CanAlaska Uranium Ltd.

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NI 43-101 Technical Report on the Fond Du Lac Project

Athabasca Basin, Saskatchewan, Canada

Prepared for:
CanAlaska Uranium Ltd.

Prepared by:
Ron Parent, P.Geo.

Project No. 165521

Effective Date: 15 October 2010

CERTIFICATE OF QUALIFIED PERSON

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I, Ron Parent, P.Geo., am employed as a Principal Geologist with AMEC Americas Ltd.

This certificate applies to the technical report entitled "NI 43-101 Technical Report on the Fond Du Lac Project" (the "Technical Report"), dated 15 October 2010.

I am a Professional Geologist registered in Saskatchewan (License # 16390) and British Columbia (License # 27031). I graduated with a Bachelor of Science with Honours in Geology in 1990 from the University of Alberta, preceeded by graduation from the Northern Alberta Institute of Technology in Mineral Resources Engineering Technology (1986).

I have practiced my profession for 20 years. During this period I have been directly involved in active mining operations and exploration operations. I have compiled, produced and reviewed many geological models and exploration data sets. I have authored or co-authored several NI 43-101 reports on a variety of mineral projects covering commodities including uranium, gold, copper-molybdenum and coal.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I personally examined the Fond Du Lac deposit area during a site visit to the property on June 10, 2010.

I have prepared all the sections of this report.

I am independent of CanAlaska Uranium Ltd. as independence is described by Section 1.4 of NI 43-101.

I had not previously provided technical assistance to the Fond Du Lac Project, and have no prior involvement with the project.

I have read NI 43–101 and this report has been prepared in compliance with that Instrument.

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.

"Signed and sealed"

Ron R. Parent, P. Geo.

Dated: 15 October 2010

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 Technical Report for CanAlaska Uranium Ltd. ("CanAlaska") by AMEC Americas Limited (AMEC). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended to be used by CanAlaska subject to the terms and conditions of its contract with AMEC. That contract permits CanAlaska to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any use of this report by any third party is at that party's sole risk.

CONTENTS

1.0 SUMMARY ... 1-1
2.0 INTRODUCTION ... 2-1
3.0 RELIANCE ON OTHER EXPERTS ... 3-1
4.0 PROPERTY DESCRIPTION AND LOCATION ... 4-1
4.1 Summary ... 4-1
4.2 Mineral Rights and Agreement Summary ... 4-1
4.2.1 Option Phase ... 4-2
4.2.2 General Conditions of the Option Phase of the Agreement as Amended ... 4-3
5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY ... 5-1
6.0 HISTORY ... 6-1
7.0 GEOLOGICAL SETTING ... 7-1
7.1 Athabasca Basin ... 7-1
7.2 Regional Geology – Fond Du Lac ... 7-3
7.3 Local Geology – IR 228 and 233 ... 7-5
8.0 DEPOSIT TYPES ... 8-1
9.0 MINERALIZATION ... 9-1
10.0 EXPLORATION ... 10-1
10.1 Summary ... 10-1
10.2 Geophysics ... 10-2
10.2.1 Airborne Aeromagnetic, Radiometric and VLF survey ... 10-2
10.2.2 Gravity Survey ... 10-6
10.2.3 Resistivity-IP survey ... 10-8
10.2.4 Discussion ... 10-11
10.3 2008 Boulder and Soil Sampling Program ... 10-11
10.3.1 Introduction ... 10-11
10.3.2 Boulder Sampling ... 10-12
10.3.3 Soil Sampling ... 10-14
10.3.4 Discussion ... 10-16
11.0 DRILLING ... 11-1
11.1 Introduction ... 11-1
11.2 Core logging procedures ... 11-6
11.3 Down-Hole Probing ... 11-7
11.4 Collar Surveys ... 11-7
11.5 Discussion of Results ... 11-8
12.0 SAMPLING METHOD AND APPROACH ... 12-1
13.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY ... 13-1
13.1 Procedures and Methods Summary ... 13-1
13.2 Mineralogical and Chemical Analyses ... 13-1

13.3 Quality Assurance-Quality Control (QA/QC) 13-2
14.0 DATA VERIFICATION 14-1
15.0 ADJACENT PROPERTIES 15-1
16.0 MINERAL PROCESSING AND METALLURGICAL TESTING 16-1
17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES 17-1
18.0 OTHER RELEVANT DATA AND INFORMATION 18-1
19.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES 19-1
20.0 INTERPRETATION AND CONCLUSIONS 20-1
21.0 RECOMMENDATIONS 21-1
21.1 Drilling and assaying procedures 21-1
21.1.1 Sampling Interval 21-1
21.1.2 Certified Reference Material (Standards) 21-1
21.1.3 Blanks 21-1
21.1.4 Duplicates 21-2
21.1.5 Re-analysis (Pulp Check) 21-2
21.2 Work Program 21-3
22.0 REFERENCES 22-1
23.0 DATE AND SIGNATURE PAGE 23-1

TABLES

Table 4-1: Mineral Dispositions of the Fond Du Lac Project 4-1
Table 6-1: Historical Drill Holes in the Fond Du Lac deposit area 6-2
Table 9-1: Fond Du Lac Deposit Assays – Camok 1970 (from SMDI no. 1572) 9-1
Table 10-1: CanAlaska work completed from 2006 to 2009 10-1
Table 11-1: CanAlaska drilling highlights (true thickness unknown) 11-1
Table 21-1: Phase 1 and 2 Proposed Exploration Budgets 21-5

FIGURES

Figure 2-1: Project Location 2-2
Figure 4-1: Tenure 4-5
Figure 6-1: Fond Du Lac Deposit Drilling 6-3
Figure 7-1: Regional Geology of the Athabasca Basin 7-2
Figure 7-2: Regional Lithostratigraphic Section of the Athabasca basin 7-2
Figure 7-3: Regional Geology 7-4
Figure 7-4: Local Geology 7-6
Figure 8-1: Examples of unconformity-associated uranium deposits 8-2
Figure 9-1: Fond Du Lac Deposit Detail Geology 9-2
Figure 9-2: Fond Du Lac Deposit Schematic Geological Cross Section 9-3

Figure 10-1:Airborne Magnetics Vertical 1st derivative 10-3
Figure 10-2:Airborne VLF EM 10-4
Figure 10-3:Airborne Radiometrics Equivalent Uranium 10-5
Figure 10-4:Gravity Survey Residual Bouger Gravity 10-7
Figure 10-5:Resistivity slice at a depth of 50 m 10-9
Figure 10-6:Chargeability slice at a depth of 50 m 10-10
Figure 10-7:Boulder Sampling Program 10-13
Figure 10-8:Uranium ppm in Soil Samples 10-15
Figure 10-9:Mineralization in historical drillholes near boulder area F 10-18
Figure 15-1:CanAlaska Uranium Projects in the Athabasca Basin 15-1
Figure 21-1:Location of proposed work 21-4

UNITS OF MEASURE

Billion years ago	Ga
Degree	°
Foot	ft
Greater than	>
Hectare (10,000 m^2)	ha
Kilometre	km
Kilovolt	kV
Lead	pb
Less than	<
Metre	m
Million years ago	Ma
Ohm (electrical)	Ω
Parts per million	ppm
Percent	%

1.0 SUMMARY

The Fond Du Lac Project comprises the mineral rights underlying three separate Indian Reserves totalling 16,900 hectares of land. The three Indian Reserves are within 30 km of the Fond Du Lac, Saskatchewan settlement, located on the north shore of Lake Athabasca, 800 kilometres north of Saskatoon, Saskatchewan. The mineral rights are administered on behalf of the Fond Du Lac Denesuline First Nations (FDFN) by Fond du Lac Mineral Resources Inc. (FLMRI).

As at the effective date of this report, CanAlaska and FLMRI each own a 50% interest in the mineral rights covering the aforementioned reserve lands.

The property is located along the north rim of the Athabasca Basin, home to the richest deposits of uranium in the world. The Athabasca Basin is comprised of four unconformity bounded sequences of un-metamorphosed quartzose fluvial rocks that were deposited into sub-basins covering approximately 100,000 square kilometres of northern Saskatchewan and north-eastern Alberta. The conglomerates, sandstones and mudstones that make up the Athabasca Group have a maximum thickness of 1500 metres. The Athabasca Group was deposited on paleo-weathered Precambrian basement rocks between about 1760 Ma and 1500 Ma.

Unconformity-associated uranium deposits are pods, veins, and semi-massive replacements consisting of mainly uraninite (pitchblende) located close to basal unconformities between Proterozoic redbed basins and metamorphosed basement rocks, especially supracrustal gneiss with graphitic metapelite.

The Fond Du Lac Uranium Deposit consists of a 390 m long by 10 to 40 m thick pod of clay-enclosed uranium mineralization which is hosted in a steeply-dipping stockwork of fractures within Athabasca Group basal conglomerate and sandstone. Age dating suggests the mineralization was initially emplaced 1100 to 1200 Ma and was remobilized at 215 and 80 Ma. Fracturing appears to extend into the underlying basement meta-arkose. A 390 m long by 350 m thick irregular aureole of low-grade (0.05 to 0.06% U_3O_8) mineralization surrounds the pod of higher-grade (>0.06% U_3O_8) uranium mineralization.

A historical resource estimate was prepared by Camok Ltd., however, the availability of detailed records supporting this estimate are sparse. The project can be considered at the exploration stage. Recent drilling by CanAlaska has encountered additional mineralization in the basement rocks immediately north of the current deposit outline. The potential exists that the deposit continues into the basement rocks. Further investigation is warranted.

A two phase work program is recommended. The first phase would include a geochemical soil survey accompanied by radon gas measurements in the deposit area in order to define limits of the known mineralization and perhaps uncover previously unidentified areas of mineralization. This will be followed by the completion of 10 diamond drillholes to test for additional basement mineralization in the area north of the deposit. The total budget for phase 1 is estimated at $962,000.

A phase 2 budget of $1,910,000 is to include an additional 30 holes for roughly 6100 m, which should include some infill or close spaced drilling to test for the continuity of mineralization. Additionally, a computerized geological model should be created in order to help establish the geometry, position and relationship of the various drillhole intercepts to establish targets for infill and / or resource definition drilling.

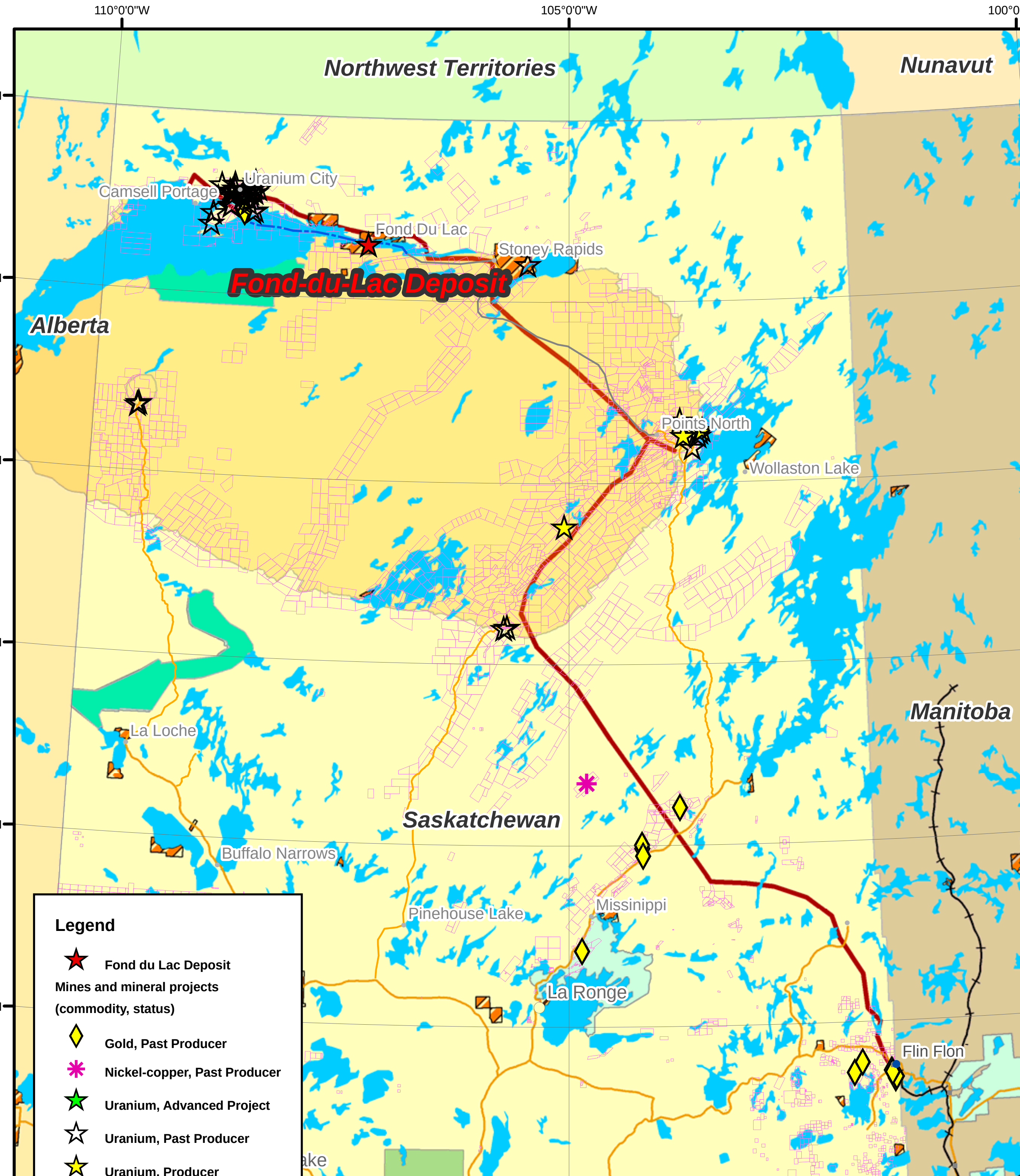
2.0 INTRODUCTION

This technical report was prepared for CanAlaska Uranium Ltd. (CanAlaska) for the purpose of summarizing the geology and mineralization on the Fond Du Lac Property (Figure 2-1) and to provide recommendations for further exploration. The report focuses specifically on the Fond Du Lac deposit area. The main sources of information and data were internal company reports supplied to AMEC by CanAlaska and federal (DIAND on the Indian Reserve) and Saskatchewan government assessment files. These include:

- A draft Report on the mineral potential of the Indian Reserve Lands of the Fond Du Lac Denesuline First Nation with recommendations for further exploration for Uranium by J.S. Kermeen, M.Sc., P. Eng. Dated February 14, 2007.
- Report on 2008 and 2009 Drilling and Prospecting, Fond Du Lac Project, Saskatchewan, Canada, Report # FDL 2009-02; Submitted by: Marnie Muirhead, Erin Smart, Karl Schimann Dated January, 2010.
- 2008-2009 Geophysics Fond Du Lac Project, Saskatchewan Report # FDL2009-01 Submitted by: Guy Marquis Karl Schimann December 2009, Vancouver, BC

A site visit was performed by the author on June 10, 2010. The visit only included that immediate area of the FDL deposit and camp area. Observations of the following were made:

- Access to the site
- core storage and sampling;
- mineralization in the drill core;
- state of the property and locations of CanAlaska and historical drillholes;
- deposit geology through discussions with CanAlaska personnel accompanying AMEC on the site visit.



CanAlaska Uranium Ltd.

Fond Du Lac Project

Figure 2-1 Project Location

Drawn by: RP | Date: October 15, 2010 | Report: FDL 43-101

CanAlaska Uranium Ltd. amec

3.0 RELIANCE ON OTHER EXPERTS

With regard to CanAlaska's right to mineral tenure and property agreements, AMEC has fully relied upon, and disclaims responsibility for, information in documents supplied by CanAlaska, namely:

- Letter of legal opinion by Bruce J. Slusar, Barrister & Solicitor of Saskatoon, Saskatchewan dated September 27, 2010.

AMEC has relied on this information in the property description and location in Section 4 of the Report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Summary

The Fond Du Lac Project comprises the mineral rights to three separate Indian Reserves totalling 16,900 hectares of land (Table 4-1, Figure 4-1). The Indian Reserves are within 30 km of the settlement of Fond Du Lac, located on the shore of Lake Athabasca, 680 kilometres north of Prince Albert and 800 km north of Saskatoon, Saskatchewan. The mineral rights are administered on behalf of the FDFN by FLMRI.

As at the effective date of this report, CanAlaska and FLMRI each own a 50% interest in the mineral rights covering the aforementioned reserve lands.

FLMRI currently has a valid Mineral Exploration permit, which is renewable annually for work on the Fond Du Lac Project which was granted by Department of Indian and Northern Affairs Canada (INAC).

FLMRI may obtain a mining lease for the purpose of developing a mining operation upon application to INAC under the *Indian Act Mining Regulations*.

The Fond Du Lac Indian Reserves No. 228, 229 and 233 are reserves within the meaning of the *Indian Act* of 1985. The Fond Du Lac Band of Indians is a Band as defined pursuant to Section 2(1)a of the Act.

Table 4-1: Mineral Dispositions of the Fond Du Lac Project

Reserve No.	Project Name	Reserve Area (Hectares)	Survey Plan no*
I.R. 228	Fond Du Lac	1,082	55692
I.R. 229	Fond Du Lac	7,821	55690
I.R. 233	Fond Du Lac	7,997	68164
Total:		**16,900**	

*in the Canadian Land Surveys Records in Ottawa

The following legal summary are supported and / or excerpted from a letter dated September 27, 2010 by Mr. Brue J. Slusar, legal counsel for FLMRI and FDFN. This information was fully relied upon in preparing Section 4.2 of the Report.

4.2 Mineral Rights and Agreement Summary

Mineral rights held in the name of FLMRI are appropriately designated to FLMRI and are valid and in good standing, and are held for the purpose of the Option Agreement between FLMRI and CanAlaska. The mineral exploration permit tenures are not subject to any outstanding liens or encumbrances, and are not pledged in any way to any other parties.

By Agreement dated October 18, 2006, FLMRI entered into an Option Agreement with CanAlaska Ventures Ltd. (now known as "CanAlaska Uranium Ltd.") which has been subsequently amended by Amending Agreements dated November 8, 2008 and September 10, 2010 which provide that CanAlaska Uranium Ltd. will act as a principal exploration consultant and contractor to the project.

4.2.1 Option Phase

The Option Phase includes CanAlaska exploring for minerals and providing cash payments and share payments to FLMRI in consideration of earning a 49% interest in all mineral resources located on the Reserve lands, and having an option to enter into a Joint Venture Agreement to develop a mining operation.

If FLMRI decides not to fund its share of any exploration program carried out under the terms of this agreement, then CanAlaska can elect to fund the program or revise the program and budget. CanAlaska may then elect, at its option, to fund Fond du Lac's share of the project to a maximum amount without diluting Fond du Lac's interest.

The Option Agreement provides that CanAlaska may earn a 49% interest in any and all mineral resources located on the aforesaid Reserve lands based upon the following terms:

1. CanAlaska is required to spend a minimum of $2,000,000.00 (CDN) in exploration work and expenditures over a four (4) year period as follows:
   a) A minimum of $300,000 June 30, 2009, which has been completed.
   b) A minimum of $700,000 by June 30, 2010, which has been completed.
   c) A minimum of $1,200,000 by June 30, 2011, which has been completed.
   d) A minimum of $2,000,000 by June 30, 2012, which has been completed.

2. In addition, CanAlaska shall make cash payments to Fond du Lac Denesuline First Nation through its designate as follows:
   a) $20,000 paid on execution of agreement (November 8, 2006). Completed
   b) $20,000 paid on or before December 14, 2007, which has been completed.
   c) $10,000 paid on or before September 5, 2008, which has been completed.
   d) $40,000 paid on or before June 30, 2010, which has been completed.
   e) $40,000 paid on or before June 30, 2011.

3. In addition, CanAlaska will issue to FDFN through its designate, subject to regulatory approval, the following payment of shares:
   a) 100,000 CanAlaska shares on December 18, 2006, which has been completed.
   b) 100,000 CanAlaska shares on September 12, 2008, which has been completed.
   c) 50,000 CanAlaska shares on June 30, 2010, which has been completed.
   d) 50,000 CanAlaska shares on June 30, 2011.

Further Amendment to Option Agreement of September 10, 2010

CanAlaska and FLMRI have entered into a further Amendment of Agreement dated September 10, 2010 which recognized that CanAlaska has exceeded its minimum expenditures in exploration work as at December 31, 2009, resulting in a further advance of the payments of cash and shares previously due on or before June 30, 2011 to September 10, 2011.

In addition, CanAlaska has agreed to pay FLMRI an additional 100,000 CanAlaska Common Shares towards earning a 50% ownership interest in the Fond du Lac Project resulting in an amendment to the Option Agreement which provides that during the Option Phase of the Agreement, CanAlaska will vest with a 50% interest in all mineral resources located on the project land and the Parties will enter negotiations regarding a joint venture in which FLMRI will hold a 50% ownership interest and CanAlaska will hold an initial 50% ownership interest.

The Option Agreement as amended will apply until execution of a Fond du Lac Joint Venture Agreement which will then supersede the amended Option Agreement.

4.2.2 General Conditions of the Option Phase of the Agreement as Amended

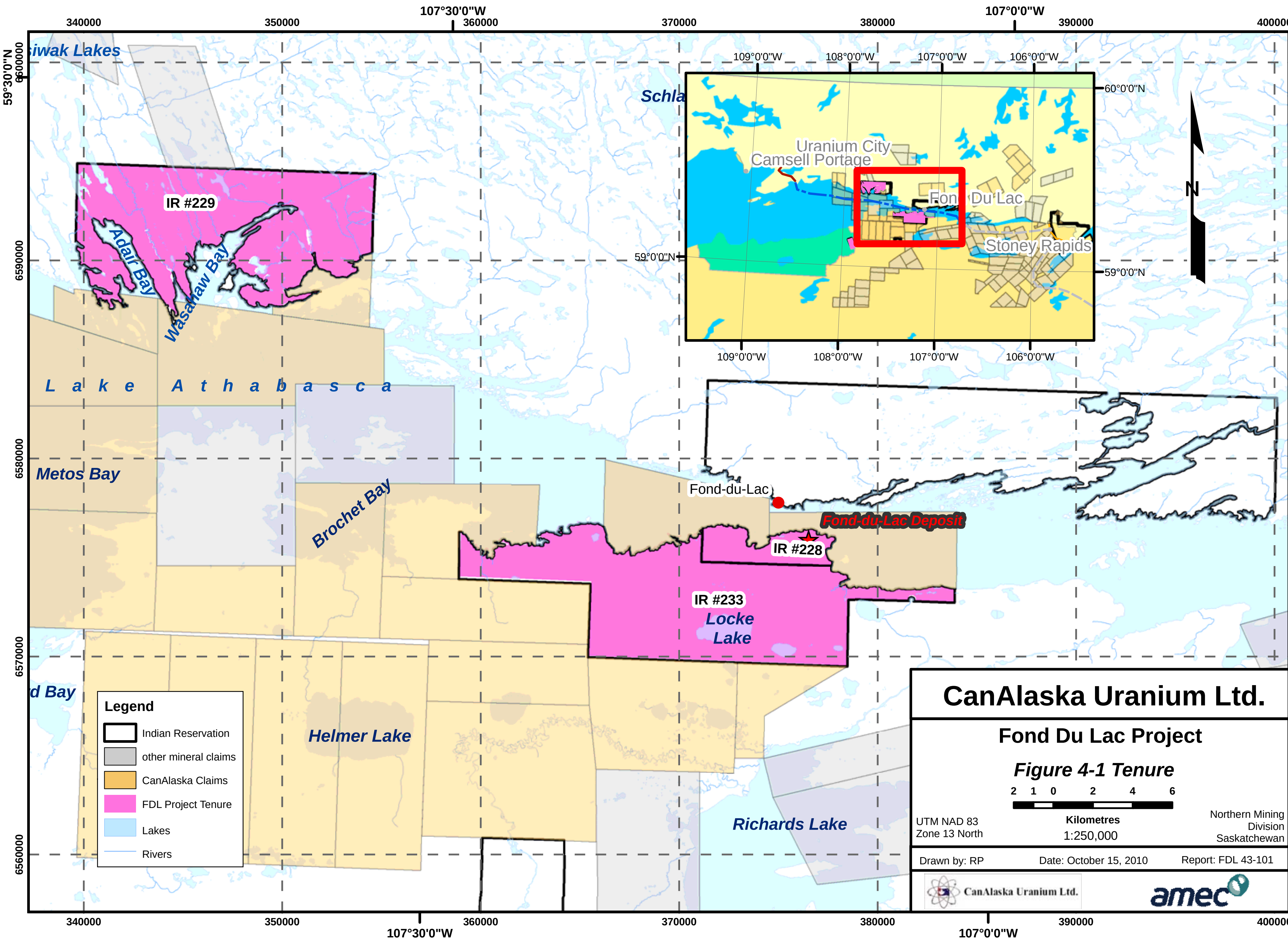
Upon CanAlaska completing the exploration expenditures, cash payments, and share payments required, CanAlaska will automatically vest with a 50% interest in all mineral resources located on the project land, and the Option Phase of the Agreement will terminate.

The Joint Venture Phase of the Option Agreement will then commence where Fond du Lac will hold a 50% ownership interest and CanAlaska will hold an initial 50% ownership interest.

During both the Option and Joint Ventures Phases, CanAlaska will act as exploration program operator and will present exploration programs and budgets to a Management Committee comprising of two (2) representatives each from Fond du Lac and CanAlaska respectively. CanAlaska will hold a casting vote on the Management Committee in relation to programs and budgets.

As exploration program operator, CanAlaska will provide quarterly reports detailing program results together with an annual report to Fond du Lac, and all information will be regarded as confidential and not disclosed to any other parties except by way of approved news release.

Both CanAlaska and FLMRI will fund their respective share of the Joint Venture Project Program. However, should Fond du Lac decide not to fund its share, then CanAlaska has the option to solely fund the project on Fond du Lac's behalf to a maximum of $3,000,000.00 (CDN) without diluting Fond du Lac's interests. Fond du Lac will reimburse CanAlaska twice the amounts funded on its behalf by CanAlaska out of its share of net cash flow from any operations on the lands, and any compensation due under the terms of the Agreement. Any subsequent non-funding of its share will result in a progressive dilution of Fond du Lac's interest pursuant to an agreed formula. Should either party dilute their respective interest to 5%, then that parties' ownership interest shall automatically revert to a 2% yellowcake royalty from the sale of any uranium products, and a 2% net smelter return from the sale of any other mineral products derived from the lands.



Legend
Indian Reservation
other mineral claims
CanAlaska Claims
FDL Project Tenure
Lakes
Rivers
IR #229
IR #228
IR #233
Adair Bay
Wasahaw Bay
Lake Athabasca
Metos Bay
Brochet Bay
Fond-du-Lac
Fond-du-Lac Deposit
Locke Lake
Helmer Lake
Richards Lake
Uranium City
Camsell Portage
Fond Du Lac
Stoney Rapids
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 4-1 Tenure
Kilometres
1:250,000
UTM NAD 83
Zone 13 North
Northern Mining Division Saskatchewan
Drawn by: RP
Date: October 15, 2010
Report: FDL 43-101
amec

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

The following description of accessibility, climate, local resources, infrastructure and physiography is taken from CanAlaska's 2009 assessment report.

The settlement of Fond Du Lac (pop. 700) is located approximately in the centre of the Fond Du Lac Project area. Local residents are employed by several uranium mines and facilities in the area (Rabbit Lake, MacArthur River, Cigar Lake), typically on a fly-in basis to the remote sites. A paved landing strip at the settlement of Fond Du Lac offers daily scheduled air service from Saskatoon along with connecting flights to other northern communities and mine sites. Chartered air service of float or ski-equipped bush planes and helicopters is available in Stony Rapids which is 80 km east of the settlement. A gravel road connects Stony Rapids to Points North then on to La Ronge. A paved road connects La Ronge to Saskatoon.

Figure 2-1 indicates the location of high voltage transmission lines in the area which come within a few km of the property.

The climate of the area is temperate continental with extremes in temperature. In summer the temperature may reach 30°C and in winter it may go down to -50°C or -60°C with the wind chill. Break-up of ice on the lakes usually occurs late in May or very early June and the freeze-up is usually early in October. In a normal summer field season about ten to fifteen days of precipitation are to be expected.

The topography of the area is typical of the Canadian Shield in Northern Saskatchewan, with rolling and locally steep hills and intervening fairly flat lowland areas in-filled with bogs, swamps and muskeg. Lake Athabasca, one of the largest lakes in the province, is the most prominent feature in the project area. Local relief is approximately 60 metres. The elevation ranges from about 210 metres at lake level to 325 metres above sea level.

The area has been glacially scoured, with ice movement from northeast to southwest. The area north of Lake Athabasca has excellent exposure of basement rocks from the shoreline to very steep hills and glacially carved ridges. The area south of the lake is comprised of sandstone of the Athabasca Basin and is predominantly flatter to gently rolling in topography with poorer outcrop exposure and is covered by unconsolidated glacial material consisting of eskers, moraines, drumlins and raised beaches along the lake shoreline. Felsenmeer boulder fields are common. The project area has mixed stands of jack pine, black spruce, minor trembling aspen and paper birch, with tamarack, willows and alders present in the low-lying wet areas.

6.0 HISTORY

The following description of the history of the Fond Du Lac deposit was taken from the Saskatchewan Mineral Deposit Inventory (SMDI), an online database of mineral deposits in Saskatchewan, maintained by the Saskatchewan Government.

In 1968, A.J. Baer reconnaissance mapped the showing area for the Geological Survey of Canada.

Special Permit No. 3 was granted in 1969 under special agreement to Camok Ltd., who conducted ground radiometric surveys, geological studies and rotary and diamond drilling (Saskatchewan assessment file no. (AF) 74O05-0058) to obtain stratigraphic information for structural cross sections, isopach and structural maps. A glacial fan distribution of radioactive boulders was outlined extending into claim S-82992.

In 1970, an extensive drill program in 1970 was completed on S-82992 (AF 74O06-0022). Drilling was carried out with AQ diameter wire line equipped drills on a systematic square grid pattern with a spacing of 650 m. All 35 holes (totalling 2245.5 m) were probed for radioactivity, resistivity and self potential.

In 1971, the FDL deposit showing area was staked as CBS 2639 within Camok Permit No. 3. In 1970, Camok released the deposit reserves figures of 450,000 kg (990,000 lb) of uranium grading 0.25% U_3O_8. The method used to calculate these numbers is unknown due to the lack of available historical reports. These figures are not compliant with NI43-101 and are included for informational purposes only. They are not to be relied upon.

By 1975, Amok Ltee owned the claim CBS2639. In this year, Eldorado Nuclear completed a ground radiometric survey over the deposit (AF 74O06-0011). In 1976, Camok completed prospecting, soil sampling and grid EM surveys on the property (AF 74O06-0023). In the same year, the surface rights covering the claims were given to the crown as IR 22 and an agreement between Camok Ltd., Eldorado Nuclear Ltd. and the federal government was reached.

In June of 1978, Eldorado Nuclear staked the remainder of the property as ML 5233. In 1979, they completed gravity and helium-in-till surveys and till trench sampling (AF 74O06-0037).

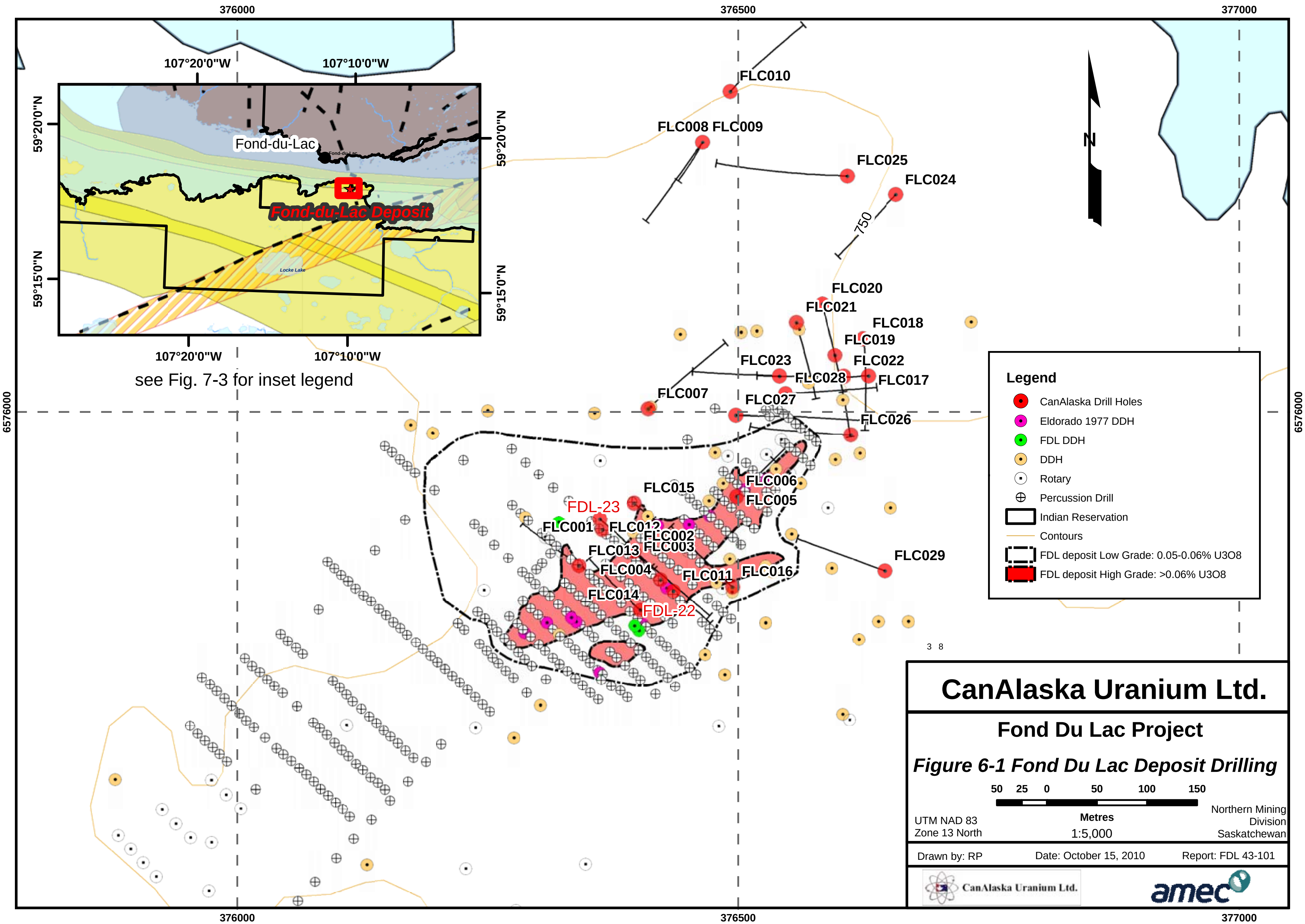
In 1986, C.T. Harper mapped portions of NTS 74O-06, at a scale of 1:50,000 for the Saskatchewan Geological Survey.

On 1 November 1986, ML 5233 was allowed to lapse. Subsequently the mineral rights covering IR 228 reverted to the FDFN.

Due to the lack of available detailed information related to the exploration programs, it is difficult to determine the exact number of holes drilled into the deposit and in the surrounding areas. Figure 6-1 shows the locations of historical drillholes in the deposit area and in the vicinity of IR #233 and #228. No drilling has been carried out on IR #229. Table 6-1 indicates the distribution of hole types historically drilled in the deposit area.

Table 6-1: Historical Drill Holes in the Fond Du Lac deposit area

Drillhole Type	No. of Holes
Diamond Drillholes	60
Percussion	320
Rotary	31
TOTAL	**411**


376000
376500
377000
6576000
107°20'0"W
107°10'0"W
59°20'0"N
59°15'0"N
Fond-du-Lac
Fond-du-Lac Deposit
Locke Lake
see Fig. 7-3 for inset legend
N
750
FLC010
FLC008 FLC009
FLC025
FLC024
FLC020
FLC021
FLC018
FLC019
FLC022
FLC023
FLC028
FLC017
FLC007
FLC027
FLC026
FLC006
FLC005
FLC015
FDL-23
FLC001
FLC012
FLC002
FLC003
FLC013
FLC004
FLC011
FLC016
FLC014
FDL-22
FLC029
Legend
CanAlaska Drill Holes
Eldorado 1977 DDH
FDL DDH
DDH
Rotary
Percussion Drill
Indian Reservation
Contours
FDL deposit Low Grade: 0.05-0.06% U3O8
FDL deposit High Grade: >0.06% U3O8
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 6-1 Fond Du Lac Deposit Drilling
50 25 0 50 100 150
Metres
1:5,000
UTM NAD 83
Zone 13 North
Northern Mining
Division
Saskatchewan
Drawn by: RP
Date: October 15, 2010
Report: FDL 43-101
CanAlaska Uranium Ltd.
amec

7.0 GEOLOGICAL SETTING

The following sections have been taken from CanAlaska's 2009 assessment report on their drilling and prospecting activities.

7.1 Athabasca Basin

The Regional and Local Geology has been summarised from papers within EXTECH IV: Geology and Uranium Exploration Technology of the Proterozoic Athabasca Basin, Saskatchewan and Alberta, 2007. Geological Survey of Canada Bulletin 588; Ed. by C.W. Jefferson and G. Delaney.

The Athabasca Basin is comprised of four unconformity bounded sequences of un-metamorphosed quartzose fluvial rocks that were deposited into sub-basins covering approximately 100,000 square kilometres of northern Saskatchewan and north-eastern Alberta (Figure 7-1 and Figure 7-2). The conglomerates, sandstones and mudstones that make up the Athabasca Group have a maximum thickness of 1500 metres. The Group was deposited on paleo-weathered Precambrian basement rocks between about 1760 Ma and 1500 Ma.

Rocks of the Rae and Hearne provinces and the Taltson magmatic zone make up the basement to the Athabasca Basin (Card et el., 2007). The Taltson magmatic zone underlies the western most edge of the Basin and is characterized by a basement complex intruded by continental magmatic arc granitoid rocks and peraluminous granitoid rocks. The basement rocks in the central portion of the Basin are made up of metasedimentary supracrustal rock sequences and Archean and Proterozoic granitoid rocks of the Rae Province. The metasedimentary rocks of the Hearne Province make up the eastern portion of the basement.

Figure 7-1: Regional Geology of the Athabasca Basin

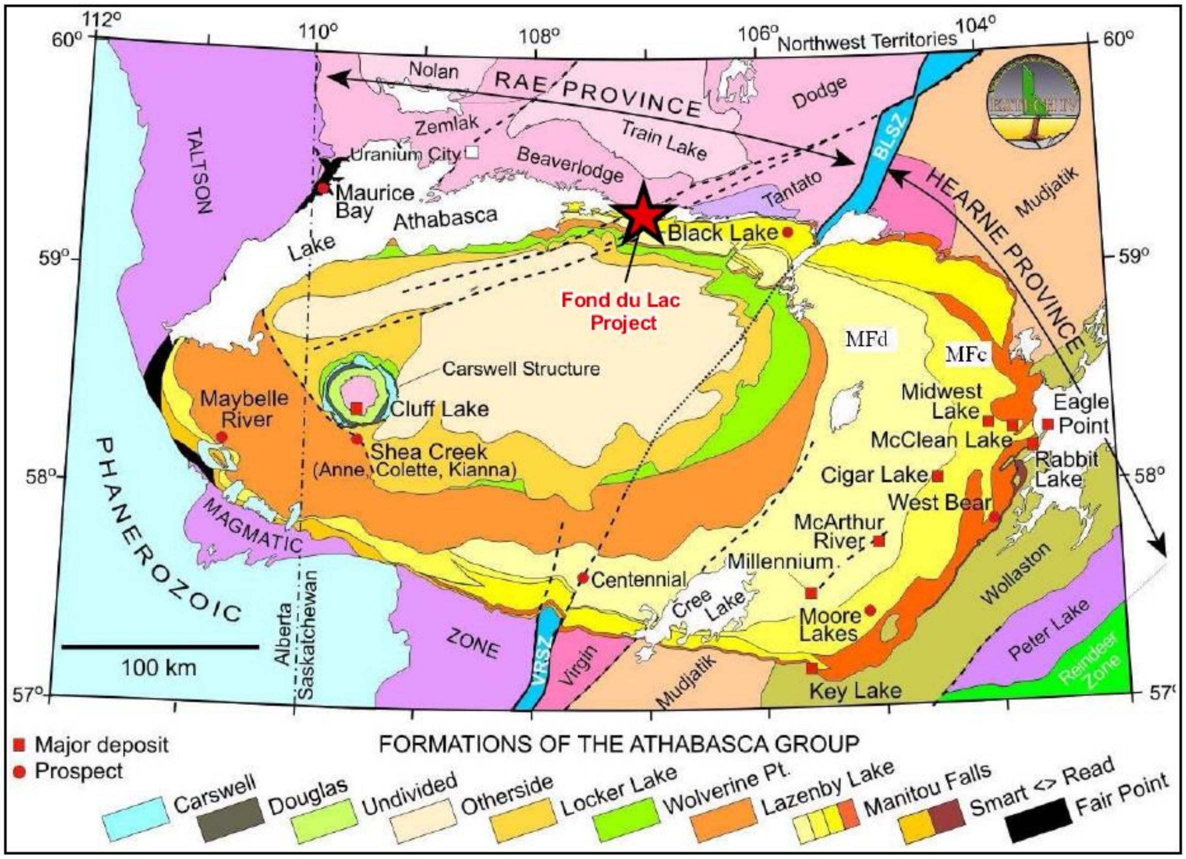
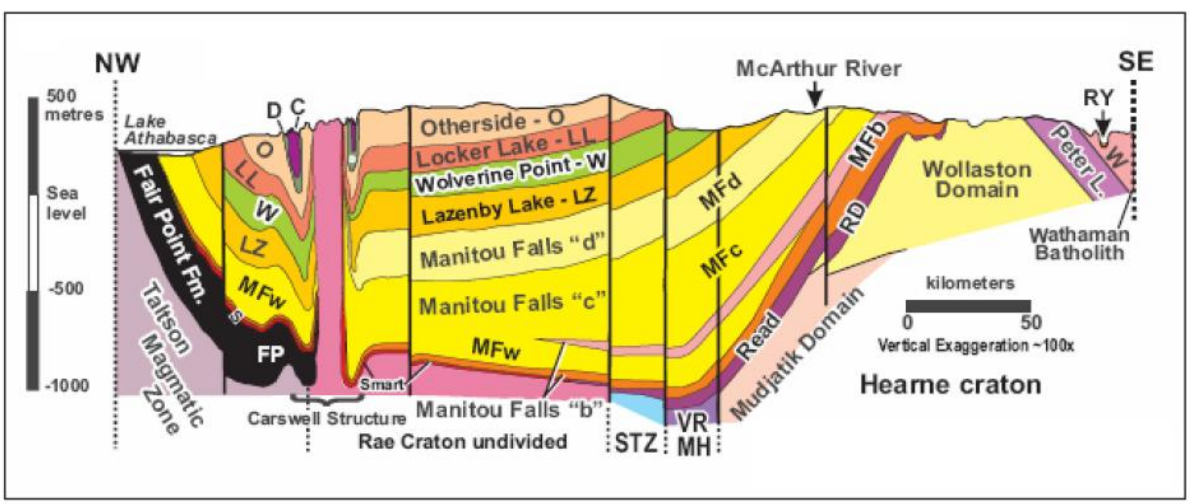


Figure 7-2: Regional Lithostratigraphic Section of the Athabasca basin



7.2 Regional Geology – Fond Du Lac

Basement Rocks

The basement rocks in the area covered by the Fond Du Lac property are Archean garnet pyroxene gneisses and quartz-rich biotite gneisses of the eastern portion of the Beaverlodge Domain, Rae Province (Figure 7-3). The rocks have been metamorphosed to granulite facies with an amphibolite retrograde overprint (Baer, 1969). The aluminous chemistry of these rocks indicates a sedimentary protolith and may represent a deep sea depositional environment (Card et al, 2007). Northeast of Fond Du Lac, Proterozoic granodiorite intrudes the gneissic terranes.

The garnet pyroxene gneiss is commonly well foliated with well developed gneissic bands of interlayered quartz and feldspar bands with darker, fine grained bands of primarily mafic minerals (see cover photo). Pink to red coloured garnets are 3-5 mm in diameter, but when altered the garnets are rimmed and almost completely replaced by pale green chlorite and/or brown biotite.

The quartz biotite gneisses can have a mafic content that varies between 5 and 25 per cent of the total rock volume. The rocks are well foliated and locally may have a granular texture, depending on the level of mylonitisation and metamorphic grade. Thin section description of this rock type shows that the rock is primarily comprised of feldspar and quartz with minor biotite, chlorite and garnet. The rock had undergone a peak metamorphic grade of granulite to amphibolite facies, with a retrograde lower amphibolite to greenschist facies overprint. Where large scale faults crosscut this rock type plagioclase feldspar is hydrothermally altered to sericite and carbonate, and sericite overprints biotite and chlorite (Mysyk, W. K., 2009).

Athabasca Basin Rocks

South of Lake Athabasca flat-lying to shallowly southwest dipping sandstone rocks of the Athabasca Group unconformably overlie the basement rocks. Within the deposit area, these sandstones have not been differentiated but are probably the MFc member of the Manitou Falls Formation (Ramaekers et al, 2007), based on the fact that the sandstones encountered in drill holes are medium to coarse grained, with some pebbles, intraclasts are present but are not abundant, and the heavy mineral conglomeratic layers, typical of MFb, are essentially absent. A thin medium to coarse conglomeratic horizon may be present at the unconformity.

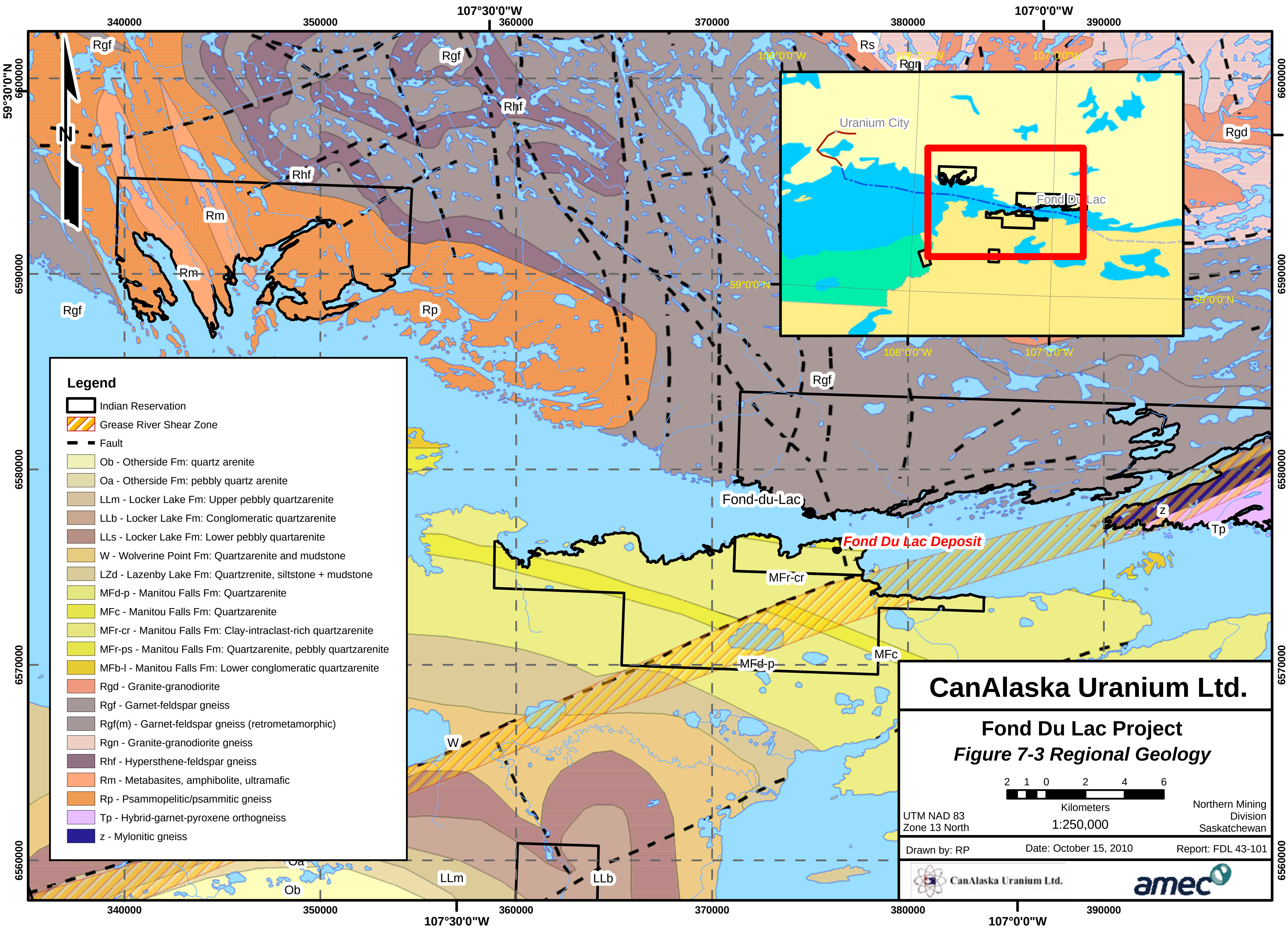


Figure 7-3 Regional Geology

7.3 Local Geology – IR 228 and 233

The area is underlain by rocks of the Manitou Falls Formation of the Athabasca Group. It consists of up to 30 m (98.4 ft) of white to beige, medium-grained sandstone with minor intercalated discontinous interlayers of siltstone and shale. A basal conglomeratic layer of variable thickness occupies the unconformity surface. The paleo-regolith, which varies in thickness from 0 to 10's cm, varies in colour from green to white to red (if hematized). The flat-lying unconformity dips 2°S.

This sequence of fluvial sediments is unconformably underlain by a series of percambrian Tazin Group-type Archean (2864±300 Ma) granulite facies meta-arkoses and Aphebian, lower amphibolite facies meta-pelites. The meta-arkose is separated from the meta-pelite by a non-mineralized zone of faulting and alteration.

Depth to basement ranges from 16 to 320 m. Basement lithologies include meta pelitic rocks, gneiss and schist. A large fault zone (Grease River Shear zone?) cuts across IR #233 and is mapped to offset a quartzarenite (MFc) layer of the Manitou Falls Formation by about 2 km laterally in a direction of about 70 degrees east of north. Exposure is limited in the area and consequently boulder and soil sampling are the prospecting methods of choice in the area.

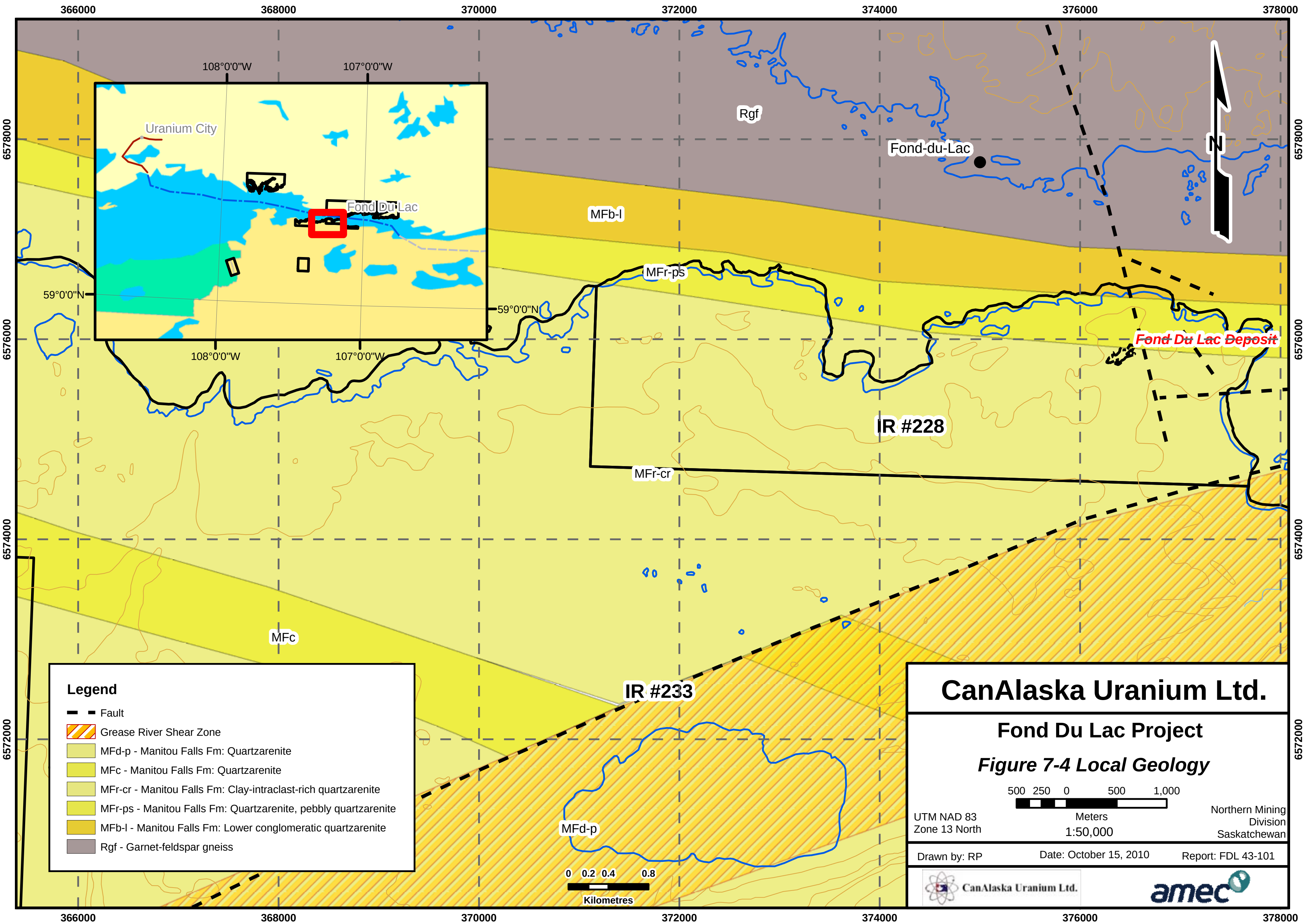

366000
368000
370000
372000
374000
376000
378000
6578000
6576000
6574000
6572000
108°0'0"W
107°0'0"W
59°0'0"N
Uranium City
Fond Du Lac
Rgf
Fond-du-Lac
MFb-l
MFr-ps
Fond Du Lac Deposit
IR #228
MFr-cr
MFc
IR #233
MFd-p
N
0 0.2 0.4 0.8
Kilometres
Legend
Fault
Grease River Shear Zone
MFd-p - Manitou Falls Fm: Quartzarenite
MFc - Manitou Falls Fm: Quartzarenite
MFr-cr - Manitou Falls Fm: Clay-intraclast-rich quartzarenite
MFr-ps - Manitou Falls Fm: Quartzarenite, pebbly quartzarenite
MFb-l - Manitou Falls Fm: Lower conglomeratic quartzarenite
Rgf - Garnet-feldspar gneiss
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Figure 7-4 Local Geology
500 250 0 500 1,000
Meters
1:50,000
UTM NAD 83
Zone 13 North
Northern Mining Division Saskatchewan
Drawn by: RP
Date: October 15, 2010
Report: FDL 43-101
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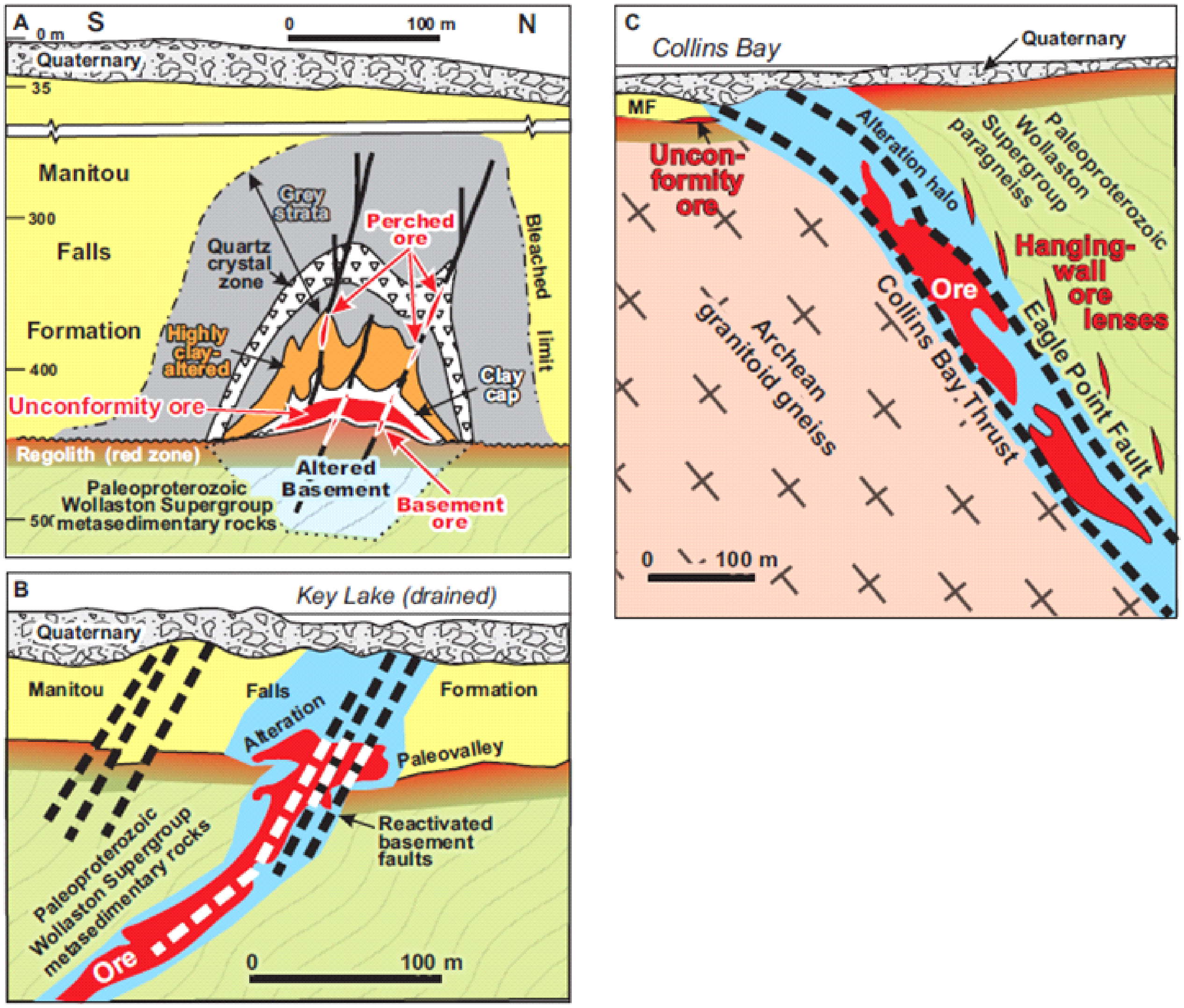
8.0 DEPOSIT TYPES

The following description of unconformity-associated uranium deposits was taken from Jefferson et al., 2003; Unconformity-Associated Uranium Deposits of the Athabasca Basin, Saskatchewan and Alberta:

Unconformity-associated uranium deposits are pods, veins, and semimassive replacements consisting of mainly uraninite dated mostly 1600 to 1350 Ma, and located close to basal unconformities between Proterozoic redbed basins and metamorphosed basement rocks, especially supracrustal gneiss with graphitic metapelite.

The Athabasca Basin consists of 1 to 3 kilometres thick, relatively flatlying, unmetamorphosed but pervasively altered, Proterozoic (ca. 1.8 to <1.55 Ga), mainly fluvial conglomeratic sandstone. The basement gneiss is paleoweathered with variably preserved thicknesses of reddened, clay-altered hematitic regolith grading down through a green chloritic zone into fresh rock.

Monometallic deposits (of which Fond Du Lac is one) consist of generally basement-hosted ore pods, veins, and breccia in reactivated fault zones. Polymetallic deposits consist of commonly subhorizontal ore lenses which straddle the unconformity, replacing sandstone and altered basement rock with variable amounts of U, Ni, Co, and As, and traces of Au, PGEs, Cu, REEs, and Fe.



Examples of three end-point shapes and positions of unconformity-associated uranium deposits located in the southeastern part of the Athabasca Basin.
(A) Cigar Lake is dominantly unconformity ore with minor basement-hosted lenses and perched ore in the overlying Manitou Falls Formation.
(B) Deilmann at Key Lake included both basement-hosted and unconformity ore.
(C) Eagle Point is mostly basement hosted.
Vertical scale = horizontal scale in (B) and (C).

Thomas et al. (2000) and Andrade (2002)

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Figure 8-1 Examples of Unconformity Associated Uranium Deposits

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9.0 MINERALIZATION

The following description of the Fond Du Lac deposit mineralization was also taken from the SMDI database (SMDI no 1572).

The Fond Du Lac Uranium Deposit is located on the south shore of Lake Athabasca approximately 2 km (1.2 miles) southeast of the hamlet of Fond Du Lac. In 1967, Famok located a >10 km (>6.2 miles) long 255°-trending fan/train of uraniferous glacial erratics at this site. The train consists of large flaggy radioactive Athabasca Group sandstone boulders within ground morraine ablation till. The radioactivity of the boulders, diminishes to the southwest. In 1970, Famok discovered the underlying in situ mineralization while drill testing along this train. The Athabasca Group sandstones and conglomerates, in the Fond Du Lac Deposit area, are covered by 10 m (33 ft) of unconsolidated glacial drift.

The N50°E-trending Fond Du Lac Uranium Deposit consists of a 390 m (1280 ft) long by 10 to 40 m (33 to 131 ft) thick pod of clay-enclosed uranium mineralization which is hosted in a steeply-dipping stockwork and fractures within Athabasca Group basal conglomerate and sandstone (Figure 9-1 and Figure 9-2). A few of the fractures extend into the underlying basement meta-arkose. A 390 m long by 350 m (1280 by 1150 ft) thick irregular aureole of low-grade (0.05 to 0.06% U_3O_8) mineralization surrounds the pod of high-grade (up to 5% U_3O_8) uranium mineralization. The low-grade aureole occurs within a kaolinized, coarse grained, porous, and cross-bedded portion of the sandstone. The high grade portion of the pod is enclosed within a silica-carbonate-hematite envelope. The uranium minerals present include coffinite, uraninite (pitchblende), and uraniferous goethite. Petrographic analyses performed by Laramide Petrologic Services of Saskatoon, indicates that the uraniferous goethite, which contains microscopic inclusions of uraninite (Mysyk, 2009), occurs mainly within the low-grade aureole. Age dating suggests the mineralization was initially emplaced 1100 to 1200 Ma and the ore was remobilized at 215 and 80 Ma. Drill-testing of the deposit by Camok in 1970 returned the following intersections (hole locations are indicated on Figure 6-1):

Table 9-1: Fond Du Lac Deposit Assays – Camok 1970 (from SMDI no. 1572)

Hole number	Zone	Interval (m)	% U_3O_8
FDL-22	A	22.6	0.080
	B	8.0	0.044
	C	13.1	0.054
	D	14.1	0.10
FDL-23	A	2.6	0.056
	B	5.9	0.107
	C	0.1	0.290

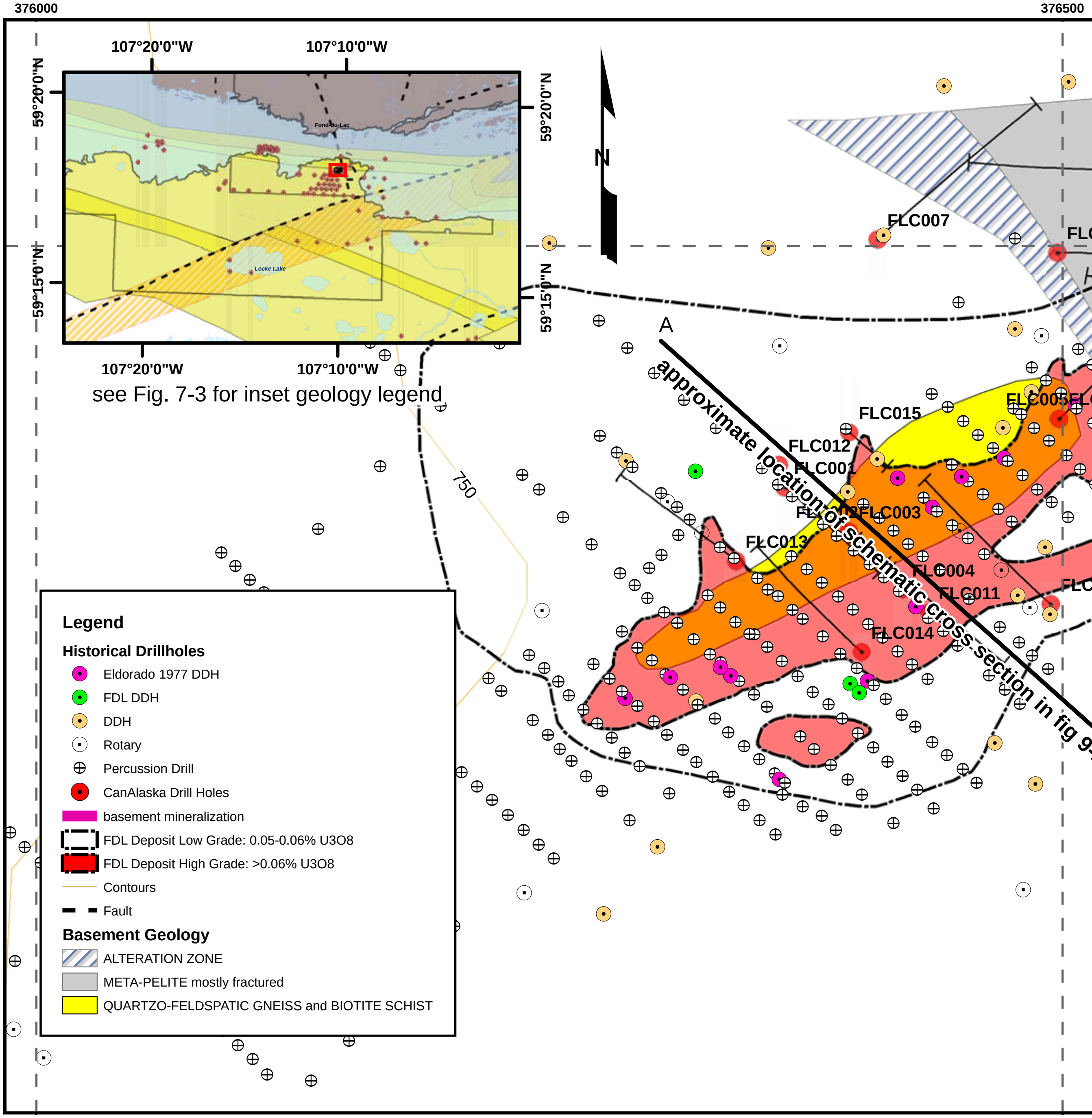

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Figure 9-1 Fond Du Lac Deposit Detail Geology

25 12.5 0 25 50 75

Metres

1:3,000

UTM NAD 83
Zone 13 North

Northern Mining Division
Saskatchewan

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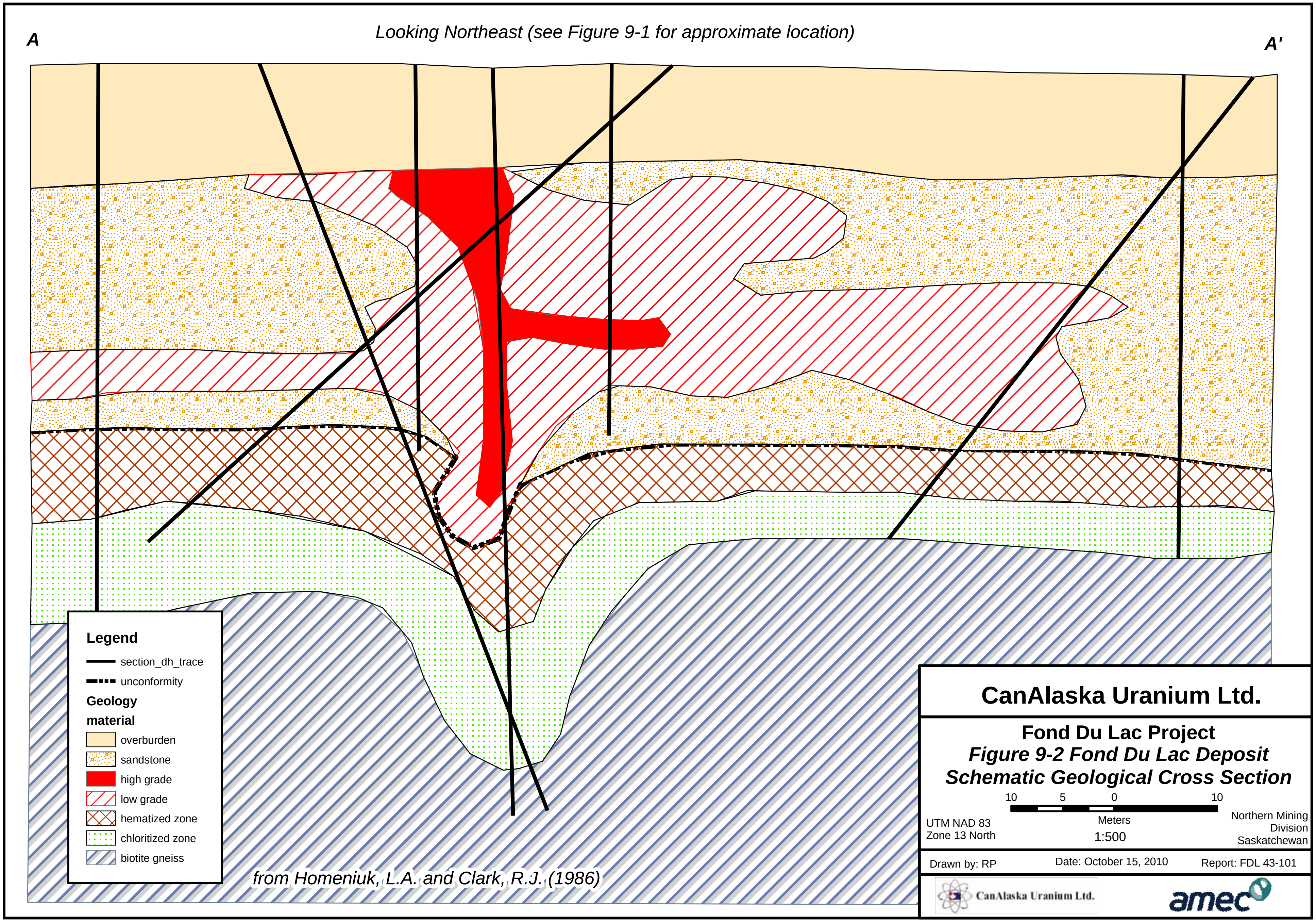
Looking Northeast (see Figure 9-1 for approximate location)
A
A'
Legend
section_dh_trace
unconformity
Geology
material
overburden
sandstone
high grade
low grade
hematized zone
chloritized zone
biotite gneiss
from Homeniuk, L.A. and Clark, R.J. (1986)
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Figure 9-2 Fond Du Lac Deposit
Schematic Geological Cross Section
10 5 0 10
Meters
1:500
UTM NAD 83
Zone 13 North
Northern Mining
Division
Saskatchewan
Drawn by: RP
Date: October 15, 2010
Report: FDL 43-101
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10.0 EXPLORATION

All of the sub-sections in this section are summarized from Canalaska's 2008/09 exploration assessment reports on prospecting, drilling and geophysics.

10.1 Summary

In 2006, CanAlaska conducted exploration using modern geophysical survey methods that could identy subtle basement structures missed by earlier surveys.

In 2008, CanAlaska undertook a multifaceted exploration at Fond Du Lac. A ten-hole diamond drilling program, soil and boulder sampling, and gravity and resistivity-IP surveys were completed (Table 10-1). Diamond drilling was done to confirm the results from historical drilling, and to drill across a fault inferred from geophysics that had not been intersected in historical drilling. Soil and boulder sampling were done to quantify and qualify the nature of the uraniferous boulders that are within and close to the deposit area.

In 2009 a 19 hole diamond drilling program was conducted to identify mineralized basement structures below the sandstone mineralisation. This work is discussed in detail in Section 11.0 Drilling.

Table 10-1: CanAlaska work completed from 2006 to 2009

Type of Work	Contractor	Work Units	Time Period
Airborne VTEM Survey	Geotech Ltd.	1,614 Line- Km	Dec. 5, 2006- Jan. 9, 2007
Airborne Radiometric Survey	Tundra Airborne Surveys Ltd.	2,570.2 Line-Km	Sept. 23-Oct. 3, 2008
Systematic Sandstone boulder sampling	CanAlaska	314 readings	July-Aug., 2008
Soil sampling	CanAlaska	296 Samples	July-Aug., 2008
Diamond Drilling	Cyr Drilling DJ Drilling	10 drill holes 19 drill holes	July 9-31, 2008 July 17-Aug. 8, 2009
Resistivity-IP Surveying	Discovery Geophysics Patterson Geophysics	25.8 Line- Km 10.0 Line-Km	Aug. 8-Sept.9, 2008 Jan. 19- Feb. 2, 2009
Gravity Surveying	MWH Geo-Survey	515 Stations 302 Stations	Sept. 6-18, 2008 Jan. 27-Feb. 6, 2009

In the summer of 2010, CanAlaska conducted a soil and radon survey in the FDL Deposit area. At this time the data has yet to be processed.

10.2 Geophysics

10.2.1 Airborne Aeromagnetic, Radiometric and VLF survey

A fixed-wing airborne Aeromagnetic, Radiometric and VLF survey was carried out on the Fond-du-Lac Properties in September-October 2008. Two thousand and eighty four line-km of data have been acquired.

Figure 10-1 shows the vertical gradient of the measured magnetic field, which emphasizes the anomaly sources.

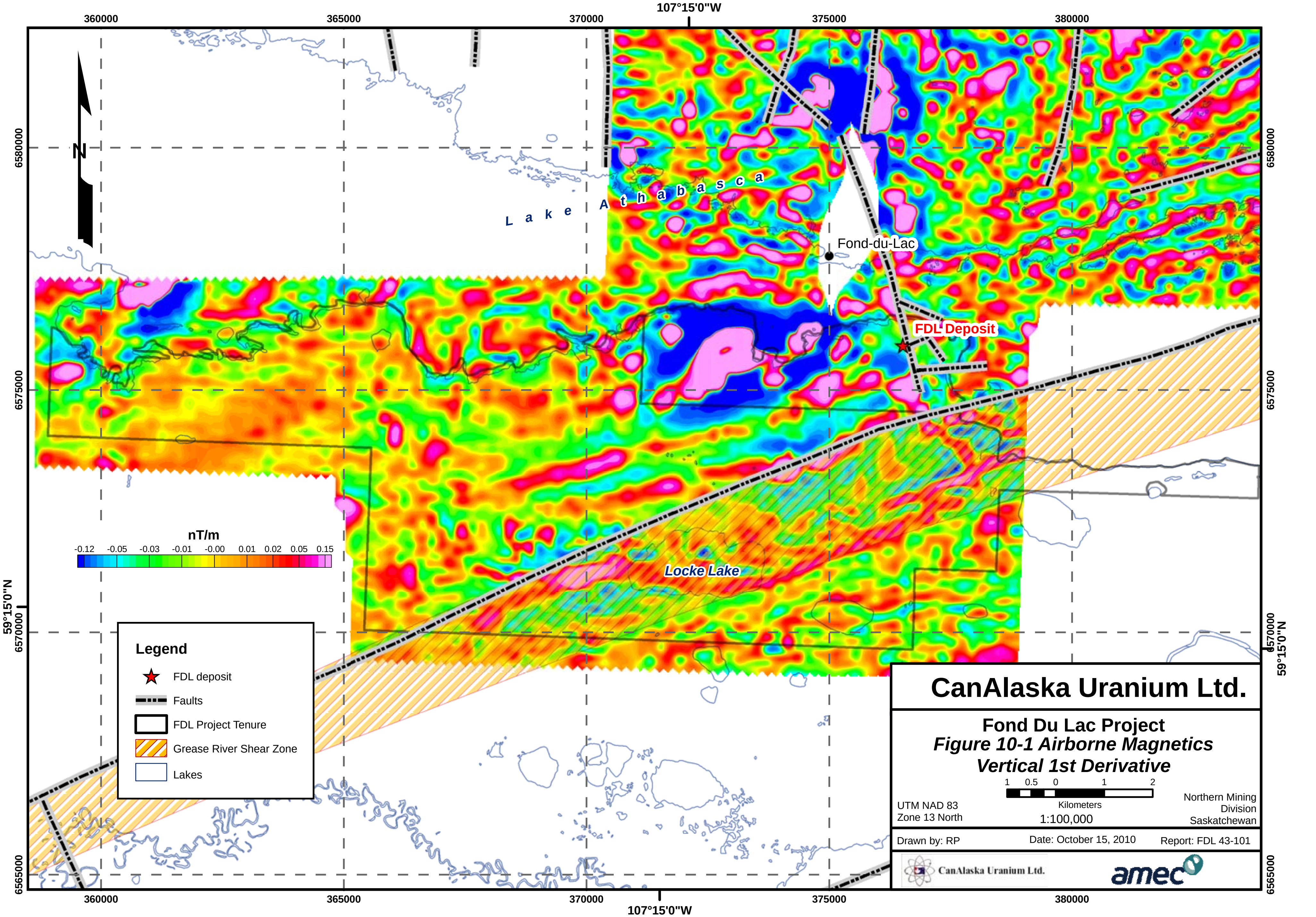
The area north of the claims displays a large number of narrow, strongly contrasted magnetic anomalies caused by the presence of basement rocks here. In the immediate vicinity of I.R. 228 and 233) fewer, wider anomalies are present explained by the presence of the non-magnetic Athabasca sandstone at surface.

The location of the Grease River Shear Zone is also indicated. It is a major structure in the NE Athabasca Basin.

Figure 10-2 shows the combined total field response of the VLF survey. This product is calculated from the responses from two VLF transmitters, Cutler (USA) and Rugby (UK). Zones of strong contrasts (e.g. pink-blue) indicate the presence of conductors.

Several elongated features can be recognized on the map, here again related to stratigraphy and to faults. Where faults occur, fractures in the rock act as conduits for the movement of mineralizing fluids that help form uranium deposits.

Figure 10-3 shows the equivalent Uranium content calculated from radiometric counts and calibration factors measured by flying the system over the Geological Survey of Canada calibration pad in Ottawa. The low values (dark blue) correspond to the area of the lake because gamma-rays emitted from the subsurface are absorbed by the lake water. However, a series of patches of high U values are observed trending toward the lake in I.R. 233 and 228: they correspond to surface boulder trains. In I.R. 229, some stratigraphic units are also characterized by a high uranium content. This observation was confirmed later by ground samples.


107°15'0"W
360000
365000
370000
375000
380000
6580000
6575000
6570000
6565000
59°15'0"N
N
Lake Athabasca
Fond-du-Lac
FDL Deposit
Locke Lake
nT/m
-0.12 -0.05 -0.03 -0.01 -0.00 0.01 0.02 0.05 0.15
Legend
FDL deposit
Faults
FDL Project Tenure
Grease River Shear Zone
Lakes
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 10-1 Airborne Magnetics
Vertical 1st Derivative
1 0.5 0 1 2
Kilometers
1:100,000
UTM NAD 83
Zone 13 North
Northern Mining Division
Saskatchewan
Drawn by: RP
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Report: FDL 43-101
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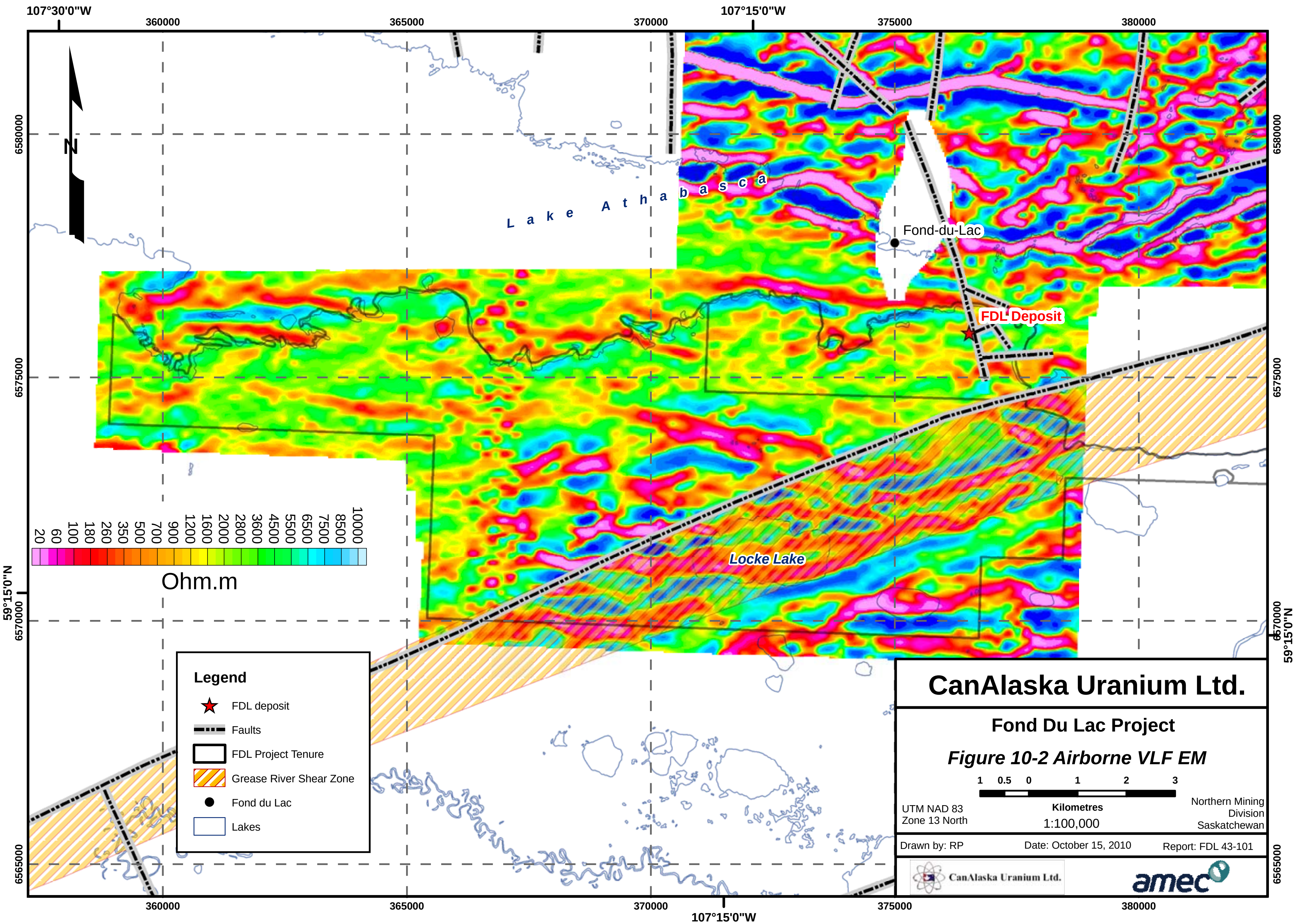

107°30'0"W
107°15'0"W
360000
365000
370000
375000
380000
6580000
6575000
6570000
6565000
59°15'0"N
N
Lake Athabasca
Fond-du-Lac
FDL Deposit
Locke Lake
20 60 100 180 260 350 500 700 900 1200 1600 2000 2800 3600 4500 5500 6500 7500 8500 10000
Ohm.m
Legend
FDL deposit
Faults
FDL Project Tenure
Grease River Shear Zone
Fond du Lac
Lakes
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 10-2 Airborne VLF EM
1 0.5 0 1 2 3
Kilometres
UTM NAD 83
Zone 13 North
1:100,000
Northern Mining
Division
Saskatchewan
Drawn by: RP
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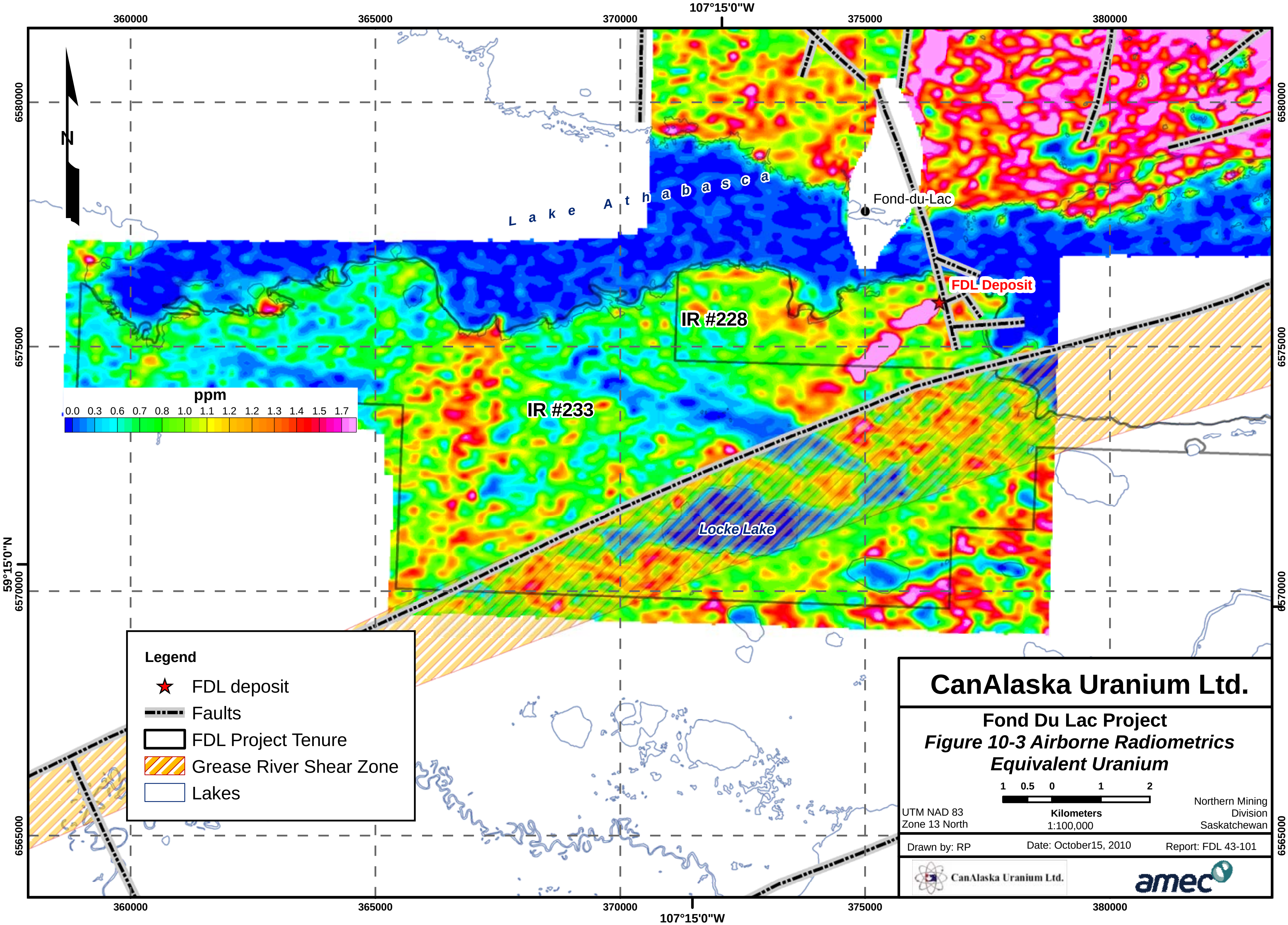

107°15'0"W
360000
365000
370000
375000
380000
6580000
6575000
6570000
6565000
59°15'0"N
N
Lake Athabasca
Fond-du-Lac
FDL Deposit
IR #228
IR #233
Locke Lake
ppm
0.0 0.3 0.6 0.7 0.8 1.0 1.1 1.2 1.2 1.3 1.4 1.5 1.7
Legend
FDL deposit
Faults
FDL Project Tenure
Grease River Shear Zone
Lakes
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 10-3 Airborne Radiometrics
Equivalent Uranium
1 0.5 0 1 2
Kilometers
1:100,000
UTM NAD 83
Zone 13 North
Northern Mining
Division
Saskatchewan
Drawn by: RP
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10.2.2 Gravity Survey

Ground gravity survey data was acquired using a highly-accurate gravimeter with 0.001 mGal resolution. All gravity readings were taken within loops to and from a temporary gravity base established at the camp adjacent to the survey area.

Gravity and GPS data were processed by CanAlaska using in-house QA/QC protocols.

Figure 10-4 shows the residual Bouguer anomaly map corrected with a density of 2.30 g/cm^3. An intermediate- to long-wavelength gravity high (~1300 m wide, ~0.25 mGal amplitude) dominates both south and north halves of the residual Bouguer map. Because of the shallow basement, long-wavelength anomalies can be attributed to variations in basement density rather than a structural offset of the unconformity.

Gravity highs often show sharp edges, indicating that they might have been cut by faults. The projected location of the “Airport” fault is indicated (it can be seen near the Fond Du Lac airport) as well as interpreted cross-faults that appear to branch onto (or from) the Airport fault.

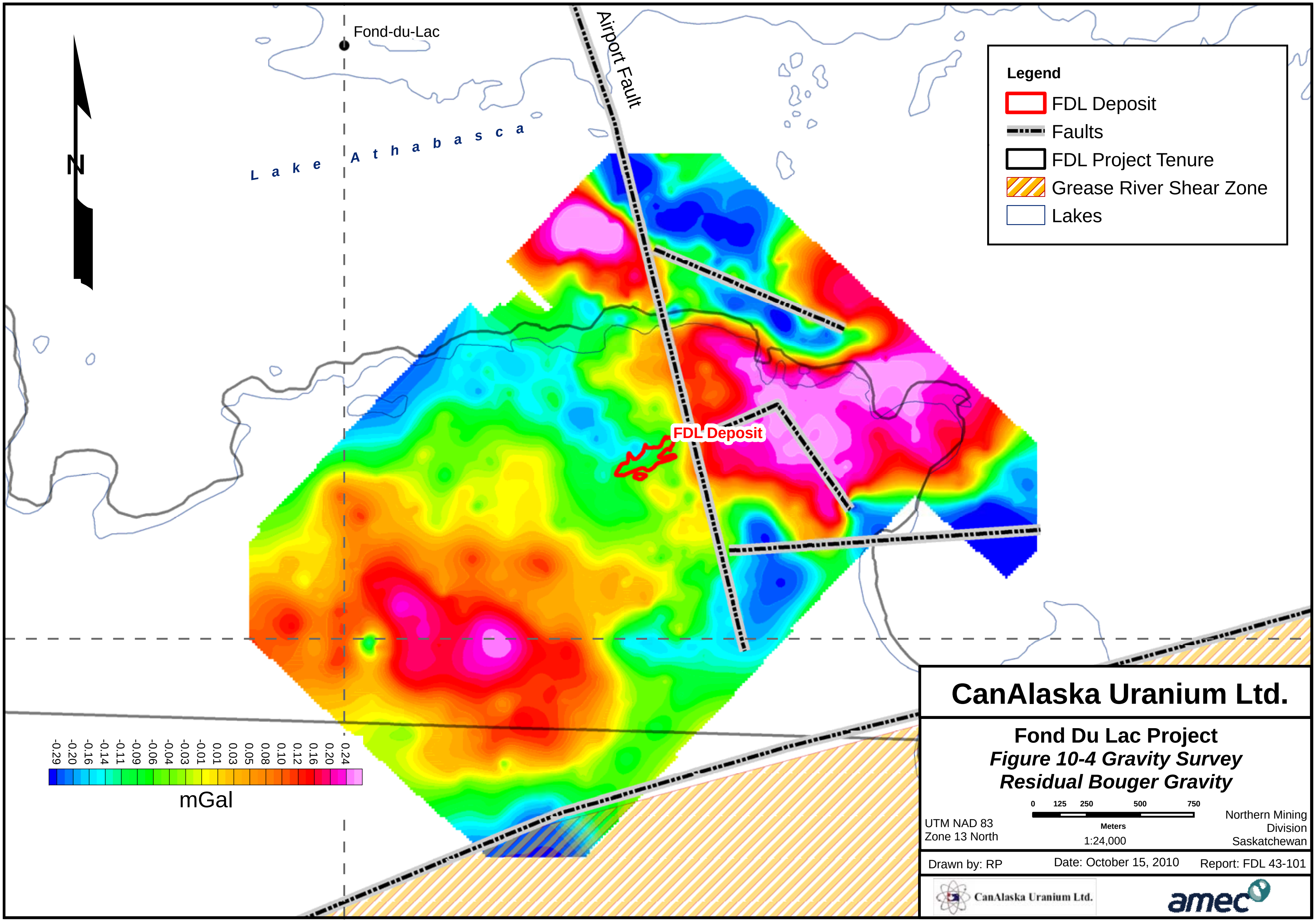

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Figure 10-4 Gravity Survey

Residual Bouger Gravity

UTM NAD 83
Zone 13 North

0 125 250 500 750
Meters
1:24,000

Northern Mining Division
Saskatchewan

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10.2.3 Resistivity-IP survey

From 20 August to 9 September 2008 and from 19 January to 10 February 2009, two Resistivity-IP surveys were carried out by Discovery Geophysics Ltd. of Hague (SK) and Patterson Geophysics Inc. of La Ronge (SK) respectively.

Data was acquired using a Pole-Dipole configuration array with an electrode separation step (*a*) of 25 m with N=1 to 10.

The Resistivity data set was processed and modeled by CanAlaska using in-house QA/QC protocols.

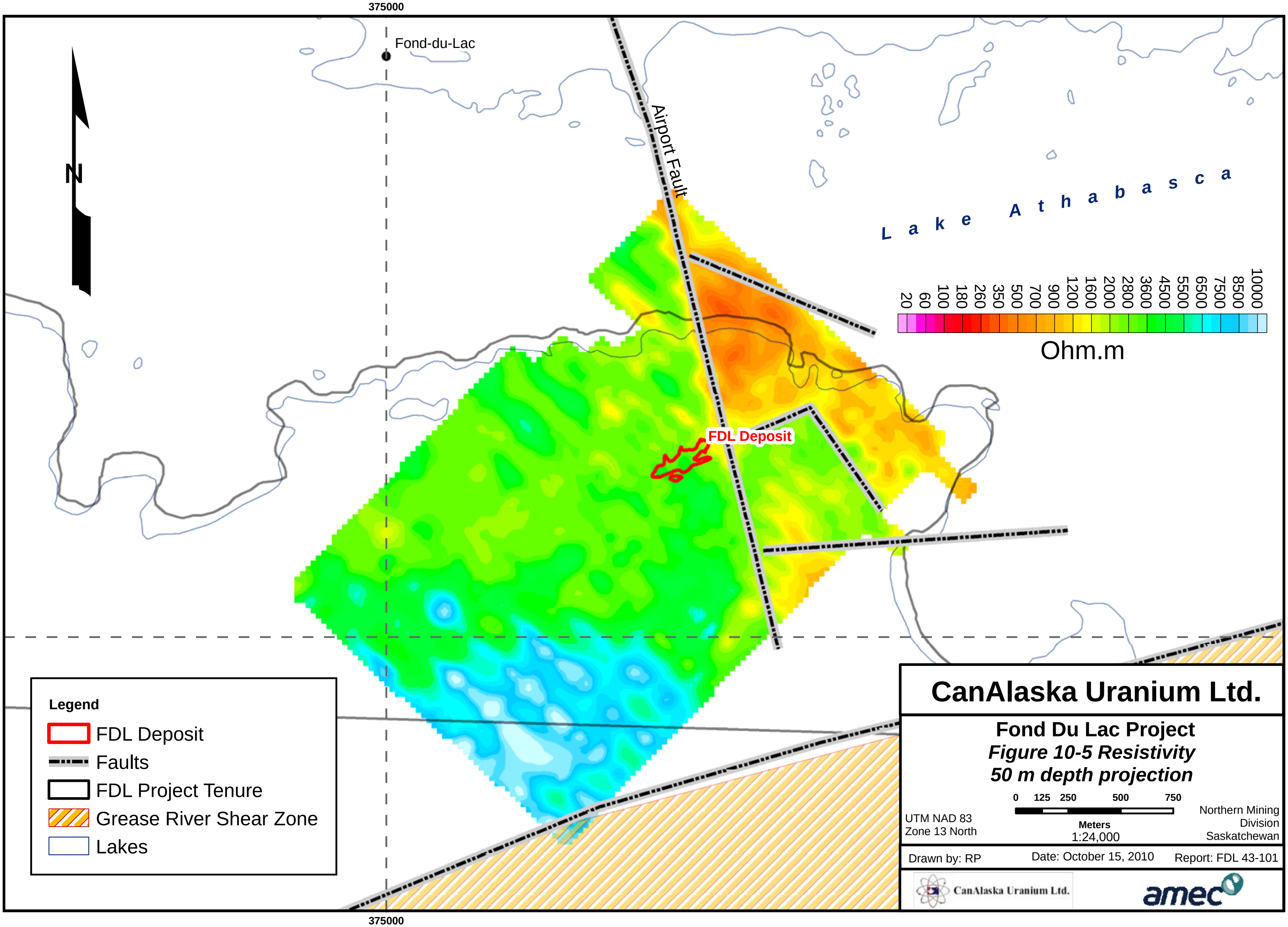
The first survey data acquired in 2008 had good electrode contacts with the ground and produced very high-quality data. Data quality was also good for the land portion of the second survey in 2009. For measurements on the lake, electrodes were laid on the lake bottom most of the time in order to get an electrode contact directly with ground. Because of good ground contact, the IP data on the lake are of good to excellent quality for almost all stations.

Figure 10-5 shows the resistivity slice at 50 m depth extracted from the 3D inversion of the resistivity data. Concidental with the gravity data, there is a SSE-trending contact between a conductive (yellow-red) and a more resistive (green) block. This sharp feature coincides with the so-called “Airport” fault.

Farther to the south, it can be observed that the contact is cut at right angle, offset by about 500 m, then resumes toward the SSE. This pattern indicates several episodes of faulting in this area, providing an excellent exploration target.

The chargeability slice at 50 m depth extracted from a 3D joint inversion of resistivity-IP data is shown in Figure 10-6. Here again, the trace of the Airport fault is clearly visible, separating a high- and a low-chargeability domains.

The known deposit area is located within a chargeability high surrounded by chargeability lows. This suggests the presence of a volume of chargeable material. Neighbouring boreholes indicate that disseminated sulphides are present in the area (Muirhead et al., 2010) and they usually produce strong chargeability anomalies. These sulphides are a product of large hydrothermal fluid circulation events, a mechanism that also favours concentration of uranium in the subsurface.



375000
Fond-du-Lac
Airport Fault
L a k e A t h a b a s c a
20 60 100 180 260 350 500 700 900 1200 1600 2000 2800 3600 4500 5500 6500 7500 8500 10000
Ohm.m
FDL Deposit
N
6575000
Legend
FDL Deposit
Faults
FDL Project Tenure
Grease River Shear Zone
Lakes
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Figure 10-5 Resistivity
50 m depth projection
0 125 250 500 750
Meters
1:24,000
UTM NAD 83
Zone 13 North
Northern Mining Division Saskatchewan
Drawn by: RP
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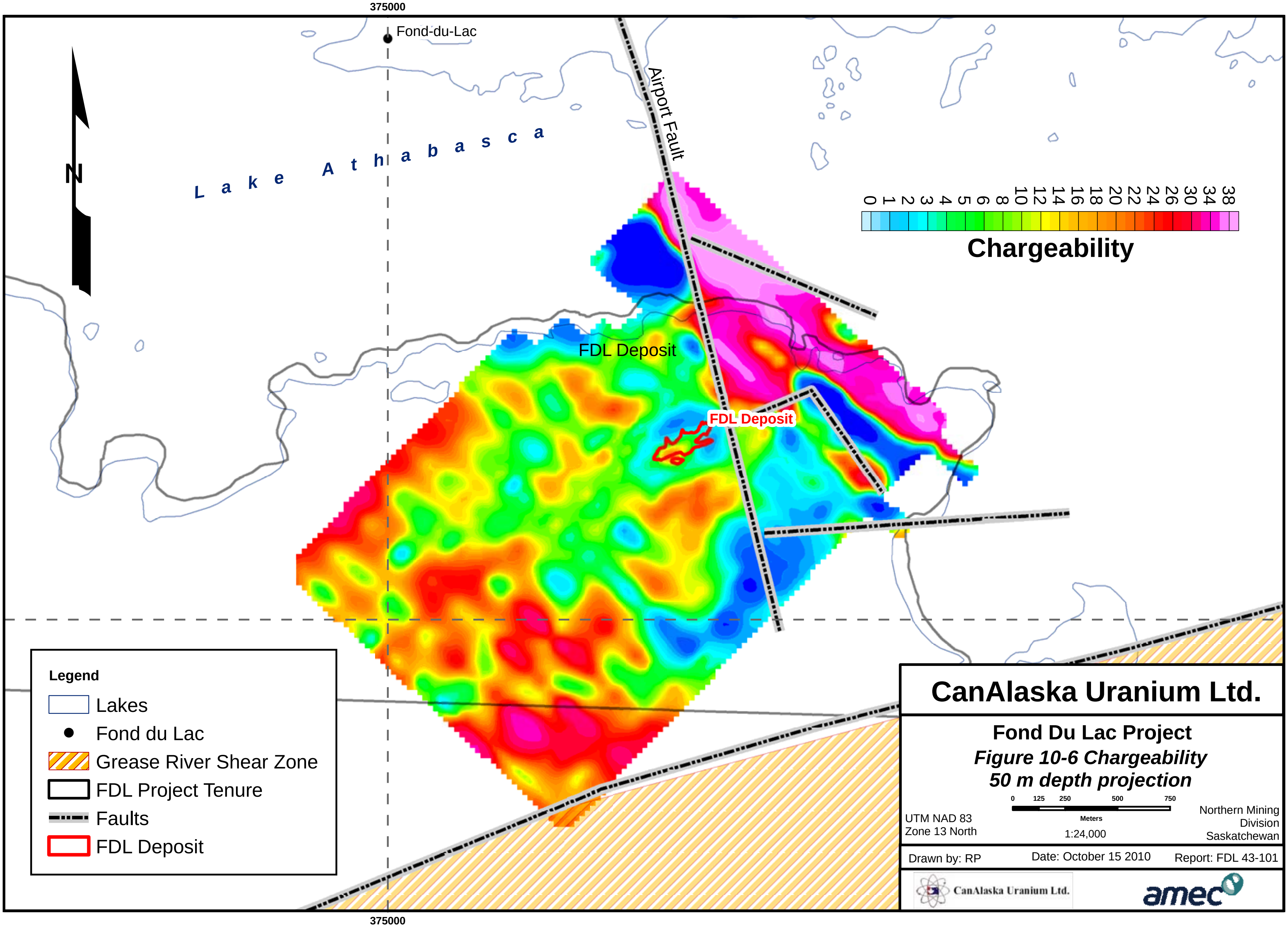
375000
Fond-du-Lac
N
Lake Athabasca
Airport Fault
FDL Deposit
FDL Deposit
0 1 2 3 4 5 6 8 10 12 14 16 18 20 22 24 26 30 34 38
Chargeability
6575000
375000
Legend
Lakes
Fond du Lac
Grease River Shear Zone
FDL Project Tenure
Faults
FDL Deposit
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 10-6 Chargeability
50 m depth projection
0 125 250 500 750
Meters
UTM NAD 83
Zone 13 North
1:24,000
Northern Mining Division
Saskatchewan
Drawn by: RP
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Report: FDL 43-101
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10.2.4 Discussion

Based on resistivity-IP and gravity results, several potential drill targets were identified. Breaks along the Airport fault, and others, as evidenced by geophysical anomalies, are promising targets as they provide favourable structures for uranium mineralization. Additionally, evidence for the occurrence of past hydrothermal events is supported by observable patterns of chargeability anomalies.

10.3 2008 Boulder and Soil Sampling Program

10.3.1 Introduction

In 2008 CanAlaska conducted a boulder and soil sampling program. The program involved locating the historically documented boulder trains and sampling of the boulders for geochemical analyses. Previously, Eldorado Nuclear had defined 11 areas of boulder concentration across the property that can be constrained by the generally north-east to south-west trending main ice direction into four, possibly five, boulder trains (Figure 10-7).

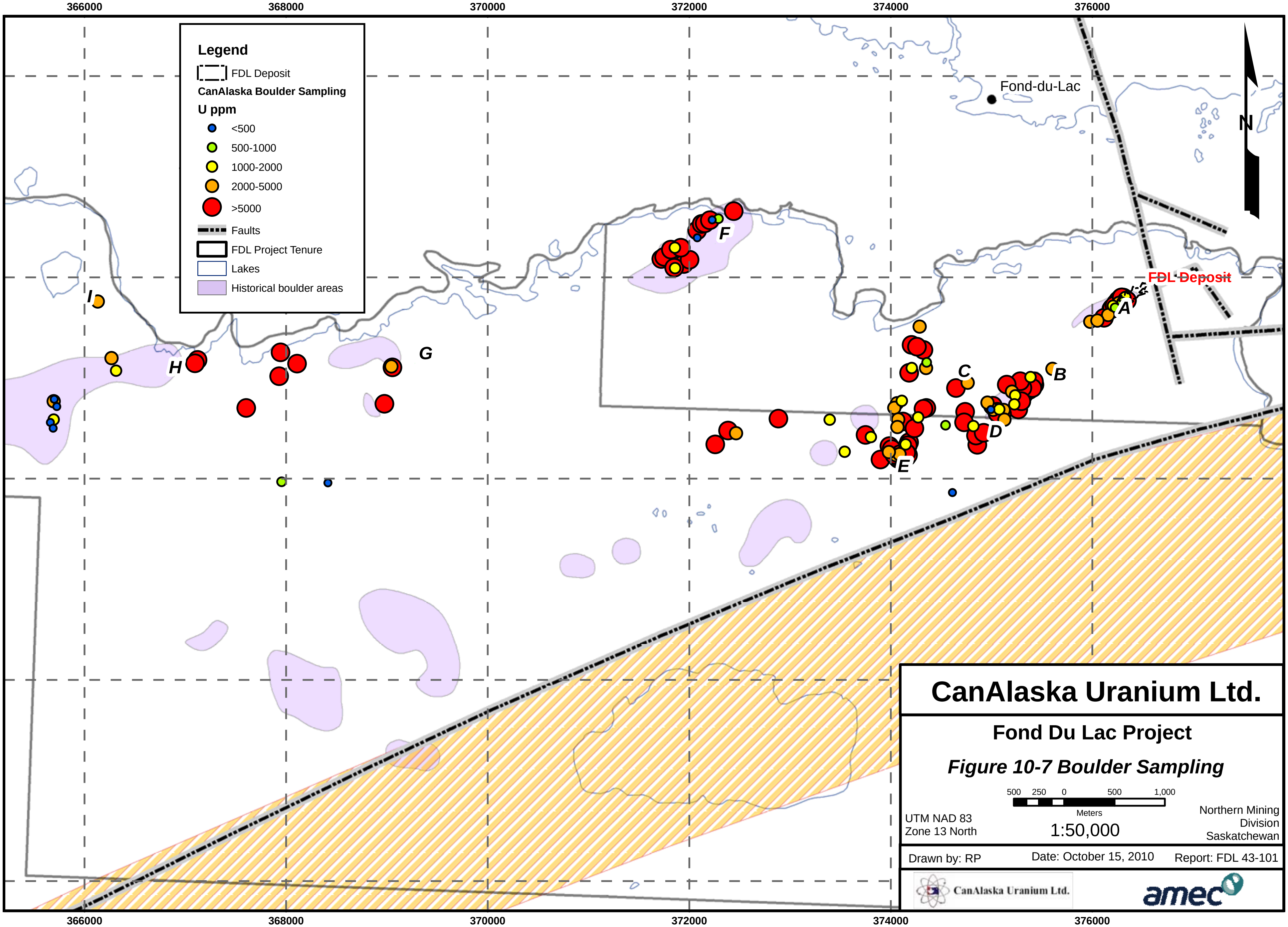
These trends do not appear to be continuous and the gaps can be explained in most cases by the presence of bog or swamp where no boulders would be visible. Boulder area F contained the highest uranium values. Soil sampling was restricted to the deposit area and outlined a zone of clay and uranium enrichment in soil to the southeast of the deposit, in a down ice direction. A higher clay content would be expected to be associated with elevated uranium values in soil eroded from our target model of uranium enrichment enclosed in a clay altered halo.

Four main phases of ice-flow directions have been documented in the Fond Du Lac area (Campbell et al, 2006). The oldest ice flow direction (Phase I) was to the west, followed by a change in ice flow direction to the southeast (Phase II), then a change in ice flow direction to the southwest (Phase III), and the last ice flow direction changed back to a westerly direction (Phase IV). After glaciation, Glacial Lake Athabasca covered the area with lake sediments to a height of 365 m above sea level. These surficial deposits were reworked by the waters of Glacial Lake Athabasca into boulder lags, cobble beaches, terraces and wave-cut notches that are visible today. Glacio-lacustrine clays underlie most present day swamps and lakes.

10.3.2 Boulder Sampling

A total of 314 boulders were examined by CanAlaska crews in the field. The samples were collected from 174 radioactive boulders and sent for geochemical analysis. Samples were taken in the field and brought back to camp to be described. This procedure ensured that all sample descriptions were standardized. All samples were measured for radioactivity using hand-held Ludlum Model 19-10 and/or SPP2 hand held scintillometers. Samples sent for geochemical analysis were placed in a bag with an issued sample tag. The sealed bags were then packaged into a plastic pail for shipment to Acme Analytical Labs. Geochemical results are presented in Figure 10-7.

Sample descriptions were used for interpretation of the trend and shape of the mineralized boulder trains.



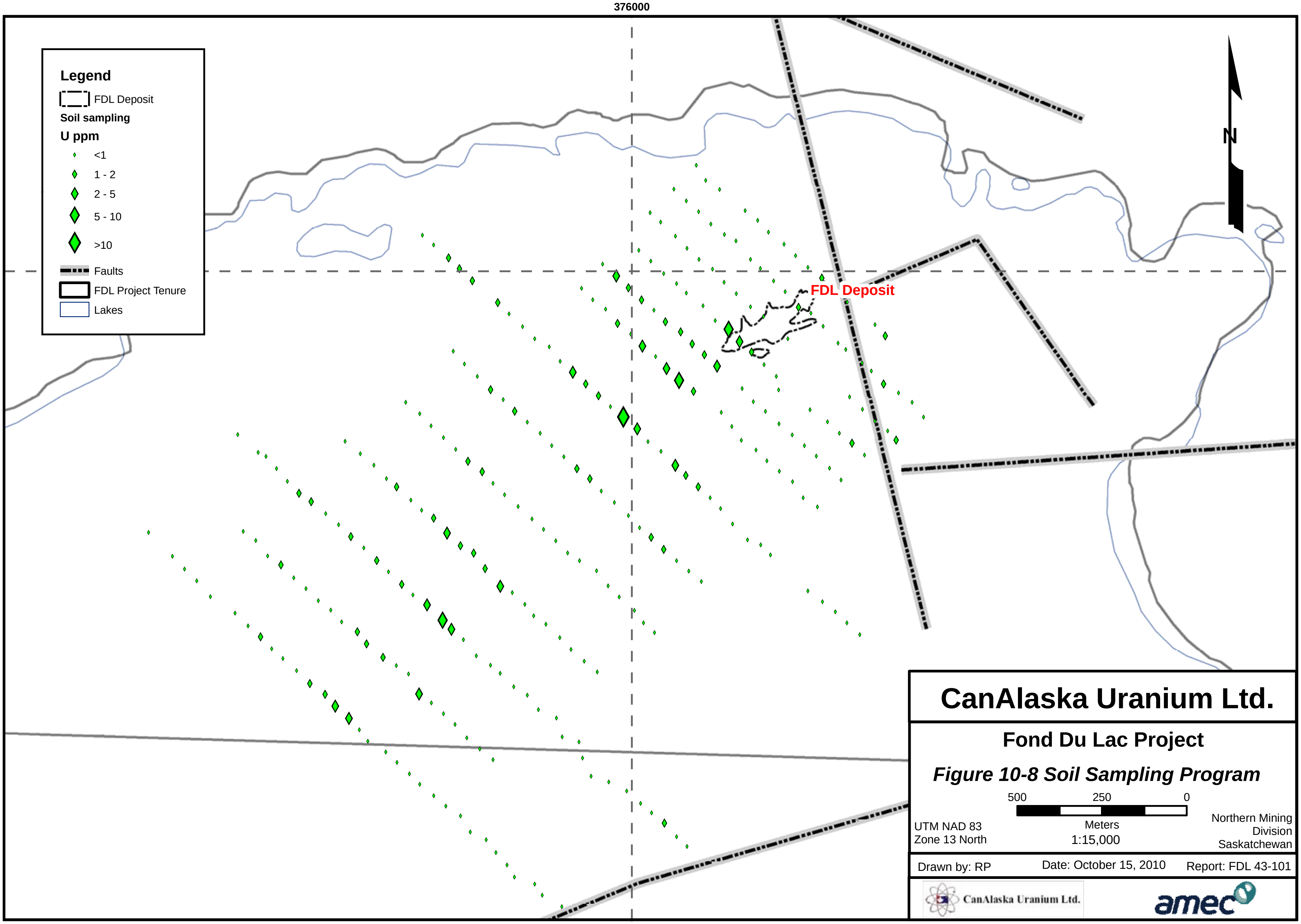
Legend
FDL Deposit
CanAlaska Boulder Sampling
U ppm
<500
500-1000
1000-2000
2000-5000
>5000
Faults
FDL Project Tenure
Lakes
Historical boulder areas
Fond-du-Lac
FDL Deposit
N
A
B
C
D
E
F
G
H
I
366000
368000
370000
372000
374000
376000
6578000
6576000
6574000
6572000
6570000
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 10-7 Boulder Sampling
500 250 0 500 1,000
Meters
1:50,000
UTM NAD 83
Zone 13 North
Northern Mining Division Saskatchewan
Drawn by: RP
Date: October 15, 2010
Report: FDL 43-101
CanAlaska Uranium Ltd.
amec

10.3.3 Soil Sampling

A 1.5 km x 1.9 km soil sampling grid was completed over boulder areas **A**, **B** and **C**. A total of 318 stations were located on the grid and 296 of these were sampled, with four samples representing “B” horizon and 292 samples representing the “C” horizon.

All soil samples were collected using a soil auger, with the intent of collecting a “C” horizon sample. In some rockier areas shovels were used to get down to the “C horizon. If a “C” horizon sample could not be collected then a “B” horizon sample was taken. Samples were placed into a gusseted Kraft paper bag, and hung to dry. Once dry, the samples were analyzed using a SWIR spectrometer to determine the type and content of clay. No QA/QC data from these analyses were obtained. It is thought that the presence of illite and dravite are indicative of areas of mineralization or potential mineralization.

After the SWIR analysis was completed, the samples were packaged and placed into plastic pails with lids, and shipped to Acme Analytical Labs for geochemical analysis. Results are presented on Figure 10-8.


376000
6576000
Legend
FDL Deposit
Soil sampling
U ppm
<1
1 - 2
2 - 5
5 - 10
>10
Faults
FDL Project Tenure
Lakes
FDL Deposit
N
CanAlaska Uranium Ltd.
Fond Du Lac Project
Figure 10-8 Soil Sampling Program
500 250 0
Meters
1:15,000
UTM NAD 83
Zone 13 North
Northern Mining
Division
Saskatchewan
Drawn by: RP
Date: October 15, 2010
Report: FDL 43-101
CanAlaska Uranium Ltd.
amec

A minor amount of the soil samples had anomalous (>5 ppm) uranium. The highest results were located southeast of the deposit, which lies down-ice of the major ice movement over the deposit. The highest assayed value of 27.2 ppm uranium (0.003% U_3O_8) came from sample ES150 which was located to the southeast corner of the deposit.

Bivariate analyses show that uranium correlates moderately with arsenic and weakly with molybdenum. Spectra analyses results indicate that illite is the dominate clay in the soil samples collected, although kaolinite was also present. Dravite occurs throughout the grid and is usually associated with illite or kaolinite. Dickite is present in small, sporadically located areas.

10.3.4 Discussion

Boulder Sampling

There are three, well documented ice-directions in the Fond Du Lac area, with the main ice direction moving from north-east to south-west.

Based on the chemistry and the results of the bivariate analysis, boulder areas A, B, C, D and E are interpreted to be part of the same boulder train and likely have the same source of mineralized boulders. The chemistry of boulder area F is unique in terms of its higher uranium concentrations and is interpreted to be from a source different from all of the other boulder areas. Boulders from areas G and H are high in arsenic, unlike the other boulder areas. The remaining geochemistry of area H boulders is different from that of G and areas G and H are interpreted to be from different sources.

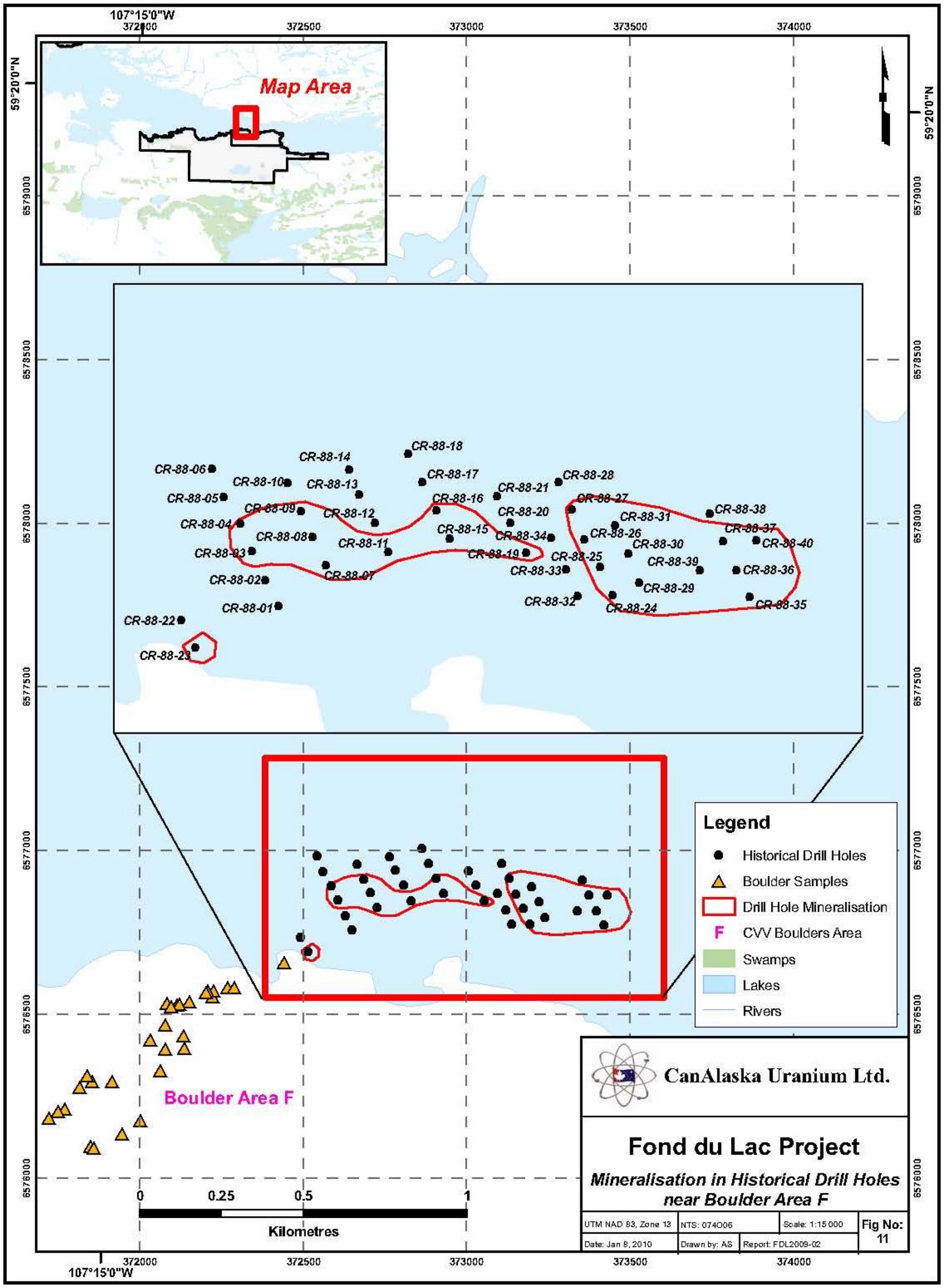
The boulder sampling programme identified four populations of boulders that are geochemically and spatially unique. It is interpreted that these four populations have four different sources of mineralized boulders. The source of one of the four populations has been identified as the Fond Du Lac deposit.

There are historical drill holes in an up-ice direction from area F. They were drilled from the lake and as such are not on the FDL property but on claims held wholly by CanAlaska. These drill holes intersected radioactive peaks of 15-730 cps (Figure 10-9). Information on the depth and nature of mineralization is not available. Future drill holes should target an area to the south of the historical drill holes, where mineralization is open-ended. Additional historical drillholes that are north of boulder area H did not intersect any uranium mineralization and appear to be drilled too far to the west to be considered up-ice. There are no drill holes up ice of boulder area G. Boulder areas G and H should have up-ice sources tested with drilling.

Soil Sampling

The soil samples collected over the Fond Du Lac deposit came back with anomalous results of up to 27 ppm uranium. Soil sampling proved to be effective in delineating uranium anomalies in the soils, that may point to a bedrock source nearby.

Figure 10-9: Mineralization in historical drillholes near boulder area F



11.0 DRILLING

Information for this section is summarized from CanAlaska's 2009 assessment report on drilling.

11.1 Introduction

Because information regarding actual chemical assays from the historical drilling is currently unavailable, the primary goal of the 2008 drill program was to replicate mineralized sandstone intercepts from historical drill holes, indicated by radioactivity information from drilling. The six holes designed to do this (FLC-001 to 006) met that goal. The primary goal of the 2009 drill program was to locate mineralized structures in the basement immediately underlying the sandstone intercepts. Drill holes, FLC017, FLC020 and FLC022 intersected mineralization in basement structures that are interpreted to be related to the sandstone hosted mineralization. Table 11-1 below lists all intersections that returned assays >0.05% U_3O_8. Because of the irregular shape of the mineralization, the true thickness is as yet unknown.

Table 11-1: CanAlaska drilling highlights (true thickness unknown)

Hole_ID	From (m)	To (m)	Interval (m)	Rock Type	U_3O_8%
FLC002	17.2	17.8	0.6	Sandstone	0.13
	18.4	18.9	0.5	Sandstone	0.212
	18.9	19.3	0.4	Sandstone	0.397
	19.3	19.7	0.4	Sandstone	0.251
	19.7	20	0.3	Sandstone	0.171
	20	20.4	0.4	Sandstone	0.5
	20.4	21	0.6	Sandstone	0.061
	21.4	21.9	0.5	Sandstone	0.094
	23.45	23.5	0.05	Sandstone	1.074
	23.8	24.2	0.4	Sandstone	0.059
	24.6	24.85	0.25	Sandstone	0.27
	28.5	29.1	0.6	Sandstone	0.212
	29.1	29.6	0.5	Sandstone	0.102
	29.6	30	0.4	Sandstone	0.132
	30.55	30.8	0.25	Sandstone	0.222
	31	31.6	0.6	Sandstone	0.13
	35.8	36.3	0.5	Sandstone	0.053
	38.3	38.8	0.5	Sandstone	0.077
	38.8	39.1	0.3	Sandstone	0.093
	39.1	39.7	0.6	Sandstone	0.247

Hole_ID	From (m)	To (m)	Interval (m)	Rock Type	U_3O_8%
	39.7	40.1	0.4	Sandstone	0.723
	40.1	40.47	0.37	Sandstone	0.318
	40.47	41	0.53	Sandstone	0.107
	41	41.55	0.55	Sandstone	0.152
	41.55	42.1	0.55	Sandstone	0.204
	42.6	43.04	0.44	Sandstone	0.079
	45.2	45.6	0.4	Sandstone	0.059
FLC003	17.6	18.1	0.5	Sandstone	0.082
	18.1	18.6	0.5	Sandstone	0.162
	18.54	18.94	0.4	Sandstone	0.199
	19.3	19.88	0.58	Sandstone	0.318
	19.88	20.33	0.45	Sandstone	0.718
	20.33	20.5	0.17	Sandstone	0.223
	20.5	21.1	0.6	Sandstone	0.282
	22	22.5	0.5	Sandstone	0.279
	22.5	23.05	0.55	Sandstone	0.457
	23.77	24.3	0.53	Sandstone	0.132
	26.5	27	0.5	Sandstone	0.077
	32.1	32.6	0.5	Sandstone	0.096
	33.61	34.13	0.52	Sandstone	0.272
	35.1	35.7	0.6	Sandstone	0.905
	35.7	36.3	0.6	Sandstone	0.064
	37.87	38.2	0.33	Sandstone	0.062
	38.2	38.56	0.36	Sandstone	0.114
	38.56	39	0.44	Sandstone	0.074
	39	39.42	0.42	Sandstone	0.529
	39.42	39.72	0.3	Sandstone	0.059
	40.24	40.55	0.31	Sandstone	0.104
	40.55	40.94	0.39	Sandstone	0.302
	41.37	41.9	0.53	Sandstone	0.074
	41.9	42.5	0.6	Sandstone	0.052
	42.5	43.17	0.67	Sandstone	0.098
	43.17	43.55	0.38	Sandstone	0.229
	43.55	43.94	0.39	Sandstone	1.787
	43.94	44.24	0.3	Sandstone	0.108
	44.24	44.61	0.37	Sandstone	0.286
FLC004	16	16.5	0.5	Sandstone	0.214
	16.5	17	0.5	Sandstone	0.073
	17	17.5	0.5	Sandstone	0.064
	37.07	37.49	0.42	Sandstone	0.101

Hole_ID	From (m)	To (m)	Interval (m)	Rock Type	U_3O_8%
	37.49	37.87	0.38	Sandstone	0.097
	37.87	38.3	0.43	Sandstone	0.101
	38.3	38.7	0.4	Sandstone	0.105
	38.7	39.3	0.6	Sandstone	0.069
	39.3	39.9	0.6	Sandstone	0.075
	41	41.38	0.38	Sandstone	0.139
	41.38	41.8	0.42	Sandstone	0.052
	41.8	42.3	0.5	Sandstone	0.081
FLC005	16	16.45	0.45	Sandstone	0.063
	18	18.4	0.4	Sandstone	0.095
	18.4	18.8	0.4	Sandstone	0.129
	19.1	19.3	0.2	Sandstone	0.08
	19.3	19.7	0.4	Sandstone	0.061
	19.7	20.1	0.4	Sandstone	0.122
	20.1	20.7	0.6	Sandstone	0.172
	20.7	21.2	0.5	Sandstone	0.072
	21.2	21.5	0.3	Sandstone	0.051
	21.5	21.9	0.4	Sandstone	0.06
	21.9	22.2	0.3	Sandstone	0.093
	22.2	22.5	0.3	Sandstone	0.162
	32.4	32.9	0.5	Sandstone	0.079
FLC006	16	16.6	0.6	Sandstone	0.142
	16.6	17.2	0.6	Sandstone	0.284
	17.2	17.5	0.3	Sandstone	0.22
	17.5	18	0.5	Sandstone	0.249
	19.2	19.5	0.3	Sandstone	0.144
	19.9	20.4	0.5	Sandstone	0.442
	20.4	20.7	0.3	Sandstone	0.166
	20.7	21.1	0.4	Sandstone	0.581
	21.1	21.5	0.4	Sandstone	0.804
	21.5	21.9	0.4	Sandstone	0.174
	21.9	22.2	0.3	Sandstone	0.101
	22.2	22.7	0.5	Sandstone	0.201
	25.2	25.4	0.2	Sandstone	0.089
	25.4	25.8	0.4	Sandstone	0.212
	25.8	26	0.2	Sandstone	0.098
	26.5	26.9	0.4	Sandstone	0.059
	26.9	27.2	0.3	Sandstone	0.065
	27.2	27.5	0.3	Sandstone	0.152
	27.5	27.8	0.3	Sandstone	0.17

Hole_ID	From (m)	To (m)	Interval (m)	Rock Type	U_3O_8%
	27.8	28.3	0.5	Sandstone	0.061
	28.3	28.8	0.5	Sandstone	0.069
	29.3	29.8	0.5	Sandstone	0.065
FLC011	18.45	18.95	0.5	sandstone	0.051
	18.95	19.45	0.5	sandstone	0.067
	19.45	20.15	0.7	sandstone	0.278
	21.15	21.65	0.5	sandstone	0.068
	22.15	22.65	0.5	sandstone	0.053
	23.15	23.65	0.5	sandstone	0.288
	23.65	24.15	0.5	sandstone	0.089
	25.15	25.65	0.5	sandstone	0.12
	25.65	26.15	0.5	sandstone	0.103
	26.15	26.65	0.5	sandstone	0.097
	27.65	28.15	0.5	sandstone	0.057
	34.15	34.65	0.5	sandstone	0.115
FLC012	36.55	37	0.45	sandstone	0.089
FLC013	24.25	24.65	0.4	sandstone	0.059
	33.1	33.45	0.35	sandstone	0.076
	35.7	36	0.3	sandstone	0.106
	36	36.4	0.4	sandstone	0.166
	36.4	36.9	0.5	sandstone	0.05
	38.6	39.1	0.5	sandstone	0.06
FLC014	12.3	12.9	0.6	sandstone	0.178
	12.9	13.4	0.5	sandstone	0.219
	13.4	13.9	0.5	sandstone	0.371
	15.4	15.9	0.5	sandstone	0.136
	15.9	16.4	0.5	sandstone	0.236
	16.4	16.9	0.5	sandstone	0.203
	16.9	17.4	0.5	sandstone	0.096
	17.4	17.9	0.5	sandstone	0.156
	17.9	18.4	0.5	sandstone	0.139
	18.4	18.9	0.5	sandstone	0.108
	18.9	19.4	0.5	sandstone	0.294
	19.4	19.9	0.5	sandstone	0.146
	19.9	20.4	0.5	sandstone	0.185
	23.9	24.4	0.5	sandstone	0.109
	24.4	24.9	0.5	sandstone	0.12
	25.9	26.4	0.5	sandstone	0.085
	27.4	27.9	0.5	sandstone	0.096
	33.4	33.7	0.3	sandstone	0.05

Hole_ID	From (m)	To (m)	Interval (m)	Rock Type	U_3O_8%
FLC015	27.55	27.75	0.2	sandstone	0.08
FLC016	28.05	28.55	0.5	sandstone	0.099
	28.55	29.05	0.5	sandstone	0.136
	29.05	29.55	0.5	sandstone	0.082
	37.7	38.2	0.5	sandstone	0.056
	40.55	41.3	0.75	sandstone	0.054
	42.9	43.4	0.5	sandstone	0.066
FLC017	54.5	55	0.5	basement	0.124
	55	55.5	0.5	basement	0.256
	56.3	56.8	0.5	basement	0.479
	57.3	57.8	0.5	basement	1.179
	57.8	58.3	0.5	basement	0.115
	58.3	58.8	0.5	basement	0.397
	59.3	59.8	0.5	basement	0.314
	59.8	60.3	0.5	basement	1.179
	60.8	61.3	0.5	basement	3.774
	61.3	61.8	0.5	basement	1.073
	61.8	62.3	0.5	basement	0.211
	62.3	62.8	0.5	basement	0.116
	62.8	63.3	0.5	basement	0.33
	63.3	63.8	0.5	basement	1.368
	63.8	64.3	0.5	basement	3.172
	64.3	64.8	0.5	basement	0.554
	64.8	65.3	0.5	basement	0.33
	65.3	65.8	0.5	basement	1.439
	66.3	66.8	0.5	basement	0.082
	66.8	67.3	0.5	basement	0.075
	67.3	67.8	0.5	basement	0.814
	67.8	68.3	0.5	basement	0.735
	70.8	71.3	0.5	basement	0.384
	71.3	71.8	0.5	basement	3.078
	73.3	73.8	0.5	basement	0.101
	73.8	74.3	0.5	basement	2.842
	74.8	75.3	0.5	basement	0.061
	86.3	86.7	0.4	basement	0.574
	86.7	87.1	0.4	basement	0.236
FLC019	12.55	13.1	0.55	sandstone	0.116
	15.4	15.9	0.5	sandstone	0.083
FLC020	101.2	101.7	0.5	basement	0.062
	104.7	105.2	0.5	basement	0.252

Hole_ID	From (m)	To (m)	Interval (m)	Rock Type	U_3O_8%
	105.2	105.7	0.5	basement	1.07
	105.7	106	0.3	basement	0.764
	106.4	106.9	0.5	basement	0.153
	110.5	111	0.5	basement	0.731
	111	111.5	0.5	basement	1.934
	120.1	120.6	0.5		0.06
FLC022	41.35	41.85	0.5	basement	0.139
	43.2	43.6	0.4	basement	0.095

11.2 Core logging procedures

CanAlaska has established a systematic drill hole logging protocol for the documentation of drill core observations modeled on the system used by the Saskatchewan Geological Survey (CanAlaska, 2009). Logging is carried out on laptop computers, recording data in a series of tables.

The data records include the following characteristics and observations and use different templates for sandstones and basement:

Sandstone description is done on a metre per metre basis and includes maximum grain size in mm, volume of grains over 2 mm, volume of conglomeratic beds thicker than 2 cm, volume of thickness of mudstone intraclasts, colour, colour intensity, colour pattern, pattern of sedimentary features, and bedding angles to core axis,

Basement description is based on major and minor lithologies, texture, grain size, colour, colour intensity, graphite, sulphide and leucosomes concentrations.

Alteration description is an observation of weak, moderate or strong occurrences of friability, clay content, silica content (in both pervasive and vuggy modes of occurrence), hematite, limonite, regolith, and chlorite. The presence of sulphides and leucosomes are noted as percentages. Magnetic susceptibility is logged on this form and is collected using a K-9 handheld magnetic susceptibility meter

Geotechnical information is limited to RQD and core recovery which are logged in the “Reading” files for each drill hole.

Structure data is obtained from both oriented core and non-oriented core. The “Fracture” log contains fracture frequency, angle to core axis, fill type and surface description for fractures and faults. Measurements are collected every metre. The “Bedding Orientation” log contains oriented core data of bedding planes with an averaging function to ensure consistency and accuracy of the data and to verify the oriented core measurements made by the drill crew.

Radioactivity levels are measured on all core and recorded as averages over each metre interval, and any spikes encountered, using a Ludlum M3/M44-2 and/or SPP-II hand held scintillometers.

Down hole probing of drill holes for radioactivity (in rods) and resistivity (open hole where possible) was performed using a Geovista down hole probe system.

11.3 Down-Hole Probing

Gamma probing was carried out immediately upon completion of the hole within the drill rod string. Resistivity probing was attempted in the holes once the drill string was removed (open-hole). Gamma probing was successfully conducted in all holes. Resistivity probing was conducted in all holes except FLC010, FLC024 and FLC029 due to a collapse of the hole and in FLC015 which was abandoned.

Down-hole probing was carried out with a Geovista Probing unit using a GV500 series winch with a 38 mm natural gamma sonde, first inside the drill-rods and then, where possible, in open hole, combining the same sonde with a 38 mm dual guard focused resistivity sonde (Polutnik, R., 2009). The data was collected using the proprietary software Geovista Logger.

11.4 Collar Surveys

Drill hole collars are surveyed in the field with a Thales ProMark3 GPS System. The Thales ProMark3 GPS system is a WAAS (wide area augmentation system) enabled DGPS (differential geographic positioning system) that provides survey-grade accuracy. The collar survey is performed after a drill hole has been completed and the drill has moved to a different location. A DGPS with a base-station is used for collar surveys rather than a basic handheld GPS due to the significant improvement in positioning accuracy (1 cm vs. 10-15 m). For a static survey, the Thales ProMark3 has a horizontal accuracy of 0.005 m (± 1 mm), and a vertical accuracy of 0.01 m (± 2 cm). The accuracies stated assume a minimum of 5 satellites and good satellite geometry. If these conditions are not met due to errors such as poor satellite geometry, multi-path, and atmospheric noise then the resultant accuracy will be less.

The GPS survey process consists of two parts: GPS data collection and post-processing using specialized software. The software used for post-processing of the GPS data is GNSS Solutions. In a static survey two GPS receivers are utilized to establish cm scale accuracy for points requiring surveying. One GPS receiver is defined as the base-station and the second becomes the rover. The base-station GPS is placed in an open area with a clear view of the sky and the location kept constant throughout the entire survey. The rover GPS moves between each point to be surveyed. Performing a static survey results in high accuracy positional data, but requires that the data be post-processed on a computer using the GNSS Solutions software.

11.5 Discussion of Results

The orientation of the mineralized structures encountered in drill holes FLC017, FLC020 and FLC022 can be loosely grouped into two sets. The mineralized structures in FLC017 and FLC022 average a 062° azimuth, which is sub parallel to the 050° regional fabric created by the Grease River Shear Zone. The average azimuth of the mineralized structures in FLC020 is 305°. These two groups of mineralized structures may be considered to be conjugate to one another. The NNE linear trend of the high grade mineralization shape of the sandstone hosted historical resource is also sub parallel to the regional fabric, suggesting that the regional fabric is the primary structural orientation that hosts uranium mineralization in the area (Figure 9-1).

The regional fabric is offset in a sinistral sense by the NW trending structures; perhaps creating dilatant zones out of the older Grease River Shear parallel structures. The mineralized breccia zone in FLC017 has at least two phases of brecciation which indicates a relatively long and episodic structural history of the area and the uranium mineralizing processes.

Uranium-lead age dating indicates two ages of uranium mineralization. This technique is one of the oldest and most refined of the radiometric dating schemes which relies on the decay of two sets of radioactive U and Pb isotopes. Both of the indicated ages are consistent with the two major uranium mineralizing events that have affected the Athabasca Basin (Fayek, 2009). In drill hole FLC017 the uraninite is dated at 1016 to 1323 Ma, and in FLC020 the uraninite is dated at 515-751 Ma (Fayek, 2009). Uranium-lead age dates of coffinite in basement rocks from both FLC017 and FLC020 have dates of 4 to 296 Ma. A Uranium-lead age date from brannerite (UTi_2O_6) mineralization in the sandstone is 13 to 691 Ma. This suggests that the primary uranium mineralization events that precipitated uraninite in high angle structures in the basement rocks experienced a secondary event that remobilized the uranium and precipitated it as coffinite in the basement rocks, and as brannerite in the sandstone.

In cross section, the high grade shape of the historical resource is centrally located and surrounded by the lower grade (0.05-0.06% U_3O_8) shape (Figure 9-2). The majority of the higher grade mineralization in the sandstone have been documented as occurring along high angle fractures, or structures with little to no vertical displacement, and the lower grade mineralization occurring along bedding planes. The shape, location and age dates of the uranium mineralization in the sandstone reinforces the theory that the uranium mineralization was remobilized into the sandstone along high angled structures and then out along bedding planes.

12.0 SAMPLING METHOD AND APPROACH

This information is included in the sections on Exploration and Drilling.

13.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

Information for this section is summarized from CanAlaska's 2009 assessment report on drilling.

13.1 Procedures and Methods Summary

CanAlaska's project geologist supervised the sample shipment procedure. Systematic samples (which were small 5 to 10 cm samples taken at regular intervals that were not continuously sampled) were shipped to Acme Analytical Laboratories Ltd for analysis, and continuous samples were shipped to SRC Geoanalytical Laboratories for analysis. The systematic samples were shipped in sealed rice bags and the continuous samples were shipped in sealed plastic pails. All samples were shipped by barge to Stoney Rapids, SK then by A&L Transport and Saskatoon Canada Freightways trucks to the designated labs in Vancouver, BC and Saskatoon, SK. The samples were tracked by office staff to ensure arrival at each of the shipping locales and finally, the lab. A request for analysis, which outlines the requested analytical method, is submitted with each sample shipment. Analytical packages requested from Acme are Group 1DX, Group 1EX, Group 7TX and Group 2A. The analytical package requested from SRC is ICP1. A select group of SRC samples were analyzed for the Au5 package.

13.2 Mineralogical and Chemical Analyses

Analysis of the samples consisted of two phases: clay mineralogy determination and chemical analysis. CanAlaska uses a portable TerraSpec Spectrum to identify the clay alteration. A representative sample from each metre of core is scanned. The proportion of each clay species (kaolinite, dickite, illite, and chlorite) and dravite is determined using TSG-Pro software and controlled by visual examination of each spectrum by a trained geologist. These results are averaged for each sample, expressed as a percentage of total clay + dravite and recorded in the database.

Samples were sent to ACME Laboratories in Vancouver, BC or SRC in Saskatoon, SK. ACME tested for chemical analyses of compounds and elements such as uranium, arsenic, lead and nickel by the 1DX and 1EX analytical packages. The 2A B analytical procedure measures boron by fusion. The 1DX analytical procedure is a partial digestion process using HNO_3 and HCl and the 1EX analytical procedure is a total digestion multi-element package using HF, HNO_3 and $HClO_4$. If a sample had a uranium value that exceeded the threshold of the 1DX or 1EX analytical procedure, then the sample was reanalyzed for uranium using the 7TX analytical procedure.

SRC tested for chemical analyses of a similar suite of compounds and elements as those analysed at Acme; uranium, arsenic, lead and nickel. The Uranium Multi-Element Exploration Analysis by ICP-OES is a partial digestion analysis using HNO_3 and HCl, and the total digestion process using HF, HNO_3 and $HClO_4$.

13.3 Quality Assurance-Quality Control (QA/QC)

It is important to note that QC samples were not utilized at the field level, but that CanAlaska relied on the QC results for samples inserted by the analytical laboratory. It is recommended that a system of QC samples consisting of blanks, standards, and field duplicates be included in future drilling programs. Additionally, the coarse rejects, pulps and core from previous programs should also be retained in order to allow a portion of the previous drill results to be reproduced with QA/QC.

Internal analytical controls by the lab included systematic reanalysis of samples as well as insertion of standards for each batch processed. Standards were selected to represent average anomalous values for uranium and are unique to the type of analysis. Standards DS7 and OREAS 45Pa are used with Acme's 1DX analysis. Standards DST6, OREAS 45 P, OREAS 24P and AMIS0064 are used with Acme's 1EX analysis. Standard SF-3T and BL-3 are used with Acme's 7TX analysis. Standard C3 and LKSD-3 are used with Acme's 2A Boron analysis. Standards ASR209 and CGS51509 are used with SRC's U Exploration Package analysis. Blank G-1 is a CVV blank and is used on both Acme and SRC analyses.

Results of the re-analyses and standards were examined to verify the effectiveness of the laboratory procedures. Review of the analytical precision shows that the laboratory preformed within standard tolerances.

14.0 DATA VERIFICATION

During the site visit a number of observations were made that support the data contained herein:

- Evidence of historical drilling was prevalent, with numerous holes (percussion series) having plastic "casing" sticking out of the ground, some with legible DH labels scribed on metal tags attached to pickets. Recently drilled holes by CanAlaska have steel casing with metal caps and scribed tags.
- GPS surveying of several holes revealed good correlation with coordinates provided by CanAlaska (+/- 5 m). The GPS survey by AMEC was uncorrected data and as such AMEC considers the survey coordinates provided by CanAlaska to be valid.
- Drill core is stored in boxes on covered racks and organized by hole number. All core boxes are labelled with aluminum tags and with marker blocks for depths.
- An old, collapsed building located adjacent to the core shack appears to contain the remains of the historical core, which does not appear to be salvagable.
- Mineralization consisting mainly of uraninite was observed in split half cores remaining in the core boxes.
- Hole logging has been performed adequately, although the myriad of log data available from each hole should be compiled and presented in an easily readable form. Additionally, this information should be imported into a database to allow for effective retrieval and analysis of the data.
- Geotechnical logging consisted of measuring core recovery and RQD (rock quality designation, which is the rough measure of the degree of jointing or fracture in a rock mass, measured as a percentage of the drill core in lengths of 10 cm or more.).

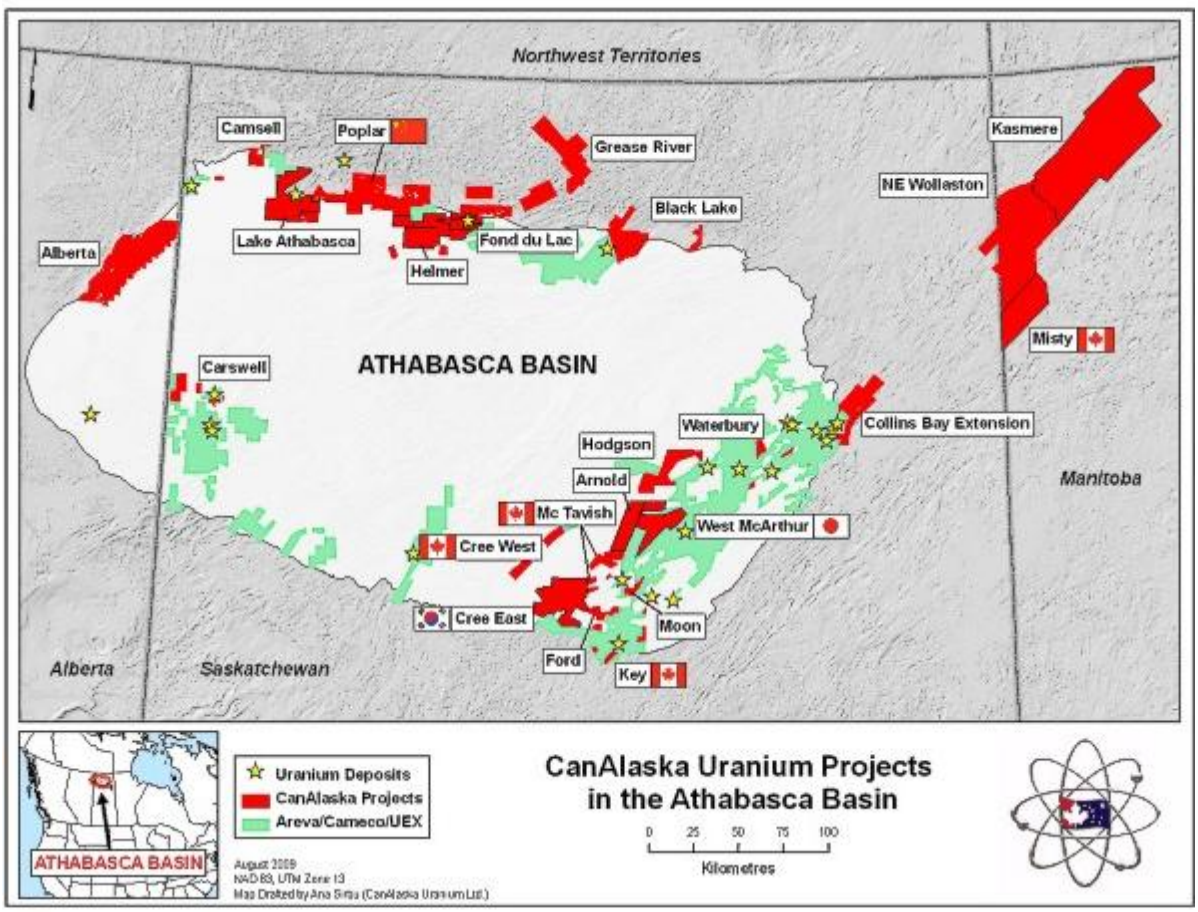
Historical assessment reports obtained from the Government of Saskatchewan archives were examined on a cursory level to confirm some of the information in the history section of the report. Otherwise, AMEC has relied solely on information provided to it by CanAlaska personnel.

Only sporadic historical drilling information is available, as a result, the historical resources cannot be relied upon nor can they be confirmed at this stage.

15.0 ADJACENT PROPERTIES

CanAlaska has significant landholdings immediately adjacent to and surrounding IR 228, 229 and 233. The Grease River Project is adjacent and to the northeast and the Helmer project is adjacent to the southwest. Figure 15-1 also shows CanAlaska's other land holdings in Northern Saskatchewan and Northwestern Manitoba. Because of the large size and numerous land positions held by CanAlaska, the technical report is confined to the three Indian reserves that are part of the Fond du Lac joint venture agreeement.

Figure 15-1: CanAlaska Uranium Projects in the Athabasca Basin



Both the Grease River and Helmer projects are in the exploration stages and have not had any uranium deposits outlined on them, historically or otherwise.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Not applicable.

17.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

Not applicable.

18.0 OTHER RELEVANT DATA AND INFORMATION

None.

19.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

Not applicable.

20.0 INTERPRETATION AND CONCLUSIONS

The Fond Du Lac Property is considered to be a property of merit with significant exploration potential for unconformity type uranium mineralization. Historical drilling activities in the vicinity of the FDL deposit appear to have been limited to the search for strictly sandstone hosted deposits, as evidenced by the fact that the drill holes were generally stopped after intersecting basement rocks. Recent drilling by CanAlaska suggests that uranium mineralization extends into basement structures.

Boulder prospecting appears has been an effective tool for establishing prospective areas for detailed follow up. Geophysical surveys are also critical to helping locate prospective structures.

The available historical drilling information is not of suitable quality to support a mineral resource estimate at this time. There are generally no chemical assays available in the historical data set. Most assays were derived from radioactivity measurements. Complete logs are also generally not available. Should additional information become available as a result of outstanding queries by CanAlaska to other organizations associated with the historical drilling (Cameco and Arreva) be acquired, its reliability will have to be assessed.

Results from available historical information and newly acquired information by CanAlaska's field crews indicate the presence of several promising targets for the discovery of additional unconformity associated uranium deposits and / or the expansion of the known limits of the FDL deposit itself.

The purpose of this report was to provide a summary of the exploration results to date on the Fond Du Lac project. The exploration work carried out to date by CanAlaska has confirmed the presence of a mineralized zone. To that end the project has met its original objectives. Additional work will be required to determine the precise extent and grade of the mineralization. Further exploration is warranted on the property.

21.0 RECOMMENDATIONS

21.1 Drilling and assaying procedures

If it is CanAlaska's intention to be in a position to establish a resource estimate for the property in the future, a number of recommendations should be followed.

- Future drilling
  - The use of consistent sample lengths
  - The implementation of an appropriate QA/QC program
- Existing data
  - Partial re-assay program with appropriate QA/QC program, to include sending samples to a secondary "umpire" lab.

These recommendations are outlined below.

21.1.1 Sampling Interval

The current dataset includes a large range of sampling intervals (0.2 to 19.5 m). Future sampling programs should involve maintaining a consistent sample length, where geological conditions permit. Normally the sampling interval would be related to the minimum width of a "selective mining unit". For a deposit of this type, sample intervals in the 1 – 2 m range should be considered.

21.1.2 Certified Reference Material (Standards)

Many assay labs offer certified reference material for Uranium exploration. It is convenient to obtain the standard material in pre-packaged quantities.

21.1.3 Blanks

Blanks can be any type of material that contains no mineralization. Typically it should be rock and not sand or topsoil. Additionally, it is good practice to utilize the same material for all the inserted blanks. Certain landscaping rock purchased from a home and garden store is a good blank. A large outcrop of unmineralized material is also a good source. In either, samples should be submitted for assay to ensure they are below detection limit for the elements of interest.

21.1.4 Duplicates

A “duplicate” refers to the taking of an identical portion of a sample from an original sample. This is distinctly different than a “check assay”, which is usually a re-assay of a small amount of the original material after sample preparation is complete.

Split Duplicates (Twin sample dulplicate)

It is best practice that field duplicates are obtained during the original sampling, where one can use both halves of a split core sample, or two halves (quarter cut) of one-half split core (this is usually difficult unless a core saw is utilized). In the case of re-analysis, the duplicates will have to be extracted from the pulps received from the lab.

Of particular importance for duplicates is to make sure that a wide range of grades are represented in the samples submitted for duplicates.

Preparation Duplicates (Coarse reject duplicate)

Preparation duplicates are created by taking a second split of the crushed sample.

These samples are used to detect errors during the preparation phase.

Pulp Duplicates

Pulp duplicates are created by taking a second split of the pulp. These samples are used to detect errors during the assaying phase.

21.1.5 Re-analysis (Pulp Check)

In preparation for any future resource estimate it is also recommended that enough samples be re-assayed with QC samples inserted into the sample stream such that one of each (blank, standard, pulp duplicates) QC samples is included in each batch of 25 samples. In order to obtain results that are statistically significant, 25 QC samples of each type must be submitted.

If 550 samples were included in this process, the resulting analyses would contain 25 QC samples of each type for analysis. The total number of re-assays, including QC samples, would be 625. These samples should be re-numbered such that the QC samples are included in the sequential numbering and, in the best case, submitted to another lab.

AMEC can help with the design of the QA/QC program or provide a review of the designed program.

Additionally, a representative portion of these samples should be sent to a secondary "umpire" lab for further QA/QC determinations.

21.2 Work Program

A two phase work program is recommended. The first phase would include a geochemical soil survey accompanied by radon gas measurements in the deposit area. This results of this program should be utilized in planning follow up drilling to target the new mineralized zone discovered in 2009, immediately northeast of the FDL deposits historical extents.

Initial follow up diamond drilling should consist of 10 holes for 2,100 m with a total budget of $640,000. A phase 2 budget of an additional 30 holes for roughly 6,100 m. The size of the phase 2 program will be determined based upon results encountered in phase 1. Additionally, a computerized geological model should be created in order to help establish the geometry, position and relationship of the various drillhole intercepts versus the deposit as a whole.

Figure 21-1: Location of proposed work

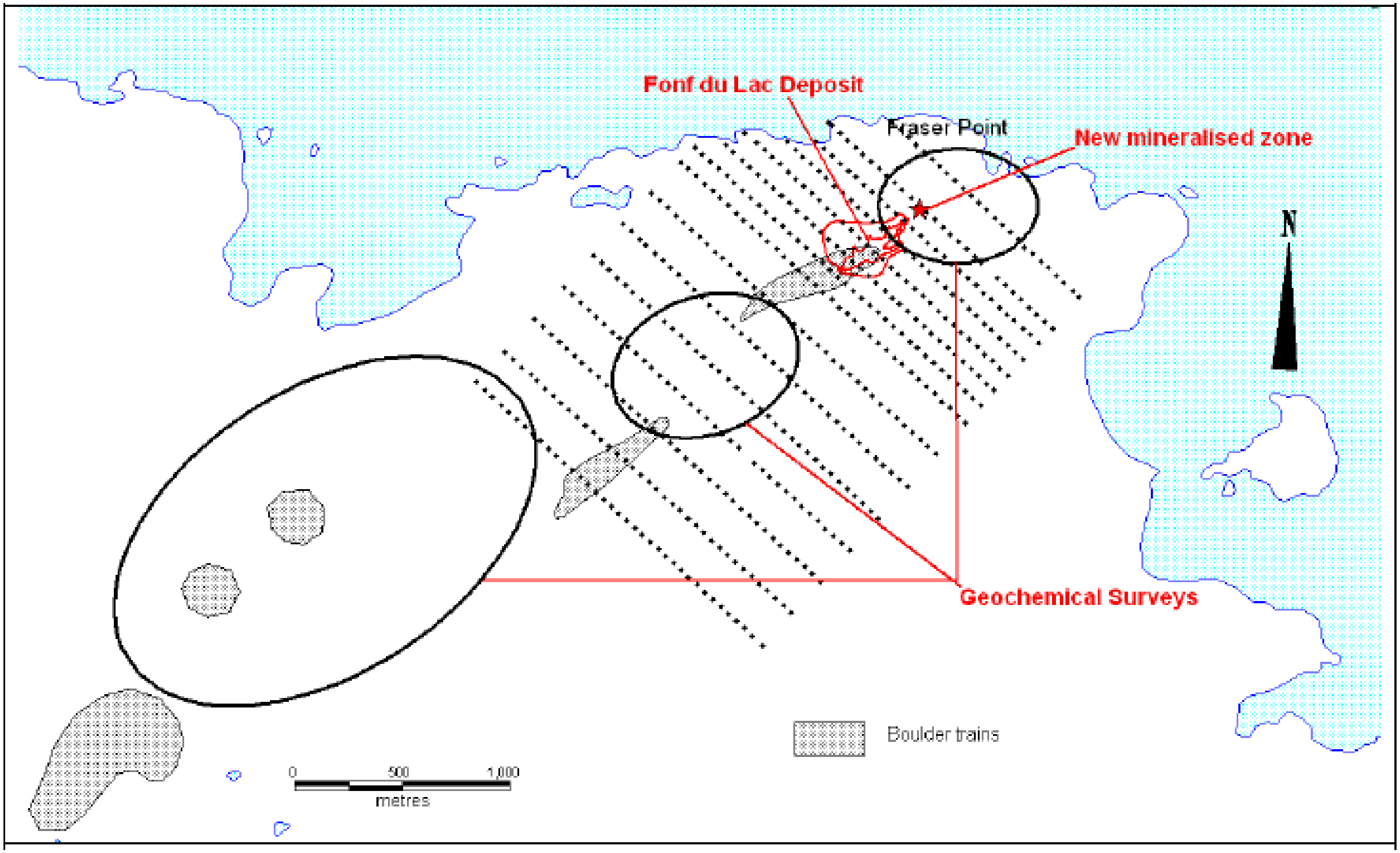


Table 21-1: Phase 1 and 2 Proposed Exploration Budgets

Type of Work	Total Phase 1	Total Phase 2
General – administration	48,000	75,000
Camp accommodation and operation	192,000	300,000
Road and trail construction, sampling labour.	12,000	25,000
Geochemistry	60,000	
Geology	180,000	400,000
Geophysics	12,000	30,000
Drilling	420,000	1,000,000
Environment and safety	24,000	50,000
Contingency	14,000	30,000
Grand Total	**962,000**	**1,910,000**

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23.0 DATE AND SIGNATURE PAGE

The undersigned prepared this Technical Report, titled NI 43-101 Technical Report on the Fond Du Lac Project, dated 15 October 2010. The format and content of the report are intended to conform to Form 43-101F1 of National Instrument 43-101 (NI 43-101) of the Canadian Securities Administrators.

The effective date of this Technical Report, prepared on behalf of CanAlaska Uranium Ltd., and entitled "NI 43-101 Technical Report on the Fond Du Lac Project" is 15 October 2010.

On behalf of AMEC Americas Limited

"Signed and Sealed"

Ron Parent, P. Geo.
Principal Geologist, Mining & Metals
AMEC Americas Limited

Dated: 15 October 2010