The Best Place on Lartic	1 Parameter and the
linistry of Energy and Mines	Assessment Report Title Page and Summary
SC Geological Survey	THE TAGE AND COMMINY
YPE OF REPORT (type of survey(s)): 2015 Amber Hand Sampling Pro	gram (Report date - May TOTAL COST: \$ 19,054.20
AUTHOR(S): Duane R. Lucas, P. Geo., and Barry Ryan, Ph. D., P.	Geo. SIGNATURE(S): DALUCAS
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):	YEAR OF WORK: 2015
STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):	vent # 5599961
PROPERTY NAME: Bowron River Property	
CI AIM NAME(S) (on which the work was done): Applied to 1035730, 10	35737, 1035738, 1035739, 1035740, 1035741, 1035946,
1035947, 1035949, 1035952, 1035954	
COMMODITIES SOUGHT: Amber	
MINERAL INVENTORY MINELE NUMBER(S). IF KNOWN: 093H005 BOW	on River
MINING DIVISION: Cariboo Mining Division	NTS/BCGS: 093H0/1
LATITUDE: 53 49 50.3 LONGITUDE: 121	55 7.55 (at centre of work)
DWNER(S):	
1) First Amber Mines Inc. (281548)	2)
MAILING ADDRESS:	
203 - 11020 No. 5 Road, Richmond, B.C., V/A 4E/	
and a second	
OPERATOR(S) [who paid for the work]:	2)
	-1
203 - 11020 No. 5 Road, Richmond, B.C., V7A 4E7	
SPARTA AND ANY VENUARDS (Blalant are statisticably structure	streation mineralization size and attitude):
Sedimentary Upper Cretaceous to Paleocene coal-bearing strat	which occupy a northwest trending basin formed by an elonga
graben-type structure. The amber is primarily found within the	oal seams which lie in a southeast-plunging, asymmetrical
syncline with dips of 25 to 45 degrees along the western limb ar	d shallower dips of 10 to 15 degrees along the eastern limb

Next Page

TYPE OF WORK IN EXTENT OF WORK (HIS REPORT (IN METRIC UNITS)		ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL			
Soil			
Silt			
Rock 25 samples of coal se	am(2 samples analyzed for	1035730	\$14,026.09
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			¢ 000 00
Sampling/assaying 2 sample	s analyzed for amber at QV	1035730	\$ 200.00
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area) Reco	nnaissance prospecting	1035730, 37, 40, 41, 1035946, 47, 49	\$ 4,828.11
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres	)/trail		
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	\$ 19,054.20

BC Geological Survey Assessment Report 36236

# Report On the 2015 Sampling Program for the Bowron River Amber Property

Cariboo Mining Division Central British Columbia

Map No. 093H071 Latitude 53.833120 Longitude -121.918670

For

First Amber Mines Inc. #203 – 11020 No. 5 Road Richmond, B.C. V7A 4E7

Report by

Barry Ryan Consulting Geologist, PH. D, P. Geo. 62 Larson Road Gibsons, B.C. V0N 1V3

and

Duane R. Lucas, P. Geo. Lucas Geological Services #401 – 38 Seventh Ave. New Westminster, B.C. V3L 5W2

May 10, 2016

# Report On the 2015 Sampling Program for the Bowron River Amber Property

Cariboo Mining Division Central British Columbia

Map No. 093H071 Latitude 53.833120 Longitude -121.918670

For

First Amber Mines Inc. #203 – 11020 No. 5 Road Richmond, B.C. V7A 4E7

Report by

Barry Ryan Consulting Geologist, PH. D, P. Geo. 62 Larson Road Gibsons, B.C. VON 1V3

and

Duane R. Lucas, P. Geo. Lucas Geological Services #401 – 38 Seventh Ave. New Westminster, B.C. V3L 5W2

## **1.0 Table of Contents**

1.0 Table of Contents	2
2.0 Summary	3
3.0Introduction	5
4.0Location and Access	5
5.0Property Description	6
6.0 Physiography	7
7.0Exploration History	7
8.0Geology	10
9.0Amber/Resin/Resinite	13
10.0Amber Resources	14
11.02015 Sampling and Analysis Program	15
12.0 Conclusion	21
13.0 Recommendations	21
14.0 Statement of Costs for 2015 Program	22
15.0 Statement of Costs for Proposed 2016 Program	23
16.0References	24
17.0 Certificate of Qualifications for Duane Lucas	
18.0 Signature Page	27
19.0 Certificate of Qualifications for Barry Ryan	

## Tables

Table 1 Mineral Claims Bowron River Property	6
Table 2 History of Drilling on the Bowron River Property	7
Table 3 Coal Section as Described by Douglas (1979)	12
Table 4 Resource (Kerr 1977, 1978) with Amber Tonnage Calculations	15
Table 5 Hand Trench Sample Details	16

## Figures

Figure 1 Location Map	5
Figure 2 Claim License Map	6
Figure 3 Historic Drill Holes	8
Figure 4 1977 Drill Locations and Cross Sections	11
Figure 5 Hepburn Showing	17

#### 2.0 Summary

The Bowron River Property is located in central British Columbia, approximately 56 kilometres due east of Prince George, B.C. (BCGS Map No. 093H071). The property encompasses a total area of 2957 hectares and consists of 11 contiguous mineral claims which cover coal-bearing strata. For many years the Bowron River Coalfield has been known for the presence of amber in the coal. Any estimation of the amber resource requires a parallel understanding of the coal resource. The 11 contiguous mineral claims are wholly owned and operated by First Amber Mines Inc. of Richmond, B.C.

Situated within the Omineca Belt, the Bowron River property is predominately underlain by Upper Cretaceous to Paleocene coal-bearing strata which occupy a northwest trending basin formed by a elongate graben-type structure. The structure is approximately 10 to 25km long and 0.8 to 2.5km wide. The area of the basin could be up to 47.5 square kilometers based on aero-magnetic maps (Verzosa, 1981). The stratigraphy of the sedimentary section, which is over 700 meters thick, is characterized by rapid changes in lithology based mainly upon drill hole data. Outcrops of the Cretaceous to Paleocene sedimentary section are sparse and generally covered by Quaternary alluvium. Most outcrops are found in an 11 kilometre stretch along the west bank of the Bowron River.

The sedimentary section is folded into an asymmetrical southeast plunging syncline, which intersects a northwest trending fault that defines the eastern edge of the basin (Verzosa, 1981). The west limb dips steeply northeast; the eastern limb is less well defined but has shallower dips to the southwest. Information in the northern half of the basin is sparse and there is no structural interpretation.

The lower 100 metre portion of the sedimentary section which rests unconformably on the Mississippian Antler Formation of the Slide Mountain Group, hosts at least three coal zones. The rank of coal is high volatile B bituminous. The Lowest Seam appears to be the most persistent, occurs 18 to 36 metres above the Antler Formation and varies in thickness from 1.5 to 9 metres. The Middle Seam is 24 to 30 metres above the Lower Seam and varies in thickness from 0.3 to 3.0 metres thick. The Upper Seam is about 18 metres above the Middle Seam and varies in thickness from 0.1 to 2.4 metres.

A number of early reports mention the presence of amber on the Bowron River Property (Aho, 1960). Black (1967) supervised bulk sampling in adits and mentions the visible (non soluble) yellow amber present in the coal.In 1967 Northern Coal Mines Ltd contracted Batelle Memorial Institute (Neher et al., 1967) to analyze resin from a bulk sample and study the commercial viability of extracting and selling soluble resin. Their analysis generated a refined resin (called 'Canadian Resin') and they produced two products, a soluble resin with industrial uses and insoluble amber for the gemstone market. In the BC Coal Assessment Report file (015abcd\_various reports) two analyses of soluble resin of samples from the ventilation slope of the adits are given (4.05% and 3.8%, resin dissolved in pyrodene and also referred to as Canadian Resin). Black (1967) specifically mentions a bulk sample with 4% soluble resin, however, the analysis of 4% amber content in the coal is poorly documented.

In November of 2015, First Amber Mines Inc. carried out a preliminary visit to the property to hand sample a coal outcrop (Hepburn Showing) known to exist along the west bank of the Bowron River. A team of two travelled to Prince George on November 3, 2016, and spent two and a half days hand trenching the outcrop. The visit was terminated on November 6, 2016. Although the coal seam was highly weathered, a total of 25 samples were collected of which two (BR15-014 and BR15-019)showed visible amber. A 3.5 kg bag of sample BR15-014 was sent off to Birtley Coal and Mineral Testing of Calgary, Alberta for analysis. The sample was then wet screened at 0.15 mm (100M) in order to get rid of the fines and then a salt solution (SG 1.1) was used to float the +0.15mm (100M) material. A final result of 7.34 grams was recovered which consisted of amber and a minor amount of vegetation and coal fines. No further tests were performed on the coal samples or the amber concentrate. The rest of the hand samples are stored in Richmond, B.C.

Although the analysis of the samples returned minimal results, First Amber Mines is convinced that the property warrants further investigation. An exploratory drill program is planned for the summer of 2016 to test some of the previous drilling and underground results. Two 6" diameter core holes are planned on two separate drill sites to determine the amber content in-situ coal seams. Both drill holes will be preceded by a smaller diameter pilot hole to determine the depth and thickness of the three coal zones. The program is expected to cost approximately \$200,000.

### **3.0Introduction**

The Bowron River mineral claims are wholly owned and operated by First Amber Mines Inc., #203 - 11020 No. 5 Road, Richmond, B.C., V7A 4E7. The claims were acquired on April 28 and May 6 of 2015.

Commencing November 3, 2016, First Amber Mines initiated a preliminary sampling program on the Bowron River property consisting of hand trench samples from the Hepburn coal showing along the west bank of the Bowron River. A total of 25 samples were collected to determine the presence of amber in the coal seam. The sampling program was terminated on November 6, 2016.

Both the sampling program and the subsequent report have been completed pursuant to a request by First Amber Mines Inc.

#### **4.0Location and Access**

Located in central British Columbia (Location Map, Figure 1), the Bowron River property can be found on BCGS Map No. 093H071 is situated 56 kilometres due east of Prince George, B.C. Centered on Latitude 53.83312 and Longitude -121.91867 (UTM Zone 10, 571163 E., 5965497 N), the property overlies the coal bearing strata for a distance of approximately 15 kilometres south along the Bowron River basin from the HWY 16 (Yellowhead HWY) bridge.

Access to the property is via HWY 16 east 54 kilometres from Prince George to the Cut-Off Road turn-off (Figure 2, Claim License Map)just before the Bowron River bridge, then south along Cut-Off Rd., 6.7 km to Old Coal Mine Rd. Bearing left, the property can be accessed southeast along Old Coal Mine Rd.(dirt and gravel) 8.5 km to the site of the old underground coal mine (now totally reclaimed).





#### **5.0 Property Description**

The Bowron river property is situated in the Cariboo Mining Division and is comprised of 11 contiguous mineral claims totaling 2957 hectares (Figure 2). The writers have verified, based upon the BC government mineral titles web page, that the claims are wholly owned by First Amber Mines Inc. (Owner No. 281548). Relevant claim information for the Bowron River claims in illustrated in Table 1(Mineral Claims Bowron River Property). At present, according to BC Mineral Titles Online web page there are no overlapping coal licenses or mineral claims.

<u>Title Number</u>	Claim Name	Owner	<u>Title Type</u>	Title Sub Type	Map Number	Issue Date	Good To Date	Status	<u>Area (ha)</u>
<u>1035730</u>	AMBER CENTRE	281548 100%	Mineral	Claim	<u>093H</u>	2015/apr/28	2017/apr/28	GOOD	305.31
<u>1035737</u>	AMBER01	281548 100%	Mineral	Claim	<u>093H</u>	2015/apr/28	2017/apr/28	GOOD	190.77
1035738	AMBER02	281548 100%	Mineral	Claim	<u>093H</u>	2015/apr/28	2017/apr/28	GOOD	152.61
1035739	AMBER03	281548 100%	Mineral	Claim	<u>093H</u>	2015/apr/28	2017/apr/28	GOOD	152.66
<u>1035740</u>	AMBER04	281548 100%	Mineral	Claim	<u>093H</u>	2015/apr/28	2017/apr/28	GOOD	152.69
1035741	AMBER05	281548 100%	Mineral	Claim	<u>093H</u>	2015/apr/28	2017/apr/28	GOOD	152.7
<u>1035946</u>	AMBER06	281548 100%	Mineral	Claim	<u>093H</u>	2015/may/06	2017/may/06	GOOD	305.46
1035947	AMBER07	281548 100%	Mineral	Claim	<u>093H</u>	2015/may/06	2017/may/06	GOOD	420.11
1035949	AMBER08	281548 100%	Mineral	Claim	<u>093H</u>	2015/may/06	2017/may/06	GOOD	286.1
<u>1035952</u>		281548 100%	Mineral	Claim	<u>093H</u>	2015/may/06	2017/may/06	GOOD	533.87
1035954	AMBER09	281548 100%	Mineral	Claim	<u>093H</u>	2015/may/06	2017/may/06	GOOD	304.97

Table 1: Mineral Claims Bowron River Property

### 6.0 Physiography

Lying at the southern end of the Nechako Lowlands, the claim area is distinguished by the broad, northwest trending Bowron River valley which consists of low, gravel river terraces covered with small spruce, jack pine, balsam, and underbrush. Elevations range from an average of 740 m (a.s.l.) at river level to approximately 800 m along the western flank of the river. Normal temperatures range from -10° C during the winter months to 15 to 20° C in the summer and precipitation averages around 50 mm during the summer to as high as 100 mm in November and December. The Bowron River basin also supports abundant wildlife such as moose, caribou, and bear, as well as fish runs of sockeye and chinook salmon.

### 7.0 Exploration History

There has been no exploration on the property specifically aimed at evaluating the amber resource, however, most coal exploration reports provide some information on the presence of amber in the coal. The BC government web page lists 103 coal holes drilled in the Bowron River area (Figure 3). Depths drilled are only listed for a few holes. The Moose Mountain Technical Services report (MMTS, 2011) lists 95 holes with cumulative lengths drilled (Table 2).

Coal was first found in the area by Dawson (1878) who describes coal near the Bowron River then referred to as Bear River. Hepburn in 1910 (BC Minister of Mines annual Report 1914) describes coal on Bear River and constructed a short 80 metre adit which exposed two seams.

Year	Number of Drillholes	Total Length (m)	– Coal Explo	ration drill
1904-00	52	5,220.4	holes in gov	vernment
1967	10	?	database	
1971	5	2,517.5	year	holes
1973	10	1,746.9	1948	5
1977	25	5,701.6	1967	3
1980	14	5,328.8	1977	60
1981	10	5,564.7	1980	14
1990	3	293.8	1981	21
Total	95	26,369.7	Total	103

Table 2: History of Drilling on the Bowron River Property.

Holland (1948) describes the coal seams intersected in 5 drill holes. As with most reports of that era, the report contains a lot of optimism and exaggeration. Coal analyses provided appear to be hand-picked for low ash and low Sulphur, but were fresh coal. Seams often contain rock splits which are excluded from the coal samples sent for analysis. More recent exploration reports are more reliable.



Figure 3: location of drill holes in the Government data base (Nad 83).

Aho (1960) summarized existing data and costed underground mining for the property for Tanar Gold Mines Ltd. He did not report any new exploration.

In 1962 Northern Coal Mines Ltd. acquired coal licences covering the entire basin. In the period 1964 - 1966, approximately 32 drill holes, 50 - 150m deep were completed. Results of this program were very poorly documented and the core has since been destroyed.

Black (1967) supervised drilling of 10 BQ diamond drill holes, 200 – 400 metres deep for Northern Coal Mines Ltd. Information from these holes was well documented, core was stored at the mine site and was studied during later exploration programs. In addition, two adits were constructed. The No 2 Mine (North Slope) driven at -12 degrees exposed the Upper and Middle seams.Data indicated thicknesses of 7 to 11 feet (2.13 to 3.35 metres) of fairly clean coal dipping about 45 degrees to the northeast. The No 1 Mine (South Slope), 1000 m long, exposed the Upper Seam to the southeast and was outside the area covered by drilling. Northern Coal Mines Ltd. optioned the property to Bethlehem Copper Mines Ltd. in 1971. Bethlehem Copper Mines Limited completed five NQ diamond drill holes in 1971 (Kucera, 1971), to establish the nature and structure of the coal measures at depth and at the eastern limits of the coal basin. The 5 holes totaled 7474 feet (2278m) and were drilled to a maximum depth of 2,200 feet (670.6 metres). This drilling confirmed the continuation of the coal measures into the basin with north-easterly dips and established the approximate north-easterly limit of the basin.

Donaldson (1972) collected a full seam sample from the Upper Seam in the Garroway Mine (Main or No 2 mine). He analyzed the macroscopic and microscopic petrography and determined an average rank of High Volatile B Bituminous based on a mean maximum vitrinite reflectance of 0.65%.

Trenholme (1974) summarized existing data for Northern Coal Mines Ltd. and provided reserve calculations.

In 1973 Zulu Explorations Ltd. (Zulu, 1975) staked mineral claims in the area and drilled 10 boreholes. It is not clear if they ever obtained coal licenses in the area. The company stated that it was checking the potential for uranium and germanium in shales below the basal seam. These radio-active shale beds, or seams are situated below the basal coal seam and may contain Uranium and/or Germanium of commercial value. The company though interested in the coal resource felt that it might be possible to mine the shale seams without interfering with coal mining. Most of the company reports deal with coal and discussion of future plans. There is very little data on uranium or germanium. In 1975 the company drilled an additional 34 short holes. The results of all the drilling are poorly documented.

From 1971 - 1976, there was no work on the property. Bethlehem Copper Corp dropped all but three of the key coal licences. Northern Coal Mines Ltd. was reorganised and renamed Norco Resources Ltd.

In 1976 Northern Coal Mines Ltd reorganized and became Norco Resources Ltd. Trenholme (1976) rewrote his 1974 report for Norco Resources limited but did not include data from any new fieldwork. Haslam, and Associates (1976) opened the north "entry" (Mine No 2) and dewatered it so that a 12 tonne sample could be mined from the Upper Seam. Eleven tonnes of this sample were shipped to the Department of Energy, Mines and Resources and Cyclone Engineering Sales Ltd. in Edmonton for coal analysis and test washing to recover resin. Cyclone engineering (1977) provided limited data for proximate, ultimate and washability analysis for the bulk sample. No information exists on the pilot wash plant results.

In 1977 Kerr, Dawson & Associates Ltd (Kerr, 1978) provided a detailed summary of all data to date for Norco Resources Ltd and provided data for 25 NQ holes drilled in 1977. A total length of 5701.3 m was drilled with holes on 150m centres covering an area of 1000 x 1000 m.

Borovic (1981) describes the exploration work done by Norco Resources Ltd which included regional mapping (1:10000 scale), ground magnetometer, airmag and refraction seismic surveys, diamond and rotary drilling. Six diamond and 8 rotary holes were drilled in 1980 and results of coal analyses from the drilling are provided in the report. A second report by Borovic (1981) that includes the first report adds a description of the 1981 drilling when 18 rotary holes were drilled to bedrock and two additional holes (81-29A and 81-24) were drilled to the volcanic basement. Eight diamond drill holes were completed and hole 81-22 intersected the lower coal zone.

Verzosa (1981) summarized drilling as follows:

Year	holes	length drilled
1967	32	5,220.4 m
1971	5	2,517.5 m
1973	9	1,746.9 m
1977	25	5,701.6 m
1980	14	5,328.8 m
1981	10	5,564.7 m
No of holes	95	total length
Total length		26075.9 metres

In 2011 Phalanx Coal contracted Moose Mountain Technical Services (MMTS) to prepare a report that used a computer model to define the structure, calculate coal resources and estimate the Coalbed Methane potential of the basin. The company developed a computer model using all the drill hole data available.

A number of early reports mention the presence of amber on the Bowron River Property (Aho, 1960). Black (1967) supervised bulk sampling in adits and mentions the visible (non soluble) yellow amber present in the coal. In 1967 Northern Coal Mines Ltd contracted Batelle Memorial Institute (Neher et al., 1967) to analyze resin from a bulk sample and study the commercial viability of extracting and selling soluble resin. They used float sink to concentrate the low density <1.25 SG) coal fraction containing resin. They then soaked this product in pyrodene to dissolve soluble resin a product that they called refined resin or Canadian Resin. By doing this they produced two products a soluble resin with industrial uses and insoluble solid amber for the gemstone market. They discussed the use of refined Canadian Resin in coating and rubber compositions but did not discuss applications for the insoluble amber.

In the Coal Assessment Report file (015abcd\_various reports) two analyses of soluble resin of samples from the ventilation slope are given (4.05% and 3.8%, resin dissolved in pyrodene and also referred to as Canadian Resin). Black (1967) specifically mentions a bulk sample with 4% soluble resin. The data are presumably from work by Batelle (Neher et al., 1967)and are weight percent values as opposed the visual volume estimates for amber in the coal. It is not clear if the pyrodene leach provides an estimate of soluble resin non-visible resin and some visible amber or that the visible amber estimate is separate of the soluble resin estimate. The Batelle report then states that in some samples visible insoluble resin is almost as abundant as soluble resin. Based on this statement, many more recent reports state that the total resin in the coal is up to 8%. The analysis of 4% amber content in the coal is poorly documented. Black (1967) describes looking at a seam in the ventilation slope which is not the workings bulk sampled based on Neher et al. (1967). The bulk sample analysed by Neher et al. (1967) was the Upper Seam and came from the No2 mine (or main slope) (Haslam, 1976). Black (1967) may be referring to data from a separate bulk sample data for which is not in any of the reports I have seen.

#### 8.0 Geology

Bowron River sedimentary section is generally considered to be Upper Cretaceous to Paleocene, though Rouse (U.B.C.) dated the coal as Mid-Tertiary (Graham, 1980). The sediments occupy a northwest trending graben, fault defined on the eastnortheast and at least partly fault defined on the west-southwest. The fault on the east side is inferred from aerial photographs by the relatively straight escarpment, composed of green volcanics, quartzite, and black limestone. Throughoutmost of its length the fault line is largely buried by Pleistocene and Quaternary alluvium along the Bowron River. The fault contact on the west side of the Bowron River Graben was observed in only one place near the old mine site.

The graben is traced from Purden Creek in the northwest southeastward for a distance of approximately 10 miles (16.0 kilometers) where it is cut off by a northeast-southwest-trending fault near the mouth of Tsus Creek . Published government aeromagnetic maps indicate that the coalfield could be as much as 19km long with an average width of 2.5km. The structural trend of the coalfield appears consistent with the northwest regional strike of the surrounding older formations. Borovic (1981) considered the basin to be about 1,500 - 2,000 meters wide by 30 km long based on outcrops.

Sediments appear to have been derived from the north east and are now folded into an asymmetric syncline with a gentle southeast plunge. Dips range from 35 to 45 degrees on the west limb to 8 to 15 degrees to the southwest in the central portions of the basin defining a broad asymmetric syncline. The southwest margin of the basin has been reported as being either faulted or a sedimentary unconformity. Locally over turned beds occur along the Bowron River 1.6 kilometres northeast of the mouth of Taspai Creek where breccias dip as much as 70° westward.

The basin shallows towards the northwest with a resultant thickening of the coal towards the centre and southeast of the basin. The steepening of beds near the contact with the volcanics is most likely the result of post depositional faulting and drag folding. The internal structure of the basin remains fairly coherent away from the contact. Earlier reports identify a number of minor faults in the basin; more recent reports construct sections with far fewer faults (Figure 4). Kerr and Dawson and

associates (1978) identify a number of minor off-set normal faults (Figure 4) however Borovic (1981) constructs sections with fewer faults and more lithotype variation. The computer modeling by MMTS (2011) did not identify any faults in the area modeled. Structure contours on the marker beds indicate the lack of any structural discontinuity throughout the sedimentary section and seams appear to be relatively flat lying in the middle of the basin.



Figure 4: location of 1977 drilling and sections by Kerr Dawson and associates, 1977 and Borovic (1981).

Basin subsidence rates affect seam development. At the margins of the basin slow subsidence favours formation of sediments with vegetation being oxidized and thinner seams forming, in deeper parts of the basin subsidence is balanced by vegetation accumulation and thicker seams develop however as the basin subsidence increases in still deeper parts of the basin vegetation may be submerged and thick seams may not develop.

The sedimentary section overlies rocks of the Mississippian Antler Formation of the Slide Mountain Group which is composed of pillow basalt, breccia, tuff, minor diorite and gabbro, chert, argillite and lithic sandstone. The majority of the drill holes on the property bottom in volcanics and tuffaceous sandstone of this formation. The deepest hole on the property, DH 81-22, penetrated 1,150m of sedimentary section, representing a true thickness of at least 700m. Diamond drill hole 71-3 penetrated 676.7m true thickness of shale, sandstones, breccias with coal beds in the lower part.

The basal unit of the sedimentary section is estimated to be 100 m thick. It contains a basal conglomerate which was deposited on the erosional surface of the Antler Formation, Slide Mountain Group. The conglomerate is light green in colour, and consists of sub angular to sub rounded clasts of green stone, chert, and limestone. Basal clays are light green to green-grey in colour containing chlorite, micas, and smectites. The abundance of smectites in some samples indicates a volcanic origin. Some of the clays weather easily, and show swelling properties on exposure to rain. Thin lenses of coal occur in several of the clay beds. Swelling clays in seams could make the coal more difficult to wash.

There are local conglomerate beds in the basal unit marking discharge points of feeder creeks into the basin. Subsidence rate matched deposition rate and, created local swamp conditions. During deposition of sediments higher in the sedimentary section subsidence rates tended to exceed deposition rates and mud, silt, sand and gravel were deposited. During deposition, there is evidence of more rapid subsidence of the basin to the east.

The basal unit (base of the sedimentary section) contains three coal zones. The lowest coal zone is variable in thickness, but is laterally persistent within the basin and accounts for most of the coal resource. Douglas (1979) describes the local stratigraphy containing the three seams (Table 3). The coal zones are variable with individual seams and inter-bedded sandstones and shales not maintaining their thicknesses for any great distance. Within 460 metres seams may become separated by as much as 30 metres of sediment making it difficult to trace seams from drill hole to drill hole. Seam thickness and thickness of interbedded sediments were probably determined largely by the degree of subsidence taking place during the accumulation of peat in the basin. Seams away from the basin margin become fewer in number and individually thicker with a corresponding decrease in amount of sediment. Toward the margin of the basin, seams are thin and often contain an appreciable amount of sediment.

From Dou	glass (1979) Coal Assessment Report 785
Barren	Variable Barren Cover
Upper Seam	0.1 to 2.4 m thick
Barren	18 m
Middle Seam	0.3 to 3.0 m thick
Barren	24 to 30 m
Lower Seam	1.5 to 9.0 m thick
Barren	18 to 36 m
	Basement

Table 3: Coal section as described by Douglas (1979).

Above the basal unit shale beds dominate the lithology in the mid-western area of the basin. They are massive to very finely laminated and may occur as thin beds, or may be hundreds of meters thick. Siltstones sometimes laminated more often massive occur throughout the sedimentary section. Sandstones display a wide range of grain size and degree of sorting throughout the basin. They consist of sub angular to sub rounded grains of quartz, chert, and calcium carbonate with lesser amounts of argillaceous, micaceous grains, detrital micas, and carbonaceous materials such as coalified plant fragments. Conglomerates, like the sandstones occur throughout the basin and range from grit to cobble.

A marker unit occurs between 140 and 160 meters above the Lower Seam. The unit is generally 15 to 20 meters thick, is dark black, and contains thin bands of fine grained volcanogenic quartz and calcium carbonate. Gamma ray/neutron plots show a distinct increase in gamma radiation, and decrease in neutron porosity in the unit.

#### 9.0 Amber/Resin/Resinite

Amber is fossilized tree resin (not sap) which occurs as visible grains in coal and has value as a semi-precious gemstone. Amber occurring in coal seams is also called resinite which is the term generally applied to amber viewed under a reflecting optical microscope. Because it originates as a soft, sticky tree resin, amber sometimes contains animal and plant material as inclusions greatly increasing the value of individual grains. Large masses of pale amber are manufactured into semi- precious jewelry such as pipes and other smoking tools. Smaller fragments of amber can be welded together and made into semi-precious jewelry. When gradually heated in an oil-bath, amber becomes soft and flexible and pieces of amber may be stuck together by smearing the surfaces with linseed oil, heating them, and then pressing them together while hot. Cloudy amber may be clarified in an oil-bath, as the oil fills the numerous pores that cause the turbidity. Small fragments may be used on a large scale in the formation of "amberoid" or "pressed amber". Amber can be colored artificially, and is sometimes still called "true amber". Amber occurs in a range of colors ranging from a whitish color through a pale lemon yellow, to brown and almost black. Other uncommon colors include red amber (sometimes known as "cherry amber"), green amber, and even blue which is rare and highly sought after.

Fundamentally, there are two types of plant resin derived from conifers or angiosperms (for example oak and maple) that have the potential for fossilization and production of amber. The composition of amber/resin from different species is highly variable; each species produces a unique blend of chemicals which can be identified by the use of pyrolysis–gas chromatography–mass spectrometry.

The overall chemical and structural composition is used to divide ambers into five classes. There is also a separate classification of amber gemstones, according to production techniques. Class I is by far the most abundant. It is further split into three sub-classes. Classes Ia, Ib and Ic. Ia Includes normal Baltic Amber (or succinite) which yields on dry distillation succinic acid. The aromatic and irritating fumes emitted by burning amber are mainly due to this acid. Baltic amber has a hardness between 2 and 3, which is greater than that of many other fossil resins. Its specific gravity varies from 1.05 to 1.10. Class Ib ambers contains communic acid; however, they lack succinic acid. Class Ic is mainly based on enantio-labdatrienonic acids, such as ozic and zanzibaric acids. Its most familiar representative is Dominican amber.Dominican Amber differs from Baltic Amber by being mostly transparent and often containing a higher number of <u>fossil</u> inclusions. Resin from the extinct species <u>Hymenaea protera</u> is the source of Dominican Amber and probably of most amber found in the tropics. It is not "<u>succinite</u>" but "retinite".

Class II ambers are formed from resins with a sesquiterpenoid base, such as cadinene.

Class III ambers are polystyrenes

Class IV is something of a wastebasket; its ambers are not polymerized, but mainly consist of cedrene-based sesquiterpenoids.

Class V resins are considered to be produced by a pine or pine relative.

#### Classification of Baltic Amber

Natural Baltic Amber – gemstone which has undergone mechanical treatment only (for instance: grinding, cutting, turning or polishing) without any change to its natural properties

- Modified Baltic Amber gemstone subjected only to thermal or high-pressure treatment, which changed its physical
  properties, including the degree of transparency and color, or shaped under similar conditions out of one nugget,
  previously cut to the required size.
- Reconstructed (pressed) Baltic Amber gemstone made of Baltic amber pieces pressed in high temperature and under high pressure without additional components.

• Bonded Baltic Amber – gemstone consisting of two or more parts of natural, modified or reconstructed Baltic Amber bonded together with the use of the smallest possible amount of a colorless binding agent necessary to join the pieces.

Small pieces of amber can be formed into larger pieces and then made into semi-precious objects. The pieces are carefully heated with exclusion of air and then compressed into a uniform mass by intense hydraulic pressure; the softened amber being forced through holes in a metal plate. The product is extensively used for the production of cheap jewelry and articles for smoking.

#### **10.0 Amber Resources**

Estimates of amber content in outcrop or drill core are visual volume estimates of macroscopic amber not total resin in the coal and probably come with large errors. Kerr (1978) using 1977 drill core data states that amber resin occurs as blebs (up to 1.5 cm diameter), generally elongated along the bedding plane axis, within the coal and inter-bedded shale. He states that visual estimates of the drill core indicate an average amber content of 1.05%. This value occurs in Table 2 in his report reproduced here as Table 4. Any estimate of amber is a partial estimate of resin in the coal as it does not take into account the finely dispersed amber and resin-type chemicals dispersed in the coal. There is no explanation of how the amber/resin numbers in Table 4 were derived. The core descriptions for the 1977 drilling (Kerr, 1978) contain estimates of amber content that are expressed as rough estimates such as 0.5%, 1%, 2% and a quick estimate looking at the drill core log descriptions indicates that about 1% seems to be a common estimate. Kerr (1978) requested Cyclone Engineering Sales limited to do visual estimates of resin in some of the 1977 drill core samples they received (12 analyses). These data average 0.27% a value much lower than the 1.05% value in Table 4. There is no explanation in Kerr (1978) for the difference. Douglass (1979) quotes Kerr (1978) as stating that average resin content was "1.25% through the coal measures and a greater percentage of 2.5% in commercial coal seams".

Numerous reports more recent than Black (1967) quote the 4% amber content however they all are referring back to Black (1967) who it appears made a visual estimate in the ventilation adit with no documentation on how the estimate was made. In addition references repeat the 8% estimate of soluble resin which appears be an error and should actually be about 4%. There are only 3 sources of documented actual estimates of amber content these are all for the 1977 drill program, all are documented by Kerr (1978) and all relate to drilling in the area outlined by Kerr (1978) as proven run of mine reserves. They are all estimates of visible amber (i.e. not very fine grained) and not of total soluble plus insoluble resin. They are all much less than the 4% value often quoted.

It is possible to make some estimate of the amber resource in the area covering the "proven coal reserve" outlined by Kerr (1978) using data in Table 4. It is assumed that the values in Table 4 are the most representative and that they are volume estimates. The amber estimates in Table 4 have to be converted to weight % from volume %. Assuming specific gravity of amber/resin is 1.1 and of run of mine coal is 1.64 then the conversion of volume percent (V%) to mass percent (M%) for amber Specific gravity SGa in coal with SGc is given by

#### M%=V%\*SGa / (SGc\*(1-V/100)+SGa\*V/100)

The average amber value in Table 4 (1.05% volume percent) is then equivalent to a 0.71 mass%. Table 4 provides a run of mine "proven tonnage" of 5.94 million tonnes. The calculated kilogram tonnage of amber is therefore 7.1\*5.94 = 42.2 million kilograms. The area used to calculate "proven reserves" by Kerr 1978) is about 0.6 square kilometres and most of the 1977 drill holes are within this area. Assuming that the same amber content occurs in the drill indicated area which is about 9 square kilometres then the amber resource in this larger area is 7.1\*55 = 390.5 million kilograms (Kerr (1978) calculates the tonnage in the area at 55 million tonnes). The above calculations of amber tonnage are only broad estimates and do not meet the criteria for reserve or resource calculations required for a 43-101 report.

The data in Table 4 indicate that there is a negative correlation of amber content with shale content. This means that visual estimates of amber content will increase if only clean coal is viewed compared to raw coal. However the attached resource tonnage decreases from the insitu estimate to the clean coal tonnage estimate and the total amber resource will remain the same. This might explain some of the confusion in amber estimates in that some estimates may be of amber in clean coal whereas all coal resource estimates are for insitu coal diluted (increased) by included shale.

				Nonco RESO	ONCES LI						
	OR	E RESER	VES -	TONNES					CONTENTS		
	Seam	Clean Coal	Shale in Coal	Run-of-Mi Coal	ne % Proven	Barren Shale		Amber Resin	Sulphur	amber wt%	Kg*10^6
24+00N	Lower Other	223,580 136,570	102,400 127,560	325,980 264,130	79% 91%	12,820		1.0%	.84%	0.67	3.95
25+50N	Lower	405,850	189,660	595,510	78%	186,070		1.6%	1.31%	1.08	6.43
27+00N	Lower Other	601,900 189,360	351,500 86,780	953,400 276,140	77% 65%	273,630 148,760		1.2%	1.62%	0.81	9.96
28+50N	Lower Other	454,210 116,900	206,250 125,350	660,460 242,250	100% 100%	276,140 61,680		1.0%	1.74%	0.67	6.05
30+00N	Lower Other	415,940 67,850	280,520 38,990	6 <b>96,460</b> 106,840	96% 100%	280,350 46,790		.9%	1.19%	0.61	4.90
31+50N	Lower	557,340	410,110	967,450	95%	258,220		. 8%	1.17%	0.54	5.22
33+00N	Lower	513,490	337,840	851,330	100%	253,750		1.0%	1.08%	0.67	5.70
34+50N											
TOTALS		3,682,990	2,256,960	5,939,950	90%	1,798,210	Avg.	1.05%	1.30%	Kg*10^6	42.22

TABLE 2 - SUMMARY ORE RESERVES NORCO RESOURCES LTD.

Table 4: Table from Kerr March 10 1977; Geology Report (Kerr 1978) with amber tonnage calculations added.

The data presented by Kerr (1978) does not agree with the estimates of soluble and insoluble resin presented by Black (1967). It is obvious that Bowron River coal contains a high content of amber/resin. However there is insufficient data to document an average content of visible amber by seam. Black (1967) was looking at the Upper Seam, most of the 1977 drill data probably comes from the Lower Seam.

#### 11.0 2015 Sampling and Analysis Program

A short exploration program was undertaken in November 2015 by Duane Lucas and Mike Fournier. They arrived in Prince George on November 3, 2015 and spent two and one half days hand sampling a coal outcrop called the Hepburn Showing before returning to Vancouver on November 6, 2015.

The outcrop located on the west bank of the Bowron River and considered to be the Lower Seam as described by Hepburn (1912) was sampled (Figure 5). The 1912 Coal Assessment Report referred to as "001a Bear River Coal by Hepburn" contains a description of coal seams located on the west bank of Bowron River (previously Bear River) and first discovered by Hepburn. The seams were hand trenched and descriptions provided in his report. However they were not analyzed at the time of trenching and there is no mention of amber. The outcrop offered the best possibility for hand trench sampling.. Road access to within 60 meters of the outcrop is good .

A hand trench 6.73 metres long representing 5.29 metres true thickness was sampled (Table 5) (photos). The average strike and dip of the coal sequence was 149/34 NE and the seam was sampled close to perpendicular to strike as possible (bearing 022° true). A section of about 0.4 metres true thickness (SampleBR15-14; Table 5) contained visible amber as well as a small amount in Sample BR15-019. A total of 25 samples were collected of the both the rock and coal in the seam and returned for

analysis. In addition, a grab sample was collected of coal that contained visible amber. Sample BR15-014 was shipped to Birtley Coal and Mineral Testing in Calgary, Alberta for analysis of amber content.

### **Table 5; Hand Trench Sample Details**

	Bowron River Lower Seam								
	FW - (571203 I	E, 5965199 N	) - 150/35N	E	HW- (571201 E, 5965222 N) - 149/34 NE SST - mg., salt and pepper.				
	CST - gy grn, fol	lliated and fissi	ile, grades		grades upward to fg. SST grades to SLST. Weathers brown, fresh surface -				
	downward to SLST - dk. gy., thin dark laminae. dark grey. Somewhat massive.								
	Samples taken a	long 022° And	ile hetween s	ample	bearing and dip direction $= 37^{\circ}$	SG rock	2.6	SG coal	15
	Samples taken a	App. Thk.	True Thk.	ampic	Description	bollock	2.0	becour	total
	Sample #	(m)	(m)			rock	Coal	expected	trench
								<u>Wt. (Kg)</u>	wt%
	BR15-001	0.10		R	FW (Footwall) SLST - dk gy., grades upward to CST (silty) ,148/36NE and	true	true		
	DR15 001			Ň	150/35NE	thick	thick		
2	BR15-002	0.12	0.10	С	COAL - bright to bright banded (br to bb). No visible amber. Calcite	0	0.1	0.75	1.38
2	DD15 002	0.07	0.06	D	along cleat surfaces. Surface weathered.	0.06	0	0.70	1.44
3	BR15-003	0.07	0.06	R	CST - silty, gy grn. Foliated	0.06	0	0.78	1.44
4	BR15-004	0.14	0.11	C	COAL - as above, thin 2 cm CS1 bnd 9 cm from bottom	0	0.11	0.825	1.52
5	BR15-005	0.91	0.72	R	12 cm CS1, gy grn, sitty, rollated - 19 cm SS1, rg., gy brn 6 cm CS1, brn.,	0.72	0	9.36	17.23
6	BR15-006	0.11	0.00	C	Silly - 5 cill Coal, bit 51 cill CS1, gy bill. COAL = br (bright) bighty weathered	0	0.00	0.675	1.24
7	BR15-000	0.11	0.09	R	CST - silty sandy laminae near bottom	0.17	0.09	2 21	4.07
8	BR15-008	0.11	0.09	C	COAL - br and bb interhanded weathered	0.17	0.09	0.675	1.24
9	BR15-009	0.16	0.05	R	CST - silty gy grn weathers to orange brn lightly foliated	0.12	0.05	1 56	2.87
		0.32	0.25		COAL - br to bb, minor db (dull banded) stringers . 6 cm CST band 16 cm	0.12		1100	2.07
10	BR15-010			С	from bottom	0	0.25	1.875	3.45
11	BR15-011	0.08	0.06	R	CST - dk brn, somwhat carbonaceous, foliated, fissile	0.06	0	0.78	1.44
10	DD15.010	0.25	0.20		COAL - d&b (dull & bright)/db (dull banded), minor thin CST stringers,	0			0.74
12	BR15-012			С	weathered	0	0.2	1.5	2.76
13	BR15-013	0.14	0.11	R	CST - brn, clay-rich at bottom, thin coaly stringers at top	0.11	0	1.43	2.63
		0.49	0.39		COAL - minor interbedded 1 to 2 cm CSTbands in top 40 cm. Coal d&b and				
14	BR14-014			С	db, CST clay-rich. Bottom 9 cm of coal bright with small 2 to 4 mm *Amber	0	0.39	2.925	5.39
					blebs, red brn to gloden.				
15	BR15-015	0.37	0.29	R	SST - v fg, gy brn, thin silty laminae, plant fragments	0.29	0	3.77	6.94
16	BR15-016	0.12	0.10	R	CCST/CST - dk brn, interbedded	0.1	0	1.3	2.39
17	BR15-017	0.50	0.40	C	COAL - d&b/db, thin 1.5 cm CCST band 32 cm from bottom	0	0.4	3	5.52
18	BR15-018	0.47	0.38	R	SLST - brn to gy brn, occ. thin CST bands	0.38	0	4.94	9.10
10	2215 010	0.43	0.34		COAL - br and d&b interbanded, bottom 10 cm br. Two CST bands (6 cm	0	0.04		4 70
19	BR15-019			С	and 4cm) 10 cm and 28cm from bottom respectively, Possible very small	0	0.34	2.55	4.70
20	PD 15 020	0.12	0.10	D	Dieds of aniber in bottom 10 cm.	0.1	0	1.2	2.20
20	BR15-020	0.12	0.10	K C	COAL deh/hb lam CST hand (11am hrom bettem	0.1	0.14	1.5	1.02
21	BR15-021	0.17	0.14	D	COAL - dxb/bb, fell CST balld (ffell bloth bottom	0.18	0.14	2.34	1.95
22	BR15-022	0.22	0.18	R	SST/SI ST - interbedded SST v fg brn s & p SI ST gv	0.18	0	4.81	8.86
23	DI(15-025	0.16	0.12	I.	COAL - db, overlain by CST - brn and foliated $COAL/CST = 50/50$ and	0.57		4.01	0.00
24	BR15-024	0.10	0.12	C	very weathered	0	0.12	0.9	1.66
		0.50	0.40		COAL - d&b and db. Three CST bnds at 16cm, 34cm, and 46cm from				
25	BR15-025			С	bottom (3cm, 4cm, and 2cm thick respectively). COAL highly weathered.	0	0.4	3	5.52
	total length	6.73	5.29		total rock and coal thicknesses	2.66	2.63		
					weights kg ( cross section area 50cm SG coal=1.5 SG rock = 2.6)	34.58	19.73		
					total weights	54.305		54.31	



Amber has a specific gravity (SG) ranging from 1 to 1.1. The sample was air dried and screened at 3.35mm (6M). The oversized material was hand crushed to pass 6M. The sample was then wet screened at 0.15 mm (100M) in order to get rid of the fines. A salt solution (SG 1.1) was used to float the +0.15mm (100M) material. A result of 7.43 grams of material was recovered (Photo 1). The sample consisted of amber some vegetation and what appears to be coal. Some of the amber pieces have black on them (probably coal). No further tests were performed on the coal or amber concentrate. The rest of the hand trench samples are stored in Vancouver.







### **12.0** Conclusion

- The 2015 preliminary visit and hand trench sampling program at the Hepburn Showing on the Bowron River Property confirmed the presence of visible amber in the coal seams (Sample BR15-014). Although the coal seam was highly weathered, the float analysis of the 3.5 kg sample recovered approximately 7.34 grams of amberwith a minor amount of vegetation and coal fines (BR15-014).
- There has been no exploration on the property specifically aimed at evaluating the amber resource, however, most coal exploration reports provide some information on the presence of amber in the coal. The property has been explored for coal since 1912 with the highest amount of exploration concentrated in the 1960's, 70's, and early 80's. This included two bulk sample adits and approximately 95 drill hole with a cumulative total of 26,075.9 metres of drilling.
- Visual estimates on the percentage of amber in the drill core have averaged approximately 1.05% (Kerr, 1978). Two estimates of soluble resin( dissolved in pyrodene) in adit samples have returned values of 4.05% and 3.8% (BC Coal Assessment Report 015abcd\_ various reports).
- Early broad estimates of a coal resource for a 9 square kilometre area (Kerr, 1978) give a result of 55 million tonnes. This amount could equate to a possible 390.5 million kilograms of amber assuming a consistent distribution of amber resource with a 0.71 mass %.

### **13.0 Recommendations**

In order to test the viability of historical results of amber content in the Bowron River coal seams, First Amber Mines Inc. is convinced that the property warrants further investigation. An exploratory drill program is planned for the summer of 2016 to test some of the previous drilling and underground results. Two holes for 6" diameter core are planned on two separate drill sites to determine the amber content of in-situ coal seams. Both drill holes will be preceded by a smaller diameter pilot hole to determine the depth and thickness of the three coal zones. The program is expected to cost approximately \$200,000.

## 14.0 Statement of Costs for 2015 Program

<b>Consulting</b> Barry Ryan - 8 hours Bob T. Hart Consulting - 4.5 hours Lucas Geological Services - 0.5 day	\$ 650.00 \$ 450.00 \$ 350.00	\$ 1450.00
<b>Reconnaissance Field Work</b> June 20, 2015 - 1 day @ \$1000/day - J.E. Beswick and Associates Ltd. June 19 – 21, 2015 – 3 days @ \$350/day – Goldenkey Investments Group	\$ 1000.00 \$ 1050.00	\$ 2050.00
Sampling Program Field Work Nov. 3 – 6, 2015 - 4 days @ \$700/day - Lucas Geological Services Nov. 3 – 6, 2015 - 4 days @ \$400/day - MAF Geographix	\$ 2800.00 \$ 1600.00	\$ 4400.00
<b>Transportation</b> June 19, 2015 - Goldenkey Investments Group (Prince George return) Nov. 3, 2015 - Lucas Geological and MAF Geographix (PG return) Jan. 28, 2016 - Barry Ryan – Ferry	\$ 1043.43 \$ 879.92 \$ 22.70	\$ 1946.05
Meals and Accommodation June 19 – 21,2015 – Meals June 19 – 21, 2015 – Accommodation	\$ 357.68 \$ 420.00	
Nov. $3 - 6$ , 2015 – Meals for D. Lucas and M. Fournier Nov. $3 - 6$ , 2015 – Accommodation for D. Lucas and M. Fournier	\$ 560.33 \$ 723.72	\$ 2064.73
Vehicle and Fuel June 19 – 21, 2015 – Goldenkey Investments Group (Vehicle Rental PG) June 19 – 21, 2015 – Fuel Nov. 3 – 6, 2015 – Lucas Geological Services (Vehicle Rental PG) Nov. 3 – 6, 2015 – Fuel Field Supplies	\$ 210.00 \$ 97.00 \$ 380.04 \$ 92.3	\$ 779.37 \$ 564.05
Analysis GWIL Industries Inc. (Amber analysis)		\$ 200.00
<b>Report Preparation and Compilation</b> Barry Ryan – 25 hours @ \$70/hour Lucas Geological Services – 4.5 days @ \$700/day MAF Geographix - Map Production – 14 hours @ 50/hr.	\$ 1750.00 \$ 3150.00 \$ 700.00	<u>\$ 5600.00</u>

Total Cost For 2015 Field Program \$19,054.20

## 15.0 Statement of Costs for 2016 Proposed Project

DESCRIPTION	Charge Out Rate per unit	Units	Estimated Units	Unit Cost	Cost
Drilling - LDC and Pilot Holes	Approx. 100 t0 150 kg of sample per drill Hole				
LDC - Driling and Hammer to Core Point	\$ per metre	metres	200	\$300	\$60,000
Casing LDC	\$ per metre	metres	30	\$150	\$4,500
Pilot Holes - 4.5 inch	\$ per metre	metres	200	\$80	\$16,000
Casing Pilot Holes	\$ per metre	metres	30	\$30	\$900
Mobilization & Demobilization	Lump sum	One Unit	1	\$2,000	\$2,000
Stand by for rig and crew supporting it	\$ per hour	Hours	8	\$300	\$2,400
Water Truck (if required)	Per day on site	days	10	\$300	\$3,000
Move time betw een core holes on different pads	Per hour on site	Hours	8	\$200	\$1,600
FUEL for drilling	\$ per litre	litres	15,000	\$1.00	\$15,000
Crew Travel	Per hour per Person to and from site	Hours	50	\$200	\$10,000
LOA for food and accommodation	Price per day	days	10	\$450	\$4,500
Pick up Trucks for Drillers	\$ per day	days	10	\$200	\$2,000
Site Preparation					
Site Preparation - Dozer or Excavator - Trails + sites	\$ per Hour	Hours	30	\$200	\$6,000
Mobilization & Demobilization of Dozer or Excavator	\$ per Hour	Hours	6	\$200	\$1,200
Tree Faller	Total hours	Hours	16	\$75	\$1,200
FUEL	\$ per litre	litres	2,400	\$1.00	\$2,400
Geophysical Logging					
Mobilization & Demobilization	Lump sum	One Unit	1	\$3,600	\$3,600
Logging	\$ per day	days	2	\$2,200	\$4,400
Standby	\$ per day	days	2	\$1,000	\$2,000
accommodation	Price per day	days	4	\$175	\$700
FUEL	\$ per litre	litres	500	\$1.00	\$500
Geological					
Supervisor	\$ per day	days	13	\$700	\$9,100
Assistant	\$ per day	days	13	\$400	\$5,200
LOA	\$ per day	days	12	\$350	\$4,200
Air Transportation	\$ per ticket	Return	2	\$500	\$1,000
Truck FUEL	⇒ per day \$ per litre	days litres	400	\$100	\$1,300 \$400
	4 POI 1110			¥'	¥.00
Subtotal					\$165,100
GST Contingency (15%)					\$8,255 \$26,000
TOTAL					\$199,355

#### **16.0 References**

Aho A. E. (1960):Report on proposed exploration and development of the Bowron River Coalfield for Tanar Gold Mines Ltd; Coal Assessment Report 003.

Bray, S. P. (2003): A Geochemical investigation of Carboniferous Amber; Master's Thesis Southern Illinois University

Borovic, I. (1981): Geologist Report On Exploration Work Bowron Coalfield; (Igna Engineering & Consulting Ltd.) Field Work: March 28, 1980 to Sept. 1, 1980

Cyclone Engineering. (1976): Bowron River Norco Coal Mines Limited Coal Assessment Report 006

Dawson, G.M. (1881): Report on Exploration from Port Simpson on the Pacific Coast to Edmonton on the Saskatchewan; *Geological Survey* of Canada, Report of Progress 1878-80.

Dolmage, Campbell and Associates Ltd. (1975): Coal Resources of British Columbia; BC Hydro Report.

Douglass, K. (1979): The Proposed .Norco Coal Mine for Norco Resources Ltd. Vancouver, B. C. Coal Assessment Report 785

Donaldson J.R. (1972): Geological Survey of Canada technical report No. 93-a-13W-1; Coal Assessment Report 008

BC Government Coal Assessment Report file (015abcd\_various reports)

Dowling, D.B. (1915): Coal Fields of British Columbia; Geological Survey of Canada, Memoir 69, pages 189-222.

- Graham, P.S.W. (1980): Geology and coal potential of Tertiary sedimentary basins, interior of British Columbia; *Alberta Research Council Information Series* No. 103, Advances in Western Canadian Coal Geoscience Forum Proceedings, April 1989, pages. 70-89.
- Haslam Associates Ltd Consulting Coal Mining Engineers (1976): Bowron River Coal Mine Dewatering and Bulk Sampling; Coal Assessment Report 013.

Holland S.S. (1949): Bowron River in British Columbia report to Minister of Mines 1948 pages A233-A240

Hughes, D. Klatzel Murdfy L. and Nikols (1989): A standard Coal Resource/Reserve Reporting System for Canada; GSC paper 88.21.D.J.

Klein, G.H. (1978): Bowron Basin, (93H/12,13); British Columbia Ministry of Energy and Mines, Geological Fieldwork 1977, Paper 78-1, page 63.

Kerr. (1978): Summary Report Development drilling program (1977) on the-Bowron River coal deposit; Kerr - Dawson and Associates Ltd; Coal Assessment Report 018.

Kucera. R. E. (1971): Bowron River Coal Property prepared for Bethlehem Copper Corporation; Coal Assessment Report 007

Matherson, A. and Sadre, M. (1991): Subsurface coal sampling survey, Bowron River Coal deposits, Central British Columbia; British Columbia Ministry of Energy and Mines, Geological Fieldwork, 1990, Paper 1991-1, pages 391-397.

McKeller R. and Dewolf A. (2010): Canadian Amber; Scientific Press University of Alberta Edmonton, 2010 Siri Scientific Press

Miller J.D. and Y. Ye. (1989): Selective Flotation of Fossil Resin From Wasatch Plateau High volatile Bituminous Coal Minerals & Metallurgical Processing

Miller J.D. Y. Ye, 2 Q. Yu! and K. Bukka. (1992): Fossil Resin, A Value-Added Product From Western Coal, University Of Utah, Salt Lake City, Ut 84112 Advanced Processing Technologies, Inc., Salt Lake City Ut 84108

Miller J D, Q. Yu and L. L. Li. (1994) Solvent Refining of Coal Resin Concentrates; Department of Metallurgical Engineering University of Utah Salt Lake City, UT 84112, U.S.A

Minfile BC Government web page MINFILE No 093H005 Bowron River

Morris B. (2011): Bowron River Coalfield Coal Resource Estimate And Coalbed Methane Potential; Moose Mountain Technical Services Report

Neher, M. B. Cremeans, G.F. and Mueller W. J. (1967): Battelle Memorial Institute Summary Report on study of refined Canadian Resin in coating and rubber compositions.

Ryan, B.D. (1992): An Equation for Estimation of Maximum Coalbed-Methane Resource Potential; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Geological Fieldwork 1991, Paper 1992-1, pages 393-396.

Ryan, B.D. (2003): Overview of the coalbed methane potential of Tertiary coal basins in the interior of British Columbia; B.C. Ministry of Energy and Mines, Geological Fieldwork, Paper 2003-1.

Trenholme I. S. (1973): Northern Coal Mines limited Summary Report Bowron River Coal Deposit; Coal Assessment Report 009

Trenholme, L.S. (1976): The Bowron River Coal Deposit Norco Resources, Ltd.; Coal Assessment Report 0012

Verzosa, R. (1981): Geological summary and thermal coal potential of the Bowron River Coal property of Norco Resources Ltd; Coal Assessment Report 760, *Ministry of Energy and Mines*.

Verzosa R. (1981) Geological Summary and Thermal Coal Potential of The Bowron River Coal Property of Norco Resources Ltd. Prince George, B. C.; Coal Assessment Report 786.

Zulu Exploration Limited. (1975): Bowron River Property; Coal Assessment Report 784

1912 [minimum coal\_Hepburn\_1912] 2002a\_Preliminary Notes on Bowron River\_SHolland\_1948 🔁 003\_Bowron River Proposed Explor & Development\_Tanar Gold\_Dec1960 🔁 004\_Plan of Diamond Hole & Mine Workings\_Intercoal Resources\_June1967 🔁 005a\_Bowron Resource Report\_Northern Coal Mines\_JBlack\_Sept1967 006\_Letter to Northern Coal Mines\_1970 🔁 007a\_Bowron River Coal\_Bethlehem Copper Corp\_RKucera\_Nov1971 🔁 008\_Petrography of the Garroway Coal Mine in the Bowron River\_RDonaldson\_June1972 🔁 009\_Summary of the Bowron River Coal Project\_Northern Coal Mines\_Trenholme\_Feb1973 🔁 010a\_Various Reports & Correspondence\_Bowron River 011\_Excerpt frm BC Mines Coal Resources\_Bowron River\_Dolmage Campbell\_1975 🔁 012\_Report on Bowron River Coal Deposit\_Norco Resources\_LTrenholme\_Mar1976 🔁 013\_Bowron River Coal Mine\_Dewatering & Bulk Sample\_Haslem & Assoc\_Sept1976 🔁 015ab015-Kerr-geologic-rept 🔀 015abcd\_VARIOUS\_Correspondence & Development Drill Program\_Proximate Analysis\_Norco Resources\_1970s 016ab\_Coal Analysis\_Cyclone Engineering\_Jan1977 🔁 017\_Norco Resources Prospectus\_Vancouver Stock Exchange\_1977 🔁 018\_Report on the Bowron River Coal Project\_Kerr Dawson & Assoc\_Mar1977 🔁 019abc\_Report on Exploration Work MarchSept 1980\_Norco\_IGNA Engineering\_IBorovic\_Feb1981 🔁 019d\_IGNA Engineering Geophysical Logs\_1980 🔁 021 ab\_IGNA Engineering Geol & Geophys & Xsections\_1980 2022a\_Willow River Exploration (SW of Bowron)\_Gulf Canada\_1981 🔁 783\_Zulu Explorations Application to Securities Commission for Rights Issue\_Bowron River\_1975 784a\_Zulu Explorations Ltd\_Bowron Report\_1975 785\_Proposed Norco Coal Mine\_KDouglass\_Oct1979 786\_Geological Summary & Thermal Coal Potential of the Bowron Coal Project\_Norco\_RVerzosa\_Dec1981 787\_Summary of Bowron River Coal Project\_1982 🔁 Bowron 02 Mar '11\_MMTS\_FINAL

### **17.0 CERTIFICATE**

I, **Duane R. Lucas, P. Geo.,** of **LUCAS GEOLOGICAL SERVICES** with an office at #401 – 38 Seventh Avenue, New Westminster, British Columbia, V3L 5W2 do hereby certify that:

- 1. I have practiced my profession for over 35 years within Canada and internationally. I have practiced as an independent consultant since 1981. Most of this work has been carried out on exploration and development projects.
- 2. I hold a B.Sc. degree in Geology from the University of British Columbia, Canada (1979).
- 3. I am a Registered Professional Geoscientist in the Association of Professional Engineers and Geoscientists of the Province of British Columbia with License No.20461.
- 4. I am the co-author of this report.
- 5. The information, opinions and recommendations contained within this report on the Bowron River project are based principally upon reviews of unpublished reports and exploration data most of which are within the public domain.
- 6. I have no interest, directly or indirectly, in the property or in the securities of First Amber Mines Inc, in accordance with the application of Section 1.5 of National Instrument 43-101.
- 7. As of the date of this certificate to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make this report not misleading.
- 8. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 9. This report on the Bowron River Property has been prepared solely for use by First Amber Mines Inc. and may not be reproduced in whole or in part without permission of the authors. Permission is hereby granted to First Amber Mines Inc. for the filing of this report for regulatory purposes.

Dated this 15th day of May 2016, in New Westminster, B.C.

Duane R. Lucas, P.Geo

### **18.0 SIGNATURE PAGE**

Herewith our report on the 2015 Bowron River Sampling Program respectfully submitted by:

### LUCAS GEOLOGICAL SERVICES

D. P. LUCAS #20461 D. R. LUCAS BOLINGIA COLUMBIA SCHENN COLUMBIA SCH

Principal May 15, 2016

&

**RYAN CONSULTING** 

nh

Barry D Ryan Principal May 15, 2016

23

### **18.0 CERTIFICATE**

#### Statement of Qualifications BARRY D RYAN

I Barry D Ryan PH.D, P.Geo., do hereby certify that: I am a consulting geologist with home office at 62 Larson Road Gibsons BC V0N1V3 I hold the following academic qualifications: B.Sc. (Hons) Geology, University of British Columbia (1967), PH.D University of British Columbia (1973) Professional Teaching Certificate University of British Columbia (1976). I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia, (Member #18811). I have worked as a geologist for more than 40 years since graduating PH.D. I have worked in various aspects of coal and coalbed methane geology since 1980. I have been employed as a university lecturer at UBC, as an exploration geologist and manager geology in industry working all over BC and western Alberta and as a coal and coalbed methane specialist BC Ministry of Energy and Mines working all over BC. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

I have no other involvement with the property other than to help write this report

Dated \_\_May 15, 2016

Signed \_\_\_\_\_ Barry D Ryan







Gwil Industries Inc. 7784 - 62nd St SE Calgary, AB T2C 5K2 Tel: (403) 253-8273 Email: info@birtley.ca

#### CERTIFICATE OF ANALYSIS

CLIENT	FIRST AMBER MINES INC.		
SAMPLE ID	BR 15-17 & BR 15-027		
LAB#	154263		
RECEIVED DATE	NOVEMBER 15, 2015		
REPORT DATE	NOVEMBER 20, 2015		

RECEIVE 2 BAGS OF COAL AIR DRY, SCREEN @6M, HAND CRUSH THE PLUS 6M TO PASS SCREEN THE CRUSHED SAMPLE @14M AND THE MINUS 14M WAS WET SCREENED AT 100M. THE ENTIRE 6MX14M WAS FLOAT, IN BATCHES, IN A 1 10 SG SALT WATER LIQUID. THE 14MX100M WAS ATTEMPTED AS PER NORMALL PROCEDURE AND THEN BY CENTRIFUGING. PICTURES OF THE FLOATS WERE TAKEN.

#### 6M x 14M:

7.34 grams recovered - mixture of amber, coal and vegetation



14Mx100M (only ~150 grams for trial float sink):



#### Disclaimer

This report shall not be reproduced, except in full, without written approval by Birtley Coal & Minerals Testing. This report is invalid without signatures of approved persons

We accept no responsibility for the origin of the sample, nor for any deviation between the sample and the bulk of the material

it purports to represent. 201 A Heather Dexter

Operations Manager GWIL Industries