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REVISED AND AMENDED TECHNICAL REPORT

**GEOLOGICAL INTRODUCTION TO THE
STURGEON LAKE OILFIELD LITHIUM-BRINE,
LEDUC PROPERTY, WEST-CENTRAL ALBERTA**

Prepared For:
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1.0 Summary

Canadian International Minerals Inc. (“CIN”) has commissioned APEX Geoscience Ltd. to prepare a revised and amended Technical Report to introduce a lithium oilfield brine project in Alberta, Canada. The Leduc Property, which is the subject of this Technical Report, is located in west-central Alberta, directly south and west of the Town of Valleyview, approximately 85 km east of the city of Grande Prairie and 270 km northwest of the capital city of Edmonton, Alberta. The Property consists of 15 contiguous Industrial and Metallic Mineral Permits encompassing 132,773.74 hectares (328,091.06 acres), for which CIN owns 100% interest in the mineral rights. Note: In August 2016, CIN disposed of the Leduc Property and will no longer pursue any activity/development at the Property.

In Alberta, rights to metallic and industrial minerals, to bitumen (oil sands), to coal and to oil/gas are regulated under separate statutes, which collectively make it possible for several different ‘rights’ to coexist and be held by ‘different grantees’ over the same geographic location. In Alberta, lithium is considered a metal or mineral, and therefore, the statutes fall under industrial and metallic mineral legislation that is regulated and administered by Alberta Energy. The Permits grant CIN the exclusive right to explore for metallic and industrial minerals for seven consecutive two-year terms (total of fourteen years), subject to biannual assessment work.

The Leduc Property represents an early-stage exploration project, and at present, CIN is relying on historical brine geochemical fluid data to assess the lithium-brine potential. These 1990’s to 2010’s government and industry formation water studies have reported that anomalous values of lithium (“Li”) and other elements (e.g., potassium, “K”; boron, “B”; and bromine, “Br”) occur in Devonian aquifers associated with carbonate buildups in the Leduc Formation of the Woodbend Group and the Swan Hills Formation of the Beaverhill Lake Group. In the case of the Leduc Property, brine from the Leduc Formation aquifer is pumped to the surface from depths of approximately 2,500 m as part of hydrocarbon production associated with the Sturgeon Lake oilfield.

To date, CIN has yet to conduct any: brine sampling; analytical work; drilling; recovery test work; or mineral resource estimate work at the Leduc Property. Accordingly, the intent and purpose of this Technical Report is to provide a geological introduction to CIN’s Leduc Property that is in accordance Canadian Securities Administration’s National Instrument 43-101. As exploration work has yet to be conducted by CIN on the Property, the History Section delivers a significant component of this Technical Report and provides an overview of the Sturgeon Lake oilfield, which underlies CIN’s Property, and summarizes brine geochemical fluid results from historical oil and gas formation water sampling and analyses.

The Sturgeon Lake oilfield represents a mature petroleum field. That is, in the early history of this oilfield (mid-1950’s), most wells started out pumping hundreds to thousands of barrels of petroleum products per day, which required little active pumping

to extract. However, at present most of the wells produce excessive amounts of formation water in comparison to petroleum products due to increased pumping to generate crude oil. Based on compiled fluid data, a total of 73,178,693 m³ of liquid was pumped from Leduc Formation target wells in the Sturgeon Lake oilfield from 1961 to the end of 2010, of which 72% was classified as Devonian formation water (brine).

Currently, the extracted water is treated to separate and remove petroleum products and then injected back into subsurface formations. By comparison with the example given above, a total of 73,146,659 m³ of fluid was injected back into the Leduc Geounit over the same length of time, representing a difference of less than 1% between net total brine pumped and brine injected volumes. It is conceivable that existing water processing procedures could be modified to extract lithium and other elements from the Leduc Formation aquifer system formation water; however at this stage of exploration there is no guarantee that Li and associated elements (K, B, and Br) described above will be economically extractable from the formation waters with current technology.

Government of Alberta studies have documented that at least 25 wells with the Sturgeon Lake oilfield area have yielded anomalous concentrations of lithium in formation water samples from the Beaverhill Lake and/or Woodbend (Leduc) aquifers (greater than 50 mg/L Li; 1 mg/L is equal to 1 ppm). Five of these wells have reported concentrations of over 75 mg/L Li in the Beaverhill Lake aquifer and ten wells have reported concentrations of over 75 mg/L Li in the Woodbend (Leduc) aquifer. The Devonian aquifers are situated at prospective depths of between 2,300 and 4,000 m, and the formation water is accessible via producing petroleum wells that pump the brine to the earth's surface – essentially as waste water associated with hydrocarbon production.

To confirm the Government of Alberta accounts of specialty metal enrichment in the Sturgeon Lake oilfield brine, a 2011 formation water sampling program conducted by APEX on behalf of the then owners of the Property, Lithium Exploration Group, collected 62 samples from 60 separate wells; this historical program was completed within the boundaries of the current CIN Leduc Property. Of the 62 samples, 47 were collected from the Woodbend (Leduc) aquifer – the main Devonian producing horizon in the Sturgeon Lake oilfield. Other samples included formation waters that were hosted within aquifers of the following geological ages: Mississippian (1 sample from Banff), Triassic (11 samples from Montney, Spray River and undefined), Jurassic (1 sample from Nordegg) and Cretaceous (2 samples from Wapiabi, Gething) samples.

The 2011 water formation sampling program confirmed that lithium and other elements are present in anomalous concentrations (e.g., greater than 75 mg/L Li) in the Woodbend (Leduc) aquifer associated with the Sturgeon Lake oilfield underlying the Leduc Property. The Leduc formation water contained the highest elemental values, including up to: 83.7 mg/L Li; 6,470 mg/L K; 137 mg/L B; and 394 mg/L Br. Formation waters of the Devonian-aged Leduc Formation aquifer contained significantly higher specialty metal values in comparison to younger-aged (Mississippian to Cretaceous) aquifers in the Property area. This conclusion is consistent with published studies that

state the Devonian petroleum system could be of economic interest from a lithium-brine perspective (Hitchon et al., 1993, 1995; Underschultz et al., 1994; Bachu et al., 1995; and Eccles and Behrane, 2011). To the best of the author's knowledge, the 2011 analytical work remains the most relevant and reliable formation water geochemical dataset for the Property, and no additional formation water sampling, has taken place since the 2011 sampling program.

The historical compilation work shows there are two prospective areas for Leduc aquifer-hosted Li, K, B and Br in the northern and east-central parts of the Sturgeon Lake reef complex, both of which are within the Leduc Property. The two anomalous areas are associated with oilfield pools/operations that are located approximately 21 km apart. The northern area contained an historic Leduc brine analysis of 140 mg/L Li and the east-central area yielded several Leduc brine samples with greater than 75 mg/L Li.

A Qualified Personal site inspection on CIN's Leduc Property was completed by the senior author of this Technical Report on July 27th 2016. Because the Li-brine occurs at a depth of approximately 2,500 m below surface, it was not possible to view 'mineralization' during the site inspection. Rather, several actively producing oil and gas wells and plants within the boundaries of the Property were observed, including: Canadian Natural Resources Limited Sturgeon Lake South Plant; Well CNRL Sturlls 07-11-069-22W5; Well CNRL Sturlls 08-11-069-22W5; and Well CNRL Sturlls 11-11-069-22W5. Annual production from these wells is 55-1,056 m³ oil, 32-134 e³m³ gas and 2,690-7,958 m³ water (to April 29th, 2016). The Sturgeon Lake South Plant includes: a crude oil multiwall proration battery; gas plant Sulphur recovery; disposal; and a third party tank farm/oil loading and unloading terminal. The Sturgeon Lake oilfield was discovered in 1952 and continues to produce hydrocarbons today. Thus, the Property area has over 60 years' worth of infrastructure upgrades including major and secondary highways, rail and power lines associated with the development of the energy resource sector and the town of Valleyview.

With respect to recommendations, it is important to point out that the Leduc (or the Sturgeon Lake) lithium-brine project is still an early stage exploration project. To advance the project, CIN will have to form an agreement with the oil and gas companies to access the brine, and provide some evidence of a viable extraction methodology that can recover elements of interest from the brine. Accordingly, the authors recommend a two-phased exploration approach with a total estimated cost of CDN\$535,000 (Table 1).

Recommended Phase One work involves negotiating access to the formation waters with the oil and gas companies, and a formation water geochemical sampling program with the objectives of: 1) testing brine throughout the Sturgeon Lake oilfield to confirm lithium-brine enrichment and fully quantify those areas with elevated specialty elements; and 2) collect water samples for bench-scaled test work focused on the extraction and recovery of lithium and other elements of interest. The sampling program should collect approximately 75-100 formation water samples from 70 to 80 separate wells (if possible). In addition to analytical samples, the program should include optimally sized

samples to initiate element extraction/recovery test work as part of Phase Two work. The total of the Phase One exploration work is estimated at CDN\$80,000.

Pending positive results of the Phase One sampling/analytical program, the objective of Phase Two program is to conduct mineral separation test work and to prepare a lithium-brine mineral resource estimate at the Leduc Property. Laboratory test work should be conducted to optimize the elemental recovery process towards determination of a reasonable prospect for eventual economic extraction. Initial metal recovery experiments should focus on those techniques that eliminate traditional methods of invasive mining or evaporation ponds that require significant land, water, and energy use. The estimated cost of the preliminary mineral separation test work, which excludes any costs associated with water storage and/or disposal, is expected to cost CDN\$300,000. The estimated cost of mineral resource estimate Technical Report is CDN\$120,000, which will include hydrogeologic characterization of the aquifer and determination of reasonable prospect for eventual economic extraction. It is also recommended that Phase 2 include preliminary land management planning studies including investigation into surface dispositions and environmental studies. The total cost of the Phase Two exploration work is estimated at CDN\$455,000.

Table 1. Summary of Phase 1 and Phase 2 recommendations to advance the Sturgeon Lake oilfield lithium-brine Property.

Phase	Item	Description	Cost Estimate (CDN\$)	Totals (CDN\$)
Phase One	Access management planning	Negotiate formation water access with the oil and gas companies	\$5,000	\$80,000
	Sampling/analytical program	Collect 100 formation water samples from 70 to 80 separate wells for geochemical analysis	\$75,000	
Phase Two	Mineral resource estimations and NI 43-101 Technical Report	Using the results from Phase One work, in conjunction with reservoir characterization, prepare maiden inferred resource estimations	\$120,000	\$455,000
	Recoverability test work	Laboratory-scaled test work to explore and optimize recovery processes	\$300,000	
	Land management planning	Initiate surface disposition and environmental studies	\$35,000	
			Total	\$535,000

2.0 Introduction

This introductory Technical Report was prepared by APEX Geoscience Ltd. (“APEX”) for Canadian International Minerals Inc. (“CIN”, or the “Company”) on the Leduc Property (the “Property”), which is located directly south and west of the town of Valleyview in the Swan Hills area of west-central Alberta (Figure 1). The Company owned 100% mineral interest in the Property, which consists of 15 contiguous Industrial and Metallic Mineral Permits encompassing 132,773.74 hectares (328,091.06 acres).

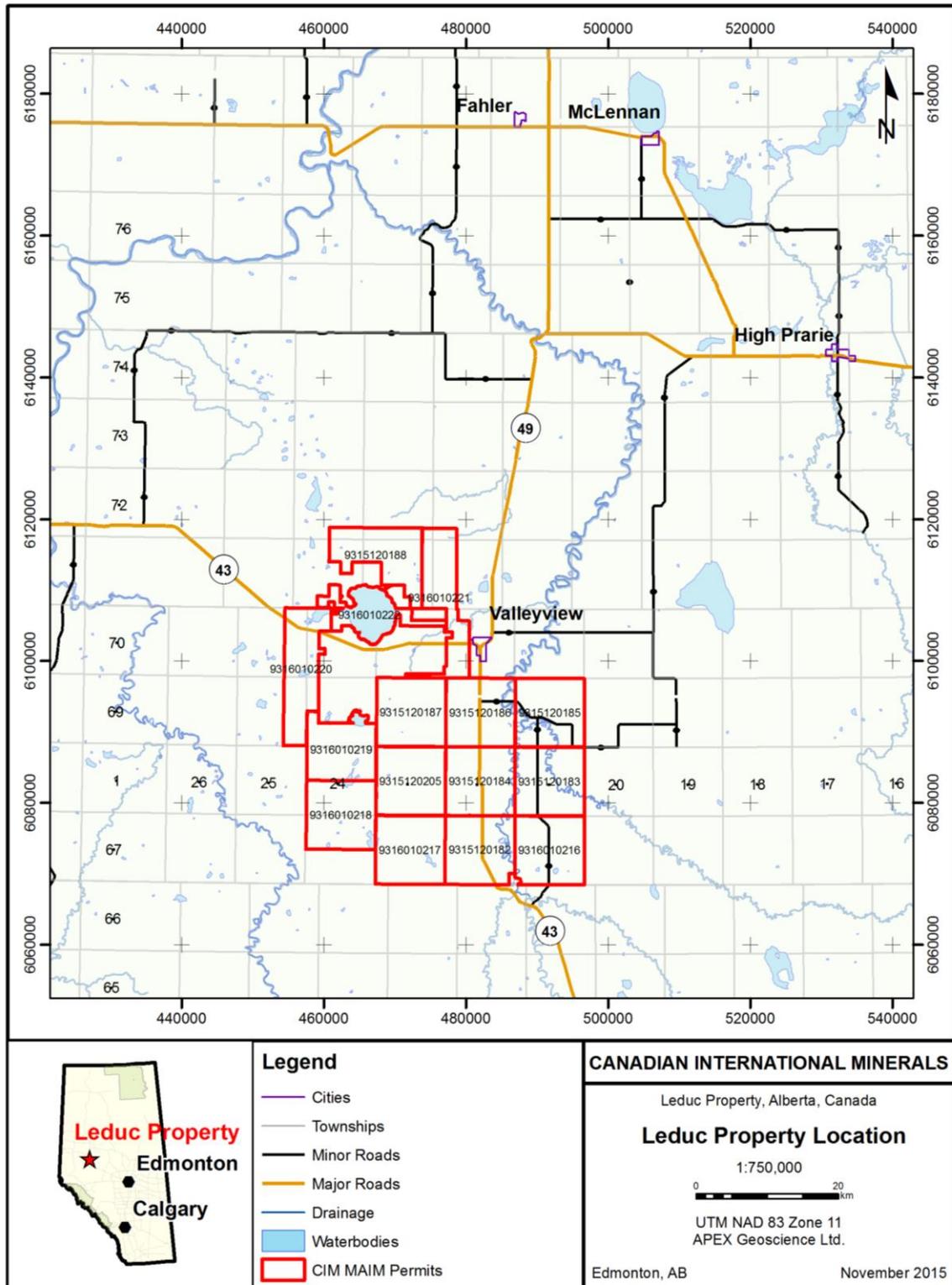
In August 2016, CIN disposed of the Leduc Property and will no longer pursue any activity/development at the Property. CIN sold the project to Zimtu Capital Corp. (Canadian International Minerals Inc., 2016), who in turn sold it to MGX Minerals Inc. (MGX Minerals Inc., 2016).

The Property is situated in an area where mid-1990’s to mid-2010’s government and industry formation water, or brine, studies have reported anomalous values of lithium (Li) and other metals (potassium, K; boron, B; bromine, Br; magnesium, Mg; calcium, Ca; and sodium, Na) in Devonian aquifers associated with carbonate buildups in the Leduc Formation of the Woodbend Group and the Swan Hills Formation of the Beaverhill Lake Group (Hitchon et al., 1993, 1995; Underschultz et al., 1994; Bachu et al., 1995; Eccles and Jean, 2010; and Eccles and Behrane, 2011).

The formation water samples at the Leduc Property are accessible via oil/gas wells that have pumped the formation water (along with hydrocarbons) from depths of between approximately 2,300 m to 4,000 m below the earth’s surface – essentially as waste water associated with hydrocarbon products (note: approximately 2,500 m depth at the Leduc Property). Currently, the extracted water is treated to separate and remove petroleum products and then is re-injected back into subsurface formations. It is conceivable that existing water processing procedures could be modified to extract lithium and other elements from the Leduc Formation aquifer system formation water; however at this stage of exploration there is no guarantee that Li and associated elements (K, B, Br, Ca, Mg and Na) described above will be economically extractable from the formation waters with current technology.

To date, no known lithium, or any other metal, production has occurred from the formation water as the extraction process is still in technological development stages and the aforementioned companies are no longer active in the area. The Property, therefore, is still considered an early stage exploration project, and at present, the Company is relying on historical brine geochemical fluid data. That is, CIN has yet to conduct any: brine sampling; analytical work; drilling; recovery test work; or mineral resource estimate work. Accordingly, the intent and purpose of this amended and revised Technical Report is to prepare a geological introduction of CIN’s Leduc Property that is in accordance with the Canadian Securities Administration’s (“CSA’s”) National Instrument 43-101 (“NI 43-101”) and amended and adopted Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) Definition Standards (May10, 2014). The effective date of this Technical Report is 7 September 2016.

Figure 1. Location of the Leduc Property.



The authors of this report include Mr. Roy Eccles, M.Sc., P. Geol. and Mr. Michael B. Dufresne, M.Sc., P.Geol. of APEX, Qualified Persons as defined by the CSA's NI 43-101. The CIM defines a Qualified Person as

“an individual who is a geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association.”

Mr. Eccles is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), and has worked as a geologist for more than 25 years since his graduation from University. Mr. Eccles has been involved in all aspects of mineral exploration and mineral resource estimations for metallic and industrial mineral projects and deposits in North America. Mr. Eccles technical experience with respect to Li-brine includes:

- Collaborative industry studies involving a variety of Qualified Persons with relevant experience in brine geology such as geologists, hydrogeologists and geochemists, that confirmed the Devonian petroleum system in Alberta contains enriched lithium and other elements of interest; and
- Government of Alberta AGS studies documenting the spatial location of lithium-enriched brine in Alberta and hypotheses on the source origins of the lithium (e.g., Eccles and Jean, 2010; Eccles and Berhane, 2011; Eccles, 2012).

Mr. Dufresne is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), and has worked as a geologist for more than 25 years since his graduation from University. Mr. Dufresne has conducted historical fieldwork on the Property and surrounding areas and has supervised a number of exploration programs for a variety of commodities across the Swan Hills region of northwestern Alberta.

A Qualified Personal site inspection on the Leduc Property was completed by the senior author of this Technical Report on July 28th 2016. Because the Li-brine occurs at a depth of >2,700 m below the surface, it was not possible to view 'mineralization' during the site inspection. Rather, several active oil and gas wells and plants within the boundaries of the Property – from which the brine is pumped to the surface – were observed, including: Canadian Natural Resources Limited Sturgeon Lake South Plant; Well CNRL Sturlks 07-11-069-22W5; Well CNRL Sturlks 08-11-069-22W5; and Well CNRL Sturlks 11-11-069-22W5. Annual production from these wells is 55-1,056 m³ oil, 32-134 e³m³ gas and 2,690-7,958 m³ water (to April 29th, 2016). The Sturgeon Lake South Plant includes: a crude oil multiwall proration battery; gas plant Sulphur recovery; disposal; and a third party tank farm/oil loading and unloading terminal. The Sturgeon Lake oilfield was discovered in 1952 and continues to produce hydrocarbons today. Thus, the Property area has over 60 years' worth of infrastructure upgrades including

major and secondary highways, rail and power lines associated with the development of the energy resource sector and the town of Valleyview.

This Report is a compilation of publicly available information. The source of information and data used in this Technical Report are based on formation water well sampling data that was completed in 2011 and on compiled publicly available geological and geochemical data for the Leduc Property. Government reports include those that depict the bedrock stratigraphy of the Swan Hills area and the formation water geochemistry of Alberta (e.g., Green and Mellon, 1970; Hitchon, 1984; Cant, 1988; Kharaka et al., 1988; Bloy and Hadley, 1989; Connolly et al., 1990; O'Connell et al., 1990; Ross et al., 1991; Leckie et al., 1992; Bloch et al., 1993; Hitchon et al., 1993, 1995; Mossop et al., 1994; Underschultz et al., 1994; Bach et al., 1995; Pana, 2003; Garrett, 2004; Pawlowicz and Fenton, 1995; Eccles and Jean, 2010; Eccles and Berhane, 2011; Huff et al., 2011, 2012).

Alberta metallic and industrial mineral Assessment Reports, which are reviewed by Government of Alberta geologists, and pertain to the Property include: Dufresne et al. (2011) and Dufresne et al. (2013). Miscellaneous Journal articles, company news releases and Technical Reports prepared by APEX were used to corroborate the stratigraphy and Swan Hills/west-central Alberta formation water potential, and to reference historical mineral exploration work in the general Leduc Property area (e.g., Billings et al., 1969; Kunasz, 1980, 1994, 2006; Jaskula, 2008; First Lithium Resources Inc., 2009; Lithium Exploration Group Inc., 2011, 2012; Channel Resources Ltd., 2010, 2012).

The senior author of this Technical Report, Mr. Eccles, has reviewed all government and miscellaneous reports. Government reports and Journal papers were prepared by a person, or persons, holding post-secondary geology or related degrees. Based on review of these documents and/or information, the senior author has deemed that these reports and information, to the best of his knowledge, are valid contributions to this Technical Report, and therefore takes ownership of the ideas and values as they pertain to the current Technical Report.

The 2011 water sampling and chemical analyses, which was overseen by APEX on behalf of Lithium Exploration Group, was conducted by Maxxam Environmental ("Maxxam") of Edmonton, Alberta. Maxxam is an accredited laboratory with the Standards Council of Canada (Laboratory No. 160; valid to 2019-03-06) and with the Canadian Association for Laboratory Accreditation (Membership No. 2996; valid to 2017-06-08), where Maxxam's standard conforms to requirements of ISO.IEC 17025. The senior author has reviewed the geotechnical and geochemical data and found no significant issues or inconsistencies that would cause one to question the validity of the data.

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

- Abbreviated shorthand is consistent with the International System of Units (International Bureau of Weights and Measures, 2006);
- Distance and 'small' weights are presented in metric units;
- Geographic coordinates that are projected in the Universal Transverse Mercator ("UTM") system relative to Zone 11 of the North American Datum ("NAD") 1983; and
- Currency in Canadian dollars ("CDN\$").

3.0 Reliance on Other Experts

The Company's Leduc Property consists of 15 contiguous Metallic and Industrial Mineral Permits encompassing 132,773.74 hectares (328,091.06 acres). CIN acquired the current Leduc Property permits directly, by application to Alberta Energy, and holds a 100% interest therein under agreements with Alberta Energy. All prior, historic mineral activities in the area consist entirely of grass roots exploration work. There are no historic metallic mineral mines known in the area.

Alberta Metallic and Industrial Mineral Permits can be held by an individual person, or by any organized or corporate entity, which is duly registered to do business in the province of Alberta. The authors of this Technical Report are not qualified to provide an opinion or comment on issues related to legal agreements, royalties, permitting and environmental matters, and therefore, disclaim certain portions associated with Section 4, Property Description and Location.

Specifically, the authors have not attempted to verify the legal status of the Property; however, at the time of report preparation, the authors reviewed the Alberta Energy metallic and industrial mineral disposition of mineral rights management system, which shows that the CIN claims are active and in good standing as of 7 September 2016. The mineral rights management system can be accessed at: (<http://www.energy.gov.ab.ca/OurBusiness/1071.asp>).

4.0 Property Description and Location

In August 2016, CIN disposed of the Leduc Property and will no longer pursue any activity/development at the Property. CIN sold the project to Zimtu Capital Corp. (Canadian International Minerals Inc., 2016), who in turn sold it to MGX Minerals Inc. (MGX Minerals Inc., 2016).

4.1 Property Description

The Leduc Property is located in west-central Alberta, directly south and west of the town of Valleyview, approximately 85 km east of the city of Grande Prairie and 270 km northwest of the city of Edmonton (Figure 1). The property is comprised of 15 Alberta Metallic and Industrial Mineral Permits that collectively form a contiguous package of land that totals about 132,773.74 hectares (328,091.06 acres; Figure 2).

The Leduc Property has not been legally surveyed. The legal descriptions for the property are provided in Table 2. The Leduc permits are subject to a 2% gross overriding royalty to Strategic Staking & Exploration Inc.

The center of the property is located at approximately 477143 m Easting and 6086892 m Northing in Universal Transverse Mercator (“UTM”) Zone 11 using North American Datum 1983 (“NAD83”), or at Longitude 117°21’31” West and Latitude 54°55’5” north.

4.2 Property Rights and Maintenance

Alberta Metallic and Industrial Mineral Permits grant the explorer the exclusive right to explore for metallic and industrial minerals for seven consecutive two-year terms (total of fourteen years), subject to traditional biannual assessment work. Work requirements for maintenance of permits in good standing are \$5.00/ha for the first term, \$10.00/ha for each of the second and third terms, and \$15.00/ha for each the fourth, fifth, sixth and seventh terms. The statutes also provide for conversion of Permits to Metallic Minerals Leases once a mineral deposit has been identified. Leases are granted for a renewable term of 15 years, and require annual payments of \$3.50/ha for rent to maintain them in good standing. There are no work requirements for the maintenance of leases and they confer rights to minerals.

Complete terms and conditions for mineral exploration permitting and work can be found in the Alberta Mines and Minerals Act and Regulations (Metallic and Industrial Minerals Tenure Regulation 145/2005, Metallic and Industrial Minerals Exploration Regulation 213/98). These and other acts and regulations, with respect to mineral exploration and mining, can be found in the Laws Online section of the Government of Alberta Queen’s Printer website (www.qp.alberta.ca/Laws_Online.cfm).

The mineral permits encompass two of the three Sturgeon Lake 154 First Nation Reserves (Figure 2); the Sturgeon Lake Cree Nation has three reserves, the largest of which is 14,814 ha. Sturgeon Lake 154A is located on Hwy 43, 3.5 km west of the town of Valleyview. It and the adjacent Sturgeon Lake 154B First Nation Reserve are surrounded by the Municipal District of Greenview No. 16. It is under the administration of the Sturgeon Lake Cree Nation. The Sturgeon Lake community conducts youth job training programs and community news can be accessed at: <http://www.sfn.ca/>.

Figure 2. Exploration permits at the Leduc Property.

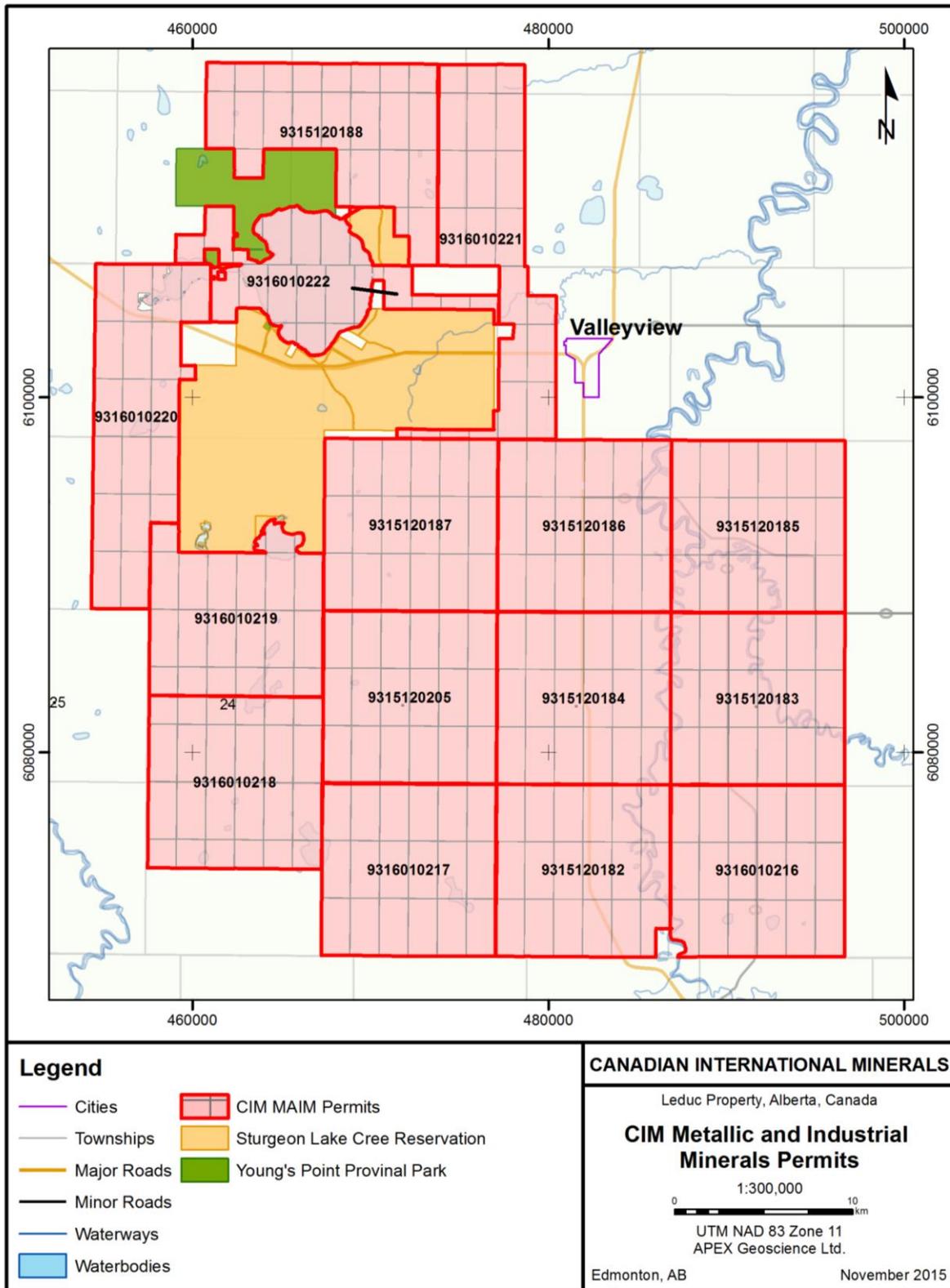


Table 2. Industrial and Metallic Mineral Permit descriptions for the Leduc Property.

Permit Number	Permit Holder	Term Date	Area (ha)
9315120182	SCHUSS, LUKE JOSEPH	07/12/2015	9,088.00
9315120183	SCHUSS, LUKE JOSEPH	07/12/2015	9,216.00
9315120184	SCHUSS, LUKE JOSEPH	07/12/2015	9,216.00
9315120185	SCHUSS, LUKE JOSEPH	07/12/2015	9,216.00
9315120186	SCHUSS, LUKE JOSEPH	07/12/2015	9,216.00
9315120187	SCHUSS, LUKE JOSEPH	07/12/2015	9,216.00
9315120188	SCHUSS, LUKE JOSEPH	07/12/2015	8,832.00
9315120205	SCHUSS, LUKE JOSEPH	11/12/2015	9,216.00
9316010218	SCHUSS, LUKE JOSEPH	15/01/2016	9,216.00
9316010219	SCHUSS, LUKE JOSEPH	15/01/2016	8,260.13
9316010220	SCHUSS, LUKE JOSEPH	15/01/2016	8,964.30
9316010222	SCHUSS, LUKE JOSEPH	15/01/2016	6,350.17
9316010221	SCHUSS, LUKE JOSEPH	15/01/2016	8,405.24
9316010217	SCHUSS, LUKE JOSEPH	15/01/2016	9,216.00
9316010216	SCHUSS, LUKE JOSEPH	15/01/2016	9,145.90
Total:			132,773.74

Access to the brine is predictably reliant on the formulation of an agreement between the Company and the respective oil and gas companies in the region; to the best of the authors knowledge, such an agreement has yet to be formed.

The authors are not aware of any environmental issues associated with the Property or this early stage exploration project. At present, the waste brine is reinjected back into the aquifer by the oil and gas companies. It is possible that Li-brine extraction would take place along current infrastructure with the brine then being returned to the aquifer using the current oil and gas infrastructure and methodology. In this case, surface rights would also require negotiation between CIN and the current oil and gas companies.

Young's Point Provincial Park is located in the northwestern portion of the Leduc Property area (Figure 2). It is located on the north shore of Sturgeon Lake, 23 km west of Valleyview. The park was established on August 3, 1971, to protect the boreal forest ecosystem. The park has an area of 30.5 km² and includes a campground, a boat launch facility and day use area. The Park is operational from May 1 to September 30.

4.3 Coexisting Oil, Gas and Oil Sands Rights

In Alberta, rights to metallic and industrial minerals, to bitumen (oil sands), to coal and to oil/gas are regulated under separate statutes, which collectively make it possible for several different 'rights' to coexist and be held by 'different grantees' over the same

geographic location. Oil/gas leases and Alberta Metallic and Industrial Mineral Permits coexist in the Valleyview area and in the vicinity of, and under, the Company's Property.

A summary of the oil and gas wells – active as of 7 September 2016 – are presented in Figure 3. These wells currently pump formation water from depths of up to 4,000 m (Leduc Formation of the Woodbend Group and the Swan Hills Formation of the Beaverhill Lake Group) to the earth's surface. The majority of the wells in the area are owned by Canadian Natural Resources Ltd., who acquired Barrick Energy Inc. in 2013.

A July 2016 site inspection by the senior author confirmed that Canadian Natural Resources Ltd. is actively producing in the Leduc Property. The formation water continues to be extracted as a waste by-product of hydrocarbon at an operational cost to the companies, prior to the eventual injection of the formation water back into the subsurface (see Section 12.1, Confirmation of Well Production Values).

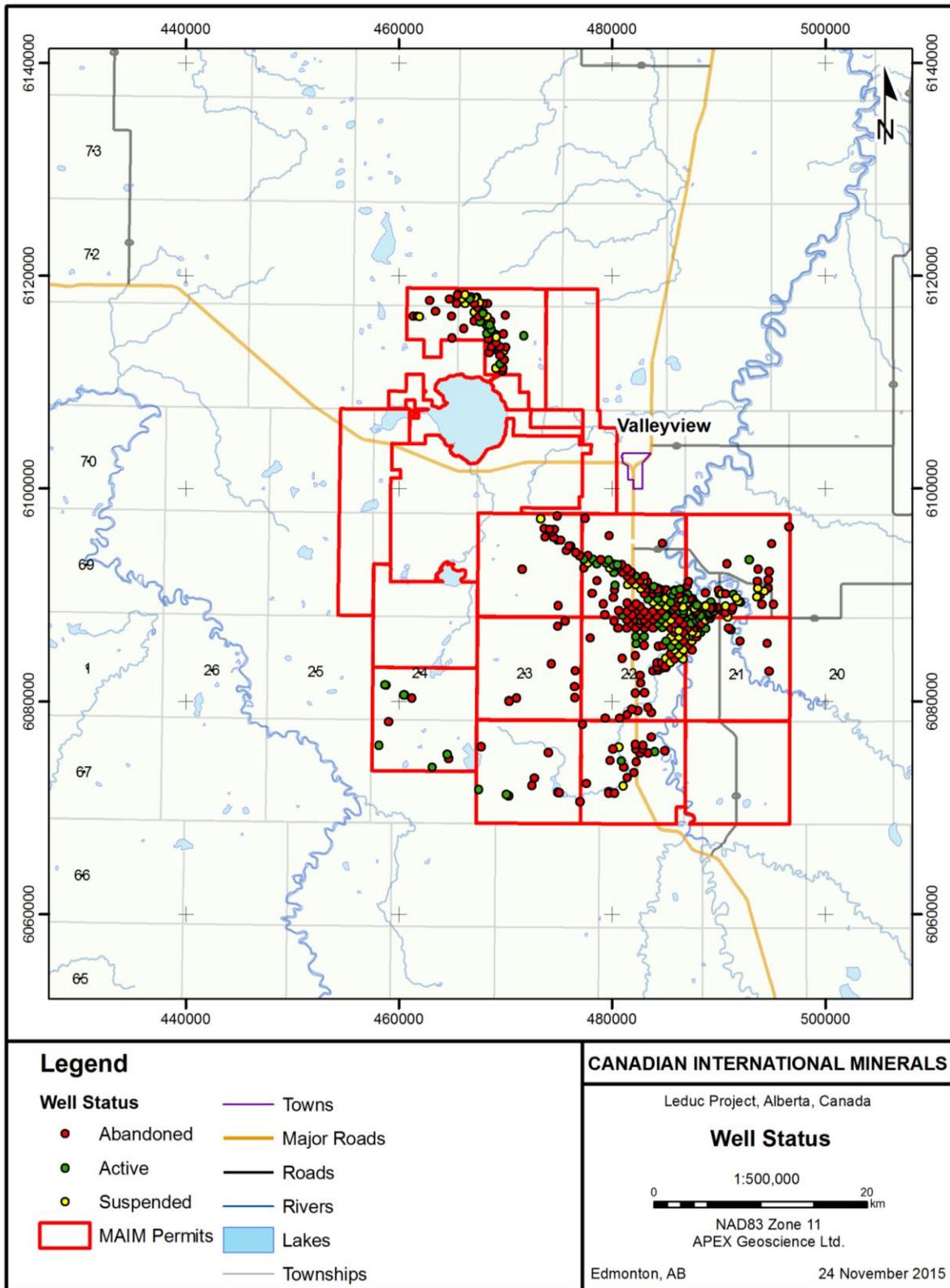
In Alberta, lithium (and other metals) are categorized as mineral resources and therefore fall under the Alberta Mines and Minerals Act and Regulations (Metallic and Industrial Minerals Tenure Regulation 145/2005, Metallic and Industrial Minerals Exploration Regulation 213/98). Lithium royalty rates associated with Li-production would be 1% gross mine-mouth revenue before payout; after payout, the greater of 1% gross mine-mouth revenue and 12% net revenue. The regulation governing the royalty rate can be found in Section 4(1) of the Metallic and Industrial Mineral Royalty Regulation at: <http://www.energy.alberta.ca/minerals/714.asp>.

5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Leduc Property is positioned over the Sturgeon Lake oilfield, which was discovered in 1952 and continues to produce hydrocarbons today. Thus, the area has experienced 60 years' worth of infrastructure upgrades including major and secondary highways, rail and power lines associated with the development of the town of Valleyview and the energy resource sector. This is of great benefit to the Company, particularly because energy resource-related infrastructure provides power and transportation connections between a series of oil and gas plants that are networked throughout the Property. The Property has highway access but no rail access.

Valleyview is located at the junction of Alberta Provincial Highway 43 ("Hwy 43") and Highway 49; the junction of the two highways into the Peace Region, has led to the town motto of Portal to the Peace. Hwy 43 runs north-south through the east-central part of the Leduc Property, and was originally built to access oil and gas development in the Sturgeon Lake oilfield in the early 1950s, and more recently, serves as a gateway to the Peace River region of northwestern Alberta. The property can also be accessed by secondary one- or two-lane all weather roads. In addition, access within the property is facilitated by numerous all weather and dry weather gravel roads and tracks, many of which are serviced year-round due to oil and gas exploration in the area. Accommodation, food, fuel, and supplies are best obtained in the towns of Valleyview, High Prairie and Fox Creek.

Figure 3. Current status of oil and gas wells in the Sturgeon Lake oilfield (to 24 November 2015).



The Leduc property is situated in the foothills region of west-central Alberta in an area characterized by hilly topography. Elevation in the region varies from 600 m to 1380 m above sea level (m asl). The Little Smoky River and the Goose River are the dominant topographic features and dissect the southern and central portions of the property. Additionally, numerous creeks and wetlands occur throughout the property. Forested regions are dominated by aspen, balsam poplar, lodgepole pine and white spruce. Vegetation in the wetland areas is characterized by black spruce, tamarack and mosses. Annual temperatures range from -40° C in January to 30° C in July and August with average temperatures above 0° C between April and October. Yearly precipitation (as rain and snow) ranges from approximately 14 mm to greater than 100 mm; the greatest amount of precipitation typically occurs in June and July (Environment Canada, 2011).

6.0 History

6.1 Government Studies and the Discovery of Lithium-Bearing Formation Water

Exploration in west-central Alberta is traditionally petroleum-related (Mossop and Shetson, 1994). This includes the Leduc Property area, which is underlain by oil and gas pools associated with the Sturgeon Lake oilfield. Based on a search of the Alberta Energy Regulator (“AER”) database using GeoSCOUT™, a total of 622 known oil and gas wells have been drilled within the boundaries of CIN’s Leduc property, all of which have penetrated to depths of greater than 2,400 m (this depth is used as a proxy for intersecting Devonian aged rocks; Figure 4). Of the 622 wells, 133 wells are reported to be ‘active’ (i.e., actively producing petroleum products), and 94 and 395 wells are listed as having been suspended or are abandoned, respectively.

With respect to minerals exploration, the first comprehensive overview of the mineral potential of formation waters from across Alberta was compiled by the Government of Alberta (Hitchon et al., 1995). ‘Formation water’ is used as a generic term to describe all water that naturally occurs in pores of a rock and if the rock is permeable could represent an aquifer. Hitchon et al. (1995) compiled nearly 130,000 analyses of formation water across Alberta from numerous sources including AER submissions for drilling conducted by the petroleum industry and various Government of Alberta reports (e.g., Hitchon et al., 1971; 1989; Connolly et al., 1990a,b and unpublished detailed analyses collected by the Government of Alberta).

The method for defining geographic areas with elements of possible economic interest in formation water was defined by Hitchon (1984) and Hitchon et al. (1995). For each element studied (e.g., Ca, Mg, K, Li, Br and iodine, I), a ‘detailed exploration threshold value’ was determined by studying the concentrations in economically producing fields as defined in Hitchon (1984) and Hitchon et al. (1995). Additionally, a lower regional exploration threshold value was defined to allow for contouring and extrapolation of data to undrilled areas. For example, the ‘regional exploration threshold value’ for Li was considered to be 50 ppm and the detailed exploration threshold value was defined as 75 ppm (Hitchon et al., 1995).

At the provincial scale, Hitchon et al. (1995) showed that lithium was analyzed and reported in 708 formation water analyses (out of the 130,000 total analyses examined). Of the 708 analyses:

- 96 analyses yielded Li concentrations above the 'regional threshold value' (greater than 50 ppm); and
- 47 analyses yielded Li concentrations above the 'detailed threshold value' of 75 ppm.

Hitchon et al. (1995) showed the highest concentrations of Li in formation water occurred within the Beaverhill Lake (Swan Hills) and/or Woodbend (Leduc) aquifers: 130 mg/L and 140 mg/L, respectively (e.g., Table 3; Note: one mg/L is equal to one ppm). Further modelling by Underschultz et al. (1994) depicted two areas of "significant lithium resources", which correspond to areas of thickened Leduc strata. These authors suggested that the geographic extent of Li-rich formation water in west-central Alberta covers approximately 75 000 km² at prospective depths of between 2700 and 4000 m. Based on Li concentrations and rock properties (porosity and permeability), Bachu et al. (1995) and Hitchon et al. (1995) identified three areas in west-central Alberta with potential for economic Li extraction:

1. Northern Leduc reef, which has an average thickness of 12 m, an average porosity of 6% and an average permeability of $3.5 \times 10^{-14} \text{ m}^2$ (35 mD);
2. Southern Leduc reef, which has an average thickness of 25 m, an average porosity of 6% and an average permeability of $2 \times 10^{-14} \text{ m}^2$ (20 mD); and
3. Beaverhill Lake Group, which has an average thickness of 46 m, an average porosity of 7% and an average permeability of $4.3 \times 10^{-14} \text{ m}^2$ (43 mD).

More recently, Eccles and Jean (2010) modelled 1,511 lithium-bearing formation water analyses from throughout Alberta; this compilation supported the previous government author's conclusions that there are several pockets of concentrated lithium in west-central Alberta (Figure 5). Of the 1,511 analyses, 19 analyses/wells contained >100 mg/L Li (up to 140 mg/L), all of which were sampled from within the Middle to Late Devonian carbonate complexes.

While the crude oil and conventional marketable gas reserves of the Devonian petroleum system is dwindling, it is still a viable producer of oil and gas in Alberta. Consequently, an important consideration for Li-brine companies is to investigate the remaining reserves of Devonian petroleum products within their respective target fields/pools to ascertain/estimate the operational lifespan of the hydrocarbon producing wells (i.e., assurance to access Li-brine).

Figure 4. Historic wells at the Leduc Property that have penetrated Devonian strata.

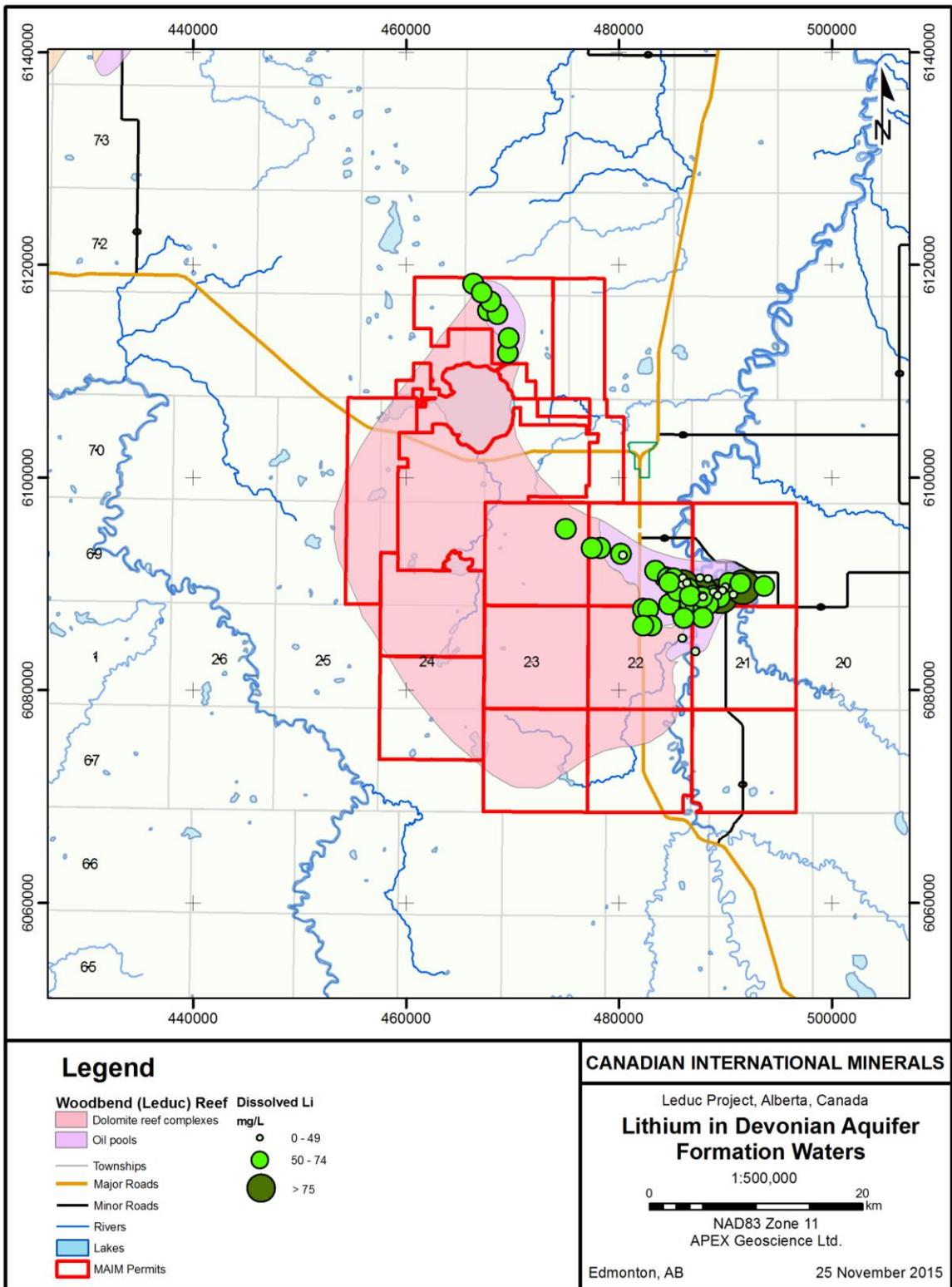
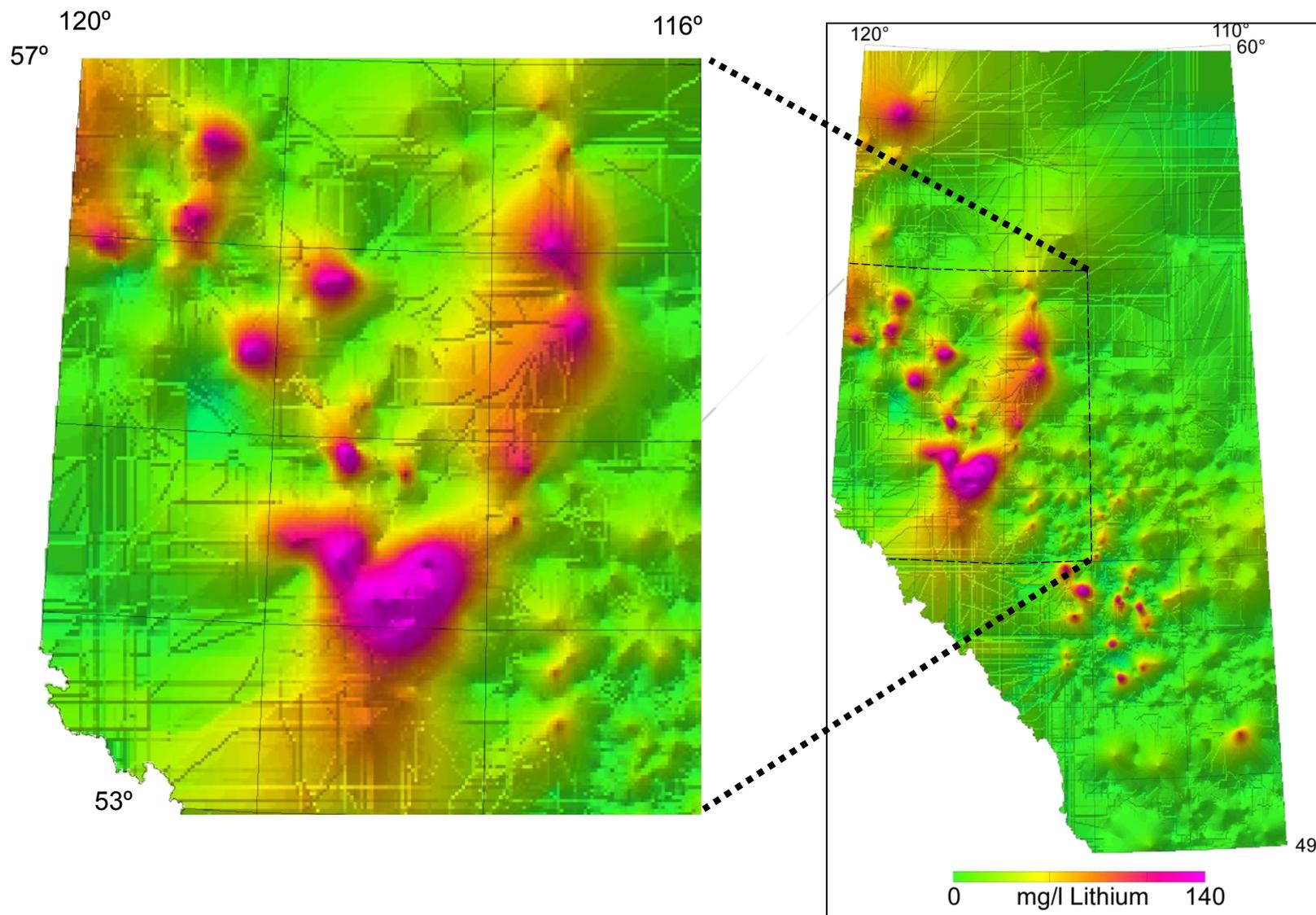


Table 3. Representative chemical compositions in the Beaver Hill Lake (Swan Hills) and Woodbend (Leduc) formations as reported in Government of Alberta studies (Hitchon et al., 1995).

Formation	Leduc	Swan Hills	Leduc	Swan Hills
Sample Number	RCAH82-475B	RCAH111-676A	D-44	RCAH110-676A
Li	130	130	120	115
Na	43200	54000	42400	39800
K	7500	5100	5000	4300
Mg	1610	2010	979	1630
Ca	18000	15900	27500	13600
Sr	725	630	615	/
Ba	5.7	19	4.7	1.7
Cu	/	0.49	0.57	0.27
Zn	/	5.9	/	1.9
Pb	8.5	3.3	4	10
Ag	/	1.3	1.5	0.92
Fe	/	0.85	0.89	0.36
Mn	14	14	0.38	9
V	/	0.8	0.9	0.28
As	/	/	/	/
B	2709	260	180	190
PO4	76	24	23	16
NH3	558	637	551	381
SiO2	54	43	88	19
F	6.7	6.2	/	4.7
Cl	117000	125100	123700	94160
Br	430	426	317	329
I	14	18	18	5
SO4	389	155	239	778
HCO3	365	232	1110	316
(all in mg/L or ppm)				
Salinity (mg/L)	191630	205945	203703	156567
pH	7.15	6.76	8.10	7.34
T (°C)	64	79	113	76

Figure 5. Distribution of lithium in Alberta formation waters (from Eccles and Jean, 2010).



The Government of Alberta calculated lithium resource estimates by multiplying the concentration of any element by the thickness and porosity of the host stratum. The estimates of potentially economic Li vary between 10 and 570 g/m² (t/km²) in the Leduc reef (S) area, and between 34 and 340 g/m² (t/km²) in the northern Leduc reef (N) area (Bachu et al., 1995; Hitchon et al., 1995). Resource estimates for lithium in the Beaverhill Lake (BL) water vary between 11 and 918 g/m² (t/km²).

The high variability of the Bachu et al. (1995) and Hitchon et al. (1995) estimates is related to the variability of the rock properties in the reef complexes. Nevertheless, they provided a lithium resource estimate of 515,000 tonnes for Leduc and Beaverhill Lake formation waters in west-central Alberta. This estimate covers a cumulative area of 3,980 km².

The resource estimates by Bachu et al. (1995) and Hitchon et al. (1995) are historic in nature. A Qualified Person has not done sufficient work to classify the historical estimate as the current mineral resource, and therefore, the issuer is not treating the historical estimate as a current mineral resource.

At least 25 wells within or near the Leduc Property yield anomalous concentrations of Li. Representative formation water geochemical analyses from Hitchon et al. (1995) and are shown in Table 3. Of note, five wells have reported concentrations of over 75 ppm Li in the Beaverhill Lake aquifer; and ten wells have reported concentrations of over 75 ppm Li in the Woodbend (Leduc) aquifer.

6.2 Summary of 2009-2012 Exploration Work Conducted by Lithium Exploration Group Inc.

During 2009-2012, Lithium Exploration Group Inc. commissioned APEX to manage exploration at the now lapsed Valleyview Property. In this capacity, APEX coordinated data compilations, and formation water sampling and analysis at the Property, the results of which represent the most current mineral-related information from the Sturgeon Lake oilfield.

During 2009 and 2010, APEX personnel compiled all available data for lithium and other related elements from formation water brines within the Sturgeon Lake oilfield and underlying CIN's Leduc property. Data were compiled from the Alberta Energy Regulator ("AER") well file database using GeoSCOUT™. The compilation showed there are two prospective target areas for Li, K, B and Br in the northern and east-central parts of the Sturgeon Lake reefal complex (associated with oil pools) for potential co-product mineral recovery within the Leduc Property (Figures 6 to 9).

The northern target contains 86 active oil wells that were almost entirely owned and operated by Barrick Energy Ltd., ("Barrick"; a subsidiary of Barrick Gold Corp.). Hitchon et al. (1995) reported one historic well analysis with 140 ppm Li in formation water brine associated with the Leduc Formation from the northern target area. The east-central target area contained five active wells, all of which were operated by Paramount

Resources Ltd., and include a historic well analysis with greater than 75 ppm Li from formation waters associated with the Leduc Formation (Hitchon et al., 1995).

Based upon the well compilation, Lithium Exploration Group Inc. (through APEX) engaged the current oil and gas producer in the Sturgeon Lake oilfield (Barrick) and their sub-contractor Maxxam to conduct formation water sampling of approximately half of the active Barrick wells. During 2011, Maxxam sampled formation waters from oil and gas wells on the Leduc Property mostly taping the Leduc Formation and its associated aquifer system.

A total of 62 samples were collected from 60 separate wells within the Leduc Property. Of the 62 samples, 47 were collected from the Leduc Formation (Woodbend Group). Other samples included formation waters from: Mississippian (1 sample from Banff), Triassic (11 samples from Montney, Spray River and undefined), Jurassic (1 sample from Nordegg) and Cretaceous (2 samples from Wapiabi, Gething) samples.

A summary of the selected geochemical elements is presented in Table 4. Devonian Woodbend Group formation water contained up to:

- 83.7 mg/L Li (average 67 mg/L Li);
- 6,470 mg/L K (average 4,641 mg/L K);
- 137 mg/L B (average 114 mg/L B);
- 394 mg/L Br (average 394 mg/L Br);
- 28,100 mg/L Ca (average 23,595.7 mg/L Ca);
- 4,630 mg/L Mg (average 2,887.4 mg/L Mg); and
- 71,400 mg/L Na (average 62,385.1 mg/L Na; note: one mg/L is equal to one ppm).

These values support and confirm the historical government published lithium-enriched formation waters within the boundaries of the Leduc Property.

Geochemical histograms of selected elements are shown on Figure 10. With the exception of maybe Mg, the elements Li, K, B, Br and Ca are shown to have a bimodal distribution. The bimodal variation is directly related to chemical dissimilarities between the Devonian aquifer systems and those from the Mississippian to Cretaceous sampled formation waters. The majority of the samples were collected from the Leduc Formation aquifer; this is where most of the production comes from in the Sturgeon Lake oilfield.

Figure 6. Lithium distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

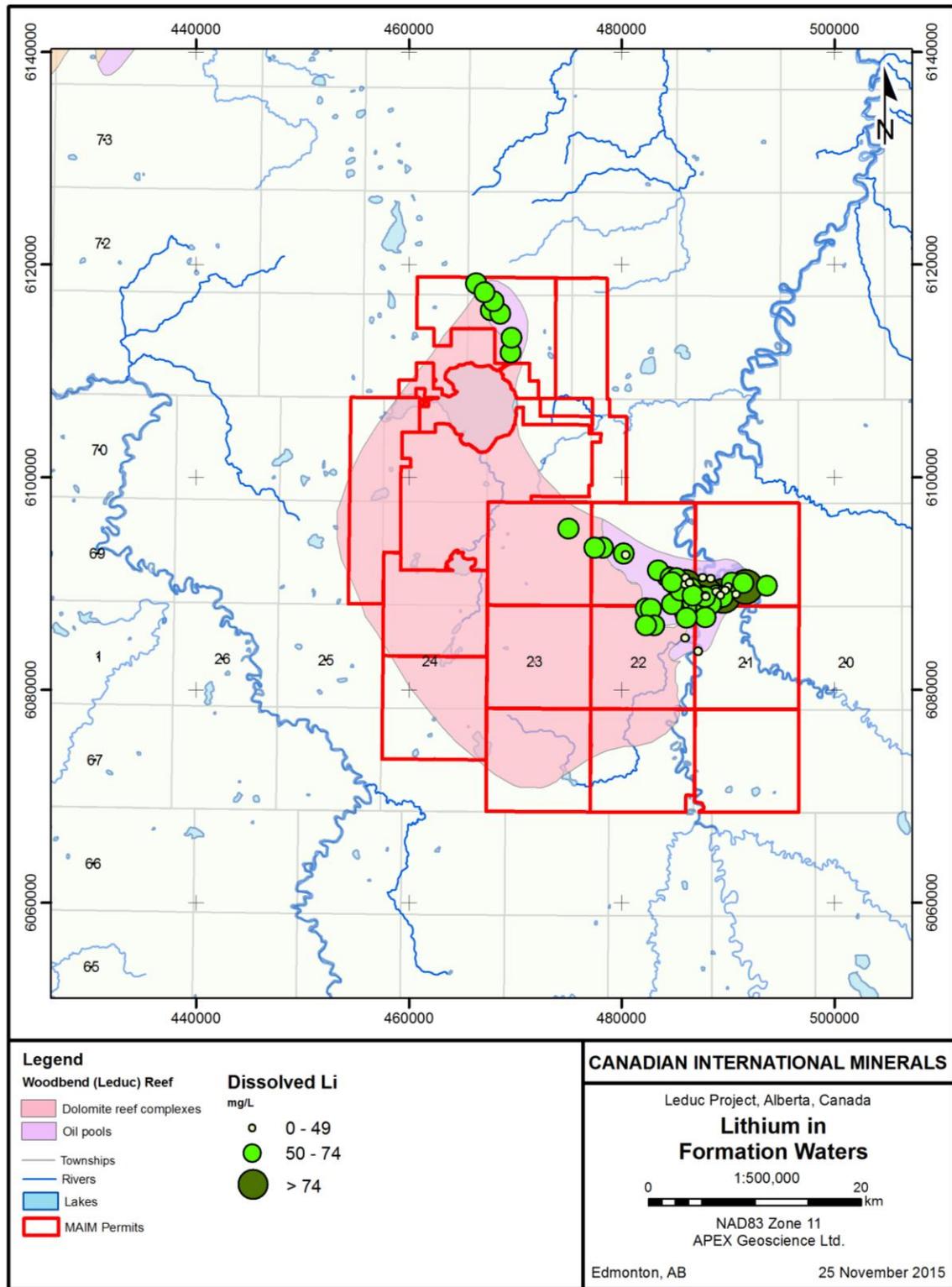


Figure 7. Potassium distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

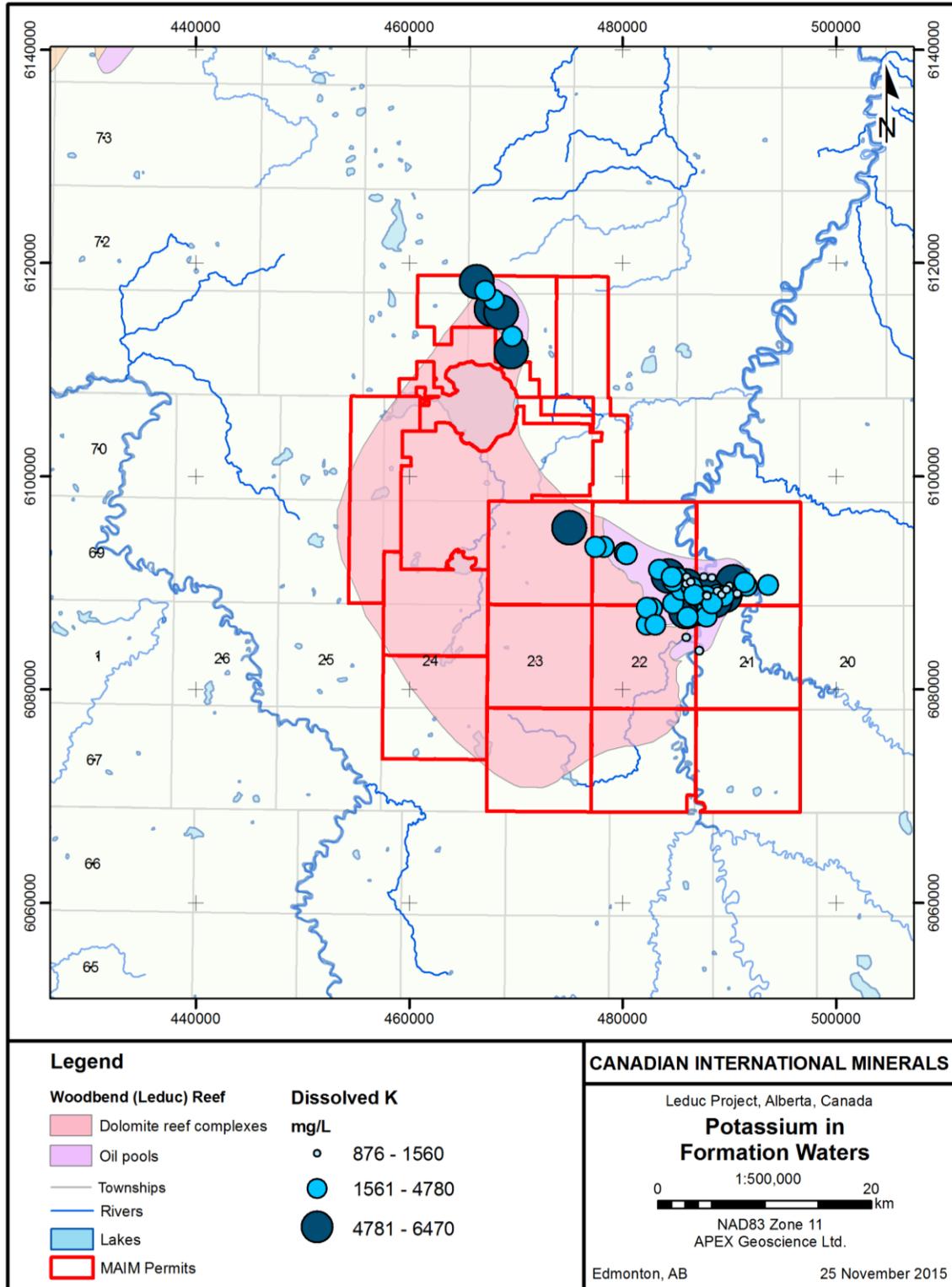


Figure 8. Boron distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

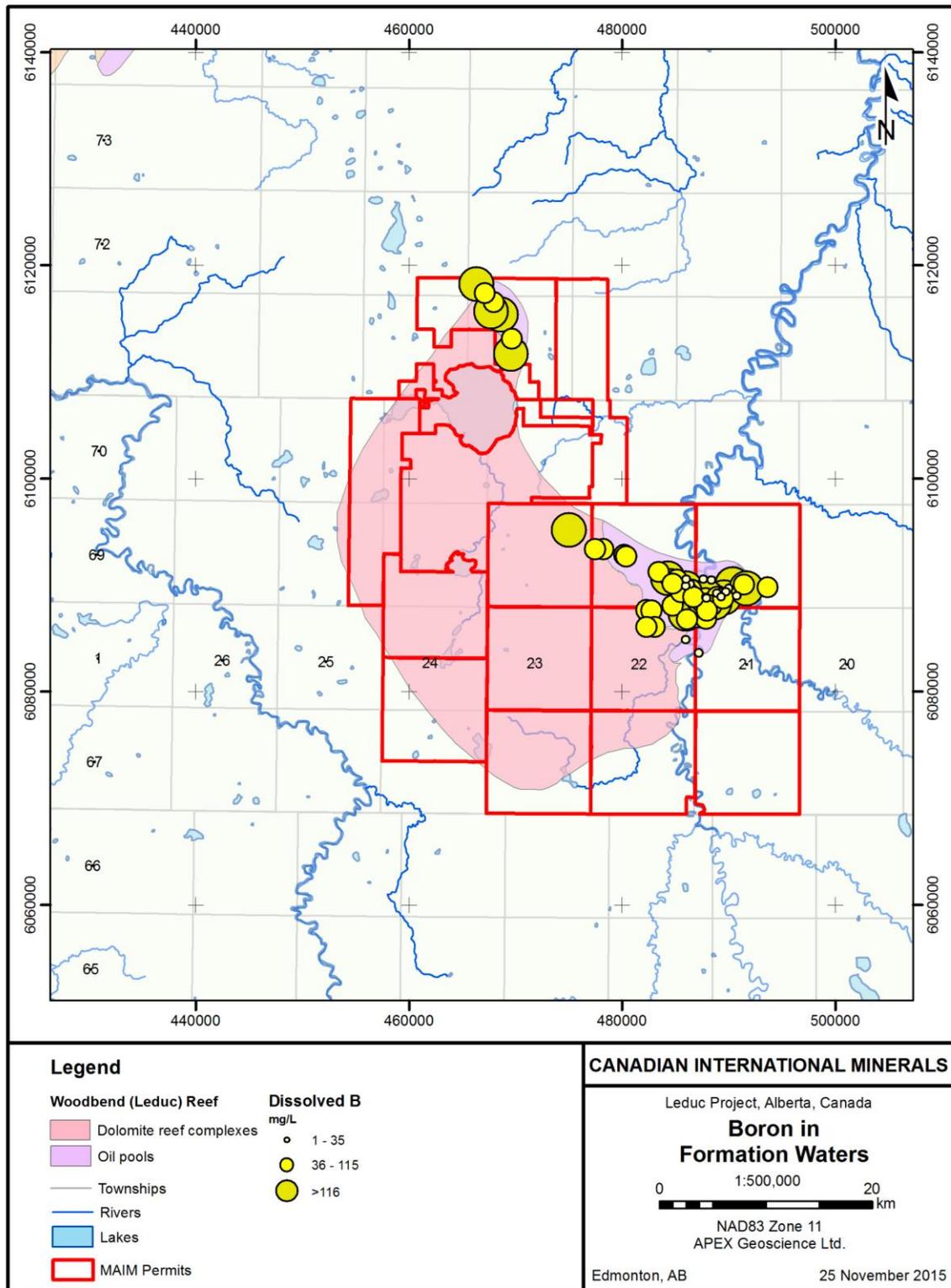


Figure 9. Bromine distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

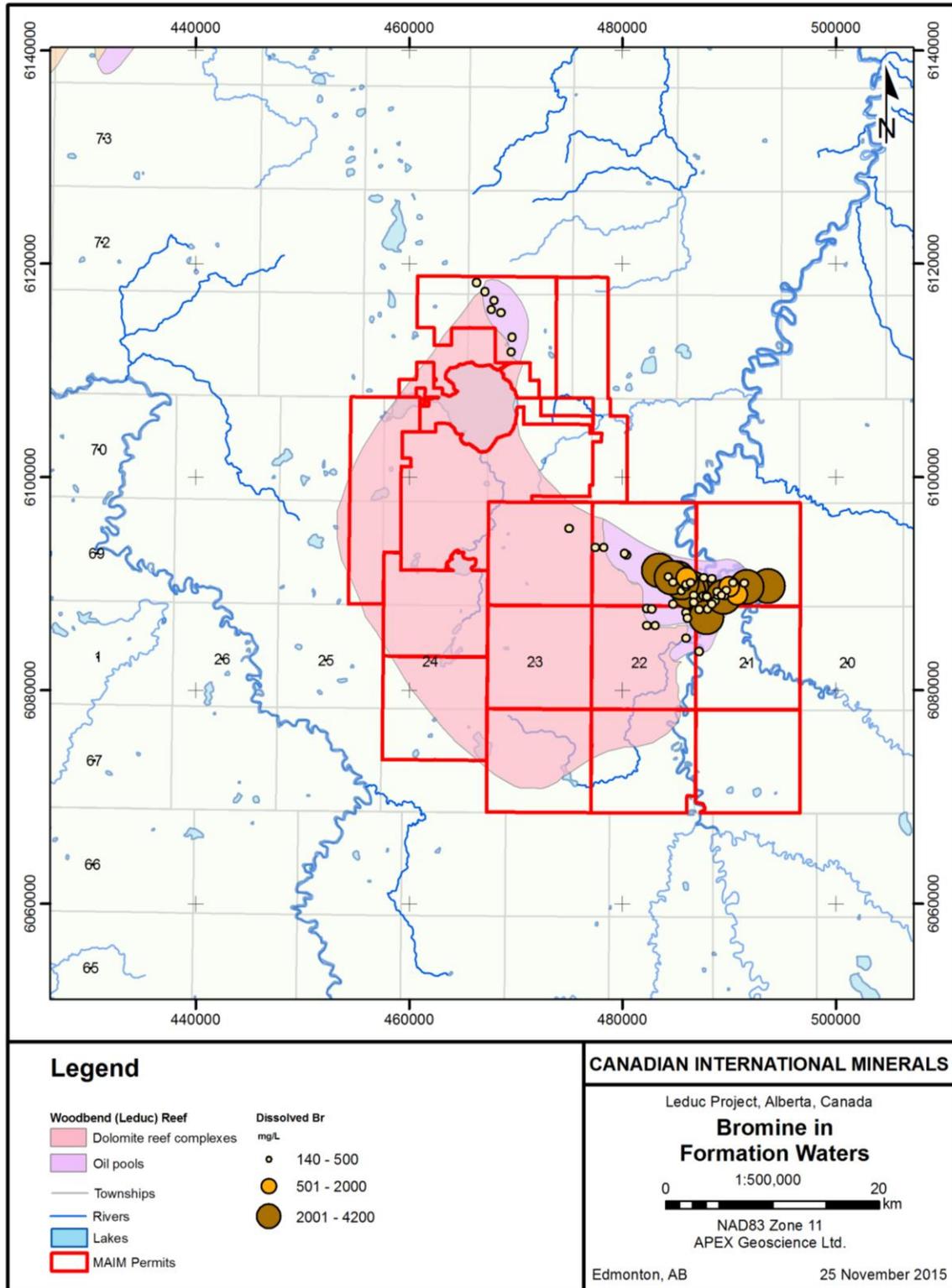


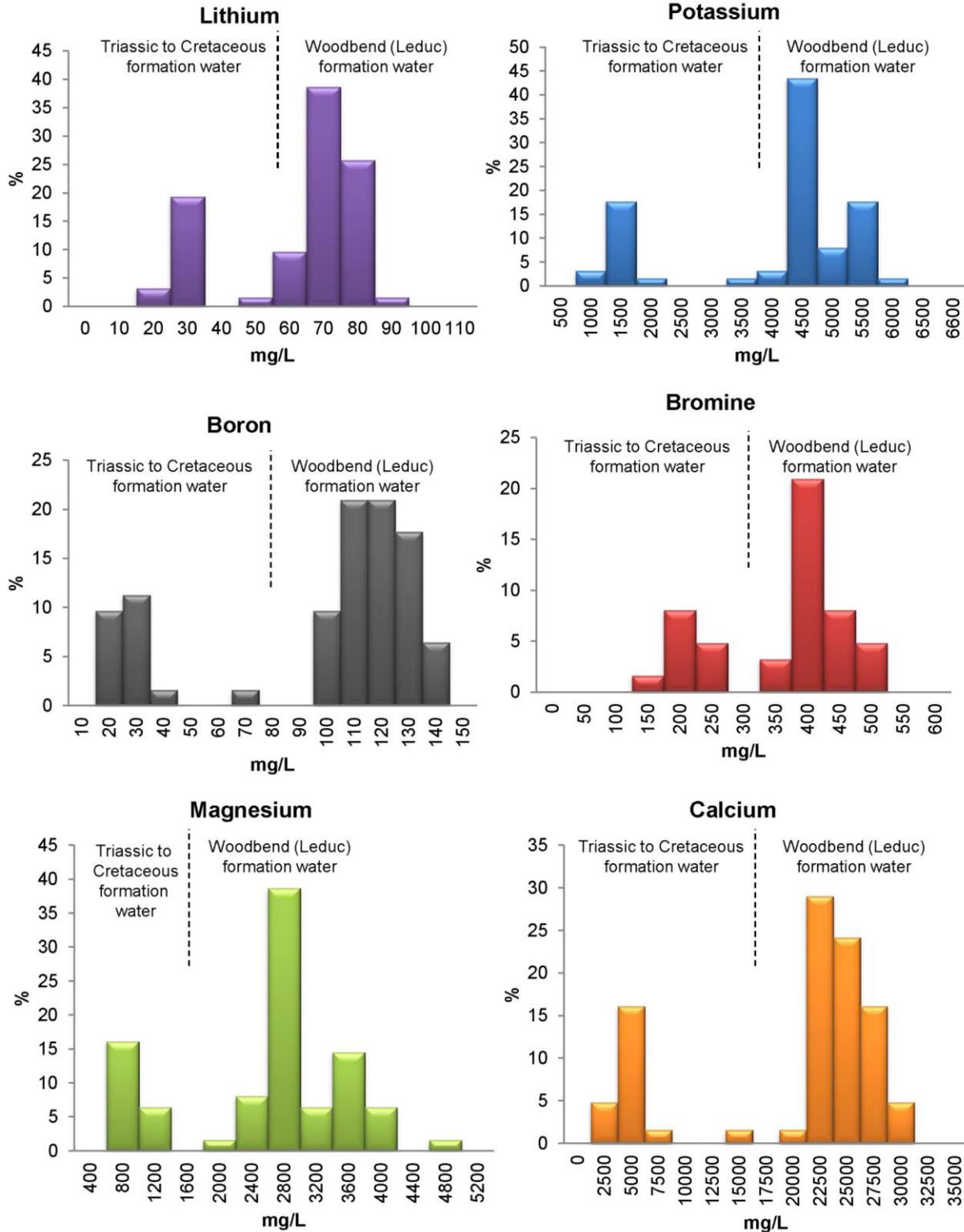
Table 4. Results of 2011 formation water sampling conducted by APEX Geoscience Ltd. on behalf of Lithium Exploration Group Inc.

Well identifier	Group/Formation	Lithium	Potassium	Boron	Bromine	Calcium	Magnesium	Sodium
		(Li) (mg/L)	(K) (mg/L)	(B) (mg/L)	(Br) (mg/L)	(Ca) (mg/L)	(Mg) (mg/L)	(Na) (mg/L)
01-01-069-22-W5M	Devonian - Woodbend	71.8	5200	130	380	26300	3640	70900
01-06-069-21-W5M	Devonian - Woodbend	65.5	4280	109	390	23400	2390	59800
01-08-069-21-W5M	Triassic - Montney	25.4	1310	20.8	190	2690	628	52000
01-31-068-21-W5M	Devonian - Woodbend	64.6	4420	109	400	24100	2530	65200
02-02-069-22-W5M	Devonian - Woodbend	69.6	4500	114	380	23400	2740	64400
02-12-069-22-W5M	Devonian - Woodbend	66.2	4250	114	410	22500	2510	62700
02-20-069-22-W5M	Devonian - Woodbend	59.3	4130	92.4	330	19800	2300	52200
03-12-069-22-W5M	Devonian - Woodbend	76.9	5620	137	390	27600	3860	69500
03-25-068-22-W5M	Cretaceous - Gething	21.8	1320	13.1	170	2950	763	62500
04-03-069-22-W5M	Devonian - Woodbend	65.6	4270	105	390	22700	2540	61300
04-12-069-22-W5M	Devonian - Woodbend	64.8	4360	109	400	22800	2490	60300
05-05-069-21-W5M	Devonian - Woodbend	70.2	5090	134	390	26900	3560	69000
05-05-072-23-W5M	Devonian - Woodbend	57.3	4150	94.5	360	22100	2400	56100
05-09-069-21-W5M	Devonian - Woodbend	73.2	5060	137	390	27800	3780	67800
05-10-069-21-W5M	Devonian - Woodbend	74.4	4370	122	350	22000	2900	57200
05-12-069-22-W5M	Devonian - Woodbend	68.3	4460	115	390	22500	2670	60900
05-19-068-21-W5M	Triassic - Montney	22.3	1360	12.9	170	3040	768	63800
05-32-071-23-W5M	Devonian - Woodbend	74	5280	122	430	26900	3460	70500
06-05-069-21-W5M	Devonian - Woodbend	66.2	4460	103	390	20100	2910	61100
06-06-069-21-W5M	Devonian - Woodbend	65.2	4370	112	370	22500	2530	61100
06-08-069-21-W5M	Triassic - undefined	27	1480	24	180	3150	803	66400
06-11-069-22-W5M	Devonian - Woodbend	66.9	3950	116	360	23400	2720	61600
06-36-068-22-W5M	Devonian - Woodbend	59.9	4220	99.4	350	21300	2380	57600
07-06-069-21-W5M	Devonian - Woodbend	65.7	4440	111	440	23000	2530	61000
07-11-069-22-W5M	Devonian - Woodbend	64.2	4320	108	370	22500	2490	59500
07-12-069-22-W5M	Triassic - Montney	22	1180	36.3	170	2320	560	50500
07-19-069-22-W5M	Devonian - Woodbend	71.4	4780	113	390	23700	2840	60200
07-21-071-23-W5M	Devonian - Woodbend	55.4	3980	97	400	21700	2430	52700
07-26-069-23-W5M	Devonian - Woodbend	72.7	5390	122	420	23900	3510	65100
08-09-069-21-W5M	Devonian - Woodbend	70.5	4290	115	380	23800	2580	58400
08-11-069-22-W5M	Devonian - Woodbend	65.6	4330	111	410	22600	2560	60000
08-34-068-22-W5M	Devonian - Woodbend	62.5	4200	102	370	21700	2490	59300
09-01-069-22-W5M	Devonian - Woodbend	64.8	4200	104	460	23000	2380	59200
10-01-069-22-W5M	Devonian - Woodbend	65.8	4420	113	470	22800	2550	61700
10-05-069-21-W5M	Devonian - Woodbend	83.7	6470	136	390	28100	4630	67900
10-06-069-21-W5M	Devonian - Woodbend	74.3	4920	124	450	21500	2830	58800
10-06-069-21-W5M	Triassic - undefined	24.7	1250	17.9	180	2870	606	55200
10-11-069-22-W5M	Devonian - Woodbend	65.7	4260	111	380	22000	2580	60100
10-11-069-22-W5M	Triassic - Montney	26.3	1460	20.8	180	3100	845	61500
11-04-069-21-W5M	Triassic - Montney	26.1	1370	20.4	210	2770	636	53500
11-05-069-21-W5M	Mississippian - Banff	17	954	18.2	140	1790	526	42500
11-06-069-21-W5M	Devonian - Woodbend	70.9	5170	127	390	26200	3380	67700

Table 4. Continued.

Well identifier	Group/Formation	Lithium	Potassium	Boron	Bromine	Calcium	Magnesium	Sodium
		(Li) (mg/L)	(K) (mg/L)	(B) (mg/L)	(Br) (mg/L)	(Ca) (mg/L)	(Mg) (mg/L)	(Na) (mg/L)
11-06-072-23-W5M	Devonian - Woodbend	71.8	5210	120	410	26100	3410	66000
11-07-069-21-W5M	Triassic - Montney	25.4	1250	20.9	210	2810	614	53300
11-11-069-22-W5M	Devonian - Woodbend	68.7	5050	126	380	25800	3540	65300
11-12-069-22-W5M	Jurassic - Nordegg	24	1250	19.7	200	2700	631	54500
11-16-071-23-W5M	Devonian - Woodbend	73.8	5270	125	430	26100	3520	66200
11-36-068-22-W5M	Devonian - Woodbend	72.5	5220	130	380	26200	3740	71400
12-05-069-21-W5M	Devonian - Woodbend	67.4	4460	110	370	21600	2600	63100
12-19-069-22-W5M	Devonian - Woodbend	58.1	4370	96.6	400	21700	2570	57600
13-05-069-21-W5M	Triassic - Spray River	29.1	1560	29.6	220	5370	805	54700
13-06-069-21-W5M	Triassic - Montney	25.7	1410	20.5	180	3050	810	62300
13-27-068-22-W5M	Devonian - Woodbend	61.1	4440	101	360	22200	2560	60000
13-31-068-21-W5M	Devonian - Woodbend	71.5	5250	128	380	26100	3600	69500
14-32-071-23-W5M	Devonian - Woodbend	59.6	4310	100	390	23000	2530	58600
14-34-068-22-W5M	Devonian - Woodbend	65.2	4390	103	370	22500	2620	62400
15-05-069-21-W5M	Triassic - Montney	17.1	876	18.5	190	1680	414	37200
15-31-068-21-W5M	Devonian - Woodbend	66.5	4570	111	400	23400	2550	63800
16-10-069-22-W5M	Devonian - Woodbend	66.9	4600	108	350	21000	2560	57500
16-17-069-22-W5M	Cretaceous - Wapiabi	41.3	3230	68	350	14000	1660	39600
16-29-071-23-W5M	Devonian - Woodbend	70.5	4970	123	500	26300	3300	65700
16-31-068-21-W5M	Devonian - Woodbend	65.7	4420	108	440	22400	2520	64200

Figure 10. Histograms of selected elements from 2011 formation water sampling program. Threshold values for regional (and detailed) values from Hitchon et al. (1993): Li – 50 mg/L (75 mg/L); K – 5,000 mg/L (10,000 mg/L); Br – 1,000 mg/L (3,000 mg/L); Mg – 3,000 mg/L (9,000 mg/L); Ca – 20,000 mg/L (60,000 mg/L).



Accordingly, the histograms in Figure 10 show that with Triassic to Cretaceous brine aside, the majority of the Devonian Leduc Formation elements contain a single data population. With the exception of Li, the elements of interest (K, Br, B, Ca, Mg) contain similar regional threshold values to those of Hitchon et al. (1995). Lithium analyses has a cluster of samples that have values that similar or greater than Hitchon et al.'s (1995) detailed exploration threshold cut-off of 75 mg/L. Clearly, Li is the most significant element of economic interest in these formations waters although K, B, Br, Mg, Ca and Na provide potential co-products pending the ability of the extraction processes.

7.0 Geological Setting and Mineralization

The Property is situated in the west-central part of the Western Canada Sedimentary Basin (“WCSB”), south of the Peace River Arch (“PRA”). Within CIN’s Leduc Lithium Property, Li-enriched saline formation water occurs in reefal carbonates of the Leduc Formation of the Woodbend Group (Hitchon et al., 1995). The regional stratigraphy of the Swan Hills area is summarized in Table 5. The geology of the Precambrian bedrock and Phanerozoic units underlying the property is summarized in Figures 11 and 12, respectively, and discussed in the text that follows.

7.1 Woodbend Group (Leduc) Aquifer System

The Beaverhill Lake Group (Swan Hills aquifer) and the Woodbend Group (Leduc aquifer) were thought to be hydraulically connected due to historical government interpretation of Hitchon et al. (1995). A total of 73,178,693 m³ of liquid was pumped from wells tapping the Leduc aquifer in the Sturgeon Lake field from 1961 to the end of 2010, of which 72% was reported to be formation water. By comparison, a total of 73,146,659 m³ of fluid was injected into the Leduc Geounit within the study area over the same length of time, representing a difference of less than 1% between net total pumped and injected volumes.

In order to quantify the aquifers dimensions and hydrogeological parameters, APEX (on behalf of Lithium Exploration Group Inc.) commissioned Hydrogeological Consultants, Ltd. (“HCL”) of Edmonton, Alberta in 2012 to complete a hydrogeologic study of Devonian formations underlying the Leduc Property (Eccles et al., 2012). HCL compiled data from various databases that included prominently the AER well database, together with the Groundwater Centre well information database (based on the Alberta Environment well information database) and HCL’s internal hydrogeological database for geologically undisturbed regions of Alberta. The data compilation included,

- Permeability measurements on cores (queried using Divestco Inc.’s GeoVista™ software) such as the average value of K_{MAX} (maximum permeability perpendicular to core axis), and K_{90} (permeability perpendicular to core axis and 90° to K_{MAX});
- Transmissivity, which was calculated from permeability (from core tests);

- Apparent transmissivity, which was determined from drill stem tests;
- Non-pumping pressure values within the Leduc Formation aquifer system from pressure tests (queried using GeoVista™), which were converted to fluid level in metres above mean sea level;
- Locations, stratigraphic units, and severity of lost circulation in the Leduc Formation aquifer system, which were noted as a qualitative indicator of high local permeability;
- Porosity measurements on core (queried using GeoVista™);
- Calculated porosity from selected sonic wireline logs;
- Formation tops (queried using GeoVista™ and IHS Accumap™ program); and
- Fluid chemical data (elemental concentrations of K, Ca, Mg, Na, and Br) from samples that were identified as “possible formation water”.

Complementary to HCL’s study, APEX compiled fluid data, including well information, drill stem tests and geochemical data. The results of the hydrogeological characterization were used to calculate the total in-place formation water volume. The volume of rock represented by the Leduc Formation within the Leduc Property is approximately 157 billion m³. Based on an average conservative regional porosity of 5%, the volume of fluid underlying the Property residing within the matrix of the Leduc Formation is approximately 7.9 billion m³. Based on an average of 72% of the total produced fluids and gas being formation water, the total in-place volume is approximately 5.7 billion m³ of saline formation water, or brine, within the Leduc Formation underlying the property (Eccles et al., 2012).

The resulting aquifer parameters are considered current, and to the best knowledge of the authors no subsequent hydrogeological characterization studies have been completed in the Sturgeon Lake oilfield.

7.2 Precambrian Geology

The Leduc Property lies near the centre of the WCSB south of the PRA. The property lies mostly on the Chinchaga Terrane (Figure 11), with the northwest corner of the property on the Ksituan Magmatic Arc (Pană, 2003). The Chinchaga Terrane is part of the Buffalo Head craton which is thought to have accreted to the western edge of North America between 1.8 and 2.4 billion years ago (Ross et al., 1991, 1998).

Table 5. Regional Stratigraphy of the Leduc Property area (adapted from Hitchon et al., 1990).

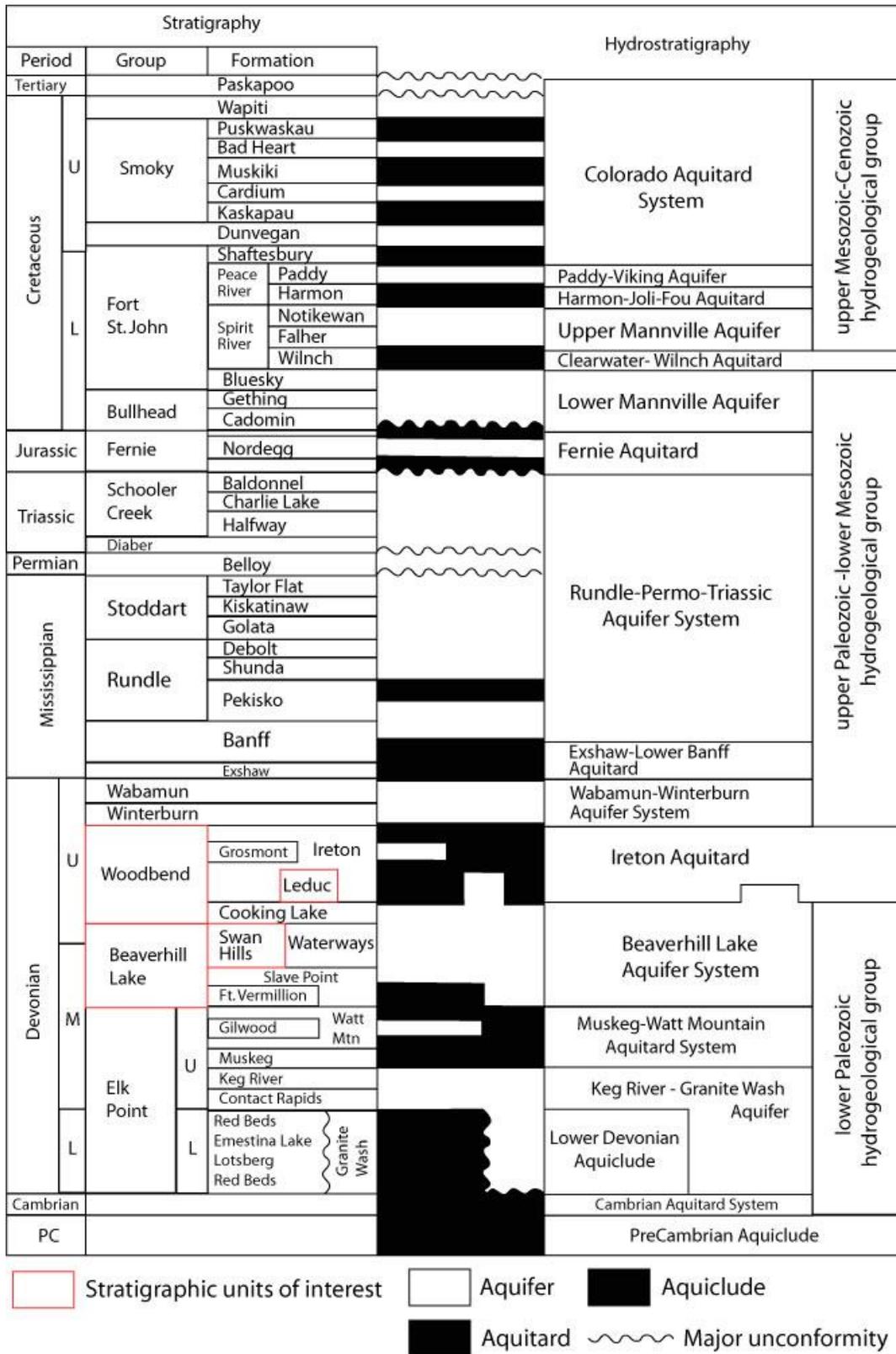
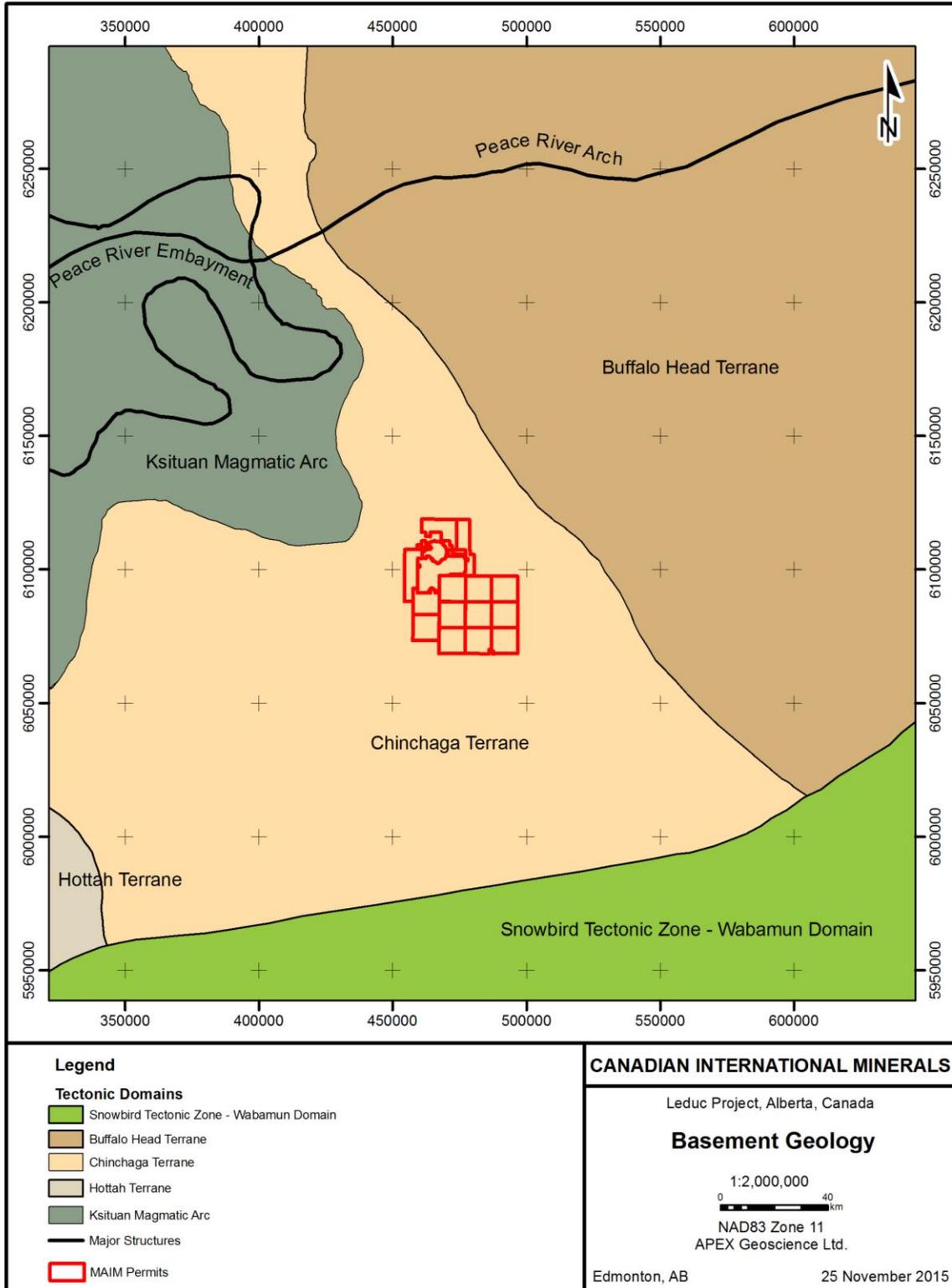


Figure 11. Inferred basement geology of the Leduc Property area.



7.3 Phanerozoic Geology

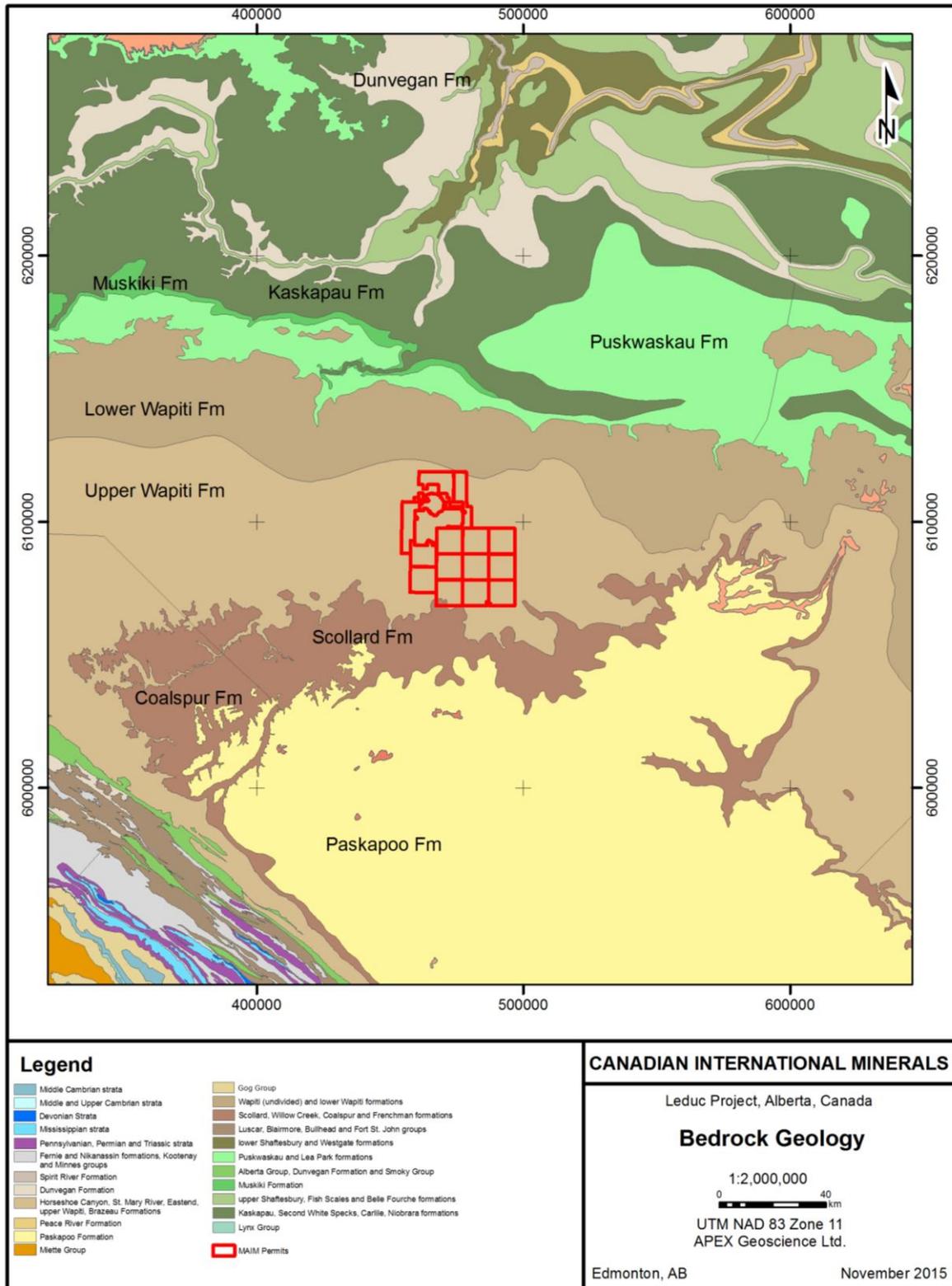
Overlying the basement is a thick sequence of Phanerozoic rocks comprised mainly of Tertiary and Cretaceous sedimentary clastic rocks and Mississippian to Devonian carbonate, sandstone and salt (e.g., Green et al., 1970; Tokarsky, 1977; Glass, 1990; Mossop and Shetson, 1994; Figure 12). At the base of the Beaverhill Lake Group (Table 5), the Elk Point Group is comprised of restricted marine carbonates and evaporites which gradationally overlie the Watt Mountain Formation (Mossop and Shetson, 1994). The Upper Elk Point, including the Ft. Vermillion, Muskeg and Watt Mountain formations are an aquitard layer (Hitchon et al., 1990). Overlying the Elk Point Group rocks are the carbonates of the Slave Point Formation, which was deposited on an open marine carbonate platform and forms the base for the reef complexes in the region including the Swan Hills Complex and the Peace River Arch Fringing Reef Complex. The Devonian Swan Hills Reef Complex underlies the Leduc property. It is a sequence of shallowing upward reef cycles now composed of dolomite (Mossop and Shetson, 1994). The Swan Hills Complex is hydrogeologically part of the Beaverhill Lake aquifer system, which also contains elevated concentrations of Li (Hitchon et al., 1995).

The upper Devonian Woodbend Group conformably overlies the Beaverhill Lake Group (Table 5). The Woodbend Group is dominated by basin siltstone, shale and carbonate of the Majeau Lake, Duvernay and Ireton formations, which surround and cap the Leduc reef complexes. The Leduc reefs are characterized by multiple cycles of reef growth including backstepping reef complexes and isolated reefs (Mossop and Shetson, 1994). At the Property, the Leduc is composed of dolomite and is part of the Beaverhill Lake Aquifer (Hitchon et al., 1990). Hitchon et al. (1995) indicates that the Beaverhill Lake (Swan Hills) and the Woodbend (Leduc) aquifers may be indistinguishable and may in fact be connected. But the HCL report (2012) demonstrated that these two aquifers are in fact not connected at the CIN Property area.

The Leduc Formation (Woodbend Group) is host to prolific reserves of oil and gas in Alberta and contains elevated concentrations of Li (Hitchon et al., 1995). The Duvernay Formation is composed of dark bituminous shale and limestone which contain and preserve a large accumulation of organic carbon thought to be the source for most of the conventional hydrocarbons in the upper Devonian in Alberta. The Ireton Formation caps the Leduc reefs and was formed by an extremely voluminous influx of shale into the region (Mossop and Shetson, 1994). The Ireton Formation is an aquitard that forms an impermeable cap rock over the Leduc reefs (Hitchon et al., 1995).

The Woodbend Group is conformably overlain by the Winterburn and Wabamun Groups of upper Devonian age (Table 5). In the area of the property the Winterburn thickness in north-central Alberta is available from the logs of holes drilled for petroleum Group is composed of shale and argillaceous limestone. The Wabamun Group is composed of buff to brown massive limestone interbedded with finely crystalline dolomite at the base. These two Groups comprise the Wabamun-Winterburn Aquifer system from which a few anomalous Li analyses have been obtained (Hitchon et al., 1995). The Wabamun Group is unconformably overlain by the Lower Carboniferous Exshaw shale, an aquitard.

Figure 12. Regional bedrock geology of the Leduc Property area.



The Exshaw shale is overlain by the Banff Group, which is composed of a medium to light olive grey limestone with subordinate fine-grained siliciclastics, marlstone and dolostone overlying a basal shale, siltstone and sandstone unit (Mossop and Shetson, 1994). The Rundle Group conformably overlies the Banff Group and is composed of cyclic dolostone and limestone with subordinate shale. Permian strata in the area of the property are very thin. The Permian Belloy Group unconformably overlies the Rundle Group and is unconformably overlain by the Triassic Montney Formation. It is composed of shelf sand and carbonate (Mossop and Shetson, 1994).

The overlying Mesozoic strata (mainly Cretaceous) are composed of alternating units of marine and nonmarine sandstone, shale, siltstone, mudstone and bentonite. The Triassic is characterized by fine-grained argillaceous siltstone and sandstone. The overlying Jurassic Fernie Group is composed of limestone of the Nordegg Formation at the base overlain by interbedded sandstone, siltstone and shale (Mossop and Shetson, 1994). The Lower Cretaceous strata are represented by the Bullhead, Fort St. John and Shaftesbury Groups which comprise the second major clastic wedge of the Foreland basin (Table 5 and Figure 12).

The Upper Cretaceous is represented by the Dunvegan and Smoky Groups. The Dunvegan Formation is characterized by deltaic to marine, feldspathic sandstones, silty shales and laminated carbonaceous siltstones. The overlying Smoky Group is comprised of thinly bedded, marine, silty shale with occasional ironstone and claystone nodules and thin bentonite streaks. The youngest bedrock unit underlying the Property is the late Cretaceous Wapiti Formation (Figure 12). Strata consist of interbedded sandstone and siltstone with minor mudstone and coal, all derived from a northwestern source (Rahmani and Lerbekmo, 1975). Depositional environments were mainly fluvial with local areas of lacustrine influence. The Wapiti Formation attains a thickness greater than 1300 m along the western edge of the foothills and thins toward the east. Outcropping Wapiti Formation can be found along river and stream cuts throughout the property.

7.4 Late Tertiary – Quaternary Geology

During the Pleistocene, multiple southerly glacial advances of the Laurentide Ice Sheet across the region resulted in the deposition of ground moraine and associated sediments in north-central Alberta (Dufresne et al., 1996). The majority of the Leduc Property is covered by drift of variable thickness, ranging from a discontinuous veneer to just over 15 m (Pawlowicz and Fenton, 1995a, b). Bedrock may be exposed locally, in areas of higher topographic relief or in river and stream cuts. The advance of glacial ice may have resulted in the erosion of the underlying substrate and modification of bedrock topography. Limited general information regarding bedrock topography and drift thickness in north-central Alberta is available from the logs of holes drilled for petroleum, coal or groundwater exploration and from regional government compilations (Mossop and Shetson, 1994; Pawlowicz and Fenton, 1995a, b). Glacial ice is believed to have receded from the area between 15,000 and 10,000 years ago.

7.5 Structural Geology

In northern Alberta, the Peace River Arch (“PRA”) is a region where the younger Phanerozoic and Cenozoic rocks, which overlie the Precambrian basement, have undergone periodic vertical and, possibly, compressive deformation from the Proterozoic into Tertiary time (Cant, 1988; O’Connell et al., 1990; Dufresne et al., 1995, 1996). This pattern of long-lived, periodic uplift and subsidence has imposed a structural control on the deposition patterns of the Phanerozoic, and to a lesser extent the Cenozoic, strata in northern and north central Alberta. In addition, this periodic movement has resulted in a rectilinear pattern of faults that is responsible for the structurally controlled reefs along with oil and gas pools found throughout this area.

During the Devonian, the PRA was emergent and was a positive paleo-topographic relief feature oriented east-northeast from the British Columbia provincial border to at least as far east as Red Earth Creek. Towards the end of the Devonian and into the Mississippian the PRA collapsed and became the Peace River embayment. The embayment filled in during the Mississippian with a thick sequence of siliciclastic rocks along with dolostones and limestones.

A number of Alberta’s prominent Devonian Reef Complexes are underlain by and proximal to basement faults and that these reef complexes promoted growth over long periods of time at fault interfaces along the shallow water side or uplifted block edge of these faults during slow subsidence of the down side of the fault (e.g., Bloy and Hadley, 1989; Dufresne et al., 1996). The northwest trending Fox Creek basement structural break lines up well with the adjacent and overlying edge of the Swan Hills platform and with the prominent Fox Creek gas zone that underlies the property and is contained within or spatially related to the Beaverhill Lake carbonates.

7.6 Mineralization

Mineralization on the property consists of Li-enriched Na-Ca brines hosted in aquifers within Devonian Leduc Formation carbonate reef complexes with demonstrated good porosity and permeability. Hitchon et al. (1995) identified the potential Li bearing formation water brines in the Woodbend formation aquifer associated with reef complexes in the Swan Hills Area. The northern Woodbend (Leduc) formation aquifer has a potentially productive area of about 300 km² with the entire surface aquifer area underlying the Leduc Property at a depth of approximately 2,500-3,100 m below surface.

Hitchon et al. (1995) suggests the potentially productive zone in the northern Woodbend (Leduc) aquifer has an average thickness of 25 m, an average porosity of 6% and an average permeability of 2×10^{-14} m². Geochemical data from the Woodbend (Leduc) formation aquifers suggests that significant concentrations of Li, K, B, Br, Mg, Ca and Na are present in the formation water.

Petroleum products are being produced from at least 133 active wells within the boundaries of the Leduc Property. The Swan Hills region represents a mature petroleum field and today, most, if not all of the wells produce far more water than petroleum products. Many of the wells in this area in their early history started out at hundreds to thousands of barrels per day of petroleum products and required little active pumping to extract. However, at present most of the wells produce excessive amounts of formation water in comparison to petroleum products. For example, many of the batteries in the region, which take in production from five to ten wells, produce on average less than 200 barrels per day of petroleum products with pumping and produce anywhere from 5,000 to 50,000 gallons per hour of formation waters (about 2,500 to 25,000 barrels per day) from Devonian formation aquifers underlying the petroleum reservoir (as documented in GeoSCOUT™).

8.0 Deposit Types

Formation waters associated with some of the world's oilfields are known to contain medium to highly anomalous concentrations of Li and are considered potential sources for large tonnages of Li. For example, the Smackover brines in the southern United States (Arkansas and Texas) are high NaCl and CaCl₂ brines with concentrations of Li ranging from 50 to 572 ppm (Garrett, 2004; Tahil, 2007). The high Ca and Br content of these brines suggest they are concentrated seawater dolomitization brines with the high concentrations of Li (along with B and other trace ions) supplied by geothermal sources. The Smackover brines are found at depths ranging from 1,800 to 4,800 m. The brine is hosted in an oolitic limestone with an average porosity of about 5% (Garrett, 2004). Currently only Br is recovered from the Arkansas brines however studies have been conducted on the potential recovery of Li (Garrett, 2004; Tahil, 2007).

Lithium-enriched (>50 mg/kg) brines are present within the Late Devonian Beaverhill Lake (Swan Hills), Winterburn (Nisku) and Woodbend (Leduc) groups (formations) of the Alberta Basin. Early studies proposed a source related to connate water (original sea water) that was altered by diagenesis with selective membrane-filtration of lithium (Billings et al., 1969). Geochemical and isotopic data were used by Eccles and Berhane (2011) to suggest that any viable lithium-source models for the Swan Hills area of northwestern Alberta should invoke direct mobilization of silicate-bearing fluids from either the crystalline basement or the immature siliciclastics deposited above the basement (basal Cambrian sandstone, Granite Wash or the Gilwood Member), to the Devonian Beaverhill Lake and Leduc formation waters. Based on major ion and strontium, lead and Li isotopic geochemistry, Eccles and Berhane (2011) concluded that the source of the lithium is ultimately unknown, but it precludes halite precipitation, lacks a meteoric water source, involves alteration of silicates (particularly Li- and K-bearing minerals), and appears to correlate with dolomitization.

More recently, Huff (in press) has shown that two Li-enriched brines have distinctly different geochemical characteristics, and thus distinct evolutionary histories, exist within the Late Devonian carbonates of the Alberta Basin. Li-enriched brines of the Nisku and Leduc Formations were formed by preferential dissolution of Li-enriched late-

stage evaporate minerals, likely from the Middle Devonian Prairie Evaporite, into evapoconcentrated Late Devonian seawater. Dense Li-enriched brines formed through evaporite dissolution migrated downward into the Middle Devonian Winnipegosis Formation and then westward by gravity-driven flow in response to westward tilting of the Winnipegosis Formation beginning in Jurassic time. Laramide tectonics and modern-day upward movement of water through Devonian carbonates has emplaced the diluted Li-enriched brines into the Late Devonian carbonate reef complexes or the Nisku and Leduc Formations (Huff, in press).

Brines of the Swan Hills Formation were formed through halite dissolution and mixing with Li-enriched fluids possibly expelled from Precambrian crystalline basement rocks (Huff, in press), which supports the hypothesis of Eccles and Behrane (2011). Further, Eccles and Behrane (2011) argued that these Li-enriched brines had not been evapo-concentrated past halite saturation, lacked a meteoric water component and became Li-enriched through mixing with fluids expelled from crystalline basement rocks.

9.0 Exploration

No past or recent exploration work has been conducted by the Company at the Leduc Property for the intent to explore for Li in formation water.

10.0 Drilling

No past or recent drilling has been conducted by the Company at the Leduc Property for the intent to explore for Li in formation water.

11.0 Sample Preparation, Analysis and Security

The Company has yet to conduct any sampling or analytical work at their Alberta Leduc Property for the intent to explore for Li-brine.

12.0 Data Verification

12.1 Verification of Historical Government-Published Geochemical Formation Water Data

The historical formation water analyses maintained in the archives of the Alberta Energy Regulator are composed of a variety of sampling and analytical methodologies. By the far majority of the historical data analyses are classified as 'standard' analyses, in which case sodium is calculated as the difference between the analyzed anions (chloride, sulphate, bicarbonate and carbonate) and cations (calcium and magnesium). These analyses inherently include accumulated analytical and other errors, and trace elements are rarely reported. Although these 'standard' analyses are of limited utility – especially for detailed work such as evaluating water-rock reactions – their occasional inclusion of trace elements is of interest particularly when Li, Br, B and I are included. Other sources of historical analytical data include the mid-1970s, the RCAH-series (Research Council of Alberta Hitchon series) focused on formation water collected as

part of drill-stem testing and conducted trace element analyses at chemical and geological laboratories using ICP methods (Hitchon, 1995).

The 'standard' and 'RCAH-series' data were evaluated for robustness and charge imbalances using SOLMINEQ.88 (Kharaka et al., 1988). Any assays with a charge imbalance of >15% were rejected; of the analysis retained, approximately 66% and 23% had a charge imbalance of <5% and 5-10%, respectively. In reviewing historical Alberta oilfield formation waters data, the authors have reviewed only the pre-culled data of Hitchon et al. (1995). For further review on the data culling, the full details of the manipulations carried out on these historical data can be reviewed in Hitchon (1993).

12.2 Verification of the Historical 2011 Water Sampling/Geochemical Program

The 2011 sampling program conducted by Lithium Exploration Group Inc. was supervised by APEX and the brine was analyzed by a certified laboratory that specializes in oil, gas and formation water analysis. In an arrangement between Lithium Exploration Group Inc. and the oil and gas company that was operating in the Sturgeon Lake oilfield at the time (Barrick Energy Inc.), the 2011 samples were collected as part of routine formation water assessment conducted by the energy company. While APEX staff was present and oversaw the collection of all samples, the appropriate duplicate samples and sample control blanks were not included during the sample collection and this is an obvious oversight on the QAQC control of the sample set.

APEX mandated sampling controls included stipulations that the sample wells be hooked up to the separators for a minimum of 24 hours in advance in order to insure proper flushing of the system and reduce the chance of contamination. Those formation water samples that were taken from wells that did not have the separators running for 24 hours were removed from the dataset used in this Technical Report. At each sample site, APEX staff wrote down the battery name (if one was present), the sample number (the Unique Well Id for every well that was sampled), field note comments and a photograph of the sample site. A total of four wells sampled during the program were incorrectly identified (i.e., miss-recorded) and were either revised accordingly, or removed from the dataset.

The authors have reviewed all geotechnical and geochemical data, and taken the necessary steps to understand the analytical methodologies that were conducted by independent laboratories. It is the author's opinion that the adequacy of sample preparation, security, and analytical procedures were followed, are acceptable and there are no significant issues or inconsistencies that would cause one to question the validity of the data collection.

With respect to analytical precision and accuracy data assessment, it is important to point out that the quality assurance-quality control procedures are lacking overall in the 2011 dataset (a function of Lithium Exploration Group Inc.'s agreement with Barrick Energy Inc.). It is recommended that any future brine sample collection and analysis provide adequate confidence in the data collection and processing by collecting

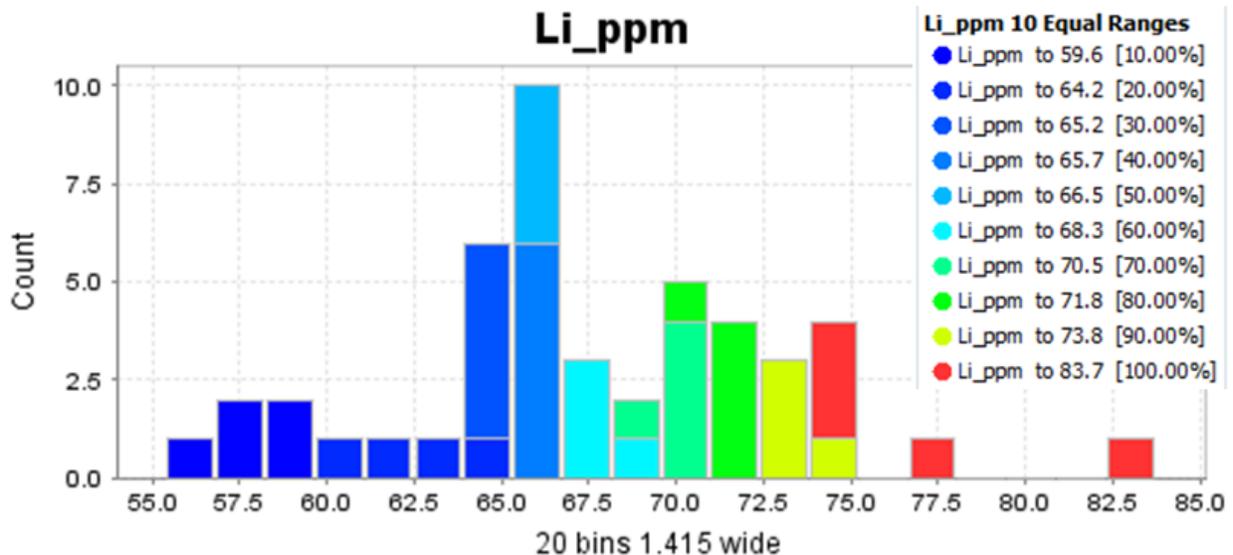
duplicate samples (e.g., one every five samples) and insertion of control blanks (e.g., one every ten samples).

A statistical review of the 2011 formation water analytical data is presented in Table 6. With respect to lithium, the analytical results range from 55.4 ppm (or mg/L) to 83.7 ppm with a mean of 67.5 ppm. A histogram of lithium shows that the majority of the 47 samples yielded values of between 65 and 75 ppm Li (70%; Figure 13). The overall distribution of lithium has a relative standard deviation, or RSD%, of 8.1%, which is indicative of a fairly homogenous range of lithium values in Leduc-aged formation water from the Sturgeon Lake oilfield.

Table 6. Statistical summary of the 2011 Leduc formation water analytical data. Minimum limit of detection for lithium is 0.02 mg/L.

	<u>Li_ppm</u>	<u>K_ppm</u>	<u>B_ppm</u>	<u>Br_ppm</u>	<u>Ca_ppm</u>	<u>Mg_ppm</u>	<u>Na_ppm</u>
Count Numeric	47	47	47	47	47	47	47
Minimum	55.4	3,950.0	92.4	330.0	19,800.0	2,300.0	52,200.0
Maximum	83.7	6,470.0	137.0	500.0	28,100.0	4,630.0	71,400.0
Mean	67.5	4,641.3	114.0	394.3	23,595.7	2,887.4	62,385.1
Median	66.5	4,440.0	112.0	390.0	23,000.0	2,580.0	61,300.0
Standard Deviation	5.5	505.1	11.7	33.2	2,120.7	537.6	4,596.1
RSD%	8.1	10.9	10.3	8.4	9.0	18.6	7.4

Figure 13. Histogram of lithium results of Leduc formation water from the Sturgeon Lake oilfield. Minimum limit of detection for lithium is 0.02 mg/L.



Lastly, the average lithium concentrations were generally lower in the 2011 dataset in comparison to the historical data within the boundaries of CIN's Property. The exact reason for this is not known; it could be related to, for example: advances in analytical technique; aquifer dynamics; a temporal grade association; or a combination thereof. Nevertheless, the analytical results of the 2011 formation water sampling program did confirm that the Leduc Formation aquifer within the Leduc Property contains anomalous concentrations of Li as suggested historically by numerous Alberta Geological Survey authors (e.g., Hitchon et al., 1990, 1993, 1995; Underschultz et al., 1994; Bachu et al., 1995; Eccles and Jean 2011).

12.3 Confirmation of Current Well Production

A site inspection was completed in July 2016 as part of this Technical Report, and the senior author observed several active Canadian Natural Resources Ltd. wells within the boundaries of the Property were observed, including:

- Canadian Natural Resources Limited Sturgeon Lake South Plant;
- Well CNRL Sturlks 07-11-069-22W5;
- Well CNRL Sturlks 08-11-069-22W5; and
- Well CNRL Sturlks 11-11-069-22W5.

Annual production from these wells is 55-1,056 m³ oil, 32-134 e³m³ gas and 2,690-7,958 m³ water (to April 29th, 2016). The Sturgeon Lake South Plant includes: a crude oil multiwall proration battery; gas plant Sulphur recovery; disposal; and a third party tank farm/oil loading and unloading terminal.

In addition, an office-based study was conducted to confirm current oil and gas production in the Sturgeon Lake oilfield, and that formation water continues to be extracted from Devonian Leduc aquifers as a by-product of petroleum production. The study was conducted by accessing the AER database via GeoSCOUT™ (a recognized industry software standard). The data search focused specifically on those wells that were sampled and had lithium values of greater than 50 mg/L Li, as defined during LEXG's 2011 brine sampling program (see Section 6, History; and Table 4).

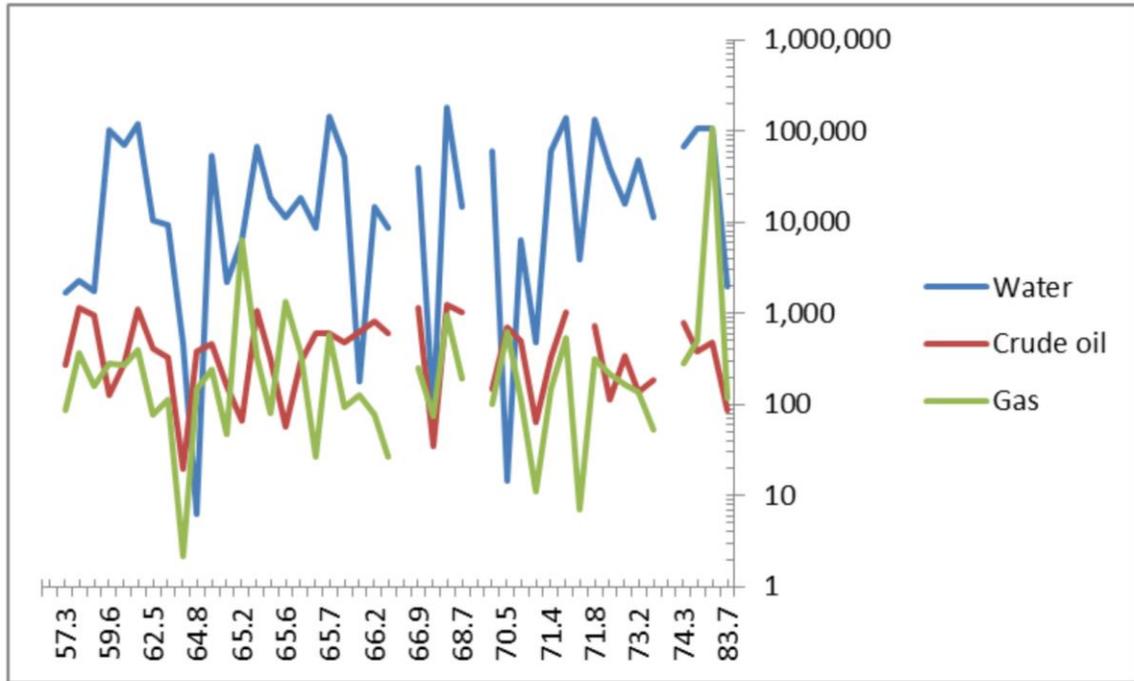
The result of the well production activity search is presented in Table 7 and Figure 14. Of the 47 wells that were sampled in 2011 and have >50 mg/L Li, 36 wells or 77% of the wells are actively producing as of 7 September 2016. These wells produced 1.3 million m³ of water in 2015; 1.766 million m³ of water if 11 suspended wells are included (Table 7). The Sturgeon Lake oilfield is a mature oilfield. Current hydrocarbon production produces significant volumes of water in comparison to petroleum products (Figure 14; see 2015 production values versus those over the lifespan of the wells).

Table 7. Current (cumulative 2015) production values of water, gas and crude oil for selected wells in the Sturgeon Lake oilfield. The wells correspond to those wells that were sampled during a 2011 APEX-supervised brine sample survey and had greater than 50 mg/L lithium.

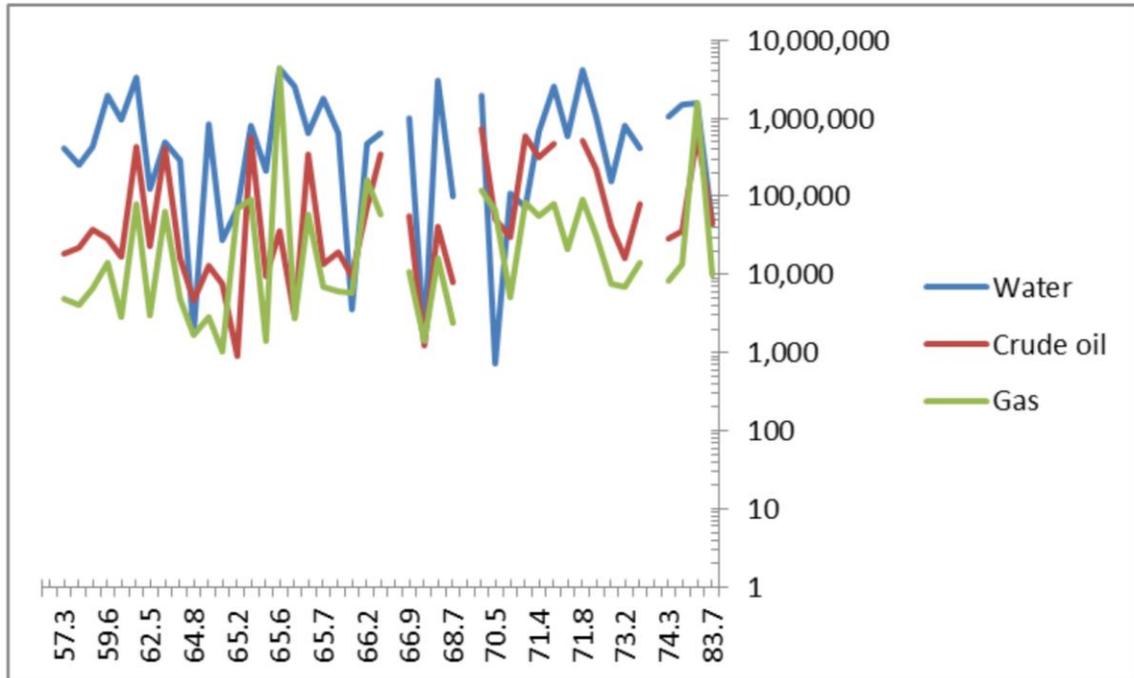
Well Name and Well ID	Well status	Maxxam Sampling Location	Group/Formation	2015 Production values				Cumulative production (lifetime)		
				Lithium (mg/L)	Water (m ³)	Gas (1,000 m ³)	Crude oil (m ³)	Water (m ³)	Gas (1,000 m ³)	Crude oil (m ³)
BARRICK 102 STURLKS 10-05-069-21-W5/03	Suspended	SEPARATOR @ BATT #5	Devonian - Woodbend	83.7	1,956	117	88	45,064	9,996	45,286
BARRICK STURLKS 03-12-069-22-W5M	Suspended	SEPARATOR @ 02-11 BATT	Devonian - Woodbend	76.9	105,083	105,083	484	1,539,439	1,539,439	621,570
BARRICK S. STURGEON 05-10-069-21-W5M	Suspended	SEPARATOR @ 02-09 BATTERY	Devonian - Woodbend	74.4	105,003	498	379	1,470,531	13,534	35,510
BARRICK STURLKS 10-06-069-21-W5	Active	DUMPLINE @ BATT #6	Devonian - Woodbend	74.3	68,375	282	790	1,035,239	8,152	28,429
BARRICK 102 STURLKS 05-32-071-23-W5/02	Active	PRODUCTION WATER @ 05-32 BATT	Devonian - Woodbend	74.0	/	/	/	/	/	/
BARRICK STURLK 11-16-071-23-W5	Active	PRODUCTION WATER @ 14-21 BATT	Devonian - Woodbend	73.8	11,351	53	187	407,439	14,181	79,525
BARRICK 102 STURLKS 05-09-069-21-W5	Suspended	DUMPLINE @ 02-09 BATT	Devonian - Woodbend	73.2	47,395	137	139	806,170	6,994	16,074
BARRICK STURLKS 07-26-069-23-W5	Active	DUMPLINE @ 05-19 BATT	Devonian - Woodbend	72.7	15,684	168	347	157,246	7,568	40,371
BARRICK STURLKS 11-36-068-22-W5	Suspended	SEPARATOR @ BATT #36	Devonian - Woodbend	72.5	39,294	218	113	1,050,781	30,714	219,239
BARRICK STURLKS 01-01-069-22-W5	Active	SEPARATOR @ BATT 06-01	Devonian - Woodbend	71.8	135,554	320	737	4,060,121	91,115	522,390
BARRICK STURLK 11-06-072-23-W5	Active	TEST SEPARATOR @16-31 SATELLITE	Devonian - Woodbend	71.8	3,915	7	n/a	587,979	21,030	n/a
BARRICK STURLKS 13-31-068-21-W5	Active	SEPARATOR @ BATT #31	Devonian - Woodbend	71.5	141,303	539	1,030	2,590,092	80,676	462,778
BARRICK STURLKS 07-19-069-22-W5	Active	DUMPLINE @ 05-19 BATT	Devonian - Woodbend	71.4	60,271	150	332	671,951	54,717	321,150
BARRICK STURLKS 11-06-069-21-W5	Suspended	DUMPLINE @ BATT #6	Devonian - Woodbend	70.9	482	11	65	73,635	82,834	575,744
BARRICK 102 STURLKS 01-32-071-23-W5M/02	Active	SEPARATOR @ 16-29 (@ 10-29 BATT)	Devonian - Woodbend	70.5	6,273	119	495	107,461	5,017	29,454
STURGEON LAKE SOUTH 08-09-069-21-W5/2	Active	SEPARATOR @02-09 BATTERY	Devonian - Woodbend	70.5	14	637	700	713	67,820	51,631
BARRICK STURLKS 05-05-069-21-W5	Active	SEPARATOR @ BATT #5	Devonian - Woodbend	70.2	60,111	102	149	1,940,142	117,561	729,382
BARRICK STURLKS 02-02-069-22-W5	Active	PRODUCED SALT WATER	Devonian - Woodbend	69.6	/	/	/	/	/	/
BARRICK 102 STURLKS 11-11-069-22-W5/02	Active	PRODUCTION WATER @ 02-11 BATT	Devonian - Woodbend	68.7	14,790	196	1,040	100,405	2,414	7,807
BARRICK 102 STURLKS 05-12-069-22-W5/05	Active	SEPARATOR @ 02-11 BATT	Devonian - Woodbend	68.3	184,800	941	1,219	3,097,224	15,915	40,360
BARRICK STURLKS 12-05-069-21-W5	Suspended	SEPARATOR @ BATT #5	Devonian - Woodbend	67.4	73	73	35	1,431	1,431	1,236
BARRICK 102 STURLKS 16-10-069-22-W5	Active	SEPARATOR @ 14-10 BATT	Devonian - Woodbend	66.9	39,595	250	1,142	990,590	10,771	55,502
BARRICK 102 STURLKS 06-11-069-22-W5/02	Active	PRODUCTION WATER @ 02-09 BATT	Devonian - Woodbend	66.9	/	/	/	/	/	/
BARRICK STURLKS 15-31-068-21-W5	Active	TEST SEPARATOR @ BATTERY #31	Devonian - Woodbend	66.5	8,534	26	606	649,886	58,056	351,098
BARRICK STURLKS 16-01-069-22-W5/02	Active	DUMPLINE @ 02-12 (@ 06-01 BATT)	Devonian - Woodbend	66.2	14,902	79	810	478,121	158,803	72,355
BARRICK 103 STURLKS 06-05-069-21-W5/02	Active	DUMPLINE @ 10-05 (@ BATT #5)	Devonian - Woodbend	66.2	179	125	635	3,489	5,859	9,667
BARRICK STURLKS 10-01-069-22-W5/02	Active	SEPARATOR @ 06-01 BATT	Devonian - Woodbend	65.8	51,575	95	484	647,023	6,019	18,880
BARRICK 102 STURLKS 07-06-069-21-W5	Active	SEPARATOR @ BATT #6	Devonian - Woodbend	65.7	145,729	581	601	1,761,100	6,962	13,777
BARRICK STURLKS 15-31-068-21-W5	Active	DUMPLINE @ BATT #31	Devonian - Woodbend	65.7	8,534	26	606	649,886	58,056	351,098
BARRICK STURLKS 10-11-069-22-W5/02	Active	PRODUCTION WATER @ 02-11 BATT	Devonian - Woodbend	65.7	18,728	362	298	2,514,395	2,746	2,808
BARRICK STURLK 08-11-069-22-W5	Active	SEPARATOR @ 02-11 BATT	Devonian - Woodbend	65.6	11,357	1,357	58	4,326,501	4,326,501	35,843
BARRICK STURLK 04-03-069-22-W5/02	Active	SEPARATOR @ 03-03 BATT	Devonian - Woodbend	65.6	18,646	79	321	208,249	1,407	9,366
BARRICK STURLKS 01-06-069-21-W5	Active	SEPARATOR @ BATT #5	Devonian - Woodbend	65.5	66,853	324	1,057	787,375	91,285	556,779
BARRICK STURLK 14-34-068-22-W5	Active	SEPARATOR @ 03-03 BATT	Devonian - Woodbend	65.2	6,468	6,468	66	70,252	70,252	886
BARRICK 102 STURLKS 06-06-069-21-W5	Suspended	SEPARATOR @ BATT #6	Devonian - Woodbend	65.2	2,158	47	159	27,601	1,021	7,722
BARRICK STURLKS 04-12-069-22-W5/02	Active	DUMPLINE @ 02-11 BATT	Devonian - Woodbend	64.8	54,416	242	454	853,351	2,806	12,888
BARRICK STURLKS 09-01-069-22-W5/02	Suspended	SEPARATOR @ 06-01 BATT	Devonian - Woodbend	64.8	6	150	381	1,783	1,657	4,607
BARRICK 102 STURLKS 01-31-068-21W5M	Active	DUMPLINE @ BATTERY 31	Devonian - Woodbend	64.6	467	2	20	284,704	4,845	16,365
BARRICK VALLEYVIEW 07-11-069-22-W5	Active	SEPARATOR @ 02-11 BATT	Devonian - Woodbend	64.2	9,392	115	326	485,713	64,470	415,368
BARRICK STURLKS 08-34-068-22-W5/02	Active	PRODUCTION WATER @ 03-03 BATT	Devonian - Woodbend	62.5	10,523	77	420	122,542	3,034	22,643
BARRICK STURLKS 13-27-068-22-W5	Active	DUMPLINE @ 03-03 BATT	Devonian - Woodbend	61.1	118,359	394	1,125	3,256,413	79,390	428,109
BARRICK 102 STURLKS 06-36-068-22-W5	Suspended	SEPARATOR @ BATT #36	Devonian - Woodbend	59.9	69,880	267	279	952,302	2,846	16,803
BARRICK 102 STURLKS 14-32-071-23-W5/02	Suspended	PRODUCTION WATER @ 05-32 BATT	Devonian - Woodbend	59.6	102,091	278	127	1,970,266	13,955	28,712
BARRICK STURLKS 02-20-069-22-W5	Active	SEPARATOR @ 16-17 BATT	Devonian - Woodbend	59.3	1,724	161	952	423,604	6,776	37,511
BARRICK STURLKS 05-19-069-22-W5/03	Active	DUMPLINE @ 05-19 BATT	Devonian - Woodbend	58.1	2,245	366	1,131	250,810	4,001	21,775
BARRICK 103 STURLKS 05-05-072-23-W5	Active	PRODUCTION WATER @ 16-31 BATT	Devonian - Woodbend	57.3	1,672	86	268	406,968	4,956	18,515
BARRICK 103 STURLK 07-21-071-23-W5	Active	SEPARATOR @ 14-21 BATT	Devonian - Woodbend	55.4	/	/	/	/	/	/

Figure 14. Cumulative 2015 (A) and lifetime (B) water, crude oil and gas production from selected wells in the Sturgeon Lake oilfield. The wells correspond to those wells that were sampled during a 2011 APEX-supervised brine sample survey and had greater than 50 mg/L lithium.

A) Cumulative 2015 production values



B) Cumulative lifetime of well production values



13.0 Mineral Processing and Metallurgical Testing

The Company has yet to conduct any mineral processing, metallurgical testing or extraction/recovery test work at their Alberta Leduc Property for the intent to explore, recover and extract lithium from Devonian brine.

To the best of the author's knowledge, no company or process has successfully extracted lithium and metalliferous elements from Alberta-specific formation water/brine. Several extraction processes have been, and are currently being, researched, tested and patented for the removal of high purity lithium (approximately 99.5% purity) from brine (Garrett, 2004; Tran and Luong, 2015); however, companies involved in the extraction of Li typically develop proprietary processes, the details of which are often undisclosed.

Metallurgical testing of lithium brine continues to make advancements. For example, California Simbol Materials and South Korean steelmaker POSCO claim to have developed proprietary methodologies designed to minimize large scale evaporation ponds and create a high efficiency recovery rate in comparison to traditional brine evaporation technology (e.g., Lithium Americas, 2015). This 'rapid extraction' technology essentially minimizes the step of beneficiating the brine by solar evaporation, and therefore, might have some applicability in Alberta where the evaporation technique is likely not possible given Alberta's climate. Note: the authors have been unable to verify the Simbol/POSCO technology and whether the technology would have influence on the recovery of elements of interest from the brine that is the subject of this Technical Report. Therefore, the reader should not assume that this technology is applicable to Alberta Li-brine processing until actual test work—by this method or other methods – has been conducted and reported.

With respect to Alberta oilfield brine, historical recovery test work has been conducted on Alberta Li-brine by at least two companies: Lithium Exploration Group Inc.; and Channel Resources Ltd. These companies explored two distinctly different methodologies to recover lithium and other elements of interest from Alberta oilfield brine as summarized in the text that follows.

13.1 Historical Test Work: Ultrasonic Cavitation (Lithium Exploration Group Inc.)

In 2011, Lithium Exploration Group Inc. invested in the development of Ultrasonic Technology to assist in separating suspended solids from vapour phase brine (Lithium Exploration Group Inc., 2012). The intent of the Ultrasonic technology is to take the formation water to the super-critical stage, thereby using minimal energy to separate and extract solids out of their suspended state in isolation from the vapour phase. The resulting slurry or cake would then require further processing to separate minerals of economic interest. It is not known if the technique was ever applied to test lithium extraction specific to Alberta formation water. Lithium Exploration Group Inc. is currently testing the cavitation technology to desalinate water and/or to upgrade crude oil.

13.2 Historical Test Work: Chemical Extraction Methods (Channel Resources Ltd.)

In 2010, Channel Resources Ltd. collected a bulk sample of approximately 2,000 litres and shipped a 1,500 litre sub-sample to Hazen Research, Inc. (“Hazen”) of Golden Colorado for testing. Hazen tested a variety of extraction methods to determine the optimal process to extract Li, B, K, and Br from the brine (Baughman and Gertenbach, 2011, Channel Resources Ltd., 2010). Hazen reported encouraging baseline recovery rates for all elements of interest by evaluating a variety of extraction methods, including:

- >95% of Li to an intermediary compound (up to 50% lithium chloride by solvent extraction and co-precipitation method with $Al(OH)_3$);
- Up to 88% of Br (as pure-bromine using chlorination/steam stripping);
- Up to 100% of B (as sodium borate using solvent extraction/sodium hydroxide stripping); and
- 40% K as carnallite (in staged evaporation with >70% recovery of KCl from carnallite).

Channel Resources Ltd. reported that the processes have not been optimized for cost-effectiveness and require further study to determine practical cost-efficient parameters. Nevertheless, the initial test results are a positive step towards future Alberta oilfield brine beneficiation and extraction technologies.

In 2010-2012, Channel Resources Ltd. engaged Chemetics to explore the possibility of using Nanofiltration technology coupled with chemical treatment to purify the brine to enhance the recovery of the metal contents, namely lithium and potassium, in the form of lithium and potassium chloride. Approximately 200 litres of acidified brine (pH 1) contained in a 45 gallon size plastic drum were sent by Channel to Chemetics’ Technology Centre for use as the representative brine solution for a two phase test. The result of this test work is not known.

13.3 Summary Opinion on Alberta Lithium-Brine Test Work

To end, the author’s note that the detailed methodologies and analytical detail of the Lithium Exploration Group Inc. and the Channel Resources Ltd. test work is currently not publicly available (beyond what has been presented in this section).

Consequently, it is not possible to provide reasonable discussion on the relevancy of this work as it pertains to the mineral processing of CIN’s Li-brine. In addition, the authors have been unable to verify the technologies tested by Lithium Exploration Group Inc. and the Channel Resources Ltd., and whether these technologies will have influence on the recovery of elements of interest from the brine that is the subject of this Technical Report. The discussion of this historical test work has been included, however, so that the reader is aware of this initial test work on Alberta lithium oilfield

brine, and in the event that analytical method and data might still become publicly available.

14.0 Mineral Resource Estimate

The intent of this Technical Report is to provide a geological introduction to the Company's Leduc Property in accordance with the Canadian Securities Administration's ("CSA's") National Instrument 43-101 ("NI 43-101"). Because exploration work, including lithium recovery test work, has yet to commence at the Leduc Property, it is not at this time possible to conduct mineral resource estimation work.

23.0 Adjacent Properties

The Swan Hills area lithium play in west-central Alberta is currently the subject of a new round of minerals staking for lithium-enriched oilfield formation water (Figure 15). Previous lithium exploration occurred between 2009 and 2012. As discussed in this report, the Leduc Property has a history of lithium exploration as the current Property area essentially mimics and replaces the lapsed Lithium Exploration Group Inc.'s Valleyview Property. There currently is no adjacent claim staking, possibly because the CIN permits cover the most productive portion of the Sturgeon Lake reef complex (from a hydrocarbon production perspective).

A second permit area located approximately 100 km southeast of CIN's Leduc Property is currently held by Empire Rock Minerals Inc. (formerly Dominica Energy Minerals Inc., David Augustin Heyman and Robin Charles Day on Figure 15). The Empire Rock permit area essentially mimics the permit area once held by Channel Resources Ltd. (2009-2013), who conducted: database compilations; a formation water sampling program of 13 producing gas wells; resource estimations; and solvent extraction metallurgical test work (e.g., Channel Resources Ltd., 2009, 2010, 2012). Channel Resources Ltd. work program targeted the Beaverhill Lake Group aquifer.

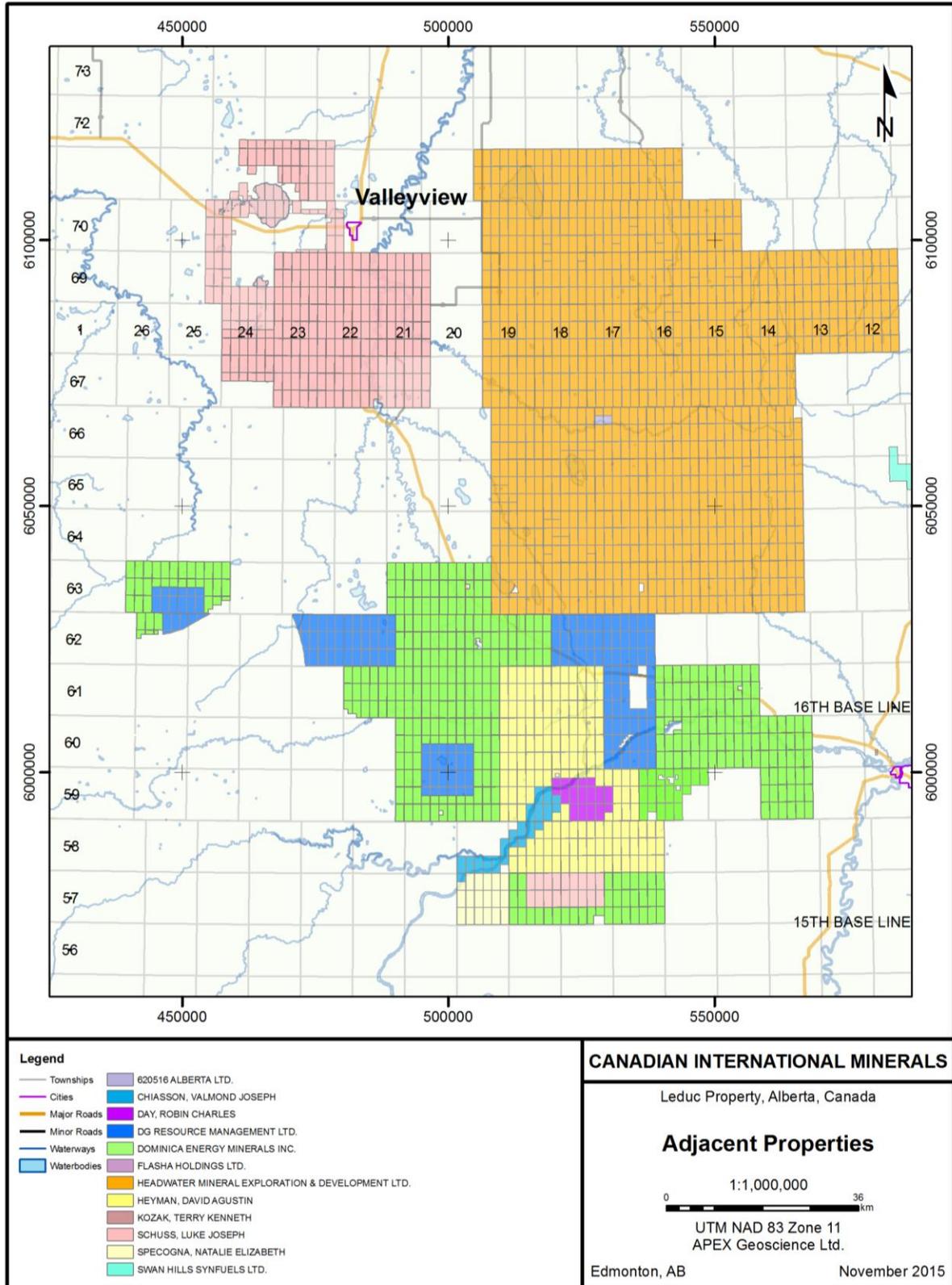
The general region surrounding the Empire Rock Minerals Inc., or Fox Creek area, has been staked by a number of competitors, including but not limited to: Dahrouge Geological Consulting Ltd.; DG Resource Management Ltd.; David Augustin Heyman; and MGX Minerals Inc. It is presumed that these companies and individuals staked the area for its lithium-enriched formation water potential.

Another large land holding is situated east of the Leduc Property. This land package is managed by Headwater Mineral Exploration and Development Ltd., who has explored the area for a number of years for a wide range of metallic and industrial mineral commodities that include: aggregate sand and gravel, clay/bentonite, diamonds, gold and silica (frac) sand.

24.0 Other Relevant Data and Information

None to report.

Figure 15. Adjacent properties in the vicinity of the Leduc Property.



25.0 Interpretation and Conclusions

APEX has prepared an introductory Technical Report for the Leduc Property in west-central Alberta. CIN acquired the permits to assess saline formation water, or brine, within Devonian reef complexes of the Woodbend Group (Leduc Formation) for dissolved Li, K, Br and B. CIN controlled 100% mineral interest in the Property, which consists of 15 contiguous Industrial and Metallic Mineral Permits encompassing 132,773.74 hectares (328,091.06 acres). The Permits grant the Company the exclusive right to explore for metallic and industrial minerals for seven consecutive two-year terms (total of fourteen years), subject to traditional biannual assessment work.

In August 2016, CIN disposed of the Leduc Property and will no longer pursue any activity/development at the Property. CIN sold the project to Zimtu Capital Corp. (Canadian International Minerals Inc., 2016), who in turn sold it to MGX Minerals Inc. (MGX Minerals Inc., 2016).

To date no brine sampling work or resource estimation work has been completed, and the Company relied on historical brine geochemical fluid data to stake the permits. Consequently, the intent and purpose of this amended and revised Technical Report is to provide a geological introduction to the Leduc Property.

The effective date of this report is 7 September, 2016.

As exploration work has yet to be conducted by the Company on the Property, the History Section forms a major component of this Technical Report. The section provides an overview discussion of the discovery of lithium in Alberta's Devonian formation water and the geochemical results of historical oil and gas formation water sampling including the Li, K, Br and B content of those brines that were sampled from oil and gas wells spudded within the boundaries of CIN's Leduc Property.

The Leduc Formation aquifer within the Leduc Property contains anomalous concentrations of Li as suggested historically by numerous Government of Alberta authors (e.g., Hitchon et al. (1990, 1993, 1995; Underschultz et al., 1994; Bachu et al., 1995; Eccles and Jean 2010; Eccles and Berhane, 2011). Government of Alberta historical data shows that at least 25 wells within or near the Leduc Property yield anomalous concentrations of Li. Of note, ten wells have reported concentrations of over 75 mg/L Li in the Woodbend (Leduc) aquifer.

The Government of Alberta lithium-brine data values at the Leduc Property were confirmed in a 2011 formation water sampling program conducted by APEX on behalf of Lithium Exploration Group. A total of 62 samples were collected from 60 separate wells within the Leduc Property. Of the 62 samples, 47 were collected from the Leduc Formation (Woodbend Group). Other samples included formation waters from: Mississippian (1 sample from Banff), Triassic (11 samples from Montney, Spray River and undefined), Jurassic (1 sample from Nordegg) and Cretaceous (2 samples from

Wapiabi, Gething) samples. The Devonian Woodbend Group (Leduc Formation) brine contained up to (and averaged):

- 83.7 mg/L Li (average 67 mg/L Li);
- 6,470 mg/L K (average 4,641 mg/L K);
- 137 mg/L B (average 114 mg/L B);
- 394 mg/L Br (average 394 mg/L Br);
- 28,100 mg/L Ca (average 23,595.7 mg/L Ca);
- 4,630 mg/L Mg (average 2,887.4 mg/L Mg); and
- 71,400 mg/L Na (average 62,385.1 mg/L Na).

The 2011 samples collected from younger than Devonian aquifers (i.e., Mississippian to Cretaceous aquifers; n=15 samples) had significantly lower elemental counts. The presence of significant concentrations of Li and other elements in the Devonian Leduc Formation brine validates that CIN should place emphasis on Devonian aged aquifers at the Property.

The compilation of these historical data show that there are at least two prospective target areas for Li, K, B and Br mineral recovery within the Leduc Property; these areas correspond to producing crude oil and gas pools in the northern and east-central parts of the Sturgeon Lake reef complex.

26.0 Recommendations

The Leduc Property – more appropriately named the Sturgeon Lake Property – is classified as an early stage exploration project and will remain so until viable lithium recovery methodologies can be shown to extract the elements of interest from the brine. Once done, the project can then present a mineral resource estimate with the necessary level of confidence.

Accordingly, the authors recommend a two-phased approach with a total estimated cost of CDN\$535,000. These costs are outlined in Table 8 and summarized in the text that follows.

26.1 Phase One Exploration Work

Recommended Phase One work involves negotiating access to the formation waters with the oil and gas companies, and a formation water geochemical sampling program at the Leduc Property. The total cost of the Phase One work is estimated at CDN\$80,000.

Table 8. Summary of Phase One and Phase Two recommendations to advance the Sturgeon Lake lithium-enriched oilfield brine project.

Phase	Item	Description	Cost Estimate (CDN\$)	Totals (CDN\$)
Phase One	Access management planning	Negotiate formation water access with the oil and gas companies	\$5,000	\$80,000
	Sampling/analytical program	Collect 100 formation water samples from 70 to 80 separate wells for geochemical analysis	\$75,000	
Phase Two	Mineral resource estimations and NI 43-101 Technical Report	Using the results from Phase One work, in conjunction with reservoir characterization, prepare maiden inferred resource estimations	\$120,000	\$455,000
	Recoverability test work	Laboratory-scaled test work to explore and optimize recovery processes	\$300,000	
	Land management planning	Initiate surface disposition and environmental studies	\$35,000	
			Total	\$535,000

The objectives of brine sampling program are to: 1) test the brine in other parts of the Sturgeon Lake oilfield to fully quantify the areas (and wells) with elevated specialty elements; and 2) collect water samples for bench top test work that will focus on the extraction and recovery of lithium and other elements of interest. The sampling program should emphasis sample collection from within the Leduc Formation aquifer; in addition and where applicable, the sampling program should include brine from wells producing from the Beaverhill Lake Formation, which is known to have elevated Li, K and other elements (e.g., in the Fox Creek area located approximately 100 km southeast of the Leduc Property).

The sampling program should collect approximately 75-100 formation water samples from 70 to 80 separate wells. The sampling program should include a valid QAQC protocol including duplicate samples and sample control blanks to confirm the mineralization and laboratory process. The estimated cost of the Phase One sampling program and analytical work is CDN\$75,000.

Critical to the Phase One work, the sampling program should include optimally sized samples to initiate metallurgical/extraction test work – probably in the order of a 200 to 300 litre sample. Initial extraction experiments should focus on those techniques that

eliminate traditional methods of invasive mining or evaporation ponds that require significant land, water, and energy use.

26.2 Phase Two Exploration Work

Pending the results of the Phase One exploration work and confirmation of lithium-enriched brine at the Leduc Property, the ultimate purpose and objective of the Phase Two exploration work is to prepare a NI 43-101 compliant mineral resource estimate.

This work should include a preliminary assessment of land use management in the area with respect to surface dispositions, environmental studies and discussion on the factors or risks of how the current oil and gas operation could affect any future lithium-brine operation at the Leduc Property. The total cost of the Phase Two exploration work is estimated at CDN\$455,000 (Table 8).

As per CIM Best Practice Guideline for Brine Resources (1 Nov 2012), preparation of a resource estimate and ensuing Technical Report requires: Participation of a variety of Qualified Persons with relevant experience in brine geology such as geologists, hydrogeologists and geochemists; and disclosure of results must reflect the input of the entire team.

The mineral resource estimation can be calculated by multiplying the total in-place formation water by the average mineral grade (from the brine sampling and analyses). The total in-place formation water should consider the net volume of rock, regional porosity value and net brine. It is also necessary to include discussion on what influence the hydraulic parameters will have on resource extraction and overall brine recoverability as fluid withdrawal from any aquifer will form a drawdown effect that ultimately includes fluids from outside the property boundary. Any dewatering evaluation must therefore investigate and document hydraulic parameters such as permeability, transmissivity (permeability x aquifer thickness), and storativity (the volume of water expelled per unit surface area as a result of a change in head) to provide a range of volumes that could potentially be recovered. A rough estimate of the mineral resource estimation and hydrogeological characterization is estimated at CDN\$120,000.

Coincident with resource estimation, laboratory-scaled test work should be conducted to optimize the elemental recovery process. Initial extraction experiments should focus on those techniques that eliminate traditional methods of invasive mining or evaporation ponds that require significant land, water, and energy use. The cost of the preliminary laboratory-scaled pilot testing, which excludes any costs associated with water storage and/or disposal, is expected to cost CDN\$300,000.

Lastly, it is also recommended that Phase 2 include preliminary land management planning studies estimated at CDN\$35,000, including: investigation into co-habitation with oil and gas companies on issues including surface infrastructure and dispositions; and environmental studies. The total cost of the Phase Two exploration work is estimated at CDN\$455,000.

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28.0 Certificates of Authors

I, D. Roy Eccles, P.Geol., do here by certify that:

1. I am a Senior Consulting Geologist and Operations Manager 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 Manitoba in Winnipeg, Manitoba in 1986 and with a M.Sc. in Geology from the University of Alberta in Edmonton, Alberta in 2004.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 2003.
4. I have worked as a geologist for more than 25 years since my graduation from University and have been involved in all aspects of mineral exploration, mineral research and mineral resource estimations for metallic, industrial, specialty and rare-earth element mineral projects and deposits in Canada.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101. My technical experience with respect to Li-brine in Alberta includes: collaborative industry studies involving a variety of Qualified Persons with relevant experience in brine geology such as geologists, hydrogeologists and geochemists, that confirmed the Devonian petroleum system in Alberta contains enriched lithium and other elements of interest; and Government of Alberta AGS studies documenting the spatial location of lithium-enriched brine in Alberta and hypotheses on the source origins of the lithium.
6. I am responsible for and have supervised the “*Amended and Revised Technical Report, Geological introduction to the Sturgeon Lake oilfield lithium-brine, Leduc Property, west-central Alberta*” (the “Technical Report”) with an effective date of 7 September 2016. I conducted a personal site inspection of the Leduc Property on July 27, 2016. I also reviewed oil and gas production values at the Leduc Property to confirm that the wells are active to the end of 2015, and to verify that the energy companies continue to extract large volumes of formation water associated with hydrocarbon production.
7. I am not aware of any scientific or technical information with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.
10. I have not had any prior involvement with the Property that is the subject of the Technical Report.
11. 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 7 September 2016
Edmonton, Alberta, Canada

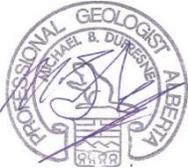


D. Roy Eccles, M.Sc., P.Geol.

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
Phone: 780-439-5380
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 for more than 25 years since my graduation from university.
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 assisted with the preparation of Sections 6.2 and 12.2 of the “*Amended and Revised Technical Report, Geological introduction to the Sturgeon Lake oilfield lithium-brine, Leduc Property, west-central Alberta*”, and dated 7 September 2016 (the “Technical Report”). These sections pertain to 2009-2012 exploration work that was managed by APEX Geoscience Ltd. (supervised by myself) on behalf of Lithium Exploration Group Inc. I last visited the Property on February 16th, 2011, which does not act in accordance with NI 43-101 as a current personal inspection.
7. I am not aware of any scientific or technical information with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.
10. I have not had any prior involvement with the Property that is the subject of the Technical Report.
11. 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 7 September 2016
Edmonton, Alberta, Canada



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