



## ASSESSMENT REPORT TITLE PAGE AND SUMMARY

**TITLE OF REPORT: Geophysical Assessment Report on the BC Sugar Mineral Claims**

**TOTAL COST: \$9927**

AUTHOR(S): Tom Lewis  
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):  
STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): 5565798 Aug 10, 2015

YEAR OF WORK: 2015

PROPERTY NAME: BC Sugar

CLAIM NAME(S) (on which work was done): Heavy Weather 1037844, Weather 1037843  
1021803 GParkN

COMMODITIES SOUGHT: Graphite

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Vernon

NTS / BCGS: 082L047, 048 & 057

LATITUDE: 50 ° 29 ' 48 " North

LONGITUDE: 118 ° 41 ' 02 " West (at centre of work)

UTM Zone: 11 EASTING: 381160 NORTHING: 5593890

OWNER(S): Tom Lewis

MAILING ADDRESS: PO Box 2053, Richland WA, 99352

OPERATOR(S): Lithium Corporation

MAILING ADDRESS: 1031 Railroad St., Ste 102B, Elko NV, 89801

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**)

Flake Graphite, Weathered, Ground Probing Radar, Frequency Domain EM, Gneiss

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:  
A.R.'s 35,056, 35,185, 16,277, 20,471, & 30,422.

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS		PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)				
Ground, mapping				
Photo interpretation				
GEOPHYSICAL (line-kilometres)				
Ground				
Magnetic	11.25	1037843	1037844	\$4780
Electromagnetic				
Induced Polarization				
Radiometric				
Seismic				
Other GPR	6.0	1037843	1037844	\$5147
Airborne				
GEOCHEMICAL (number of samples analysed for ...)				
Soil				
Silt				
Rock				
Other				
DRILLING (total metres, number of holes, size, storage location)				
Core				
Non-core				
RELATED TECHNICAL				
Sampling / Assaying				
Petrographic				
Mineralographic				
Metallurgic				
PROSPECTING (scale/area)				
PREPATORY / PHYSICAL				
Line/grid (km)				
Topo/Photogrammetric (scale, area)				
Legal Surveys (scale, area)				
Road, local access (km)/trail				
Trench (number/metres)				
Underground development (metres)				
Other				
			<b>TOTAL COST</b>	\$9927

**GEOPHYSICAL ASSESSMENT REPORT  
ON THE BC SUGAR MINERAL CLAIMS  
Vernon Mining Division, B.C.  
082L047, 048 & 057  
UTM ZONE 11 - 381160E 5593890N,**

**For**

**LITHIUM CORPORATION  
1031 Railroad St., Suite 102B  
Elko, Nv 89801  
USA**

**by**

**TOM LEWIS, BSc.,  
Consulting Geologist**

**OCTOBER 2015**

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## **SUMMARY**

The BC Sugar claims are situated approximately 37 kilometers northeast of the town of Lumby in the Province of British Columbia. These claims are underlain by metamorphic rocks of the Shuswap Metamorphic Complex, and to a lesser extent by Eocene Ladybird intrusives. Aside from the work performed by Lithium Corporation in the area in the past couple of years there has been some sporadic work locally in the search for massive sulphide mineralization.

On May 15<sup>th</sup> & 16<sup>th</sup> a brief program of Ground Probing Radar (GPR) & Gem-2 Frequency Domain Electro Magnetic (FDEM) geophysical surveying was conducted on the property by KLM Geosciences of Las Vegas Nevada. KLM has previously conducted these surveys for weathered graphitic material elsewhere in BC, and in Alabama. The program was meant to be longer, but saturated soils due to the spring snow melt negatively impacted the GPR survey and the program was curtailed. This program was designed to a) determine areas via the GPR where deeper weathering may indicate a deposit of friable unconsolidated graphite mineralized material, and b) possibly detect those areas with increased concentrations of flake graphite utilizing FDEM.

In all 6 kms of GPR, and 11.25 kms of FDEM surveying were accomplished. This report details the results of the work undertaken, and makes recommendations for a further work program of trenching and possible follow- up grid geophysics.

## **INTRODUCTION**

Following the discovery of flake graphite mineralization here in 2013, Lithium Corporation has explored the property on a seasonal basis for the past two years. Prospecting in the 2013 & 2014 field seasons has indicated that graphite hosting metasediments extend in an east - west oriented belt and stretch from Sugar Lake to the area of Mabel Lake, with the most enticing showings seen to date being

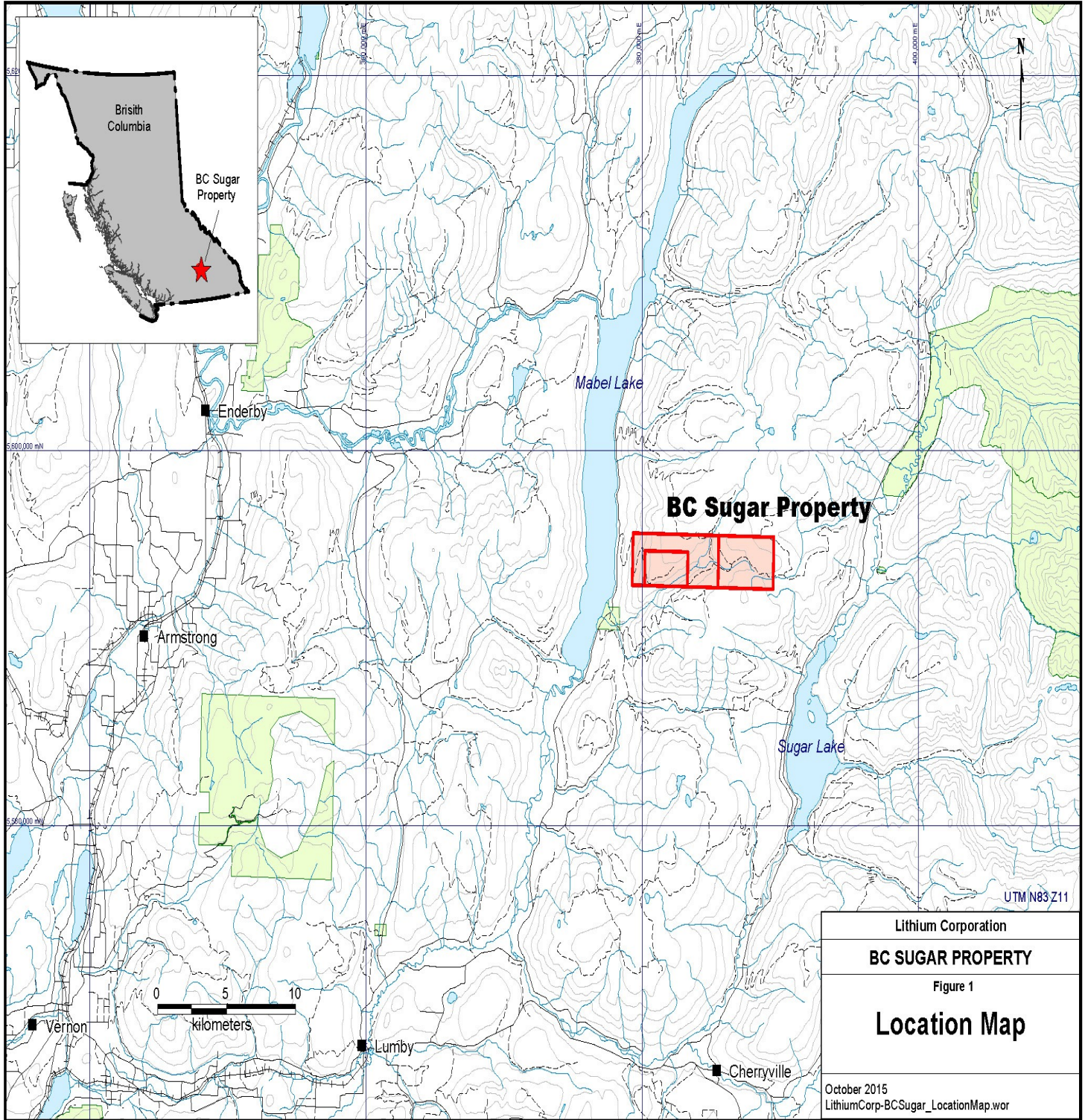
located in the more westerly portions of the belt. As the property is thought to possibly host pockets of non-glaciated deeply weathered and friable graphite bearing gneiss similar to the deposit at Eagle Graphite's mine to the east of here in the Valhalla Mountains, it was determined that Ground Probing Radar may be a good tool for detecting areas where depth to bedrock is greater than the norm. Additionally it was hoped that if areas were outlined where depth to solid bedrock was greater than normal that the Gem-2 FDEM survey may differentiate those areas that may be mineralized from those that may just be mantled by a thick blanket of till.

### **Location**

The area of interest on the property is roughly centered at UTM coordinates 381160E 5593890N, and is approximately thirty six kilometers northeast of the town of Lumby B.C., in the Okanagan/Shushwap area of British Columbia (Figure 1). The property is located in the Monashee Range of the Selkirk Mountains, and is displayed on NTS map sheets 82L/07, 08 & 10, or Trim maps 082L047, 048, and 057.

### **Access**

To access the area of the "Weather Station" showing above Mabel Lake one travels north from the main intersection in Lumby on the Mabel Lake Road approximately 42 kilometers to the South Cascade forestry road, turning uphill and traveling 11.5 kilometers to the area of the 26km mark, where several trails lead into various areas on the claim block. Alternatively if one desires to visit the area of the Taylor Creek showing or other areas in the easterly portions of the claim block after travelling 36 kilometers from Lumby the Taylor Creek Forestry Rd is taken, with the aforementioned showing being in the order of 15kms up the road.





## **Physiography**

The western slopes of the property are quite steep, however about 1000 meters above Mabel Lake (elevation ~ 400 m's A.S.L.) the topography breaks, and becomes plateau-like. The lowest point on the claim block is above Mabel Lake at about 600 m's elevation, and the highest point is in the area of Park Mountain at about 1800 m's.

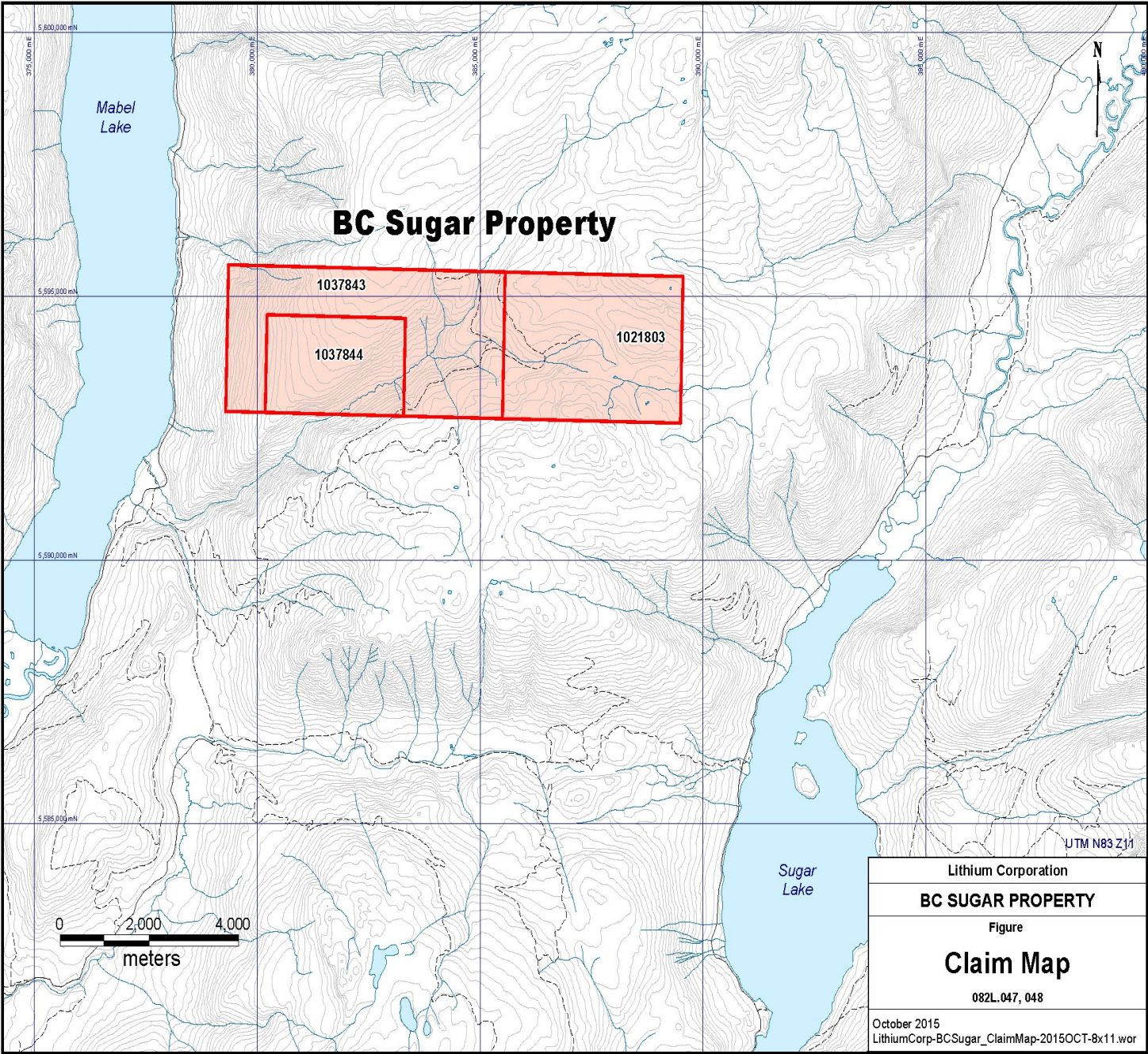
The forest cover in the claim area is predominantly coniferous with Cedar, Balsam, Lodgepole Pine, and Larch being the most prevalent species. Alder can be quite thick locally especially in drainages, or in older cleared areas.

The climate of the area is typified as being moderate with warm summers and cool winters. The property is within the Wet Interior bioclimatic zone, where winter usually extends from November into mid April, and in some years a considerable amount of snow can accumulate during this period. The property has predominately southerly and westerly aspects. The majority of the property would typically be snow free from late May/early June until mid to late October, although this may vary depending on yearly conditions. The short summers can be somewhat rainy at times, although conditions during that season are normally quite conducive to performing field work.

## **PROPERTY**

As shown in Figure 2, the property consists of 3 claims, covering 2,837.41 hectares. Tom Lewis is the owner of record of these claims, but holds Lithium Corporation's 100% interest in trust.

All of the claims are presently in good standing, and the pertinent data is provided in the Table below.



**TABLE I - MINERAL CLAIMS – BC SUGAR PROPERTY  
VERNON MINING DIVISION, B.C.**

CLAIM	TENURE NO.	CLAIM TYPE	NUMBER OF HECTARES	GOOD TO DATE*
Heavy Weather	1037844	Mineral	575.67	2018 Aug 26
Weather	1037843	Mineral	1151.58	2016 Oct 21
GparkN	1021803	Mineral	1110.16	2016 Aug 21

\*Pending acceptance of this report for assessment credit.

## **HISTORY**

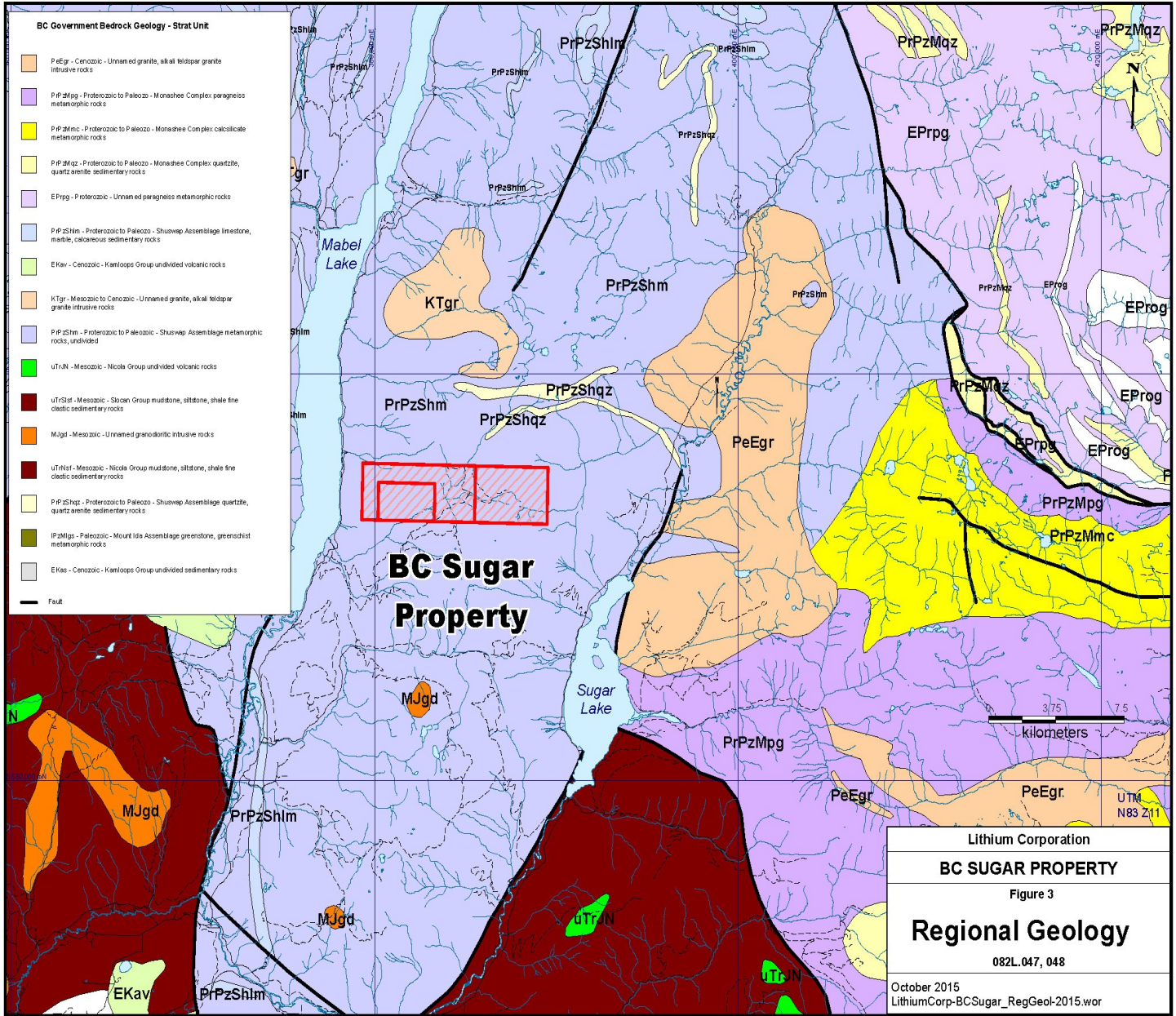
While there has been little exploration work conducted in the area in the past, the preponderance of this work has been focused on polymetallic massive sulphides type mineralization. The history of the general area:

- 1960's Hrkac discovers massive sulphide mineralization (LAF showings) to the immediate northwest of Sugar Lake – to the east of Lithium Corp's present day claim block
- Early 70's Cu/Zn w/minor Au, Au, Ni, Co found at the Cuzin showing to the southeast of the present day claim block – has been intermittently explored by trenching/drilling, sampling etc., since this time.
- 1986 Gerle Gold explored the area of the LAF massive sulphide showing – outlined two pod type showings of pyrrhotite, chalcopyrite, sphalerite, with graphite and magnetite.
- 1990 Gerle Gold conducted a geophysical program consisting of Magnetometer & Genie HLEM surveys – no response noted over the known showings.
- 1991 & 1992 – Cominco conducted preliminary investigations in the Silver Hills area – including stream sediment sampling in the area of the present day claim block.
- 1992 – soil survey on the Dionne Cu/Zn showing in the LAF area

- 2008 – Ruks – geological and geochemical work on the massive sulphide showings in the area of Sugar Lake
- 2013 & 2014– following the discovery of flake graphite mineralization in boulders in the area of Sugar Lake Lithium Corporation did a deal on a small claim block in the area, eventually enlarging the claim position – stretching westerward almost to Mabel Lake, and conducting prospecting geochemical & geological work.

## **REGIONAL GEOLOGY**

The BC Sugar property is wholly situated within the Omineca Crystalline Belt (Figure 3). This belt along with the Foreland Thrust Belt to the east, the Intermontane Belt immediately to the west, the Coast and Insular belts further outboard make up the five distinct geological provinces which comprise the Canadian Cordillera. The Omineca Crystalline Belt is best typified as being an area of extensive tectonic uplift which is underlain by metamorphosed miogeoclinal rocks, with local rocks which were formed in island arc settings, and subsequently accreted to the margin of the ancestral North American Craton during the Jurassic era. The property lies within the pericratonic Kootenay terrane, in the area of the Shuswap Metamorphic Complex.



## **PROPERTY GEOLOGY AND MINERALIZATION**

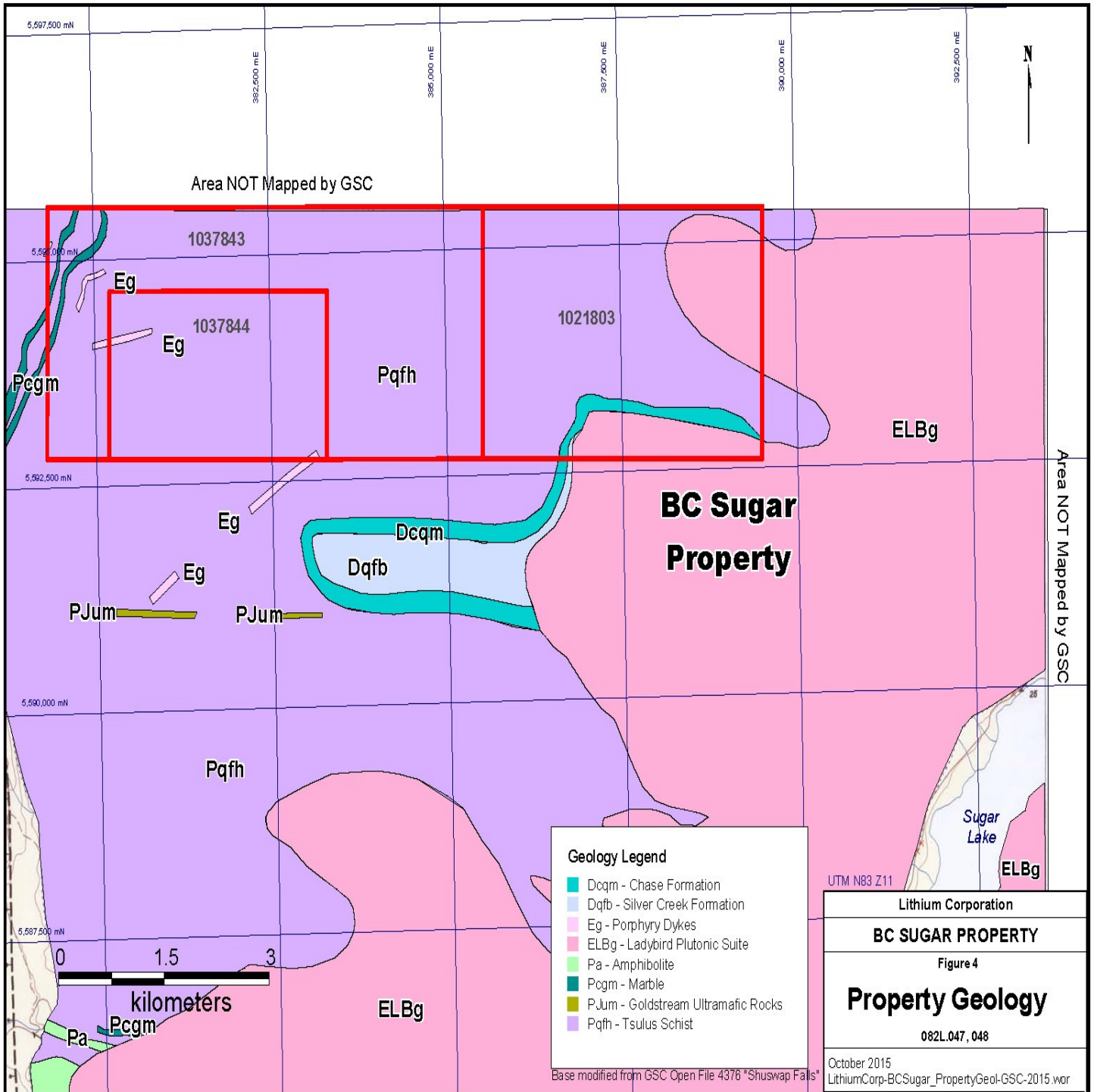
The BC Sugar property has not been mapped to date, however prospecting/geological work to date verifies the mapping done by Thompson in 2006, which indicates that the property is underlain by Proterozoic to Paleozoic higher grade metasedimentary rocks that are in local contact with Eocene Ladybird batholithic rocks, as well as intruded by coeval dykes of similar felsic composition. The metamorphic rocks are typically gneissic, with occasional local schists, with flake graphite occurring predominately in quartz biotite +/- feldspar, foliated gneisses, or in calc-silicate gneisses, that locally may exhibit some skarn development. As noted earlier the graphite mineralization appears to occur in a belt that trends easterly through the property to the northwest edge of Sugar Lake.

## **WORK PROGRAM**

In May 2015 KLM Geoscience of Las Vegas, Nevada was mobilized to the property to conduct a preliminary 5 line - 11.25 km Ground Probing Radar/GEM-2 Frequency Domain survey. There were no problems conducting the EM survey, and the crew was successful in completing the scheduled traverses. By the end of the second field day seven segments on three of the lines had been surveyed with the GPR system – utilizing different frequency antennas etc., and it became obvious that the GPR data was of little value due to saturated near-surface sediments, and it was evident that the two as yet unsurveyed lines were not going to yield data of any better quality, so the program was terminated.

## **DISCUSSION**

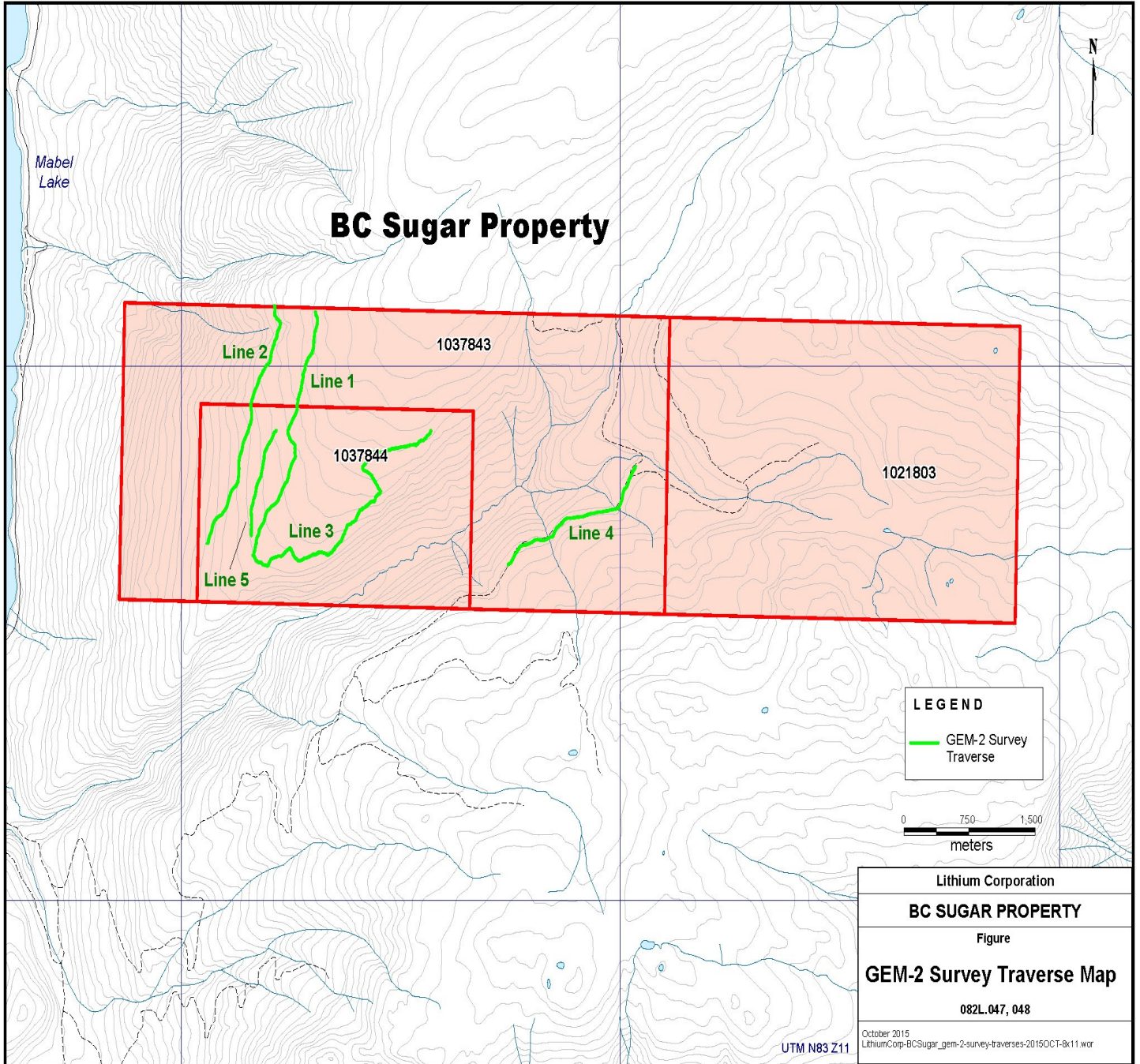
It was hoped that due to the mild winter with less than average snowfall in the area that conditions would be permissive for the successful conduct of the joint GPR/GEM-2 EM survey in mid-May. Unfortunately the semi-saturated to saturated



soils due to the snow melt here were not conducive to GPR surveying, and for the most part no good data was generated by this survey. Water is a strong reflector of Radar waves (hence it's value in meteorological applications), resulting in little signal penetrating, and probably in further attenuation of any returning signal due to downward reflectance of the signal on the underside of the saturated layer. That being said there was a short section of the lowest line to the west that appeared to respond properly and indicated that bedrock was possibly at approximately 4 to 4.5 meters depth in that specific locale. As the field plots indicated that results were not particularly good no post processing, or other analysis was done of the data acquired.

The EM survey went as planned with 11.25 kilometers of traverse performed on 5 roads or trails in the area. The data collected during the survey was post processed by Campbell and Walker Geophysics of Edinburgh Scotland. There does appear to be a discrete conductor coincident with the location of the Weather Station showing on the property at all frequencies, with it strengthening above 690 Hz. There are a number of other discrete anomalies of this nature which should be investigated. There is a broad & locally strong response in the area of the Taylor Creek showing that strengthens at frequencies above 690 Hz, and a similar anomalous area in the S Bend area between Taylor Creek & the Weather Station. These areas need to be examined in more detail to determine the nature of these conductors.





## **CONCLUSIONS**

1. Even in a year of above normal temperatures and below normal snowpack depending on the nature of the work, fieldwork here probably is not advisable earlier than the beginning of June.
2. One must take into account soil moisture conditions, and even take into consideration weather when planning a GPR program – as even rain can bring the program to a halt.
3. The Frequency Domain EM program did generate a number of anomalies, the most compelling or robust of which is along strike, and approximately 1km to the east of the Weather Station flake graphite showing in the area of the S Bend.

## **RECOMMENDATIONS**

Lithium Corporation submitted a permit in summer 2015 to trench at the Weather Station showing. This trenching should be done concurrently with trenching at the strong EM anomaly that is on an old logging road approximately 1km to the east of the showing. Should the trenching be positive the company may want to consider doing an FDEM grid survey, as it is a relatively inexpensive tool.

**TABLE II - PROJECTED COSTS OF PROPOSED EXPLORATION**

<b>Geologist</b> - Mob/Demob to Lumby	2	days	\$600	\$1,200
Mapping/Sampling	6	days	\$600	\$3,600
Accomodation/Food	7	Days	\$140	\$980
Vehicle/Fuel				\$1,200
Field Gear etc.				\$500
Report Preparation				\$2,000
<b>Excavator</b> - Mob/Demob Lumby to field				\$1,000
Trenching/Backfilling	40	Hours	\$100	\$4,000
Sample Shipping				\$250
Assays	50	Samples	\$25	\$1,250
Drafting				\$230
Subtotal				\$16,210
Contingency (5%)				\$810
<b>TOTAL COSTS</b>				<b>\$17,020</b>

### TABLE III - PROJECT COSTS

#### **KLM Geosciences**

Mob/Demob & Field Travel				\$1640
GPR Survey/EM equipment rental	2	days	\$1500 US	\$3,600
EM Data Processing (C&W Geophysics)	0.7	hours	\$700 US	\$840

#### **Ron Dennett – Technician**

Mob/Demob Rossland to Lumby	1	day	\$300	\$300
Conduct EM Survey	2.5	days	\$300	\$750
Truck Rental	2	days	\$80	\$160
Accomodation/Meals				\$335

Drafting				\$230
Report Preparation				\$2,000

**TOTAL COSTS** **\$9,927**

## REFERENCES

- Augsten, B., 2014: *2013 Prospecting Report on the BC Sugar Property*, BC Geological Branch Assessment Report #35,056.
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- Thompson, R.I. and Glombick, P., 2005, *Geology, Shuswap Falls, British Columbia: Geological Survey of Canada Open File 4376, 1:50,000*.
- Thompson, R.I., Glombick, P., Erdmer, P., Heamon, L.M., Lemieux, Y. and Daughtry, K.L., 2006: *Evolution of the ancestral Pacific margin, southern Canadian Cordillera*: Geological Association of Canada, Special Paper, p. 433-482.

## STATEMENT OF QUALIFICATIONS

I, Thomas M. Lewis of the City of Richland, in the State of Washington, hereby certify that:

1. I am a mineral exploration geologist engaged in all facets of mineral exploration, and geological consulting, with an office located at 1031 Railroad St., Ste 102B, Elko, Nevada 89801.
2. I am a graduate of Brandon University, Brandon Manitoba, with a BSc., with a major in Geology (1989), Mount Royal University, Calgary Alberta with a diploma in Petroleum & Mineral Land Management (1986), and of Fanshawe College, London Ontario, with a diploma in Social Sciences, and Humanities (1975).
3. I am a Professional Member of the Society for Mining, Metallurgy & Exploration, # 4173641.
4. I have worked in various capacities in the exploration field, both for hydrocarbons and mineral resources since 1975, and have been working primarily as a consulting mineral exploration geologist since graduation in 1989.
5. This report is based on actual observations I made during the course of my duties as a geological consultant while employed by Lithium Corporation, other Graphite companies in the 1990's and early 2000's, or from information obtained from the references cited.
6. This report is solely intended for use in support of Lithium Corporation's Assessment Report requirements on the BC Sugar Group of mineral Claims. Use for any other purpose is prohibited without the author's written permission.
7. I am the registered owner of the claims, and I do hold them in trust for Lithium Corporation.

Dated at Richland, Washington on this 23rd day of October, 2015.

Thomas M. Lewis, BSc.  
Consulting Geologist

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APPENDIX A

KLM GEOSCIENCES REPORT

# KLM Geoscience Geophysical Survey

Lithium Corporation's Mabel Lake Flake Graphite Property







### **Equipment Used:**

Geopex GEM-2 Frequency Domain Electromagnetic Sensor

Sensoft pulse EKKO PRO (2003-00173-05) Ground Penetrating Radar

### **Frequencies Acquired:**

EM- 11.25 Kms - 690hz, 1830hz, 7230hz, 15030hz, 27000hz, 54000hz

GPR- 6 Kms - 50mhz, 100mhz, 200mhz

### **Survey Objectives:**

Survey is preliminary in nature, and was designed to determine if there are may be pockets of deeply weathered graphitic bearing gneiss, and also see if there are Electromagnetic Anomalies associated with graphite mineralization here.

### **Survey Summary:**

Due to the survey being conducted so soon after the snow melt the Ground Penetrating Survey data was not good, as the saturated sediments near surface attenuated or absorbed the bulk of the radar waves – both transmitted and received, so that the data was sub par. The GEM-2 electromagnetic survey appears to have picked up the mineralized zone, exhibiting a robust, wide anomaly in the area to the east of the Weather Station showing, and at the Taylor Creek showing. There was only a local moderately strong response on the line in the immediate locale of the Weather Station showing.

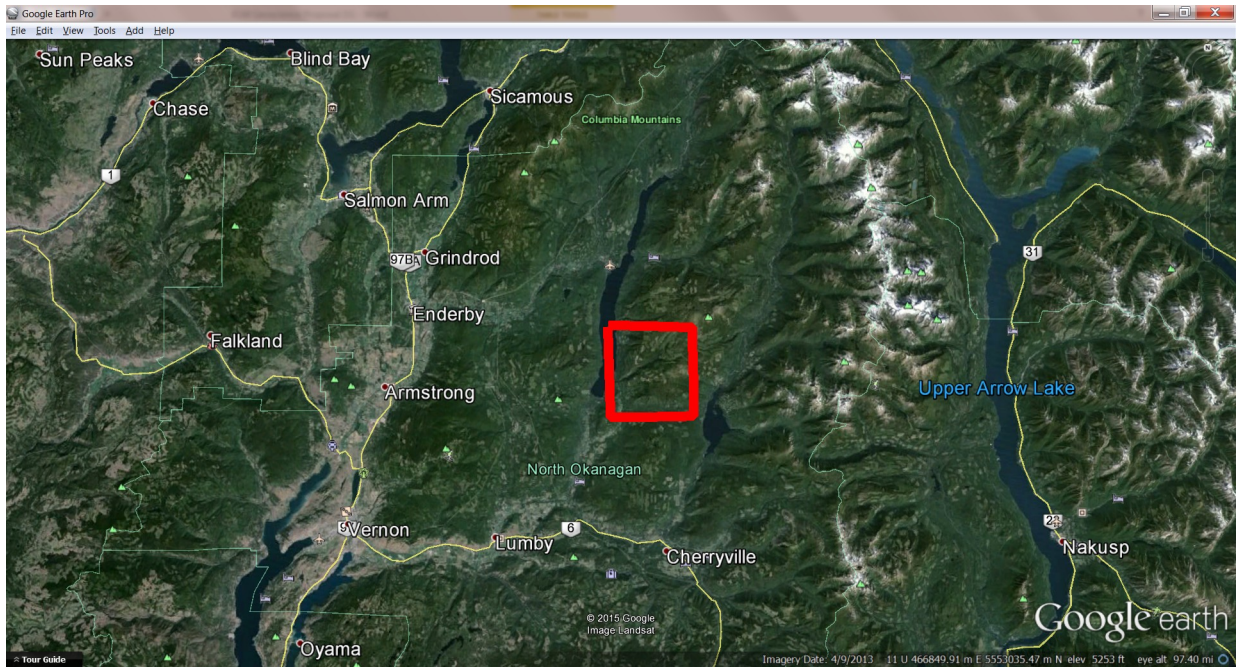
### **Conclusions and Recommendations:**

While the GPR survey did not work the EM survey did appear to map the mineralized zone. Anomalies generated should be ground proofed, and the decision made whether to expand the program with a grid survey or not. GPR should be attempted again in the drier summer months.

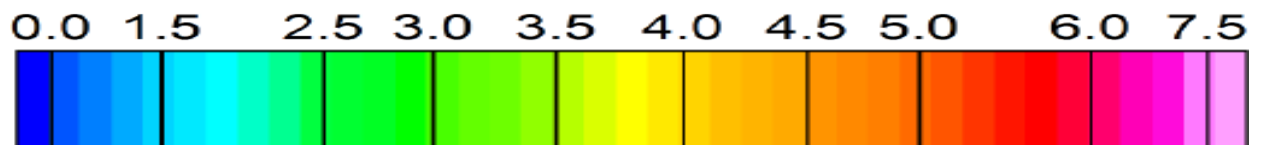
## Survey Location:

11U

377850 E 5589800 N

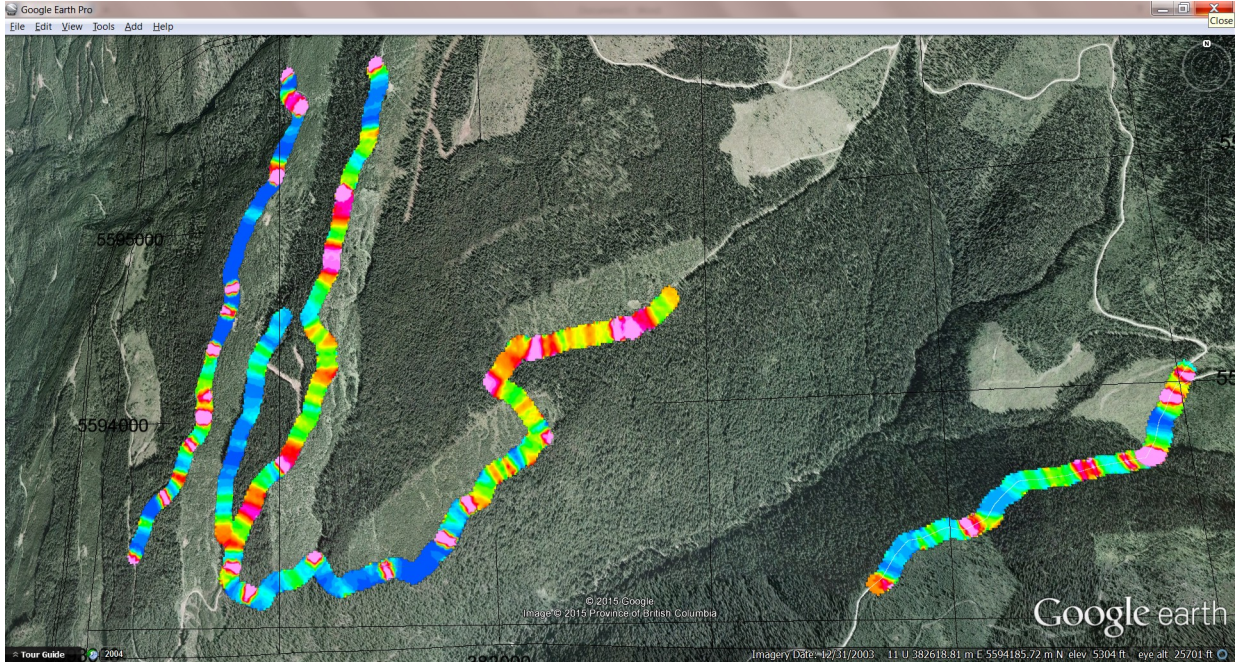


### EM Data

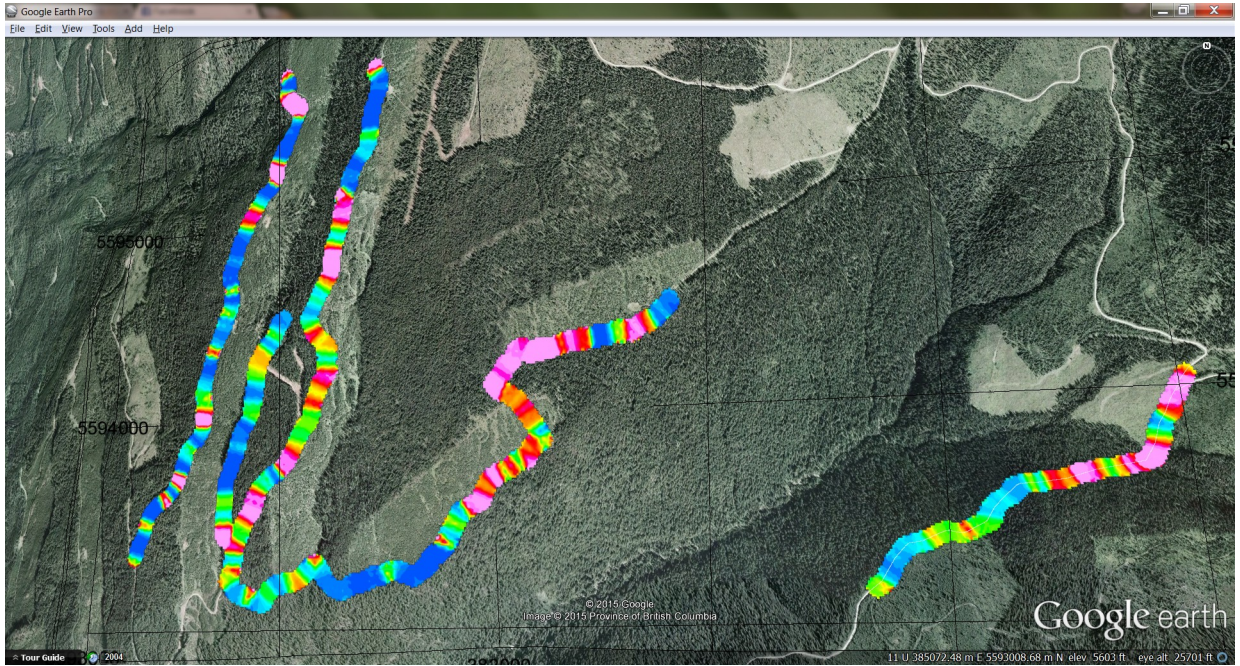


Apparent Conductivity mS/m (MilliSiemens/meter)

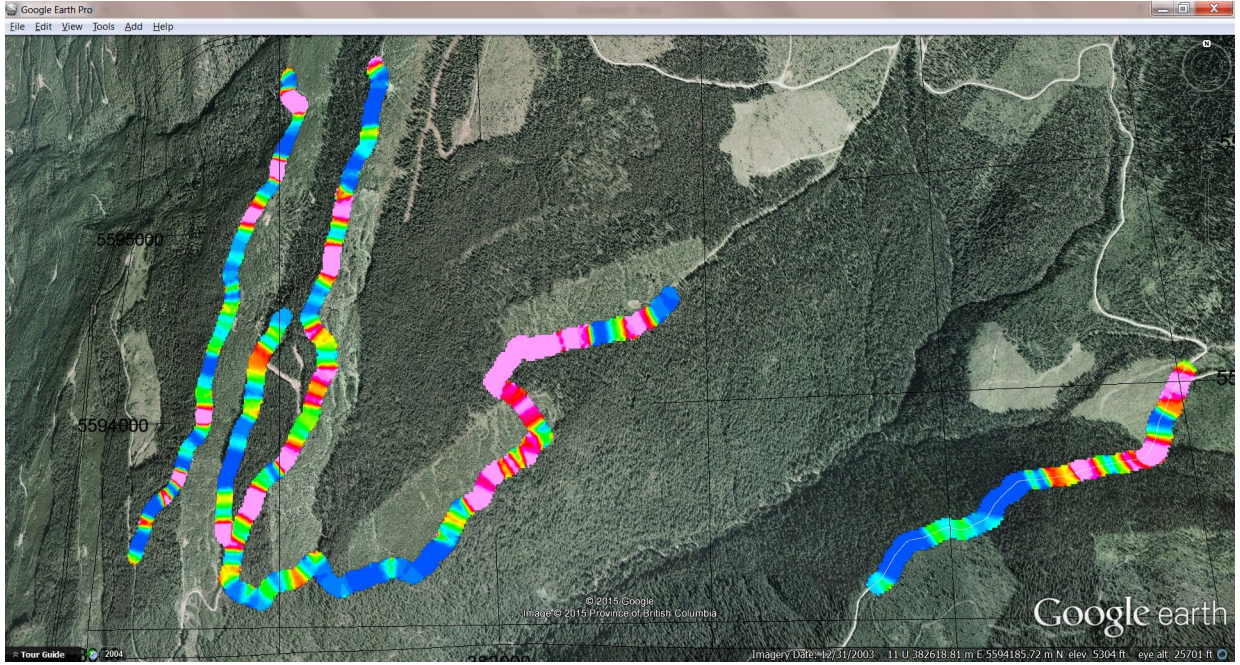
# 1830hz



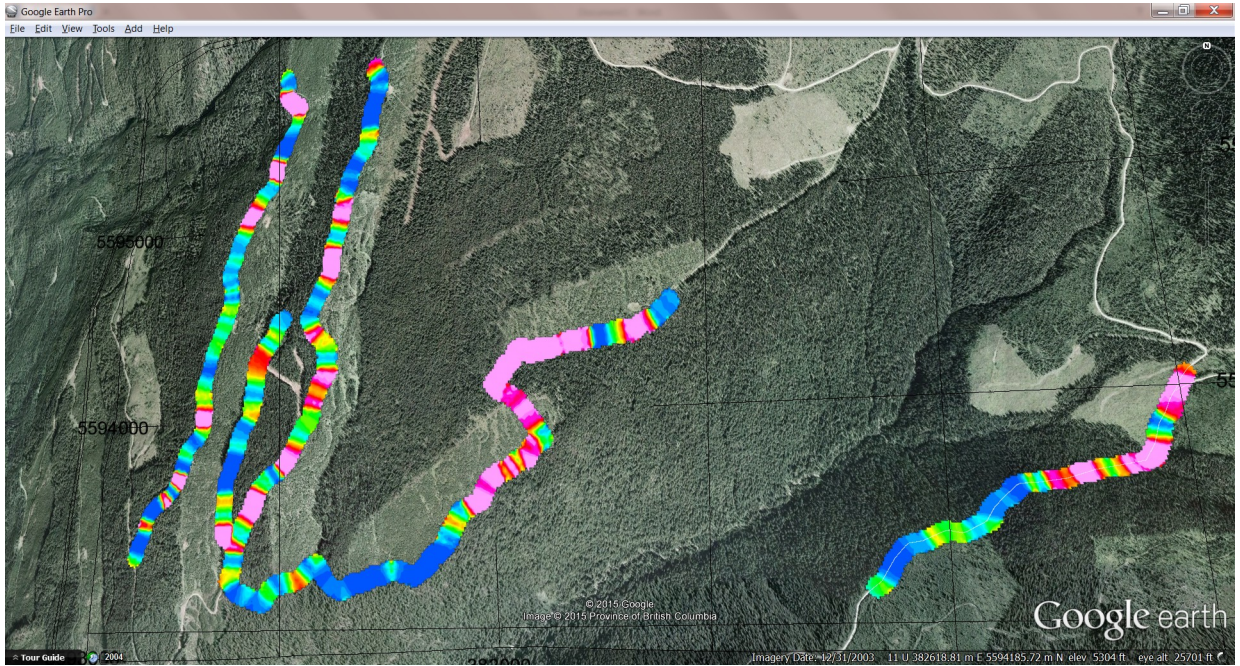
# 7230hz



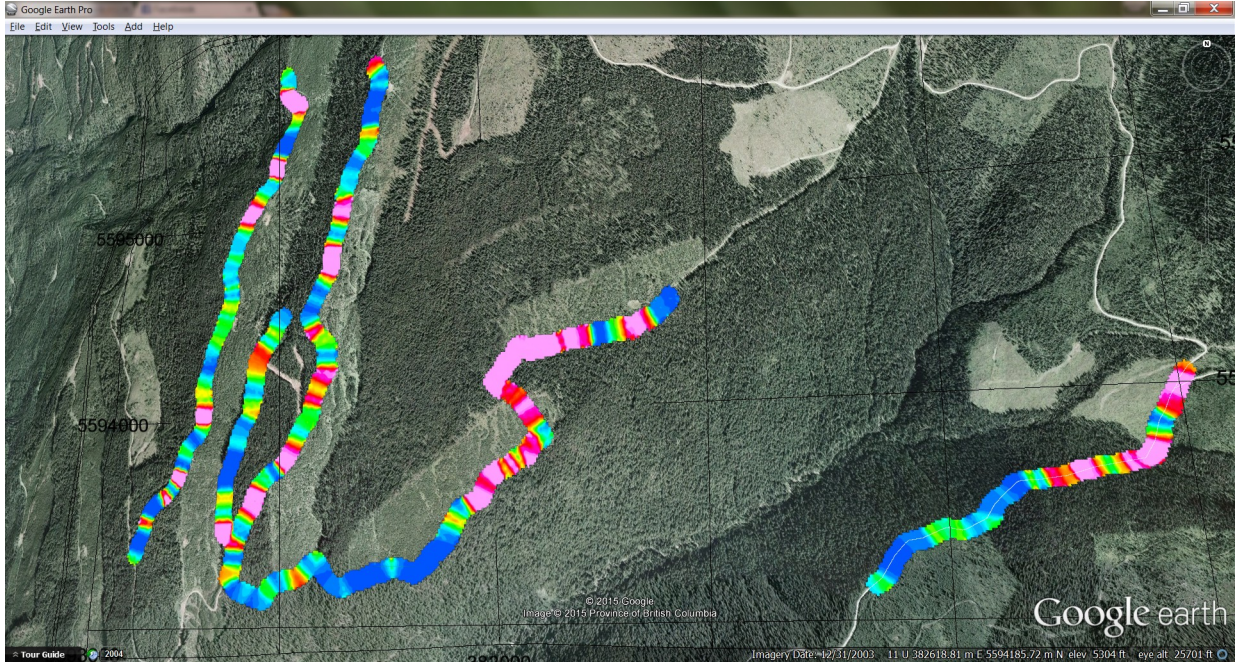
# 15030hz



# 27,000hz



# 54,000hz



# GPR Data

