

# Technical Report on the Kootenay Lithium Project

**Revelstoke Mining Division  
Southeast British Columbia, Canada**

*Begbie Property centre: Latitude 50°53'21.9" N, Longitude 118°14'2.3" W  
UTM Easting 413208, UTM Northing 5638253 (NAD83)  
BCGS Map Sheet: 082L089*

*Boulder Property centre: Latitude 50°59'43.1" N, Longitude 118°22'10.5"W  
UTM Easting 403889, UTM Northing 5650196 (NAD83)  
BCGS Map Sheets: 082L098, 082L099, 082M008, 082M009*

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Frontispiece: Radiating masses of pink tourmaline and coarse-grained purple lepidolite intergrown with grey quartz, white k-feldspar and pale green muscovite, Prof pegmatite, Boulder property.

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## 1 SUMMARY

Lithium is a rare metal whose value has been increasing in recent years primarily due to growing demand for its use in the battery sector for applications such as electric vehicles. Rare metal lithium-cesium-tantalum (LCT) pegmatites are an important source of rare and strategic elements and account for about one-third of world lithium production, most of the tantalum production, and all of the cesium production (U.S. Geological Survey, 2011). Pegmatites within the Canadian Cordillera have been largely overlooked as a potential source of these rare metals, but re-assessment of select areas is underway.

The Kootenay Lithium Project ('Project') consists of the Begbie and Boulder properties located near Revelstoke in southeast British Columbia. The two properties are controlled by First Energy Metals Ltd. ("First Energy", formerly Agave Silver Corporation, "Agave"), subject to a purchase agreement dated October 7, 2016, between First Energy and property owners Lloyd Addie, John Mirko and Graeme Haines. The Begbie property consists of 20 contiguous mineral claims that cover 1,732.85 hectares near Mount Begbie and is centered approximately 10 km south of Revelstoke. The Boulder property consists of 30 contiguous mineral claims that cover 2,278.12 hectares, including Boulder Mountain, and is centered approximately 10 kilometres west of Revelstoke.

Granitic pegmatite bodies of the rare metal LCT (lithium-cesium-tantalum) variety occur on both properties and are the principal deposit type of interest to First Energy. Grab samples collected by Addie from several of the more fractionated LCT pegmatites on the Project returned grades ranging from 0.36% Li (or 0.77% Li<sub>2</sub>O), 1078.7 ppm Rb and 268.3 ppm Cs at the WM pegmatite, Begbie property, to 1.72% Li (or 3.70% Li<sub>2</sub>O) >2000 ppm Rb and 1244 ppm Cs at the Prof pegmatite, Boulder property; these pegmatites also carry anomalous levels of beryllium, niobium and tantalum (Addie, personal communication, 2016). The pegmatites have been the subject of limited, sporadic prospecting for gemstones, but have not been explored systematically. No drilling has been conducted on the Project.

The Begbie and Boulder properties are underlain primarily by pelitic and semi-pelitic schists, and pelitic, semi-pelitic, and calc-silicate gneisses that form the cover assemblage of the Proterozoic and Paleozoic Monashee complex. Pegmatites in the Mount Begbie area have been known since the late 1800s, while those in Boulder Mountain area were first reported much more recently. Since 2011, Addie has made sporadic visits to the Mount Begbie and Boulder Mountain areas, and has located a number of discrete pegmatite bodies and possible pegmatite fields; some of the pegmatites contain zones with appreciable lepidolite and pink tourmaline. In 2012, a comprehensive study of a 0.5 km<sup>2</sup> area located just below the toe of the Mount Begbie glacier on the Begbie property, was completed by Andrea Dixon (2013). Her work comprised the first systematic documentation and scientific evaluation of rare metal LCT pegmatites on the Project.

A helicopter-supported visit to the Begbie and Boulder properties was conducted by the author on September 23, 2016 and confirmed the presence of multiple granitic rare metal LCT type pegmatite bodies on each property. At the Begbie property, pegmatite bodies persist along strike for more than 500 m. At the Boulder property individual lithium-bearing pegmatites are separated by 3.15 km of prospective terrane with no record of assessment.

Pegmatites on the Begbie and Boulder properties are typically tabular and dyke or sill-like, but lensoidal forms are also known. Individual pegmatites range from several metres to approximately 500 metres in length and vary from 2 centimetres to 6 metres in width. At the Begbie property, pegmatite bodies persist along strike for more than 500 m. At the Boulder property individual lithium-bearing pegmatites are separated by 3.15 km of prospective terrane with no record of assessment. The pegmatites are not metamorphosed, only rarely display foliation, are most likely have formed following the exhumation and decompression event that began in the late Paleocene, and are postulated to be related to the Ladybird granite suite (Dixon 2013).

The least evolved pegmatites on the properties consist of standard rock-forming minerals consistent with an S-type granite (quartz, k-feldspar, mica, plagioclase, amphibole and locally tourmaline) while others are more fractionated and locally include significant amounts of lepidolite, pink and/or green tourmaline (elbaite), red-brown garnet, beryl, cordierite, columbite, apatite and other phosphate mineral phases. Character sampling by the author returned values ranging from 21.5 ppm Li, 319 ppm Rb and 85.4 ppm Cs (Li<sub>2</sub> pegmatite area, Begbie property) to 6660 ppm Li, 1890 ppm Rb, >500 ppm Cs and 569 ppm Be (Prof pegmatite, Boulder property). Analytical data indicates that these pegmatites also contain significant amounts of other uncommon to rare metals, such as niobium and tantalum whose potential significance should not be discounted.

The qualified person has described the known rare metal LCT pegmatites on the Project, and verified the presence of select pegmatites, however, it cannot be stated unequivocally that future exploration activities, as recommended below, will encounter similar mineralization or mineralization of economic importance.

The Begbie and Boulder properties require substantial programs of prospecting, mapping and systematic sampling to further delineate pegmatite bodies, particularly at lower elevations. It is recommended that a comprehensive prospecting, bedrock mapping, and rock and soil geochemical sampling program be completed. The estimated cost of the recommended program is \$220,000. Following compilation of the results from the program, a minimum 1,000 metre helicopter-supported diamond drilling program should be considered for priority targets, including the Prof pegmatite on the Boulder property, at an estimated cost of \$450,000.

## **2 INTRODUCTION**

### **2.1 PURPOSE OF REPORT AND TERMS OF REFERENCE**

First Energy is a Canadian exploration company based in Vancouver, British Columbia, listed on the TSX Venture Exchange under the symbol FE. The Company has entered into an option agreement dated October 7, 2016, with Lloyd Addie, John Mirko and Graeme Haines (the "Vendors"), to purchase a 100% interest in the Begbie and Boulder early-stage rare metal LCT pegmatite-bearing properties located near the city of Revelstoke in southeastern British Columbia. The two properties, along with the Laib property that forms part of the purchase agreement, but that was not examined and is not a subject of this report, comprise the Kootenay Lithium Project (the "Project").

First Energy requested that the author visit each property, compile all available data and prepare an independent National Instrument 43-101 (NI 43-101) Technical Report (the "Report") for the Project. This Report was prepared in accordance with the guidelines provided in NI 43-101, Standards of Disclosure for Mineral Projects (June 24, 2011) for technical reports, Companion Policy 43-101CP, Form 43-101F1, and using industry accepted Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Best Practices and Reporting Guidelines" (CIM, 2003) for disclosing mineral exploration information, including the updated CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).

The purpose of this Report is to provide, 1) a comprehensive compilation of all historic exploration and development activities conducted on the Project for which information is available, 2) a basic understanding of regional and local geology and mineralization, and 3) recommendations for future work.

The author, R.A. (Bob) Lane, P.Geo., of Plateau Minerals Corp., visited the Begbie and Boulder properties on September 23, 2016 and is a Qualified Person, as defined in NI 43-101. Data used in preparation of this report are cited in References. This report integrates the findings of the property visits with the limited historical data available, and makes recommendations for next steps in the evaluation of both properties.

The author of this Report does not, nor do his family members or associates, have a business relationship with First Energy, any associated company, or the Vendors. In addition, the author does not have any financial interest in the outcome of any transaction involving the Project that is the subject of this Report other than payment of professional fees for the work undertaken in preparation of the Report. The discussions, conclusions and recommendations expressed in this Report are those of the author and are independent of the Company.

### **2.2 ABOUT LITHIUM**

Lithium is the third element in the periodic table, having an atomic mass of 6.941. It has a natural abundance in the Earth's crust of approximately 0.0007%. Lithium is an alkali metal and is the lightest of the metals, with a density approximately half that of water. Under ordinary conditions, lithium is the least dense of the solid elements and has the highest specific heat of any solid element. Metallic lithium is silvery in appearance. It reacts with water, but not as vigorously as does sodium, is corrosive and



requires special handling (Harben, 1995). Lithium does not occur naturally in its free state, however it is found in nearly all igneous rocks and in solution in select settings.

Lithium is a specialty metal industrial product that is bought and sold under contract; prices are set by negotiation between producers and customers, and are often based on customer-specific formulations (Roskill, 2016). The most common end products from lithium operations are lithium carbonate ( $\text{Li}_2\text{CO}_3$ ) and lithium hydroxide ( $\text{LiOH}$ ). Although lithium markets vary by location, global end-use markets are estimated as follows: batteries, 35%; ceramics and glass, 32%; lubricating greases, 9%; air treatment and continuous casting mold flux powders, 5% each; polymer production, 4%; primary aluminum production, 1%; and other uses, 9% (U.S. Geological Survey, 2016).

The value of lithium has been increasing in recent years predominantly because of growing demand for its use in the battery sector for such applications as electric vehicles. Lithium demand is expected to grow from about 195,000 tonnes in 2015 to perhaps 350,000 tonnes by 2020 (U.S. Geological Survey, 2016).

Prices for lithium concentrates used for conversion into chemicals are correlated to, and tend to follow the same trend as lithium carbonate and lithium hydroxide prices. Contract prices for lithium have increased from about US\$5,000/tonne in 2014 to more than US\$7,400/tonne in 2016, although 'spot market' prices quoted in trade journals are more volatile and tend to feed into higher contract pricing (British Geological Survey, 2016). Prices are expected to rise further as the global demand for lithium is set to surge in the coming years due to the uptake in lithium-ion batteries (<https://www.metalar.com/lithium-price>). However, industry could increase its capacity to meet this demand such that the long-term market outlook for lithium is uncertain.

### **2.2.1 Sources of Lithium**

There are currently two primary economic lithium-bearing mineral deposit types: subsurface brines and hard-rock or rare metal (or rare element) lithium-cesium-tantalum ("LCT") pegmatites.

#### **Brine Deposits**

Brine deposits are accumulations of saline groundwater that may be enriched in dissolved lithium (typically carrying 200–1,400 milligrams per litre of lithium). Lithium brine deposits occur within salt lakes, or under salars, and are formed in basins where water that has leached lithium from the surrounding rock is trapped and concentrated. The process of extracting lithium from brine involves pumping the brines from wells into a series of evaporation ponds to crystallize other salts, leaving behind a lithium-rich liquor which is then further processed to remove impurities before conversion to either lithium carbonate or lithium chloride for further upgrading to lithium hydroxide. Only limited regions of the world contain brines in closed basins within arid regions, where lithium salts can be extracted economically.

#### **LCT Pegmatite Deposits**

London (2008) defined pegmatite bodies as *"igneous rock, commonly of granitic composition, that is distinguished from other igneous rocks by its extremely coarse but variable grain size, or by an abundance of crystals with skeletal, graphic, or other strongly directional growth-habits."* LCT pegmatites are a petrogenetically defined subset of granitic pegmatites that are associated with certain granites. They

consist mostly of quartz, potassium feldspar, albite, and muscovite. Common accessory minerals include garnet, tourmaline, and apatite.

LCT pegmatite deposits can contain extractable amounts of a number of elements, including lithium, cesium, tantalum and niobium. The principal lithium-bearing minerals found in rare metal LCT pegmatite bodies worldwide, after Simandl et al. (2012), are: spodumene [LiAlSi<sub>2</sub>O<sub>6</sub>], petalite [LiAlSi<sub>4</sub>O<sub>10</sub>], minerals of the amblygonite [(Li,Na)Al(PO<sub>4</sub>)(F,OH)] - montebrasite [(LiAl(PO<sub>4</sub>)(OH)] series or SQI (spodumene-quartz intergrowths), and lithium-bearing micas such as lepidolite [K(Li,Al)<sub>3</sub>(Si,Al)<sub>4</sub>O<sub>10</sub>(F,OH)<sub>2</sub>] and eucryptite [LiAlSiO<sub>4</sub>]. Cesium mainly occurs in the mineral pollucite; and tantalum mostly comes from columbite-tantalite. The tin mineral cassiterite, and the beryllium mineral beryl also occur in rare metal LCT pegmatites, as do a number of gemstones and high-value museum specimens of rare minerals. Among the gemstones are: the beryl varieties emerald, heliodor, and aquamarine; the spodumene varieties kunzite and hiddenite; and watermelon tourmaline. LCT pegmatites are also mined for ultrapure quartz, potassium feldspar, albite, and muscovite.

Individual pegmatite bodies occur in various geometries including tabular dykes, tabular sills, lenticular bodies and irregular masses. Open-pit and underground mining methods are used to extract lithium minerals. Once extracted, the lithium-bearing ore is crushed and subjected to a number of separation processes to remove waste and upgrade the lithium content of the product.

### 2.2.2 Lithium Production

The following commentary on worldwide lithium production is taken from an entry in U.S. Geological Survey Mineral Commodity Summaries 2016 written by B.W. Jaskula:

*“Worldwide lithium production increased slightly in 2015 in response to increased lithium demand for battery applications. Production in Argentina increased by about 17% and production in Australia and Chile increased slightly. Major lithium producers expected worldwide consumption of lithium in 2015 to be approximately 32,500 tons, an increase of 5% from 31,000 tons in 2014. Owing to increased worldwide demand, spot lithium carbonate prices increased approximately 10% to 15% from those of 2014. For large fixed contracts, however, Industrial Minerals reported a 4% decrease in average U.S. lithium carbonate prices.*

*In the late 1990s, subsurface brines became the dominant raw material for lithium carbonate production worldwide because of lower production costs compared with the mining and processing of hard-rock ores. Owing to growing lithium demand from China in the past several years, however, mineral-sourced lithium regained market share and was estimated to account for one-half of the world’s lithium supply in 2015. Two brine operations in Chile and a spodumene operation in Australia accounted for the majority of world production. Argentina produced lithium carbonate and lithium chloride from brines. China produced lithium carbonate, lithium chloride, and lithium hydroxide, mostly from imported spodumene, but also from domestic brines and minerals. A new brine operation in Argentina began commercial production in 2015.*

*Lithium supply security has become a top priority for technology companies in the United States and Asia. Strategic alliances and joint ventures between technology companies and exploration companies have*

*been, and are continuing to be, established to ensure a reliable, diversified supply of lithium for battery suppliers and vehicle manufacturers. Brine operations were under development in Argentina, Bolivia, Chile, and the United States; spodumene mining operations were under development in Australia, Canada, China, and Finland; a jadarite mining operation was under development in Serbia; and a lithium clay-mining operation was under development in Mexico. Additional exploration for lithium continued, with numerous claims having been leased or staked worldwide.”*

Australia is the world’s largest lithium producer in terms of mined pegmatite production, most of which came from the Greenbushes Lithium Operation, owned by Chengdu Tianqi Industrial Group. Greenbushes is a spodumene-rich LCT pegmatite mined by open pit methods. The operation currently exports over 350,000 tonnes of lithium products (or over 50,000 tonnes of lithium carbonate equivalent (LCE)) annually to a global customer base (Ingham et al., 2012).

The only operating lithium mine in North America is Albemarle Corporation’s Silver Peak brine operation in Nevada, U.S.A. It produces lithium carbonate and lithium hydroxide (Albemarle Corporation website, 2016). Albemarle does not release resource, reserve or production figures.

LCT pegmatites are an important link in the world’s supply chain of rare and strategic elements, accounting for about one-third of world lithium production, most of the tantalum production, and all of the cesium production (U.S. Geological Survey, 2011).

### **2.2.3 LCT Pegmatites in Canada**

Perhaps the most well-known granitic LCT pegmatite in Canada is the highly fractionated Tanco Pegmatite, located 180 km northeast of Winnipeg, Manitoba, which first saw production in 1934 (Martins et al., 2013). The large pegmatite is a subhorizontal saddle-shaped body measuring 1,500 m long by 1,000 m wide by up to 100 m thick that does not out crop. Its sporadic mining history includes periods of pollucite and amblygonite extraction. The Tanco pegmatite is highly fractionated and has an extensive mineralogy (of more than 100 minerals) and is zoned (consists of nine internal zones). The outer zones are concentric, whereas the layered inner zones are segmented and locally complex in shape.

There are several advanced stage LCT Pegmatite projects in the Canadian Shield area of eastern Canada, including Nemaska Lithium’s Whabouchi project and Galaxy Resources’ James Bay project in the province of Quebec, and Houston Lake Mining’s PAK project in the province of Ontario.

Pegmatites within the Canadian Cordillera have been largely overlooked as potential sources of economic mineralization even though those in its American counterpart have been significant producers, such as the Pala and Mesa Grande districts in San Diego County, California, and Harding mine, Taos County, New Mexico, for more than 100 years (London, 2008). Highly fractionated pegmatite fields in northwestern Canada, including the Little Nahanni Pegmatite Group and the O’Grady batholith in the Northwest Territories, have only recently been discovered and described (Groat et al., 2003; Ercit et al., 2003).

## 2.3 UNITS AND CURRENCY

All units of measurement in this Report are metric unless otherwise stated. Some historical records and figures that are disclosed in the Report are reported in Imperial measurements.

Metal values are reported in percent (%) or parts per million (ppm).

Currencies are reported in Canadian dollars unless otherwise stated.

## 3 RELIANCE ON OTHER EXPERTS

The author is required by NI 43-101 *Standards of Disclosure for Mineral Projects* to include descriptions of Project title and terms of legal or purchase agreements that are presented in this Report. No Title Opinion for the claims that comprise the Kootenay Lithium Project was provided to the author. Recorded title was confirmed by independently reviewing the digital tenure records listed on the Province of British Columbia's "Mineral Titles Online" website (<https://www.mtonline.gov.bc.ca>).

## 4 PROJECT DESCRIPTION AND LOCATION

### 4.1 LOCATION

The Kootenay Lithium Project (the "Project") is located in the Revelstoke Mining Division, near the city of Revelstoke in south-central British Columbia (Figure 4-1). The Project includes two groups of mineral claims, the Begbie property centered approximately 10 km south of Revelstoke, and the Boulder property centered approximately 10 km west of Revelstoke. The distance between the two properties is about 14 km. The Begbie property is situated on Mount Begbie, covers parts of BCGS mapsheet 082L.089, and is centered at Latitude 50°53'21.9" N and Longitude 118°14'2.3" W (or NAD83 UTM Easting 413208, UTM Northing 5638253). The Boulder property is situated on Boulder Mountain, covers parts of BCGS mapsheets 082L.098, 082L.099, 082M.008 and 082M.009, and is centered at Latitude 50°59'43.1"N and Longitude 118°22'10.5"W (or UTM Easting 403899 and UTM Northing 5650196 (NAD83).

### 4.2 DESCRIPTION

The Project includes two separate groups of mineral claims, the Boulder property centered 10 km west of Revelstoke and the Begbie property centered 12 km south of Revelstoke.

The Begbie property consists of 20 contiguous mineral claims that cover 1,732.85 hectares or 17.33 km<sup>2</sup> of rugged alpine and subalpine terrane immediately north and east of the summit of Mount Begbie and along the ridge north of Mulvehill Creek (Figure 4-2). The claims cover a range of elevations from 980 m in steeply incised drainages up to 2,620 m near the summit of Mount Begbie. Bedrock exposure is excellent at higher elevations, but less so at lower elevations where steep slopes are generally heavily vegetated.

The Boulder property consists of 30 contiguous mineral claims that cover 2,278.12 hectares or 22.78 km<sup>2</sup> of moderate alpine and subalpine terrane that extends from Clanwilliam Lake at the Trans-Canada Highway northward to the height of land that comprises Boulder Mountain (Figure 4-3).

As of the effective date of this report all of the claims that comprise the Project are registered 100% in the name of Agave (First Energy). The claims are in good-standing from as early as January 20, 2017 to as late as October 2, 2020. Other than the terms that form part of the purchase agreement, all of the claims that comprise the Project are reported to be free and clear of any liens, royalty obligations or other encumbrances. To the author's knowledge, First Energy has not entered into any joint venture or option agreement with other entities on the Kootenay Lithium Project.

### **4.3 HISTORY OF PROPERTY ACQUISITION**

The Begbie and Boulder properties are subjects of a purchase agreement dated October 7, 2016, between the Company and property owners Lloyd Addie, John Mirko and Graeme Haines (the "vendors"). The claims that comprise the Begbie and Boulder properties were initially acquired by partners Lloyd Addie, John Mirko and Graeme Haines utilizing British Columbia's "online" staking system, an internet-based mineral titles administration and management structure that permits acquisition and maintenance of mineral titles by selecting an area of interest on a seamless digital GIS map of British Columbia.

Under the terms of the purchase agreement, the Company purchased a 100% interest in the Project by issuing 6,000,000 common shares of First Energy to the vendors. The Project is subject to a 2.0% Net Smelter Return ("NSR") mineral royalty and a 24.0% Gross Overriding Royalty ("GOR") on gemstone production. The Company will have the option to reduce the NSR to 1.0% by paying \$2,500,000. The Company also has the option to purchase one half (50%) of the GOR for \$2,000,000. A Project vendor also reserves the exclusive right (the "Back In Right") to produce gemstones for his own account from certain discrete zones within the Project as mutually agreed upon, in return for a 24.0% GOR payable to FEM. The Company will have the option to purchase 100% of the Back In Right for \$1,000,000. The agreement is subject to customary closing conditions, including regulatory approval and satisfactory due diligence. A finder's fee will be payable in regards to the transaction.

### **4.4 SURFACE RIGHTS**

No surface rights on the Project are held by First Energy or by the registered owners of the mineral claims that comprise the Project.

Although a complete land title review of surface ownership has not been conducted at this time, the owners are aware that the mineral claims comprising the Project consist of Crown Land for which surface access and rights of use for mineral development can be obtained.

#### **4.4.1 Revelstoke and Area Land Use Plan**

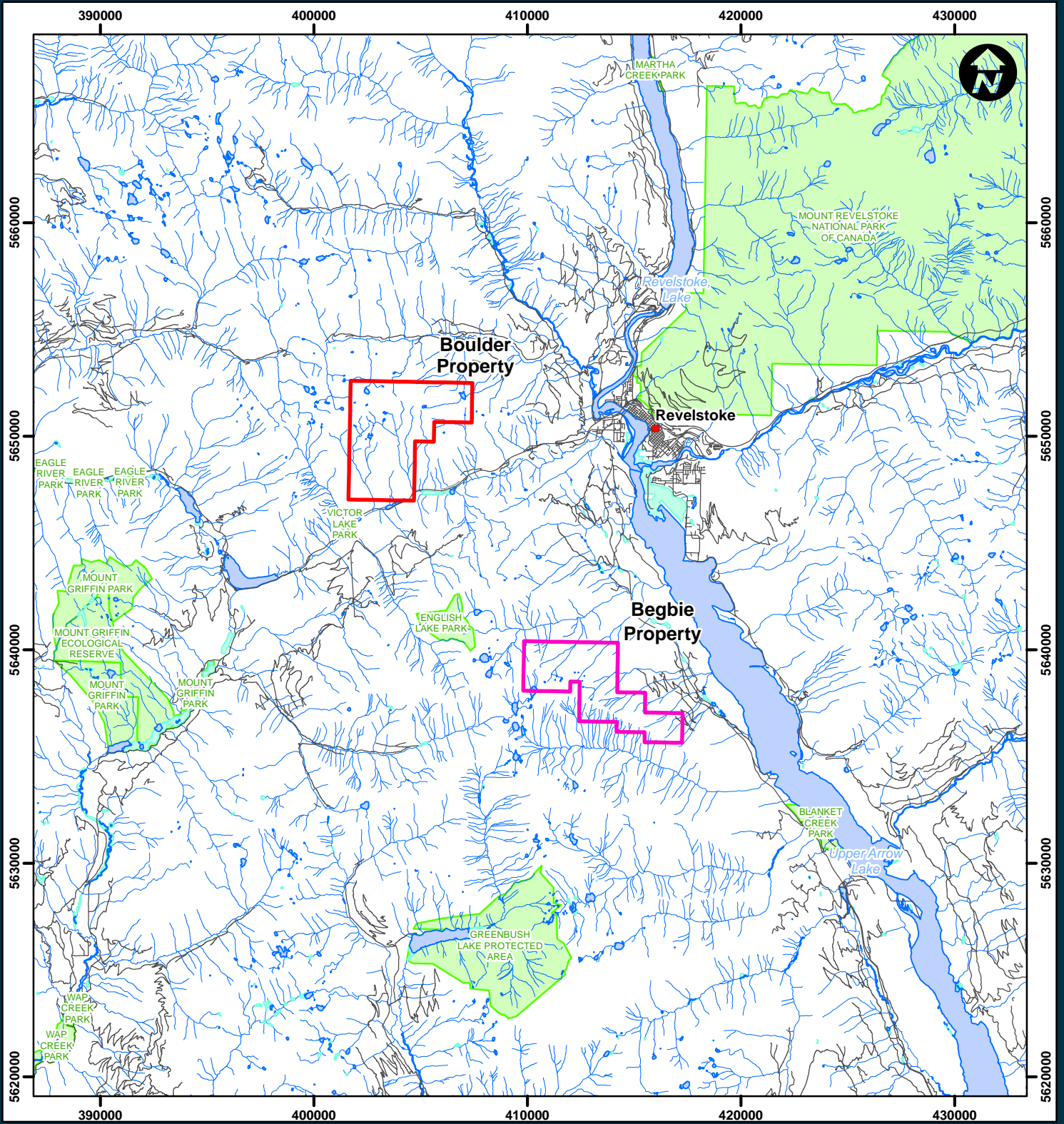
The Revelstoke and Area Land Use Planning Final Recommendations (October 1999), developed by the Revelstoke Minister's Advisory Committee, were endorsed by government in April 2001. This document provided comprehensive guidance for the management of resource values that exist within the area.

The Begbie and Boulder claim groups that comprise the Kootenay Lithium Project are not directly encumbered by any provincial or national parks, or other protected areas. The Begbie property does

however coincide with the Mount Begbie Recreation site, a small site consisting of 3 tent pads and a fly out toilet. The site is accessed from the Mount Begbie Summit trail, a steep strenuous 6 km hike.

The Boulder property coincides in part with the Boulder Mountain Recreation Reserve. The Revelstoke Snowmobile Club maintains a cabin in the subalpine on the eastern flank of Boulder Mountain; the area primarily is heavily used in the winter months.

The recreational values outlined above are not anticipated to conflict with the recommended exploration activities outlined later in the Report.



**First Energy Metals Limited**  
**Begbie and Boulder Properties**  
**Location**  
**Figure 4-1**

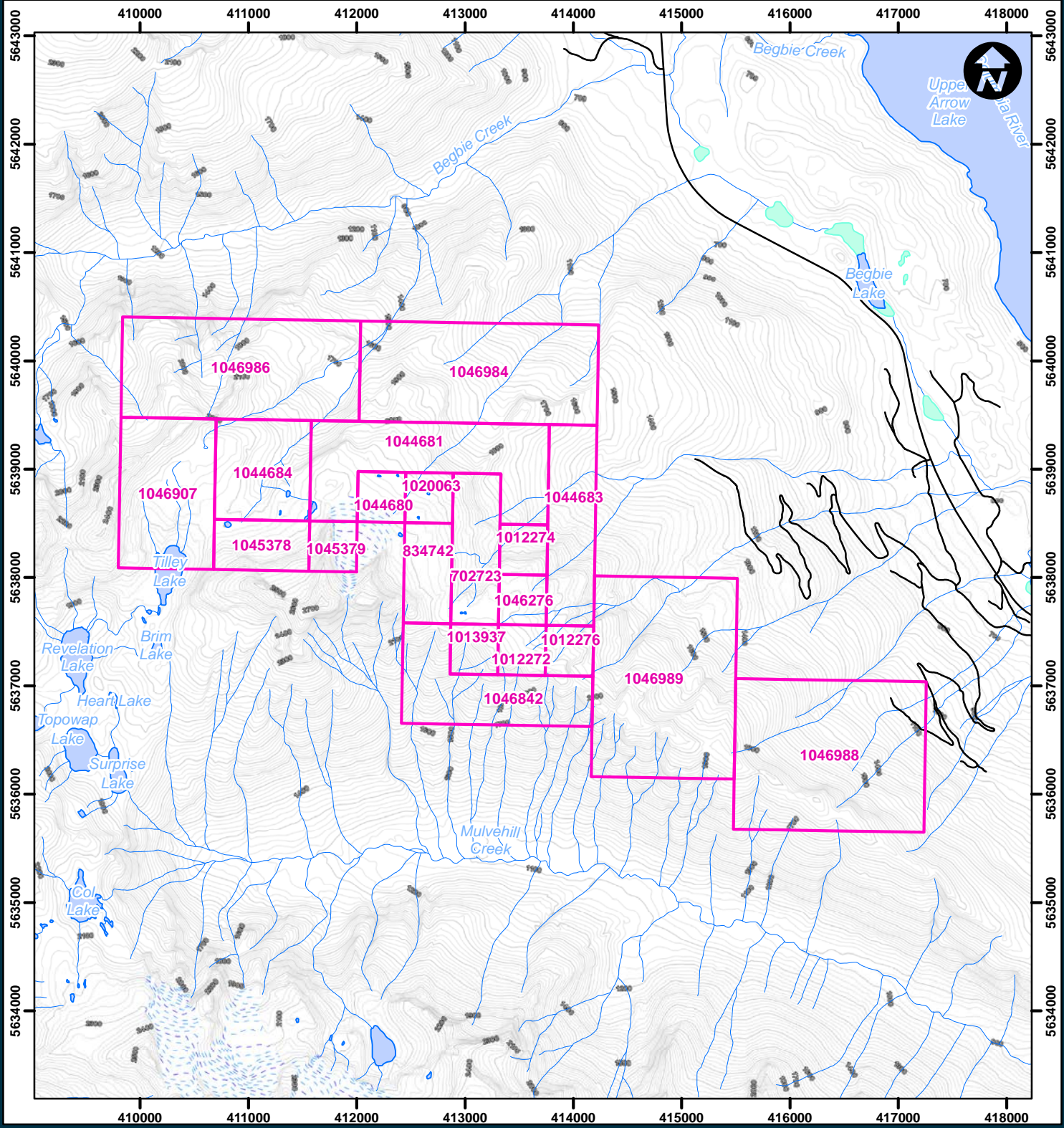
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 Projection: NAD 1983 UTM Zone 11N  
 Scale: 1:252,600  
 Author: tkwitkoski  
 Last Modified By: tkwitkoski  
 Checked By: BL  
 Revision #:

**Legend**

- City
- Existing Road
- Stream
- Begbie Property
- Boulder Property
- Lake/River
- Wetland
- Provincial or Federal Park

**Begbie & Boulder Groups**

Clearwater  
 Kamloops  
 Kelowna  
 Vancouver



**First Energy Metals Limited**

**Begbie Property Mineral Tenure**  
BCGS Map: 082L.089  
**Fig 4-2**

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Date: 01-03-2017  
Projection: NAD 1983 UTM Zone 11N  
Scale: 1:50,000  
Author: tkwitkoski  
Last Modified By: tkwitkoski  
Checked By: BL  
Revision #:

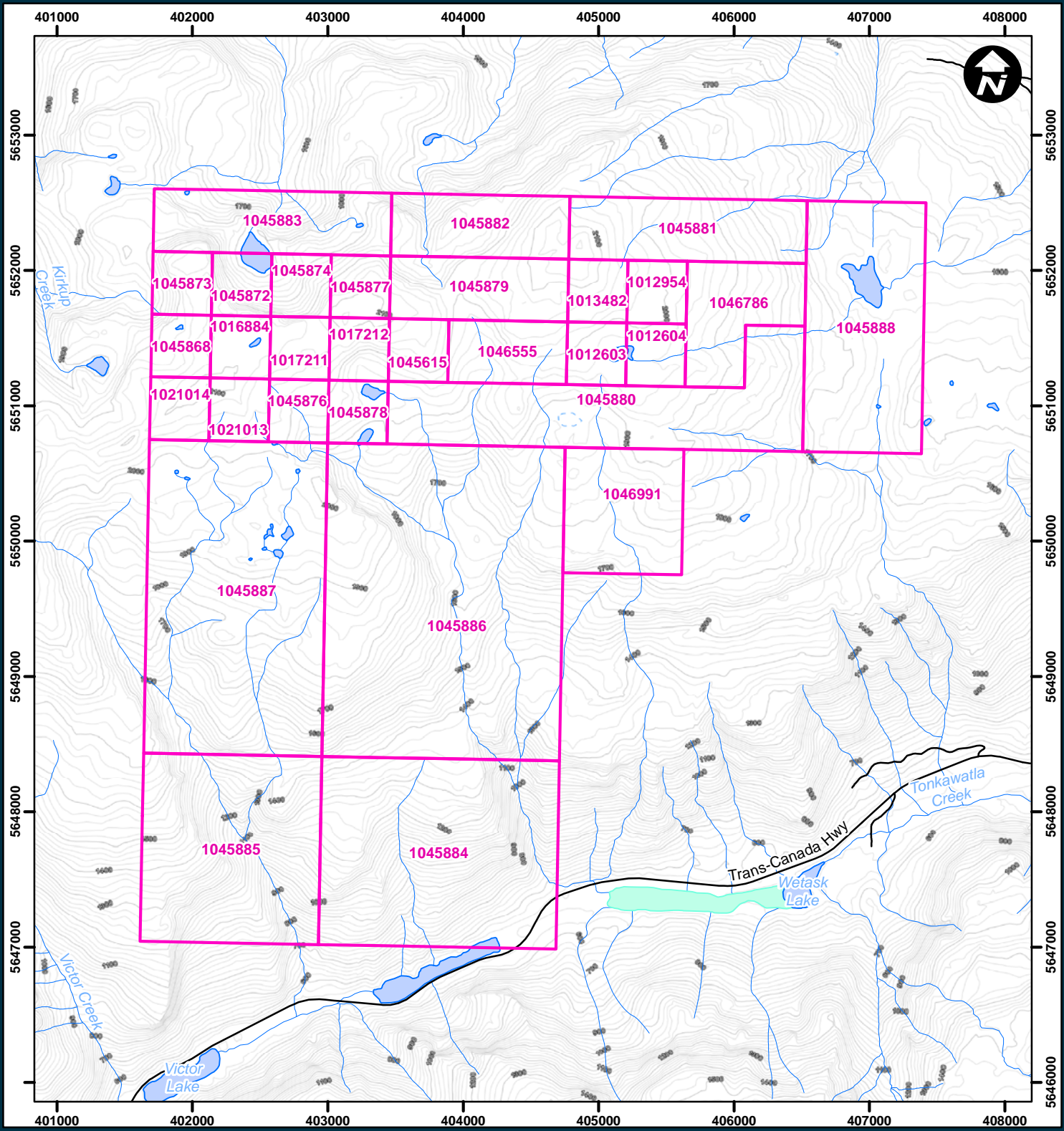
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**Legend**

- Existing Road
- Stream
- Lake/River
- Wetland
- Mineral Tenure







**First Energy Metals Limited**  
**Boulder Property**  
 BCGS Map:082L.098,099 & 082M.008, 009  
 Mineral Tenure  
 Figure 4-3

Date: 01-03-2017  
 Projection: NAD 1983 UTM Zone 11N  
 Scale: 1:40,000  
 Author: tkwitkoski  
 Last Modified By: tkwitkoski  
 Checked By: BL  
 Revision #:

**Legend**

- Existing Road
- Stream
- Lake/River
- Wetland
- Mineral Tenure



**Table 4-1: List of Mineral Claims for the Begbie and Boulder Properties, Kootenay Lithium Project**

<b>Begbie Property</b>						
<b>Title No.</b>	<b>Claim Name</b>	<b>Title Type</b>	<b>Map No.</b>	<b>Issue Date</b>	<b>Good To Date</b>	<b>Area (ha)</b>
702723	BLACK TOURMALINE	Mineral Claim	082L	2010/jan/20	2018/nov/16	61.16
834742	B.B.	Mineral Claim	082L	2010/oct/01	2018/nov/16	40.78
1012272	BEGBIE1	Mineral Claim	082L	2012/aug/26	2018/nov/16	20.39
1012274	BEGBIE3	Mineral Claim	082L	2012/aug/26	2018/nov/16	20.39
1012276	BEGBIE5	Mineral Claim	082L	2012/aug/26	2018/nov/16	20.39
1013937	CLIFF	Mineral Claim	082L	2012/oct/23	2018/nov/16	20.39
1020063	OOHHLALA	Mineral Claim	082L	2013/jun/03	2018/nov/16	20.39
1044680	PEG	Mineral Claim	082L	2016/jun/10	2018/nov/16	20.39
1044681	B	Mineral Claim	082L	2016/jun/10	2018/nov/16	142.68
1044683	BD	Mineral Claim	082L	2016/jun/10	2018/nov/16	81.54
1044684	BW	Mineral Claim	082L	2016/jun/10	2018/nov/16	81.53
1045378	HELI	Mineral Claim	082L	2016/jul/17	2018/nov/16	40.77
1045379	WHATTTT	Mineral Claim	082L	2016/jul/17	2018/nov/16	20.39
1046276	OOPS	Mineral Claim	082L	2016/aug/27	2018/nov/16	20.39
1046842	BEGBIE SOUTH	Mineral Claim	082L	2016/sep/21	2018/nov/16	101.96
1046907	WEST BEGBIE	Mineral Claim	082L	2016/sep/24	2017/sep/24	122.30
1046984	BEGBIE NORTH EAST	Mineral Claim	082L	2016/sep/30	2017/sep/30	203.81
1046986	BEGBIE NORTH WEST	Mineral Claim	082L	2016/sep/30	2017/sep/30	203.79
1046988	BEGBIE GREEN	Mineral Claim	082L	2016/sep/30	2017/sep/30	244.73
1046989	BEGBIE SOUTH EAST	Mineral Claim	082L	2016/sep/30	2017/sep/30	244.69

1732.85

Claims are registered as 100%-owned by Agave Silver Corporation (Free Miners Certificate: 105742)

**Boulder Property**

<b>Title No.</b>	<b>Claim Name</b>	<b>Title Type</b>	<b>Map No.</b>	<b>Issue Date</b>	<b>Good To Date</b>	<b>Area (ha)</b>
1012603	G4	Mineral Claim	082M	2012/sep/05	2018/mar/22	20.34
1012604	G5	Mineral Claim	082M	2012/sep/05	2018/mar/22	20.34
1012954	E	Mineral Claim	082M	2012/sep/17	2018/mar/22	20.33
1013482	GAP	Mineral Claim	082M	2012/oct/02	2018/mar/22	20.33
1016884	T	Mineral Claim	082M	2013/feb/14	2018/mar/22	20.34
1017211	P	Mineral Claim	082M	2013/feb/25	2018/mar/22	20.34
1017212	P1	Mineral Claim	082M	2013/feb/25	2018/mar/22	20.34
1021013	WHITE	Mineral Claim	082M	2013/jul/15	2018/mar/22	20.34
1021014	TC	Mineral Claim	082M	2013/jul/15	2018/mar/22	20.34
1045615	PASS	Mineral Claim	082M	2016/jul/26	2018/mar/22	20.34
1045868	L	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.34
1045872	CL	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.33

1045873	I	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.33
1045874	B	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.33
1045876	R	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.34
1045877	RI	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.33
1045878	NG	Mineral Claim	082M	2016/aug/09	2018/mar/22	20.34
1045879	LI	Mineral Claim	082M	2016/aug/09	2018/mar/22	61.00
1045880	SOUTH	Mineral Claim	082M	2016/aug/09	2018/mar/22	162.70
1045881	N	Mineral Claim	082M	2016/aug/09	2018/mar/22	81.33
1045882	M	Mineral Claim	082M	2016/aug/09	2018/mar/22	61.00
1045883	BNK	Mineral Claim	082M	2016/aug/09	2018/mar/22	81.33
1045884	PEG	Mineral Claim	082L	2016/aug/09	2018/mar/22	244.20
1045885	Q	Mineral Claim	082L	2016/aug/09	2017/aug/09	183.15
1045886	BOOM	Mineral Claim	082L	2016/aug/09	2017/aug/09	406.86
1045887	BA	Mineral Claim	082L	2016/aug/09	2017/aug/09	305.15
1045888	KM66	Mineral Claim	082M	2016/aug/09	2017/aug/09	162.68
1046555	II	Mineral Claim	082M	2016/sep/09	2017/sep/09	40.67
1046786	BE	Mineral Claim	082M	2016/sep/19	2017/sep/19	61.00
1046991	BP	Mineral Claim	082L	2016/sep/30	2017/sep/30	81.36

2278.12

Claims are registered as 100%-owned by Agave Silver Corporation (Free Miners Certificate: 105742)

## 4.5 FIRST NATIONS COMMUNICATIONS

Developing and maintaining good relations with the local First Nations people will have to continue to be a high priority to ensure success in any future development within the Project area.

## 4.6 PERMITTING, ENVIRONMENTAL LIABILITIES AND OTHER ISSUES

To date, no permits have been applied for by First Energy or the underlying claim owners to conduct any mechanical work on the Project. The recommended Phase 1 exploration program detailed later in the Report does not require a permit nor posting of a reclamation bond. However, any planned follow-up exploration of a mechanical nature will require that a permit application (Notice of Work and Reclamation) be filed with the Ministry of Energy and Mines for review and approval.

It is advisable that sufficient lead time be allowed for government agencies to process a permit application well in advance of the start-up date for planned mechanical work. For mechanical work, a reclamation bond of at least \$5,000 will likely be required as a permit condition and will need to be provided to the British Columbia Minister of Finance prior to issuance of the permit.

There are no previous mechanical exploration disturbances of any kind on either of the two properties that comprise the Project.

The author is not aware of any other known significant factors or risks related to the Project that may affect access, title or the right or ability to perform work on the properties.

## **5 ACCESSIBILITY, CLIMATE, INFRASTRUCTURE, LOCAL RESOURCES AND PHYSIOGRAPHY**

### **5.1 ACCESSIBILITY**

Access to the Begbie and Boulder properties is principally via helicopter from one of several bases located in Revelstoke, however roads do provide access to lower elevations of parts of each property.

A series of logging roads provide access to the southwest part of the Begbie property, but there is no road access to the higher elevation areas where pegmatites outcrop.

The Trans-Canada highway crosses the southern edge of the Boulder property, but there are no arterial roads from it that provide access to the property. A seasonal 4x4 road provides access up to a recreation cabin maintained by the local snowmobile club; the trail could be extended to provide ATV access in support of summer exploration activities at higher elevations.

### **5.2 CLIMATE**

In Revelstoke, the climate is cold and temperate with significant precipitation. The climate is classified as Humid Continental Climate ("Dfb" on the Köppen-Geiger system). The average annual temperature in Revelstoke is 6.6 °C and precipitation averages 1030 mm. The driest month is May, with an average of 53 mm of rainfall, while the wettest month is December, with an average of 147 mm of precipitation that falls mainly as snow. The warmest month of the year is July, with an average temperature of 18.7 °C. The coldest month of the year is January, with temperatures averaging -6.3 °C.

The Project is in a heavy snow belt with an average of 3.8 m of snow falling each winter. Snow accumulations at higher elevations may be considerable more. The summer field season may extend from April to October.

### **5.3 INFRASTRUCTURE AND LOCAL RESOURCES**

Infra-structure, including power, water, and labour are all located within 10 kilometers of each property in the city of Revelstoke (population 7,200), that is situated on the banks of the Columbia River just south of the Revelstoke Dam and near its confluence with the Illecillewaet River. Major paved roads, powerlines and the Canadian Pacific Railway follow the Trans-Canada highway corridor that includes Rogers Pass.

Existing roads access lower elevation and perimeter areas of each property; however road access to the higher elevation areas may be constructed upon permit approval. Overall, the properties are well-suited as areas of potential development should exploration lead to discovery of significant mineralization worthy of advancement.

### **5.4 PHYSIOGRAPHY**

The Begbie and Boulder properties occur in the Upper Arrow Lake Watershed within the Columbia Basin. The Begbie property covers the northern and eastern flanks of Mount Begbie which summits at approximately 2720 m. At Begbie, alpine terrane is rugged being characterized by abundant steep rocky

slopes, smooth glacially-polished bedrock steps and benches, and local pocket glaciers and patches of snow pack (Plate 5-1).

The Boulder property is centered on Boulder Mountain between the Trans-Canada Highway and Kirkup Creek covering much of Tonkawatla Ridge. At Boulder, alpine terrane is considerably more moderate than at Begbie with elevations reaching a maximum of 2140 m and high ground consisting of smooth rounded hills (Plate 5-2).

Outcrop is plentiful on both properties, particularly at higher elevations, and white weathering pegmatites are conspicuous and contrast nicely with the dull gray to beige tones of the enclosing gneiss, schist and quartzite.

Abundant small snow-melt fed lakes provide a replenishing local water supply would readily support any major resource definition drill programs that may be required, should future exploration programs prove successful.



**Plate 5-1: View of upper elevations with excellent bedrock exposure, Begbie Property**



**Plate 5-2: Rocky alpine terrane and conspicuous pale coloured dyke-like features, Boulder Property.**

## **6 HISTORY**

### **6.1 BEGBIE PROPERTY**

Pegmatites in the Mount Begbie area are relatively well-known having been identified and described since the late 1800s (Jones, 1959; Mulligan, 1965), but have not been the subject of any significant or sustained level of exploration. The old reports describe the pegmatite bodies as being principally homogeneous, lenticular sill-like sheets and dykes, and typically up to two metres wide. They primarily cut across the gneissic and schistose fabric in the host rock, but occasionally were noted to be at least sub-parallel to foliation. Their primary constituents include quartz, feldspar and black tourmaline with minor local concentrations of biotite, muscovite, garnet, beryl, lepidolite, and pink and green tourmaline.

Over the years, numerous prospectors and gem hunters are suspected to have sporadically explored the area, but little information is known of their exploits, in part because of the need for them to maintain the locations of any finds a secret.

Since 2011, Addie (personal communication, 2016) has made sporadic visits to the Mount Begbie area, also with a focus on gemstones, and located a number of discrete pegmatite bodies or pegmatite fields, that in some cases locally contain zones with appreciable lepidolite and pink tourmaline, and minor beryl. Physical evidence indicates that some of Addie's finds are rediscoveries of previously located and

sampled pegmatites, but others are not and represent new prospective pegmatite-bearing areas on the Begbie property.

In 2012, a comprehensive study of a 0.5 km<sup>2</sup> portion of the pegmatite field, located just below the toe of the Mount Begbie glacier on the Begbie property, was completed by Andrea Dixon (2013) and published in Dixon et al. (2014). This area likely coincides in part with the recorded Mount Begbie occurrence (082LNE015) in the MINFILE database (Table 6-1). Her work comprised the first systematic and scientific evaluation of pegmatites in the Project area.

## **6.2 BOULDER PROPERTY**

Other than very limited reference of the presence of pegmatites by workers conducting regional mapping of the area, the first mention of pegmatites on the Boulder Mountain area were by Wilson (1968). He mapped an area that included Tonkawatla Ridge and identified numerous granitic pegmatites consisting predominantly of quartz, feldspar and black tourmaline. The largest dyke was described as lenticular in shape, 180 feet long and up to 30 feet thick. Lepidolite, tourmaline and rhodocrosite were described as significant components of several pegmatites and in particular in coarser grained core zones of the larger pegmatites. The large pegmatite may be that referred to as the GC occurrence (082M024) in the MINFILE database (see Table 6-1).

In 2013, limited prospecting by Addie on the 18 mineral cell claims that at the time comprised the Boulder property, located, named and sampled 21 different pegmatite occurrences over a distance of 3 km (Addie, 2013). Lepidolite±pink and/or green tourmaline was identified in five of the occurrences on the east side of the property (including the Grail, Red and Green showings) and in two occurrences on the west side of the property (including the Prof showing which may correlate with the GC occurrence). Minor amounts beryl and rose quartz were also identified locally.

**Table 6-1: Selected MINFILE Occurrences, Revelstoke Area**

<b>MINFILE NUMBER</b>	<b>MINFILE NAME</b>	<b>STATUS</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>UTM ZONE</b>	<b>NORTHING</b>	<b>EASTING</b>	<b>ELEVATION (m)</b>	<b>COMMODITY</b>	<b>DEPOSIT CLASS</b>
082M 024	GC	Showing	51°00'25" N	118°23' W	11	5651520	402286	1890	Gemstones, Lithium	Rare Element Pegmatite (LCT family)
082LNE016	Clanwilliam Lake	Showing	51°58'06" N	118°22' W	11	5647203	403492	868	Silica	Silica Sandstone
082LNE044	Victor Lake North	Showing	51°58'44" N	118°23' W	11	5648395	402500	1524	Andalusite, Kyanite	Five-element veins Ni-Co-As-Ag +/- (Bi, U)
082LNE015	Mount Begbie	Showing	50°53'18" N	118°14' W	11	5638149	412235	2408	Gemstones, Beryl	Rare Element Pegmatite (LCT family)



## 7 GEOLOGICAL SETTING AND MINERALIZATION

The main sources of information for the geological setting presented in Section 7 are Okulitch (1984), Wheeler and McFeely (1991), Kruse *et al.* (2005), Dixon (2013), and Dixon *et al.* (2014). Additional sources of information for property geology and mineralization are referenced individually where appropriate.

### 7.1 REGIONAL GEOLOGY

The Mount Begbie and Boulder Mountain areas are part of the Shuswap Metamorphic Complex located in the southern part of the Omineca Belt of the Canadian Cordillera (Daly, 1917; Jones, 1959; Wheeler, 1965; Okulitch, 1984; Wheeler and McFeely, 1991). The Omineca Belt consists of variably deformed and metamorphosed rocks of continental affinity that occur west of deformed Paleozoic continental margin sedimentary rocks and Neoproterozoic rocks of the Purcell Anticlinorium, and east of Mesozoic arc and back-arc sequences of the Intermontane Belt.

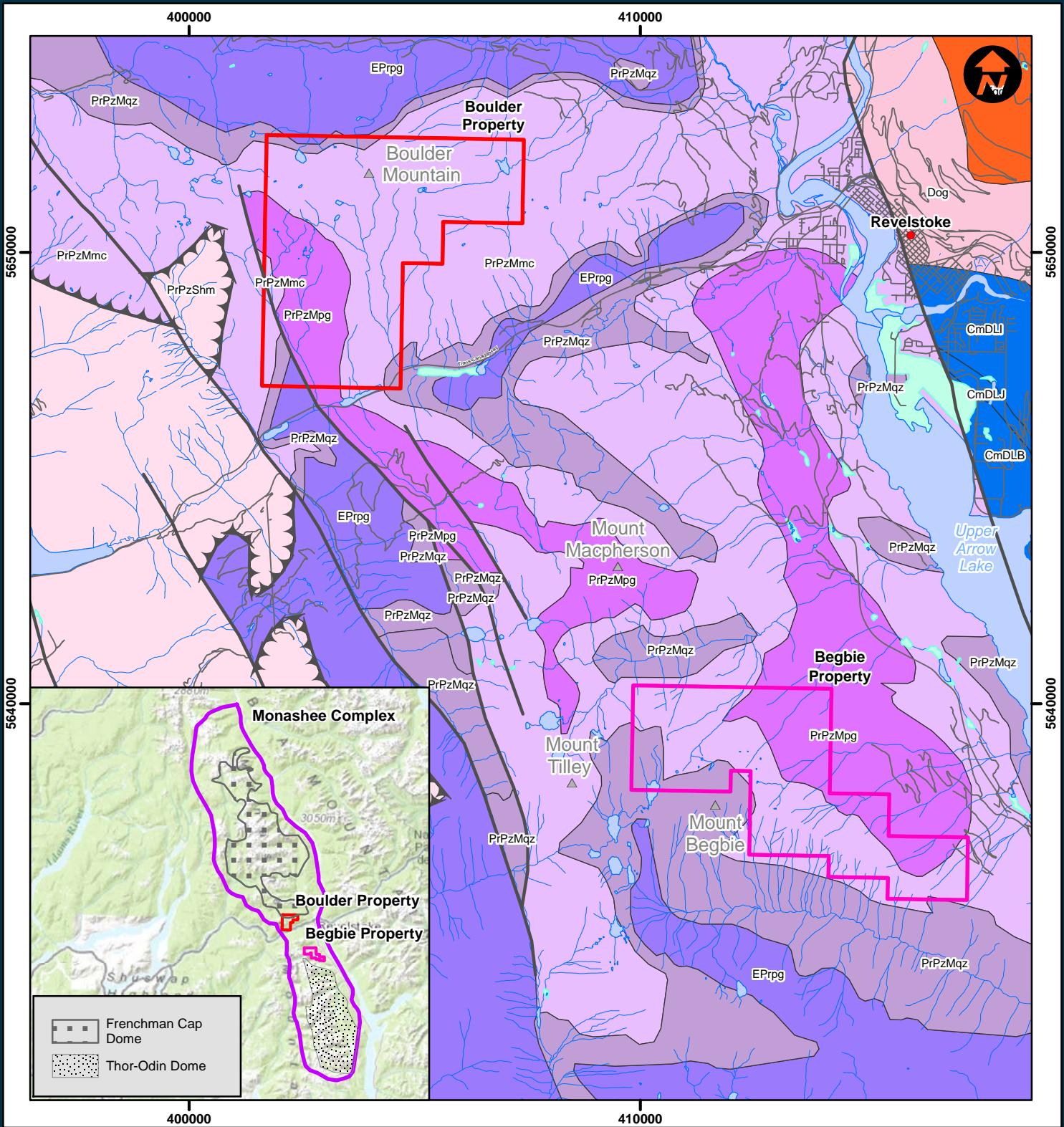
The Monashee complex is the lowest structural unit of the Shuswap Metamorphic Complex and un-roofs rocks of ancestral North America. The Monashee complex contains two structural 'culminations' (or 'domes'), Frenchman Cap in the north and Thor-Odin in the south, both of which consist of a core zone of Archean to Paleoproterozoic gneiss mantled by a cover sequence of unconformably overlying tightly folded Proterozoic and Paleozoic amphibolite facies metasedimentary rock and orthogneiss. The core zone and cover sequence of the culminations have experienced considerable deformation, high-grade metamorphism, late Paleocene–early Eocene anatexis, and Eocene brittle faulting (Dixon, 2013).

The Begbie and Boulder properties are underlain by rocks belonging to the cover assemblage of the Monashee complex (Kruse *et al.*, 2005); the pegmatite bodies are hosted by this cover assemblage. Excellent bedrock exposure at higher elevations on both properties allows the pegmatites to be readily recognizable from their host rocks: they are light coloured, often more resistant to weathering, consist of large crystals, and form narrow elongate bodies that contrast with the primarily grey, foliated host rocks. The pegmatites at both properties are typically tabular and dyke or sill-like, but lenticular forms are also known. They are not metamorphosed and only rarely display foliation, and are believed to most likely have formed following the exhumation and decompression event that began in the late Paleocene (Dixon, 2013).

Intrusive rocks in the area consist of the Paleocene to Early Eocene (Gosh and Parrish, 1995) S-type Ladybird leucogranite suite (Carr, 1991), and the Jurassic Kuskanax batholith and Galena Bay stock (Kruse *et al.*, 2005; Read and Brown, 1981; Parrish and Wheeler, 1983).

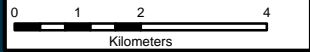
It has been suggested that the Ladybird suite in part encompasses the Monashee complex, extending to the north and west of Mount Begbie and the Project area (Carr, 1992; Lorencak, 2001). Others suggest that there may be migmatitic rock similar to the protolith of the Ladybird Suite at depth below Mount Begbie (Vanderhaege, 1999; Vanderhaege *et al.*, 1999). Dixon (2013) suggests that given the large areal extent of the Ladybird granitic suite and the potentially migmatitic character of the rock beneath Mount Begbie that it is more likely that the pegmatites are related to the Ladybird suite than to any other exposed intrusion (Dixon 2013), even though the Kuskanax and Galena Bay intrusions are more proximal.

The regional geology of the Boulder Mountain and Mount Begbie areas is shown in Figure 7-1 and a legend showing key geological units is shown in Figure 7-2.



**First Energy Metals Limited**  
**Kootenay Lithium Project**  
**Regional Geology**  
**Begbie and Boulder Properties**  
**Figure 7-1**

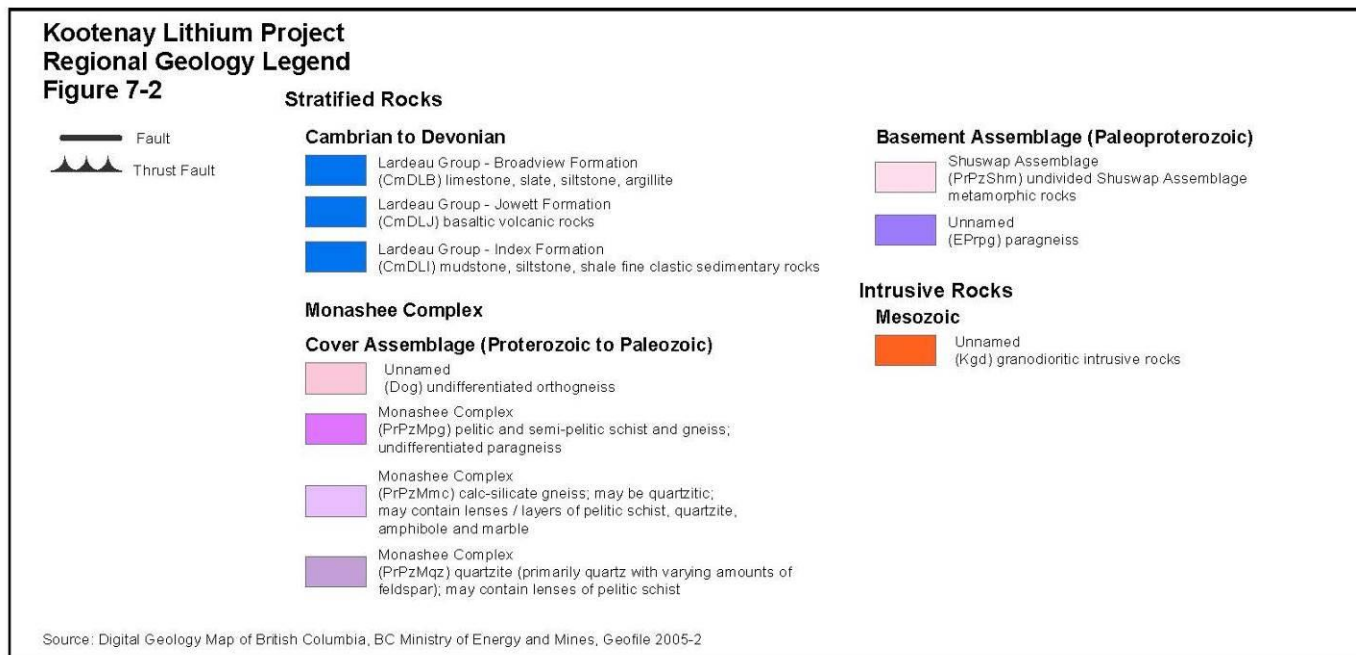
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 Projection: NAD 1983 UTM Zone 11N  
 Scale: 1:120,000  
 Author: tkwitkoski  
 Last Modified By: tkwitkoski  
 Checked By: BL  
 Revision #:



**Legend**

- City
- ▲ Mountain
- Existing Road
- Stream
- Fault
- ⌋ Thrust fault
- ▭ Begbie Property
- ▭ Boulder Property
- ▭ Lake/River
- ▭ Wetland





**Figure 7-2: Regional Geology Legend**

## 7.2 PROJECT GEOLOGY AND MINERALIZATION

Maps depicting the local geology of the Begbie property and Boulder property are shown in Figures 7-3, 7-4, and 7-5.

### 7.2.1 Begbie Property

The Begbie property is underlain primarily by calc-silicate metamorphic rocks (unit PrPzMmc) and paragneiss (unit PrPzMpg) of the Proterozoic to Lower Paleozoic Monashee complex (Plate 7-1).

In 2012, a comprehensive study of a 0.5 km<sup>2</sup> area of a pegmatite field exposed on the bald, northeast-facing slope beneath Mount Begbie's pocket glacier, an area that includes the Mount Begbie MINFILE occurrence (082LNE015), was completed by Andrea Dixon from August 23-29, 2012 (Dixon, 2013; Dixon et al., 2014). The known pegmatite bodies are hosted in pelitic and semi-pelitic schist and calc-silicate gneiss that include lenses of quartzite, marble and amphibolite. The granitic pegmatites of interest were distinguished from migmatites and veins based on their mineralogy (i.e. were comprised of quartz, feldspar, muscovite+/-biotite+/-tourmaline and other minor constituents) and their relatively pristine magmatic features (i.e. little to no foliation). Some of the pegmatites display mineral zoning, indications of fractionation, and include minor amounts of minerals such as, but not limited to, garnet, lepidolite, cordierite, beryl, columbite, apatite and other phosphate mineral phases.

The pegmatites mapped by Dixon (2013) occur at elevations ranging from approximately 2080 m to 2200 m and generally follow a west-northwesterly trend. The majority of the pegmatites are dike-like, are less than 1 m wide and at least 10 m long. Several bodies are lensoidal. Of the 53 mapped bodies, 20 exceed 50 m in length, whereas seven are less than 10 m in length. The largest pegmatite (GRANITE) has a

thickness of approximately 10 m near its center and a length in excess of 500 m (see Figure 7-5, from Dixon, 2013). They ranged from barren to beryl-columbite, beryl-columbite-phosphate, and lepidolite subtype pegmatites. Fractionation within the pegmatite group increases from the southeast to the northwest, as evidenced by whole-rock data, composition of K-feldspar, micas, Nb, Ta, W-oxides and tourmaline (Figure 7-6, from Dixon et al., 2014). Tourmaline from the lepidolite-subtype pegmatites shows typical compositional trends from foitite, schorl in border and intermediate zones to fluor-schorl, fluor-elbaite and rossmanite in the pegmatite core.

The following paragraphs from Dixon (2103) and Dixon et al. (2014) describe results of detailed study of the Mount Begbie pegmatites:

*“The pegmatites in the studied area generally follow two main strikes. The primitive pegmatites are generally subparallel to the GRANITE pegmatite (strike ~290°) whereas the rare element pegmatites are largely subparallel to the LI and LI2 pegmatites (strike ~310°). The distribution of beryl-bearing, beryl-columbite, beryl-columbite-phosphate, and lepidolite subtype pegmatites in the study area is irregular (Fig. 6.6). The most primitive beryl-bearing pegmatites (CORD and GARTOUR) are located in the southern part of the map area with the exception of the SIMPLE9 pegmatite is located more centrally. Beryl-columbite pegmatites are either adjacent to the GRANITE pegmatite (SMALL and GAR) or along strike with the GAR pegmatite (GARMUS). The most important of the berylcolumbite pegmatites, BERYL, is isolated in the northern part of the study area. The beryl-columbite-phosphate pegmatites (GARPPOS and TOURMUS) are adjacent to the GRANITE pegmatite and the most fractionated pegmatites which belong to the lepidolite subtype (LI and LI2) are on strike with them.*

*In general, the degree of pegmatite fractionation increases to the northwest, as indicated by the whole rock geochemistry from the GRANITE pegmatite. The strike from the southeast to the northwest of the most fractionated pegmatites (TOURMUS, GARPPOS, LI2, and LI) confirms this observation. The position of the source pluton is unknown but based on the zoning of the pegmatite field it is possible to speculate that it is located to the southeast of the study area at depth. The BERYL pegmatite may be part of a different system as it contains a unique mineralogy and has a dip (to the north) that opposes most of the dips of the other pegmatites (subvertical or to the south) or it could have originated during the same magmatic event through a different tectonic system.”*

*“Detailed study of tourmaline (dravite, schorl, fluor-elbaite, Mn-rich elbaite), cordierite-sekaninaite, garnet, rare-element silicates (beryl, chrysoberyl, bertrandite, euclase, trilithionite, Li-muscovite, petalite, pollucite), rare-element oxides (columbite-tantalite, bismutotantalite, Nb-rutile, cassiterite, hübnerite, qitianlingite), phosphates (triplite, lithiophilite, Mn-rich apatite, xenotime, monazite), and zircon provides insight into the mineralogy and geochemistry of the individual dikes.*

*Columbite-group minerals only occur in the more fractionated rare-element pegmatites; their compositional trends generally reflect the abundance of F in the pegmatite. Columbite shows relatively extensive solid solutions towards wolframite and rutile. Wolframite shows only limited miscibility with columbite. Rutile and cassiterite show a solid solution towards the Fe-analogue of heftetjernite. Qitianlingite is found in aggregates with columbite or hübnerite; its composition is usually close to the ideal end-member formula.*

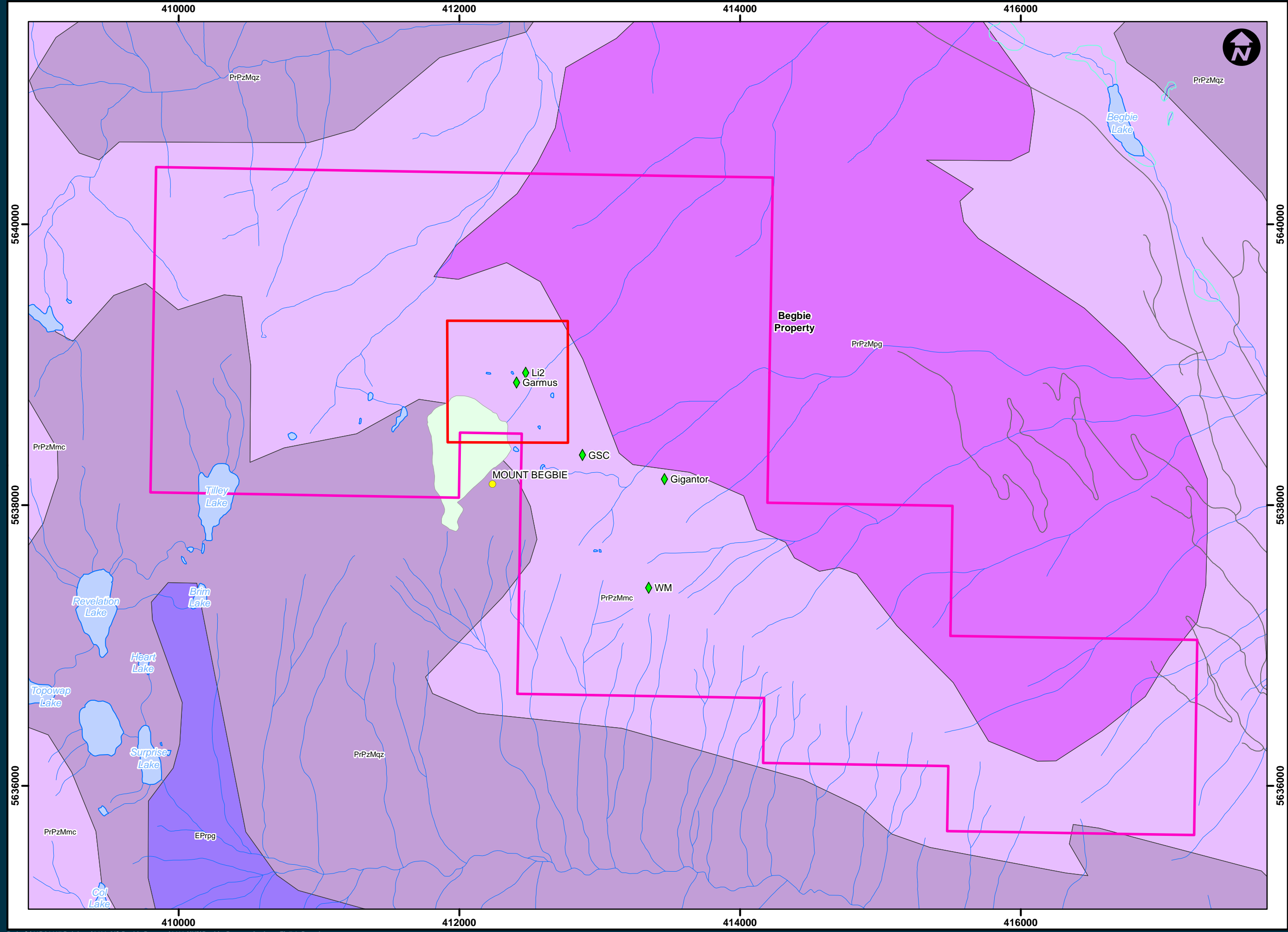
*Tourmaline from the lepidolite-subtype pegmatites shows typical compositional trends from foitite, schorl in border and intermediate zones to fluor-schorl, fluor-elbaite and rossmanite in the pegmatite core. Tourmaline from one of the beryl-columbite-phosphate pegmatites exhibits an unusual compositional evolution from Ca-rich dravite, Mg-rich schorl and Mg-rich schorl-foitite in border and intermediate zones to schorl-foitite, (Fe,Mn)-elbaite, and Mn-rich fluorelbaite in the pegmatite core.”*

All of Addie’s work on the property has been conducted outside of the area studied by Dixon. It identified three lithium-bearing pegmatite bodies: Gigantor, GSC and WM. The Gigantor pegmatite consists of large black tourmaline crystals and local zones with lepidolite and pink tourmaline and possible spodumene in a body exposed on a step in cliff-like terrain at the head of drainage on the eastern part of the property. A grab sample collected by Addie from the Gigantor pegmatite returned a grade of 0.91% Li (or 1.96% Li<sub>2</sub>O), >2000 ppm Rb and 968 ppm Cs (Addie, personal communication, 2016). The GSC pegmatite is located approximately 750 metres east of Mount Begbie summit and is thought to be the pegmatite briefly described by Jones (1959). It locally contains both pink and green tourmaline. The WM pegmatite out crops on the southeast part of the claim group and contains abundant black tourmaline, local pockets of lepidolite, pink tourmaline and occasional beryl. A grab sample collected by Addie from a fractionated pocket of the WM pegmatite returned a grade of 0.36% Li (or 0.77% Li<sub>2</sub>O), 1078.7 ppm Rb and 268.3 ppm Cs (Addie, personal communication, 2016).

On the Begbie property, pegmatite bodies out crop over more than 2000 m in a north-northwest trending band and across a minimum width of approximately 700 metres. Other areas on the property are rumoured to host additional pegmatite bodies; while presently unsubstantiated, these areas may be the subject of focussed prospecting efforts during future work programs.

Time constraints permitted the author to examine only a small portion of the area studied by Dixon (vicinity of the Li2 and Garmus pegmatites) and the WM pegmatite occurrence. More detailed descriptions of the two areas visited are in Section 12.

# First Energy Metals Limited Begbie Property Geology Figure 7-3

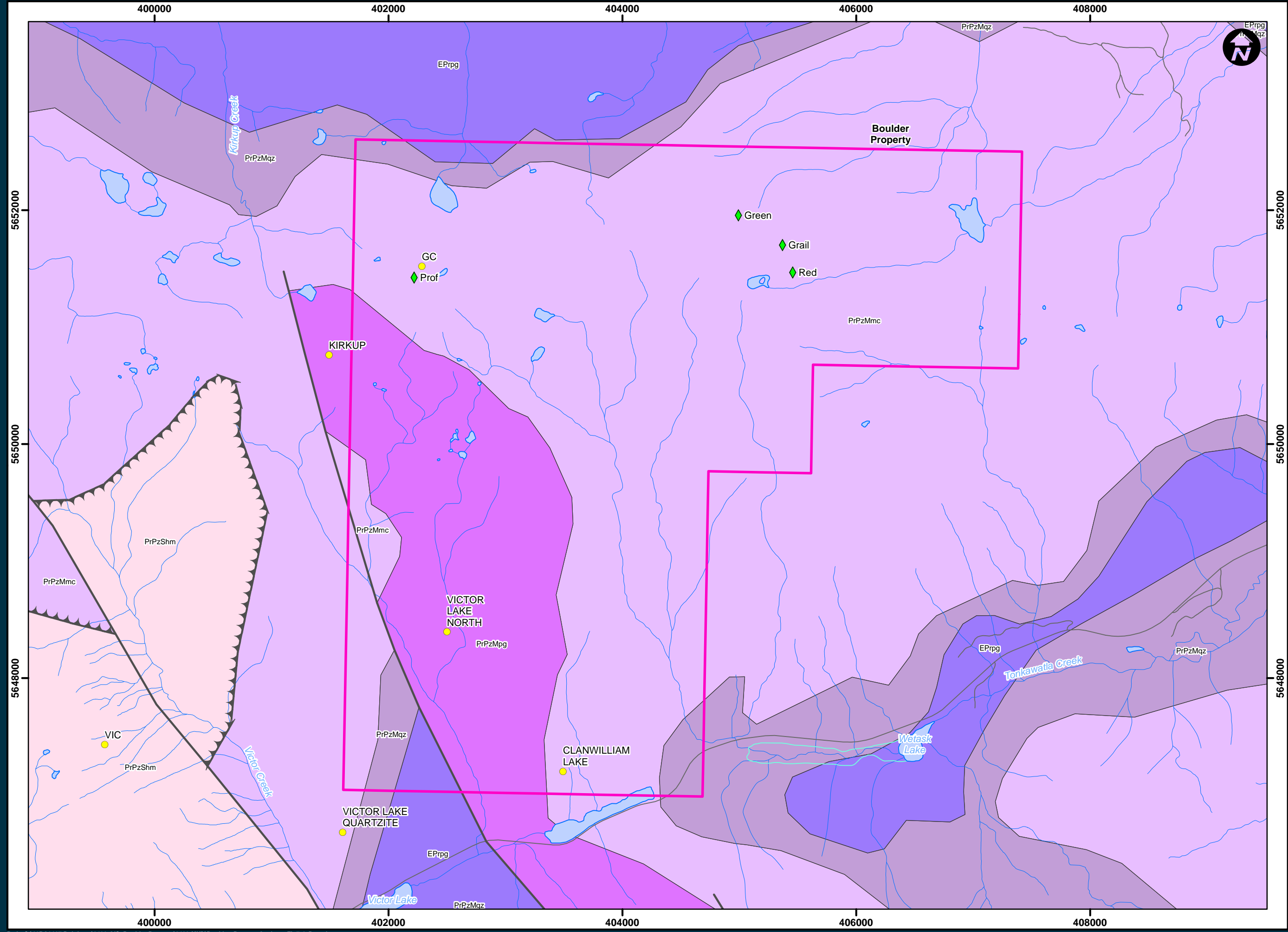


- Legend**
- Monashee Complex (PrPzMpg) pelitic and semi-pelitic schist and gneiss; undifferentiated paragneiss
  - Monashee Complex (PrPzMmc) calc-silicate gneiss; may be quartzitic; may contain lenses / layers of pelitic schist, quartzite, amphibole and marble
  - Monashee Complex (PrPzMqz) quartzite (primarily quartz with varying amounts of feldspar); may contain lenses of pelitic schist
  - Unnamed (EPrpg) paragneiss
  - Pegmatite Location
  - MINFILE Occurrences
  - Fault
  - Thrust fault
  - Existing Road
  - Stream
  - Lake/River
  - Glacier
  - Wetland
  - Dixon Study Area
  - Begbie Property

Date: 01-03-2017  
 Projection: NAD 1983 UTM Zone 11N  
 Scale: 1:25,000  
 Author: tkwitkoski  
 Last Modified By: tkwitkoski  
 Checked By: BL  
 Revision #:



# First Energy Metals Limited Boulder Property Geology Figure 7-4



- Legend**
- Monashee Complex (PrPzMpg) pelitic and semi-pelitic schist and gneiss; undifferentiated paragneiss
  - Monashee Complex (PrPzMmc) calc-silicate gneiss; may be quartzitic; may contain lenses / layers of pelitic schist, quartzite, amphibole and marble
  - Monashee Complex (PrPzMqz) quartzite (primarily quartz with varying amounts of feldspar); may contain lenses of pelitic schist
  - Shuswap Assemblage (PrPzShm) undivided Shuswap Assemblage metamorphic rocks
  - Unnamed (EPrpg) paragneiss
  - Pegmatite Location
  - MINFILE Occurrences
  - Fault
  - Thrust fault
  - Existing Road
  - Stream
  - Lake/River
  - Wetland
  - Boulder Property

Date: 01-03-2017  
 Projection: NAD 1983 UTM Zone 11N  
 Scale: 1:30,000  
 Author: tkwitkoski  
 Last Modified By: tkwitkoski  
 Checked By: BL  
 Revision #:

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### 7.2.1 Boulder Property

The Boulder property is underlain primarily by calcsilicate metamorphic rocks (unit PrPzMmc) and paragneiss (unit PrPzMpg) of the Proterozoic to Lower Paleozoic Monashee complex. Quartzite (unit PrPzMmc), also of the Proterozoic to Lower Paleozoic Monashee complex underlies the northern margin of the claim group (Wheeler, 1965).

Detailed bedrock mapping by Wilson (1968) on Tonkawatla Ridge identified the following principal lithologies:

*“Map unit 4 includes one or more quartzites, varying in thickness from twenty to more than one hundred feet, separated by marble and various quartz mica schists. The mica schists are at least partly biotite-sillimanite schists. The calc silicate rocks composed of feldspar, actinolite-tremolite, and diopside, with traces of calcite and garnet occur in this unit. The unit also includes a discontinuous gneiss with a significant proportion of dark green hornblende, particularly on the south slope of Tonkawatla Ridge.*

*Map unit 5 is a gneiss, generally granular, in which quartz, feldspar and mica are the dominant constituents, but which also contains minor amounts of calcite and hornblende. The most noteworthy characteristic of this unit is its tendency to weather green or grey green.*

*Map unit 7 is a grey weathering biotite-feldspar hornblende or biotite quartz feldspar to quartz feldspar biotite gneiss. Variations in lithology are abrupt and narrow across strike and seem to continue for some distance along strike. Texture is generally granular and the quartz commonly is rounded and in some specimens frosted. Map unit 7 may contain lithologies properly placed in map unit 9.”*

Wilson (1968) described the pegmatites on Tonkawatla Ridge as follows:

*“The pegmatites on Tonkawatla Ridge are most abundant in the vicinity of a small lake... where they have two prominent directions east of north and north of east. These directions probably represent tension fractures. The pegmatite dykes and sills also occur further east but are less numerous. All of the dykes examined are fairly coarse intergrowths of quartz, feldspar and black tourmaline to several inches long. Lithium mica and tourmaline are significant components of several and rhodocrosite is abundant in one.*

*One such dyke... is some 180 feet long, a maximum of 30 feet thick and lenticular in shape. It is sill-like at one end and dyke-like at the other. At least one large block of host rock is included in the dyke. Tourmaline, lepidolite and rhodocrosite are important components in the thicker, coarser part of the dyke although they occur throughout. Most of the rhodocrosite is in a smaller later dyke which crosses the sill in a nearly north direction almost transverse to the main dyke.*

*The host rock is a dark grey to green grey mica schist trending 280° and dipping south at 40°.”*

Addie (2013) identified 21 pegmatites during a cursory examination of a portion of the property, 7 of which contain pockets or zones of lithium-bearing minerals including lepidolite and pink and/or green tourmaline. The Prof pegmatite occurrence is located south of the Frenchman Cap Dome on Tonkawatla Ridge (Fyles 1970), and is one of many pegmatite bodies in the immediate area. A grab sample collected by Addie from the highly fractionated zone of the Prof pegmatite returned a grade of 1.72% Li (or 3.70% Li<sub>2</sub>O) >2000 ppm Rb and 1244 ppm Cs (Addie, personal communication, 2016). The author examined the Prof pegmatite and a second fractionated pegmatite dyke (Grail) during his brief visit to the Boulder

property. In the latter area, several conspicuous off-white dyke-like features were noted (Plate 7-2). Descriptions of the two areas visited are in Section 12.

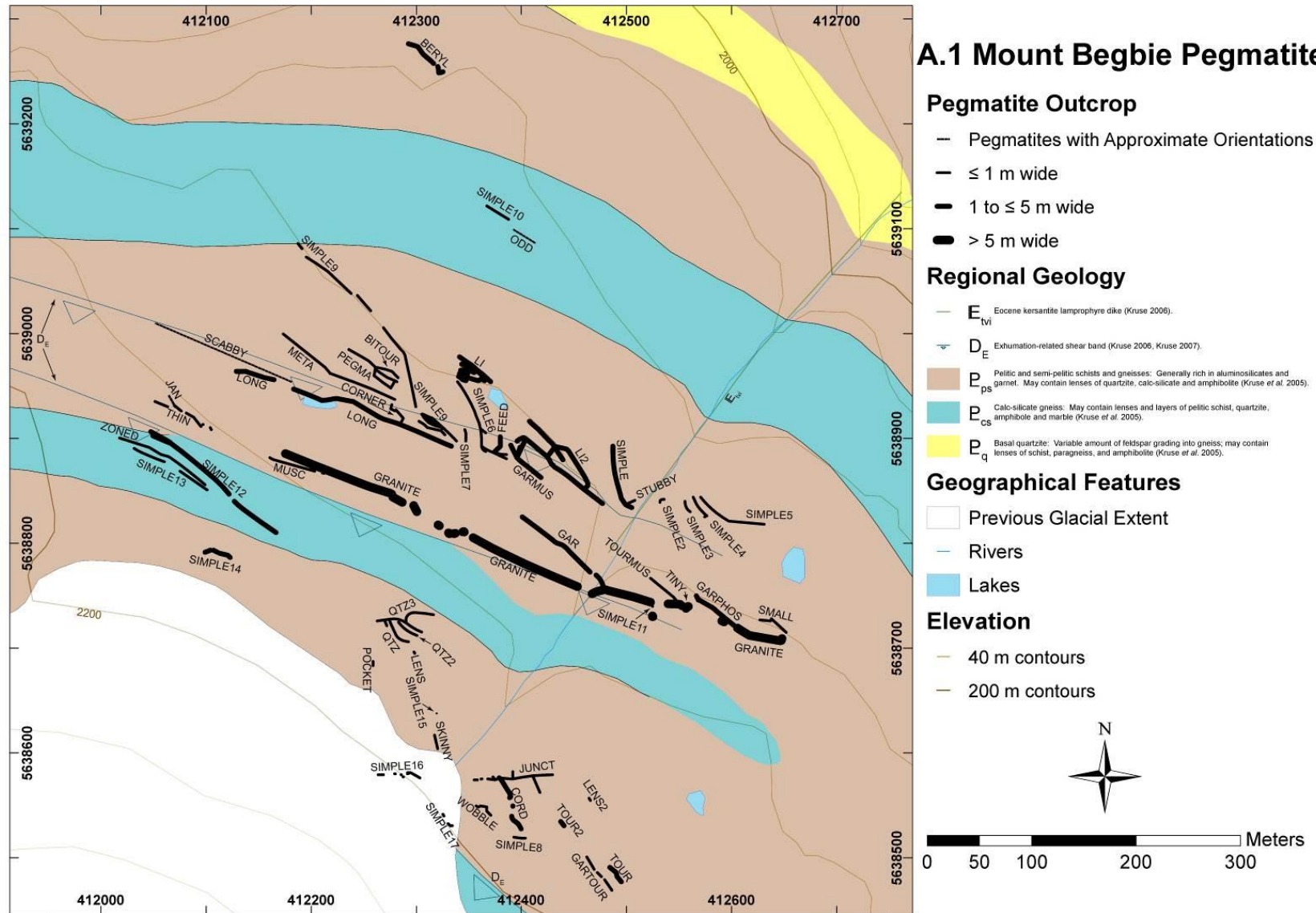
### 7.3 MINERALOGY

The basic mineral assemblages observed in the pegmatites on the Begbie and Boulder property, are quartz+feldspar+black tourmaline or quartz+feldspar+biotite; moderately fractionated assemblages also include muscovite, garnet, beryl, cordierite, and oxide minerals, while highly fractionated assemblages add Mn,Fe-phosphate minerals, Li-phosphate minerals, lepidolite, and multi-colored tourmaline (Dixon et al., 2014). Rose quartz is sometimes a constituent of the quartz core (Dixon, 2013).

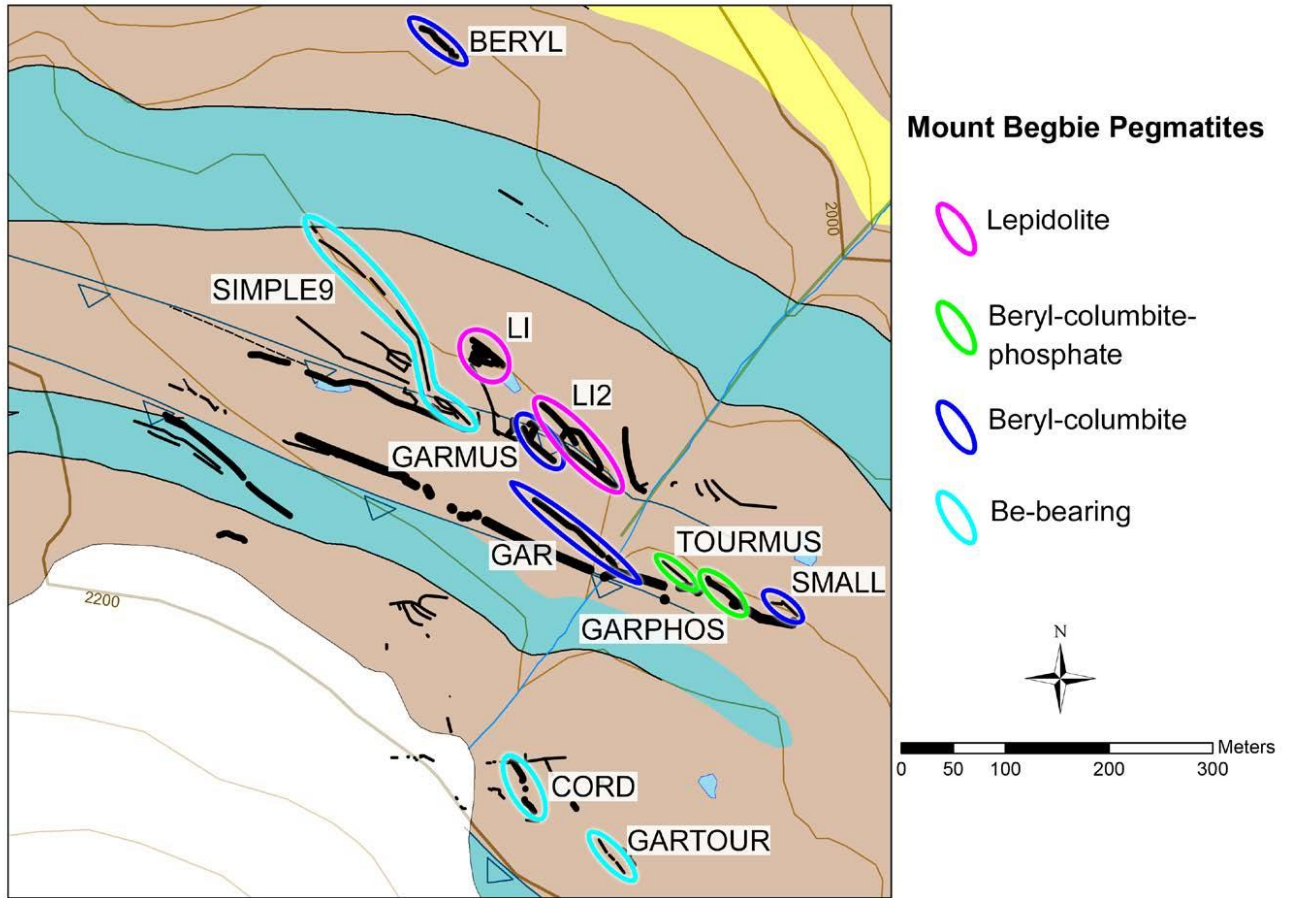


**Plate 7-1: Calc-silicate metamorphic rocks (unit PrPzMmc) of the Proterozoic to Lower Paleozoic Monashee complex cut by a lensoidal pegmatite body, Begbie Property**

Figure 7-5: Bedrock Geology and Location of Pegmatite Bodies, Dixon Study Area, Begbie Property



**Figure 7-6: Distribution of Fractionated Pegmatites, Dixon Study Area, Begbie Property**





**Plate 7-2: Conspicuous off-white dyke-like features, Grail Pegmatite Area, Boulder Property**

## **8 DEPOSIT TYPES**

The principal deposit types of interest to First Energy are commercially viable lithium-bearing, rare metal LCT pegmatites that can be readily mined by quarrying and beneficiated on site to a final product for shipping.

### **8.1 CLASSIFICATION OF PEGMATITES**

A number of classification schemes have been proposed for granitic pegmatites; the one shown in Table 8-1 is after Ginsburg (1984) and Cerny (1990 and 1991b) and from Sinclair (1995). For the purposes of exploration or assessment, two basic distinctions are particularly useful. The first distinction is between the common pegmatites, which have the simple mineralogy of granites. The second distinction is among rare-element pegmatites, which are mineralogically complex and are grouped on petrologic grounds into two families, the LCT pegmatites and the NYF pegmatites. The latter are characteristically enriched in niobium, yttrium, and fluorine and are associated with anorogenic magmatism. Although in its very earliest phase of assessment the pegmatites exposed on the Begbie and Boulder properties are believed to be of the rare metal LCT-type.

**Table 8-1: Classification of Pegmatite Deposits**

Pegmatite class	Environment of formation	Metamorphic facies of host rocks	Relationship to parent granites	Economic minerals
Miarolitic (gem-bearing)	~1-2 kbar	Greenschist	Within or peripheral to subvolcanic granitic plutons	Quartz crystals, beryl, topaz, tourmaline
Rare-element	~2-4 kbar	Lower amphibolite (Abukuma-type)	Peripheral to granitic intrusions	Spodumene, amblygonite, petalite, lepidolite, pollucite, beryl, columbite-tantalite, microlite, wodginite, uraninite, cassiterite, xenotime, gadolinite
Muscovite	~5-8 kbar	Upper amphibolite (Barrovian-type)	No obvious association with granitic intrusions in many cases	Muscovite, feldspar, uraninite
Abyssal	~4-9 kbar	Granulite (Barrovian-to Abukuma-type)	May be associated with migmatitic granite	Feldspar, quartz

## 8.2 CHARACTERISTICS AND GENETIC MODEL

All LCT pegmatites were emplaced into collisional orogenic systems, even those now in the cores of Precambrian cratons, and are products of plate convergence (Bradley and McCauley, 2016). Černý (1991b) suggested that LCT pegmatites are commonly late syntectonic to early post-tectonic, with respect to their enclosing rocks, and intruded metasedimentary rocks typically at low-pressure amphibolite to upper greenschist facies (Černý, 1992).

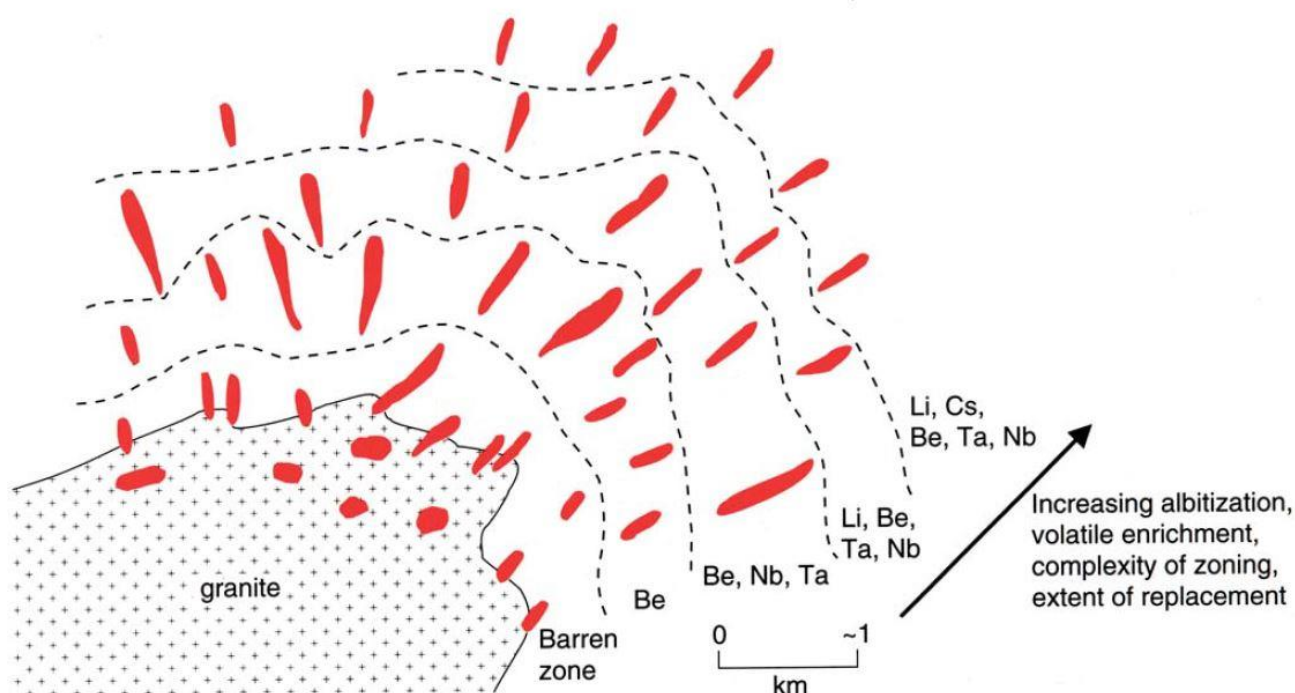
The global age distribution of LCT pegmatites is similar to that of orogenic granites and detrital zircons: the height of LCT pegmatite emplacement occurred at ca. 2650, 1800, 525, 350, and 100 Ma, corresponding to times of collisional orogeny and, except for the comparatively minor peak at 100 Ma, to times of supercontinent assembly (McCauley and Bradley, 2015). The largest deposits are Archean, and therefore the potential for giant deposits seems greatest in orogens of that age.

LCT pegmatites represent the most highly differentiated and last to crystallize components of certain granitic melts. Parental granites are typically peraluminous, S-type granites. Genetic links between a pegmatite and its parental granite have been established through various lines of evidence, but a number of pegmatites have only an inferred, buried plutonic parent, such as those at Mount Begbie (Dixon et al., 2014). In this kind of LCT pegmatite field, the structurally highest pegmatites are particularly promising for rare-element enrichment (Bradley and McCauley, 2016). Rare metal LCT pegmatites are distributed in zonal patterns around their source granitic intrusions (Sinclair, 1995). In general, pegmatite bodies that are most enriched in rare metals and volatile components are located farthest from the intrusions. Figure 8-1, from Sinclair (1995) and modified after Trueman and Cerny (1982), illustrates this zonation.

In areas of good bedrock exposure, LCT pegmatites are readily recognized: they are light-coloured, very coarse-grained rocks locally with large crystals. The pegmatites, because of their high quartz content, are also relatively resistant and tend to stand out from their surroundings. LCT pegmatites typically occur in

groups which consist of tens to hundreds of individual bodies and cover up to a few tens of square kilometres (Bradley and McCauley, 2016; Cerny, 1991b).

LCT pegmatites are distinguished from other rare-element pegmatites by their enrichment in the incompatible elements lithium, cesium, tin, rubidium, and tantalum (London, 2008). The melts from which LCT pegmatites crystallize are enriched in fluxing components including water, fluorine, phosphorus, and boron; these reduce the solidus temperature, viscosity, and density while increasing the bulk diffusivity of the melt. Pegmatites therefore can form thin dykes and massive crystals despite their felsic composition and significant subliquidus undercooling (Bradley and McCauley, 2016). Fluid inclusion studies of various pegmatites suggest formation at  $\approx 350\text{--}550\text{ }^{\circ}\text{C}$  and relatively low pressures in the range of 3 kb (London, 2008).



**Figure 8-1: Schematic representation of the regional zonation of LCT pegmatites (red) outbound from the margin of a granitic intrusion.**

The following paragraphs on size, structure and mineralogy of rare metal LCT pegmatite deposits is taken verbatim from (Bradley and McCauley, 2016):

*“Individual pegmatites have various forms including tabular dikes, tabular sills, lenticular bodies, and irregular masses. Even the biggest LCT pegmatite bodies are much smaller than typical granitic plutons. One of the largest and richest pegmatites, Greenbushes, is only 3 km long and a few hundred meters across (Partington and others, 1995). Most LCT pegmatites are much smaller than this.*

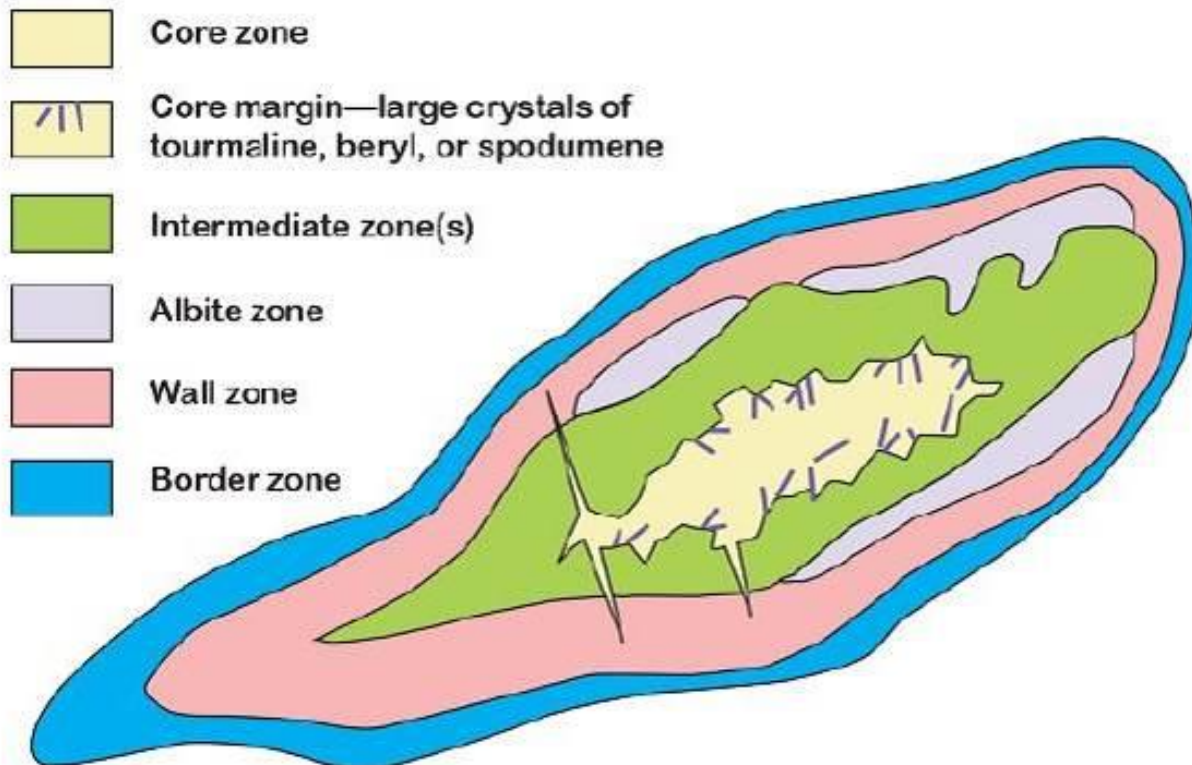
*Most LCT pegmatite bodies show some sort of structural control; the specifics are a function of depth of emplacement and vary from district to district. At shallower crustal depths, pegmatites tend to be intruded along anisotropies such as faults, fractures, foliation, and bedding (Brisbin, 1986). In higher grade*

*metamorphic host rocks, pegmatites are typically concordant with the regional foliation, and form lenticular, ellipsoidal, or “turnip-shaped” bodies (Fetherston, 2004).*

*Most LCT pegmatite bodies are concentrically, but irregularly, zoned. Zoning is both mineralogical and textural. Generalizing from detailed, deposit-scale mapping of hundreds of U.S. pegmatites, Cameron and others (1949) identified four main zones: the border, wall, intermediate, and core zones; the following is a synopsis from that study. (1) The outermost, or border zone, is a chilled margin just inside the sharp intrusive contact between pegmatite and country rock. Typically, the border zone is a few centimeters thick, fine-grained, and composed of quartz, muscovite, and albite. (2) The wall zone is typically less than about 3-m thick. The largest crystals seldom exceed about 30 cm, and in general, the grain size is somewhere between that of the fine-grained border and that of the intermediate zone(s), where the largest crystals are to be found. The essential minerals are albite, perthite, quartz, and muscovite. Graphic intergrowths of perthite and quartz are common. Wall zones are mined for muscovite. Tourmaline and beryl may be present. (3) The intermediate zone or zones comprise everything between the wall and the core. These may be discontinuous rather than complete shells, there may be more than one, or there may be none at all. The essential minerals are plagioclase and potassium feldspars, micas, and quartz. In more evolved LCT pegmatites, various rare-element phases such as beryl, spodumene, elbaite, columbite-tantalite, pollucite, and lithium phosphates are present. Overall grain-size is coarser than in the wall zone. (4) The core zone in many zoned pegmatites is monomineralic quartz. In some core zones, quartz is joined by perthite, albite, spodumene or other lithium aluminosilicates, and (or) montebrasite (London, 2008). The diversity of valid mineral species in the most evolved LCT pegmatites is impressive; at Tanco, for example, 105 minerals have been identified (London, 2008). Huge crystals are another hallmark of LCT pegmatites. The biggest spodumene was 14-m long; the biggest beryl, 18 m; and the biggest potassium feldspar, 49 m (Rickwood, 1982).”*

Figure 8-2 illustrates a deposit-scale mineral zoning patterns in an idealized pegmatite (from Bradley and McCauley, 2016; after Fetherston, 2004, and Černý, 1991a).





**Figure 8-2: Deposit-scale zoning patterns in an idealized LCT pegmatite**

## 9 EXPLORATION

### 9.1 HISTORICAL EXPLORATION

Exploration on the two properties that comprise the Project is in its infancy, consisting predominantly of re-establishing the locations of occurrences briefly described in the literature and prospecting for precious and semi-precious gems. However, the limited work has demonstrated that both the Begbie and Boulder properties host swarms of granitic pegmatite bodies, and has confirmed that some individual pegmatite bodies are highly fractionated and host lepidolite and pink tourmaline-bearing zones within wall zones consisting of coarse-grained quartz, K-feldspar, muscovite and black tourmaline.

Most of the pegmatite bodies for which descriptions exist, and that were observed during the authors site visit, are dyke-like and discordant with the dominant fabric of the host Monashee complex gneissic rocks, however concordant or sill-like pegmatite bodies have been noted.

On the Begbie property, individual pegmatite bodies persist along strike for more than 500 m and have been observed to outcrop over an elevation range of 2,060 – 2,190 m. Lower elevations, below timber line, have been the subject of very limited exploration and no pegmatite occurrences have been documented.

## **9.2 RECENT EXPLORATION**

First Energy has not conducted any exploration on the Begbie property or Boulder property.

## **10 DRILLING**

There has been no drilling on the Begbie property or Boulder property.

## **11 SAMPLE PREPARATION, ANALYSES AND SECURITY**

### **11.1 SAMPLE PREPARATION AND ANALYSES – 2016 CHARACTER SAMPLES**

A total of five samples were collected by the author during his 2016 character sampling of select areas on the Project. Each sample was given a unique label, individually placed in a heavy poly sample bag and secured with a zip tie. Samples were transported from the property by the author and kept in private locked storage facility prior to being shipped by bonded, commercial carrier to the laboratory. The samples were submitted to ALS Minerals ("ALS") in North Vancouver, British Columbia for analysis. ALS conforms to a quality system that meets or exceeds the requirements outlined in the ISO 9001 and ISO/IEC 17025 standards.

#### **Sample Preparation**

- Each sample received by ALS lab staff was dried and individually crushed and pulverized following preparation procedure PRP910 whereby samples are jaw crushed until 70% of the sample material passes through a 2mm screen.
- From this material a 250 g riffle split sample was collected and then pulverized in a mild steel ring-and-puck mill until 85% passes through a 75 µm screen.
- A 0.2 g split of each milled sample was collected for multi-element analysis and if applicable for ore grade lithium analysis.

#### **Sample Analytical Procedures**

A 0.2 g split of each milled sample was evaluated for 48 elements by a four acid digestion using a combination of hydrochloric, nitric, perchloric and hydrofluoric acids using ICP-AES/MS ultra-trace level analysis (method ME-MS61).

### **11.2 SAMPLE PREPARATION AND ANALYSES – HISTORICAL EXPLORATION**

Character samples collected by Addie were analyzed in Vancouver by Bureau Veritas ("BV"). Sample preparation was similar to that conducted by ALS for the authors 2016 samples. The analytical procedure used by BV was method MA250. Method MA370 was used for the analysis of samples which returned > 2000 ppm Li. BV conforms to a quality system that meets or exceeds the requirements outlined in the ISO 9001:2015.

Sampling by Dixon took place only on the Begbie property and was primarily mineralogical in nature. It consisted of the collection of feldspar from a representative group of pegmatites that displayed the basic mineral assemblage. Tourmaline and mica samples were also collected if present and where possible. Pegmatites displaying mineralogy indicative of fractionation or zoning were also sampled. Minerals such

as garnet, cordierite, beryl, columbite, apatite and other phosphates were sampled, where possible, in addition to tourmaline, feldspar, and mica from more fractionated pegmatites. A total of 62 representative mineralogical samples were collected by Dixon. A selection of these samples were analyzed at UBC by various methods, including whole rock analysis of 9 samples from the Granite pegmatite and electron microprobe analysis of a wide range of minerals from primary and fractionated parts of the pegmatite bodies studied.

### **11.3 QUALITY ASSURANCE / QUALITY CONTROL PROCEDURES**

Previous sampling of pegmatites on the Begbie and Boulder properties consisted primarily of the collection of representative samples to provide characteristic composition of each occurrence. The targeted sampling of highly fractionated zone containing lepidolite and pink and/or green tourmaline-bearing zones was expected to produce anomalous results.

Certified Reference Standards (CRS) were not inserted into the sample stream in 2016 because of the low number of samples. The analytical results of lab-inserted standards were compared to the stated averages as a measure of lab accuracy. Results of the lab-inserted standards were found to be acceptable for the small batch of samples. The intent of the 2016 sampling was to confirm that lithium-bearing minerals in part comprise the granitic pegmatites on both the Begbie and Boulder properties.

### **11.4 ADEQUACY OF SAMPLE PREPARATION, SECURITY AND ANALYTICAL PROCEDURES**

The security, sample collection, sample preparation and analytical procedures utilized during historical prospecting, mapping and sampling programs are not fully known. More recent work by Addie (2013) and by Dixon (2013), in particular, were completed in a professional manner and therefore meet or exceed current best management practices and standards. The results from these latter two workers is believed to be reliable.

Use of a comprehensive QA/QC program is recommended for all future systematic exploration programs to insure that all analytical data can be confirmed to be reliable.

## **12 DATA VERIFICATION**

Data verification for the Project consisted mainly of field confirmation of the presence rare metal LCT pegmatites and character sampling of selected pegmatites to substantiate the findings of earlier workers. In addition to verifying the presence of LCT pegmatites, the purpose of the visit was to confirm the locations and general geometry of select pegmatite bodies, characterize their mineralogy, and to compare pegmatites of the Begbie property with those of the Boulder property.

On September 23, 2016, pegmatites and rocks of the Monahsee complex that host them, were examined in several locations on the Begbie and Boulder properties. In addition to verifying the presence of LCT pegmatites, the purpose of the visit was to confirm the locations and general geometry of select pegmatite bodies, characterize their mineralogy, and attempt to compare pegmatites of the Begbie property with those of the Boulder property. The short duration of the site visit allowed for just a cursory examination of two pegmatite localities on each property. The localities were selected following a

discussion with the underlying claim owners and consisted of pegmatite bodies that were known to exhibit fractionation and contain lepidolite, pink and/or green tourmaline and other mineral phases consistent with a higher degree of mineral fractionation (Prof and Grail pegmatites, Boulder property; WM pegmatite, Begbie property) or were described by others (Dixon, 2013; Dixon et al., 2014) to display similar characteristics (Li2 area, Begbie property).

The assessment included: recording the location of each pegmatite using a handheld GPS device; determining the geometry, size and orientation of each pegmatite body investigated, a description of the main mineral phases and as many accessory minerals as could be positively identified in the field, and collection of representative samples of both lithium-bearing mineral and non-lithium-bearing mineral zones. Sample locations are shown in Figure 12-1 and sample descriptions and results are listed in Table 12-1.

### **Begbie Property**

The WM pegmatite (Plate 12-1) out crops on the eastern flank of Mount Begbie, a distance of 1.35 km from, and at a similar elevation as, the closest pegmatite (TOUR) mapped by Dixon, and a distance of 1.95 km from the farthest pegmatite mapped by Dixon. The WM pegmatite strikes 020°, dips 76° west and is discordant to the metamorphic fabric (134/28S) in the host biotite gneiss. It has a variable width averaging about 1.5 metres, appears to narrow along strike to the northeast where it disappears under cover, and is truncated to the south by a later aplitic dyke that strikes 135°. The total exposed length of the WM pegmatite is 52 m.

The WM pegmatite consists primarily of quartz, k-feldspar, muscovite, black tourmaline. In one area of the WM pegmatite, a small highly fractionated central pocket measuring 30 x 50 cm consists of 3-4% lepidolite, 1-2% pink tourmaline, trace green tourmaline and possible pale green beryl in gangue of quartz, k-feldspar and muscovite (Plate 12-2). A character sample collected from the fractionated pocket of mineralization returned a grade of 1110 ppm Li, 910 ppm Rb and 128 ppm Cs.

The pegmatite examined in the Li2 area of Dixon (2013) is a narrow tabular dyke measuring 0.3 metres wide, striking 132° and dipping 70°S cutting fabric in biotite gneiss and orthogneiss (Plate 12-3). Along strike to the southeast, the dyke thins to just 2 cm but persists. The dyke consists of coarse-grained sub to euhedral black tourmaline, grey translucent quartz, white k-feldspar and 'silver' muscovite with local (seen in sub outcrop only) green and green-rimmed black tourmaline (Plate 12-4). No lepidolite was observed in this specific locally. A character sample collected from the dyke returned values of 21.5 ppm Li, 319 ppm Rb and 85.4 ppm Cs. Other unnamed pegmatites were noted in the area between the Li2 and Garmus pegmatites, but were not examined because of time constraints.

The Garmus pegmatite (Dixon, 2013) is a large granite pegmatite dyke ranging from 5 to 6 metres in maximum width with inclusions of biotite gneiss wallrock (Plate 12-5) and extends for 43 m along its northwesterly strike. The pegmatite consists principally of coarse-grained sub to euhedral black tourmaline, grey translucent quartz, white potassium feldspar, silver muscovite and red-brown garnet (Plate 12-6). A character sample collected from the Garmus pegmatite returned values of 21.4 ppm Li, 100.5 ppm Rb and 17.15 ppm Cs.



**Plate 12-1: WM pegmatite outcrop, Begbie property**



**Plate 12-2: Close-up of lepidolite and pink tourmaline, WM pegmatite, Begbie property**



**Plate 12-3: Li<sub>2</sub> pegmatite dyke, Begbie property**



**Plate 12-4: Close-up of green and black tourmaline, Li<sub>2</sub> pegmatite dyke, Begbie property**



**Plate 12-5: Garmus pegmatite dyke with wallrock inclusions, Begbie property**



**Plate 12-6: Large black tourmaline and red-brown garnet, Garmus pegmatite, Begbie property**

## Boulder Property

The Prof pegmatite (Plate 12-7) of Addie outcrops in the northwest part of the Boulder property. It may correspond to the pegmatite dyke described by Wilson (1968), labelled the GC occurrence (082LNE024) in MINFILE. The Prof pegmatite is a subvertical dyke 3 to 6 metres in width that follows a trend of 062° cutting the well-developed fabric of the host biotite gneiss. It is exposed discontinuously for at least 65 m along strike and appears to pinch out to the northeast and southwest but may be offset by brittle-ductile structures as numerous additional pegmatite dykes and bodies occur approximately along strike but were not investigated because of time and weather constraints.

The Prof pegmatite consists predominantly of coarse-grained, intergrown grey translucent quartz, off-white to beige k-feldspar, colourless to pale green silvery muscovite, conspicuous black tourmaline; trace amounts of red-brown garnet occur locally. The main showing consists of a medial zone measuring approximately 6 metres long by 1.3 metres wide containing up to 5% pink to pale purple lepidolite, up to 2% predominantly pink tourmaline, and traces of cordierite (Plate 12-8), but is devoid of black tourmaline. A representative sample collected from the fractionated lepidolite and pink tourmaline-bearing zone returned values of 6660 ppm Li, 1890 ppm Rb, >500 ppm Cs and 569 ppm Be, while a representative sample of the more primitive black tourmaline-bearing zone returned values of 860 ppm Li, 470 ppm Rb, 120.5 ppm Cs and 40.7 ppm Be.

The Grail pegmatite (Plates 12-9 and 12-10) of Addie (personal communication, 2016) is one of several, including the Red and Green pegmatites, that form part of a pegmatite dyke field in the eastern half of the Boulder property. The Red and Green dyke-like pegmatite bodies were located by Addie in 2013, in the vicinity of the Grail pegmatite and are said to contain subhedral to euhedral black and green tourmaline and, locally, an unidentified dark pink mineral (Lloyd Addie, personal communication, 2016). The Grail pegmatite dyke is a 3.2 m wide tabular body following striking 080° and dipping 80° north. The Grail pegmatite has a mainly 'salt and pepper' appearance with 0.5 - 1 cm black tourmaline intergrown with coarse-grained quartz, k-feldspar and muscovite. In one area of the dyke a small zone measuring 40 x 50 cm carries 2-3% lepidolite and pink tourmaline in gangue of quartz and k-feldspar. The Grail pegmatite was not sampled by the author.

It should be noted that the Prof pegmatite and the Grail pegmatite have similar orientations and are separated by a distance measuring approximately 3.15 km. It is not suggested that they form a continuous or even discontinuous zone of prospective rare metal LCT pegmatite mineralization, but this area of the property has no known record of systematic evaluation.





**Plate 12-7: Prof pegmatite outcrop (centre left), Boulder property**



**Plate 12-8: Close-up of highly fractionated zone, Prof pegmatite, Boulder property**



**Plate 12-9: Grail pegmatite outcrop (upper left), Boulder property**



**Plate 12-10: Close-up of highly fractionated zone, Grail pegmatite, Boulder property**

## Conclusions

Examination of limited areas of the Begbie and Boulder properties confirmed that both properties host pegmatites of the rare metal LCT type. The pegmatites examined are typically narrow, ranging from cm-scale up to 6 m in width, are commonly dyke-like, although lensoidal pegmatites were noted (see Plate 7.1), and discordant. The pegmatites on the Begbie property commonly strike WNW-ESE while those investigated on the Boulder property typically strike ENE-WSW, although there are perhaps significant exceptions to these dominant orientations.

Some of the pegmatites are locally highly fractionated and contain appreciable amounts of Li-bearing minerals, principally lepidolite, pink and/or green tourmaline (elbaite), and beryl. Analysis of some of the samples collected from the pegmatites returned highly anomalous levels of lithium, cesium, rubidium and beryl, and weakly anomalous levels of niobium and tantalum.

In addition to the on-ground examination, aerial views of both properties identified additional conspicuous off-white dyke-like features, some of which appear to be sub-parallel to the pegmatites examined; the author is unaware of any documentation of these features, and they remain areas of particular interest.

**Table 12-1: Descriptions and Results of Character Samples, Kootenay Lithium Project**

Property	Showing ID	Location (NAD83) Easting Northing		Sample ID	Sample Description	Be (ppm)	Cs (ppm)	Li (ppm)	Nb (ppm)	Rb (ppm)	Ta (ppm)
Boulder	Prof	402220	5651425	M683819	consists of 8-10% lepidolite, 2-3% pink tourmaline, trace green tourmaline, trace cordierite with the remainder being muscovite, k-feldspar and quartz; green apatite seen in nearby float	569	>500	6660	39	1890	43.6
Boulder	Prof	402220	5651425	M683823	sample collected from the margin of the Prof dyke: consists of traces of red-brown garnet, 8-10% dark green to black tourmaline with the remainder being muscovite, k-feldspar and quartz	40.7	120.5	860	80.9	470	21.5
Begbie	Li2	412473	5638942	M683820	c-gr sub to euhedral black tourmaline, grey translucent qz, white k-feldspar and 'silver' muscovite with local (seen in float, sub o/c only) green and green-rimmed black tourmaline	3.21	85.4	21.5	5.9	319	0.79
Begbie	Garmus	412407	5638874	M683822	consists of c-gr sub to euhedral black tourmaline, grey translucent qz, white k-feldspar, 'silver' muscovite and red-brown garnet	10.15	17.15	21.4	9.2	100.5	2.45
Begbie	WM	413349	5637412	M683821	consists of 3-4% lepidolite, 1-2% pink tourmaline, trace green tourmaline, possible pale green beryl in gangue of quartz, k-feldspar and muscovite	22.2	128	1110	69.7	910	81.4

### **13 MINERAL PROCESSING AND METALLURGICAL TESTING**

There has been no mineral processing or metallurgical testing of mineralized material from the Kootenay Lithium Project.

### **14 MINERAL RESOURCE ESTIMATES**

There have been no mineral resource estimates completed on the Kootenay Lithium Project.

### **15 ADJACENT PROPERTIES**

Two small mineral claims occur adjacent to the Begbie property near the summit of Mount Begbie. The two claims cover some of the highest elevations in the area and are not believed to impair the Begbie property in any way. The claims are believed to be beneficially owned by individual Free Miners, who are doing little to develop their interest, but are likely due to the potential for rare metal LCT pegmatites. To-date, First Energy has not approached either party regarding its potential interest to option or purchase the claims.

The Boulder property has no adjacent properties.

### **16 OTHER RELEVANT DATA AND INFORMATION**

The author is not aware of any other relevant data or additional sources of information that could significantly change the conclusions presented in this Technical Report.

### **17 INTERPRETATION AND CONCLUSIONS**

Geological data on the Begbie and Boulder properties are predominantly generated by earlier workers. Older descriptive information is scant, consisting of brief written reports contained primarily in accounts of the geology of the properties.

FEM has not conducted any work on the project. The most recent work on the Begbie and Boulder properties consists of intermittent prospecting and sampling by Lloyd Addie from in 2013-2015 and a scientific study of a 600 by 700 metre portion of the pegmatite field on the Begbie property completed by Dixon (2013) and published in Dixon et al. (2014).

A helicopter-supported visit to the Begbie property and Boulder property was conducted by the author and confirmed the presence of multiple granitic rare metal LCT type pegmatite bodies on each property.

Pegmatites on the Begbie and Boulder properties are typically tabular and dyke or sill-like, but lenticular forms are also known. They are not metamorphosed and only rarely display foliation, and are believed to most likely have formed following the exhumation and decompression event that began in the late Paleocene (Dixon, 2013). Furthermore, it has been suggested that it is more likely that the pegmatites are related to the Ladybird granite suite than any other known intrusion (Dixon 2013).

The least evolved pegmatites on the properties consist of standard rock-forming minerals consistent with an S-type granite (quartz, k-feldspar, mica, plagioclase, amphibole and locally tourmaline) while others are more fractionated and locally include significant amounts of lepidolite, pink and/or green tourmaline (elbaite), red-brown garnet, pale green to pink beryl, petalite, pollucite, cordierite, columbite-tantalite, apatite and other phosphate mineral phases.

Individual pegmatites on both properties display central zones or pockets of Li-bearing minerals, specifically lepidolite and pink and/or green tourmaline (elbaite). The field of Begbie pegmatites studied by Dixon (2013) showed a mineralogical and geochemical zonation, but further examination of the pegmatite field is required in order to determine unequivocal exploration vectors.

The most conspicuous and recognizable lithium-bearing minerals recognized to-date on the Begbie and Boulder properties include lepidolite, a pink to pale purple, generally medium to coarse-grained micaceous mineral, and pink variety of tourmaline (elbaite?) which forms individual euhedral crystals up to 6 cm long, but more commonly radiating masses or clusters of three-sided elongate prisms. Less common is a pale green variety of tourmaline, or black-cored green tourmaline that may or may not be elevated in lithium but is spatially associated with (marginal to) zones bearing lepidolite and pink tourmaline. However, some lithium-bearing minerals are relatively to very inconspicuous and uncommon to very rare, and require an enhanced mineral identification skill set in order to positively identify lithium bearing phases.

Despite the limited amount of exploration completed on the Begbie and Boulder properties, it has been demonstrated that they include fractionated pegmatites of the rare metal LCT type. These pegmatites locally contain appreciable amounts of lithium, principally in the form of lepidolite and pink and/or green tourmaline (elbaite). Analytical data indicates that these pegmatites also contain significant amounts of other uncommon to rare metals, such as beryllium, cesium, rubidium and tantalum whose potential significance should not be discounted.

The Begbie and Boulder properties require substantial programs of prospecting, mapping and systematic sampling to further delineate pegmatite bodies, particularly at lower elevations.

Recommendations for future work on the Project are summarized in Section 18.

## **17.1 RISKS AND UNCERTAINTIES**

Risks and uncertainties for the Project are those inherent in mineral exploration and the development of mineral properties, including uncertainties involved in the successful identification and drilling of mineralized zones, the correct interpretation of drill results and other geological data, and the estimation of mineral resources. It cannot be stated unequivocally that future exploration activities, as recommended below, will encounter mineralization of economic importance.

Other risks and uncertainties include delays in permitting, unforeseen issues with respect to environmental compliance and changes in regulatory requirements, fluctuating metal prices, the possibility of project cost overruns or unanticipated expenses, and uncertainties relating to the availability of project financing for the near and long term.

## 18 RECOMMENDATIONS

It is recommended that a comprehensive prospecting, bedrock mapping and rock geochemical sampling program be completed in areas of good outcrop. Contour soil sampling should be considered for areas below tree line where outcrop is sparse and where the projection of pegmatites may be hidden beneath vegetation and shallow overburden. Following compilation of the results from of the recommended program, a minimum 1,000 metre helicopter-supported diamond drilling program should be considered for priority targets, including the Prof pegmatite on the Boulder property, at an estimated cost of \$450,000.

**Table 18-1: Proposed Budget for Phase 1 Exploration Program**

<b>Activity</b>	<b>Cost</b>
Bedrock Mapping and Prospecting	\$100,000
Helicopter Support	\$55,000
Accommodation and Meals	\$20,000
Travel	\$10,000
Fuel	\$5,000
Assaying (~200 @ \$50/sample)	\$10,000
Sub-Total	\$200,000
Contingency (10%)	\$20,000
<b>Total</b>	<b>\$220,000</b>

## 19 REFERENCES

- Addie, L. (2013): Prospecting Report on the Boulder Property; *BC Ministry of Energy and Mines*, Assessment Report 34293.
- Bradley, D. and McCauley, A. (2013): A Preliminary Deposit Model for Lithium-Cesium-Tantalum (LCT) Pegmatites; U.S. Geological Survey Open-File Report 2013–1008, Version 1.1 (December 2016), 10 pages.
- British Geological Survey (2016): Lithium Commodity Profile; compiled by Teresa Brown, June 2016, 39 pages.
- Černý, P.; Trueman, D. I.; Ziehlke, D. V.; Goad, B. E.; Paul, B. J. (1981): The Cat Lake-Winnipeg River and the Wekusko Lake Pegmatite Fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, 216 pages.
- Černý, P. (1991a): Rare-element granitic pegmatites. Part I. Anatomy and internal evolution of pegmatite deposits, *Geoscience Canada*, 18, pages 49-67.
- Černý, P. (1991b): Rare-element granitic pegmatites. Part II. Regional to global environments and petrogenesis. *Geoscience Canada*, 18, pages 68-81.
- Černý, P., Blevin, P., Cuney, M. and London, D. (2005): Granite-related ore deposits; *Economic Geology 100th Anniversary Volume*, Edited by: Jeffrey W. Helmquist, John, F.H. Thompson, Richard J. Goldfarb and Jeremy F. Richards; Society of Economic Geologists Inc., pages 337-370.
- Dill, H.G. (2015): Pegmatites and Aplites: their genetic and applied ore geology; *Ore Geology Reviews*, September 2015 Vol. 69, pages 417-561
- London, D. (2008): Pegmatites; *The Canadian Mineralogist*, Special Publication 10, 347 pages.
- Dixon, A. (2013): Mineralogy and Geochemistry of Pegmatites on Mount Begbie, British Columbia; M.Sc. Thesis, *University of British Columbia*.
- Dixon, A., Cempirek, J. and Groat, L. A. (2014): Mineralogy and Geochemistry of Pegmatites on Mount Begbie, British Columbia; *The Canadian Mineralogist*, Vol. 52, pages 129-164.
- Harben, P.W. (1995): *The Industrial Minerals Handy Book* (2<sup>nd</sup> Edition); Industrial Minerals Division, Metal Bulletin PLC, London, United Kingdom, pages 96-99.
- Ingham, P.D., White, I.R. and Jackson, S. (2012); Greenbushes Lithium Operations; Ni 43-101 Technical report prepared for Talison Lithium Ltd.
- Jones, A.G. (1959): Vernon map-area, British Columbia; Canada Geological Survey, Memoir 296.
- Kruse, S., McNeill, P. and Williams, P.F. [compilers] (2005): A geological map of the Thor-Odin culmination, Monashee Mountains, B.C.; *University of New Brunswick*; Available from [http://unb.ca/fredericton/science/geology/faculty/monashee/ThorOdinMap\\_july\\_27\\_05\\_11X17.pdf](http://unb.ca/fredericton/science/geology/faculty/monashee/ThorOdinMap_july_27_05_11X17.pdf) [cited January 2012].



Martins, T., Kremer, P. and Vanstone, P. (2013): The Tanco Mine: Geological Setting, Internal Zonation and Mineralogy of a World-Class Rare Element Pegmatite Deposit; Field Trip Guidebook FT-C1 / Open File OF2013-8, Geological Association of Canada–Mineralogical Association of Canada Joint Annual Meeting, Winnipeg, May 22–24, 2013.

Mulligan, R. (1965): Geology of Canadian Lithium Deposits; *Geological Survey of Canada*, Economic Geology Report #21.

Fyles, J.T. (1970): The Jordan River Area, Near Revelstoke, British Columbia; BC Department of Mines and Petroleum Resources, Bulletin 57, 92 pages.

Okulitch, A.V. (1984): The role of the Shuswap Metamorphic Complex in Cordilleran tectonism: a review; *Canadian Journal of Earth Sciences* 21, 1171–1193.

Roskill (2016): <https://roskill.com/product/lithium>.

Simandl, G.J., Prussin, E.A., and Brown, N. (2012): Specialty Metals in Canada; *British Columbia Geological Survey*, Open File 2012-7.

#### Talison Lithium

Trueman, D.I. and Černý, P. (1982): Exploration for Rare-Element Granitic Pegmatites; in *Granitic Pegmatites in Science and Industry*, Černý, P., editor, Mineralogical Association of Canada, Short Course Series 8, pages 463-493.

U.S. Geological Survey (2011): Mineral Commodity Summaries 2011; *U.S. Geological Survey*, 198 p.

U.S. Geological Survey (2016): Mineral Commodity Summaries 2016; *U.S. Geological Survey*, pages 100-101.

Wheeler, J.O. (1964): Geology of the Big Bend Map Area, British Columbia Geological Survey of Canada; Geological Survey of Canada, Paper 64-32

Wheeler, J.O. and McFeely, P. (1991): Tectonic assemblage map of the Canadian Corillera and adjacent parts of the United States of America. Geological Survey of Canada Map 1712A, scale 1:2,000,000.

Wilson, G.A. (1968): Geological Reconnaissance of the area between the Trans-Canada Highway and the southern part of Eagle Pass Ridge, *BC Ministry of Energy and Mines*, Assessment Report 1794.

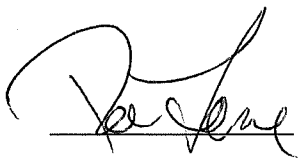
## 20 CERTIFICATE OF QUALIFICATIONS

### Certificate of Qualifications – R.A. (Bob) Lane

I, **R. A. (Bob) Lane** certify that:

1. I am the President of Plateau Minerals Corp., a mineral exploration consulting company with an office located at 3000 18<sup>th</sup> Street, Vernon, British Columbia.
2. I am a graduate of the University of British Columbia (1990) with a M.Sc. in Geology.
3. I am a Professional Geoscientist (P.Ge.) registered with the Association of Professional Engineers and Geoscientists of British Columbia (Registration #18993) and have been a member in good standing since 1992.
4. I have practiced my profession continuously since 1990 and have more than 25 years of experience investigating a number of mineral deposit types primarily in British Columbia.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional organization, I meet the requirements of an Independent Qualified Person as defined in National Instrument 43-101.
6. I visited the Kootenay Lithium Project on September 23, 2016.
7. I am the author of the report entitled “Technical Report on the Kootenay Lithium Project, Revelstoke Mining Division, Southeast British Columbia, Canada” (the “Report”) to which this Certificate applies. The Effective Date of the Report is January 10, 2017.
8. I am independent of the vendors, as described in Section 1.5 of *National Instrument 43-101*, and hold no direct or indirect interest in the Kootenay Lithium Project.
9. I am independent of the issuer First Energy Metals Ltd., as described in Section 1.5 of *National Instrument 43-101*, and hold no direct or indirect interest in the Kootenay Lithium Project.
10. I am not aware of any material fact or material change with respect to the subject matter of the report that is not disclosed in the report which, by its omission, would make the report misleading.
11. I have read National Instrument 43-101 and Form 43-101F1, and the Report has been prepared in compliance with the instrument and form.

Signed and Sealed in Vernon, B.C., this 10<sup>th</sup> day of January, 2017.



R. A. (Bob) Lane, P.Ge.

