

NTS: 093H.081  
Lat. 53° 53' 45" N  
Long. 121° 55' 23" W  
UTM: 10 5972466 N 570761 E

**PRELIMINARY GEOLOGICAL  
RECONNAISSANCE REPORT  
ON THE SANDLOT PROPERTY  
PURDEN LAKE, B.C.**

Cariboo Mining Division

Owner:

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By:

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## Summary

Mr. Reza Mohammed (the “Owner”) of Vancouver B.C. requested the mineral survey and report on the Sandlot Claims (the “Property”) located in the Cariboo Mining Division of British Columbia. This report contains a summary of the previous exploration history, geology of the Purden Lake area, new work consisting of geological reconnaissance mapping and silt sampling, and with a concluding appraisal of the mineral potential of the Sandlot Claim area.

The Property is located immediately south of Purden Lake, a small resort community on Hwy 16 about 67kms, east of the City of Prince George in central British Columbia. The Property (Tenure #526466) comprises a contiguous group of ten claim units centered at latitude 53° 53’ 45” North, longitude 121° 55’ 23” West and covering an area of 190.542 hectares. The property terrain is of moderate relief, well forested, and occupies the northwest slope of Purden Mountain, the highest peak in the area at 1360m.

The Property covers an area where the location of the Purden Lake bentonite showing has been documented in MINFILE No 093H 070 by the British Columbia Ministry of Energy, Mines, and Petroleum Resources. There has been a very limited amount of geological work conducted over the years on the property, the only recorded assessment work was a helicopter borne geophysics survey done in 1980 for CCH Resources Ltd.

The underlying rocks in the Property area are predominately the lower Mississippian/Permian volcanic basalts of the Slide Mountain Complex. The Slide Mountain Complex hosts a number of important Cu-Pb-Zn-Ag-Au VMS deposits namely the mega tonne Chu Chua in the Shuswap Highlands area of south-central BC, Nina in the north-central BC, Lang Creek near Cassiar in northern BC, and Expatriate Resources “Ice” property in the Yukon. The entire Slide Mountain Complex is under explored and as a result, creates ample opportunities for further VMS discoveries.

It is recommended more claims should be staked to the south and west of the property. Further reconnaissance prospecting entailing silt sampling of all creeks draining the Property area and the newly acquired claims as suggested; geological mapping and examination of all rock outcrops for potential sulphide mineralization is recommended for a first stage exploration program; followed by a second stage of geochemical soil sampling and ground geophysics. A total budget of \$100,000 (CAD) is proposed for both programs, the second stage is not contingent on the first stage. The property is considered a grassroots project based on the limited amount of work done to date.

## **Introduction and Terms of Reference**

The author of this report was requested by Mr. Reza Mohammed (Owner) to survey the Sandlot Claim at Purden Lake B.C. for a potential bentonite occurrence as documented in the MinFile database. Mr. Reza Mohammed has had previous experience with Bentonite deposits as a director of a publicly TSX listed company. This report outlines the history of exploration, geology, new work conducted and recommendations for future work on the Sandlot Claim property at Purden Lake, Cariboo Mining Division of British Columbia.

The author of this report is not a “qualified person” within the meaning of the National Instrument 43-101 but has been supervised by a “qualified person” Mr. John Kowalchuk P. Geo of Richmond B.C. who has reviewed this report. The basis of this report relies upon a compilation of published data, maps, and reports referenced from the B.C. Government geological database.

The author in the presence of an assistant personally examined the geology of the Property and the immediate surrounding area on May 27<sup>th</sup> and 28<sup>th</sup>, 2006. The purpose of the survey was to locate a bentonite occurrence and to determine the mode of development, as well assess the mineral potential of the Property. The author was unsuccessful in locating the bentonite occurrence on the Property as per geographical coordinates provided by the B.C. Government MinFile database. At present, the location of the bentonite occurrence remains unknown; the position may have been “mis” mapped or not accurately surveyed and reported by previous workers to which the B.C. Government’s MinFile database relies upon.

The recommendations in this report are based upon published data and the author’s personal exploration experience. This report details the findings of the current program and is submitted for assessment work credits.

## Property Location, Access and Description

The Property is located in central British Columbia, approximately 67.0 road kilometres east of the City of Prince George on Hwy 16 or about 54 kms, due east as the crow flies. From Vancouver the distance is 550 kms, north northeast to the Property (Figure 1). The Property occupies the northwest slope of Mount Purden or at about 4.5kms east of the Bowron River bridge crossing of Hwy16 and 0.5kms south of the west end of Purden Lake (Figure 2).

Access to the property from Vancouver B.C. is via Hwy 1 heading east to Hope and then north on to Prince George for a road distance of about 800kms. From Prince George take Hwy 16 east to Purden Lake then on to the Purden lake ski hill road bearing to the south, proceed uphill for about 1.60kms to the second switch bend, the eastern boundary of the property lies about 0.5kms due west on foot. The extreme northwest corner of the Property is accessible via Hwy.16; the old logging roads to the south of the property are impassable. A 4x4 vehicle is not necessary as most of the property is accessible only on foot. City of Prince George is the nearest community providing food, lodging amenities, rail and major highway links, road equipment operations for the logging industry and emergency medical facilities.

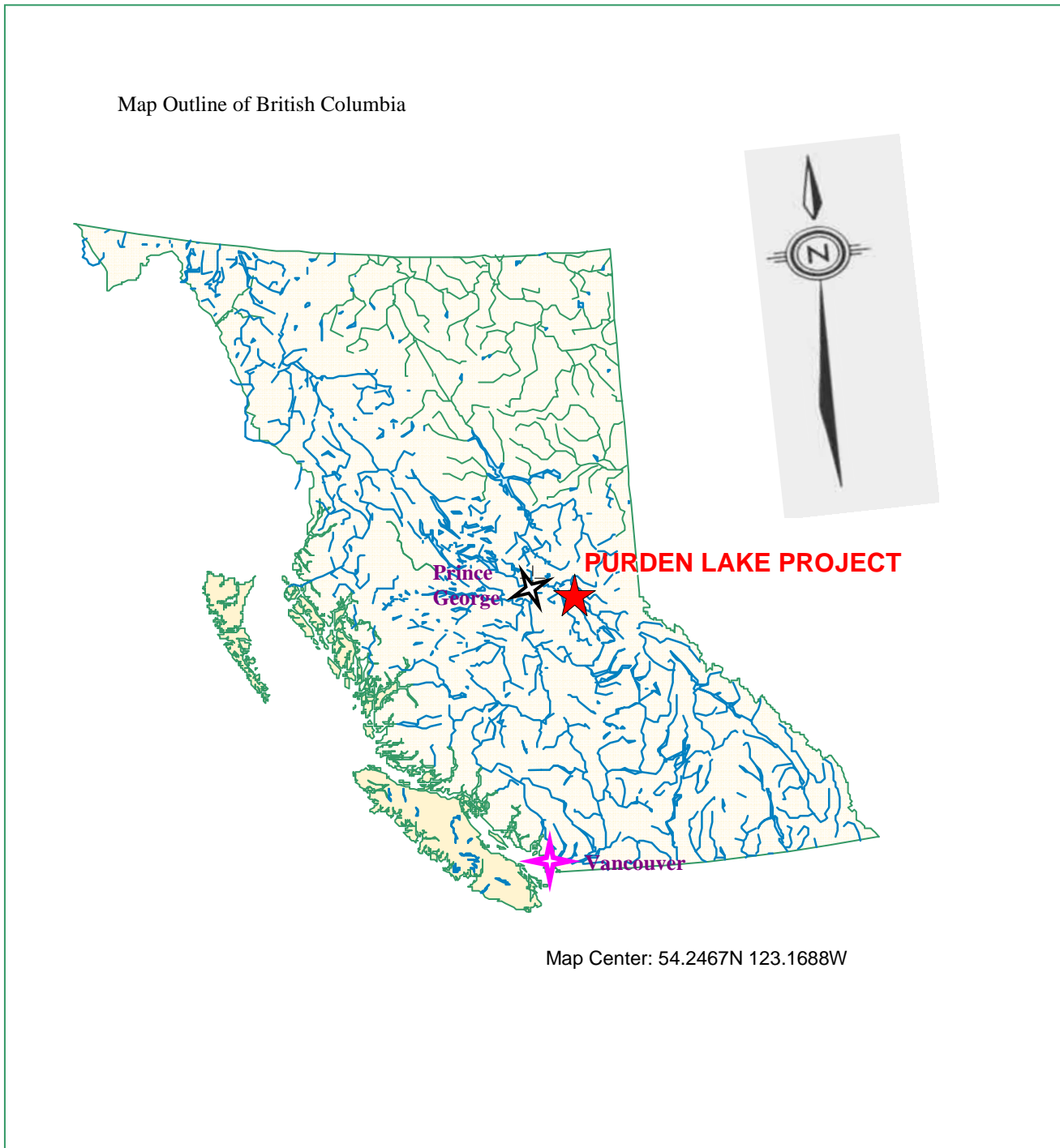
The Property consists of one claim of 10 units covering an area of 190.542 ha; the center of the geographical center of the Sandlot claim block is at 53° 53' 45" North latitude and 121° 55' 23" West longitude in the Cariboo Mining Division. The mineral title record describes the legal information as follows:

<u>Tenure Number</u>	<u>Claim Name</u>	<u>Owner</u>	<u>Map Number</u>	<u>Good To Date</u>	<u>Status</u>	<u>Mining Division</u>	<u>Area</u>
526466	SANDLOT	146886 100%	093H	2010/JAN/26	GOOD	CARIBOO	190.542

Reference: <http://www.mtonline.gov.bc.ca/mtov/searchTenures.do;jsessionid=2430dfc129a66f78d5b2> (Modified)

The author is not aware of any First Nations claim, any private surface rights, or environmental concerns covering the Sandlot Claim block that may affect mining, exploration or prospecting operations. However, the Purden Lake area to the immediate north of the claims has been designated as a Provincial Park, to the east and adjacent to the claims is the Purden Lake Ski facilities; these cultural influences may impinge upon exploration or mining operations.

**Figure 1      Generalized Location Map of the Sandlot Property**

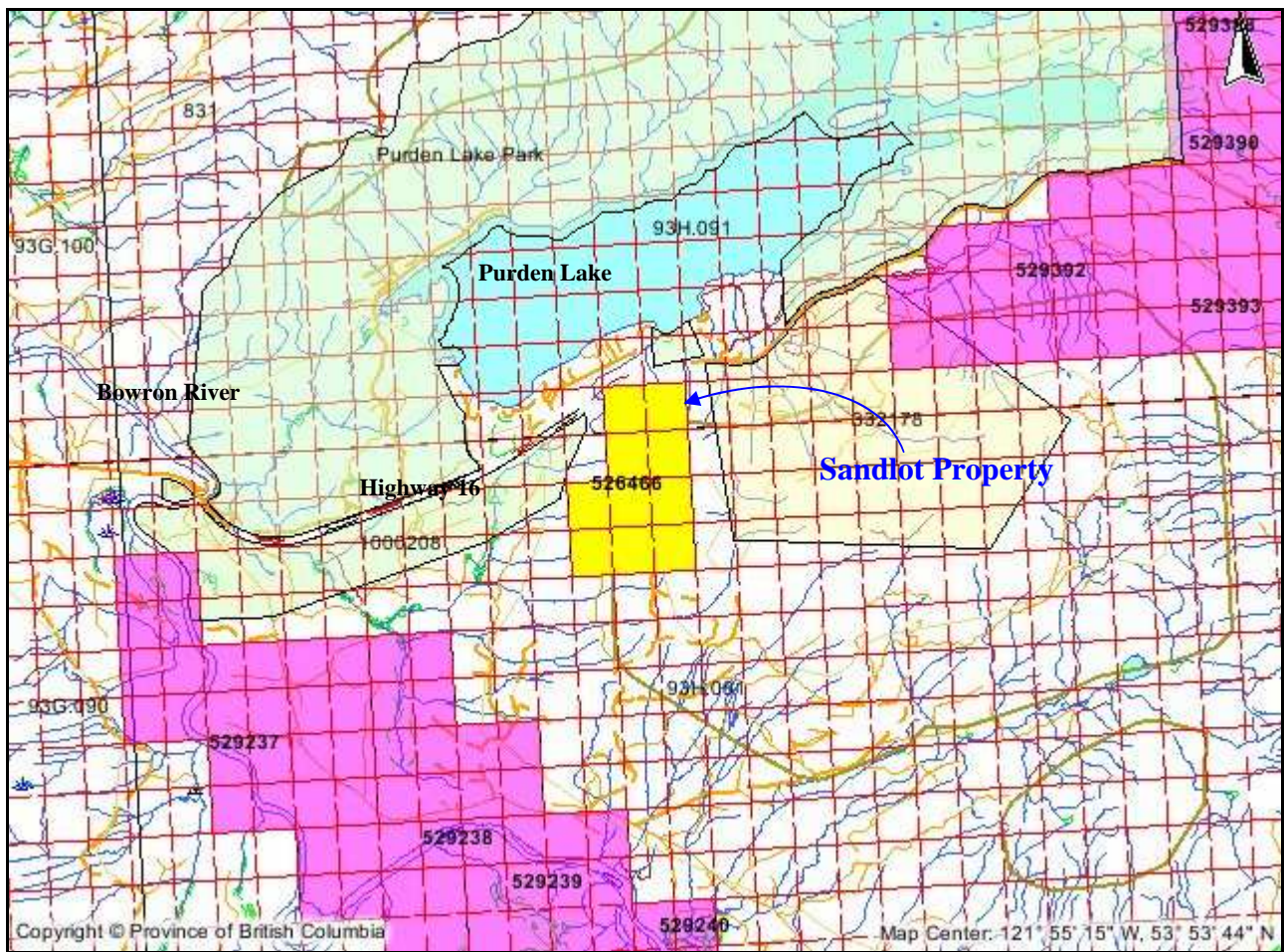


**Not to Scale**

Courtesy of the Government of British Columbia Mineral Titles Division (modified)

Reference: <http://www.mtonline.gov.bc.ca/>

**Figure 2 Regional Location Map of the Sandlot Property**



Scale 1: 74,396

Courtesy of the Government of British Columbia (Modified)

Reference:

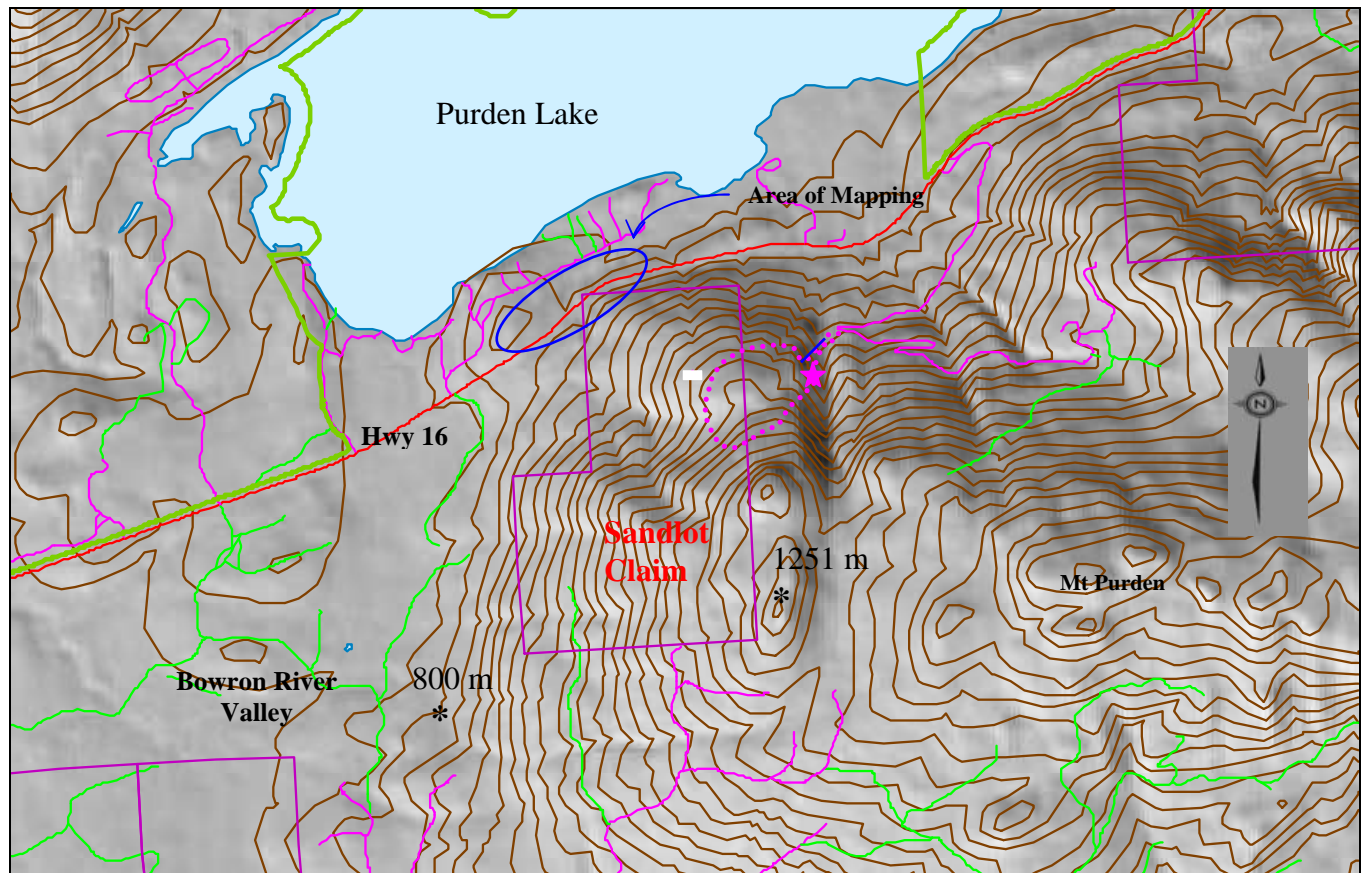
[http://maps.gov.bc.ca/imf406/imf.jsp?site=mem\\_mtov\\_min-view-tenure&qlyr=Mineral%20Tenures&qry=WHSE\\_MINERAL\\_TENURE.MTA\\_ACQUIRED\\_TENURE\\_POLY.TENURE\\_NUMBER\\_ID=526466&qzoom=true&qhlt=true&qbuf=200](http://maps.gov.bc.ca/imf406/imf.jsp?site=mem_mtov_min-view-tenure&qlyr=Mineral%20Tenures&qry=WHSE_MINERAL_TENURE.MTA_ACQUIRED_TENURE_POLY.TENURE_NUMBER_ID=526466&qzoom=true&qhlt=true&qbuf=200)

## **Physiography and Climate**

The Property lies on the east hillside of the Bowron River Valley and occupies the northwest slope of Mt. Purden, the highest peak in the area at 1360m. The property terrain is of moderate relief rising from 810m in the northwest corner of the Claim boundary crossing Hwy 16 to 1200m in the extreme southeast corner of the property (Figure 3). Moss covered talus slopes are well developed in some of the creeks near the east side of the property.

Vegetation on the claim consists of mature growths of hemlock, balsam, red and yellow cedar with undergrowth of Devil’s Club, ferns, raspberry vines and a thick moss blanket in some areas. The claim area has never been logged; in addition to the numerous dead falls with the thick underbrush and wet conditions associated with the north facing topography makes traversing of this particular area rather arduous.

**Figure 3 Topography and Hillshade Sandlot Claim Area**



Scale is 1.22Kms



Legend:

- Dotted Red line.....Foot Traverse
- Red Star.....Location of silt sample# 0601
- Contours.....20metres
- Green lines.....Old Logging Roads
- Red lines.....Roads
- Purple lines.....Claim Boundaries
- Blue Circle.....Area of New Mapping

Courtesy of the Government of British Columbia, The MapPlace Exploration Assistant (modified)

Reference: [http://webmap.em.gov.bc.ca/mapplace/minpot/ex\\_assist.cfm](http://webmap.em.gov.bc.ca/mapplace/minpot/ex_assist.cfm)



The nearest weather reporting station is at Prince George BC at a distance of approximately 54kms to the west of the property. The climate at the Property is very similar to the climate around Prince George with the exception to correct for altitude differentiation. The following selected information is provided by the weathernetwork.com website:

Prince George BC, Canada

Latitude: 53.53N Longitude: 122.41W

Sandlot Property

Altitude: 676m

Altitude: 1000m (ave.)

Temperature	J	F	M	A	M	J	J	A	S	O	N	D
Maximum	-5	0	5	11	16	20	22	21	16	10	1	-4
Minimum	-13	-9	-5	0	3	6	8	8	4	0	-6	-12
Mean	-9	-4	0	5	9	13	15	15	10	5	-2	-7
Precipitation	J	F	M	A	M	J	J	A	S	O	N	D
Rain (mm)	5	8	12	20	49	65	60	61	59	51	17	9
Snow (cm)	60	32	25	9	3	0	0	0	1	8	43	54
Total (mm)	54	35	34	28	52	65	60	61	59	59	53	54
Snow Cover(cm)	31	22	7	0	0	0	0	0	0	1	11	21

“The weather statistics displayed here represent the mean value of each meteorological parameter for each month of the year. The sampling period for this data covers 30 years from 1961 to 1990.”

Reference: <http://www.theweathernetwork.com/weather/stats/pages/C02098.htm?CABC0235>

## History of Exploration

The first recorded reference to the Purden Lake showing was in the 1960 Annual Report of the B.C Ministry of Energy, Mines and Petroleum Resources (EMPR), the reference has been reported only as a bentonite occurrence nothing else was recorded. However, when the author viewed the referenced page A69, there was no mention of the Bentonite occurrence. In 1980, a further scant record in the EMPR EXPL page 332 yielded no pertinent information.

The following information is from the mineral database of the B.C. government “MinFile Capsule Geology & Bibliography Report”:-

**093H 070 PURDEN LAKE**

Commodities: Bentonite

Latitude/Longitude: 53 54 0N / 121 55 5 W

UTM: 10 5972938 N 571090 E

Status: Showing

Deposit Type:

Mining Division: Cariboo

NTS: 093H13W

A large deposit of bentonite is reported at Purden Lake. No other information on this deposit exists.

EMPR AR 1960-A69

EMPR EXPL 1980-332

EMPR ASS RPT 8160

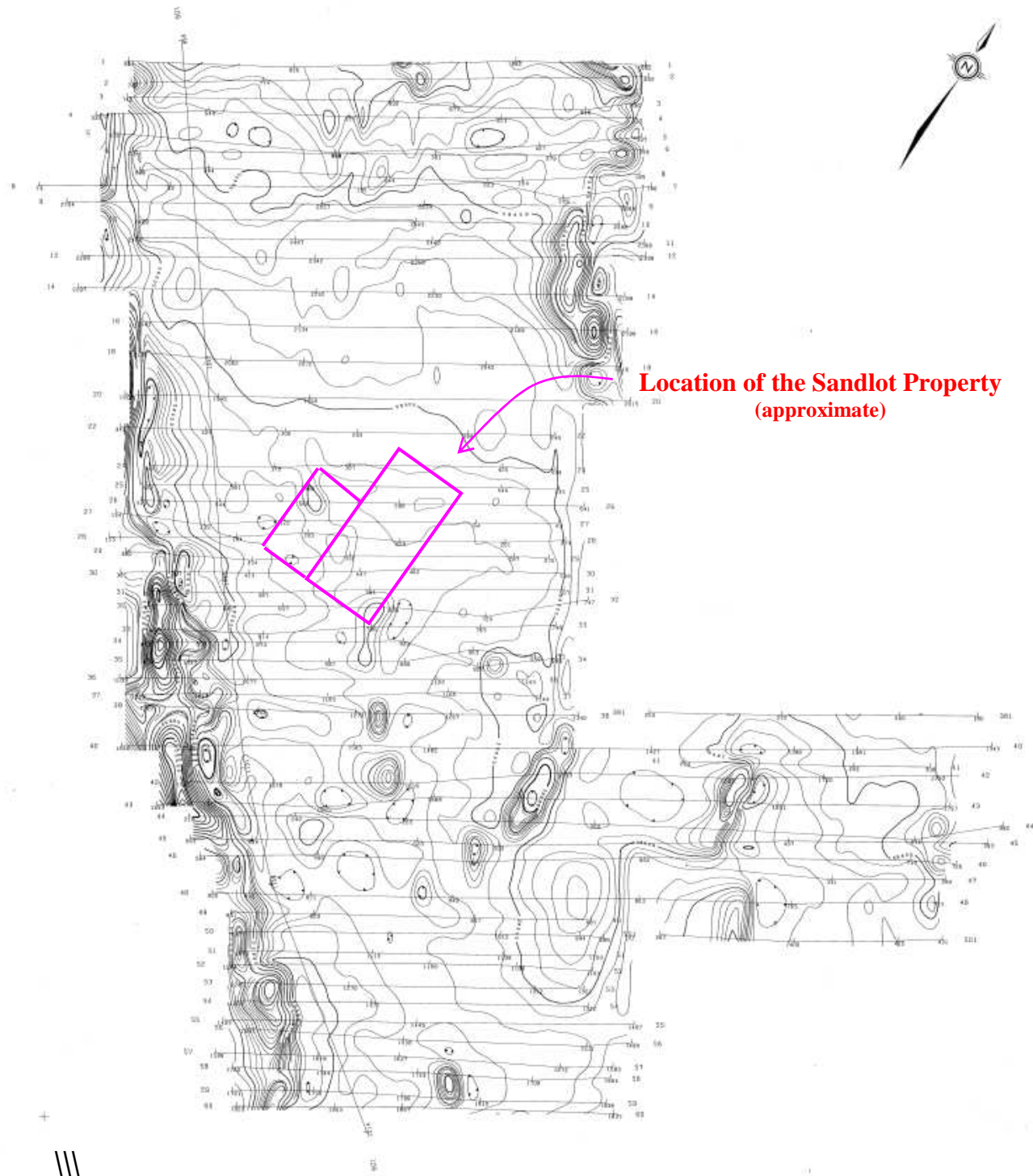
GSC MAP 1424A

Reference: [http://webmap.em.gov.bc.ca/mapplace/minpot/minfileSQL\\_capsule.asp](http://webmap.em.gov.bc.ca/mapplace/minpot/minfileSQL_capsule.asp)

The only significant referenced material pertaining to the area was an Airborne Geophysics Report (EMPR ASS RPT #8160) that covered several areas around Purden Lake. CCH Resources in March of 1980 engaged Apex Airborne Surveys Ltd., of Vancouver B.C. to perform Helicopter Magnetic and Electromagnetic surveys on the Purden Lake, Nook, Eighteen Mile Creek, and Towkuh Creek areas of the Bowron River. The report covered four areas that were selected as of a result of a reconnaissance geochemical survey completed in the 1979 season. The purpose of the airborne geophysics survey was to locate potential exploration conductor targets that could be the source of the geochemical anomalies found in the particular areas. The geochemical results were unavailable to the author of the report. A total of 313 line kilometres were flown over the Purden Lake area.

The geophysical data from the program delineated the lithological units and also yielded two areas with low conductive anomalies that may demonstrate a concentration of massive sulphides. The first anomaly identified at the eastern ends of lines L12, L14, and L16 is indicative of magnetic rocks, however the author further points out the conductance is low and centered in a ravine. The first anomaly is located northeast of Property. The second anomaly identified a very small response from L41 to 48 but a significant line to line correlation. The second anomaly lies about 1.5kms south the Property (Figure 4).

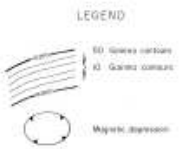
**Figure 4 Total Field Magnetic Map of the Purden Lake Area**



**Location of the Sandlot Property  
(approximate)**

Map by R. F. Sheldrake B.Sc  
Modified by B.Hemingway B.Sc

- NOTES**
- VERTICAL CONTROL - PAPER ALTIMETER (base level height 65 metres)
  - HORIZONTAL CONTROL - 25 MM FILM, RESOLUTION 50
  - REGIONAL TOTAL FIELD VALUE: 56,000 GAMMAS
  - MAGNETIC DECLINATION: 24°E
  - MAGNETIC INCLINATION: 74°
  - CONTOURS UNCORRECTED FOR REGIONAL GRADIENT



8160

PLATE II  
**TOTAL FIELD MAGNETIC MAP**  
PURDEN LAKE AREA  
CARIBOO MINING DIVISION  
BRITISH COLUMBIA  
**C.C.H. RESOURCES LTD.**

Scale 1:20,000

To accompany a report by Harold F. Sheldrake dated May 25, 1960

## Geological Setting

### Geological Description of Region

The regional geology of East Central British Columbia has been documented by Struik and Fuller (1988), Deville and Struik (1989) and Struik (1989). The rocks of the general area comprise of an assortment of mainly Palaeozoic and Mesozoic sedimentary, metamorphic and volcanic rocks; tertiary rocks are confined to the Eocene coal bearing clastics of the Bowron River Valley just east of the Sandlot Property. Glacial deposits are widespread within the valley of the Bowron River and the Purden Lake area.

Based upon the mapping by the Government of B.C, two prominent geological terranes are recognized within the area surrounding the Sandlot Property namely the Cariboo and Slide Mtn Terranes. The Sandlot Property lies entirely within the Slide Mtn, Volcanic/Sedimentary Group; this sequence is bounded on the northeast by the northwest trending McLeod Lake Fault and on the southwest by sub-parallel structures along Bateman Creek (Figure 5). The following stratigraphic column details the geological units within the Cariboo and Slide Mtn., Terranes:-

#### STRATIGRAPHIC UNITS IN THE CARIBOO AND SLIDE MOUNTAIN TERRANES

Age	Group	Formation	Description
<b>SLIDE MOUNTAIN TERRANE<sup>R</sup></b>			
Tertiary or Upper Cretaceous	-	-	coal-bearing clastic rocks (northern part of Bowron River Valley)
Triassic (?)	-	-	slate and phyllite rocks (within southwest corner 93 H)
Mississippian	Slide Mountain	Antler	pillow basalts, volcanic breccias, pyroclastics, and intercalated ribbon chert, argillite, and fine lithic sandstone
		Greenberry	crinoidal limestone
		Guyet	pebble-conglomerate, lithic sandstone, argillite, basaltic flows and breccia
<b>CARIBOO TERRANE<sup>A,B</sup></b>			
Triassic <sup>a</sup>		unnamed	thin-bedded limestone and slate sequence (similar to Pardonnet Formation, northern Rocky Mountains)
Cambrian <sup>b</sup>		unnamed	medium-bedded limestone with silty argillite interbeds
Pennsylvanian <sup>a</sup>		unnamed	grey crinoidal, fusulind limestone
Middle Pennsylvanian <sup>c</sup>		Alex Allan	dark-grey micritic limestone, minor slate
Lower Mississippian <sup>a</sup>		Greenberry	grey crinoidal limestone
Lower Mississippian and Upper Devonian <sup>a</sup>	Black Stuart	Guyet	conglomerate, orthoquartzite, greywacke
Upper or Middle Devonian <sup>a</sup>		Waverly	agglomerate, pyroclastics, pillow basalt, minor chloritic siltstone

<sup>a</sup> Modified after Campbell et al., 1973

<sup>b</sup> Modified after Struik et al., 1988 for the Cariboo Terrane near Barkerville

<sup>c</sup> Modified after Struik et al., 1990

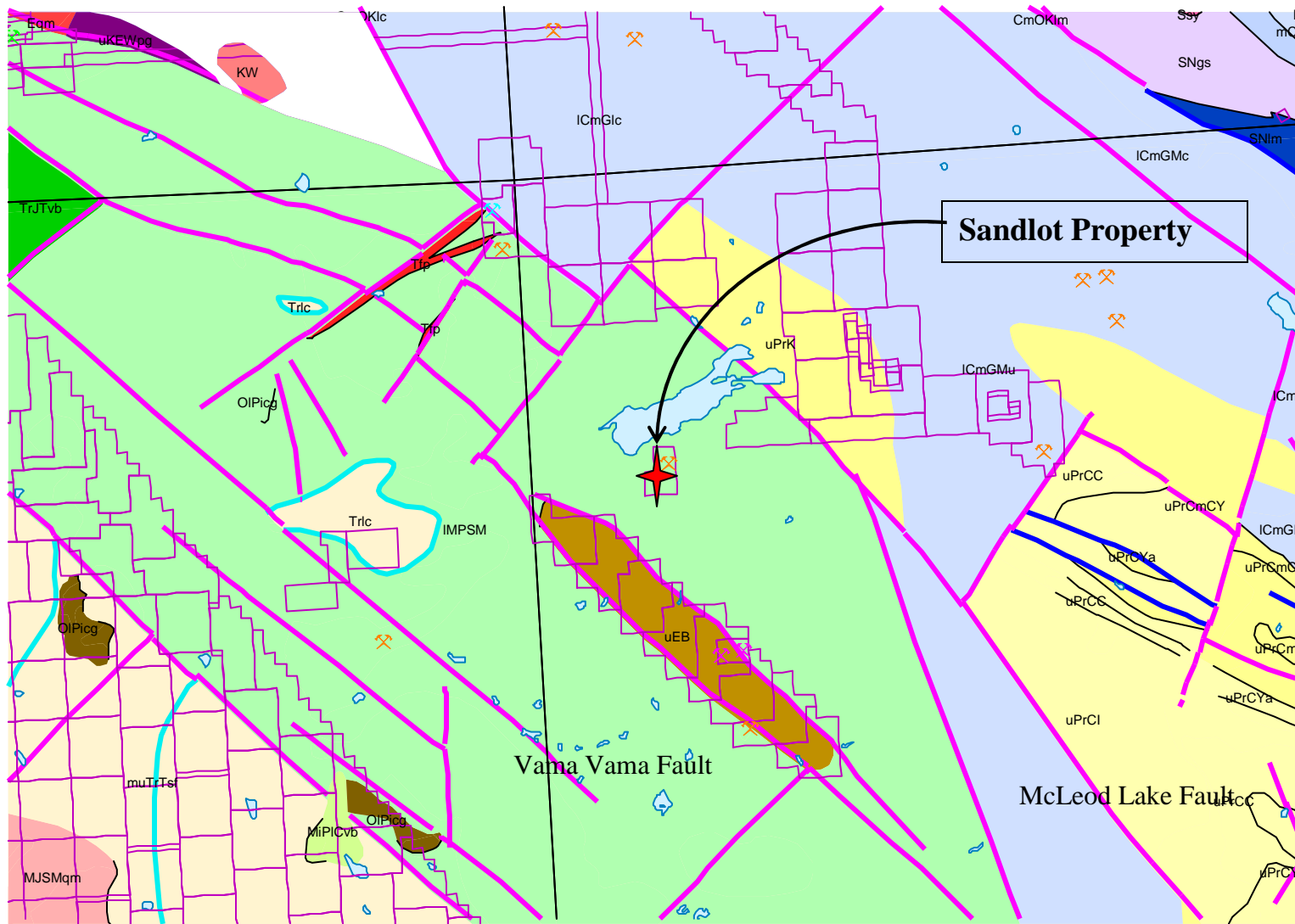
Reference: Page 4 of

<http://www.em.gov.bc.ca/DL/ArisReports/27900.PDF>

Report by J. Dahrouge, P. Geol 2005/10/03

**Figure 5**

**Regional Geology of the Purden Lake Area**



**Legend**

<b>Miocene to Pleistocene</b>	
<i>Chilcotin Group</i>	
MiPICvb	basaltic volcanic rocks
<b>Tertiary</b>	
Tfp	feldspar porphyritic intrusive rocks
<b>Oligocene to Pliocene</b>	
OIPicg	conglomerate, coarse clastic sedimentary rocks
<b>Upper Eocene</b>	
uEB	<b>Bowron River Coal Beds:</b> undivided sedimentary rocks
<b>Triassic</b>	
Trlc	limestone, slate, siltstone, argillite
<b>Lower Mississippian to Permian</b>	
<i>Slide Mountain Complex</i>	
IMPSM	basaltic volcanic rocks
<b>Lower Cambrian</b>	
<i>Gog Group</i>	
ICmGMu	<b>Mural Formation:</b> undivided sedimentary rocks
<b>Upper Proterozoic to Cambrian</b>	
<i>Cariboo Group</i>	
uPrCmCM	<b>Midas Formation:</b> mudstone, siltstone, shale fine clastic sedimentary rocks
uPrCmCY	<b>Yanks Peak Formation:</b> quartzite, quartz arenite sedimentary rocks
<b>Upper Proterozoic</b>	
uPrCC	<b>Cunningham Formation:</b> limestone, marble, calcareous sedimentary rocks
uPrCI	<b>Isaac Formation:</b> mudstone, siltstone, shale fine clastic sedimentary rocks
uPrCYa	<b>Yankee Belle Formation:</b> mudstone, siltstone, shale fine clastic sedimentary rocks
<i>Kaza Group</i>	
uPrK	coarse clastic sedimentary rocks

**Scale 1: 250,000**

**Map size: 51.3 x 35.5 (Kms)**

Faults are marked in long, wide Red & Blue lines

Thrust Faults in Turquoise

**References:**

[http://webmap.em.gov.bc.ca/mapplace/minpot/ex\\_assist.cfm](http://webmap.em.gov.bc.ca/mapplace/minpot/ex_assist.cfm)

(Map is Modified)

[http://webmap.em.gov.bc.ca/mapplace/minpot/geol\\_legend\\_screen\\_updated.asp](http://webmap.em.gov.bc.ca/mapplace/minpot/geol_legend_screen_updated.asp)

The following excerpts describe the Cariboo and Slide Mtn Terranes:

### **Slide Mountain Terrane**

“The Slide Mountain Terrane consists of the Slide Mountain Group, which is subdivided into the Antler Formation and the Crooked Amphibolite. The distinction between the units is based on geography and metamorphic style rather than stratigraphic succession; the units may be laterally equivalent.

The Antler formation is composed of pillow basalts, breccias, diorite and minor serpentinite. The Antler Formation of the Slide Mountain Terrane represents a deep ocean rift-related environment. Conodonts date the ribbon chert of the Antler Formation as Lower Carboniferous through Permian (Struik and Orchard, 1985). A Carboniferous age has been determined for zircons extracted from an agglomerate of the Antler Formation along Highway 16 (UPb isotopic method; Struik, Fuller and Lynch, 1990).

The Antler Formation of the Slide Mountain Terrane was thrust eastward onto both the Barkerville and Cariboo Terranes along the Pundata Thrust. Tipper (1961) suggested that the Slide Mountain Group rocks were thrust onto Late Triassic rocks near the Bowron River. The Triassic rocks (mainly limestone) were interpreted as being part of the Cariboo Terrane. Thus older western volcanic rocks have been thrust over eastern sedimentary rocks. The age of the Pundata Thrust is Early Permian to Mid Cretaceous.”

Adapted from: AR 25,528 by Gary Johnston, P. Geoph., P. Geo. Maureen Johnston, P. Geol.

A brochure by the Geological Survey Branch of the British Columbia Government describes the Slide Mtn, Terrane as follows:

“The Slide Mountain terrane consists of structurally imbricated alpine-type mafic and ultramafic igneous rocks, mafic volcanics, and deep water cherts and argillites. Although structurally interleaved, the Slide Mountain terrane along its length can be divided into two structural packages: a lower unit dominated by deep water sediments with lesser mafic plutonic and volcanic rocks, and an upper unit of massive to pillowed basalt containing thin sections or lenses of chert and argillite. The Slide Mountain terrane is found along the entire length of the Canadian Cordillera and occurs between rocks of Ancestral North America and volcanic/pericratonic terranes of unknown affinity further west.”

### **Cariboo Terrane**

“The Cariboo Terrane consists of continental shelf sediments. The Group is described as containing andesites, basalt, tuff, breccia, conglomerate, greywacke, shale and limestone.

Struik (1985) indicates that based on Map 1424A that the Slide Mountain Group was overlain by Upper Triassic sediments along the Bowron River. If the contact was stratigraphic, he suggests that the sediments would be part of the Slide Mountain Terrane and be included therein for the lack of opposing data.

Struik, Fuller and Lynch (1990) describe the limestone at Mount Bowron as Triassic, looking similar to rocks of the Pardonnet Formation of the central and northern Rocky

Mountains. At Mount Bowron, these rocks are interpreted to be overthrust by the Slide Mountain Terrane.”

Adapted from: AR 25,528 by Gary Johnston, P. Geoph., P. Geo. Maureen Johnston, P. Geol.

The descriptions of the various government geologists mapping the area indicate “islands” of Cariboo Terrane pop-up through erosional windows into the Slide Mtn Terrane; the significance of which when taken in consideration the regional map provided by the B.C. Government, the regional mapping of the total area surrounding the Sandlot Property is largely incomplete and areas could have been mis-mapped. The base of the Slide Mtn Terrane within the area surrounding the Sandlot Property is largely controlled by a horizontal thrust fault (Pundata) with the Cariboo Terrane. One such “Cariboo island” occurs just north of the Bowron Bridge crossing on Hwy 16 which is just 2.0kms west of the property. Further, there are some problems with the stratigraphy where the Guyet formation is placed in both the Slide Mtn and Cariboo Terranes (see Stratigraphic Column Page 12).

The Cariboo Terrane consists of a wide variety of sedimentary rocks of predominately Paleozoic age starting from the upper to middle Devonian (Wavely Fm) consisting of pillow basalts, siltstones, pyroclastics and agglomerates through to the Guyet Fm of greywackes, conglomerates to the top of the sequence containing Triassic limestone and slates. It is the bottom two Formations, Guyet and Wavely that could be interpreted as Slide Mtn Terrane by field geologists

### **Structure**

Prince George to the west of the Property lies along the western margin of the Omineca Belt. The city lies midway between two major northwesterly striking faults that are about 80 kms apart, the McLeod Lake fault to the northeast and the Pinchi Fault to the southwest. In the eastern part of the region and just east of the Property is the Tertiary movement event of the McLeod Lake strike-slip fault trending 340° (Struik 1989a) that separates the Cariboo Terrane with the Slide Mtn, Terrane (Figure 5).

The McLeod Lake fault has been traced from McLeod Lake to just southeast of Purden Lake for approximately 150 kms. However, about 50 kms southeast of the southern terminus of the McLeod Lake fault and along strike is the Isaac Lake Fault Zone that maybe a splay fault of the McLeod Lake Fault but of a different age correlation.

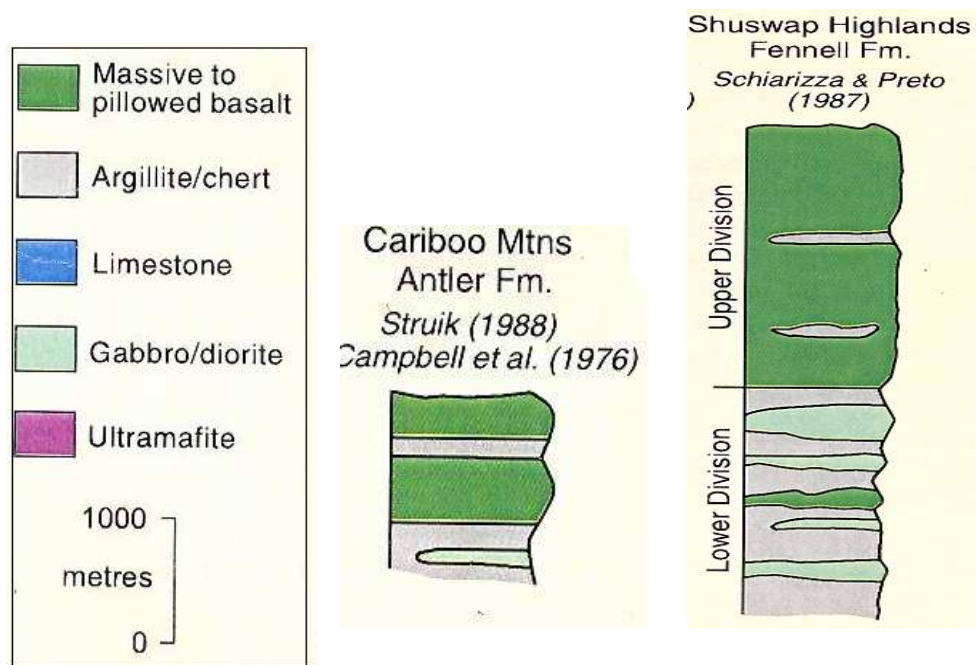
## Property Geology

The Property appears to be entirely underlain by the Slide Mtn Group of mafic volcanics and deep water marine argillites/cherts. The Property has very little exposure of rock outcrops except in the lower highway road cut and only on the upper course of the traverse taken by the author. Based upon the limited investigation by the author reveals only one distinct structural rock parcel evidenced on the Property; a unit of predominately grey-green colored, pyritic, massive basalt with minor intercalated beds of chert and argillite.

### Geological Mapping Survey

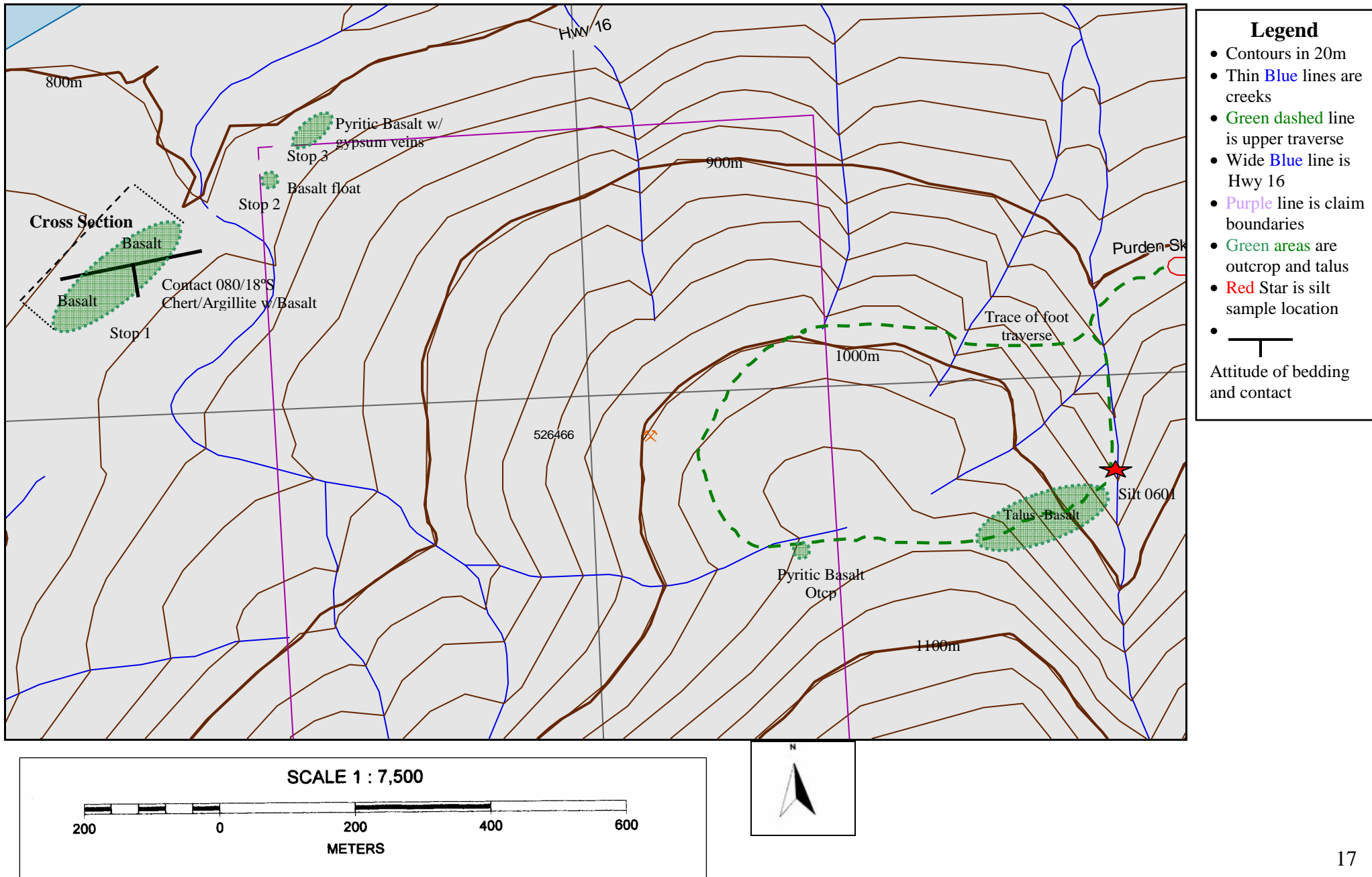
The new mapping consists of a foot traverse near the showing area and a road survey along Hwy 16 just to the north and partly on the Property (Figure 3). The preliminary mapping by the author has only uncovered one unit that correlates with the section of the Cariboo Mtns' Antler Fm of the Slide Mtn Terrane. The Antler Fm appears to contain only the upper succession of massive basalt with minor argillite and chert beds. The schematic section illustrated below is taken and modified from the B.C. Government brochure on the Slide Mtn terrane (Figure 6). The geological mapping by the author (Figure 7) outlines a series of outcrops of pyritic massive basalts on the upper foot traverse whereas the lower Hwy 16 road cuts expose a massive basaltic flow breccias separated by a chert-argillite horizon with another separate massive basalt unit containing a diorite spire.

**Figure 6 Schematic Structural-Stratigraphic Sections of the Antler & Fennel Fms**





**Figure 7 Preliminary Geological Map of the Sandlot Property**



## **Description of the Lower Traverse**

### **Stop 1**

General location is 570224E, 5973134N on Hwy 16, facing northwest is a large road cut of about 10m high and 220m long (Figure 7). Figure 8 illustrates the geological features of the road cut; the primary rock type is a medium grey basalt that weathers to a light brown color due to the occasional pyrite grain. The basalt in several areas within the cut is flow brecciated with angular to round fragments (<3.0cm) that have a slight whitish rims.

The section is cut by two zones: a 1.5m wide argillitic horizon trending 080°/18°S with a base of crumbly shale fragments (thrust fault?) and a partial hanging wall of a bleached zone; the second zone about 50m to the west is a whitish chert horizon (about 1.5m wide) containing fossil remnants that also appears to be bleached. The dioritic spire is about 80m to the west from the chert horizon; it spikes out to a point and is about 2.0m wide at its base. The diorite is coarser grained with phenocrysts (1.0mm) of hornblende and plagioclase; it is a dark greyish color in comparison to the medium grey basalt.

### **Stop 2**

From Stop 1 to the east of about 250m along Hwy 16 and on the south side of road is a very angular boulder of fresh, very fine grained pyritic basalt float is about 2.0m long by 1.0m wide and 1.0m thick.

### **Stop 3**

GPS location is 570671E, 5973439N; on the south side of Hwy 16 is an outcrop of massive pyritic basalt containing perpendicular veins of anhydrite that contain the occasional angular clast of grey green basalt.

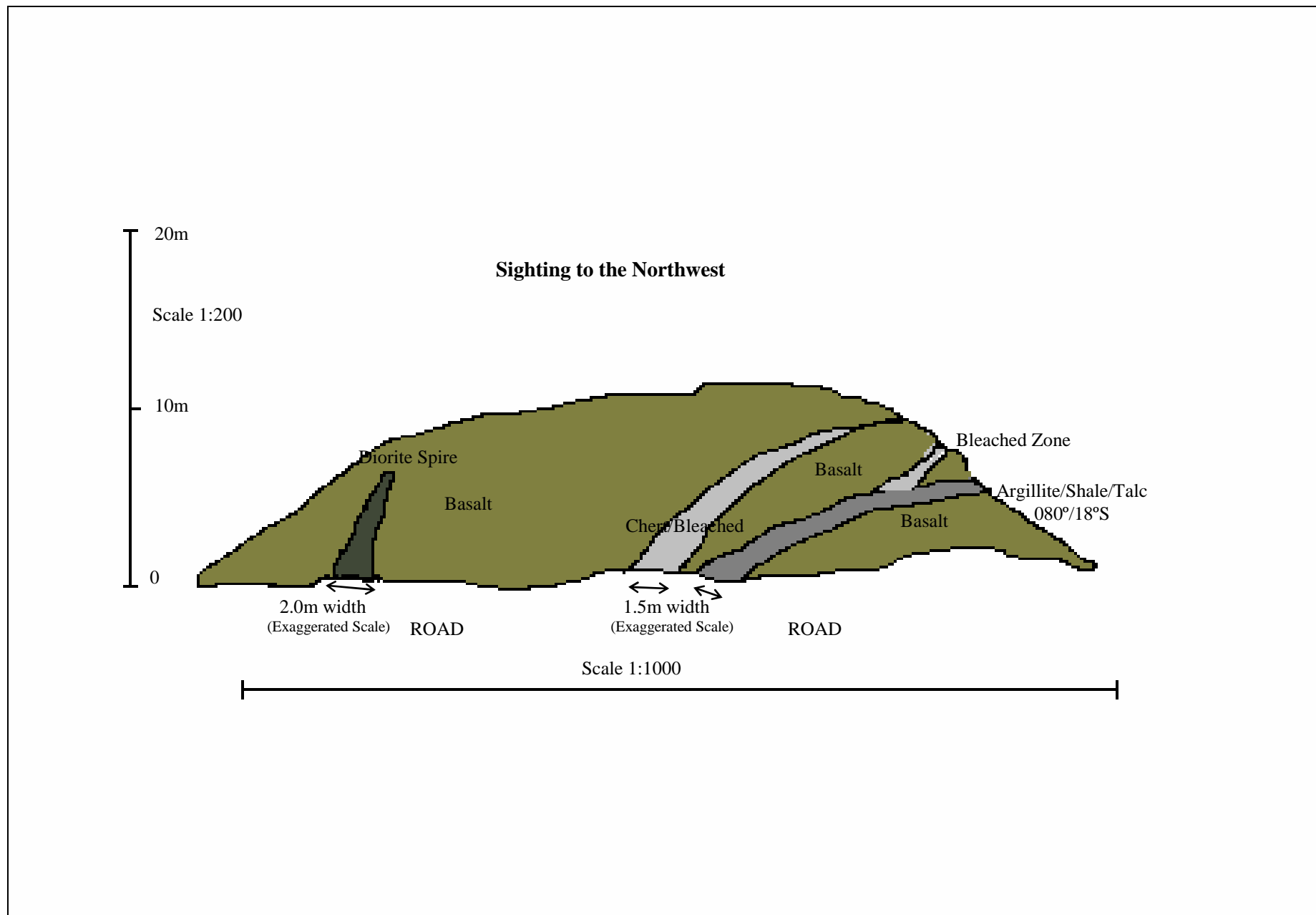
## **Description of Upper Traverse**

The west hillside from silt sample #0601 location is a moss covered talus of pyritic, medium grey, fine grained basalt. At the location marked R2 is a medium brown coloured outcrop of pyritic, fine grained basalt. The ridge along the traverse at 1050m elevation contains several outcrops of massive, medium grey, fine grained basalt; however the majority of the area is covered with a mature soil profile and outcrops are rare.

Silt sample #0601 was collected from a strong flowing creek at an elevation of 960m. The analytical results turned up negative for base metals (see appendix).

Figure 8

Geological Section of Road Cut on Hwy 16



## **Economic Geology**

The purpose of this program was to locate the bentonite showing at Purden Lake, however the environment where the showing is presumed to occur is not typical for these types of deposits. Bentonite deposits usually occur in a Tertiary volcanic setting where volcanic ash is deposited in either a fresh water or marine basin of temperate climatic conditions characterized by a low energy setting. The ash reacts with the water environment altering the ejecta's glass component into bentonite. The tectonic setting for bentonite is virtually continental or continental platform environment and sometimes in an island-arc situation.

Bentonite occurs in two forms of montmorillonite minerals: the sodium bentonite swells in contact with water and has a variety of industrial uses including its primary use as absorbents; the calcium bentonite is non-swelling with water but is used extensively in ceramics and cosmetic industry. Weathering of these deposits can increase the colloidal properties or may decrease the calcium ion component. Bentonite or montmorillonite can also occur in a hydrothermal alteration environment where the parent host rock is subjected to hydrothermal fluids; hence it is this type of depositional environment proposed for the Purden Lake showing based on its hillside location rather than a typical basin type setting.

### **Mineral Occurrences in the Slide Mtn Terrane**

The Slide Mtn Terrane has an untapped mineral potential of hosting Cyprus or Besshi type volcanic massive sulphides (VMS); this package of rocks is relatively unexplored and not too well documented for VMS occurrences. Below is a collection of documented mineral occurrences within this Terrane, these mineral occurrences were selected on the basis of similar geological settings that occur on the Sandlot Property:-

#### **Nook, Mega, and Jay Properties**

These properties are within 20km of the Sandlot Property, the following excerpt describes partially the mineral setting of these mineral occurrences: -

“The Nook (Loon, Mar, Fu-Hu, Willow Creek, Ram, STP and Tapai) (Minfile#1) (Assessment Reports - 1633, 1952, 2615, 8015, 8160, 10706, 11573 and 13136) property occupied the mountain ridge directly south of the Pegasus property. Diamond drilling on the Nook property produced 0.3 meters of 358% copper and 0.29% zinc. A 1.0 meter

intersection produced 0.86% copper and 0.1% zinc. The mineralization occurred at a contact between a black graphitic argillite and a porphyritic dacite. The Nook property offers excellent exploration geology with acid volcanics in contact with sediments, extensive alteration and geochemically anomalous gold and silver values, Geochemical soil surveys, IP, PEM, VLF, Airborne Input EM, MaxMin and drilling were done.

The Mega property (Assessment Reports - 5539 and 15089) (Minfile #30) is located 11 km northeast of Pegasus. A surface showing of silver, lead, copper, gold and zinc are reported from the Antler Formation and other rocks adjacent to a splay of the McLeod Lake Fault.

The Jay claim (Assessment Report - 8920) was staked on Mount Bowron to cover the upper end of a stream with high copper values. Mount Bowron is 11 km. north of the Pegasus site. The highest soil geochemistry was over limestone with copper at 2650 ppm and zinc at 2900 ppm.”

From: AR #25528 Geochemical and Geophysical work on the Pegasus Group by G & M Johnston P.Geo dated April 30, 1998.

Location of Pegasus property in relation to the Sandlot Claim is approximately 12.0kms to the west and just immediately south of Hwy 16. The Pegasus property is on the cusp of the Cariboo Terrane in contact with the Slide Mtn Terrane and is of a different geological setting than that of the Sandlot claim area. The described mineral occurrences above are situated in a fracture controlled environment.

### **Chu Chua Deposit**

This property is located in the Barriere River area of central British Columbia; the deposit is entirely hosted in basalts of the upper Fennell formation of the Slide Mtn Terrane, a similar geological setting as to the Antler formation at the Sandlot Property (Figure 6). The Chu Chua deposit contains 2 million tons of 2% Cu, 0.4% Zn, and 0.1% Co; the deposit occurs in pyritic lenses that are associated with pyritic cherty horizons and magnetite/talc lenses. The deposit area first drew attention by the enticement of a transported gossan; a meticulous prospecting program upslope found another small, slightly anomalous gossan situated next to a magnetite body that led to the massive sulphide discovery. The following excerpt describes the Chu Chua property:-

“The Chu Chua property is underlain by rocks of the Mississippian to Permian Fennell formation (Schiarizza and Preto, 1987) (See Figure 9 below). This formation has been subdivided into an upper and lower division. The lower Fennell forms a north-south trending belt of interbedded and thrust fault slices of massive basalt, sediments and QFP rhyolites. This sequence is exposed over a strike length of at least 30 km which extends from the Barriere River to Clearwater.

The Upper Fennell is inferred to be in fault contact with the Lower Fennell on the basis of conodont ages determined from chert beds in both divisions (Schiarizza and Preto, 1987). It

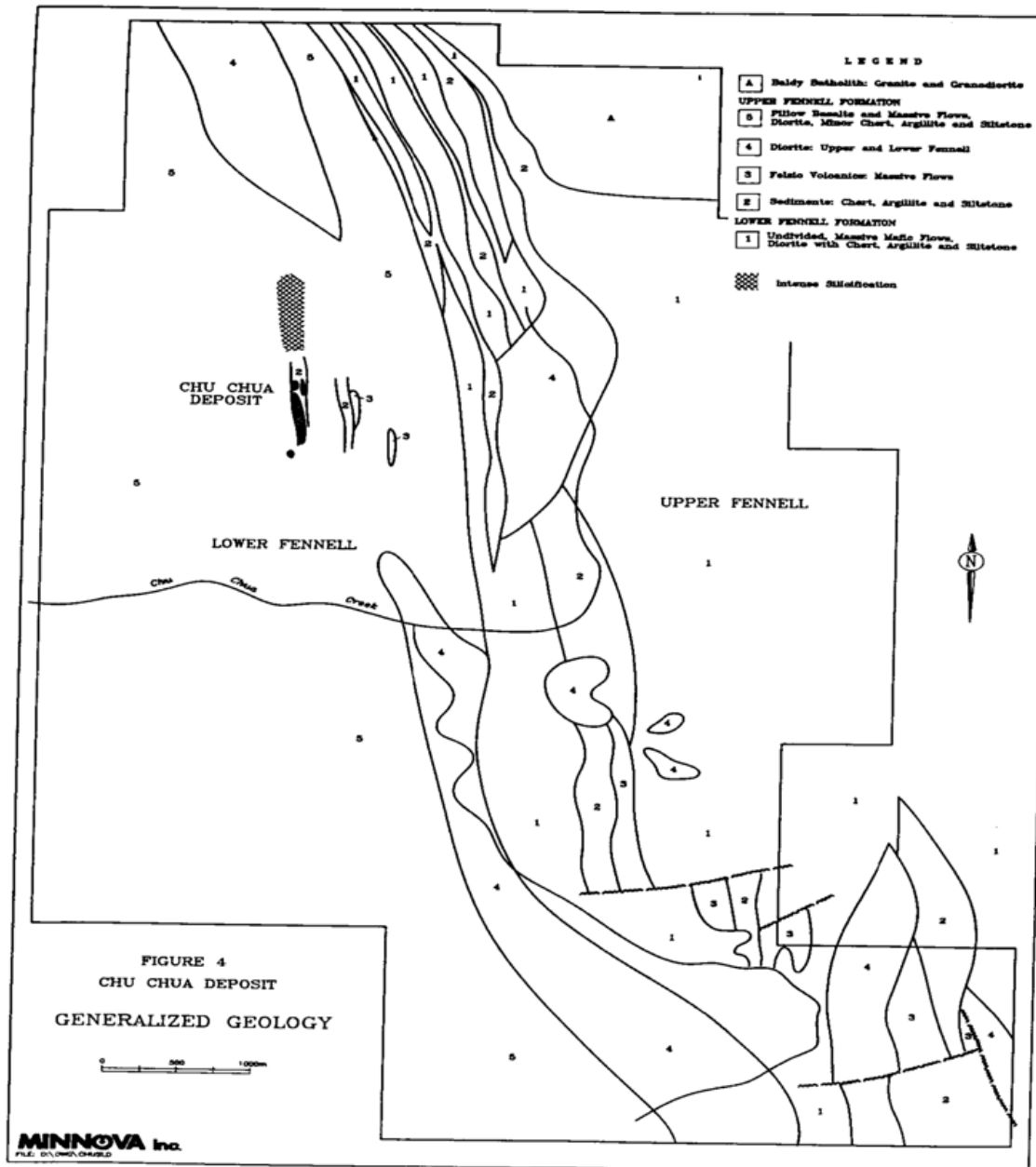
consists of pillowed and massive basalt flows, diabase sills, argillite and chert. This sequence underlies most of the Chu Chua property and hosts the Chu Chua massive sulphide deposit.

The Fennell formation is intruded by the Cretaceous-aged Baldy granitic batholith which forms a prominent easterly trending mountain range to the northeast of Barriere. Deformation in the Fennell is not intense even though units have been rotated into a vertically dipping, west-facing homocline. Schiarizza and Preto suggest that this sequence occurs on the western link of a thrust-dismembered anticline. The regional metamorphic grade is lower greenschist. Within 500 meters of the Baldy Batholith there is a hornblende hornfels contact metamorphic aureole.”

Reference: Page 8 from: <http://www.em.gov.bc.ca/DL/ArisReports/22039.PDF> by G. S. Wells Ph.D Nov. 1991

Note the comment from above “This sequence (the upper Fennell formation) underlies most of the Chu Chua property and hosts the Chu Chua massive sulphide deposit.” Yet the following generalized geology map of the property indicates the deposit lies within the Lower Fennell formation; however the legend shows the deposit lies clearly within the upper Fennell formation’s unit 5.

**Figure 9 Generalized Geology Map of the Chu Chua Deposit** (From AR 22039)



## **Discussion**

The Sandlot Property hosts a similar geological environment as the Chu Chua deposit; both properties contain similar features namely argillite-chert horizons and massive basalt volcanic flows. The airborne geophysics survey conducted by CCH Resources (Figure 4, page 11) shows several subtle Total Field magnetic responses within the vicinity of the Sandlot Property; this could represent deeper magnetic bodies similar to the Chu Chua deposit's magnetite bodies. A further article in the Geological Fieldwork 1979 by the BCGS describes the nature of the CC deposit, below is an excerpt from page 41 of the report:-

“Massive sulphide and magnetite lodes of the CC deposit are generally closely associated with pyritic, fine grained, siliceous, often brecciated and locally laminated, cherty rocks. These rocks are over and underlain by basaltic, often pillowed, locally brecciated volcanic rocks. On the east side, the volcanic rocks are hydrothermally altered and the alteration fades to the east. It is interpreted that the alteration took place in the footwall lavas and therefore the deposit is proximal and faces westward”

From: BCMEMPR Paper 1980-1; CC Prospect, Chu Chua Mountain by W.J. McMillan

This report also points out the irregularities in the BC Geological database as well as reporting by other authors already mentioned. The designated location of the bentonite occurrence on the Sandlot Property is not generally conducive to the “typical” basin type Bentonite deposit but more so of a hydrothermal alteration event that maybe associated with volcanic activity. The CC deposit has also hydrothermal alteration in the footwall lavas hosting the deposit.

## **Conclusions and Recommendations**

The author of this report could not substantiate the location of the Bentonite occurrence on the Sandlot Property and concludes that the location is not accurately documented in the literature. The Property provides an excellent opportunity to host a VMS deposit comparable to the Chu Chua based upon similar grouping of basaltic rocks into the upper division the Slide Mtn Terrane.

It is recommended that more ground should be acquired to the south and west of the property covering the magnetic responses as displayed in Figure 4, page 11. Further work should be conducted in two phases: - the 1<sup>st</sup> phase consists of a detailed prospecting and mapping program on the existing and acquired claims; a 2<sup>nd</sup> phase of geochemical soil sampling and ground geophysics. Total cost budgeted for the 1<sup>st</sup> phase is \$30,000 CAD and the 2<sup>nd</sup> phase \$70,000 CAD. The 2<sup>nd</sup> phase is not contingent on the results of the 1<sup>st</sup> stage.

## Cost of Current Exploration Program

### Wages

B. Hemingway B.Sc	4 days @ \$200/day	\$ 800.00
T. Hunter	4 days @ \$100/day	\$ 400.00

### Meal Allowance

B. Hemingway	4 days @ \$35/day	\$ 140.00
T. Hunter	4 days @ \$35/day	\$ 140.00

### Accommodations

Anco Motel		\$ 184.00
Ramada		\$ 92.00

### Travel

Vehicle usage	4 days @ \$55/day	\$ 220.00
Fuel		
	Chillawack	\$ 34.69
	100 Mile	\$ 28.73
	Prince George	\$ 28.79
	Prince George	\$ 16.76
	Williams Lake	\$ 31.97
	Hope	\$ 10.00
	Abbotsford	\$ 27.13

### Office

Report Writing	B. Hemingway B.Sc	2.5 days @ \$200/day	\$ 500.00
Maps	CloverPoint		\$ 56.96
Photocopying	Digi Print		\$ 15.84
	Staples		\$ 1.74

<b>Assaying</b>	Acme Labs (estimated)	<u>\$ 45.00</u>
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<b>Total Expenditure</b>	<b><u><u>\$2,773.61</u></u></b>
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## Statement of Qualifications

I, John Kowalchuk of Richmond, British Columbia, Canada, do hereby certify that:

1. I am a consulting geologist, sole proprietor of JMK Geological Services with an office at #16, 7491 No 1 Road, Richmond, B.C.
2. I am a graduate of M<sup>c</sup> Master University of Hamilton, Ontario, Canada with an honours degree in Geology. I graduated in 1970.
3. I am a Professional Geoscientist, registered with the Association of Engineers and Geoscientists of British Columbia.
3. I have practiced continuously as a geologist, primarily in Western North America since 1970.
4. I personally supervised Mr. Brent Hemingway in the planning, work and interpretation of this survey and report.
5. I have no interest in the Sandlot Property and no interest in any claims within the vicinity of the Property.

Dated this 2nd day of January, 2007

*John Kowalchuk*

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John Kowalchuk, P.Geol.


Richmond, B.C

## Statement of Qualifications

I, Brent Hemingway of the City of Surrey, British Columbia; certify hereby:

1. I am a Geologist residing at #50-1640-162<sup>nd</sup> Street Surrey BC., V4A 6Y9
2. I am a graduate of UBC with a Bachelor of Science in Geology in 1978
3. I am a Fellow of the Geological Association of Canada
4. I am a member of the Society Economic Geologists
5. I have engaged in the study of Geology after graduation for four years with several major and junior exploration companies in Western Canada and thereafter for eighteen years as a free agent.
6. I personally examined and carried out the current survey on the Sandlot Property from May 26 to May 30, 2006; the findings are described within this report
7. This report is reliant on the records from previous operators on the Sandlot Property, data in the literature from the British Columbia Ministry of Mines and data from the Canadian Federal Government.
8. I am the author of this report, the composition thereof, and with the planning of the current survey.
9. I was contracted by Mr. Reza Mohammed to examine and assess the Sandlot Property
10. I have no interest in the Sandlot Property and no interest in any other claims within the vicinity of the Property.

Dated this 2nd day of January, 2007

  
Alan Brent Hemingway, B.Sc/FGAC

Surrey, B.C.

## References

### BC Assessment Reports and Papers

- EMPR ASS RPT #8160 Helicopter Magnetic and Electromagnetic Survey on four prospects in the Bowron River area by R. F. Sheldrake B.Sc May, 1990
- EMPR ASS RPT #22,039 Page 8, Diamond Drilling and Geophysical Report, Chu Chua Property by G. S. Wells Ph. D Nov. 1991
- EMPR ASS RPT #25,528 Geochemical and Geophysical work on the Pegasus Group by G & M Johnston P.Geo April, 1998.
- EMPR ASS RPT #27,900 Page 4 Magnetometer Survey and Exploration of the Pat Claims by S. Fraser M.Sc P. Geo and J. Dahrouge B.Sc P. Geo Oct, 2005
- BCMEMPR Paper 1980-1, Page 41 CC Prospect, Chu Chua Mountain by W.J. McMillan

### Geological Survey of Canada Reports

- Deville and Struik (1989) Polyphase tectonic, metamorphic and magmatic events in the Wolverine complex, Mount Mackinnon Current Research, GSC Paper 90-1E p.65-69
- Struik and Fuller (1988) Preliminary Report on the geology of the McLeod Lake area in Current Research GSC Paper 88-1E p.30-42
- Struik (1989) Regional geology of the McLeod Lake area Current Research GSC Paper 88-1E p.109-114
- Struik, L. C., Fuller, E. A., and Lynch, T. E. – 1990 Geology of Prince George (east half) Map area (93G/E); GSC, Open File 2172.

### Web Sites

- <http://www.mtonline.gov.bc.ca/>
- [http://webmap.em.gov.bc.ca/mapplace/minpot/ex\\_assist.cfm](http://webmap.em.gov.bc.ca/mapplace/minpot/ex_assist.cfm)
- <http://www.theweathernetwork.com>

## Appendix

Silt Sample #0601 was collected from a fast flowing creek, the location marked in Figure 7. The soil sample was collected, air dried in kraft paper bags and sent to Acme Laboratories Ltd. in Vancouver BC. At Acme Labs, the samples were dried further and sieved at 80 mesh. A 0.5 gram sample was leached with 3ml of 2-2-2 HCl-HNO<sub>3</sub>-H<sub>2</sub>O at 95° for one hour then diluted to 10ml and placed in the Inductively Coupled Plasma Mass Spectrometry machine, the ICP-MS method was used to determine the concentration of 36 elements. Below is the table of analysis:

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST.  
VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT

To REZA MOHAMMAD

Acme file # A606367 Received: SEP 28 2006 \* 3 samples in this disk file.

Analysis: GROUP 1DX - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO<sub>3</sub>-H<sub>2</sub>O  
AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-MS.

ELEMENT	<b>Mo</b>	<b>Cu</b>	<b>Pb</b>	<b>Zn</b>	<b>Ag</b>	<b>Ni</b>	<b>Co</b>	<b>Mn</b>
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
G-1	0.1	2.3	3.4	42	<.1	3.4	4	508
D601	0.7	40.8	5.4	94	<.1	40.1	15.4	920
STANDARD								
DS7	20.5	104.5	66.8	391	0.8	53	9.2	600
ELEMENT	<b>Fe</b>	<b>As</b>	<b>U</b>	<b>Au</b>	<b>Th</b>	<b>Sr</b>	<b>Cd</b>	<b>Sb</b>
SAMPLES	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm
G-1	1.84	<.5	2.8	<.5	4.3	67	<.1	<.1
D601	2.49	2.4	0.5	0.5	1.1	25	0.3	0.2
STANDARD								
DS7	2.31	44.1	4.9	81.5	4.3	68	6	5.1
ELEMENT	<b>Bi</b>	<b>V</b>	<b>Ca</b>	<b>P</b>	<b>La</b>	<b>Cr</b>	<b>Mg</b>	<b>Ba</b>
SAMPLES	ppm	ppm	%	%	ppm	ppm	%	ppm
G-1	0.1	36	0.53	0.065	8	7	0.55	197
D601	0.1	61	1.05	0.072	9	48	0.74	85
STANDARD								
DS7	4.4	85	0.89	0.069	12	169	1.01	357
ELEMENT	<b>Ti</b>	<b>B</b>	<b>Al</b>	<b>Na</b>	<b>K</b>	<b>W</b>	<b>Hg</b>	<b>Sc</b>
SAMPLES	%	ppm	%	%	%	ppm	ppm	ppm
G-1	0.132	1	0.97	0.09	0.48	0.1	<.01	2
D601	0.106	2	2.02	0.007	0.04	0.1	0.07	5.6
STANDARD								
DS7	0.121	37	0.94	0.076	0.42	3.8	0.2	2.4
ELEMENT		<b>Tl</b>	<b>S</b>	<b>Ga</b>	<b>Se</b>			
SAMPLES		ppm	%	ppm	ppm			
G-1		0.3	<.05	4	<.5			
D601		<.1	<.05	4	1.3			
STANDARD								
DS7		4.1	0.2	4	3.3			