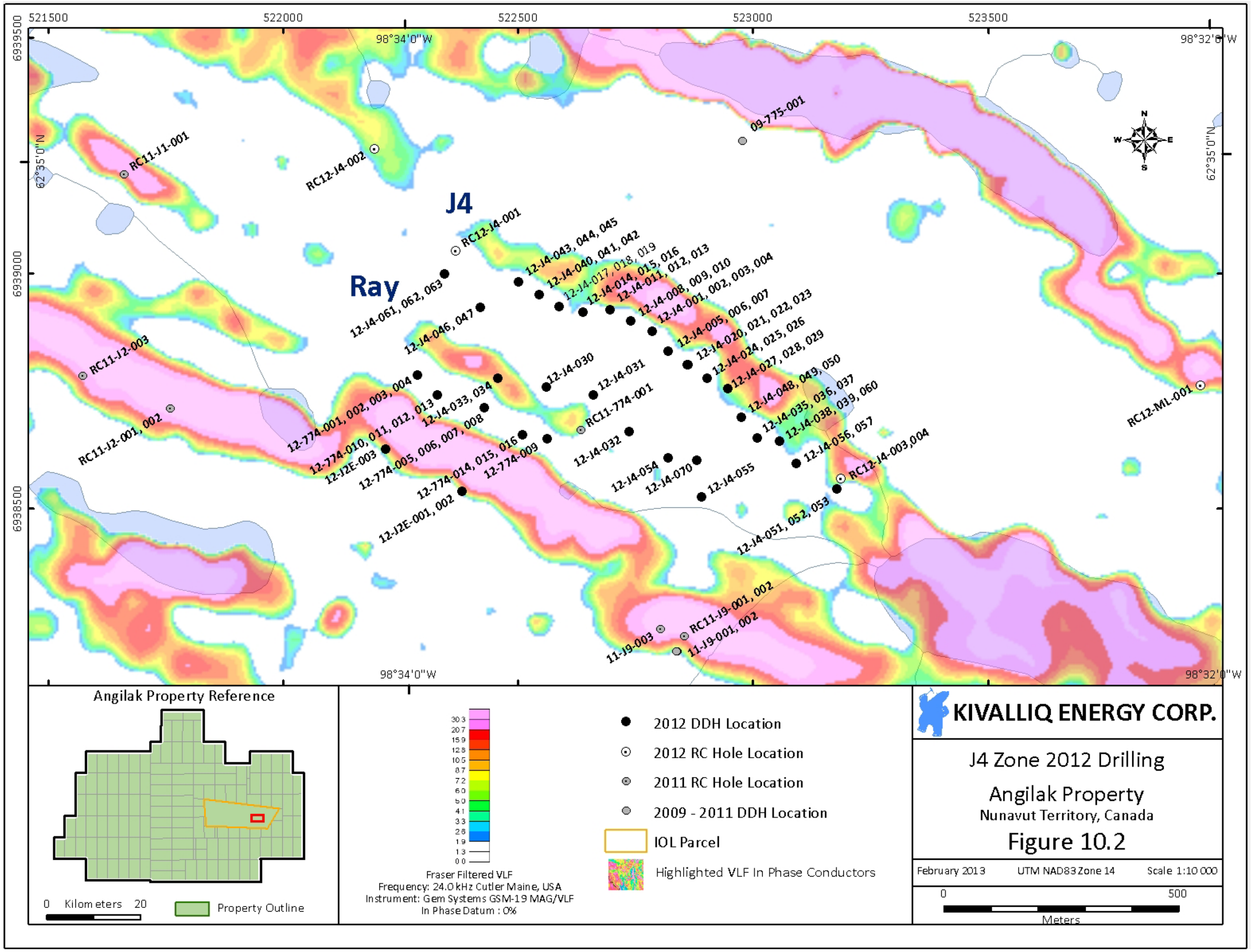


Figure 10.3: Lac Cinquante and regional reconnaissance diamond and RC drill hole collars (red to purple is high, blue is low)

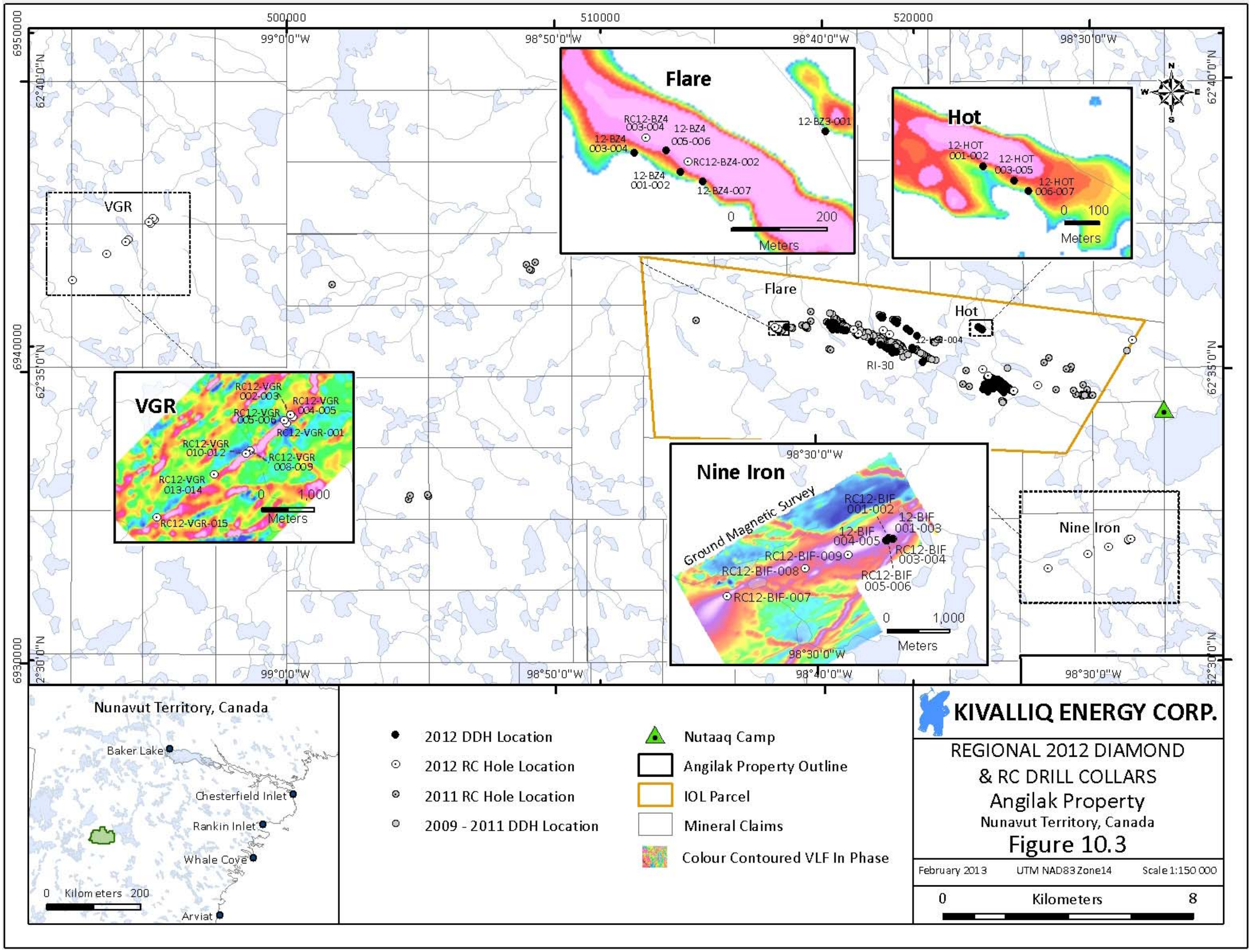


Table 10.1: 2012 Lac Cinquante Diamond Drilling Program Summary

DDH	*From** (m)*	*To** (m)*	*Core Length** (m)*	*%U_3O_8*	*Estimated True Width* (m)*	*Section*	*Description*
12-LC-001	424.0	424.8	0.8	0.04	0.4	L5650E	West Extension
12-LC-002						L5650E	No Zone
12-LC-003						L5650E	No Zone
12-LC-004	365.5	366.4	0.9	0.01	0.7	L5750E	West Extension
12-LC-005	261.4	264.6	3.2	0.06	2.7	L5500E	West Extension
12-LC-006	286.2	287.1	0.9	0.20	0.7	L5500E	West Extension
12-LC-007	369.7	374.7	5.0	0.33	3.1	L5500E	West Extension
12-LC-008						L5500E	No Zone
12-LC-009						L5950E	No Zone
12-LC-010	263.1	269.4	6.2	0.12	5.2	L5850E	West Extension
12-LC-011						L5850E	No Zone
12-LC-012						L6000E	No Zone
12-LC-013	73.9	76.2	2.3	0.13	1.8	L5400E	Southwest Zone
12-LC-013	392.5	392	0.5	0.10	NA	L5400E	Main Zone
12-LCE-001	109.9	110.7	0.8	0.44	0.8	L8200E	East Extension
12-LCE-002	131.2	131.9	0.7	0.15	0.6	L8200E	East Extension
12-LCE-003	144.8	146.9	2.1	0.01	1.8	L8200E	East Extension
12-LCE-004						L8150E	No Zone
12-LCM-001						L7450E	Lost
12-LCM-002	245	246.1	1.1	0.11	1.0	L7450E	Main Zone
12-LCM-003	335.5	335.8	0.3	0.32	0.3	L7450E	Main Zone
12-LCM-004						L7550E	No Zone
12-LCM-005						L7550E	No Zone
12-LCM-006	354.8	355.1	0.3	0.43	0.3	L7650E	Main Zone
12-LCM-007						L7750E	No Zone
12-LCM-010						L7200E	No Zone
12-LCM-011						L7200E	No Zone
12-LCM-012A						L7350E	Lost
12-LCM-012B						L7350E	Lost
12-LCM-013						L7350E	No Zone
12-LCM-014	276.9	277.5	0.6	0.23	0.5	L6900E	Main Zone
12-LCM-015	102.7	102.9	0.2	0.04	0.2	L6900E	Main/W Extension
12-LCSW-001	93.7	94.4	0.7	0.35	NA	L5400E	Southwest Zone
12-LCSW-002	146.1	149.1	3.0	0.80	NA	L5400E	Southwest Zone
12-LCSW-003						L5450E	No Zone
12-LCSW-004	82.7	83.7	1.0	0.12	NA	L5450E	Southwest Zone
12-LCSW-005	100.8	101.2	0.4	0.15	NA	L5450E	Southwest Zone
12-LCSW-006						L5450E	No Zone
12-LCSW-007						L5450E	No Zone
12-LCSW-008	91.3	92.3	1.0	0.16	NA	L5500E	Southwest Zone
12-LCSW-009						L5500E	No Zone
12-LCSW-010						L5600E	No Zone
12-LCSW-011	118.2	119.2	0.9	0.03	NA	L5600E	Southwest Zone

*Estimated True width was calculated using the orientation of the drill hole, the apparent thickness of the mineralization and the dip of the mineralized zone on that section.
** From (m), To (m), Core Length measurements rounded to nearest 0.1 decimal place.

Cinquante Inferred Mineral Resource was nearly doubled to 27.31 million pounds of U_3O_8, comprised of 1,779,000 tonnes at an average grade of 0.692% U_3O_8 using a cut-off grade of 0.2% U_3O_8, with the additional resources primarily in the Eastern and Western Extensions (Dufresne *et al*., 2012). The Lac Cinquante Deposit was and is still considered open in both directions along strike and at depth. A more detailed description of the 2009 to 2011 drilling programs can be found in Dufresne and Sim (2011) and Dufresne *et al.* (2012).

A total of 88 RC holes totaling 6,411.36 m were completed during 2011 testing 25 different reconnaissance target areas across the Angilak Property (Dufresne *et al*., 2012). A total of 45 RC holes generated anomalous radioactivity greater than 500 cps. Three anomalous radioactivity zones were discovered by RC drilling within three kilometers of the Lac Cinquante resource area. These discoveries, i.e. Eastern Extension, Pulse and Spark, were follow-up drilled with diamond drill core holes. Other anomalous intersections remain to be followed up with core drilling.

10.3 2012 Diamond Drilling

During 2012, a total of 173 diamond drill holes totaling 33,583 m were completed at a variety of targets across the Angilak property (Figure 10.1; Table 10.1). Drill collars were spotted using a handheld GPS and a compass (Appendix 1). Historic grid markings such as pickets or old drill collars were used where possible as well. Drill hole inclination angles ranged from approximately -45 to -90 degrees. Downhole termination depths ranged from 14 to 491 m.

Geologists notify drill crews of anticipated intercept depth of uranium mineralization and drilling is stopped temporarily approximately 15 metres above the predicted intercept depth. The hole is typically terminated 10 – 15 metres below the target mineralization. To capture cuttings, a small sump is dug beneath the rig adjacent to the cuttings discharge from the drill casing and lined with an impervious liner. A drill cuttings containment and collection circuit has been implemented by Major Drilling and used since 2010: the system utilizes a sump pump and a series of four 150 gallon, in-line settling tanks to capture precipitated cuttings.

Radioactive cuttings are isolated using the drill cuttings collection method and then contained and sealed in 205 litre steel drums. The sealed drums are temporarily staged on a flat dry outcropping ridge on the east side of the Lac Cinquante Main Zone drill area at 519615E 6939955N NAD 83 Zone 14. Non-radioactive cuttings are collected as a thick slurry from the bottom of the settling tanks and contained in one-tonne fibrene bulk bags. Once drilling has completed, the drill hole is surveyed, cemented and drill rods and casing are removed allowing a settling period for cuttings and excess water is allowed to seep through the weave of the bag material. After approximately 24 hours, the dewatered bulk bags with cuttings are flown to a naturally occurring depression/sump where they are deposited.

Drill holes were surveyed down hole using a Reflex EZ-Shot at the end of each hole. The downhole survey was conducted at the end of each hole and at times after collaring. On deeper holes, single shot survey readings were also collected every 100 m as the hole progressed. Downhole survey data was also plotted by field personnel in real time and was inspected. Any downhole data that showed unrealistic hole orientations were considered suspect and the data was not used.

Of the 173 holes drilled in 2012, 168 were surveyed, yielding 400 total surveys (some of the deeper holes were surveyed at 100 m increments down the hole as well as at the end of the hole). A total of 21 of the 400 surveys yielded unsatisfactory results and the results were identified in the drill hole database as spurious and are not used further. For those holes with spurious survey data, an orientation correction factor was applied to the hole based on the average deviation of drill holes at Lac Cinquante from 2010 and 2011. The unsatisfactory results are assumed to be from tool malfunction or user error.

Using Portland cement all radioactive down hole intercepts running in excess of 0.05% U_3O_8 were cemented for a distance of at least 10 m above and below the radioactive intercept. All drill holes were cemented for a distance of 35 m from the overburden/bedrock interface.

Once drilling on a setup was completed, the holes were marked with wooden stakes with metal tags describing the collar information. The drill collars were subsequently surveyed with a differentially corrected GPS by MEG Systems Ltd.

After a geological log was completed, drill core was marked at 10 cm intervals and scintillometer readings were collected at each mark, creating a radiometric profile of the uranium mineralization with a buffer of up to one metre above and below. Readings were collected using a RS-121 or RS-325 scintillometer and were measured in counts per second (cps). There appeared to be almost no correlation between non-mineralized lithologies and background counts per second. The average background cps reading varied between 150 and 300 cps. The basal conglomerate encountered at the top of drill holes on the western edge of the Lac Cinquante Deposit sometimes had slightly higher background levels, most likely due to the presence of large granitoid clasts within the conglomerate. On site sampling and sample shipment methods are summarized below in Section 11.

10.4 2012 Lac Cinquante Deposit Diamond Drilling

Drilling at Lac Cinquante was conducted on the historic grid over the deposit, targeting the Lac Cinquante mineralized zone and associated VLF-EM conductor. Drilling was generally conducted along grid lines, and the fences were generally 50 – 100 m apart (Figure 10.1). As the dip of the Lac Cinquante Main Zone is fairly predictable, 50 – 100 m spacing between intersections on each fence was also targeted.

Drilling during 2012 focused on investigating the multiple uranium targets discovered or advanced by the 2010 and 2011 prospecting and geophysical programs in addition to building on the 27.13 million pound U_3O_8 inferred mineral resource at the Lac Cinquante Deposit. Mineralized sections within the Lac Cinquante Deposit occur over 3.8 km of strike length and are interpreted to represent the Main Zone mineralization off-set by a series of northeast trending faults, resulting in a Western and Eastern Extension (Figure 10.1). Table 10.1 summarizes the uranium assay highlights for the 2012 diamond drilling program at the Lac Cinquante Deposit. True width for each intersection was calculated using the orientation of the drill hole, the apparent thickness of the mineralization and the dip of the mineralized zone on that section. The 2012 drilling program extended the known vertical depth of uranium mineralization from 327 m to 365 m.

The Lac Cinquante Deposit is comprised of three distinct mineralized sections occurring over 3.8 km of strike length and interpreted to be off-set by faults (Figure 10.1). The Lac Cinquante Main Zone is the largest, measuring 1.4 km in drilled strike length, at an azimuth of 115^o and dipping to the SSW at roughly -65^o. The Western Extension is a 120 m, left-lateral displacement of the Main Zone that has a drilled strike length of approximately 650 m, is oriented at 125^o azimuth and dips to the SSW at -70^o.

The Eastern Extension is interpreted as a 250 m, left-lateral displacement of the Main Zone with a strike of 122°, a -78° SSW dip and an overall drilled strike length of approximately 600 m. The true thickness of the mineralized zone varies from 0.05 to a maximum of 13.5 m with an average of 2.2 m. A total of 14 diamond drill holes totaling 4,053 m were completed on the Main Zone in 2012. Highlights include hole 12-LCM-006 with 0.43% U_3O_8, 0.15% Mo and 6.9 g/t Ag over 0.3 m core length (Table 10.1; Figure 10.4). The vast majority of drilling at the Main Zone was completed in 2010-2011 (Dufresne *et al*., 2012).

The Western Extension of the Lac Cinquante Deposit was first identified in 2010, when two exploration holes tested the Lac Cinquante VLF-EM conductor along strike 600 m west from the Main Zone. Anomalous radioactivity was encountered with similar mineralization, although the lithologies intersected were slightly different. The offset conductor drilled appeared to correlate with a conductor that runs parallel to the main Lac Cinquante conductor and deposit approximately 200 m to the south; therefore, these drill holes were initially assumed to have intersected mineralization not related to the Lac Cinquante Main Zone. However, more extensive drilling of the western VLF-EM conductor in 2011 – 2012 determined that the associated mineralized zone is a 120 m left-lateral displacement of the Main Zone and is now referred to as the Western Extension of the Lac Cinquante Deposit (Figure 10.1). Example drill sections for the 2012 and older drilling program are provided as Figure 10.4 and in Appendix 4. The true thickness of the mineralized domain at the Lac Cinquante Deposit ranges from 0.05 m up to 13.4 m with an average thickness of 2.2 m.

The conductor 200 m south of the Main Zone was also drill tested in 2012 (Figure 10.1). The drilling encountered an unmineralized mafic to felsic tuffaceous horizon, confirming that the Western Extension is likely a 120 m left-lateral displacement of the Lac Cinquante Main Zone.

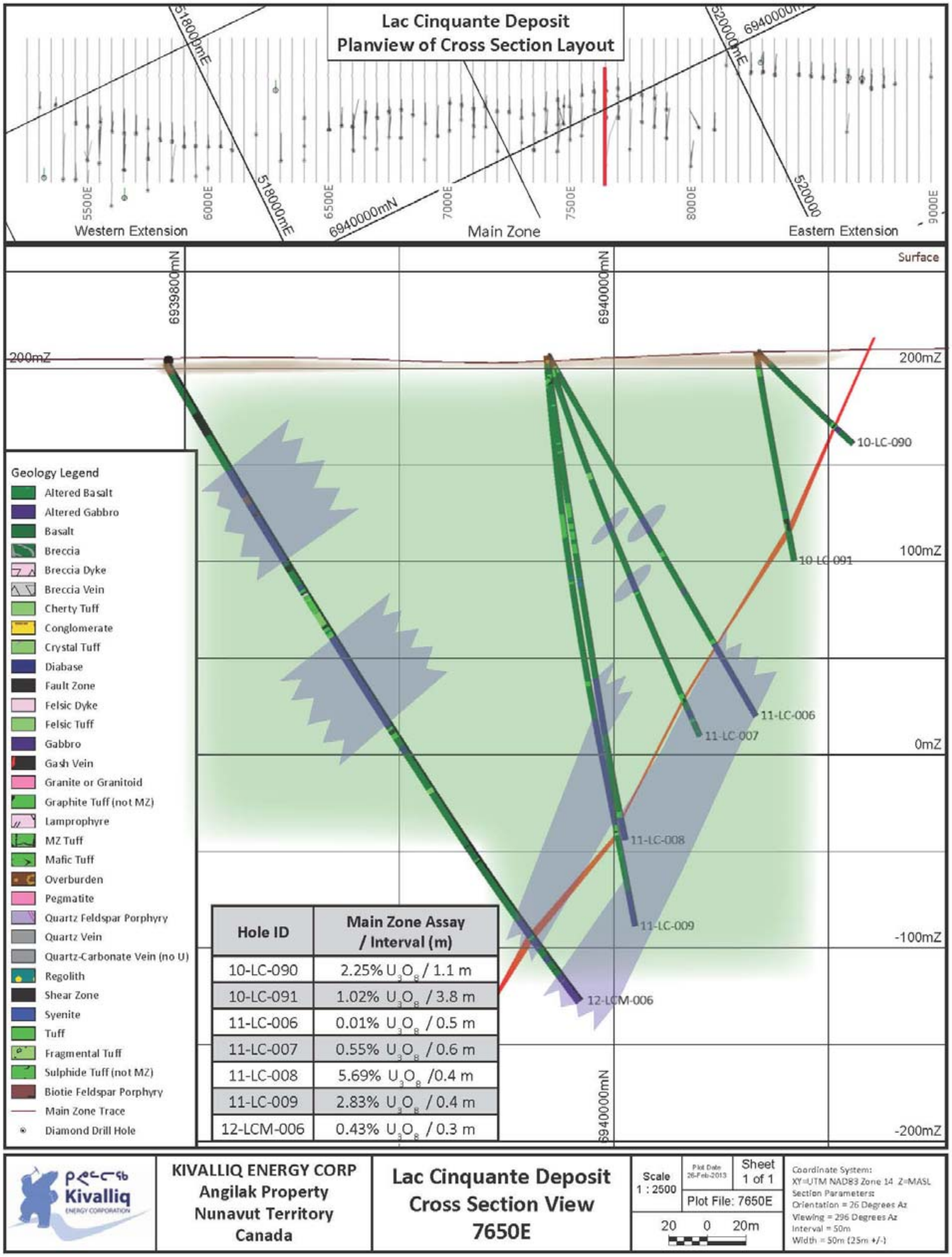
Drilling during 2012 resulted in the discovery of the Southwest Zone. The Southwest Zone is associated with a conductor that lies 300 m southwest of and parallel to the Western Extension. The Southwest Zone has a strike length of 200 m and is oriented at 115° and dipping -65° to the southwest (Figure 10.1). The Southwest Zone was not included in the resource estimate calculated herein.

Though there are variances, the style of mineralization is fairly consistent across the length of the deposit. Lac Cinquante is an unconformity associated, hydrothermal vein/basement hosted uranium deposit, similar to the Beaverlodge series of deposits in northern Saskatchewan. The emplacement of uranium 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 (uraninite) with sulphides and as fracture controlled, brecciated, hematite-pitchblende-quartz-carbonate veins within the mineralized horizon.

At Lac Cinquante, uranium mineralization also occurs in quartz-carbonate-pitchblende veins known as "gash veins" that occur distal to the deposit's mineralized horizon. These gash veins have variable amounts of uranium, from weakly anomalous to extremely high grade. Due to a lack of continuity, high variability in size and no apparent preferred orientation, gash veins are generally not targeted for drilling.

Also encountered in drill holes along the western portion of the Lac Cinquante Main Zone is a conglomerate of Helikian paleosurface breccia. There was no anomalous radioactivity recorded at the unconformity in any of the 2009 to 2012 drill holes, though several had strong to almost regolithic alteration in the basalt and tuffs beneath the unconformity.

Figure 10.4: Lac Cinquante Main Zone Example Cross Section 7650E



Anomalous radioactivity was detected in one of two 2012 RC holes drilled within the gap between the Western Extension and the Main Zone (RC12-LC-001). This was later followed up with a diamond drill (12-LCM-015) and shows further evidence of the Western Extension as a left-lateral displacement of the Main Zone (Section L6400E; Appendix 4). Diamond drilling on the Western Extension consisted of 13 holes totaling 4,213 m. Assay highlights from the 2012 drilling include 12-LC-007 with 0.33% U_3O_8, 0.19% Cu and 6.8 g/t Ag over 5.0m core length and hole 12-LC-006, which yielded 0.20% U_3O_8, 0.15% Cu and 5.7 g/t Ag over 0.9 m core length (Table 10.1; Appendix 2). The deepest uranium interval intersected to date on the Lac Cinquante Deposit was drilled at the Western Extension in 2012 in drill hole 12-LC-007 at 365 m below surface. The overall strike length of the Lac Cinquante Deposit increased by 50 m from 3.8 to 3.85 km due to a deep intersection on the western edge of the Western Extension by hole 12-LC-013 with an interval assaying 0.10% U_3O_8 over 0.45 m core length at 352 m below surface (Table 10.1).

The Eastern Extension of the Lac Cinquante Deposit was first drilled in 2011 in order to test a discreet offset VLE-EM anomaly. The drilling in 2011 determined that the Eastern Extension of the Lac Cinquante Deposit is offset from the Main Zone by a 250 m left-lateral fault. Drilling throughout the 2012 season has defined this zone to be 950 m long, oriented at about 122° with a dip to the southwest of -75° to -80°. The intersections in the Eastern Extension tend to be narrower than those encountered in the Main Zone, but they also tend to be higher grade (Table 10.1; Appendix 4). A total of 4 holes totaling 668 m were completed on the Eastern extension. Drill hole 12-LCE-001 returned results of 0.58% $U_3O_{8,}$ 0.45% Cu, 0.63% Mo and 93.6 g/t Ag over 0.35 m core length (Table 10.1; Appendix 4).

The Southwest Zone was identified in 2011 as a 200 m long VLF-EM conductor located 300 m southwest and parallel to the Western Extension. In 2012, a total of 11 drill holes totaling 1,615 m tested the anomaly. Eight of the 11 holes encountered anomalous radioactivity between 65 – 148 m vertical depth, hosted in Lac Cinquante style geology. Highlights include hole 12-LCSW-002 with 0.8% $U_3O_{8,}$ 0.45% Cu and 32.5 g/t Ag over 3.0 m core length and hole 12-LCSW-001 with 0.35% U_3O_8, 0.16% Cu and 13.9 g/t Ag over 0.4 m core length (Table 10.1).

The Lac Cinquante Uranium Deposit, including Western and Eastern Extensions, was drill tested at various locations targeting down-dip mineralization in 2012 (Table 10.1). Further deep drilling is required to confirm whether the deposit continues below 365 m depth, to date the deepest intersection encountered; however, this should not be a high priority for the 2013 exploration program. The overall deposit still remains open to the west and east, particularly the 1.8 km gap between Lac Cinquante East and the J4 zone. The undrilled gap between Lac Cinquante East and the J4 zone is considered a high priority target for drilling in 2013.

10.5 2012 Reconnaissance Diamond Drilling

During 2012, a total of 131 holes totaling 23,033 m were drilled at targets outside of the Lac Cinquante resource area, including: 63 holes totaling 12,756 m drilled at the J4 Zone, 16 holes totaling 2,796 m at the Ray Zone, 27 holes totaling 3,830 m at the Pulse Zone and 5 holes totaling 841 m at the Nine Iron Trend. Drilling at the Nine Iron Trend constituted the first time that diamond drilling was conducted outside the IOL RI-30 Parcel. The remaining 20 core holes totaling 2,810 m were drilled at 5 additional prospects, with 7 holes drilled at the Flare Zone, 7 holes drilled at the Hot Swamp showing, three holes drilled at the J2E conductor, two holes to test the OHM conductor and one hole drilled at the Spark Zone. Drilling highlights for the 2012 reconnaissance core holes are provided in Table 10.2.

Table 10.2: 2012 Reconnaissance Diamond Drilling Program Summary

2012 Exploration Diamond Drill Hole Weighted Assay Results*								
DDH	From (m)	To (m)	Interval (m)	U_3O_8 (%)	Cu (%)	Ag (g/t)	Mo (%)	Prospect
12-J4-001	70.7	71.8	1.1	0.11	0.18	51.7	0.44	J4
	92.0	92.3	0.3	0.45	0.02	10.8	0.14	
	95.6	95.9	0.3	1.33	0.10	72.6	1.22	
	99.8	100.1	0.3	1.85	0.07	16.8	0.07	
12-J4-002	73.5	75.2	1.7	0.23	0.33	51.2	0.46	J4
	99.5	99.8	0.3	1.66	0.05	13.0	0.15	
	127.4	127.7	0.3	0.23	0.04	1.7	0.05	
12-J4-003	87.7	89.1	1.4	1.91	0.30	79.8	0.55	J4
	118.8	119.2	0.4	3.76	0.06	22.5	0.32	
	122.3	124.0	1.7	0.19	0.05	1.8	0.03	
12-J4-004	122.9	123.7	0.8	0.43	0.68	67.7	0.49	J4
	182.7	183.0	0.3	1.50	0.28	70.5	1.19	
12-J4-005	91.9	92.7	0.8	1.32	0.31	9.1	0.05	J4
	113.2	113.5	0.3	0.53	0.08	30.9	0.53	
	122.2	122.5	0.3	1.75	0.03	4.1	0.01	
12-J4-006	111.9	113.5	1.6	0.39	0.23	7.8	0.03	J4
	158.9	159.2	0.3	0.08	0.01	1.2	0.01	
12-J4-007	217.3	219.7	2.4	0.24	0.26	0.5	0.00	J4
12-J4-008	68.4	69.3	0.9	0.64	0.29	30.0	0.30	J4
	85.1	85.4	0.3	0.87	0.10	16.0	0.54	
12-J4-009	89.4	91.4	2.0	0.33	0.14	22.3	0.22	J4
	111.6	112.1	0.5	1.14	0.22	22.5	0.27	
12-J4-010	117.3	118.0	0.7	0.31	0.06	8.4	0.10	J4
	129.8	133.5	3.7	0.25	0.54	28.8	0.21	
	176.1	177.5	1.4	0.46	0.06	9.3	0.18	
12-J4-011	52.5	52.8	0.3	0.01	0.01	32.5	0.03	J4
	64.7	66.2	1.5	0.16	0.12	4.6	0.02	
	77.0	77.6	0.6	0.01	0.56	21.5	0.03	
12-J4-012	61.0	61.3	0.3	0.12	0.01	3.4	0.02	J4
	79.8	84.6	4.8	0.34	1.24	44.6	0.32	
includes	79.8	81.5	1.7	0.92	2.89	118.5	0.86	
12-J4-013	115.9	116.6	0.7	0.26	0.41	53.0	0.40	J4
12-J4-014	98.1	98.6	0.5	0.02	0.06	26.7	0.12	J4
12-J4-015	118.4	120.4	2.0	0.18	0.11	6.5	0.08	J4
	134.1	135.0	0.9	2.56	0.20	85.2	0.77	
12-J4-016	132.3	133.3	1.0	0.47	0.05	14.5	0.15	J4
	161.2	163.1	1.9	0.27	0.11	4.2	0.02	
	189.6	190.8	1.2	0.83	0.45	37.8	0.30	
12-J4-017	80.7	81.2	0.5	0.08	0.09	20.1	0.02	J4
12-J4-018	51.6	52.3	0.7	0.08	0.01	3.3	0.02	J4
	109.0	109.3	0.3	0.22	0.03	0.8	0.04	
	130.0	130.9	0.9	0.02	0.03	8.2	0.05	
12-J4-19	138.9	139.3	0.4	0.17	0.02	0.6	0.02	J4
	155.9	157.0	1.1	0.99	0.32	33.2	0.30	

2012 Exploration Diamond Drill Hole Weighted Assay Results*								
DDH	From (m)	To (m)	Interval (m)	U_3O_8 (%)	Cu (%)	Ag (g/t)	Mo (%)	Prospect
12-J4-019	178.2	178.9	0.7	0.15	0.02	8.9	0.08	J4
12-J4-020	Lost							J4
12-J4-020B	Lost							J4
12-J4-021	96.3	97.4	1.1	1.71	0.36	20.2	0.05	J4
12-J4-022	124.0	125.3	1.3	0.42	0.37	61.0	0.32	J4
12-J4-023	189.6	191.1	1.5	0.37	0.35	20.2	0.13	J4
12-J4-024	99.4	102.0	2.6	0.10	0.32	6.5	0.02	J4
12-J4-025	107.5	109.7	2.2	0.00	0.38	11.1	0.08	J4
	149.4	149.7	0.3	0.97	0.28	35.0	0.29	
12-J4-026	143.9	146.5	2.6	0.00	0.17	5.2	0.01	J4
	176.6	179.5	2.9	0.01	0.17	9.8	0.07	
12-J4-027	111.0	112.4	1.4	0.08	0.01	1.2	0.01	J4
	118.1	119.3	1.2	0.07	0.02	3.2	0.01	
12-J4-028	87.0	87.9	0.9	3.91	0.01	18.3	0.02	J4
	115.2	117.1	1.9	0.01	0.12	8.3	0.04	
12-J4-029	100.4	101.0	0.6	0.00	0.17	7.6	0.00	J4
	102.5	104.2	1.7	0.39	0.67	47.4	0.00	
	153.5	159.6	6.1	2.42	0.25	137.4	0.52	
12-J4-030	299.8	304.4	4.6	0.85	0.15	15.4	0.14	J4
12-J4-031	217.8	218.2	0.4	0.16	0.03	1.2	0.01	J4
	279.2	280.9	1.7	1.16	0.17	28.7	0.35	
	312.6	312.9	0.3	0.20	0.26	21.5	0.09	
12-J4-032	58.2	58.5	0.3	0.40	0.01	1.6	0.03	J4
	293.0	298.5	5.5	0.00	0.14	4.3	0.00	
12-J4-033	281.6	281.9	0.3	3.60	0.15	102.0	0.82	J4
	294.6	295.5	0.9	0.36	0.08	29.9	0.24	
12-J4-034	25.2	27.1	1.9	0.05	0.08	33.0	0.02	J4
	390.6	392.1	1.5	1.24	0.35	47.1	0.35	
12-J4-035	101.4	103.2	1.8	0.04	0.38	9.6	0.13	J4
12-J4-036	171.0	171.4	0.4	0.01	0.11	21.8	0.24	J4
	190.4	190.8	0.4	0.13	0.02	7.2	0.03	
12-J4-037	125.2	126.7	1.5	0.07	0.36	32.0	0.19	J4
12-J4-038	99.0	100.5	1.5	2.86	0.19	29.2	0.06	J4
12-J4-039	106.7	108.5	1.8	0.03	0.73	25.3	0.11	J4
	121.3	123.7	2.4	0.14	0.05	12.1	0.05	
12-J4-040	66.0	67.0	1.0	0.09	0.14	37.1	0.01	J4
12-J4-041	121.6	123.3	1.7	0.11	0.34	19.7	0.15	J4
12-J4-042	167.7	169.7	2.0	1.17	0.54	84.8	0.57	J4
12-J4-043	50.0	51.7	1.7	0.00	0.19	3.7	0.01	J4
12-J4-044	69.3	71.0	1.7	0.13	0.37	68.3	0.04	J4
12-J4-045	156.5	157.9	1.4	0.67	0.66	85.4	0.69	J4
12-J4-046	180	181.2	1.2	0.24	1.14	5.8	0.01	J4
12-J4-047	225.6	226.6	1.0	0.32	0.10	17.2	0.13	J4
12-J4-048	89.1	91.3	2.2	0.01	0.73	6.8	0.06	J4
12-J4-049	100.2	102.4	2.2	0.01	0.55	5.9	0.02	J4

2012 Exploration Diamond Drill Hole Weighted Assay Results*								
DDH	**From (m)**	**To (m)**	**Interval (m)**	**U_3O_8 (%)**	**Cu (%)**	**Ag (g/t)**	**Mo (%)**	**Prospect**
12-J4-050	114.9	144.6	29.7	0.30	0.15	10.2	0.02	J4
(12-J4-050) includes	114.9	117.5	2.6	1.77	0.07	9.9	0.03	J4
	122.6	123.5	0.9	1.24	0.20	28.9	0.07	
	129.2	131.7	2.5	0.38	0.21	20.4	0.03	
	139.6	142.4	2.8	0.58	0.28	13.9	0.02	
12-J4-051	72.0	77.0	5.0	0.00	0.05	2.4	0.00	J4
12-J4-052	104.7	106.7	2.0	0.00	0.13	5.1	0.01	J4
12-J4-053	127.2	130.8	3.6	0.00	0.22	1.9	0.02	J4
12-J4-054	116.2	116.7	0.5	0.09	0.03	3.2	0.02	J4
	257.7	260.4	2.7	0.01	0.24	5.0	0.00	
	288.4	289.7	1.3	0.05	0.02	2.8	0.02	
12-J4-055	240.4	241.2	0.8	0.00	0.82	16.6	0.12	J4
12-J4-056	96.2	98.1	1.9	0.03	0.05	9.2	0.07	J4
12-J4-057	116.3	117.5	1.2	0.06	0.89	10.4	0.01	J4
12-J4-060	146.1	149.8	3.7	0.00	0.48	19.8	0.15	J4
12-J4-061	80.9	81.5	0.6	0.02	0.62	28.5	0.01	J4
12-J4-062	119.1	120.7	1.6	2.85	0.66	20.6	0.00	J4
includes	119.6	119.9	0.3	15.4	1.64	101.0	0.01	
12-J4-063	195.7	196.3	0.6	0.12	0.30	17.9	0.14	J4
12-J4-070	185.5	192.0	6.5	0.06	0.14	20.0	0.08	J4
12-774-001	74.3	74.7	0.4	0.51	0.07	96.0	0.75	Ray
12-774-002	84.3	84.6	0.3	0.14	0.02	0.4	0.02	Ray
	87.5	88.5	1.0	0.21	0.07	13.7	0.09	
	101.4	101.9	0.5	0.48	0.02	2.3	0.07	
12-774-003	113.4	114.0	0.6	0.20	0.05	21.9	0.15	Ray
12-774-004	100.4	100.7	0.3	0.10	0.02	0.00	0.01	Ray
	144.3	144.9	0.6	0.01	0.10	13.1	0.09	
12-774-005	Lost							Ray
12-774-006	29.9	31.0	1.1	0.00	0.03	100.4	0.00	Ray
	77.7	79.4	1.7	0.22	0.27	37.5	0.12	
12-774-007	92.5	94.4	1.9	0.35	0.09	15.3	0.35	Ray
12-774-008	116.0	116.7	0.7	0.05	0.01	0.9	0.00	Ray
12-774-009	57.1	57.5	0.4	0.28	0.02	0.6	0.00	Ray
12-774-010	96.1	97.4	1.3	0.66	0.03	36.4	0.35	Ray
	108.0	108.6	0.6	0.00	0.33	515.0	0.00	
12-774-011	113.8	114.9	1.1	0.72	0.10	12.3	0.66	Ray
	373.9	374.2	0.3	0.57	0.08	19.6	0.25	J4
12-774-012	133.7	135.2	1.5	0.07	0.04	3.9	0.03	Ray
	141.5	141.8	0.3	0.35	0.01	35.6	0.03	
12-774-013	101.0	102.2	1.2	0.14	0.01	0.9	0.05	Ray
	170.7	171.3	0.6	0.01	0.04	19.1	0.04	
12-774-014	No Mineralization intersected							Ray
12-774-015	101.0	102.9	1.9	0.42	0.10	19.5	0.25	Ray
	436.5	437.9	1.4	0.20	0.24	15.8	0.12	J4
12-774-016	51.9	52.6	0.7	0.97	0.03	7.7	0.06	Ray

2012 Exploration Diamond Drill Hole Weighted Assay Results*								
DDH	**From (m)**	**To (m)**	**Interval (m)**	**U_3O_8 (%)**	**Cu (%)**	**Ag (g/t)**	**Mo (%)**	**Prospect**
	130.8	131.4	0.6	0.08	0.05	1.9	0.08	
	52.2	53.0	0.8	0.63	0.03	2.3	0.10	
12-PL-001	83.7	84.8	1.1	0.03	0.09	17.7	0.06	Pulse
12-PL-001	87.4	88.8	1.3	0.14	6.24	47.8	0.06	Pulse
12-PL-002	103.0	103.6	0.6	0.00	1.07	29.1	0.15	Pulse
	106.4	106.7	0.3	0.20	0.01	9.5	0.22	
12-PL-003	No Mineralization intersected							Pulse
12-PL-004	86.4	87.9	1.5	0.00	0.28	15.9	0.01	Pulse
12-PL-005	102.2	104.6	2.4	0.01	0.79	16.0	0.10	Pulse
12-PL-006	No Mineralization intersected							Pulse
12-PL-007	52.5	59.9	7.4	0.00	0.81	11.3	0.10	Pulse
12-BIF-001	23.9	24.3	0.4	0.13	0.01	3.7	0.08	Nine Iron
	33.4	34.3	0.9	0.45	0.01	0.9	0.01	
	41.4	41.7	0.3	0.13	0.01	2.4	0.05	
	44.6	45.6	1.0	0.31	0.01	1.8	0.01	
	59.4	62.1	2.7	0.08	0.01	1.4	0.01	
	97.5	97.8	0.3	0.28	0.02	4.0	0.02	
12-BIF-002	21.6	22.5	0.9	0.19	0.01	3.4	0.08	Nine Iron
	30.9	32.2	1.3	0.28	0.01	0.6	0.01	
	43.0	43.4	0.4	0.09	0.01	4.1	0.04	
	62.1	62.4	0.3	0.10	0.00	1.6	0.18	
	83.4	84.1	0.7	0.22	0.02	3.8	0.03	
12-BIF-003	109.8	111.9	2.1	0.24	0.01	3.6	0.02	Nine Iron
	197.7	198.7	1.0	0.04	0.02	0.1	0.00	
	212.5	212.8	0.3	0.13	0.04	3.7	0.02	
12-BIF-004	36.6	36.9	0.3	0.10	0.01	1.2	0.00	Nine Iron
	38.8	39.3	0.5	0.40	0.05	4.0	0.00	
	40.7	41.0	0.3	0.10	0.02	0.8	0.01	
	93.2	93.6	0.4	0.40	0.08	7.3	0.03	
	104.7	105.3	0.6	0.29	0.01	7.0	0.05	
12-BIF-005	105.3	105.6	0.3	0.26	0.03	4.0	0.00	Nine Iron
	147.5	148.1	0.6	0.07	0.01	10.2	0.11	
12-BZ3-001	No Mineralization intersected							Spark
12-BZ4-001	84.0	87.9	3.9	0.02	2.22	6.5	0.01	Flare
12-BZ4-002	103.2	106.2	3.0	0.00	0.88	4.3	0.00	Flare
	127.1	128.5	1.4	0.06	0.31	1.3	0.00	
12-BZ4-003	104.1	105.4	1.3	0.00	0.56	8.0	0.04	Flare
12-BZ4-004	114.4	116.0	1.6	0.00	0.21	1.8	0.00	Flare
12-BZ4-005	55.6	60.2	4.6	0.09	0.69	2.2	0.00	Flare
12-BZ4-006	83.0	83.8	0.8	0.01	1.02	1.9	0.00	Flare
12-BZ4-007	72.7	73.5	0.8	0.00	1.27	9.1	0.02	Flare
12-J2E-001	80.1	83.5	3.4	0.01	0.27	7.9	0.04	J2E
12-J2E-002	10.0	11.0	1.0	0.53	0.07	23.7	0.11	J2E
	101.3	101.8	0.5	0.02	0.34	13.2	0.09	
12-J2E-003	No Mineralization intersected							J2E

2012 Exploration Diamond Drill Hole Weighted Assay Results*								
DDH	**From (m)**	**To (m)**	**Interval (m)**	**U_3O_8 (%)**	**Cu (%)**	**Ag (g/t)**	**Mo (%)**	**Prospect**
12-HOT-001	No Mineralization intersected							Hot Swamp
12-HOT-002	119.9	120.3	0.4	0.40	0.03	49.3	0.40	Hot Swamp
12-HOT-003	42.8	43.1	0.3	0.18	0.01	3.3	0.12	Hot Swamp
	64.1	64.7	0.6	0.37	0.27	88.4	0.70	
	66.6	67.5	0.9	0.07	0.02	19.4	0.20	
12-HOT-003	71.9	73.1	1.2	0.11	0.13	17.9	0.14	Hot Swamp
	82.8	84.0	1.2	0.07	0.00	1.4	0.09	
12-HOT-004	84.1	87.1	3.0	0.85	0.07	56.2	0.53	Hot Swamp
	112.0	113.8	1.8	0.31	0.08	71.8	0.44	
	119.2	119.6	0.4	0.25	0.01	4.7	0.04	
	138.2	138.5	0.3	0.31	0.03	11.3	0.11	
	143.6	144.3	0.7	0.38	0.01	5.0	0.14	
	191.0	191.3	0.3	0.18	0.02	4.8	0.06	
12-HOT-005	112.0	112.4	0.4	0.27	0.05	12.7	0.08	Hot Swamp
	114.7	115.3	0.6	0.48	0.05	27.6	0.16	
	132.8	133.4	0.6	0.53	0.18	87.9	0.21	
12-HOT-006	57.6	58.1	0.5	0.02	0.08	37.4	0.35	Hot Swamp
	113.5	113.8	0.3	0.29	0.01	4.2	0.12	
12-HOT-007	78.0	79.5	1.5	0.06	0.03	11.5	0.11	Hot Swamp
	85.0	86.0	1.0	0.09	0.01	3.8	0.05	
	141.4	141.8	0.4	0.11	0.03	2.1	0.09	
12-OHM-001	No Mineralization intersected							OHM
12-OHM-002	No Mineralization intersected							OHM

* For exact analytical techniques see section 12.0 below. All samples were subject to ICP analysis at the 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%. Intervals reported are down-hole. 11 exploratory diamond drill holes did not intersect mineralization.

<u>J4 Zone</u>

The J4 Zone is a 1 km long VLF-EM conductor located 2.3 km east of Lac Cinquante and 300 m north of the Ray Zone (Figure 10.2). Anomalous radioactivity was detected in three of four RC holes collared and drilled at the J4 Zone in 2012. A total of 63 diamond drill holes totalling 12,756 m were drilled at the J4 Zone based upon initially the positive results of the RC drilling and continued positive results during ongoing diamond drilling (Figure 10.2; Table 10.2). Drilling was conducted utilizing the historic Lac Cinquante grid, (which was extended to cover the J4 and Ray zones) on 50 m fences, covering 950 m of strike length. At the J4 Zone, a total of 55 of 63 holes intersected anomalous radioactivity ranging from 500 to 60,200 cps, intersected at vertical depths ranging form 35 m to 383 m and up to 29.7 m wide along core length. Highlights include hole 12-J4-028 with 3.91% U_3O_8 and 18.3 g/t Ag over 0.9 m core length, hole 12-J4-038 with 2.86% U_3O_8 and 29.2 g/t Ag over 1.5 m core length and hole 12-J4-050 with 0.30% U_3O_8 and 10.1 g/t Ag over 29.7 m core length (Table 10.2). The deepest uranium interval intersected on the Angilak Property to date was drilled in 2012 at the J4 Zone. Hole 12-774-015, intersected the J4 mineralized zone with a weighted average of 0.20% U_3O_8 over 1.4 m core length at a depth of 383 m below surface (Table 10.2). This is the deepest intersection of uranium mineralization at

Lac Cinquante area to date. An example drill section across the J4 – Ray zones is provided as Figure 10.5. Further example drill sections are provided for the J4 – Ray drilling in Appendix 4.

Mineralization at J4 consists of at least two sub-parallel mineralized horizons ranging from 5 – 35 m apart (average about 20 m), referred to as the J4 Upper and J4 Lower horizons. Radioactivity at J4 is hosted in narrow quartz-carbonate veins within sheared sulphidic-graphitic tuff horizons, located within a larger sequence of basalt and gabbro (similar to Lac Cinquante). Mineralized horizons trend at an azimuth of about 120 degrees and a dip at -60 degrees to the south-southwest. The true thickness of J4 Upper ranges from 0.2 to 11 m and averages about 2 m and J4 Lower ranges from 0.1 to 4 m and averages about 1.5 m. The J4 Zone remains open to the east and west as well as at depth and represents a high priority target for future drilling in order to add to the current resource which is described below.

The J4 Zone, discovered during the 2012 drilling program, yielded a high degree of success with a total of 55 of 63 drill holes intersecting at least anomalous radioactivity. Successful drilling at the J4 Zone has led to the delineation of a new uranium resource at the Angilak Property. The continuous mineralization along with the grades and thicknesses encountered along the J4 Upper and Lower horizons has allowed a maiden resource estimate for the J4 Zone to be calculated in 2013 (outlined below in Section 14).

Ray Zone

The Ray Zone was originally targeted by Urangesellschaft in 1977 as “77-4”, a subtle VLF-EM conductor located 2 km along strike and southeast of the Eastern Extension of the Lac Cinquante Deposit and 300 m south of the J4 Zone (Figure 10.2). A total of 16 holes totalling 2,796 m tested 300 m of strike length at the Ray Zone. A total of 15 of the 16 core holes completed at the Ray Zone intersected anomalous radioactivity ranging from 500 to 19,000 cps at vertical depths of up to 145 m (Figure 10.5; Appendix 4). Highlights include hole 12-774-011 with 0.72 %U_3O_8, 12.3 g/t Ag, 0.66% Mo and 0.10% Cu over 1.1 m core length, hole 12-774-010 with 0.66% U_3O_8 36.4 g/t Ag and 0.35% Mo over 1.3 m core length (Kivalliq Energy Corporation, 2012f, Table 10.2).

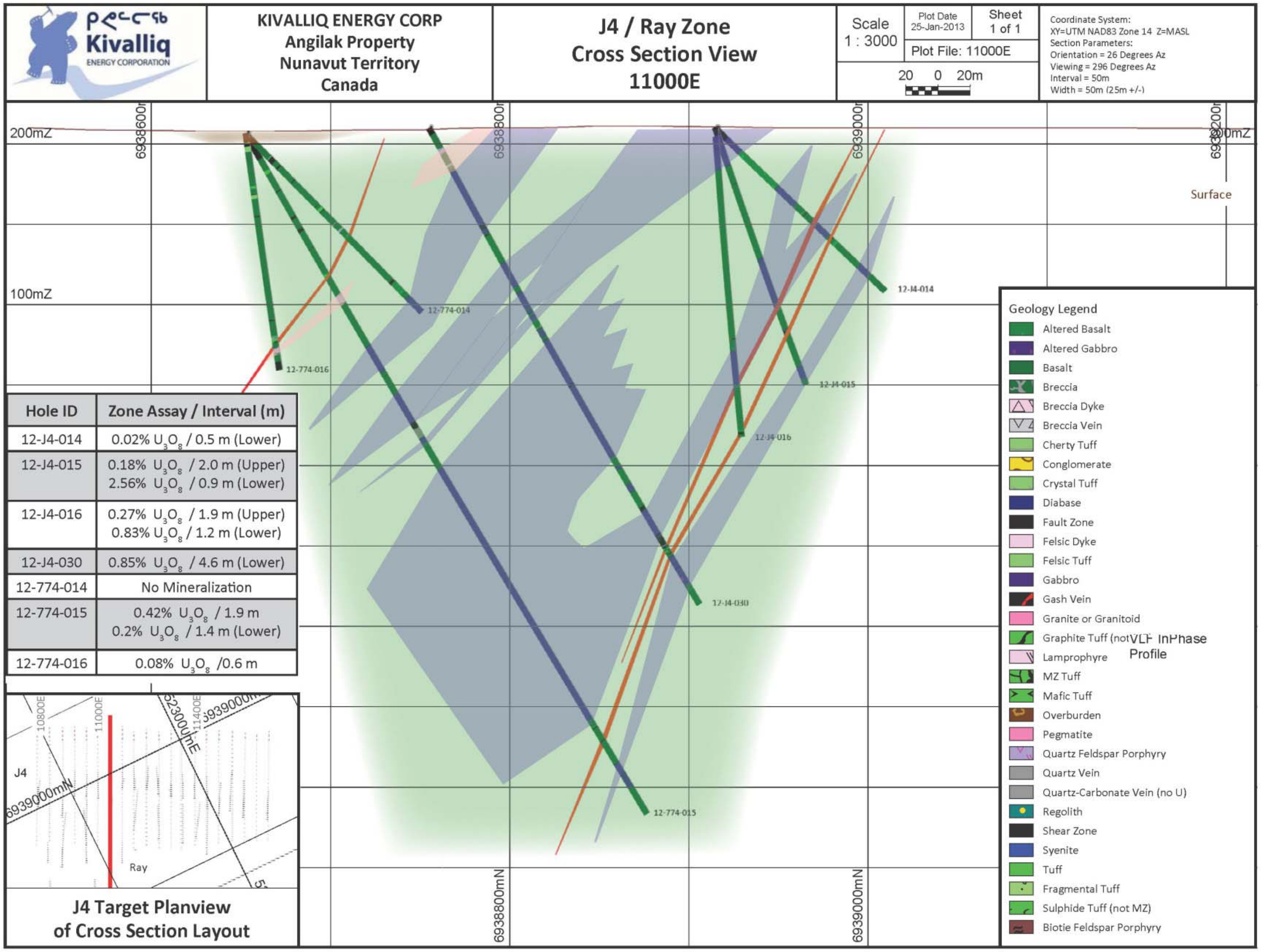
Mineralization in the Ray Zone consists of disseminated pitchblende hosted in narrow sulphidic, graphitic tuff horizons, and in certain places containing quartz-carbonate-pitchblende veins averaging 0.3 m in width. The Ray zone mineralization is similar to the mineralization at Lac Cinquante and J4. The true thickness of the Ray Zone ranges from 0.2 to 1.7 m and averages 0.8 m. The proximity and similarity of the Ray Zone mineralization to J4 allowed it to be included in the updated 2013 inferred mineral resource (outlined below in Section 14).

Pulse Zone

The Pulse zone was identified as a moderately anomalous linear VLF-EM geophysical target, located 700 m northeast and parallel to the Lac Cinquante Deposit (Figure 10.1). A total of 27 diamond drill holes tested 1.3 km of the 3.0 km long VLF-EM conductor (Figure 10.1). A total of 14 of the 27 core holes completed at the Pulse zone intersected anomalous radioactivity ranging from 200 to 10,000 cps with downhole intercepts up to 1.1 m wide. Highlights include 0.14% U_3O_8, 47.8 g/t Ag and 6.24% Cu over 1.3 m core length (Kivalliq Energy Corporation, 2012d, Table 10.2)

The Pulse zone is comprised of 1-2 m wide carbonate-quartz-pitchblende veins in sheared and altered basalt and sulphidic tuff, which correspond to a weak to moderate conductive trend identified by

Figure 10.5: J4/Ray Zone Example Cross Section 11000E



Hole ID	Zone Assay / Interval (m)
12-J4-014	0.02% U_3O_8 / 0.5 m (Lower)
12-J4-015	0.18% U_3O_8 / 2.0 m (Upper) 2.56% U_3O_8 / 0.9 m (Lower)
12-J4-016	0.27% U_3O_8 / 1.9 m (Upper) 0.83% U_3O_8 / 1.2 m (Lower)
12-J4-030	0.85% U_3O_8 / 4.6 m (Lower)
12-774-014	No Mineralization
12-774-015	0.42% U_3O_8 / 1.9 m 0.2% U_3O_8 / 1.4 m (Lower)
12-774-016	0.08% U_3O_8 /0.6 m

ground VLF-EM surveys. Preliminary interpretation suggests that mineralization occurs within structurally controlled sheared basalt similar to that found at the Lac Cinquante Western Extension and as pitchblende bearing brecciated quartz-carbonate veins. Due to its close proximity to Lac Cinquante and the geological similarities noted, Pulse continues to represent a high priority drill target for future exploration campaigns.

Nine Iron Trend

The Nine Iron Trend (formerly the BIF Zone) was identified in 2011 as a 6.5 km northeast trending magnetic anomaly located 10 km southeast of Lac Cinquante (Figure 10.3). The Nine Iron uranium occurrence is associated within 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 rocks. A total of 6 of 9 reverse circulation (RC) holes encountered anomalous radioactivity (>500 cps) at the Nine Iron Trend (Figure 10.3). Subsequently, five diamond drill holes totalling 841 m were completed on the Nine Iron Trend to confirm the radioactivity encountered in the RC holes. Highlights include 12-BIF-001 which yielded 0.45% U_3O_8 and 0.9 g/t Ag over 0.9m core length and 12-BIF-003 with 0.24% U_3O_8 and 3.6 g/t Ag over 2.1m core length (Table 10.2).

Uranium mineralization along the Nine Iron Trend is structurally controlled, occurring in narrow, discontinuous high-grade breccia veins, low-grade fracture fillings associated with hematite alteration, and at contacts between metasedimentary layers in the hanging wall of banded iron formation (BIF), which occupies the middle of the sedimentary belt in the area. Emplacement of mineralization is strongly controlled by rock-layer competency contrasts, such as sediment contacts, or the margins of semi-conformable granitic and trachytic dykes. The metasedimentary package is composed largely of sandy pelite and tuffaceous turbidites, and contains a 20 to 30 m-thick horizon dominated by quartz-magnetite banded iron formation, the unit responsible for the Nine Iron magnetic response (Kivalliq, Energy Corporation, 2012i). The Nine Iron Trend area is considered prospective for sandstone-hosted unconformity-style uranium mineralization and is a high priority for drilling in 2013.

Flare Zone

The Flare Zone consists of at 1.5 km long northwest trending VLF-EM conductor located 1.7 km southwest of the Lac Cinquante Western Extension (Figure 10.3). Anomalous radioactivity was encountered in four of four reverse circulation holes completed at the Flare Zone. Subsequently, seven diamond drill holes totalling 806 m were drilled on 50 m centres, along 100 m of strike length to a maximum depth of 112 m. Three holes encountered weakly anomalous radioactivity ranging from 500 to 7,500 cps over 4.6 m thickness. Highlights include 12-BZ4-005 assaying 0.09% U_3O_8, 2.2 g/t Ag and 0.69% Cu over 4.6m core length (Table 10.2).

Hot Zone

The Hot Zone showing lies 2 km northeast of the Lac Cinquante Eastern Extension. The Hot Zone showing consists of a 400 m northwest trending VLF-EM anomaly. A total of 7 diamond drill holes were completed over 150 m of strike length (Figure 10.3). Anomalous radioactivity was encountered in 6 of the 7 holes, ranging from 500 to 17,000 cps. Mineralization consists of late stage quartz-carbonate-hematite-pitchblende veins with occasional sulphides cross cutting host units. Highlights include two holes yielding >0.5% U_3O_8 including 12-HOT-004 which assayed 0.85% U_3O_8, 0.53% Mo and 56.2 g/t Ag over 3.0m core length and 12-HOT-005 with 0.53% U_3O_8, 0.18% Cu, 0.21% Mo and 87.9g/t Ag over 0.6m core length (Table 10.2).

Spark Zone

The Spark Zone, identified as a northwest trending linear EM conductor, is located approximately 500 m west of the high-grade Blaze zone (Dufresne and Sim 2011). Mineralization is hosted in altered basalt on the upper contact of a narrow laminated tuff unit. A single drill hole drilled to 68.2m did not encounter any mineralization or anomalous radioactivity at the target (Figure 10.3; Table 10.2).

J2E Zone

The J2E Conductor is a 500 m EM conductor located approximately 200 m south of the Ray Zone. Three holes were drilled along 200 m strike length to a maximum vertical depth of 115 m (Figure 10.2). Two of 3 holes encountered anomalous radioactivity ranging from 500-10,130 cps over 1.5 m. Highlights include hole 12-J2E-002 assaying 0.53% U_3O_8, 0.1% Mo and 23.7 g/t Ag over 1.0 m core length (Table 10.2). Follow-up drilling may be warranted at the J2E Zone.

OHM Conductor

The OHM Conductor is a weakly conductive target located 220 m southwest of the Lac Cinquante East Extension and was tested as a result of the OhmMapper geophysical survey completed during 2012. Two diamond drill holes were completed on a single drill site (Figure 10.1). No anomalous radioactivity was encountered; however, both holes intersected a sulphide rich tuff horizon, similar to the host geology of the Lac Cinquante Deposit (Table 10.2). This result explains the occurrence of the conductor and confirms the sensitivity of the OhmMapper survey to recognize zones that may not be apparent through traditional VLF-EM surveys

10.6 2012 RC Drilling

Reverse circulation (RC) drilling during 2012 was conducted between May 5 and August 30, 2012 by Northspan, under the supervision of Kivalliq and Taiga personnel. A total of 38 RC holes totaling 5,273 m were drilled at 8 different prospect areas (Figure 10.2). Drilling targeted geophysical anomalies, surface mineralization identified in the 2011 field season or a combination of both. Of the total 38 RC holes completed, 35 drill holes tested reconnaissance exploration targets. A total of 22 holes intersected what is considered anomalous radioactivity, 16 holes were considered barren of mineralization, one of which was lost due to poor drilling conditions.

The RC drill was used solely as an exploration and prospecting tool and continues to be an effective tool for first-pass evaluation of conductors, advancing geological and geophysical targets that are situated off of the main Lac Cinquante Trend. Due to the narrow nature of the mineralized zones, the Kivalliq does not consider the sampled intervals necessarily representative of subsurface geology and intersected mineralization. As such, Kivalliq has not publically released assays associated with the material tested. The authors concur with Kivalliq's evaluation and treatment of the samples.

RC drill collars were spotted using a handheld GPS and a compass, as with diamond drill collars. All material is tested for radioactivity at the drill by means of a hand held scintillometer. The drill produces roughly 20 litres (5 gallons) of rock chips per five foot run of drill rod. Return air with suspended solids is run through dual cyclones where rock chips are separated from fines. The fines are collected by a Camfil Farr industrial dust collector. The system has been modified by Northspan Explorations to better suit drilling and sampling procedures. The system employs a CFARR Hepa 100 Hemipleat High-Efficiency Filter Cartridge that cleans and filters all air exiting the containment chamber.

All RC material is tested for radioactivity at the drill by means of a hand held RS-121 and/or RS-234 scintillometer, measured in counts per second (cps). Scintillometer readings are not directly related to uranium grade and were only used to indicate zones of radioactivity and to prioritize areas for future core drilling and assaying. Geological samples are collected as appropriate. In certain holes handheld scintillometer readings are supplemented by a Mount Sopris down hole gamma probe to record down hole radiation levels. Benign rock chips and dust are collected in polypropylene bulk bags. Once full, these bags are flown by helicopter to a naturally occurring depression for storage.

A total of 22 RC holes generated anomalous radioactivity greater than 500 cps. Two anomalous radioactivity zones were discovered by RC drilling within 3 km of the Lac Cinquante resource area (J4 and Flare zones) and a third zone was identified 10 km to the southeast of Lac Cinquante (Nine Iron/BIF). Four RC holes were drilled into the J4 zone, four RC holes at the Flare zone, and 9 at the Nine Iron trend. These discoveries were followed up with diamond drill core holes (discussed in the previous section); with additional targets that warrant diamond drilling as part of the 2013 drilling campaign.

Lac Cinquante

Two RC holes were completed on the Lac Cinquante Zone testing the gap between the Main Zone and Western Extension (Figure 10.1). Weakly elevated radioactivity was encountered in RC12-LC-001 up to 1300 cps.

Lac Cinquante North

The Lac Cinquante North conductor is located 250 m north of the Lac Cinquante Main Zone and consists of a 400 m northwest trending EM conductor. Two RC holes were completed, with one (RC12-NA-002) encountering anomalous radioactivity up to 2,100 cps, and a barren sulphide rich zone (Figure 10.1).

Ag North

The Ag North showing is located 400 m northeast of the Ag showing discovered in 2011. Ag North is a 1.4 km, northwest trending coincident EM/Mag anomaly hosted within Archean basalt and gabbro units. One RC hole tested the Ag North Anomaly, no anomalous radiation was detected but several sulphide and magnetite rich lenses were identified (Figure 10.2).

Mushroom Lake

The Mushroom Lake conductor is a strong E-W trending VLF-EM conductor 3.5 km east of Lac Cinquante. The conductor defines a major fault zone developed between packages of tuff and basalt units (Stacey and Barker 2012). One RC hole tested the Mushroom Lake conductor, encountering anomalous radioactivity up to 1,600 cps associated with a sulphide-graphite horizon and altered basalt (Figure 10.2). Further drilling is warranted in the Mushroom Lake area.

VGR

The VGR Zone is situated on the west side of the property approximately 25 km northwest of the Lac Cinquante resource area. The VGR zone is of interest due to similarities with "unconformity related" uranium deposit model targets. The VGR zone is a 5 km long conductive trend along a reactivated basement fault, displaying elevated radioactivity and favorable clay-silica alteration along 4 km of its length. A gravity survey completed in 2011 shows the presence of at least one significant gravity low along the structure, possibly associated with clay alteration of underlying lithologies. A total of 15 RC holes tested the VGR Zone (Figure 10.3) A total of 6 of 15 RC holes, encountered anomalous radioactivity between 500 and 2450 cps at the VGR Zone. Further drilling is warranted at the VGR Zone.

Nine Iron Trend

The Nine Iron Trend (formerly the BIF Zone) was identified in 2011 as a 6.5 km northeast trending magnetic anomaly located 10 km southeast of Lac Cinquante. The Nine Iron uranium occurrence is associated with 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 rocks. A total of 6 of 9 RC holes encountered anomalous radioactivity (>500 cps) at the Nine Iron Trend (Figure 10.3).

Strong radiometric anomalies were identified to a vertical depth of approximately 100 m. Follow-up core drilling (covered above) in the same area revealed that elevated radioactivity in the subsurface is due to numerous thin U-bearing veins distributed throughout the metasedimentary package. Further drilling is warranted at the Nine Iron Trend.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Introduction

This section describes protocols that have been established by Kivalliq and consultants with respect to the collection of surface rock samples and diamond drill core samples along with the preparation, analysis and security of soil, rock and drill core samples. These protocols commenced in 2008 and were modified for the 2009 and 2010 exploration program. The 2012 protocols were much the same as in 2010 and 2011, which are described in detail by Dufresne *et al*. (2012). It is the opinion of the authors that, collectively, the protocols established by Kivalliq are adequate to maintain sample security and include the use of analytical techniques appropriate for each sample type. In particular, the company has taken appropriate steps to establish a protocol that ensures maximum accuracy and precision with respect to drill core samples.

It is the author's opinion that reasonable and adequate procedures were followed to ensure the reliability of the sampling and assay data. The sample analysis and check sampling program have demonstrated that the sample assays are representative of the mineralization and that there appears to be no bias in the sampling. The authors are not aware of any factors in the sample preparation procedures, sample security or geochemical analysis that could materially impact the accuracy or reliability of the mineral resource estimate set forth in this report.

11.2 Diamond Drilling Core Samples

The 2012 drill program was based out of the Nutaaq camp, located 10 km east of Lac Cinquante Deposit. All core from the 2012 program was logged, sampled and stored at the Nutaaq logging facilities. Core logging and sample layout was conducted by both APEX and Kivalliq staff and all core splitting/cutting and sample collection was conducted by APEX and Kivalliq staff. 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. The procedures and methodology for drill hole surveying, drilling, core handling, core logging and sampling during 2012 were the same as in 2011 and 2010 and are provided in detail in Dufresne and Sim (2011) and Dufresne *et al*. (2012).

A total of 1971.36 m of drill core yielding 3,514 core samples were collected during the 2012 diamond drilling program. Core sample intervals ranged in length from 0.11 m to 1.80 m; average sample length was 0.56 m. The drill core was generally competent and recovery near or at 100%, therefore core recovery was seldom an issue for sampling. 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.

Core samples collected during the 2012 diamond drilling program comprised half split NQ drill core. Core samples were split using a core splitter. 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 locking lids. The laboratory also confirmed the condition of the sample shipments. 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. The samples were accepted in Yellowknife by Discovery Mining Services and then were loaded onto an RTL Robinson Enterprises Ltd. truck for transportation to Saskatchewan Research Council's (SRC) Geoanalytical Laboratory in Saskatoon, Saskatchewan. Occasionally samples were flown to Baker Lake, NU where they were received by SK Construction and loaded onto a charter aircraft to Yellowknife, NT. A waybill for each sample shipment was faxed to camp and shipments were confirmed as being received by the laboratory by fax and e-mail to various APEX and Kivalliq staff. There were no significant issues with respect to sample shipments or sample security during the 2012 drilling program.

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 an LSA1 metal drum with lead shielding, labeled according to Class 7 dangerous goods criteria, sealed and then shipped as above.

Kivalliq's quality assurance and quality control (QA/QC) protocols included inserting a field blank and a standard into the sample inventory at the project site prior to sample shipment. A blank and standard were inserted every 20th sample. For the most part, the field inserted standard and blank results were within expectations and allowable ranges (see section 12.0 below). The standards used were BL2-A, BL4-A, BL5 CUP-1 and MP-1b which were obtained from the SRC. The blanks were comprised of non-mineralized gabbro or basalt from previous diamond drill holes.

Mineralization was determined in the field by use of hand-held RS-121 and RS-234 scintillometers. Though there appears to be a strong correlation between scintillometer readings and grade, the scintillometer measurements made in the field were used only as a guide to help establish sample intervals. All samples were analyzed for a multi-element suite by the SRC's ICP-1, a 57 element ICP package (Appendix 2). All samples >1000 ppm uranium are assayed for % U_3O_8 using SRC's ICP-OEA U_3O_8 method. SRC implements its own internal QC procedures by inserting known controls, including standards, blanks and duplicates, every 20 samples and regularly repeating higher grade analytical results. For U_3O_8 analysis SRC uses CANMET certified standard reference material (SRM) and Quintus Quartz as a blank. SRC also uses in-house standards for its ICP-1 package, which have been sent to other labs for analysis in a round robin exercise and are traceable. No issues were observed for the SRC's laboratory blanks, standards and duplicates. As samples with U <1000 ppm were not analyzed for %U_3O_8, relative %U_3O_8 is calculated using the calculation %U_3O_8 = U (ppm) * 0.0001179.

11.3 RC Samples

Reverse Circulation (RC) drilling samples were collected at the drill site using a cyclone attached to the drill rig. Two buckets were placed near the outflows of the dust containment system which was attached to the cyclone, with bags in each bucket. Sample buckets were switched out at the end of each 5 foot run, and a representative sample of each run was collected and stored.

An RS-121 scintillometer was kept on site near the outflow of the dust containment system and was used to determine if there was any significant uranium mineralization in an interval. Generally, all intervals with anomalous radioactivity were sampled, and the intervals immediately above and below the mineralization were collected as buffer samples. No standards or blanks were added to the shipments in the field. SRC implements its own internal QC procedures by inserting known controls every 20 samples and regularly repeating higher grade analytical results. The assays are purely for qualitative purposes and do not represent, nor are they utilized as a grade over width value.

Transportation and analyses of the RC samples were the same as for the drill core sample above with all samples sent to the SRC for multielement ICP analysis followed by ore grade U_3O_8 analyses where required. Samples from the RC drilling were not used in any resource work. The RC rig was used as a prioritization tool to determine diamond drill locations and to calibrate scintillometer readings with %U_3O_8 levels. The assays are purely for qualitative purposes and do not represent a grade over width value.

11.4 Bulk Density Samples

Bulk density measurements were completed for a number of core samples in the field. In total, 764 readings from 143 drill holes were measured in the field (Appendix 3). Specific gravity measurements were generally collected from samples within the mineralized zone as well as from samples from above and below the mineralized zone, and from fresh wall rock. Samples colleceted and shipped to the SRC in 2011 verified field bulk density data using their Desnity by Dry Oven Method. In the field, bulk density (specific gravity) measurements were collected using an electronic balance with an underhook, a holding container and a tub of water. Specific gravity was calculated in the field using the formula:

Specific Gravity (SG) = (Weight of Dry Core) / (Weight of Dry Core – Weight in Water)

Competent pieces of core between 5 and 10 cm were selected for measurement. The sampler would first weigh and record the weight of the core on the top of the balance, which would be the dry core weight. The sample was then placed in the holding container, which was a basket suspended under the scale by fishing line. The basket was then lowered into a tub of water. The apparent weight of the core was recorded, and from these two values the specific gravity of the core was calculated.

11.5 Surface Samples

During the 2012 prospecting and sampling program, 95 rock grab samples were collected. The sampling methodology employed was the same as for the 2010 sampling program, which is described in detail in Dufresne and Sim (2011) and Dufresne *et al.* (2012). At each sample site, coordinates were collected by hand held GPS and site specific geological data was recorded. Each GPS was set to report locations in UTM coordinates using North American Datum 1983 (NAD 1983). The sample bags were sealed using cable ties and then the samples were brought back to camp by helicopter.

Of the 95 Rock samples collected during 2012, 77 were shipped to SRC in Saskatoon, Saskatchewan for analysis using the same methodology as for the core samples. The remaining 18 rock samples were sent to Acme Labs in Vancouver for whole rock lithogeochemistry. Lithogeochemical samples were collected primarily to determine the composition and/or provenance of various igneous units around the property, including granitoids, carbonatite-related rocks, and potassic intrusions associated with rift-related volcanism. Samples collected for whole rock analysis are typically non-mineralized, and great effort is taken to ensure that the rock material sampled is as "fresh" as possible (i.e. no weathered rinds or significant alteration). This ensures that geochemical results are as close as possible to the original rock composition.

All samples sent to SRC were analyzed for a multi-element suite by SRC's ICP-1, a 57-element ICP package. All samples >1000 ppm uranium are assayed for % U_3O_8 using SRC's ICP-OEA U_3O_8 method. SRC implements its own internal QC procedures by inserting controls and regularly repeating higher grade analytical results. No standards or blanks were added to the shipments in the field.

Select prospective surface samples were sent to SRC to be analyzed for Au, Pt and Pd by SRC's AU1, a Lead fusion Fire Assay with AAS finish package. If results by AU1 method were greater than 1 g/t Au, samples were subsequently re-analyzed by a screen metallic assay to obtain a more accurate high grade Au result.

12.0 DATA VERIFICATION

12.1 Introduction

Quality assurance and quality control (QA/QC) for the 2012 field program comprised inserting blanks and standard reference materials (SRM's) into the core sample stream in the field. No field duplicates were collected and submitted, though 88 core sample pulps, or 0.03% of the core sample pulps at the SRC were shipped to SGS laboratories (SGS) in Lakefield, Ontario for subsequent assay verification. The authors in the following section provide a review of all of the QA/QC data provided by Kivalliq in order to prepare, verify and complete the Technical Report and updated Resource Estimate. Table 12.1 below provides a summary of the number of samples for each type of QA/QC category as provided by Kivalliq and verified by the authors.

Table 12.1: Summary of QA/QC samples collected and analyzed in 2012 program

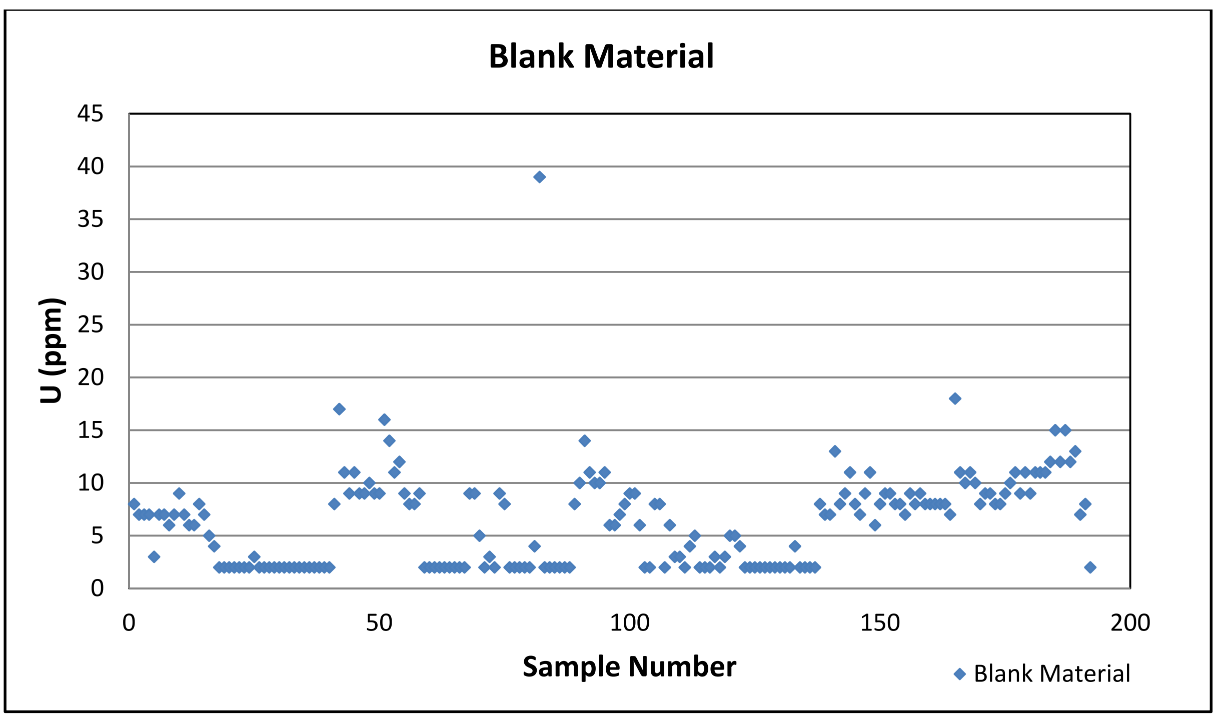
QA/QC Type	Number of Samples
Blanks (Field)	193
Analytical Standards (Field)	199
Analytical Standards (Lab)	452
Prep Duplicates	263
Pulp Duplicates (sent to umpire lab)	88

12.2 Blanks

A total of 193 field blanks were inserted into the core sample stream by field personnel during 2012 in order to monitor for potential contamination during sample preparation and analysis at the laboratory. Blank material comprised non-mineralized gabbro or basalt drill core from drill 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. Care was taken to make sure that the non-mineralized gabbro and basalt was competent and un-veined.

Uranium values greater than 200 ppm are considered anomalous and are interpreted to indicate contamination. The results of the field blank samples were as expected. Blank samples from the 2012 drilling program returned uranium values from below detection up to a maximum of 39 ppm, which indicates no contamination was visible during sample preparation at the SRC laboratory (Figure 12.1).

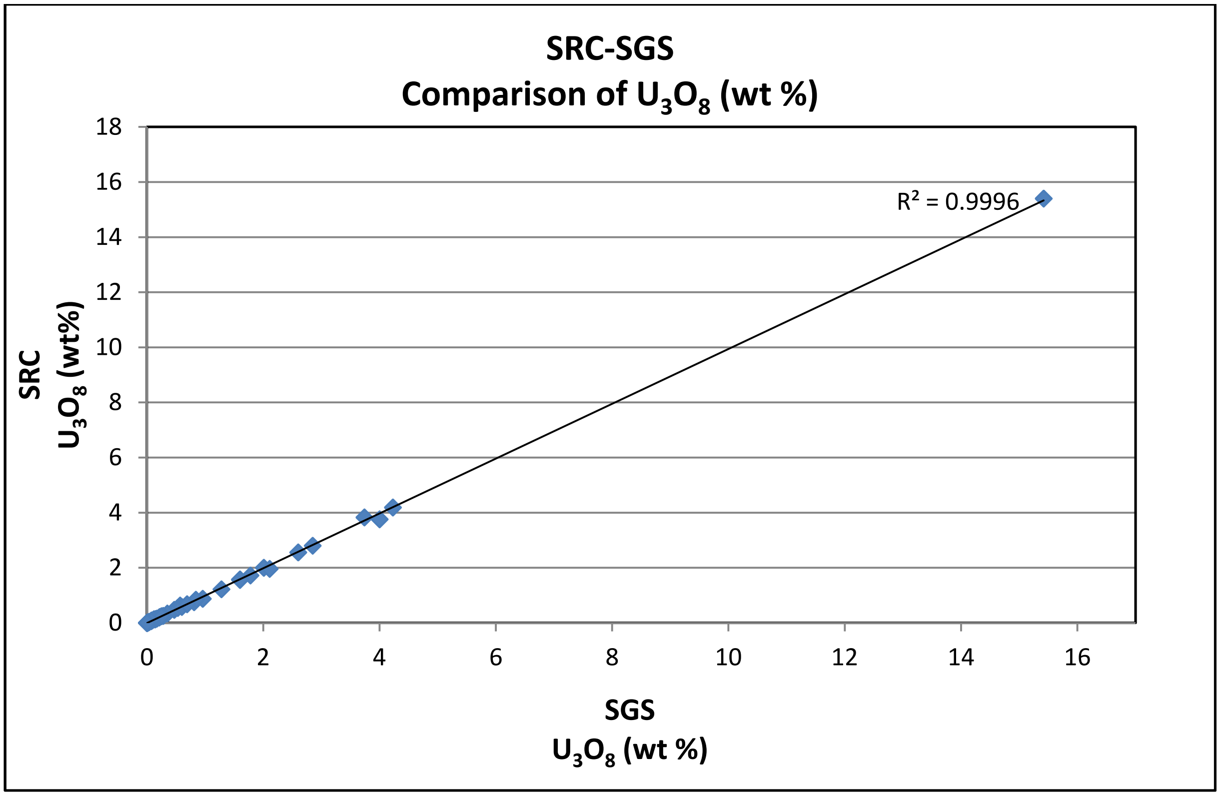
Figure 12.1: Geochemical analyses for uranium (ppm) for Kivalliq core blanks



12.3 Pulp Duplicates

A total of 88 sample pulps from the 2012 drill program were sent from the SRC to SGS in Lakefield, Ontario as duplicate sample checks. Only U_3O_8 was analyzed. Samples <3% U_3O_8 were analyzed by XRF Internal Standard Method, while samples >3% U_3O_8 were analyzed by XRF Borate Fusion Method. All values were within acceptable limits as shown in Figures 12.2 and 12.3 below. As many of the samples selected were below 1000 ppm uranium and therefore not analyzed for U_3O_8 by the SRC, the SRC data was converted to U_3O_8 using the calculation %U_3O_8 = U (ppm) * 0.0001179.

Figure 12.2: Comparison of U_3O_8 values between laboratories



12.4 Field and Laboratory Standards

A total of 199 standard reference materials (SRMs) were inserted into the core sample stream by field personnel during 2012. The SRMs used were BL4-A, BL5, MP-1b and CUP-1. Due to the paucity of standard reference material for uranium, these same standards are also used by the SRC as lab standards. Standards were prepared in the field, and consisted of 5 g of the SRM sealed in a small plastic bag. SRMs were subsequently packaged with a sample identification tag in a standard sample bag and sealed shut. They were packed alongside the core samples and shipped together.

There was at least one of several different SRMs, plus blanks included in every core sample batch. The SRMs cover the broad range of uranium concentrations encountered at the project and were inserted every 20 samples. Assay results for uranium were compared with the accepted values for the SRMs. An example control chart for the BL4-A SRM is shown in Figure 12.4 below. The results of the SRM samples are within the control limits and were as expected.

Figure 12.3: Check assay comparison between SRC and SGS

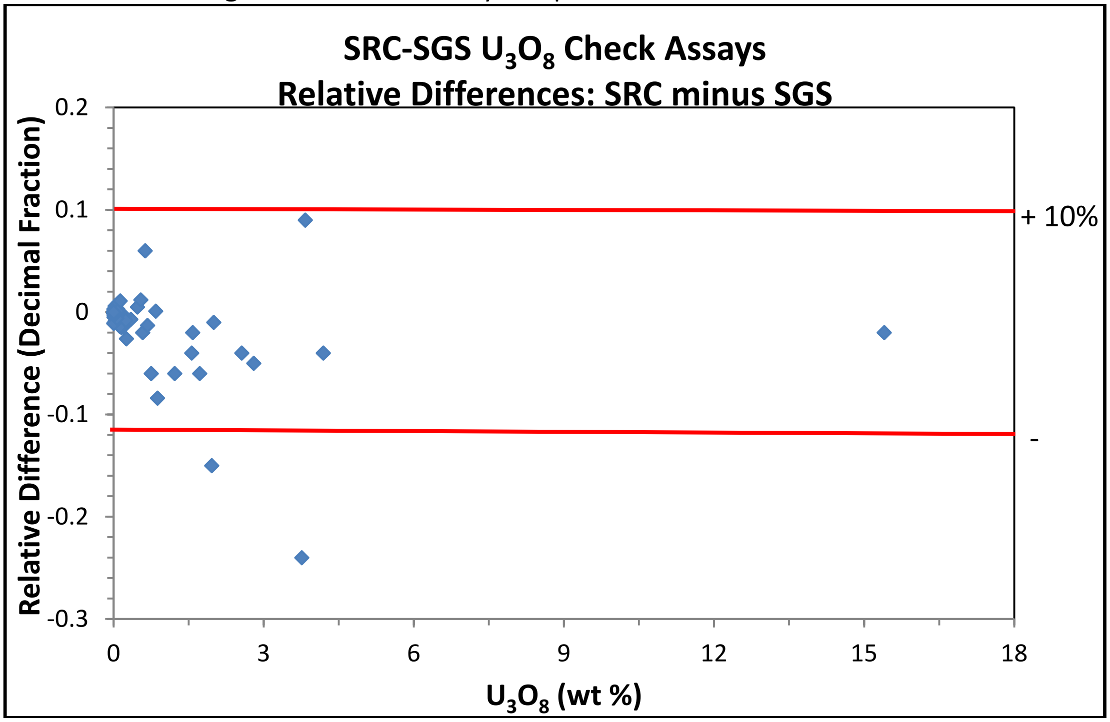
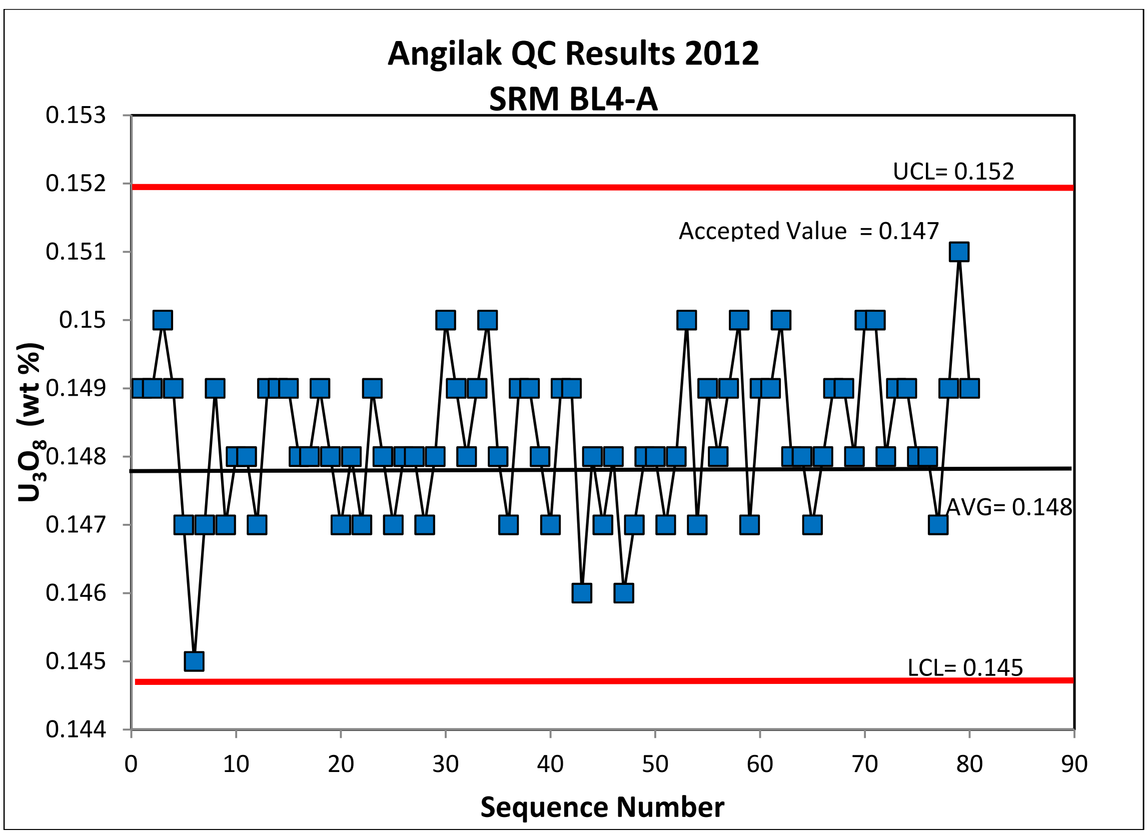


Figure 12.4: Standard BL4-A SRM U_3O_8 control chart



Note: UCL = Upper Control Limit; LCL = Lower Control Limit

12.5 Quality Assurance/Quality Control and Data Verification

The performance of the SRC laboratory was monitored through the implementation of a QA/QC program. The results of this program were tracked by Kivalliq personnel and reviewed by Dr. Bruce Davis on an ongoing basis. Any irregular or suspect results were addressed in a timely manner in order to ensure the integrity of the database.

Kivalliq established a QA/QC protocol that comprised the use of pulp duplicates, standards, and blanks inserted into the sample batches at regular intervals. Duplicates were inserted during sample preparation (independent from the assay laboratory) by splitting of the pulps. A range of uranium standard reference materials (SRMs) of suitable matrix composition, together with blanks, were inserted by Kivalliq during the core sampling procedure. The structure of this QA/QC program follows accepted industry standards.

There was at least one of several different SRMs, plus duplicates and blanks included in every batch. The SRMs cover the broad range of uranium concentrations encountered at the project and are inserted every 20 samples sequentially independent of the blanks and duplicates. Duplicates were selected from samples with sufficient material and inserted at a rate of approximately one in each 20 samples. Blanks were inserted at a rate of one in every 20 samples. When smaller batches of samples are sent to the lab, containing insufficient samples to maintain this frequency, at least one of each of the SRMs, a duplicate, or a blank were inserted.

There are no out of control QC results other than the check assay differences which have been explained by an assay method difference. In all cases the QA/QC results confirm there are no systematic errors in the assays.

When Mr. Robert Sim checked the original ALS assay certificates, from 14 randomly selected drill holes (approximately 6% of the assay data), with the assays listed in the electronic database, no assay input errors were found. Collar locations and down hole survey data for these holes match values listed in the drill logs. During property visits in 2012, the authors reviewed a series of randomly selected drill core intervals. In all cases, the mineralized intervals contained visible sulphides and provided a positive response from the scintillometer.

Given the assay check results, observations for the drilling and core sampling, plus the comparison of certificates to the electronic database, the sample assay data is within acceptable limits of precision and accuracy for use in resource estimation.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 SGS Mineralogy Analysis

SGS Mineral Services (SGS) provided a mineralogical characterization of 14 samples, completed in February, 2013 (Grammatikopoulos and Morton, 2013). Ten samples were collected from radioactive “ore-bearing” intersections representative of mineralization of the Lac Cinquante 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 U-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 by 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 basaslt; 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™ 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

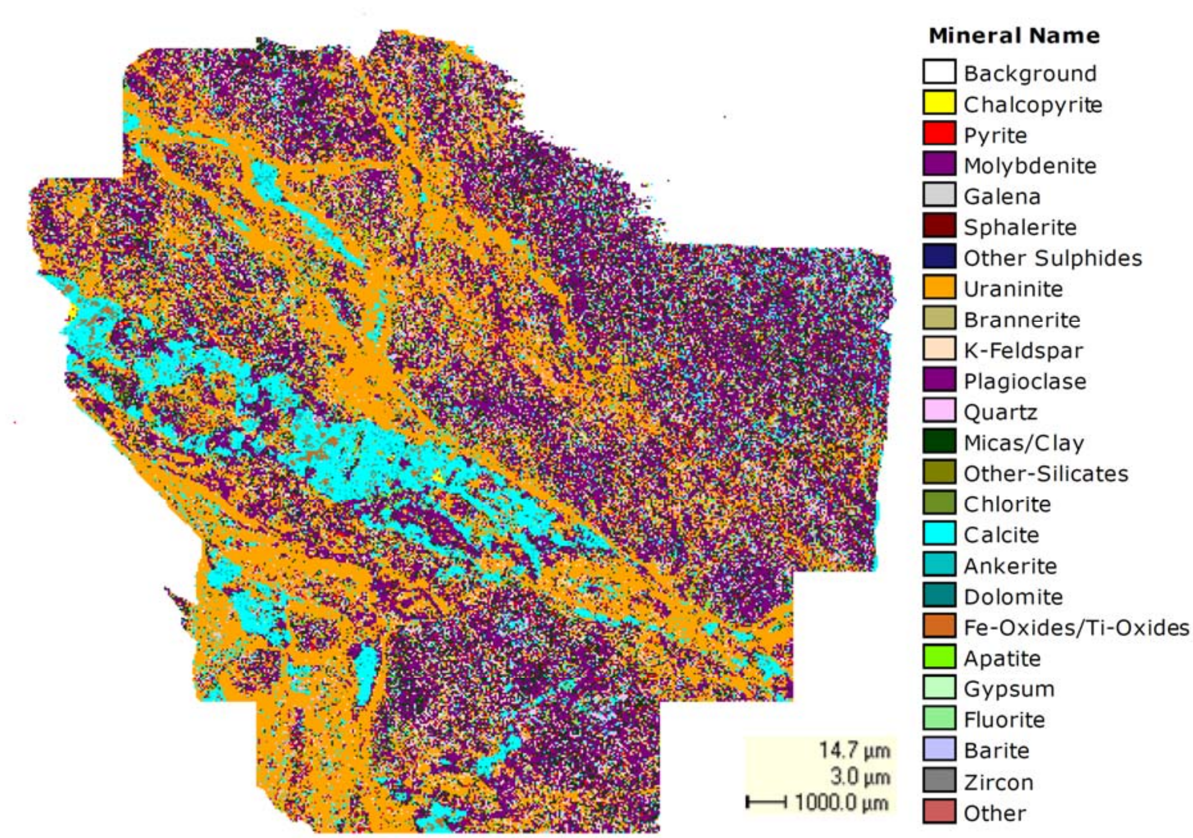


Figure 13.1: QEMSCAN™ Pseudo Image of Sample 90001 illustrates structural control of U mineralization among silicates and carbonates

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	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
	Pyrite	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
	Molybdenite	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
	Galena	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
	Sphalerite	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
	Other Sulphides	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
	Uraninite	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
	Brannerite	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
	Coffinite	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
	K-Feldspar	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
	Plagioclase	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
	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
	Other-Silicates	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
	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	0.0	5.1
	Calcite	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
	Ankerite	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
	Dolomite	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
	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	0.3	0.5	0.2	0.6	0.0	0.1	0.2	2.3	1.1	0.0	0.0
	Gypsum	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
	Fluorite	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
	Barite	0.5	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
	Zircon	0.6	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0
	Other	0.2	0.0	0.3	0.2	0.1	0.0	0.7	0.1	0.0	0.1	0.3	0.0	0.1	0.0
	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	71	22	131	30	27	24	42	42	26	23	50	30	28	22
	Pyrite	25	55	44	39	26	44	30	22	22	22	22	33	117	23
	Molybdenite	24	22	32	23	38	24	51	22	23	22	23	24	29	25
	Galena	23	22	23	22	22	23	23	24	31	27	24	23	23	40
	Sphalerite	23	33	22	37	0	22	22	0	0	0	0	22	28	23
	Other Sulphides	22	23	23	23	22	23	23	23	49	33	23	24	22	22
	Uraninite	96	24	60	22	37	29	59	52	58	58	27	25	35	39
	Brannerite	24	23	26	0	24	24	25	27	25	25	24	22	24	25
	Coffinite	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	K-Feldspar	26	27	28	32	25	33	34	24	22	22	24	29	29	22
	Plagioclase	57	70	31	42	65	48	35	40	29	46	65	35	29	40
	Quartz	27	26	73	36	26	40	26	35	30	31	68	31	213	33
	Micas/Clay	27	30	33	32	27	33	27	27	30	29	29	29	34	33
	Other-Silicates	23	24	25	25	23	25	25	24	24	23	23	24	23	24
	Chlorite	24	24	24	71	37	50	64	38	53	78	64	30	23	68
	Calcite	51	47	115	39	69	38	34	117	283	189	82	41	54	263
	Ankerite	27	25	29	23	23	22	27	29	28	25	22	25	26	26
	Dolomite	24	32	31	29	22	22	41	22	22	22	25	44	40	22
	Fe-Oxides/Ti-Oxides	36	29	27	47	26	47	54	56	29	29	23	28	24	30
	Apatite	26	23	25	27	25	26	32	25	26	26	40	34	23	28
	Gypsum	23	24	23	23	23	23	24	23	22	23	22	22	23	27
	Fluorite	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	Barite	22	22	22	22	22	22	22	23	22	22	22	22	22	22
	Zircon	24	22	25	22	22	22	22	23	22	22	24	23	22	23
	Other	22	22	23	24	22	22	24	23	22	22	23	22	23	22

The detailed analyses determined that the most abundant uranium minerals in the Lac Cinquante 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 U minerals is characterized as patchy and disseminated. Microscopically, U 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 U minerals as fine and coarse disseminations, structurally controlled and associated with sulphides and carbonates.

13.2 SRC Metallurgical Test Work

In June 2012, Kivalliq engaged the Saskatchewan Research Council (SRC) to perform a second phase alkaline leaching program for the Lac 50 Trend uranium resource using sulfide 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 Kivalliq'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 Cinquante 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 U alkaline leaching optimization after the removal of sulfide 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 sulfide minerals. First, the sulfide minerals consume reagents during the alkaline U leaching. The removal of sulfides from the alkaline leach feed will reduce reagent consumption. In addition to U, the Lac 50 Trend uranium resource contains significant values of Ag, Mo, Cu, Zn and Pb. The majority of these metals occur as sulfide 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 U 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 U concentrate specifications.

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 drill holes for geochemical analysis. The holes were part of Kivalliq's 2010 and 2011 diamond drilling programs on the Lac 50 Trend Main Zone, Western Extension and Eastern Extension uranium deposits (a metallurgical composite sample list is provided in Appendix 5). 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 contains 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

Report No: G-12-2325

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

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.

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 sulfide 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 sulfide 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.

Sulfide flotation is performed to remove the sulfide 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 sulfide recovery to the float concentrate. Greater than 95% of the U 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

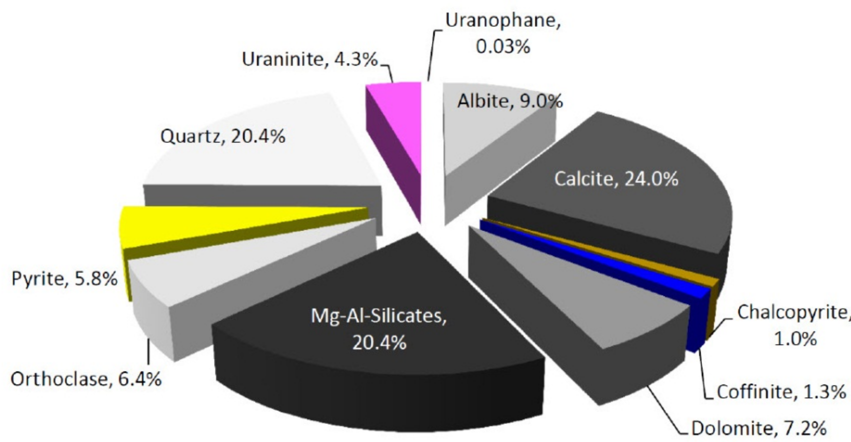


Figure 13.3: Schematic flotation process

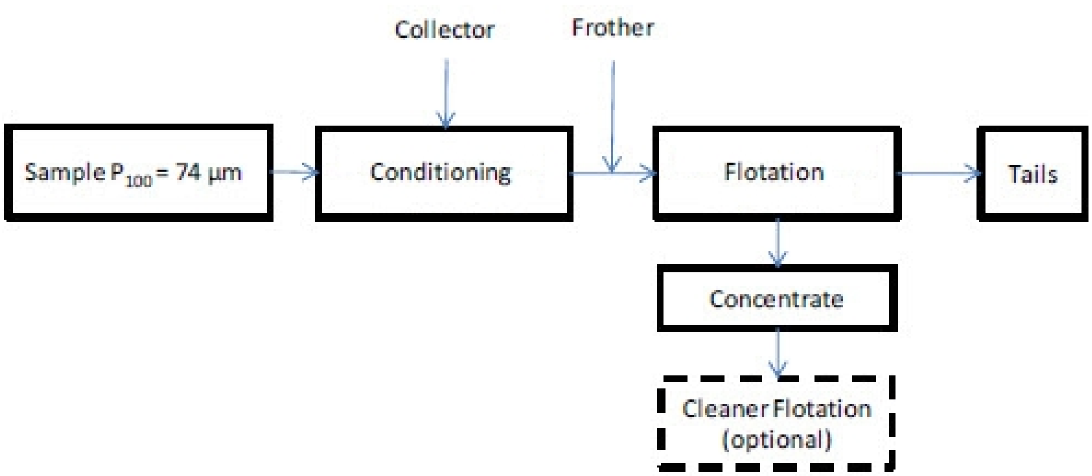


Table 13.5: Flotation conditions

Test	Conditions							
	Mixed Collector		MIBC		Feed Size (mesh)	pH	Temp. (°C)	Flot. Time (mins)
	Dosage (kg/tonne)	Cond. Time (mins)	Dosage (kg/tonne)	Cond. Time (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% sulfide. The consumption of collector was low at 0.03 kg/tonne. Frother (MIBC) consumption was 0.17 kg/tonne. The sulfide flotation results remain subject to further improvement by optimization.

Table 13.6: Flotation results using a mixed collector at pH 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

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 Trend uranium mineralization. Alkaline leaching optimization tests have been highly encouraging. Optimized results, as shown on Figure 13.4 indicate that at 70^{o}C, atmospheric pressure, 50% pulp density, sufficient oxidation and a reagent addition rate of 70 kg/t (50 kg Na_2CO_3 and 20 Kg $NaHCO_3$), 94.1% of the U was extracted in 48 hours and 95.9% of the U was extracted in 72 hours from the composite sample. An advantage of alkaline leaching for the Lac 50 Trend 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.

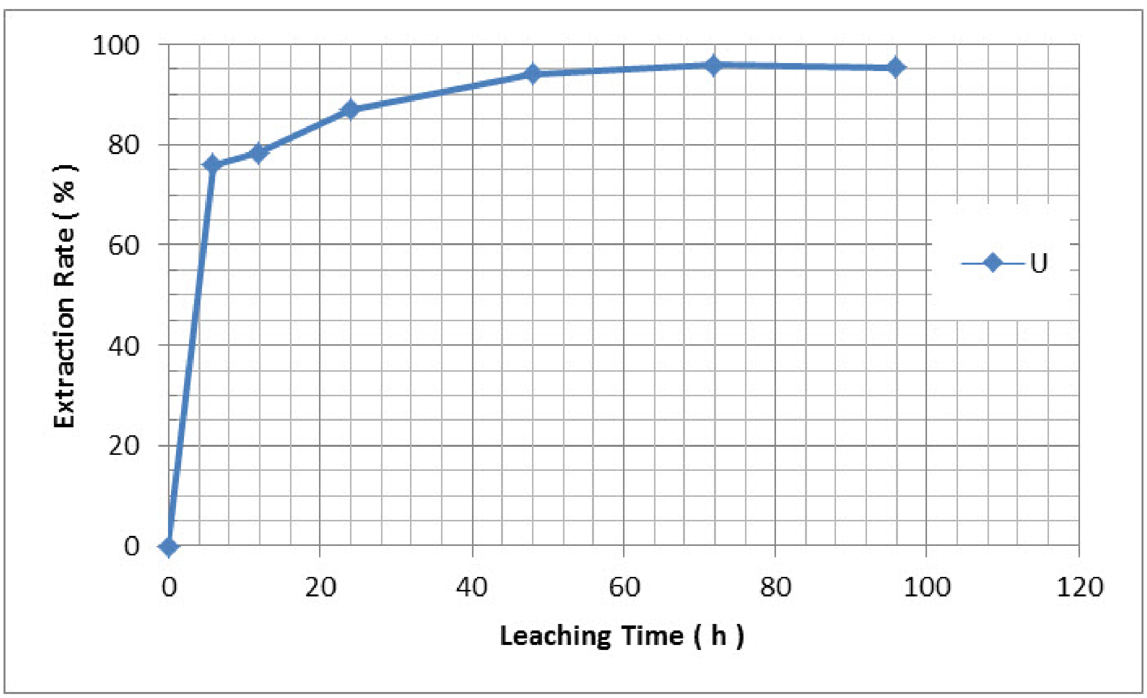


Figure 13.4: Optimized alkaline leaching kinetics of uranium

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.

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 U from whole ore samples can be extracted in the first 6 hours. After 6 hours, the leaching rate slows but U extraction continues to increase with leaching time. As shown on Figure 13.5 for the whole ore sample, the highest final U extraction (94.9%) was achieved at 70^{o}C and the lowest final U extraction (75.0%) was at 90^{o}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 sulfide minerals are partially removed. The leaching of the flotation tails sample showed the same pattern as the whole ore sample. Over 50% of the U was extracted in the first 6 hours. After 6 hours the leaching rate slows but U 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 U extraction was 83.4% at 60^{o}C, 94.4% at 70^{o}C, 91.0% at 80^{o}C, and 80.6% at 90^{o}C, respectively.

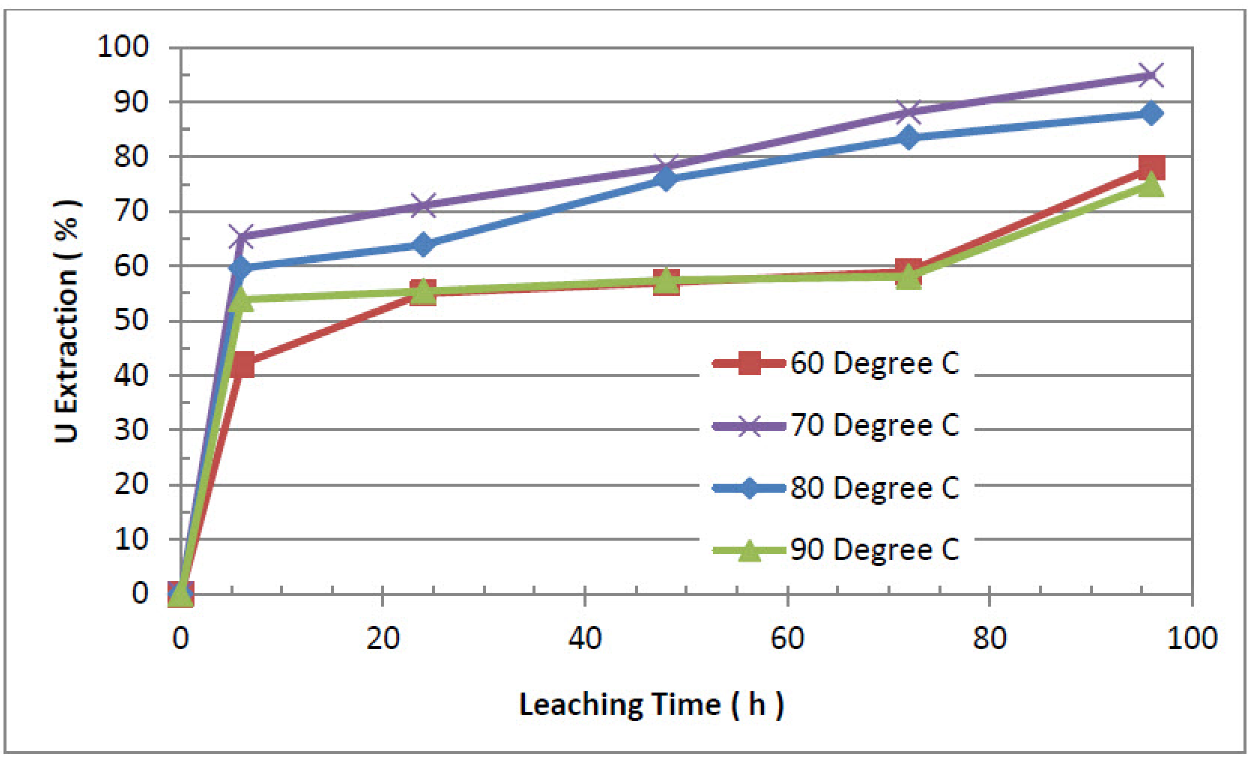


Figure 13.5: Whole ore U alkaline leach at variable temperatures

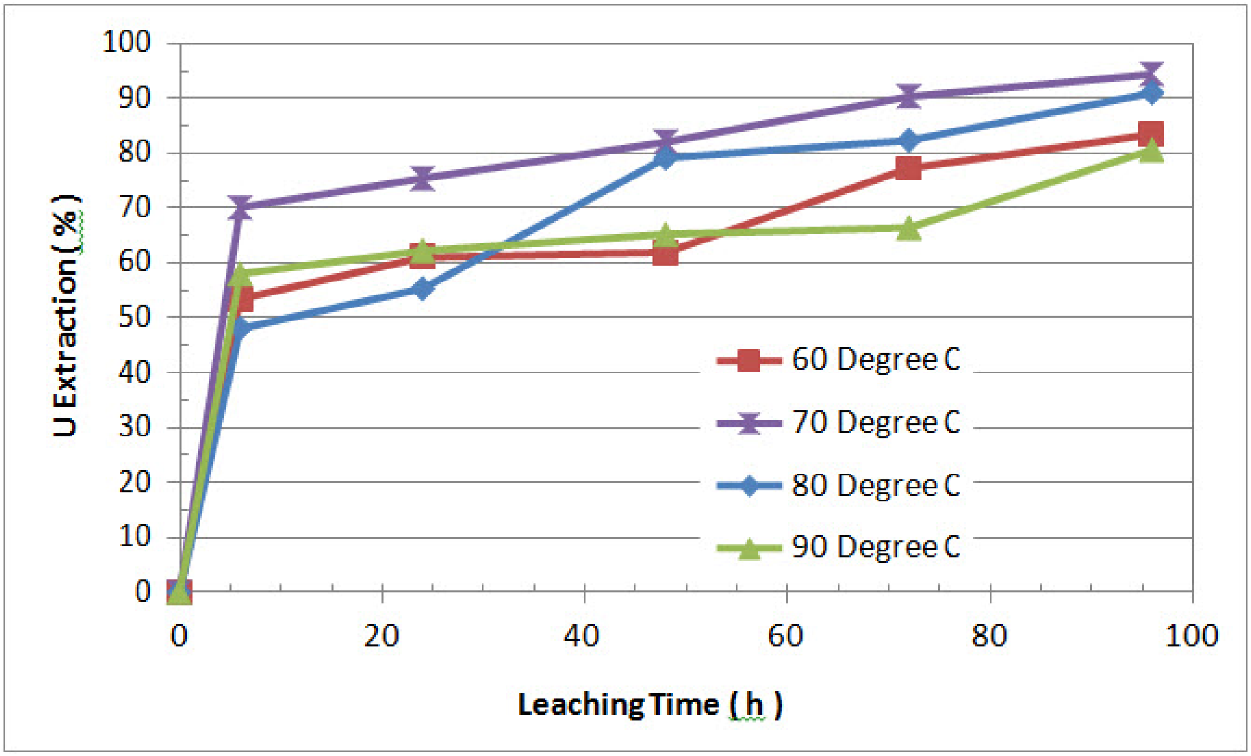


Figure 13.6: Flotation tails U alkaline leach at variable temperatures

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

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.

Effects of Feed Size

The sulfide flotation tails using different feed grind sizes were alkaline leached as well to investigate the effects of grind size on leaching kinetics and U extraction. Figure 13.8 shows the leaching kinetics of

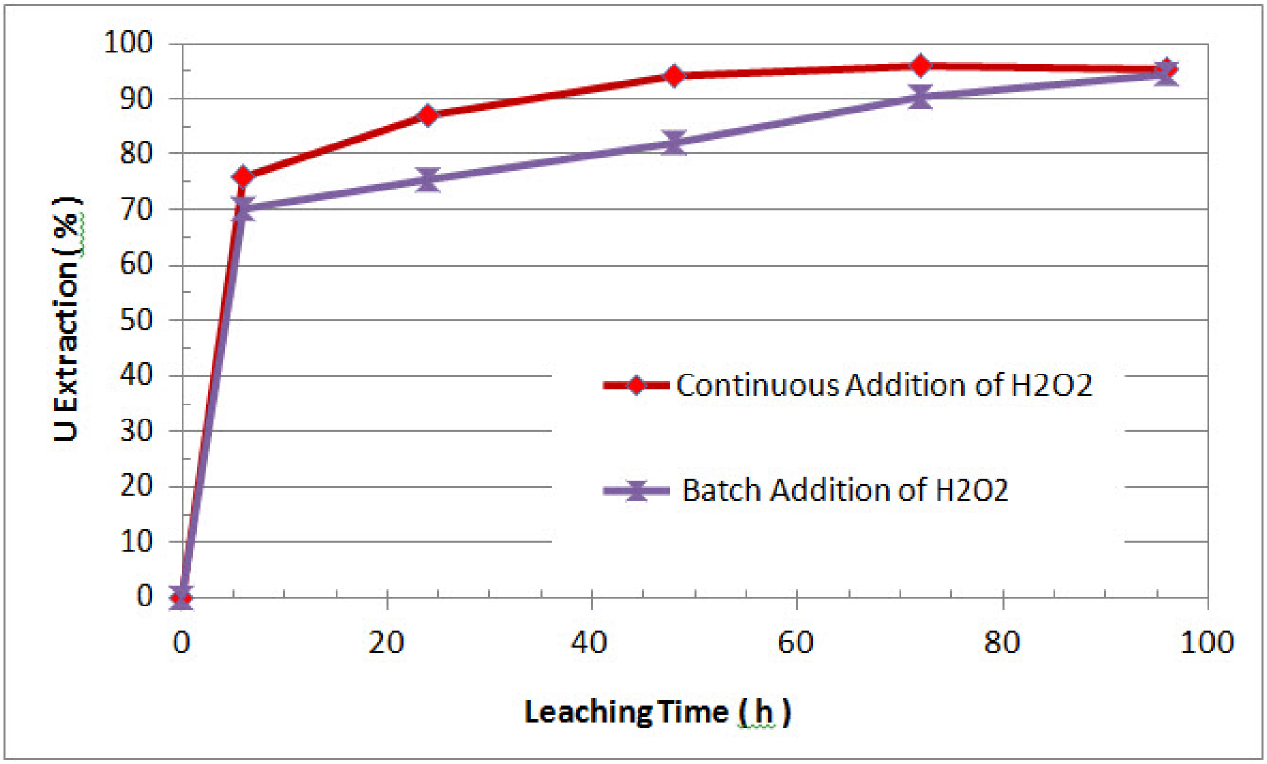


Figure 13.7: Leaching kinetics with different oxidation

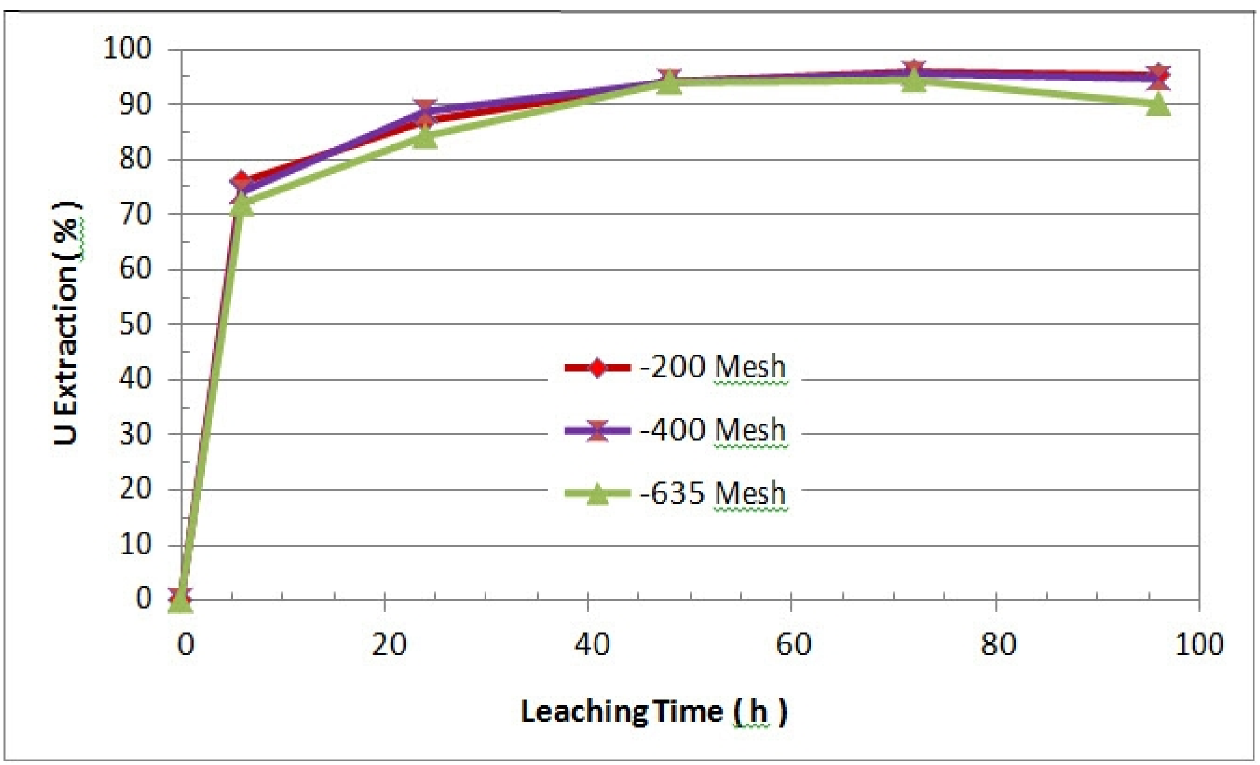


Figure 13.8: Leaching Kinetics of Different Size Feeds.

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 U extraction were achieved with the various size feeds. The -200 mesh feed and the -400 mesh had almost identical leaching kinetics and final U extraction. However, the -635 mesh feed had slightly slower leaching kinetics and final U extraction. This indicates that feed with size smaller than -200 mesh has very little effect on the leaching kinetics.

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 Trend 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 U in the pregnant solution was precipitated as sodium diuranate. The sodium diuranate was then purified through acidification and hydrogen peroxide (H_2O_2) 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 U, 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.

SRC Recommendations

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

- Continue sulfide 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 Trend 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 Kivalliq yellowcake product

Specifications	**ASTM C967-13 (Mass%, Uranium Basis)**		**Kivalliq (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

14.0 MINERAL RESOURCE ESTIMATES

14.1 Introduction

This section of the Technical Report describes the resource estimation methodology and summarizes the key assumptions used to prepare the mineral resource estimate for the Lac Cinquante and J4 deposits located on the Angilak property, Nunavut, Canada. Mineral resources have been estimated in conformity with CIM's *Estimation of Mineral Resources and Mineral Reserves Best Practices Guidelines* and are reported as outlined in the Canadian Securities Administrators' *National Instrument 43-101* (NI 43-101). Mineral resources are not mineral reserves and they do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into a mineral reserve upon application of modifying factors.

Resource models for the Lac Cinquante and J4 deposits were prepared under the direction of Robert Sim, P.Geo, with the assistance of Dr. Bruce Davis, FAusIMM, and consists of three-dimensional block models based on geostatistical applications using commercial mine planning software (MineSight® v7.50). The project limits area based in the UTM coordinate system (NAD83 Zone14) using nominal block sizes measuring 5x5x5 m at Lac Cinquante and 5x3x3 m (LxWxH) at J4. Grade (assay) and geologic information is derived from work conducted by Kivalliq during the 2009, 2010, 2011 and 2012 field seasons. Although extensive drilling was conducted on the Lac Cinquante deposit in the early 1980s and much of the core remains on the property, this older dataset cannot be validated due to unknown collar locations and drill hole orientations and, as a result, none of it was used during the development of the resource models.

The resource models were generated from drill hole sample assay results and the interpretation of a geologic model which relates to the spatial distribution of uranium in the deposit. For evaluation purposes, additional elements including silver, molybdenum, and copper have also been estimated in the resource model. Modeling domains have been interpreted to reflect distinct zones or types of uranium mineralization. Interpolation characteristics in the resource model have been defined based on the geology, drill hole spacing, and geostatistical analysis of the data contained within these domains. Mineral resources have been classified by their proximity to the sample locations and are reported according to *CIM Definition Standards for Mineral Resources and Mineral Reserves* (November 2010).

14.2 Geologic Model, Domains and Coding

The geologic characteristics for the Lac Cinquante and J4 deposits are very similar. Separated by only 1,500 m and exhibiting the same general trends, it is likely that these two deposits represent the same mineralized structure. Further exploration drilling is required to test this theory. The distribution of the various zones of mineralization on the Angilak property is shown in Figure 14.1. In addition to the Lac Cinquante and J4 deposits, other smaller satellite zones of uranium mineralization have been discovered, including: Hot, Pulse, Blaze, Spark and Flare, collectively referred to as the Lac 50 Trend. The current level of exploration on these proximal zones is considered to be insufficient to support NI 43-101 compliant mineral resource estimates.

The deposits result from the emplacement of uranium, aided by structural features, along a tuffaceous metasedimentary zone within a host sequence of predominantly mafic volcanic rocks. The deposition of uranium within the host tuff/shear zone is believed to be aided by favourable chemical conditions involving sulphides, chlorite, and graphitic components. In some areas, the mineralized zone tends to be more structurally-hosted rather than tuffaceous in nature.

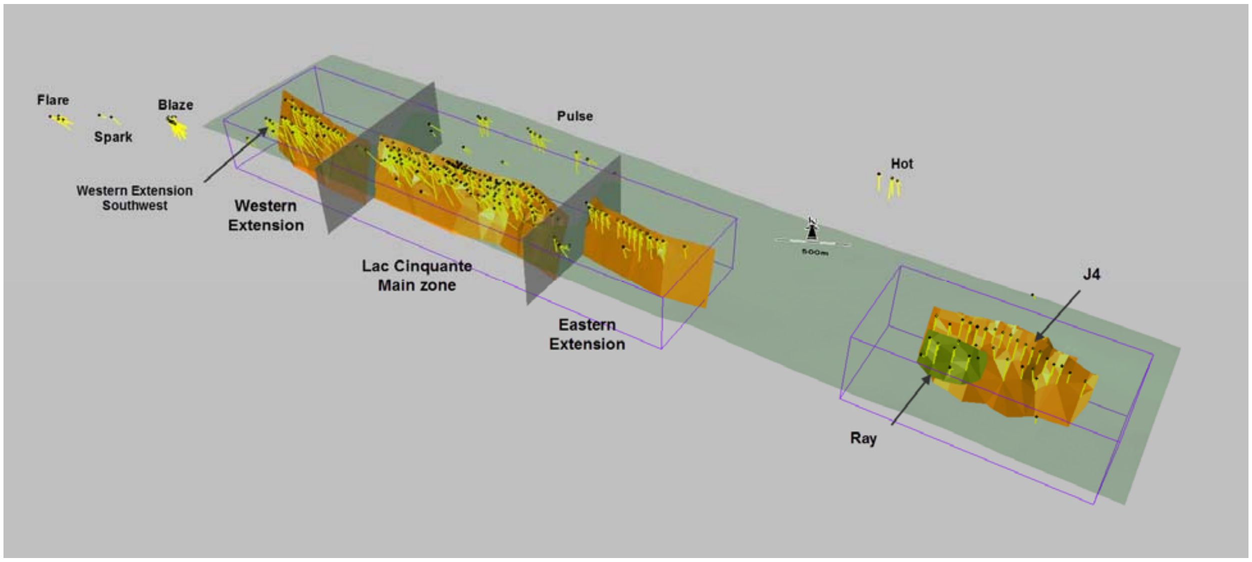


Figure 14.1: Isometric View Showing the Zones of Uranium Mineralization on the Angilak Property

Mineralized domains have been interpreted using a combination of geology and grade data and are best described as the portion of the tuff that contains elevated uranium grades above a general threshold of 0.05% U_3O_8. Note that in some areas the deposit is more structurally-hosted, but the scale, orientation, and grade of the mineralization is similar to that of the tuffaceous zones. The mineralized domains, or the “Minzone”, have been interpreted on a series of vertical cross sections oriented at an azimuth of 26°, or approximately perpendicular to the overall strike of the deposits.

At Lac Cinquante, the Minzone has been interpreted over a strike length of almost 4 km and occurs in three distinct parts that are off-set by faults as shown in Figures 14.2 and 14.3. The central “Main” Lac Cinquante zone is the largest, measuring 1.8 km long with a somewhat variable strike at an azimuth at 115°, and dipping to the south-southwest at -65°. The “Western Extension” of the Lac Cinquante zone is a 120 m left-lateral displacement of the Main zone. The Western Extension has a strike length of 1,100 m, is oriented at 125°, and dips to the south-southwest at -70°. The “Eastern Extension” of the Lac Cinquante zone is interpreted as a 250 m left-lateral displacement of the Main zone with a strike of 122°, a -78° south-southwest dip, and an overall length of almost 900 m. The true thickness of the Minzone varies from 5 cm to a maximum of 13.5 m, with an average of 2.2 m.

Mineralization in the J4 area comprises several sub-parallel zones of mineralization as shown in Figures 14.4 and 14.5. The J4 Zone is comprised of Upper and Lower horizons that are variably separated by 5-35 m (average about 20 m) and the Ray Zone occurs about 250 m in the hanging wall. All zones trend at an azimuth of about 120° and dip at -60° to the south-southwest. The J4 Upper zone has a strike length of 1,000 m and remains “open” along strike and at depth. The true thickness of the J4 Upper ranges from 0.2 m to 11 m and averages about 2 m. The J4 Lower zone has a strike length of about 750 m and the along-strike extents appear to be closed by drilling, but the zone remains open at depth. The true thickness of the J4 Lower ranges from 0.1 m to 4 m and averages 1.5 m. The Ray zone currently has a strike length of about 400 m and remains open along strike and at depth. The true thickness at Ray ranges from 0.2 m to 1.7 m and average 0.8 m.

Figure 14.2: Isometric View of Drill Holes and Mineralized Domains at Lac Cinquante

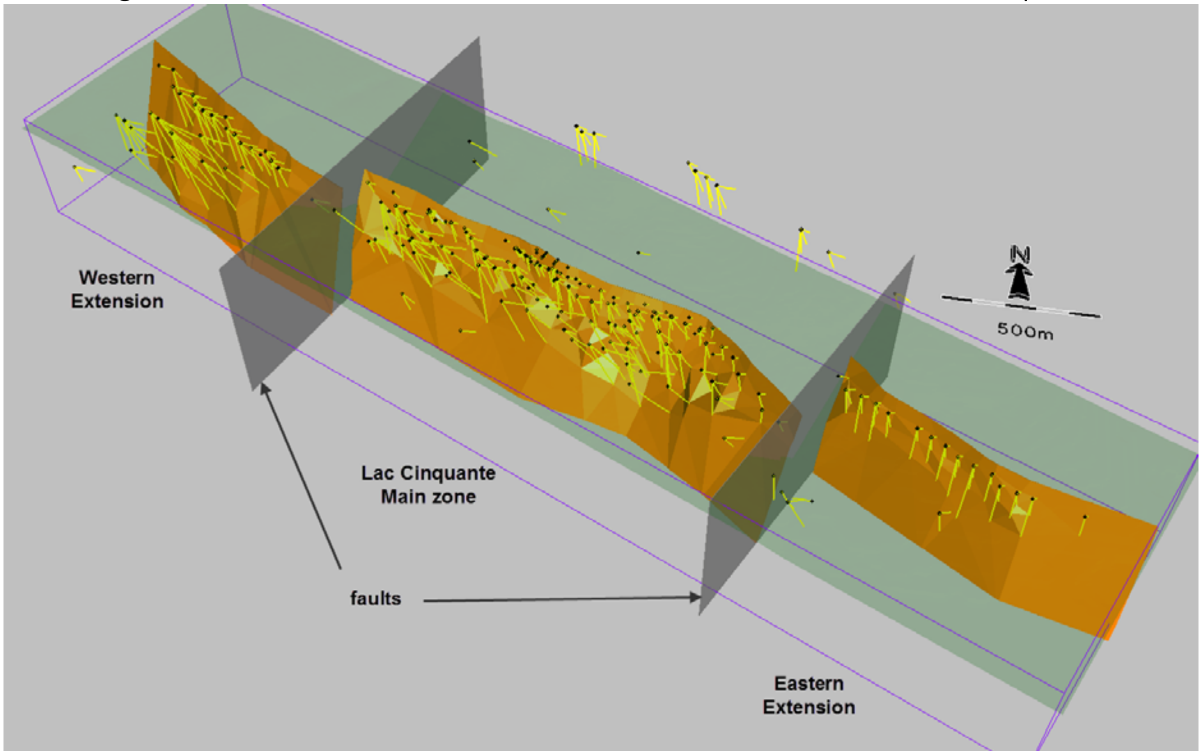


Figure 14.3: Isometric View of Drill Holes and Mineralized Domains at Lac Cinquante

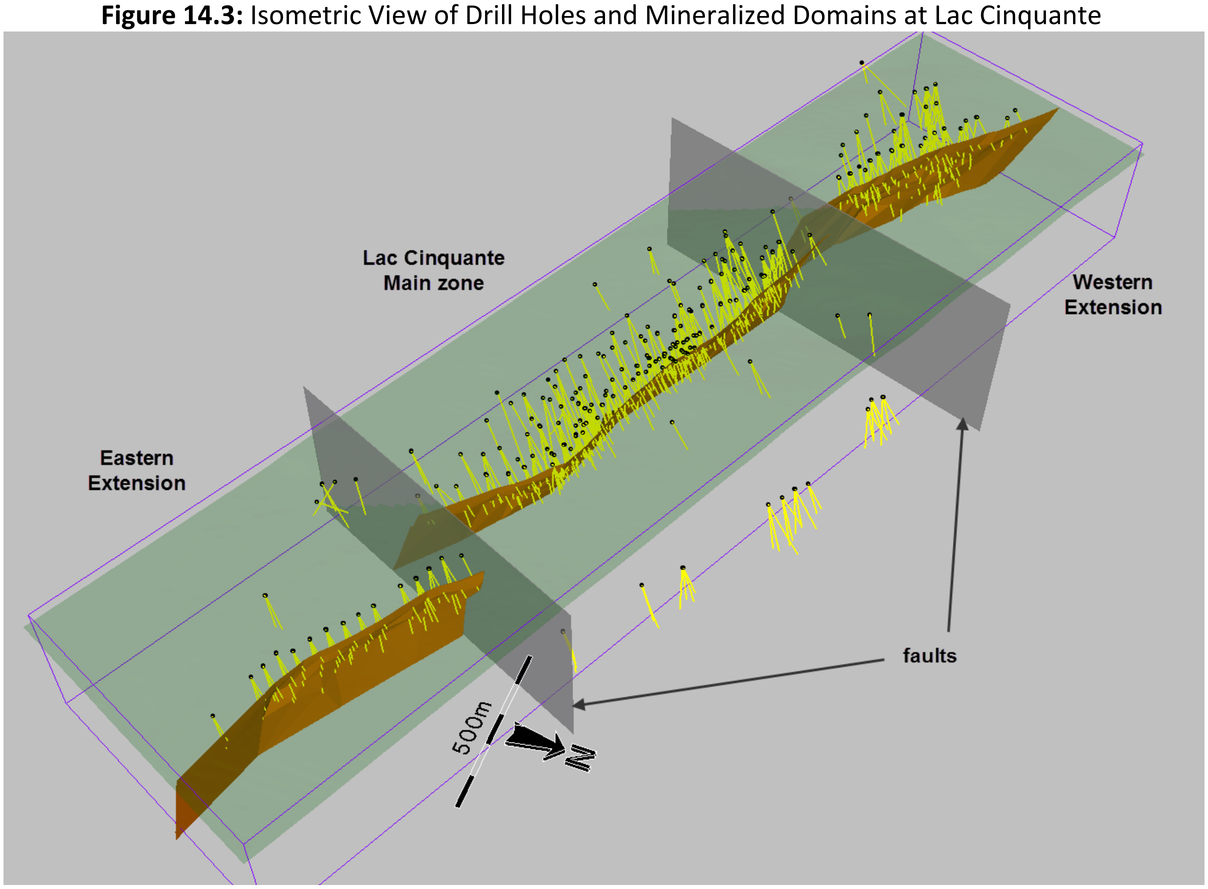


Figure 14.4: Isometric View of Drill Holes and Mineralized Domains at J4

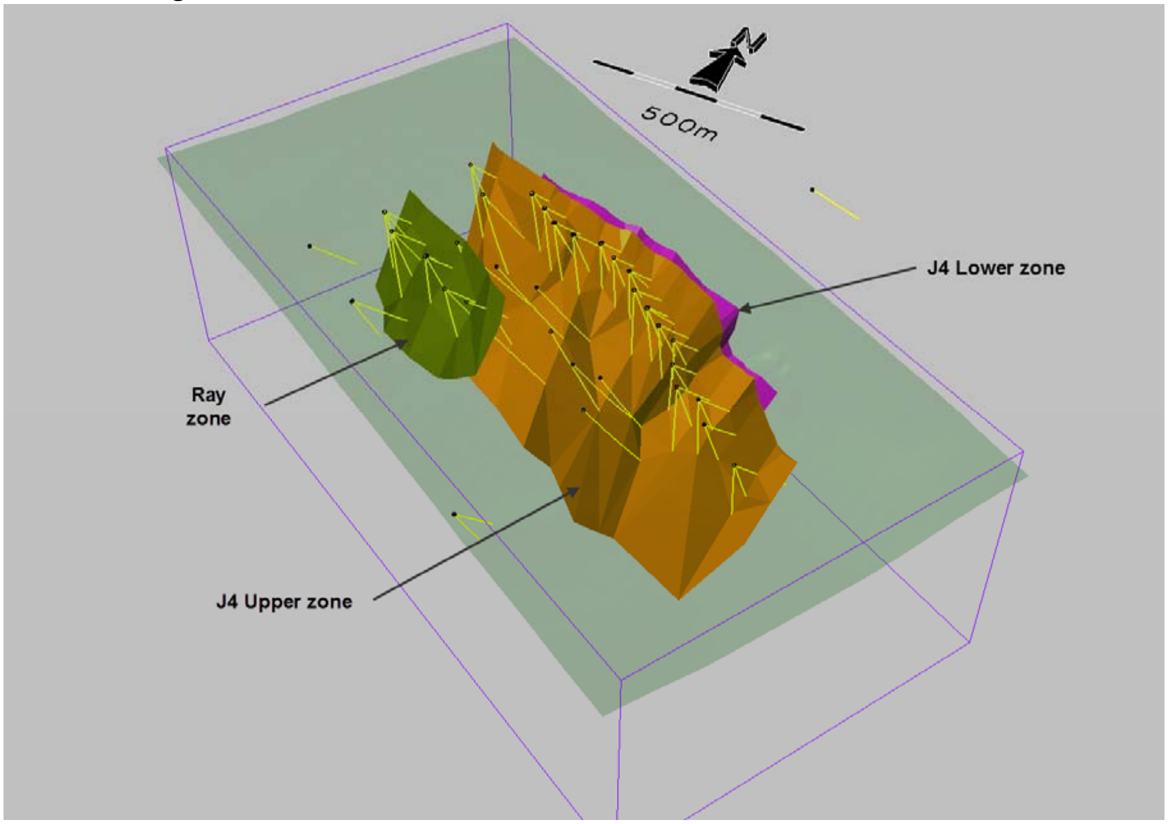
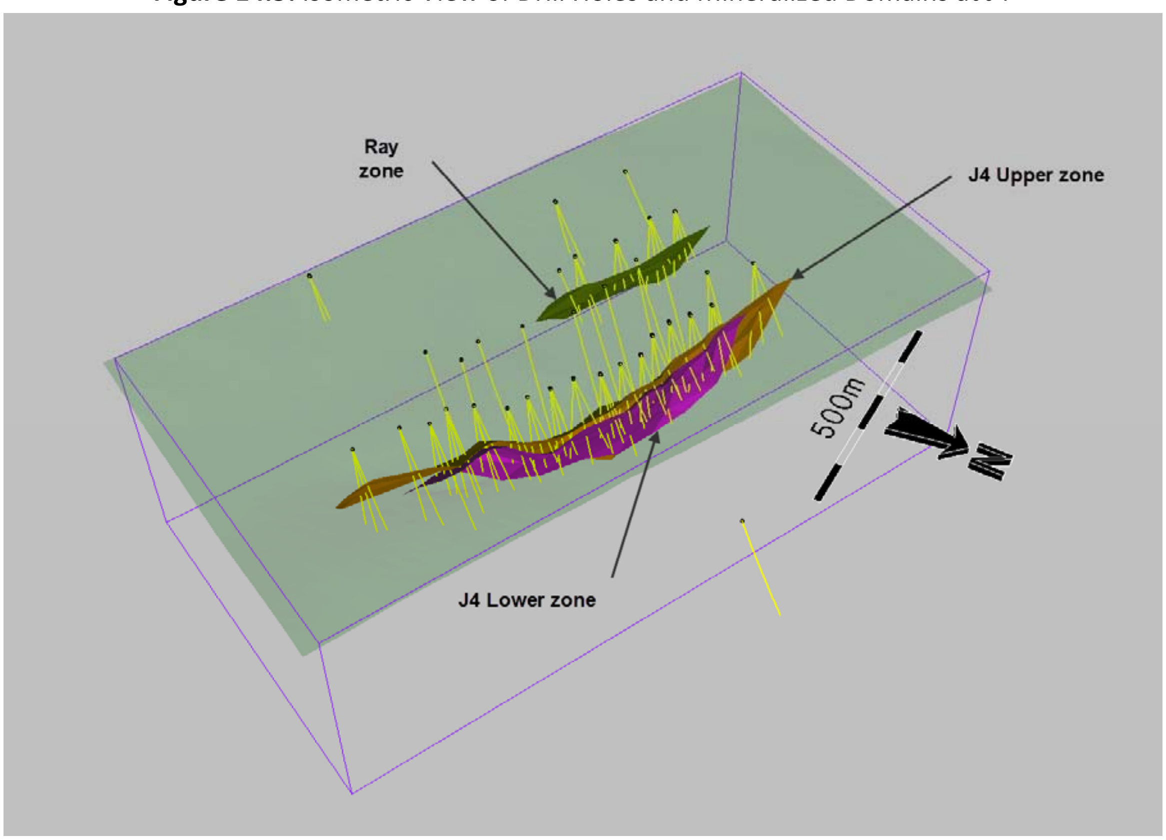


Figure 14.5: Isometric View of Drill Holes and Mineralized Domains at J4



It should be noted that, due to their proximity, references in this report to the "J4 zone" generally refers to the combined zones: J4 Upper, J4 Lower and Ray.

Secondary structural features, identified outside of the interpreted domains at Lac Cinquante and J4, appear to play a significant role in the development of the deposits as "feeder" zones for migrating fluids. These shear zones often contain elevated uranium values, some of which could represent potentially economic levels of thickness and grade. However, it is difficult to interpret the orientation and continuity of these secondary structural zones with any degree of confidence based on the current drill hole spacing and, as a result, they have been excluded from the resource model at this time. In the future, more tightly-spaced drilling may allow for the inclusion of additional resources within secondary structural zones.

14.3 Available Data

The database for this project is based on the UTM coordinate system (NAD83 Zone14) and all geologic interpretation and subsequent block model development were generated based on this data.

Drilling dates back to the early 1980s on the Angilak property. Drill core from 127 of these historic drill holes remains in core racks located on the property. Unfortunately, the database for these holes has been lost over time and the collar locations and orientations of these holes, for the most part, are unknown (inscribed tags on pickets that remain in the field denote drill hole numbers; orientations on the tags are rare). Kivalliq has re-logged as much of this historic core as possible in an attempt to gain additional knowledge about the deposit. However, due to uncertainty with this historic data, none has been used in the development of this resource model.

Beginning in 2009, Kivalliq has drilled a total of 449 holes on the Angilak property: 256 holes were designed to test the Lac Cinquante deposit; 79 holes are located in the J4 deposit; and, the remaining 114 drill holes are exploratory in nature and do not influence the estimation of mineral resources at Lac Cinquante or J4. The distribution of uranium grades in drilling on the Lac Cinquante and J4 deposit areas are shown in Figures 14.6 through 14.10.

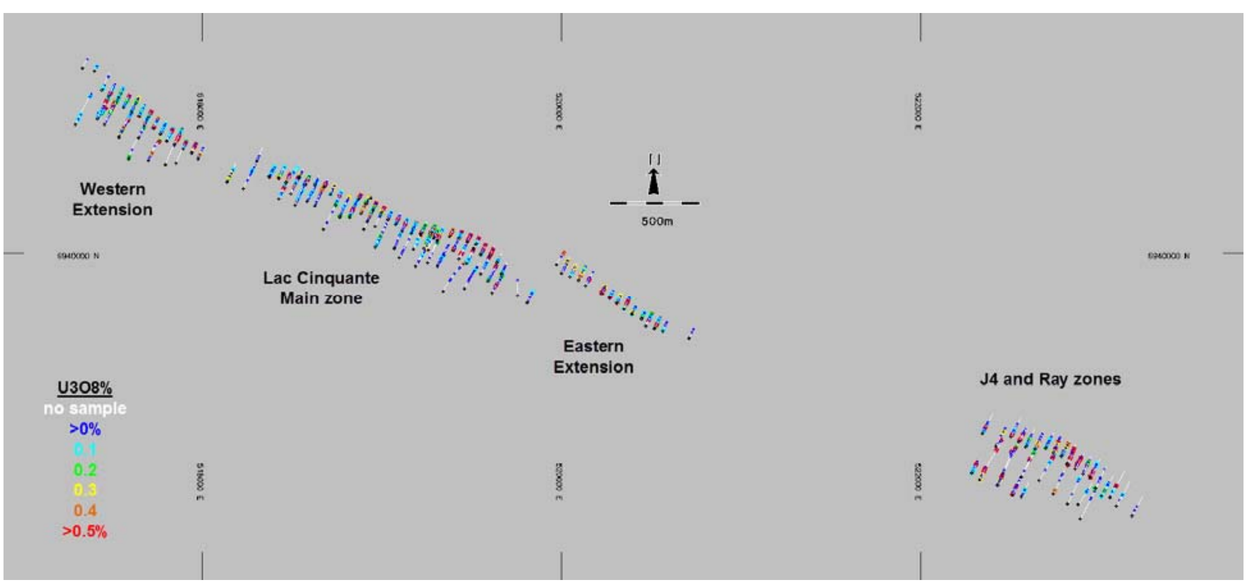


Figure 14.6: Plan Showing Lac Cinquante and J4 / Ray drilling

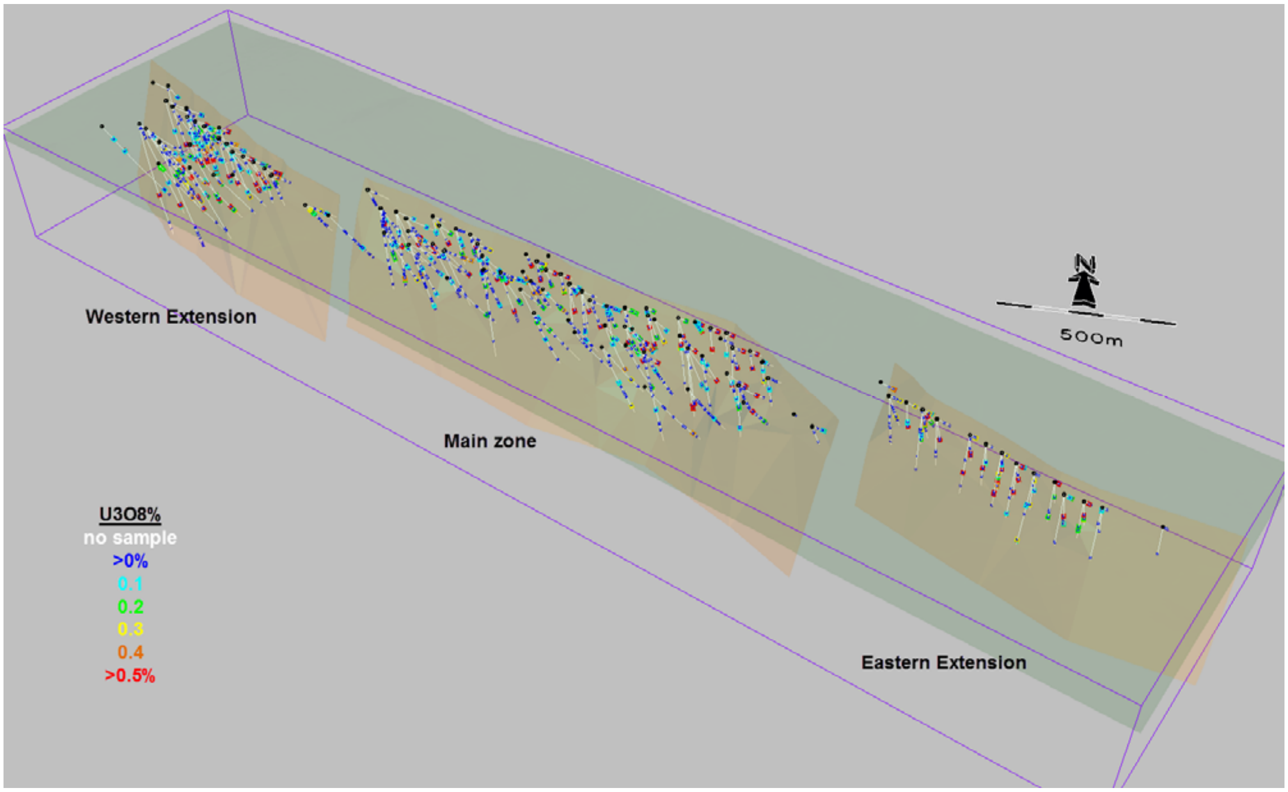


Figure 14.7: Isometric View of U_3O_8% Grades in Drill Holes at Lac Cinquante

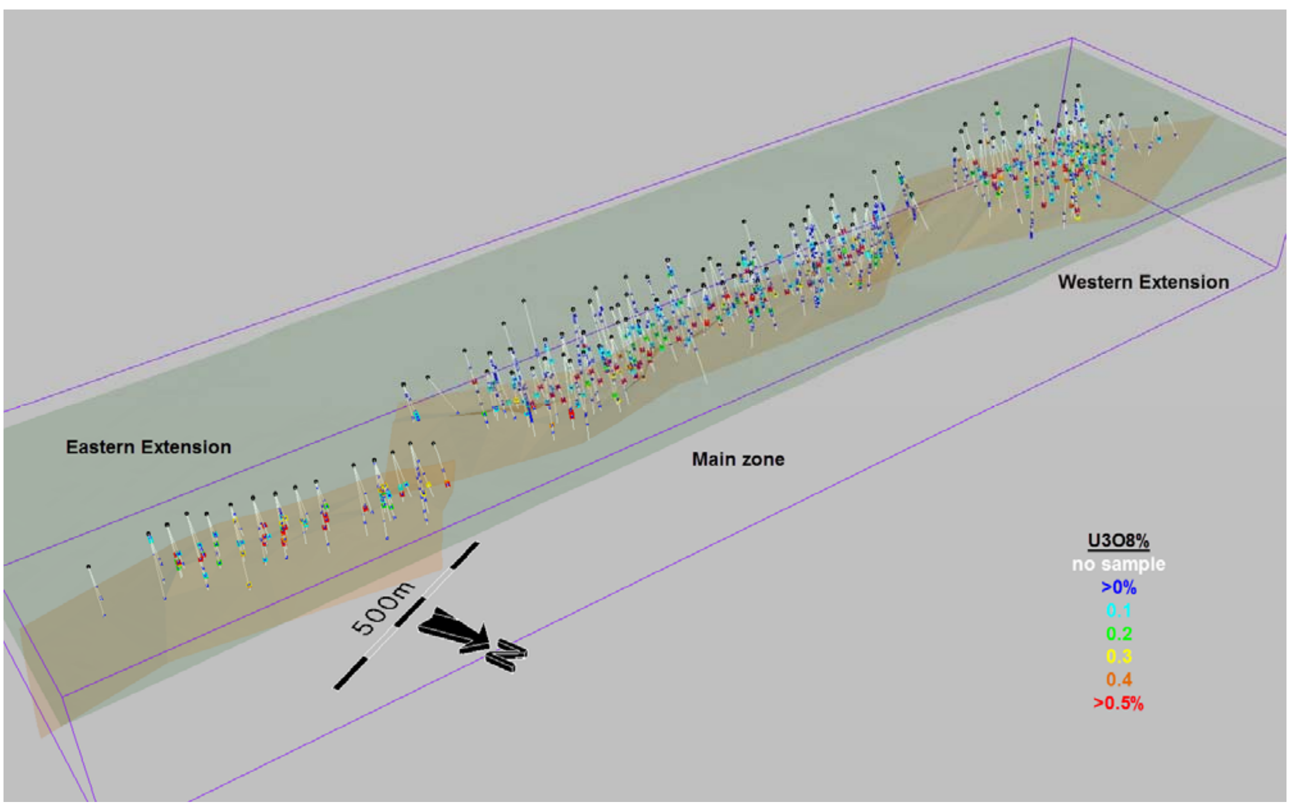


Figure 14.8: Isometric View of U_3O_8% Grades in Drill Holes at Lac Cinquante

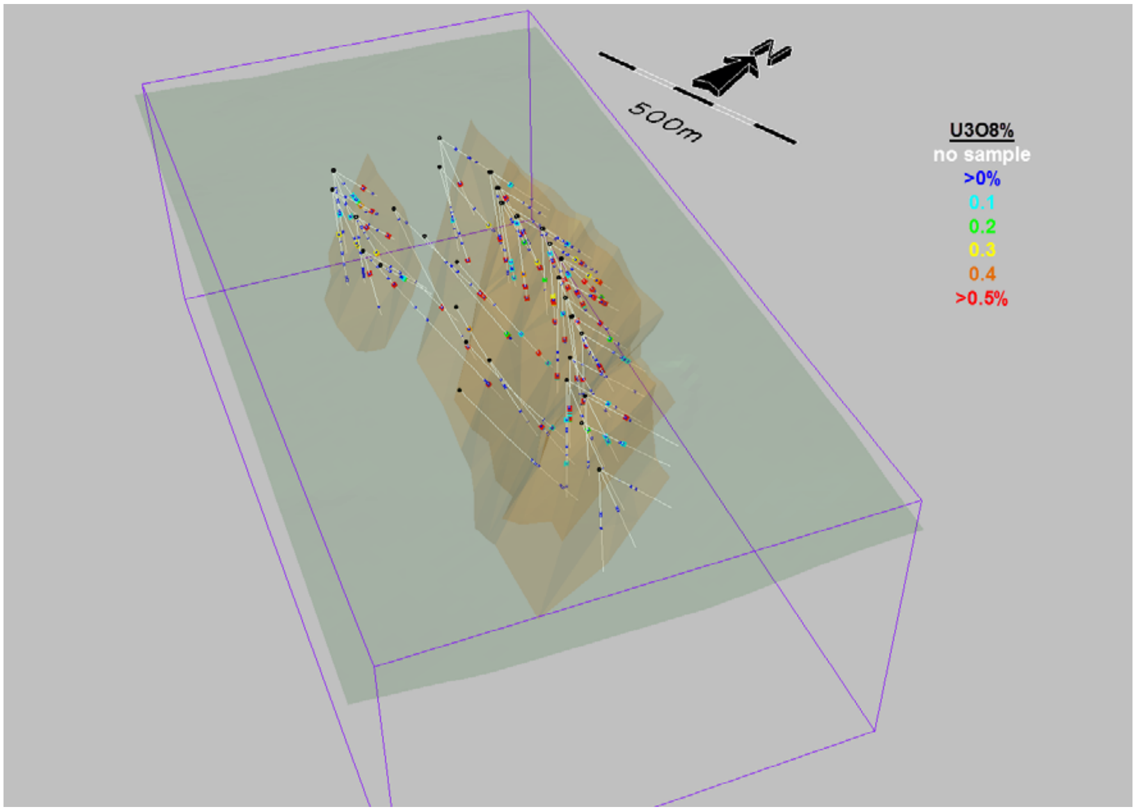


Figure 14.9: Isometric View of U_3O_8% Grades in Drill Holes at J4 / Ray Zones

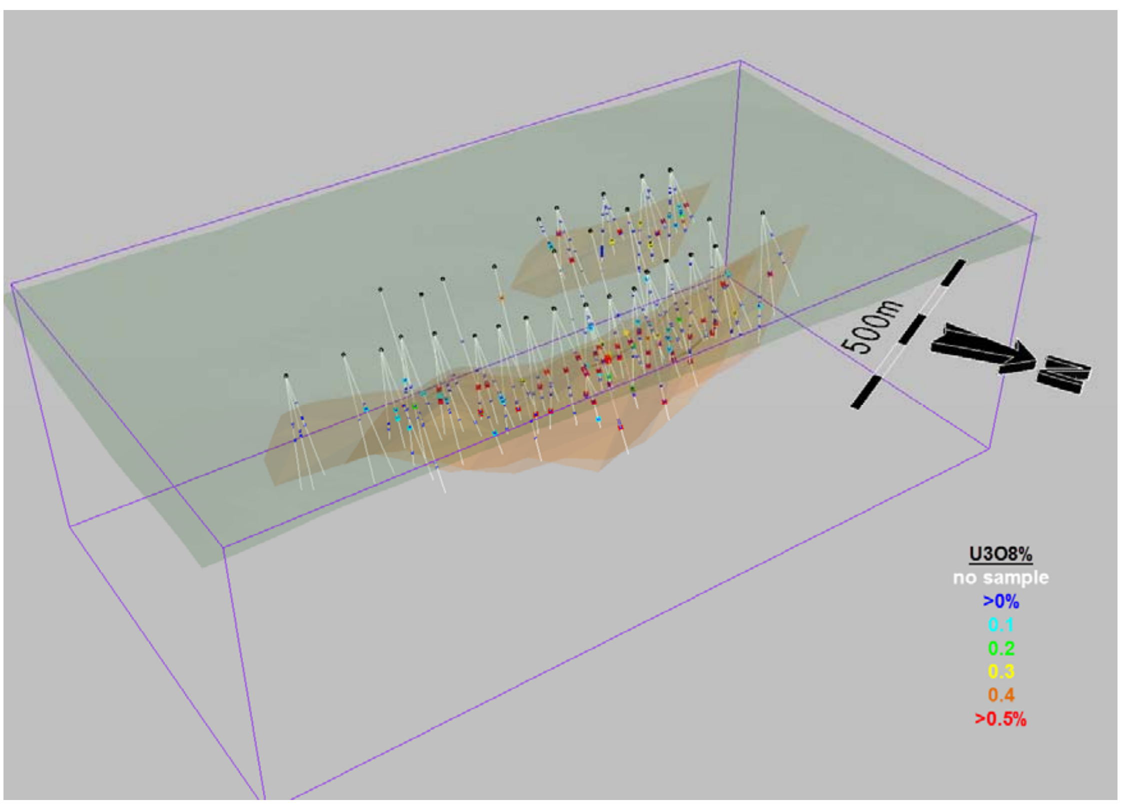


Figure 14.10: Isometric View of U_3O_8% Grades in Drill Holes at J4 / Ray Zones

The distribution of drill holes is controlled using a local "historic" grid in which vertical sections are oriented at an azimuth of 26°. The majority of drilling occurs on sections spaced on 50 m intervals. "Fans" of typically two to four holes are drilled, on-section, from a single set-up with pierce points designed to intersect the mineralized zone at intervals ranging from 50 m to 100 m. Drill holes are generally designed to test for mineralization within maximum depths of 250 m below surface; however, some drill holes have intersected the target horizon at depths exceeding 400 m (vertical) below surface.

In an attempt to reduce costs, sampling in drill holes is restricted to intervals which show signs of uranium. These intervals are selected using a combination of geologic logging and the identification of the host tuffaceous horizon, and also a positive response when tested using a scintillometer. All unsampled intervals in the database are assumed to have no contained metal and are assigned zero grade values. Essentially all unsampled intervals occur outside of the Minzone domains; however, a total of 8.9 m of sample intervals located inside the interpreted Minzone domains at Lac Cinquante have not been sampled or analysed and, as a result, are assigned zero grade values.

As stated previously, a total of 256 drill holes with a cumulative length of 44,706 m were used in the generation of the Lac Cinquante resource block model. These holes contain a total of 6,173 samples, with a total core length of 3,188 m and were selected for analysis. Individual sample intervals range from 0.11 m to 4.0 m long, with an average sample length of 0.52 m.

The J4/Ray resource block model was generated from a total of 79 drill holes with a cumulative length of 15,552 m. These holes contain a total of 1,363 samples, with a total core length of 725 m and were selected for analysis. Individual sample intervals range from 0.21 m to 1.17 m long, with an average sample length of 0.53 m.

Samples are routinely tested for a total of 46 elements: U_3O_8 (%), silver (g/t), copper (%) and molybdenum (%) were extracted for use in the generation of the resource model.

Kivalliq's sampling protocol initially runs all samples for U (uranium) ppm using ICP. Samples that exceed a grade of 1,000 ppm are rerun using SRC Geoanalytical Laboratory's (SRC) ICP-OEA method that returns results in U_3O_8%. Prior to importing, this data is standardized, converting U ppm to U_3O_8%, using the following formula:

$$U3O8\% = U\,ppm * 0.0001179$$

Similarly, copper and molybdenum values are converted as follows:

$$Cu\% = Cu\,ppm\ /\ 10{,}000$$
$$Mo\% = Mo\,ppm\ /\ 10{,}000$$

Values for silver and molybdenum that fall below the detection limit have been set to one-half of the detection limit threshold.

A digital terrain model, generated from three-dimensional points on a 15 m x 15 m grid pattern, was provided by Kivalliq as an AutoCAD DXF file. This three-dimensional surface was imported into MineSight® and has been used to truncate all wireframe domains as well as restrict the upper limit of mineral resources. Comparisons show the surveyed drill hole collars correlate very well with the three-dimensional topographic surface with maximum differences generally within 1 m or 2 m. This discrepancy has no material effect on the estimation of mineral resources.

The geologic information is derived through observations during logging, and includes the designation of the various lithologic units as well as any significant fault zones.

Resource modeling has been conducted using the commercial mine design software system, MineSight® (v7.50) developed by Mintec, Inc., Tucson, Arizona.

14.4 Compositing

Following the interpretation of the mineralized domain, drill hole samples were "speared" with the three-dimensional wireframe. This step ensures that sample intervals inside the domain boundaries are assigned distinct codes which allow for segregation of samples from those outside of the zone of interest. Drill hole samples are then composited to the full width of the mineralized domain so that each drill hole then contains one interval that represents the average grade of the zone at that location.

Following compositing, the true thickness of the zone in each drill hole is determined based on the angle of the drill hole with respect to the (local) dip of the interpreted mineralized domain. The assignment of the true thickness allows the principle of constant support to be applied during block grade interpolation.

14.5 Exploratory Data Analysis

Exploratory data analysis (EDA) involves the statistical evaluation of the database in order to quantify the characteristics of the data. One of the main purposes of this exercise is to determine if there is evidence of spatial distinctions in grade which may require the separation and isolation of domains during interpolation. The application of separate domains prevents unwanted mixing of data during interpolation and the resulting grade model will better reflect the unique properties of the deposit. However, applying domain boundaries in areas where the data is not statistically unique may impose a bias in the distribution of grades in the model.

A domain boundary, which segregates the data during interpolation, is typically applied if the average grade in one domain is significantly different from that of another domain. A boundary may also be applied where there is evidence that there is a significant change in the grade distribution across the contact.

Basic Statistics by Domain

Table 14.1 lists the basic statistics of the composited sample data at Lac Cinquante. Included are the results from the three mineralized domains as well as the samples located outside of the domains. In all cases, the grades inside the domains are significantly higher compared to the surrounding data. The grades between domains are similar but the Main Zone has higher uranium and molybdenum values. The Western Extension has lower uranium and molybdenum values, but higher copper values.

Table 14.2 lists the basic statistics of composited sample data at J4 and Ray. Average uranium grades are higher in the Lower J4 zone and slightly lower at Ray. Silver grades at J4 / Ray are about twice that of Lac Cinquante.

Table 14.1: Basic Statistics of Samples by Domain – Lac Cinquante

Element	Number of Drill Holes	Total Length (m) (1)	Minimum	Maximum	Mean (2)	Median	Standard Deviation	Coefficient of Variance
Western Extension								
U_3O_8%	67	105	0	2.205	0.374	0.202	0.4588	1.2272
Ag g/t	67	105	0	90.2	13.1	4.0	19.38	1.48
Cu%	67	105	0	2.32	0.34	0.23	0.4	1.172
Mo%	67	105	0	0.391	0.027	0.003	0.0605	2.2558
Main								
U_3O_8%	143	188	0	6.855	0.581	0.216	0.9272	1.5957
Ag g/t	143	188	0	83.3	10.7	7.3	12.97	1.22
Cu%	143	188	0	3.67	0.16	0.04	0.459	2.859
Mo%	143	188	0	1.870	0.191	0.102	0.2732	1.4309
Eastern Extension								
U_3O_8%	46	45	0	2.652	0.462	0.291	0.5279	1.1437
Ag g/t	46	45	0	134.6	16.6	6.5	23.57	1.42
Cu%	46	45	0	3.08	0.29	0.07	0.562	1.952
Mo%	46	45	0	1.673	0.127	0.068	0.2042	1.6062
All Mineralized Domains								
U_3O_8%	256	338	0	6.855	0.501	0.230	0.7681	1.5335
Ag g/t	256	338	0	134.6	12.2	6.8	16.97	1.39
Cu%	256	338	0	3.67	0.23	0.06	0.464	1.989
Mo%	256	338	0	1.870	0.132	0.063	0.2315	1.7607
Outside Minzone Domain								
U_3O_8%	256	2772	0	1.407	0.025	0.003	0.075	3.000
Ag g/t	256	2772	0	132.5	1.7	0.3	5.3	3.11
Cu%	256	2772	0	4.37	0.06	0.02	0.16	2.667
Mo%	256	2772	0	0.266	0.008	0.003	0.017	2.125

(1) Cumulative length of true thickness of zone.
(2) Statistics weighted by true thickness of zone.

Contact Profiles

The nature of grade trends between two domains is evaluated using the contact profile which graphically displays the average uranium grade at increasing distances from the contact boundary. Contact profiles which show a marked difference in grade across a domain boundary, are an indication that the two datasets should be isolated during interpolation. Conversely, if there is a more gradual change in grade across a contact, the introduction of a "hard" boundary (i.e. segregation during interpolation) may result in much different trends in the grade model; in this case, the change in grade between domains in the model is often more abrupt than the trends seen in the raw data. Finally, a flat contact profile indicates no grade changes across the boundary; in this case, a flat profile, “hard” or “soft” domain boundary, will produce similar results in the model.

Table 14.2: Basic Statistics of Samples by Domain – J4 / Ray zones

Element	Number of Drill Holes	Total Length (m) (1)	Minimum	Maximum	Mean (2)	Median	Standard Deviation	Coefficient of Variance
J4 Upper								
U_3O_8%	63	69	0	6.18	0.473	0.158	0.8551	1.8098
Ag g/t	63	69	0	340	22.5	18.2	29.01	1.29
Cu%	63	69	0	1.36	0.30	0.2	0.324	1.066
Mo%	63	69	0	0.93	0.133	0.056	0.1747	1.319
J4 Lower								
U_3O_8%	52	41	0	4.1	0.519	0.034	0.8808	1.6974
Ag g/t	52	41	0	154	25.1	8.3	41.7	1.66
Cu%	52	41	0	0.89	0.21	0.07	0.233	1.134
Mo%	52	41	0	1.22	0.147	0.032	0.2342	1.5961
Ray								
U_3O_8%	16	9	0.007	1.87	0.439	0.1947	0.4489	1.0236
Ag g/t	16	9	0.2	96.7	30.9	15.47	31.2	1.01
Cu%	16	9	0.01	0.21	0.09	0.07	0.048	0.57
Mo%	16	9	0.001	0.935	0.301	0.0897	0.2808	0.9328
All Mineralized Domains								
U_3O_8%	76	119	0	6.18	0.486	0.133	0.8407	1.7304
Ag g/t	76	119	0	340	24.1	13.1	34.13	1.42
Cu%	76	119	0	1.36	0.25	0.12	0.29	1.145
Mo%	76	119	0	1.22	0.150	0.054	0.2109	1.4041
Outside Minzone Domain								
U_3O_8%	76	564	0	0.421	0.011	0.003	0.0337	3.01
Ag g/t	76	564	0	196.0	2.3	0.2	11.12	4.84
Cu%	76	564	0	0.75	0.06	0.02	0.076	1.307
Mo%	76	564	0	0.208	0.007	0.001	0.016	2.263

(1) Cumulative length of true thickness of zone.
(2) Statistics weighted by true thickness of zone.

A series of contact profiles were generated in order to evaluate the change in grade in all modeled elements across the mineralized domain boundary. An example of the result for U_3O_8 is shown in Figure 14.11. The results are similar in all cases and show a marked difference in grade across the domain boundary.

<u>Conclusions and Modeling Implications</u>

The results of the EDA indicate that the samples contained inside the mineralized domain significantly differ from those outside the domain and that data should not be mixed across the domain contacts during the development of the resource model.

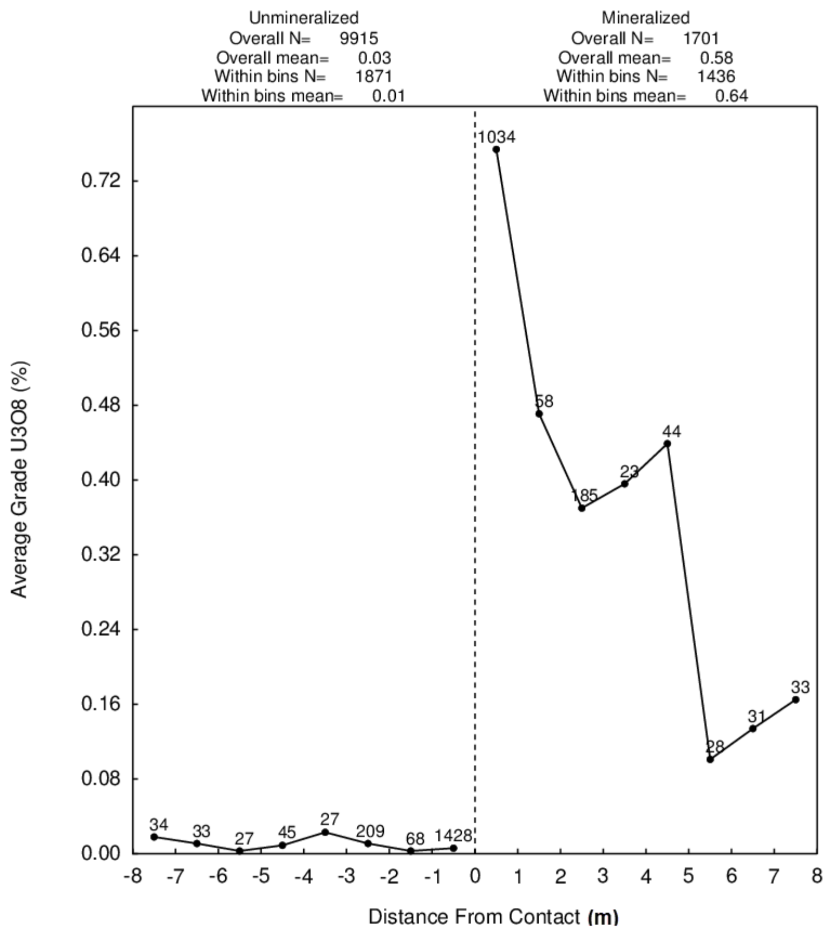


Figure 14.11: Contact Profile Showing Change in U_3O_8 Grades across Mineralized Zone

Statistical analysis of sample data outside the domain show very low average grades, but that relatively high local samples are present. These anomalous intervals are the result of samples taken within local fault zones that are interpreted to feed the larger mineralized domains. In the absence of a domain to restrict their effects during interpolation, these rare samples could generate some potential resources outside of the main mineralized domains. These results do not exhibit the degree of confidence required for even Inferred resources and, as a result, all resource interpolations were restricted to model blocks contained wholly or in part within the interpreted mineralized domains.

14.6 Bulk Density Data

The bulk density database contains a total of 1,579 samples that were collected during the 2010, 2011 and 2012 drilling programs. During the 2010 program, a total of 134 samples were selected and sent to SRC using their SG4 Oven Dry method. Samples are dried for 24 hours in an oven at 110°C and weighed in air. Samples are then wax sealed and weighed again in air (to determine the volume of wax) and then weighed while submerged in water. The density formula is as follows:

$$W(air)/(W(air) - W(water)$$

where, W = weight

During the 2011 and 2012 field seasons, bulk density measurements were conducted on-site using the "wet" method; it is similar to that described above, but without the wax seal application. The rocks are generally non-porous and, as a result, wax sealing is not required. A series of check samples sent to SRC showed a very good comparison of results between the two methods.

Bulk density samples were selected across the strike and dip extents of the deposits and generally within, or in the close vicinity of, the mineralized domains. Individual sample intervals tend to be 10 cm long and are considered to be representative of the rocks in the general area. Individual SG (specific gravity) samples range from a minimum of 1.77 t/m^3 to a maximum of 5.62 t/m^3, with an overall mean of 2.86 t/m^3. It should be noted that 70% of the SG samples are located outside of the Minzone domains and only 30% are located inside. At J4, 43% of the samples are from rocks inside the Minzone domains.

Average SG values are very consistent between domains. Although there appears to be a weak correlation between bulk density values and U_3O_8 grades, SG samples from outside of the Minzone domains tends to be very similar to samples from inside the domains. This suggests that SG samples selected outside of the Minzone domains do not represent typical (unmineralized) surrounding rocks, but have been preferentially taken in areas that contain signs of uranium mineralization.

Available bulk density data was loaded and composited to the full width of the mineralized domains. Within the mineralized domains, composited bulk densities at Lac Cinquante 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 2.84t/m^3. The distribution of data is considered sufficient to allow for estimation of bulk density values into blocks in the model. The estimation approach for bulk density is described in Section 14.11 of this report.

14.7 Evaluation of Outlier Grades

Histograms and probability plots were reviewed to identify the existence of anomalous outlier grades in the composited sample database. The physical locations of these samples are then compared to neighbouring data.

At Lac Cinquante, potentially anomalous uranium values occur in a series of relatively narrow drill intercepts along the eastern part of the Main zone. The distribution of potentially anomalous molybdenum tends to occur in the Main Zone and clusters in the eastern part of this domain. The fact that these outliers tend to cluster to some degree suggests that they may be the result of some local geological feature. As a result, the distributions of U_3O_8 and percent of molybdenum are controlled during interpolation through a combination of top-cutting and the application of outlier limitations. This limits samples above a defined threshold to a maximum distance of influence during block grade interpolation.

Potentially anomalous copper and silver at Lac Cinquante tend to be erratically distributed and are controlled using only traditional top-cutting of data. The parameters and overall effects of the treatment of outlier sample data are summarized in Tables 14.3 and 14.4.

Table 14.3: Summary of Treatment of Outlier Sample data – Lac Cinquante

Element	Type and Limits	Resulting Metal Loss in Model
U_3O_8%	Top-cut to 5%. Outliers >3% limited to 50 m influence.	-4.5%
Ag g/t	Top-cut to 80 g/t.	-1.0%
Cu%	Top-cut to 3%.	-1.4%
Mo%	Top-cut to 1%. Outliers >0.7% limited to 50 m influence.	-7.0%

Table 14.4: Summary of Treatment of Outlier Sample data – J4 / Ray

Element	Type and Limits	Resulting Metal Loss in Model
U_3O_8%	Top-cut to 4%.	-2.0%
Ag g/t	Top-cut to 150 g/t.	-0.8%
Cu%	Top-cut to 1.5%.	-0.7%
Mo%	Top-cut to 1%.	-0.4%

14.8 Variography

The degree of spatial variability in a mineral deposit depends on both the distance and direction between points of comparison. Typically, the variability between samples increases as the distance between samples increases. If the degree of variability is related to the direction of comparison, then the deposit is said to exhibit *anisotropic* tendencies which can be summarized with the search ellipse. The semi-variogram is a common function used to measure the spatial variability within a deposit.
The components of the variogram include the nugget, the sill and the range. Often samples compared over very short distances (even samples compared from the same location) show some degree of variability. As a result, the curve of the variogram often begins at some point on the y-axis above the origin; this point is called the *nugget*. The nugget is a measure of not only the natural variability of the data over very short distances but also a measure of the variability which can be introduced due to errors during sample collection, preparation and assaying.

The amount of variability between samples typically increases as the distance between the samples increases. Eventually, the degree of variability between samples reaches a constant, maximum value; this is called the *sill* and the distance between samples at which this occurs is called the *range*.

The spatial evaluation of the data in this report has been conducted using a correlogram rather than the traditional variogram. The correlogram is normalized to the variance of the data and is less sensitive to outlier values, generally giving better results. Correlograms were generated using the commercial software package Sage 2001© developed by Isaacs & Co.

Multidirectional variograms have been produced for the distribution of uranium in the combined mineralized domains at Lac Cinquante. There is insufficient data present in the individual zones at Lac Cinquante; therefore, a single variogram was produced and used for all three domains.

Limited data at J4 produced relatively poor variogram results. These initial results form the basis of a final variogram that is felt to be a reasonable representation of the distribution of the sample data in this area.

Since the composited database is comprised of samples of varying lengths, correlograms were generated using data normalized through a *grade x thickness* (U_3O_8% x True Thickness (TTHK)) calculation; block grade interpolation uses TTHK-weighting of composites. The results are summarized in the Table 14.5.

Table 14.5: Variogram Parameters – U_3O_8% x True Thickness

				1st Structure			2nd Structure		
Area	Nugget	S1	S2	Range (m)	AZ	Dip	Range (m)	AZ	Dip
Lac 50	0.049	0.744	0.207	349	124	14	1476	123	2
	Spherical			108	30	13	99	33	6
				43	79	-70	31	229	84
J4 / Ray	0.046	0.030	0.924	60	120	0	160	120	0
	Spherical			60	210	-60	160	210	-60
				30	30	30	50	30	30

(Global correlograms generated using U_3O_8% x True Thickness)

14.9 Model Setup and Limits

Two block models were initialized in MineSight® using the parameters and dimensions defined in Tables 14.6 and 14.7. The extents of the block models are represented by the purple lines in Figures 14.1 to 14.5. The long axis of the model was horizontally rotated parallel to the average strike of the deposit at an azimuth of 115°. The selection of a nominal block size measuring 5x5x5 m at Lac Cinquante and 5x3x3 m at J4 is considered appropriate with respect to the current drill hole spacing and the scale of the deposits.

Blocks in the model have been coded using the three-dimensional mineralized domains that store a code flag (if a block intersects the wireframe domain) and a percentage value (the percentage of the block that occurs inside the wireframe domain used as a weighting factor to determine in-situ resource volumes).

Table 14.6: Block Model Limits – Lac Cinquante

Direction	Minimum (m)	Maximum (m)	Block Size (m)	Number of Blocks
X-axis (Az 115)	0	4000	5	800
Y-axis (Az 025)	0	1000	5	200
Elevation	-200	250	5	90

Note: Model has been rotated horizontally by 25 degrees about origin 517000E, 6940600N.

Table 14.7: Block Model Limits – J4 / Ray

Direction	Minimum (m)	Maximum (m)	Block Size (m)	Number of Blocks
X-axis (Az 115)	0	1600	5	320
Y-axis (Az 025)	0	825	3	275
Elevation	-300	240	3	180

Note: Model has been rotated horizontally by 25 degrees about origin 521800E, 6938700N.

14.10 Interpolation Parameters

Due to the variable thicknesses of composited sample data, all interpolation runs are weighted by the true thickness of the mineralized domain intercepts.

Block model U_3O_8 grade interpolation is done using ordinary kriging (OK). Estimates for silver, molybdenum, and copper are done using an inverse distance weighting method (ID to the power of 2). Block grade estimates were generated using a relatively limited number of samples, with the three closest drill holes used to estimate the grade of a block in the model. The author believes that this approach produces a model which is more representative on both a local and global scale based on the drilling information currently available. Note that although the maximum search range is 200 m during interpolation, a maximum of three drill holes is achieved throughout the majority of the interpolated model far before this range is met.

Estimates of bulk density are done using an inverse distance (ID^2) interpolation. A larger search range is used to account for the wider spaced SG data distribution in some parts of the Lac Cinquante deposit. During interpolation, composites less than 2.5 t/m^3 and greater than 3.5t/m^3 are limited to a maximum distance of influence of 50 m.

Estimates of the true thickness of the mineralized zone have also been made in model blocks using the inverse weighed (ID^5) interpolation method. This approach retains the thicknesses proximal to the drill hole intercepts, but allows for some degree of averaging between holes. Thickness values in model blocks are used for testing the resource potential for economic viability. The interpolation parameters are summarized in Table 14.8.

Table 14.8: Interpolation Parameters – Lac Cinquante and J4 / Ray

Element	Search Ellipse Range (m)			Number of composites*			Other
	X	Y	Z	Min/block	Max/block	Max/hole*	
U_3O_8%	200	200	200	2	3	1	OK estimate
Ag g/t	200	200	200	2	3	1	ID^2 estimate
Cu%	200	200	200	2	3	1	ID^2 estimate
Mo%	200	200	200	2	3	1	ID^2 estimate
SG t/m^3	500	500	500	1	4	1	ID^2 estimate
TTHK m	200	200	200	1	3	1	ID^5 estimate

*Drill holes are composited to full thickness of mineralized domain.

14.11 Validation

The results of the modeling process were validated through several applications which included a thorough visual review of the results, comparisons with other methods, and grade distribution comparisons using swath plots.

Visual Inspection

A detailed visual inspection of the block models was conducted in both section and plan to ensure the desired results following interpolation. This includes confirmation of the proper coding of blocks within the mineralized domains. The distribution of block grades was also compared relative to the drill hole samples to ensure the proper representation in the model.

Comparison of Interpolation Methods

For comparison purposes, additional models for U_3O_8 were generated using both the inverse distance (ID^2) and nearest neighbour (NN) interpolation methods. These models were compared using grade/tonnage curves at a series of cut-off grades (Figures 14.12 and 14.13). There is an appropriate degree of correlation between model types.

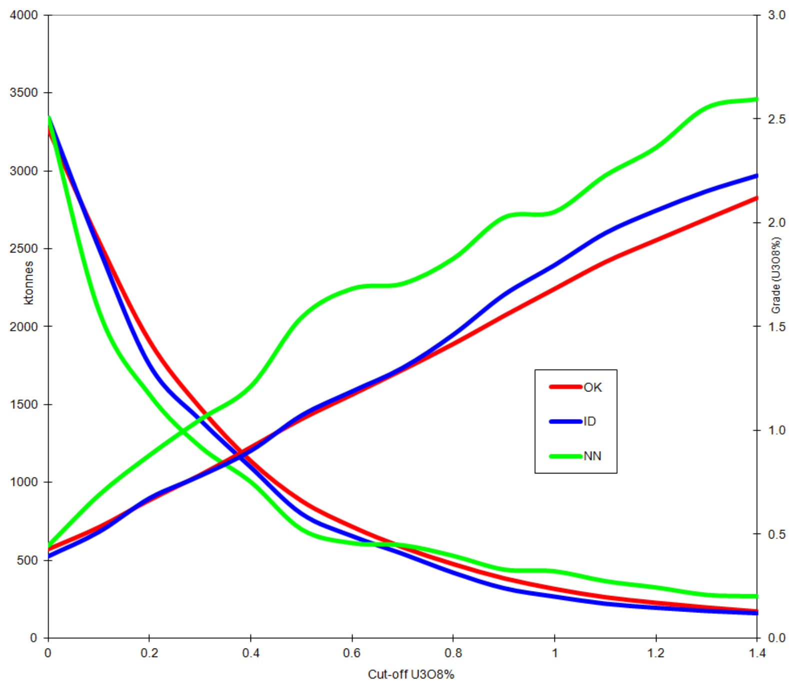


Figure 14.12: Comparison of U_3O_8 Model Types – Lac Cinquante

Additional NN models were generated for silver, molybdenum, and copper, and comparisons with the ID^2 models also show an acceptable degree of correlation.

Comparison of Resources using Grade Contouring Estimation Approach

A common historic method to estimate uranium deposits involves the estimation of *grade x thickness* (U_3O_8% x True Thickness) and (true) thickness of the mineralized zone using the ID^2 interpolation method. Uranium grades are then calculated from the estimations as follows:

$$U3O8\% = estimated\ (U3O8\%\ x\ Thickness)\ /\ estimated\ Thickness$$

The resulting grades are contoured at a defined threshold and the resources contained within the limits of the contour lines are calculated; tonnage is determined using the area of the contour lines and the estimated (ID^2) true thickness of the zone

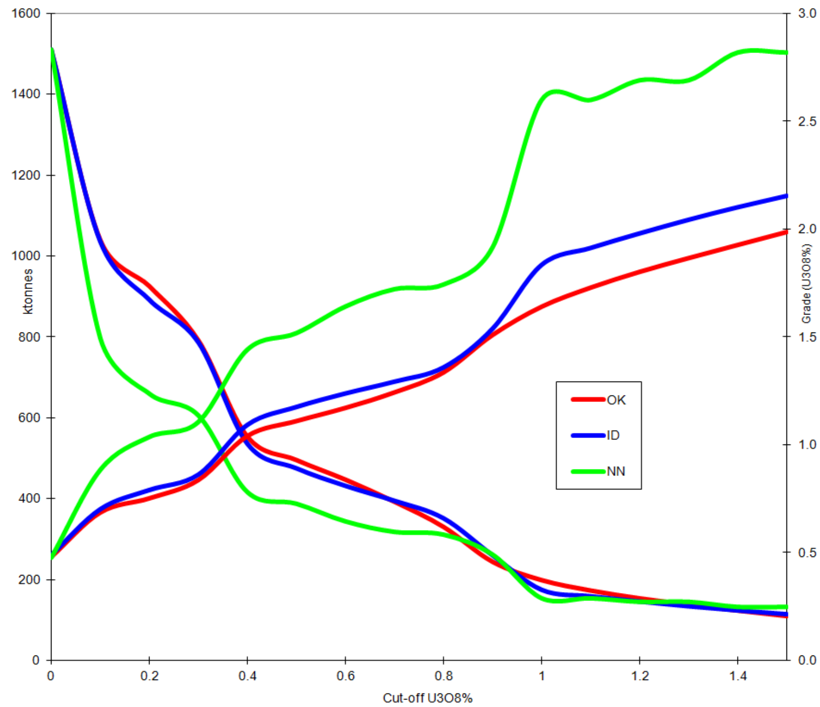


Figure 14.13: Comparison of U_3O_8 Model Types – J4 / Ray

The contour method was conducted at Lac Cinquante and J4/Ray at a threshold limit of 0.1%U_3O_8 and the results were compared against the block model estimate at the same cut-off limit. In general, the contour method produces slightly higher tonnage and corresponding lower grades but the differences were relatively small. Overall, estimates of the contained U_3O_8 metal derived using the two methods are essentially identical. Similar results were also found for silver, molybdenum and copper. Reproduction of the results using different estimation methods increases the confidence in the final mineral resource estimate.

Swath Plots (Drift Analysis)

A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Using the swath plot, grade variations from the OK model are compared to the distribution derived from the declustered (NN) grade model.

On a local scale, the NN model does not provide reliable estimations of grade, but, on a much large scale, it represents an unbiased estimation of the grade distribution based on the underlying data. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the NN distribution of grade.

Swath plots were generated in the three orthogonal directions for the U_3O_8 OK and NN models. Examples showing north-south oriented slices are shown in Figures 14.14 and 14.15. There is an acceptable degree of correlation in all directions for U_3O_8.

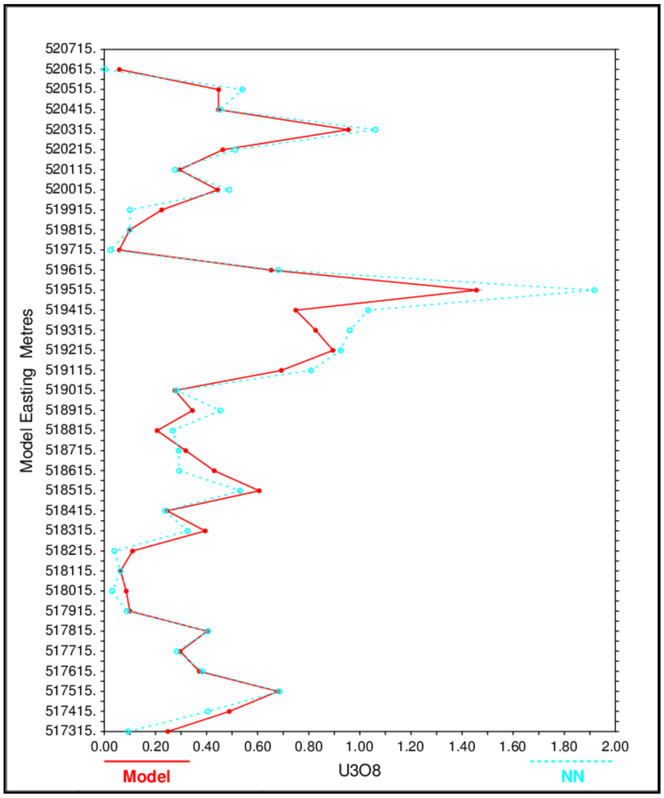


Figure 14.14: N-S Swath Plot for U_3O_8 OK and NN Models – Lac Cinquante

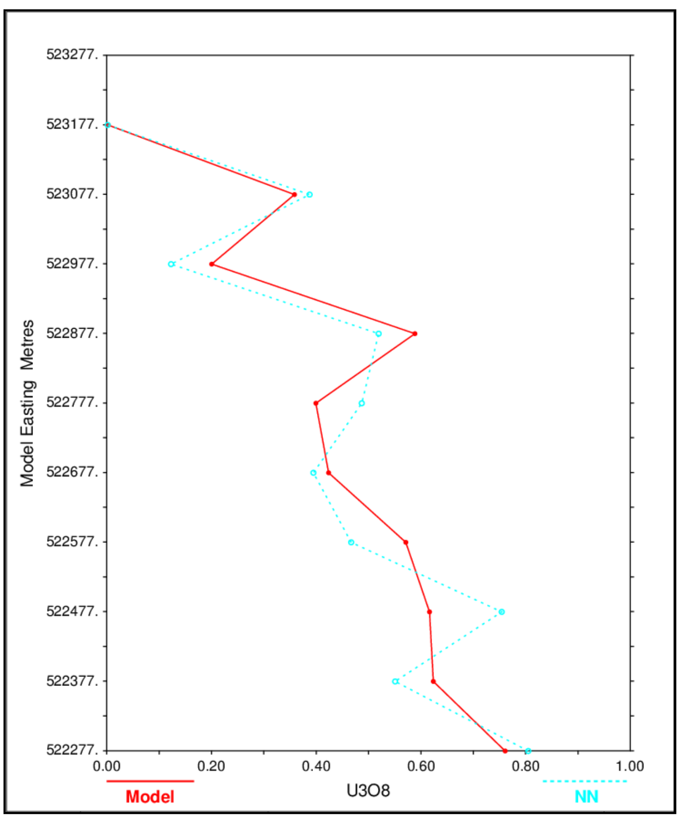


Figure 14.15: N-S Swath Plot for U_3O_8 OK and NN Models – J4 / Ray

Additional swath plots were also generated that compared the ID and NN models for silver, molybdenum, and copper. The correlations for silver and copper tend to be very good throughout both deposits. The molybdenum correlation at J4/Ray is also very good. However, the molybdenum models are somewhat more erratic in the Main zone at Lac Cinquante due to the presence of numerous relatively high-grade intersections. Overall, the degree of correlation supports the model estimates for all elements.

14.12 Resource Classification

A common method used in the classification of mineral resources involves geostatistical methods which define categories based on confidence limits. Measured resources are defined as material in which the predicted grade is within ±15% on a quarterly basis, at a 90% confidence limit. In other words, there is a 90% chance that the recovered grade for a quarter-year of production will be within ±15% of the actually achieved production grades. Similarly, Indicated resources include material in which the yearly production grades are estimated within ±15% at the 90% confidence level.

This method of estimating confidence intervals is an approximate method that has been shown to perform well when the volume being predicted from samples is sufficiently large (Davis, B. M., *Some Methods of Producing Interval Estimates for Global and Local Resources*, SME Preprint 97-5, 4p.) In this case, the smallest volume, where the method would most likely be appropriate, is the production from a single quarter. Using these guidelines, an idealized block configured to approximate the volume produced in one month is estimated by ordinary kriging using a series of idealized grids of samples. Relative variograms for U_3O_8 *x True Thickness* are used in the estimation of the block. Relative variograms are used rather than ordinary variograms because the standard deviations from the kriging variances are expressed directly in terms of a relative percentage.

The kriging variances from the ideal blocks and grids are divided by twelve (assuming approximate independence in the production from month to month) to get a variance for yearly ore output. The square root of this kriging variance is then used to construct confidence limits under the assumption of normally distributed errors of estimation. This procedure was conducted using sample data at Lac Cinquante and it is assumed that the results would be similarly applied at J4/Ray.

The classification is based on the distribution of uranium because uranium is the main contributor to the potential revenue of the deposit. Based on preliminary analysis of available data, an annual production forecast, within ±15% accuracy at 90% confidence limits, can be achieved with drill holes spaced on approximately a nominal 30 m grid pattern.

As a result, the following criteria were used to determine the resource classifications within the model:

Indicated Resources – Model blocks with U_3O_8 grades estimated by a minimum of three drill holes located on a nominal 30 m grid pattern. There are no resources that currently meet these criteria and, as a result, there are no resources classified in the Indicated category.

Inferred Resources – Model blocks which occur in relatively continuous zones of mineralization within a maximum distance of 50 m from a drill hole intercept.

The overall resource has been evaluated based on the criteria stated here. Some generalization of the final resource classification has occurred: some localized zones that lacked proper drilling support were excluded and additional minor internal patches that were initially omitted based on the strict distance limitation were included. A final interpreted polygon was used to classify blocks in the model within the mineralized domains that exhibit the degree of confidence to be classified as Inferred mineral resources.

14.13 Mineral Resource

The estimated mineral resources for the Lac Cinquante and J4/Ray deposits is presented in Table 14.9 at a base case cut-off grade of 0.2% U_3O_8 which is considered reasonable based on assumptions derived from other deposits of similar type, scale and location.

Table 14.9: Estimate of Inferred Mineral Resources (0.2% U_3O_8 cut-off)

Deposit	ktonnes	U_3O_8%	Ag g/t	Mo%	Cu%	Contained U_3O_8 (Mlbs)	Contained Ag (koz)	Contained Mo (Mlbs)	Contained Cu (Mlbs)
Lac Cinquante	1,906	0.666	16.0	0.150	0.25	28.0	983	6.3	10.4
J4 / Ray	925	0.751	30.1	0.201	0.26	15.3	895	4.1	5.2
Total	**2,831**	**0.693**	**20.6**	**0.167**	**0.25**	**43.3**	**1,878**	**10.4**	**15.6**

Although this project is in its very early stages, and little is known with respect to potential mining or metallurgical properties, the resource has been considered with respect to potential economic viability as required by NI 43-101. When subjected to estimated technical and economic operating parameters, the base case mineral resource forms a relatively continuous zone exhibiting thickness and grade properties which suggest that there are reasonable prospects for the economic extraction of the deposit through a combination of open pit and underground mining methods. The general economic parameters utilized are as follows:

Metal Price: $55CDN/pound U_3O_8
Open Pit Operating Cost: $12.50CDN/tonne
Pit Slope Angle: 45 degrees
Underground Operating Cost: $75/tonne
Minimum Underground Mining Width: 2m

It is important to note that these are estimations of mineral *resources*, not mineral *reserves*, as the economic viability of the project has not yet been demonstrated. There are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues which could materially affect the mineral resource.

In order to provide information regarding the sensitivity of the resource estimation, the mineral inventory contained within the deposits is presented at a series of U_3O_8 cut-off thresholds in Table 14.10. The generally high grade nature of the deposits is exhibited by the fact that there is relatively little change in the resource that results from adjusting the base cut-off threshold.

Table 14.10: Sensitivity of Inferred Mineral Resources

Cut-off Grade (U_3O_8%)	ktonnes	U_3O_8%	Ag g/t	Mo%	Cu%	Contained U_3O_8 (Mlbs)	Contained Ag (koz)	Contained Mo (Mlbs)	Contained Cu (Mlbs)
Lac Cinquante									
0.05	2,987	0.467	12.2	0.114	0.22	30.7	1171	7.5	14.3
0.1	2,547	0.534	13.7	0.127	0.23	30.0	1123	7.1	12.7
0.15	2,170	0.606	15.1	0.139	0.24	29.0	1056	6.7	11.4
0.2	**1,906**	**0.666**	**16.0**	**0.150**	**0.25**	**28.0**	**983**	**6.3**	**10.4**
0.25	1,680	0.725	16.7	0.160	0.25	26.8	900	5.9	9.2
0.3	1,479	0.786	17.2	0.170	0.25	25.6	818	5.5	8.3
0.35	1,286	0.856	17.6	0.181	0.26	24.3	727	5.1	7.3
0.4	1,136	0.920	17.7	0.191	0.25	23.0	647	4.8	6.3
0.45	1,005	0.984	18.3	0.204	0.25	21.8	591	4.5	5.6
0.5	882	1.056	18.9	0.219	0.25	20.5	534	4.3	4.9
J4 / Ray									
0.05	1,133	0.634	26.9	0.176	0.25	15.8	981	4.4	6.3
0.1	1,039	0.685	28.4	0.187	0.25	15.7	947	4.3	5.7
0.15	983	0.717	29.1	0.194	0.25	15.5	921	4.2	5.5
0.2	**925**	**0.751**	**30.1**	**0.201**	**0.26**	**15.3**	**895**	**4.1**	**5.2**
0.25	864	0.788	30.9	0.206	0.26	15.0	859	3.9	4.9
0.3	791	0.836	31.7	0.210	0.25	14.6	806	3.7	4.3
0.35	718	0.887	32.5	0.214	0.23	14.0	749	3.4	3.6
0.4	553	1.040	38.0	0.256	0.25	12.7	675	3.1	3.0
0.45	524	1.074	39.0	0.261	0.25	12.4	656	3.0	2.9
0.5	495	1.109	40.1	0.266	0.25	12.1	637	2.9	2.7
Combined Lac Cinquante and J4 / Ray									
0.05	4,121	0.512	16.2	0.131	0.23	46.6	2152	11.9	20.6
0.1	3,585	0.578	18.0	0.144	0.23	45.7	2070	11.4	18.4
0.15	3,153	0.640	19.5	0.156	0.24	44.5	1976	10.9	16.9
0.2	**2,831**	**0.693**	**20.6**	**0.167**	**0.25**	**43.3**	**1878**	**10.4**	**15.6**
0.25	2,544	0.746	21.5	0.175	0.25	41.9	1758	9.8	14.1
0.3	2,270	0.803	22.3	0.184	0.25	40.2	1624	9.2	12.6
0.35	2,004	0.867	22.9	0.192	0.25	38.3	1476	8.5	10.9
0.4	1,689	0.959	24.3	0.212	0.25	35.7	1322	7.9	9.4
0.45	1,528	1.015	25.4	0.224	0.25	34.2	1247	7.5	8.5
0.5	1,377	1.075	26.5	0.236	0.25	32.6	1171	7.2	7.7

Note: base case cut-off limit of 0.2% U_3O_8 is highlighted in the table.

The distribution of mineral resources in the individual zone domains is listed in Table 14.11. For the Lac Cinquante Deposit, the distribution of the base case Inferred mineral resource is shown in Figure 14.16, and the distribution of U_3O_8 grades in the resource block model is shown in Figure 14.17.

For the J4/Ray deposit, the distribution of the base case Inferred mineral resource is shown in Figure 14.18, and the distribution of U_3O_8 grades in the resource block model is shown in Figure 14.19.

The prospects for additional resources immediately along strike appear to be somewhat limited. There are areas in all three of the resource zones that remain "open", indicating the potential to add to the current resource with additional deep drilling.

Table 14.11: Mineral Resource Summary by Zone (0.2% U_3O_8 cut-off)

Zone	ktonnes	U_3O_8%	Ag g/t	Mo%	Cu%	Contained U_3O_8 (Mlbs)	Contained Ag (koz)	Contained Mo (Mlbs)	Contained Cu (Mlbs)
Lac50 Main	892	0.825	13.5	0.230	0.17	16.2	387	4.5	3.3
Lac50 Western Extension	709	0.506	17.5	0.044	0.33	7.9	399	0.7	5.2
Lac50 Eastern Extension	304	0.569	20.1	0.167	0.28	3.8	197	1.1	1.9
J4 Upper	592	0.698	23.3	0.145	0.28	9.1	443	1.9	3.7
J4 Lower	258	0.938	45.8	0.279	0.24	5.3	379	1.6	1.4
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**

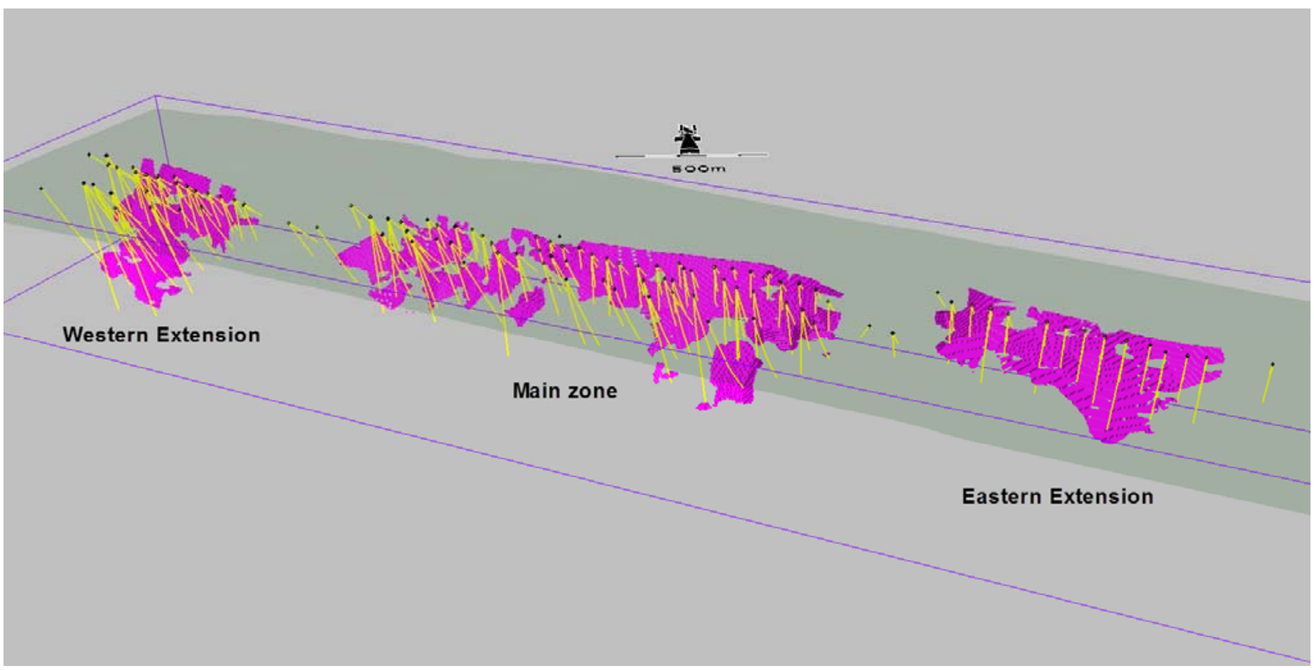


Figure 14.16: Distribution of Inferred Resource Above 0.2% U_3O_8 Cut-off – Lac Cinquante

Figure 14.17: Distribution of U_3O_8 Block Grades in the Resource Model – Lac Cinquante

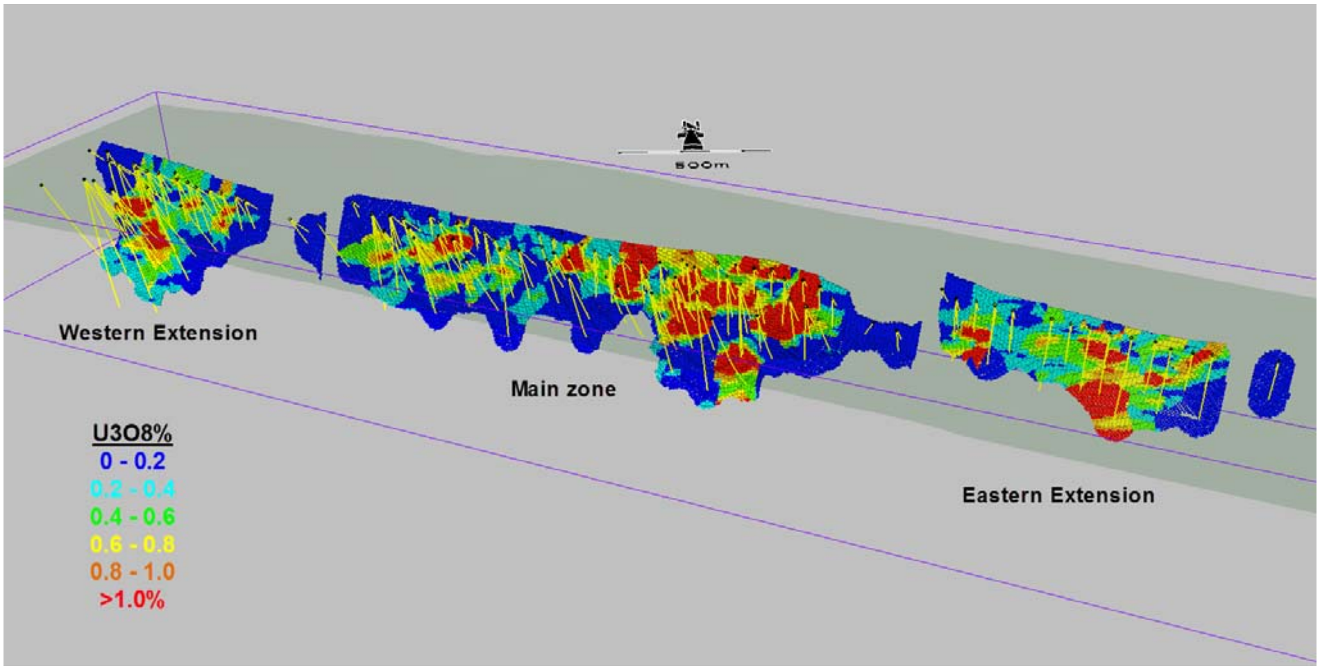
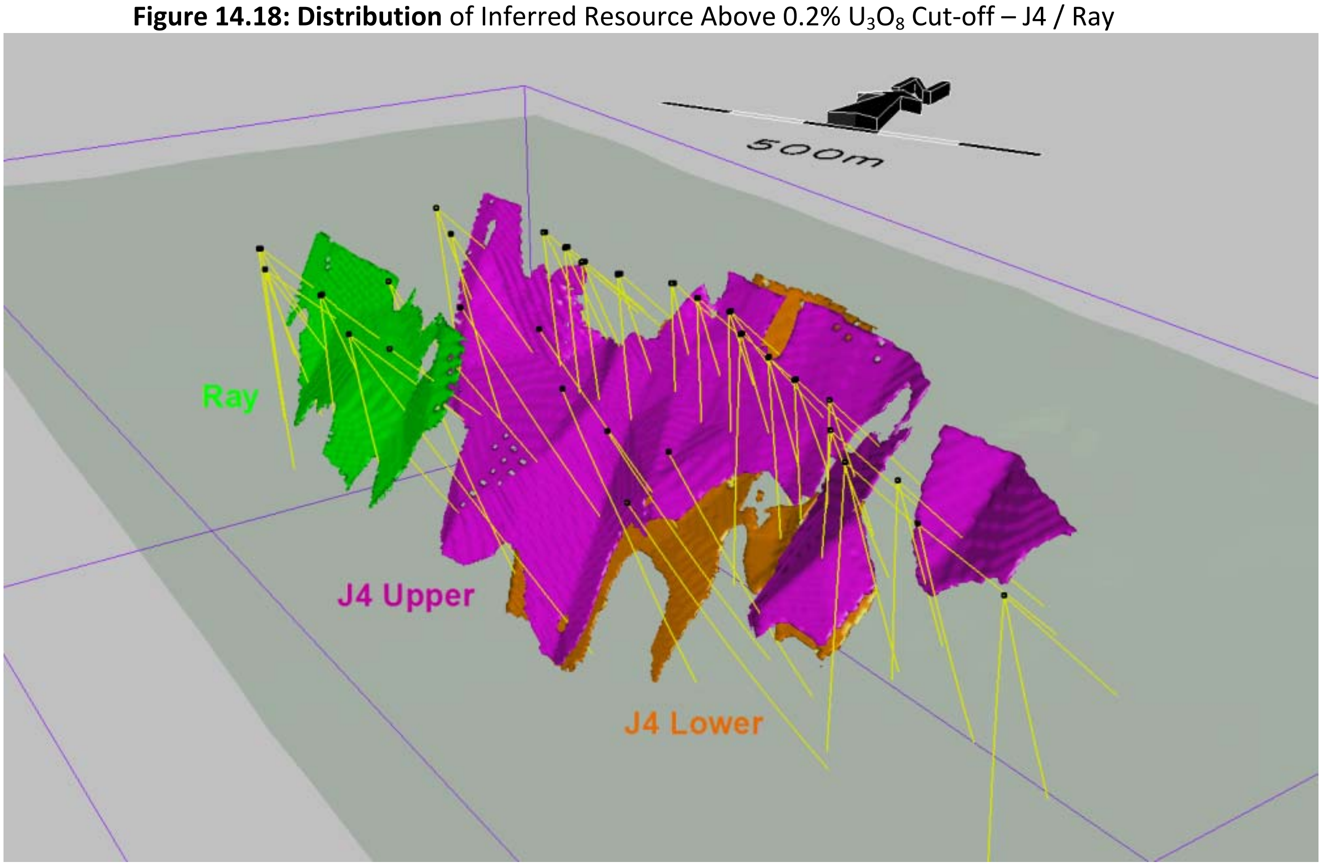


Figure 14.18: Distribution of Inferred Resource Above 0.2% U_3O_8 Cut-off – J4 / Ray



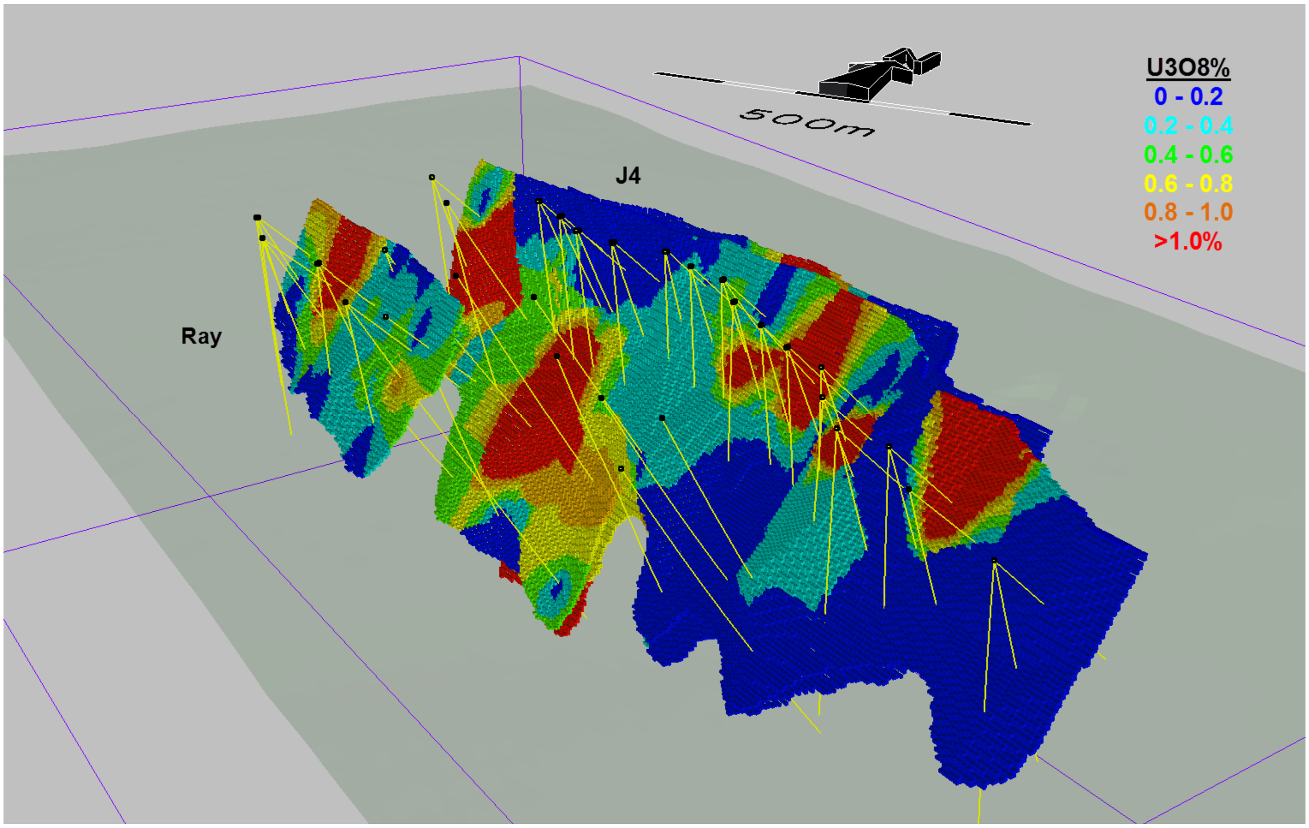


Figure 14.19: Distribution of U_3O_8 Block Grades in the Resource Model – J4 / Ray

14.14 Comparison with the Previous Mineral Resource

The previous mineral resource for the Lac Cinquante Deposit was presented in a Technical Report dated March 1, 2012 and was based on drilling results available up to the end of the 2011 field season. Table 14.12 compares the base case resources by zone.

Table 14.12: Comparison of Lac Cinquante Mineral Resources 2013 vs. 2012 (0.2% U_3O_8 Cut-off)

	January 2013					January 2012				
Zone	**ktonnes**	**U_3O_8%**	**Ag g/t**	**Mo%**	**Cu%**	**ktonnes**	**U_3O_8%**	**Ag g/t**	**Mo%**	**Cu%**
Main Zone	892	0.825	13.5	0.230	0.17	923	0.790	13.3	0.225	0.15
Western Extension	709	0.506	17.5	0.044	0.33	598	0.572	19.0	0.044	0.38
Eastern Extension	304	0.569	20.1	0.167	0.28	258	0.621	20.8	0.180	0.32
Total	**1,906**	**0.666**	**16.0**	**0.150**	**0.25**	**1,779**	**0.692**	**16.3**	**0.157**	**0.25**

Drilling at Lac Cinquante during 2012 primarily tested the depth potential in areas of the Western Extension and Main Zone. Although the 2012 drilling did not intersect any significant zones of mineralization, it did result in some minor adjustments to the resources at Lac Cinquante; generally, for 2013, there is a slightly higher tonnage and a lower average grade that results in an overall minor increase in the estimate of contained U_3O_8 from 27.1 million pounds in 2012 to 28.0 million pounds in 2013.

There were no resources published for J4 in the previous Technical Report as this deposit was only recently delineated during the 2012 field season.

15.0 MINERAL RESERVE ESTIMATES

There are currently no mineral reserves on the Property.

16.0 ADJACENT PROPERTIES

Areva's Kiggavik Project is 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 has completed an initial feasibility study and submitted a Draft Environmental Assessment Study to the Nunavut Impact Review Board. Construction is anticipated to commence in 2017 (http://www.kiggavik.ca/project-overview/, accessed December 17 2012). The tenure ownership of the area surrounding the Angilak project can be seen in Figure 16.1.

17.0 OTHER RELEVANT DATA AND INFORMATION

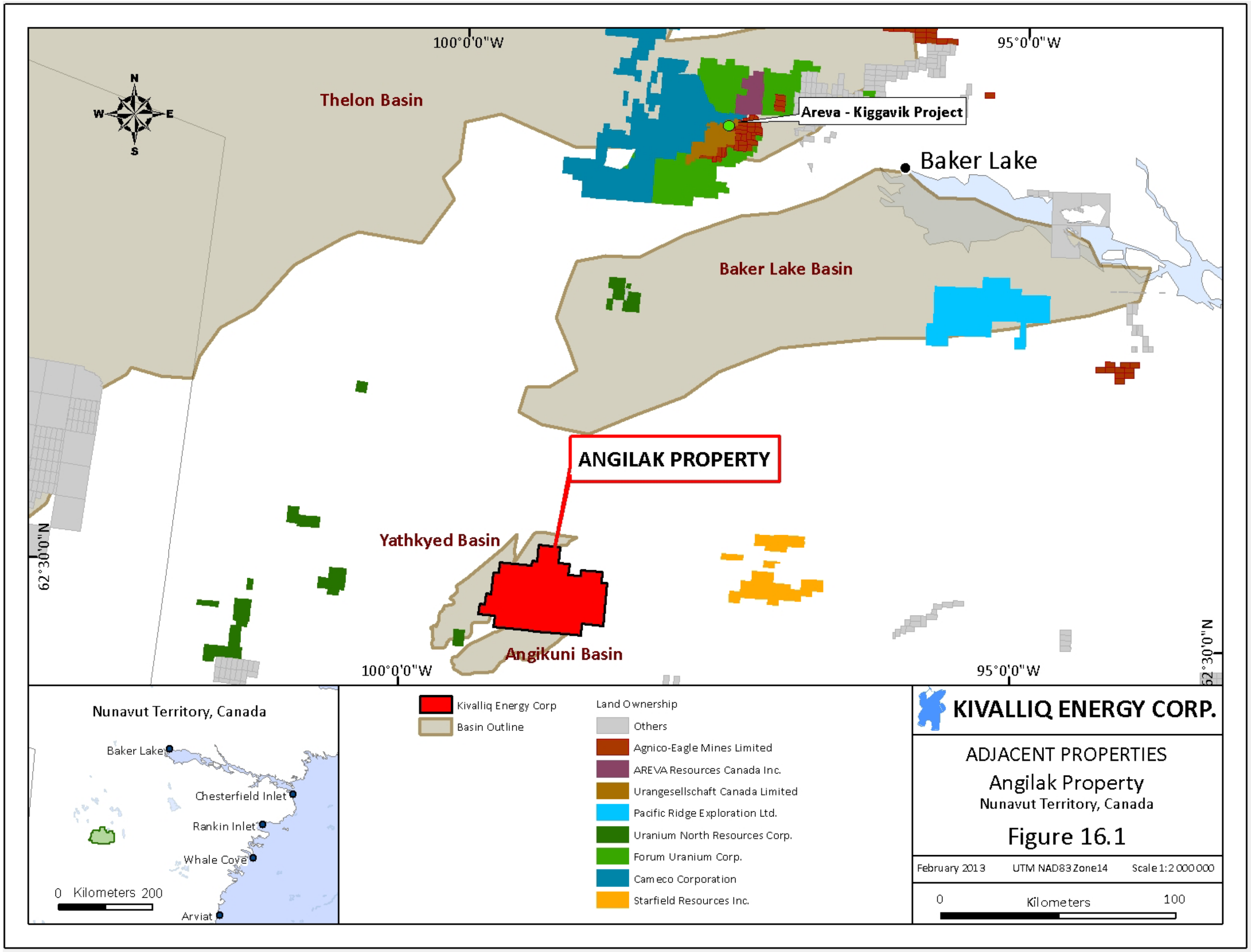
The authors are not aware of any other relevant information with respect to the Angilak Property that is not disclosed in the Technical Report.

18.0 INTERPRETATION AND CONCLUSIONS

Kivalliq Energy Corporation's Angilak Property is located in the Kivalliq District of Nunavut, Canada, approximately 225 km south of Baker Lake, 325 km west of Rankin Inlet and 820 km east of Yellowknife. The project consists of 340,268.26 acres of land held as 139 mineral claims and a single IOL Parcel Ri-30. The IOL Parcel contains the Lac 50 Trend uranium deposits.

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 Cinquante Uranium 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 (Figure 16.1).

Figure 16.1: Adjacent properties, Angilak Property



In terms of geologic setting, the Angilak Property is located in the Western Churchill Province, a large Archean Craton that has experienced structural and metamorphic overprint in the Proterozoic. Tectonic activity in the early Proterozoic resulted locally in tectonic collapse and the formation of rift basins which have been superimposed on the Archean crust. 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 historic exploration in the Yathkyed Lake area targeted unconformity style uranium, a vein-type hydrothermal uranium deposit, the Lac Cinquante Uranium Deposit, was found on IOL Parcel RI-30. The Lac Cinquante Uranium Deposit had a reported historic resource that, due to the paucity of available technical information and data, did not comply with any of the resource categories set out in National Instrument 43-101 and the "CIM Definition Standards on Mineral Resources and Ore Reserves" dated November 27, 2010. However, the historic resource was the focus of Kivalliq's 2009 and 2010 drilling to bring the historic resource into a compliant NI 43-101 resource.

Kivalliq conducted drilling on the Lac Cinquante Deposit during 2009 and 2010 that resulted in the identification of a 43-101 compliant maiden resource. Drilling tested mineralization associated with the Lac Cinquante "Main Zone" Deposit down to a depth of 275 m, and along a strike length of 1,350 m of east–west strike. During 2009 to 2010, a total of 139 drill holes totaling 18,350 m were completed. All but 5 out of the 139 drill holes were completed within the Lac Cinquante resource area. The work was conducted under the supervision of Kivalliq management and APEX personnel.

A maiden mineral resource model was generated in early 2011 using data derived from the 2009 and 2010 drilling and was prepared under the direction of Mr. Robert Sim, P.Geo., with assistance from Dr. Bruce Davis. An Inferred Mineral Resource of 810,000 tonnes at an average grade of 0.792% U_3O_8 using a cut-off grade of 0.2% U_3O_8 was calculated for the Lac Cinquante "Main Zone" in early 2011. This Inferred Mineral Resource was updated on January 17, 2012 to an estimate of 1,779,000 tonnes at an average grade of 0.69% uranium oxide using a cut-off grade of 0.2 % U_3O_8 totalling 27.1 million pounds (12.3 million kilograms) of U_3O_8.

On January 15, 2013 the company announced a significant (almost 60%) increase for the Lac Cinquante Inferred Mineral Resource Estimate of 2,831,000 tonnes (3,121,000 tons[t]) at an average grade of 0.69% U_3O_8 (13.8 lbs/t) using a cut-off grade of 0.2% U_3O_8 (4.0 lbs/t) totalling 43.3 million pounds (19.6 million kilograms) U_3O_8. The increase in the Inferred Mineral Resource from the previous 2012 estimate is primarily attributed to the addition of the newly discovered J4 and Ray deposits, situated near surface and 1.8 km along strike from the eastern margin of the Lac Cinquante Eastern Extension.

During the 2012 exploration campaign, a total of 173 diamond drill holes totaling 33,583 m were completed. A total of 14 holes were drilled at the "Main Zone" of the Lac Cinquante Deposit as defined in 2009 and 2010, a total of 4 were drilled at the offset eastern extension of Lac Cinquante and 13 were drilled at the offset western extension of the Lac Cinquante Deposit, 11 were drilled on the southwestern extension totaling 42 holes at Lac Cinquante. The segments are inferred to be offset by north trending left-lateral faults.

Another 63 core holes totaling 12,756.25 m were drilled at the J4 Zone, 16 holes totaling 2,796 m were drilled at the Ray Zone, 27 holes totaling 3,830.29 m were drilled at the Pulse Zone and 5 holes totaling 841 m were drilled at the Nine Iron Trend. The remaining 20 holes were drilled at 5 additional prospects, with 1 hole drilled at the Spark Zone, 3 holes drilled at the J2E conductor, 7 holes drilled at the Flare Zone, 7 at the Hot Zone showing and 2 testing the OHM conductor. Reconnaissance drilling highlights include 0.85% U_3O_8, 56 g/t Ag and 0.53% Mo over 3.0 m core length at the Hot Zone, and 2.42% U_3O_8, 137.4 g/t Ag and 0.25% Cu over 6.1 m core length (3.8 m estimated true width) at the J4 Zone. These zones are now collectively referred to as being part of the Lac Cinquante (Lac 50) Trend.

During 2012, a total of 5,273m of reverse circulation (RC) drilling in 38 holes were completed testing 8 different reconnaissance prospects. Drilling targeted geophysical anomalies and/or surface mineralization identified during the 2011 field season. A total of 21 RC holes generated anomalous radioactivity greater than 500 counts per second (cps). Two anomalous radioactivity zones were discovered by RC drilling within three kilometers of the Lac Cinquante resource area and a third zone was discovered 10 km southeast from Lac Cinquante. These discoveries, the Flare Zone, J4 zone and Nine Iron Trend, were followed up with core holes. Additional reconnaissance targets, including the Mushroom Lake, the North anomaly and VGR prospects, yielded anomalous radioactivity and warrant diamond drilling as part of the 2013 drilling campaign.

During 2012, 11 weeks of prospecting, geological mapping and rock sampling resulted in the collection of 95 rock grab samples. The primary goal of the 2012 prospecting and mapping program was to gain a greater understanding of the nature and distribution of rock types and geological structures on the property. A total of 8% of the 95 rock grab samples returned assays in excess of 0.5% U_3O_8, with many yielding significant Ag, Au, Cu, Mo, Pb and Zn values.

Based upon the results of the 2012 core drilling campaign, an update to the mineral resource model has been prepared under the direction of Mr. Robert Sim, P.Geo., with assistance from Dr. Bruce Davis. The mineral inventory contained within the deposit is presented at a series of U_3O_8 cut-off thresholds for comparison purposes in Table 18.1. The estimated inferred mineral resource for the Lac Cinquante Deposit is presented at a base case cut-off grade of 0.2% U_3O_8 which is considered reasonable based on assumptions derived from other deposits of similar type, scale and location.

As a result of drilling by Kivalliq during 2012, the resource for the Lac Cinquante Deposit was marginally increased from the 2011 resource, from 27.1 to 28.0 million pounds (using a 0.2% U_3O_8 cut-off). The discovery and delineation of the J4 and Ray zones during the most recent field season has contributed to an increase of almost 60% to the inferred mineral resource estimate, increasing the overall Lac 50 Trend resource from 28.0 to 43.3 million pounds. The Lac 50 Trend deposits remain open in both directions along strike and at depth. Further drilling is warranted to test for possible extensions of the Lac 50 Trend resource.

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 Trend 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.

Table 18.1: Lac Cinquante Inferred Mineral Resource Summary.

Cut-off Grade (U_3O_8%)	Tonnes (T x 1000)	U_3O_8 (%)	Ag (g/t)	Mo (%)	Cu (%)	U_3O_8 (M lbs)	Ag (oz x 1000)	Mo (M lbs)	Cu (M lbs)
Lac Cinquante									
0.1	2,547	0.53	13.7	0.13	0.23	30.0	1123	7.1	12.7
0.2	***1,906***	***0.67***	***16***	***0.15***	***0.25***	***28.0***	***983***	***6.3***	***10.4***
0.3	1,479	0.79	17.2	0.17	0.25	25.6	818	5.5	8.3
0.4	1,136	0.92	17.7	0.19	0.25	23.0	647	4.8	6.3
0.5	882	1.06	18.9	0.22	0.25	20.5	534	4.3	4.9
J4/Ray									
0.1	1,039	0.69	28.4	0.19	0.25	15.7	947	4.3	5.7
0.2	***925***	***0.75***	***30.1***	***0.20***	***0.26***	***15.3***	***895***	***4.1***	***5.2***
0.3	791	0.84	31.7	0.21	0.25	14.6	806	3.7	4.3
0.4	553	1.04	38	0.26	0.25	12.7	675	3.1	3
0.5	495	1.11	40.1	0.27	0.25	12.1	637	2.9	2.7
Combined Lac Cinquante and J4/Ray									
0.1	3,585	0.58	18	0.14	0.23	45.7	2070	11.4	18.4
0.2	***2,831***	***0.69***	***20.6***	***0.17***	***0.25***	***43.3***	***1878***	***10.4***	***15.6***
0.3	2,270	0.80	22.3	0.18	0.25	40.2	1624	9.2	12.6
0.4	1,689	0.96	24.3	0.21	0.25	35.7	1322	7.9	9.4
0.5	1,377	1.08	26.5	0.24	0.25	32.6	1171	7.2	7.7

Note 1: Base case cut-off limit of 0.2% U_3O_8 is highlighted in the table. Note 2: Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. Note 3: The quality and grade of the reported inferred resource in these estimations are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category. Note 4: Contained metal values may not add due to rounding.

Although this project is at a very early stage and further studies are required with respect to potential mining or metallurgical properties, the resource has been considered in accordance with potential economic viability as required by NI 43-101. When subjected to estimated technical and economic operating parameters, the base case mineral resource forms a relatively continuous zone exhibiting thickness and grade properties which suggest that there are reasonable prospects for the economic extraction of the deposits through a combination of open pit and underground mining methods.

19.0 RECOMMENDATIONS

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 showings and one uranium deposit, the Lac Cinquante Uranium 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.

Drilling by Kivalliq during 2009 to 2012 at the Lac Cinquante grid area has resulted in the identification of an Inferred Mineral Resource of 2,831,000 tonnes at an average grade of 0.69% U_3O_8 using a cut-off grade of 0.2% U_3O_8 for the Lac 50 Trend uranium deposits. Further drilling is warranted beneath and along strike of the Lac 50 Trend uranium deposits as they remain open in both east and west directions, and at depth.

Exploration by Kivalliq from 2008 to 2012 has resulted in identification of a number of significant uranium showings along with a number of prospective geophysical anomalies that require follow-up exploration. Airborne geophysics, ground geophysics, further prospecting and sampling along with an aggressive reconnaissance drilling program are warranted at these and other showings across the Angilak Property.

Based upon the results of exploration conducted to date, the authors recommend that the following work be completed at the Angilak Property during 2013.

1. Ground geophysical surveys employing a number of electromagnetic (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 resource drilling to expand the current Inferred Mineral Resource immediately along strike and at depth below a number of the Lac 50 Trend uranium deposits,
4. Exploration drilling including: a) follow-up drilling at the Blaze, Spark and Pulse prospects; b) drilling at a number of conductors in the immediate vicinity of the Lac Cinquante deposit area, including conductors along strike that could represent extensions to Lac Cinquante 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 Cinquante resource area identified and advanced by the 2012 exploration program.
5. Studies at the Lac 50 Trend resource area to determine spacing required to convert existing Inferred Mineral Resources to Indicated or Measured,
6. Further Mineralogical and Metallurgical work focused on the Lac Cinquante 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 proposed exploration program for 2013 should include 25,000 m of diamond drilling in over 100 holes at Lac Cinquante and at certain exploration targets at an average all-in cost of $500/m for a total cost of $12.5million, 3,000 m of RC drilling to test exploration targets across the Angilak Property using the helicopter portable Hornet RC drill rig at an average cost of $400/m for a total cost of about $1.2 million, about 100 line-km of ground geophysical surveys at a total cost of about $0.12 million, further prospecting, rock sampling, soil sampling, geological mapping, baseline environmental monitoring along with further mineralogical, metallurgical and resource studies at a total cost of about $1.2 million. The total proposed exploration program cost to be conducted during 2013 is about $15 million.

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CERTIFICATE OF AUTHOR

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

1. I am President of: APEX Geoscience Ltd.
Suite 200, 9797 – 45th Avenue
Edmonton, Alberta T6E 5V8

2. I graduated with a B.Sc. in Geology from the University of North Carolina at Wilmington in 1983 and with a M.Sc. 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, Geologists and Geophysicists of Alberta since 1989.

4. I have worked as a geologist and practiced my profession for more than 25 years since my graduation from university and have been involved in mineral exploration, mine site geology and operations, mineral resource estimations on numerous projects and deposits in Canada, the United States, Central and South America, Africa and Australia.

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 and have supervised the preparation of the report titled “*Technical Report and Resource Update for the Angilak Project, Kivalliq Region, Nunavut, Canada”*, dated March 1st, 2013 (the “Technical Report”). I visited the Property between September 10th and September 12th, 2012.

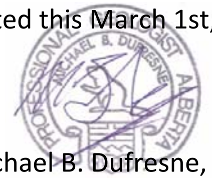
7 I was a co-author of a number of previous Technical Reports for the property from 2008 to 2012, the most recent of which is dated March 1st, 2012.

8. 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.

9. I am independent of the issuer and the property applying all of the tests in section 1.5 of NI 43-101. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Dated this March 1st, 2013



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

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Email: rsim@dccnet.com

CERTIFICATE OF AUTHOR

I, Robert C. Sim, B.Sc., P.Geo., do hereby certify that:

I am an independent consultant of: SIM Geological Inc.
6810 Cedarbrook Place
Delta, British Columbia, Canada V4E 3C5

1. This certificate applies to the report entitled "*Technical Report And Resource Update For The Angilak Property, Kivalliq Region, Nunavut, Canada*", and dated March 1st, 2013 (the "Technical Report").

2. I graduated from Lakehead University with an Honours Bachelor of Science (Geology) in 1984.

3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, License Number 24076.

4. I have practiced my profession continuously for 28 years and have been involved in mineral exploration, mine site geology and operations, mineral resource and reserve estimations and feasibility studies on numerous underground and open pit base metal and gold deposits in Canada, the United States, Central and South America, Europe, Asia, Africa and Australia.

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 the preparation of Section 14 in the Technical Report.

7. I personally inspected the Angilak Property on September 9 and 10, 2010.

8. I was a co-author of two previous Technical Reports for the property dated March 24th, 2011 and March 1st, 2012.

9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10. I am independent of the issuer and the property applying all of the tests in Section 1.5 of NI 43-101.

11 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.

Dated this 1st Day of March 2013.

PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
R.C. SIM

Robert C. Sim, P.Geo.

Bruce M. Davis, Ph.D., FAusIMM
BD Resource Consulting Inc.
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Email: bdavis@avantimining.com

CERTIFICATE OF AUTHOR

I, Bruce M. Davis, Ph.D., FAusIMM, do hereby certify that:

I am an independent consultant of: BD Resource Consulting Inc.
4253 Cheyenne Drive
Larkspur, Colorado, USA 80118

1. This certificate applies to the report entitled "*Technical Report And Resource Update For The Angilak Property, Kivalliq Region, Nunavut, Canada*", and dated March 1st, 2013 (the "Technical Report").

2. I graduated from the University of Wyoming with a Doctor of Philosophy degree (Geostatistics) in 1978.

3. I am a Fellow of the Australasian Institute of Mining and Metallurgy, Registration Number 211185.

4. I have practiced my profession continuously for 35 years and have been involved in geostatistical studies, QA/QC studies, mineral resource and reserve estimations and feasibility studies on numerous underground, open pit, and insitu leach uranium deposits in Canada, the United States, and Africa.

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 the preparation of portions of Sections 12 and 14 in the Technical Report.

7. I personally inspected the Angilak Property on August 16th and 17th, 2012.

8. I was a co-author of the previous Technical Reports for the property dated March 1st, 2012.

9. As of as of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10. I am independent of the issuer and the property applying all of the tests in Section 1.5 of National Instrument 43-101.

11. 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.

Dated this 1st Day of March 2013.

Bruce M. Davis, Ph.D., FAusIMM

APPENDIX 1: 2012 DIAMOND DRILL COLLAR LOCATIONS – ANGILAK PROPERTY

Hole	Easting	Northing	Elevation	Azimuth	Dip	Length (m)	Prospect
12-774-001	522286	6938783	213	26	-45	110	Ray
12-774-002	522286	6938783	213	26	-63	125	Ray
12-774-003	522286	6938783	212	26	-78	128	Ray
12-774-004	522286	6938783	212	26	-88	194	Ray
12-774-005	522428	6938714	211	26	-45	23	Ray
12-774-006	522428	6938714	211	26	-47	95	Ray
12-774-007	522428	6938714	211	26	-71	119	Ray
12-774-008	522428	6938714	211	26	-88	147	Ray
12-774-009	522562	6938647	206	26	-45	122	Ray
12-774-010	522329	6938740	213	26	-45	110	Ray
12-774-011	522329	6938740	213	26	-60	425	Ray
12-774-012	522329	6938740	213	26	-77	176	Ray
12-774-013	522329	6938740	213	26	-90	221	Ray
12-774-014	522510	6938655	207	26	-45	155	Ray
12-774-015	522510	6938655	207	26	-60	491	Ray
12-774-016	522510	6938655	207	26	-82	149	Ray
12-BIF-001	526880	6933838	179	330	-45	137	Nine Iron
12-BIF-002	526880	6933838	179	330	-55	131	Nine Iron
12-BIF-003	526839	6933810	180	330	-45	230	Nine Iron
12-BIF-004	526938	6933840	177	330	-45	143	Nine Iron
12-BIF-005	526938	6933840	177	330	-65	200	Nine Iron
12-BZ3-001	515958	6940611	210	35	-45	68.21	Spark
12-BZ4-001	515655	6940527	202.7	35	-45	104	Flare
12-BZ4-002	515655	6940527	202.7	35	-66	149	Flare
12-BZ4-003	515558	6940567	197	35	-45	125	Flare
12-BZ4-004	515558	6940567	197	35	-57	128	Flare
12-BZ4-005	515625	6940572	199.5	35	-45	86	Flare
12-BZ4-006	515625	6940572	199.5	35	-67	110	Flare
12-BZ4-007	515702	6940506	204	35	-45	104	Flare
12-HOT-001	522067	6940597	184	26	-45	152	Hot Swamp
12-HOT-002	522067	6940597	184	26	-70	212	Hot Swamp
12-HOT-003	522158	6940555	182	26	-45	179	Hot Swamp
12-HOT-004	522158	6940555	182	26	-70	215	Hot Swamp
12-HOT-005	522158	6940555	182	26	-88	203	Hot Swamp
12-HOT-006	522199	6940524	182	26	-45	131	Hot Swamp
12-HOT-007	522199	6940524	182	26	-67	200	Hot Swamp
12-J2E-001	522381.8	6938536	209.8	26	-45	152	J2E
12-J2E-002	522381.8	6938536	209.8	26	-67	129	J2E
12-J2E-003	522219	6938625	213.5	26	-45	131	J2E
12-J4-001	522785	6938875	209	26	-45	131	J4
12-J4-002	522785	6938875	209	26	-55	152	J4
12-J4-003	522785	6938875	209	26	-72	155	J4
12-J4-004	522785	6938875	209	26	-89	192.35	J4
12-J4-005	522819	6938833	209	26	-45	158	J4
12-J4-006	522819	6938833	209	26	-72	215	J4
12-J4-007	522819	6938833	209	26	-90	257	J4

Hole	Easting	Northing	Elevation	Azimuth	Dip	Length (m)	Prospect
12-J4-008	522740	6938897	209	26	-45	131	J4
12-J4-009	522740	6938897	209	26	-73	149	J4
12-J4-010	522740	6938897	209	26	-88	191	J4
12-J4-011	522696	6938921	209	26	-45	131	J4
12-J4-012	522696	6938921	209	26	-76	161	J4
12-J4-013	522696	6938921	209	26	-88	200	J4
12-J4-014	522638	6938917	211	26	-45	146	J4
12-J4-015	522638	6938917	211	26	-72	170	J4
12-J4-016	522638	6938917	211	26	-85	194	J4
12-J4-017	522588	6938928	212	26	-45	155	J4
12-J4-018	522588	6938928	212	26	-68	170	J4
12-J4-019	522588	6938928	212	26	-85	200	J4
12-J4-020	522862	6938805	205	26	-45	65.8	J4
12-J4-020B	522861	6938804	205	26	-45	14	J4
12-J4-021	522861	6938804	205	26	-50	149	J4
12-J4-022	522861	6938804	205	26	-72	170	J4
12-J4-023	522861	6938804	205	26	-84	230	J4
12-J4-024	522903	6938775	202	26	-45	146	J4
12-J4-025	522903	6938775	202	26	-67	170	J4
12-J4-026	522903	6938775	202	26	-85	215	J4
12-J4-027	522946	6938753	202	26	-45	165.1	J4
12-J4-028	522946	6938753	202	26	-68	158	J4
12-J4-029	522946	6938753	202	26	-88	170	J4
12-J4-030	522560	6938757	211	26	-60	341	J4
12-J4-031	522661	6938741	212	26	-60	329	J4
12-J4-032	522737	6938663	204	26	-70	374	J4
12-J4-033	522458	6938776	212	26	-60	329	J4
12-J4-034	522458	6938776	212	26	-74	431	J4
12-J4-035	523009	6938649	202	26	-45	185	J4
12-J4-036	523009	6938649	202	26	-90	272	J4
12-J4-037	523009	6938649	202	26	-73	221	J4
12-J4-038	523056	6938642	212	26	-45	230	J4
12-J4-039	523056	6938642	201	26	-70	176	J4
12-J4-040	522545	6938954	212	26	-45	128	J4
12-J4-041	522545	6938954	212	26	-70	158	J4
12-J4-042	522545	6938954	212	26	-86	224	J4
12-J4-043	522502	6938980	213	26	-45	161	J4
12-J4-044	522502	6938980	213	26	-65	170	J4
12-J4-045	522502	6938980	213	26	-85	188	J4
12-J4-046	522420	6938926	214	26	-60	227	J4
12-J4-047	522420	6938926	214	26	-80	236	J4
12-J4-048	522976	6938693	204	26	-45	188	J4
12-J4-049	522976	6938693	204	26	-67	176	J4
12-J4-050	522976	6938693	204	26	-90	212	J4
12-J4-051	523178	6938541	188	26	-45	173	J4
12-J4-052	523178	6938541	188	26	-71	203	J4

Hole	Easting	Northing	Elevation	Azimuth	Dip	Length (m)	Prospect
12-J4-053	523178	6938541	188	26	-88	230	J4
12-J4-054	522820	6938606	201	26	-60	329	J4
12-J4-055	522891	6938523	191	26	-60	377	J4
12-J4-056	523093	6938594	196	26	-45	212	J4
12-J4-057	523093	6938594	196	26	-72	230	J4
12-J4-060	523056	6938642	201	26	-88	179	J4
12-J4-061	522344	6938998	212	26	-45	170	J4
12-J4-062	522344	6938998	212	26	-72	203	J4
12-J4-063	522344	6938998	212	26	-85	275	J4
12-J4-070	522880	6938602	199	26	-65	308	J4
12-LC-001	517532	6940650	228	26	-81	479.48	Lac Cinquante Western Extension
12-LC-002	517532	6940650	228	26	-88	215	Lac Cinquante Western Extension
12-LC-003	517532	6940650	228	26	-89	36	Lac Cinquante Western Extension
12-LC-004	517584	6940530	228	26	-65	416	Lac Cinquante Western Extension
12-LC-005	517414	6940753	223	26	-60	296.64	Lac Cinquante Western Extension
12-LC-006	517414	6940753	223	26	-69	308	Lac Cinquante Western Extension
12-LC-007	517414	6940753	223	26	-80	409.88	Lac Cinquante Western Extension
12-LC-008	517414	6940753	223	26	-90	482	Lac Cinquante Western Extension
12-LC-009	517789	6940494	234	26	-60	263	Lac Cinquante Western Extension
12-LC-010	517692	6940523	232	26	-65	314	Lac Cinquante Western Extension
12-LC-011	517692	6940523	232	26	-75	353	Lac Cinquante Western Extension
12-LC-012	517849	6940503	234	26	-60	212	Lac Cinquante Western Extension
12-LC-013	517289	6940725	217	26	-65	428	Lac Cinquante Western Extension
12-LCE-001	519999	6939893	197	26	-45	140	Lac Cinquante Eastern Extension
12-LCE-002	519999	6939893	197	26	-64	182	Lac Cinquante Eastern Extension
12-LCE-003	519999	6939893	197	26	-77	230	Lac Cinquante Eastern Extension
12-LCE-004	519968	6939943	200	26	-45	116	Lac Cinquante Eastern Extension
12-LCM-001	519182.8	6939930	207.2	26	-60	226.3	Lac Cinquante Main Zone
12-LCM-002	519182.8	6939930	207.2	26	-59	341	Lac Cinquante Main Zone

Hole	Easting	Northing	Elevation	Azimuth	Dip	Length (m)	Prospect
12-LCM-003	519182	6939930	207	26	-76	371	Lac Cinquante Main Zone
12-LCM-004	519301	6939945	205	26	-64	293	Lac Cinquante Main Zone
12-LCM-005	519301	6939945	205	26	-79	407	Lac Cinquante Main Zone
12-LCM-006	519338	6939792	204	26	-60	398	Lac Cinquante Main Zone
12-LCM-007	519456	6939806	201	26	-60	320	Lac Cinquante Main Zone
12-LCM-010	518960	6940039	210	26	-60	374	Lac Cinquante Main Zone
12-LCM-011	518960	6940039	210	26	-75	284	Lac Cinquante Main Zone
12-LCM-012A	519096	6939980	208	26	-55	25.9	Lac Cinquante Main Zone
12-LCM-012B	519096	6939980	208	26	-55	93.73	Lac Cinquante Main Zone
12-LCM-013	519096	6939980	208	26	-60	278	Lac Cinquante Main Zone
12-LCM-014	518672	6940140	217	26	-60	341	Lac Cinquante Main Zone
12-LCM-015	518223	6940358	232	26	-60	300	Lac Cinquante Main Zone
12-LCSW-001	517289	6940725	217	26	-78	128	Lac Cinquante Southwest Zone
12-LCSW-002	517289	6940725	217	26	-90	170	Lac Cinquante Southwest Zone
12-LCSW-003	517335	6940701	220	26	-45	104	Lac Cinquante Southwest Zone
12-LCSW-004	517335	6940701	220	26	-60	137	Lac Cinquante Southwest Zone
12-LCSW-005	517335	6940701	220	26	-75	182	Lac Cinquante Southwest Zone
12-LCSW-006	517335	6940701	220	26	-83	167	Lac Cinquante Southwest Zone
12-LCSW-007	517335	6940701	220	26	-90	173	Lac Cinquante Southwest Zone
12-LCSW-008	517358	6940637	219.7	26	-45	125	Lac Cinquante Southwest Zone
12-LCSW-009	517358	6940637	219.7	26	-67	155	Lac Cinquante Southwest Zone
12-LCSW-010	517420.1	6940538	222.28	26	-45	137	Lac Cinquante Southwest Zone
12-LCSW-011	517420.1	6940538	222.28	26	-65	137	Lac Cinquante Southwest Zone
12-OHM-001	520297	6939477	192.77	26	-45	110	Ohm
12-OHM-002	520296.9	6939477	192.77	26	-75	122	Ohm
12-PL-001	518978	6940913	228.4	26	-45	110	Pulse
12-PL-002	518978	6940913	228.4	26	-63	125	Pulse

Hole	Easting	Northing	Elevation	Azimuth	Dip	Length (m)	Prospect
12-PL-003	518978	6940913	228.4	26	-79	170	Pulse
12-PL-004	518953	6940942	228	26	-45	103.07	Pulse
12-PL-005	518953	6940942	228	26	-68	143	Pulse
12-PL-006	518953	6940942	228	26	-85	209	Pulse
12-PL-007	519022	6940912	229	26	-45	116	Pulse
12-PL-008	519022	6940912	229	26	-73	110	Pulse
12-PL-009	519022	6940912	229	26	-86	176	Pulse
12-PL-010	519407	6940788	223	26	-45	140	Pulse
12-PL-011	519407	6940788	223	26	-69	140	Pulse
12-PL-012	519407	6940788	223	26	-80	56	Pulse
12-PL-013	519407	6940788	223	26	-80	185	Pulse
12-PL-014	519447	6940758	221	26	-45	110	Pulse
12-PL-015	519447	6940758	221	26	-70	167	Pulse
12-PL-016	519447	6940758	221	26	-76	194	Pulse
12-PL-017	519488	6940729	220	26	-45	176.79	Pulse
12-PL-018	519488	6940729	220	26	-68	170	Pulse
12-PL-019	519488	6940729	220	26	-77	176	Pulse
12-PL-020	519797	6940565	211	26	-45	81.5	Pulse
12-PL-021	519797	6940565	211	26	-65	122	Pulse
12-PL-022	519797	6940565	211	26	-80	131	Pulse
12-PL-023	519797	6940565	211	26	-90	200	Pulse
12-PL-024	519895.5	6940479	210	26	-45	134	Pulse
12-PL-025	519895.5	6940479	210	26	-67	131	Pulse
12-PL-026	520126	6940324	207.1	26	-45	125	Pulse
12-PL-027	520126	6940324	207.1	26	-65	128	Pulse

APPENDIX 2: 2012 DRILL CORE SAMPLE ASSAYS – ANGILAK PROPERTY

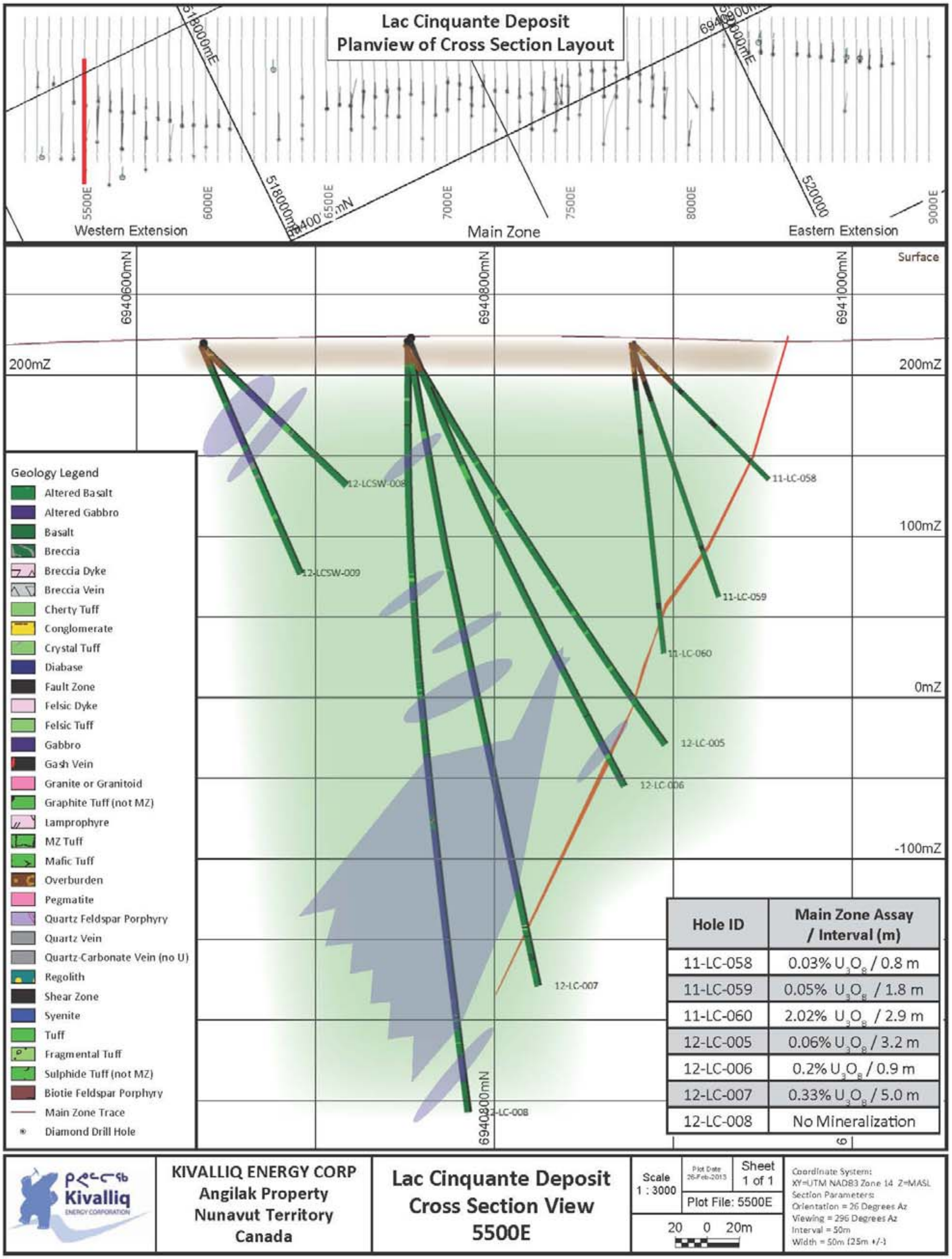
APPENDIX 2 DATA IS ON FILE AND AVAILABLE AT APEX GEOSCIENCE LTD., KIVALLIQ ENERGY CORP. AND WWW.COREBOX.NET

APPENDIX 3: 2012 SPECIFIC GRAVITY (DENSITY) MEASUREMENTS – ANGILAK PROPERTY

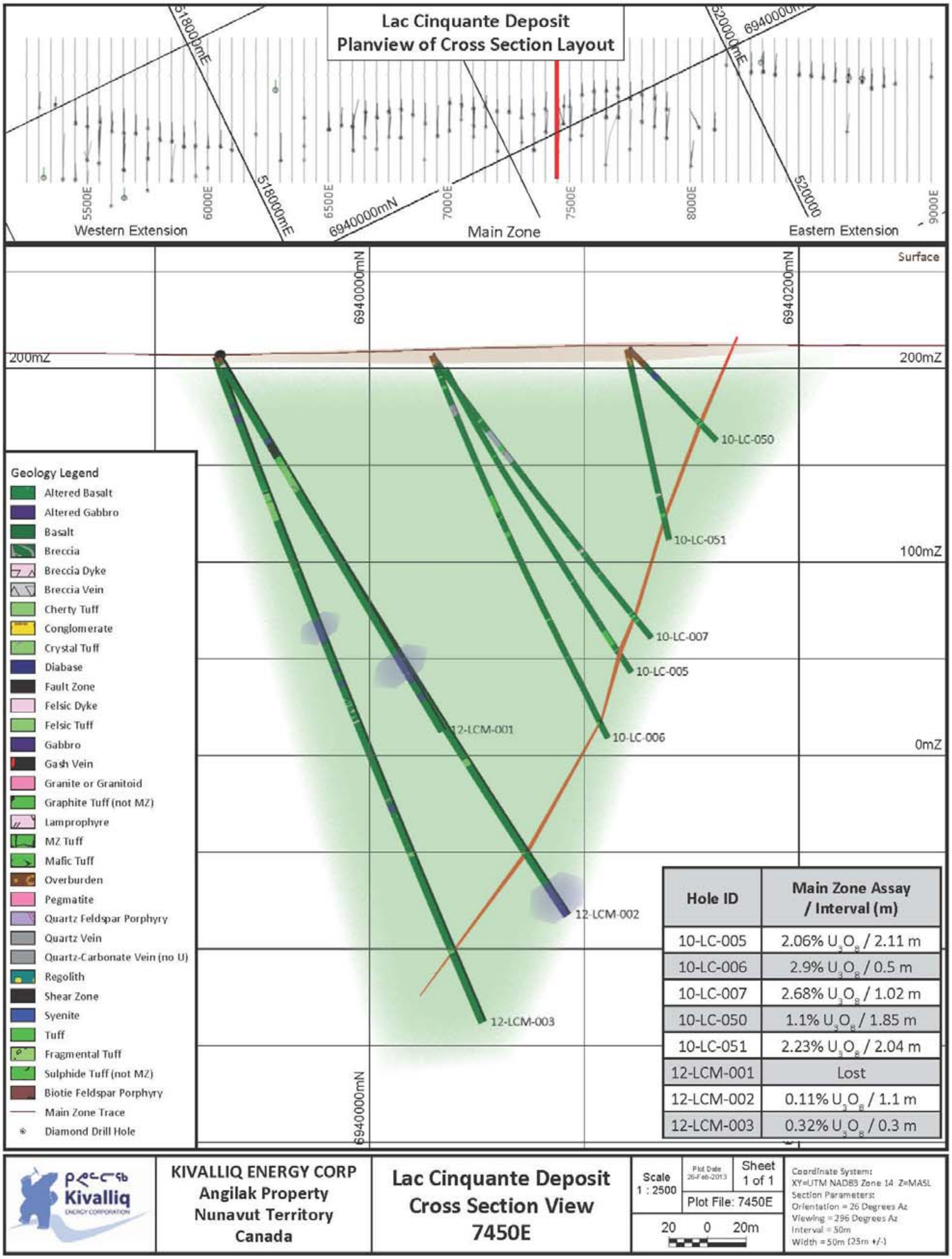
APPENDIX 3 DATA IS ON FILE AND AVAILABLE AT APEX GEOSCIENCE LTD., KIVALLIQ ENERGY CORP. AND WWW.COREBOX.NET

APPENDIX 4: 2012 DRILL SECTIONS – ANGILAK PROPERTY

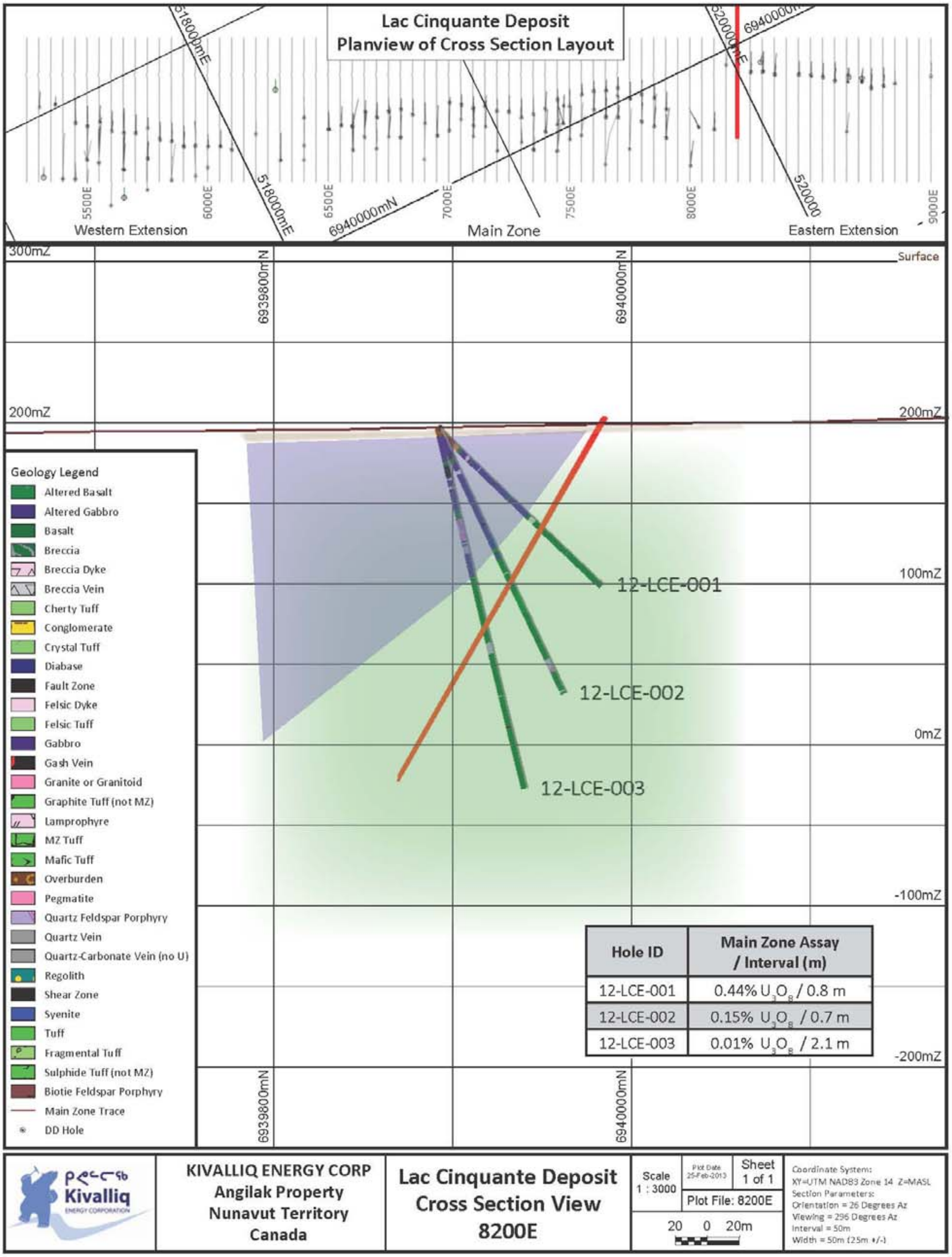
EXAMPLE CROSS SECTIONS FOR THE J4 AND RAY ZONES ARE PROVIDED BELOW. A COMPLETE SET OF DRILL SECTIONS IS PROVIDED AS APPENDIX 4 AND IS ON FILE AND AVAILABLE AT APEX GEOSCIENCE LTD., KIVALLIQ ENERGY CORP. AND WWW.COREBOX.NET



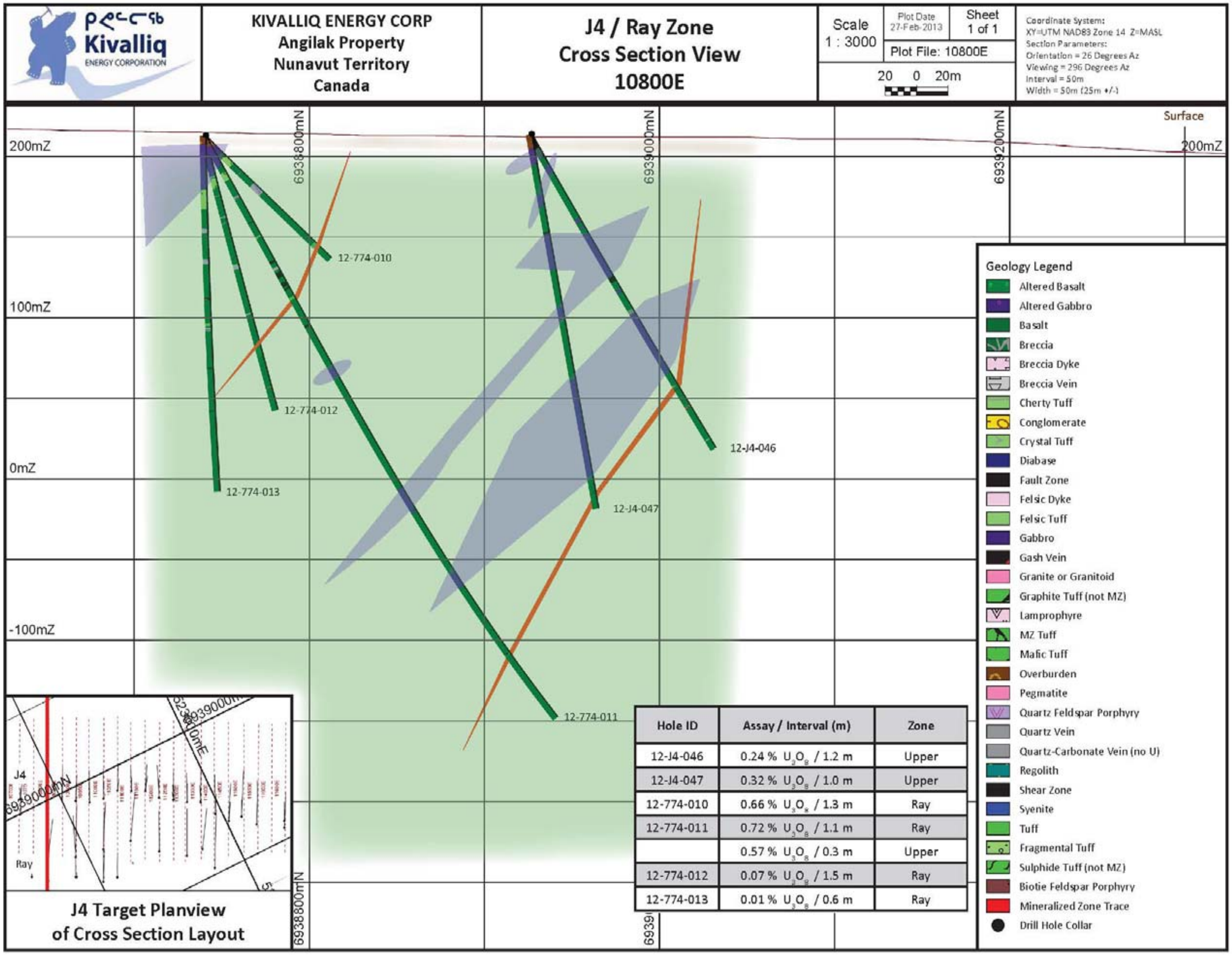
Hole ID	Main Zone Assay / Interval (m)
11-LC-058	0.03% U_3O_8 / 0.8 m
11-LC-059	0.05% U_3O_8 / 1.8 m
11-LC-060	2.02% U_3O_8 / 2.9 m
12-LC-005	0.06% U_3O_8 / 3.2 m
12-LC-006	0.2% U_3O_8 / 0.9 m
12-LC-007	0.33% U_3O_8 / 5.0 m
12-LC-008	No Mineralization



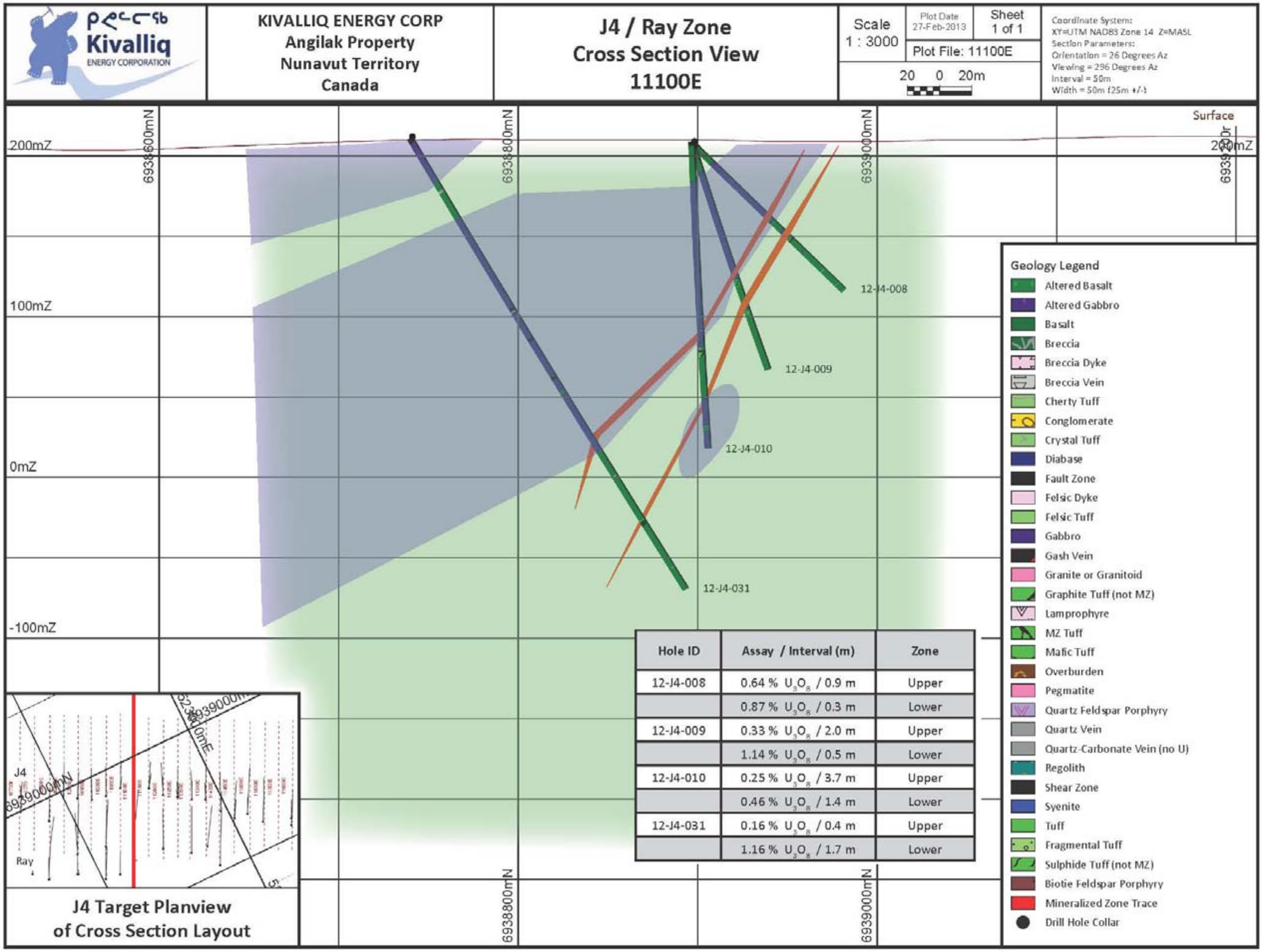
Hole ID	Main Zone Assay / Interval (m)
10-LC-005	2.06% U_3O_8 / 2.11 m
10-LC-006	2.9% U_3O_8 / 0.5 m
10-LC-007	2.68% U_3O_8 / 1.02 m
10-LC-050	1.1% U_3O_8 / 1.85 m
10-LC-051	2.23% U_3O_8 / 2.04 m
12-LCM-001	Lost
12-LCM-002	0.11% U_3O_8 / 1.1 m
12-LCM-003	0.32% U_3O_8 / 0.3 m



Hole ID	Main Zone Assay / Interval (m)
12-LCE-001	0.44% U_3O_8 / 0.8 m
12-LCE-002	0.15% U_3O_8 / 0.7 m
12-LCE-003	0.01% U_3O_8 / 2.1 m



Hole ID	Assay / Interval (m)	Zone
12-J4-046	0.24 % U_3O_8 / 1.2 m	Upper
12-J4-047	0.32 % U_3O_8 / 1.0 m	Upper
12-774-010	0.66 % U_3O_8 / 1.3 m	Ray
12-774-011	0.72 % U_3O_8 / 1.1 m	Ray
	0.57 % U_3O_8 / 0.3 m	Upper
12-774-012	0.07 % U_3O_8 / 1.5 m	Ray
12-774-013	0.01 % U_3O_8 / 0.6 m	Ray



Hole ID	Assay / Interval (m)	Zone
12-J4-008	0.64 % U_3O_8 / 0.9 m	Upper
	0.87 % U_3O_8 / 0.3 m	Lower
12-J4-009	0.33 % U_3O_8 / 2.0 m	Upper
	1.14 % U_3O_8 / 0.5 m	Lower
12-J4-010	0.25 % U_3O_8 / 3.7 m	Upper
	0.46 % U_3O_8 / 1.4 m	Lower
12-J4-031	0.16 % U_3O_8 / 0.4 m	Upper
	1.16 % U_3O_8 / 1.7 m	Lower

APPENDIX 5: 2012 METALLURGICAL TESTING COMPOSITE SAMPLE LIST – ANGILAK PROPERTY

Sample #	Hole ID	From (m)	To (m)	Interval (m)	Est. mass (kg)	U_3O_8 (wt %)	Certificate #	Zone	Sample Type
13239	10-LC-011	170.45	170.75	0.30	0.38	4.12	G-2010-777	MZ	quarter split
13241	10-LC-011	170.75	171.03	0.28	0.35	0.17	G-2010-777	MZ	quarter split
13242	10-LC-011	171.03	171.35	0.32	0.40	0.82	G-2010-777	MZ	quarter split
13243	10-LC-011	171.35	171.65	0.30	0.37	0.53	G-2010-777	MZ	quarter split
13244	10-LC-011	171.65	172.25	0.60	0.75	0.12	G-2010-777	MZ	quarter split
13245	10-LC-011	172.25	172.55	0.30	0.38	1.15	G-2010-777	MZ	quarter split
13246	10-LC-011	172.55	172.85	0.30	0.38	0.38	G-2010-777	MZ	quarter split
13247	10-LC-011	172.85	173.23	0.38	0.47	0.27	G-2010-777	MZ	quarter split
13317	10-LC-019	103.78	104.10	0.32	0.40	0.28	G-2010-1007	MZ	quarter split
13318	10-LC-019	104.10	104.42	0.32	0.40	1.10	G-2010-1007	MZ	quarter split
13319	10-LC-019	104.42	104.70	0.28	0.35	0.00	G-2010-1007	MZ	quarter split
13321	10-LC-019	104.70	105.41	0.71	0.89	0.01	G-2010-1007	MZ	quarter split
13322	10-LC-019	105.41	105.71	0.30	0.37	0.07	G-2010-1007	MZ	quarter split
13463	10-LC-022	185.00	185.45	0.45	0.56	0.61	G-2010-1008	MZ	quarter split
13464	10-LC-022	185.45	186.45	1.00	1.25	0.02	G-2010-1008	MZ	quarter split
13465	10-LC-022	186.45	186.77	0.32	0.40	1.46	G-2010-1008	MZ	quarter split
13501	10-LC-024	181.87	182.30	0.43	0.54	0.63	G-2010-1008	MZ	quarter split
13502	10-LC-024	182.30	182.90	0.60	0.75	3.01	G-2010-1008	MZ	quarter split
13503	10-LC-024	182.90	183.50	0.60	0.75	0.07	G-2010-1008	MZ	quarter split
13504	10-LC-024	183.50	184.00	0.50	0.63	0.00	G-2010-1008	MZ	quarter split
13505	10-LC-024	184.00	184.50	0.50	0.63	0.11	G-2010-1008	MZ	quarter split
13569	10-LC-031	100.80	101.35	0.55	0.69	1.89	G-2010-1234	MZ	quarter split
13619	10-LC-034	85.80	86.20	0.40	0.50	0.52	G-2010-1234	MZ	quarter split
13834	10-LC-038	107.75	108.05	0.30	0.38	1.10	G-2010-1236	MZ	quarter split
13835	10-LC-038	108.05	108.96	0.91	1.14	0.02	G-2010-1236	MZ	quarter split
13836	10-LC-038	108.96	109.57	0.61	0.76	0.17	G-2010-1236	MZ	quarter split
13837	10-LC-038	109.57	110.07	0.50	0.63	0.86	G-2010-1236	MZ	quarter split
13838	10-LC-038	110.07	110.65	0.58	0.73	0.06	G-2010-1236	MZ	quarter split
13973	10-LC-041	60.00	60.50	0.50	0.63	0.17	G-2010-1474	MZ	quarter split
13974	10-LC-041	60.50	60.80	0.30	0.37	0.05	G-2010-1474	MZ	quarter split
13975	10-LC-041	60.80	61.30	0.50	0.63	0.65	G-2010-1474	MZ	quarter split
14101	10-LC-043	63.62	63.87	0.25	0.31	0.05	G-2010-1475	MZ	quarter split
14102	10-LC-043	63.87	64.25	0.38	0.48	2.10	G-2010-1475	MZ	quarter split
14103	10-LC-043	64.25	64.70	0.45	0.56	0.03	G-2010-1475	MZ	quarter split
14104	10-LC-043	64.70	65.00	0.30	0.38	0.10	G-2010-1475	MZ	quarter split
14105	10-LC-043	65.00	65.32	0.32	0.40	0.47	G-2010-1475	MZ	quarter split
14123	10-LC-045	55.90	56.20	0.30	0.37	0.40	G-2010-1475	MZ	quarter split
14124	10-LC-045	56.20	56.50	0.30	0.37	0.00	G-2010-1475	MZ	quarter split
14125	10-LC-045	56.50	57.10	0.60	0.75	0.28	G-2010-1475	MZ	quarter split
14126	10-LC-045	57.10	57.55	0.45	0.56	0.08	G-2010-1475	MZ	quarter split
13625	10-LC-050	51.10	51.64	0.54	0.68	0.24	G-2010-1234	MZ	quarter split
13626	10-LC-050	51.64	52.24	0.60	0.75	0.60	G-2010-1234	MZ	quarter split
13627	10-LC-050	52.24	52.95	0.71	0.89	2.18	G-2010-1234	MZ	quarter split
13676	10-LC-052	39.00	39.98	0.98	1.22	0.09	G-2010-1235	MZ	quarter split
13677	10-LC-052	39.98	40.30	0.32	0.40	0.65	G-2010-1235	MZ	quarter split
13704	10-LC-053	66.25	66.70	0.45	0.56	0.08	G-2010-1235	MZ	quarter split
13705	10-LC-053	66.70	67.02	0.32	0.40	1.12	G-2010-1235	MZ	quarter split
13706	10-LC-053	67.02	67.47	0.45	0.56	0.34	G-2010-1235	MZ	quarter split
13707	10-LC-053	67.47	67.77	0.30	0.37	4.41	G-2010-1235	MZ	quarter split
14794	10-LC-056	164.30	164.92	0.62	0.77	0.24	G-2010-1236	MZ	quarter split
14153	10-LC-063	61.66	62.00	0.34	0.43	1.54	G-2010-1476	MZ	quarter split

Sample #	Hole ID	From (m)	To (m)	Interval (m)	Est. mass (kg)	U_3O_8 (wt %)	Certificate #	Zone	Sample Type
14154	10-LC-063	62.00	62.58	0.58	0.73	2.82	G-2010-1476	MZ	quarter split
14233	10-LC-067	120.85	121.40	0.55	0.69	0.40	G-2010-1476	MZ	quarter split
37007	10-LC-072	165.90	166.75	0.85	1.06	0.09	G-2010-1694	MZ	quarter split
37008	10-LC-072	166.75	167.60	0.85	1.06	0.69	G-2010-1694	MZ	quarter split
37128	10-LC-076	44.51	45.20	0.69	0.86	0.36	G-2010-1695	MZ	quarter split
37230	10-LC-078	229.00	229.40	0.40	0.50	0.16	G-2010-1695	MZ	quarter split
37231	10-LC-078	229.40	230.35	0.95	1.19	1.17	G-2010-1695	MZ	quarter split
14458	10-LC-087	80.80	81.25	0.45	0.56	1.22	G-2010-1478	MZ	quarter split
37091	10-LC-092	135.90	136.56	0.66	0.83	1.49	G-2010-1694	MZ	quarter split
37272	10-LC-096	238.12	238.54	0.42	0.52	4.53	G-2010-1696	MZ	quarter split
37273	10-LC-096	238.54	239.00	0.46	0.58	0.01	G-2010-1696	MZ	quarter split
38531	11-LC-001	169.43	170.14	0.71	0.89	1.38	G-2011-785	MZ	quarter split
38532	11-LC-001	170.14	170.58	0.44	0.55	0.75	G-2011-785	MZ	quarter split
38533	11-LC-001	170.58	171.15	0.57	0.71	1.75	G-2011-785	MZ	quarter split
38776	11-LC-010	138.35	139.10	0.75	0.94	0.72	G-2011-934	MZ	quarter split
38777	11-LC-010	139.10	139.46	0.36	0.45	0.01	G-2011-934	MZ	quarter split
38778	11-LC-010	139.46	139.83	0.37	0.46	1.18	G-2011-934	MZ	quarter split
38779	11-LC-010	139.83	140.15	0.32	0.40	0.14	G-2011-934	MZ	quarter split
38781	11-LC-010	140.15	140.66	0.51	0.64	1.37	G-2011-934	MZ	quarter split
38782	11-LC-010	140.66	140.96	0.30	0.38	1.90	G-2011-934	MZ	quarter split
02802	11-LC-067	65.72	66.05	0.33	0.83	0.09	G-2011-1528	EE	half split
02803	11-LC-067	66.05	66.45	0.40	1.00	1.42	G-2011-1528	EE	half split
02804	11-LC-067	66.45	67.15	0.70	1.75	0.30	G-2011-1528	EE	half split
02866	11-LC-069	130.00	130.40	0.40	1.00	0.22	G-2011-1528	EE	half split
59506	11-LC-072	114.25	114.55	0.30	0.75	0.05	G-2011-1530	EE	half split
59507	11-LC-072	114.55	114.85	0.30	0.75	1.57	G-2011-1530	EE	half split
59508	11-LC-072	114.85	115.15	0.30	0.75	1.66	G-2011-1530	EE	half split
59509	11-LC-072	115.15	115.55	0.40	1.00	0.06	G-2011-1530	EE	half split
59510	11-LC-072	115.55	115.88	0.33	0.82	0.01	G-2011-1530	EE	half split
59511	11-LC-072	115.88	116.40	0.52	1.30	0.01	G-2011-1530	EE	half split
59512	11-LC-072	116.40	116.95	0.55	1.37	0.04	G-2011-1530	EE	half split
59513	11-LC-072	116.95	117.35	0.40	1.00	0.05	G-2011-1530	EE	half split
59527	11-LC-074	82.90	83.20	0.30	0.75	0.39	G-2011-1530	EE	half split
59528	11-LC-074	83.20	83.60	0.40	1.00	0.48	G-2011-1530	EE	half split
59529	11-LC-074	83.60	83.90	0.30	0.75	0.02	G-2011-1530	EE	half split
59531	11-LC-074	83.90	84.20	0.30	0.75	0.16	G-2011-1530	EE	half split
59264	11-LC-079	100.15	100.45	0.30	0.75	0.05	G-2011-1941	EE	half split
59265	11-LC-079	100.45	100.85	0.40	1.00	0.32	G-2011-1941	EE	half split
01756	11-LC-084	49.05	49.50	0.45	1.13	0.62	G-2011-1527	EE	half split
01757	11-LC-084	49.50	49.80	0.30	0.75	2.55	G-2011-1527	EE	half split
01758	11-LC-084	49.80	50.29	0.49	1.23	0.20	G-2011-1527	EE	half split
01759	11-LC-084	50.29	50.70	0.41	1.02	0.24	G-2011-1527	EE	half split
01779	11-LC-086	143.00	143.55	0.55	1.38	0.24	G-2011-1527	EE	half split
01794	11-LC-088	97.69	98.14	0.45	1.12	0.11	G-2011-1527	EE	half split
01795	11-LC-088	98.14	98.72	0.58	1.45	0.65	G-2011-1527	EE	half split
59003	11-LC-089	136.60	137.15	0.55	1.37	0.36	G-2011-1529	EE	half split
59004	11-LC-089	137.15	137.75	0.60	1.50	1.52	G-2011-1529	EE	half split
59005	11-LC-089	137.75	138.17	0.42	1.05	0.56	G-2011-1529	EE	half split
59006	11-LC-089	138.17	138.52	0.35	0.88	0.31	G-2011-1529	EE	half split
59049	11-LC-091	70.60	71.00	0.40	1.00	0.74	G-2011-1529	EE	half split
59073	11-LC-093	127.15	127.65	0.50	1.25	3.25	G-2011-1529	EE	half split

Sample #	Hole ID	From (m)	To (m)	Interval (m)	Est. mass (kg)	U_3O_8 (wt %)	Certificate #	Zone	Sample Type
59074	11-LC-093	127.65	128.20	0.55	1.37	0.41	G-2011-1529	EE	half split
59075	11-LC-093	128.20	128.70	0.50	1.25	0.15	G-2011-1529	EE	half split
59076	11-LC-093	128.70	129.10	0.40	1.00	0.08	G-2011-1529	EE	half split
59127	11-LC-096	88.80	89.15	0.35	0.87	2.55	G-2011-1530	EE	half split
59128	11-LC-096	89.15	89.52	0.37	0.92	5.68	G-2011-1530	EE	half split
59129	11-LC-096	89.52	89.85	0.33	0.83	0.03	G-2011-1530	EE	half split
59131	11-LC-096	89.85	90.45	0.60	1.50	0.05	G-2011-1530	EE	half split
59169	11-LC-097	133.35	133.95	0.60	1.50	0.47	G-2011-1530	EE	half split
59178	11-LC-098	154.35	154.85	0.50	1.25	0.56	G-2011-1530	EE	half split
59179	11-LC-098	154.85	155.35	0.50	1.25	0.68	G-2011-1530	EE	half split
59595	11-LC-104	63.25	63.60	0.35	0.87	0.36	G-2011-1943	EE	half split
59596	11-LC-104	63.60	63.95	0.35	0.88	0.22	G-2011-1943	EE	half split
01233	11-LC-030	97.05	97.45	0.40	1.00	0.39	G-2011-1035	WE	half split
01234	11-LC-030	97.45	97.80	0.35	0.88	0.09	G-2011-1035	WE	half split
01235	11-LC-030	97.80	98.35	0.55	1.37	0.04	G-2011-1035	WE	half split
01236	11-LC-030	98.35	98.80	0.45	1.13	0.01	G-2011-1035	WE	half split
01237	11-LC-030	98.80	99.10	0.30	0.75	0.59	G-2011-1035	WE	half split
01238	11-LC-030	99.10	99.50	0.40	1.00	1.79	G-2011-1035	WE	half split
01239	11-LC-030	99.50	99.98	0.48	1.20	0.54	G-2011-1035	WE	half split
01362	11-LC-033	71.89	72.30	0.41	1.03	0.10	G-2011-1128	WE	half split
01363	11-LC-033	72.30	73.11	0.81	2.02	1.48	G-2011-1128	WE	half split
01364	11-LC-033	73.11	73.62	0.51	1.28	0.03	G-2011-1128	WE	half split
01423	11-LC-036	174.46	174.98	0.52	1.30	0.52	G-2011-1129	WE	half split
01424	11-LC-036	174.98	175.48	0.50	1.25	0.21	G-2011-1129	WE	half split
01425	11-LC-036	175.48	175.81	0.33	0.83	0.03	G-2011-1129	WE	half split
01426	11-LC-036	175.81	176.18	0.37	0.92	0.21	G-2011-1129	WE	half split
01427	11-LC-036	176.18	176.60	0.42	1.05	0.13	G-2011-1129	WE	half split
01492	11-LC-039	166.05	166.50	0.45	1.12	0.19	G-2011-1343	WE	half split
01493	11-LC-039	166.50	167.00	0.50	1.25	0.96	G-2011-1343	WE	half split
01494	11-LC-039	167.00	167.35	0.35	0.88	0.02	G-2011-1343	WE	half split
01495	11-LC-039	167.35	167.80	0.45	1.12	0.26	G-2011-1343	WE	half split
01587	11-LC-043	111.50	112.00	0.50	1.25	0.17	G-2011-1343	WE	half split
01588	11-LC-043	112.00	112.40	0.40	1.00	0.04	G-2011-1343	WE	half split
01589	11-LC-043	112.40	112.75	0.35	0.87	0.64	G-2011-1343	WE	half split
01591	11-LC-043	112.75	113.15	0.40	1.00	6.88	G-2011-1343	WE	half split
01652	11-LC-047	159.20	159.62	0.42	1.05	0.04	G-2011-1344	WE	half split
01653	11-LC-047	159.62	160.10	0.48	1.20	0.10	G-2011-1344	WE	half split
01654	11-LC-047	160.10	160.45	0.35	0.87	0.00	G-2011-1344	WE	half split
01655	11-LC-047	160.45	161.23	0.78	1.95	0.60	G-2011-1344	WE	half split
01665	11-LC-048	94.70	95.15	0.45	1.13	0.58	G-2011-1344	WE	half split
01666	11-LC-048	95.15	95.50	0.35	0.87	0.61	G-2011-1344	WE	half split
01667	11-LC-048	95.50	96.03	0.53	1.32	0.02	G-2011-1344	WE	half split
02482	11-LC-053	156.30	156.60	0.30	0.75	0.40	G-2011-1341	WE	half split
02483	11-LC-053	156.60	156.90	0.30	0.75	0.05	G-2011-1341	WE	half split
02484	11-LC-053	156.90	157.20	0.30	0.75	0.16	G-2011-1341	WE	half split
02485	11-LC-053	157.20	157.50	0.30	0.75	0.19	G-2011-1341	WE	half split
02486	11-LC-053	157.50	157.84	0.34	0.85	0.85	G-2011-1341	WE	half split
02487	11-LC-053	157.84	158.54	0.70	1.75	0.03	G-2011-1341	WE	half split
02504	11-LC-054	193.46	193.66	0.20	0.50	0.24	G-2011-1341	WE	half split
02505	11-LC-054	193.66	194.00	0.34	0.85	2.41	G-2011-1341	WE	half split
02506	11-LC-054	194.00	194.46	0.46	1.15	1.44	G-2011-1341	WE	half split

Sample #	Hole ID	From (m)	To (m)	Interval (m)	Est. mass (kg)	U_3O_8 (wt %)	Certificate #	Zone	Sample Type
02507	11-LC-054	194.46	194.90	0.44	1.10	1.58	G-2011-1341	WE	half split
02598	11-LC-056	99.61	100.00	0.39	0.97	0.03	G-2011-1342	WE	half split
02599	11-LC-056	100.00	100.42	0.42	1.05	0.15	G-2011-1342	WE	half split
02601	11-LC-056	100.42	100.78	0.36	0.90	4.31	G-2011-1342	WE	half split
02602	11-LC-056	100.78	101.12	0.34	0.85	0.11	G-2011-1342	WE	half split
02603	11-LC-056	101.12	101.45	0.33	0.82	1.03	G-2011-1342	WE	half split
02604	11-LC-056	101.45	101.87	0.42	1.05	0.03	G-2011-1342	WE	half split
02605	11-LC-056	101.87	102.23	0.36	0.90	0.04	G-2011-1342	WE	half split
01727	11-LC-082	105.42	105.75	0.33	0.83	3.74	G-2011-1344	WE	half split
01728	11-LC-082	105.75	106.05	0.30	0.75	0.52	G-2011-1344	WE	half split
59925	11-LC-109	280.00	280.40	0.40	1.00	0.54	G-2011-1946	WE	half split
59926	11-LC-109	280.40	280.70	0.30	0.75	3.99	G-2011-1946	WE	half split
59927	11-LC-109	280.70	281.00	0.30	0.75	2.02	G-2011-1946	WE	half split