

NTS Map Sheets 83N04, 03; 83K13, 14

**TECHNICAL REPORT,
STURGEON LAKE Li-K-B-Br-Ca-Mg-Na OILFIELD BRINE INFERRED
MINERAL RESOURCE, LEDUC PROPERTY, WEST-CENTRAL
ALBERTA**

Prepared For:
Canadian International Minerals Inc.
West Pender Street, Box 28012
Vancouver, B.C., Canada V6C 3T7



Prepared by:
APEX Geoscience Ltd.
Suite 200, 9797 – 45th Avenue
Edmonton, Alberta, Canada T6E 5V8



Roy Eccles, M.Sc., P. Geol.
Michael Dufresne, M.Sc., P. Geol.

Effective Date: 22 January 2016
Edmonton, Alberta, Canada

Table of Content

Preface.....	1
1.0 Summary.....	3
2.0 Introduction.....	9
3.0 Reliance on Other Experts	13
4.0 Property Description and Location	14
4.1 Property Description.....	14
4.2 Property Rights and Maintenance	14
4.3 Coexisting Oil, Gas and Oil Sands Rights	16
5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography	17
6.0 History	19
6.1 Government Studies and the Discovery of Lithium-Bearing Formation Water .	19
6.2 Summary of 2009-2012 Exploration Work.	22
6.3 Summary of a 2012 Hydrogeological Aquifer Characterization Study.....	32
7.0 Geological Setting and Mineralization	33
7.1 Woodbend Group (Leduc) Aquifer System	33
7.2 Precambrian Geology	33
7.3 Phanerozoic Geology.....	36
7.4 Late Tertiary – Quaternary Geology	38
7.5 Structural Geology	39
7.6 Mineralization	39
8.0 Deposit Types	40
9.0 Exploration	41
10.0 Drilling	41
11.0 Sample Preparation, Analysis and Security.....	41
12.0 Data Verification	42
12.1 Confirmation of Current (2015) Well Production.....	42
13.0 Mineral Processing and Metallurgical Testing	45
14.0 Mineral Resource Estimate	45
14.1 Average Brine Grade used in the Resource Estimate.....	47
14.2 Total In-Place Formation Water Volume used in the Resource Estimate.....	49
14.3 Inferred Mineral Resource Estimate.....	51
14.4 Discussion: Hypothetical Recoverability of Brine	52
14.4.1 Hydraulic Parameters	52
14.4.2 Available Drawdown	53
14.4.3 Hypothetical Diversion Model and Recoverability	54
23.0 Adjacent Properties	57
24.0 Other Relevant Data and Information	57
25.0 Interpretation and Conclusions.....	59
25.1 Summary of the Inferred Mineral Resource Estimate.....	59
25.2 Other Considerations and Uncertainties	61
26.0 Recommendations	61
26.1 Phase One Exploration Work.....	63
26.2 Phase Two Exploration Work.....	63
27.0 References.....	65
28.0 Certificates of Authors	69

Tables

Table 1. Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate for selected elements within the Woodbend Group (Leduc) aquifer system of Canadian International Minerals Inc.'s Leduc Property..	7
Table 2. Industrial and Metallic Mineral Permit descriptions for Canadian International Minerals Inc. Leduc Property.....	16
Table 3. Representative chemical compositions in the Beaver Hill Lake (Swan Hills) and Woodbend (Leduc) formations as reported in Government of Alberta studies	22
Table 4. Results of 2011 formation water sampling conducted by APEX Geoscience Ltd. on behalf of Lithium Exploration Group Inc.	29
Table 5. Regional Stratigraphy of the Leduc Property area.....	34
Table 6. Current (cumulative 2015) production values of water, gas and crude oil for selected wells in the Sturgeon Lake oilfield.....	43
Table 7. Statistical summary of Leduc Formation (Woodbend Group) formation water samples used to calculate the average grade used in this mineral resource estimate..	47
Table 8. Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate for selected elements within the Woodbend Group (Leduc) aquifer system of Canadian International Minerals Inc.'s Leduc Property..	51
Table 9. Hypothetical mineral and end product resources that could be expected to be recovered over 20 years based on a range of calculated effective transmissivities (permeability x aquifer thickness) as determined from publicly available data..	55
Table 10. Summary of Phase One and Phase Two recommendations to advance the confidence level of CIN's lithium-enriched oilfield brine project.....	62

Figures

Figure 1. Location of Canadian International Minerals Inc. Leduc Property.	10
Figure 2. Exploration permits at Canadian International Minerals Inc. Leduc Property.	15
Figure 3. Current status of oil and gas wells in the Sturgeon Lake oilfield.	18
Figure 4. Historic wells in the Leduc Property that penetrated Devonian Strata.....	20
Figure 5. Distribution of lithium in Alberta formation waters.	23

Figure 6. Lithium distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.....	25
Figure 7. Potassium distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.....	26
Figure 8. Boron distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.....	27
Figure 9. Bromine distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.....	28
Figure 10. Histograms of selected elements from 2011 formation water sampling program.....	31
Figure 11. Inferred basement geology of the Leduc Property area.	35
Figure 12. Regional bedrock geology of the Leduc Property area.	37
Figure 13. Cumulative 2015 and lifetime water, crude oil and gas production from selected wells in the Sturgeon Lake oilfield.....	44
Figure 14. Explanation of key features in the resource estimate including the Canadian International Minerals Inc.'s Leduc Property, the Sturgeon Lake Reef Complex and the Resource Study Area..	48
Figure 15. Thickness three-dimensional and contour maps of the Leduc Formation (from Hydrogeological Consultants Ltd., 2012).....	50
Figure 16. Hypothetical aquifer diversion in the Resource Study Area.....	56
Figure 17. Adjacent properties in the vicinity of Canadian International Minerals Inc.'s Leduc Property.....	58

Preface

During 2012, APEX Geoscience Ltd. prepared an Inferred Li-K-B-Br-Ca-Mg-Na Resource for lithium-enriched formation water (brine) occurring in Devonian aquifers at prospective depths of between 2,700 and 4,000 m. The Technical Report was prepared for Lithium Exploration Group Inc., at their – then active – “Valleyview Property” in west-central Alberta. The mineral resource estimation and Technical Report, which had an Effective Date of March 22nd 2012, was prepared in accordance with the Canadian Securities Administrators National Instrument 43-101 and was estimated using the Canadian Institute of Mining, Metallurgy and Petroleum’s “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” (dated November 23rd, 2003) and “Definition Standards for Mineral Resources and Mineral Reserves” (dated November 27th, 2010). The Technical Report was never filed with the Canadian Securities Administrators on the SEDAR filing system as Lithium Exploration Group Inc. trades on the NASD:OTCBB under the stock symbol LEXG. The Technical Report was publicly available, however, on Lithium Exploration Group Inc.’s website with the technical aspects of the work publicly filed as Metallic and Industrial Mineral Assessment Reports with the Government of Alberta, Alberta Energy.

In November 2015, Canadian International Minerals Inc. (TSX-V:CIN) announced the acquisition of 15 Alberta Metallic and Industrial Mineral Permits that cover a large portion of the lapsed Valleyview Property. Canadian International Minerals Inc. now has 100% mineral rights to the contiguous permits (totalling 132,773.74 hectares), which are collectively referred to as the “Leduc Property”.

As per Section 2.4 Disclosure of Historical Estimates of Companion Policy 43-101CP,

The disclosure of an historical estimate will not trigger the requirement to file a Technical Report under paragraph 4.2(1)(j) of the Instrument if the issuer discloses the historical estimate in accordance with Section 2.4 of the Instrument, including cautionary statements required under paragraph 2.4(g).

An issuer could trigger the filing of a Technical Report under paragraph 4.2(1)(j) if it discloses the historical estimate in a manner that suggests or treats the historical estimate as a current mineral resource.

Under this requirement, the issuer must provide the required disclosure each time it discloses the historical estimate, until that time when the issuer has verified the historical estimate as a current mineral resource. Because the Leduc Property effectively mimics the resource estimate area encompassed in the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource, Canadian International Minerals has commissioned APEX Geoscience Ltd. to reissue the Technical Report on their behalf.

APEX Geoscience Ltd. and the senior authors of this Technical Report have appraised updating and reissuing the resource estimate that was originally prepared in

2012. It is concluded that the mineral resource estimate is still relevant and reliable because:

1. CIN's Leduc Property covers the entire resource estimate area that was the subject of the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource;
2. To the best of the authors knowledge, there has been no material change with respect to metallic and industrial minerals within the original resource estimation area (and region) that would affect the modelling and estimation parameters since the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource; and
3. The authors are intimately familiar with all of the data as APEX Geoscience Ltd.: conducted and managed the original oil field formation water sampling; oversaw the sample chain of custody and analytical work; validated and interpreted the resulting data; oversaw a hydrogeological aquifer characterization study; conducted the resource modelling and estimation; and finalized the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource and Technical Report.

By material change, the authors are not aware of any additional or new formation water sample surveys or aquifer studies that would alter the assay (or grade) or aquifer dimension parameters that were used in the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource estimation. That is, there is no new oilfield formation water analytical data that would modify the average grade of the individual elements being assessed. Regarding aquifer characterization, which is an important part of the estimation process, there are no known new pressure surveys and/or fluid level/production monitoring of current oil and gas infrastructure that would provide more detailed data on the aquifer dimensions (i.e., total in-place formation water) or its fluid-level response to fluid diversion. Hence the parameters used to estimate the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource have not changed.

Accordingly, the intent of this Technical Report is to announce an Inferred Li-K-B-Br-Ca-Mg-Na Resource on behalf of Canadian International Minerals Inc. at their Leduc Property. The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate has an effective date of 22 January 2016.

1.0 Summary

Canadian International Minerals Inc. (“CIN”) has commissioned APEX Geoscience Ltd. (“APEX”) to prepare a mineral resource estimation and Technical Report for lithium-enriched oilfield brine at their Leduc Property. 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 capital city of Alberta, Edmonton. 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. The Leduc permits are subject to a 2% gross overriding royalty to Strategic Staking & Exploration Inc. 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. 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 Property is situated in an area where mid-1990’s to mid-2010’s government formation water studies documented 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. Government of Alberta studies have documented that at least 25 wells within or near to the Leduc Property have yielded anomalous concentrations of Li 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 ppm Li in the Beaverhill Lake aquifer and ten wells have reported concentrations of over 75 ppm Li in the Woodbend (Leduc) aquifer. The Devonian aquifers are situated at prospective depths of between 2,700 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.

Previous exploration in the vicinity of the Leduc Property area is traditionally petroleum-related with numerous oilfields known to underlie the property and nearby area. CIN’s Leduc Property is strategically positioned over the Sturgeon Lake oilfield, which 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.

The Sturgeon Lake oilfield, and other oilfields in the Swan Hills region of west-central Alberta, represents mature petroleum fields. In the early history of this oilfield, 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. 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). By comparison, 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 pumped and injected volumes.

Currently, the extracted water is treated to separate and remove petroleum products and then 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.

Because both authors have been to, and conducted oilfield brine-related work at, the Property area, a site inspection was not conducted as part of this Technical Report. Alternatively, an office-based study was conducted to confirm that oil and gas companies are currently producing from the Sturgeon Lake oilfield, and that formation water continues to be extracted from Devonian aquifers as a by-product of petroleum production. This investigation shows that formation water continues to be treated as waste material, and at an operational cost to the companies, prior to the eventual injection of the brine back into the subsurface.

To confirm the historically documented specialty metal enrichment of the Sturgeon Lake oilfield brine, and to collect samples for bench top extraction/recovery test work, a 2011 formation water sampling program conducted by APEX collected 62 samples from 60 separate wells within the Leduc Property. Of the 62 samples, 47 were collected from the Woodbend (Leduc) aquifer. 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 (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; 394 mg/L Br; 28,100 mg/L Ca; 4,630 mg/L Mg; and 71,400 mg/L Na (Note: one mg/L is equal to one ppm). Hence, the 2011 water formation sampling program confirmed that Li and other elements are present in anomalous concentrations (e.g., greater than 75 ppm Li) in the Woodbend (Leduc) aquifer associated with the Sturgeon Lake oilfield underlying the Leduc Property. In addition, the Leduc aquifer contained significantly higher specialty metal values in comparison to younger-aged (Mississippian to Cretaceous) aquifers in the Property area.

The sampling program (and coincident historical compilation work) 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 within the Leduc Property boundaries. These two anomalous areas are associated with two Sturgeon Lake reef complex oilfield operations that are located approximately 21 km apart. The northern area contained an

historic well analysis with 140 ppm Li in formation water brine associated with the Leduc Formation. The east-central area yielded several Leduc formation water samples that contained greater than 75 ppm Li.

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 known material change, including additional formation water sampling, has taken place since the 2011 sampling program.

With assay data in hand, it was necessary to quantify the dimensions and hydrogeological parameters of the Leduc and Beaverhill Lake aquifers, and a 2012 study was conducted by Hydrogeological Consultants, Ltd. of Edmonton, Alberta in collaboration with APEX. The volume of rock represented by the Leduc Formation within the resource estimate area of CIN's Leduc Property is approximately 157 billion m³. Based on an average regional porosity of 5.0%, the volume of fluid underlying the resource estimate area residing within the matrix of the Leduc Formation is approximately 7.9 billion m³. Based on an average of 72% of the liquid being formation water, the resource in place is approximately 5.7 billion m³ of saline formation water within the Leduc Formation underlying the resource estimate area. Like the lithium assay data, the resulting aquifer parameters are also considered to be the most current known evaluation of the Leduc aquifer underlying the Leduc Property.

While the northern and east-central oilfields might appear as separate entities, they are hydrogeologically connected within the Leduc Formation aquifer system. The northern oilfield sampling included seven wells within a 41 km² area. More specifically, the seven wells are spaced between 610 and 1,450 m apart (averaging 1,080 m apart). Forty wells were sampled in the east-central oilfield within an 82 km² area providing a general sample well density of 0.5 wells/km². The east-central cluster of wells is spaced between 110 and 3,030 m apart (averaging 800 m apart) with 31 of the 40 samples collected from wells that are within 880 m of one another.

The intent and purpose of this Technical Report is to prepare a mineral resource estimate of the Leduc Property that is in accordance with the Canadian Securities Administration's ("CSA's") National Instrument 43-101 ("NI 43-101") and has been estimated using the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010.

To define a mineral resource estimate for Li, K, B, Br, Ca, Mg, and Na in the Leduc Formation aquifer system of CIN's Leduc Property, we use the total in-place formation water volume of 5.7 billion m³, average mineral grades that were derived from 2011 formation water sampling, and conservatively assume a grade weight (density) of 1000 kg/m³ of brine. The mineral resource estimate has been classified as 'inferred' according to the CIM definition standards and is based on geological confidence, data quality and grade continuity.

The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate, in elemental form, is shown in Table 1 and can be summarized, in elemental and oxide form, as follows:

- At an average grade of 67.5 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for lithium is 385,000 tonnes (2,049,000 tonnes of Li_2CO_3);
- At an average grade of 4,641.3 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for potassium is 26,455,000 tonnes (31,868,000 tonnes of K_2O);
- At an average grade of 114.0 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for boron is 650,000 tonnes (2,093,000 tonnes of B_2O_3);
- At an average grade of 394.3 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for bromine is 2,248,000 tonnes (2,248,000 Br_2);
- At an average grade of 23,595.7 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for calcium is 134,495,000 tonnes (188,185,000 tonnes of CaO);
- At an average grade of 2,887.4 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for magnesium is 16,458,000 tonnes (27,291,000 tonnes of MgO); and
- At an average grade of 62,385.1 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for sodium is 355,595,000 tonnes (903,922,000 tonnes of NaCl).

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxes, socio-political, marketing or other relevant issues. In addition, the quality and grade of reported inferred resource in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

The effective date of this Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate and Technical Report is 22 January 2016.

Table 1. Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate for selected elements within the Woodbend Group (Leduc) aquifer system of CIN's Leduc Property. The inferred resource estimate is based on total in-place formation water volume of 5.7 Billion m³ within the Leduc Property and average element grades taken from a 2011 sampling program (n=47).

	Lithium (Li)	Potassium (K)	Boron (B)	Bromine (Br)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)
Average grade (mg/L)	67.5	4,641.3	114.0	394.3	23,595.7	2,887.4	62,385.1
Resource in place (tonnes)	385,000	26,455,000	650,000	2,248,000	134,495,000	16,458,000	355,595,000

Note 1: Tonne = metric tonne = 1,000 kg (2,204.6 lbs). Numbers may not add due to rounding (rounded to nearest 1000).

Note 2: Values represent 100% recovery of the minerals from the formation water and do not reflect process recoverability, which are subject to ongoing metallurgical studies.

Note 3: The quality and grade of reported inferred resource in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate presented in this Technical Report supports the contention that the Leduc Property has demonstrated prospects of economic viability. It is important to point out, however, that the estimation represents a best case recoverable resource and the estimates come with a large uncertainty. For example, not all the brine within the Property is ultimately recoverable. Hypothetical formation water production within the Leduc Formation aquifer underlying CIN's Property indicates that at 100% drawdown with the Property boundaries, approximately 176 million m³ could be sufficiently pumped over a 20 year period. Transmissivity estimates, however, are not constant across the width and depth of the Leduc aquifer system and vary significantly between the different methods of measurement (ranging between 0.09 m²/day and 2.2 m²/day). Subsequently, the recoverable brine volumes that could be expected to be pumped over 20 years ranges between 71.8 million m³ and 258.5 million m³, or 1.3% to 4.6% of the total in-place resource, respectively.

In addition, the final tonnage of each element is ultimately controlled by element recoverability from the brine. At this time, however, hypothetical 20 year recoverability estimates are a moot point because the tonnage values could easily change based on aquifer pressure testing, advances in element recoverability technology, property size, etc. In addition, reinjection of treated formation water back into the reservoir would limit the expansion of the hydraulic depression caused by pumping such that, in theory, the entire 5.7 billion m³ in the pore space could be recovered.

Lastly, the regulatory policy of ‘mining’ these formation waters might resemble that of oil and gas leases, where operational boundaries are not based on an actual lease of rock, but are defined by the pool or aquifer. This simplifies the whole process (at least for oil/gas) because the drawdown effect can be ignored from outside the physical lease area in such a way that multiple companies can produce from the same pool. The issue of pool delineation then relies on factors such as stratigraphic correlation, geologic structure, associated water, pressure data, recovery factors, and gas-oil ratios.

With respect to recommendations, it is important to point out that the Leduc lithium-enriched oilfield brine project is still an early stage exploration project. And, the project will remain so until a viable extraction methodology can reliably recover the elements of interest from the brine. Accordingly, the authors recommend a two-phased exploration approach with a total estimated cost of CDN\$1,625,000.

Recommended Phase One work involves a formation water geochemical sampling program with the objectives of: 1) testing brine in other parts of the Sturgeon Lake oilfield to fully quantify the areas (and wells) with elevated specialty elements; and 2) collecting water samples for bench top 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. 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 total of the Phase One exploration work is estimated at CDN\$225,000.

Pending positive results of the Phase One exploration and test work, the purpose and objective of Phase Two is to convert the resource to a higher level of confidence. Phase Two studies should include: 1) improving aquifer parameters; 2) an economic analysis scoping study of the project; and 3) a pilot test element recovery program. In picking wells for Stage Two pressure and metallurgical testing, attention should be given as to wells that are logistically the best sites for potential production in the future. The total cost of the Phase Two exploration work is estimated at CDN\$1,400,000.

2.0 Introduction

This Technical Report was prepared by APEX Geoscience Ltd. (“APEX”) for Canadian International Minerals Inc. (“CIN”) on CIN’s 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). CIN has 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).

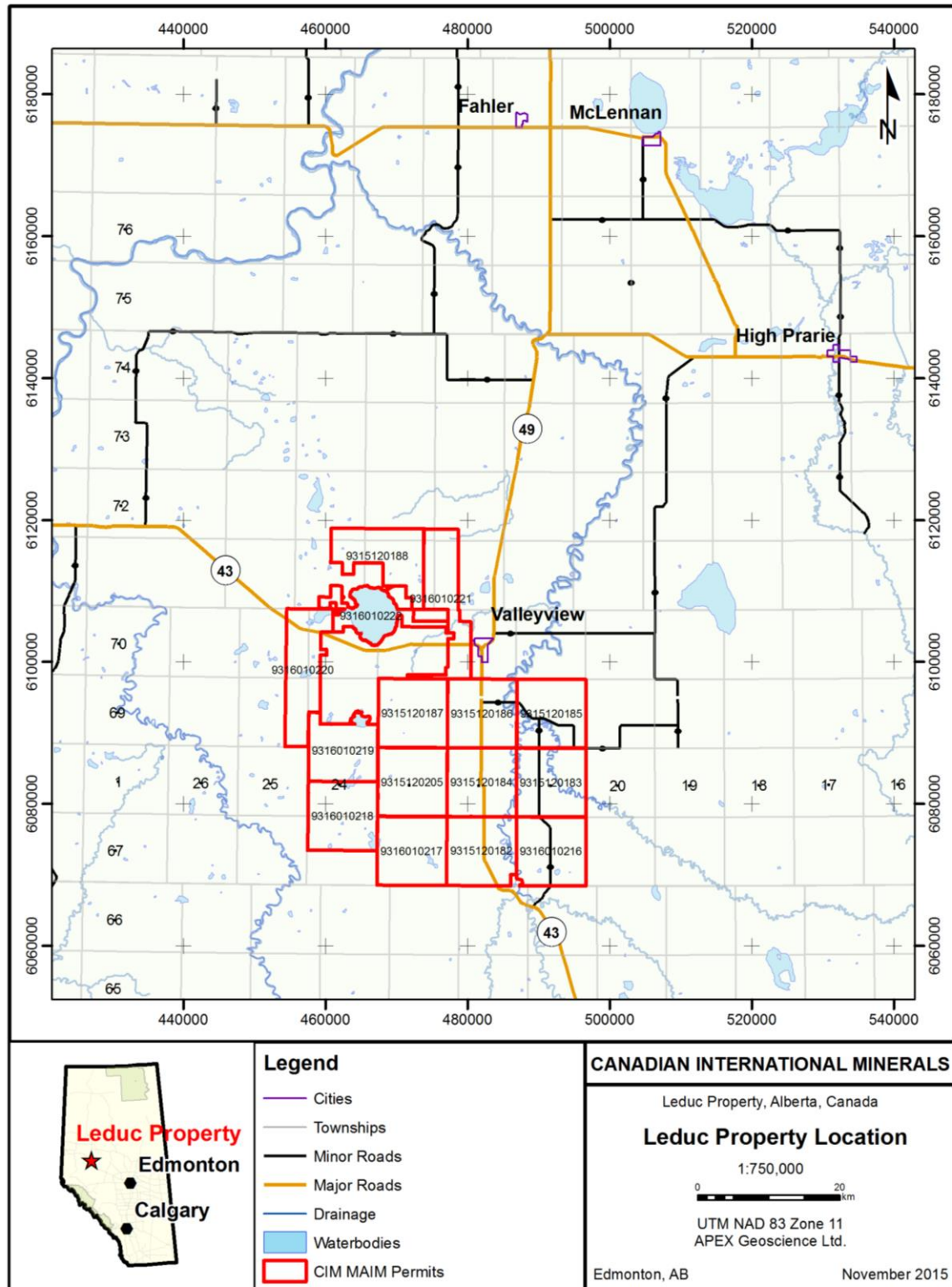
The Property is situated in an area where mid-1990’s to mid-2010’s government formation water studies have reported anomalous values of lithium (Li) and other metals (potassium, K; boron, B; bromine, Br; magnesium, Mg; calcium, Ca; and sodium, Na) in Devonian aquifers associated with carbonate buildups in the Leduc Formation of the Woodbend Group and the Swan Hills Formation of the Beaverhill Lake Group (Hitchon et al., 1993, 1995). Li-enrichment of oilfield brines has been documented in the Devonian of the Williston Basin in North Dakota, the Jurassic Smackover Formation of the US Gulf Coast, the Cretaceous of Texas and the southern coastal plain of Israel (Collins, 1976; Chan et al., 2002; Garrett, 2004). Li-enrichment of brines within Devonian carbonates of the Alberta Basin has been reported by Hitchon et al. (1993), Underschultz et al. (1994), Bachu et al. (1995) and Eccles and Behrane (2011). The formation water samples at the Leduc Property were accessible from oil/gas wells that have pumped the formation water from depths of up to 4,000 m to the earth’s surface – essentially as waste water associated with hydrocarbon products.

Several companies, including Lithium Exploration Group Inc. and Channel Resources Ltd., have conducted historical (2010-2012) exploration with the idea of extracting various metals from the formation water (brine). Both companies completed inferred mineral resource estimations, which were prepared by APEX and involved the authors of this Technical Report. During 2015, a number of companies appear to have invested new interest in the lithium-enriched formation waters, including CIN. 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 in the area. The Property, therefore, is still considered an early stage exploration project.

The intent and purpose of this Technical Report is to prepare a mineral resource estimate of the Leduc Property that is in accordance with the Canadian Securities Administration’s (“CSA’s”) National Instrument 43-101 (“NI 43-101”) and has been estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 23rd, 2003 and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated November 27th, 2010.

The effective date of this Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate and Technical Report is 22 January 2016.

Figure 1. Location of CIN's 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 has conducted compilations and advanced geological studies on the Swan Hills formation waters in collaboration with the Alberta Geological Survey to better document northwestern Alberta formation water and to determine the origin of the unique lithium-enriched formation water in this area (Eccles and Jean, 2010; Eccles and Berhane, 2011).

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 fieldwork on the Property and surrounding areas as well as supervised a number of exploration programs for a variety of commodities across the Swan Hills region. Mr. Dufresne last visited the Property in February, 2011.

Because both authors have been to, and conducted oilfield brine-related work at the Property area, a site inspection was not conducted as part of this Technical Report. Alternatively, an office-based study was conducted to confirm that oil and gas companies are currently producing from the Sturgeon Lake oilfield, and that formation water continues to be extracted from Devonian aquifers as a by-product of petroleum production.

The resource estimate of the lithium-enriched formation water on CIN's Leduc Property is classified as an “Inferred” Mineral Resource, and was classified in accordance with guidelines established by the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 23rd, 2003 and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated November 27th, 2010. By definition,

“An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity.”

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 CIN's Leduc Property. The data compilation, original oil field formation water sampling, sample chain of custody, analytical direction and management, data validation and interpreted were supervised and conducted by APEX, under the direct supervision of Mr. Eccles and Mr. Dufresne.

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; 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., 2012; Eccles et al., 2012a,b).

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.

APEX commissioned Hydrogeological Consultants ("HCL") of Edmonton, Alberta to conduct a hydrogeological study to access the total brine in place and other associated aspects of the Leduc Formation (Woodbend Group) aquifer in the Leduc Property area. A hydrogeological report was completed by Mr. Jim Touw, B.Sc., P.Geol., and Roger John Clissold, B.Sc., M.Sc, P.Geol. (Hydrogeological Consultants Ltd., 2012). This work was completed by Qualified Persons in collaboration with APEX, and contributed to the calculation of total brine and recoverable brine within the Leduc Formation aquifer system. The senior author oversaw data contribution to the aquifer characterization study and has deemed that subsequent report 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 water sampling and chemical analysis, which was overseen by APEX, 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;
- 'Bulk' weight in metric tonnes (1,000 kg or 2,204.6 lbs);
- Geographic coordinates that are projected in the Universal Transverse Mercator ("UTM") system relative to Zone 11 of the North American Datum ("NAD") 1983;
- Density is grams/cubic centimetre (g/cm^3);
- Element to oxide conversion factors: $\text{Li} \times 5.323 = \text{Li}_2\text{CO}_3$, $\text{K} \times 1.2046 = \text{K}_2\text{O}$, $\text{B} \times 3.2202 = \text{B}_2\text{O}_3$, $\text{Ca} \times 1.3992 = \text{CaO}$, $\text{Mg} \times 1.6582 = \text{MgO}$, $\text{Na} \times 2.542 = \text{NaCl}$; and
- Currency in Canadian dollars ("CDN\$").

3.0 Reliance on Other Experts

CIN'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 22 January 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

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

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 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).

Based upon field visits by Mr. Eccles and Mr. Dufresne, the authors did not observe nor are they aware of any environmental issues associated with the Property or this early stage exploration project.

Figure 2. Exploration permits at CIN's Leduc Property.

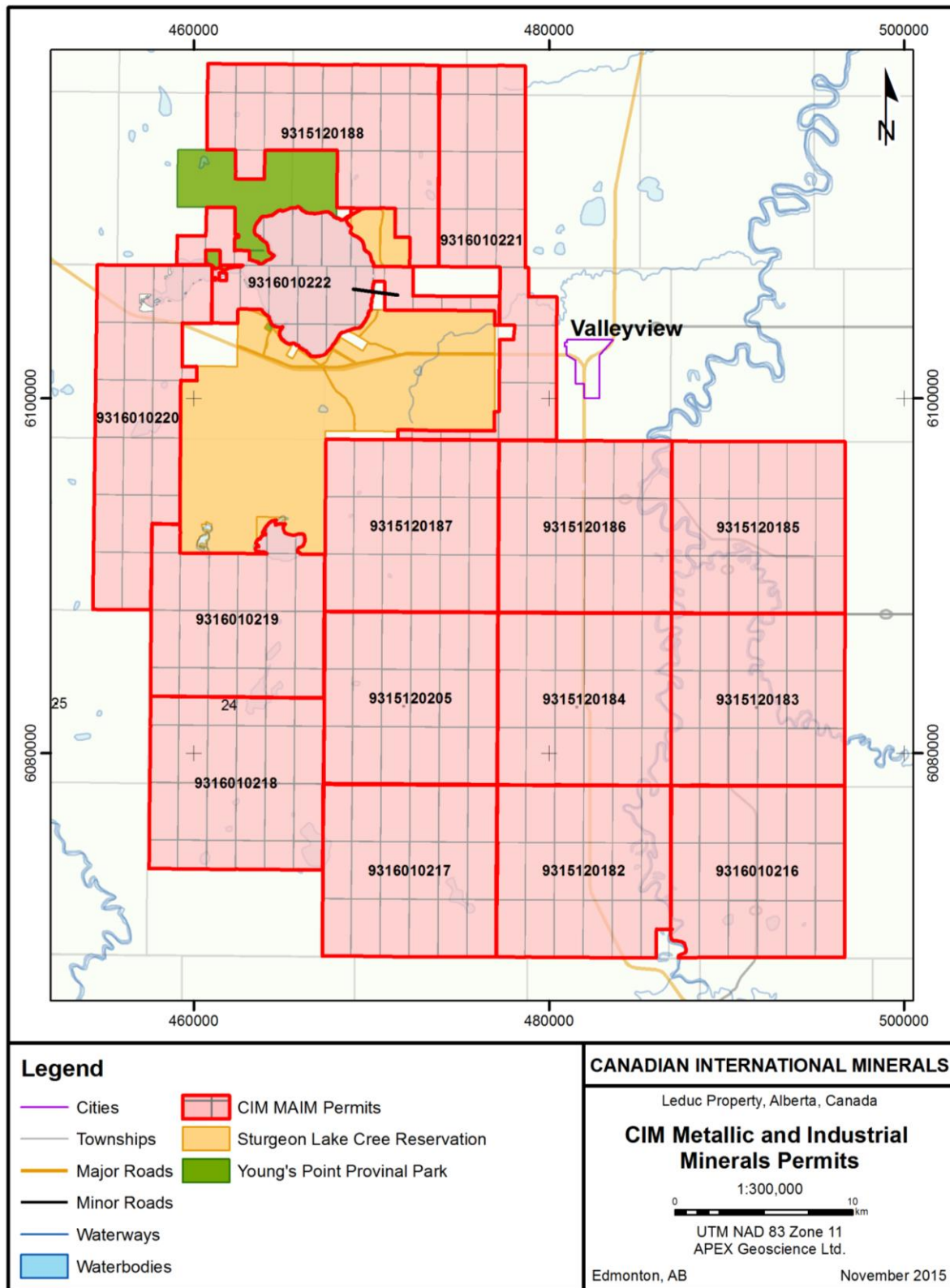


Table 2. Industrial and Metallic Mineral Permit descriptions for CIN's Leduc Property. All permits are 100% owned by CIN.

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

CIN's 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.sln.ca/>.

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 CIN's Alberta Metallic and Industrial Mineral Permits coexist in the Valleyview area and in the vicinity of, and under, CIN's Property.

A summary of the oil and gas wells – active as of 22 January 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. ("CNRL"), who acquired Barrick Energy Inc. in 2013. The authors were able to confirm that CNRL is actively producing, and that formation water continues to be extracted as a 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).

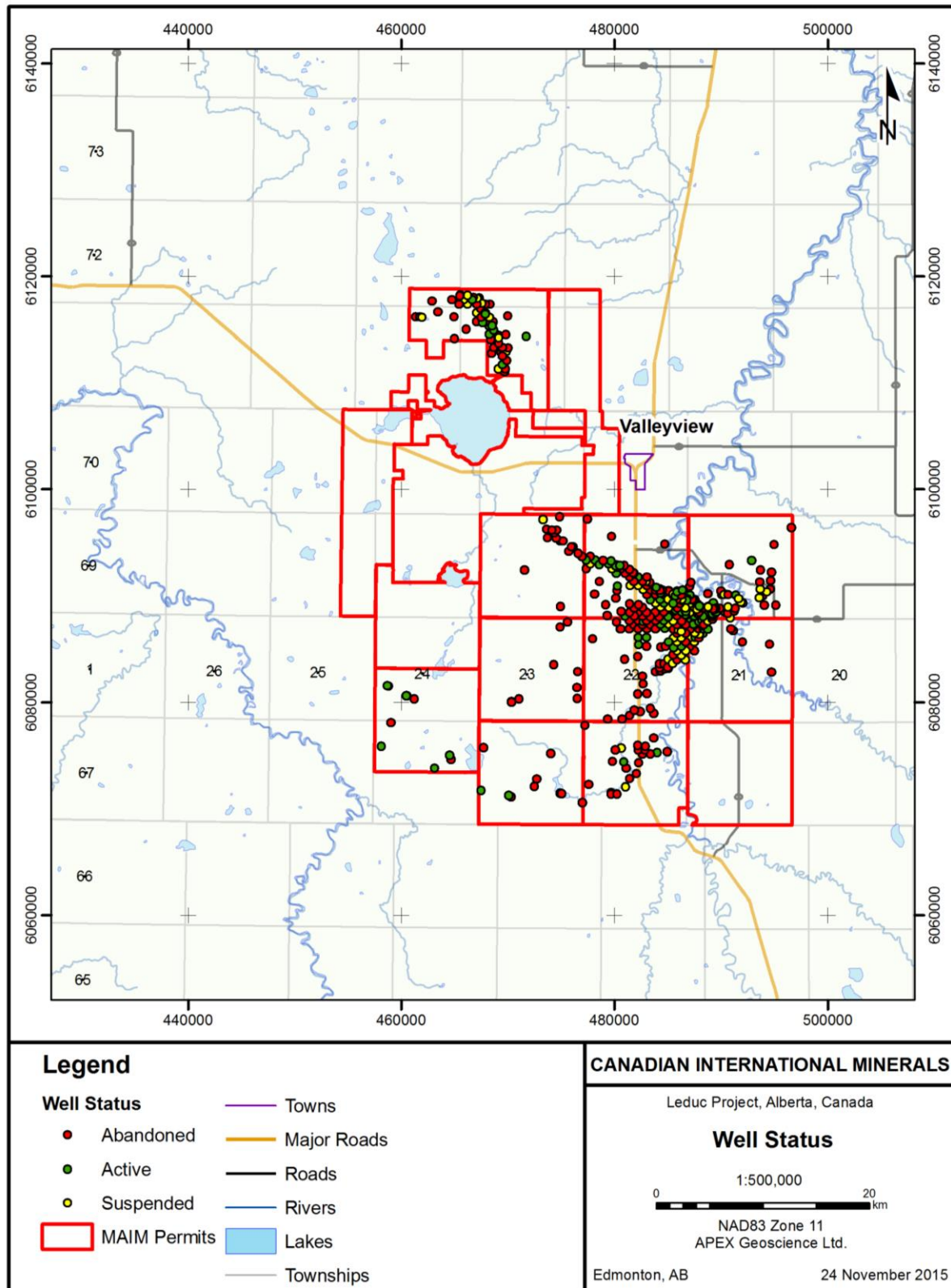
5.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

CIN's 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 CIN, 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. The closest air access is in Valleyview.

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.

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).

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



6.0 History

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

Exploration in west-central Alberta is traditionally petroleum-related (Mosso 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.

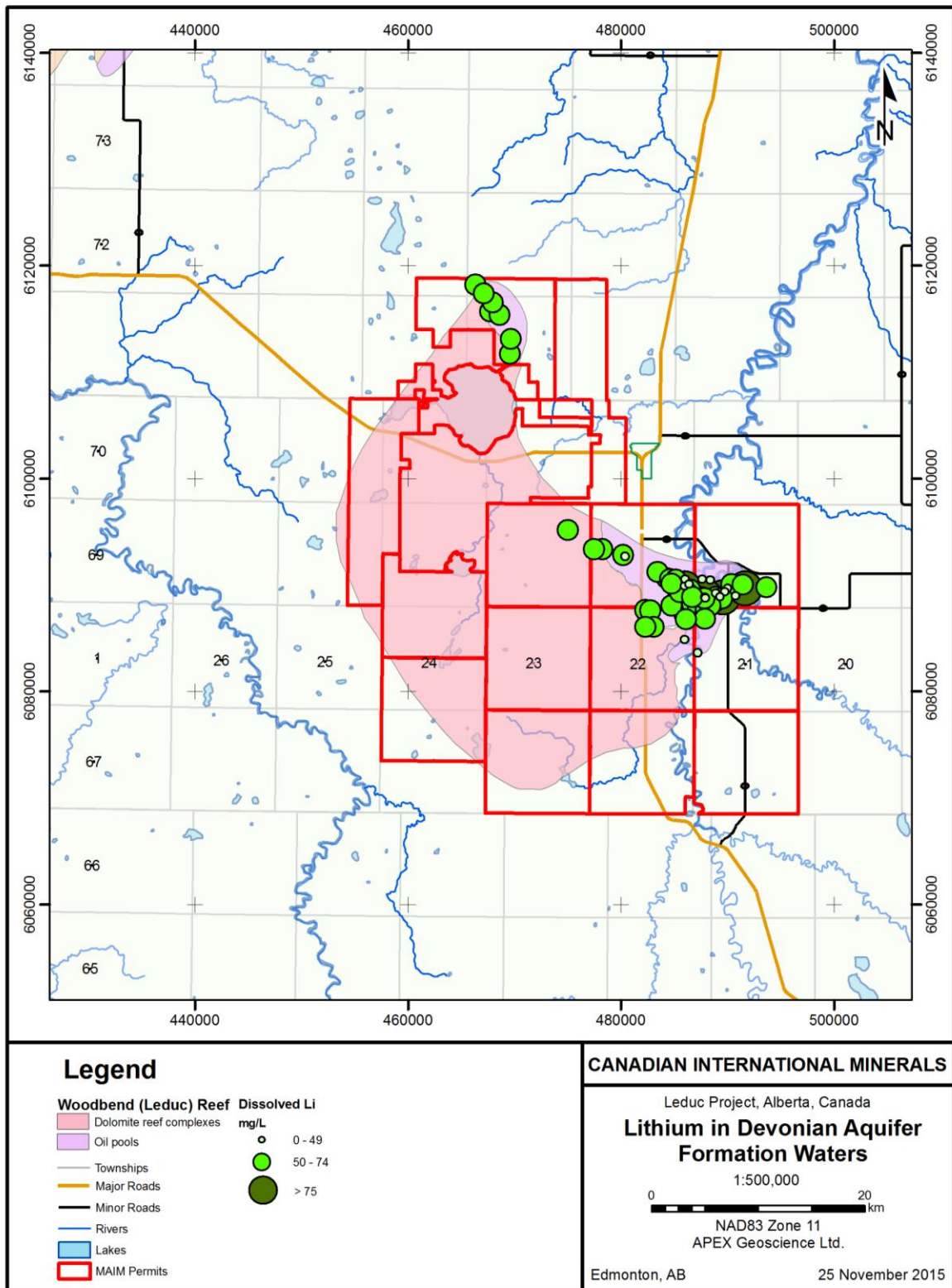
With respect to minerals exploration, the first comprehensive overview of the mineral potential of formation waters from across Alberta was compiled by the Government of Alberta (Hitchon et al., 1995). ‘Formation water’ is used as a generic term to describe all water that naturally occurs in pores of 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.

Figure 4. Historic wells in the Leduc Property that penetrated Devonian Strata.



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 (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 3.5×10^{-14} m² (35 mD);
2. Southern Leduc reef, which has an average thickness of 25 m, an average porosity of 6% and an average permeability of 2×10^{-14} m² (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 4.3×10^{-14} m² (43 mD).

More recently, Eccles and Jean (2010) modelled 1,511 lithium-bearing formation water analyses throughout Alberta and showed that lithium is concentrated in several pockets of west-central Alberta, including at the Leduc Property area (Figure 5).

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.

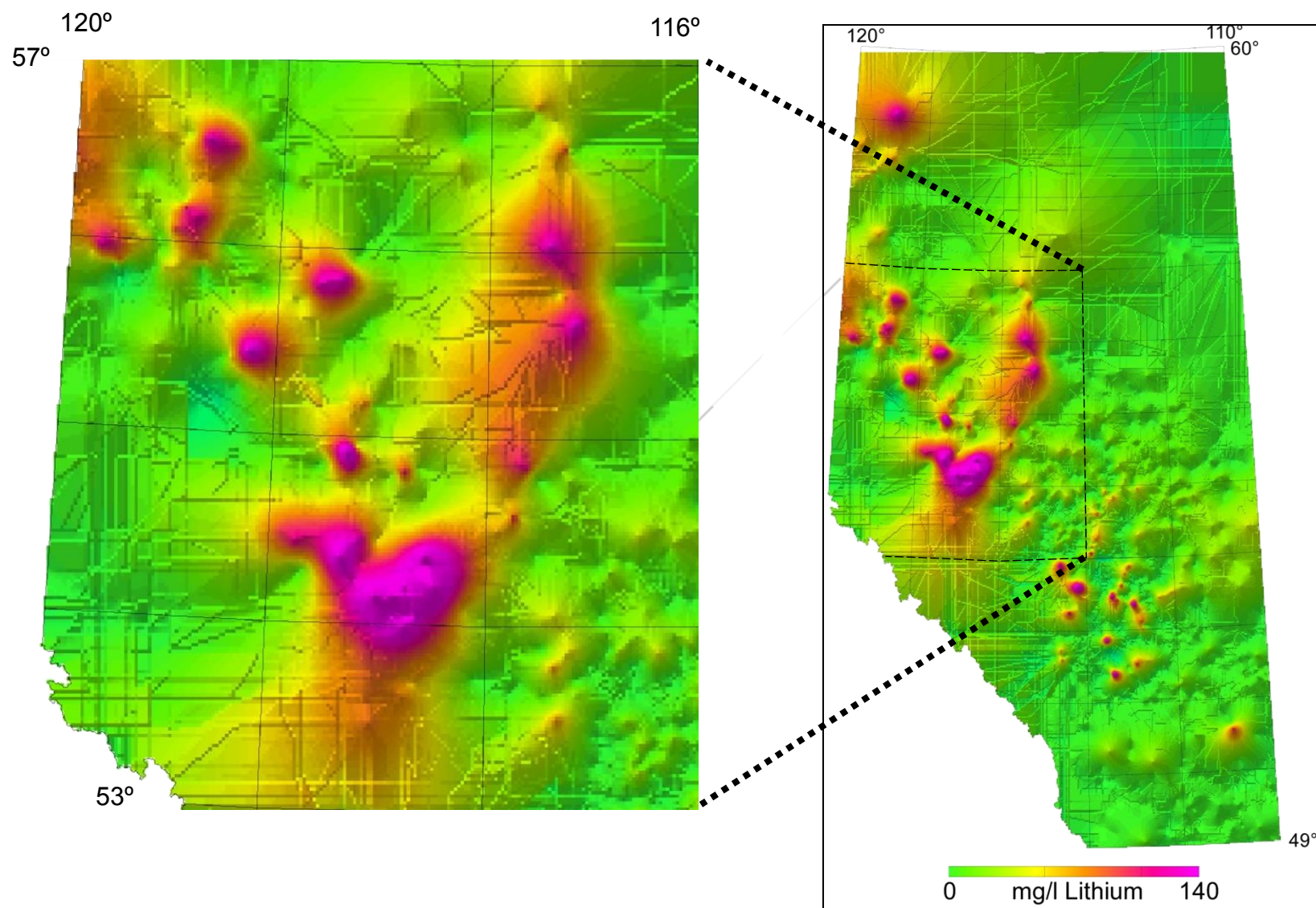
Table 3. Representative chemical compositions in the Beaver Hill Lake (Swan Hills) and Woodbend (Leduc) formations as reported in Government of Alberta studies (Hitchon et al., 1995).

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

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. As such, the collection of these samples are technically classified as historical information, but it should be pointed that the lithium assays also form the most current, relevant and reliable dataset for the resource estimation presented in this Technical Report.

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



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 tapping 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, 6,470 mg/L K, 137 mg/L B, 394 mg/L Br, 28,100 mg/L Ca, 4,630 mg/L Mg and 71,400 mg/L Na – and confirmed lithium-enriched formation waters at the Property (Note: one mg/L is equal to one ppm).

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. Accordingly, the histogram shows that the majority of the Leduc Formation elements contain a single population of data. 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 extractability processes.

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

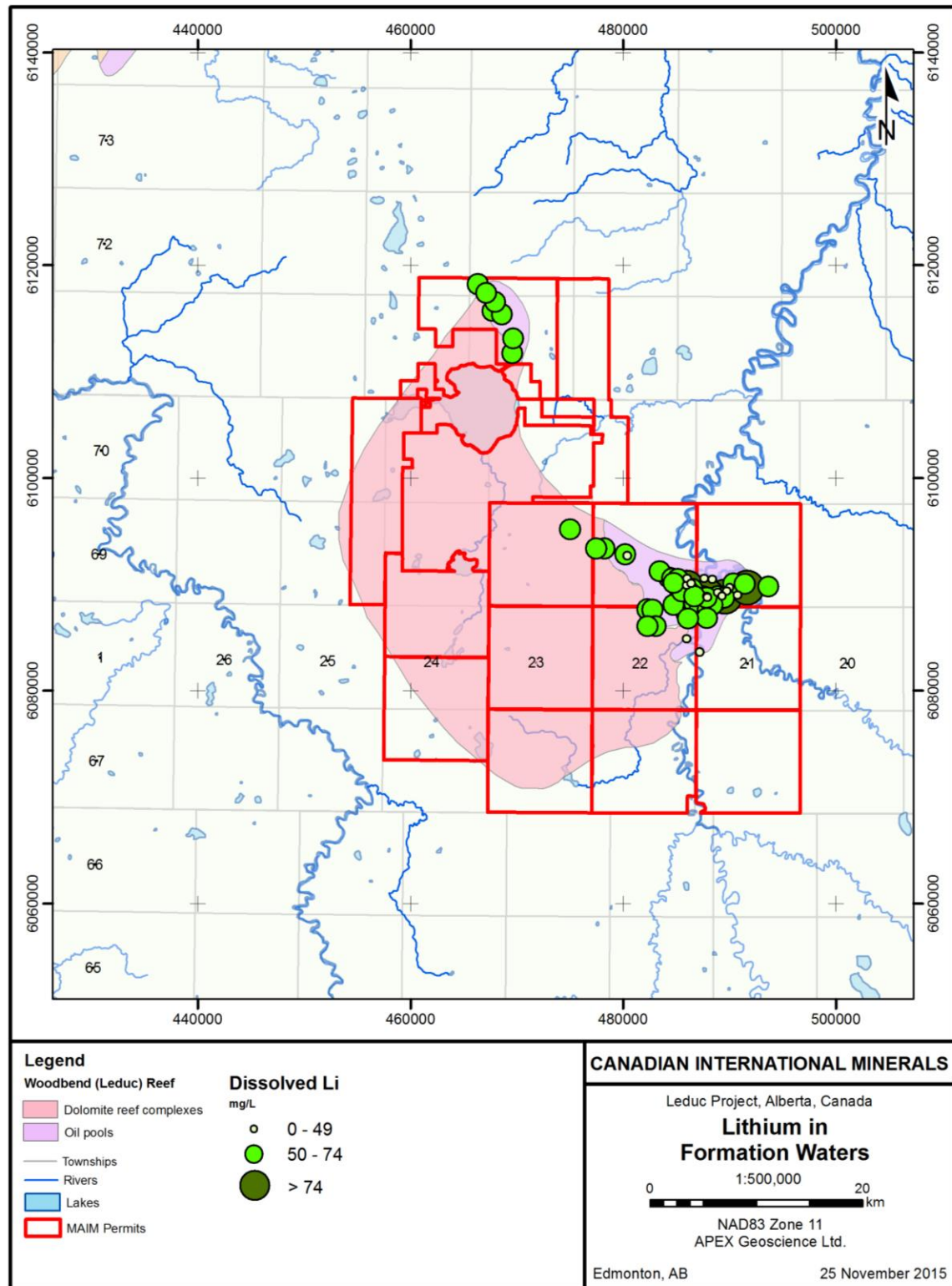


Figure 7. Potassium distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

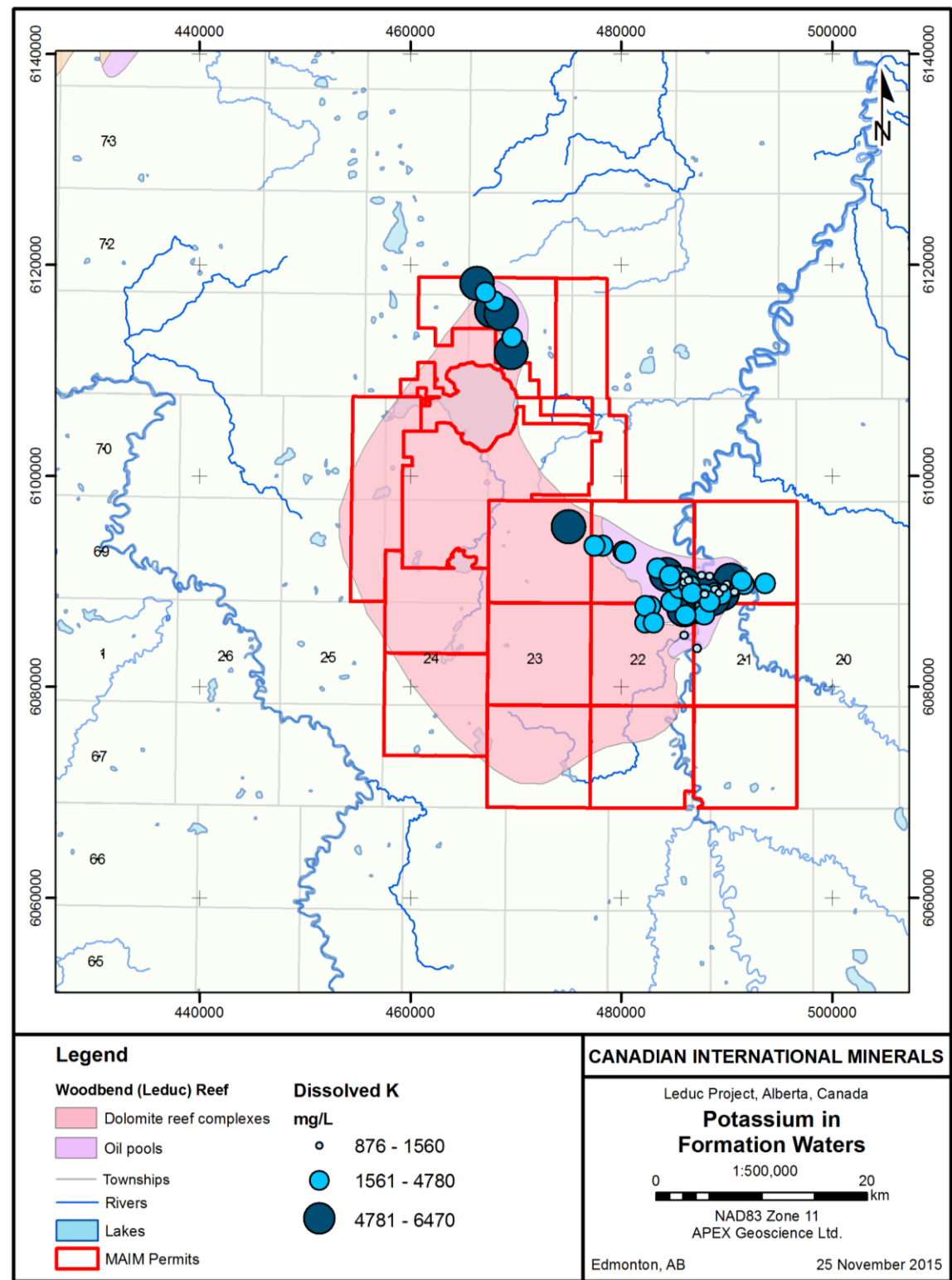


Figure 8. Boron distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

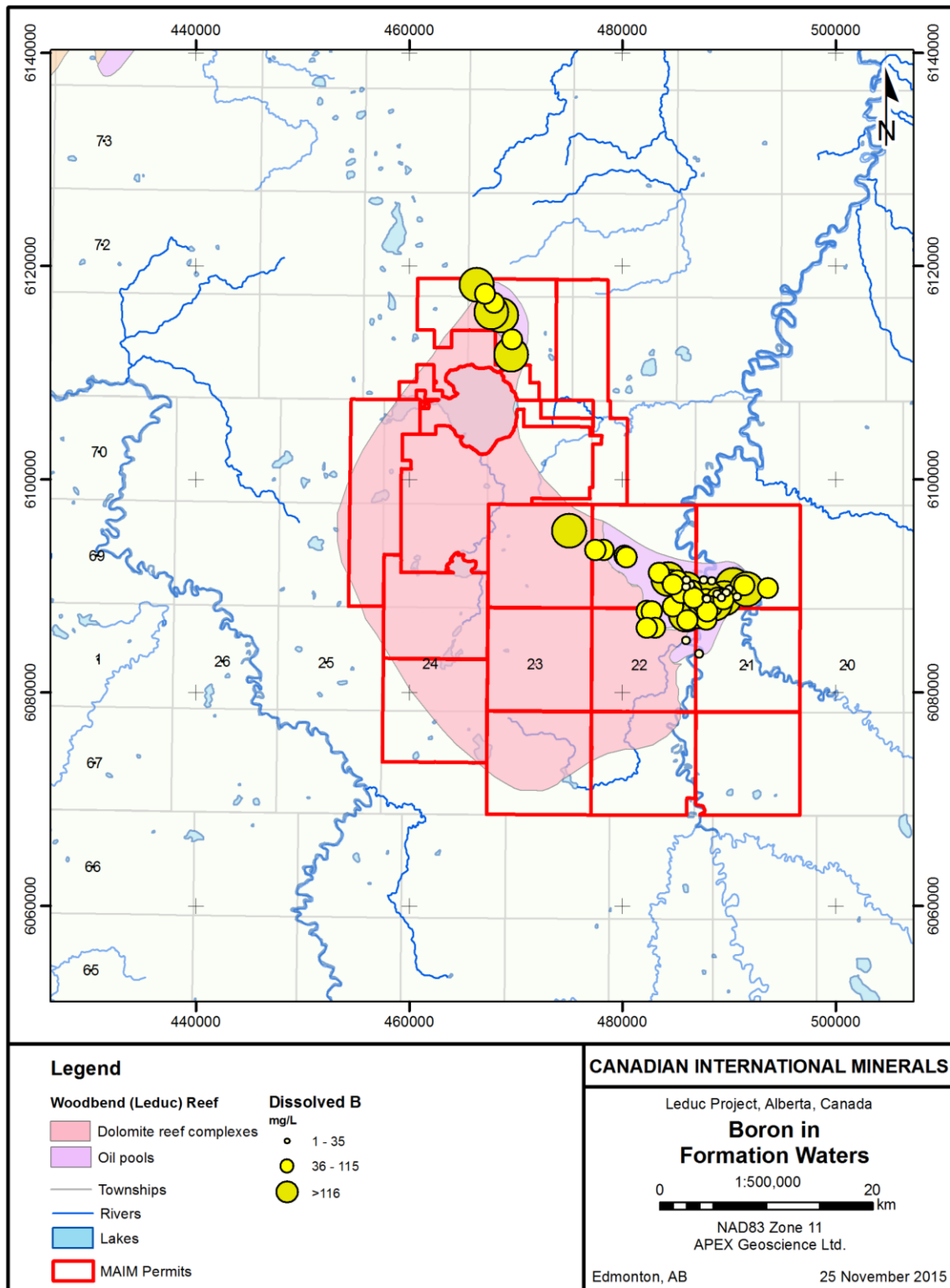


Figure 9. Bromine distribution in Woodbend (Leduc) formation waters associated with the Sturgeon Lake oilfield.

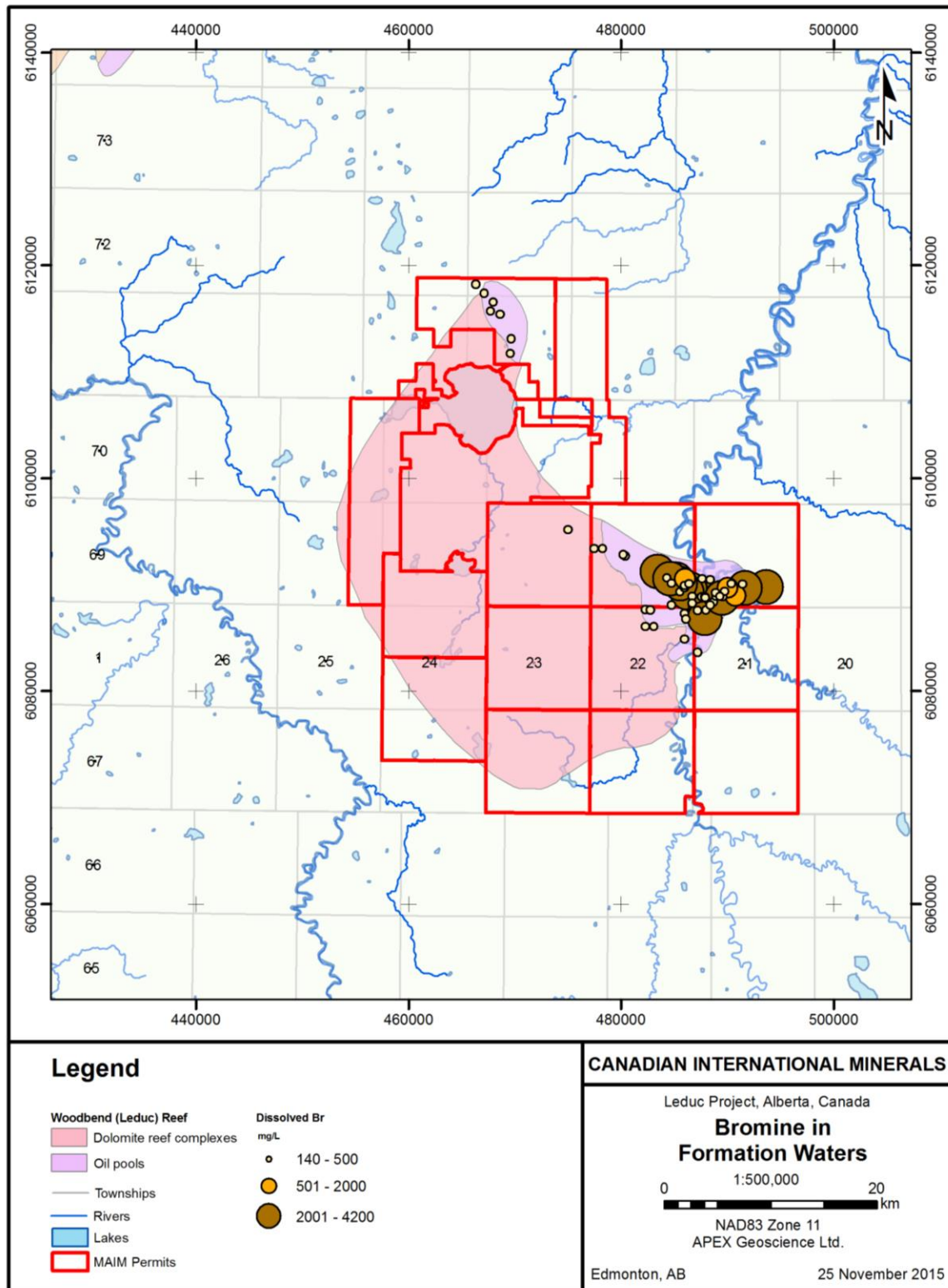


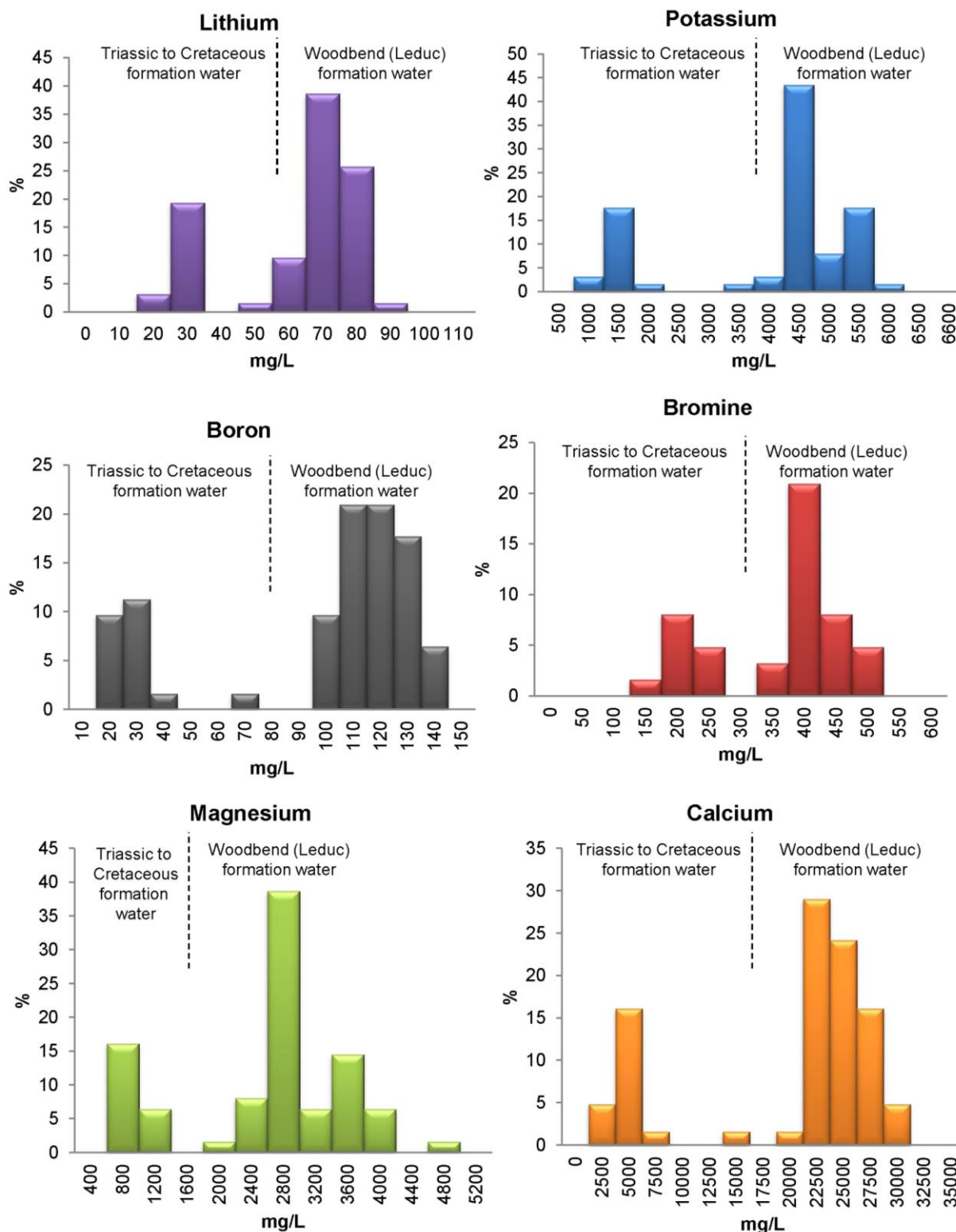
Table 4. Results of 2011 formation water sampling conducted by APEX Geoscience Ltd. on behalf of Lithium Exploration Group Inc.

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).



6.3 Summary of a 2012 Hydrogeological Aquifer Characterization Study

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. 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. Like the geochemical assay data, the resulting aquifer parameters are also considered current, and therefore, the results of the hydrogeological study are presented throughout this Technical Report and especially in Section 7, Geology and Section 14, Resource Estimate.

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 hydrological assessment conducted by HCL has demonstrated the two units—at least in CIN’s Leduc area—are in fact not connected. Hence, this mineral resource estimation and Technical Report focuses on the main unit of interest, the Leduc aquifer system.

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 (Hydrogeological Consultants Ltd., 2012). 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.

Currently, the extracted water is treated to separate and remove petroleum products and then is 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.

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).

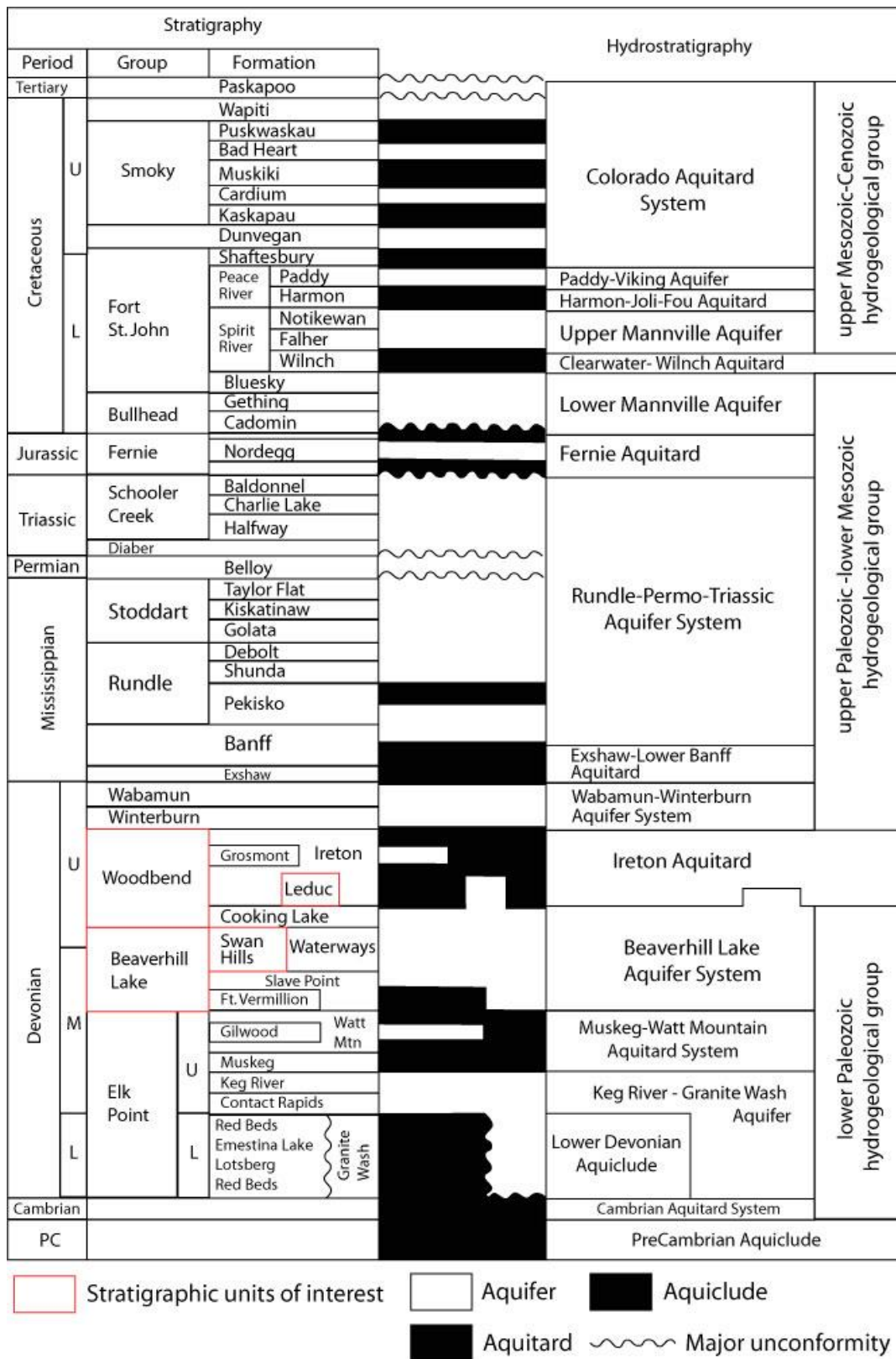
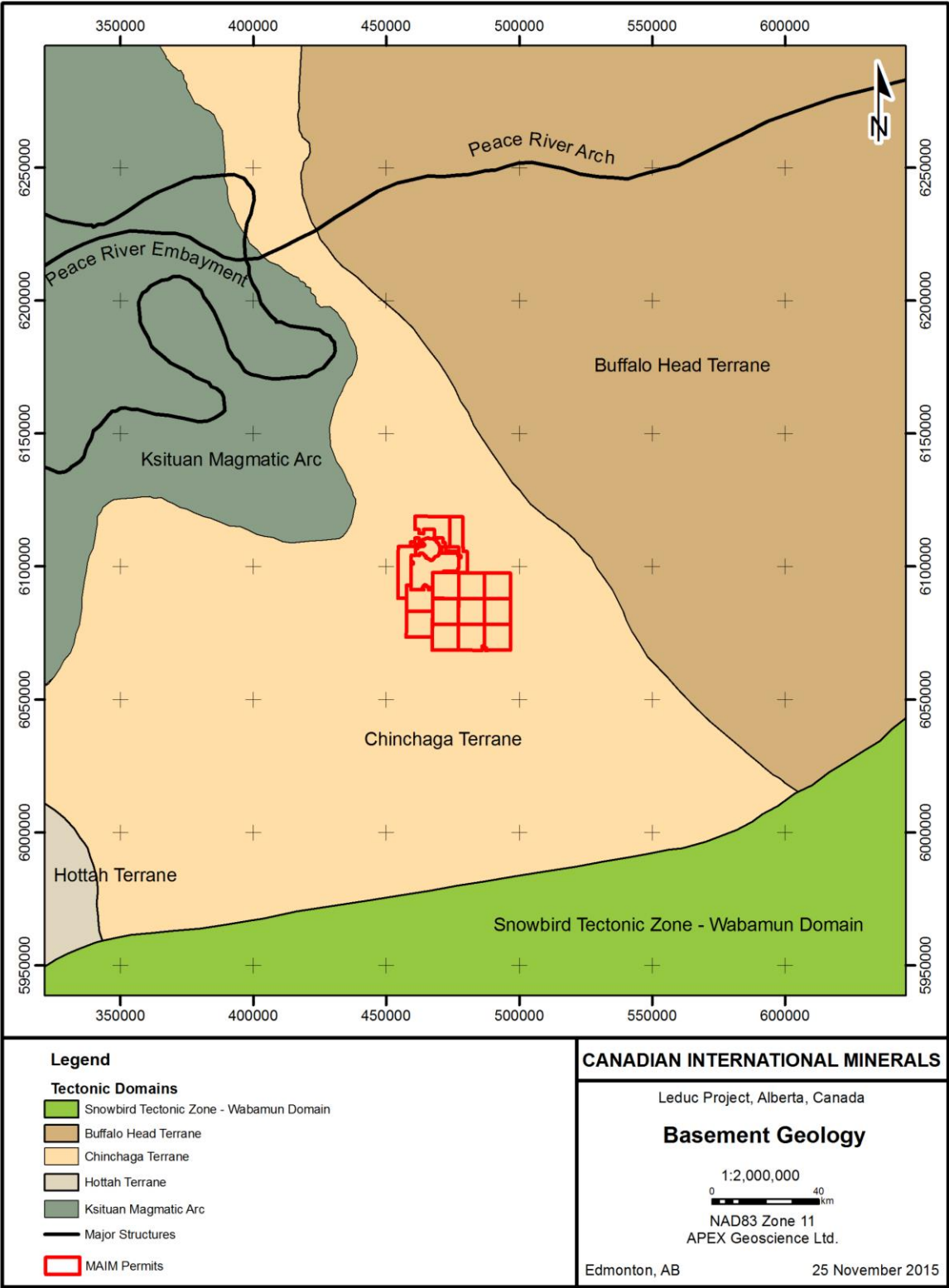


Figure 11. Inferred basement geology of the Leduc Property area.



7.3 Phanerozoic Geology

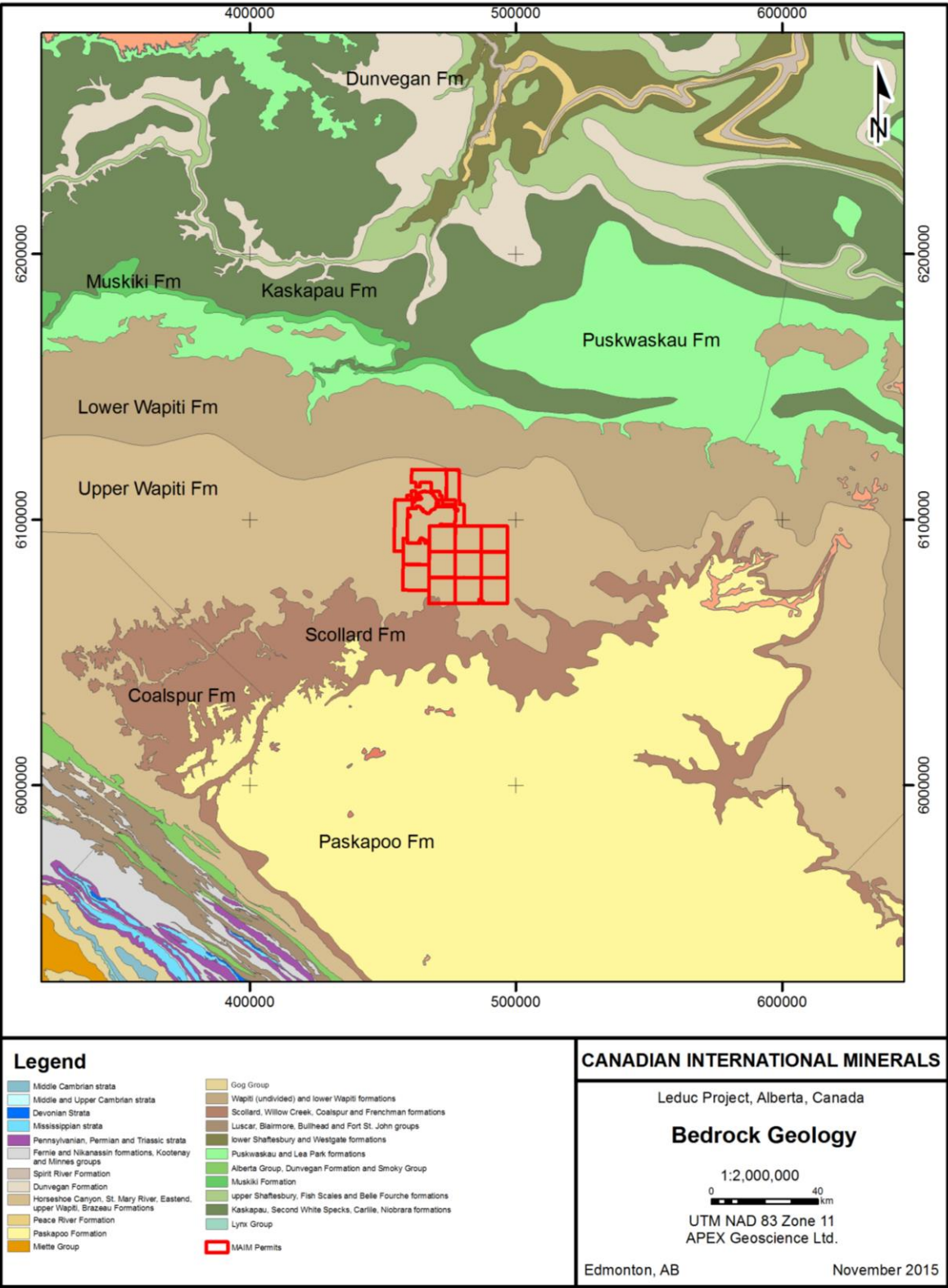
Overlying the basement is a thick sequence of Phanerozoic rocks comprised mainly of Tertiary and Cretaceous sedimentary clastic rocks and Mississippian to Devonian carbonate, sandstone and salt (e.g., Green et al., 1970; Tokarsky, 1977; Glass, 1990; Mossop and Shetson, 1994; Figure 12). At the base of 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 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 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 CIN's 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 Berhane (2011). Further, Eccles and Behrane (2011) argued that these Li-enriched brines had not been evapoconcentrated 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 CIN 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 CIN at the Leduc Property for the intent to explore for Li in formation water.

11.0 Sample Preparation, Analysis and Security

During 2011, formation water samples were collected from a number of wells producing hydrocarbons from the Devonian Leduc Formation aquifer. Maxxam Analytics ("Maxxam") of Edmonton, Alberta, provided three 100 mL vials and a one litre bottle along with chemical stabilizers for the collection of samples by personnel from Maxxam. The samples were collected on behalf of the oil and gas companies operating the sampled wells. Their methodology involved using standard operating procedures. Unfortunately, Maxxam does not release copies of their standard operating procedures, alternatively referring clients to standard methods as outlined in their scope of accreditations (personal communication, S. Ewasiuk, March 2012).

The formation water samples were labelled with the well number and then couriered to Maxxam's laboratory in Edmonton for analysis. Maxxam analysed the samples using a variety of wet chemical techniques to determine lithium concentrate levels and other associated elements (including but not limited to potassium, calcium, magnesium, bromine, boron, and iodine). In addition, inductively Coupled Plasma (ICP) analysis, and iodide, thiosulphate, thiocyanate IC/EC tests, and an IC/UV test for bromide were conducted on the water samples.

12.0 Data Verification

Physical sampling, sample handling and testing of Lithium Exploration Group Inc.'s 2011 formation water sampling program was conducted by independent contractors that were supervised by APEX. The formation water samples were delivered to Maxxam in Edmonton, Alberta for analysis. Maxxam performs analyses according to rigorous QA/QC and certification standards, including the insertion of analytical control samples and blanks. 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 authors have reviewed all geotechnical and geochemical data and taken the necessary steps to understand the analytical methodologies that were conducted by independent laboratories. The senior author of this Technical Report, Mr. Eccles P. Geol., has found no significant issues or inconsistencies that would cause one to question the validity of the data and is satisfied to include these data in resource modelling, evaluation and estimations as part of the mineral resource estimate presented in this Technical Report.

12.1 Confirmation of Current (2015) Well Production

Mr. Eccles has conducted geological studies on the lithium-bearing formation waters in collaboration with the Alberta Geological Survey (Eccles and Jean, 2010; Eccles and Berhane, 2011). Mr. Dufresne last visited the Property in February, 2011, and has conducted fieldwork and supervised numerous exploration programs for a variety of commodities across the Swan Hills region.

Because both authors have been to, and have conducted oilfield brine-related work, at the Property area, a site inspection was not conducted as part of this Technical Report. Alternatively, an office-based study was conducted to confirm that oil and gas companies are actively producing 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™). 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 a 2011 brine sampling program (see Section 6, History; and Table 4).

The result of the well production activity search is presented in Table 6 and Figure 13. 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 22 January 2016. These wells produced 1.292 million m³ of water in 2015; 1.766 million m³ of water if 11 suspended wells are included (Table 6). The Sturgeon Lake oilfield is a mature oilfield. Current hydrocarbon production produces significant volumes of water in comparison to petroleum products (Figure 13; see 2015 production values versus those over the lifespan of the wells).

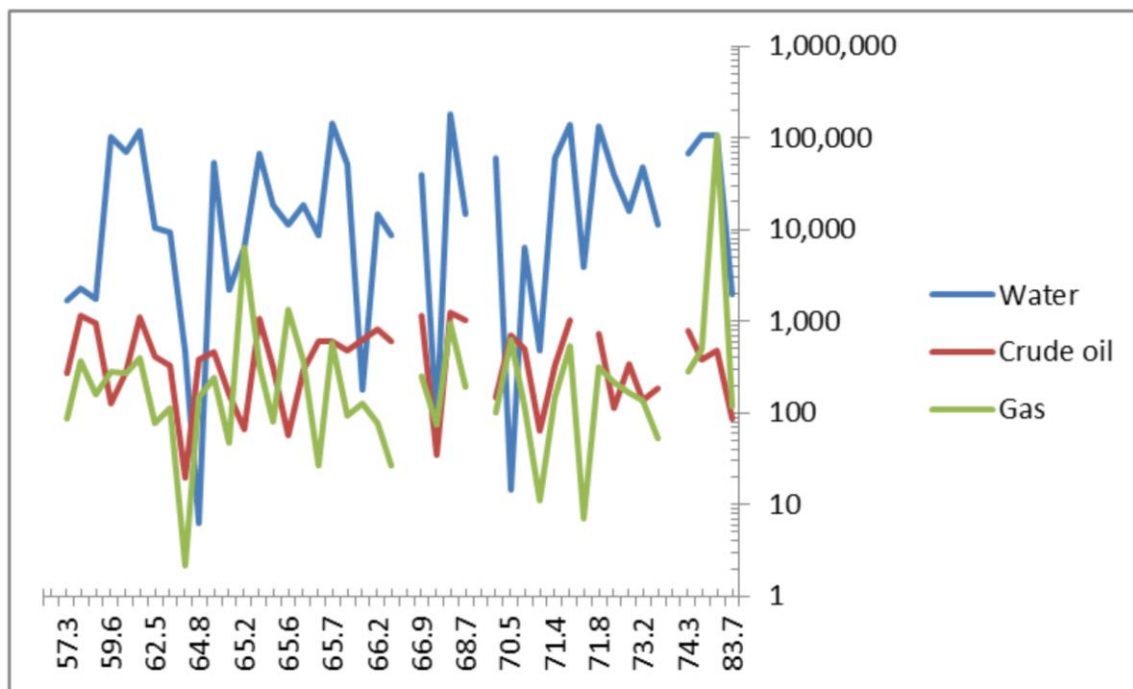
Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource, Leduc Property

Table 6. 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.

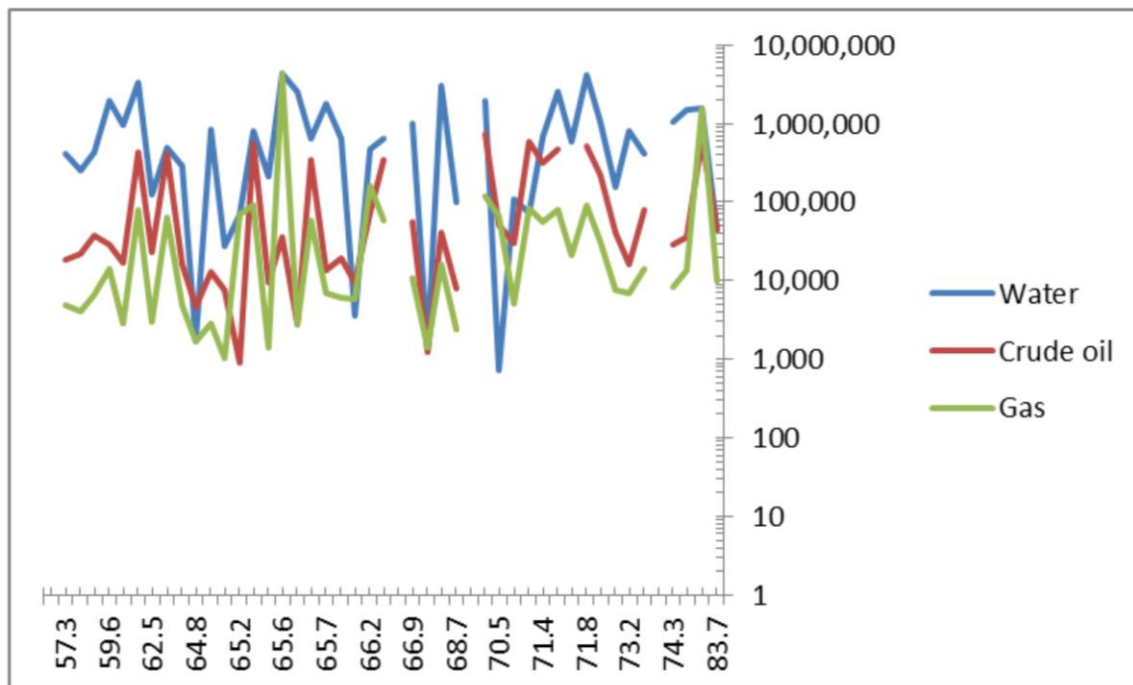
Well Name and Well ID	Well status	Maxxam Sampling Location	Group/Formation	Lithium (mg/L)	2015 Production values				Cumulative production (lifetime)		
					Water (m ³)	Gas (1,000 m ³)	Crude oil (m ³)		Water (m ³)	Gas (1,000 m ³)	Crude oil (m ³)
BARRICK 102 STURLKS 10-05-069-21-W5/03	Suspended	SEPARATOR @ 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 13. 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

CIN has not yet conducted exploration at the Leduc Property, and therefore, has yet to conduct any mineral processing or metallurgical testing. To the best of the author's knowledge, no company or process has successfully extracted lithium and metalliferous elements from Alberta formation water/brine. Historical work conducted by Lithium Exploration Group Inc. and Channel Resources Ltd. initiated two distinctly different methodologies, the results of which are ultimately not known. These include:

- In 2011, Lithium Exploration Group Inc. invested in the development of Ultrasonic Technology to assist in separating suspended solids from brine water (Lithium Exploration Group Inc., 2012). The intent of the Ultrasonic Generator technology is to use minimal energy to extract solids out of their suspended state in the formation water. 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 technology to desalinate water and/or to upgrade crude oil.
- 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 results of this test work is not known.

Several extraction processes have been researched and tested for the removal of lithium and other elements from brines (Garrett, 2004); however, companies involved in the extraction of Li typically develop proprietary processes, the details of which are often undisclosed. Nevertheless, metallurgical testing continues to make advancements. For example, California Simbol Materials and South Korean steelmaker POSCO claim to have developed proprietary methodologies that might have some applicability in Alberta; they claim to have processed lithium compound in a demo plant 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).

14.0 Mineral Resource Estimate

The mineral resource estimate presented in this section has been re-purposed from a March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource that was originally prepared by APEX and the authors of this Technical Report for the issuer, Lithium Exploration Group Inc. Despite the time lapse from 2012 to 2015, reissuing the resource estimation is viable because:

1. CIN's Leduc Property covers the entire resource estimate area that was included in the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource (in its entirety);
2. To the best of the authors knowledge, there has been no material change with respect to metallic and industrial minerals within the original resource estimation area (and region) that would affect the modelling and estimation parameters since the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource; and
3. The authors are intimately familiar with all of the data as APEX Geoscience Ltd.: conducted and managed the original oil field formation water sampling; oversaw the sample chain of custody and analytical work; validated and interpreted the resulting data; oversaw a hydrogeological aquifer characterization study; conducted the resource modelling and estimation; and finalized the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource and Technical Report.

By material change, the authors are not aware of any additional or new sample surveys or aquifer studies that would change the assay, or grade, parameters of the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource estimation. That is, there is no new oilfield formation water analytical data that would modify the average grade of the individual elements being assessed. Regarding aquifer characterization, which is an important part of the estimation process, there are no known new pressure surveys and/or fluid level/production monitoring of current oil and gas infrastructure that would provide more detailed data on the aquifer and, for example, its fluid-level response to fluid diversion. Hence the parameters used to estimate the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource have not changed.

Because no additional work has been conducted since the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource and because the authors are intimately familiar with all aspects of the March 2012 Inferred Li-K-B-Br-Ca-Mg-Na Resource, it is concluded that the mineral resource estimate is still relevant and reliable. Accordingly, the intent of this Technical Report is to announce an Inferred Li-K-B-Br-Ca-Mg-Na Resource on behalf of CIN at their Leduc Property.

The resource estimate is focused on the northern and east-central parts of the Sturgeon Lake oilfield – coincident with energy exploration and access to Li-enriched formation water – and is hereafter referred to as the resource study area ("RSA"; Figure 14). Existing standards for mineral resource estimates apply predominantly to solid state mineral resources, not to fluids. Because saline formation water is in the fluid state and therefore composed of particles that easily move and change relative positions without separation of mass, this resource estimation of Li, K, B, Br, Ca, Mg, and Na in the Leduc Formation aquifer system requires a different approach to its investigation and evaluation.

There are two key components outlined in the following text. First, evaluate the total in-place formation water (brine) resource within the RSA of CIN's Leduc Property. That is, the Leduc Formation aquifer system from which CIN proposes to extract Li, K, B, Br,

Ca, Mg, and Na extends well beyond the Property boundaries, but we report only on the formation water within the boundaries of the RSA and Property as per NI43-101 reporting standards. This assessment is best done by multiplying the average grade of the elements of interest times the total estimated volume of formation water 'within' CIN's Leduc Property. Secondly, lowering the formation water level in the Leduc Formation aquifer, especially as the result of fluid withdrawal, will form a drawdown effect at depth that ultimately includes fluids from outside the Property boundary. Thus, we also include hypothetical discussion as to what influence hydraulic parameters such as average porosity, permeability, transmissivity and storativity might have on resource extraction and overall brine recoverability from the Leduc Formation aquifer system.

14.1 Average Brine Grade used in the Resource Estimate

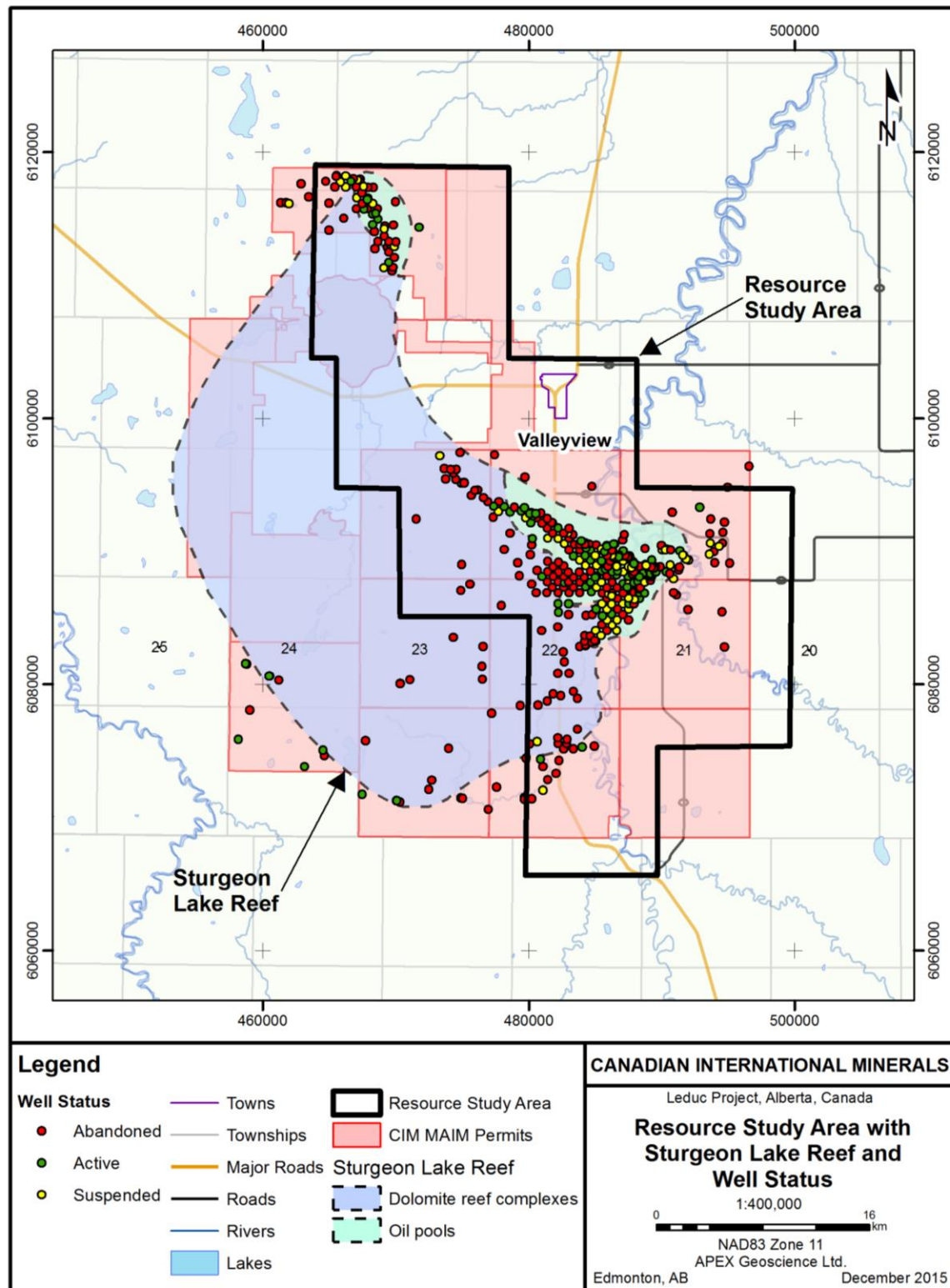
This resource estimate uses the average Li, K, B, Br, Ca, Mg and Na values from 47 Leduc Formation water samples. The samples were collected in 2011 from wells located throughout CIN's Leduc Property (see Section 6, History). The 47 wells are concentrated within two Sturgeon Lake reef complex oilfields located approximately 21 km apart. The northern oilfield sampling included seven wells within a 41 km² area that are spaced between 610 and 1,450 m apart (averaging 1,080 m apart). Forty wells were sampled in the east-central oilfield within an 82 km² area providing a general sample well density of 0.5 wells/km². This east-central cluster of samples wells are spaced between 110 and 3,030 m apart (averaging 800 m apart) with 31 of the 40 samples collected from wells that are within 880 m of one another.

The northern and east-central oilfields are hydrogeologically connected within the Leduc Formation aquifer system (Hydrogeological Consultants Ltd., 2012). This conclusion is supported by the geochemical data from the 2011 sampling program, for which a statistical account of selected elements is provided in Table 7. All selected elements have good relative standard deviation (RSD) between the samples (8.1% to 18.6%); this provides positive indication to the overall homogeneity of the Leduc Formation aquifer system underlying CIN's Leduc Property.

Table 7. Statistical summary of Leduc Formation (Woodbend Group) formation water samples used to calculate the average grade used in this mineral resource estimate.

	Lithium (mg/L)	Potassium (mg/L)	Boron (mg/L)	Bromine (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)
Count	47.0	47.0	47.0	47.0	47.0	47.0	47.0
Min	55.4	3950.0	92.4	330.0	19800.0	2300.0	52200.0
Max	83.7	6470.0	137.0	500.0	28100.0	4630.0	71400.0
Median	66.5	4440.0	112.0	390.0	23000.0	2580.0	61300.0
Average	67.5	4641.3	114.0	394.3	23595.7	2887.4	62385.1
Std. Dev.	5.5	505.1	11.7	33.2	2120.7	537.6	4596.1
RSD%	8.1	10.9	10.3	8.4	9.0	18.6	7.4
* RSD% = standard deviation/mean*100							

Figure 14. Explanation of key features in the resource estimate including the CIN's Leduc Property, the Sturgeon Lake Reef Complex and the Resource Study Area. The resource estimate in this technical report focuses on the area depicted as the Resource Study Area.



14.2 Total In-Place Formation Water Volume used in the Resource Estimate

The volume of rock represented by the Leduc Formation within the RSA area of CIN's Leduc Property is approximately 157 billion m³. Based on an average regional porosity of 5.0%, the volume of fluid underlying the RSA residing within the matrix of the Leduc Formation is approximately 7.9 billion m³. Based on an average of 72% of the liquid being formation water, the resource in place is approximately 5.7 billion m³ of saline formation water within the Leduc Formation underlying the RSA.

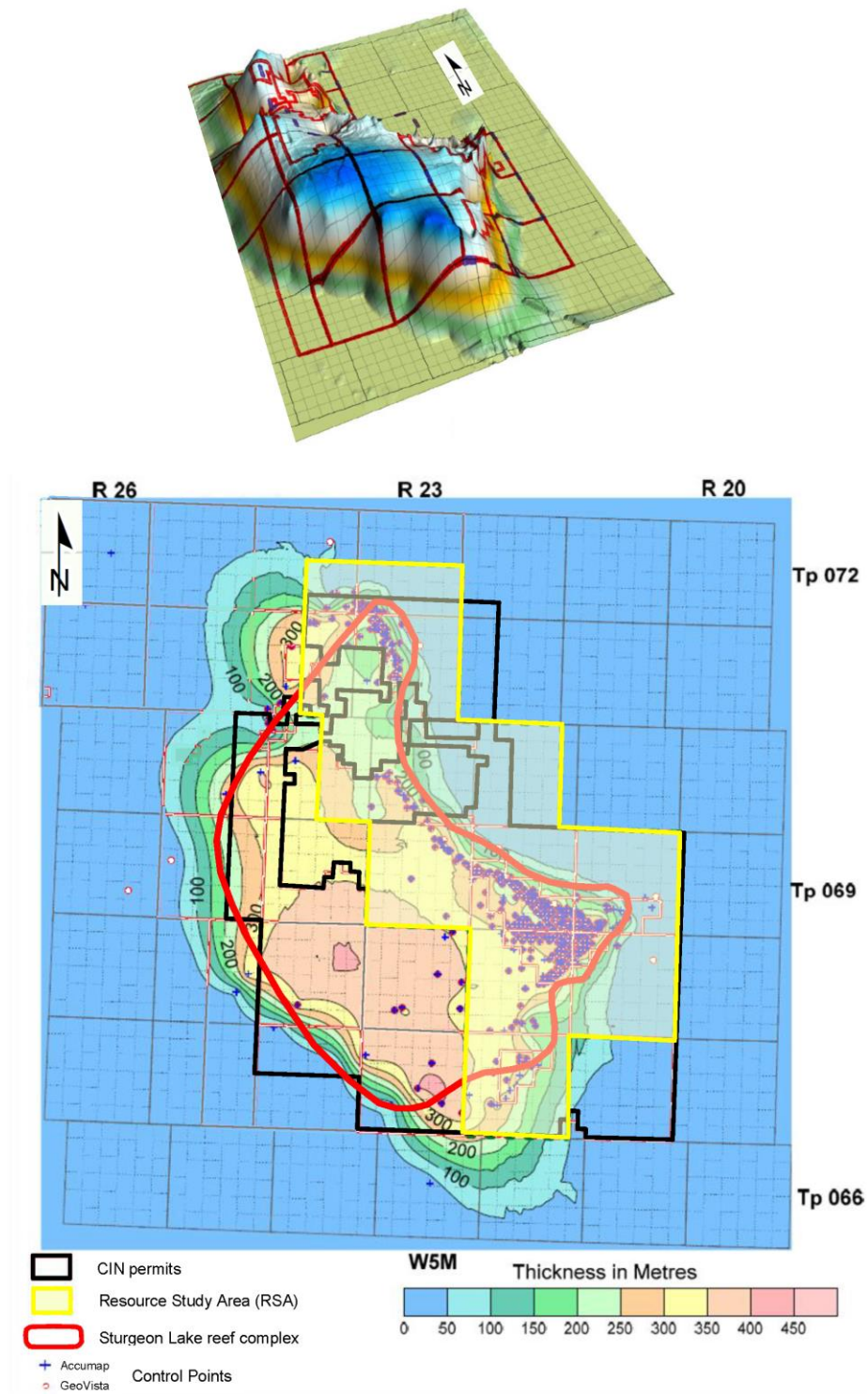
To calculate the Leduc Formation rock volume within the Leduc Property, average fluid compositions of the Leduc Formation and Beaverhill Lake Group were reviewed using 1961 to 2010 fluid production data from the AER database using GeoVista™ (Hydrogeological Consultants Ltd., 2012). Based on distinct dissimilarities of the geochemical signatures and pre-production fluid levels between formation waters in the Leduc Formation and Beaverhill Lake Group aquifers, it was concluded that the Leduc Formation and Beaverhill Lake Group are not hydraulically connected in the CIN Leduc Property area (Hydrogeological Consultants Ltd., 2012). Because the Leduc Formation is the primary host of hydrocarbon production in the RSA, and because of the paucity of reliable data for the Beaverhill Lake Group, formation water resource estimates in the following sections of this report considered the Leduc Formation aquifer system only.

HCL compiled formation tops of the Leduc Formation using two publically available databases (Divestco Inc.'s GeoVista™ and IHS Accumap™); both databases are furnished with data from the AER. Picks of top of the Elk Point Group were also compiled because that horizon represents the base of the Beaverhill Lake Group. Where differences existed between the databases (or query programs), the anomalous outlying result was not used. Some picks were discarded where large discrepancies occurred between adjacent picks.

Grids of the unit tops were created using Surfer's (Version 10.4.799; Golden Software Inc.) Once all formations were gridded, the thickness of individual formations was calculated by subtracting one grid from the other. The thickness of the Leduc Formation is shown in Figure 15. The volumes were then calculated and defined spatially within the Leduc Property area. Within Surfer, three methods are used to determine volumes using three classical numerical integration algorithms: Extended Trapezoidal Rule, Extended Simpson's Rule, and Extended Simpson's 3/8 Rule (Press *et al.*, 1988).

The net volume of rock represented by the Leduc Formation aquifer system in the RSA area of CIN's Leduc Property (157 billion m³) yielded good agreement between the three volume calculations. Based on average regional porosity (5%) and percentage of the fluid representing formation water (72%), the best estimate of total in-place formation water within the Leduc Formation aquifer system is 5.7 billion m³ (Hydrogeological Consultants Ltd., 2012).

Figure 15. Thickness three-dimensional and contour maps of the Leduc Formation (from Hydrogeological Consultants Ltd., 2012). The reef complex has steep margins, a fairly flat top and thicknesses that exceed



400 m in the south-central part of the reef.

14.3 Inferred Mineral Resource Estimate

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxes, socio-political, marketing or other relevant issues. In addition, the quality and grade of reported inferred resource in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

To define an inferred resource estimate for Li, K, B, Br, Ca, Mg, and Na in the Leduc Formation aquifer system of CIN's Leduc Property, we use the total in-place formation water volume of 5.7 billion m³, average mineral grades that were derived from 2011 formation water sampling, and a conservative grade weight (density) of 1000 kg/m³ of brine. The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate, in elemental form, is shown in Table 8 and can be summarized, in elemental and oxide form, as follows:

- At an average grade of 67.5 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for lithium is 385,000 tonnes (2,049,000 tonnes of Li₂CO₃);
- At an average grade of 4,641.3 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for potassium is 26,455,000 tonnes (31,868,000 tonnes of K₂O);
- At an average grade of 114.0 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for boron is 650,000 tonnes (2,093,000 tonnes of B₂O₃);
- At an average grade of 394.3 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for bromine is 2,248,000 tonnes (2,248,000 Br₂);
- At an average grade of 23,595.7 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for calcium is 134,495,000 tonnes (188,185,000 tonnes of CaO);
- At an average grade of 2,887.4 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for magnesium is 16,458,000 tonnes (27,291,000 tonnes of MgO); and
- At an average grade of 62,385.1 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for sodium is 355,595,000 tonnes (903,922,000 tonnes of NaCl).

Table 8. Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate for selected elements within the Woodbend Group (Leduc) aquifer system of CIN's Leduc Property. The inferred resource estimate is based on total in-place formation water volume of 5.7 Billion m³ within the Leduc Property and average grades taken from a 2011 sampling program (n=47).

	Lithium (Li)	Potassium (K)	Boron (B)	Bromine (Br)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)
Average grade (mg/L)	67.5	4,641.3	114.0	394.3	23,595.7	2,887.4	62,385.1
Resource in place (tonnes)	385,000	26,455,000	650,000	2,248,000	134,495,000	16,458,000	355,595,000

Note 1: Tonne = metric tonne = 1,000 kg (2,204.6 lbs). Numbers may not add due to rounding (rounded to nearest 1000).

Note 2: Values represent 100% recovery of the minerals from the formation water and do not reflect process recoverability, which are subject to ongoing metallurgical studies.

Note 3: The quality and grade of reported inferred resource in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

The calculations provide an estimate of total in-place mineral resources and are classified as an inferred resource estimate based upon the CIM Guidelines where, *“An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity.”*

14.4 Discussion: Hypothetical Recoverability of Brine

14.4.1 Hydraulic Parameters

HCL determined average porosity of the Leduc Formation aquifer system using core analyses and sonic logs from the AER well database GeoVista™. Analyses of selected well logs were conducted to determine porosity. Based on analysis of the delta transit time (sonic) curves for dolomite from three selected geophysical logs and the calculated porosity of the Leduc Formation (average of 5.3% and a geomean of 5.0%; n=99), a reasonable average porosity of the Leduc Formation in the RSA is 5.0%.

Hydraulic parameters were used to calculate deliverability include transmissivity (permeability x aquifer thickness) and storativity (the volume of water expelled per unit surface area as a result of a change in head). Apparent transmissivity values are based

on the inflow and pressures measured during the DSTs, or are calculated from permeability data determined from core analyses. Fluid levels are based on formation pressures. The permeability measurements from core tests were converted to transmissivity and compared to transmissivity measurements determined from drill stem tests (“DST”) and from transmissivity values used in a water level model that reasonably matches the known water levels over time. Apparent transmissivities determined from core analyses and DST results from the Leduc Formation indicated an average of 0.09 m²/day and 2.2 m²/day, respectively, (Hydrogeological Consultants Ltd., 2012).

Hitchon et al. (1995) reported that the potentially productive Leduc Reef (N) zone is approximately 12 m thick, with an average permeability of 3.5×10^{-14} m². Based on these parameters, the calculated transmissivity would be 0.35 m²/day. However, because of the vuggy nature of carbonate porosity, the analyses to determine aquifer parameters on a microscale (core and DST) will vary significantly while parameters determined using a macroscale Infinite Artesian Aquifer Model (“IAAM”) will better reflect the effective parameters of the aquifer. Based on IAAM analysis, an effective regional transmissivity of 1.0 m²/day, and a corresponding storativity of 6.0×10^{-5} best defines the aquifer parameters for the Leduc Formation in the RSA area of CIN’s Leduc Property (Hydrogeological Consultants Ltd., 2012).

14.4.2 Available Drawdown

The inferred resource estimate in Table 8 provides an estimate based on the total in-place formation water volume in the Leduc Formation aquifer system within the RSA. However, pumping from an aquifer cannot remove all of the formation water represented by the pore-space volume. Actual potential aquifer diversion would be governed mainly by the aquifer parameters of effective transmissivity and storativity. Based on an effective transmissivity of 1.0 m²/day and a corresponding storativity of 6.0×10^{-5} , the maximum calculated deliverability would result in lowering the fluid level by 100% of the available drawdown of the aquifer within the CIN property after 20 years.

The IAAM was used to calculate the elevation of the fluid level in the RSA by the end of 2010. Because the available drawdown in an aquifer is defined as the distance between the non-pumping fluid level and the top of the aquifer, the available drawdown in the RSA area of CIN’s Leduc Property was created by subtracting the elevation of the top of the Leduc Formation from the calculated 2010 fluid-level surface (Figure 15a). The figure shows that the available drawdown in the RSA ranges from approximately 2,400 m in Tp069, R21W5M, to approximately 3,800 m in the southeastern corner of Tp069, R22W5M. The average available calculated drawdown in the Leduc Formation within the RSA by the end of 2010 is approximately 2,900 m.

Based on an effective transmissivity of 1.0 m²/day and a corresponding storativity of 6.0×10^{-5} , pumping rates and pumping locations were adjusted in the IAAM until the calculated water levels in the Leduc Formation to levels representing close to 100% of the available drawdown through the RSA after 20 years (Figure 15b; the blue contour line shown in Figure represents 200 m of available drawdown remaining).

14.4.3 Hypothetical Diversion Model and Recoverability

A hypothetical example of the diversion required to cause 100% of the available drawdown in the CIN property could include pumping 33,500 m³/day from 14 hypothetical wells. Although there has been a net injection of fluid into the Leduc Formation since 1991, the IAAM was based on a conservative calculation and assumes that, beginning in 2011, there will be zero net injection into the Leduc Formation and the only diversion would be from the 14 hypothetical wells.

The total liquid diversion represented by pumping 33,500 m³/day from the 14 hypothetical CIN wells after 20 years is 245 million m³. Based on an average of 72% of the liquid diverted being saline formation water, the total diverted formation water of 176 million m³ of formation water represents 3.1% of the volume of 5.7 billion m³ of formation water calculated to residing within the pores spaces of the Leduc Formation underlying the RSA area in the Leduc Property. Figure 16 illustrates the extent of the drawdown; a portion of the 176 million m³ is actually derived from outside the CIN Property. Based on an average available drawdown in the RSA property of approximately 2,900 m, a surface area of the Leduc Formation within the RSA of 660 km², and a regional storativity of 6.0×10^{-5} , the volume of formation water that could be pumped from the Leduc Formation aquifer underlying the RSA property would be 97.4 million m³. This means that of the 176 million m³ pumped from Leduc Formation wells within the RSA over 20 years, 97.4 million m³ (approximately 55%) would be from beneath the RSA. The remainder would be from the Leduc Formation outside the RSA.

The parameters used in this hypothetical recovery example are based on public water levels and pressure survey levels reported between 1994 and 1997, for which there are many sources of potential data inaccuracies. Thus, it is important to point out that the transmissivity estimates are neither definitive nor constant across the width and depth of the Leduc aquifer system. For example, transmissivity values within the Leduc aquifer system underlying the CIN Property vary significantly between the different measurement methods: historical drill stem tests (2.2 m²/day); historical core analysis (0.09 m²/day); and formation water modeling (1.0 m²/day). Subsequently, the recoverable brine volumes expected to be pumped over 20 years ranges between 71.8 million m³ and 258.5 million m³, or 1.3% to 4.6% of the total in-place resource.

Table 9 provides details of the total estimated recoverable inferred Mineral Resource using applied 20 year yields of 1.3% (71.8 million m³), 3.1% (176.0 million m³) and 4.6% (258.5 million m³) of the total in-place resource. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the inferred mineral resource will be converted into a mineral reserve. The large variation in the recoverable resource and recoverable end product (e.g., between 4,850 and 17,400 tonnes of lithium) illustrates the importance of transmissivity in the Leduc aquifer system and any subsequent resource work in the Leduc Property should place emphasis on advanced pressure tests to better understand permeability.

Based on regional formation water modelling, resulting in a reasonable correlation between calculated fluid levels and pressure survey levels reported in 1994 and 1997, the most realistic interpretation of recoverable brine from the available data is 176 million m³, or 3.1% of the total in-situ brine over 20 years (Table 9). This table assumes that 100% of the minerals in the recoverable brine can be extracted. Therefore, the inferred recoverable mineral resource represents potentially a best case recoverable resource.

Table 9. Hypothetical mineral and end product resources that could be expected to be recovered over 20 years based on a range of calculated effective transmissivities (permeability x aquifer thickness) as determined from publicly available data. The table illustrates the sensitivity of the recoverable resource with changes in the applied yield quotient.

Inferred recoverable volume of brine using an applied 20 year yield	Transmissivity (m ² /day)	Recoverable resource and recoverable end product (tonnes)						
		Lithium ² (Li ₂ CO ₃) ³	Potassium ² (K ₂ O) ³	Boron ² (B ₂ O ₃) ³	Bromine ² (Br ₂) ³	Calcium ² (CaO) ³	Magnesium ² (MgO) ³	Sodium ² (NaCl) ³
71.8 million m³ of brine, or 1.3% of the total in-place volume¹	0.09⁴	4,850 (25,800)	333,000 (402,000)	8,190 (26,400)	28,300 (28,300)	1,695,000 (2,371,000)	207,000 (344,000)	4,480,000 (11,390,000)
176.0 million m³ of brine, or 3.1% of the total in-place volume¹	1.0⁵	11,880 (63,200)	817,000 (984,000)	20,060 (64,600)	69,400 (69,400)	4,153,000 (5,811,000)	508,000 (843,000)	10,980,000 (27,910,000)
258.5 million m³ of brine, or 4.6% of the total in-place volume¹	2.2⁶	17,400 (93,000)	1,200,000 (1,450,000)	29,000 (95,000)	102,000 (102,000)	6,100,000 (8,530,000)	750,000 (1,240,000)	16,100,000 (41,000,000)

¹ The total in-place volume of formation water is 5.7 billion m³

² Recoverable mineral resource

³ Recoverable end product calculated using the following standard conversion rates as determined by the chemical composition of the final product, and are independent of price and extraction processes: Na x 2.542 = NaCl, K x 1.2046 = K₂O, Ca x 1.3992 = CaO, Mg x 1.6582 = MgO, B x 3.2202 = B₂O₃, Li x 5.323 = Li₂CO₃.

⁴ Based on using 50 of 52 drill stem tests from 41 wells; two tests yielded unreliable values; represents the minimum transmissivity value

⁵ Based on regional formation water modelling, resulting in a reasonable correlation between calculated fluid levels and pressure survey levels reported in 1994 and 1997; considered to be the most realistic interpretation from the available data

⁶ Based on 99 core analysis; represents the maximum transmissivity value

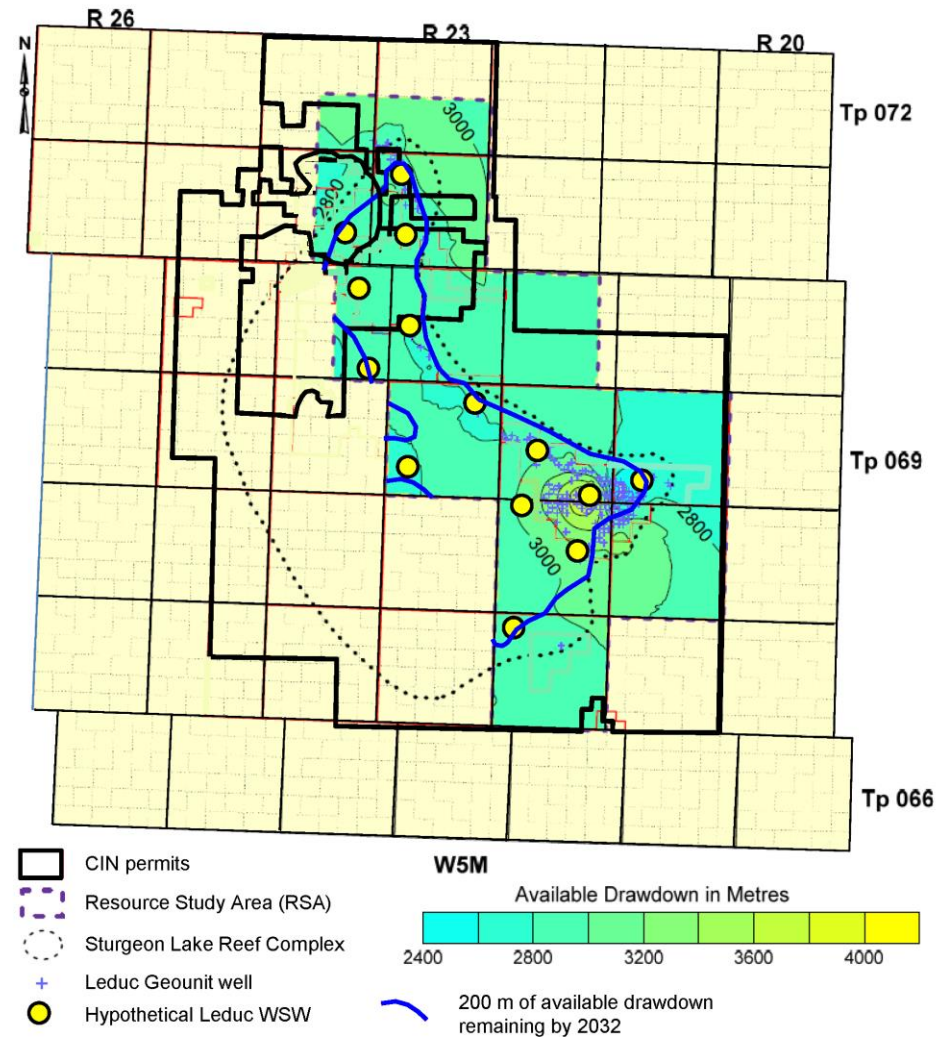
Note 1: Recoverable tonnages values represent 100% recovery of the mineral from the formation water and do not reflect process recoverability, which is subject to ongoing studies.

Note 2: Figures may not sum due to rounding. Significant figures do not indicate added level of precision.

Note 3: Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.

Note 4: The quality and grade of reported inferred resource in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

Figure 16. Hypothetical aquifer diversion in the Resource Study Area. The average available drawdown in the Leduc Formation aquifer within the Resource Study Area is 2,900 m. the 100% drawdown (blue polygon) results from pumping 33,500 m³/day from 14 hypothetical wells.



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. Previous lithium exploration occurred between 2009 and 2012. As discussed in this report, CIN's 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 area of historical lithium exploration occurs approximately 100 km southeast of CIN's Leduc Property (Figure 17). The area was once held during 2009-2013 by Channel Resources Ltd., who conducted database compilations, formation water sampling program of 13 producing gas wells, resource estimations and solvent extraction metallurgical test work on their Fox Creek Property (e.g., Channel Resources Ltd., 2009, 2010, 2012; Eccles et al., 2012a). Channel Resources Ltd. work program targeted the Beaverhill Lake Group aquifer.

The general area has around the now lapsed Fox Creek Property has recently been staked by a number of competitors, including but not limited to: Dahrouge Geological Consulting Ltd.; Robin Charles Day; DG Resource Management Ltd.; Dominica Energy Minerals Inc.; and David Agustin Heyman. It is presumed that these companies and individuals staked the area for its lithium-enriched formation water potential.

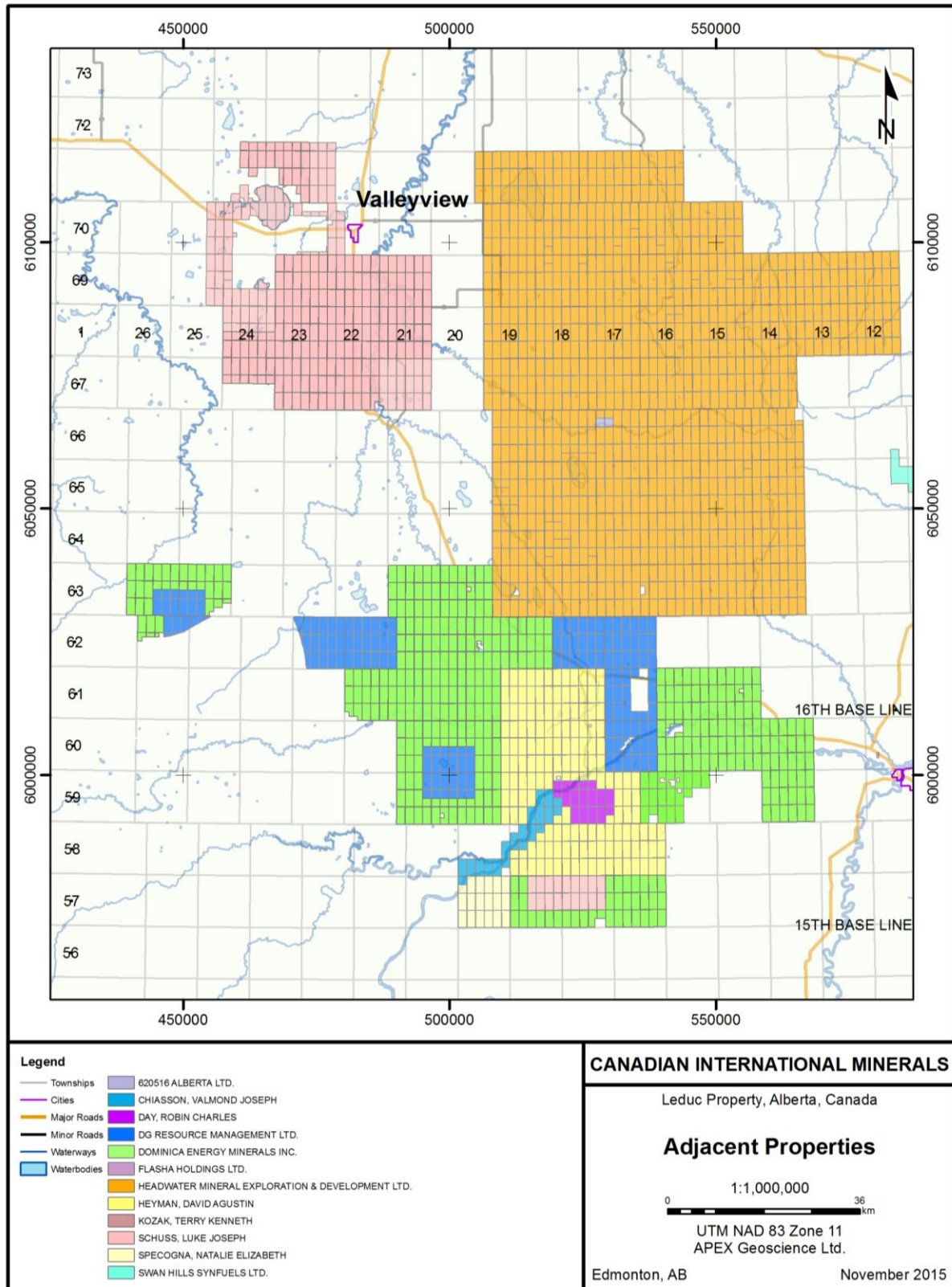
Another significantly large land holding is situated east of CIN's Leduc Property. This land package is managed by Headwater Mineral Exploration and Development Ltd., who has explored the area for a number of years for a wide range of metallic and industrial mineral commodities that include: aggregate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

24.0 Other Relevant Data and Information

The intent of this NI 43-101 item is to include additional information or explanation that is necessary to make the technical report understandable and not misleading. Accordingly, it is reiterated that the resource estimate presented in this Technical Report, on behalf of CIN, is the same resource estimation that was first published by these authors in March 2012 for Lithium Exploration Group Inc. The authors present their reasoning for why the mineral resource is still relevant and reliable in the Preface and Section 14.1, Mineral Resource Estimate – Introduction of this Technical Report.

The effective date of the Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate has a new effective date of 22 January 2016.

Figure 17. Adjacent properties in the vicinity of CIN's Leduc Property.



25.0 Interpretation and Conclusions

25.1 Summary of the Inferred Mineral Resource Estimate

APEX has prepared a NI 43-101 mineral resource estimate for CIN at their Leduc Property that is in accordance with the CSA's NI 43-101 and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010. CIN has 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 Leduc permits are subject to a 2% gross overriding royalty to Strategic Staking & Exploration Inc. The effective date of the Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate and Technical Report is 22 January 2016.

The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate is based on: 1) the compilation of publicly available stratigraphic and formation water data from oil and gas well databases, 2) formation water samples (n=47), which were collected from the Leduc Formation, Woodbend Group, and 3) a Hydrogeological Consultants Ltd. formation water review on the Leduc Formation aquifer beneath CIN's Property.

The analytical results of the formation water sampling program confirmed that the Leduc Formation aquifer within the Leduc Property contains anomalous concentrations of Li as suggested 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). A 2011 formation water sampling program collected 62 samples from 60 separate hydrocarbon-producing wells. Of the 62 samples, 47 were from the Leduc Formation; the Leduc brines yielded up to 83.7 mg/L Li, 6,470 mg/L K, 137 mg/L B, 4,200 mg/L Br, 28,100 mg/L Ca, 4,630 mg/L Mg and 71,400 mg/L Na. Samples from the Mississippian to Cretaceous aquifers (n=15 samples) had significantly lower elemental counts. The presence of significant concentrations of Li and other elements in the Leduc Formation brine validates the project's potential to explore for a multi-product brine processing operation.

Based on the assessment of available data, particularly fluid level and formation water quality data, the Beaverhill Lake and Leduc aquifers in the Leduc Property area are not considered to be hydraulically connected. Because the Leduc Formation is the primary host of hydrocarbon production in CIN's Leduc Property, and because of the paucity of reliable data for the Beaverhill Lake Group, formation water resource estimates in the following sections of this report considered the Leduc Formation aquifer system only.

The volume of rock represented by the Leduc Formation in CIN's property is approximately 157 billion m³. Based on an approximate porosity of 5%, the volume of fluid underlying the CIN Property within the Leduc Formation is approximately 7.9 billion

m³. Based on historical data that shows the fluid in the Leduc Formation has an average of 72% of the fluid being formation water, the total in-place volume of formation water within the Leduc Formation underlying the CIN's Leduc property is approximately 5.7 billion m³.

Total inferred in-place tonnage estimates were calculated by multiplying the total in-place formation water (5.7 billion m³) by the average grade of each element from the formation water sampling program (n=47 analyses from separate petroleum wells). The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate is presented in Table 8 and comprises:

- At an average grade of 67.5 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for lithium is 385,000 tonnes (2,049,000 tonnes of Li₂CO₃);
- At an average grade of 4,641.3 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for potassium is 26,455,000 tonnes (31,868,000 tonnes of K₂O);
- At an average grade of 114.0 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for boron is 650,000 tonnes (2,093,000 tonnes of B₂O₃);
- At an average grade of 394.3 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for bromine is 2,248,000 tonnes (2,248,000 Br₂);
- At an average grade of 23,595.7 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for calcium is 134,495,000 tonnes (188,185,000 tonnes of CaO);
- At an average grade of 2,887.4 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for magnesium is 16,458,000 tonnes (27,291,000 tonnes of MgO); and
- At an average grade of 62,385.1 mg/L and assuming 5.7 billion cubic metres of water the inferred resource estimate for sodium is 355,595,000 tonnes (903,922,000 tonnes of NaCl).

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxes, socio-political, marketing or other relevant issues. In addition, the quality and grade of reported inferred resource in this estimation are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is

uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

25.2 Other Considerations and Uncertainties

In discussion, it is important to point out that not all the brine within the Property is ultimately recoverable. Hypothetical formation water production within the Leduc Formation aquifer underlying CIN's Property indicates that at 100% drawdown with the Property boundaries, approximately 176 million m³ could be sufficiently pumped over a 20 year period. Transmissivity estimates, however, are not constant across the width and depth of the Leduc aquifer system and vary significantly between the different methods of measurement (ranging between 0.09 m²/day and 2.2 m²/day). Subsequently, the recoverable brine volumes that could be expected to be pumped over 20 years ranges between 71.8 million m³ and 258.5 million m³, or 1.3% to 4.6% of the total in-place resource, respectively (see Table 9).

In addition, the final tonnage of each element is ultimately controlled by element recoverability from the brine. At this time, however, hypothetical 20 year recoverability estimates are a moot point because the tonnage values could easily change based on aquifer pressure testing, advances in element recoverability technology, property size, etc. In addition, reinjection of treated formation water back into the reservoir would limit the expansion of the hydraulic depression caused by pumping such that, in theory, the entire 5.7 billion m³ in the pore space could be recovered.

Lastly, the regulatory policy of 'mining' these formation waters might resemble that of oil and gas leases, where operational boundaries are not based on an actual lease of rock, but are defined by the pool or aquifer. This simplifies the whole process (at least for oil/gas) because the drawdown effect can be ignored from outside the physical lease area in such a way that multiple companies can produce from the same pool. The issue of pool delineation then relies on factors such as stratigraphic correlation, geologic structure, associated water, pressure data, recovery factors, and gas-oil ratios.

Therefore, the inferred recoverable mineral resource presented in this Technical Report represents a best case recoverable resource and the estimates come with a large uncertainty (see Table 9).

26.0 Recommendations

The Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate presented in this Technical Report supports the contention that the Leduc Property has demonstrated prospects of economic viability. The total in-place volume of formation water within the Leduc Formation underlying the CIN's Leduc property is 5.7 billion m³ and average grades of individual elements of interest have been used to calculate the mineral resource estimate (see Table 8). Hypothetical estimates of the recoverable resource over a 20 year period are significantly less, somewhere between 71.8 million m³ and 258.5 million m³ (best estimate of publicly available data is 176 million m³ or 3.1% of the total in-situ brine).

Despite this volume of specialty element-bearing oilfield brine, which is readily accessible as a by-waste product associated with hydrocarbon production, it is important to point out that is still an early stage exploration project. The project will remain so until a viable extraction methodology can reliably ‘mine’ the elements of interest from the brine. Once done, the project can then convert the resource to a higher level of confidence. Accordingly, the authors recommend a two-phased approach with a total estimated cost of CDN\$1,625,000. These costs are outlined in Table 10 and summarized in the text that follows.

Table 10. Summary of Phase One and Phase Two recommendations to advance the confidence level of CIN’s lithium-enriched oilfield brine project.

Phase	Item	Description	Cost Estimate (CDN\$)	Totals (CDN\$)
Phase One	Sampling program	Collect 75-100 formation water samples from 70 to 80 separate wells, including Leduc and Beaverhill Lake formations	\$75,000	\$225,000
	Bench top test work	Review of technologies and laboratories, and initiate metallurgical/extraction test work	\$150,000	
Phase Two	Aquifer test work	Pressure surveys on three wells plus one observation well for fluid level testing	\$800,000	\$1,400,000
	Advanced mineral processing test work	a laboratory-scaled pilot test plant should be conducted to optimize recovery processes	\$250,000	
	Preliminary Economic Assessment scoping study	Updated resource model cwith an initial economic feasibility analysis	\$350,000	
			Total	\$1,625,000

26.1 Phase One Exploration Work

Recommended Phase One work involves a formation water geochemical sampling program with the objectives of: 1) testing brine in other parts of the Sturgeon Lake oilfield to fully quantify the areas (and wells) with elevated specialty elements; and 2) collecting water samples for bench top test work focusing on the extraction and recovery of lithium and other elements of interest. The sampling program should collect samples of the Leduc Formation aquifer that are both within, and outside of, the current resource estimate area. In addition, 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 duplicate samples to confirm the mineralization and laboratory process. The estimated cost of the 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. 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 this test work, including an investigation into the various methodologies, laboratories and/or potential collaborators is estimated at approximately CDN\$150,000.

The total of the Phase One exploration work is estimated at CDN\$225,000.

26.2 Phase Two Exploration Work

Pending positive results of the Phase One exploration work, the purpose and objective of the Phase Two exploration work is to convert the resource to a higher level of confidence. Phase Two studies should include: 1) improving aquifer parameters; 2) an economic analysis of the project; and 3) a pilot test program. In picking wells for Stage Two pressure and metallurgical testing, attention should be given as to which wells are logistically the best sites for actual production; if the test wells are successful, it may be possible to convert them to production wells for a pilot test.

At this time, the aquifer parameters are considered rough estimates. Additional pressure surveys should be completed using current oil and gas infrastructure on no less than three wells producing from the Sturgeon Lake oilfield to provide more detailed data on the fluid-level response to fluid diversion. In order to minimize the effects of interference from nearby pumping or injection, each tested well should be at least 1,600 m from any producing or injecting well site that has been active in the last five years. These data should be collected during an aquifer test consisting of no less than three days of pumping followed by no less than six days of recovery. Prior to the start of pumping, it is recommended that fluid levels in the test well be measured for no less than seven days. During the pumping interval, the flow rate must be measured with a flow meter capable of $\pm 0.1\%$ accuracy and confirmed using a second method of

measurement. Fluid levels should be measured with an accuracy of not less than 0.1 m in at least one observation well operating in the same formation as the pressure test well. The fluid levels in the observation well must respond to pumping from the pressure testing well(s) and should be less than 800 m from the test well(s). A rough estimate of the pressure testing, which excludes any costs associated with water storage and/or disposal, is approximately CDN\$250,000 per well. The total cost of pressure surveys on three wells plus one observation well for fluid level testing is estimated to cost CDN\$800,000. If the aquifer test proposed above is not practical, fluid level and production monitoring of current oil and gas infrastructure over a period of at least four months may offer a suitable alternative. Once these data are available, revised aquifer parameters should be used to update the formation water model, as part of the next phase of aquifer assessment and potential development.

Coincident with aquifer parameter testing, a laboratory-scaled pilot test plant should be conducted to optimize recovery processes. The mineralogical processing design should use recovery processes flowing from the Phase One work as a starting point to conduct further advanced testing to quantitatively optimize these processes. The cost of the laboratory-scaled pilot testing, which excludes any costs associated with water storage and/or disposal, is expected cost CDN\$250,000.

With revised assay grade data from the formation water sampling program, revised aquifer parameters and recoverable element percentages, an updated resource model can be created. The Technical Report should include an initial economic feasibility analysis for extracting Li, K, B, Br, Mg, Ca and Na from the oilfield brine underlying CIN's Leduc Property. The estimated cost of a Preliminary Economic Assessment scoping study is estimated at CDN\$350,000.

The total cost of the Phase Two exploration work is estimated at CDN\$1,400,000. The total cost of the Phase One and Phase Two exploration work is estimated at \$1,625,000.

27.0 References

- Bachu, S., Yuan, L.P. and Brulotte, M. (1995): Resource estimates of industrial minerals in Alberta formation waters; Alberta Research Council, Alberta Geological Survey, Open File Report 1995-01, 59 p.
- Billings, G.K., Hitchon, B., Shaw, D.R. (1969): Geochemistry and origin of formation waters in the Western Canada Sedimentary Basin; *Chemical Geology*, v. 4, p. 211-223.
- Bloch, J., Schroder-Adams, C., Leckie, D.A., McIntyre, D.J., Craig, J. and Staniland, M. (1993): Revised stratigraphy of the Lower Colorado Group (Albian to Turonian), Western Canada; *Bulletin of Canadian Petroleum Geology*, vol. 41, no. 3, p. 325-348.
- Bloy, G.R. and Hadley, M.G. (1989): The development of porosity in carbonate reservoirs; Canadian Society of Petroleum Geologists, Continuing education Short Course.
- Cant, D.J. (1988): Regional structure and development of the Peace River Arch, Alberta: A Paleozoic failed-rift system?; *Bulletin of Canadian Petroleum Geology*, v. 36, p. 284-295.
- Channel Resources Ltd. (2009): Channel Resources Confirms Multi-Product Mineral Potential at Fox Creek Brine Project; Alberta News Release, October 7, 2009
- Channel Resources Ltd. (2012): Channel Resources Announces Maiden Resource Estimate for Fox Creek Mineral Brine Project in Alberta; News Release, March 19, 2012.
- Connolly, C.A., Walter, L.M., Baadsgaard, H., Longstaff, F.J. (1990a): Origin and evolution of formation waters, Alberta Basin, Western Canada Sedimentary basin; *Applied Geochemistry*, v.5, n.4, p. 375-395.
- Connolly, C.A., Walter, L.M., Baadsgaard, H., Longstaff, F.J. (1990a): Origin and evolution of formation waters, Alberta Basin, Western Canada Sedimentary Basin; *Applied Geochemistry*, v.5, n.4, p.397-413.
- Dufresne, M.B. (2009): Technical report on the lithium potential of the Fox Creek Property, Swan Hills Area, West-Central Alberta; Unpublished Technical Report prepared on behalf of Channel Resources Ltd., 39 p.
- Dufresne, M.B., Olson, R.A., Schmitt, D.R., McKinstry, B., Eccles, D.R., Fenton, M.M., Pawlowicz, J.G., Edwards, W.A.D. and Richardson, R.J.H. (1995): The Diamond Potential of Alberta: A Regional Synthesis of the Structural and Stratigraphic Setting, and Other Preliminary Indications of Diamond Potential; MDA Project M93-04-037, Alberta Research Council Open File Report 1994-10.
- Dufresne, M.B., Eccles, D.R., McKinstry, B., Schmitt, D.R., Fenton, M.M., Pawlowicz, J.G. and Edwards, W.A.D. (1996): The Diamond Potential of Alberta; Alberta Geological Survey, Bulletin No. 63, 158 pp.
- Dufresne, M.B. (2011): Assessment Report for Lithium Exploration on the Valleyview Property, Swan Hills Area, West-Central Alberta: Metallic and Industrial Mineral Permits 9308120658 to 9308120666; Prepared for First Lithium Resources Inc., 64 p.
- Dufresne, M.B. and Eccles, D.R. (2013): Assessment Report for Lithium Exploration Group Inc.'s Valleyview Property, Swan Hills Area, West-Central Alberta Metallic and Industrial Mineral Permits: 9311120585 - 9311120608, 9308120658-9308120660 and 9308120663 – 9308120664; Prepared for Lithium Exploration Group Inc., 241 p.

- Ebensperger, A., Maxwell, P., Moscoso, C., (2005): The Lithium Industry: Its recent evolution and future prospects; *Resources Policy*, V. 30, pp. 218-23.
- Eccles, D.R. and Jean, G.M. (2010): Lithium Groundwater and Formation Water Geochemical Data; Alberta Geological Survey, Digital Data DIG 2010-0001.
- Eccles, D.R. and Berhane, H. (2011): Geological introduction to lithium-rich formation water with emphasis on the Fox Creek area of west-central Alberta (NTS 83F and 83K); Energy Resources Conservation Board, AER/AGS Open File Report 2011-10, 22 p.
- Eccles, D.R., Dufresne, M.B., McMillan, K., Touw, J. and Clissold, R.J. (2012a): Maiden Li-K-B-Br-Ca-Mg-Na resource estimate report on lithium-enriched formation water, Fox Creek Property, Swan Hills area, west-central Alberta; NI 43-101 Technical Report completed on behalf of Channel Resources Ltd. Listed on Sedar, March 2012.
- Eccles, D.R., Dufresne, M.B., McMillan, K., Touw, J. and Clissold, R.J. (2012b): Inferred Li-K-B-Br-Ca-Mg-Na resource report on lithium-enriched formation water, Valleyview Property, west-central Alberta; NI 43-101 Technical Report completed on behalf of Lithium Exploration Group Inc., March 2012.
- First Lithium Resources Inc. (2009): Lithium and other multi-element anomalies confirmed at Valleyview, Alberta; News Release, September 9, 2009.
- Environment Canada (2011): National Climate Data and Information Archive – Historical Weather and Climate Data.
http://www.climate.weatheroffice.gc.ca/climateData/canada_e.html
- Garrett, D.E., (2004) Handbook of Lithium and Natural Calcium Chloride: Their Deposits, Processing Uses and Properties. Elsevier Academic Press. 488p. Glass, D.J. (1990): Lexicon of Canadian Stratigraphy, v. 4, Western Canada, including Eastern British Columbia, Alberta, Saskatchewan and Southern Manitoba; Canadian Society of Petroleum Geologists.
- Green, R., Mellon, G.B. and Carrigy, M.A. (1970): Bedrock Geology of Northern Alberta; Alberta Research Council, Unnumbered Map (scale 1:500,000):
- Hitchon, B., Billings, G.K., Klován, J.E. (1971) Geochemistry and origin of formation waters in the Western Canadian sedimentary basin – III Factors controlling chemical composition; *Geochimica et Cosmochimica Acta*, v. 35, p. 567-598.
- Hitchon, B., (1984) Formation Waters as a Source of Industrial Minerals Alberta. In: G.R. Guillet and W. Martin (eds.), *The Geology of Industrial Minerals in Canada*; Canadian Institute of Mining and Metallurgy, Special Volume 29, p. 247-249.
- Hitchon, B., Sauveplane, C.M., Bachu, S. (1989): Hydrogeology of the Valleyview Area, Alberta: Evaluation for deep waste injection; Bulletin 58, Edmonton, Alberta Research Council.
- Hitchon, B. (1990) Hydrochemistry of the Peace River Arch area, Alberta and British Columbia; Alberta Research Council Open File report 1990-18.
- Hitchon, B., Underschultz, J.R. and Bachu, S. (1993): Industrial mineral potential of Alberta formation waters; Alberta Research Council, Alberta Geological Survey, Open File Report 1993-15, 85 p.
- Hitchon, B., Bachu, S., Underschultz, J.R., Yuan, L.P. (1995) Industrial Mineral Potential of Alberta Formation Waters; Bulletin 62, Alberta Geological Survey, 64 p.

- Huff, G.F.; Stewart, S.A.; Riddell, J.T.F.; Chisholm, S. (2011): Water Geochemical Data, Saline Aquifer Project (tabular data, tab delimited format); Alberta Geological Survey, DIG 2011-0007, digital data.
- Huff, G.F.; Bechtel, D.J.; Stewart, S.A.; Brock, E.; Heikkinen, C. (2012): Water Geochemical Data, Saline Aquifer Project (tabular data, tab delimited format); Alberta Geological Survey, DIG 2012-0001, digital data.
- Hydrogeological Consultants Ltd. (HCL) (2012): Hydrogeological Characterization – Valleyview Area, Tp 066 to 072, R 20 to 26, W5M. Prepared for APEX on behalf of Lithium Exploration Group Inc., January 2012.
- Jaskula, B.W., (2008): Lithium. 2007 Minerals Yearbook. U.S. Department of the Interior and U.S. Geological Survey. <http://minerals.usgs.gov/minerals/pubs/commodity/lithium/myb1-2007-lithi.pdf>, 9 p.
- Kunasz, I.A., (1980): Lithium in Brines. Fifth International Symposium on Salt. Northern Ohio; Geological Society, No.5, Vol. 1, p.115-117.
- Kunasz, I.A., (1994): Lithium Resources. *In*: D.D. Carr (Ed.) Industrial Minerals and Rocks. Society for Mining, Metallurgy and Exploration Inc., Littleton, USA, 1214p.
- Kunasz, I.A., (2006): Lithium Resources. *In*: J.E. Kogel, N.C. Trivedi, J.M. Barker, S.T. Krukowsk (Eds.) Industrial Minerals and Rocks: Commodities, Markets and Uses. 7th Edition. Society for Mining, Metallurgy and Exploration Inc., Littleton, USA, 1548 p.
- Leckie, D.A., Singh, C., Bloch, J., Wilson, M. and Wall, J. (1992): An Anoxic event at the Albian-Cenomanian Boundary: the Fish Scale Marker Bed, Northern Alberta, Canada; *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol. 92, p. 139-166.
- Channel Resources Ltd. (2010): Channel Resources Reports on Interim Results from Fox Creek Lithium / Potash Brine Project Process Testing Program. News Release, November 17, 2010.
- Lithium Americas (2015): Lithium Americas and POSCO Execute Heads of Agreement Defining Basic Conditions of Joint Venture for the Development of the Cauchari-Olaroz Lithium Project; < available on 4 December 2015 at: http://www.lithiumamericas.com/assets/pdfs/LAC_press_release_2015_08_27.pdf >.
- Lithium Exploration Group Inc. (2011): Form 10-K – Annual report with a comprehensive overview of the company. Morningstar Document Research. October 17, 2011. 62p.
- Lithium Exploration Group Inc. (2012): Lithium Exploration Group CEO Reviews Progress on Ultrasonic Generator. News Release, January 25, 2012.
- Moores, S., (2007) Between a rock and a salt lake. *Industrial Minerals*, v.477, p. 58-69.
- Mossop, G. and Shetsen, I. (eds.) (1994): Geological Atlas of the Western Canada Sedimentary Basin. Calgary, Canadian Society of Petroleum Geologists and Alberta Research Council, 510 p.
- O'Connell, S.C., Dix, G.R. and Barclay, J.E. (1990): The origin, history and regional structural development of the Peace River Arch, Western Canada; *Bulletin of Canadian Petroleum Geology*, 38A:4-24.
- Pană, D.I. (2003): Precambrian Basement of the Western Canada Sedimentary Basin in Northern Alberta; EUB/AGS Earth Sciences Report 2002-02. February 2003. 39 p.

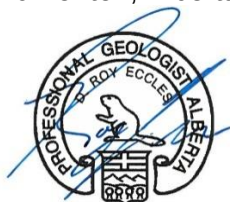
- Pawlowicz, J.J. and Fenton, M.M. (1995a): Bedrock topography of Alberta; Alberta Geological Survey, Energy and Utilities Board, Map 226, scale 1:2,000,000.
- Pawlowicz, J.J. and Fenton, M.M. (1995b): Drift thickness of Alberta; Alberta Geological Survey, Energy and Utilities Board, Map 227, scale 1:2,000,000.
- Ross, G.M., Parrish, R.R., Villeneuve, M.E. and Bowring, S.A. (1991): Geophysics and geochronology of the crystalline basement of the Alberta Basin, western Canada; Canadian Journal of Earth Sciences, vol. 28, p. 512-522.
- Ross, G.M., Theriault, R. and Villeneuve, M. (1998): Buffalo Head Terrane and Buffalo Head Craton; What's the difference and does it matter; Calgary Mineral Exploration Group, 7th Annual Calgary Mining Forum, p. 19-20.
- Contesse, P., Ponce, E., (2008): Results for 1H08 and Market Outlook; SQM Corporate Presentation. www.sqm.com, 34 p.
- Tahil, W., (2007): The Trouble with Lithium – Implications of Future PHEV Production for Lithium Demand. Meridian Research International. http://www.meridian-intres.com/Projects/Lithium_Problem_2.pdf, 11p.
- Tokarsky, O. (1977): Hydrogeology of the Iosegun Lake Area, Alberta; Research Council of Alberta, Report 76-2.
- Underschultz, J.R., Yuan, L.P., Bachu, S., Cotterill, D.K. and Hitchon, B. (1994): Industrial mineral resources in Alberta formation waters; Alberta Research Council, Alberta Geological Survey, Open File Report 1994-13, 71 p.
- Vine, J.D., (1980): Where on Earth is all of the Lithium; US Geological Survey Open File Report 80-1234, 107 p.
- Warren, J.K. (2006): Evaporites: Sediments, Resources and Hydrocarbons; Springer- Verlag Berlin, Germany. 1035 p.
- Zampirro, D. (2005): Hydrogeology of the Clayton Valley Brine Deposits, Esmeralda County, Nevada; The Professional Geologist, AIPG 42nd Annual Meeting. V 42, No 3, p. 46-54.

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.
6. I am responsible for and have supervised the “*Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate*” (the “Technical Report”) with an effective date of 22 January 2016. I published two Alberta government reports that document Li-enriched Alberta formation water, including brine from aquifers underlying the Leduc Property. I have historically visited the Property area, but have not done so as part of this Technical Report. Rather, I reviewed oil and gas production values at the Leduc Property to confirm that the wells are active to the end of 2015, and 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 22 January 2016
Edmonton, Alberta, Canada

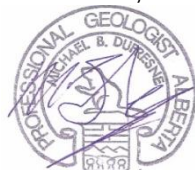


D. Roy Eccles, M.Sc., P.Geol.

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 the Technical Report “*Sturgeon Lake Li-K-B-Br-Ca-Mg-Na Oilfield Brine Inferred Mineral Resource estimate*”, and dated 22 January 2016 (the “Technical Report”). I last visited the Property on February 16th, 2011. I have conducted fieldwork on the Property and surrounding areas, and supervised a number of exploration programs for a variety of commodities across the Swan Hills region.
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 22 January 2016
Edmonton, Alberta, Canada



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