

Ministry of Energy and Mines
BC Geological Survey

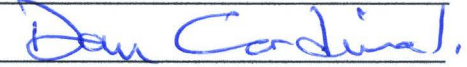
Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological Assessment Report

TOTAL COST: \$ 3,780.00

AUTHOR(S): D.G. (Dan) Cardinal, P. Geo., F.G.A.C.

SIGNATURE(S):



NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): _____

YEAR OF WORK: 2017

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event No. ID 5662309; Recorded Date 2017/AUG/30

PROPERTY NAME: APEX CLAIM

CLAIM NAME(S) (on which the work was done): Apex (1046424)

COMMODITIES SOUGHT: SOAPSTONE

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: _____

MINING DIVISION: New Westminster

NTS/BCGS: NTS: 092I/4 BCGS: 09I.002

LATITUDE: 50 ° 02 ' 43 " LONGITUDE: 121 ° 37 ' 07 " (at centre of work)

OWNER(S):

1) Dan Cardinal

2) _____

MAILING ADDRESS:

PO Box 593, 380 Dewdney Avenue

Hope, BC V0X 1L0

OPERATOR(S) [who paid for the work]:

1) Same

2) _____

MAILING ADDRESS:

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Bridge River Terrane, Kowiek Creek Fault, Mississippian - Permian, serpentinite, ultramafic, talcose schist,

soapstone, talc, magnesite, accretionary, fault-contact, phyllite, graphitic-quartz schist.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 4985, 13634, 22665, 25411, 30564 & 31003

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 750mx750m		1046424	\$3,000.00
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other 4x4 Truck, Base Camp & materials		106424	\$780.00
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
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:	\$3,780.00

EVENT NUMBER: 5662309

GEOLOGICAL ASSESSMENT REPORT

***GEOLOGICAL MAPPING SURVEY CONDUCTED
ON MINERAL TENURE 1046424 FOR SOAPSTONE POTENTIAL***

(Work Conducted: Aug. 5 – Aug. 9, 2017)

Centre Of Work: Lat. 50°02'43"; Long. 121°37'07"

NTS: 0921/4 BCGS: 0921002

NEW WESTMINSTER MINING DIVISION

REPORT PREPARED BY:

D.G. (DAN) CARDINAL, P.GEO., F.G.A.C.

***380 DEWDNEY AVENUE
PO BOX 593
HOPE, BRITISH COLUMBIA***

APRIL 5, 2018

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A. INTRODUCTION:

The object of geological surveys conducted on the Apex claim (tenure 1046424) was to confirm and assess the potential of soapstone mineralization historically documented on the property. Historical (1990-94) work carried out in this area outlined 'talc'- soapstone mineralization. Geological mapping and selected soapstone samples were collected and submitted to a professional carver for testing for carving characteristics and qualities. This field work was conducted for 4 days between August 5 and August 9, 2017.

Apex claim encompasses 41.5 ha. and covers a known talc-soapstone occurrence. It occurs along the southeastern end of the Kwoiek Creek ultramafic serpentinite belt and is accessible from the community of Boston Bar. Soapstone samples collected for art-carving potentials display characteristics similar to soapstone imported from Brazil.

B. MINERAL TENURE INFORMATION:

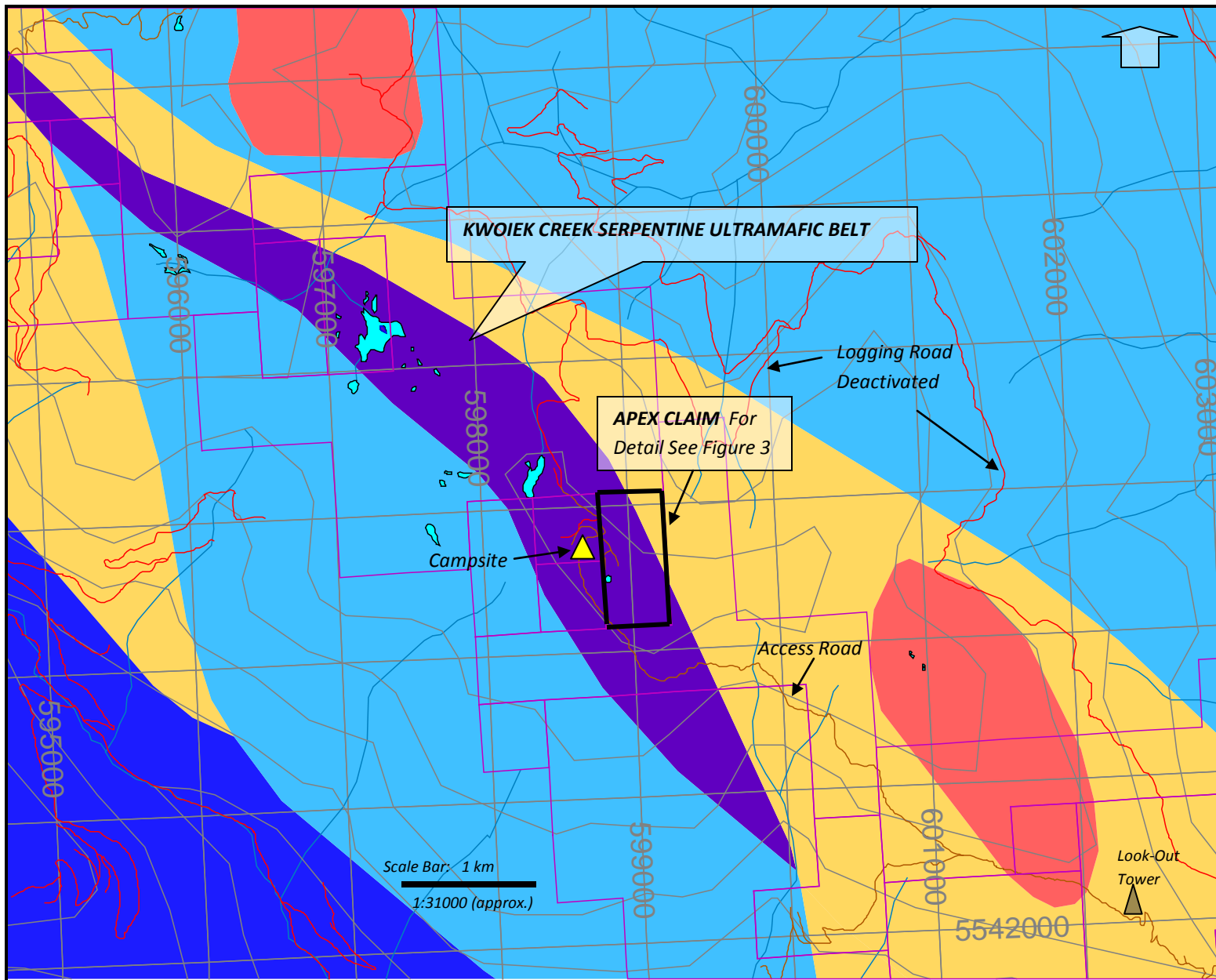
Claim Name: Apex; **Tenure No.** 1046424; **Hectares:** 41.50; **Acquisition Date:** Sept. 2, 2017; **Good to Date:** Sept. 30, 2021; **Claim Registered to:** Dan Cardinal.

The mineral claim falls within the administration of the New Westminster Mining Division with its administration offices located in city of Kamloops, BC.

C. LOCATION AND ACCESS:

The property is located in southwestern British Columbia at Latitude: 50°02'43"N and Longitude: 121°37'07"E on NTS mapsheet 0921/4. UTM co-ordinates for the property and project site is on Zone 10, 5545000N – 599000E situated at elevation of about 1680 metres.

It is accessible from the community of Boston Bar via crossing the Fraser River bridge to the village of North Bend and onto a gravel base all-weather road for 15 km across the Nahatlatch River. From this point a branch road (splitting to the right) leads to the property for additional 15 km. This section of road requires a four-wheel drive vehicle and passes by a former forestry fire-lookout tower (now in seasonal use by the Lower Mainland 4-wheel drive club) located at elevation of about 1,200 metres and continues to the property for total of about 30 kilometres.



REGIONAL GEOLOGY – MINERAL CLAIM MAP

SOAPSTONE MAPPING PROJECT – APEX CLAIM TENURE 1046424

LEGEND

- Late Cretaceous – Paleogene : granodioritic rocks
- Jurassic-Cretaceous: Cayoosh Assemblage, clastic sedimentary rocks.
- Mississippian-Middle Jurassic: Bridge River Complex marine sedimentary & volcanic rocks.
- Mississippian-Middle Jurassic: Bridge River Complex serpentinite ultramafic rocks.
- Cretaceous-Tertiary High grade metamorphic rocks.

FIGURE 2.

D. BRIEF HISTORY:

Between late 1980s to mid-1990s exploration was conducted along parts of the Kwoiek Creek serpentine-ultramafic belt in search for talc mineralization by various resource companies. Interest was generated in part by the provincial government and private sector, west coast pulp and paper industry for potential application of 'value added' industrial minerals such as talc. Talc, due to its certain physical characteristics, has certain application in paper making both as filler, coating pigment and pitch control.

During this period a number of soapstone deposits hosted along the serpentine belt were identified as potential talc resource. The Apex claim was one such area, based on historical reports analyses of soapstone contained some 60-65% talc and 35-40% magnesite. Trenching and limited stripping from this time exposed soapstone outcrops. Gradual interest for value added minerals waned as the papermaking industry began to compete with the paperless technology age – 'email'. Consequently, talc as potential filler in the industry ceased.

The author of this report acquired the Apex claim in 2016 to explore soapstone quality for artistic carving purposes, as much of the quality soapstone for professional carving is imported mainly from South America such as Brazil. As a result, in August 2017 preliminary surveys were carried out on the property orientated toward indentifying possible carving characteristics of the soapstone and its quality.

E. MAPPING AND SAMPLING PROCEDURE:

Mapping surveys were conducted utilizing a hand held garmin GPSmap 64, which was upload with MapSource product. Rock outcrops encountered during the survey were marked onto the MapSource. GPS surveys were within +/- 1-3 metres accuracy of plotted bedrock outcrop. As well, maps downloaded from MTO map place were produced at a scale of 1:5000 for field mapping purposes with geology and bedrock outcrops mapped plotted onto maps. Field notes of the daily surveys were documented in combination with GPS mapping geodata.

A base camp was established at elevation 1680m immediately adjacent to the project site.

Soapstone samples were obtained from 2 different sites. These sites were selected because of the soapstone characteristics, which included: massive (i.e. no fractures) nature, little surface iron oxidation, little to no impurities such as magnesite, chromite or iron carbonate, smooth texture, soapy feel and ease of carving with pocket knife. The samples were extracted with a chain saw with some of the samples weighing as much as 55-60kg. Some of these samples were

then donated to local professional native carvers and native craft outlets interested in testing a local source.

F. REGIONAL GEOLOGY:

Regionally, the property partly covers the southeastern extension of the Kwoiek Creek serpentinite ultramafic belt (Figure 2). It represents a deep seated, transpressional structural break, which trends northwest-southeast traceable for some 35km. The serpentinitized ophiolitic belt makes up part of the Bridge River Terrane oceanic complex also referred to as the Bridge River Complex. It regionally forms Mississippian to Middle Jurassic age accretionary oceanic rock assemblages including the Cayoosh Assemblage consisting of marine clastic rocks. Tectonically, the overall structural fabric is complex with highly foliated and steeply dipping bedrock and trending northwesterly. It represents several overprinted deformations (D_1 - D_3) and schistosity (S_1 - S_3), which reflect docking of Bridge River Terrane to the leading edge of Quesnellia Terrane during Middle-Late Jurassic.

To the northwest and southeast of the property are 2 post accretionary intrusive stocks of Cretaceous to Paleogene age comprised dominantly medium grain, biotite granodiorite.

G. PROPERTY GEOLOGY AND TALC MINERALIZATION:

The property is dominantly underlain by talcose schist and soapstone in fault contact with northwest striking, steeply dipping, foliated phyllite and graphite quartz schist. A talcose type rock referred to a 'talcose body' hosting large boudin-like, intercalating buff to creamy coloured talc-magnesite lenses with massive bodies of soapstone. Based on the old trenches and stripping the talcose body itself, is a large lensoid feature traceable for some 250-300 metres with its widest section about 100 metres. It is in fault-contact with phyllite and graphitic-quartz schist. Fault-contact is represented by intense shearing as displayed by talcose schist.

There are mainly 3 types of talc mineralization: **(i)** pure, homogeneous talc lenses sometimes exhibiting large light green, pearly lustre flakes are with associated with the fault-contact and between lensoid bodies of talc-magnesite and soapstone occurring as anastomosing stringers; **(ii)** large lenticular bodies of massive talc-magnesite visually containing 50-60% fine, light green talc flakes and remaining yellowish-creamy magnesite crystalline mineral grains, usually showing surface oxidation with a thin crust of chocolate brown colour coating; **(iii)** soapstone is characteristically massive lenticular bodies up to several metres wide and several metres long. It is commonly comprised of very fine talc mineralization with occasional blebs of black chromite

and creamy green colour and greenish-yellow to light buff coloured marbled flows. It usually displays buff coloured surface oxidation.

H. CONCLUSION - SOAPSTONE POTENTIAL:

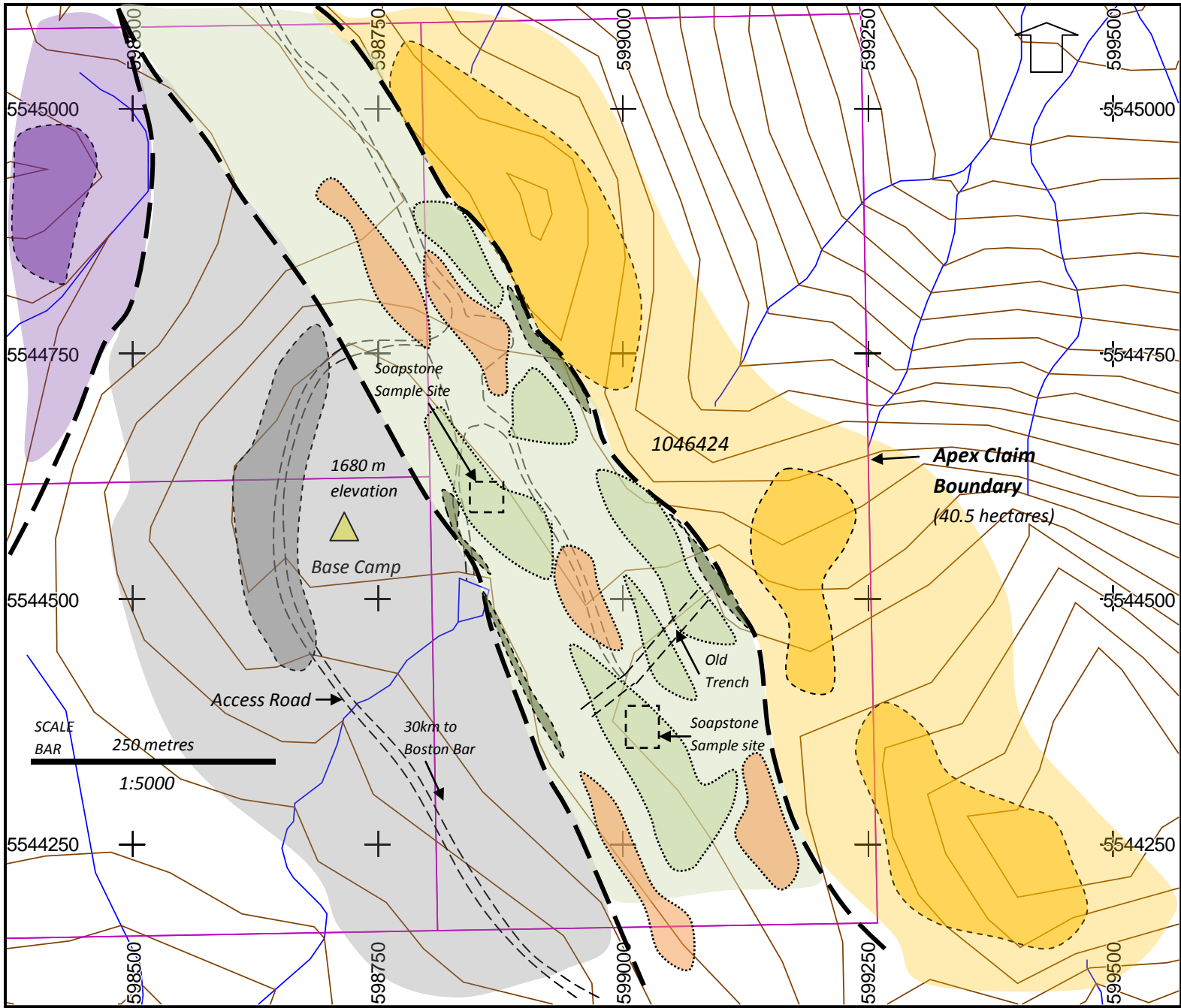
The property covers excellent potential for defining probably several boudinage bodies or deposits of high quality soapstone for professional art carving purposes. The soapstone extracted for art carving testing displays remarkable characteristics much similar to the Brazilian soapstone imported by professional artistic carvers in British Columbia as photograph of 'Cascade Grizzly Bear' below demonstrates.

Further field work is required to properly delineate the soapstone deposits and additional sampling conducted for further testing.



PHOTO 1

Commissioned and carved by a First Nation artist



**APEX CLAIM
PROPERTY GEOLOGY – SOAPSTONE PROJECT**

BEDROCK LEGEND:










-  Northwest trending, steeply dipping Phyllite schist.
 -  Northwest trending, intensely foliated graphitic-quartz schist.
 -  Massive dark green, serpentinite.
 -  Highly sheared talcose bedrock.
 -  Boudin lenses of massive soapstone.
 -  Boudin lenses of talc-magnesite mineralization.
 -  Talc shear lenses.
-  Mapped extend of exposed bedrock with Garmin GPS
-  Fault-Contact

FIGURE 3.

I. REFERENCES:

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Umhoefer, P.J., Schiarizza, P., 1996, *Latest Cretaceous to early Tertiary dextral strike-slip faulting on the southeastern Yalakom fault system, southeastern Coast Belt, British Columbia*, Special Paper 487, The Geological Society of America, July, 1996, v.108, no.7, p. 768-785.

J. STATEMENT OF EXPLORATION EXPENSES:

Mapping and sampling surveys on the Apex claim, 4 days between August 5 and August 9, 2017.

Field Crew:	Cost
Geologist: 4 days @ \$500 per day.	\$ 2,000.00
Assistant: 4 days @ \$250 per day.	1,000.00

Field Related Expenses:

Base Camp and Groceries:	380.00
4x4 Truck: 4days @ \$100 per day	400.00

Total Expenses Incurred: \$3,780.00

Respectfully Submitted;

Dan Cardinal



Daniel G. Cardinal, P. Geo., F.G.A.C.

K. PROFESSIONAL CERTIFICATE:

I, Daniel G. Cardinal, of Hope, British Columbia, do hereby certify that:

- *I am a Professional Geoscientist and reside at 380 Dewdney Avenue, Hope, B.C. VOX 103.*
- *I am a graduate of the University of Alberta (1978) and received a 2 year technical diploma in Exploration-Geology from the Northern Alberta Institute of Technology (1972).*
- *I am member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (P.Geo.), membership #18455; a member in good standing with the Association of Professional Engineers, Geologists and Geophysicists of Alberta (P.Geol.), membership #M29405; a Fellow of the Geological Association of Canada (FGAC) and, member ID #9166924 with The Geological Society Of America.*
- *I have practiced my profession continuously for the past 35 years.*
- *I am the registered owner of the **Apex** mineral claim with **Tenure No.: 1046424***
- *I am the author of this report herein submitted as **Event Number 5662309** and, that I have conducted the field work documented in this report.*

Signed in Hope, BC this 6th of April, 2018.

Dan Cardinal



D.G. (Dan) Cardinal, P. Geo., F.G.A.C.