

## **ASSESSMENT REPORT TITLE PAGE AND SUMMARY**

**TITLE OF REPORT: DIAMOND DRILLING, Prospecting and Physical Work  
Assessment Report on the Frank Creek and Peripheral Properties, Cariboo Mining  
Division, British Columbia**

**TOTAL COST: \$250,000.00**

**AUTHOR(S): REIN TURNA**

**SIGNATURE(S): "SIGNED"**

**NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-10-155**

**STATEMENT OF WORK EVENT NUMBER(S)/DATE(S) : 4388069, OCTOBER 31,  
2008 TO OCTOBER 31, 2009**

**YEAR OF WORK: 2008 & 2009**

**PROPERTY NAME: FRANK CREEK**

**CLAIM NAME(S) (on which work was done)**

**COMMODITIES SOUGHT: COPPER, LEAD, ZINC, GOLD & SILVER**

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

**MINING DIVISION: CARIBOO**

**BCGS: 093A/11 & 093A/14**

**LATITUDE 52.75° NORTH**

**LONGITUDE 121.36° WEST (at centre of work)**

**UTM Zone EASTING 610655 NORTHING 5845640**

**OWNER(S): BARKER MINERALS LTD.**

**MAILING ADDRESS: 8384 TOOMBS DRIVE, PRINCE GEORGE BC, V2K 5A3**

**OPERATOR(S) [who paid for the work]: BARKER MINERALS LTD.**

**MAILING ADDRESS: 8384 TOOMBS DRIVE, PRINCE GEORGE BC, V2K 5A3**

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

**BARKERVILLE TERRANE, MASSIVE SULPHIDES, GOLD & SILVER**

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT  
NUMBERS**

**9669, 9677, 10252, 10264, 11620, 13154, 15420, 15804, 17696, 19354, 21930, 22599,  
22642, 24662, 25752, 26003, 26504, 26805, 27125, 27655, 28248, 28978, 29740, 30764.**

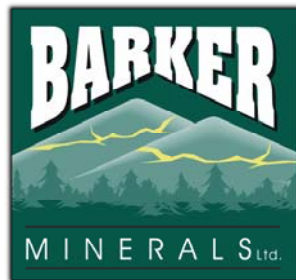
**DIAMOND DRILLING,  
Prospecting and Physical Work**

**ASSESSMENT REPORT  
On the**

**BC Geological Survey  
Assessment Report  
31389**

**FRANK CREEK and  
Peripheral Properties**

Cariboo Mining Division, British Columbia



for

Barker Minerals Ltd.  
8384 Toombs Drive  
Prince George, BC  
V2K 5A3

Prepared by:

Rein Turna, P.Geo.

February 20, 2010



Plate No. 1. 'Blue-quartz-eye schist'. Core on left is from 2004's DDH hole FC04-13 approximately 400 m north of the 2007-2008 trenching area (F9 Area). Rock on right is float from the Discovery Trench area. Both are less altered and foliated versions of the quartz muscovite schist associated with massive sulphide lenses in the F9 Area. The rock is characterized by pale milky blue quartz 'eyes' thought to be rounded phenocrysts in a rhyolitic volcanoclastic; some 'eyes' are subhedral with straight sides. A blue quartz 'eye' is seen in the core just above the line of the light glare. Brown areas on the core appear to be Fe carbonate. White spots in the rock on right have straight sides and appear to be feldspar phenocrysts, relatively rare in the schists.



Plate No. 2. Fine grained massive chalcopyrite and pyrite layer in quartz muscovite schist from the Discovery Trench. Coarser vein chalcopyrite in the lower part of the specimen appears to be later. The massive sulphide layer is gently warped along with the rock's foliation.

## 1.0 SUMMARY

Work performed in 2009 on Barker Minerals Ltd.'s main contiguous group of mineral properties was concentrated in the Frank Creek area where two diamond drill holes (900 m) were done and rock samples were collected from a recently excavated trench. Rock samples were also collected in prospecting at the Ace, Black Bear and Peacock (Rollie Creek) areas.

DDH FC09-38 targeted a strong HLEM conductor. The hole intersected a quartz vein stockwork in a very intense silica-sericite alteration zone which was sulphide-poor. An unmineralized gouge (fault) zone in locally graphitic sedimentary rocks may explain the conductor here. A gold-anomalous zone occurred between 39 to 60 m, associated with Pb and Zn in graphitic argillites. Though it was necessary to test the HLEM conductor, it is considered this drill hole was poor in sulphides due to it not being on geological strike with the stratabound massive sulphides in the nearby Discovery Trench.

DDH FC09-39 targeted a strong Titan-24 low resistivity (conductor) anomaly. The upper 90 m of this hole intersected locally graphitic sedimentary rocks which had generally elevated values in a number of elements, including gold. This can be partly explained by high background geochemical values to be expected in this type of rock or by mineralization remobilized from an older deposit, though the anomalous gold may be related to relatively late veins. Hole 39 had a mineralized zone between approximately 280 m and 410 m associated with a stockwork of sulphide veins in silicified and sericitized 'quartz eye' volcanoclastics. This mineralized zone appears to correlate with massive sulphide lenses discovered in trenching in the F9 area in 2007 and drilling in 2008.

A overall schematic interpretation is provided in Figure No. 23. Drilling in a grid pattern is recommended to follow the massive sulphide mineralization outward from the known locations.

## TABLE OF CONTENTS

	Page
1.0 SUMMARY	i
2.0 INTRODUCTION	1
3.0 PROPERTY DESCRIPTION and LOCATION	1
4.0 MINERAL CLAIMS	1
5.0 PHYSIOGRAPHY and ACCESSIBILITY	2
6.0 HISTORY	3
6.1 Frank Creek Property	3
6.1.1 Work Done in 1980	3
6.1.2 Work Done in 1981	3
6.1.3 Work Done in 1981	3
6.1.4 Work Done in 1983	3
6.1.5 Work Done in 1983	4
6.1.6 Work Done in 1984-1986	4
6.1.7 Work Done in 1986	4
6.1.8 Work Done in 1987	4
6.1.9 Work Done in 1988-1989	5
6.1.10 Work Done in 1991	5
6.1.11 Work Done in 1992	6
6.1.12 Work Done in 1992	7
6.1.13 Work Done in 1996	7
6.1.14 Work Done in 1998	7
6.1.15 Work Done in 1999	8
6.1.16 Work Done in 2000	8
6.1.17 Work Done in 2001	9
6.1.18 Work Done in 2002	10
6.1.19 Work Done in 2003-2004	11
6.1.20 Work Done in 2005-2006	13
6.1.21 Work Done in 2006-2007	13
6.1.22 Work done in 2008	14
6.2 Ace, Black Bear, Peacock Properties	14
7.0 EXPLORATION PROGRAM – 2009	15
7.1 Economic Target and Work Done	15
7.2 Sampling Method and Approach	15
7.3 Laboratory Methods	15
7.3.1 Sample Preparation and Analysis	15
7.3.2 Verification of Accuracy	15
8.0 GEOLOGY	15
8.1 Regional Geology	15
Quesnel Terrane	18
Slide Mountain Terrane	19
Barkerville Terrane	19
Cariboo Terrane	20
Glaciation and Glacial Deposits	20
8.2 Local Geology	21
9.0 COMPILATION	22
9.1 QUEST and Likely Projects	22

10.0 FRANK CREEK PROPERTY	24
10.1 Diamond Drilling	24
DDH FC09-38	26
DDH FC09-39	26
Borehole TEM Geophysical Survey in DDH FC09-39	26
10.2 Rock Sampling, Trench Reclamation, Road Upgrading	27
11.0 ACE, BLACK BEAR, PEACOCK PROPERTIES	27
12.0 CONCLUSIONS	28
12.1 Frank Creek Property	28
13.0 RECOMMENDATIONS	28
13.1 Frank Creek Property	28
13.2 Ace, Black Bear, Peacock Properties	28

#### LIST of PLATES & FIGURES

	Page No.
Plate No. 1 Blue-quartz-eye schist	after Title Page
Plate No. 2 Fine grained massive chalcopyrite and pyrite layer	after Title Page
Figure No. 1 Main Property Location in British Columbia	2
Figure No. 2 Barker Minerals Ltd. Mineral Claims	after Page 2
Figure No. 3 Frank Creek Property - Geophysical Trends A, B, C	12
Figure No. 4 Terrane Map of Southern British Columbia	16
Figure No. 5 Terrane Map of Cariboo Lake – Wells Area	17
Figure No. 6 Schematic Regional Structural Section	18
Figure No. 7 Geology of Frank Creek Area	21
Figure No. 8 Barker Projects on QUEST Magnetics	after Page 23
Figure No. 9 Barker Projects on QUEST Conductivity	after Page 23
Figure No. 10 Barker Projects on QUEST Domains for Density+Conductivity+Magnetics	after Page 23
Figure No. 11 Barker Projects on QUEST Geology	after Page 23
Figure No. 12 Barker Projects on GSC Magnetics & Conductors	after Page 23
Figure No. 13 Barker Projects on GSC OF 6157-2 Magnetics 1 <sup>st</sup> Derivative	after Page 23
Figure No. 14 Barker Projects on GSC OF 6158-2 Magnetics 1 <sup>st</sup> Derivative	after Page 23
Figure No. 15 Barker Projects on GSC OF 6164-2 Magnetics 1 <sup>st</sup> Derivative	after Page 23
Figure No. 16 Frank Creek Property – Geophysical Conductors	24
Figure No. 17 Line 5700 Unconstrained UBC Smooth 2D DC Resistivity – Drill Target	25
Figure No. 18 Line 5300 Unconstrained UBC Smooth 2D DC Resistivity – Drill Target	25
Figure No. 19 Line 5100 Unconstrained UBC Smooth 2D DC Resistivity – Drill Target	25
Figure No. 20 Location Map of 2009 Drilling and Rock Sampling	after pg. 27
Figure No. 21 Diamond Drill Hole Profile DDH FC09-38	after pg. 27
Figure No. 22 Diamond Drill Hole Profile DDH FC09-39	after pg. 27
Figure No. 23 Line 5300 Schematic Interpretation	after pg. 27
Figure No. 24 Frank Creek & Peacock Prospecting Areas (2009)	after pg. 27
Figure No. 25 Ace Property, Locations of 2009 Prospecting & Samples	after pg. 27
Figure No. 26 Black Bear Property, Locations of 2009 Prospecting & Samples	after pg. 27
Figure Borehole FC09-39 & Loop Location Map	in Appendix E
Figure Borehole FC09-39 Total Field	in Appendix E
Figure Borehole FC09-39 Total Field	in Appendix E

Figure	Borehole FC09-39 X Component	in Appendix E
Figure	Borehole FC09-39 X Component	in Appendix E
Figure	Borehole FC09-39 Y Component	in Appendix E
Figure	Borehole FC09-39 Y Component	in Appendix E
Figure	Borehole FC09-39 Z Component	in Appendix E
Figure	Borehole FC09-39 Z Component	in Appendix E

#### LIST of APPENDICES

Appendix A	Glossary of Terms
Appendix B	Barker Minerals Ltd. Mineral Claim Details.
Appendix C	Analytical Methods
Appendix D	Analytical Data
Appendix E	Quantec Geoscience Ltd. - 3D Fixed-Loop Borehole TEM Survey
Appendix F	Diamond Drill Hole Logs
Appendix G	References
Appendix H	Statement of Expenditures
Appendix I	Statements of Qualifications
Appendix J	Geological Compilation on the Cariboo Property
Appendix K	Geological Compilation on the Black Bear Property
Appendix L	Geological Compilation on the Ace Property

## 2.0 INTRODUCTION

This report describes assessment work performed on Barker Minerals Ltd. mineral properties in 2009. Diamond drilling was done between November 1 and December 13, 2009. On the Frank Creek Property geophysical targets were tested by two diamond drill holes (900 m). Rock samples were collected in a nearby trench and outcrop. An existing road was upgraded and several older trenches and test pits were reclaimed. Prospecting and rock sampling was done at the Ace, Black Bear and Peacock (Rollie Creek) properties. The latter property has been referred to in the past by various sources as Peacock or Rollie Creek. Peacock will be the name used henceforth.

In this report chemical abbreviations are used for the elements discussed. The elements and abbreviations are:

Ag	Silver	Fe	Iron
As	Arsenic	Mn	Manganese
Au	Gold	Pb	Lead
Ba	Barium	Sb	Antimony
Co	Cobalt	Zn	Zinc
Cu	Copper		

## 3.0 PROPERTY DESCRIPTION and LOCATION

The Main Property consists of contiguous claims listed in Appendix B – Barker Minerals Ltd. Mineral Claim Details. The Main Property's location in British Columbia is indicated in Figure No. 1 – Main Property Location in British Columbia, and the mineral claims are outlined in Figure No. 2 – Barker Minerals Ltd. Mineral Claims. The mineral claims comprising the property are located generally in the area between Quesnel and Cariboo Lakes of the Cariboo Mining Division in British Columbia and are 100% owned by Barker Minerals Ltd. of Prince George, B.C.

The Property is approximately 10 km north of the settlement of Likely and 90 km northeast the City of Williams Lake. The City of Prince George is 155 km to the north.

The geographic coordinates of the Frank Creek Property are:

52.75° North Latitude and 121.36° West Longitude or  
610655 E and 5845640 N UTM coordinates (NAD 83).

The relevant maps are:

N.T.S. Map No. 93A/11 and 93A/14.

## 4.0 MINERAL CLAIMS

Details about the mineral claims are provided in Appendix B – Barker Minerals Ltd. Mineral Claim Details.



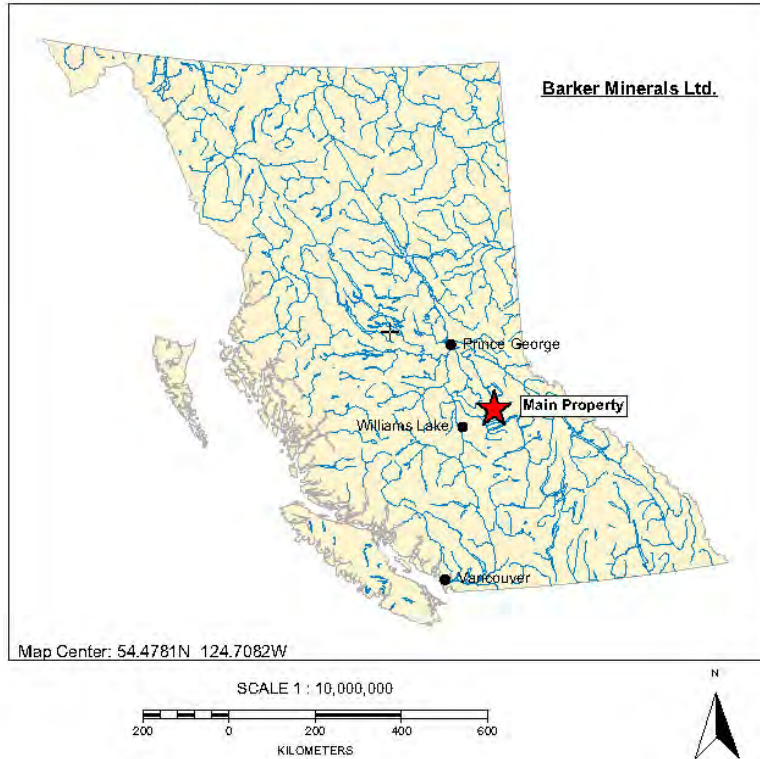


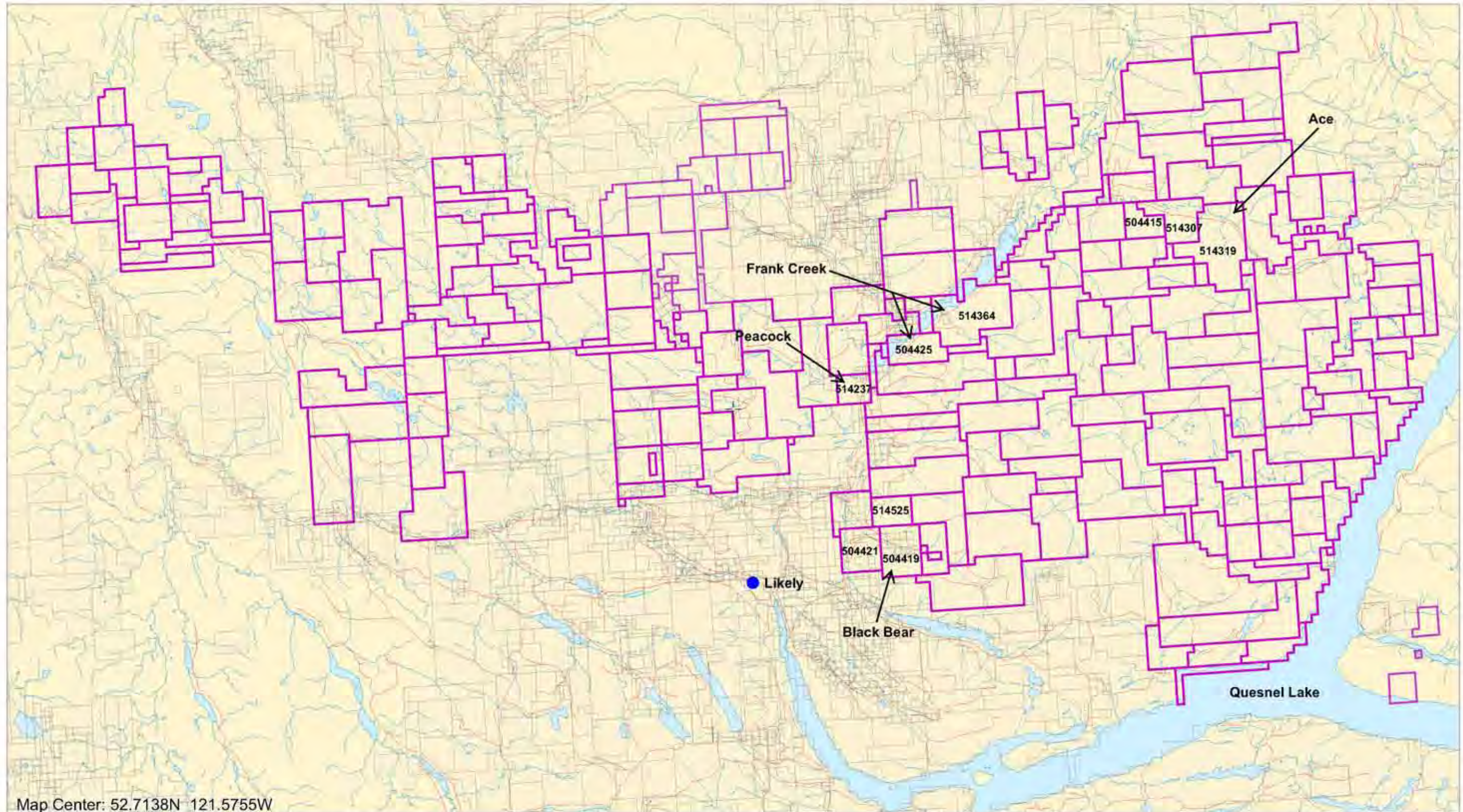
Figure No. 1 Main Property Location in British Columbia.

## 5.0 PHYSIOGRAPHY and ACCESSIBILITY

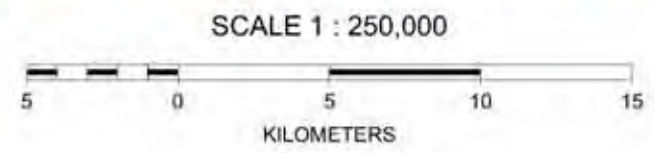
The following description in *italics*, is after McKinley, 2004:

*The property is situated in the central part of the Quesnel Highland between the eastern edge of the Interior Plateau and the western foothills of the Columbia Mountains. This area contains rounded mountains that are transitional between the rolling plateaus to the west and the rugged Cariboo Mountains to the east. Pleistocene and Recent ice sheets flowed away from the high mountains to the east over these plateaus and down to the southwest (Cariboo River), west (Little River) and northeast (Quesnel Lake), carving U-shaped valleys. The elevation ranges from 700-1650 m. Precipitation in the region is heavy, as rain in the summer and snow in the winter. Drainage is to the west via the Cariboo, Little and Quesnel Rivers to the Fraser River. Quesnel Lake, the main scenic and topographic feature in the region, is a deep, long, forked, glacier-carved lake with an outlet at 725 m elevation. Vegetation is old-growth spruce, fir, pine, hemlock and cedar forest in all but the alpine regions of the higher mountains (mainly above 1400 m elevation). Weldwood has been actively logging fir, spruce and pine in the area.*

Access to the Frank Creek is via gravel logging roads bearing northeast from Likely. The way is: Keithley Creek road for 19 km, take right branch onto Barkerville road and cross over Cariboo River. Continue north on Barkerville (8400) road for 6 km. Take right branch (sign indicates D Road) to Frank Creek work area. Ace property is reached by continuing north on the Barkerville Road to approximately the 8420 km marker sign.



Map Center: 52.7138N 121.5755W



## Barker Minerals Ltd. Mineral Claims

Cariboo Mining Division

Figure No. 2



**Note:**  
 Claims identified with Tenure Numbers are those which have had assessment work done on them.  
 Assessment is applied to the main contiguous claim group.

## 6.0 HISTORY

### 6.1 Frank Creek Property

Old placer workings on the lower portion of Frank Creek suggest placer mining was conducted perhaps since the turn of the 20<sup>th</sup> century and possibly earlier.

#### 6.1.1 Work done in 1980.

The relevant reports are Assessment Reports 9669 and 9677 by M.G. Larsen.

Work was done in 1980 by May G. Larsen on the Darcy claims and Alan claims, each consisting of 2 claim units. The Darcy claims straddled the Cariboo Lake Road, on the southeast side of Cariboo Lake approximately 2.5 km northeast of the south end of the lake. The Alan claims straddled Wilby (Pearson) Creek, 5.0 km east of the south end on Cariboo Lake. Prospecting and conventional panning for gold was done. A field chemical test kit and a fluorescent lamp were used to detect various elements and minerals. Nothing of interest was found.

#### 6.1.2 Work done in 1981.

The relevant report is Assessment Report 10252 by T.A. Jones.

Work was done in 1981 for Canadian Nickel Mining Limited on the BT claims, consisting of 103 claim units covering Browntop Mountain and the head waters of Frank Creek, north of Seller Creek and Badger Peak. Geological mapping was done and rock and stream sediment samples were collected. Samples of quartz veins had geochemical results of up to 250 ppb Au. The quartz veins occurred in a drainage area of a stream where a silt sample had 330 ppb Au. Quartz veins up to 1 metre thick were stated to be abundant near the common corner of the BT 5, 6, 7, 8 claims, this on a hill approximately 2.0 km southwest of Goose Peak. Follow up work was recommended.

#### 6.1.3 Work done in 1981.

The relevant report is Assessment Report 10264 by J.S. Christie et al.

Work was done in 1981 for E & B Explorations Inc. on the Boomerang Property consisting of 104 claim units in the head waters of Seller Creek and covering Badger Peak on the south side of Canadian Nickel's BT claims. Reconnaissance stream sediment and soil sampling was done to follow up government geochem data indicating a 750 ppm As anomaly in a stream. The stream and soil samples returned values up to 345 ppm As and up to 1,500 ppm Pb. Gold values obtained were low. Areas of very rusty soil and outcrop occurred in the anomalous drainage and quartz vein float containing galena, tetrahedrite and sphalerite were found. Follow up work was recommended.

#### 6.1.4 Work done in 1983.

The relevant report is Assessment Report 11620 by Beaton, R.H.

Work was done in 1983 for Silver Standard Mines Limited on the Thunder Property consisting of 36 claim units roughly along the southeast side of Cariboo Lake, extending from Frank Creek southwest toward Wilby Creek. Initial prospecting in early 1983 discovered pyrite-chalcopyrite mineralization on the 'D' logging road on the west side of Frank Creek. Subsequent follow up included 419 soil samples collected over a grid consisting of 22.4 km cut line over a 1.2 km x 2.0 km area. Soils anomalous in copper, zinc or silver were followed up by limited mechanical trenching at 3 locations along roads. Minor sulphide mineralization was found and was deemed to be probably related to lenses of intrusive rock and to a lesser degree quartz veining. No follow up work was recommended.

#### **6.1.5 Work done in 1983.**

The relevant report is Assessment Report 13154 by Mar, J.

Work was done in 1983 for Esso Minerals Canada on the NB claims consisting of 40 claim units covering Wilby Creek drainage and southward toward Seller Creek. Work consisted of geological mapping over the claims area and stream sediment and soil sampling concentrated close to the banks of Wilby Creek. Stream sampling included heavy mineral concentrates and conventional stream sediments. 13 rock, 8 heavy mineral and 124 soil samples were collected. Rocks mapped were considered to be metamorphosed volcanic and sedimentary rocks belonging to the Harveys [Ridge] Succession and granitic gneiss, possibly a sill, belonging to the Quesnel Lake Gneiss. Rusty carbonate-sericite altered rock appeared to occur widespread on the north side of Wilby Creek. Minor pyrite, chalcopyrite, galena and sphalerite occurred with quartz and altered rock.

Several rock samples were anomalous in Au and in pathfinder elements; the highest Au value was 445 ppb. The Assessment Report text states that stream sediments indicated an enhanced background for As and Sb but modest Au values. Heavy mineral concentrate Sample No. H331 had 3,600 ppb Au however and a conventional stream sample at the same location on Wilby Creek had 130 ppb Au. The Assessment Report text states that the soils gave 'best responses' or anomalies in As, Co, Cu and Pb. No Co, Cu or Pb results in soils are provided in the report however. Though a suite of anomalous metals were acknowledged the soil results were considered sporadic with no well-defined trends. No follow up work was recommended.

#### **6.1.6 Work done in 1984 to 1986.**

*Work on [Frank Creek] was done from 1984 to 1986 by the Rasmussen Brothers, who re-entered and re-explored the old Apostle placer drift on the west bank of the creek and dug a 48 foot (14.6 metre) shaft higher on the creek. When large massive sulphide boulders were found at the base of placer gravels on the east side of the creek, a hard rock claim, the Home Run (9 units) was staked, but little or no exploration was done and the claim lapsed in 1987. (Guinet, 1988).*

#### **6.1.7 Work done in 1986.**

The relevant reports are Assessment Reports 15420 and 15804 by Schmidt, U.

Work was done in 1986 for Casmiro Resource Corp. on the C1, Conch1 and C3 claim groups totalling 56 claim units. The C1 and Conch1 claims were located approximately 2.0 km south of the south end of Cariboo Lake, on the west side of Esso's NB claims. The C3 claim was located on the east side of Esso's claims and in the headwaters area of Wilby Creek and south tributary of Frank Creek.

The purpose of the work was to locate areas of precious metals mineralization. Approximately 179 soil and 8 silt samples were collected and analysed. Geological mapping was also done in the C3 claim area. Metamorphosed sedimentary and intrusive rocks were observed. The report states no significant gold values occur on the C3 soil grid and that geochemical anomalies in other elements on the Conch 1 and C3 grids indicated off-property sources. An anomaly on C1 grid was considered to reflect lithological boundaries. It was recommended that the soil grids be extended.

#### **6.1.8 Work done in 1987.**

The relevant report is Assessment Report 17696 by Guinet, G.

Work was done in 1987 for Golden Eye Minerals Ltd. on the MASS claim consisting of 9 claim units covering the lower portion of Goose (Frank) Creek just above the Cariboo Lake Road, on the southeast side of Cariboo Lake.

The occurrence of numerous boulders of massive sulphides, up to just over 1.0 m in size, in the lower portion of Goose (Frank) Creek prompted prospecting and stream sampling to be done on the MASS claim area. 20 stream sediment samples were collected along a 1,300 m length of Goose (Frank) Creek. The source of the massive sulphide boulders was not found and the stream sampling had no interesting results. Further work was recommended to be done on the north side of the property, to include geochemical and geophysical (EM) surveys.

#### **6.1.9 Work done in 1988-1989.**

The relevant report is Assessment Report 19345 by Martin, L.S.

Work was done in 1988-1989 for Formosa Resources Corp. and Golden Eye Minerals Ltd. on the MASS Property totalling 100 claims covering the main parts of the drainages of Frank Creek and Wilby Creek.

Work consisted of geological mapping, soil sampling, VLF-EM and magnetic geophysical surveys and mechanical trenching. Approximately 1,400 soils and 166 rock samples were collected on a cut grid over approximately 2.0 km x 2.5 km in area. A suite of 30 elements was analysed. This work was concentrated on the west side of the lower part of Frank Creek.

Geological mapping outlined volcanic and sedimentary rock units of the Harveys Ridge Division and intrusive rocks of the Quesnel Lake Gneiss.

Three representative massive sulphide boulders from Frank Creek had assay results of:

Sample No.	Cu %	Pb %	Zn %	Ag oz/T	Au oz/T	Ba %
Q5351	0.45	3.91	3.48	3.50	0.001	0.75
Q5352	0.07	3.81	5.44	4.24	0.001	3.08
Q5353	1.38	2.13	2.24	1.96	0.005	0.32

Soil sampling results indicated a coincident Cu, Pb, Zn soil anomaly occurring in the vicinity of D logging road where Barker Minerals would in 1999 uncover massive sulphide mineralization in bedrock in their 'Discovery' trench (later named Frank Creek showing). Barium was conspicuously not anomalous in this area. This anomalous area had weak coincident VLF-EM anomalies. A significant magnetic anomaly occurring approximately 500 m to the west could not be explained.

The southern part of the MASS Property grid had anomalies in Cu, Pb, Zn and Ba in an area of weak local magnetic anomalies and a fairly consistent VLF-EM anomaly oriented NW-SE. These geophysical anomalies were thought to related to geological contacts between volcanic and sedimentary rocks and the Quesnel Lake Gneiss intrusive.

The trenching work did little more than indicate the presence of a thick blanket of till and that some of the soil anomalies may be transported. Further work was recommended to include soil sampling, trenching and eventually a drilling program.

#### **6.1.10 Work done in 1991.**

The relevant report is Assessment Report 21930 by McClintock, J.A.

Work was done in 1991 for Formosa Resources Corp. and Annex Exploration Corp. on the MASS and ANNEX Options totalling 245 claim units. These claims covered almost all of the southeast side of Cariboo Lake and extended from Wilby Creek in the south to Little River in the north.

Work consisted of prospecting, geological mapping, stream silt and soil sampling and 388 line km of helicopter-borne EM, magnetometer and radiometric surveying. 56 stream silt, 21 soil and 5 rock samples were collected. The objective was to find the bedrock source of numerous massive sulphide boulders known to occur near the mouth of Frank Creek.

The helicopter-borne EM survey found 7 areas of conductors; all of the conductors were deemed possibly caused by sulphides. Most of the conductors occurred in rocks mapped as Harveys Ridge Group. Black argillaceous schists were noted; these varied from non-graphitic to graphitic.

Magnetic anomalies were interpreted as possibly associated with intermediate and mafic volcanic rocks. All conductive anomalies occurred on the southwest side of Frank Creek except for the minor Area H located northeast of Frank Creek. Most of the conductive responses occurred as parallel multiple horizons. Conductors at Anomaly E were considered a priority for follow-up.

Further southwest, toward Wilby Creek, a much larger conductive complex was evident. Graphitic schist known to occur in some parts of the survey area was assumed a probable cause of most of the conductor anomalies there. Notwithstanding the considered occurrence of graphitic schists, the geophysical interpreter determined 7 areas of conductors worthy of follow up for base and precious metals mineralization.

The radiometric survey determined elevated potassium counts got were possibly associated with sediments having thin overburden cover at higher elevations on the property. The radiometric results did not appear to be mapping any specific lithology.

Further work was recommended to include prospecting, soil sampling and detailed mapping and a Max-Min EM geophysical survey. 610 m of diamond drilling was also recommended.

#### **6.1.11 Work done in 1992.**

The relevant report is Assessment Report 22599 by Donaldson, W.S.

Work was done in 1992 for Formosa Resources Corp. and Annex Exploration Corp. on the MASS Property totalling 176 claim units covering the area between Frank Creek and Wilby Creek to the southwest.

Work consisted of prospecting, geological mapping, VLF-EM and HLEM ground electromagnetic surveys, rock, soil and stream silt sampling and mechanical trenching. The electromagnetic and soil sampling surveys were done over 7 small widely separated grids established over locations where the previous year's helicopter-borne EM survey defined conductors not explained by rock outcroppings. 308 soil samples were collected over these grids. The geophysical and geochemical surveys were successful in detecting conductors and numerous Pb and Zn soil anomalies in a 30-element suite analyzed. Six trenches were mapped and sampled over locations of HLEM and soil anomalies. Bedrock in the trenches consisted of metamorphosed sedimentary rocks, frequently graphitic.

It was deemed all the geophysical anomalies from the various EM surveys done in 1991 and 1992 were due to conductive graphitic argillite and schist. High Pb and Zn values in rocks, soils and streams were deemed due to high background values in the metasedimentary rocks and quartz veins and faults and shears resulting in remobilization of minerals. It was concluded the geological environment remained compatible with the massive sulphide mineralization observed in boulders in Frank Creek. It was considered the source for these boulders was not found because it may be

located up ice (and off the property) or is too small to be detectable by the work done [over the 7 scattered grids]. Further work was not recommended.

#### **6.1.12 Work done in 1992.**

The relevant report is Assessment Report 22642 by Donaldson, W.S.

Work was done in 1992 for Rio Algom Exploration Inc. on the CCH Property consisting of 38 claim units between the lower portions of Wilby Creek and Seller Creek. Rio Algom was also the operator of the work done for Formosa Resources and Annex Exploration on the MASS Property, adjacent to the northeast.

Work consisted of geological mapping and collection of 4 stream silt, 120 soil and 9 rock samples. A suite of 30 elements was analysed. The objective was to find the bedrock source of the numerous massive sulphide boulders known to occur near the mouth of Frank Creek on the MASS Property.

Some rock samples were anomalous in Au in quartz veins. Some soils were anomalous in Pb, Zn or Au, considered due to high background values in metasedimentary rocks. As on the MASS Property, the conclusion was that the source of the massive sulphide boulders in Frank Creek probably came from up ice, off the property, or was too small to be detectable by the work done. Further work was not recommended. [In this author's opinion the work was too limited to find the massive sulphide source.]

#### **6.1.13 Work done in 1996.**

The relevant report is Assessment Report 24662 by Yorston, R.

Work was done for in 1996 by R. Yorston on the MASS claims, a 20-unit property staked by himself over the lower portion of Frank Creek, a part of the area of Formosa Resources' and Annex Exploration's lapsed MASS Property.

Work consisted of 60.9 m of percussion drilling in 2 holes. These holes were done on the branch D logging road at a hairpin turn just below where Barker Minerals Ltd. would later discover massive sulphides in boulders and bedrock in their Discovery trench in 1999. Both Yorston's percussion drill holes returned highly anomalous Cu, Pb and Zn results (1,766 ppm, 746 ppm, 2,969 ppm respectively). Follow up work was recommended but not done, the MASS claims lapsed in 1999 and Barker Minerals Ltd. staked the Frank claim over this area the same year.

#### **6.1.14 Work done in 1998.**

The relevant report is Assessment Report 25752 by Doyle, L.E.

Work was done in 1998 for Barker Minerals Ltd. on the Frank Creek Property (Jess 1-3 claims) in the middle part of Wilby Creek.

Work consisted of prospecting. Stream sediment and rock samples were collected and analysed for a suite of 32 elements. Several rock samples were highly anomalous, with Pb up to 9.06% and Ag up to 6.65 oz/T.

From 1998 onward all work on the Frank Creek Property was done for Barker Minerals Ltd. under the overall supervision and strategic guidance by Louis E. Doyle, President.

#### **6.1.15 Work done in 1999.**

The relevant report is Assessment Report 26003 by Payne, J.G.

Work was done in 1999 for Barker Minerals Ltd. on the Frank Creek Property, at the time consisting of Jess 1-4 and Frank claims totalling 92 claim units covering the lower half of Frank Creek and extending west to include the Wilby Creek area. The Frank Creek Property was a portion of a 80 km x 30 km claim block including 2,590 claim units staked in 1996 by Barker Minerals. This large group of claims is henceforth termed the 'Peripheral' claim block.

The 1999 prospecting by L.E. Doyle on the Frank Creek Property discovered massive sulphide boulders containing pyrite, galena, sphalerite and chalcopyrite on the D logging road, approximately 2.5 km up from the main 8400 (Cariboo Lake) Road. Grab samples from the boulders returned high values in base metals and pathfinder elements. Sample No. 99-F1 for example had 0.62% Cu, 11.1% Pb, 3.13% Zn, 14.0 oz/T Ag. The (Discovery) trench subsequently excavated at this location exposed a stratiform, massive sulphide layer at least 1.2m thick over a strike length of 10 m (Wild, 2002a).

Mapping discovered pillow structures in mafic volcanic rocks on the Frank Creek Property indicating a seafloor environment. Mapping and lithogeochemical results by this time were indicating a bimodal (mafic-felsic) volcanic system favourable for hosting volcanogenic massive sulphide deposits. The orientation of the pillow structures indicated that, at least in the local area of Frank Creek, strata were overturned and younging of strata was toward the northeast, with mafic volcanics including pillow lavas stratigraphically overlain by felsic tuffs having a probable genetic relationship with the newly discovered massive sulphide zone.

Prospecting at Wilby Creek (Big Gulp showing) on the south side of the Frank Creek Property had encouraging results but no specific follow up was recommended. Soil and geophysical surveys were recommended at Seller Creek and other areas of the 'Peripheral' claim block.

Extensive follow up work recommended a detailed EM/magnetometer survey, grid soil sampling, a petrographic study, trenching and drilling to be done on the Frank Creek Property.

#### **6.1.16 Work done in 2000.**

The relevant report is Assessment Report 26504 by Payne, J.G.

Work was done in 2000 for Barker Minerals Ltd. on the Frank Creek, Ace, SCR and other areas of the 'Peripheral' and 'Quesnel Platinum' claim blocks totalling 3,842 claim units.

A Max-Min HLEM and magnetometer geophysical survey was done at Frank Creek and SCR. The resulting magnetic patterns outlined bedrock geological boundaries. The HLEM survey defined 11 conductors on the Frank Creek Grid and 3 conductors on the Sellers Grid at SCR. The geophysical report (Walcott, 2001) describes the 'Sellers Grid' as having been done on the 'Sellers Creek Property'. This is actually at the SCR prospect (Minfile No. 093A 203) and not to be confused with the Sellers Creek showing (Minfile No. 093A 131), approximately 7 km to the southeast.

The conductors at Frank Creek were thought attributable to sulphide mineralization and/or graphitic horizons. Most of the conductors were shallow and dipped steeply. Conductor A at Frank Creek was considered possibly related to Cu-rich sulphide stringers in outcrops located east and stratigraphically above the Frank Creek Discovery massive sulphide showing. The presence of stacked massive sulphide bodies was suggested and Conductor A an excellent target for follow up. The conductors at SCR were associated with magnetic anomalies. The most prominent conductor



was associated with higher magnetics and having good correlation with Pb, Zn and Cu in soils taken in a 1986 survey. Other conductors were associated with the Big Gulp showing at Wilby Creek or altered volcanic rocks or soil anomalies. (Payne, 2001, pp. 17-18).

A reconnaissance VLF-EM traverse was done along a road at Big Gulp. The data indicated a significant conductor ('Big Gulp' C-Road) but no interpretation was provided (see Payne, 2001).

Petrographic analysis was done on several rocks from the Frank Creek and other areas of the 'Peripheral' claim block.

Follow up work was recommended for the Frank Creek Property and at the Ace, SCR, Quesnel Platinum and other prospects within the 'Peripheral' claim block. The recommendation for Frank Creek included further geological mapping and Max-Min geophysics along with a gravity survey and trenching and drilling.

#### **6.1.17 Work done in 2001.**

The relevant report is Assessment Report 26805 by Walcott, P.E.

Work was done in 2001 for Barker Minerals Ltd. on the Frank Creek, Ace and SCR Properties and other locations on the 'Peripheral' claim block.

Work done on Frank Creek Property consisted of Max-Min HLEM, magnetometer, dipole-pole induced polarization and gravity geophysical surveys and mechanical trenching. This work was concentrated at small areas near the F1 target (Discovery Trench-Frank Creek Showing) and up to 2.0 km away toward the west and southwest. HLEM and magnetometer work was also done at SCR and Big Gulp and gravity work was done at Big Gulp.

The HLEM survey extended previously known conductors on Frank Creek Property but the massive sulphide showing at the Discovery Trench was unresponsive to either the electromagnetic or induced polarization techniques. However anomalous chargeability values were observed just east of the showing. Gravity profiling over the showing area and previously located EM conductors failed to show any excess mass associated with them. The 1:20,000 scale TRIM maps used for terrain corrections in the gravity survey were deemed unsatisfactorily coarse for the purpose and the geophysical contractor recommended a new effort to be made with more accurate control for terrain corrections.

At SCR the prominent conductor and magnetic anomaly of the previous year was further defined. The geophysical report (Walcott, 2002a) describes the Sellers Grid at 'Sellers Creek' as having been extended eastward. This is at the SCR prospect (Minfile No. 093A 203) and not to be confused with the Sellers Creek showing (Minfile No. 093A 131), approximately 7 km to the southeast.

A gravity anomaly at Big Gulp was somewhat coincident with a topographic high. Three moderate conductors were evident at Big Gulp. Additional geophysical work was recommended to detail the anomalies at Frank Creek, Big Gulp and SCR.

The trenching program, totalling 707 metres excavated in 9 trenches and 31 test pits in the areas of the Frank Creek Showing (Discovery Trench) and within several hundred metres to the northwest and northeast. Trenching near the beginning of the D Road did not reach bedrock. The source of massive and semi-massive mineralized boulders there remained unexplained. The Discovery Trench was also deepened. The several massive sulphide layers in the Trench were truncated by faults.

The same metasedimentary and volcanoclastic rocks and mineralized horizon that host the massive sulphide mineralization of the Frank Creek Showing in the Discovery Trench were uncovered in Trench TR-BW-10, approximately 375 m northwest of the Discovery Trench, and in trench TR-BW-04, up to 50 m southeast of the Discovery Trench. The potentially mineralized NW-SE trend was considered to now be over 425 metres long and open in both strike directions and to depth (Wild, 2002a and Perry, 2002). Frank Creek's massive sulphide occurrence was considered to resemble the Besshi-type Goldstream Mine Cu-Zn massive sulphide deposit, 230 km to the southeast. Other trenches and test holes generally targeted geophysical conductors. Trench TR-BW-03, 50 m south of the Frank Creek Showing, uncovered pyritic rocks but did not locate the target mineralized horizon. Other trenches hit graphitic faults or did not encounter obviously conductive rock.

Further work was recommended to include soil sampling, mechanical trenching and 7,500 feet (2,286 m) of diamond drilling.

#### **6.1.18 Work done in 2002.**

The relevant report is Assessment Report 27125 Doyle, L.E.

Work was done in 2002 for Barker Minerals Ltd. on the Frank Creek, Ace, SCR Properties and other locations on the 'Peripheral' claim block totalling 4,092 claim units.

Work done on Frank Creek Property included 813 m of diamond drilling in 6 holes and 289 m of mechanical trenching in 5 trenches in and adjacent to the F1 Target area. Electromagnetic (Max-Min and VLF-EM), gravity, and induced polarization (IP) surveys were also done at Frank Creek.

Targets of this work were the northwest extension of the Frank Creek Showing toward the previous year's Trench TR-BW-10 and magnetic highs, conductors and chargeability anomalies from previous geophysical surveys. Drill holes FC02-05, 06 and 01 intersected disseminated, semi-massive and relatively narrow massive pyrite-rich mineralization along the mineralized trend between the Frank Creek Showing and Trench TR-BW-10. Besides pyrite, chalcopyrite, sphalerite and galena occurred in relatively minor amounts. The mineralized horizon was determined to be hosted by siliceous, sericitic, weakly chloritic phyllites and quartz-eye grits.

The geophysical surveys on the Frank Creek Property were done in the F1 Target area (Frank Creek Showing) and the F7 Target area (on the lower portion of D Road). Elevation control in the gravity survey was to 6 centimetre accuracy using a Sokkia total station and prism reflector. This was an improvement over the elevation control used in the 2001 gravity survey. As in a previous survey the Frank Creek Showing showed little response to IP or VLF-EM suggesting this showing does not have significant strike length or size. A new gravity traverse was not done over the Frank Creek Showing at the F1 Target. The conductor at F7 Target area was extended 100 m but the ensuing gravity traverse failed to detect an associated excess mass. The limited IP survey at Frank Creek confirmed the location of 2 previously located conductors but no further work was done on these.

Recommended follow up work included stratigraphic and lithogeochemical studies to define the paleotectonic setting of the mineralization, the most favourable host lithologies and the distribution of hydrothermal alteration to provide an exploration model for the area. Other recommended work included HLEM, VLF-EM and gravity geophysical surveys to trace continuations of known anomalies. Further drilling, trenching and soil sampling toward the northwest and southeast to follow the mineralized strike was also recommended.

#### **6.1.19 Work done in 2003-2004.**

The relevant reports are Assessment Reports 27655 and 28248 by Doyle, L.E.

Work was done in 2003-2004 for Barker Minerals Ltd. on the Frank Creek, Ace, SCR Properties and other locations on the 'Peripheral' claim block totalling 4,401 claim units.

A study (Barrett & MacLean, 2003) was done of the lithological and lithogeochemical features of approximately 503 rock and drill core samples from Frank Creek, Ace and the 'Peripheral' Properties, approximately 175 of these were from Frank Creek. Analyses were of rock-forming oxides and trace elements. The study included a petrographic examination of selected rock types. A review of possible analogs to Frank Creek and Ace was provided; these included places in Canada, Japan, Namibia and ocean ridges. The objective was to provide an interpretation of the host stratigraphy of the Frank Creek and Ace Properties and discussion of possible sea floor settings for the sulphide mineralization.

Conclusions by Barrett & MacLean relevant to Frank Creek were:

- The Frank Creek host rocks in the [Discovery] trench and nearby drill holes represent a sequence of distal continental shelf clastic sediments, with no evidence for felsic volcanic input.
- The lithological sequences at Frank Creek (and Ace) show features of both Besshi-type and Sullivan-type deposits. The Frank Creek setting suggested a continental marine shelf undergoing rifting.
- Evidence of graded bedding in the 2002 drill holes and outcrops of basaltic pillow lavas approximately 1.5 km southwest of the Discovery Trench indicated younging of strata toward the northeast and that the mafic extrusives would be the stratigraphic footwall of the sulphide beds in the Discovery Trench.
- The interpreted occurrence of mafic magmatism on a faulted continental shelf bodes well for the development of hydrothermal systems and the formation of massive sulphide beds, as does the generally reduced nature of bottom waters as indicated by the presence of graphitic argillites.
- Such a setting would be favourable for the development of hydrothermal systems, and the formation of sediment hosted massive sulphide deposits in sub-basins containing reduced bottom waters (now black shales and Mn-rich sediments).
- Much more drilling is required to explore the large tracts of favourable geology in the Cariboo Lake area that could host massive sulphide deposits (specific locations at Frank Creek and Ace Properties were recommended).

A Titan-24 geophysical survey included DC resistivity, induced polarization and deep-penetrating tensor-magnetotelluric surveys over 15.8 line km in a 1.5 x 2.4 km area on Frank Creek Property. The purpose was to identify drill targets characterized by high chargeability or low resistivity. 90 separate anomalies of varying significance were identified; 18 were considered major low resistivity features. Barker Minerals' F1, F3, F7 and F8 Target areas 'all hosted pronounced chargeability high and resistivity low anomalies consistent with massive sulphides or graphite' (Donohue et al., 2004, pp. i,ii).

The 90 anomalies of the Titan-24 survey were grouped into 3 major geophysical Trends A, B and C (Barker Minerals, Company News, Aug 26, 2004):

Trend A – a large broad conductive and variably polarizable zone, present on the western portions of survey lines 5100, 5300 and 5500. Locally, strong Cu, Pb and Zn soil anomalies from previous surveys correlated with the geophysical Trend on lines 5300 and 5500. Trend A remained open to the west and south.

Trend B – a flat lying conductive and polarizable zone extending from line 5100 in the south to line 6100 in the north, the trend becoming thicker and stronger toward the north and remaining open to the north. The high chargeability anomaly reached surface in narrow sections near the F1 Target area (Frank Creek Showing). Locally, strong Cu, Pb and Zn soil anomalies correlated with the geophysical Trend on line 5700.

Trend C – a steeply dipping conductive and polarizable zone on the eastern ends of lines 5100 to line 5900. Locally, Trend C is coincident with strong soil anomalies and a broad magnetic trend.

[Three geophysical Trends A ,B, C were identified in 2004 and are shown in Figure No. 3.]

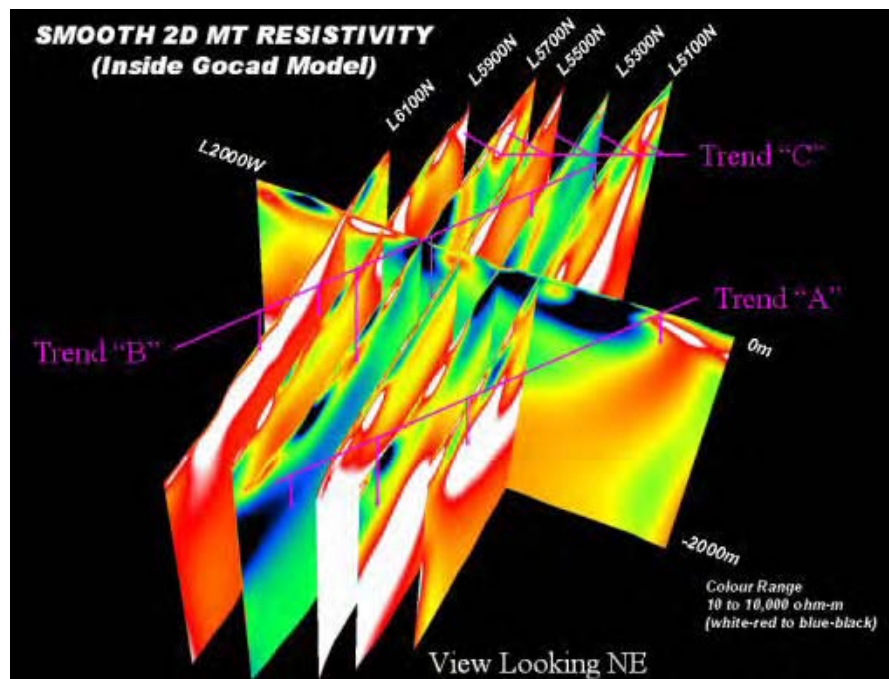


Figure No. 3 Frank Creek Property Geophysical Trends A, B, C resulting from the 2004, Quantec Geoscience Ltd. Titan 24 Distributed Array Survey. This Figure is from Barker Minerals Ltd. website, Company News, Aug. 24, 2004. See Doyle, 2005, Assessment Report 28248, Appendix II for the relevant Quantec Geoscience Ltd. report.

The Titan-24 geophysical survey is discussed in detail in Turna (2008, pg. 36).

In 2003 109 m of trenching in 2 trenches was completed at SCR. The targets were coincident geochemical soil and geophysical anomalies. Boulders with Cu, Pb and Zn mineralization were found in fairly deep till.

Trenching in 2004 focused on the Trend B anomaly of the Titan-24 geophysical survey. In the F7 Target area mineralized sub-outcrop contained stringer and semi massive mineralization containing pyrite, sphalerite and chalcopyrite. Usually the trenching was not able to reach bedrock due to thick glacial overburden.

Diamond drilling in 2004 included 7 holes (1,880 metres total). The holes were all located in the F7 Target area, low on the D Road, between approximately 400 m and 900 m west northwest of the

Frank Creek Showing. The holes targeted geological features and geophysical anomalies. Zones up to 70 m wide of alteration (mainly sericite and chlorite) were reported and disseminated, stringer, semi-massive and narrow massive sulphides were described in the core logs for 6 of the 7 holes. One hole ended short at 41.8 m. Hole FC04-07 between 122.9 m and 307.9 m (185 m) had 4 (30 cm to 90 cm) zones of sulphides with aggregate Cu/Pb/Zn geochemical results of at least 10,000 ppm. Hole FC04-13 between 257.6 m and 433.0 m (175.4 m) had 12 (10 cm to 60 cm) zones of sulphides with aggregate Cu/Pb/Zn geochemical results of at least 10,000 ppm. These results were sub-economic but indicated an extensive mineralizing hydrothermal system.

Recommendations for further work included:

- continue trenching geophysical and geochemical targets using a larger backhoe.
- the Titan-24 geophysical anomalies to be tested by systematic drilling, and geophysical surveying, particularly EM, to be made down the boreholes.
- soil sampling over strike extensions of known mineralized trends and over specific target areas.
- a 3D geoscientific model to be built from the extensive existing data set in order to refine interpretations.

#### **6.1.20 Work done in 2005-2006.**

The relevant report is Assessment Report 28978 by Doyle, L.E.

Work was done in 2005-2006 for Barker Minerals Ltd. on the Frank Creek Property.

Work done on Frank Creek Property included 1,566 m of diamond drilling in 4 holes in 2005, and 2,037 m in 5 holes in 2006. The 9 holes mainly targeted geophysical anomalies from the 2004 Titan-24 geophysical survey. Zones of sericite, chlorite, silica and iron carbonate alteration were encountered. Base metal sulphide mineralization occurred in stringers and narrow semi-massive and massive zones. The results were sub-economic but indicated the presence of an extensive mineralizing hydrothermal system consistent with a massive sulphide environment. Two further drill holes were completed in December 2006. These holes are described below together with work done in 2007.

Recommendations for further work included:

- continued systematic testing of geophysical targets defined by the Titan-24 survey of 2004. The work to consist of soil sampling, trenching and drilling.
- a reconnaissance exploration program to examine the largely unexplored part of Barker Minerals' properties between the Frank Creek and Ace massive sulphide prospects, and other areas of the large 'Peripheral' claim block.

#### **6.1.21 Work done in 2006-2007.**

The relevant report is Assessment Report 29740 by Turna, R. and Doyle, L.E.

Work was done in 2006-2007 for Barker Minerals Ltd. on the Frank Creek, Kangaroo and MAG Properties and other locations on the 'Peripheral' claim block. By this time the 'Peripheral' contiguous block of claims was 115,217 hectares in size under the Mineral Titles Online staking system and extended approximately 80 km x 30 km east-west and north-south.

On Frank Creek Property two drill holes (705.0 m) were done in December 2006 to test EM geophysical targets from the 2004 Titan-24 geophysical survey. Narrow zones of Zn and Pb-rich mineralization were encountered in zones of sericite, chlorite, silica or carbonate alteration.

889 soil samples were collected over the survey grid cut in 2004 for the Titan-24 geophysical survey. Seven anomalous multi-element patterns or Trends were recognized.

Trend 1, a NW-SE trending soil anomaly near the Frank Creek Showing included anomalous Cu, Pb, Zn and pathfinder elements. Trench FC07-3 and test pits were dug over this anomaly. This trench contained a stockwork of pyritic stringers containing chalcopyrite, sphalerite and galena. Trend 3, a NW-SE trending soil anomaly 750 m southwest from the trench dug over Trend 1, also included anomalous Cu, Pb, Zn and pathfinder elements. Trenches FC07-1,2,4,5 and test holes were dug over this anomaly. These trenches (F-9 Target area) all contained small lenses and pods of massive sulphide mineralization. Sulphides in these trenches contained mainly pyrite and galena with less chalcopyrite than the Trench FC07-3 over Trend 1. Trench FC07-5 contained a 2m x 5m pod of semi massive sulphide.

A petrographic study of representative rocks from the 2007 trenches indicated the mineral host rocks were rhyolitic volcanoclastics.

#### **6.1.22 Work done in 2008.**

The relevant report is Assessment Report 30764 by Turna, R.

A diamond drilling program was done on the Frank Creek property to test the 2007 survey's Trend 3 Cu-Pb-Zn soil anomaly where significant Cu, Pb and Zn mineralization was discovered in trenches excavated that year, to test certain HLEM conductors from the 2000 geophysical survey and to improve understanding of the geology at certain locations. Most of the drilling at the Trend 3 anomaly was done in a grid pattern. 2,375 metres were drilled in 13 holes.

The results of DDH Holes FC08-25 to 28 were inconclusive. Holes FC08-25 and 26 did not reach the geophysical conductor targets due to squeezing in the holes caused by broken rock. Conductive zones targeted by Holes FC08-27 and 28 encountered graphitic argillite and sulphide bands. Hole FC08-29 affirmed the down-dip continuity of sulphide mineralization previously encountered in 2004 and 2005 in holes FC04-13 and FC05-17. A 4.65 metre intercept of semi-massive to massive sulphide with 50% - 90% total metal content occurred in Hole FC08-34 at a depth of 16.55m - 21.20m. Holes FC08-30 to 37 drilled in a grid pattern at F9 Target Area, affirmed the stockwork or footwall-type nature of the Cu-Pb-Zn sulphide mineralization in the area, notwithstanding occurrences of several syngenetic-appearing sulphide bands. A good example of overturned graded bedding in Hole FC08-29 added to similar proof of overturned strata from DDH holes from past years (see historic assessment reports regarding drilling at Frank Creek) and overturned pillows in lava (see Ferri, 2000, pg. 47 and Ferri, OF 2003-1, Map). The overturned geology implies, particularly at the F9 Target Area, the geology exposed at the surface is the footwall zone to possible massive sulphides, intact, at a deeper level. A semi-horizontal lie to shallow westward dip to geologic strata was indicated in the drilling sections in the assessment report, which accorded with Ferri (OF 2003-1, Section B-B') for the Frank Creek area.

#### **6.2 Ace, Black Bear, Peacock Properties**

The relevant references (Turna, 2008, 2009c, 2009d) provide detailed histories on these properties. These histories are not repeated here as the prospecting work done in 2009 was relatively minor and part of an on-going exploration strategy by Barker Minerals.

## **7.0 EXPLORATION PROGRAM 2009**

### **7.1 Economic Target and Work Done**

The economic target at Frank Creek is volcanogenic massive sulphide.

### **7.2 Sampling Method and Approach**

The Drill core was split with a table mounted diamond saw in the cutting trailer at camp. Half the core was returned to the core box while the other half was placed in a plastic bag, tied and stored prior to shipment to the analytical lab. Core recovery factors during drilling which could materially affect the accuracy of the results are described as core recovery percentages in the drill logs. Core recoveries were generally good, frequently close to 100%, though locally poor due to gouge or broken rock. Core and rocks were shipped in plastic rice bags to the analytical lab. Samples were stored in the garage or cabin at the camp prior to shipment. After sampling the core boxes were neatly stacked in piles adjacent to the core cutting trailer.

### **7.3 Laboratory Methods**

#### **7.3.1 Sample Preparation and Analysis**

All samples were sent to ActLabs Laboratories Ltd. of Ancaster, Ontario. ActLabs code 1H ('Au+48') analytical method was used. Method 1H used variously, INNA (neutron activation) or ICP (inductively coupled plasma) analytical methods. Over-limit results were assayed by analysis code 8. ActLabs' analytical method is described in Appendix C - Analytical Methods.

All lab results are in Appendix D - Analytical Data.

#### **7.3.2 Verification of Accuracy**

Check samples from WCM Minerals of Burnaby, BC with certified known metals content were sent by Barker Minerals at intervals to ActLabs for analysis. Actlabs' analyses of the check samples during the Frank Creek drill program are provided in the drill logs. ActLabs' results were comparable with the certified values. Actlabs, as well, performed their own accuracy checks with certified samples, blanks and duplicate analyses of Barker's samples. A more detailed study of ActLabs' reliability is not made in this report.

## **8.0 GEOLOGY**

### **8.1 Regional Geology**

The geological descriptions below derive mainly from Struik (1988), Panteleyev et al. (1996) and Payne and Perry (2001).

During the mid-Jurassic the North American continental plate collided with a group of island arcs to the west. Regional deformation and metamorphism are related to these events.

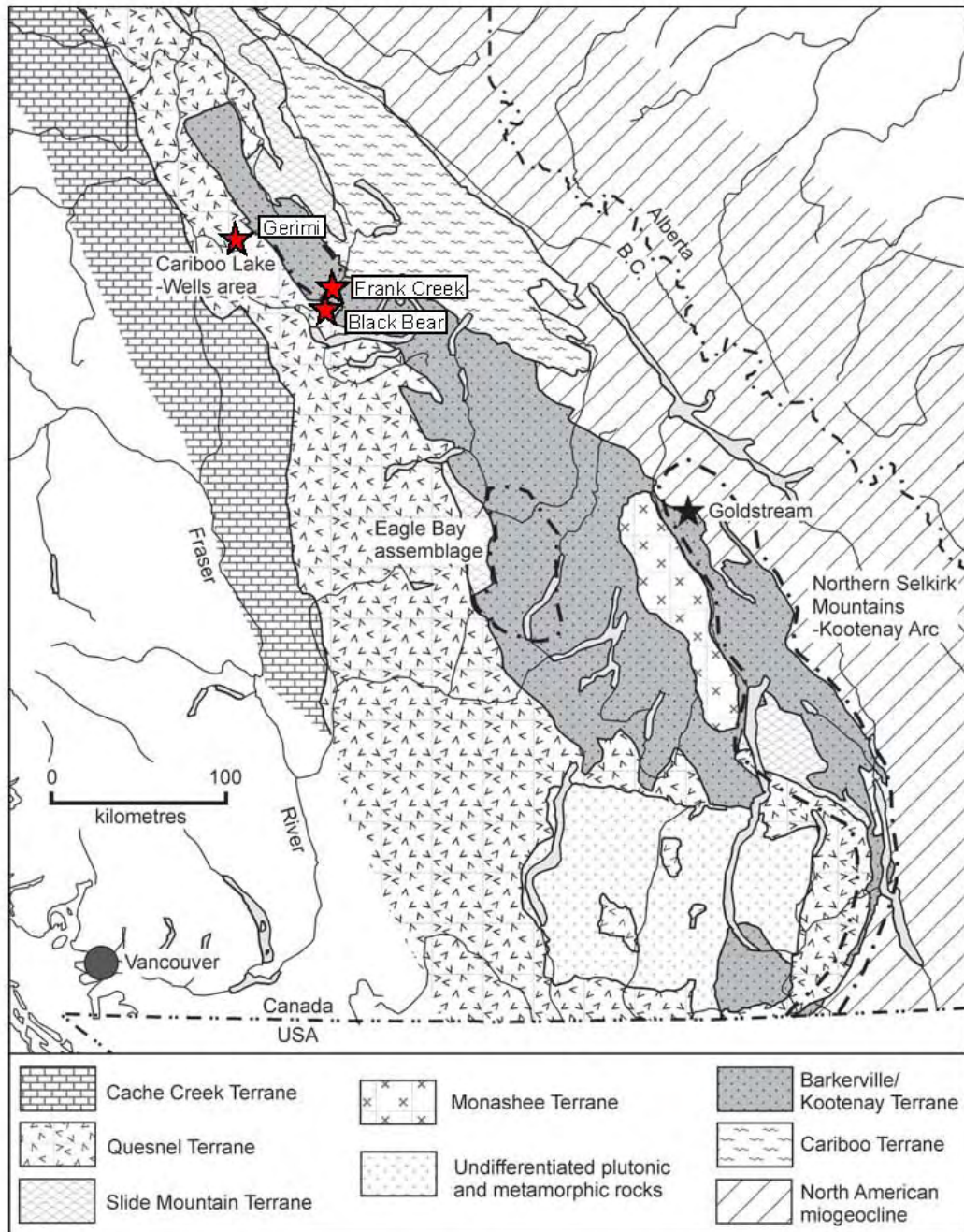


Figure No. 4 Terrane Map of Southern British Columbia. Barker Minerals' properties are indicated by red stars.



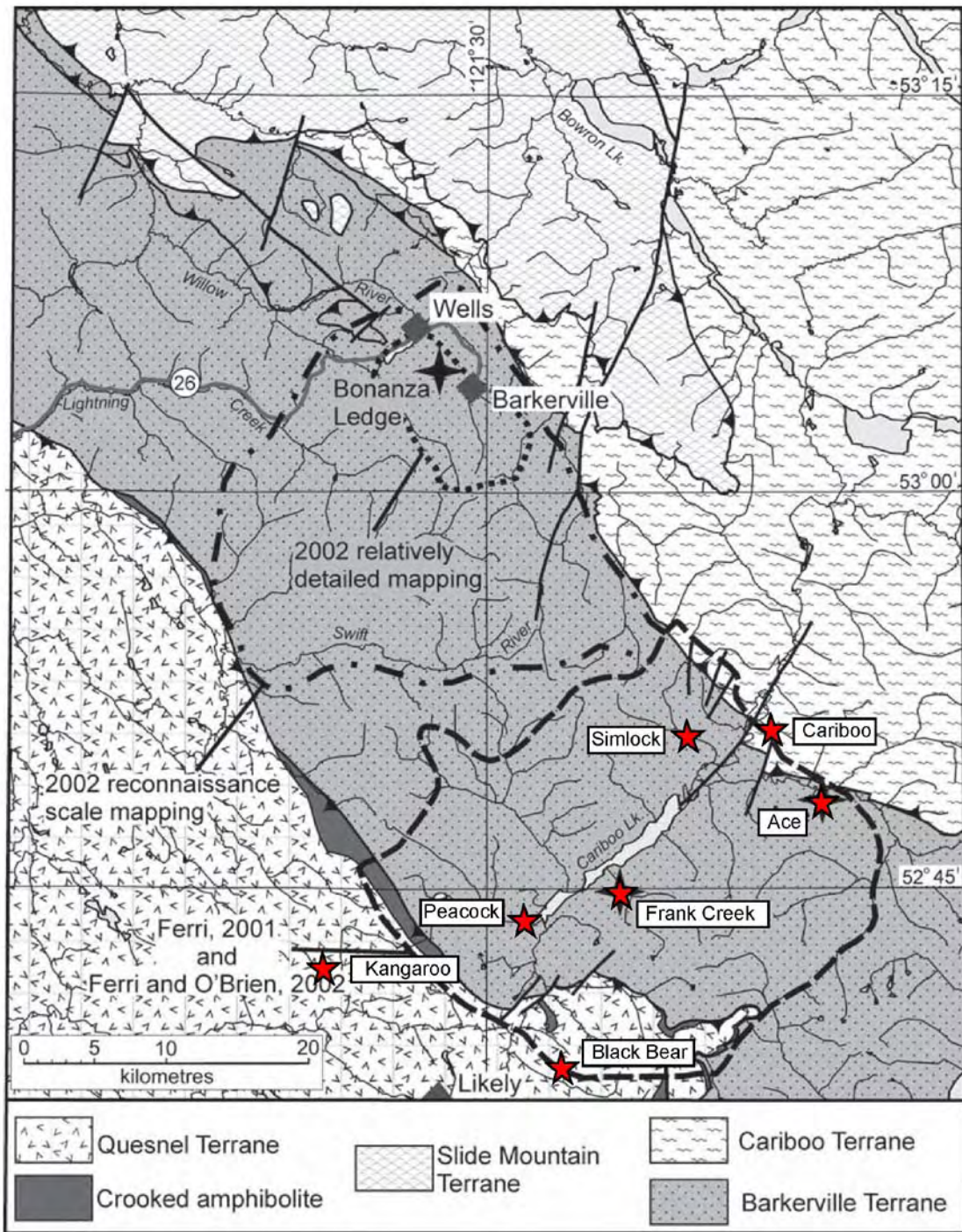


Figure No. 5 Terrane Map of Cariboo Lake – Wells Area. Areas mapped by the BCGS in 2000 – 2002 are shown. Barker Minerals' properties are indicated by red stars.

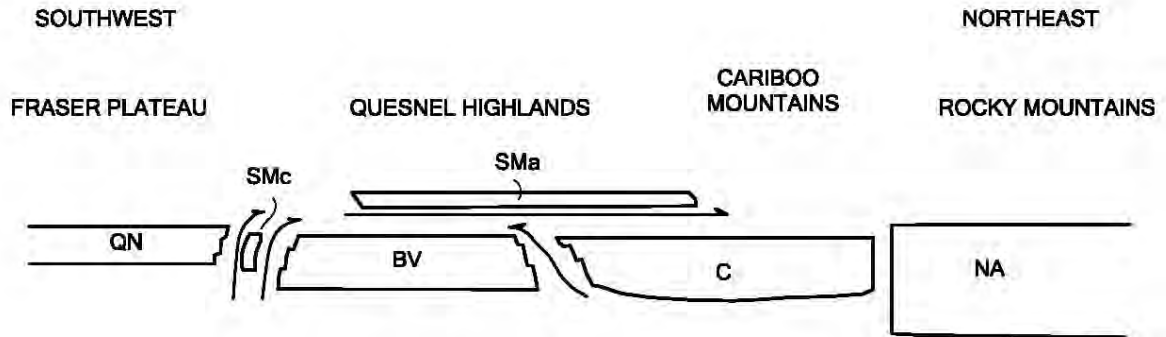


Figure No. 6 Schematic Regional Structural Section from southwest to northeast across the four Terranes in Barker Minerals' claims area, showing the relative structural position of the Terranes. The Terrane symbols are BV-Barkerville, C-Cariboo, Sma-Slide Mountain (Antler Formation), SMc-Slide Mountain (Crooked amphibolite), QN-Quesnel and NA-North American. (after Struik, 1988).

### Quesnel Terrane

The Late Triassic to Early Jurassic Quesnel terrane...was accreted to the North American continent, in part by subduction and in part by obduction. The Eureka thrust fault marks the boundary between the Quesnel and Barkerville terranes. The terrane is partly submarine and partly subaerial, consisting of volcanic and volcanoclastic rocks and co-magmatic intrusions, with minor carbonate lenses and related sedimentary rocks.

The principal assemblage in the Quesnel Terrane is the Triassic-Jurassic Nicola island arc – marginal basin sequence. The underlying rocks are the Crooked amphibolite, part of the Slide Mountain assemblage, a mylonitized mafic and ultramafic unit of oceanic marginal basin volcanic and sedimentary rocks. Rocks of Quesnel Terrane and Crooked amphibolite are structurally coupled and tectonically emplaced by the Eureka Thrust onto the Barkerville Terrane, to the east.

Two lithostratigraphic subdivisions of the Quesnel Terrane consists of: a basal Middle to Late Triassic metasedimentary unit of dominantly black phyllitic rocks, approximately 7 km thick, and an overlying Late Triassic to Early Jurassic volcanic arc assemblage, approximately 9 km thick. The overlying volcanic rocks outline a northwesterly trending belt of subaqueous and subaerial volcanic rocks, deposited along a series of volcanic-intrusive centres that define the Quesnel island arc of predominantly alkalic basalts.

*Within...the northern extension of the Quesnel Trough, the term...Takla Group has been applied to rocks identical to the Quesnel belt rocks...Equivalent rocks to the south...are generally referred to as Nicola Group...Baily (1978) pointed out the similarity of the Quesnel volcanic units with both the Nicola Group rocks to the south and the Takla Group rocks to the north...The term Takla leads to ambiguity because in northern British Columbia it has been used for rocks in both Quesnel and Stikine terranes...The usage for the Triassic-Jurassic volcanic arc and related rocks in Quesnellia currently preferred is Nicola Group. The term Takla Group possibly should be discarded... (Panteleyev et al., (1996).*

The Quesnel Trough is a well-mineralized region typical of other Late Triassic to Early Jurassic volcano-plutonic island arcs in the Cordillera. It hosts a wide variety of mineral deposits. The principal recent exploration and economic development targets in the central Quesnel belt are alkalic intrusion-related porphyry copper-gold deposits and gold-bearing propylitic alteration zones formed in volcanic rocks peripheral to some of the intrusions. Other important targets are auriferous quartz veins in the black phyllite metasedimentary succession. The veins in some black phyllite members have potential to be mined as large tonnage, low-grade deposits. Tertiary rocks are mineralized with copper and gold. Antimony-arsenic and mercury mineralization in some apparently low temperature quartz-calcite veins indicated the potential for epithermal deposits. Placer mining for gold, said to occur together with platinum, has been of major historical and economic importance.

### **Slide Mountain Terrane**

Rocks of the Devonian to Late Triassic Slide Mountain Terrane were partly obducted, partly subducted during collision of an oceanic plate with the continent. Small slices of mainly mafic volcanic rocks and ultramafic rocks of the Slide Mountain Terrane occur in and parallel to the Eureka thrust. Minor lithologies include chert, meta-siltstone and argillite.

The Crooked amphibolite, considered likely a part of the Slide Mountain Terrane, includes three major constituent rock types: greenstone, metagabbro and meta-ultramafite. North of Quesnel Lake, the map units consist of mafic metavolcanics, amphibolite, chlorite schist, serpentinite, ultramafic rocks and pillow lavas. Chemical analyses indicate subalkaline tholeiitic compositions of basalts formed on the ocean floor. If the Crooked amphibolite is a sheared and metamorphosed equivalent of the Antler Formation and is part of the Slide Mountain Terrane, it is separated from the underlying Barkerville Terrane by the Eureka thrust, a wide zone of mylonitization. The Crooked amphibolite and the overlying rocks of Quesnel Terrane are structurally coupled and emplaced tectonically onto Barkerville Terrane.

### **Barkerville Terrane**

The Barkerville Terrane is made up of the Snowshoe Group and Quesnel Lake gneiss. The Snowshoe rocks are Upper Proterozoic to Upper Devonian metasediments, considered correlative in age with Eagle Bay rocks of the Kootenay Terrane to the south. The Snowshoe rocks are dominated by varieties of grit, quartzite, pelite, limestone and volcanoclastic rocks. The stratigraphic sequence is not well understood. The region was deformed by intense, complex, in part isoclinal folding and overturning. Locally, strong shear deformation produced mylonitic textures. The Quesnel Lake gneiss is a Devonian to Mississippian intrusive unit varying in composition from diorite to granite to syenite. It is generally coarse grained, leucocratic, often with megacrysts of potassium feldspar. The main body of gneiss is 30 km long by 3 km wide and is elongated parallel to the eastern border of the Intermontane belt. Its contacts are in part concordant with, and in part perpendicular to, metamorphic layering.

The contact between the Barkerville Terrane and Cariboo Terrane to the east is the Pleasant Valley Thrust. The Barkerville and Cariboo Terranes were juxtaposed prior to emplacement of the Slide Mountain Terrane which was thrust over both of them. The northeastern third of the Barkerville Terrane is the main zone of economic interest in the Cariboo district. Struik described it as "gold-enriched", because it contains the historic Wells and Barkerville mines and the Cariboo Hudson deposit, approximately 40 km and 20 km northwest of the project area, respectively.

## **Cariboo Terrane**

The northeastern part of Barker Minerals' 'Peripheral' claim group is underlain by Precambrian to Permo-Triassic marine peri-cratonic sedimentary strata of the Cariboo terrane. The Cariboo Terrane consists mainly of limestone and dolomite with lesser siliceous, clastic, sedimentary rocks and argillite. Some geologists believe that the Cariboo Terrane is a shallow, near-shore facies and the Barkerville is a deeper, offshore facies of the same erosion-deposition system. No rifting is suspected between the Cariboo Terrane and the North American continent, in contrast to that between the Barkerville Terrane and the North American continent. Lithologies within the Cariboo Terrane correlate well with parts of the Cassiar Platform and Selwyn Basin of Yukon and northern British Columbia.

The Cariboo and Barkerville Terranes are separated by the regional Pleasant Valley thrust fault, which dips moderately to steeply northeast. Struik (1988) states the Cariboo block was thrust from the east over the Barkerville block along a strike length of over 100 km. The Cariboo Terrane was cut by the Jurassic-Cretaceous Little River stock, a medium-grained granodiorite grading to quartz monzonite. Some of the carbonate layers in the lowest part of the Cariboo terrane (or upper part of the Barkerville Terrane) are enriched in zinc and lead. Since the 1970's, preliminary exploration on stratiform Zn-Pb targets has been conducted in this area.

## **Glaciation and glacial deposits**

The last glacial stage that affected the Quesnel Highland, the Fraser glaciation, began 30,000 years ago. Much of this ice had melted by 10,000 years ago, but small remnants are preserved high in the alpine areas of the Cariboo Mountains. At lower elevations, glaciers of this age scoured the debris left by preceding ice advances, almost completely destroying them, leaving a chaotic assemblage of unsorted till, moraine and drift, with lenses of gravel and sand that had been roughly sorted by melt water and rivers, leaving behind beds of silt and clay that were stratified by settlement in ice-dammed lakes. In the Cariboo area, the debris covers bedrock in valleys below 1,700 m, leaving typical glacial features such as U-shaped valleys, ice-sculpted drumlins, moraine terraces and glacier and river benches. On the Barker Minerals properties, glacial deposits range from one to a few tens of metres thick. Some glacial till deposits are overlain by well-bedded glaciolacustrine clay and silt deposits up to a few tens of metres thick.

In much of the Cariboo district, a layer of distinctive, hard, compact, semi-rigid blue clay sits either on or slightly above bedrock and acts as "false" bedrock. It was formed from glacial drift left behind by the last ice advance prior to the Fraser glaciation and was compacted by the weight of the Fraser stage ice. In the placer-gold areas of the Cariboo, large amounts of gold were recovered from gravel resting on this clay. In places the clay layer was penetrated by the placer miners to reach richer "pay streaks" on true bedrock below.

## 8.2 Local Geology

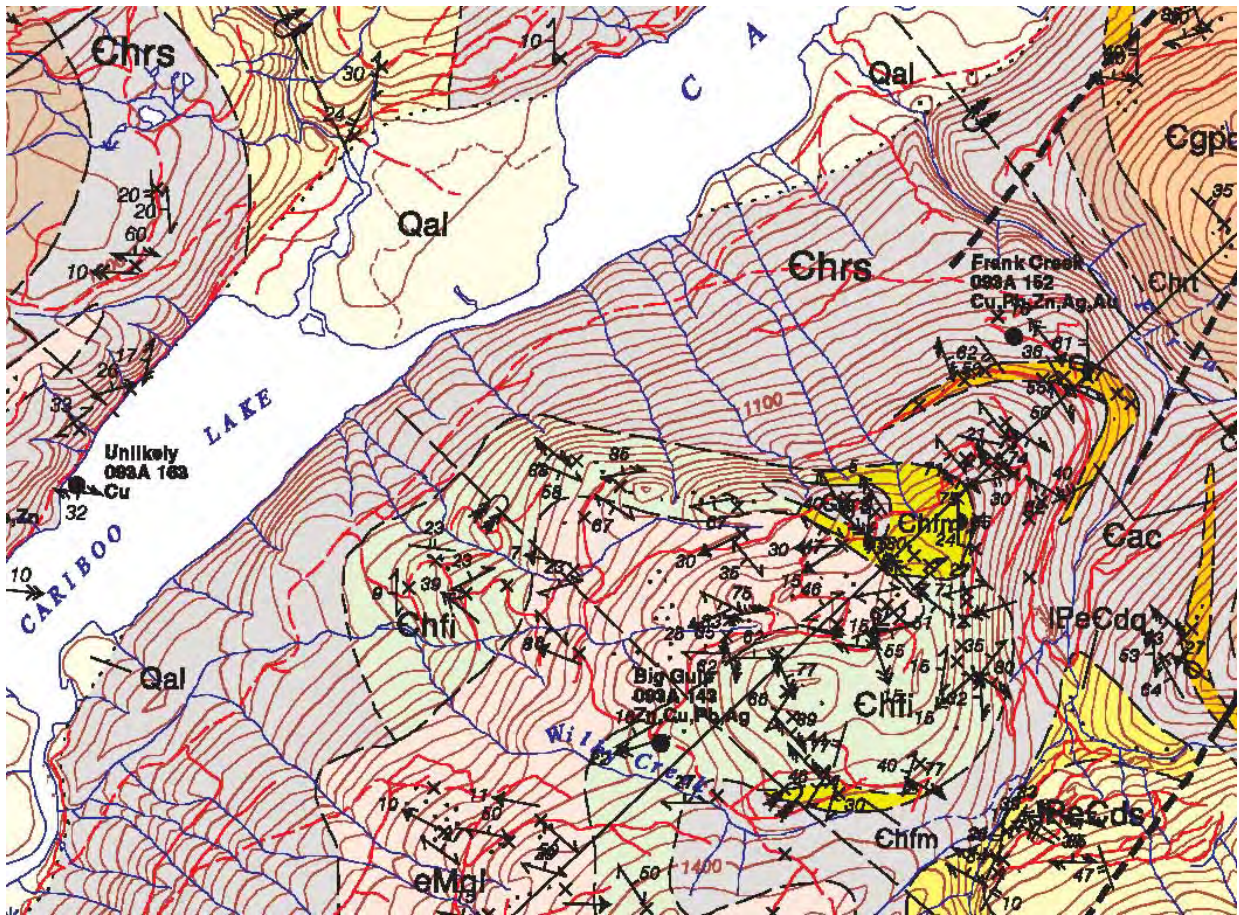


Figure No. 7. Geology of Frank Creek area, after Ferri & O'Brien, 2003. Chrs = Harveys Ridge phyllite and sedimentary rocks, Cac = Agnes sedimentary rocks, Chfm and Chfi = Frank Creek metavolcanics, eMql = Quesnel Lake granite and granodiorite. The Minfile showing Frank Creek, Big Gulp and Unlikely are all owned by Barker Minerals Ltd. The black spot indicating the Frank Creek Minfile is at the location of the Discovery Trench. Cariboo Lake is approximately 1 km across in a NW-SE direction. Overturned anticlines and synclines are indicated. Overturned lava pillows with tops toward the east are indicated in unit Chfm.

Work by Barker Minerals has indicated some of the phyllites of unit Chrs in the Frank Creek work area are felsic volcanoclastics.

## 9.0 COMPILATION

### 9.1 Quest and Likely Projects

#### QUEST Project

Barker Minerals Ltd. compiled recent 1:500,000 scale geophysical and geological maps from Geoscience BC, the BC Geological Survey and the Geological Survey of Canada. The recent publications were the products the result of the QUEST co-operative project among the above agencies. The data used in the resulting interpretations included existing magnetic data from GSC archives and new EM and gravity data from an airborne geophysical survey conducted in 2007 to 2008 by Geoscience BC. The QUEST survey covered a 50 km x 250 km area between approximately Mackenzie-Fort Saint James in the NW and the Williams Lake in the SE. The QUEST survey flight lines were oriented NE-SW. The electromagnetic (EM) part of the survey had flight lines 4.0 km apart and the gravity survey was done on lines 2.0 km apart. As part of the QUEST project, 4,481 archived stream sediment pulps were re-analysed along with over 2,000 new stream and lake sediment samples for over 42 elements at improved detection levels over previous analyses.

*Geoscience BC's QUEST Project was initiated to add to the geoscience knowledge of, and to stimulate exploration interest in, the covered areas of the Quesnel Terrane in central BC...Ultimately QUEST's goal is to stimulate new exploration activity in the area, and to accelerate the rate of new mineral discoveries. [Barnett & Kowalczyk, GBC Report 2008-1].*

*Rocks are not characterized by a single physical property. The importance of the work presented here [QBC Report 2009-15] is that there are now volumetric regions in the QUEST area that are characterized by two, and in some cases three, physical properties. These distributions can be used...to help identify potential exploration areas. In follow-up work in these local regions, inclusion of additional a priori information in the form of geologic knowledge (conceptual model, overburden thickness, drilling, outcrop lithology, etc.), petrophysical information, and further geophysics, will help to guide the selection of...parameters and constraints so that models with enhanced resolution can be obtained. This should make exploration more successful and cost effective. [GBC Report 2009-15 pg. 49].*

The published geological map related to the QUEST Project is Bedrock Geology of the QUEST Map Area, central British Columbia, published as GBC Report 2010-5 or BCGS Map 2010-1 or GSC OF 6476. The acknowledgements state:

*The bedrock geology of the QUEST area is the result of a co-operative project between Geoscience BC, the Geological Survey of Canada (GSC) and the British Columbia Geological survey (BCGS) designed to delineate the geology in a highly prospective area of central British Columbia...The BCGS and GSC provided bedrock and surficial, geological, geophysical and geochemical knowledge and expertise and the digital geology base...BCGS Geoscience Map 2010-1 is fully integrated with the recent geophysical and geochemical data released by Geoscience BC and NRCAN for the QUEST project area.*

#### Likely Survey

A separate airborne geophysical survey (Likely survey) conducted by the Geological Survey of Canada in July 2008 to February 2009 covered a 30 km x 150 km area from approximately Quesnel-Barkerville, southeast, past Quesnel and Horsefly Lakes. The flight lines were 400 m apart and

oriented NE-SW. Most of Barker Minerals' claim group was covered by the central portion of this survey area. This work resulted in a series of 1:50,000 scale magnetic and gamma-ray spectrometric maps, published as GSC Open Files 6157 to 6166.

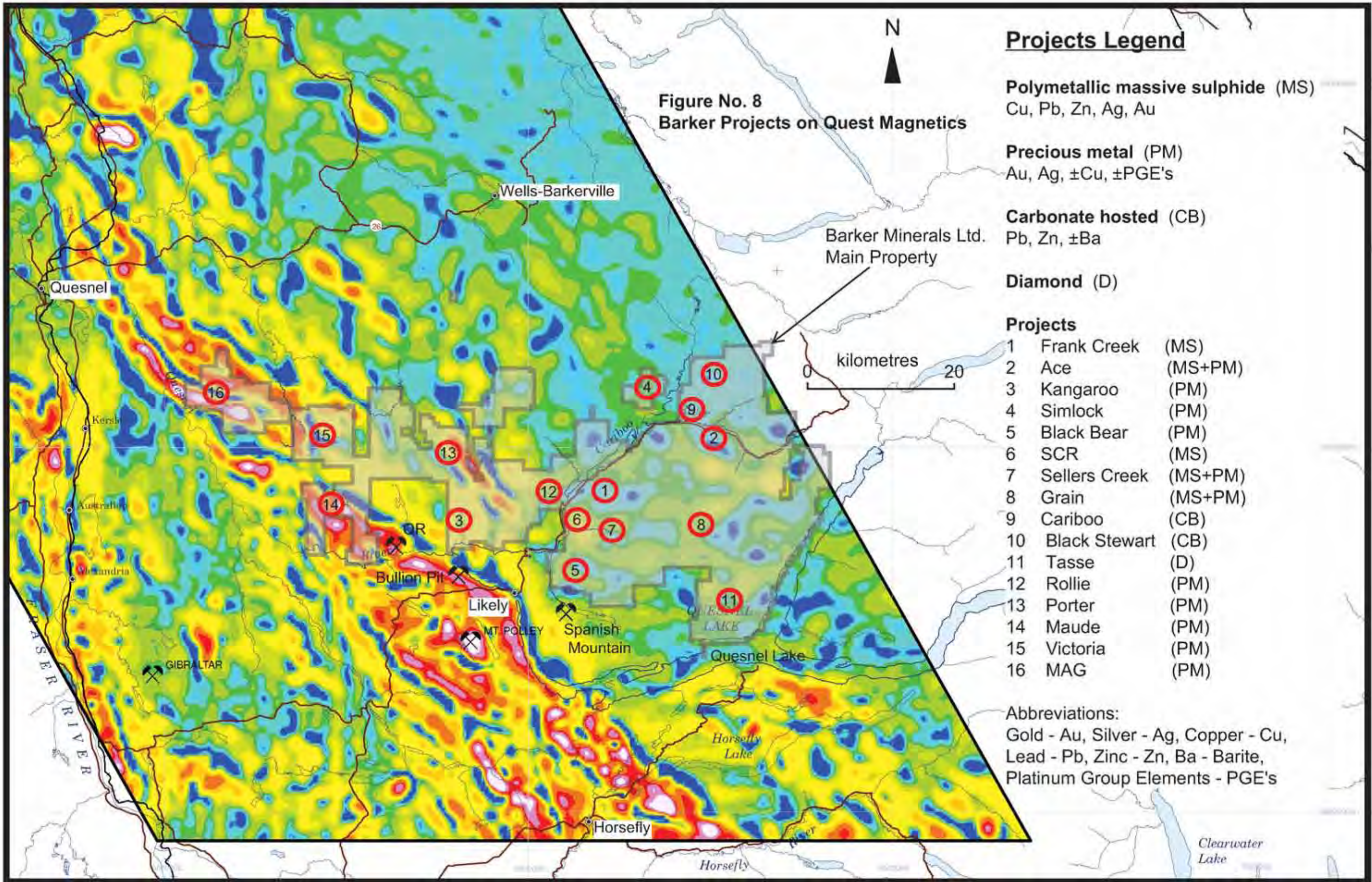
The magnetics part of the survey measured variations in the natural magnetization of the earth's crust. The first vertical derivative of the magnetic field is the rate of change of the magnetic field in the vertical direction. Barker's compilation placed Barker's mineral claims and project areas onto a background showing the first magnetic derivative from portions of the GSC maps from Open Files 6157, 6158 and 6164.

The Geological Survey of Canada conducted a more detailed airborne geophysical survey in February to May 2009 over the central portion of the Likely survey. This area covered a 30 km x 50 km area mainly over the eastern half of Barker Minerals' claims. The flight lines were 200 m apart and oriented NE-SW. The line spacing was reduced to 100 m over the Frank Creek and Ace mineral occurrences, both owned by Barker Minerals Ltd. This work resulted in a series of 1:50,000 scale magnetic and conductivity maps, published as GSC Open Files 6232 to 6252. In the electromagnetic (EM) part of the survey a pulse was transmitted from a horizontal loop towed below and behind the aircraft. The response of buried conductors was measured. All the maps in this set highlight the locations of just two known mineral prospects, identified as Frank Creek and Ace. Though there are many other Minfile prospects in the area, the specific mention of Frank Creek and Ace on these government maps recognize the importance of these two massive sulphide prospects.

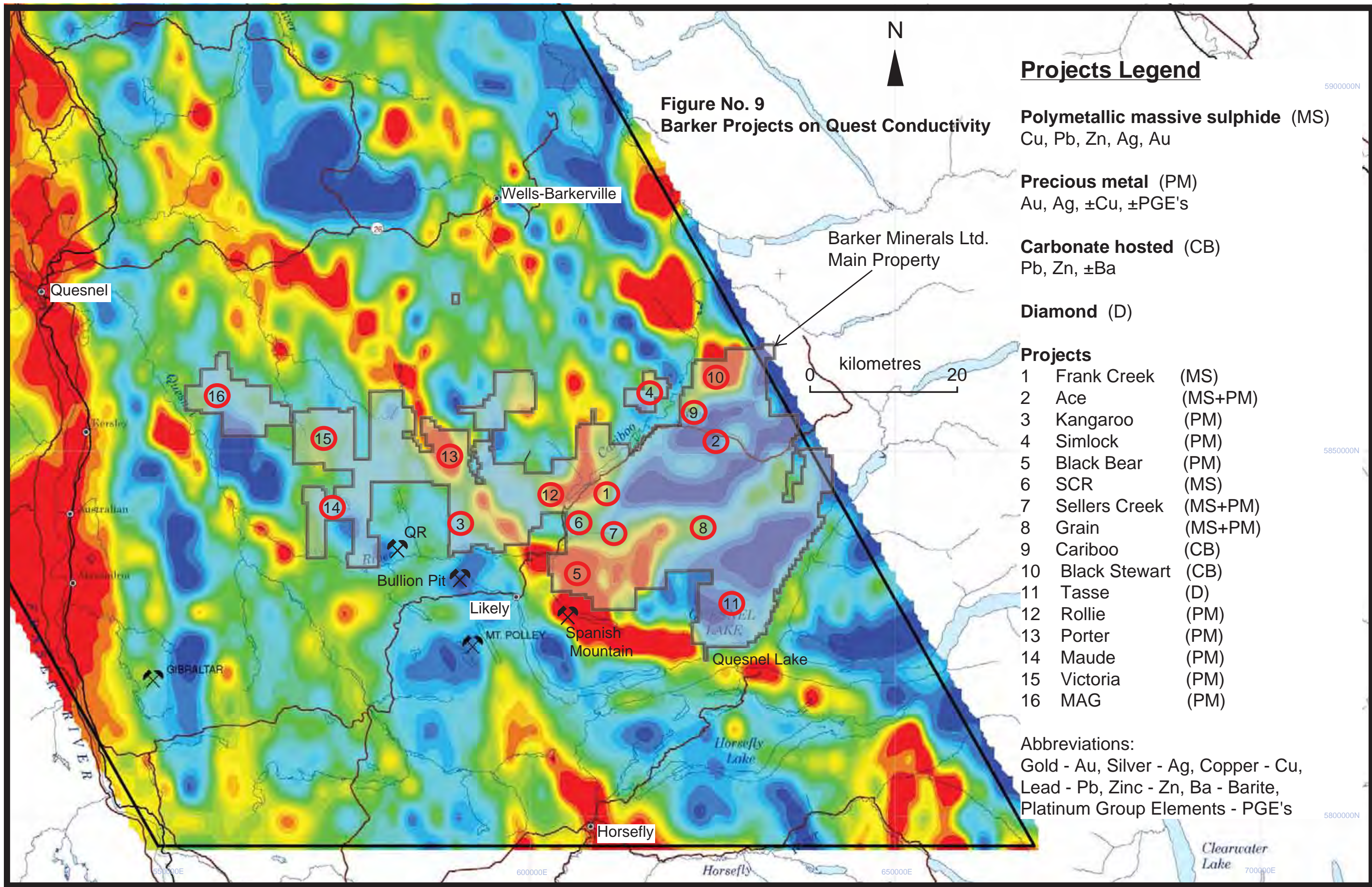
Barker Minerals' entire 40km x 80km block of mineral claims is situated within the southern portion of the QUEST area. Barker's compilation work resulted in relating Barker's claims area sixteen of Barker's projects to the new QUEST and Likely projects' data and maps as an initial step in utilizing the extensive new geophysical data sets. Barker's mineral claims and project areas are shown on Figure Nos. 8 to 15 against backgrounds from newly published maps from GBC's QUEST Survey and the GSC's Likely survey as listed below:

<u>Barker Fig. No.</u>	<u>QUEST or Likely Surveys publications</u>
Fig. No. 8 re. magnetics	GBC Map 2009-15-2
Fig. No. 9 re. conductivity	GBC Map 2009-15-3
Fig. No. 10 re. density+conductivity+magnetics domains	GBC Map 2009-15-5
Fig. No. 11 re. geology	GBC Report 2010-5, BCGS Map 2010-1, GSC OF 6476
Fig. No. 12 re. magnetics & conductivity	GSC Open Files 6245, 6246
Fig. No. 13 re. magnetics 1 <sup>st</sup> derivative	GSC Open File 6157
Fig. No. 14 re. magnetics 1 <sup>st</sup> derivative	GSC Open File 6158
Fig. No. 15 re. magnetics 1 <sup>st</sup> derivative	GSC Open File 6164

The GBC and GSC publications relevant to the QUEST and Likely surveys should be consulted for detailed information regarding survey specifications, map legends and explanations of the data sets. The purpose Barker Minerals' compilation work here is to relate Barker's projects and areas of interest to the areas of the recently completed QUEST and Likely surveys, as a first step in assessing Barkers' as well as the very extensive publically available data sets. It's not practicable here to provide immediate interpretations as a detailed study of the data would need to be done first. Notable at this time, however, and easily identifiable, are at least half a dozen 1 km diameter circular magnetic anomalies in the Tasse diamond project area (Fig. No. 12); these are considered to be related to deeply-sourced diatremes. Ultramafic breccia here contain mantle xenoliths and diamond indicator minerals (Turna, 2009b).







**Figure No. 9**  
**Barker Projects on Quest Conductivity**

**Projects Legend**

**Polymetallic massive sulphide (MS)**  
 Cu, Pb, Zn, Ag, Au

**Precious metal (PM)**  
 Au, Ag, ±Cu, ±PGE's

**Carbonate hosted (CB)**  
 Pb, Zn, ±Ba

**Diamond (D)**

**Projects**

- 1 Frank Creek (MS)
- 2 Ace (MS+PM)
- 3 Kangaroo (PM)
- 4 Simlock (PM)
- 5 Black Bear (PM)
- 6 SCR (MS)
- 7 Sellers Creek (MS+PM)
- 8 Grain (MS+PM)
- 9 Cariboo (CB)
- 10 Black Stewart (CB)
- 11 Tasse (D)
- 12 Rollie (PM)
- 13 Porter (PM)
- 14 Maude (PM)
- 15 Victoria (PM)
- 16 MAG (PM)

Abbreviations:  
 Gold - Au, Silver - Ag, Copper - Cu,  
 Lead - Pb, Zinc - Zn, Ba - Barite,  
 Platinum Group Elements - PGE's

590000N

585000N

580000N

580000E

600000E

650000E

700000E

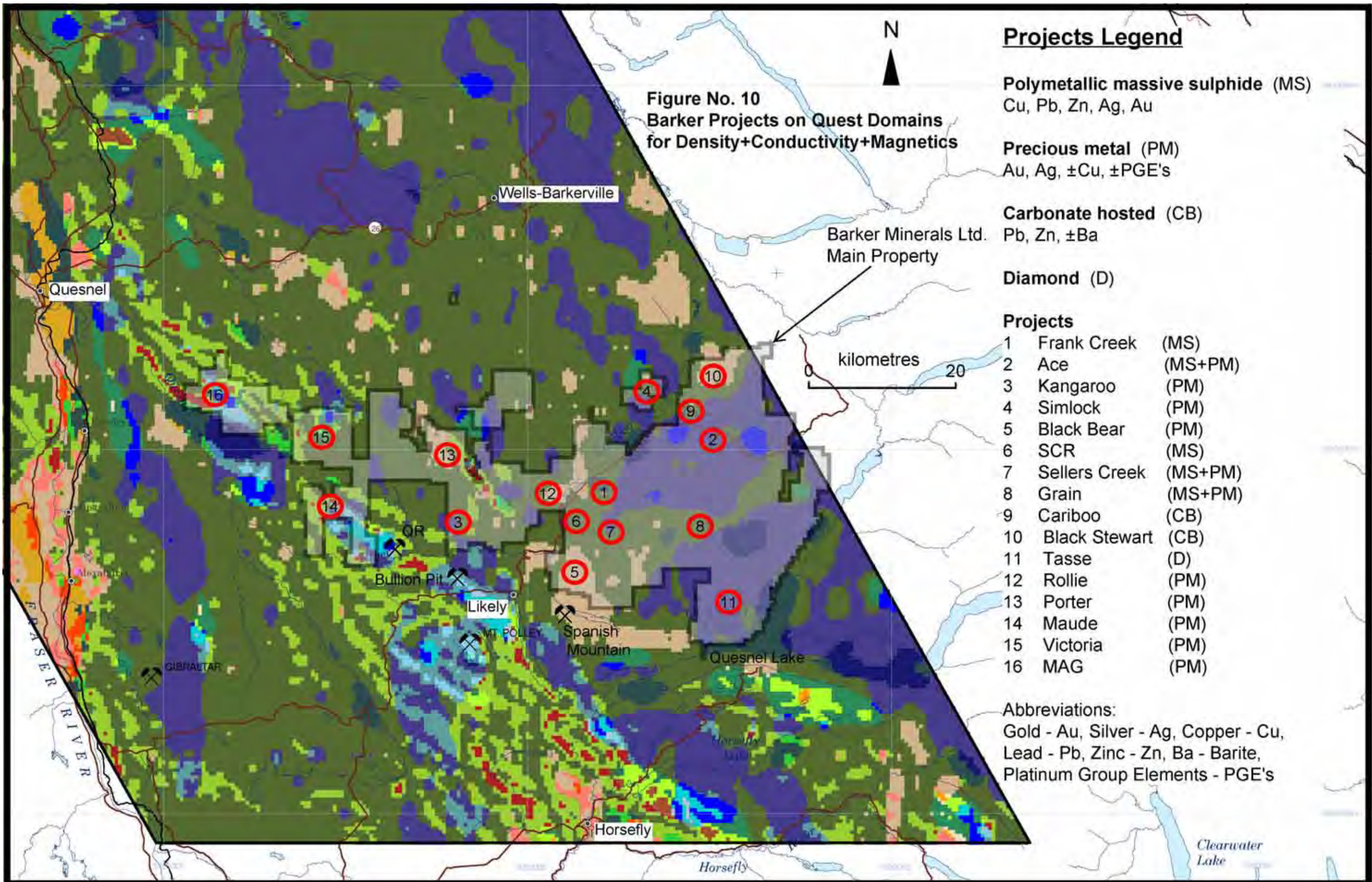
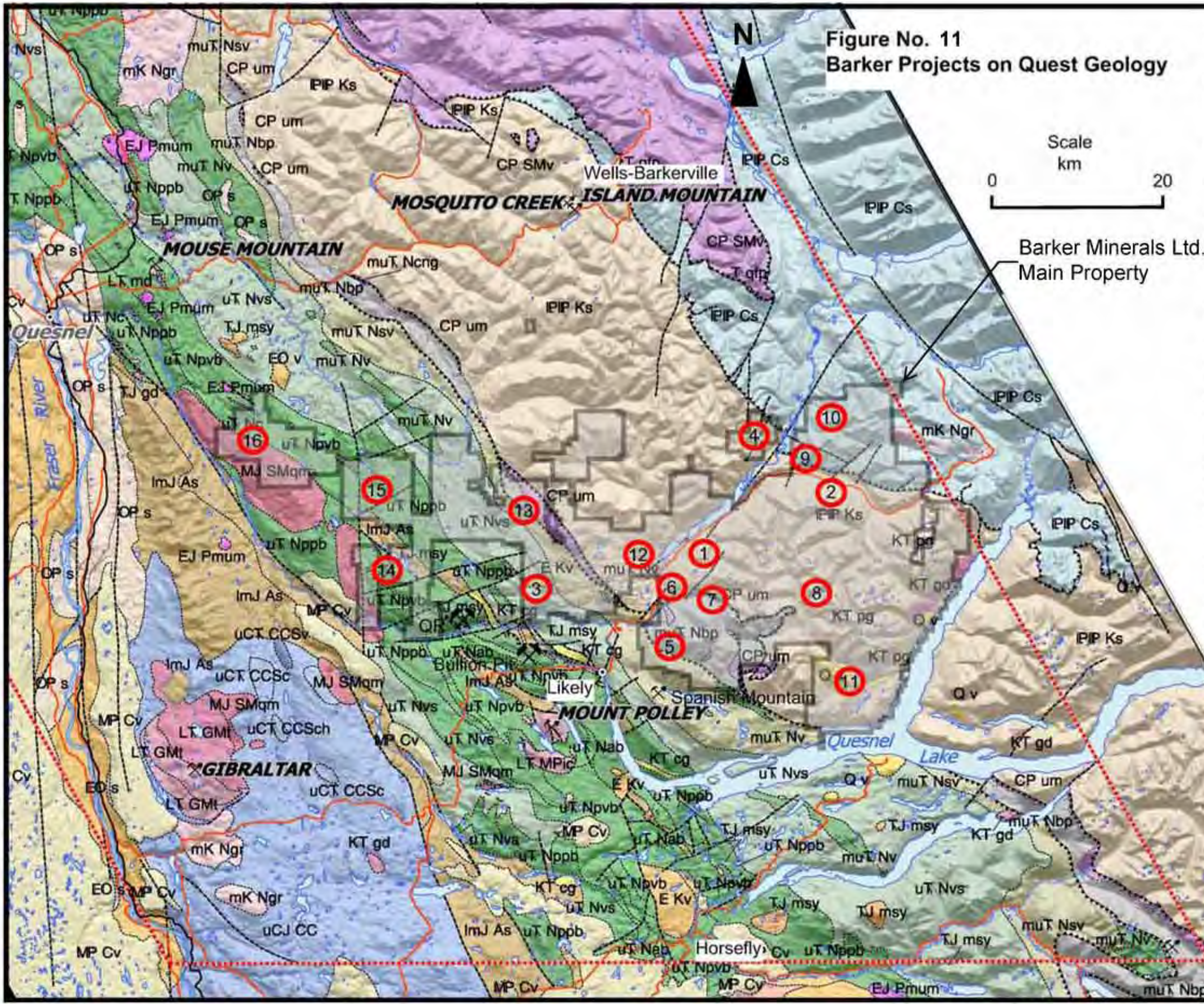


Figure No. 11  
Barker Projects on Quest Geology



**Barker Projects Legend**

**Polymetallic massive sulphide (MS)**  
Cu, Pb, Zn, Ag, Au

**Precious metal (PM)**  
Au, Ag, ±Cu, ±PGE's

**Carbonate hosted (CB)**  
Pb, Zn, ±Ba

**Diamond (D)**

**Projects**

- 1 Frank Creek (MS)
- 2 Ace (MS+PM)
- 3 Kangaroo (PM)
- 4 Simlock (PM)
- 5 Black Bear (PM)
- 6 SCR (MS)
- 7 Sellers Creek (MS+PM)
- 8 Grain (MS+PM)
- 9 Cariboo (CB)
- 10 Black Stewart (CB)
- 11 Tasse (D)
- 12 Rollie (PM)
- 13 Porter (PM)
- 14 Maude (PM)
- 15 Victoria (PM)
- 16 MAG (PM)

**Abbreviations:**

Gold - Au, Silver - Ag, Copper - Cu,  
Lead - Pb, Zinc - Zn, Ba - Barite,  
Platinum Group Elements - PGE's

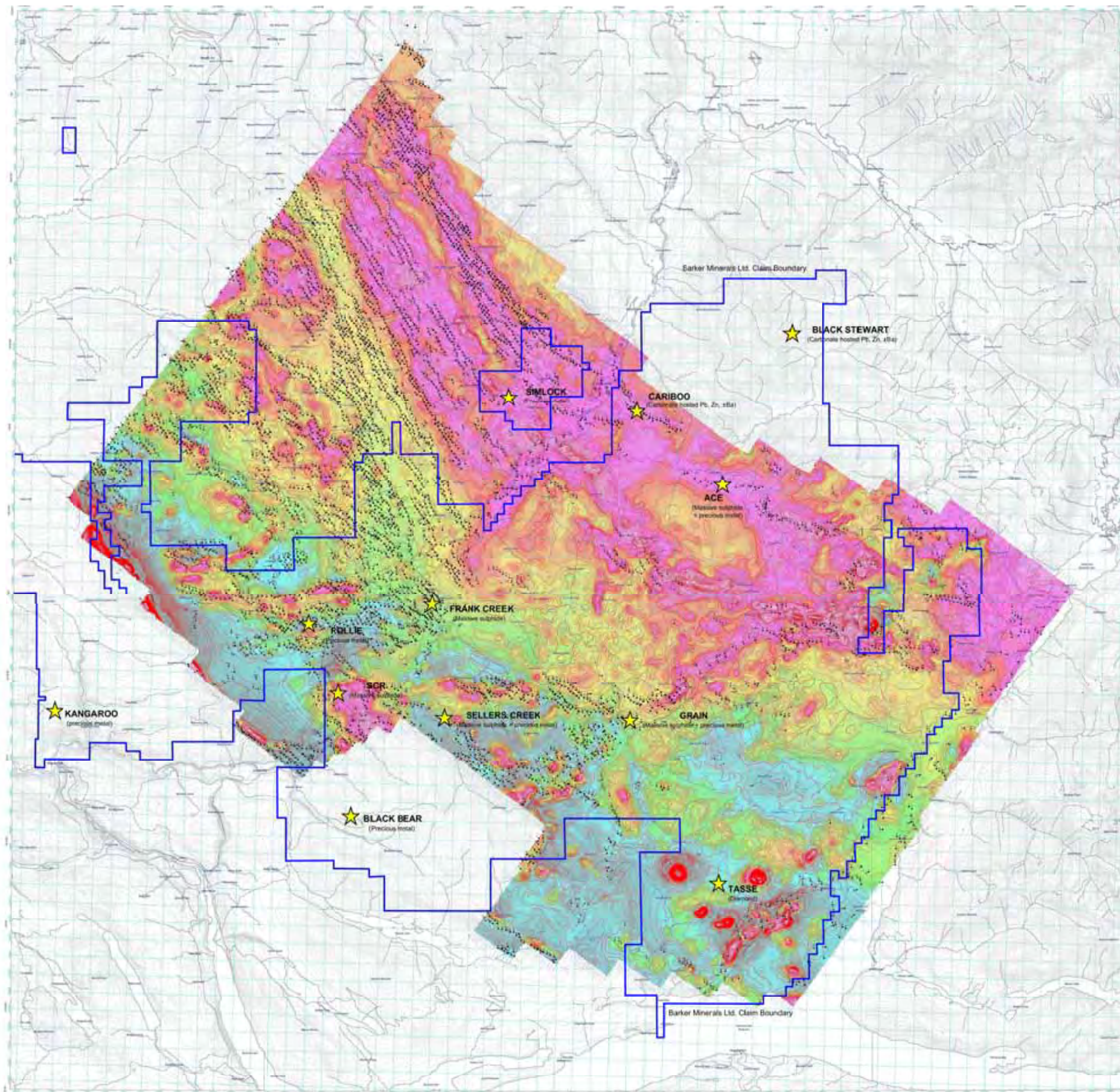


Figure No. 12  
 Barker Projects on  
 GSC Magnetics & Conductors

0 kilometres 5

**MAGNETIC INTENSITY**

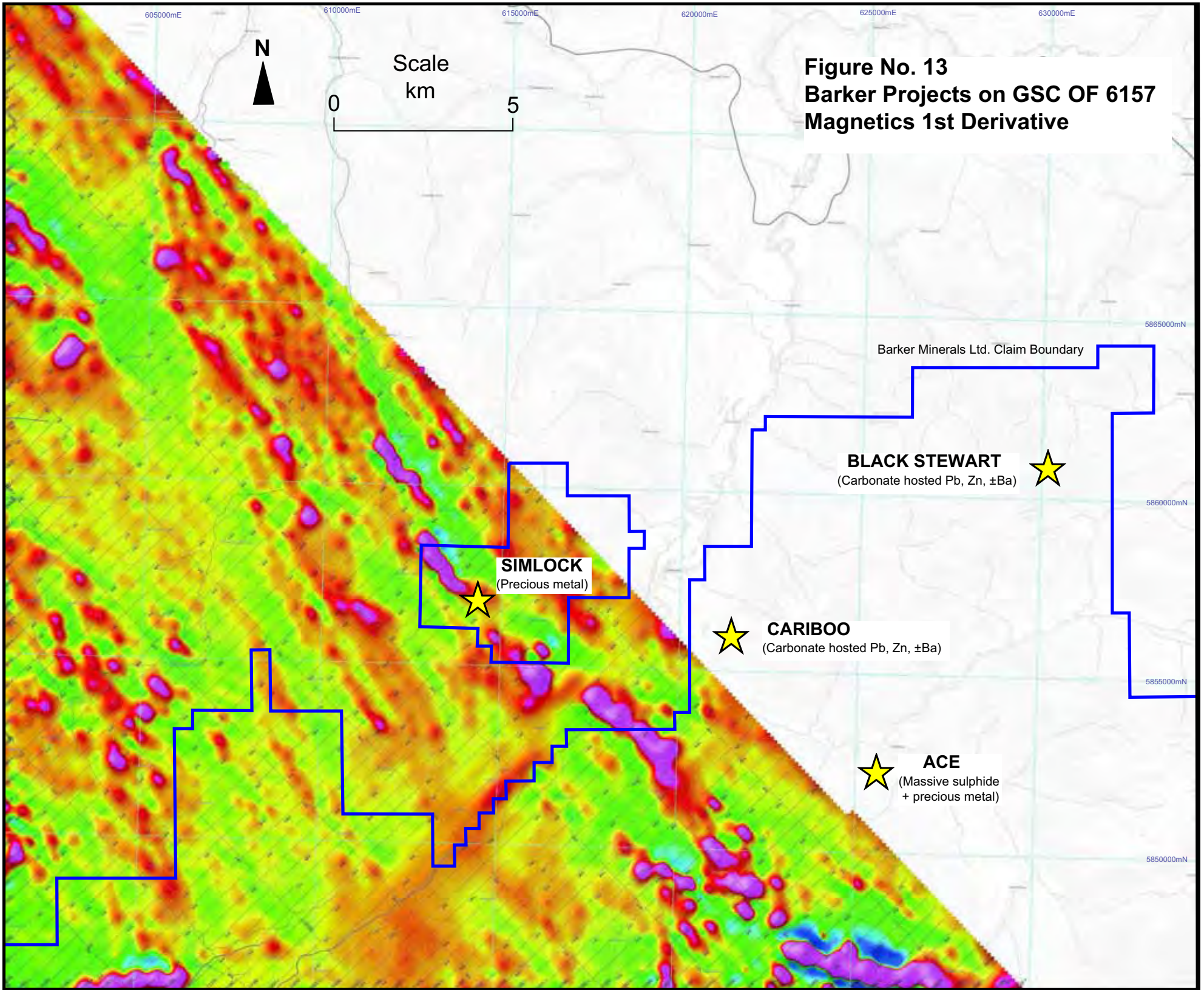
**MAGNETIC SUSCEPTIBILITY**

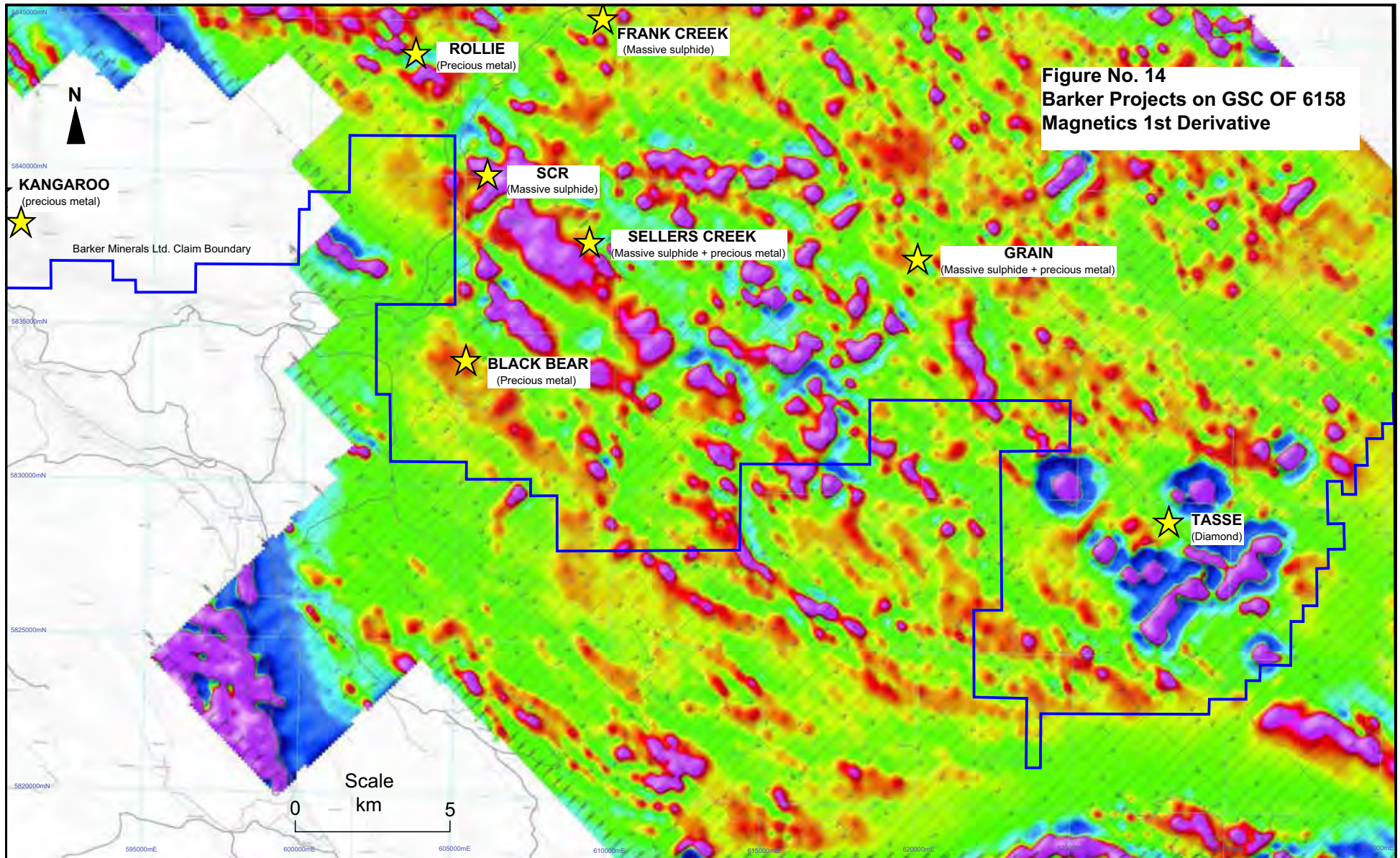
**MAGNETIC INDUCTION**

**LEGEND**

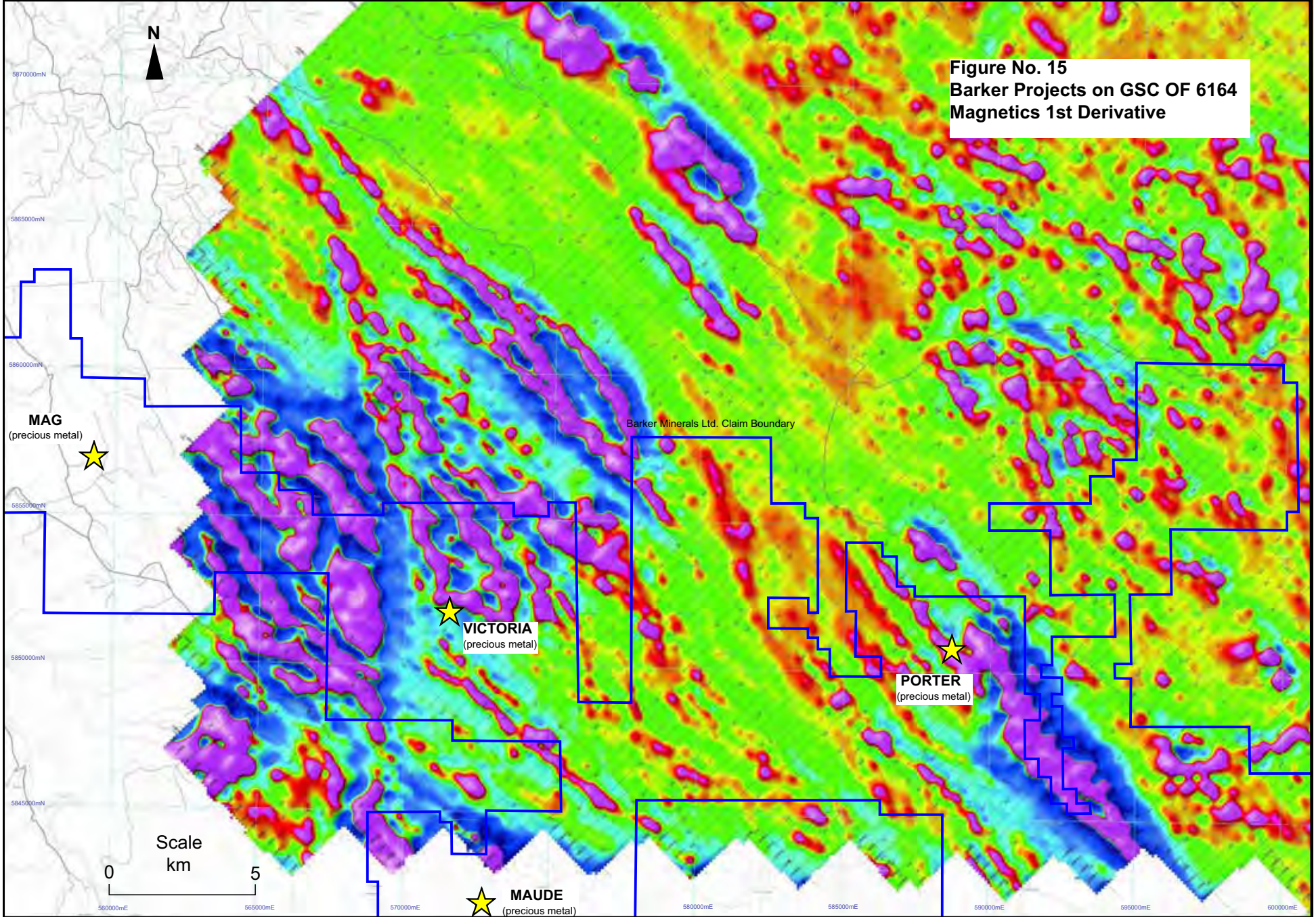
**UNITED STATES OF AMERICA**

**CANADA**





**Figure No. 15  
Barker Projects on GSC OF 6164  
Magnetics 1st Derivative**



5870000mN  
5865000mN  
5860000mN  
5855000mN  
5850000mN  
5845000mN



**MAG**  
(precious metal)



**VICTORIA**  
(precious metal)



**PORTER**  
(precious metal)



**MAUDE**  
(precious metal)



Barker Minerals Ltd. Claim Boundary

Scale  
km

0 5

560000mE 565000mE 570000mE 580000mE 585000mE 590000mE 595000mE 600000mE

## 10.0 FRANK CREEK PROPERTY

### 10.1 Diamond Drilling

Two diamond drill holes described below targeted geophysical conductors from previous work. DDH FC09-38 targeted HLEM Conductor B in the F1 Target area (see Figure Nos. 16 and 17). DDH FC09-39 targeted a Titan-24 low resistivity anomaly at F9 Target Area on Line 5300N (see Figure No. 18).

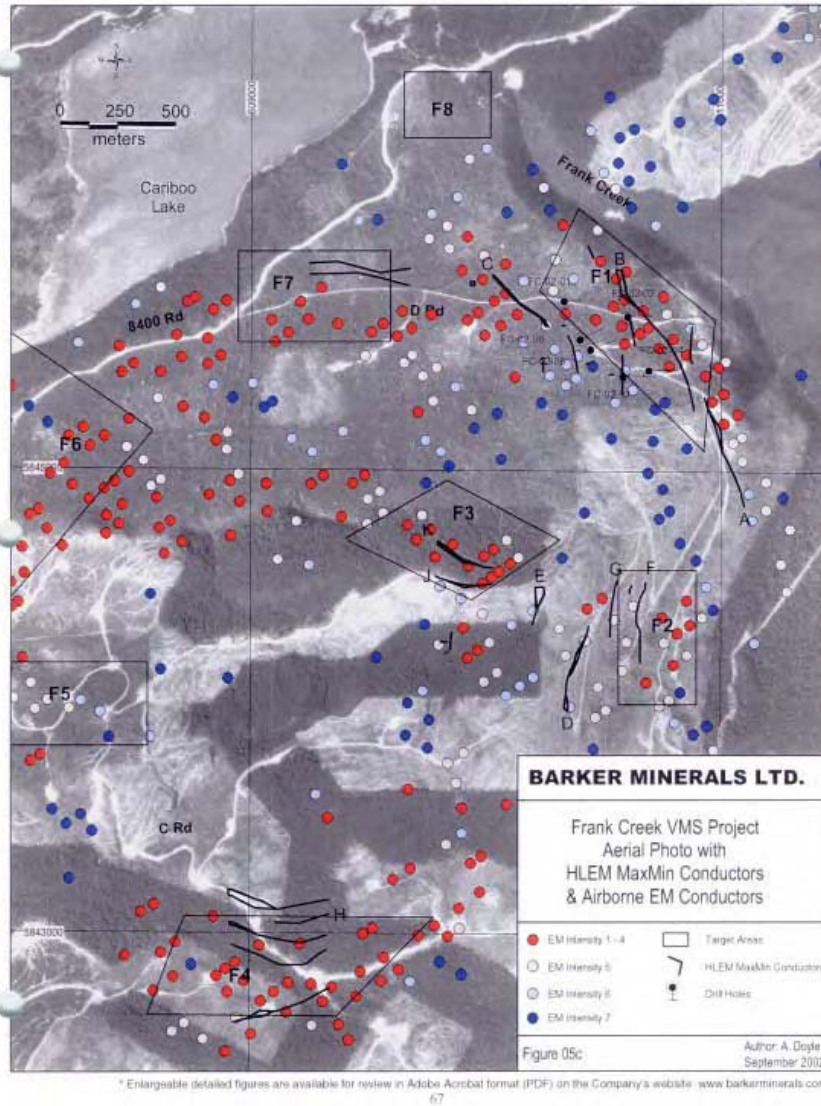


Figure No. 16 Frank Creek Property Geophysical Conductors, showing location of Conductor B in F1 Area targeted by Hole FC09-38 in 2009. The F9 Target Area, not indicated on this airphoto, is located on the north side of F3 Area. (This illustration is originally from Assessment Report 27125, Appendix 5, Figure 05c).



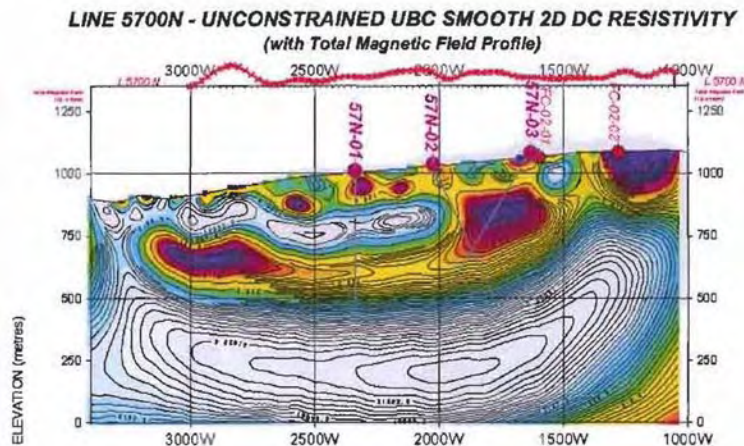


Figure No. 17 Drill Target. Line 5700N resistivity anomaly targeted by DDH FC09-38. The drill hole collar is at 1250W. DDH's proposed by the geophysical contractor (Quantec Geoscience, 2004) are indicated by light lines.

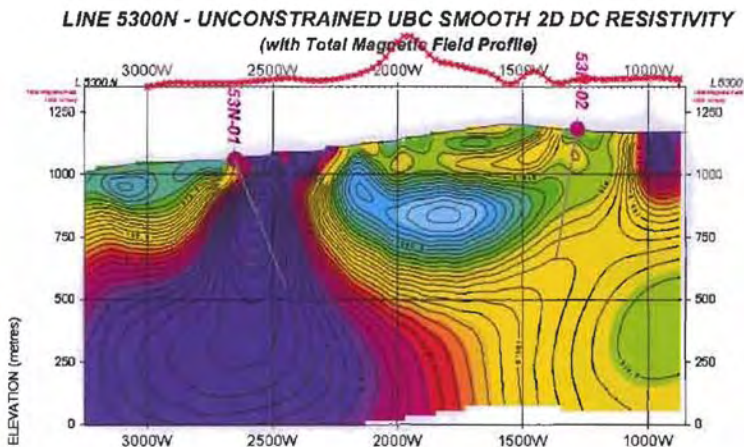


Figure No. 18 Drill Target. Line 5300N resistivity anomaly targeted by DDH FC09-39. The drill hole collar is at 2650W. DDH's proposed by the geophysical contractor (Quantec Geoscience, 2004) are indicated by light lines.

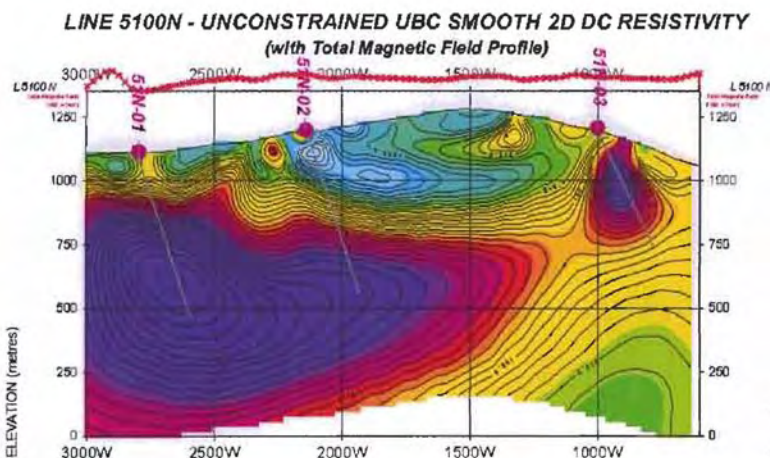


Figure No. 19 Drill Target. Line 5100N resistivity anomaly target for planned DDH at 2800W. DDH's proposed by the geophysical contractor (Quantec Geoscience, 2004) are indicated by light lines.

### **DDH FC09-38**

The purpose of the hole was to test a strong HLEM conductor from the 2002 geophysical survey, indicated 'B' in the F1 Area in Figure No. 16, above. This conductor had several N-S oriented splays trending toward the massive sulphide exposure in the Discovery Trench, 200 m to the south. These conductors terminate at Frank Creek, 400 m to the north, just above the occurrence of massive sulphides boulders, up to approximately 1.0 m in size. Hole FC09-38 encountered pyritic (10%) volcanoclastics, graphitic argillites and a gouge (fault) zone in the upper half of the 334 m hole, capable of explaining the geophysical conductor through there. An Au-Pb-Zn anomalous zone, bracketed by relatively low Ba, occurred between 39 to 60 m. This was associated with graphitic argillite characterized by breccia and local flow or slump textures. From 176 to 280 m depth quartz stockwork occurred in an intensely quartz and sericite altered zone typical of the type of alteration and mineralization that occurs extensively in the footwall to massive sulphide deposits. This intensely altered stockwork zone was low in sulphides however.

Considering the overall NW-SE trend of the geology on the property, the location of the FC09-38 north and slightly east of the Discovery Trench massive sulphides, targeting the conductor, was probably too far east and high in the overturned stratigraphy to intersect the considered favourable stratigraphic horizon. Figure No. 23 - Line 5300 Interpretation provides a schematic interpretation of the location of DDH holes FC09-38 and 39 relative to Titan-24 geophysics and tentative interpretation of the geology and structure.

### **DDH FC09-39**

The purpose of the hole was to test a Titan-24 IP low resistivity anomaly from the 2004 geophysical survey. This strong anomaly is illustrated in Figure No. 3 in this report ('Trend A') and in Figure No. 18 on Line 5300N. Hole FC09-39 encountered pyritic and graphitic argillites in the upper 93 m. The argillites tended to be foliated and brecciated. Below approximately 90 m the rocks encountered were massive volcanoclastics to the bottom of the hole at 566 m. Below approximately 160 m alteration intensity and veining increases imperceptibly and between approximately 280 m - 394 m sulphide-quartz veins are more common with stronger alteration associated with local zones of stockwork veining. Between 280m and 394 m the rocks are magnetic with numerous veins containing mostly pyrrhotite with chalcopyrite common and grey quartz. The pervasive sericite-quartz alteration encountered in this hole, though significant, is less intense than that encountered in Hole 38. The occurrence of pyrrhotite and chalcopyrite in the vein stockwork in Hole 39 suggests a closer proximity to a possible massive sulphide mound than Hole 38 was.

The evidence for overturned stratigraphy has been demonstrated by graded bedding in core in previous drill programs at Frank Creek (see example in Turna, 2009, Fig. No. 16, Graded Bedding in Hole FC08-29) and by nearby overturned lava pillows (Ferri and O'Brien, 2003).

### **Borehole TEM Geophysical Survey in DDH FC09-39**

A TEM geophysical survey was done down hole FC09-39 by Quantec Geoscience Ltd. of Toronto, Ontario. Woody Coulson, P.Geo., of Quantec wrote regarding the results for Hole 39:

*In summary, there is an anomaly between 40m and 50m in the hole. The early times are in-hole but the late times are off-hole suggesting the hole has tested the upper edge of strong conductor. The centre of the conductor lies below (down dip) and right (south) of the hole...*

*A second conductor is evident between 205m and 215m in the hole. This is a much smaller surface area and less conductive body than the upper*

*conductor... The centre is interpreted to lie below (down dip) the hole. There are no other conductors evident in the lower part of the hole or an indication of anything beyond the end of the hole.*

The transition at 93 m from sedimentary rocks with relatively low resistivity to volcanoclastics below is also evident in the borehole geophysical charts in Appendix E. What seems like noise in the data below approximately 270 m (see esp. X Component in Dwg. No. CA00706C-BHLL-X-Tilt-FC-09-39 in Appendix E) might be responses to individual pyrrhotite veins which are common below that depth.

Core near the first borehole TEM anomaly was characterized by pyritic breccia and local graphitic horizons. Near the second TEM anomaly occurred several quartz-pyrite veins within sericite altered volcanoclastics. The veining and sulphide mineralization at these locations is considered typical of that evident generally in the hole and occurring more abundantly between approximately 280 m - 394 m. The above is indicative of footwall-type alteration and mineralization that occurs stratigraphically below a massive sulphide.

## **10.2 Rock sampling, Trench Reclamation, Road Upgrading**

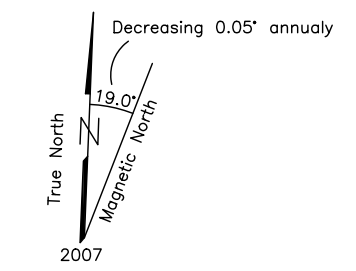
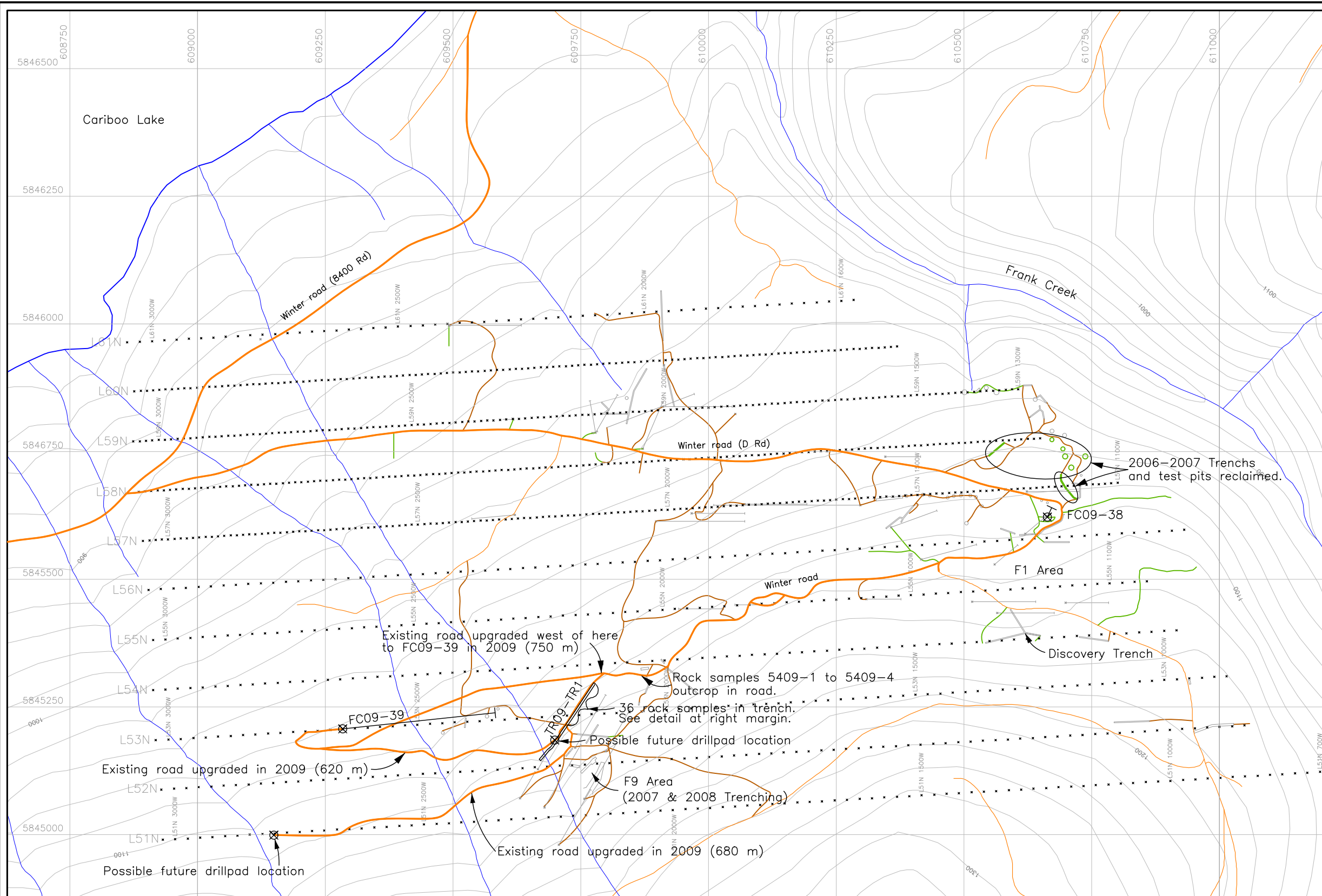
36 rock samples were collected from Trench FC09-TR1, approximately 125 m in length. The trench exposed massive sulphide (sphalerite and pyrite) lenses but these were not mapped due to sloughing of the trench. The rock samples were representative grabs at intervals in the northern portion of the trench. Cleaning of the trench and detailed sampling and mapping will be done in the next field season. Four rock samples were collected at an outcrop approximately 150 m northeast of Trench FC09-TR1. The location of the trench and rock samples are shown in Figure No. 20. The same Figure shows the locations of DDH's FC09-38 and 39 and older trenches and test pits reclaimed on the north side of DDH FC09-38. Five test pits and two trenches, from the 2007-2007 work program, totalling approximately 100 m were filled.

The roads to DDH FC09-39 and the planned DDH hole on Line 5100N are partly new and partly old logging trails and roads. The old logging roads were cleared and modified by a Cat 320 excavator and smoothed over by a JD 850 dozer in order to have access for the drill and water truck operations.

Snow clearing and road maintenance was necessary in preparation of, and during drilling. This (Winter Road) was over approximately 8.0 km between Hole 39 down to the main road and to the bridge across Cariboo River. Three sections of existing road were upgraded. Their lengths are approximately 620 m, 680 m and 750 m. The roads are indicated in Figure No. 20. The planned drill site is located on Line 5100N at approximately 2800E. The low resistivity Titan-24 anomaly targeted by the planned DDH hole is shown on Figure No. 19.

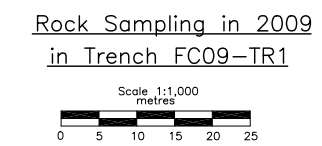
## **11.0 ACE, BLACK BEAR, PEACOCK PROPERTIES**

Rock samples, in the course of on-going routine prospecting, were collected at the Peacock (Figure No. 24), Ace (Figure No. 25) and Black Bear (Figure No. 26) areas. The lab analytical results for all the rock samples, including those from Frank Creek, are in Appendix D. The rock samples tended to be representative grabs from the locations indicated in the Figures.



UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10

- FC085-35,36
- FC085-33,34
- FC085-31,32
- FC085-29,30
- FC085-27,28
- FC085-25,26
- FC085-23,24
- FC085-21,22
  
- FC085-19,20
- FC085-17,18
- FC085-15,16
- FC085-13,14
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- FC085-09,10
- FC085-07,08
- FC085-05,06
- FC085-03,04
- FC085-01,02

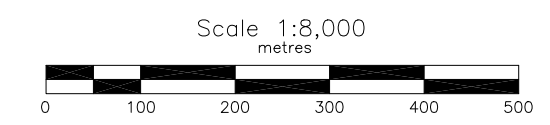


See Appendix D for Analytical Data

**LEGEND**

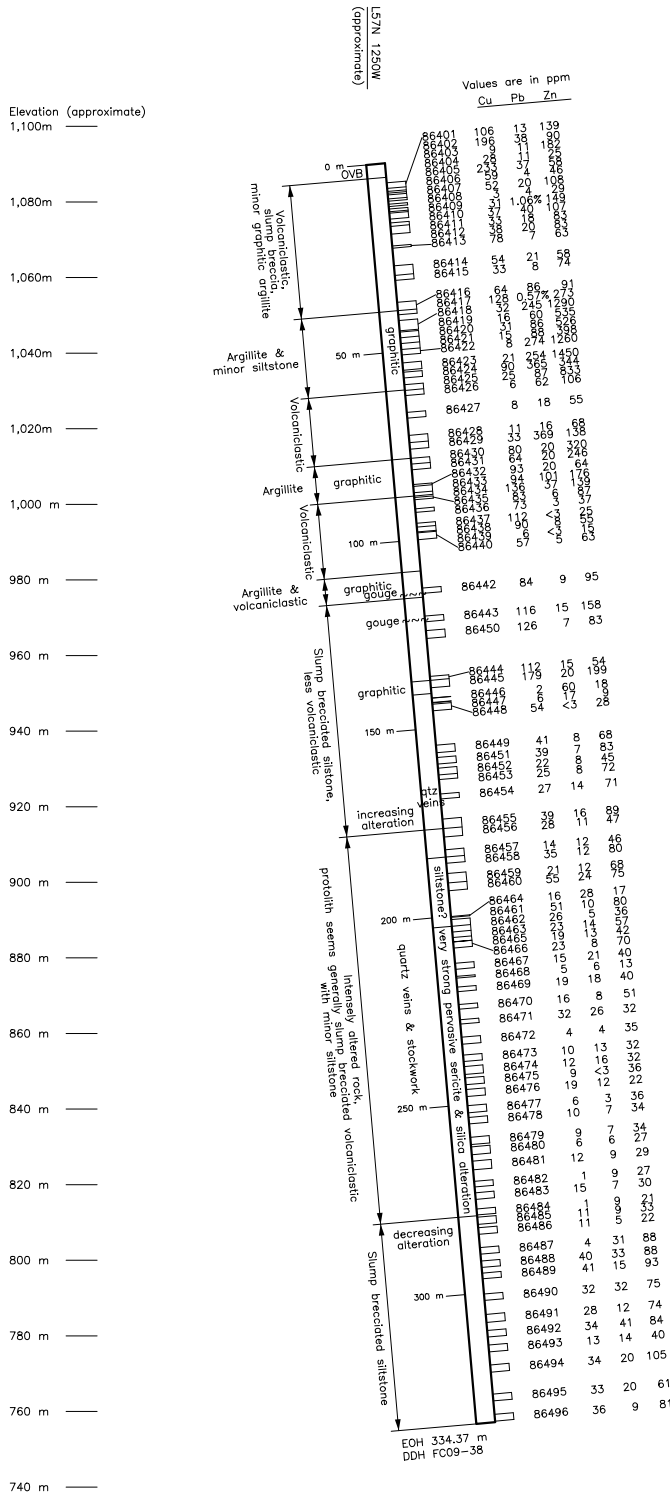
- Topographic Contour & Elevation  
Contour interval 20 metres
- Creek
- Road, trail, reclaimed
- Grid station (2004 Titan)
- Drillhole location & number

UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10

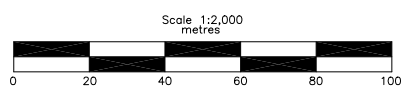


**BARKER MINERALS LTD.**  
FRANK CREEK PROPERTY  
LOCATION MAP of  
2009 DRILLING  
and ROCK SAMPLING  
Cariboo Mining Division, B.C.

NTS Map: 93A/11, 93A/14	Date: Feb 12, 2010
Drawn by: RT	Fig.No. 20



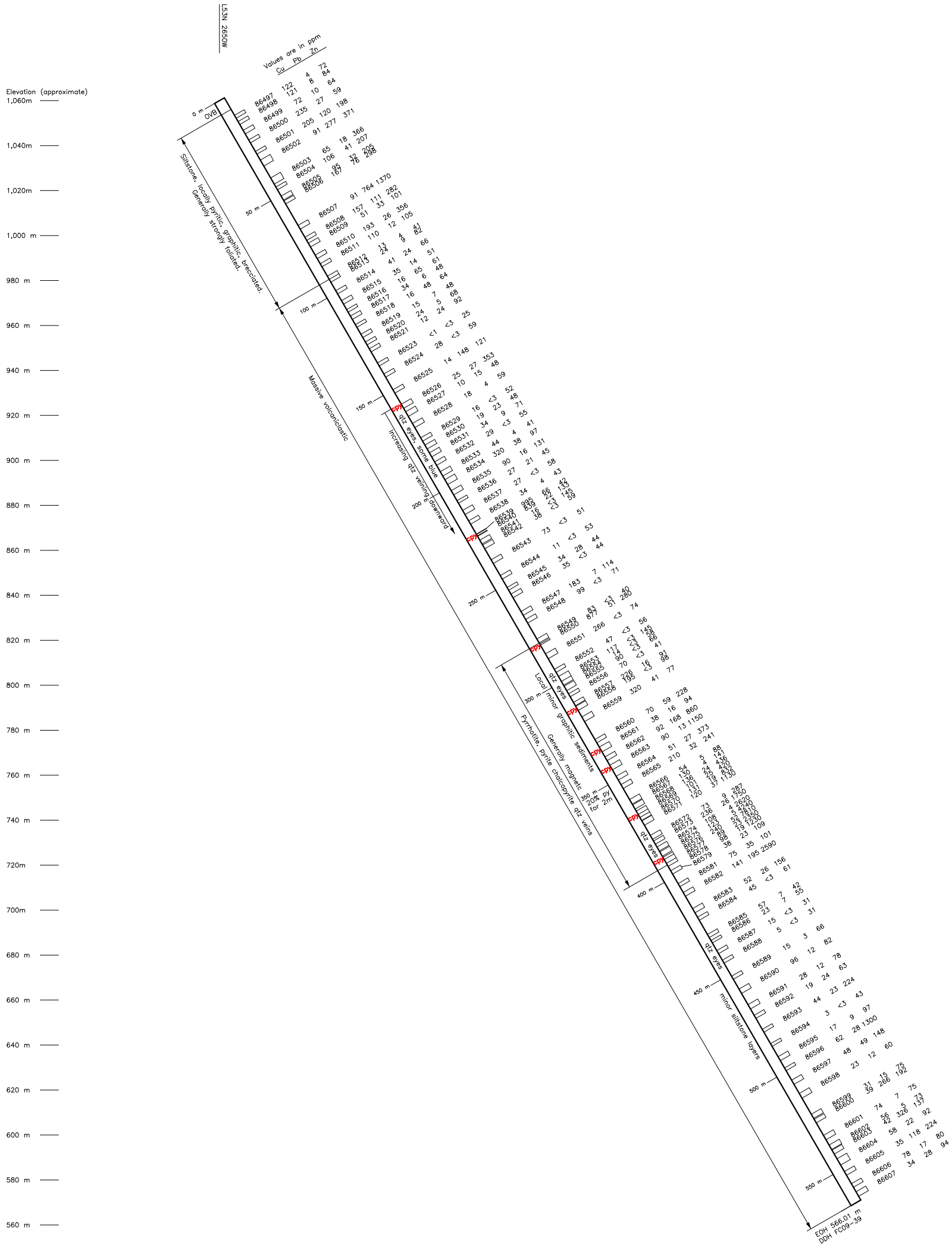
DDH FC09-38  
Drill Section & Geochem



BARKER MINERALS LTD.  
FRANK CREEK PROPERTY  
DIAMOND DRILL HOLE PROFILE  
DDH FC09-38

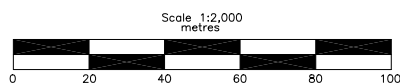
Cariboo Mining Division, B.C.

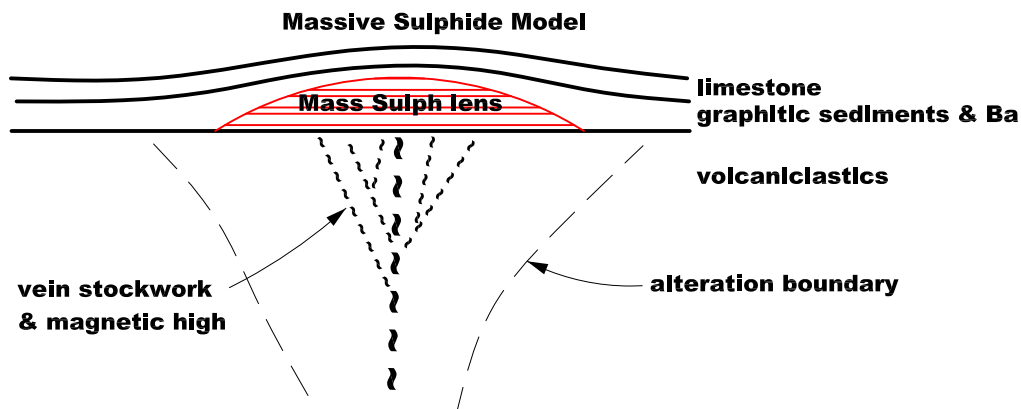
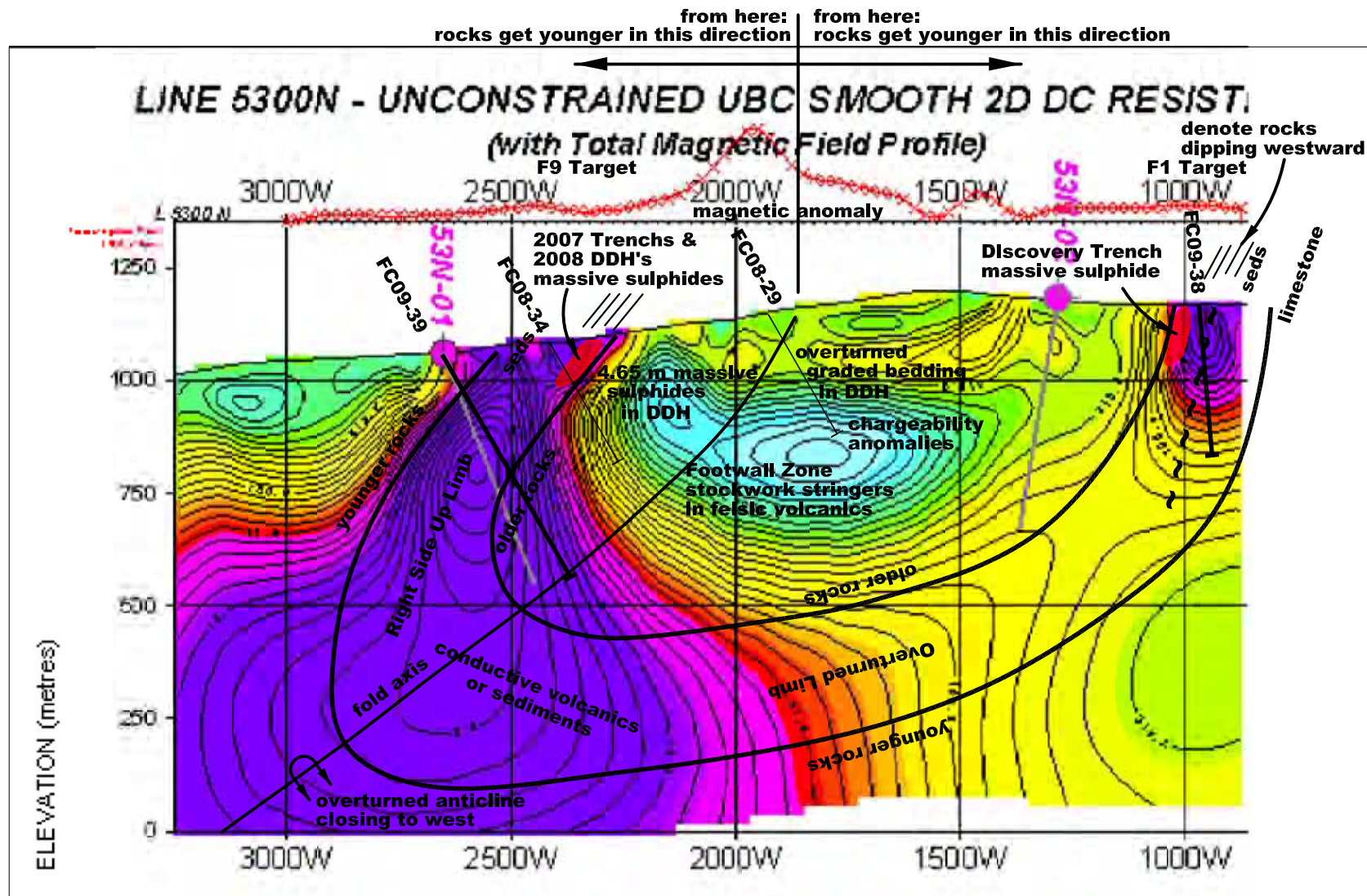
Date: Feb. 20, 2010	
Drawn by: RT	Fig.No. 21



DDH FC09-39 Drill Section & Geochem

BARKER MINERALS LTD.	
FRANK CREEK PROPERTY	
DIAMOND DRILL HOLE PROFILE	
DDH FC09-39	
Cariboo Mining Division, B.C.	
Drawn by: RT	Date: Feb. 12, 2010
	Fig.No. 22

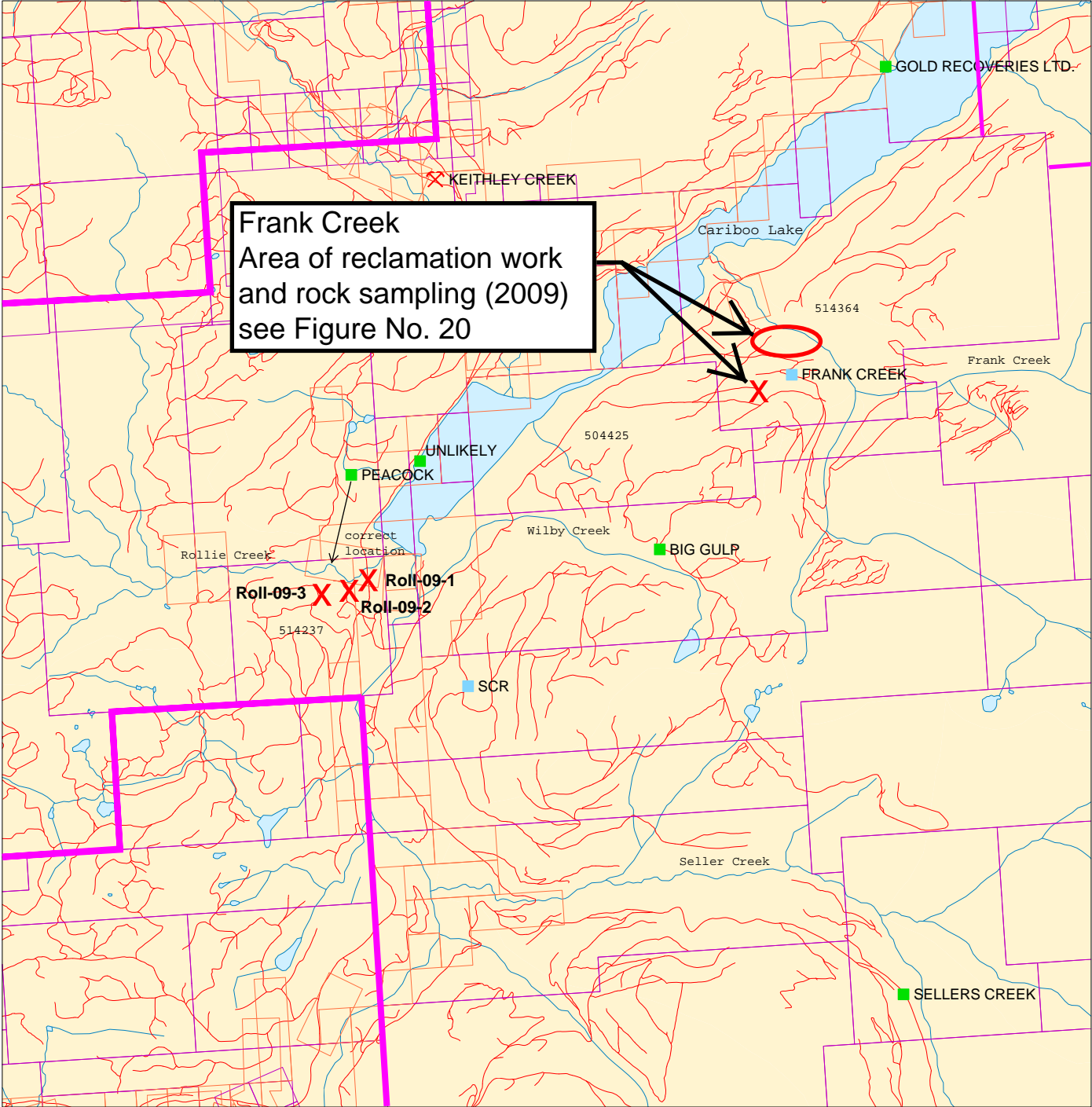




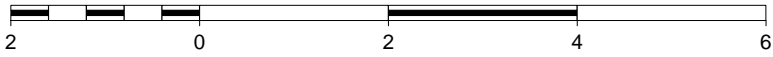
**Figure No. 23**

**Line 5300N Schematic Interpretation.** An overturned anticline is postulated. The favourable massive sulphide stratigraphic horizon is closely associated with the contact between footwall volcanics and hangingwall graphitic sediments whose conductivity masks that of the massive sulphides. The footwall alteration zone extends laterally beyond the massive sulphides. Along strike trend the favourable horizon may be close to the ground surface as at F1 and F9 Target areas.

# Frank Creek & Peacock Prospecting Areas (2009)



SCALE 1 : 80,000



KILOMETERS

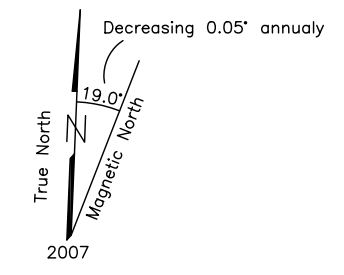
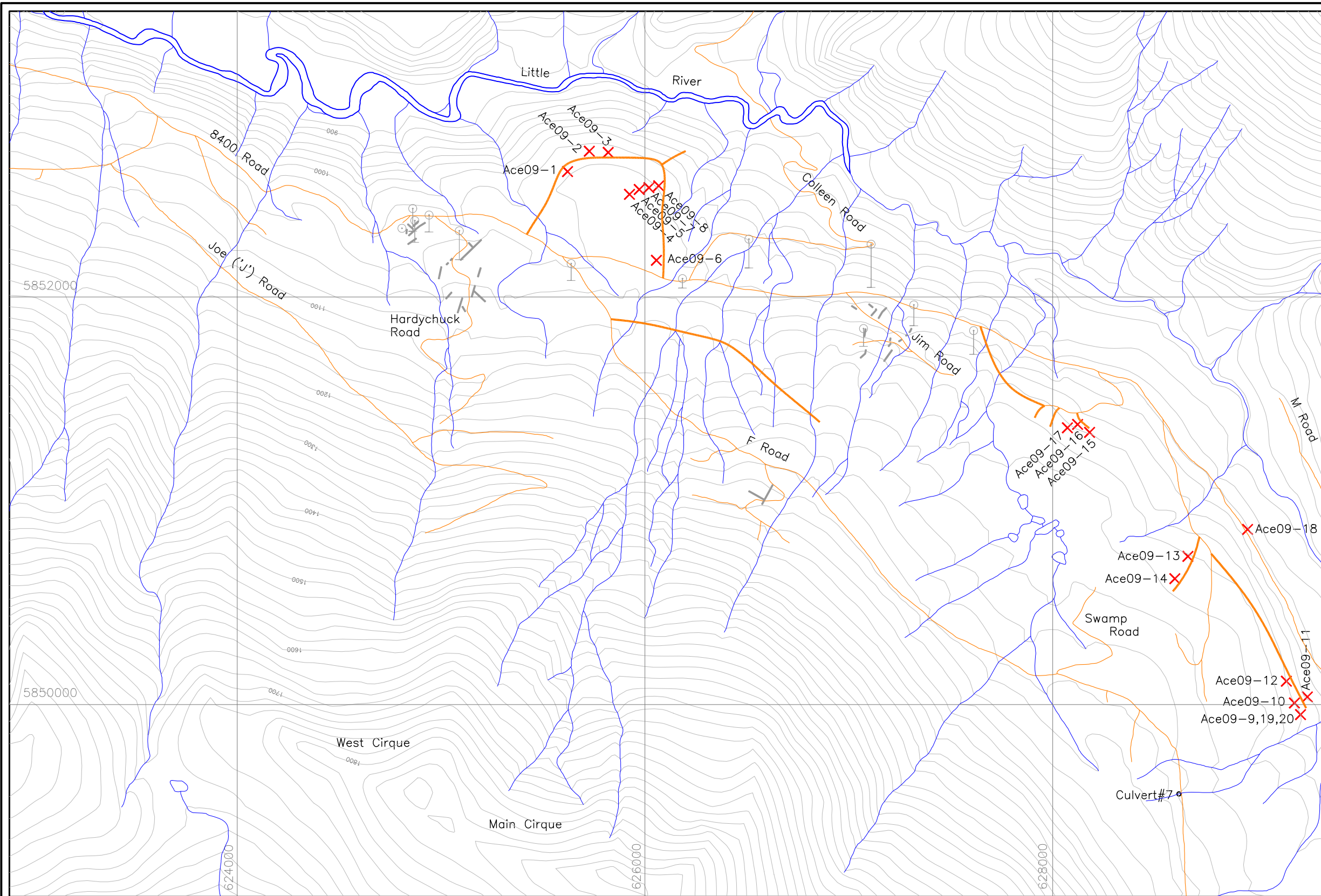


**X**      Prospecting and rock sampling areas in 2009

**—**      Barker Minerals Ltd. Claims Boundary

**Figure No. 24**



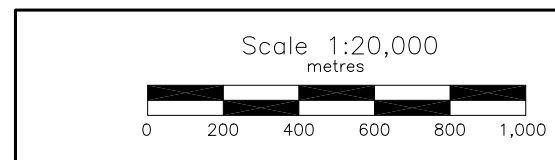


See Appendix D for all Analytical Data

**LEGEND**

- 1000 Topographic Contour & Elevation  
Contour interval 20 metres
- Creek, Pond, Swamp
- Road
- New road prospected in 2009
- Rock sample collected in 2009
- Historic Barker Minerals DDH and Trench Locations

UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10



BARKER MINERALS LTD.

ACE PROPERTY

Locations of  
2009 Prospecting and Samples

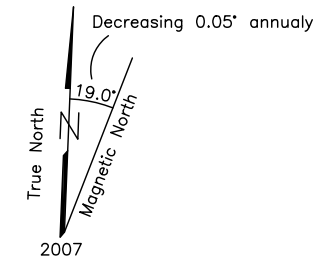
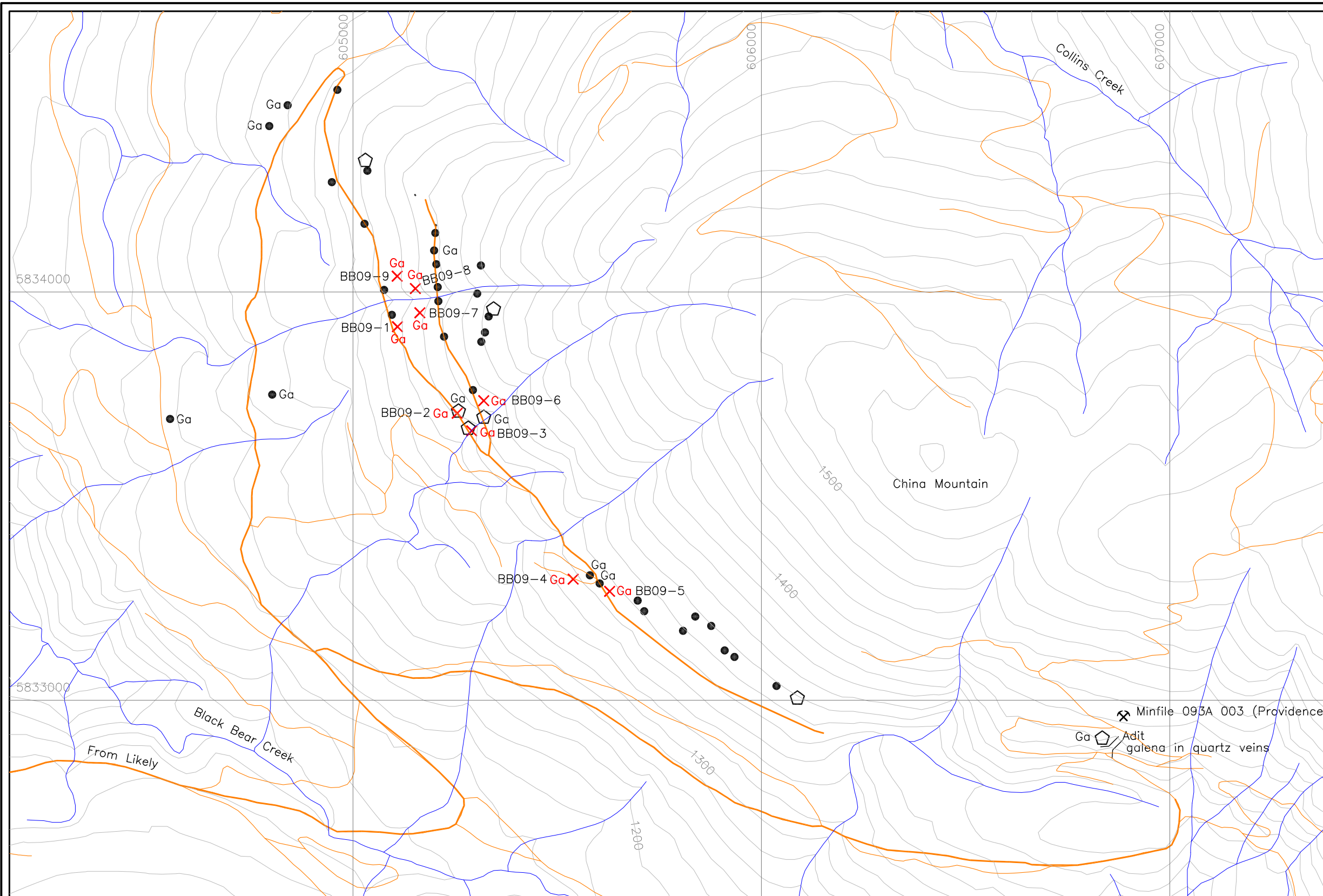
Cariboo Mining Division, B.C.

NTS Mapsheet: 93 A/14

Date: February 16, 2010

Drawn by: RT

Fig.No. 25

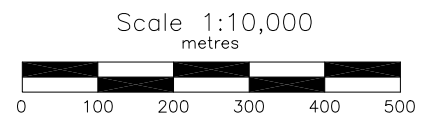


See Appendix D for Analytical Data

**LEGEND**

- Topographic Contour & Elevation  
Contour interval 20 metres
- Creek
- Road
- Quartz occurrence discovered or sampled in 2009  
Ga denotes galena mineralization
- Quartz outcrop occurrences known from historic work  
Ga denotes galena mineralization
- Quartz float occurrences known from historic work  
Ga denotes galena mineralization

UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10



BARKER MINERALS LTD.  
BLACK BEAR PROPERTY  
2009 SAMPLING AREA

Cariboo Mining Division, B.C.

NTS Mapsheet: 93A/11	Date: February 16, 2010
Drawn by: RT	Fig.No. 26

## **12.0 CONCLUSIONS**

### **12.1 Frank Creek Property**

DDH holes FC09-38 and 39 encountered local quartz-sulphide stockwork within zones of pervasive sericite and silica alteration. Hole 38 had a more strongly altered zone than Hole 39 while the latter hole had a better-developed quartz stockwork which contained fairly abundant pyrrhotite and a higher occurrence of chalcopyrite clearly associated with the pyrrhotite veins. The anomalous Au zone in Hole 38 (39 m to 60 m) had a strong correlation with Pb and Zn. High Pb (1.06%) over 40 cm at 13 m depth in Hole 38, and galena in quartz veins in an outcrop in the road ditch adjacent to the drill pad the indicate the possibility of gold-bearing veins near the surface as well as in the 39-60 m zone. Vein-related Au-Pb-Zn mineralization in the F1 Target Area may post-date the massive sulphides there (Discovery Trench) and may be structurally controlled. This type of mineralization may be the source of the placer gold taken from the adjacent Frank Creek by the Rasmussen brothers in the 1980's (see Section 6.1 & 6.1.6).

The widespread occurrence of footwall-type alteration and mineralization on surface and in drill core affirms the overturned nature of the local stratigraphy, evidenced by results from previous exploration programs. The massive sulphide lenses discovered in the Discovery Trench in 2001 and in the F9 Target trenches in 2007 are considered to exist in a favourable stratigraphic horizon occurring within or somewhat below sedimentary rocks that are locally graphitic, and atop and partly within a felsic volcanoclastic pile.

Previous exploration programs at Frank Creek have demonstrated the occurrence of massive sulphide lenses occurring within or adjacent to graphitic sediments (eg. Discovery Trench, DDH FC08-34). A massive sulphide deposit can exist in a favourable horizon within the large strong low resistivity anomaly (Trend A) illustrated in Figure Nos. 3, 18, 19 and 23.

## **13.0 RECOMMENDATIONS**

### **13.1 Frank Creek Property**

Massive sulphide lenses discovered in trenches in 2007 and DDH holes in 2008 in the F9 Target area should be intensively followed up by trenching and drilling. This is also the area of the Trend 3 multi-element soil anomaly from the 2007 exploration program. 5,000 m of drilling in a grid pattern is recommended to follow the massive sulphide mineralization outward from the known locations. A 750 m deep DDH hole is recommended on each of Lines 5100N and 5300N to test the heart of the strong Trend A low resistivity anomaly. The anomalous gold in DDH FC09-38 should be followed up by re-analysing pulps from the soils collected in 2007 for Au by regular geochemical process. Trenching should be done in the F1 Target Area for gold-bearing veins and shear structures.

### **13.2 Ace, Black Bear, Peacock Properties**

The sampling results tended to verify the extensive occurrence of mineralization on these properties. Further work is recommended on these properties in accordance with recommendations made in the relevant references (Turna, 2008, 2009c, 2009d).

**Barker Minerals Ltd.**

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**From:** REIN TURNA [geocon002@shaw.ca]  
**Sent:** September-03-10 5:58 PM  
**To:** barker@telus.net  
**Subject:** Quantec borehole survey results

Hi Colleen,

We didn't get a report from Quantec for the down hole geophysics. Just the email (see below) which had the attachments included here. What I wrote in the assessment report about the borehole survey should be adequate and Quantec didn't need to write a report and I told them not to. I don't have a copy here of the AR I wrote. I believe I must have sent the completed AR to Louis on a cd with my own discussion of the borehole survey and Quantec's drawings in Appendix F of the report.

I'll be returning home on the 15th for a break and I'll then be able to send you Appendix F or the whole AR if necessary.

Rein

**From:** [Woody Coulson](#)  
**Sent:** Monday, December 14, 2009 2:28 PM  
**To:** '[REIN TURNA](#)' ; '[Louis Doyle](#)'  
**Subject:** BHEM results

Louis, Rein:

Attached are the results of the borehole TEM in hole 39. In summary, there is an anomaly between 40m and 50m in the hole. The early times are in-hole but the late times are off-hole suggesting the hole has tested the upper edge of strong conductor. The centre of the conductor lies below (down dip) and right (south) of the hole. There should be evidence of the conductor in the core.

A second conductor is evident between 205m and 215m in the hole. This is a much smaller surface area and less conductive body than the upper conductor. There may be evidence of this conductor in the core as well. The centre is interpreted to lie below (down dip) the hole. There are no other conductors evident in the lower part of the hole or an indication of anything beyond the end of the hole.

Let me know if you need a formal interp and I will write it up along with some modeling.

Regards  
Woody Coulson, P.Geo.  
Quantec

## **APPENDIX A**

### **Glossary of Technical Terms and Abbreviations**

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## Glossary of Technical Terms and Abbreviations

Anomalous	Chemical and mineralogical changes and higher than typical background values in elements in a rock resulting from reaction with hydrothermal fluids or increase in pressure or temperature.
Anomaly	The geographical area corresponding to anomalous geochemical or geophysical values.
Argentiferous	Containing silver.
Background	The typical concentration of an element or geophysical response in an area, generally referring to values below some threshold level, above which values are designated as anomalous.
BCGS	British Columbia Geological Survey.
B.C. MEMPR	British Columbia Ministry of energy Mines and Petroleum Resources.
cm	Centimetre.
Cratonic	Pertaining to a craton, an old part of the continental crust, generally making up the interior portion of a continent such as North America.
DCIP	An electrical method which uses the injection of current and the measurement of voltage and its rate of decay to determine the subsurface resistivity and chargeability.
DDH	Diamond drill hole.
Diatreme	A breccia-filled volcanic pipe that was formed by a gaseous intrusion.
EM	Electromagnetic.
Float	Loose rocks or boulders; the location of the bedrock source is not known.
GBC	Geoscience BC.
GSC	Geological Survey of Canada
Grab sample	A sample of a single rock or selected rock chips collected from within a restricted area of interest.
g/t	Grams per tonne (metric tonne). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)
Ha	Hectare - an area totalling 10,000 square metres, e.g., an area 100 metres by 100 metres.
HLEM	Horizontal loop electromagnetic.

ICP	Inductively coupled plasma.
IP	Induced polarization.
km	Kilometre.
lb.	Pound.
Leucocratic	Light-coloured.
m	Metre.
Max-min	An HLEM technique to test for resistivity and conductivity of rocks.
MT	Magnetotelluric. A electrical method that uses natural variations in the Earth's magnetic field to induce electric current in the ground to determine the subsurface resistivity.
NNW-SSE	North northwest – South southeast
NW-SE	Northwest - southeast.
N-S	North-South.
oz.	Ounce.
oz/T	ounces per ton (Imperial measurement). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons).
oz/st	ounces per short ton (Imperial measurement, same as oz/T). 34.29 g/t (metric tonnes) = 1.00 oz/st (short tons).
ppb	Parts per billion.
ppm	Parts per million (1 ppm = 1,000 ppb = 1 g/t).
Protolith	The original rock before it was metamorphosed.
QUEST	Quesnellia Exploration Strategy.
TDEM	Time Domain EM.
Tholeiitic	A type of basalt. The most common volcanic rocks on Earth, produced by submarine volcanism at mid-ocean ridges and make up much of the ocean crust. Chemically, these basalts have been described as subalkaline, that is, they contain less (Na <sub>2</sub> O plus K <sub>2</sub> O) at similar SiO <sub>2</sub> than alkali basalt.
TRIM	Terrain Resource Information Management.
VLF	Very low frequency.

VLf-EM      Very low frequency electromagnetic.

VMS          Volcanic-related massive sulphide.



**APPENDIX B**

**MINERAL CLAIM DETAILS**

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## MINERAL CLAIM DETAILS

Note: 'Good To' dates are as of January 20, 2010.

Tenure Number	Claim Name	Owner	Good To Date	Status	Area (ha)
503009		140410 (100%)	2010/mar/25	GOOD	685.626
503012		140410 (100%)	2010/mar/25	GOOD	627.162
503824	PG9-2	140410 (100%)	2010/mar/25	GOOD	58.789
504233		140410 (100%)	2010/mar/25	GOOD	587.627
504234		140410 (100%)	2010/mar/25	GOOD	587.886
504409		140410 (100%)	2010/mar/25	GOOD	469.653
504410		140410 (100%)	2010/mar/25	GOOD	410.748
504412		140410 (100%)	2010/mar/25	GOOD	78.238
504413		140410 (100%)	2010/mar/25	GOOD	626.051
504414		140410 (100%)	2010/mar/25	GOOD	684.05
504415		140410 (100%)	2010/mar/25	GOOD	449.537
504416		140410 (100%)	2010/mar/25	GOOD	508.36
504418		140410 (100%)	2010/mar/25	GOOD	469.261
504419		140410 (100%)	2010/mar/25	GOOD	824.233
504421		140410 (100%)	2010/mar/25	GOOD	706.445
504422		140410 (100%)	2010/mar/25	GOOD	490.616
504424		140410 (100%)	2010/mar/25	GOOD	822.055
504425		140410 (100%)	2010/mar/25	GOOD	665.615
504426		140410 (100%)	2010/mar/25	GOOD	39.15
504427		140410 (100%)	2010/mar/25	GOOD	508.734
504428		140410 (100%)	2010/mar/25	GOOD	704.562
504429		140410 (100%)	2010/mar/25	GOOD	684.353
504430		140410 (100%)	2010/mar/25	GOOD	684.675
504431		140410 (100%)	2010/mar/25	GOOD	685.864
504432		140410 (100%)	2010/mar/25	GOOD	705.025
504433		140410 (100%)	2010/mar/25	GOOD	587.205
504434		140410 (100%)	2010/mar/25	GOOD	801.706
504435		140410 (100%)	2010/mar/25	GOOD	625.334
504436		140410 (100%)	2010/mar/25	GOOD	585.945
504437		140410 (100%)	2010/mar/25	GOOD	683.739
504438		140410 (100%)	2010/mar/25	GOOD	683.556
504439		140410 (100%)	2010/mar/25	GOOD	702.38
505771		140410 (100%)	2010/mar/25	GOOD	586.275
509589	grav01	140410 (100%)	2010/mar/25	GOOD	488.021

509590		140410 (100%)	2010/mar/25	GOOD	429.398
509591		140410 (100%)	2010/mar/25	GOOD	566.23
509592		140410 (100%)	2010/mar/25	GOOD	214.832
509593	grav02	140410 (100%)	2010/mar/25	GOOD	273.274
513452	AUBAR NEW	140410 (100%)	2010/mar/25	GOOD	371.542
513453	CATH	140410 (100%)	2010/mar/25	GOOD	488.056
513455	CATH 2	140410 (100%)	2010/mar/25	GOOD	214.773
513456	AUBAR NEW 2	140410 (100%)	2010/mar/25	GOOD	19.551
513458	MADAM 6	140410 (100%)	2010/mar/25	GOOD	313.278
513459	STEVEN 1	140410 (100%)	2010/mar/25	GOOD	235.275
514097		140410 (100%)	2010/mar/25	GOOD	370.509
514099		140410 (100%)	2010/mar/25	GOOD	390.188
514100		140410 (100%)	2010/mar/25	GOOD	683.217
514127		140410 (100%)	2010/mar/25	GOOD	1270.779
514129		140410 (100%)	2010/mar/25	GOOD	1562.892
514130		140410 (100%)	2010/mar/25	GOOD	938.381
514134		140410 (100%)	2010/mar/25	GOOD	19.558
514195		140410 (100%)	2010/mar/25	GOOD	429.776
514197		140410 (100%)	2010/mar/25	GOOD	468.696
514200		140410 (100%)	2010/mar/25	GOOD	117.146
514202		140410 (100%)	2010/mar/25	GOOD	488.449
514203		140410 (100%)	2010/mar/25	GOOD	410.357
514207		140410 (100%)	2010/mar/25	GOOD	1370.296
514223		140410 (100%)	2010/mar/25	GOOD	684.031
514224		140410 (100%)	2010/mar/25	GOOD	489.076
514225		140410 (100%)	2010/mar/25	GOOD	332.635
514227		140410 (100%)	2010/mar/25	GOOD	1760.174
514228		140410 (100%)	2010/mar/25	GOOD	234.812
514229		140410 (100%)	2010/mar/25	GOOD	1311.468
514230		140410 (100%)	2010/mar/25	GOOD	763.672
514231		140410 (100%)	2010/mar/25	GOOD	1391.525
514232		140410 (100%)	2010/mar/25	GOOD	470.147
514233		140410 (100%)	2010/mar/25	GOOD	274.471
514234		140410 (100%)	2010/mar/25	GOOD	1369.705
514235		140410 (100%)	2010/mar/25	GOOD	1135.443
514236		140410 (100%)	2010/mar/25	GOOD	1429.632
514237		140410 (100%)	2010/mar/25	GOOD	391.678
514238		140410 (100%)	2010/mar/25	GOOD	1270.41

514239		140410 (100%)	2010/mar/25	GOOD	1290.676
514252		140410 (100%)	2010/mar/25	GOOD	1411.095
514253		140410 (100%)	2010/mar/25	GOOD	1351.325
514254		140410 (100%)	2010/mar/25	GOOD	1372.595
514256		140410 (100%)	2010/mar/25	GOOD	469.104
514262		140410 (100%)	2010/mar/25	GOOD	547.007
514264		140410 (100%)	2010/mar/25	GOOD	97.683
514265		140410 (100%)	2010/mar/25	GOOD	1521.196
514266		140410 (100%)	2010/mar/25	GOOD	1580.452
514268		140410 (100%)	2010/mar/25	GOOD	1287.853
514272		140410 (100%)	2010/mar/25	GOOD	1767.184
514279		140410 (100%)	2010/mar/25	GOOD	19.551
514281		140410 (100%)	2010/mar/25	GOOD	371.41
514282		140410 (100%)	2010/mar/25	GOOD	1056.385
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514289		140410 (100%)	2010/mar/25	GOOD	1391.867
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514304		140410 (100%)	2010/mar/25	GOOD	1530.564
514305		140410 (100%)	2010/mar/25	GOOD	1412.171
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514324		140410 (100%)	2010/mar/25	GOOD	1607.581
514325		140410 (100%)	2010/mar/25	GOOD	1114.305
514326		140410 (100%)	2010/mar/25	GOOD	783.776
514327		140410 (100%)	2010/mar/25	GOOD	1054.944
514328		140410 (100%)	2010/mar/25	GOOD	1233.903
514329		140410 (100%)	2010/mar/25	GOOD	842.054
514330		140410 (100%)	2010/mar/25	GOOD	821.519
514332		140410 (100%)	2010/mar/25	GOOD	1235.947
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514334		140410 (100%)	2010/mar/25	GOOD	1334.206
514335		140410 (100%)	2010/mar/25	GOOD	1039.233
514336		140410 (100%)	2010/mar/25	GOOD	995.969
514337		140410 (100%)	2010/mar/25	GOOD	568.406
514338		140410 (100%)	2010/mar/25	GOOD	627.16

514339		140410 (100%)	2010/mar/25	GOOD	975.976
514340		140410 (100%)	2010/mar/25	GOOD	1430.242
514341		140410 (100%)	2010/mar/25	GOOD	959.909
514342		140410 (100%)	2010/mar/25	GOOD	1191.427
514343		140410 (100%)	2010/mar/25	GOOD	1488.23
514344		140410 (100%)	2010/mar/25	GOOD	1273.908
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514347		140410 (100%)	2010/mar/25	GOOD	548.603
514348		140410 (100%)	2010/mar/25	GOOD	980.847
514356		140410 (100%)	2010/mar/25	GOOD	608.022
514358		140410 (100%)	2010/mar/25	GOOD	1448.102
514361		140410 (100%)	2010/mar/25	GOOD	606.74
514364		140410 (100%)	2010/mar/25	GOOD	1565.317
514366		140410 (100%)	2010/mar/25	GOOD	1096.521
514367		140410 (100%)	2010/mar/25	GOOD	1018.582
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514372		140410 (100%)	2010/mar/25	GOOD	1389.437
514373		140410 (100%)	2010/mar/25	GOOD	137.034
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514375		140410 (100%)	2010/mar/25	GOOD	607.071
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514525		140410 (100%)	2010/mar/25	GOOD	470.745
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525813	BB EXT 2	140410 (100%)	2010/mar/25	GOOD	19.625
572892	TASSE 1	140410 (100%)	2010/mar/25	GOOD	2631.457
572893	TASSE 2	140410 (100%)	2010/mar/25	GOOD	1886.124
591426	BK BR	140410 (100%)	2010/sep/15	GOOD	257.105
592299	SL2	140410 (100%)	2010/oct/01	GOOD	370.9946
592300	SL1	140410 (100%)	2010/oct/01	GOOD	488.1619
592302	SL3	140410 (100%)	2010/oct/01	GOOD	331.9431
593490	K SOUTH	140410 (100%)	2010/mar/25	GOOD	19.611
593609	TASSE BR	140410 (100%)	2010/mar/25	GOOD	156.9802

601103		140410 (100%)	2010/mar/15	GOOD	39.1421
602450	MAG09-1	140410 (100%)	2010/apr/11	GOOD	487.8606
602451	MAG09-2	140410 (100%)	2010/apr/11	GOOD	487.9813
602452	MAG09-3	140410 (100%)	2010/apr/11	GOOD	488.1482
602453	MAG09-4	140410 (100%)	2010/apr/11	GOOD	488.2749
602843	TASSE09-01	140410 (100%)	2010/apr/17	GOOD	491.3347
602844	TASSE09-02	140410 (100%)	2010/apr/17	GOOD	491.3396
602845	TASSE09-03	140410 (100%)	2010/apr/17	GOOD	491.3491
602846	TASSE09-04	140410 (100%)	2010/apr/17	GOOD	491.0396
602847	TASSE09-05	140410 (100%)	2010/apr/17	GOOD	490.8897
602848	TASSE09-06	140410 (100%)	2010/apr/17	GOOD	490.7004
602849	TASSE09-07	140410 (100%)	2010/apr/17	GOOD	490.6956
602850	TASSE09-08	140410 (100%)	2010/apr/17	GOOD	490.7813
602851	TASSE09-09	140410 (100%)	2010/apr/17	GOOD	490.6292
602852	TASSE09-10	140410 (100%)	2010/apr/17	GOOD	490.4625
602853	TASSE09-11	140410 (100%)	2010/apr/17	GOOD	490.4064
602854	TASSE09-12	140410 (100%)	2010/apr/17	GOOD	490.4803
602855	TASSE09-13	140410 (100%)	2010/apr/17	GOOD	490.3953
602856	TASSE09-14	140410 (100%)	2010/apr/18	GOOD	490.2656
602861	TASSE09-15	140410 (100%)	2010/apr/18	GOOD	490.5589
602862	TASSE09-16	140410 (100%)	2010/apr/18	GOOD	489.9556
602870	TASSE09-17	140410 (100%)	2010/apr/18	GOOD	490.1645
602873	TASSE09-18	140410 (100%)	2010/apr/18	GOOD	490.2604
602875	TASSE09-19	140410 (100%)	2010/apr/18	GOOD	490.3251
602876	TASSE09-20	140410 (100%)	2010/apr/18	GOOD	490.5282
602878	TASSE09-21	140410 (100%)	2010/apr/18	GOOD	490.3236
602880	TASSE09-22	140410 (100%)	2010/apr/18	GOOD	490.0902
602881	TASSE09-23	140410 (100%)	2010/apr/18	GOOD	490.0067
602883	TASSE09-24	140410 (100%)	2010/apr/18	GOOD	489.8889
602884	TASSE09-25	140410 (100%)	2010/apr/18	GOOD	254.7257
602885	TASSE09-26	140410 (100%)	2010/apr/18	GOOD	353.8531
604584	SL 5	140410 (100%)	2010/oct/01	GOOD	487.9846
605732	KANGAROO	140410 (100%)	2010/jun/09	GOOD	352.4335
608523	THREE CREEK	140410 (100%)	2010/oct/01	GOOD	390.3026
628903	LITTLE RIVER WEST	140410 (100%)	2010/sep/05	GOOD	214.9163
628904	ROARING NORTH	140410 (100%)	2010/sep/05	GOOD	488.6882
628923	ROARING EAST	140410 (100%)	2010/sep/05	GOOD	488.8855
628924	LADIES 1	140410 (100%)	2010/sep/05	GOOD	488.9055

628925	LADIES 2	140410 (100%)	2010/sep/05	GOOD	58.6627
650343	WELCOME001	140410 (100%)	2010/oct/10	GOOD	450.5688
650363	WELCOME002	140410 (100%)	2010/oct/10	GOOD	489.5437
650383	WELCOME003	140410 (100%)	2010/oct/10	GOOD	489.6416
650384	WELCOME004	140410 (100%)	2010/oct/10	GOOD	489.7043
650403	WELCOME005	140410 (100%)	2010/oct/10	GOOD	489.4941
650404	WELCOME006	140410 (100%)	2010/oct/10	GOOD	234.9284
653343	WELCOME100	140410 (100%)	2010/oct/15	GOOD	469.4133
653363	WELCOME101	140410 (100%)	2010/oct/15	GOOD	430.4198
653383	WELCOME102	140410 (100%)	2010/oct/15	GOOD	469.7012
653404	WELCOME103	140410 (100%)	2010/oct/15	GOOD	156.5673
653423	WELCOME104	140410 (100%)	2010/oct/15	GOOD	176.1964
653425	WELCOME105	140410 (100%)	2010/oct/15	GOOD	430.5355
654403	TASSE09-27	140410 (100%)	2010/oct/18	GOOD	19.6319
654523	K 13 W	140410 (100%)	2010/oct/18	GOOD	352.1449
656823	PG-W1	140410 (100%)	2010/oct/21	GOOD	488.5919
656843	PG-N2	140410 (100%)	2010/oct/21	GOOD	351.6495
657264	PORTER 1	140410 (100%)	2010/oct/22	GOOD	489.0764
657265	PORTER 2	140410 (100%)	2010/oct/22	GOOD	489.068
657266	PORTER 3	140410 (100%)	2010/oct/22	GOOD	488.9121
657267	PORTER 4	140410 (100%)	2010/oct/22	GOOD	488.9134
657283	PORTER 5	140410 (100%)	2010/oct/22	GOOD	488.8708
657284	PORTER 6	140410 (100%)	2010/oct/22	GOOD	488.6893
657285	PORTER 7	140410 (100%)	2010/oct/22	GOOD	488.7284
657286	PORTER 8	140410 (100%)	2010/oct/22	GOOD	488.6039
657287	PORTER 9	140410 (100%)	2010/oct/22	GOOD	488.526
657288	PORTER 10	140410 (100%)	2010/oct/22	GOOD	488.4047
657289	PORTER 11	140410 (100%)	2010/oct/22	GOOD	488.3627
657290	PORTER 12	140410 (100%)	2010/oct/22	GOOD	488.268
657303	PORTER 13	140410 (100%)	2010/oct/22	GOOD	488.2025
657304	PORTER 14	140410 (100%)	2010/oct/22	GOOD	488.0522
657305	PORTER 15	140410 (100%)	2010/oct/22	GOOD	488.0399
657306	PORTER 16	140410 (100%)	2010/oct/22	GOOD	19.5184
662949		140410 (100%)	2010/oct/31	GOOD	19.5955
672143	K 14	140410 (100%)	2010/nov/20	GOOD	19.5661
672163	K 15	140410 (100%)	2010/nov/20	GOOD	19.5606
672568	K 16	140410 (100%)	2010/nov/21	GOOD	156.5257
676065	K17	140410 (100%)	2010/nov/29	GOOD	215.1244

676563	KC1	140410 (100%)	2010/nov/30	GOOD	449.0964
676564	KC2	140410 (100%)	2010/nov/30	GOOD	488.1729
676565	KC3	140410 (100%)	2010/nov/30	GOOD	488.1831
676583	KC4	140410 (100%)	2010/nov/30	GOOD	487.9531
676603	KC5	140410 (100%)	2010/nov/30	GOOD	487.9672
676623	KC6	140410 (100%)	2010/nov/30	GOOD	487.8147
676643	KC7	140410 (100%)	2010/nov/30	GOOD	370.8923
677203	KC8	140410 (100%)	2010/dec/01	GOOD	78.1476
677243	BEADY	140410 (100%)	2010/dec/01	GOOD	116.8208
687745	P17	140410 (100%)	2010/dec/20	GOOD	488.3731
687746	P18	140410 (100%)	2010/dec/20	GOOD	488.3767
687747	P19	140410 (100%)	2010/dec/20	GOOD	390.5765
687751	P20	140410 (100%)	2010/dec/20	GOOD	410.7649
687752	P21	140410 (100%)	2010/dec/20	GOOD	97.7208
687763	P22	140410 (100%)	2010/dec/20	GOOD	19.5513
687764	P23	140410 (100%)	2010/dec/20	GOOD	19.5531
687766	P24	140410 (100%)	2010/dec/20	GOOD	39.1079
690184	P25	140410 (100%)	2010/dec/27	GOOD	449.6321
704303	WASKO001	140410 (100%)	2011/jan/22	GOOD	255.4905
704304	WASKO002	140410 (100%)	2011/jan/22	GOOD	19.661
704305	WASKO003	140410 (100%)	2011/jan/22	GOOD	314.7065
704811	K18	140410 (100%)	2011/jan/26	GOOD	488.3383

Total area: 152,180.8204 ha



## **APPENDIX C**

### **Analytical Methods**

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Activation Laboratories analytical methods, described below, are printed from Actlabs' website:

<http://www.actlabs.com/>

### **Code 1H: Total Digestion - ICP, INAA**

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#### **INAA Portion**

A 30 g aliquot, if available, is encapsulated in a polyethylene vial and irradiated with flux wires and an internal standard (1 for 11 samples) at a thermal neutron flux of  $7 \times 10^{12} \text{ n cm}^{-2} \text{ s}^{-1}$ . After a 7-day decay to allow Na-24 to decay the samples are counted on a high purity Ge detector with resolution of better than 1.7 KeV for the 1332 KeV Co-60 photopeak. Using the flux wires, the decay-corrected activities are compared to a calibration developed from multiple certified international reference materials. The standard present is only a check on accuracy and is not used for calibration purposes. From 10-30% of the samples are rechecked by re-measurement. For values exceeding the upper limits, assays are recommended.

One standard is run for every 11 samples. One blank is analyzed per work order. Selected duplicates are analyzed when enough material is submitted.

Further details are available on isotopes and gamma-ray energies used in Hoffman, E.L., 1992. Instrumental Neutron Activation in Geoanalysis. Journal of Geochemical Exploration, volume 44, pp. 297-319.

#### **Total Digestion - ICP Portion**

A 0.25 g aliquot of sample is digested in  $\text{HClO}_4\text{-HNO}_3\text{-HCl-HF}$  at  $260^\circ\text{C}$  to fuming and is diluted with dilute HCl. This leach is partial for magnetite, chromite, barite, spinels, zircon and massive sulphides. The solutions are read on a Varian Vista or Varian 735ES ICP. Reported QC includes a blank analysis frequency of 2%, 1 for every 40 or less samples, a sample replicate frequency of 7%, 1 for every 15 or less samples, and 6% or more are analyzed international standards. Additionally there is an internal method QC with a frequency of 20%.

**Code 1H: (Au + 48) Elements and Detection Limits (ppm)**

Element	Detection Limit	Upper Limit	Reported By
Au	2 ppb	30,000 ppb	INAA
Ag †	0.3	100,000	ICP&INAA
Al *	0.01%	-	ICP
As	0.5	100,000	INAA
Ba †	50	-	ICP&INAA
Be	1	-	ICP
Bi	2	-	ICP
Br	0.5	-	INAA
Ca	0.01%	-	ICP
Cd	0.3	2,000	ICP
Ce	3	10,000	INAA
Co	1	5,000	INAA
Cr	2	100,000	INAA
Cs	1	-	INAA
Cu	1	10,000	ICP
Eu	0.2	10,000	INAA
Fe	0.01%	-	INAA
Hf	1	-	INAA
Hg	1	1	INAA
Ir	5 ppb	10,000 ppb	INAA
K	0.01%	-	ICP
La	0.5	10,000	INAA
Lu	0.05	10,000	INAA
Mg	0.01%	-	ICP
Mn	1	100,000	ICP

Element	Detection Limit	Upper Limit	Reported By
Mo †	1	10,000	ICP
Na	0.01%	-	INAA
Nd	5	10,000	INAA
Ni †	1	100,000	ICP&INAA
P	0.001%	-	ICP
Pb*	3	5,000	ICP
Rb	15	-	INAA
S	0.01%	20%	ICP
Sb	0.1	10,000	INAA
Sc	0.1	-	INAA
Se	3	-	INAA
Sm	0.1	10,000	INAA
Sn	0.01%	-	INAA
Sr	1	-	ICP
Ta	0.5	10,000	INAA
Tb	0.5	10,000	INAA
Th	0.2	10,000	INAA
Ti	0.01%	-	ICP
U	0.5	10,000	INAA
V	2	10,000	ICP
W	1	10,000	INAA
Y *	1	1,000	ICP
Yb	0.2	10,000	INAA
Zn †	1	100,000	ICP&INAA

Notes:

\* Element may only be partially extracted.

† Element reported by multiple techniques if one or more techniques may not be total.

Assays are recommended for values which exceed the upper limits.

**Code 8: 4-acid - ICP**

---

Assay package for base metals, 4 acid digestion.

**Code 8 4-acid ICP Elements and Detection Limits**

<b>Element</b>	<b>Detection Limit</b>
Ag	3 ppm
Cu	0.001%
Zn	0.001%
Pb	0.003%
Ni	0.003%
Cd	0.003%
Mo	0.003%
Co	0.003%
Mn	0.003%
Fe	0.003%
Li	0.01%

## APPENDIX D

### ANALYTICAL DATA

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Frank Creek Drilling  
Frank Creek Rock Sampling  
Peacock Rock sampling  
Ace Rock Sampling  
Black Bear Rock Sampling















Quality Analysis ...



Innovative Technologies

**Date Submitted:** 25-Nov-09  
**Invoice No.:** A09-7040  
**Invoice Date:** 20-Jan-10  
**Your Reference:** FRANK CREEK

**Barker Minerals**  
**Field Office**  
**BC**  
**Canada**

**ATTN: Vice President of Exploration Rein Tu**

## CERTIFICATE OF ANALYSIS

52 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT **A09-7040**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or  
+1.888.228.5227 FAX +1.905.648.9613  
E-MAIL [ancaster@actlabsint.com](mailto:ancaster@actlabsint.com) ACTLABS GROUP WEBSITE <http://www.actlabsint.com>

**Final Report**  
**Activation Laboratories**

Analyte Symbol Unit Symbol Detection Limit Analysis Method	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	
	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	
	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	
	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	
86401	< 2		0.4	106	0.6	< 1	13	206	139	0.06	6.72	71	4900	2	< 2	< 0.5	4.94	44
86402	7		0.5	196	1	2	38	214	90	0.03	8.32	114	4230	2	< 2	< 0.5	3.07	44
86403	< 2		< 0.3	9	0.6	< 1	11	201	182	0.05	5.47	61.4	2570	4	< 2	< 0.5	7.34	42
86404	< 2		< 0.3	28	< 0.3	< 1	11	67	25	0.05	1.84	27.1	1250	< 1	< 2	< 0.5	3.56	14
86405	< 2		0.5	233	0.6	< 1	37	209	58	0.81	5.87	96.3	6140	2	< 2	< 0.5	9.85	44
86406	< 2		0.4	59	0.5	< 1	4	147	46	0.36	2.96	60.3	5480	1	< 2	< 0.5	10.3	40
86407	< 2		0.4	52	0.4	1	20	233	108	0.25	3.61	59	2490	< 1	< 2	< 0.5	8.15	35
86408	< 2		< 0.3	3	< 0.3	< 1	4	37	29	0.04	0.85	11.4	540	< 1	< 2	< 0.5	5.79	7
86409	< 2		8.7	31	1.1	2	> 5000	43	149	0.13	0.94	15.4	820	< 1	< 2	< 0.5	5.48	18
86410	< 2		0.3	37	0.5	< 1	40	198	107	0.15	5.81	96.3	3320	1	< 2	< 0.5	9.38	38
86411	< 2		< 0.3	33	0.6	< 1	18	160	83	0.09	5.31	144	2820	1	< 2	< 0.5	9.22	32
86412	< 2		0.9	38	< 0.3	< 1	20	304	83	0.24	7.13	206	1210	2	< 2	< 0.5	4.89	46
86413	< 2		< 0.3	78	< 0.3	< 1	7	192	63	0.1	4.61	67.8	2050	2	< 2	< 0.5	13.2	36
86414	< 2		0.3	54	< 0.3	< 1	21	280	58	0.19	5.57	118	1210	2	< 2	< 0.5	10.8	45
86415	< 2		< 0.3	33	< 0.3	< 1	8	112	74	0.87	7.34	44.4	2230	3	< 2	< 0.5	1.58	19
86416	< 2		0.3	64	0.6	1	86	21	91	0.55	3.8	4	4090	3	< 2	< 0.5	1.07	6
86417	48		5.1	128	4.8	16	> 5000	92	273	1.7	2.13	15.4	1300	2	< 2	< 0.5	1.91	7
86418	45		1.1	32	13.3	32	245	111	1290	2.89	4.04	64.7	1580	2	< 2	< 0.5	1.81	8
86419	23		0.3	16	5.2	37	60	104	535	1.86	3.28	56.6	1300	2	< 2	< 0.5	0.71	7
86420	22		< 0.3	31	5.2	33	86	96	526	1.46	2.76	37.1	1120	2	< 2	< 0.5	0.62	5
86421	12		0.4	15	3.9	9	88	43	398	2.13	6.13	28.2	1770	3	< 2	< 0.5	1.62	4
86422	29		0.4	8	11.9	41	274	128	1460	1.66	3.02	64.9	1120	2	< 2	< 0.5	0.76	5
86423	24		0.4	21	14.2	40	254	144	1250	2.31	3.21	110	1570	2	< 2	< 0.5	0.56	8
86424	25		0.4	90	3.4	13	365	93	344	1.18	1.69	24.9	850	1	< 2	< 0.5	1.44	5
86425	27		0.7	25	9	26	87	86	833	1.85	3.32	41.4	1650	2	< 2	< 0.5	1.01	5
86426	< 2		0.4	6	1	5	62	14	106	1.1	7.49	14.2	4260	5	< 2	< 0.5	1.74	3
86427	6		< 0.3	8	< 0.3	1	18	7	55	1.15	4.55	14	4000	3	< 2	< 0.5	1.46	3
86428	< 2		< 0.3	11	0.6	2	16	11	68	0.5	6.12	7.5	3050	3	< 2	< 0.5	1.16	3
86429	14		0.9	33	0.9	7	369	40	138	1.23	4.97	24.1	1390	2	< 2	< 0.5	1.84	5
86430	46		0.9	80	1.3	11	20	115	320	1.99	1.81	84.8	770	1	< 2	< 0.5	1.56	3
86431	44		1.1	64	0.9	14	20	108	246	1.63	1.99	84.7	740	2	< 2	< 0.5	1.39	5
86432	< 2		0.3	93	0.3	2	20	46	64	1.36	6.27	13.9	2350	3	< 2	< 0.5	0.9	13
86433	7		< 0.3	94	1.4	10	101	103	176	1.94	2.41	40.6	1040	2	< 2	< 0.5	0.93	6
86434	< 2		0.4	136	0.9	4	37	68	139	1.64	6.06	18.8	1870	3	< 2	< 0.5	1.64	11
86435	< 2		0.3	83	0.5	< 1	6	44	87	1.21	7.08	11	2240	3	< 2	< 0.5	2.75	11
86436	4		< 0.3	73	< 0.3	< 1	3	114	37	0.5	3.4	20.9	1050	1	< 2	< 0.5	7.8	21
86437	< 2		0.4	112	< 0.3	1	< 3	104	25	1.11	3.59	18.4	1050	1	< 2	< 0.5	5.21	9
86438	5		< 0.3	90	0.4	< 1	8	274	55	1.14	7.17	97.9	1790	3	< 2	< 0.5	6.8	37
86439	< 2		< 0.3	6	< 0.3	< 1	< 3	24	15	0.08	3.27	5.7	970	1	< 2	< 0.5	1.01	4
86440	< 2		0.3	57	< 0.3	< 1	5	76	63	0.55	9.31	21.8	2090	4	< 2	< 0.5	1.34	19
86441	2690		20.5	4480	83.8	128	> 5000	4	12800	2.37	5.06	129	730	1	< 2	< 0.5	3.64	4
86442	< 2		0.8	84	0.6	2	9	127	95	0.65	7.03	34.4	1870	2	< 2	< 0.5	5.02	30
86443	< 2		13.2	116	0.7	7	15	94	158	0.44	5.67	30.5	1200	2	< 2	< 0.5	4.86	21
86444	4		< 0.3	112	< 0.3	< 1	15	31	54	0.35	2.83	4	620	1	< 2	< 0.5	3.21	4
86445	5		0.5	179	1.4	2	20	45	199	0.39	2.26	4.6	580	1	< 2	< 0.5	4.49	8
86446	< 2		0.3	2	< 0.3	< 1	60	3	18	< 0.01	2.31	< 0.5	390	< 1	< 2	< 0.5	2.44	1
86447	< 2		< 0.3	6	< 0.3	< 1	17	21	9	0.23	1.81	4.2	300	< 1	< 2	< 0.5	1.6	5
86448	< 2		< 0.3	54	< 0.3	< 1	< 3	53	28	1.08	7.63	2.1	980	3	< 2	< 0.5	2.15	11
86449	< 2		< 0.3	41	< 0.3	< 1	8	64	68	0.37	6.9	13.3	630	2	< 2	< 0.5	3.25	19

Report: A09-7040  
 Report Date: 1/20/2010

**Final Report**  
**Activation Laboratories**

<b>Analyte Symbol</b>	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co
<b>Unit Symbol</b>	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm
<b>Detection Limit</b>	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1
<b>Analysis Method</b>	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA
86450	< 2	< 0.3	126	< 0.3	1	7	108	83	1.01	5.26	11.9	820	2	< 2	< 0.5	5.26	25
86451	16	< 0.3	39	< 0.3	< 1	4	42	31	0.94	5.91	3.5	620	2	< 2	< 0.5	5.33	15
86452																	



Report: A09-7040  
 Report Date: 1/21

**Final Report**  
**Activation Laboratories**

<b>Analyte Symbol</b>	Cr	Cs	Eu	Fe	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y
<b>Unit Symbol</b>	ppm	ppm	ppm	%	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
<b>Detection Limit</b>	2	1	0.2	0.01	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1
<b>Analysis Method</b>	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP
86450	196	4	1	4.67	3	< 1	< 5	2.51	2.95	954	0.29	0.119	115	0.6	16.1	< 3	236	1.3	0.71	5.2	2.6	170	< 1	12
86451	86	3	1.1	5.1	3	< 1	< 5	2.83	1.87	989	0.31	0.056	126	0.5	11.6	< 3	195	1.3	0.49	10.1	4.9	76	< 1	15
86452																								



Analyte Symbol	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass	Zn	Pb
Unit Symbol	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	%	%
Detection Limit	0.5	3	5	0.1	0.01	0.5	0.2	0.05		0.001	0.003
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	ICP-OES	ICP-OES
86401	38.1	81	33	5	< 0.01	1.2	2	0.41	25.5		
86402	44.8	90	33	5.4	< 0.01	< 0.5	3.7	0.56	27.5		
86403	33.4	71	37	4.9	0.11	0.7	1.9	0.27	26.2		
86404	7.4	18	< 5	1.2	< 0.01	< 0.5	0.7	< 0.05	24.7		
86405	28.4	66	35	4.2	< 0.01	< 0.5	1.9	0.35	25.5		
86406	26.3	48	23	3.6	< 0.01	0.7	1.3	0.24	27.3		
86407	20.5	46	17	2.3	< 0.01	0.8	1.6	0.2	26.1		
86408	4	10	< 5	0.8	< 0.01	< 0.5	0.7	0.09	30.1		
86409	4.6	8	< 5	1.1	< 0.01	< 0.5	0.6	0.12	26.7		1.06
86410	21.7	47	35	4.2	< 0.01	0.6	1.7	0.32	30.1		
86411	21.4	48	17	4	< 0.01	< 0.5	1.6	0.29	29.6		
86412	36.2	61	23	4.9	< 0.01	< 0.5	1.7	0.24	24.9		
86413	22.7	39	15	3.6	< 0.01	< 0.5	1.4	0.19	26.7		
86414	24.6	38	14	3.6	< 0.01	< 0.5	1.3	0.2	26.3		
86415	36.3	64	17	4.1	< 0.01	< 0.5	1.7	0.31	25.2		
86416	37	64	20	4.7	< 0.01	1	1.9	0.3	26.2		
86417	13.7	17	< 5	1.9	< 0.01	< 0.5	1.1	0.24	21.9		0.567
86418	21.5	32	13	3	< 0.01	< 0.5	1.4	0.29	22.2		
86419	15.8	22	7	1.9	< 0.01	< 0.5	0.9	0.2	23.2		
86420	14.1	21	6	1.8	< 0.01	< 0.5	0.9	0.19	23.4		
86421	32.5	56	20	4.5	< 0.01	0.7	2	0.33	24.3		
86422	15.3	22	7	1.9	< 0.01	< 0.5	1	0.22	22.1		
86423	16.2	26	12	1.9	< 0.01	< 0.5	1.2	0.23	24.6		
86424	11.3	10	10	1.6	< 0.01	< 0.5	1.9	0.3	23.7		
86425	16.9	31	15	1.9	< 0.01	< 0.5	1.7	0.27	24.5		
86426	30.8	62	25	3.5	< 0.01	1.1	3	0.5	25.2		
86427	32.5	71	27	3.5	< 0.01	1.1	2.6	0.44	27		
86428	35.3	80	34	3.9	< 0.01	1.1	2.3	0.41	26.5		
86429	27.1	58	23	3	< 0.01	0.8	2.2	0.44	22.4		
86430	12.4	12	16	1.7	< 0.01	< 0.5	1.8	0.36	21.1		
86431	13.4	19	9	1.7	< 0.01	< 0.5	1.8	0.31	22.6		
86432	38	82	32	3.8	< 0.01	< 0.5	2	0.41	25.2		
86433	14.4	17	12	2.1	< 0.01	0.6	1.6	0.36	20.6		
86434	38.3	82	32	7.3	< 0.01	< 0.5	2.9	0.34	22.8		
86435	47.2	105	40	9.3	< 0.01	< 0.5	3.7	0.53	23.6		
86436	25.6	57	20	5.4	< 0.01	0.7	2	< 0.05	28.6		
86437	14.8	35	17	3.1	< 0.01	< 0.5	1.3	< 0.05	27.5		
86438	36.7	75	31	7.3	< 0.01	< 0.5	2.5	0.39	28.5		
86439	21.5	52	19	4	< 0.01	< 0.5	1	0.11	27.7		
86440	54.3	120	44	9.9	< 0.01	1	3.1	0.57	25.8		
86441	8.1	18	< 5	1.6	< 0.01	< 0.5	0.7	< 0.05	19.1	1.4	1.16
86442	35.9	75	34	7.6	< 0.01	0.7	3	0.47	26.5		
86443	38.9	82	33	8.8	< 0.01	< 0.5	3.1	0.37	24.8		
86444	20.9	44	16	3.8	< 0.01	< 0.5	1.9	0.22	26.6		
86445	24.9	37	12	3.1	< 0.01	0.6	2.2	0.37	24.7		
86446	23.6	38	13	2.5	< 0.01	< 0.5	0.8	0.17	25.9		
86447	10.4	16	9	1.4	< 0.01	< 0.5	0.6	0.14	26.3		
86448	46.6	77	25	5.4	< 0.01	0.8	1.9	0.35	23.1		
86449	45.1	74	22	5.5	< 0.01	0.8	1.9	0.32	27		

Report: A09-7040  
Report Date: 1/21

**Final Report**  
**Activation Laboratories**

<b>Analyte Symbol</b>	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass	Zn	Pb
<b>Unit Symbol</b>	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	%	%
<b>Detection Limit</b>	0.5	3	5	0.1	0.01	0.5	0.2	0.05		0.001	0.003
<b>Analysis Method</b>	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	ICP-OES	ICP-OES
86450	25.5	41	14	3.6	< 0.01	0.6	1.8	0.32	28		
86451	39.9	67	22	4.8	< 0.01	0.9	1.7	0.35	23.8		
86452											



**Date Submitted:** 29-Dec-09  
**Invoice No.:** A09-7737  
**Invoice Date:** 03-Feb-10  
**Your Reference:** FRANK CREEK

**Barker Minerals**  
**Field Office**  
**Likely BC**  
**Canada**

**ATTN: Vice President of Exploration Rein Tu**

## CERTIFICATE OF ANALYSIS

1 Pulp sample and 36 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT **A09-7737**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

A handwritten signature in black ink, consisting of several overlapping loops and horizontal strokes, positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**

**Final Report**  
**Activation Laboratories**

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1
Analysis Method	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA
86539	< 2	2.4	995	1	< 1	66	62	42	0.51	6.41	1.8	970	2	9	< 0.5	0.3	29
86540	31	0.9	839	0.7	< 1	22	204	133	5.47	3.89	176	340	< 1	< 2	< 0.5	2.49	78
86541	< 2	0.4	16	0.7	< 1	< 3	109	145	0.06	6.47	30.2	220	< 1	< 2	< 0.5	1.29	32
86542	< 2	0.4	38	0.6	< 1	< 3	38	59	0.1	12.6	9.9	900	3	< 2	< 0.5	0.82	14
86543	6	< 0.3	73	0.5	2	< 3	53	51	0.82	13.3	12.5	1170	4	< 2	< 0.5	0.24	15
86544	< 2	< 0.3	11	0.5	< 1	< 3	33	53	0.18	5.09	3.5	420	1	< 2	< 0.5	0.29	8
86545	< 2	0.6	34	0.6	1	28	51	44	0.35	8.82	5.7	1450	3	< 2	< 0.5	0.37	17
86546	< 2	< 0.3	35	0.6	< 1	< 3	50	44	0.47	9.02	6	1450	3	< 2	< 0.5	0.19	15
86547	< 2	0.4	183	1.1	< 1	7	241	114	0.99	5.02	48.9	240	< 1	< 2	< 0.5	1.43	43
86548	< 2	0.3	99	0.4	< 1	< 3	28	71	0.26	5.45	5.5	610	2	< 2	< 0.5	0.17	16
86549	< 2	0.3	83	0.5	< 1	< 3	38	40	0.5	7.86	15.2	830	3	< 2	< 0.5	0.19	18
86550	10	1.4	877	1.1	< 1	51	23	280	0.72	3.96	10.3	290	< 1	< 2	< 0.5	0.47	16
86551	9	0.5	266	0.5	3	< 3	53	74	0.55	8.44	10.3	960	3	< 2	< 0.5	0.42	16
86552	< 2	< 0.3	47	0.4	< 1	< 3	25	36	0.24	3.7	2.6	480	< 1	< 2	< 0.5	0.27	12
86553	8	0.3	117	0.7	< 1	< 3	28	145	0.9	5.11	7.8	320	< 1	< 2	< 0.5	0.13	30
86554	4	< 0.3	14	0.5	< 1	< 3	46	58	0.04	7.08	18.4	1100	2	< 2	< 0.5	0.12	15
86555	< 2	< 0.3	90	0.5	< 1	< 3	48	66	0.39	8.92	12.8	1100	3	< 2	< 0.5	0.19	20
86556	< 2	0.4	70	0.6	< 1	< 3	28	41	0.7	5.27	12.8	720	1	< 2	< 0.5	0.16	28
86557	< 2	0.8	226	0.6	< 1	16	31	91	1.13	4.82	5	380	1	< 2	< 0.5	0.25	19
86558	< 2	< 0.3	195	0.6	< 1	< 3	43	98	0.97	8.06	3.8	890	2	< 2	< 0.5	0.26	19
86559	< 2	1.1	320	1.2	< 1	41	28	77	2.6	5.79	1.5	690	2	< 2	< 0.5	0.68	63
86560	< 2	0.5	70	0.9	< 1	59	37	228	0.88	6.25	4.9	890	2	< 2	< 0.5	0.18	17
86561	< 2	< 0.3	38	0.7	< 1	16	27	94	0.42	4.62	9.9	740	1	< 2	< 0.5	0.18	17
86562	< 2	0.5	92	3.6	1	168	45	860	0.33	8.09	2.7	1400	2	< 2	< 0.5	0.29	18
86563	< 2	< 0.3	90	4.5	< 1	13	31	1150	0.41	2.12	< 0.5	730	1	< 2	< 0.5	0.12	14
86564	4	< 0.3	51	1.7	< 1	27	45	373	0.75	10.8	1	1230	3	< 2	< 0.5	0.55	20
86565	21	0.4	216	2.2	< 1	32	504	241	6.77	4.22	82.1	330	< 1	< 2	< 0.5	1.36	60
86566	< 2	< 0.3	54	< 0.3	< 1	5	46	88	0.67	6.36	4.9	1150	2	< 2	< 0.5	0.44	16
86567	< 2	< 0.3	130	0.7	< 1	4	47	141	0.72	6.97	1.4	1150	2	< 2	< 0.5	0.17	16
86568	< 2	0.5	136	1.3	< 1	24	41	436	0.91	7.62	5.8	990	2	< 2	< 0.5	0.22	17
86569	< 2	0.4	101	1.6	2	25	48	420	0.97	10.9	5	1480	4	< 2	< 0.5	0.16	25
86570	< 2	< 0.3	131	3.2	< 1	19	27	832	1.05	5.11	9.3	780	2	< 2	< 0.5	0.19	12
86571	< 2	0.6	126	4.2	< 1	37	39	1130	0.66	6.04	5.3	820	2	< 2	< 0.5	0.16	15
86572	< 2	< 0.3	73	1	< 1	9	34	287	0.53	2.06	7.9	930	1	< 2	< 0.5	0.15	16
86573	< 2	0.7	236	7.1	1	26	37	1750	2.01	5.79	7.2	1090	2	< 2	< 0.5	0.12	13
86574	< 2	< 0.3	108	10.4	< 1	4	36	2620	0.63	6.38	7.7	930	2	< 2	< 0.5	0.33	17
86580A	36	18.2	5270	59.2	54	> 5000	3	12500	2.11	7.32	25.2	840	1	< 2	< 0.5	2.23	5

**Final Report**  
**Activation Laboratories**

Analyte Symbol	Cr	Cs	Eu	Fe	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y
Unit Symbol	ppm	ppm	ppm	%	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	1	0.2	0.01	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP
86539	69	2	1.2	3.97	8	<1	<5	2.01	1.61	433	0.12	0.039	76	0.5	7.9	<3	25	0.8	0.31	12.1	2.6	72	4	13
86540	69	<1	0.6	10.9	5	<1	<5	0.81	2.57	1200	0.08	0.042	59	1.4	7.4	8	88	<0.5	0.24	6.1	2.1	113	5	9
86541	173	<1	1.1	7.53	5	<1	<5	0.34	5.15	884	0.12	0.102	<15	0.6	17.9	<3	57	1.2	1.01	3.4	1.6	215	8	9
86542	97	2	1.4	3.55	6	<1	<5	2.74	2.19	693	0.29	0.055	83	0.3	11	<3	83	<0.5	0.52	12.4	3.1	75	<1	28
86543	90	2	1.5	4.12	5	<1	<5	4.01	1.92	432	0.31	0.045	117	0.3	12.2	<3	68	0.8	0.43	13.5	4.3	103	4	23
86544	59	<1	0.9	3.83	6	<1	<5	1.23	1.62	407	0.16	0.033	44	0.1	6.1	<3	23	<0.5	0.26	10.1	2.6	53	<1	13
86545	97	2	1.7	3.69	3	<1	<5	3.7	1.49	400	0.2	0.038	117	0.2	12.6	<3	40	<0.5	0.3	14.3	4.2	79	3	12
86546	97	1	1.4	3.86	4	<1	<5	3.36	1.48	400	0.19	0.038	110	0.3	11.7	<3	33	<0.5	0.37	13.5	2.6	99	4	13
86547	435	<1	1.1	8.98	5	<1	<5	0.71	4.27	1270	0.18	0.057	22	0.5	18.5	<3	67	<0.5	0.49	5.5	1.1	135	10	9
86548	52	1	1.2	4.03	6	<1	<5	1.6	1.23	450	0.29	0.029	63	<0.1	6.8	<3	31	<0.5	0.25	8.8	2.7	61	<1	12
86549	61	2	1.4	3.93	6	<1	<5	2.65	1.2	384	0.69	0.04	76	0.3	10	<3	57	<0.5	0.38	11.3	3.6	86	<1	13
86550	49	1	0.9	4.82	6	<1	<5	0.96	1.29	560	0.15	0.025	31	<0.1	5.1	<3	31	<0.5	0.21	8.5	1.8	48	3	11
86551	96	3	1.6	4.43	5	<1	<5	3.05	1.51	435	0.26	0.041	96	<0.1	12.5	<3	51	<0.5	0.38	13.8	3.7	112	4	12
86552	63	<1	0.9	4.66	7	<1	<5	1.09	1.04	503	0.15	0.03	53	0.3	6.3	<3	26	<0.5	0.27	10.7	3.2	48	<1	10
86553	64	1	1	6.85	7	<1	<5	1.05	1.63	603	0.15	0.033	44	2.8	6.1	<3	23	0.7	0.29	10.5	2.4	55	4	12
86554	82	2	1.4	4.29	6	<1	<5	2.78	1.45	448	0.29	0.037	96	0.3	11	<3	44	<0.5	0.35	14.6	3.1	85	3	12
86555	89	3	1.7	5.51	5	<1	<5	3.04	1.68	489	0.27	0.041	110	0.2	13.3	<3	41	1.1	0.37	15.9	3.3	98	<1	15
86556	77	2	1.2	5.09	7	<1	<5	1.52	1.23	420	0.14	0.03	61	0.3	8.1	<3	25	<0.5	0.29	13	3.9	65	<1	12
86557	52	1	1	5.83	5	<1	<5	1.16	1.43	590	0.11	0.029	62	0.2	6	<3	25	<0.5	0.23	8	2.6	51	3	12
86558	82	2	1.2	5.53	6	<1	<5	2.53	1.58	490	0.17	0.042	89	0.3	9.8	<3	37	<0.5	0.37	12	3.5	91	<1	16
86559	60	2	0.8	9.57	6	<1	<5	2	1.35	670	0.26	0.03	75	0.3	8.8	<3	57	1	0.29	10.2	3	67	4	12
86560	68	2	1.4	5.36	6	<1	<5	1.93	1.41	501	0.14	0.037	63	<0.1	8.4	<3	28	<0.5	0.3	11.5	3.1	74	<1	15
86561	61	2	1.2	4.75	7	<1	<5	1.45	1.01	475	0.15	0.03	48	0.5	6.2	<3	25	<0.5	0.24	12.6	2.6	51	<1	12
86562	99	2	1.6	6.18	7	<1	<5	2.43	1.86	562	0.22	0.042	99	0.2	13.5	<3	34	<0.5	0.35	15.1	4	98	<1	13
86563	82	2	1.2	5.76	7	<1	<5	1.15	1.09	650	0.13	0.034	70	0.2	9	<3	17	<0.5	0.27	13.6	3.7	67	4	2
86564	99	2	1.9	4.85	6	<1	<5	3.12	1.84	625	0.2	0.049	107	0.4	12.6	<3	54	1.6	0.37	14	3.8	94	3	20
86565	798	<1	0.7	12.3	3	<1	<5	0.53	3.57	1220	0.06	0.039	30	2.9	17.5	<3	46	<0.5	0.31	5.2	<0.5	112	6	7
86566	99	2	1.7	4.86	8	<1	<5	2.15	1.34	536	0.19	0.043	90	0.3	11	<3	38	<0.5	0.34	15	4.1	79	<1	13
86567	107	2	1.5	5.38	7	<1	<5	2.59	1.33	595	0.21	0.041	123	0.5	11.6	<3	35	<0.5	0.35	14.9	3.8	94	<1	11
86568	78	<1	1.5	5.08	7	<1	<5	2.72	1.29	537	0.2	0.043	107	6	11.3	<3	39	1.2	0.37	15.3	4.3	91	<1	14
86569	99	3	2.4	4.98	7	<1	<5	4.23	1.22	452	0.31	0.049	164	0.5	18.2	<3	54	<0.5	0.51	19.8	4.5	138	4	16
86570	63	2	1.2	5.36	7	<1	<5	1.81	1.07	634	0.15	0.031	71	0.4	7.9	<3	26	<0.5	0.24	11.3	3	56	<1	12
86571	82	2	1.2	4.69	8	<1	<5	2.18	1.14	507	0.17	0.039	90	0.3	8.8	<3	32	<0.5	0.3	12.9	3.3	68	<1	12
86572	73	2	1.4	4.92	9	<1	<5	1.57	0.85	564	0.16	0.036	86	0.3	9.3	<3	24	<0.5	0.29	14.1	3.5	62	<1	2
86573	101	2	1.6	6.16	8	<1	<5	2.55	1.04	475	0.54	0.037	117	<0.1	11.4	<3	32	0.8	0.32	14.6	4.2	86	5	10
86574	77	<1	1.5	4.43	8	<1	<5	2.33	1.13	575	0.2	0.038	93	0.2	8.9	<3	39	<0.5	0.32	13.2	3.9	73	<1	11
86580A	14	3	0.6	2.43	2	<1	<5	2.35	0.32	861	1.36	0.04	73	30.5	2.4	<3	621	<0.5	0.12	1.1	<0.5	41	<1	6

Analyte Symbol	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass	Zn	Pb
Unit Symbol	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g	%	%
Detection Limit	0.5	3	5	0.1	0.01	0.5	0.2	0.05		0.001	0.003
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	ICP-OES	ICP-OES
86539	29.9	69	23	5	< 0.01	< 0.5	2.3	0.41	29.8		
86540	15.9	37	18	3.6	< 0.01	< 0.5	1.9	0.28	29.5		
86541	16.1	39	16	4.7	< 0.01	0.8	2.1	0.31	33.9		
86542	34.6	76	32	6.3	< 0.01	< 0.5	2.6	0.41	33.1		
86543	40.4	90	30	7.5	< 0.01	< 0.5	3	0.38	31.5		
86544	22.6	56	17	4.4	< 0.01	0.6	2.3	0.32	30		
86545	45.2	97	35	8.6	< 0.01	0.7	3	0.46	29.9		
86546	38.8	90	33	7.5	< 0.01	0.8	2.7	0.41	30.5		
86547	18.1	42	20	4.4	< 0.01	< 0.5	1.8	0.3	29.2		
86548	24.8	59	25	5.3	< 0.01	0.8	2.8	0.45	31.8		
86549	33.8	76	27	6.6	< 0.01	0.8	3.1	0.41	31.3		
86550	20.8	51	14	3.9	< 0.01	0.9	1.8	0.27	31.3		
86551	42.7	96	33	8	< 0.01	< 0.5	3.1	0.4	30		
86552	24.9	60	23	4.6	< 0.01	< 0.5	1.9	0.32	34.9		
86553	24.7	58	19	4.6	< 0.01	< 0.5	2.3	0.34	30.3		
86554	39.9	89	25	7.3	< 0.01	< 0.5	2.6	0.47	28.1		
86555	46.3	103	40	8.8	< 0.01	0.8	3.4	0.57	29.4		
86556	33	76	30	6	< 0.01	< 0.5	2.9	0.43	32		
86557	20.1	46	18	4	< 0.01	< 0.5	2.3	0.29	31.4		
86558	35.3	82	30	6.6	< 0.01	< 0.5	2.9	0.47	30.3		
86559	27.4	66	15	5.6	< 0.01	< 0.5	2.8	0.45	35.9		
86560	30.1	69	22	5.5	< 0.01	< 0.5	2.3	0.33	32.2		
86561	27.3	65	25	5	< 0.01	0.7	2.1	0.31	32.3		
86562	47.4	107	28	8.7	< 0.01	1.1	3.5	0.46	30.9		
86563	31.8	72	32	5.9	< 0.01	< 0.5	3	0.43	31.7		
86564	43.3	99	28	8	< 0.01	< 0.5	3.1	0.49	36.9		
86565	14.3	32	20	3.5	< 0.01	< 0.5	1.6	0.29	41.3		
86566	40	90	33	7.3	< 0.01	< 0.5	3.3	0.51	33.1		
86567	37.4	90	32	7.2	< 0.01	< 0.5	3	0.44	32.8		
86568	39.2	99	33	7.7	< 0.01	1.2	3.4	0.5	31.2		
86569	61.3	140	49	12.7	< 0.01	1.2	5.3	0.87	29.7		
86570	29.2	69	28	5.9	< 0.01	1.2	2.8	0.38	31.1		
86571	31.9	76	29	6.1	< 0.01	< 0.5	2.9	0.4	32.7		
86572	33.1	86	30	6.5	< 0.01	< 0.5	3	0.41	29.8		
86573	40.1	93	30	7.9	< 0.01	1.2	3.3	0.45	29.4		
86574	33.5	78	30	6.2	< 0.01	0.8	2.6	0.41	32		
86580A	8.5	17	12	1.2	< 0.01	< 0.5	0.6	< 0.05	7.49	1.66	2.61

Quality Analysis ...



Innovative Technologies

Date Submitted: 21-Dec-09  
Invoice No.: A09-7652  
Invoice Date: 28-Jan-10  
Your Reference: FRANK CREEK

Barker Minerals  
Field Office  
BC  
Canada

ATTN: Vice President of Exploration Rein Tu

## CERTIFICATE OF ANALYSIS

34 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT **A09-7652**

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**

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**Final Report**  
**Activation Laboratories**

<b>Analyte Symbol</b>	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co
<b>Unit Symbol</b>	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm
<b>Detection Limit</b>	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1
<b>Analysis Method</b>	INAA	MULT INAA / TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	MULT INAA / TD-ICP	MULT INAA / TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA
86575	6	0.3	123	17.7	<1	5	29	4240	0.73	6.44	13.6	1090	2	<2	<0.5	0.14	14
86576	10	0.8	240	32.1	<1	52	246	7810	2.69	4.9	21.1	850	2	<2	<0.5	0.26	33
86577	<2	0.3	89	8.9	<1	23	59	2350	1.07	5.69	18.5	820	2	<2	<0.5	0.22	17
86578	12	0.3	98	4.4	<1	19	34	1230	0.75	4	17.1	700	1	<2	<0.5	0.24	14
86579	<2	0.3	38	0.4	<1	23	51	109	0.65	8.88	13.7	1460	3	<2	<0.5	0.41	17
86581	10	1.1	75	1.1	3	35	63	101	1.55	9.41	20.1	1370	3	<2	<0.5	0.47	19
86582	5	0.7	141	9.5	<1	195	105	2590	1.26	4.35	12.4	440	<1	<2	<0.5	0.41	14
86583	12	<0.3	52	0.6	<1	26	57	156	0.78	8.51	7.3	880	3	<2	<0.5	0.52	15
86584	7	<0.3	45	0.3	<1	<3	38	61	0.46	6.62	<0.5	900	2	<2	<0.5	0.42	10
86585	<2	<0.3	57	0.4	<1	7	36	42	0.22	6.33	5.8	840	2	<2	<0.5	0.15	11
86586	<2	<0.3	23	<0.3	<1	7	33	55	0.15	7.23	10.6	1370	2	<2	<0.5	0.27	11
86587	3	<0.3	15	<0.3	<1	<3	32	31	0.21	5.09	6.7	600	1	<2	<0.5	0.29	11
86588	<2	<0.3	5	<0.3	<1	<3	27	31	0.04	3.92	3.2	380	<1	<2	<0.5	0.19	7
86589	<2	<0.3	15	<0.3	<1	3	34	66	0.09	5.72	6.1	760	2	<2	<0.5	0.96	9
86590	<2	<0.3	96	0.5	<1	12	50	82	0.23	7.96	6.6	720	2	<2	<0.5	0.47	15
86591	<2	0.8	28	0.4	<1	12	44	78	0.41	7.5	2.5	860	3	<2	<0.5	0.5	14
86592	<2	<0.3	19	<0.3	<1	24	27	63	0.13	4.39	1.6	400	1	<2	<0.5	1.23	7
86593	<2	<0.3	44	1.6	<1	23	52	224	0.45	7.46	4.7	930	3	<2	<0.5	1.37	19
86594	<2	<0.3	3	0.6	<1	<3	57	43	0.05	6.47	8.6	540	2	<2	<0.5	0.18	17
86595	<2	<0.3	17	0.3	<1	9	46	97	0.03	8.09	10.2	690	2	<2	<0.5	0.36	13
86596	<2	0.3	62	5	<1	28	64	1300	0.43	11.1	8.8	1020	4	<2	<0.5	0.49	20
86597	<2	<0.3	48	0.8	2	49	54	148	0.86	9.85	9.9	1020	3	<2	<0.5	0.49	18
86598	<2	<0.3	23	0.3	<1	12	38	60	0.17	5.09	5.7	670	2	<2	<0.5	0.69	13
86599	<2	0.6	31	0.4	<1	15	51	75	0.18	9.43	6	1000	3	<2	<0.5	0.4	16
86600	<2	0.5	39	1	<1	266	37	192	0.31	6.44	4.7	620	2	<2	<0.5	0.55	11
86601	<2	<0.3	74	0.3	<1	7	50	75	0.42	7.55	10	1000	3	<2	<0.5	0.44	15
86602	<2	<0.3	56	0.5	2	5	62	73	0.67	8.92	5.6	1090	3	<2	<0.5	0.42	18
86603	<2	0.3	42	0.6	<1	328	35	137	0.34	6.52	4.6	620	2	<2	<0.5	0.7	9
86604	4	<0.3	58	0.4	1	22	52	92	0.77	9.85	12.6	1000	3	<2	<0.5	0.53	15
86605	<2	0.4	35	0.7	<1	118	41	224	0.24	8.13	11.6	730	3	<2	<0.5	0.73	14
86606	<2	0.6	78	0.4	<1	17	55	80	0.52	9.98	10.5	1000	3	<2	<0.5	0.82	17
86607	<2	0.4	34	0.3	<1	28	46	94	0.63	3.84	11.1	890	2	<2	<0.5	0.34	13



**Final Report**  
**Activation Laboratories**

Analyte Symbol	Cr	Cs	Eu	Fe	Hf	Hg	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y
Unit Symbol	ppm	ppm	ppm	%	ppm	ppm	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	2	1	0.2	0.01	1	1	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP
86575	68	2	0.8	3.74	5	<1	<5	2.68	0.94	438	0.3	0.034	86	5.7	9	<3	38	<0.5	0.29	12	4.4	72	<1	11
86576	403	<1	1	7.96	4	<1	<5	1.87	1.7	701	0.29	0.037	87	5.7	12.4	<3	33	<0.5	0.31	8.6	<0.5	91	5	9
86577	137	2	1	4.51	5	<1	<5	2.08	1.5	646	0.21	0.038	54	6.2	10.4	<3	32	<0.5	0.33	9.9	1.8	80	5	10
86578	42	<1	0.8	3.51	5	<1	<5	1.52	0.92	509	0.2	0.026	61	6.2	5.6	<3	24	<0.5	0.21	9.3	2.3	43	<1	10
86579	90	4	1.4	4.28	4	<1	<5	3.26	1.51	450	0.23	0.041	119	6.8	14.1	<3	40	<0.5	0.38	14.9	4.2	104	<1	12
86581	78	4	1.6	4.4	5	<1	<5	3.33	1.55	324	0.25	0.044	129	6.5	14	<3	43	1.6	0.45	14.7	4.4	120	<1	17
86582	100	<1	0.6	4.85	4	<1	<5	0.89	1.9	661	0.12	0.03	41	6.3	7	<3	23	1.2	0.25	5.9	1.8	61	<1	10
86583	80	2	1.3	3.87	4	<1	<5	2.92	1.65	444	0.21	0.038	121	4	11.9	<3	40	2	0.37	12.7	5	101	<1	13
86584	59	2	1	3.04	4	<1	<5	2.47	1.14	421	0.13	0.037	93	0.5	8.6	<3	35	<0.5	0.29	10.8	3.5	70	<1	12
86585	61	2	0.7	2.85	4	<1	<5	2.43	0.81	403	0.12	0.031	93	0.7	8.1	<3	28	<0.5	0.28	10.6	3	61	<1	12
86586	63	3	1.1	2.88	5	<1	<5	2.87	0.85	490	0.15	0.035	106	0.9	9.4	<3	36	<0.5	0.32	12.5	3.8	73	3	14
86587	50	2	0.8	3.48	5	<1	<5	2.03	0.92	539	0.1	0.03	73	0.7	6.8	<3	28	1.1	0.25	10	2.8	53	<1	12
86588	41	<1	0.7	3.07	5	<1	<5	1.16	0.9	361	0.07	0.03	41	0.7	4.8	<3	18	<0.5	0.22	9.6	2	37	<1	11
86589	67	<1	0.7	2.83	5	<1	<5	2.09	1.01	434	0.32	0.034	71	0.7	7.5	<3	64	<0.5	0.2	10.8	3.4	44	<1	12
86590	93	3	1.2	3.83	5	<1	<5	3.03	1.29	512	0.17	0.037	112	1	11.3	<3	50	<0.5	0.31	13.4	4.3	76	<1	13
86591	69	3	1.2	3.23	4	<1	<5	2.95	1.35	314	0.16	0.06	123	0.8	11.2	<3	41	1	0.52	12.7	3.3	92	<1	13
86592	49	<1	0.8	2.66	4	<1	<5	1.32	1.22	681	0.27	0.026	28	0.7	6	<3	59	<0.5	0.13	8.3	2.9	26	<1	11
86593	79	3	1.3	4.15	5	<1	<5	2.65	1.65	703	0.61	0.041	114	0.7	12.6	<3	86	<0.5	0.42	12	3.7	94	<1	15
86594	100	2	0.8	5.89	5	<1	<5	1.8	1.52	769	0.09	0.046	55	0.7	10.9	<3	25	<0.5	0.39	9.9	2.5	88	7	13
86595	74	3	1.1	3.72	5	<1	<5	2.81	1.23	614	0.14	0.044	104	0.8	10.9	<3	35	<0.5	0.24	13.8	3.3	65	<1	14
86596	105	2	1.4	4.36	4	<1	<5	3.97	1.63	651	0.23	0.051	140	0.8	15.3	<3	50	<0.5	0.46	15.6	4.2	126	7	15
86597	92	3	1.4	3.9	5	<1	<5	3.6	1.44	559	0.24	0.045	144	1	14.2	<3	45	<0.5	0.43	15.3	3.9	127	<1	18
86598	65	2	1	3.18	4	<1	<5	2.18	1.11	584	0.29	0.035	86	0.5	9	<3	41	1.6	0.3	11	3.7	61	<1	10
86599	83	2	1.4	3.6	5	<1	<5	3.41	1.36	456	0.31	0.086	149	0.8	12.6	<3	39	1.4	0.41	13.9	3.8	92	<1	16
86600	64	2	1	2.83	5	<1	<5	2.35	1.06	481	0.23	0.033	60	0.7	7.9	<3	36	<0.5	0.27	11.4	2.7	56	4	13
86601	76	2	1.2	4.09	5	<1	<5	3.23	1.06	846	0.17	0.039	118	0.9	10.8	<3	42	<0.5	0.37	14.1	2.8	87	<1	13
86602	93	4	1.5	4.4	5	<1	<5	3.81	1.25	489	0.2	0.044	149	1	14.9	<3	47	<0.5	0.44	14.8	6	129	<1	14
86603	71	2	0.8	2.68	5	<1	<5	2.36	1.04	499	0.2	0.034	92	0.7	8.6	<3	44	1.4	0.31	11	3	69	<1	14
86604	85	2	1.2	3.5	4	<1	<5	3.4	1.32	447	0.31	0.041	130	1	12.6	<3	45	1.5	0.4	12.9	4	114	<1	13
86605	79	3	1.3	2.61	5	<1	<5	3.21	1.09	473	0.27	0.038	105	0.7	10.9	<3	51	<0.5	0.33	13.5	2.7	82	<1	13
86606	96	3	1.5	3.54	5	<1	<5	3.62	1.31	483	0.34	0.043	126	0.8	14.4	<3	58	<0.5	0.45	15.6	4.6	109	<1	14
86607	73	4	1.3	3.67	5	<1	<5	2.68	0.88	350	0.23	0.035	106	0.9	11.4	<3	30	<0.5	0.34	13.3	3.4	88	<1	6

Report: A09-7652  
 Report Date: 28/1

**Final Report**  
**Activation Laboratories**

Analyte Symbol	La	Ce	Nd	Sm	Sn	Tb	Yb	Lu	Mass
Unit Symbol	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	g
Detection Limit	0.5	3	5	0.1	0.01	0.5	0.2	0.05	
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
86575	31.2	60	21	4.2	< 0.01	< 0.5	2.1	0.37	31.8
86576	26.1	48	18	4.1	< 0.01	< 0.5	2	0.43	32.5
86577	29	53	22	4.2	< 0.01	< 0.5	2.1	0.45	31.1
86578	21.9	46	15	2.9	< 0.01	0.6	1.7	0.32	28.8
86579	46.3	88	28	6.2	< 0.01	0.8	3.4	0.56	26.8
86581	45.4	90	32	6.3	< 0.01	< 0.5	3.5	0.57	29
86582	17.9	38	13	2.7	< 0.01	0.5	1.7	0.35	30.3
86583	38.9	71	26	5.2	< 0.01	1	2.6	0.47	31
86584	30.1	58	26	3.9	< 0.01	0.6	2.1	0.39	32.1
86585	30.5	61	15	4.3	< 0.01	< 0.5	2.4	0.46	32.6
86586	36.2	69	23	4.7	< 0.01	< 0.5	2.5	0.43	32.8
86587	25.9	48	17	3.3	< 0.01	0.6	2	0.34	35.2
86588	21.4	42	16	2.9	< 0.01	< 0.5	1.7	0.33	33.2
86589	27.6	53	20	3.8	< 0.01	0.6	2.1	0.46	29.8
86590	37.1	68	28	4.8	< 0.01	0.6	2.5	0.47	28.7
86591	39.1	74	31	5.2	< 0.01	< 0.5	2.4	0.48	32.7
86592	20.6	40	14	3	< 0.01	< 0.5	1.7	0.33	32.5
86593	38.8	72	30	6	< 0.01	< 0.5	3.7	0.63	28.4
86594	29.2	55	28	4.1	< 0.01	< 0.5	2.1	0.46	31.5
86595	37.9	73	32	5.2	< 0.01	< 0.5	2.5	0.48	25.8
86596	49.1	93	27	6.4	< 0.01	< 0.5	3.1	0.58	28
86597	45.1	88	31	6.2	< 0.01	< 0.5	3.1	0.54	27.9
86598	32	62	21	4.3	< 0.01	< 0.5	2.5	0.43	28
86599	41.9	83	25	5.6	< 0.01	< 0.5	3	0.54	28.5
86600	30.1	58	23	4	< 0.01	0.6	2.1	0.38	31.2
86601	38.1	78	25	5	< 0.01	< 0.5	2.8	0.47	29.9
86602	47.7	89	32	6.5	< 0.01	< 0.5	3.5	0.58	25.7
86603	30	58	18	4.1	< 0.01	< 0.5	2.2	0.42	29
86604	39.6	77	24	5.3	< 0.01	0.7	2.7	0.46	28.7
86605	39.5	76	26	5.3	< 0.01	< 0.5	2.5	0.44	31
86606	48.1	91	27	6.6	< 0.01	< 0.5	3.3	0.64	26
86607	38.9	72	24	5.2	< 0.01	< 0.5	2.7	0.5	27.4



**Date Submitted:** 04-Dec-09  
**Invoice No.:** A09-7256  
**Invoice Date:** 28-Jan-10  
**Your Reference:** FRANK CREEK SHIPMENT #2

**Barker Minerals**  
**8384 Toombs Drive**  
**Prince George British Columbia V2K 5A3**  
**Canada**

**ATTN: Louis Doyle**

## CERTIFICATE OF ANALYSIS

87 Rock samples were submitted for analysis.

The following analytical package was requested: Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)

REPORT **A09-7256**

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Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

INAA - sample 71. NS

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive style with several loops and flourishes.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**

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**Final Report**  
**Activation Laboratories**

Analyte Symbol	Au	Ag	Cu	Cd	Mo	Pb	Ni	Zn	S	Al	As	Ba	Be	Bi	Br	Ca	Co	Cr	Cs	Eu	Fe	Hf	Hg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection Limit	2	0.3	1	0.3	1	3	1	1	0.01	0.01	0.5	50	1	2	0.5	0.01	1	2	1	0.2	0.01	1	1
Analysis Method	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	INAA	INAA	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA	INAA
86501	20	0.8	205	1.8	< 1	120	31	198	0.96	3.14	49.4	1010	1	< 2	< 0.5	2	4	76	2	0.7	1.54	3	< 1
86502	52	1.1	91	3.1	11	277	101	371	1.59	4.04	108	1510	2	< 2	< 0.5	4.27	13	137	2	1	2.83	3	< 1
86503	38	0.6	65	4.1	19	18	108	366	1.89	4.63	131	2100	2	< 2	< 0.5	5.23	18	133	3	1.1	3.05	3	< 1
86504	52	0.6	106	1.7	3	41	70	207	1.61	6.58	71.3	2180	2	< 2	< 0.5	7.55	20	154	3	1.2	4.22	3	< 1
86505	256	0.6	95	1.6	3	32	59	205	2.35	6.19	75	2020	2	< 2	< 0.5	6.61	15	108	2	1.3	3.65	4	< 1
86506	404	0.7	167	2.7	10	76	119	298	2.41	4.11	123	1600	2	< 2	< 0.5	5.82	15	151	3	1.3	3.2	3	< 1
86507	14	1.4	91	7.9	2	764	79	1370	1.01	2.97	96.1	750	< 1	< 2	< 0.5	4.06	9	125	2	1.1	2.89	2	< 1
86508	58	1	157	2.4	4	111	113	282	1.78	6.53	118	2210	2	< 2	< 0.5	3.84	20	231	3	1.2	4.52	3	< 1
86509	11	< 0.3	51	1.1	< 1	33	107	101	0.04	4.86	118	1450	2	< 2	< 0.5	4.67	18	184	2	1.2	2.71	2	< 1
86510	20	0.9	193	3	11	26	71	356	2.2	3.75	76.8	1110	2	< 2	< 0.5	3.99	7	70	3	0.9	2.73	2	< 1
86511	9	0.6	110	0.5	1	12	120	105	1.83	7.86	63.7	2470	2	< 2	< 0.5	2.51	25	331	3	1.4	5.57	3	< 1
86512	< 2	< 0.3	13	< 0.3	< 1	4	22	41	0.1	5.38	8.8	1110	2	< 2	< 0.5	0.89	7	48	2	1	2.47	5	< 1
86513	< 2	< 0.3	24	< 0.3	< 1	9	44	82	0.05	8.8	8.8	1450	3	< 2	< 0.5	0.4	11	64	3	1.2	3.51	5	< 1
86514	< 2	< 0.3	41	< 0.3	< 1	24	47	66	0.32	8.85	4.8	1530	3	< 2	< 0.5	0.45	14	72	3	1.3	3.21	4	< 1
86515	< 2	0.4	35	< 0.3	< 1	14	48	51	0.6	9.12	8	1620	3	< 2	< 0.5	0.53	17	83	3	1.3	3.56	4	< 1
86516	< 2	< 0.3	16	< 0.3	< 1	65	29	61	0.13	5.06	7.6	690	1	< 2	< 0.5	0.52	8	54	< 1	0.8	2.27	5	< 1
86517	< 2	< 0.3	34	< 0.3	< 1	6	41	48	0.25	7.59	9.1	1190	2	< 2	< 0.5	0.58	13	71	2	1.2	2.9	4	< 1
86518	< 2	< 0.3	16	0.3	< 1	48	39	64	0.22	8.02	19.9	1620	3	< 2	< 0.5	0.36	11	72	2	1.1	2.84	5	< 1
86519	5	< 0.3	15	< 0.3	< 1	7	30	48	0.18	5.89	14.6	1130	2	< 2	< 0.5	0.22	9	58	2	0.9	2.62	6	< 1
86520	< 2	0.3	24	0.3	< 1	5	41	68	0.16	3.61	9.8	1860	3	< 2	< 0.5	0.13	14	99	2	1.5	3.58	4	< 1
86521	< 2	0.4	12	0.9	< 1	24	29	93	0.39	4.47	12.1	810	1	< 2	< 0.5	0.23	11	45	< 1	0.6	2.52	4	< 1
86522	24.8	3310	42.6	77	> 5000	9	> 10000	1.72	6.39				1	2	1.82								
86523	< 2	< 0.3	< 1	< 0.3	< 1	< 3	20	25	0.03	3.98	6	640	1	< 2	< 0.5	0.26	5	36	< 1	0.6	1.81	5	< 1
86524	< 2	< 0.3	28	< 0.3	< 1	< 3	49	59	0.41	8.82	4.6	1380	3	< 2	< 0.5	0.19	14	72	2	1.1	3.55	4	< 1
86525	< 2	0.6	14	0.8	< 1	148	32	121	0.08	6.24	6.8	1220	2	< 2	< 0.5	0.54	7	65	< 1	0.9	2.28	6	< 1
86526	< 2	< 0.3	25	1.8	< 1	27	28	353	0.34	5.73	12.9	970	2	< 2	< 0.5	0.43	8	61	< 1	0.8	2.24	5	< 1
86527	< 2	0.4	10	< 0.3	< 1	15	39	48	0.36	7.69	6.8	1460	3	< 2	< 0.5	0.39	10	69	2	1.2	3.12	4	< 1
86528	< 2	< 0.3	18	< 0.3	< 1	4	41	59	0.37	7.23	2.4	1050	3	< 2	< 0.5	0.25	11	70	2	0.9	3.26	3	< 1
86529	< 2	< 0.3	16	< 0.3	< 1	< 3	23	52	0.14	3.86	3.9	440	< 1	< 2	< 0.5	0.44	6	57	< 1	0.9	2.54	5	< 1
86530	< 2	< 0.3	19	< 0.3	< 1	23	16	48	0.16	3.26	3.7	380	< 1	< 2	< 0.5	0.26	4	54	< 1	0.7	1.76	4	< 1
86531	< 2	< 0.3	34	0.3	1	9	41	71	0.48	7.93	4.3	1310	3	< 2	< 0.5	0.22	14	90	4	1.1	3.51	6	< 1
86532	< 2	< 0.3	29	< 0.3	< 1	< 3	30	55	0.21	5.52	7.5	570	2	< 2	< 0.5	0.18	8	66	2	0.8	2.68	6	< 1
86533	< 2	0.3	44	< 0.3	< 1	4	27	41	0.33	5.32	4.8	960	2	< 2	< 0.5	0.23	9	66	2	0.9	2.58	5	< 1
86534	9	1	320	0.7	< 1	38	31	97	0.78	5.77	7.5	960	2	< 2	< 0.5	0.14	14	82	2	1	3.79	6	< 1
86535	< 2	0.4	96	0.7	< 1	16	46	131	0.42	6.31	7.5	1040	2	< 2	< 0.5	0.3	12	80	2	1	3.62	6	< 1
86536	< 2	< 0.3	27	< 0.3	< 1	21	34	45	0.26	5.47	6.6	840	2	< 2	< 0.5	0.64	9	73	< 1	0.9	2.51	5	< 1
86537	< 2	< 0.3	27	< 0.3	< 1	< 3	53	58	0.21	12	5	2180	4	< 2	< 0.5	0.27	16	140	3	1.5	4.34	5	< 1
86538	< 2	< 0.3	34	< 0.3	2	4	52	43	0.23	10.9	7.1	1910	4	< 2	< 0.5	0.34	14	129	3	1.5	4.05	5	< 1



**Final Report**  
**Activation Laboratories**

Analyte Symbol	Ir	K	Mg	Mn	Na	P	Rb	Sb	Sc	Se	Sr	Ta	Ti	Th	U	V	W	Y	La	Ce	Nd	Sm	Sn	Tb
Unit Symbol	ppb	%	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
Detection Limit	5	0.01	0.01	1	0.01	0.001	15	0.1	0.1	3	1	0.5	0.01	0.2	0.5	2	1	1	0.5	3	5	0.1	0.01	0.5
Analysis Method	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	TD-ICP	INAA	TD-ICP	INAA	INAA	INAA	INAA	INAA	INAA
86501	< 5	1.29	1.07	258	0.06	0.144	56	1	6.4	< 3	57	0.9	0.18	4.8	5	103	< 1	18	15.8	32	13	1.9	< 0.01	< 0.5
86502	< 5	1.64	2.56	849	0.07	0.195	54	1.8	9.2	6	116	0.9	0.36	3.8	9.8	594	7	16	16.3	32	12	2.1	< 0.01	< 0.5
86503	< 5	1.92	2.87	884	0.09	0.123	68	1.9	12.4	< 3	131	1.3	0.45	3.4	10.5	824	10	19	19.7	35	16	2.4	< 0.01	< 0.5
86504	< 5	2.7	3.8	930	0.17	0.271	108	1.5	18.1	< 3	187	1.1	0.47	4.4	7.3	231	< 1	25	27.1	52	20	3.5	< 0.01	< 0.5
86505	< 5	2.56	2.9	900	0.13	0.365	92	1.2	12.6	< 3	162	1.4	0.38	6.7	6.6	255	< 1	27	26.5	54	18	3.2	< 0.01	< 0.5
86506	< 5	1.74	1.96	931	0.08	0.759	66	1.8	8.3	< 3	129	< 0.5	0.21	5.1	13	493	< 1	31	24.2	44	17	3.1	< 0.01	0.8
86507	< 5	1.13	2.71	748	0.09	0.531	36	1.2	5.9	7	124	< 0.5	0.14	4.2	4.3	153	4	21	17.2	32	16	2.9	< 0.01	< 0.5
86508	< 5	2.61	2.9	875	0.22	0.248	92	0.9	15.6	< 3	105	0.7	0.61	5.2	5.4	276	7	21	25.5	46	16	3.8	< 0.01	< 0.5
86509	< 5	1.88	2.7	786	0.15	0.343	53	0.7	12.2	< 3	123	< 0.5	0.09	4.8	4.2	168	5	22	17	30	12	3	< 0.01	< 0.5
86510	< 5	1.51	1.48	309	0.08	0.651	45	3.8	4.8	< 3	87	< 0.5	0.18	5.9	9.9	506	< 1	23	19.5	33	11	2.5	< 0.01	< 0.5
86511	< 5	2.04	2.58	378	0.56	0.125	75	0.9	23	< 3	103	2	0.77	4.9	6.1	226	< 1	17	24.4	46	20	3.8	< 0.01	< 0.5
86512	< 5	1.99	0.94	478	0.24	0.029	86	0.3	7.4	< 3	41	< 0.5	0.23	13.6	3	52	< 1	11	32.9	65	26	4.2	< 0.01	0.7
86513	< 5	2.59	1.39	441	0.35	0.04	112	< 0.1	10.5	< 3	44	< 0.5	0.2	14.8	2.7	54	< 1	15	41.2	80	27	5.3	< 0.01	1
86514	< 5	3.42	1.41	412	0.17	0.043	119	0.4	10.9	< 3	34	< 0.5	0.33	13.9	3.7	77	< 1	15	40	79	26	5.3	< 0.01	0.6
86515	< 5	3.36	1.55	403	0.31	0.043	126	0.4	11.6	< 3	37	2.1	0.4	14.2	3.8	89	< 1	15	44.9	88	26	5.7	< 0.01	< 0.5
86516	< 5	1.65	1.08	375	0.33	0.03	47	0.4	5.9	< 3	28	< 0.5	0.2	9.4	2.2	37	< 1	12	22.4	44	15	3.1	< 0.01	< 0.5
86517	< 5	2.71	1.29	424	0.42	0.038	98	0.3	9.6	< 3	34	1.4	0.28	14	3.7	60	< 1	14	39.6	77	24	4.8	< 0.01	< 0.5
86518	< 5	3.11	1.41	412	0.16	0.04	132	0.3	10	< 3	32	< 0.5	0.31	13.7	3.1	68	< 1	15	40.7	77	25	5.1	< 0.01	< 0.5
86519	< 5	2.09	1.23	306	0.11	0.034	77	0.3	7	< 3	24	< 0.5	0.24	11	3.5	45	< 1	12	27.7	52	21	4	< 0.01	< 0.5
86520	< 5	2.47	0.8	293	0.19	0.035	156	0.4	14.9	< 3	18	< 0.5	0.38	17.3	5.8	92	< 1	1	55	105	41	7.2	< 0.01	< 0.5
86521	< 5	1.48	1.18	353	0.08	0.026	74	< 0.1	5.7	< 3	16	< 0.5	0.22	9.7	2.7	38	< 1	10	22.4	47	16	3.4	< 0.01	< 0.5
86522		2.49	0.32	612		0.042					624		0.13			39		6						
86523	< 5	1.28	1.02	301	0.07	0.023	49	< 0.1	4.3	< 3	16	< 0.5	0.22	8.7	1.8	34	< 1	14	18.4	40	13	3.1	< 0.01	< 0.5
86524	< 5	3.33	1.52	306	0.19	0.043	119	< 0.1	11.4	< 3	25	< 0.5	0.41	14.9	3.9	87	< 1	15	39	74	27	5.6	< 0.01	0.6
86525	< 5	2.38	1.39	429	0.11	0.03	83	0.2	8	< 3	32	< 0.5	0.16	12.1	3.9	45	< 1	13	31.1	62	23	4.1	< 0.01	0.6
86526	< 5	2.15	1.33	339	0.12	0.03	60	0.3	7	< 3	27	< 0.5	0.29	10.4	3	54	< 1	12	26.8	53	21	3.7	< 0.01	< 0.5
86527	< 5	2.84	1.65	387	0.15	0.039	79	0.2	9.8	< 3	32	1.1	0.36	13.9	5.1	74	< 1	14	37	72	28	5.1	< 0.01	0.9
86528	< 5	2.66	1.45	381	0.13	0.037	101	0.3	9.6	< 3	26	1.5	0.33	12	4	71	< 1	13	32.6	66	26	4.7	< 0.01	< 0.5
86529	< 5	1.03	1.05	382	0.26	0.025	47	0.4	4.7	< 3	21	< 0.5	0.22	8.8	3.6	36	< 1	10	21	44	14	2.8	< 0.01	< 0.5
86530	< 5	1.03	0.69	280	0.05	0.027	42	0.3	4	< 3	18	1	0.19	8.6	2.3	32	< 1	11	21.6	45	14	2.3	< 0.01	< 0.5
86531	< 5	2.85	1.26	366	0.13	0.042	117	0.5	11.4	< 3	31	1	0.38	13.5	5.9	81	< 1	15	40	84	28	4.5	< 0.01	< 0.5
86532	< 5	1.79	1.12	350	0.17	0.031	78	0.4	6.6	< 3	22	0.7	0.29	10.3	5.5	52	< 1	12	26.1	55	16	2.9	< 0.01	0.7
86533	< 5	1.94	1.01	350	0.1	0.032	89	0.4	7.1	< 3	22	1.1	0.27	10.9	4.5	52	3	12	29.6	64	27	3.1	< 0.01	1
86534	< 5	1.86	1.22	372	0.1	0.028	97	0.4	7.9	< 3	16	< 0.5	0.26	12.7	3.3	55	< 1	11	31.7	56	22	3.4	< 0.01	0.9
86535	< 5	2.03	1.52	420	0.1	0.035	90	0.4	8.8	< 3	22	0.9	0.32	11.3	3.6	68	5	12	33.6	73	27	3.7	< 0.01	< 0.5
86536	< 5	1.76	1.44	476	0.09	0.032	75	0.4	6.8	< 3	33	< 0.5	0.28	10.9	4	53	< 1	13	26.7	58	20	3	< 0.01	< 0.5
86537	< 5	4.52	1.67	352	0.2	0.052	199	0.5	16.8	< 3	37	1.1	0.46	17.3	6.3	109	< 1	16	59.7	126	49	6.5	< 0.01	< 0.5
86538	< 5	4.14	1.9	378	0.19	0.048	184	0.7	16	< 3	37	< 0.5	0.38	16.9	7.1	102	< 1	16	52.6	109	37	5.8	< 0.01	< 0.5

Report: A09-7256  
Report Date: 1/21

**Final Report**  
**Activation Laboratories**

<b>Analyte Symbol</b>	Yb	Lu	Mass	Zn	Pb
<b>Unit Symbol</b>	ppm	ppm	g	%	%
<b>Detection Limit</b>	0.2	0.05		0.001	0.003
<b>Analysis Method</b>	INAA	INAA	INAA	ICP-OES	ICP-OES
86452	2.4	0.33	26		
86453	2.3	0.4	24.6		
86454	2.4	0.46	26.5		
86455	2.2	0.38	26.2		
86456	1.6	0.31	27.2		
86457	1.8	0.34	26.9		
86458	2.4	0.4	23.9		
86459	1.9	0.34	26.8		
86460	1.8	0.33	27.4		
86461	2.4	0.5	26.5		
86462	1.8	0.32	28.5		
86463	1.7	0.32	29		
86464	1.4	0.28	27.4		
86465	1.7	0.3	28.2		
86466	2	0.38	26.5		
86467	1.4	0.28	30.6		
86468	0.4	0.08	27.3		
86469	1.5	0.26	28.4		
86470	1.6	0.31	26.2		
86471	2	0.43	25.9		
86472	1.2	0.22	27.8		
86473	1.1	0.23	29.4		
86474	1.3	0.26	26		
86475	1.1	0.24	26.2		
86476	1.3	0.22	27.6		
86477	1.2	0.26	26.5		
86478	1.2	0.22	28.6		
86479	1.3	0.21	26.4		
86480	1	0.19	28		
86481	1.1	0.21	24.6		
86482	1.3	0.22	27		
86483	1.2	0.24	28.4		
86484	1	0.2	25.7		
86485	1.3	0.25	24.5		
86486	0.8	0.14	28.2		
86487	2.3	0.41	23.9		
86488	2.4	0.42	22.8		
86489	2.4	0.47	22.8		
86490	2.4	0.47	22.2		
86491	2.3	0.41	24		
86492	2.3	0.41	25.2		
86493	1.3	0.25	25.7		
86494	2.8	0.45	26		
86495	1.8	0.29	27.1		
86496	3	0.45	25.2		
86497	2	0.29	27		
86498	2.5	0.48	24.3		
86499	1.9	0.36	25.1		
86500	4	0.67	24		



Report: A09-7256  
 Report Date: 1/21

**Final Report**  
**Activation Laboratories**

Analyte Symbol	Yb	Lu	Mass	Zn	Pb
Unit Symbol	ppm	ppm	g	%	%
Detection Limit	0.2	0.05		0.001	0.003
Analysis Method	INAA	INAA	INAA	ICP-OES	ICP-OES
86501	1.9	0.35	26.8		
86502	2	0.34	25		
86503	2	0.39	23		
86504	2.4	0.43	23.8		
86505	2.7	0.52	24.4		
86506	3.1	0.56	23		
86507	1.6	0.31	26.5		
86508	2	0.3	25.2		
86509	2	0.39	25.4		
86510	1.7	0.32	25		
86511	2	0.39	24.5		
86512	2.2	0.4	23.2		
86513	2.5	0.49	22.5		
86514	2.7	0.53	23.6		
86515	2.5	0.52	24.5		
86516	2	0.41	26.4		
86517	2.4	0.4	24.3		
86518	2.5	0.49	24.6		
86519	2.3	0.39	26.3		
86520	3.6	0.65	22.6		
86521	1.9	0.31	26.2		
86522				1.16	2.08
86523	1.9	0.32	24.9		
86524	2.8	0.51	23.7		
86525	2.4	0.45	26.6		
86526	2.3	0.36	27.7		
86527	3	0.53	25.1		
86528	2.3	0.43	24.8		
86529	2.1	0.35	27.8		
86530	1.8	0.28	26.9		
86531	3.5	0.56	25.3		
86532	2.4	0.46	27.7		
86533	2.5	0.4	27.4		
86534	2.8	0.41	26		
86535	2.9	0.47	26.2		
86536	2.5	0.37	27.7		
86537	3.8	0.69	22.9		
86538	3.8	0.53	24.2		

**APPENDIX E**

Quantec Geoscience Ltd.  
3D Fixed-Loop Borehole TEM Survey

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A general description of the borehole electromagnetic method, provided below, is from Quantec Geoscience Ltd.'s website.

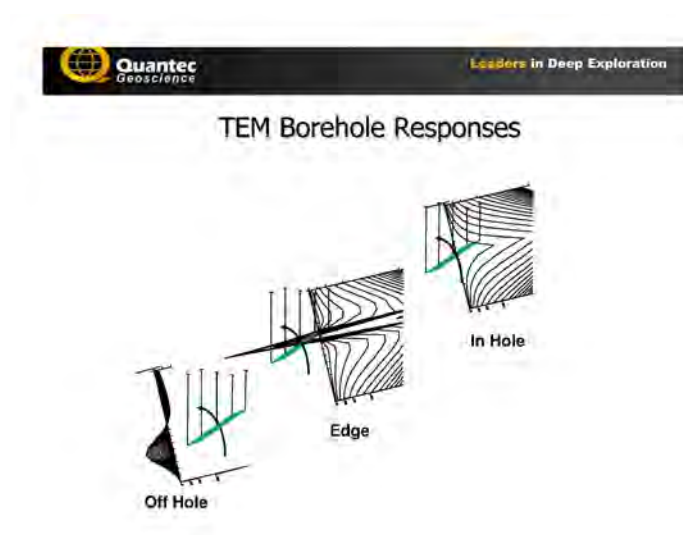
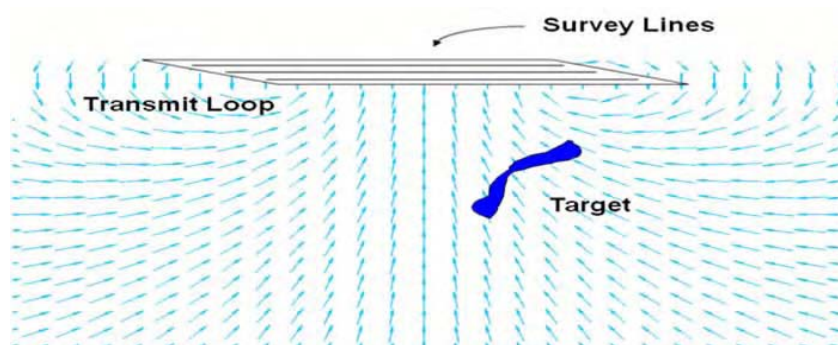
### Electromagnetic Methods in Geophysical Exploration

Electromagnetic (EM) techniques are a class of geophysical methods that use induction (i.e. generation of either time or frequency varying electromagnetic fields) to induce secondary currents in the ground. These secondary fields are then measured and used to determine a variety of characteristics related to the target, including dip, strike, conductivity-thickness, etc. Typically, EM methods are applied for direct detection of massive sulphides from a) surface, b) boreholes and c) underground. A lesser application is to map lithologies based on contrasts in electromagnetic properties (resistivity).

### Time Domain Method

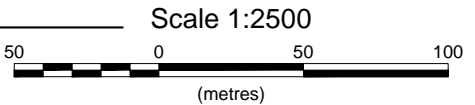
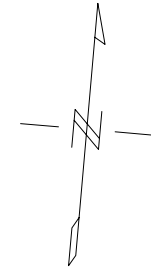
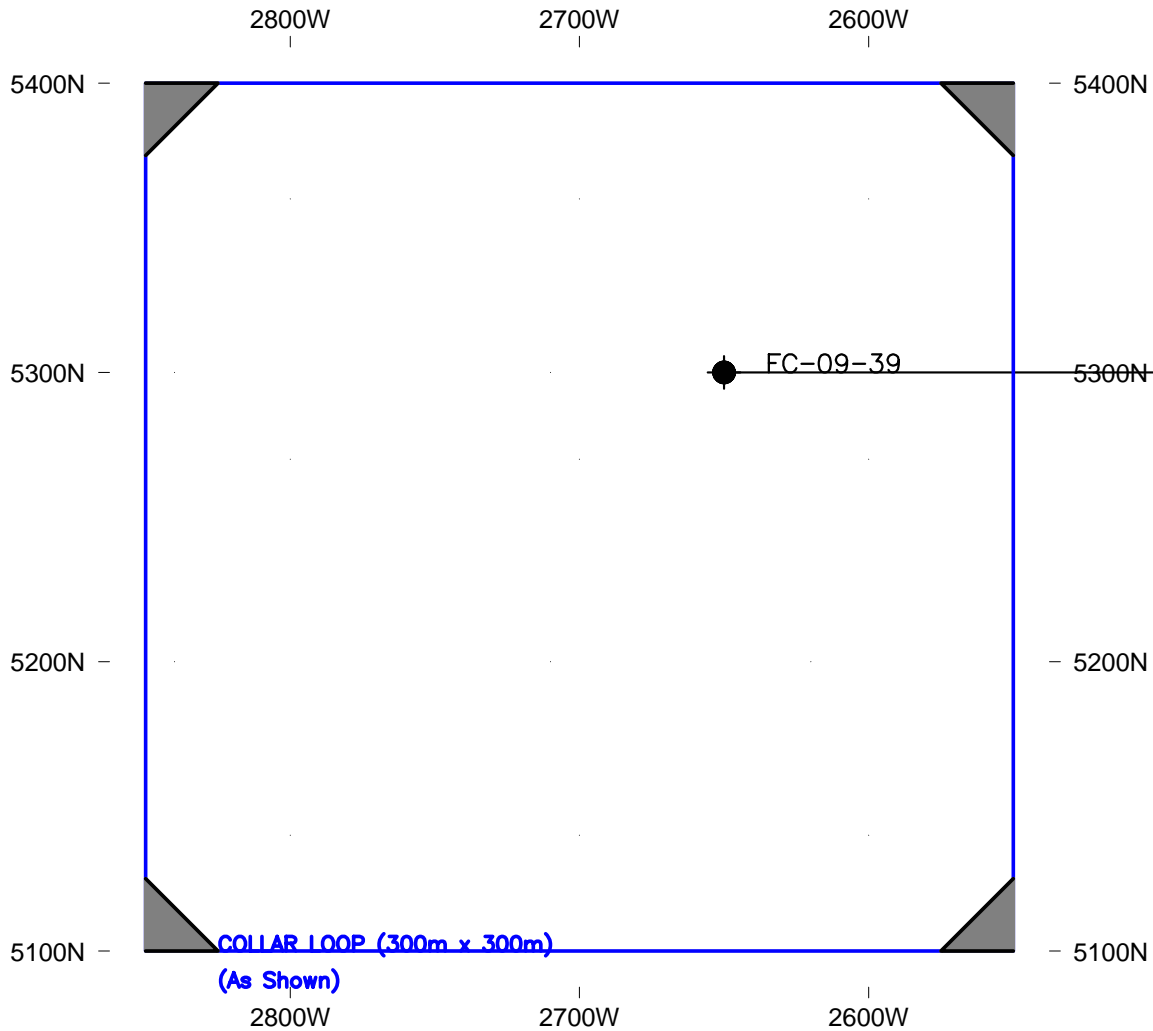
Time domain electromagnetics (TEM or TDEM) is effective for mapping conductive material. Current investigation limits are approximately 500 meters (surface survey) and >2000 meters (borehole survey). For borehole EM applications, note that detection around the hole is from 150 to 250 metres based on a strong primary signal being generated from surface.

TEM / TDEM can be applied using various surface loop configurations, including fixed loop, in-loop and moving loop for various applications and to achieve various survey objectives, including increasing depth of penetration, increasing survey productivity, etc. The following image shows the survey configuration for an in-loop profiling survey. Note that this method is traditionally used for horizontal (sub-horizontal) targets.



Figures on the following pages present results of the Quantec Geoscience Ltd. borehole survey.

# FC-09-39 - BOREHOLE & LOOP LOCATION MAP



**BARKER MINERALS LTD.**  
FRANK CREEK PROPERTY  
LIKELY, BC

3D FIXED-LOOP BOREHOLE TEM SURVEY  
**BOREHOLE & LOOP LOCATION MAP**  
FC-09-39

Borehole Parameters: DDH #1 = FC-09-39  
Location = 2650W, 5300N  
Azimuth & Dip = 85, -60

DDH #2 =  
Location =  
Azimuth & Dip =

DDH #3 =  
Location =  
Azimuth & Dip =

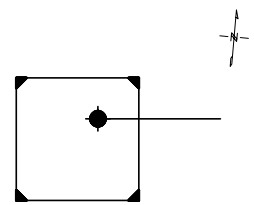
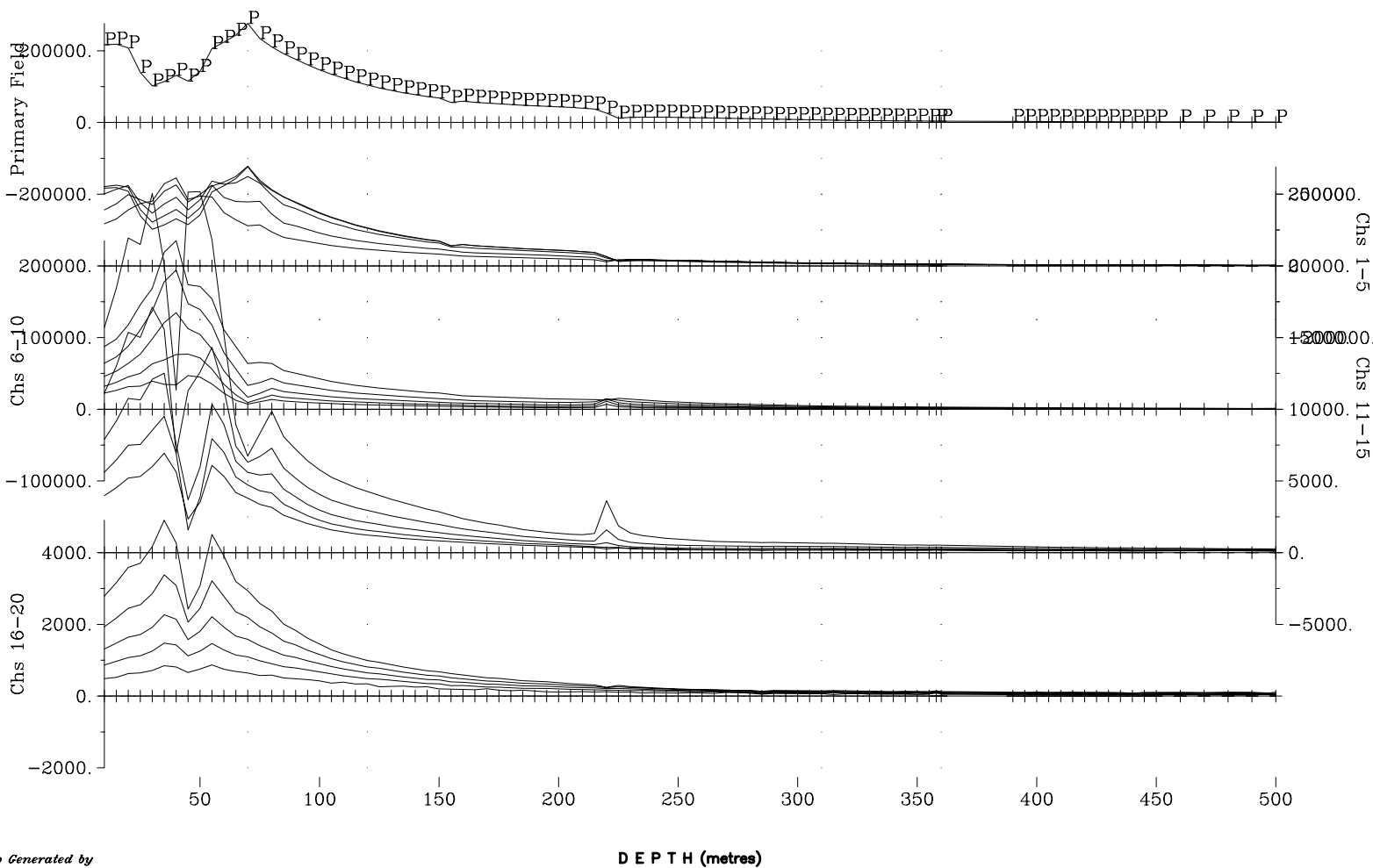
Survey Date: Dec 14, 2009

Instrumentation: Rx = Digital Protem (30 Channels)  
Geonics 3D probe + 800m cable  
Tx = Geonics EM-37 (2.8 kW)

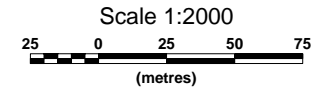


Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**

DWG. #: CA00706C-BHTEM-LOOPLOC-FC-09-39



**Borehole FC-09-39 - Total Field**



**BARKER MINERALS LTD.**  
**FRANK CREEK PROPERTY**  
**LIKELY, BC**

**3D FIXED-LOOP BOREHOLE TEM SURVEY**  
 Secondary Electromagnetic Field (dB/dt)

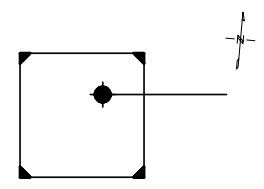
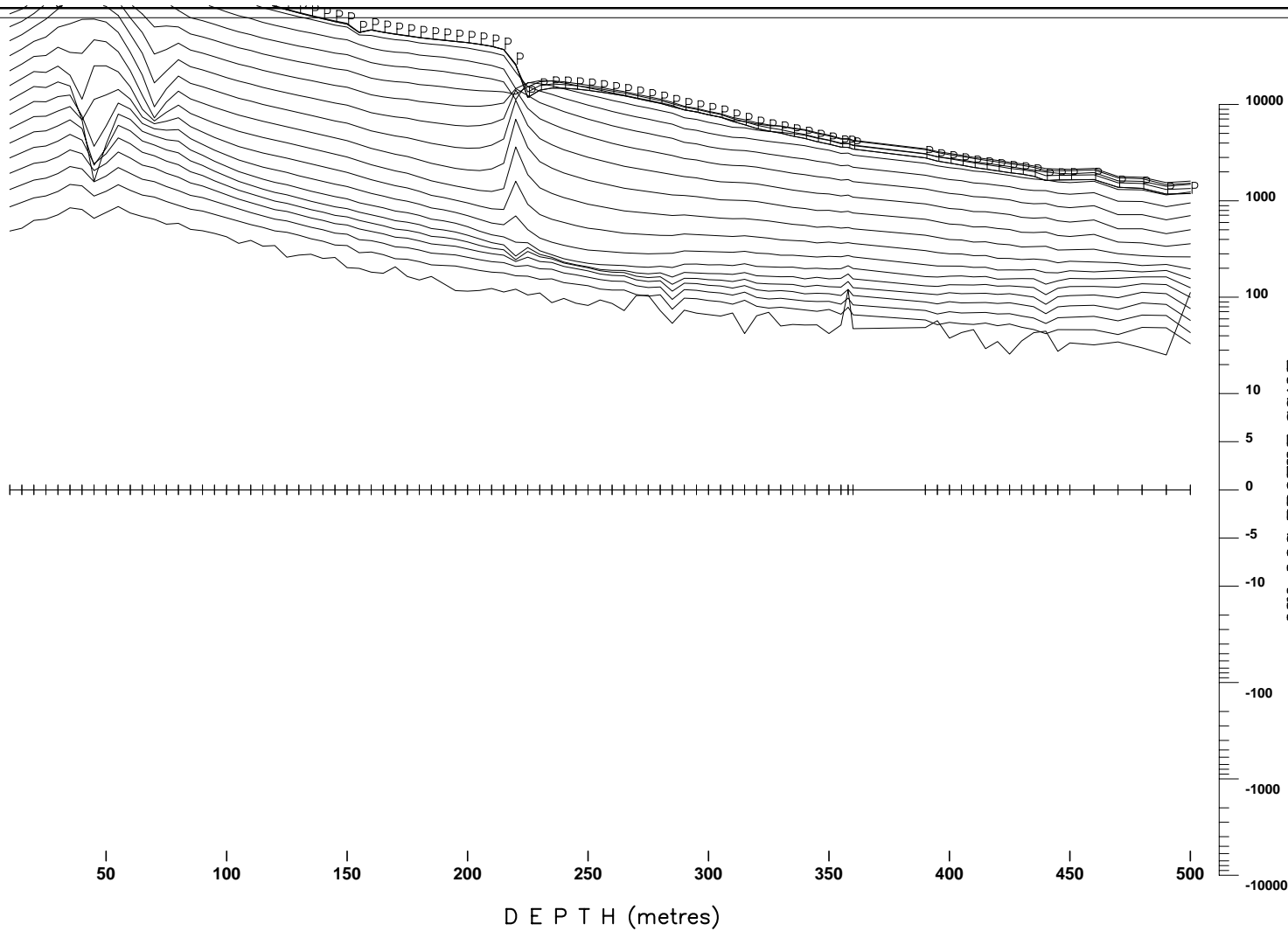
Transmitter Frequency: 30 Hz (50% duty cycle)  
 Tx Loop Size: 300m x 300m  
 Tx Loop Location: 2850W-2550W;5100N-5400N  
 Transmitter Current: 10 Amps  
 Tx Turn-Off-Time and Rx Delay: 180 us, -80 us  
 Borehole Location: 2650W, 5300N  
 Borehole Azimuth, Dip: 85, -60  
 Station Interval: 5m - 10m  
 Profile Units: nanoVolt/m<sup>2</sup>  
 Receiver Coil Orientation: Hz - positive up  
 Hx - positive east, Hy - positive north  
 Cross Component Rotation: using Tilt Meter Angles

Survey Date: Dec 10-13, 2009  
 Instrumentation: Rx = Digital Protem (30 Channels)  
 Geonics 3D probe + 800m cable  
 Tx = Geonics EM-37 (2.8 kW)

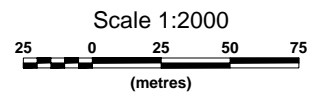
Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
 DWG. NO. CA00706C-BH4A-Tiltrot-IF-FC-09-39-B

Map Generated by

DEPTH (metres)



**Borehole FC-09-39 - Total Field**



**BARKER MINERALS LTD.**  
FRANK CREEK PROPERTY  
LIKELY, BC

---

**3D FIXED-LOOP BOREHOLE TEM SURVEY**  
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	300m x 300m
Tx Loop Location:	2850W-2550W, 5100N-5400N
Transmitter Current:	16 Amps
Tx Turn-Off-Time and Rx Delay:	180 us - 80 us
Borehole Location:	2650W:5300N
Borehole Azimuth, Dip:	85, -60
Station Interval:	5m - 10m
Profile Units:	nanoVolt/m <sup>2</sup>
Receiver Coil Orientation:	Hz - positive up
	Hx - positive east, Hy - positive north
Cross Component Rotation:	using Tilt Meter Angles

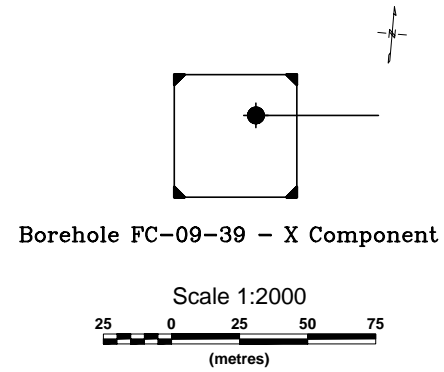
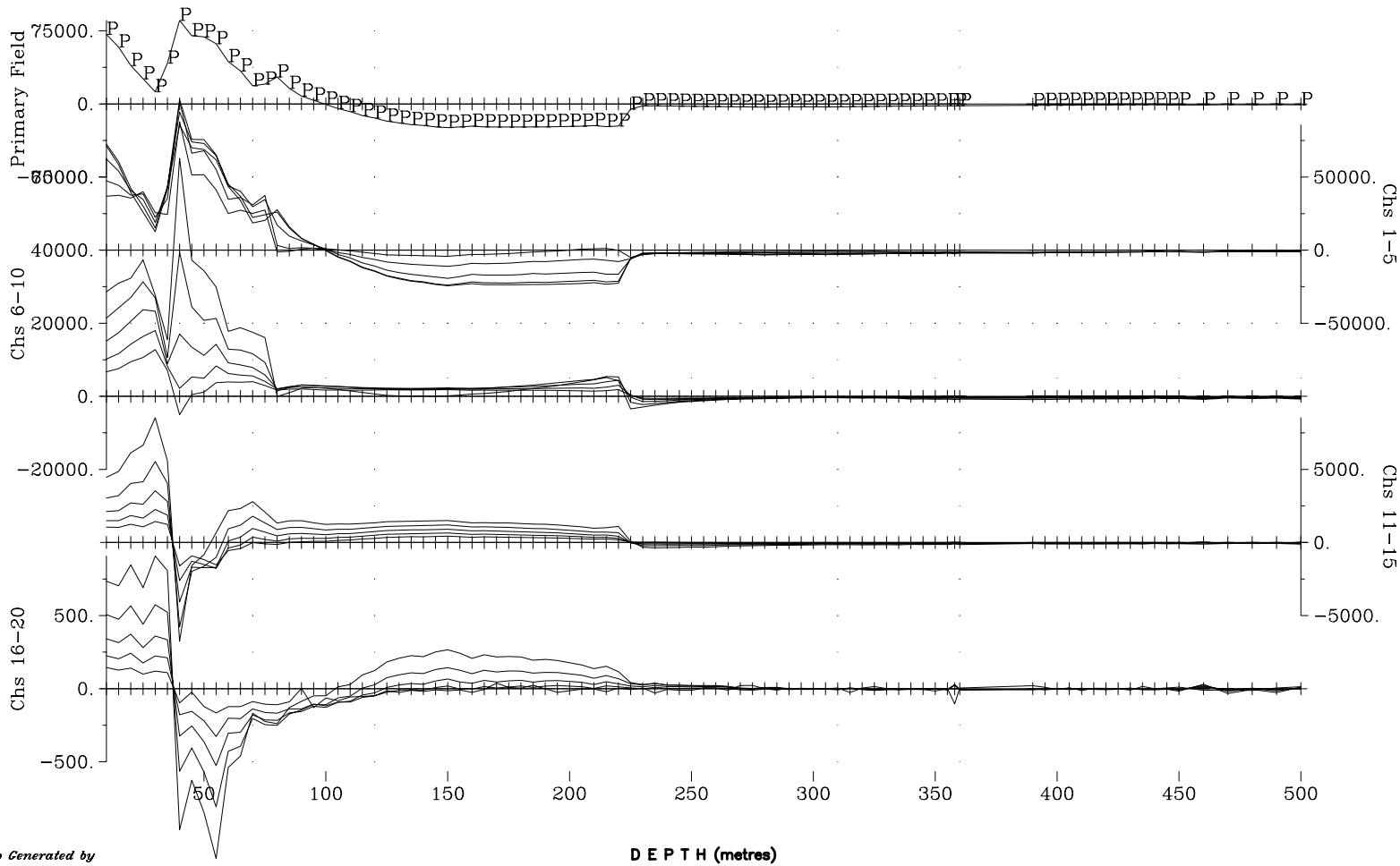
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Survey Date:	Dec 10-13, 2009
Instrumentation:	Rx = Digital Protem (30 Channels)
	Geonics 3D probe + 800m cable
	Tx = Geonics EM-37 (2.8 kW)

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Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
DWG. NO. CA00706C-BHLL-TF-Tilt-FC-09-39-B

Map Generated by



**Borehole FC-09-39 - X Component**

**BARKER MINERALS LTD.**  
**FRANK CREEK PROPERTY**  
**LIKELY, BC**

**3D FIXED-LOOP BOREHOLE TEM SURVEY**

Secondary Electromagnetic Field (dB/dt)

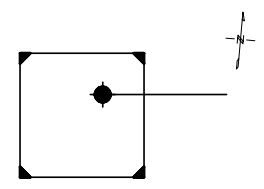
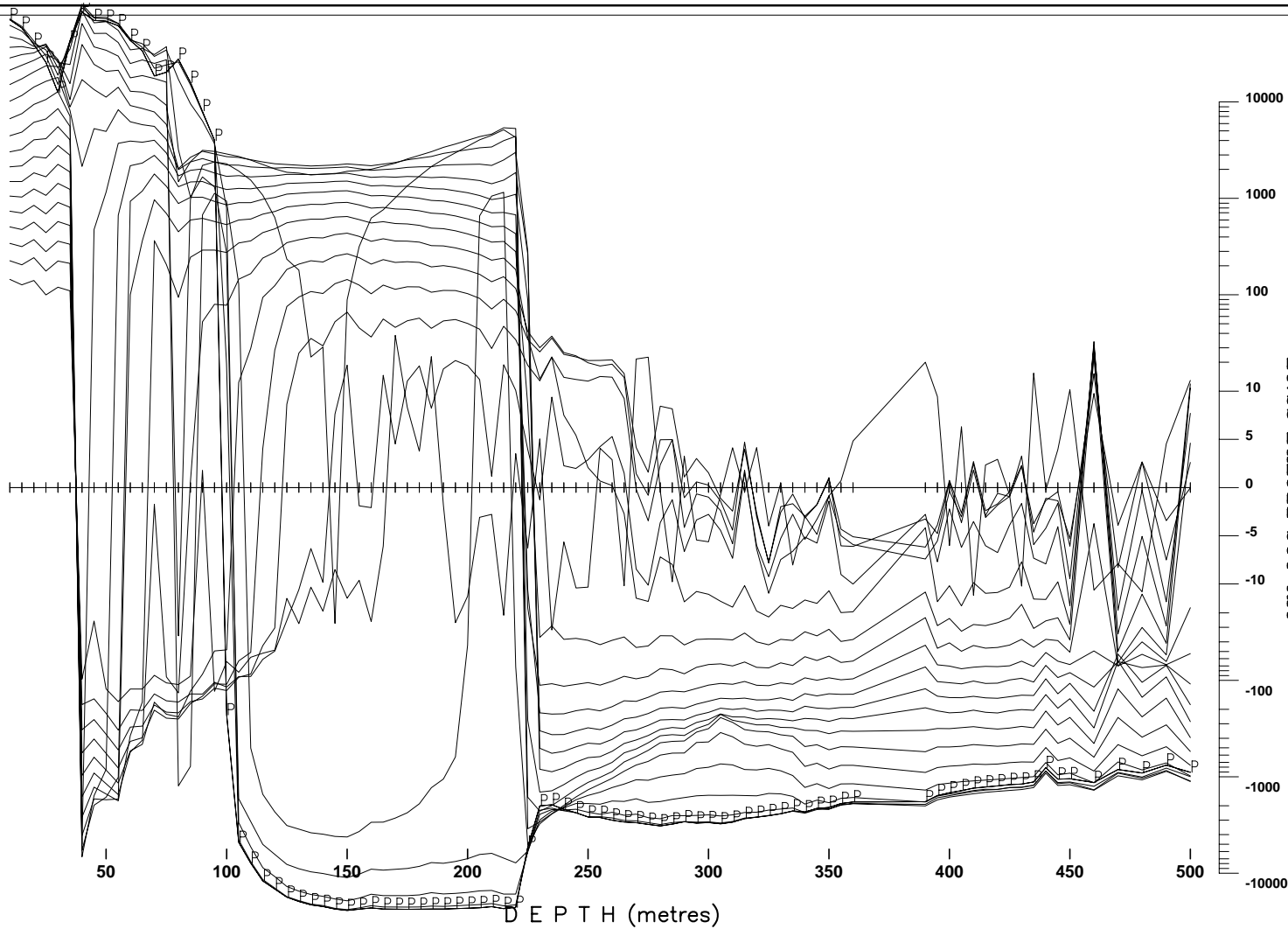
Transmitter Frequency: 30 Hz (50% duty cycle)  
 Tx Loop Size: 300m x 300m  
 Tx Loop Location: 2850W-2550W;5100N-5400N  
 Transmitter Current: 10 Amps  
 Tx Turn-Off-Time and Rx Delay: 180 us, -80 us  
 Borehole Location: 2650W, 5300N  
 Borehole Azimuth, Dip: 85, -60  
 Station Interval: 5m - 10m  
 Profile Units: nanoVolt/m<sup>2</sup>  
 Receiver Coil Orientation: Hz - positive up  
 Hx - positive east, Hy - positive north  
 Cross Component Rotation: using Tilt Meter Angles

Survey Date: Dec 10-13, 2009  
 Instrumentation: Rx = Digital Protem (30 Channels)  
 Geonics 3D probe + 800m cable  
 Tx = Geonics EM-37 (2.8 kW)

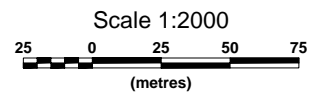
Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
 DWG. NO. CA00706C-BH4A-Tiltrot-X-FC-09-39-B

Map Generated by

DEPTH (metres)



**Borehole FC-09-39 - X Component**



**BARKER MINERALS LTD.**  
 FRANK CREEK PROPERTY  
 LIKELY, BC

**3D FIXED-LOOP BOREHOLE TEM SURVEY**  
 Secondary Electromagnetic Field (dB/dt)

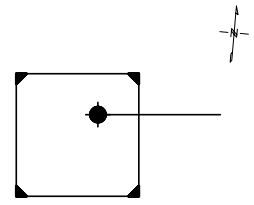
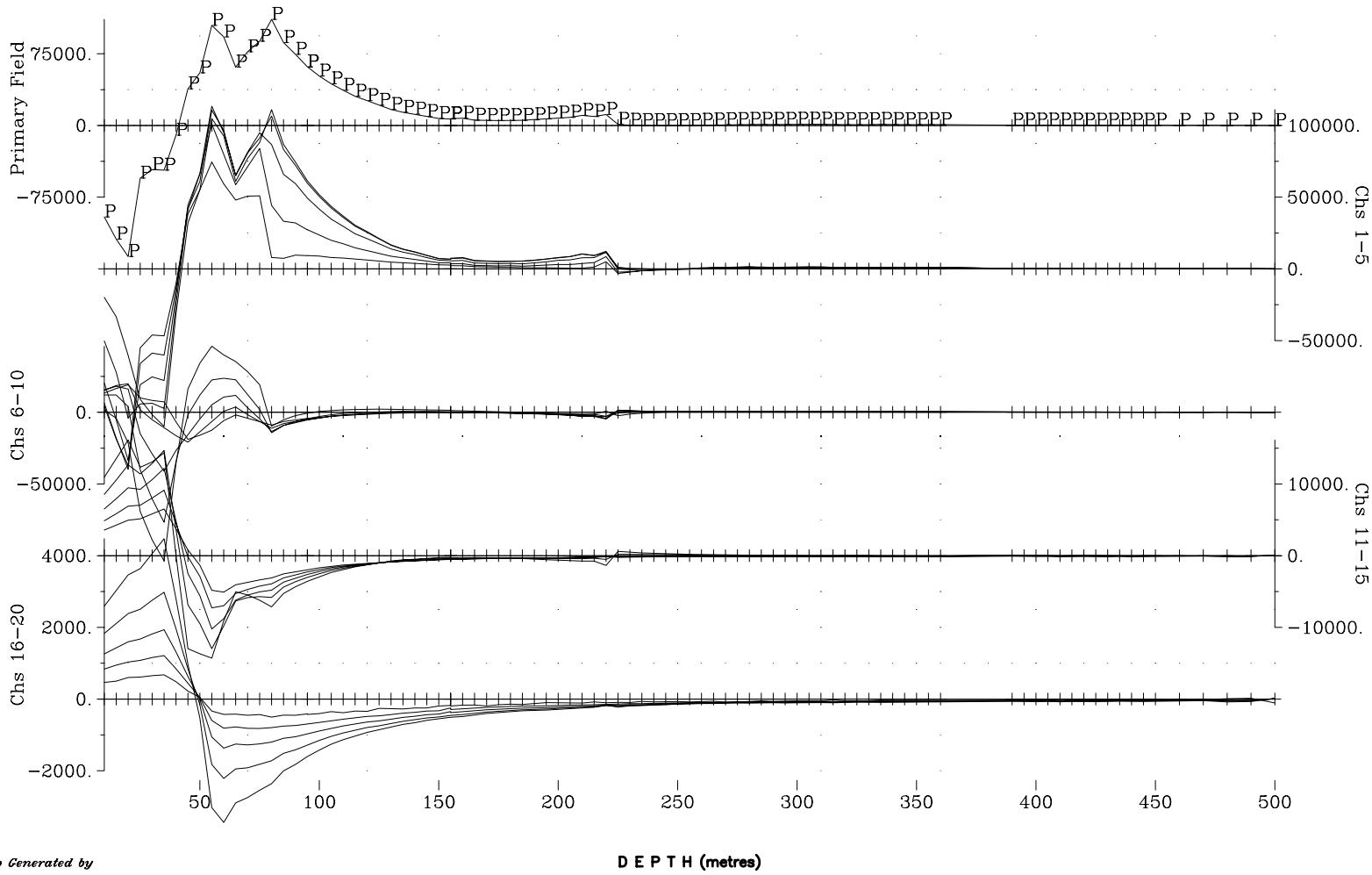
Transmitter Frequency: 30 Hz (50% duty cycle)  
 Tx Loop Size: 300m x 300m  
 Tx Loop Location: 2850W-2550W, 5100N-5400N  
 Transmitter Current: 16 Amps  
 Tx Turn-Off-Time and Rx Delay: 180 us -80 us  
 Borehole Location: 2650W:5300N  
 Borehole Azimuth, Dip: 85, -60  
 Station Interval: 5m - 10m  
 Profile Units: nanoVolt/m<sup>2</sup>  
 Receiver Coil Orientation: Hz - positive up  
 Hx - positive east, Hy - positive north  
 Cross Component Rotation: using Tilt Meter Angles

Survey Date: Dec 10-13, 2009  
 Instrumentation: Rx = Digital Protem (30 Channels)  
 Geonics 3D probe + 800m cable  
 Tx = Geonics EM-37 (2.8 kW)

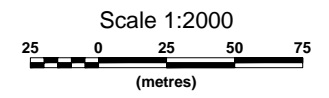
Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
 DWG. NO. CA00706C-BHLL-X-Tilt-FC-09-39-B

Map Generated by





Borehole FC-09-39 - Y Component



**BARKER MINERALS LTD.**  
FRANK CREEK PROPERTY  
LIKELY, BC

**3D FIXED-LOOP BOREHOLE TEM SURVEY**

Secondary Electromagnetic Field (dB/dt)

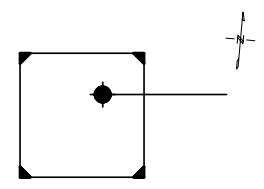
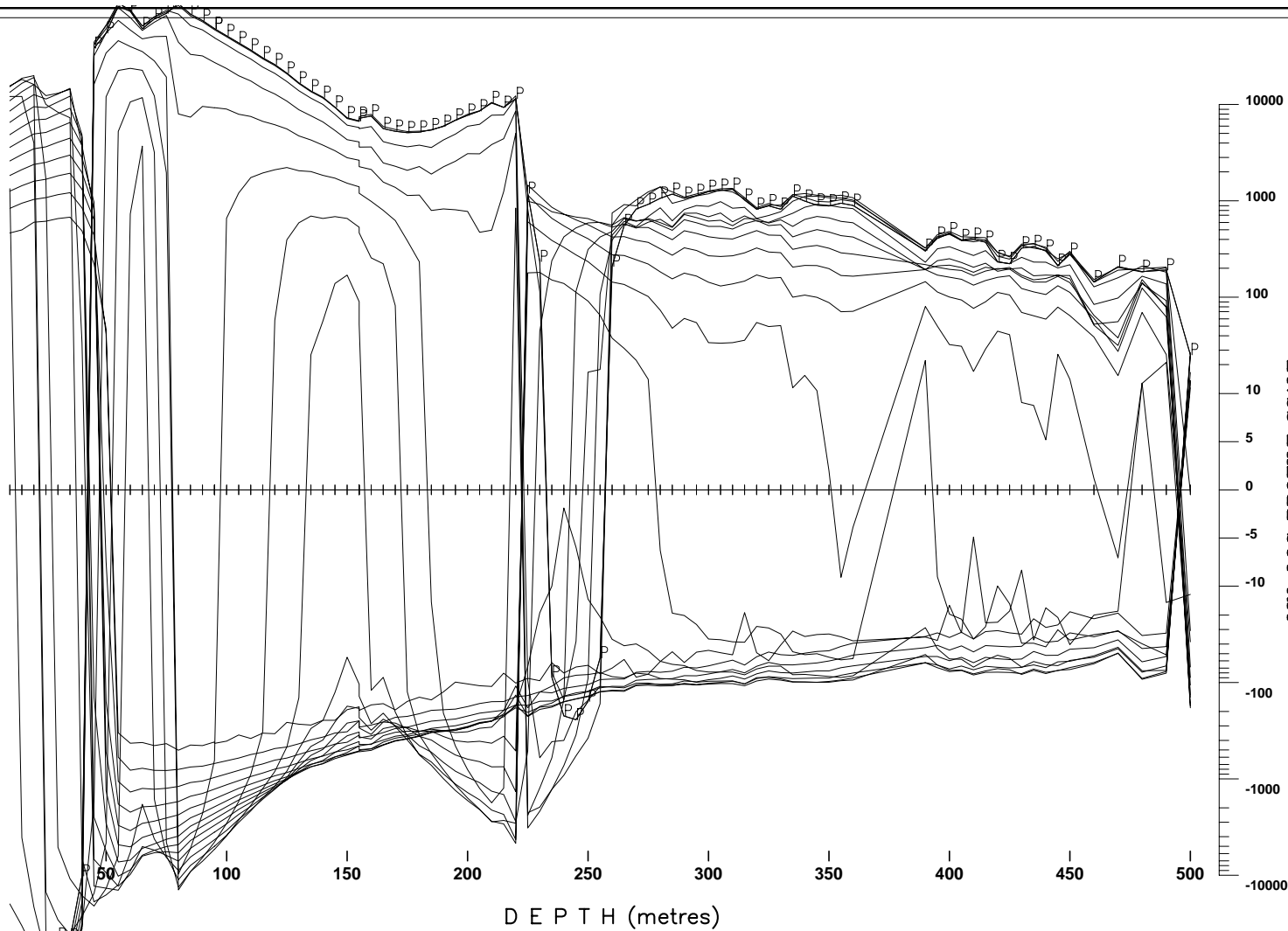
Transmitter Frequency: 30 Hz (50% duty cycle)  
 Tx Loop Size: 300m x 300m  
 Tx Loop Location: 2850W-2550N;5100N-5400N  
 Transmitter Current: 10 Amps  
 Tx Turn-Off-Time and Rx Delay: 180 us, -80 us  
 Borehole Location: 2650W, 5300N  
 Borehole Azimuth, Dip: 85, -60  
 Station Interval: 5m - 10m  
 Profile Units: nanoVolt/m<sup>2</sup>  
 Receiver Coil Orientation: Hz - positive up  
 Hx - positive east, Hy - positive north  
 Cross Component Rotation: using Tilt Meter Angles

Survey Date: Dec 10-13, 2009  
 Instrumentation: Rx = Digital Protem (30 Channels)  
 Geonics 3D probe + 800m cable  
 Tx = Geonics EM-37 (2.8 kW)

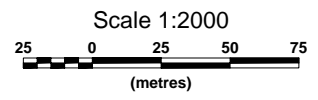
Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
 DWG. NO. CA00706C-BHMA-Tiltrot-Y-FC-09-39-B

Map Generated by

DEPTH (metres)



**Borehole FC-09-39 - Y Component**



**BARKER MINERALS LTD.**  
FRANK CREEK PROPERTY  
LIKELY, BC

---

**3D FIXED-LOOP BOREHOLE TEM SURVEY**  
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	300m x 300m
Tx Loop Location:	2850W-2550W, 5100N-5400N
Transmitter Current:	16 Amps
Tx Turn-Off-Time and Rx Delay:	180 us - 80 us
Borehole Location:	2650W:5300N
Borehole Azimuth, Dip:	85, -60
Station Interval:	5m - 10m
Profile Units:	nanoVolt/m <sup>2</sup>
Receiver Coil Orientation:	Hz - positive up
	Hx - positive east, Hy - positive north
Cross Component Rotation:	using Tilt Meter Angles

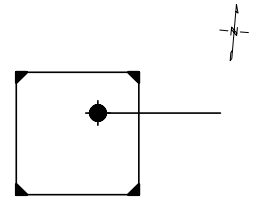
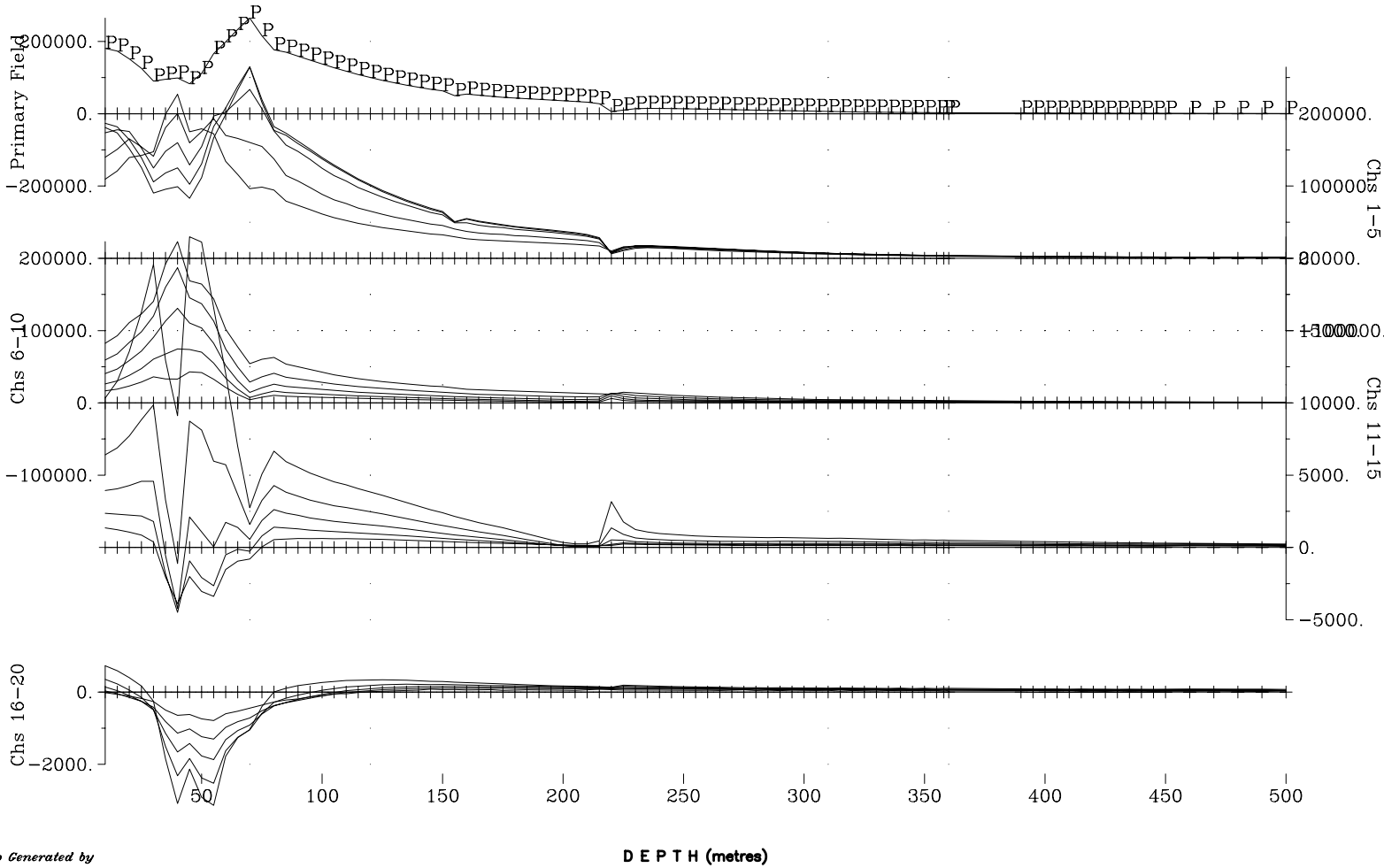
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Survey Date:	Dec 10-13, 2009
Instrumentation:	Rx = Digital Protem (30 Channels)
	Geonics 3D probe + 800m cable
	Tx = Geonics EM-37 (2.8 kW)

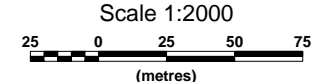
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Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
DWG. NO. CA00706C-BHLL-Y-Tilt-FC-09-39-B

Map Generated by



**Borehole FC-09-39 - Z Component**



**BARKER MINERALS LTD.**  
FRANK CREEK PROPERTY  
LIKELY, BC

**3D FIXED-LOOP BOREHOLE TEM SURVEY**  
Secondary Electromagnetic Field (dB/dt)

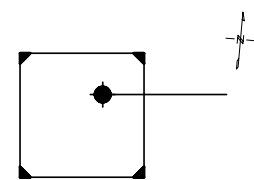
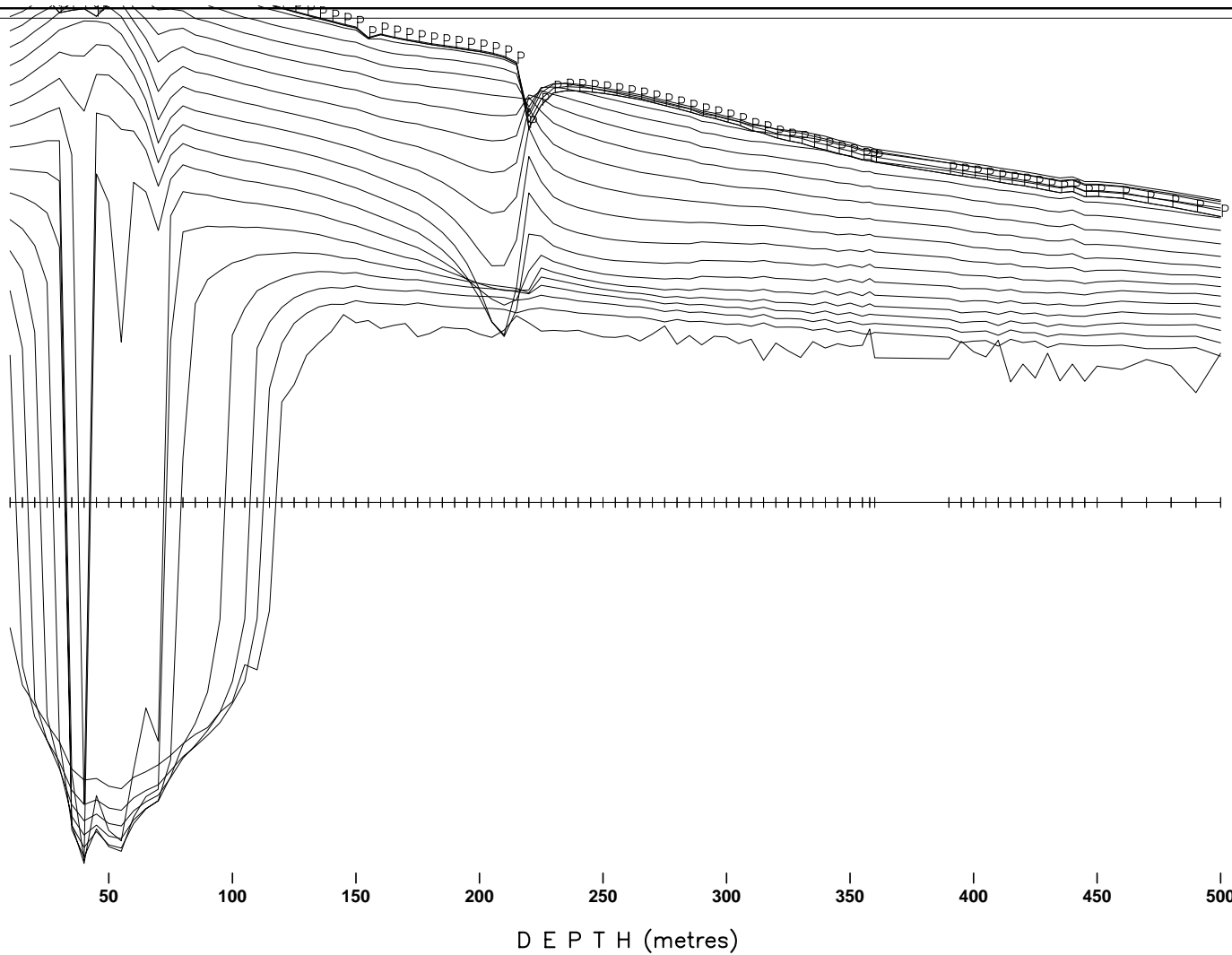
Transmitter Frequency: 30 Hz (50% duty cycle)  
 Tx Loop Size: 300m x 300m  
 Tx Loop Location: 2850W-2550W;5100N-5400N  
 Transmitter Current: 10 Amps  
 Tx Turn-Off-Time and Rx Delay: 180 us, -80 us  
 Borehole Location: 2650W, 5300N  
 Borehole Azimuth, Dip: 85, -60  
 Station Interval: 5m - 10m  
 Profile Units: nanoVolt/m<sup>2</sup>  
 Receiver Coil Orientation: Hz - positive up  
 Hx - positive east, Hy - positive north  
 Cross Component Rotation: using Tilt Meter Angles

Survey Date: Dec 10-13, 2009  
 Instrumentation: Rx = Digital Protem (30 Channels)  
 Geonics 3D probe + 800m cable  
 Tx = Geonics EM-37 (2.8 kW)

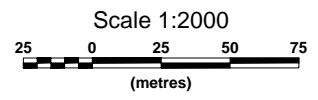
Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
 DWG. NO. CA00706C-BH4A-Tiltrot-Z-FC-09-39-01

Map Generated by

DEPTH (metres)



**Borehole FC-09-39 – Z Component**



**BARKER MINERALS LTD.**  
 FRANK CREEK PROPERTY  
 LIKELY, BC

**3D FIXED-LOOP BOREHOLE TEM SURVEY**  
 Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency: 30 Hz (50% duty cycle)  
 Tx Loop Size: 300m x 300m  
 Tx Loop Location: 2850W-2550W, 5100N-5400N  
 Transmitter Current: 16 Amps  
 Tx Turn-Off-Time and Rx Delay: 180 us - 80 us  
 Borehole Location: 2650W;5300N  
 Borehole Azimuth, Dip: 85, -60  
 Station Interval: 5m - 10m  
 Profile Units: nanoVolt/m<sup>2</sup>  
 Receiver Coil Orientation: Hz - positive up  
 Hx - positive east, Hy - positive north  
 Cross Component Rotation: using Tilt Meter Angles

Survey Date: Dec 10-13, 2009  
 Instrumentation: Rx = Digital Protem (30 Channels)  
 Geonics 3D probe + 800m cable  
 Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:  
**QUANTEC GEOSCIENCE LTD.**  
 DWG. NO. CA00706C-BHLL-Z-Tilt-FC-09-39-B

Map Generated by

**APPENDIX F**

**FRANK CREEK PROPERTY  
DIAMOND DRILL HOLE LOGS for  
FC09-38 to FC09-39**

---

**BARKER MINERALS LTD.**

PROPERTY: FRANK CREEK

DRILL HOLE NO. FC09 - 38

Page 1 of 8

<b>Dip &amp; Azimuth Tests</b>			DDH FC09-38	<b>Easting (NAD 83):</b> 610655	<b>Core Size:</b> HQ, NQ	<b>Started:</b> Nov 7, 2009
<b>Depth</b>	<b>Dip</b>	<b>Azmth</b>	<b>Other tests</b>	<b>Northing (NAD 83):</b> 5845640	<b>Hole Azimuth:</b> 23°	<b>Finished:</b> Nov 17, 2009
122 m	83.2°	25.1°	Roll=195.1/235.4, Temp=8.3, Mag=55686	<b>Grid Location:</b> 57N 12+50W	<b>Hole Dip:</b> -85°	<b>Logged by:</b> Rein T., Rex T.
229 m	82.5°	34.1°	Roll=131.1/168.8, Temp=10, Mag=55680	<b>Elevation:</b>	<b>Total Depth:</b> 334.37m	<b>Analysis by:</b> ActLabs
331 m	82.2°	35.6°	Roll=133.3/192.2, Temp=10.1, Mag=55680			<b>Drilling by:</b> G&O Drilling

Note: Azimuths above are underestimated by approximately 20°, including that at 122 m.

Tests done using Reflex EZ Shot.

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.	
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl		
0.00	3.70	Casing. Overburden. Grey volcanoclastic and black argillite stones, both with disseminated pyrite cubes. Local heavy limonite.											No fizzing. Not magnetic.
3.70	7.45	Volcanoclastic. Dark grey. Local heavy limonite. Insignificant quartz veinlets. Abundant very fine metallic specks, not magnetic. 6.65-7.45 m is soft black graphitic argillite, minor bed. Lower contact is abrupt, ragged in rotted and broken rock and seems perpendicular to core axis (CA).	10								2		No fizzing. Not magnetic.
7.45	12.15	Volcanoclastic as above. Much less limonitic. More competent, silicified. Medium grey. Insignificant quartz veinlets. 10.85-11.48 is a quartz vein, not pyritic, seems semi-parallel to CA. Abundant very fine metallic specks, not magnetic. Minor black argillite bed at 7.92-8.39 m.	10					3		2			No fizzing. Not magnetic.
12.15	12.85	Core is half volcanoclastic, half quartz vein, with vein parallel to CA. Some pyrite crystals along vein selvage.	3					3		2			No fizzing. Not magnetic.
12.85	18.80	Volcanoclastic as above. More limonitic. 12.85-13.85 is quartz vein with minor rust. 16.75-18.80 m is darker, seems a slump breccia, soft, crumbly.	10										No fizzing. Not magnetic.

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl	
18.80	32.00	Volcaniclastic. Medium grey. Soft, crumbly, highly fractured. Strong sericite alteration is pervasive and extensive. Local weak pervasive silicification. Uncommon small green spots may be fuschite. Insignificant discontinuous quartz veins up to 2 cm wide. Upper contact is abrupt but unclear in broken rock. Breccia clasts near lower contact, which is indistinct in broken rock. At 29.75-32 m appears a slump breccia, darker. Breccia clasts parallel to foliation are 45 degrees to CA. Lower contact is unclear.	5				1	3		2		No fizzing. Not magnetic.
32.00	39.13	Volcaniclastic slump breccia. Dark grey. Minor irregular quartz veining. Obvious foliation is 60-90 deg to CA. Pyrite is in blebs and cubes. Lower contact is sharp, clear, 90 deg to CA.	3					2				No fizzing. Not magnetic.
39.13	49.45	Black graphitic argillite. Upper 1 m is mixed with lesser dark grey foliated slump breccia. The graphitic rock is weak, fragile, breaks up readily, locally crumbly. Minor quartz veins but no significant veins. No alteration evident in the black carbonaceous rock.	3									No fizzing. Not magnetic.
49.45	53.33	Siltstone slump breccia. Less volcaniclastic. Dark grey. Minor irregular quartz veining. Swirly chaotic flow texture varying 0-90 deg to CA. Lower contact is sharp, clear, 35 deg to CA.	3									No fizzing. Not magnetic.
53.33	60.20	Graphitic argillite. Black. Generally weak, fragile crumbly as above. No veins. Pyrite is typically very fine, disseminated, blebby and cubic. Lower contact is fairly clear, 40 deg to CA. Weak foliation is usually evident.	2									No fizzing. Not magnetic.

**BARKER MINERALS LTD.**

PROPERTY: FRANK CREEK

DRILL HOLE NO. FC09 - 38

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl	
60.20	74.16	Volcaniclastic. Medium grey. Locally soft, crumbly. Locally somewhat silicified. Fairly homogenous texture. Sericite is pervasive, extensive. Minor chlorite along foliation planes. Quartz veining is not significant. Lower contact is fairly clear, 45 deg to CA.	3				1	2		1		No fizzing. Not magnetic.
74.16	78.33	Volcaniclastic slump breccia. Dark grey. As above. Soft, crumbly, highly fractured. Somewhat graphitic. Very minor quartz veinlets. Rumply quartz sweats and layering. Pyrite is as usual. Lower contact is gradational, 15 deg to CA, parallel to foliation here.	3					2				No fizzing. Not magnetic.
78.33	88.35	Black graphitic argillite. Alteration is not evident in the black rock. Pyrite is as usual. Minor quartz veinlets, with 30% quartz at 85.30-85.80 m. Highly fractured, fragile rock. Lower contact is ragged, 45 deg to CA, marked by 2 cm quartz vein.	2									No fizzing. Not magnetic.
88.35	108.25	Volcaniclastic. Grey. Local slump breccia. Foliation is common, generally 45 deg to CA. Silca alteration is patchy, sericite is pervasive and extensive, fuchsite is patchy and appears confined to certain minor layers and breccia clasts. Minor veining but for relatively large bull quartz veins, 10 to 30 cm, at 91.75 - 92.70 m (60% qtz), 95.60 - 97.60 m (40% qtz), 97.85 - 98.15 m (100% qtz). At 101.19 m core size reduced from HQ to NQ due to squeezing of hole. Lower contact is irregular, sharp, 55 deg to CA.	1				2	3		2		No fizzing. Not magnetic.
108.25	110.34	Dark grey argillite, somewhat graphitic. Soft fragile rock. Lower contact is sharp, 80 deg to CA.	0.5						1		1	No fizzing. Not magnetic.
110.34	113.80	Dark grey volcaniclastic and argillite. Local rubble. Soft incompetent. Somewhat graphitic. 2% quartz veins. Lower contact seems 45 deg to CA.	0.5						1			No fizzing. Not magnetic.



Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.	
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl		
113.80	115.21	Dark grey rubble and local gouge. Fault Zone? Soft rock. Somewhat graphitic. No veins. Depth blocks seem misplaced after 110.34 m. Recovery seems not too bad but rock quality is very poor, rubbly. Core in Box 43 ends at 115.21 m block in middle of box.	0.5					1					No fizzing. Not magnetic.
109.15	113.70	All of this section is re-drilled rock. Box 44 is a re-drill of 109.15 m to 113.70m. Hole caved in and rubble had to be re-drilled. 109.15-110.80 m is grey rubble and re-drilled rock. 110.80-113.39 m is dark grey rubble. 113.39 m to end of box is dark grey siltstone.											
113.70	115.21	This re-drilled section is in Box 45. Dark grey siltstone.											
115.21	121.00	Resumption of hole. Dark grey siltstone. Somewhat graphitic. Soft, incompetent rock. No significant veining or sulphides.	0.1										No fizzing. Not magnetic.
121.00	121.00	At 121 m the hole caved in and 3 m of gouge and rubble was out into Boxes 47-48. This 3 m is located between two blocks each labled 397 ft (121.01 m). This is not an error but 3 m of cave-in rubble. Sample No. 86443 is 1.5 m of gouge at 121 m not representing any particular length.											
121.00	137.30	Slump breccia. Medium grey. Seems a mixture of siltstone and volcanoclastic. Crumpled and flowed fine bedding. Brecciated. Pyrite is mostly in cubes, also in blebs and along chloritic fractures. No veining. Lower contact is fairly sharp, 60 deg to CA, but most of the beding here is chaotic.	0.5					2		2	1		No fizzing. Not magnetic.
137.30	140.80	Siltstone. Graphitic. Soft, crumbly, incompetent.	tr										No fizzing. Not magnetic.

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl	
140.80	162.43	Slump breccia. Siltstone and volcanoclastic. Medium grey. No significant veining but for 5 cm quartz vein at 142 m and 10 cm quartz vein at 143.25 m. Generally hard competent rock. Below 158 m are local quartz veining and pale yellow green sericitic clasts. Pyrite also increases imperceptibly downward. Lower contact is approximate, 75 deg to CA, an alteration contact.	0.1					3		2	2	No fizzing. Not magnetic.
162.43	174.15	Slump breccia as above. Disturbed bedding is approximately 45 deg to CA. Rock is generally medium to dark grey though some layers and clasts are pale yellow green altered (strong pervasive sericite). At 167.5 - 168.8 m 20% of the rock is quartz veins with gradational boundaries, disturbed by tectonism, with very minor pyrite, with chloritic selvages, and fairly strong pervasive silicification between the veins. Below this zone alteration and veining is weaker again to 174.15 m.	0.5					3		3	1	No fizzing. Not magnetic.
174.15	176.66	Slump breccia as above. With increased silicification as at 167.5- 168.8 m. Chlorite is late and concentrated at vein selvages. Lower contact is gradational with unclear orientation.	0.5					3		4	1	No fizzing. Not magnetic.

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl	
176.66	184.25	Intensely altered rock. Protolith appears to be a slump brecciated volcanoclastic. Small (1 mm) white phenocrysts are common. Rock is distinctive with pale yellow green with white patches, this due to very strong pervasive and extensive sericite and silicification. Quartz veins (10%) are indistinct with blended boundaries, insignificant pyrite. Pervasive silicification is ubiquitous and very strong. This appears the classic sericite alteration below a massive sulphide, with particularly strong pervasive silicification though poor in sulphides. Alteration weakens over the last 0.5 m then ends fairly abruptly.	tr					5		5		No fizzing. Not magnetic.
184.25	202.62	Strongly altered slump breccia. Seems to be siltstone as at 163-176 m. Medium to dark grey with pale yellow green patches. Breccia and disturbed bedding is locally obvious. Quartz veins are 2% overall but concentrated locally. At 191.70 - 194.10 m is a relatively massive, unbrecciated volcanoclastic with white phenocrysts. At 200.03-200.25 is quartz vein with more than average pyrite. Pyrite as usual occurs in veins, selvages and wall rock but is not much. Bottom half m has rapidly increasing pervasive qtz-ser pervasive alteration. Lower contact is gradational into pale green rock again.	0.1					4		3	1	No fizzing. Not magnetic.







## DRILL HOLE No. FC09-38

Sample Intervals: DDH FC09 - 38													
Certificate	Sample	From	To	Sample	Cu	Zn	Pb	As	Sb	Cd	Ba	Au	Ag
Number	Number	(metres)	(metres)	Width (m)	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm
A09-7040	86401	5.18	6.65	1.47	106	139	13	71	0.7	0.6	4900	< 2	0.4
A09-7040	86402	6.65	7.45	0.80	196	90	38	114	1.6	1	4230	7	0.5
A09-7040	86403	7.45	7.92	0.47	9	182	11	61.4	< 0.1	0.6	2570	< 2	< 0.3
A09-7040	86404	7.92	8.39	0.47	28	25	11	27.1	0.5	< 0.3	1250	< 2	< 0.3
A09-7040	86405	8.39	9.54	1.15	233	58	37	96.3	1.6	0.6	6140	< 2	0.5
A09-7040	86406	9.54	10.05	0.51	59	46	4	60.3	0.4	0.5	5480	< 2	0.4
A09-7040	86407	10.85	11.48	0.63	52	108	20	59	0.7	0.4	2490	< 2	0.4
A09-7040	86408	12.15	12.85	0.70	3	29	4	11.4	< 0.1	< 0.3	540	< 2	< 0.3
A09-7040	86409	12.85	13.25	0.40	31	149	1.06%	15.4	6.1	1.1	820	< 2	8.7
A09-7040	86410	13.25	14.82	1.57	37	107	40	96.3	0.9	0.5	3320	< 2	0.3
A09-7040	86411	15.85	16.75	0.90	33	83	18	144	0.6	0.6	2820	< 2	< 0.3
A09-7040	86412	16.75	18.80	2.05	38	83	20	206	0.9	< 0.3	1210	< 2	0.9
A09-7040	86413	21.95	22.53	0.58	78	63	7	67.8	0.6	< 0.3	2050	< 2	< 0.3
A09-7040	86414	27.22	29.75	2.53	54	58	21	118	< 0.1	< 0.3	1210	< 2	0.3
A09-7040	86415	29.75	31.09	1.34	33	74	8	44.4	0.5	< 0.3	2230	< 2	< 0.3
A09-7040	86416	36.92	39.13	2.21	64	91	86	4	0.4	0.6	4090	< 2	0.3
A09-7040	86417	39.13	40.23	1.10	128	273	0.57%	15.4	4.5	4.8	1300	48	5.1
A09-7040	86418	41.76	44.48	2.72	32	1290	245	64.7	3.8	13.3	1580	45	1.1
A09-7040	86419	44.81	46.33	1.52	16	535	60	56.6	2	5.2	1300	23	0.3
A09-7040	86420	46.33	47.85	1.52	31	526	86	37.1	3	5.2	1120	22	< 0.3
A09-7040	86421	47.85	49.45	1.60	15	398	88	28.2	3.2	3.9	1770	12	0.4
A09-7040	86422	49.45	50.90	1.45	8	1260	274	64.9	2	11.9	1120	29	0.4
A09-7040	86423	53.00	54.95	1.95	21	1450	254	110	2	14.2	1570	24	0.4
A09-7040	86424	55.47	57.00	1.53	90	344	365	24.9	3.2	3.4	850	25	0.4
A09-7040	86425	58.80	60.30	1.50	25	833	87	41.4	4.7	9	1650	27	0.7
A09-7040	86426	60.30	61.70	1.40	6	106	62	14.2	1.7	1	4260	< 2	0.4
A09-7040	86427	66.14	67.67	1.53	8	55	18	14	0.4	< 0.3	4000	6	< 0.3
A09-7040	86428	72.24	74.16	1.92	11	68	16	7.5	0.4	0.6	3050	< 2	< 0.3
A09-7040	86429	74.16	75.90	1.74	33	138	369	24.1	1.3	0.9	1390	14	0.9
A09-7040	86430	78.33	79.86	1.53	80	320	20	84.8	3.7	1.3	770	46	0.9
A09-7040	86431	79.86	81.38	1.52	64	246	20	84.7	3.8	0.9	740	44	1.1
A09-7040	86432	85.30	85.80	0.50	93	64	20	13.9	0.5	0.3	2350	< 2	0.3
A09-7040	86433	85.80	87.48	1.68	94	176	101	40.6	0.9	1.4	1040	7	< 0.3

## DRILL HOLE No. FC09-38

Sample Intervals: DDH FC09 - 38													
Certificate	Sample	From	To	Sample	Cu	Zn	Pb	As	Sb	Cd	Ba	Au	Ag
Number	Number	(metres)	(metres)	Width (m)	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm
A09-7040	86434	87.48	88.35	0.87	136	139	37	18.8	0.9	0.9	1870	< 2	0.4
A09-7040	86435	88.75	89.35	0.60	83	87	6	11	0.4	0.5	2240	< 2	0.3
A09-7040	86436	91.75	92.70	0.95	73	37	3	20.9	0.3	< 0.3	1050	4	< 0.3
A09-7040	86437	95.60	96.62	1.02	112	25	< 3	18.4	0.7	< 0.3	1050	< 2	0.4
A09-7040	86438	96.62	97.90	1.28	90	55	8	97.9	0.6	0.4	1790	5	< 0.3
A09-7040	86439	97.90	98.15	0.25	6	15	< 3	5.7	0.2	< 0.3	970	< 2	< 0.3
A09-7040	86440	98.15	99.95	1.80	57	63	5	21.8	0.5	< 0.3	2090	< 2	0.3
A09-7040	86441a	PB113 standard			4480	1.40%	1.16%						20.5
A09-7040	86442	113.80	115.21	1.41	84	95	9	34.4	1	0.6	1870	< 2	0.8
A09-7040	86443	121.00	121.00	see log	116	158	15	30.5	1.2	0.7	1200	< 2	13.2
A09-7040	86450	124.10	126.19	2.09	126	83	7	11.9	0.6	< 0.3	820	< 2	< 0.3
A09-7040	86444	136.25	137.30	1.05	112	54	15	4	0.3	< 0.3	620	4	< 0.3
A09-7040	86445	137.30	139.29	1.99	179	199	20	4.6	0.3	1.4	580	5	0.5
A09-7040	86446	142.00	142.05	0.05	2	18	60	< 0.5	< 0.1	< 0.3	390	< 2	0.3
A09-7040	86447	143.20	143.30	0.10	6	9	17	4.2	0.1	< 0.3	300	< 2	< 0.3
A09-7040	86448	143.65	145.39	1.74	54	28	< 3	2.1	< 0.1	< 0.3	980	< 2	< 0.3
A09-7040	86449	154.53	156.53	2.00	41	68	8	13.3	0.3	< 0.3	630	< 2	< 0.3
A09-7040	86451	157.80	159.55	1.75	39	83	7	11.9	0.6	< 0.3	820	16	< 0.3
A09-7256	86452	160.63	162.43	1.80	22	45	8	8.5	< 0.1	0.4	700	< 2	< 0.3
A09-7256	86453	162.43	163.68	1.25	25	72	8	7.7	0.3	0.4	550	< 2	< 0.3
A09-7256	86454	167.50	168.80	1.30	27	71	14	6.1	< 0.1	0.5	840	< 2	< 0.3
A09-7256	86455	174.15	176.66	2.51	39	89	16	3.8	< 0.1	< 0.3	920	< 2	0.3
A09-7256	86456	176.66	178.92	2.26	28	47	11	18.4	0.5	< 0.3	580	30	< 0.3
A09-7256	86457	182.30	184.25	1.95	14	46	12	19.2	< 0.1	< 0.3	710	< 2	< 0.3
A09-7256	86458	184.25	185.90	1.65	35	80	12	3.5	< 0.1	< 0.3	840	< 2	< 0.3
A09-7256	86459	188.60	191.11	2.51	21	68	12	9.3	< 0.1	0.3	800	< 2	0.4
A09-7256	86460	191.11	193.18	2.07	55	75	24	1.9	< 0.1	0.7	740	< 2	< 0.3
A09-7256	86461	200.85	202.62	1.77	51	80	10	23.8	0.5	0.8	650	< 2	0.3
A09-7256	86462	202.62	204.15	1.53	26	36	5	19.9	< 0.1	< 0.3	810	< 2	< 0.3
A09-7256	86463	204.15	205.60	1.45	23	57	14	18.8	< 0.1	< 0.3	790	< 2	0.4
A09-7256	86464	200.03	200.25	0.22	16	17	28	1.1	< 0.1	< 0.3	310	4	< 0.3
A09-7256	86465	205.60	206.75	1.15	19	42	13	21.1	0.3	< 0.3	590	< 2	< 0.3
A09-7256	86466	206.78	208.40	1.62	23	70	8	8.8	< 0.1	0.3	770	< 2	< 0.3



## DRILL HOLE No. FC09-38

Sample Intervals: DDH FC09 - 38														
Certificate	Sample	From	To	Sample	Cu	Zn	Pb	As	Sb	Cd	Ba	Au	Ag	
Number	Number	(metres)	(metres)	Width (m)	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	
A09-7256	86467	212.45	214.05	1.60	15	40	21	5	0.3	< 0.3	390	< 2	< 0.3	
A09-7256	86468	215.95	216.40	0.45	5	13	6	2.1	0.3	0.3	270	< 2	< 0.3	
A09-7256	86469	218.80	220.00	1.20	19	40	18	14.8	0.3	0.4	520	< 2	0.4	
A09-7256	86470	223.42	224.64	1.22	16	51	8	16.7	0.3	0.3	520	< 2	< 0.3	
A09-7256	86471	227.44	228.60	1.16	32	32	26	6.6	0.3	< 0.3	680	< 2	0.3	
A09-7256	86472	232.08	233.95	1.87	4	35	4	5.3	0.2	< 0.3	300	< 2	< 0.3	
A09-7256	86473	236.83	238.55	1.72	10	32	13	4.4	< 0.1	< 0.3	360	< 2	< 0.3	
A09-7256	86474	239.88	242.00	2.12	12	32	6	5.1	0.2	< 0.3	360	< 2	< 0.3	
A09-7256	86475	242.93	244.70	1.77	9	26	< 3	5.4	< 0.1	< 0.3	370	< 2	< 0.3	
A09-7256	86476	245.97	247.85	1.88	19	22	12	7.2	< 0.1	< 0.3	350	< 2	< 0.3	
A09-7256	86477	250.27	252.17	1.90	6	36	3	7.5	< 0.1	< 0.3	300	< 2	< 0.3	
A09-7256	86478	253.40	255.12	1.72	10	34	7	3.4	< 0.1	< 0.3	380	6	< 0.3	
A09-7256	86479	258.66	260.60	1.94	9	34	7	4.1	< 0.1	< 0.3	380	< 2	< 0.3	
A09-7256	86480	261.21	263.30	2.09	6	27	6	4	< 0.1	< 0.3	260	< 2	< 0.3	
A09-7256	86481	265.00	267.31	2.31	12	29	9	6	0.2	< 0.3	320	< 2	< 0.3	
A09-7256	86482	270.36	271.86	1.50	7	27	9	7.4	< 0.1	< 0.3	300	< 2	< 0.3	
A09-7256	86483	273.41	275.15	1.74	15	30	7	7.7	< 0.1	< 0.3	380	< 2	< 0.3	
A09-7256	86484	277.70	279.30	1.60	7	29	9	7.4	0.2	< 0.3	400	< 2	< 0.3	
A09-7256	86485	279.90	281.80	1.90	11	33	9	6	0.3	< 0.3	450	4	< 0.3	
A09-7256	86486	282.70	284.45	1.75	11	22	5	1.8	0.2	< 0.3	240	< 2	< 0.3	
A09-7256	86487	287.97	289.70	1.73	44	88	31	< 0.5	0.4	0.3	920	< 2	0.4	
A09-7256	86488	291.52	293.22	1.70	40	88	33	3.7	1.1	0.3	920	< 2	< 0.3	
A09-7256	86489	294.74	296.25	1.51	41	93	15	< 0.5	0.3	< 0.3	1010	< 2	< 0.3	
A09-7256	86490	300.30	302.00	1.70	32	75	32	3.8	0.5	< 0.3	1010	< 2	< 0.3	
A09-7256	86491	305.71	307.83	2.12	28	74	12	< 0.5	0.3	0.3	710	< 2	< 0.3	
A09-7256	86492	309.98	311.72	1.74	34	84	41	1.9	0.2	< 0.3	760	6	< 0.3	
A09-7256	86493	313.83	315.68	1.85	13	40	14	6.4	< 0.1	< 0.3	470	3	< 0.3	
A09-7256	86494	319.13	321.05	1.92	34	105	20	9.2	0.3	0.5	1010	4	< 0.3	
A09-7256	86495	326.87	328.67	1.80	33	61	20	7.3	0.2	< 0.3	660	< 2	< 0.3	
A09-7256	86496	332.25	334.05	1.80	36	81	9	< 0.5	0.3	< 0.3	840	< 2	0.3	
	WCM Minerals Standard PB113 (certified for Pb=1.11%, Zn=1.40%, Cu=0.47%, Ag=22 g/t)													
	WCM Minerals Standard PB114 (certified for Pb=2.00%, Zn=1.12%, Cu=0.33%, Ag=26 g/tonne)													
	WCM Minerals Standard PB115 (certified for Pb=2.61%, Zn=1.65%, Cu=0.53%, Ag=17 g/tonne)													

Core Recovery: DDH FC09 - 38				Estimated		Core Recovery: DDH FC09 - 38				Estimated	
Box No.	From	To	Distance	%	Recovery	Box No.	From	To	Distance	%	Recovery
1	0.00	5.68	5.68	60		34	88.40	90.75	2.35	100	
2	5.68	8.30	2.62	75		35	90.75	93.17	2.42	100	
3	8.30	10.90	2.60	75		36	93.17	95.60	2.43	100	
4	10.90	13.70	2.80	85		37	95.60	98.00	2.40	90	
5	13.70	16.35	2.65	95		38	98.00	100.12	2.12	98	
6	16.35	18.90	2.55	55		39	100.12	102.80	2.68	100	
7	18.90	21.95	3.05	55		40	102.80	105.94	3.14	100	
8	21.95	24.54	2.59	60		41	105.94	110.25	4.31	95	
9	24.54	26.92	2.38	60		42	110.25	114.91	4.66	65	
10	26.92	29.66	2.74	55		43	114.91	115.21	0.30	100	
11	29.66	32.25	2.59	55		44	109.15	113.70	4.55	Re-drilled cave-in.	
12	32.25	34.50	2.25	65		45	113.70	116.20	2.50	Includes re-drilled cave-in.	
13	34.50	37.19	2.69	65		46	116.20	118.40	2.20	95	
14	37.19	39.63	2.44	60		47	118.40	120.50	2.10	95	
15	39.63	41.96	2.33	55		48	120.50	124.00	3.50	90	
16	41.96	44.48	2.52	50		49	124.00	127.85	3.85	100	
17	44.48	46.50	2.02	85		50	127.85	132.10	4.25	100	
18	46.50	48.90	2.40	90		51	132.10	136.25	4.15	100	
19	48.90	51.40	2.50	95		52	136.25	140.21	3.96	100	
20	51.40	53.95	2.55	95		53	140.21	143.65	3.44	95	
21	53.95	56.57	2.62	95		54	143.65	148.34	4.69	95	
22	56.57	58.80	2.23	95		55	148.34	152.50	4.16	100	
23	58.80	61.70	2.90	90		56	152.50	156.55	4.05	100	
24	61.70	64.65	2.95	85		57	156.55	160.45	3.90	100	
25	64.65	67.67	3.02	85		58	160.45	164.50	4.05	100	
26	67.67	73.45	5.78	85		59	164.50	168.80	4.30	100	
27	73.45	73.45	0.00	95		60	168.80	172.82	4.02	100	
28	73.45	75.90	2.45	95		61	172.82	176.70	3.88	100	
29	75.90	78.75	2.85	85		62	176.70	180.67	3.97	100	
30	78.75	81.38	2.63	85		63	180.67	184.70	4.03	100	
31	81.38	84.00	2.62	80		64	184.70	188.60	3.90	100	
32	84.00	85.95	1.95	90		65	188.60	193.00	4.40	100	
33	85.95	88.40	2.45	100		66	193.00	197.21	4.21	100	

Core Recovery: DDH FC09 - 38					Estimated Recovery		Core Recovery: DDH FC09 - 38					Estimated Recovery	
Box No.	From	To	Distance	%		Box No.	From	To	Distance	%			
67	197.21	201.45	4.24	100		99	324.55	328.67	4.12	100.0			
68	201.45	205.60	4.15	100		100	328.67	332.95	4.28	100.0			
69	205.60	209.73	4.13	100		101	332.95	334.37	1.42	100.0			
70	209.73	214.05	4.32	100				EOH					
71	214.05	218.42	4.37	100									
72	218.42	222.37	3.95	100									
73	222.37	226.50	4.13	100									
74	226.50	230.73	4.23	100									
75	230.73	234.43	3.70	100									
76	234.43	239.00	4.57	100									
77	239.00	241.85	2.85	100									
78	241.85	244.70	2.85	100									
79	244.70	248.85	4.15	100									
80	248.85	252.80	3.95	100									
81	252.80	256.74	3.94	100									
82	256.74	260.60	3.86	100.0									
83	260.60	264.26	3.66	100.0									
84	264.26	268.26	4.00	90.0									
85	268.26	271.86	3.60	100.0									
86	271.86	275.15	3.29	100.0									
87	275.15	279.50	4.35	98.0									
88	279.50	283.37	3.87	100.0									
89	283.37	287.42	4.05	100.0									
90	287.42	291.52	4.10	100.0									
91	291.52	295.25	3.73	100.0									
92	295.25	299.20	3.95	99.0									
93	299.20	303.55	4.35	92.0									
94	303.55	307.83	4.28	90.0									
95	307.83	312.00	4.17	100.0									
96	312.00	316.08	4.08	100.0									
97	316.08	320.25	4.17	100.0									
98	320.25	324.55	4.30	100.0									

**BARKER MINERALS LTD.**

PROPERTY: FRANK CREEK

DRILL HOLE NO. FC09 - 39

Page 1 of 5

<b>Dip &amp; Azimuth Tests</b>			DDH FC09-39	<b>Easting (NAD 83): 609269</b>	Core Size: HQ, NQ, BT	<b>Started: Nov 18, 2009</b>
<b>Depth</b>	<b>Dip</b>	<b>Azmth</b>	<b>Other tests</b>	<b>Northing (NAD 83): 5845208</b>	<b>Hole Azimuth: 90°</b>	<b>Finished: Dec 6, 2009</b>
183m	-60.3	69.4	Roll: 195.5 Temp: 11.0 Mag: 5681	<b>Grid Location: 53N 26+50W</b>	<b>Hole Angle: -60°</b>	<b>Logged by: Rex T.</b>
371m	-62.3	70.8	Roll: 227.7 Temp: 11.3 Mag: 5166	<b>Elevation:</b>	<b>Total Depth: 566.01m</b>	<b>Analysis by: ActLabs</b>
475m	-68.3	67.1	Roll: 139.8 Temp: 13.8 Mag: 5729			<b>Drilling by: G&amp;O Drilling</b>

Note: Azimuths above are underestimated by approximately 20°.

Tests done using Reflex shot

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl	
0.00	6.00	Overburden. Rounded cobbles of schist, qtz, and silt float.										
6.00	93.23	Dark grey to black siltstone with fine interlaminated bedding (55-70 deg to core axis(TCA)). Density of slump brecciated clasts is weakly moderate. Beds are sometimes soft sed deformed/undulating, and sometimes shear stressed in direction of beds causing clasts to elongate too. Qtz veining is minor and in two stages; larger veining is younger and cross cuts beds, while thinner veins are dismembered and trend with beds. Siltstone is graphitic and pyritic. Photo at 53.34m shows relatively heavy pyrite in breccia matrix, and relatively black graphitic section below. Pyrite exists as coarse blebs but more commonly as fine disseminations. Closer to top of hole, pyrite is concentrated and constrained in preferred bed layers.	3					1	tr	2	1	Not magnetic. Very trace carbonate on limonitic fracture faces at top of hole.
		@64.50m The heavy particulate graphite content drops in concentration. @65.70m is a small mafic dykelet preferentially altered by fuschite. Going downhole, coarse cubic blebs and recrystalized patches of pyrite occur more frequently. Locally pyrite can intensify to about 5-10 %.					tr					

Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.	
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl		
93.23	280.00	Medium to light gray volcanoclastic which largely has a massive texture. The top contact with the siltstone is sharp at 45 deg TCA. There is about a 15% make-up of silt beds mixed into the unit, and increases to 25% going downhole in the interval. Sub to anhedral feldspar phenocrysts (1-4mm) are altering to sericite. Similar looking "alteration flowers" occur, growing around particulate nuclei preferentially in micro-fractures. Qtz veining is weak, but yielded the presence of galena observed on two occasions; the coarser galena was found in a 2cm thick qtz vein at 109.30m. Coarse pyritic cubes and patches still exist but less frequently spread throughout the core. Sparse pyrite blebs will associate with qtz veinlets. The fine disseminations dropped completely out of the matrix. Sometimes pyrite will prefer and follow a particular bed of silt.	0.5			tr	-	2	tr	3			Not magnetic. Tracely effervescent in a veinlet.
		@153.92m core reduces from HQ -> NQ. @157.00m pyrite starts to slightly pick up, and the qtz veining is beginning to be cherty and at a stronger (moderate) intensity. Occasionally pyrite will dominate the majority of a thin qtz veinlet; or there will be thin pyrite stringers in a beefy, cherty qtz veined section of core. Rare bleb occurrences of chalcopyrite were observed in qtz veins with pyrite and on a couple of occasions with the pyrrhotite. The strongly pyrrhotite-dominated qtz vein (1cm) is at 196.70m. From 174.62 - 176.35m is a range of core where the matrix contains small (mm scale) semi-rounded quartz phenocrysts of two varieties. One is a lighter milky pale blue and the other a darker, more gray qtz pheno.	0.8	tr		0		2		3	1		Not fizzing. A few magnetic pyrrhotite occurrences were observed in sulfide-rich qtz veins (~1cm).



Depth (m)		Description	% Py	% Cpy	% Sph	% Gal	Alteration Scale: 1 - 5					Reactions to Magnet and Acid.
From	To						Cr Mica	Seri-cite	2 <sup>nd</sup> Carb	2 <sup>nd</sup> Sil	2 <sup>nd</sup> Chl	
		@390.25 - 390.60m the core is heavily, irregularly qtz veined (both white and cherty grey) with associated pyrrhotite+py+cpy. Very light pale greenish blue (possible fuschite?) is present with veining, maybe sericite though. From 378.80 to 394.75m the small quartz phenocrysts as encountered before above, can be found occasionally.					tr?					
394.00	566.01	(same litho) From 394.00m down, the pyrrhotite drops out except for rarely occurring weakly with a qtz vein or in a thin fracture or sporadic bleb. Pyrite is still present to a slightly lesser degree than before; vein-associated and coarse cubes & patches loosely disseminated in the core. More qtz-eye phenos, in and out from 431.30m to 450.50m. 95% of them are of the translucent grey type, opposed to the milky blue.	0.3	0				2		3	1	Not fizzing. Tracely magnetic with the rare occasions of pyrrhotite.
		From 460m, the rock continues similarly but with very little sulphides and basically no more pyrrhotite. There are still occasional interbeds of siltstone making up 5%. The quartz phenocrysts are now present in the matrix about half of the time and get up to 2mm.	0.1									Not fizzing. Trace amount of pyrrhotite might still rarely occur randomly in a qtz vein.
		@500m NQ reduces to BTW.										
		At 505.00m the pyrite picks up again occurring as before. No white qtz veins observed but the cherty gray qtz veining remains moderate. Minor pyrrhotite picks up again as well, weakly occurring, either in a qtz vein or infilling their own micro-fractures. No related chalcopyrite observed.	0.5	-				2		3	1	Not Fizzing. Weakly magnetic with pyrrhotite.







## DRILL HOLE No. FC09-39

Sample Intervals: DDH FC09 - 39													
Certificate	Sample	From	To	Sample	Cu	Zn	Pb	As	Sb	Cd	Ba	Au	Ag
Number	Number	(metres)	(metres)	Width (m)	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm
A09-7256	86497	9.00	10.50	1.50	122	72	4	176	1.3	0.8	2860	15	0.5
A09-7256	86498	12.19	13.72	1.53	121	84	8	270	2.1	0.5	3780	< 2	0.7
A09-7256	86499	16.76	18.59	1.83	72	64	10	361	0.3	0.6	2350	< 2	0.3
A09-7256	86500	21.64	23.16	1.52	235	59	27	96.6	1	0.5	1180	11	0.8
A09-7256	86501	27.56	28.96	1.40	205	198	120	49.4	1	1.8	1010	20	0.8
A09-7256	86502	32.00	35.05	3.05	91	371	277	108	1.8	3.1	1510	52	1.1
A09-7256	86503	41.15	44.35	3.20	65	366	18	131	1.9	4.1	2100	38	0.6
A09-7256	86504	45.80	47.24	1.44	106	207	41	71.3	1.5	1.7	2180	52	0.6
A09-7256	86505	50.50	52.54	2.04	95	205	32	75	1.2	1.6	2020	256	0.6
A09-7256	86506	52.94	54.50	1.56	167	298	76	123	1.8	2.7	1600	404	0.7
A09-7256	86507	65.53	67.45	1.92	91	1370	764	96.1	1.2	7.9	750	14	1.4
A09-7256	86508	71.63	73.22	1.59	157	282	111	118	0.9	2.4	2210	58	1
A09-7256	86509	74.68	76.60	1.92	51	101	33	118	0.7	1.1	1450	11	< 0.3
A09-7256	86510	80.77	82.60	1.83	193	356	26	76.8	3.8	3	1110	20	0.9
A09-7256	86511	85.20	86.80	1.60	110	105	12	63.7	0.9	0.5	2470	9	0.6
A09-7256	86512	91.63	93.23	1.60	13	41	4	8.8	0.3	< 0.3	1110	< 2	< 0.3
A09-7256	86513	93.23	94.68	1.45	24	82	9	8.8	< 0.1	< 0.3	1450	< 2	< 0.3
A09-7256	86514	99.06	100.70	1.64	41	66	24	4.8	0.4	< 0.3	1530	< 2	< 0.3
A09-7256	86515	104.20	105.98	1.78	35	51	14	8	0.4	< 0.3	1620	< 2	0.4
A09-7256	86516	108.75	110.07	1.32	16	61	65	7.6	0.4	< 0.3	690	< 2	< 0.3
A09-7256	86517	112.10	113.81	1.71	34	48	6	9.1	0.3	< 0.3	1190	< 2	< 0.3
A09-7256	86518	116.48	117.88	1.40	16	64	48	19.9	0.3	0.3	1620	< 2	< 0.3
A09-7256	86519	121.45	123.10	1.65	15	48	7	14.6	0.3	< 0.3	1130	5	< 0.3
A09-7256	86520	125.40	126.90	1.50	24	68	5	9.8	0.4	0.3	1860	< 2	0.3
A09-7256	86521	128.85	130.50	1.65	12	93	24	12.1	< 0.1	0.9	810	< 2	0.4
A09-7256	86522A	Std	Pb114		3310	1.16%	2.08%						
A09-7256	86523	136.14	137.70	1.56	< 1	25	< 3	6	< 0.1	< 0.3	640	< 2	< 0.3
A09-7256	86524	141.80	143.42	1.62	28	59	< 3	4.6	< 0.1	< 0.3	1380	< 2	< 0.3
A09-7256	86525	149.92	151.63	1.71	14	121	148	6.8	0.2	0.8	1220	< 2	0.6
A09-7256	86526	157.35	159.45	2.10	25	353	27	12.9	0.3	1.8	970	< 2	< 0.3
A09-7256	86527	161.22	163.60	2.38	10	48	15	6.8	0.2	< 0.3	1460	< 2	0.4
A09-7256	86528	167.23	169.37	2.14	18	59	4	2.4	0.3	< 0.3	1050	< 2	< 0.3
A09-7256	86529	174.62	176.35	1.73	16	52	< 3	3.9	0.4	< 0.3	440	< 2	< 0.3

## DRILL HOLE No. FC09-39

Sample Intervals: DDH FC09 - 39													
Certificate	Sample	From	To	Sample	Cu	Zn	Pb	As	Sb	Cd	Ba	Au	Ag
Number	Number	(metres)	(metres)	Width (m)	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm
A09-7256	86530	178.31	180.35	2.04	19	48	23	3.7	0.3	< 0.3	380	< 2	< 0.3
A09-7256	86531	182.35	184.40	2.05	34	71	9	4.3	0.5	0.3	1310	< 2	< 0.3
A09-7256	86532	186.97	188.75	1.78	29	55	< 3	7.5	0.4	< 0.3	570	< 2	< 0.3
A09-7256	86533	192.00	194.28	2.28	44	41	4	4.8	0.4	< 0.3	960	< 2	0.3
A09-7256	86534	196.10	198.60	2.50	320	97	38	7.5	0.4	0.7	960	9	1
A09-7256	86535	201.75	203.93	2.18	96	131	16	7.5	0.4	0.7	1040	< 2	0.4
A09-7256	86536	206.90	208.18	1.28	27	45	21	6.6	0.4	< 0.3	840	< 2	< 0.3
A09-7256	86537	211.90	214.00	2.10	27	58	< 3	5	0.5	< 0.3	2180	< 2	< 0.3
A09-7256	86538	217.23	218.95	1.72	34	43	4	7.1	0.7	< 0.3	1910	< 2	< 0.3
A09-7737	86539	224.03	224.23	0.20	995	42	66	1.8	0.5	1	970	< 2	2.4
A09-7737	86540	224.90	225.20	0.30	839	133	22	176	1.4	0.7	340	31	0.9
A09-7737	86541	227.15	229.13	1.98	16	145	< 3	30.2	0.6	0.7	220	< 2	0.4
A09-7737	86542	229.67	231.60	1.93	38	59	< 3	9.9	0.3	0.6	900	< 2	0.4
A09-7737	86543	237.25	239.12	1.87	73	51	< 3	12.5	0.3	0.5	1170	6	< 0.3
A09-7737	86544	245.36	247.15	1.79	11	53	< 3	3.5	0.1	0.5	420	< 2	< 0.3
A09-7737	86545	251.44	252.85	1.41	34	44	28	5.7	0.2	0.6	1450	< 2	0.6
A09-7737	86546	254.83	256.75	1.92	35	44	< 3	6	0.3	0.6	1450	< 2	< 0.3
A09-7737	86547	263.80	265.78	1.98	183	114	7	48.9	0.5	1.1	240	< 2	0.4
A09-7737	86548	267.90	269.75	1.85	99	71	< 3	5.5	< 0.1	0.4	610	< 2	0.3
A09-7737	86549	277.90	279.90	2.00	83	40	< 3	15.2	0.3	0.5	830	< 2	0.3
A09-7737	86550	280.46	281.05	0.59	877	280	51	10.3	< 0.1	1.1	290	10	1.4
A09-7737	86551	285.54	288.02	2.48	266	74	< 3	10.3	< 0.1	0.5	960	9	0.5
A09-7737	86552	293.50	295.05	1.55	47	36	< 3	2.6	0.3	0.4	480	< 2	< 0.3
A09-7737	86553	297.18	299.68	2.50	117	145	< 3	7.8	2.8	0.7	320	8	0.3
A09-7737	86554	299.68	301.65	1.97	14	58	< 3	18.4	0.3	0.5	1100	4	< 0.3
A09-7737	86555	302.13	304.45	2.32	90	66	< 3	12.8	0.2	0.5	1100	< 2	< 0.3
A09-7737	86556	306.05	307.55	1.50	70	41	< 3	12.8	0.3	0.6	720	< 2	0.4
A09-7737	86557	310.50	312.18	1.68	226	91	16	5	0.2	0.6	380	< 2	0.8
A09-7737	86558	312.50	314.62	2.12	195	98	< 3	3.8	0.3	0.6	890	< 2	< 0.3
A09-7737	86559	317.92	320.35	2.43	320	77	41	1.5	0.3	1.2	690	< 2	1.1
A09-7737	86560	329.53	331.22	1.69	70	228	59	4.9	< 0.1	0.9	890	< 2	0.5
A09-7737	86561	333.44	335.90	2.46	38	94	16	9.9	0.5	0.7	740	< 2	< 0.3
A09-7737	86562	338.45	340.35	1.90	92	860	168	2.7	0.2	3.6	1400	< 2	0.5

## DRILL HOLE No. FC09-39

Sample Intervals: DDH FC09 - 39													
Certificate	Sample	From	To	Sample	Cu	Zn	Pb	As	Sb	Cd	Ba	Au	Ag
Number	Number	(metres)	(metres)	Width (m)	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm
A09-7737	86563	342.75	345.10	2.35	90	1150	13	< 0.5	0.2	4.5	730	< 2	< 0.3
A09-7737	86564	348.43	350.36	1.93	51	373	27	1	0.4	1.7	1230	4	< 0.3
A09-7737	86565	352.69	354.70	2.01	216	241	32	82.1	2.9	2.2	330	21	0.4
A09-7737	86566	360.36	362.73	2.37	54	88	5	4.9	0.3	< 0.3	1150	< 2	< 0.3
A09-7737	86567	363.08	365.23	2.15	130	141	4	1.4	0.5	0.7	1150	< 2	< 0.3
A09-7737	86568	366.28	368.02	1.74	136	436	24	5.8	6	1.3	990	< 2	0.5
A09-7737	86569	368.02	369.55	1.53	101	420	25	5	0.5	1.6	1480	< 2	0.4
A09-7737	86570	369.55	371.11	1.56	131	832	19	9.3	0.4	3.2	780	< 2	< 0.3
A09-7737	86571	371.30	373.56	2.26	126	1130	37	5.3	0.3	4.2	820	< 2	0.6
A09-7737	86572	378.80	380.80	2.00	73	287	9	7.9	0.3	1	930	< 2	< 0.3
A09-7737	86573	381.65	383.28	1.63	236	1750	26	7.2	< 0.1	7.1	1090	< 2	0.7
A09-7737	86574	384.73	386.74	2.01	108	2620	4	7.7	0.2	10.4	930	< 2	< 0.3
A09-7652	86575	387.24	389.47	2.23	123	4240	5	13.6	5.7	17.7	1090	6	0.3
A09-7652	86576	390.03	391.16	1.13	240	7810	52	21.1	5.7	32.1	850	10	0.8
A09-7652	86577	391.16	393.13	1.97	89	2350	23	18.5	6.2	8.9	820	< 2	0.3
A09-7652	86578	393.13	394.68	1.55	98	1230	19	17.1	6.2	4.4	700	12	0.3
A09-7652	86579	396.92	398.65	1.73	38	109	23	13.7	6.8	0.4	1460	< 2	0.3
A09-7737	86580A	Std	Pb115		5270	1.66%	2.61%						
A09-7652	86581	403.50	405.08	1.58	75	101	35	20.1	6.5	1.1	1370	10	1.1
A09-7652	86582	408.08	410.00	1.92	141	2590	195	12.4	6.3	9.5	440	5	0.7
A09-7652	86583	416.40	418.52	2.12	52	156	26	7.3	4	0.6	880	12	< 0.3
A09-7652	86584	420.76	422.33	1.57	45	61	< 3	< 0.5	0.5	0.3	900	7	< 0.3
A09-7652	86585	429.62	431.22	1.60	57	42	7	5.8	0.7	0.4	840	< 2	< 0.3
A09-7652	86586	432.76	433.96	1.20	23	55	7	10.6	0.9	< 0.3	1370	< 2	< 0.3
A09-7652	86587	437.91	439.49	1.58	15	31	< 3	6.7	0.7	< 0.3	600	3	< 0.3
A09-7652	86588	442.85	444.37	1.52	5	31	< 3	3.2	0.7	< 0.3	380	< 2	< 0.3
A09-7652	86589	451.10	452.66	1.56	15	66	3	6.1	0.7	< 0.3	760	< 2	< 0.3
A09-7652	86590	457.68	459.95	2.27	96	82	12	6.6	1	0.5	720	< 2	< 0.3
A09-7652	86591	465.66	467.88	2.22	28	78	12	2.5	0.8	0.4	860	< 2	0.8
A09-7652	86592	471.15	472.74	1.59	19	63	24	1.6	0.7	< 0.3	400	< 2	< 0.3
A09-7652	86593	478.34	479.80	1.46	44	224	23	4.7	0.7	1.6	930	< 2	< 0.3
A09-7652	86594	485.72	487.10	1.38	3	43	< 3	8.6	0.7	0.6	540	< 2	< 0.3
A09-7652	86595	492.40	494.45	2.05	17	97	9	10.2	0.8	0.3	690	< 2	< 0.3

## DRILL HOLE No. FC09-39

Sample Intervals: DDH FC09 - 39													
Certificate Number	Sample Number	From (metres)	To (metres)	Sample Width (m)	Cu ppm	Zn ppm	Pb ppm	As ppm	Sb ppm	Cd ppm	Ba ppm	Au ppb	Ag ppm
A09-7652	86596	498.20	499.59	1.39	62	1300	28	8.8	0.8	5	1020	< 2	0.3
A09-7652	86597	504.45	506.60	2.15	48	148	49	9.9	1	0.8	1020	< 2	< 0.3
A09-7652	86598	511.27	513.70	2.43	23	60	12	5.7	0.5	0.3	670	< 2	< 0.3
A09-7652	86599	521.95	524.05	2.10	31	75	15	6	0.8	0.4	1000	< 2	0.6
A09-7652	86600	524.55	526.39	1.84	39	192	266	4.7	0.7	1	620	< 2	0.5
A09-7652	86601	532.80	535.08	2.28	74	75	7	10	0.9	0.3	1000	< 2	< 0.3
A09-7652	86602	537.78	540.02	2.24	56	73	5	5.6	1	0.5	1090	< 2	< 0.3
A09-7652	86603	540.38	542.38	2.00	42	137	328	4.6	0.7	0.6	620	< 2	0.3
A09-7652	86604	544.85	548.07	3.22	58	92	22	12.6	1	0.4	1000	4	< 0.3
A09-7652	86605	551.40	553.31	1.91	35	224	118	11.6	0.7	0.7	730	< 2	0.4
A09-7652	86606	557.62	559.44	1.82	78	80	17	10.5	0.8	0.4	1000	< 2	0.6
A09-7652	86607	561.75	564.08	2.33	34	94	28	11.1	0.9	0.3	890	< 2	0.4
		Note:											
		WCM Minerals Standard PB113 (certified for Pb=1.11%, Zn=1.40%, Cu=0.47%, Ag=22 g/t)											
		WCM Minerals Standard PB114 (certified for Pb=2.00%, Zn=1.12%, Cu=0.33%, Ag=26 g/tonne)											
		WCM Minerals Standard PB115 (certified for Pb=2.61%, Zn=1.65%, Cu=0.53%, Ag=17 g/tonne)											

Core Recovery: DDH FC09-39				Estimated		Core Recovery: DDH FC09 - 39				Estimated	
Box No.	From	To	Distance	Recovery		Box No.	From	To	Distance	Recovery	
				%						%	
1	6.00	7.40	1.40	95.0		34	99.57	102.35	2.78	100.0	
2	7.40	9.80	2.40	100.0		35	102.35	105.16	2.81	100.0	
3	9.80	12.19	2.39	99.0		36	105.16	108.08	2.92	100.0	
4	12.19	14.72	2.53	100.0		37	108.08	110.70	2.62	100.0	
5	14.72	17.41	2.69	90.0		38	110.70	113.65	2.95	100.0	
6	17.41	19.15	1.74	100.0		39	113.65	116.48	2.83	99.0	
7	19.15	22.54	3.39	75.0		40	116.48	119.35	2.87	100.0	
8	22.54	25.06	2.52	90.0		41	119.35	122.14	2.79	100.0	
9	25.06	27.56	2.50	80.0		42	122.14	124.65	2.51	100.0	
10	27.56	30.06	2.50	100.0		43	124.65	127.31	2.66	100.0	
11	30.06	32.84	2.78	95.0		44	127.31	130.23	2.92	99.0	
12	32.84	41.15	8.31	30.0		45	130.23	132.98	2.75	100.0	
13	41.15	45.58	4.43	60.0		46	132.98	135.80	2.82	100.0	
14	45.58	48.04	2.46	100.0		47	135.80	138.55	2.75	100.0	
15	48.04	50.00	1.96	100.0		48	138.55	141.34	2.79	100.0	
16	50.00	52.54	2.54	98.0		49	141.34	144.03	2.69	100.0	
17	52.54	55.20	2.66	98.0		50	144.03	146.46	2.43	98.0	
18	55.20	57.80	2.60	95.0		51	146.46	149.58	3.12	80.0	
19	57.80	60.50	2.70	99.0		52	149.58	152.30	2.72	99.0	
20	60.50	63.60	3.10	80.0		53	152.30	155.00	2.70	100.0	
21	63.60	66.33	2.73	85.0		54	155.00	159.45	4.45	99.0	
22	66.33	68.65	2.32	98.0		55	159.45	163.60	4.15	100.0	
23	68.65	71.55	2.90	100.0		56	163.60	167.65	4.05	100.0	
24	71.55	74.32	2.77	100.0		57	167.65	172.06	4.41	100.0	
25	74.32	77.22	2.90	100.0		58	172.06	176.16	4.10	100.0	
26	77.22	79.97	2.75	100.0		59	176.16	180.35	4.19	100.0	
27	79.97	82.82	2.85	99.0		60	180.35	184.45	4.10	100.0	
28	82.82	85.72	2.90	98.0		61	184.45	188.75	4.30	99.0	
29	85.72	88.42	2.70	100.0		62	188.75	192.93	4.18	100.0	
30	88.42	91.12	2.70	100.0		63	192.93	198.80	5.87	100.0	
31	91.12	93.90	2.78	100.0		64	198.80	204.34	5.54	100.0	
32	93.90	96.65	2.75	100.0		65	204.34	209.20	4.86	100.0	
33	96.65	99.57	2.92	100.0		66	209.20	214.00	4.80	100.0	

Core Recovery: DDH FC09 - 39				Estimated		Core Recovery: DDH FC09 - 39				Estimated	
Box No.	From	To	Distance	%	Recovery	Box No.	From	To	Distance	%	Recovery
67	214.00	219.80	5.80	90.0		100	379.96	385.70	5.74	100.0	
68	219.80	224.90	5.10	100.0		101	385.70	391.16	5.46	100.0	
69	224.90	229.50	4.60	95.0		102	391.16	395.48	4.32	99.0	
70	229.50	233.50	4.00	100.0		103	395.48	399.50	4.02	100.0	
71	233.50	239.12	5.62	100.0		104	399.50	403.78	4.28	100.0	
72	239.12	243.05	3.93	100.0		105	403.78	407.55	3.77	100.0	
73	243.05	247.15	4.10	100.0		106	407.55	411.55	4.00	100.0	
74	247.15	251.17	4.02	100.0		107	411.55	415.87	4.32	90.0	
75	251.17	255.21	4.04	100.0		108	415.87	421.12	5.25	100.0	
76	255.21	259.40	4.19	98.0		109	421.12	427.15	6.03	95.0	
77	259.40	263.47	4.07	99.0		110	427.15	432.76	5.61	100.0	
78	263.47	267.75	4.28	100.0		111	432.76	438.20	5.44	100.0	
79	267.75	273.08	5.33	100.0		112	438.20	443.40	5.20	100.0	
80	273.08	278.52	5.44	100.0		113	443.40	449.05	5.65	100.0	
81	278.52	284.18	5.66	100.0		114	449.05	454.72	5.67	99.0	
82	284.18	290.78	6.60	90.0		115	454.72	460.10	5.38	100.0	
83	290.78	295.40	4.62	100.0		116	460.10	465.66	5.56	100.0	
84	295.40	300.75	5.35	100.0		117	465.66	471.15	5.49	100.0	
85	300.75	306.35	5.60	100.0		118	471.15	475.25	4.10	100.0	
86	306.35	312.18	5.83	99.0		119	475.25	479.20	3.95	100.0	
87	312.18	316.02	3.84	100.0		120	479.20	483.55	4.35	100.0	
88	316.02	321.56	5.54	100.0		121	483.55	487.60	4.05	98.0	
89	321.56	330.00	8.44	70.0		122	487.60	491.80	4.20	95.0	
90	330.00	335.45	5.45	100.0		123	491.80	495.95	4.15	99.0	
91	335.45	340.35	4.90	100.0		124	495.95	500.00	4.05	100.0	
92	340.35	346.98	6.63	90.0		125	500.00	505.58	5.58	75.0	
93	346.98	352.69	5.71	100.0		126	505.58	509.83	4.25	100.0	
94	352.69	358.38	5.69	100.0		127	509.83	514.13	4.30	99.0	
95	358.38	362.79	4.41	100.0		128	514.13	518.75	4.62	95.0	
96	362.79	367.10	4.31	100.0		129	518.75	523.18	4.43	100.0	
97	367.10	371.30	4.20	100.0		130	523.18	527.52	4.34	100.0	
98	371.30	375.48	4.18	100.0		131	527.52	531.80	4.28	100.0	
99	375.48	379.96	4.48	98.0		132	531.80	536.00	4.20	100.0	





**APPENDIX G**

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**APPENDIX H**

**STATEMENT of EXPENDITURES**

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## Barker Minerals Ltd.

Work was completed between October 31, 2008 to October 31, 2009

### Geological - Drilling

**Geological compilations on Mag, Black Bear, Simlock, Ace, Frank Creek, Rollie & Peacock Projects as well as airborne interpretations.**

**Louis Doyle -**

7 days @ \$400.00/day wages \$ 2,800.00

**Geocon Exploration Management Ltd. - VP of Exploration**

\$ 50,000.00

**Karen Hall - Core teching**

7 days @ \$200.00/day wages \$ 1,400.00

7 days @ \$125.00/day room & board \$ 875.00

**Jeffrey Hall - Core splitter**

15 days @ \$150.00/day wages \$ 2,250.00

15 days @ \$125.00/day room & board \$ 1,875.00

**James Doyle - Camp manager & trench swamper**

30 days @ \$250.00/day wages \$ 7,500.00

30 days @ \$125.00/day room & board \$ 3,750.00

**Rodney Hildebrand - Expeditor**

15 days @ \$150.00/day wages \$ 2,250.00

15 days @ \$125.00/day room & board \$ 1,875.00

**Ben Hall - Camp expeditor**

11 days @ \$150.00/day wages \$ 1,650.00

11 days @ \$125.00/day room & board \$ 1,375.00

**Brian Hall - Camp expeditor**

29 days @ \$200.00/day wages \$ 5,800.00

29 days @ \$125.00/day room & board \$ 3,625.00

29 days @ \$125.00/day vehicle & gas \$ 3,625.00

**ACD Contracting - Drill pad, road construction, reclamation & road access maintenance**

\$ 115,825.00

50 days @ \$125.00/day room & board \$ 6,250.00

50 Days @ \$125.00/day vehicle & gas \$ 6,250.00

**Noble Exploration Services**

\$ 480.00

---

**\$ 219,455.00**

**Geological - Rock sampling & Prospecting**

**Louis Doyle**

14 days @ \$400.00/day wages \$ 5,600.00  
14 days @ \$125.00/day room & board \$ 1,750.00  
14 days @ \$125.00/day vehicle & gas \$ 1,750.00

**Aaron Doyle**

14 days @ \$300.00/day wages \$ 4,200.00  
14 days @ \$125.00/day room & board \$ 1,750.00

**James Doyle**

3 days @ \$250.00/day wages \$ 750.00  
3 days @ \$125.00/day room & board \$ 375.00  
3 days @ \$125.00/day vehicle & gas \$ 375.00

**Chris Stevens**

3 days @ \$250.00/day wages \$ 750.00  
3 days @ \$125.00/day room & board \$ 375.00

**\$ 17,675.00**

**Camp management, maintenance & caretaking**

**David Rusnak** \$ 4,500.00

**Aaron Doyle** \$ 3,960.00

**\$ 8,460.00**

Total geological expenditures **\$ 245,590.00**

**Geophysical**

**Quantec Geoscience Ltd.** \$ 5,800.00  
10 days @ \$125.00/day room & board \$ 1,250.00

Total geophysical expenditures **\$ 7,050.00**

**Miscellaneous Expenditures**

**Bri-Mel Lowbedding & Piloting** \$ 2,094.00

**Greyhound Courier** \$ 690.27

**Supplies** \$ 3,419.43

<b>Repairs &amp; Maintenance</b>	\$ 1,145.14
<b>Fuel</b>	\$ 2,000.00
<b>Groceries</b>	\$ 2,500.00
<b>Claim maintenance</b>	\$ 10,828.45
<b>Quad rental</b>	
2 x 20 days @ \$100.00/day	\$ 4,600.00
<b>Satelite phone</b>	
2 x 20 days @ \$25.00/day	\$ 1,150.00
<b>Total misc. drilling expenditures</b>	<b>\$ 28,427.29</b>

### **Geochemical**

Assays	\$ 25,854.92
<b>Total geochemical expenditures</b>	<b>\$ 25,854.92</b>

### **Mobe & Demobe**

#### **Geocon Exploration Services.**

2 days @ \$500.00/day wages	\$ 1,000.00
2 days @ \$125.00/day vehicle & gas	\$ 250.00

#### **Karen Hall**

2 days @ \$200.00/day wages	\$ 400.00
2 days @ \$125.00/day vehicle & gas	\$ 250.00

#### **Jeffrey Hall**

2 days @ \$150.00/day wages	\$ 300.00
2 days @ \$125.00/day vehicle & gas	\$ 250.00

#### **Rodney Hildebrand**

2 days @ \$150.00/day wages	\$ 300.00
2 days @ \$125.00/day vehicle & gas	\$ 250.00

#### **Ben Hall**

2 days @ \$150.00/day wages	\$ 300.00
2 days @ \$125.00/day vehicle & gas	\$ 250.00

#### **Brian Hall**

2 days @ \$200.00/day wages	\$ 400.00
2 days @ \$125.00/day vehicle & gas	\$ 250.00

#### **James Doyle**

2 days @ \$200.00/day wages	\$	400.00
2 days @ \$125.00/day vehicle & gas	\$	250.00

<b>G &amp; O Diamond Drilling</b>	\$	27,110.00
-----------------------------------	----	-----------

Total move & demobe	<b>\$ 31,960.00</b>
---------------------	---------------------

<b>Total Geological Expenditures</b>	<b>\$ 219,455.00</b>
<b>Total Geophysical Expenditures</b>	<b>\$ 7,050.00</b>
<b>Total misc. expenditures</b>	<b>\$ 28,427.29</b>
<b>Total Geochemical Expenditures</b>	<b>\$ 25,854.92</b>
<b>Total Move &amp; Demobe</b>	<b>\$ 31,960.00</b>

<b>Total Expenditures</b>	<b>\$ 312,747.21</b>
---------------------------	----------------------

## Barker Minerals Ltd.

Work was completed between November 30, 2009 to February 15, 2010

### Geological - Drilling

**Geological compilation on Mag, Black Bear, Simlock, Ace, Frank Creek & Rollie & Peacock Projects as well as airborne interpretations.**

**Louis Doyle -**

15 days @ \$400.00/day wages	\$	6,000.00
15 days @ \$125.00/day room & board	\$	1,875.00
15 days @ \$125.00/day vehicle & gas	\$	1,875.00

**Geocon Exploration Management Ltd. - VP of Exploration**

	\$	16,000.00
32 days @ \$125.00/day room & board	\$	4,000.00
32 days @ \$125.00/day vehicle & gas	\$	4,000.00

**Rex Turna - Core logging**

	\$	10,760.39
26 days @ \$320.00/day wages	\$	8,320.00
26 days @ \$125.00/day room & board	\$	3,250.00

**Cruise Cyr - Core splitter/drill helper/expiditor**

32 days @ \$200.00/day wages	\$	6,400.00
6 days @ \$300.00/day wages	\$	1,800.00
38 days @ \$125.00/day room & board	\$	4,750.00

**Matt Brehl - Core splitter/drill helper/expiditor**

28 days @ \$200.00/day wages	\$	5,600.00
10 days @ \$300.00/day wages	\$	3,000.00
38 days @ \$125.00/day room & board	\$	4,750.00

**Karen Hall - Camp expiditor**

30 days @ \$250.00/day wages	\$	7,500.00
30 days @ \$125.00/day room & board	\$	3,750.00
30 days @ \$125.00/day vehicle & gas	\$	3,750.00

**Aaron Doyle - Camp Manager**

10 days @ \$300.00/day wages	\$	3,000.00
10 days @ \$125.00/day room & board	\$	1,250.00
10 days @ \$125.00/day vehicle & gas	\$	1,250.00

**ACD Contracting - Drill pad and road construction**

	\$	42,109.38
28 days @ \$125.00/day room & board	\$	3,500.00

28 Days @ \$125.00/day vehicle & gas \$ 3,500.00

**Geological - Drilling continued**

**G & O Diamond Drilling** \$ 245,117.24

222 days @ \$125.00/day room & board \$ 27,750.00

42 Days @ \$125.00/day vehicle & gas \$ 5,250.00

**Potter's Sawmill** \$ 2,260.50

Total geological/drilling expenditures **\$ 432,367.51**

**Geophysical**

**Quantec Geoscience Ltd.** \$ 22,162.00

6 days @ \$125.00/day room & board \$ 750.00

6 Days @ \$125.00/day vehicle & gas \$ 750.00

Total geophysical expenditures **\$ 23,662.00**

**Miscellaneous Expenditures**

**Imperial Oil** \$ 14,066.29

**Van Kam Freightways** \$ 2,819.14

**Supplies** \$ 2,544.44

**Repairs & Maintenance** \$ 1,389.93

**Phil's Core Boxes** \$ 4,475.81

**Groceries** \$ 2,000.00

**Quad rental**  
38 days @ \$100.00/day \$ 3,800.00

**Satelite phone**  
38 days @ \$25.00/day \$ 950.00

Total misc. drilling expenditures **\$ 32,045.61**

**Geochemical**

Assays \$ 4,913.18

Total geochemical **\$ 4,913.18**

**Mobe & Demobe****Geocon Exploration Services.**

2 days @ \$500.00/day wages \$ 1,000.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

**Rex Turna**

2 days @ \$320.00/day wages \$ 640.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

**Karen Hall**

2 days @ \$250.00/day wages \$ 500.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

**Matt Brehl**

2 days @ \$150.00/day wages \$ 300.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

**Cruize Cyr**

2 days @ \$150.00/day wages \$ 300.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

**Aaron Doyle**

2 days @ \$300.00/day wages \$ 600.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

**Quantec Geoscience Ltd.**

2 days @ \$1,500.00/day \$ 3,000.00  
2 days @ \$125.00/day vehicle & gas \$ 250.00

Total mobe & demobe **\$ 8,090.00**

**Total Geological Expenditures**

**\$ 432,367.51**

**Total Geophysical Expenditures**

**\$ 23,662.00**

**Total Misc. Expenditures**

**\$ 32,045.61**

**Total Geochemical Expenditures**

**\$ 4,913.18**

**Total Mobe & Demobe**

**\$ 8,090.00**

**Total Expenditures**

**\$ 501,078.30**



**APPENDIX I**

**STATEMENT of AUTHOR'S QUALIFICATIONS**

---

### **Statement of Author's Qualifications**

I, Rein Turna, of the City of West Vancouver, British Columbia, hereby certify that:

1. I am Vice President of Exploration of Barker Minerals Ltd.
2. I am a graduate of the University of British Columbia with a B.Sc. in Geological Sciences granted in 1975.
3. I am a registered member of the Professional Engineers and Geoscientists of British Columbia.
4. I have worked as a geologist in British Columbia, Saskatchewan, Ontario, Yukon and Northwest Territories in Canada since 1975.
5. I carried out or supervised work described in this report.

R. Turna, P.Geol.

February 15, 2010

**APPENDIX J**

**GEOLOGICAL COMPILATION on the CARIBOO PROPERTY  
and the Comin Throu Bear Property**

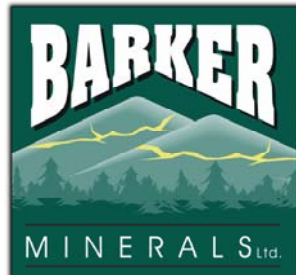
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**GEOLOGICAL COMPILATION**  
on the  
**Cariboo Property**  
and the  
**Comin Thru Bear Property**

Cariboo Lake Area  
Cariboo Mining Division, British Columbia

for

Barker Minerals Ltd.  
8384 Toombs Drive  
Prince George, BC  
V2K 5A3



Prepared by:  
Rein Turna, P.Ge.  
August 27, 2009



Plate No. 1  
Cariboo Property. Sphalerite and galena in carbonate vein breccia, from Main Showing outcrop.

## **2.0 TABLE OF CONTENTS**

	Page No.
3.0 Summary .....	v
4.0 Introduction .....	1
5.0 Reliance on Other Experts .....	1
6.0 Property Description and Location .....	2
7.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography .....	7
8.0 History .....	4
8.1 Work Done in 1987 .....	4
8.2 Work Done in 1989 .....	5
8.3 Work Done in 1996 .....	5
8.4 Work Done in 1997 .....	6
9.0 Geological Setting .....	6
9.1 Regional Geology .....	6
9.2 Local Geology .....	12
10. Deposit Types .....	13
11.0 Mineralization .....	13
12.0 Exploration .....	15
13.0 Drilling .....	15
14.0 Sampling Method and Approach .....	16
15.0 Sample Preparation, Analyses and Security .....	16
16.0 Data Verification .....	16
17.0 Adjacent Properties .....	17
17.1 Comin Throu Bear Property .....	17
17.1.1 Work Done in 1980 .....	18
17.1.2 Work Done in 1981 .....	18
17.1.3 Work Done in 1990 .....	20
17.2 Ace Property .....	20
18.0 Mineral Processing and Metallurgical Testing (this section is not applicable) .....	21
19.0 Mineral Resource and Mineral Reserve Estimates .....	21
20.0 Other Relevant Data and Information .....	21

21.0 Interpretation and Conclusions .....	22
21.1 Regarding the Cariboo Property .....	22
21.2 Regarding the Comin Throu Bear Property .....	22
22.0 Recommendations .....	23
22.1 Regarding the Cariboo Property .....	23
22.2 Regarding the Comin Throu Bear Property .....	24
23.0 References .....	25
24.0 DATES and SIGNATURES .....	28
Certificate of Author .....	28
Consent of Author .....	30
25: Additional Requirements for Technical Reports on Development Properties and Production Properties (this section is not applicable) .....	31
26: Illustrations .....	31

(see list of Plates and Figures below)

#### Plates

	Page No.
Plate No. 1 Cariboo Property. Galena and sphalerite in carbonate breccia. ....	i

#### Figures

	Page No.
Figure No. 1 Barker Minerals Ltd., Cariboo Property Location .....	2
Figure No. 2 Barker Minerals Ltd., Mineral Claims.....	after pg. 3
Figure No. 3 Cariboo & Comin Throu Bear Properties, Topography and Road Access .....	after pg. 3
Figure No. 4 Terrane Map of Southern British Columbia .....	7
Figure No. 5 Terrane Map of Cariboo Lake – Wells Area .....	8
Figure No. 6 Schematic Regional Structural Section .....	9
Figure No. 7 Cariboo & Comin Throu Bear Properties, Geology .....	after pg. 11
Figure No. 8 Maybe (Cariboo) Property, Geology, DDH's, Trenches, Soil and Rock Sample Locations .....	after pg. 31
Figure No. 9 Maybe (Cariboo) Property, Geochemistry Grid Ag, Pb, Zn .....	after pg. 31

Figure No. 10 Maybe (Cariboo) Property, Drill Section C .....	after pg. 31
Figure No. 11 Maybe (Cariboo) Property, Drill Section D .....	after pg. 31
Figure No. 12 Maybe (Cariboo) Property, Drill Section E South .....	after pg. 31
Figure No. 13 Maybe (Cariboo) Property, Drill Section F .....	after pg. 31
Figure No. 14 Maybe (Cariboo) Property, Drill Section G .....	after pg. 31
Figure No. 15 Maybe (Cariboo) Property, Drill Section H .....	after pg. 31
Figure No. 16 Maybe (Cariboo) Property, Drill Section I .....	after pg. 31
Figure No. 17 Comin Throu Bear Property, Historic Work Locations .....	after pg. 31

### Tables

	Page No.
Table No. 1 Cariboo Property Mineral Claim Details .....	2
Table No. 2 Maybe (Cariboo) Property Diamond Drill Hole Details .....	15
Table No. 3 Comin Throu Bear Property Diamond Drill Hole Details .....	19

### Appendices

Appendix A - B.C. Geological Survey Deposit Types .....	after Section 26.0
Appendix B - Glossary of Technical Terms and Abbreviations .....	after Section 26.0



### **3.0 SUMMARY**

The Cariboo property is approximately 35 km northeast of the settlement of Likely and 100 km northeast of the City of Williams Lake. The property is owned 100% by Barker Minerals Ltd. of Prince George, B.C. The size of the Cariboo property is 3,555 ha (133 units) and occurs within an 80 km x 30 km contiguous block of claims owned by Barker Minerals Ltd., informally named the 'Peripheral' group of claims, approximately 120,000 ha in size.

The Cariboo property is classed by the British Columbia Survey Minfile as Irish-Type Carbonate-Hosted Zn-Pb (B.C. Mineral Deposit-Type E13), which has similarities to Mississippi Valley (E12) and Manto (J01) deposits.

Pb-Zn mineralization occur in three stratabound zones in limestone and along a limestone contact. The Main mineralized zone is between 2.0 – 9.0 m in width in drill core.

In 1987 20 DDH holes (3,044 m) were drilled at locations along an approximately 1,500 m trend of carbonate-hosted galena+sphalerite showings. Eighteen of the holes were concentrated in a 1 km square area at the west end of the mineralized trend. This small drill program resulted in a very rough grade and tonnage estimate of 400,000 tonnes at 4% combined Pb-Zn (this is not an appropriate resource category and does not comply with the requirements of current securities legislation). In 1989 the mineralized trend was defined further by trenching, soil sampling and mapping.

Past drilling and trenching work on the property has focused on following individual high grade 'veins' or showings, which individually were not found to be sufficiently extensive or of consistent grade. The historic work done has not been systematic nor sufficiently intensive nor extensive. The mineralized trend nevertheless appears overall consistent and well-defined over 1,500 m of strike length and open in both directions along strike and at depth and should be considered a major prospective trend. A comprehensive survey including geological mapping, prospecting, soil sampling and geophysical surveys on a grid over the mineralized trend is recommended, to be followed-up by trenching and drilling.

Adjacent to the Cariboo property, the Comin Throu Bear property has Pb-Zn and barite mineralization in carbonate rock units similar to those at the Cariboo. Extensive soil surveys and prospecting in 1980-81 had soil anomalies and mineral showings which were followed up by hand trenching and short DDH holes averaging 30 m in length. Though the mineral occurrences observed were not of economic size, the Mural Formation limestone was recommended as a major prospecting target.

A reconnaissance prospecting and mapping survey is recommended at Comin Throu Bear in order to determine whether the Pb, Zn and barite mineralization may be stratabound replacement type similar to that occurring on the Cariboo property and whether it may be confined to a mappable lithologic unit.

## **4.0 INTRODUCTION**

This report was prepared at the request of Mr. Louis E. Doyle, President of Barker Minerals Ltd. The purpose of this report is to summarize the geology, mineralization and historical work done on Barker Minerals' Cariboo property and recommend further work to enhance the economic potential of Barker Minerals' mineral properties in the Cariboo Lake area. During the historical work the property was called the 'Maybe Property' and this obsolete name is used occasionally here in descriptions of the work.

Barker's Comin Throu Bear property is also discussed briefly in the in Section 17.0 - Adjacent Properties. This property is characterized by similar carbonate-hosted Pb-Zn mineralization in the same geological setting as Cariboo.

A schedule of work is proposed for Barker's Cariboo and Comin Throu Bear properties.

The sources of information for this report include historical assessment reports and government publications. This author has worked for Barker Minerals Ltd. as an independent consultant in 2006 and as Vice President of Exploration since April, 2007.

## **5.0 RELIANCE on OTHER EXPERTS**

The geological descriptions in Section 9.1 – Regional Geology derive mainly from British Columbia Geological Survey (BCGS) publications by L.C. Struik (1988) and A. Panteleyev et al. (1996) and Barker Minerals' geologists J.G. Payne and B.J. Perry (2001).

All of the surveys described in this report are historical. The authors of the respective assessment reports are therefore relied on for descriptions of the work done.

## **6.0 PROPERTY DESCRIPTION and LOCATION**

The Cariboo Property and Comin Throu Bear Properties consist of the mineral claim tenures listed in Table No. 1 below, acquired and maintained under Mineral Titles Online (MTO), British Columbia's internet-based mineral titles administration system.

<b><u>Property</u></b>	<b><u>Tenure Number</u></b>	<b><u>No. of Units</u></b>	<b><u>Owner</u></b>	<b><u>Good To Date</u></b>	<b><u>Status</u></b>	<b><u>Area (ha)</u></b>
Cariboo	514264	5	Barker Minerals Ltd. 100%	2009/oct/31	Good	97.68
Cariboo	514327	54	Barker Minerals Ltd. 100%	2009/oct/31	Good	1,054.94
Cariboo	514333	44	Barker Minerals Ltd. 100%	2009/oct/31	Good	859.23
Cariboo	514336	51	Barker Minerals Ltd. 100%	2009/oct/31	Good	995.97
Cariboo	514262	28	Barker Minerals Ltd. 100%	2009/oct/31	Good	547.01
Comin Throu Bear	514265	78	Barker Minerals Ltd. 100%	2009/oct/31	Good	1,521.20
Comin Throu Bear	514266	81	Barker Minerals Ltd. 100%	2009/oct/31	Good	1,580.45
Comin Throu Bear	514268	66	Barker Minerals Ltd. 100%	2009/oct/31	Good	1,287.85
Comin Throu Bear	514339	50	Barker Minerals Ltd. 100%	2009/oct/31	Good	975.98

Total Cariboo area: 3,554.83 ha

Total Comin Throu Bear area: 5,365.48 ha

Total area: 8,920.31 ha

Table No. 1 – Cariboo and Comin Throu Bear Properties Mineral Claim Details.

The Cariboo property is outlined, relative to Barker's main ('Peripheral') group of claims, in Figure No. 2 – Barker Minerals Ltd. Mineral Claims. The mineral claims comprising the property are located 1.0 km east of Cariboo River, 2.5 km north of Little River and approximately 6.0 km NE of the north end of Cariboo Lake in the Cariboo Mining Division in British Columbia, and are 100% owned by Barker Minerals Ltd. of Prince George, B.C.

The property is approximately 35 km northeast of the settlement of Likely and 100 km northeast of the City of Williams Lake. The City of Prince George is 165 km to the northwest.

The geographic coordinates of the property are:

52.85° North Latitude and 121.20° West Longitude or  
621000 E and 5856000 N UTM coordinates (NAD 83).

The relevant map is: N.T.S. Map No. 93A/14.

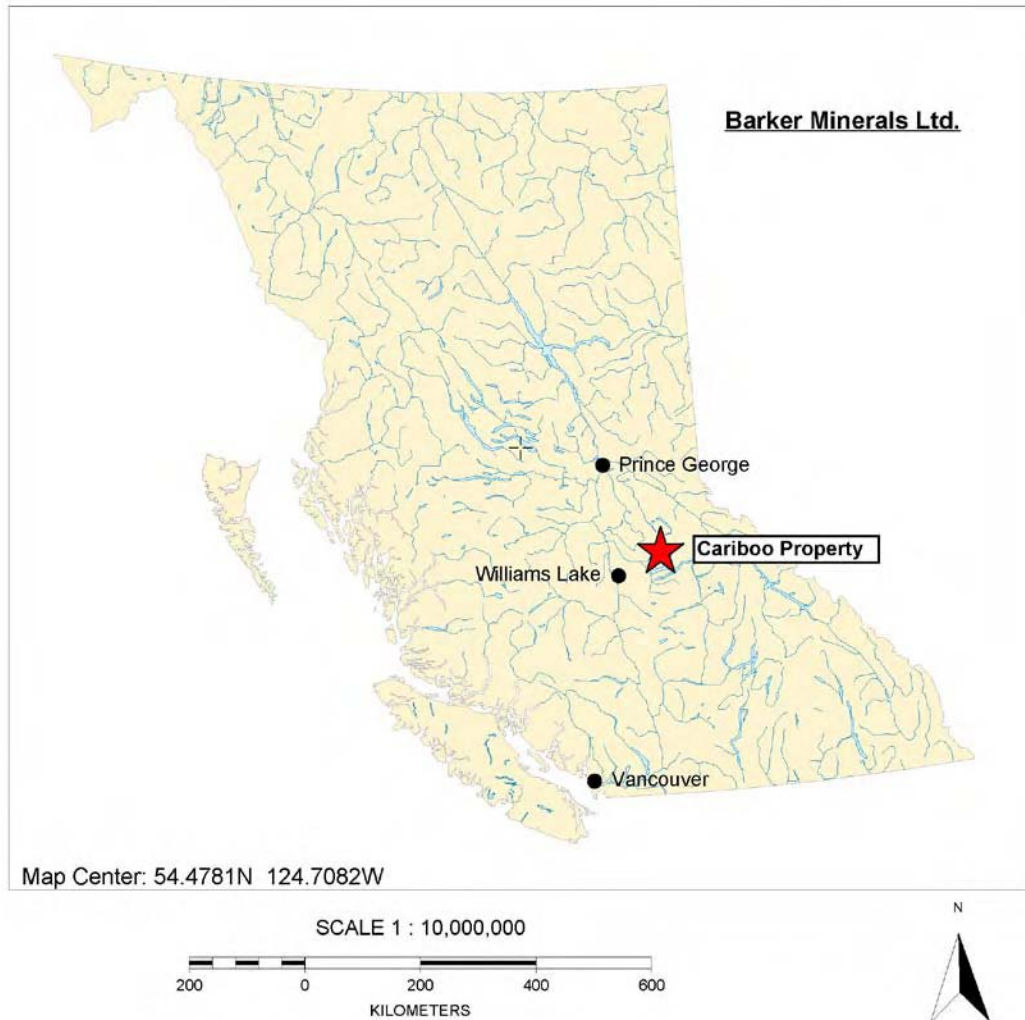


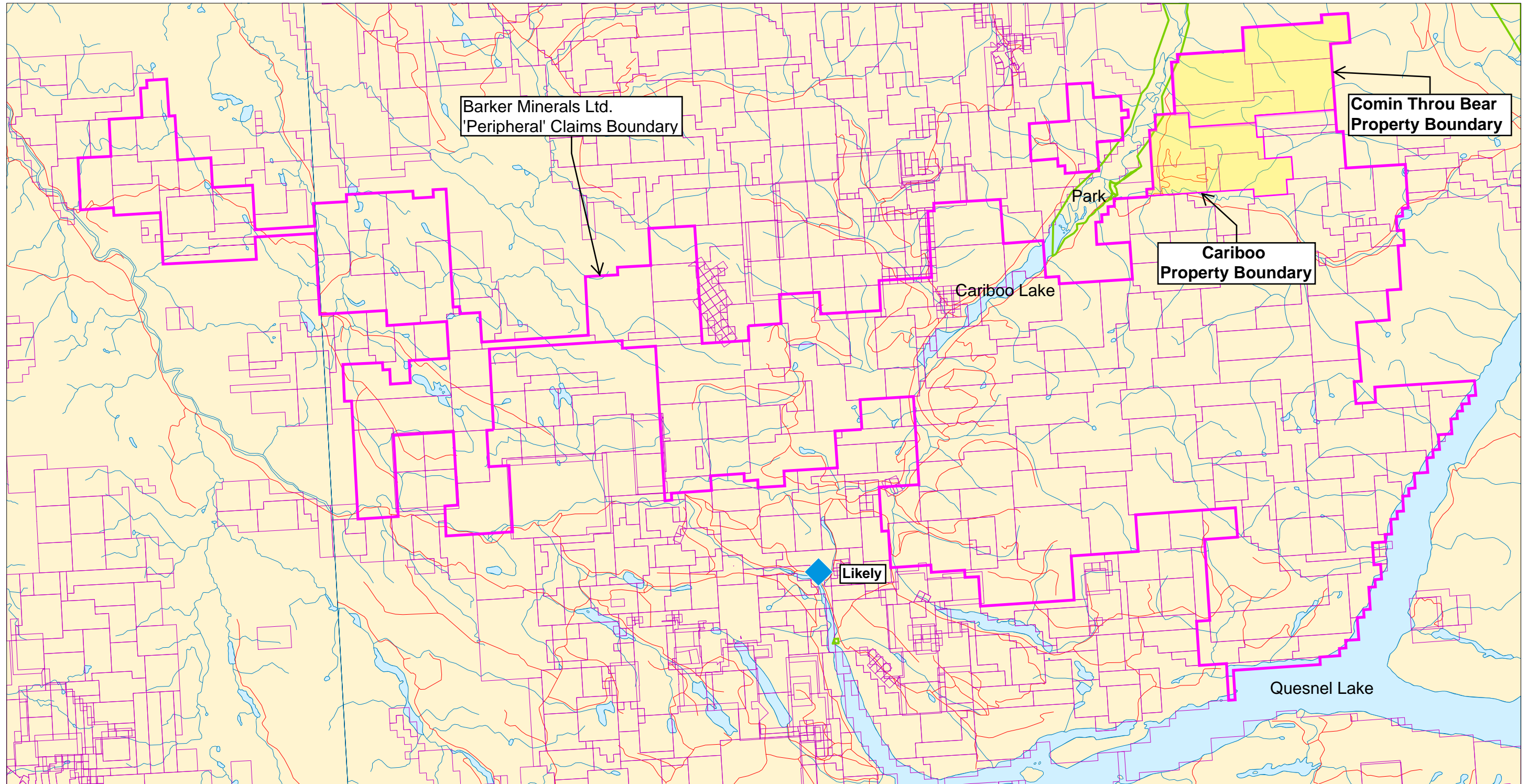
Figure No. 1 Cariboo Property Location.

## **7.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY**

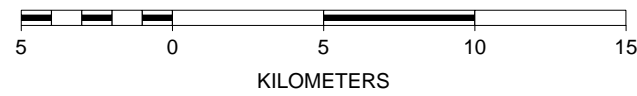
The closest large centre to the Barker Minerals project areas is Williams Lake located approximately 100 km to the southwest. Williams Lake is an intermediate-sized city and served by Highway 97, the B.C. Railway, a major hydroelectric power grid and a modern airport. By road, Likely is 65 km northeast of 150 Mile House on Highway 97. Access to Barker Minerals exploration areas, including the Cariboo property, is via gravel logging roads bearing northeast from Likely. The Cariboo property is crossed by a network of disused logging roads which require brushing out in order to make them drivable. The distance from Likely to Cariboo is approximately 50 km by road. In Likely, Barker Minerals maintains a property that includes a house, a bunkhouse, a workshop and a large general-purpose tent and a core-cutting shack. The house serves as a field office.

# **Barker Minerals Ltd. Mineral Claims**

## **Cariboo Mining Division**



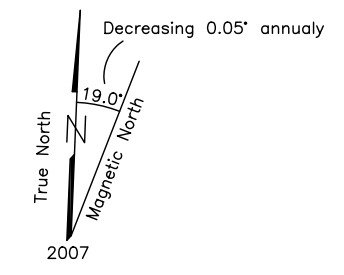
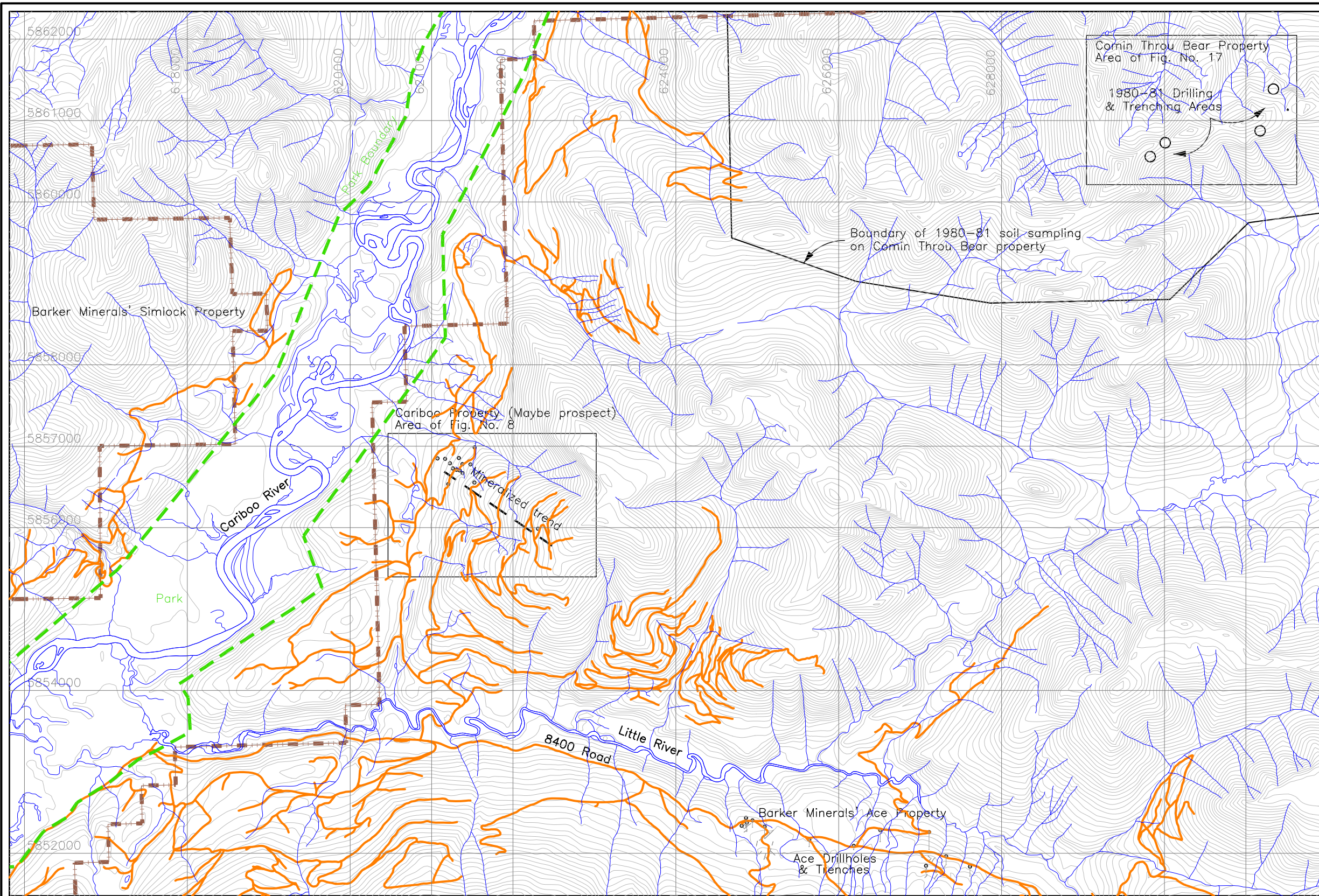
SCALE 1 : 250,000



KILOMETERS

**Figure No. 2**

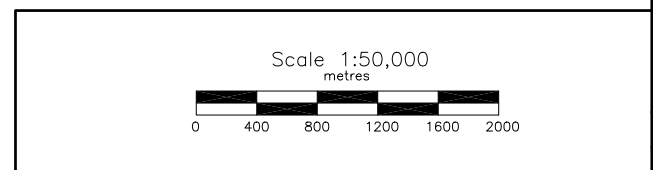




**LEGEND**

- Topographic Contour & Elevation  
Contour interval 20 metres
- Creek, Pond, Swamp
- Road
- Minfile Location
- Barker Minerals Claim Boundary

UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10



BARKER MINERALS LTD.	
CARIBOO & COMIN THROU BEAR PROPERTIES	
Topography and Road Access	
Cariboo Mining Division, B.C.	
NTS Mapsheet: 93 A/14	Date: August 23, 2009
Drawn by: RT	Fig.No. 3

The Cariboo property is situated in the central part of the Quesnel Highland between the eastern edge of the Interior Plateau and the western foothills of the Columbia Mountains. This area contains rounded mountains that are transitional between the rolling plateaus to the west and the rugged Cariboo Mountains to the east. Pleistocene and Recent ice sheets flowed away from the high mountains to the east over these plateau carving U-shaped valleys. The elevation ranges from 900 m to 1,750 m.

Precipitation in the region is heavy, as rain in the summer and snow in the winter. Drainage is to the west via the Cariboo, Little and Quesnel Rivers to the Fraser River. Quesnel Lake, the main scenic and topographic feature in the region, is a deep, long, forked, glacier-carved lake with an outlet at 725 m elevation. Vegetation is old-growth spruce, fir, pine, hemlock and cedar forest in all but the alpine regions of the higher mountains. Weldwood has been actively logging fir, spruce and pine in the area, principally during winters. Snow can limit the work season to approximately May to November, but drilling can be conducted any time during the year if the access road is plowed clear.

## **8.0 HISTORY**

### **8.1 Work done in 1987**

The relevant report is Assessment Report 17357 by G.D. Bysouth.

Twenty DDH holes (3,044 m) were drilled on the Maybe claim group consisting of 119 claim units under option to Gibraltar Mines Ltd. The target was a Pb-Zn mineralized zone exposed in outcrops. The mineralized zones were apparently concordant with enclosing rock units and had an apparent strike of over 450 m. The orientation of the mineralization and enclosing limestone and phyllite rock units was NW-SE strike, dipping moderately to the NE.

Three main mineralized zones had fixed stratigraphic positions relative to an overlying banded black phyllite marker unit, suggesting the locations of the mineralization may be stratigraphically controlled. Though the mineralized zones were not obviously confined to a specific sedimentary horizon they tended to occur preferentially within limestone units and limestone contacts.

Numerous intersections of Pb-Zn mineralization were encountered; most had strong quartz veining within or adjacent. Silver was also highly anomalous. The three main mineralized zones were referred to as the main, upper and lower zones. Results of the limited drill program indicated mineralization in the main zone had a width 2.0 – 9.0 m and a grade of approximately 5-10% combined Pb-Zn. The mineralized zones showed remarkable continuity along strike but grade seemed to decrease with depth. All of the core sample lengths were 3.0 m. Core recoveries were generally poor due to the soft fissile nature of the rock.

A very rough grade and tonnage estimate was made based on the results from the small drill program, where at a 1% combined Pb-Zn cutoff, the lower part of the main zone contained 200,000 tonnes of continuous mineralization, and probably a similar volume of material

occurring combined in the other zones, for a total of 400,000 tonnes at 4% combined Pb-Zn. This is not an appropriate resource category and does not comply with the requirements of current securities legislation.

No further work was recommended as the drill program did not outline a significant tonnage of ore, though the possibility of discovering more high grade ore shoots was recognized.

## **8.2 Work done in 1989**

The relevant report is Assessment Report 19027 by B.E. Spencer.

Geological mapping, trenching and soil sampling was done on the Maybe claim group under option to Sable Resources Ltd. The target was stratabound Pb-Zn.

Eighteen rock samples were analyzed and 95 soil samples were collected over a 100 m x 300 m grid. Approximately a dozen trenches were excavated, concentrated mainly in two areas along the 1,500 m strike of the known mineral showings. The small soil sampling grid, between the trenching areas, had highly anomalous Pb and Zn values across its entire area (Figure No. 9) with Pb values up to 302 ppm and Zn values up to 1,870 ppm. Anomalous Pb and Zn also occurred on a single reconnaissance soil line ('contour grid') 200 m farther SE (Figure No. 8).

Eight mineralized locations, termed 'veins' A to H, were discovered. The work done on the Maybe property in 1987-89 determined that pods and lenses of high grade Pb-Zn mineralization and highly anomalous soils exist along a fairly well defined 1,500 m limestone stratigraphic trend. These widely separated mineral showings were determined to be small and discontinuous, thus no further work was recommended and the claims eventually lapsed. The limited work done in 1987-89 tended to concentrate on evaluating individual veins without exploring the major trend as a whole.

## **8.3 Work done in 1996**

The relevant report is Assessment Report 24989 by C.A.R. Lammle and R.S. Roach.

Barker Minerals Ltd. did a VLF-EM and magnetic survey on five lines on their Cariboo property which covered the area of the old Maybe property. Approximately 50 soil samples and several rocks were collected on road traverses mainly north of the mineralized trend known from the 1987-89 surveys.

The Cariboo property, occurred within a larger group of Barker Minerals' claims, consisting of 2,590 mineral claims, later termed the 'Peripheral' group of claims. In 1996 the 'Peripheral' group covered an approximately 30 km x 40 km area on the east side of Cariboo Lake. This large group was staked in response to discoveries made at Barker's Ace property and in regional prospecting during 1993-95. The 'Peripheral' group would by 2009 also include Barker Minerals' Frank Creek massive sulphide discovery and other prospects named Simlock, Kangaroo, Black Bear (Providence), Cariboo, Black Stuart, Big Gulp, SCR, Sellers Creek, Unlikely, Peacock (Rollie Creek), Trump, Tasse, Upper Grain, Maud, MAG and Gerimi.



Conductor anomalies were found on the Cariboo property associated with the Pb-Zn mineralization defined in 1987 by Gibraltar Mines Ltd. No magnetic anomalies were associated. The reconnaissance soil and rock sampling tended to verify the existence of the known outcrop showing of the main Pb+Zn zone but this geochemical survey was too limited to have further significant results. Further VLF-EM and magnetic surveying on a grid pattern along with geological mapping, stream sediment and grid soil sampling were recommended, with the object of completely delimiting the stratabound mineralization on the property. 2,000 m of DDH drilling was also recommended to extend the previous drilling by Gibraltar Mines.

#### **8.4 Work done in 1997**

The relevant report is Assessment Report 25437 - Appendix 4 by J.G. Payne (petrographic report on Cariboo prospect).

In a petrographic study, in 5 rock specimens sphalerite, pyrite and galena mineralization was interpreted as being of replacement type, with various stages of metamorphic recrystallization.

### **9.0 GEOLOGICAL SETTING**

#### **9.1 Regional Geology**

The geological descriptions in this Section derive mainly from Struik (1988), Panteleyev et al. (1996) and Payne and Perry (2001); these authors are quoted extensively.

The western Canadian Cordillera is made up of a number of terranes representing crustal blocks of fundamentally contrasting histories. The terranes are commonly bounded by faults and trench complexes or collisional suture zones.

The fundamental geologic components that make up the terranes are referred to as 'tectonic assemblages'. The assemblages represent rocks deposited in specific tectonic settings during certain periods of time and, therefore, are commonly bounded by unconformities or faults. They represent distinctive successions of stratified rocks and other characteristic lithologies, mainly coeval metamorphic, plutonic and ultramafic rocks. The assemblages are categorized in terms of their predominant depositional setting or position relative to the orogen, for example, island arc, back arc, ocean basin or continent-margin fore-deep clastic wedge or passive-margin sediment, and so forth. Tectonic assemblages are commonly named after their principal constituent formation, group or region in which the assemblage is best described. During the mid-Jurassic the North American continental plate collided with a group of island arcs to the west.

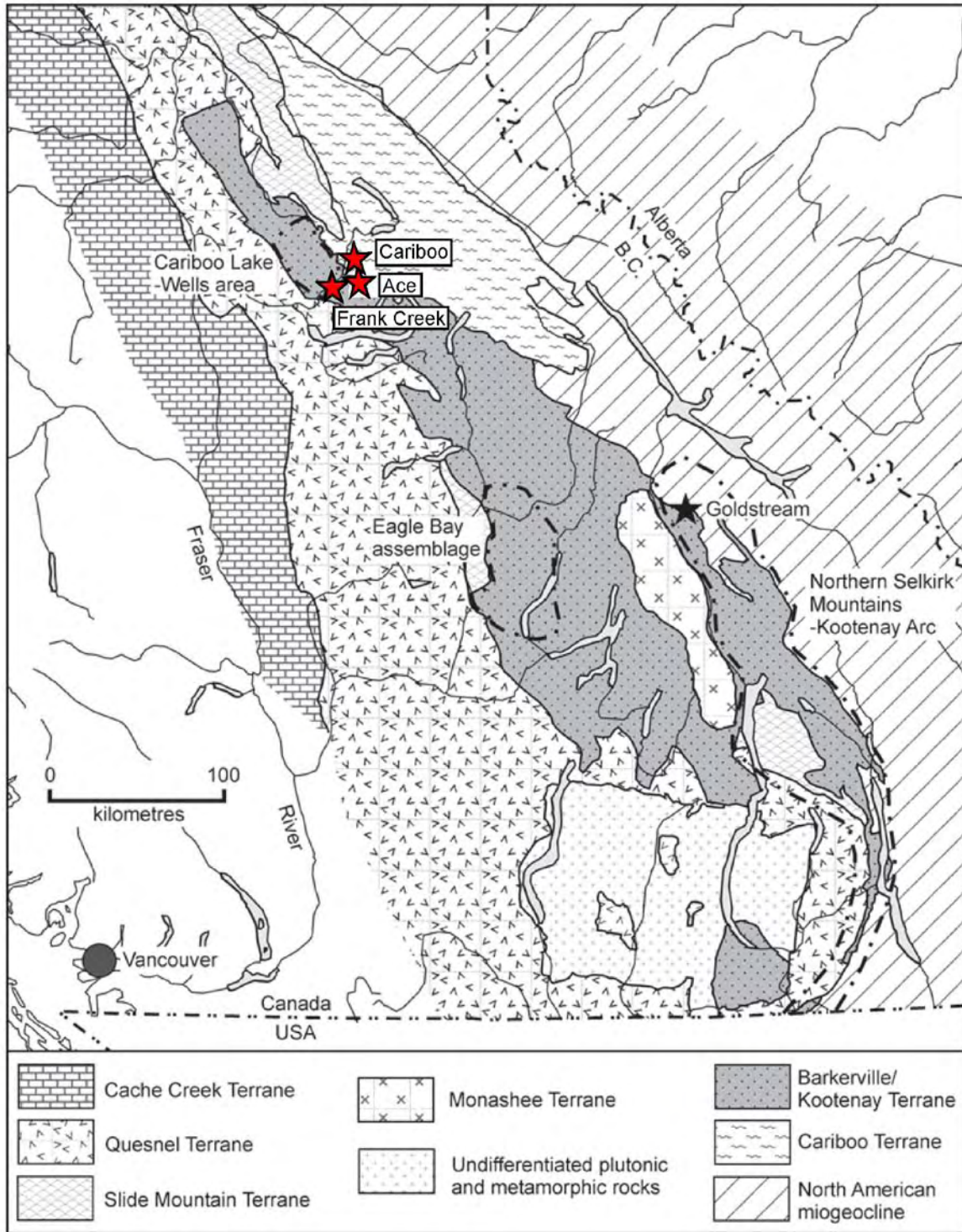


Figure No. 4 Terrane Map of Southern British Columbia. Barker Minerals' properties are indicated by red stars. The black star (Goldstream) was a massive sulphide producer from 1983 to 1996 which has been compared with Barker's Ace property..

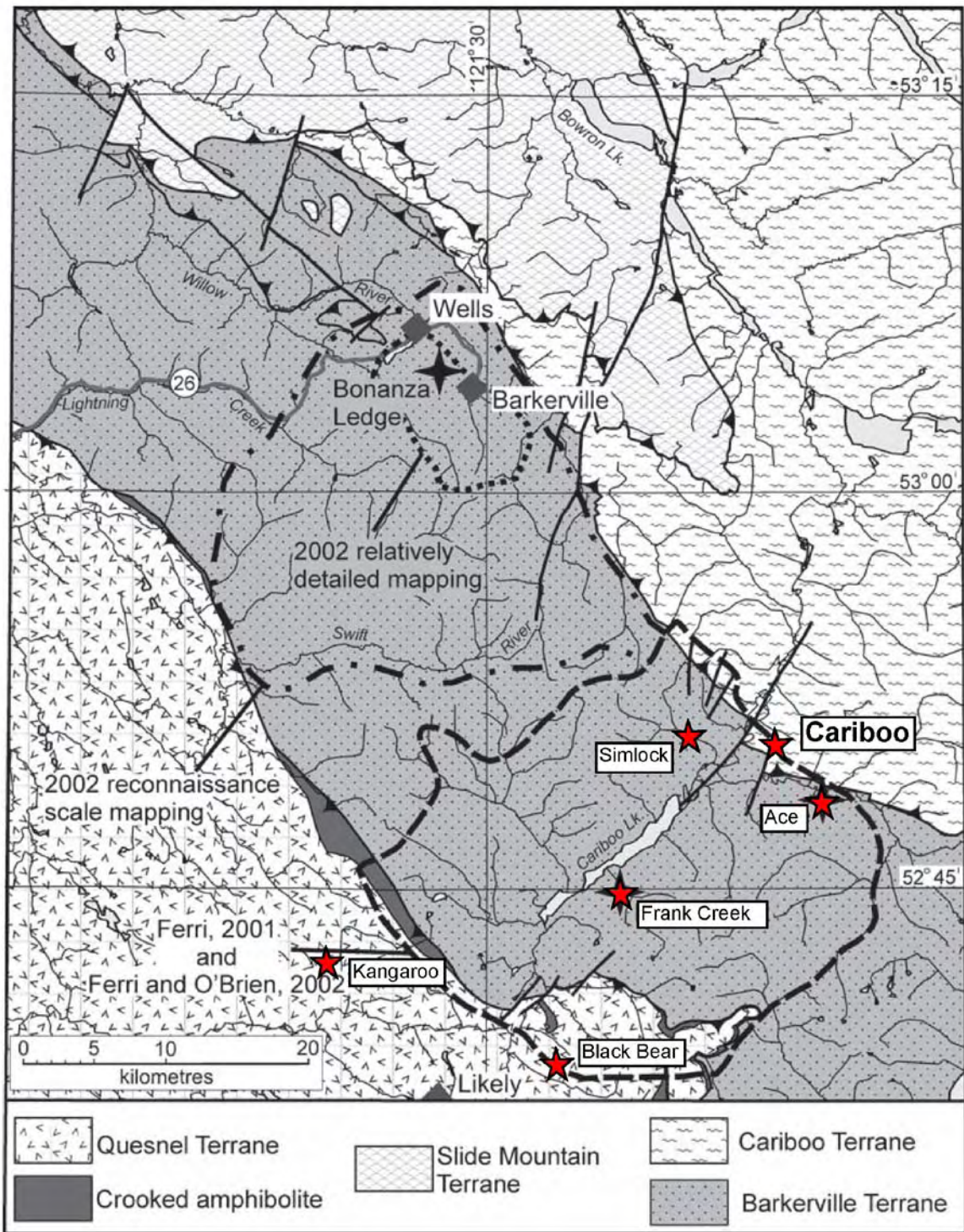


Figure No. 5 Terrane Map of Cariboo Lake – Wells Area showing areas mapped by BCGS in 2000 – 2002. Barker Minerals' properties are indicated by red stars. Bonanza Ledge is a developed gold prospect that has similarities to gold mineralization at Barker's Ace and Simlock properties.

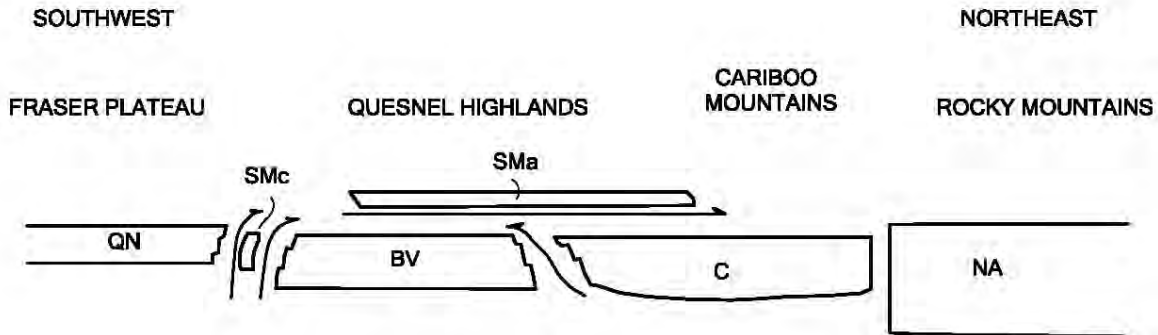


Figure No. 6 Schematic Regional Structural Section from southwest to northeast across the four Terranes in Barker Minerals' claims' area, showing the relative structural position of the Terranes. The Terrane symbols are BV-Barkerville, C-Cariboo, Sma-Slide Mountain (Antler Formation), SMc-Slide Mountain (Crooked amphibolite), QN-Quesnel and NA-North American. (after Struik, 1988).

### Quesnel Terrane

The Quesnel terrane was accreted to the North American continent during the Late Triassic to Early Jurassic. The Eureka thrust fault marks the boundary between the Quesnel and Barkerville terranes. The terrane is partly submarine and partly subaerial, consisting of volcanic and volcanoclastic rocks and co-magmatic intrusions, with minor carbonate lenses and related sedimentary rocks.

The principal assemblage in the Quesnel Terrane is the Triassic-Jurassic Nicola island arc – marginal basin sequence. The underlying rocks are the Crooked amphibolite, part of the Slide Mountain assemblage, a mylonitized mafic and ultramafic unit of oceanic marginal basin volcanic and sedimentary rocks. Rocks of Quesnel Terrane and Crooked amphibolite are structurally coupled and tectonically emplaced by the Eureka Thrust onto the Barkerville Terrane, to the east.

Two lithostratigraphic subdivisions of the Quesnel Terrane consists of a basal Middle to Late Triassic metasedimentary unit of dominantly black phyllitic rocks, approximately 7 km thick, and an overlying Late Triassic to Early Jurassic volcanic arc assemblage, approximately 9 km thick. The overlying volcanic rocks outline a northwesterly trending belt of subaqueous and subaerial volcanic rocks, deposited along a series of volcanic-intrusive centres that define the Quesnel island arc of predominantly alkalic basalts.

The Quesnel Trough is a well-mineralized region typical of other Late Triassic to Early Jurassic volcano-plutonic island arcs in the Cordillera. It hosts a wide variety of mineral deposits. The principal recent exploration and economic development targets in the central Quesnel belt are alkalic intrusion-related porphyry copper-gold deposits and gold-bearing propylitic alteration

zones formed in volcanic rocks peripheral to some of the intrusions. Other important targets are auriferous quartz veins in the black phyllite metasedimentary succession. The veins in some black phyllite members have potential to be mined as large tonnage, low-grade deposits. Tertiary rocks are mineralized with copper and gold. Antimony-arsenic and mercury mineralization in some apparently low temperature quartz-calcite veins indicated the potential for epithermal deposits. Placer mining for gold, said to occur together with platinum, has been of major historical and economic importance.

### **Slide Mountain Terrane**

Rocks of the Devonian to Late Triassic Slide Mountain Terrane were partly obducted, partly subducted during collision of an oceanic plate with the continent. Small slices of mainly mafic volcanic rocks and ultramafic rocks of the Slide Mountain Terrane occur in and parallel to the Eureka thrust. Minor lithologies include chert, meta-siltstone and argillite.

The Crooked amphibolite, considered likely a part of the Slide Mountain Terrane, includes three major constituent rock types: greenstone, metagabbro and meta-ultramafite. North of Quesnel Lake, the map units consist of mafic metavolcanics, amphibolite, chlorite schist, serpentinite, ultramafic rocks and pillow lavas. Chemical analyses indicate subalkaline tholeiitic compositions of basalts formed on the ocean floor. If the Crooked amphibolite is a sheared and metamorphosed equivalent of the Antler Formation and is part of the Slide Mountain Terrane, it is separated from the underlying Barkerville Terrane by the Eureka thrust, a wide zone of mylonitization. The Crooked amphibolite and the overlying rocks of Quesnel Terrane are structurally coupled and emplaced tectonically onto Barkerville Terrane.

### **Barkerville Terrane**

The Barkerville Terrane is made up of the Snowshoe Group and Quesnel Lake gneiss. The Snowshoe rocks are Upper Proterozoic to Upper Devonian metasediments, considered correlative in age with Eagle Bay rocks of the Kootenay Terrane to the south and Yukon-Tanana Terrane to the north. The Snowshoe rocks are dominated by varieties of grit, quartzite, pelite, limestone and volcanoclastic rocks. The stratigraphic sequence is not well understood. The region was deformed by intense, complex, in part isoclinal folding and overturning. Locally, strong shear deformation produced mylonitic textures. The Quesnel Lake gneiss is a Devonian to Mississippian intrusive unit varying in composition from diorite to granite to syenite. It is generally coarse grained, leucocratic, often with megacrysts of potassium feldspar. The main body of gneiss is 30 km long by 3 km wide and is elongated parallel to the eastern border of the Intermontane belt. Its contacts are in part concordant with, and in part perpendicular to, metamorphic layering.

The contact between the Barkerville Terrane and Cariboo Terrane to the east is the Pleasant Valley Thrust. The Barkerville and Cariboo Terranes were juxtaposed prior to emplacement of the Slide Mountain Terrane which was thrust over both of them. The northeastern third of the Barkerville Terrane is the main zone of economic interest in the Cariboo district. Struik described it as "gold-enriched", because it contains the historic Wells and Barkerville mines and

the Cariboo Hudson deposit, approximately 40 km and 15 km northwest of the Ace project area, respectively.

### **Cariboo Terrane**

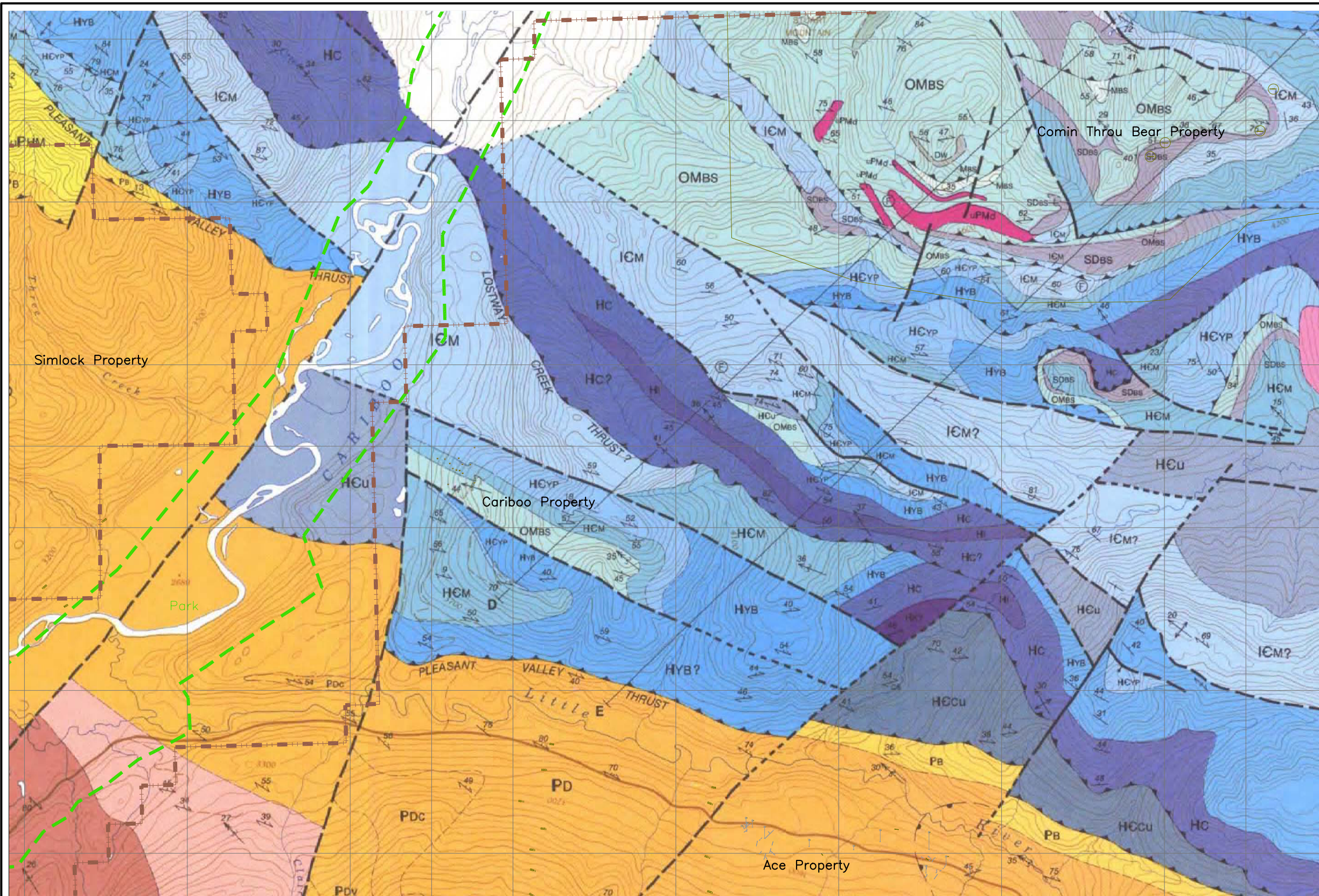
The northeastern part of Barker Minerals' 'Peripheral' claim group is underlain by Precambrian to Permo-Triassic marine peri-cratonic sedimentary strata of the Cariboo terrane. The Cariboo Terrane consists mainly of limestone and dolomite with lesser siliceous, clastic, sedimentary rocks and argillite. Some geologists believe that the Cariboo Terrane is a shallow, near-shore facies and the Barkerville is a deeper, offshore facies of the same erosion-deposition system. No rifting is suspected between the Cariboo Terrane and the North American continent, in contrast to that between the Barkerville Terrane and the North American continent. Lithologies within the Cariboo Terrane correlate well with parts of the Cassiar Platform and Selwyn Basin of Yukon and northern British Columbia.

The Cariboo and Barkerville Terranes are separated by the regional Pleasant Valley thrust fault, which dips moderately to steeply northeast. Struik (1988) states the Cariboo block was thrust from the east over the Barkerville block along a strike length of over 100 km. The Cariboo Terrane was cut by the Jurassic-Cretaceous Little River stock, a medium-grained granodiorite grading to quartz monzonite. Some of the carbonate layers in the lowest part of the Cariboo terrane (or upper part of the Barkerville Terrane) are enriched in zinc and lead. Since the 1970's, preliminary exploration on stratabound Zn-Pb targets has been conducted in this area.

### **Glaciation and glacial deposits**

The last glacial stage that affected the Quesnel Highland, the Fraser glaciation, began 30,000 years ago. Much of this ice had melted by 10,000 years ago, but small remnants are preserved high in the alpine areas of the Cariboo Mountains. At lower elevations, glaciers of this age scoured the debris left by preceding ice advances, almost completely destroying them, leaving a chaotic assemblage of unsorted till, moraine and drift, with lenses of gravel and sand that had been roughly sorted by melt water and rivers, leaving behind beds of silt and clay that were stratified by settlement in ice-dammed lakes. In the Cariboo area, the debris covers bedrock in valleys below 1,700 m, leaving typical glacial features such as U-shaped valleys, ice-sculpted drumlins, moraine terraces and glacier and river benches. On the Barker Minerals properties, glacial deposits range from one to a few tens of metres thick. Some glacial till deposits are overlain by well-bedded glaciolacustrine clay and silt deposits up to a few tens of metres thick.

In much of the Cariboo district, a layer of distinctive, hard, compact, semi-rigid blue clay sits either on or slightly above bedrock and acts as "false" bedrock. It was formed from glacial drift left behind by the last ice advance prior to the Fraser glaciation and was compacted by the weight of the Fraser stage ice. In the placer-gold areas of the Cariboo, large amounts of gold were recovered from gravel resting on this clay. In places the clay layer was penetrated by the placer miners to reach richer "pay streaks" on true bedrock below.



**GEOLOGIC LEGEND**

- Paleozoic**
- PD** Downey succession: olive and grey micaceous quartzite, phyllite and undifferentiated rocks.
  - Middle and/or upper Devonian**
  - DW** Waverly Formation: schistose, calcareous, baaltic tuff, and volcaniclastics, pillow basalt, minor siltite.
  - Ordovician to Mississippian or Younger**
  - MBS** Black Stuart Group sandstone unit: olive grey micaceous and white quartzite, black and pink chert.
  - Upper Ordovician and Devonian to Mississippian or Younger**
  - OMBS** Black Stuart Group black pelite unit: black slate, argillite and cherty argillite, black limestone, dolostone and silicified limestone.
  - Upper Silurian and lower Devonian**
  - SDbs** Black Stuart Group chert-carbonate unit: light to dark grey chert breccia, grey limestone matrix, dolostone granule to pebble breccia, limestone matrix, chert-quartz-dolostone conglomerate to breccia.
  - Lower Cambrian**
  - ICM** Mural Formation: grey limestone, minor shale and argillite.
  - Hadrynian and/or Cambrian**
  - HCM** Midas Formation: dark siltstone and quartzite, minor shale and argillite.
  - HCyp** Yanks Peak Formation: grey and white, minor pink and green quartzite, minor siltstone and argillite.
  - Hcu** Midas, Yanks Peak and Yankee Belle Formations: undivided.
  - Hadrynian**
  - HYB** Yankee Belle Formation: green and grey thin bedded argillite, shale, minor quartzite and limestone; local phyllits and schist.
  - Mississippian or Younger**
  - UPMd** Diabase, diorite.

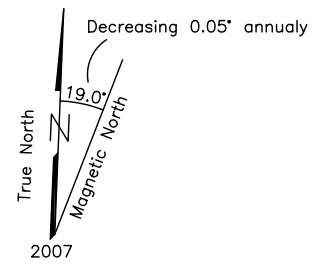
Geological information here is from:  
 Structural Geology of the Cariboo Gold Mining District, East Central British Columbia, Geology by L.C. Struik, GSC Memoir 421.

Geologic Legend at right is abbreviated from Memoir 421 – Map 1638A.

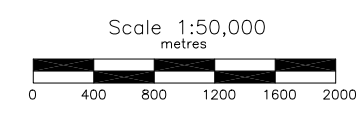
Rocks on north side of Pleasant Valley Thrust Fault are part of Cariboo Terrane. Rocks on south side of fault are part of Barkerville Terrane.

**LEGEND**

- Topographic Contour & Elevation Contour interval 20 metres
- Creek, Pond, Swamp
- Road
- Minfile Location
- Barker Minerals Claim Boundary



UTM Coordinate System  
 Map Datum: NAD 83  
 Zone: 10



**BARKER MINERALS LTD.**

**CARIBOO & COMIN THROU BEAR PROPERTIES**

**Geology**

Cariboo Mining Division, B.C.

NTS Mapsheet: 93 A/14

Date: August 23, 2009

Drawn by: RT

Fig.No. 7

## 9.2 Local Geology

The description of the local geology at the Maybe prospect is after Bysouth (1987), quoted in *italics* below.

*The Maybe Group and surrounding areas are underlain principally by three rock formations all of which strike northwesterly and appear to dip northeasterly.*

*The first is a thick sequence of grey to white medium grained marble limestone and dolostone which lies along the northeast side of the claim group and extends into the Maybe 5 and Maybe 8 claims.*

*The second [formation] is a complex sequence of black, grey-green and light grey phyllite containing numerous beds or lenses of medium grey to black limestone and minor dark quartzite. This formation underlies most of the claim group and hosts the lead-zinc mineralization. Within the drilling grid it has been subdivided into three units: The uppermost of the three [units] has been labelled as Black Banded Phyllite Unit [which] consists almost entirely of finely laminated black graphitic phyllite. The next [unit] is much more complex...referred to as the Limestone-Phyllite Unit. It consists essentially of short, often thick, discontinuous black to medium grey limestone beds and lenses interbedded with, and interfingering with, an array of light grey, greenish grey and brownish grey phyllites. Minor fragmental rock, called greywacke in the logs, occur closely associated with the limestone and may suggest a reef-type unit and is continuous enough to serve as a marker horizon. The lowest [unit is] the Black Phyllite-Quartzite Unit. It has not been well defined but appears to consist of black banded phyllite, minor limestone, minor grey phyllite and a dark grey quartzite member at its base.*

*The third formation is a thick monotonous assemblage of grey-green phyllite and minor medium grey quartzite which lies along the southwest side of the claim group and likely extends as far as the Little River.*

*Rock types encountered in the drilling have been grouped into three units...illustrated in the drill sections [Figure Nos. 10 to 16]. The three units appear structurally conformable, and have an average strike of 300-degrees and dip 55-degrees to the northeast.*

Spencer (1989) described the local surface geology mapped in the 1989 work program. Text in *italics* below are quotes from his assessment report.

The portion of the Maybe property that has been explored in detail has three NW trending structural blocks bounded by faults. The rocks within the blocks are distinctive but have not been correlated with specific formations.



*North Block:*

*This block is underlain by graphitic argillites. Banding is prominent in drill cores of this unit but less obvious on surface due to weathering and a pervasive foliation striking at 110<sup>o</sup>-120<sup>o</sup> and dipping steeply north.*

*Centre Block:*

*This block is underlain by massive to banded graphitic and blue-grey limestones interbedded with grey green phyllites and yellow-green locally limey sericite schists. These schists may be altered equivalents of the phyllites. The rocks within this unit trend sub-parallel to the main boundary faults.*

*South Block:*

*Rocks in this block consist of sericite schists, silver quartz-mica schist and lesser grey quartzites which form prominent ridges in this southern area.*

Figure No. 8 (after Spencer, 1989) illustrates the geology as mapped in the 1989 work program.

The three sub-units of Bysouth's second formation appear to correspond with Spencer's structural blocks respectively in the following manner:

Bysouth - Spencer  
Black Banded Phyllite Unit = North Block  
Limestone-Phyllite Unit = Centre Block  
Black Phyllite-Quartzite Unit = South Block

## **10.0 DEPOSIT TYPES**

Barker Minerals Ltd. is exploring the Cariboo property for the following type of mineral deposit:

- Irish-Type Carbonate-Hosted Zn-Pb (B.C. Mineral Deposit-Type E13)

The Irish-type type has similarities to Mississippi Valley (E12) and Manto (J01) deposits. The full description of the Irish-type mineral deposit is in Appendix A.

## **11.0 MINERALIZATION**

Bysouth (1987) wrote:

*Surface galena-sphalerite mineralization exposed...suggests the presence of a main mineralized zone having a strike length of over 450 m, a width of 2.0-9.0 m and a grade of 10% combined lead-zinc.*

Numerous intersections of lead-zinc mineralization were encountered in the drilling. Most of the higher grade zones had a 'core' of massive sphalerite-galena mineralization up to one metre wide; this was contained within a buff to greenish-brown matrix which appeared to be a mixture of iron carbonate, quartz and sericite...Strong 'bull' quartz veining was noted within or adjacent to most of the zones, and in some cases, was observed to carry galena-sphalerite mineralization. Silver enrichment was evident in the assay results of all of the zones but most values were below 10 ppm, and the highest was 24 ppm.

The best combined Pb+Zn assays from core and their locations are illustrated in the drill sections (Figure Nos. 10 to 16).

Eight Pb-Zn mineral showings (designated Veins A- H) were mapped over a 1,500 m strike length in 1989. Trenches (designated 1 - 5 and A – H) were excavated on most of these showings. Mineralization observed in the trenches and outcrops consisted of sphalerite, galena and minor pyrite hosted in limestones and limestone contacts. The mineral showings appeared fracture controlled; the strongest mineralization was associated with quartz veins and stockworks accompanied by ankerite alteration. Generally, the mineralization is characterized by a large Zn/Pb ratio, moderate silver content and low gold content, similar to those of many carbonate-hosted, replacement Zn-Pb deposits, including those in the Early Cambrian platform carbonates of the Kootenay arc in southeastern British Columbia.

Listed below are Pb and Zn geochem and assay results from trenches and several outcrops from Spencer (1989); their locations are indicated on Figure No. 8:

		<u>Length</u>	<u>Pb</u> <u>ppm</u>	<u>Zn</u> <u>ppm</u>
Trench 1	Sample	2.2 m	121	2,900
Trench 2	Sample A	2.0 m	468	2,400
Trench 2	Sample B		149	4,300
Vein C	Stn. 051	grab	0.37%	1.47%
Trench 3	Sample A	1.0 m	535	8,600
Trench 3	Sample B	0.6 m	1,100	1,600
Trench 3	Sample C	1.5 m	87	305
Road Cut	Sample D	0.6 m	0.7%	10.8 %
Trench 4	Sample E	2.0 m	6,800	5,700
Trench 4	Sample F	0.3 m	133	80,000
Trench 5	Sample G	1.2 m	59	330
Trench 5	Sample H	grab	56	199
Trench A	Vein D 0-1.5m	1.5 m	4.20%	7.94%
Trench A	Vein D 1.5-3.0m	1.5 m	3.02%	4.23%
Trenches B,C,F			no mineralization	
Trench D	Sample		102	2,700
Trench E	Sample	1.0 m	93	3,100
Trench G	Sample	1.0 m	0.10%	0.22%

Trench H	Sample	1.82 m	6.65% 15.9 %
Trench I	Sample	1.0 m	2.54% 8.80%
outcrop	Stn. 036	1.0 m	5.59% 32.80%
outcrop	Stn. 023	2.4 m	5.32% 10.80%
outcrop	Stn. 019A	grab	1.28% 4.74%
outcrop	Stn. 065	0.42 m	5.92% 15.10%

## **12.0 EXPLORATION**

The only significant exploration done on the Cariboo property was that done in 1987 by Gibraltar Mines Ltd. and in 1989 by Sable Resources Ltd.; in those years the property name was Maybe. By 1996 the claims comprising the Maybe property had elapsed and the area was restaked by Barker Minerals Ltd. as the Cariboo property. That year Barker did reconnaissance prospecting, soil sampling and VLF-EM traverses along roads. Since then no significant exploration work has been done. As all of the exploration done on the property is historical, the work is discussed in Sections 8.0 History, 9.2 Local Geology, 11.0 Mineralization and 13.0 Drilling.

## **13.0 DRILLING**

Twenty DDH holes (3,044 m) were drilled on the Maybe (Cariboo) property in 1987 by Gibraltar Mines Ltd.

Hole ID	Az. (°)	Dip (°)	Length (m)	Zone tested
87-A1	218	-45	236.82	main & lower
87-A2	218	-70	146.91	main
87-A3	218	-45	150.88	upper
87-A4	218	-70	163.68	upper
87-A5	218	-45	140.21	main & upper & other
87-A6	vert.	-90	61.26	upper
87-A7	218	-45	231.65	other
87-A8	218	-45	193.55	none
87-A9	218	-45	163.90	other
87-A10	218	-55	207.26	main
87-A11	218	-45	9.45	abandoned
87-A11	218	-45	152.70	none
87-B1	218	-45	167.94	main?
87-B2	218	-75	145.69	main?
87-B3	218	-45	181.35	main
87-B4	218	-85	78.33	main
87-B5	218	-45	150.87	main & lower
87-B6	218	-45	100.28	none
87-B7	218	-45	199.64	main
87-B8	218	-45	161.85	main

Table No. 2 Maybe (Cariboo) Property Diamond Drill Hole Details.

The objective of the 1987 drill program was to determine the probable grade and tonnage of Pb-Zn mineralization exposed in outcrops. Drilling conditions were moderately good but recoveries were frequently poor due to the soft fissile nature of the rock, especially in the mineralized zones where recoveries were often in the range of 15-50%. All of the core sample lengths were 3.0 m, excessively long for this type of mineralization.

Three main mineralized zones had fixed stratigraphic positions relative to an overlying banded black phyllite marker unit, suggesting the locations of the mineralization may be stratigraphically controlled. Though the mineralized zones were not obviously confined to a specific sedimentary horizon they tended to occur preferentially within limestone units and limestone contacts.

Numerous intersections of Pb-Zn mineralization were encountered; most had strong quartz veining within or adjacent. Silver was also highly anomalous. The three main mineralized zones were referred to as the main, upper and lower zones. Results of the limited drill program indicated mineralization in the main zone had a width 2.0 – 9.0 m and a grade of approximately 5-10% combined Pb-Zn. Significant assays are indicated in the Drill Sections (Figure Nos. 10-16). The mineralized zones showed remarkable continuity along strike but grade seemed to decrease with depth.

#### **14.0 SAMPLING METHOD and APPROACH**

Work on the Maybe (Cariboo) property was done 1987, 1989 and 1996. Since then the property has been dormant. The historical sampling methods used vary and are not always described in detail in the respective Assessment Reports. The Assessment Reports should be consulted for the sampling methodology in the respective year's work.

#### **15.0 SAMPLE PREPARATION, ANALYSIS and SECURITY**

The historical methods used vary and are not always described in detail in the respective Assessment Reports. The Assessment Reports should be consulted for the laboratory methodology in the respective year's work.

#### **16.0 DATA VERIFICATION**

This author examined the outcropping of the Main Zone sphalerite and galena mineralization in 2007 during which a rock specimen was collected (see Plate No. 1) but not assayed. This outcropping is termed 'Spl. 19A' in Figure No. 8 and as 'main showing' in Figure No. 12.

## **17.0 ADJACENT PROPERTIES**

### **17.1 Comin Throu Bear Prospect - BC Minfile 093A 148**

Barker Minerals' Comin Throu Bear property is located approximately 10 km NE of the Cariboo property. The historic trenching and drilling areas are approximately 8.5 km east from the Cariboo River. Access to the work areas would be by helicopter from roads on the east side of the river. The description of Barker Minerals' Comin Throu Bear property from the BC Minfile is quoted in *italics* below.

*The [Comin Throu Bear] occurrence is located near the headwaters of Kimball Creek at Black Stuart Mountain, 36 kilometres southeast of Barkerville or 43 kilometres northeast of Likely. Access to the property is by helicopter or by 12 kilometres of horse-trail from the Matthew River logging camp northeast of Maeford Lake.*

*The region is underlain by rocks of the Cariboo Terrane which, in this area comprises formations of both the Cambrian-Mississippian Black Stuart Group and Upper Proterozoic-Cambrian Cariboo Group. Lithologies include dolostone breccia, clastic dolostone and limestone of the Mural Formation (Cariboo Group), and chert breccia and slate of the Black Stuart Group.*

*Showings occur at a number of locations on the property. Two types of mineralization have been identified but both types occur within a dolostone breccia. One type has galena associated with barite and is considered to be of sedimentary or diagenetic origin. The other type has galena, sphalerite and possibly tetrahedrite occurring as space fillings in brecciated quartz veining at the 'Tarn' showing with no obvious structural control on the localization of the veins. These quartz veins are restricted to the upper chert-dolostone breccia unit of the Mural Formation.*

*The "Comin Throu Bear" property [was staked] in 1979 to cover an area of stream sediment zinc anomalies around Black Stuart Mountain. Teck Explorations Ltd. optioned the property in 1980 and performed geological and geochemical surveys which found stratiform lead-zinc-silver-barite mineralization in limestone of the Mural Formation. In 1980, the area was explored as part of Gulf Minerals Canada's Cordilleran Sediments Geochemical Stream Sediment program. Two samples taken at this time near the head of Kimball Creek returned anomalous values in zinc and lead. In 1981, Teck Explorations Ltd. conducted geochemical, geological and drilling work which included 1522 soils, 53 silts, 1 water and 10 rock samples, geological mapping, and 16 diamond-drill holes totaling 465.6 metres of IAX core size. The Ter and Lin group of claims was staked in November, 1989 by Dual Resources Ltd, and in 1990 an airborne magnetometer and VLF-EM survey was completed over the entire property.*

By 1996 the claims over the area of the former Comin Throu Bear property had elapsed and the area was restaked by Barker Minerals Ltd. The old name, Comin Throu Bear, is used by Barker.

### 17.1.1 Work Done in 1980

The relevant report is Assessment Report 8582 by G. Lovang, including a geological appendix by H.J. Greenwood.

Geological mapping and geochemical sampling was done on the Comin Throu Bear property consisting of 194 claim units under option to Teck Explorations Ltd.

Mineral claims comprising the Comin Throu Bear property had been staked to cover streams anomalous in zinc. 1,747 soil samples were collected over 86 km of grid lines. 243 stream sediment samples were collected. 64 rock samples were collected in 5 hand-dug trenches (41 m total), several pits and along traverse lines.

All the streams originating within the Black Stuart Formation were anomalous in Zn. Streams originating below the Black Stuart Formation were not anomalous. This suggested a Zn-rich stratigraphic horizon existed in the Black Stuart Formation. Scattered, weakly anomalous Au occurred in stream silts and soils. A stream flowing northwest from Black Stuart Mountain had 280 ppb Au near its confluence with the Cariboo River. This anomalous silt was likely spurious as 14 other silts collected above and below on this stream were not anomalous. Soils with anomalous values of 20 – 50 ppb Au, and a few higher, occurred scattered with no apparent trend over the sampling grid. These were apparently not considered significant as they were not discussed in the assessment report. Anomalous values in Pb, Zn, Ag and Ba in soils extended for approximately 2,000 m along the upper contact of the Mural Formation limestone. Galena, sphalerite and barite mineralization occurred in the central or lower part of the Mural Formation and in the carbonate-rich basal breccia unit of the Black Stuart Formation.

Below are several highlights of the rock sampling:

	Width	Pb%	Zn%	Ba %	Ag oz/ton
Trench 1	1 m	30.30	2.20	28.80	0.33
Trench 1	1 m	4.25	0.13	15.80	0.19
showing 1	grab	9.85	21.10	0.94	N.A.
showing 2	grab	0.16	6.15	0.06	N.A.

Further surveys, including trenching and drilling were recommended.

### 17.1.2 Work Done in 1981

The relevant report is Assessment Report 9819 by A.J. Reed, G. Lovang and H.J. Greenwood.

Diamond drilling, geological mapping and geochemical sampling was done on the Comin Throu Bear property consisting of 279 claim units under option to Teck Explorations Ltd. The drilling program completed 16 DDH holes (465.6 m) using a small Winkie drill. 1,522 soils, 53 stream silts, 171 core and 10 rock samples were collected. The soil sampling grid was extended northward from the previous year's survey. In-fill soils were also collected at scattered locations within the area of the previous year's grid.

The drill program was intended to test mineralization in the upper Mural clastic dolostone exposed by hand trenching in the previous year's work. The longest DDH hole was 53.04 m; the other holes averaged approximately 30 m in length. Solution cavities in the dolostone caused several of the holes to be terminated early, though it is evident all the holes were intended to be very short. Pb and Zn was sporadically anomalous in the drill core apparently associated with barite veins; Ba was always highly 'anomalous' with values always several thousand ppm. Ba content in six samples in hole BSW-12-81 ranged from 28% to 58%. Pb, Zn and Ag mineralization and geochem were sporadic in the short holes and not significant.

Hole ID	Az. ( <sup>o</sup> )	Dip ( <sup>o</sup> )	Length (m)
BSW-1-81	vert.	-90	31.61
BSW-2-81	170	-60	16.67
BSW-3-81	vert.	-90	30.78
BSW-4-81	vert.	-90	30.63
BSW-5-81	vert.	-90	53.04
BSW-6-81	65	-60	31.92
BSW-7-81	73	-60	29.63
BSW-8-81	59	-60	24.48
BSW-10-81	96	-60	38.25
BSW-11-81	vert.	-90	19.39
BSW-12-81	vert.	-90	16.70
BSW-13-81	vert.	-90	52.52
BSW-14-81	162	-70	26.06
BSW-15-81	155	-70	17.98
BSW-16-81	170	-70	24.08

Table No. 3 Comin Throu Bear Property Diamond Drill Hole Details. The holes were located in four clusters around mineral showings exposed in the previous year's hand trenching. The very short holes were apparently intended to test no farther than underneath individual veins in the showings.

Galena-sphalerite showings associated with quartz veins were considered to be of small size and local extent, as were all of the other known mineral showings.

Anomalous soils were sporadically scattered over the sampled area. Generally there were no very significant clearly defined coincident Pb-Zn±Ag±Ba anomalies.

It was concluded that the showings of galena in the Mural Formation limestone were the result of deposition in a diagenetic environment shortly after sedimentation and not the result of later hydrothermal or tectonic activity. Sedimentary features were considered to be more likely to control the distribution of mineralization than later structural features.

Notwithstanding the mineral occurrences observed were not of economic size, the Mural Formation limestone was recommended as a major prospecting target. The mineral claims were nevertheless allowed to lapse.

### 17.1.3 Work Done in 1990

The relevant report is Assessment Report 21119 by R.S. Verzosa.

Work was done on the Ter and Lin property, consisting of 115 mineral claim units, for Dual Resources Ltd. These claims were staked over the area of the former Comin Throu Bear property.

An airborne magnetic and VLF-EM survey was done over the property along 300 line-km of flight path. The geophysical data was presented on maps with little discussion or interpretation. No definite anomaly was discerned. A program of prospecting and mapping was recommended with emphasis on the chert breccia unit of the Mural Limestone.

### 17.2 Ace Property - BC Minfile 093A 142

Quoted in *italics* below is from the description of Barker Minerals' Ace property in the BC Minfile. A more extensive discussion of Ace is provided in Turna, (2009).

*The Ace property is located on the south side of the Little River, approximately 35 kilometres northwest of Likely. It was discovered by Louis Doyle in 1994-95. Work on the property includes sampling, some geophysical surveys, soil geochemistry and considerable trenching.*

*Two deposit types are apparent: (1) semi-massive to massive sulphides and (2) gold-quartz sulphide veins. Both occur in sericitic schists, chloritic schists, minor quartzites of the Downey Succession (Cambrian?) of the Paleozoic Snowshoe Group. So-called "felsite" intervals are also reported as a host to mineralization.*

*Intervals of massive sulfide up to 0.25 metres and semi-massive sulfide up to 1.2 metres thick are hosted by the schists and the "felsite" intervals, the latter occurring over drill hole thicknesses of 5 to 70 metres. Interbeds of siltstone-argillite up to several metres thick and marble up to 0.5 metre thick are also present.*

*'Massive' sulphide mineralization comprises dominantly pyrrhotite, minor chalcopyrite and pyrite +/- sphalerite in a granular quartz-feldspar-biotite schist. The schist is commonly banded due to either variable sulphide or possibly biotite content. This banding appears to be a tectonic rather than a primary fabric. The schist comprises dominantly plagioclase (andesine and albite) and quartz with varying amounts muscovite, sericite, biotite, ankerite, calcite and opaques. Several per cent apatite is common, with local concentrations greater than 20 per cent.*

*Numerous white quartz veins, locally with abundant sulphides, occur on the Ace property. Some are folded along with their host rock while others are clearly post tectonic, cutting across foliation. Veins contain variable amounts of quartz and pyrite, generally minor base metal sulphides and muscovite, biotite, chlorite and tourmaline. The gold veins contain some sulphides and are anomalous in gold, silver, arsenic, lead, bismuth and tellurides. The mineralized quartz veins occur along a 5-kilometre northwest trending strike length.*



*Although the sulfide layers intersected in 1998 and 2002 drill holes carry less than 0.1 per cent each of copper, lead and zinc, and less than 1 ppm gold, grab samples of massive sulfide boulders from the Ace property contain up to 9.9 per cent zinc and 7.7 per cent lead (with less than 0.1 per cent copper and less than 1 ppm gold) (Assessment Report 27655, page 15). Also present on the Ace property are boulders containing gold-rich quartz-sulfide veins; grab samples contain 2 to 29 grams per tonne gold (Assessment Report 27655, page 15). Similar veins have been uncovered in trenches.*

*Barker Minerals Ltd. surveyed the area in 1996 and 1997. They drilled 7 holes for 1260 metres in 1998. In 2000, the Barker Minerals completed 140 line kilometres of line cutting and HLEM and magnetic surveys over the Ace, Frank Creek (093A 152) and SCR target areas. Barker Minerals Ltd. drilled 5 holes in 2002.*

## **18.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

This section is not applicable.

## **19.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

A very rough grade and tonnage estimate was made in 1987 based on the results from the small drill program at Maybe from that year. Notwithstanding the inadequacy of the survey and amount of data collected on which to base an estimate, Bysouth (1987) stated that at a 1% combined Pb-Zn cutoff, the lower part of the main zone contained 200,000 tonnes of continuous mineralization, and probably a similar volume of material occurring combined in the other zones, for a total of 400,000 tonnes at 4% combined Pb-Zn. This is not an appropriate resource category and does not comply with the requirements of current securities legislation.

## **20.0 OTHER RELEVANT DATA AND INFORMATION**

The Class A Cariboo River Provincial Park, approximately 1.5 km wide by 20 km long, occupies the Cariboo River plain north of Cariboo Lake. No roads may be built nor mineral claims staked within this area.

## **21.0 INTERPRETATION AND CONCLUSIONS**

### **21.1 Regarding the Cariboo Property**

The Cariboo property is underlain by limestones, phyllites and quartzites of lower Paleozoic age. Pb-Zn mineralization occur in three stratabound zones in limestone and along a limestone contact. The Main mineralized zone is between approximately 2.0 – 9.0 m in thickness in drill core. The mineralization appears to be vein or replacement type, called in literature Irish, Kootenay Arc or Mississippi Valley type.

The combined Pb+Zn grade in the three mineralized zones appears inconsistent in the drill core, with near surface grades up to 6-7%, decreasing to 1% or less down dip. This impression is provided in some, but not all, of the historical drill sections. A very rough grade and tonnage estimate, made in 1987, of 400,000 tonnes at 4% combined Pb-Zn, was based only on 3,044 m of drilling and is not an appropriate resource category and does not comply with the requirements of current securities legislation.

Eight Pb-Zn mineral showings were mapped over a 1,500 m strike length in 1989. Areas between the mineral showings were soil sampled over a small grid and several reconnaissance lines. Highly anomalous Pb and Zn values on these soil lines indicated a continuance of the mineralization between the known showings.

Past drilling and trenching work on the property has focused on following individual high grade 'veins' or showings, which individually were not found to be sufficiently extensive or of consistent grade. The historic work done has not been systematic nor sufficiently intensive nor extensive to evaluate the prospect properly. The mineralized trend nevertheless overall appears consistent and well-defined over 1,500 m of strike length and open in both directions along strike and at depth. It should be considered a major prospective trend.

### **21.2 Regarding the Comin Throu Bear Property**

The Comin Throu Bear property is underlain by dolostone, limestone, and slate of lower Paleozoic age. Struik's (1988) geological map suggests the lithologies at Comin Throu Bear are similar to those at the Cariboo property. Mineralization at Comin Throu Bear consists of galena+barite in dolostone breccia and galena+sphalerite in quartz veins.

Anomalous values in Pb, Zn, Ag and Ba in soils extended sporadically for approximately 2,000 m over an extensive sampling grid; there appeared no clearly defined coincident Pb-Zn±Ag±Ba anomalies. Four areas of anomalous soils were followed up by several hand-dug trenches and 16 DDH holes (465.6 m), averaging about 30 m in length. It appears the very short holes were intended to test no farther than underneath individual veins in the showings. The showings tested were determined to be of small size and local extent. It was concluded that the showings of galena were the result of deposition in a diagenetic environment shortly after sedimentation and not the result of later hydrothermal or tectonic activity. Sedimentary features were

considered to be more likely to control the distribution of mineralization than later structural features. Notwithstanding the mineral occurrences observed were not of economic size, the Mural Formation limestone was recommended as a major prospecting target.

## **22.0 RECOMMENDATIONS**

### **22.1 Regarding the Cariboo Property**

A comprehensive survey including geological mapping, prospecting, soil sampling and geophysical surveys on a grid over the 1,500m mineralized trend is recommended, to be followed-up by trenching and drilling.

#### Cariboo: phase 1

Prospecting	\$	10,000
Grid preparation and line cutting (14.0 km)	\$	14,000
Road rehab (3,000 m)	\$	100,000
Trenching (1,000 m)	\$	100,000
Geochemistry @ \$60/sample		
600 soil samples (enzyme leach)	\$	36,000
600 rock samples	\$	36,000
Geophysics (14.0 line km IP)	\$	70,000
(14.0 line km mag/vlf)	\$	4,000
Geology, mapping	\$	30,000
Camp manager/cook/expediter	\$	70,000
Vehicles/Transportation/Mobilization & demob	\$	200,000
Fuel	\$	50,000
Camp costs/supplies/maintenance/repairs	\$	70,000
Room & board/food	\$	30,000
Planning, supervision, report	\$	30,000
Contingency (approx. 10%)	\$	78,000
	<b>\$</b>	<b>858,000</b>

If warranted by results from phase 1, the 2<sup>nd</sup> phase of the work may include:

#### Cariboo: phase 2

Road building/rehab (1,000 m)	\$	100,000
Trenching (1,000 m)	\$	100,000
Geochemistry @ \$60/sample		
1,000 rock, core samples	\$	60,000
Drilling @ \$150/metre (includes mob/demob, drilling)		
- grid pattern & targets – 4,000 m	\$	600,000
Consulting/core logging & cutting	\$	50,000

Camp manager/cook/expediter	\$	50,000
Vehicles/Transportation/Mobilization & demob	\$	100,000
Fuel	\$	100,000
Camp costs/supplies/maintenance/repairs	\$	60,000
Room & board/food	\$	100,000
Planning, supervision, report	\$	60,000
Contingency (approx. 10%)	\$	<u>138,000</u>
	<b>\$</b>	<b>1,518,000</b>

## 22.2 Regarding the Comin Throu Bear Property

A reconnaissance prospecting and mapping survey should be made in order to determine whether the Pb, Zn and barite mineralization may be stratabound replacement type as occurring on the Cariboo property and whether it may be associated with a mappable lithologic unit.

Prospecting	\$	10,000
Geochemistry @ \$60/sample		
200 rock samples	\$	12,000
Geology, mapping	\$	10,000
Helicopter 20 hrs @ \$1,100/hr	\$	22,000
Vehicles/Transportation/Mobilization & demob	\$	2,000
Fuel	\$	1,000
Camp costs/supplies/maintenance/repairs	\$	10,000
Food/accommodation	\$	5,000
Planning, supervision, report	\$	10,000
Contingency (approx. 10%)	\$	<u>8,000</u>
	<b>\$</b>	<b>90,000</b>

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Reports listed below which are Assessment Reports are available for free download from the BC Geological Survey (BCGS) Assessment Report Indexing System (ARIS) at the Ministry of Energy, Mines and Petroleum Resources' website. [www.empr.gov.bc.ca/Mining/Geoscience/ARIS](http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS)

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Minfile No. 093A 142 (Ace)

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## **24.0 DATES and SIGNATURES**

### **Certificate of Author:**

I, Rein Tuma, P.Geo. do hereby certify that:

1. I am currently employed as Vice President of Exploration by Barker Minerals Ltd.

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I own and am President of my wholly owned consulting company:

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2. I graduated with the degree Bachelor of Sciences in Geological Sciences from the University of British Columbia in 1975.
3. I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have worked as a geologist over 30 years since my graduation from university.
5. I have read the definition '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.
6. No significant work has been done on the Cariboo property since 1989. Barker Minerals Ltd. did reconnaissance prospecting and VLF-EM surveying on the property in 1996. I visited the property in May, 2007 to verify the existence of galena and sphalerite mineralization in an outcrop on a road near the 1987 drill pad for DDH87-A1, A2, and in July, 2008 to examine road conditions on the property.
7. I am responsible for the preparation of all sections in the technical report titled Technical Report on the CARIBOO Property – Cariboo Lake Area – Cariboo Mining Division, British Columbia (the 'Cariboo Report').



8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. Greater than half of my gross income comes from employment with Barker Minerals Ltd.  
  
I hold 370,000 common shares without par value in the capital of Barker Minerals Ltd.  
  
I hold 220,000 warrants, each entitling me to purchase one common share of Barker Minerals Ltd. at a price of \$0.10 per share until December 31, 2010.  
  
I hold 150,000 warrants, each entitling me to purchase one common share of Barker Minerals Ltd. at a price of \$0.05 per share until January 5, 2011.  
  
I have a stock option plan with Barker Minerals Ltd. wherein I hold an option to purchase up to 150,000 common shares in the capital stock of Barker Minerals Ltd. at the purchase price of \$0.40 per share. The grant date of this option is April 20, 2007. The expiry date of this option is April 20, 2011.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for the regulatory purposes, including electronic publication in the public company files on their website accessible by the public, of the Technical Report.

Dated this 27<sup>th</sup> Day of August, 2009

-- Signed and Stamped --

---

**Signature: Rein Turna, BSc., PGeo.**

**Consent of Author:**

Geocon Exploration Management Ltd.  
5818 Falcon Road, West Vancouver, B.C., Canada, V7W 1S3  
Telephone: (604) 921-8908  
Email: geocon002@shaw.ca

Barker Minerals Ltd.  
British Columbia Securities Commission  
Alberta Securities Commission  
Ontario Securities Commission  
TSX Venture Exchange

I, Rein Turna, P.Geo., am the author of the Technical Report titled "Technical Report on the CARIBOO Property – Cariboo Lake Area – Cariboo Mining Division, British Columbia" dated August 27, 2009 (the "Cariboo Report") and consent to the inclusion of any extracts from or a summary of the Ace Report in the Annual Information Form of the Company (the "AIF") and to the filing of the Report with the securities regulatory authorities referred to above. I also consent to the reference to myself in the AIF.

I also certify that I have read the AIF being filed and have no reason to believe that there are any misrepresentations in the information contained in it that are derived from the Cariboo Report or, within my knowledge as a result of the services provided by me in connection with the Cariboo Report.

Dated this 27<sup>th</sup> Day of August, 2009

-- Signed and Stamped --

---

Signature: **Rein Turna, BSc., PGeo.**

## **25.0 ADDITIONAL REQUIREMENTS**

This section is not applicable.

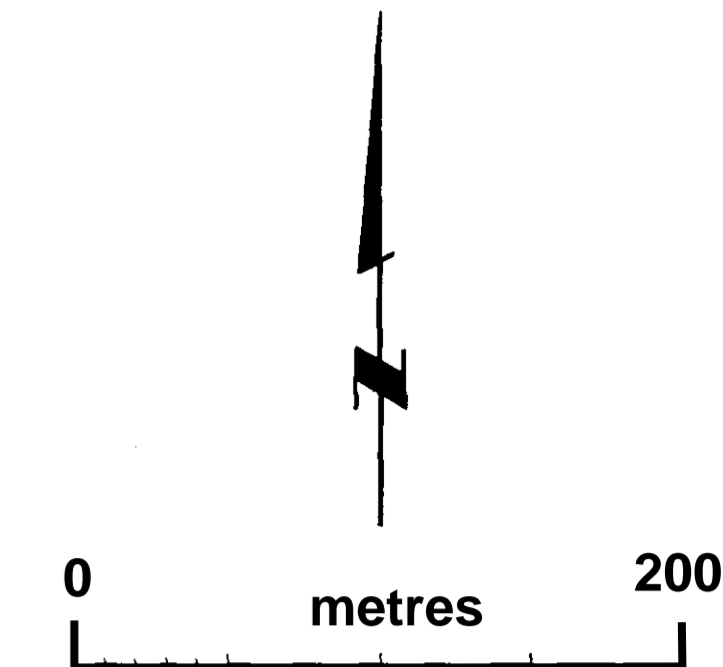
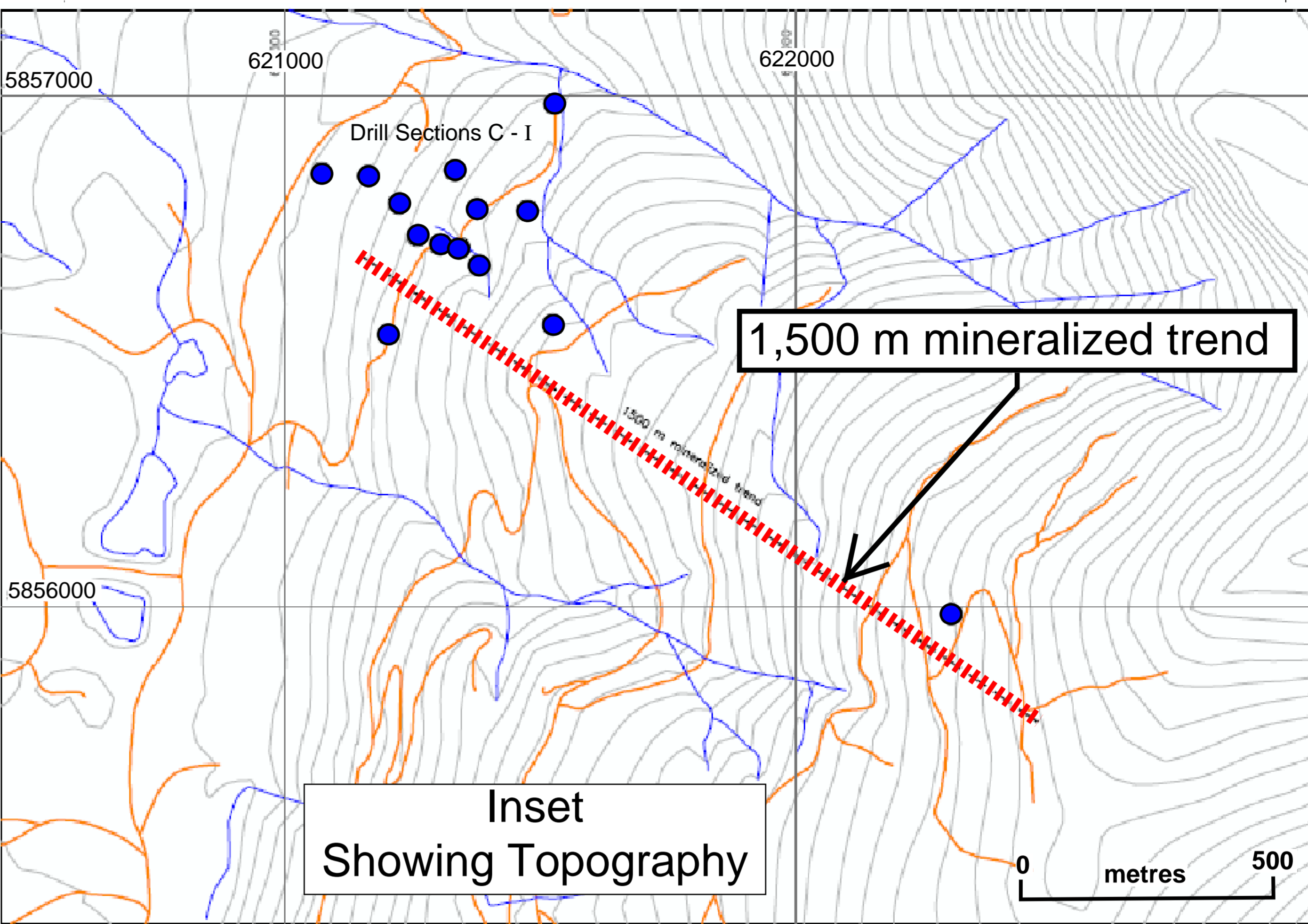
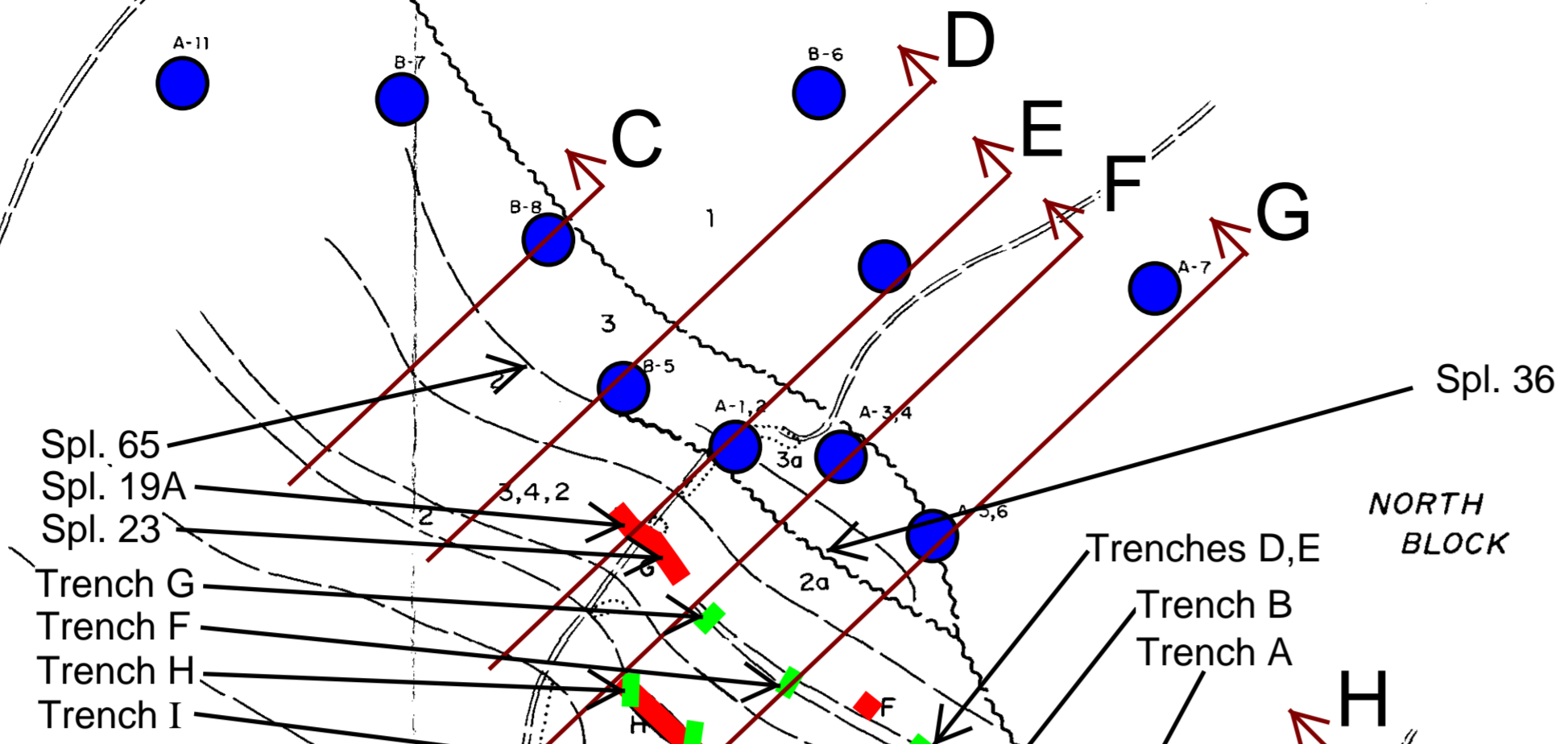
## **26.0 ILLUSTRATIONS**

This Section contains Figure Nos. 8,9,10,11,12,13,14,15,16 and 17.

Drill Sections C - I  
see Fig. Nos. 10 - 16

Note: See Section 11.0 of report for assay results for samples from trenches and outcrops.

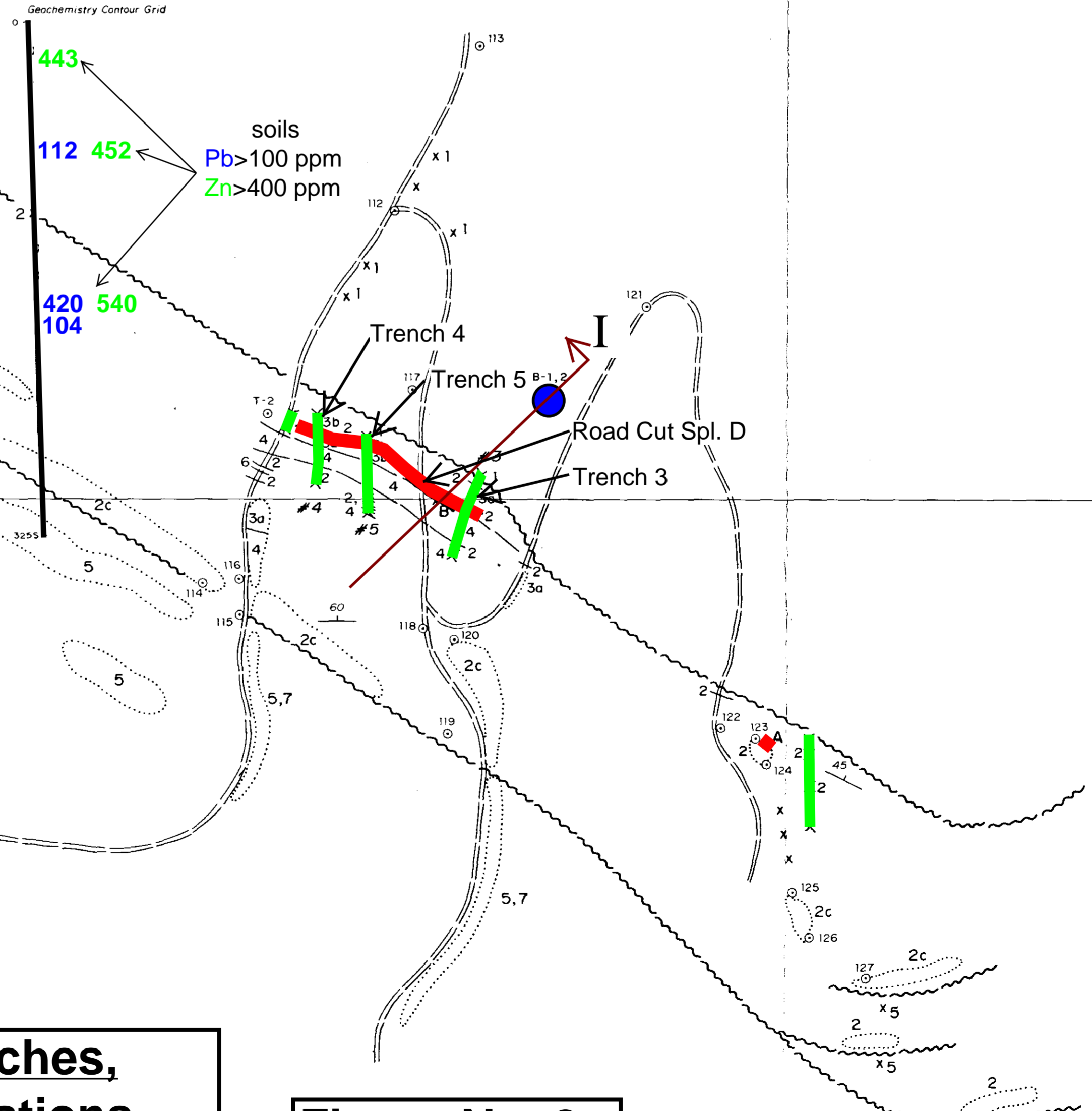
Spl. 65



150m x 300m soil grid  
see Fig. No. 9

Road network

soils  
Pb > 100 ppm  
Zn > 400 ppm



LEGEND

NORTH BLOCK	1	Graphitic argillite
CENTRE BLOCK	2	Limestone
	3	Phyllite
	4	Sericite schist
SOUTH BLOCK	5	Sericite schist
	6	Quartzite
	7	Quartz - mica schist

x Outcrop  
 60 Foliation  
 45 Bedding  
 45 Thrust fault  
 #5 Road  
 #5 Trench, trench number  
 110 Drill hole location and azimuth  
 120 Plane table set-up  
 station  
 GTP Survey turning point

Legend

- DDH hole locations (1987)
- Mineralized zones on surface (veins A-H)
- Trenches (1989)
- Soil lines (1989)

Geology, DDH's and Trenches,  
Soil and Rock Sample Locations

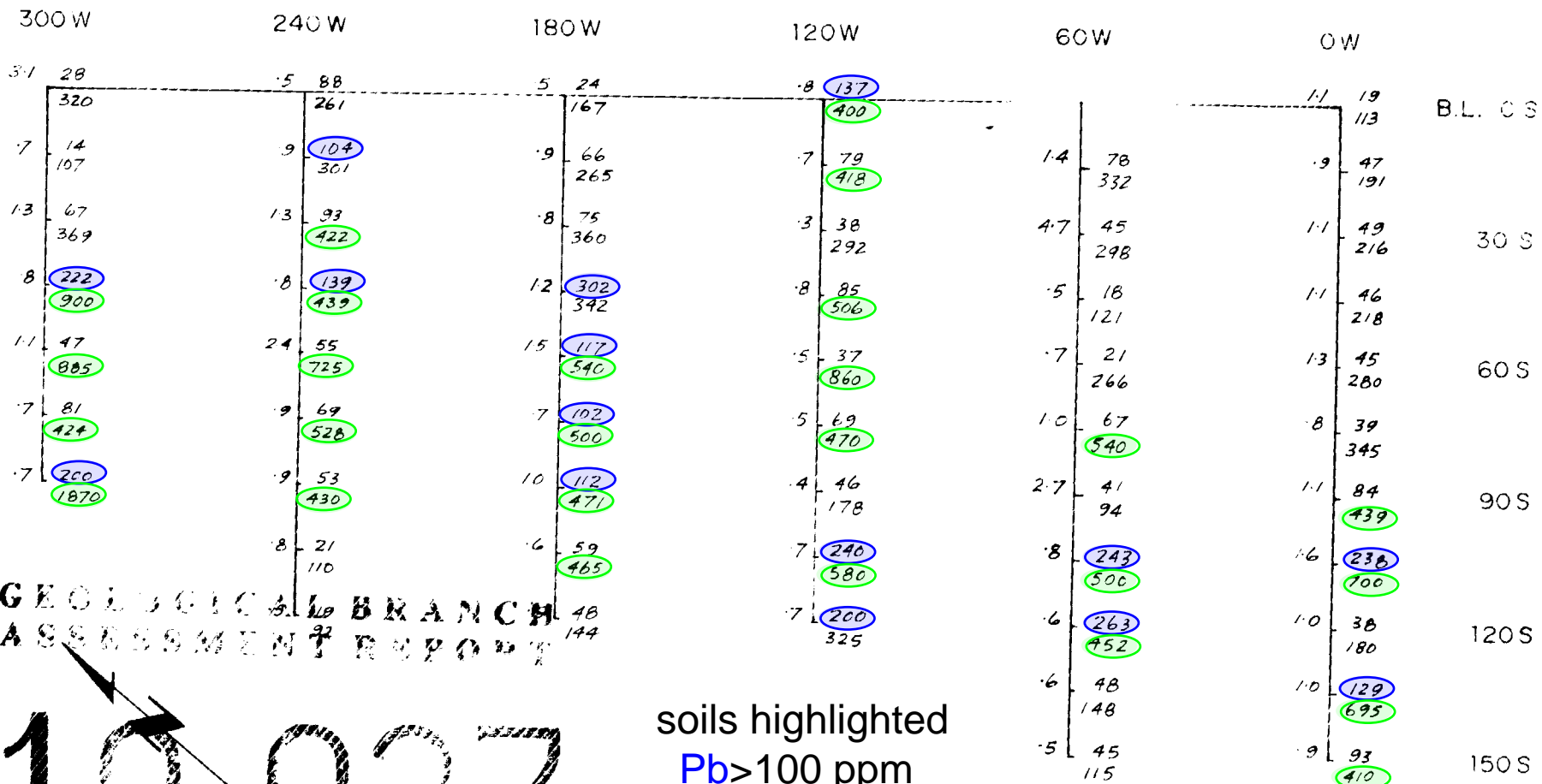
Figure No. 8

RELATED DWGS. OR REVISIONS

Spencer Engineering Ltd.  
425 Howe Street Vancouver, B.C. V6C 2T6

MAYBE PROPERTY  
CARIBOO M.D., B.C. NTS 93A/14  
GENERAL GEOLOGY

DRAWN BY: dlp DATE: July 89  
CHECKED BY: SCALE: 1:2500



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

19,027

100 metres

soils highlighted  
Pb > 100 ppm  
Zn > 400 ppm

Ag (ppm) 9 66  
265  
Pb (ppm)  
Zn (ppm)

MAYBE PROPERTY

CARIBOO M.D., B.C.

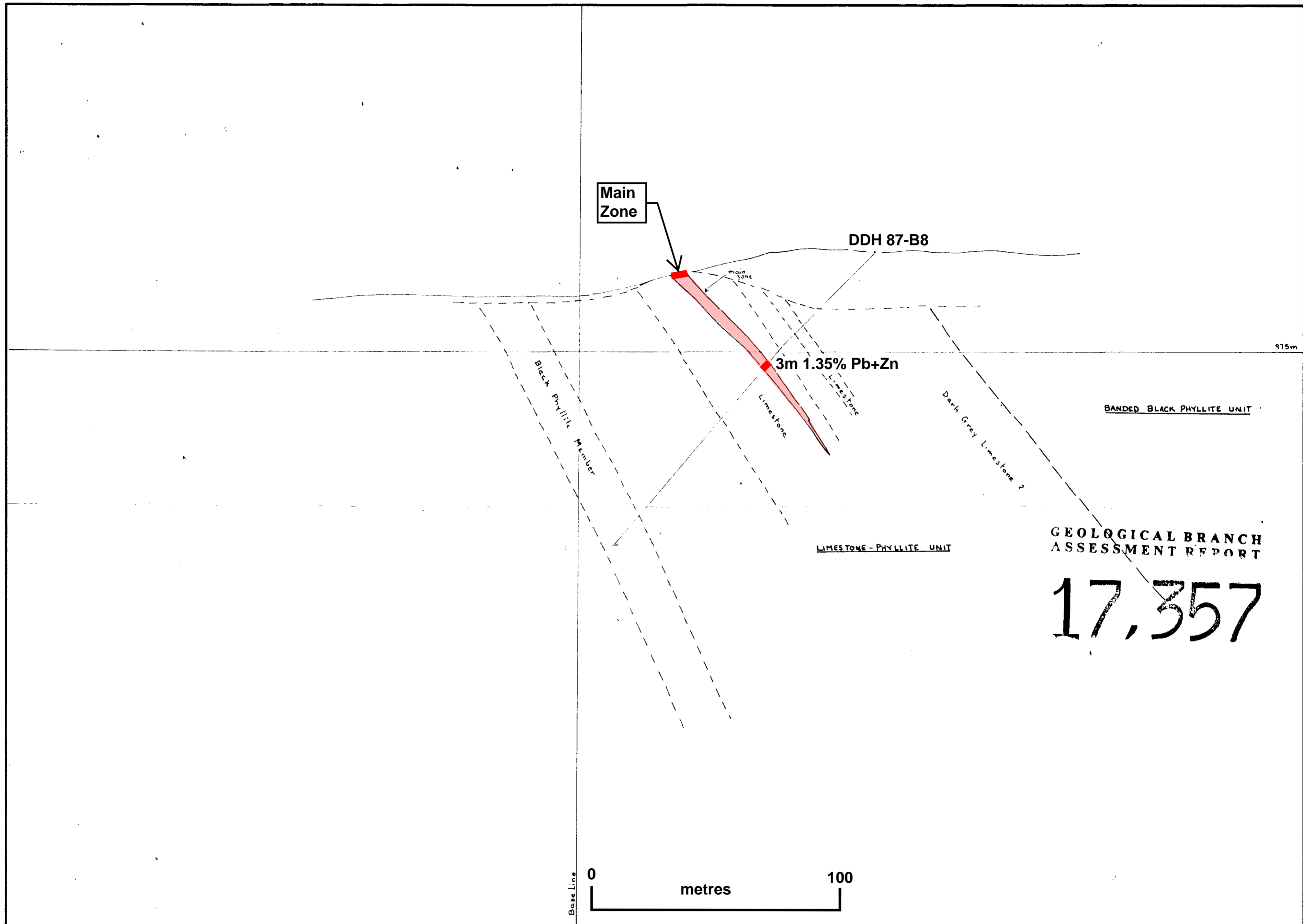
NTS. 93A, 14

GEOCHEMISTRY GRID  
Ag, Pb, Zn

DRAWN BY:  
CHECKED BY:  
APPROVED BY:

DATE: July '89  
SCALE: 1:1500

Figure No. 9



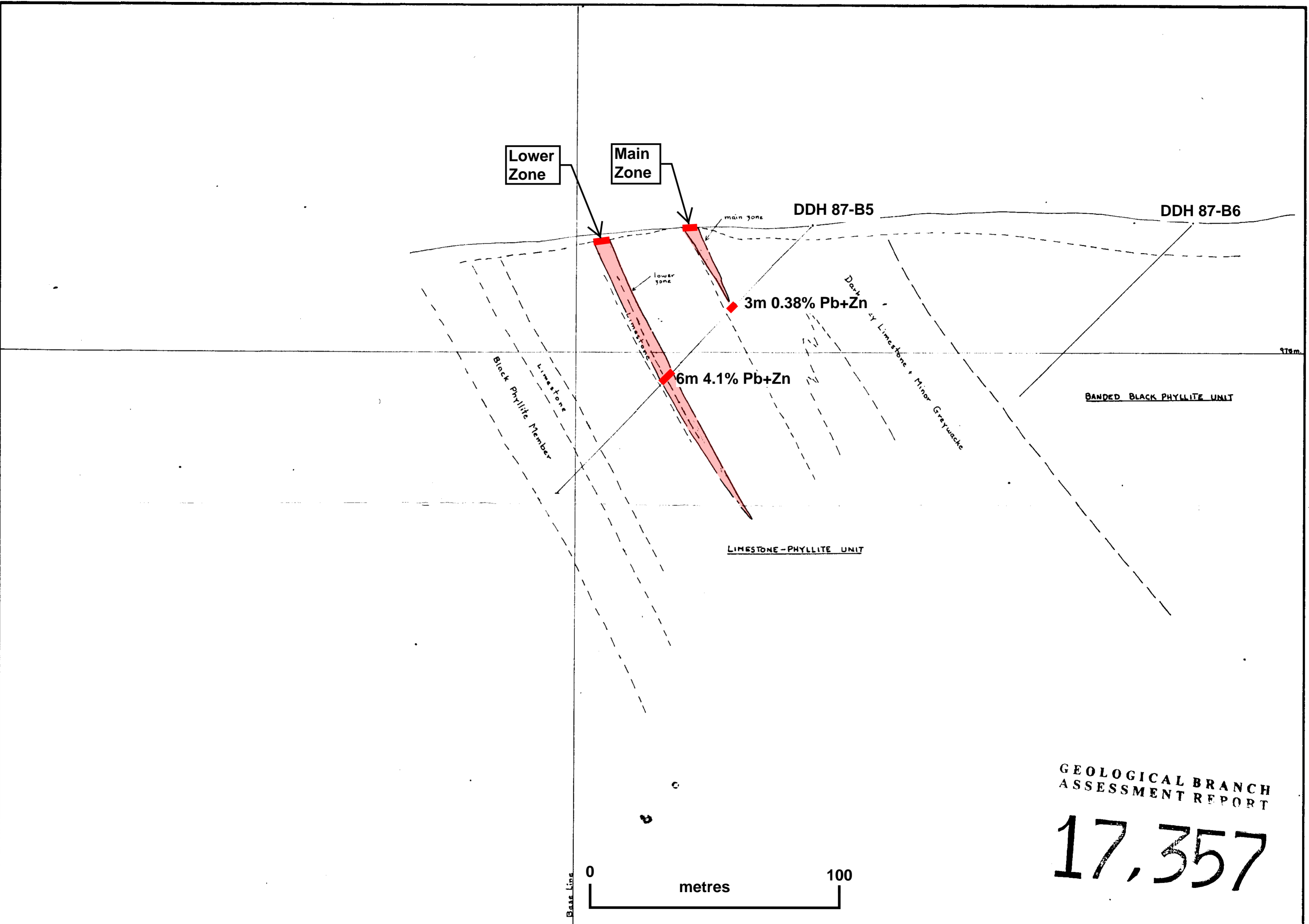
975m

GEOLOGICAL BRANCH  
ASSESSMENT REPORT  
**17,357**



Section looks N.W.

DWN. CHECK APPR.				ISSUED FOR				DATE REV.				DESCRIPTION				SCALE 1:1000				March 1988				G.D.B.				GIBRALTAR MINES LIMITED				MAYBE GROUP				Drill Section C				FILE No.				Figure 10			
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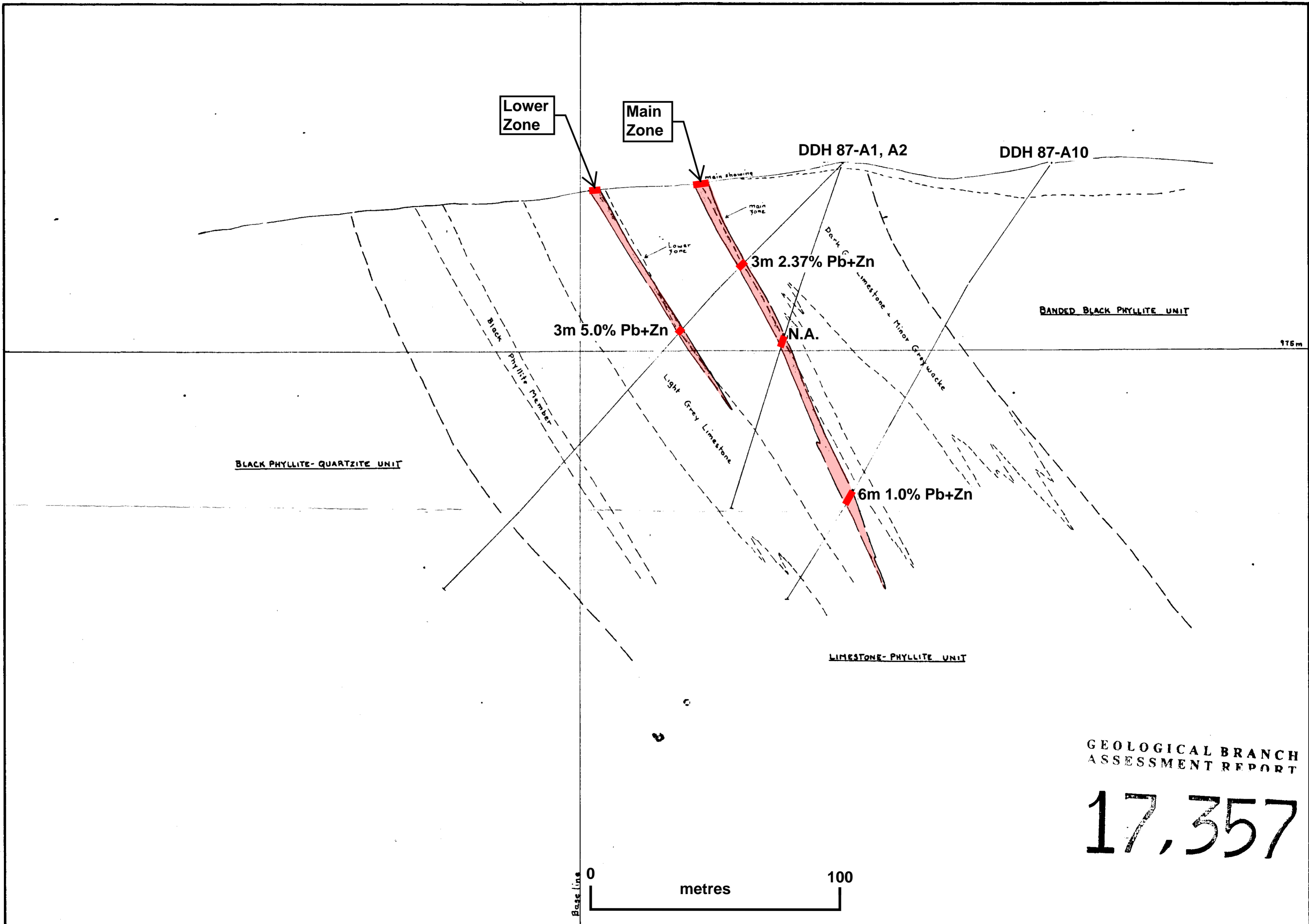


GEOLOGICAL BRANCH  
ASSESSMENT REPORT  
**17,357**

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DWN.	CHECK	APPR.	ISSUED FOR	DATE	REV.	DESCRIPTION	SCALE 1:1000		

MO-210-G.M.L.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

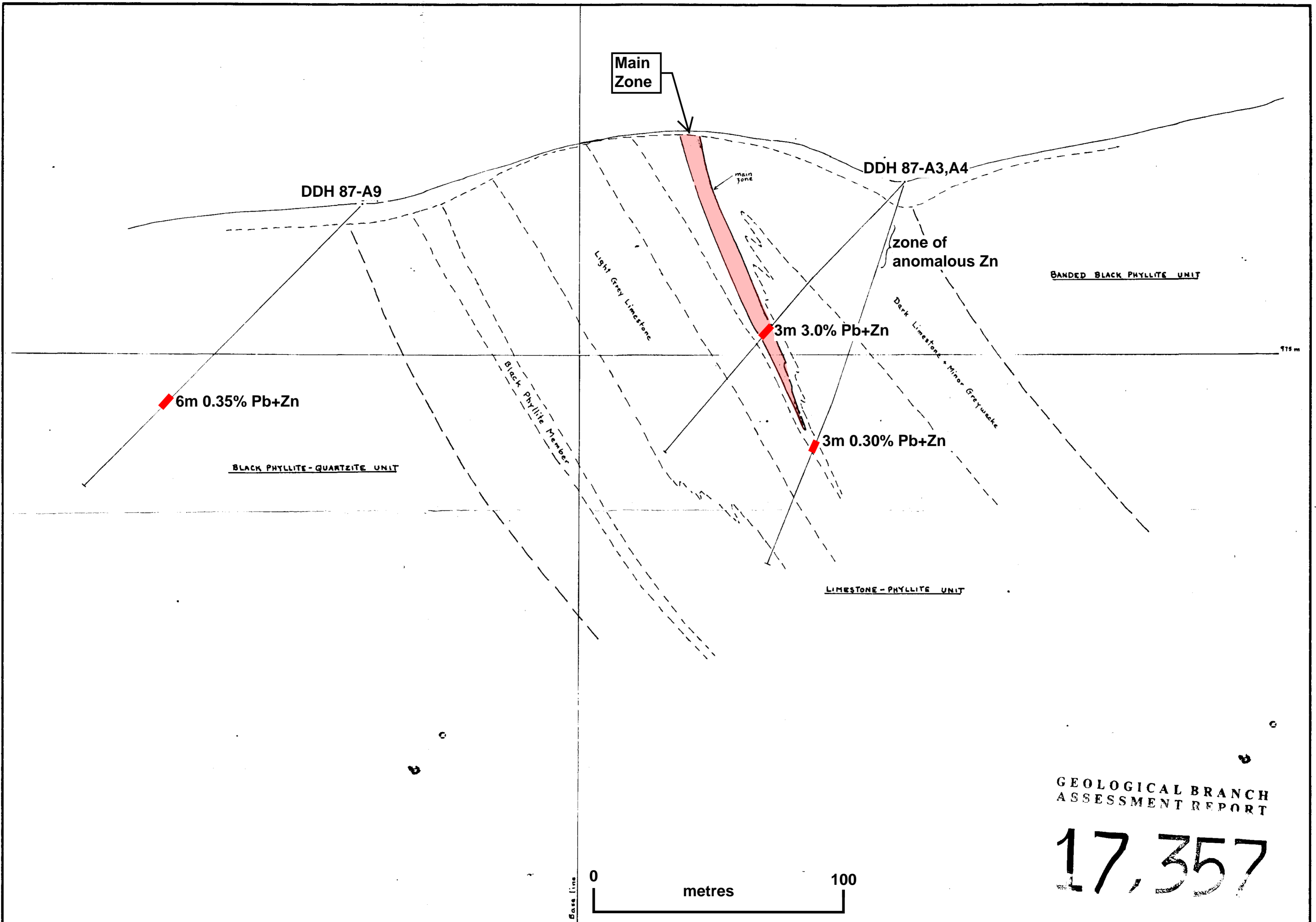
17,357

Section looks N.W.

						GIBRALTAR MINES LIMITED		Drill Section E South	
						MAYBE GROUP		FILE No.	
						G.D.D.		Figure 12	
DWN.	CHECK	APPR.	ISSUED FOR	DATE	REV.	DESCRIPTION	SCALE 1:1000	March 1988	

NCI-210-G.M.L.





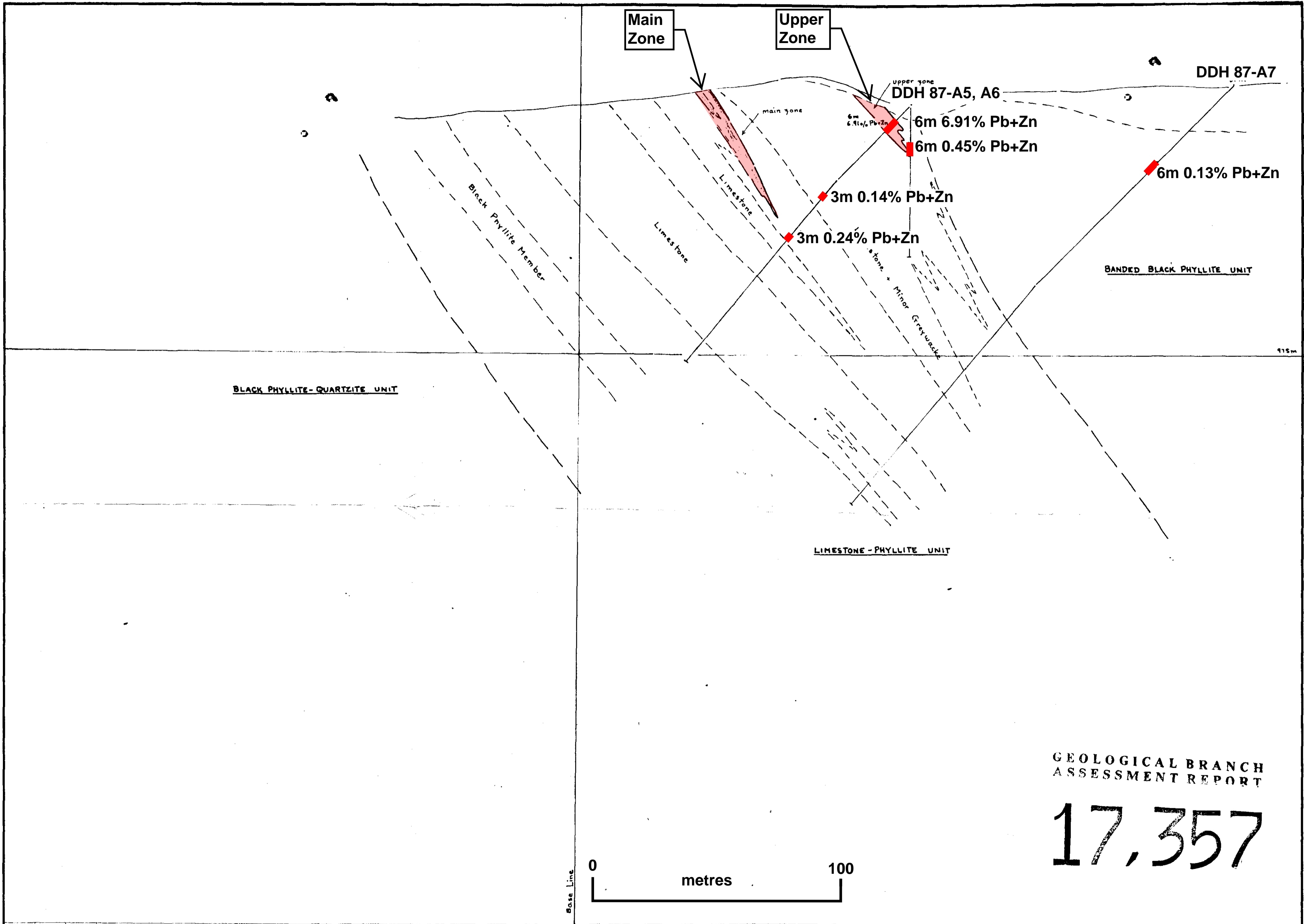
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17,357

Section looks N.W.

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					REFERENCE	No.	DWG. No.		FILE No.	
DWN.	CHECK	APPR.	ISSUED FOR	DATE	REV.	DESCRIPTION	SCALE 1:1000	March 1988	G.D.B.	Figure 13

NGL-210 - G.M.L.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

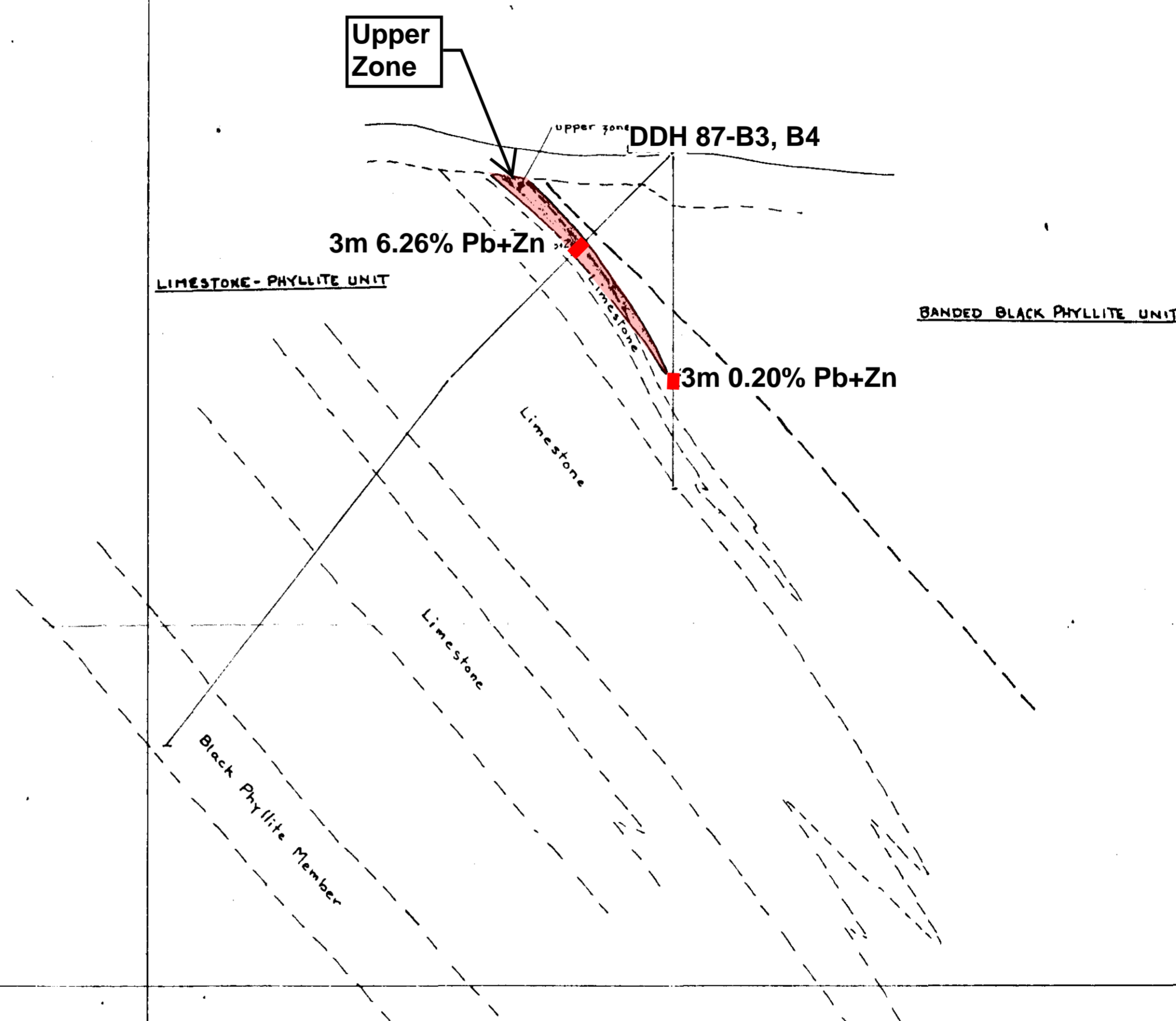
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Section looks N.W.

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								March 1988					

MCL 210 G.M.L.



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17,357



Section looks N.W.

DWN. CHECK. APPR.				ISSUED FOR				DATE REV.				DESCRIPTION				SCALE 1:1000				REFERENCE				No.				DWG. No.				G.P.B.				GIBRALTAR MINES LIMITED				MAYBE GROUP				Drill Section H				FILE No.				Figure 15			
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LIMESTONE-PHYLLITE UNIT

DDH 87-B1,B2

6m 1.07% Pb+Zn

BANDED BLACK PHYLLITE UNIT

zone of anomalous Pb+Zn

Limestone

6m N.A.

Limestone

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17,357



Baseline

1400m

Section looks N.W.

GIBRALTAR MINES LIMITED

Drill Section I

MAYBE GROUP

FILE No.

Figure 16

REFERENCE

No.

DWG. No.

SCALE 1:1000

March 1988

G.D.B.

DWN. CHECK APPR.

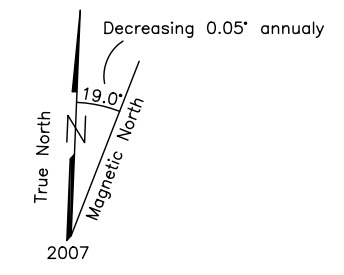
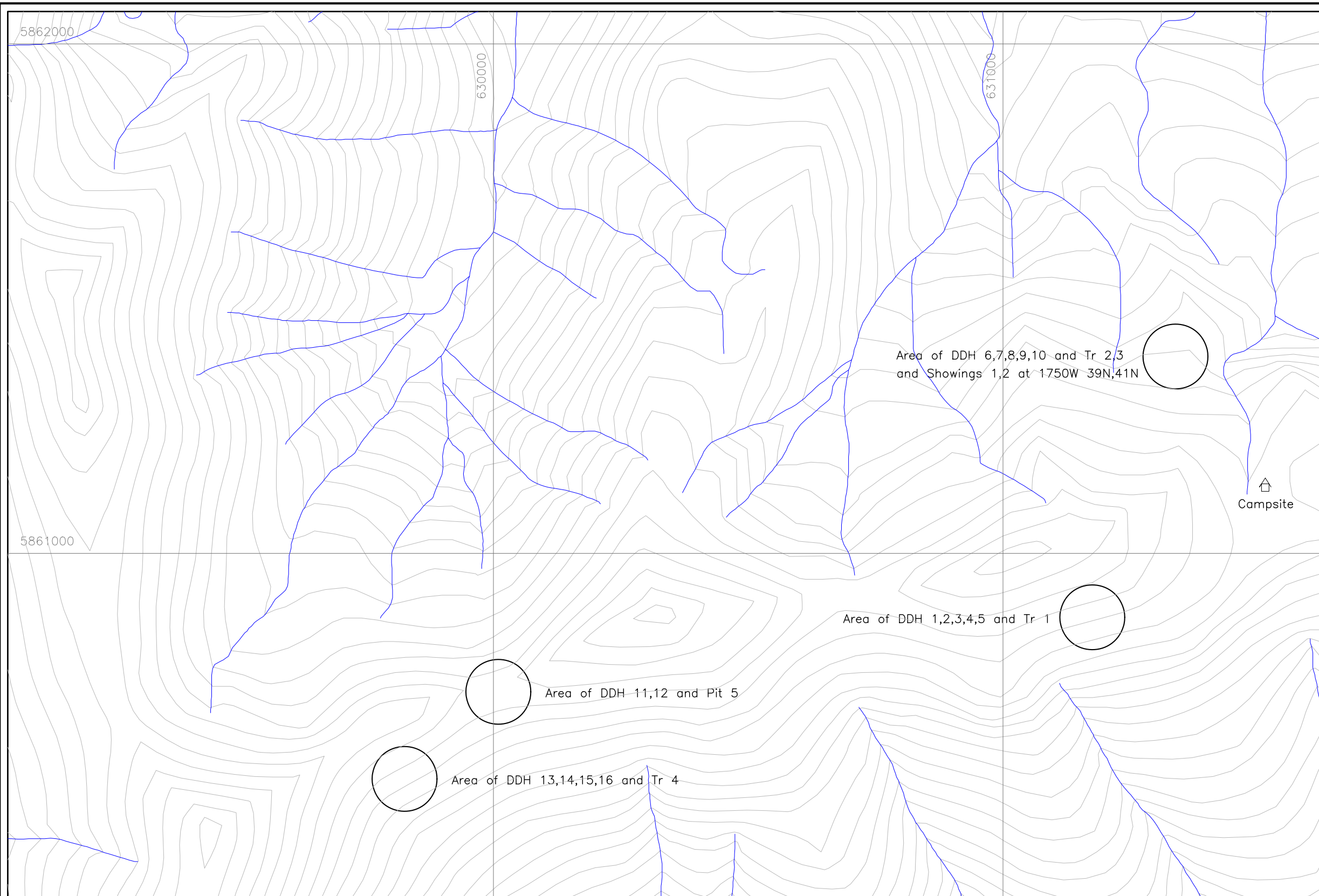
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DATE




REV.

DESCRIPTION

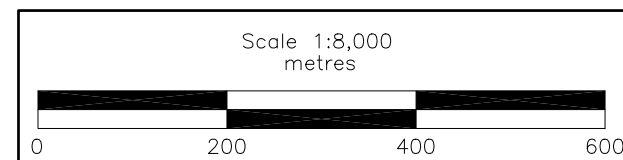
NCI 210 - G.M.L.



**LEGEND**

-  Topographic Contour & Elevation  
Contour interval 20 metres
-  Creek, Pond, Swamp
-  Road

UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10



BARKER MINERALS LTD.

COMIN THROU BEAR PROPERTY

Historic DDH and Trench Locations

Cariboo Mining Division, B.C.

NTS Mapsheet: 93 A/14

Date: August 27, 2009

Drawn by: RT

Fig.No. 17

## Appendix A

### B.C. Geological Survey Deposit Type

#### IRISH-TYPE CARBONATE-HOSTED Zn-Pb

E13

by Trygve Höy

B.C. Geological Survey



*Høy, Trygve (1996): Irish-type Carbonate-hosted Zn-Pb, in Selected British Columbia Mineral Deposit Profiles, Volume 2 - Metallic Deposits, Lefebvre, D.V. and Höy, T, Editors, British Columbia Ministry of Employment and Investment, Open File 1996-13, pages 21-24.*

#### **IDENTIFICATION**

**SYNONYMS:** Kootenay Arc Pb-Zn, Remac type.

**COMMODITIES (BYPRODUCTS):** Zn, Pb, Ag; (Cu, barite, Cd).

**EXAMPLES (British Columbia (MINFILE #) - Canada/International):** Reeves MacDonald ([082FSW026](#)), HB ([082FSW004](#)), Aspen ([082FSW001](#)), Jack Pot West ([082FSW255](#)), Jersey ([082FSW009](#)), Duncan ([082KSE020](#)), Wigwam ([082KNW068](#)); *Navan, Lisheen, Tynagh, Silvermines, Galmoy, Ballinalack, Allenwood West (Ireland); Troya (Spain).*

#### **GEOLOGICAL CHARACTERISTICS**

**CAPSULE DESCRIPTION:** Irish-type carbonate-hosted deposits are stratabound, massive sphalerite, galena, iron sulphide and barite lenses with associated calcite, dolomite and quartz gangue in dolomitized platformal limestones. Deposits are structurally controlled, commonly wedge shaped adjacent to normal faults. Deformed deposits are irregular in outline and commonly elongate parallel to the regional structural grain.

**TECTONIC SETTING:** Platformal sequences on continental margins which commonly overlie deformed and metamorphosed continental crustal rocks.

**DEPOSITIONAL ENVIRONMENT/GEOLOGICAL SETTING:** Adjacent to normal growth faults in transgressive, shallow marine platformal carbonates; also commonly localized near basin margins.

**AGE OF MINERALIZATION:** Known deposits are believed to be Paleozoic in age and younger than their host rocks; Irish deposits are hosted by Lower Carboniferous rocks; Kootenay Arc deposits are in the Lower Cambrian.

**HOST/ASSOCIATED ROCK TYPES:** Hosted by thick, non-argillaceous carbonate rocks; these are commonly the lowest pure carbonates in the stratigraphic succession. They comprise micritic and oolitic beds, and fine-grained calcarenites in a calcareous shale, sandstone, calcarenite succession. Underlying rocks include sandstones or argillaceous calcarenites and shales. Iron formations, comprising interlayered hematite, chert and limestone, may occur as distal facies to some deposits. Deformed Kootenay Arc deposits are enveloped by fine-grained grey, siliceous dolomite that is generally massive or only poorly banded and locally brecciated.

**DEPOSIT FORM:** Deposits are typically wedge shaped, ranging from over 30 m thick adjacent to, or along growth faults, to 1-2 cm bands of massive sulphides at the periphery of lenses. Economic mineralization rarely extends more than 200 m from the faults. Large deposits comprise individual or stacked sulphide lenses that are roughly concordant with bedding. In detail, however, most lenses cut host stratigraphy at low angles. Contacts are sharp to gradational. Deformed deposits are typically elongate within and parallel to the hinges of tight folds. The Reeves MacDonald deposit forms a syncline with a plunge length of approximately 1500 m and widths up to 25 m. Others (HB) are elongate parallel to a strong mineral lineation. Individual sulphide lenses are irregular, but typically parallel to each other and host layering, and may interfinger or merge along plunge.

**TEXTURE/STRUCTURE:** Sulphide lenses are massive to occasionally well layered. Typically massive sulphides adjacent to faults grade outward into veinlet- controlled or disseminated sulphides. Colloform sphalerite and pyrite textures occur locally. Breccias are common with sulphides forming the matrix to carbonate (or as clasts?). Sphalerite-galena veins, locally brecciated, commonly cut massive sulphides. Rarely (Navan), thin laminated, graded and crossbedded sulphides, with framboidal pyrite, occur above more massive sulphide lenses. Strongly deformed sulphide lenses comprise interlaminated sulphides and carbonates which, in some cases (Fyles and Hewlett, 1959), has been termed shear banding.

**ORE MINERALOGY (Principal and subordinate):** Sphalerite, galena; *barite, chalcopyrite, pyrrhotite, tennantite, sulfosalts, tetrahedrite, chalcopyrite.*

**GANGUE MINERALOGY (Principal and subordinate):** Dolomite, calcite, quartz, pyrite, marcasite; *siderite, barite, hematite, magnetite; at higher metamorphic grades, olivine, diopside, tremolite, wollastonite, garnet.*

**ALTERATION MINERALOGY:** Extensive early dolomitization forms an envelope around most deposits which extends tens of metres beyond the sulphides. Dolomitization associated with mineralization is generally fine grained, commonly iron-rich, and locally brecciated and less well banded than limestone. Mn halos occur around some deposits; silicification is local and uncommon. Fe in iron formations is distal.

**WEATHERING:** Gossan minerals include limonite, cerussite, anglesite, smithsonite, hemimorphite, pyromorphite.

**ORE CONTROLS:** Deposits are restricted to relatively pure, shallow-marine carbonates. Regional basement structures and, locally, growth faults are important. Orebodies may be more common at fault intersections. Proximity to carbonate bank margins may be a regional control in some districts.

**GENETIC MODEL:** Two models are commonly proposed: (1) syngenetic seafloor deposition: evidence includes stratiform geometry of some deposits, occurrence together of bedded and clastic sulphides, sedimentary textures in sulphides, and, where determined, similar ages for mineralization and host rocks. (2) diagenetic to epigenetic replacement: replacement and open-space filling textures, lack of laminated sulphides in most deposits, alteration and mineralization above sulphide lenses, and lack of seafloor oxidation.

**ASSOCIATED DEPOSIT TYPES:** Mississippi Valley type Pb-Zn (E12), sediment-hosted barite (E17), sedimentary exhalative Zn-Pb-Ag (E14), possibly carbonate-hosted disseminated Au-Ag (E03).

**COMMENTS:** Although deposits such as Tynagh and Silvermines have structures and textures similar to sedex deposits, and are associated with distal iron formations, they are included in the Irish-type classification as recent work (e.g., Hizman, 1995) concludes they formed by replacement of lithified rocks. Deposits that can be demonstrated to have formed on the seafloor are not included in Irish-type deposits. It is possible that the same continental margin carbonates may host sedex (E14), Irish-type (E13) and Mississippi Valley-type (E12) deposits.

**EXPLORATION GUIDES GEOCHEMICAL SIGNATURE:** Elevated base metal, Ag and Mn values in both silt and soil samples; however, high carbonate content, and hence high Ph may reduce effectiveness of stream silts.

**GEOPHYSICAL SIGNATURE:** Induced polarization surveys are effective and ground electromagnetic methods may work for deposits with iron sulphides. Deposits can show up as resistivity lows and gravity highs.

**OTHER EXPLORATION GUIDES:** The most important control is stratigraphic. All known deposits are in carbonate rocks, commonly the lowest relatively pure carbonate in a succession. Other guides are proximity to growth faults and intersection of faults, regional and local dolomitization and possibly laterally equivalent iron formations.

### ***ECONOMIC FACTORS***

**TYPICAL GRADE AND TONNAGE:** Irish deposits are typically less than 10 Mt with 5-6% Zn, 1-2% Pb and 30g/t Ag. Individual deposits can contain up to 90 g/t Ag. The largest, Navan, produced 36 Mt and has remaining reserves of 41.8 Mt containing 8% Zn and 2% Pb. Mined deposits in the Kootenay Arc averaged between 6 and 7 Mt and contained 3-4 % Zn, 1-2 % Pb, and 3-4 g/t Ag. Duncan has reserves of 2.76 Mt with 3.3% Pb and 3.1% Zn; Wigwam contains 8.48 Mt with 2.14% Pb and 3.54% Zn.

**ECONOMIC LIMITATIONS:** These deposits are attractive because of their simple mineralogy and polymetallic nature, although significantly smaller than sedex deposits. In British Columbia the Kootenay Arc deposits are generally lower grade with up to only 6 % Pb+Zn. These deposits are also structurally complex making them more complicated to mine. **IMPORTANCE:** Production from these deposits makes Ireland a major world zinc producer. Recent discovery of concealed deposits (Galmoy in 1986 and Lisheen in 1990) assures continued production. In British Columbia, a number of these deposits were mined intermittently until 1979 when H.B. finally closed. Some still have substantial lead and zinc reserves. However, their current potential for development is based largely on the precious metal content. The high carbonate content of the gangue minimizes acid-rock drainage problems.

### ***REFERENCES***

**Addie, G.G. (1970):** The Reeves MacDonald Mine, Nelway, British Columbia; in Pb-Zn Deposits in the Kootenay Arc, N.E. Washington and adjacent British Columbia; *Department of Natural Resources, State of Washington, Bulletin 61, pages 79-88.*

**Fyles, J.T. (1970):** Geological Setting of Pb-Zn Deposits in the Kootenay Lake and Salmo Areas of B.C.; in Pb-Zn Deposits in the Kootenay Arc, N.E. Washington and Adjacent British Columbia; *Department of Natural Resources, State of Washington, Bulletin 61, pages 41-53.*



**Fyles, J.T. and Hewlett, C.G. (1959):** Stratigraphy and Structure of the Salmo Lead-Zinc Area; *B. C. Department of Mines, Bulletin 41*, 162 pages.

**Hitzman, M.W. (1995):** Mineralization in the Irish Zn-Pb-(Ba-Ag) Orefield; in Irish Carbonate-hosted Zn-Pb Deposits, Anderson K., Ashton J., Earls G., Hitzman M., and Sears S., Editors, *Society of Economic Geologists, Guidebook Series, Volume 21*, pages 25-61.

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**Sangster, D.F. (1970):** Metallogenesis for some Canadian Lead-zinc Deposits in Carbonate Rocks; *Geological Association of Canada, Proceedings, Volume 22*, pages 27-36.

**Sangster, D.F. (1990):** Mississippi Valley-type and Sedex Lead-Zinc Deposits: a Comparative Examination; *Transactions of the Institution of Mining and Metallurgy, Section B, Volume 99*, pages B21-B42. T. Hoy Draft 3: March 27, 1996

**Appendix B**  
**Glossary of Technical Terms and Abbreviations**

Ag	Silver.
Anomalous	Chemical and mineralogical changes and higher than typical background values in elements in a rock resulting from reaction with hydrothermal fluids or increase in pressure or temperature.
Anomaly	The geographical area corresponding to anomalous geochemical or geophysical values.
Au	Gold.
Ba	Barium.
Background	The typical concentration of an element or geophysical response in an area, generally referring to values below some threshold level, above which values are designated as anomalous.
BCGS	British Columbia Geological Survey
cm	Centimetre
Cu	Copper.
DDH	Diamond drill hole.
EM	Electromagnetic.
Float	Loose rocks or boulders; the location of the bedrock source is not known.
Grab sample	A sample of a single rock or selected rock chips collected from within a restricted area of interest.
g/t	Grams per tonne (metric tonne). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)
Ha	Hectare - an area totalling 10,000 square metres, e.g., an area 100 metres by 100 metres.
Intrusive	A magmatic rock that cuts into and alters older rocks and may be the source of minerals deposited into the rocks intruded, creating skarn or porphyry type mineral deposits.

IP	Induced polarization.
km	Kilometre.
m	Metre.
NI 43-101	<p>National Instrument 43-101 is a mineral resource classification and is a national instrument for the <i>Standards of Disclosure for Mineral Projects</i> with the Canadian Securities Administrators. The NI is a strict guideline for how public Canadian companies can disclose scientific and technical information about mineral projects. Disclosures include press releases, presentations, oral comments, and websites. The instrument requires that a "Qualified Person" be attributed to the information. A qualified person is defined as:</p> <ul style="list-style-type: none"> <li>• an engineer or geoscientist with at least 5 years experience in the mineral resources field</li> <li>• a subject matter expert in the mineral resources field and has a professional association.</li> </ul>
NW-SE	Northwest - southeast.
Orogen	The physical manifestations of the process of mountain building. Orogens are usually long, thin, arcuate tracts of rock that have a pronounced linear structure resulting in terranes.
oz/T	<p>ounces per ton (Imperial measurement).</p> <p>34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)</p>
oz/st	<p>ounces per short ton (Imperial measurement, same as oz/T).</p> <p>34.29 g/t (metric tonnes) = 1.00 oz/st (short tons)</p>
Pathfinder	Elements that occur in anomalous amounts together with the economic element being explored for.
Pb	Lead.
ppb	Parts per billion.
ppm	Parts per million (1 ppm = 1,000 ppb = 1 g/t)
Stratabound	Mineralization that is confined to a single stratigraphic unit.
Terrain	An arbitrarily defined geographic location.

Terrane	A major crustal block with a particular geologic history. (See Section 9.0 for more).
VLf-EM	Very low frequency electro magnetics.
Zn	Zinc

**APPENDIX K**

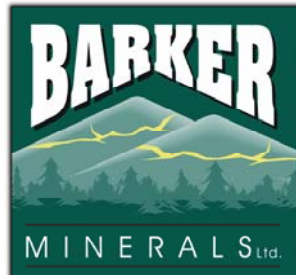
**GEOLOGICAL COMPILATION on the BLACK BEAR PROPERTY**

---

**GEOLOGICAL COMPILATION**  
**on the**  
**BLACK BEAR PROPERTY**

Cariboo Lake Area  
Cariboo Mining Division, British Columbia  
for

Barker Minerals Ltd.  
8384 Toombs Drive  
Prince George, BC  
V2K 5A3



Prepared by:  
Rein Turna, P.Geo.  
October 5, 2009

## **2.0 TABLE OF CONTENTS**

	Page No.
3.0 Summary .....	iv
4.0 Introduction .....	1
5.0 Reliance on Other Experts .....	1
6.0 Property Description and Location .....	1
7.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography .....	2
8.0 History .....	3
8.1 Work Done in 1926-1951 .....	3
8.2 Work Done in 1951-1968 .....	3
8.3 Work Done in 1972 .....	4
8.4 Work Done in 1976 .....	4
8.5 Work Done in 1980 .....	4
8.6 Work Done in 1981 .....	4
8.7 Work Done in 1981 .....	4
8.8 Work Done in 1981 .....	5
8.9 Work Done in 1982 .....	5
8.10 Work Done in 1983 .....	5
8.11 Work Done in 1983 .....	5
8.12 Work Done in 1984 .....	5
8.13 Work Done in 1984 .....	6
8.14 Work Done in 1984-1985 .....	6
8.15 Work Done in 1987 .....	6
8.16 Work Done in 1988 .....	7
8.17 Work Done in 1989 .....	7
8.18 Work Done in 1996 .....	7
8.18 Work Done in 1997 .....	8
8.19 Work Done in 1998 .....	8
8.20 Work Done in 1999 .....	8
8.21 Work Done in 2000 .....	8
9.0 Geological Setting .....	9
9.1 Regional Geology .....	9
9.2 Local Geology .....	15
10. Deposit Types .....	15
11.0 Mineralization .....	15
12.0 Exploration .....	16
13.0 Drilling .....	16

14.0 Sampling Method and Approach .....	16
15.0 Sample Preparation, Analyses and Security .....	17
16.0 Data Verification .....	19
17.0 Adjacent Properties .....	19
18.0 Mineral Processing and Metallurgical Testing (this section is not applicable) .....	22
19.0 Mineral Resource and Mineral Reserve Estimates (this section is not applicable) .....	22
20.0 Other Relevant Data and Information (this section is not applicable) .....	22
21.0 Interpretation and Conclusions .....	22
22.0 Recommendations .....	23
23.0 References .....	24
24.0 DATES and SIGNATURES .....	27
Certificate of Author .....	27
Consent of Author .....	27
25: Additional Requirements for Technical Reports on Development Properties and Production Properties (this section is not applicable)	

Figures

	Page No.
Figure No. 1 Barker Minerals Ltd. Property Location .....	after pg 2
Figure No. 2 Barker Minerals Ltd. Mineral Claims.....	after pg 2
Figure No. 3 Black Bear Property .....	after pg 2
Figure No. 4 Terrane Map of Southern British Columbia .....	10
Figure No. 5 Terrane Map of Cariboo Lake – Wells Area .....	11
Figure No. 6 Schematic Regional Structural Section .....	12
Figure No. 7 Black Bear Property 2008 Sampling Area .....	after pg 16



## Tables

Page No.

Table No. 1 Black Bear Property Mineral Claim Details .....	2
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## Appendices

### Appendix A - B.C. Geological Survey Deposit Types

- Au-quartz veins (BCGS Deposit Type I01)
- Polymetallic veins: Ag-Pb-Zn+/-Au (BCGS Deposit Type I05)

### Appendix B - Glossary of Technical Terms and Abbreviations

### **3.0 SUMMARY**

The Black Bear Property is located approximately 8.5 km ENE of the town of Likely and 74 km NE of the City of Williams Lake. The Property is owned 100% by Barker Minerals Ltd. of Prince George, B.C. The size of the Black Bear Property is 3,158.95 ha (211 cells or units) and occurs within an 80 km x 30 km contiguous block of claims owned by Barker Minerals, informally named the 'Peripheral' claims.

The geology of the Black Bear Property consists mainly of dark grey argillite with relatively minor interbedded limestone. Mineralization on the property consists of discontinuous blebs of galena and pyrite in quartz and quartz-iron carbonate veins. These mineralized veins occur as float and outcrop over approximately a 2 km NW-SE trend from the Providence adit at the SE end. Some historic veins at Black Bear Creek were described as 'at least 50 feet wide'. Between 1926 and 1951 pockets of high grade ore were mined by hand for silver and lead. In 1948 5 tons of ore yielded 319 oz. Ag, 3,294 lb. Pb, 12 lb. Zn. In 1951 7 tons of hand-picked ore from the main vein yielded 1 oz. Au, 683 oz. Ag, 6,401 lb. Pb and 15 lb. Zn.

The mineral prospects on the Black Bear Property are for Au-quartz veins and polymetallic veins: Ag-Pb-Zn+/-Au. The possibility of large tonnage stratigraphically controlled mineralization similar to the gold deposit at Spanish Mountain 5.0 km to the southwest is also considered.

#### **4.0 INTRODUCTION**

This report was prepared at the request of Mr. Louis E. Doyle, President of Barker Minerals Ltd. The purpose of this report is to summarize the geology, mineralization and work done to date on the Black Bear Property and recommend further work to enhance the economic potential of Barker Minerals' mineral properties in the Cariboo Lake area. A schedule of work is proposed for the Black Bear Property.

The sources of information for this report include historical assessment reports, government publications, reports filed with the System for Electronic Document Analysis and Retrieval (SEDAR) for Barker Minerals Ltd. and the personal experiences of this author during his work on Barker Minerals' properties from 2006-2008. This author has worked for Barker Minerals as an independent consultant in 2006, as Vice President of Exploration since April, 2007.

A listing of information sources is provided in Section 23.0 References. Appendix B contains a Glossary of Technical Terms and Abbreviations.

#### **5.0 RELIANCE on OTHER EXPERTS**

Sections 7.0 and 9.0 of this report have adopted excerpts from Perry, B.J. (2002) and Payne and Perry (2001). Mr. Perry was a Qualified Person under NI-43-101 at the time of his writing these reports.

The geological descriptions in Section 9.0 and 10.0 derive mainly from British Columbia Geological Survey (BCGS) publications by Struik (1988) and Panteleyev et al. (1996).

The extensive knowledge of L.E. Doyle, gained from his own prospecting activities, research and management of exploration projects in the Cariboo region have been instrumental in determining the exploration methods and strategy in Barker Minerals' projects since 1993. Under supervision of qualified professionals he has overseen all aspects of Barker Minerals' exploration and has been the driving force in designing projects and interpreting exploration results.

#### **6.0 PROPERTY DESCRIPTION and LOCATION**

The Black Bear Property consists of the mineral claim tenures listed in Table No. 1, acquired and maintained under Mineral Titles Online (MTO), British Columbia's internet-based mineral titles administration system.

<u>Tenure Number</u>	<u>No. of Units</u>	<u>Owner</u>	<u>Good To Date</u>	<u>Status</u>	<u>Area (ha)</u>
504419	42	Barker Minerals Ltd. 100%	2009/Oct/31	Good	824.23
504421	36	Barker Minerals Ltd. 100%	2009/Oct/31	Good	706.45
504422	25	Barker Minerals Ltd. 100%	2009/Oct/31	Good	490.62
514348	50	Barker Minerals Ltd. 100%	2009/Oct/31	Good	980.85
514356	31	Barker Minerals Ltd. 100%	2009/Oct/31	Good	608.02
514525	24	Barker Minerals Ltd. 100%	2009/Oct/31	Good	470.75
525812	2	Barker Minerals Ltd. 100%	2009/Oct/31	Good	39.25
525813	1	Barker Minerals Ltd. 100%	2009/Oct/31	Good	19.63

Total area: 3,158.95 ha

Table No. 1 - Black Bear Property Mineral Claim Details

The property is outlined in Figure No.3 Black Bear Property. The mineral claims comprising the Property are located astride Black Bear Creek in the Cariboo Mining Division in British Columbia and are 100% owned by Barker Minerals Ltd. of Prince George, B.C.

The property is approximately 8.5 km ENE of the town of Likely and 74 km NE the City of Williams Lake. The City of Prince George is 165 km to the north.

The geographic coordinates of the Property are:  
 52.63° North Latitude and 121.44° West Longitude or  
 605000 E and 5833000 N UTM coordinates (NAD 83).  
 The relevant map is: N.T.S. Map No. 93A/11.

Exploration work that has been conducted on the Black Bear Property by Barker Minerals has been done under Mine Permit No. 08-1000921-0220. The permit can be modified by amendments to allow future work. Barker Minerals has posted a security with the Province of B.C. in the amount of \$8,000 for reclamation purposes.

## **7.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY**

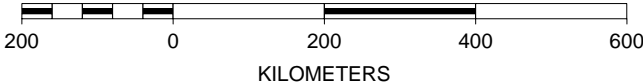
The closest large centre to the Barker Minerals project areas is Williams Lake located approximately 74 km to the southwest. Williams Lake is an intermediate-sized city and served by Highway 97, the B.C. Railway, a major hydroelectric power grid and a modern airport. By road, Likely is 65 km northeast of 150 Mile House on Highway 97. Access to Barker Minerals exploration areas, including the Black Bear Property, is via gravel logging roads bearing ENE from Likely. The distance from Likely to Black Bear is approximately 8.5 km by road. In Likely, Barker Minerals maintains a property that includes a house, a bunkhouse, a workshop and a large general-purpose tent and a core-cutting shack. The house serves as a field office.

**Barker Minerals Ltd.**

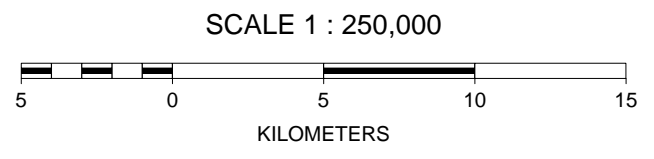
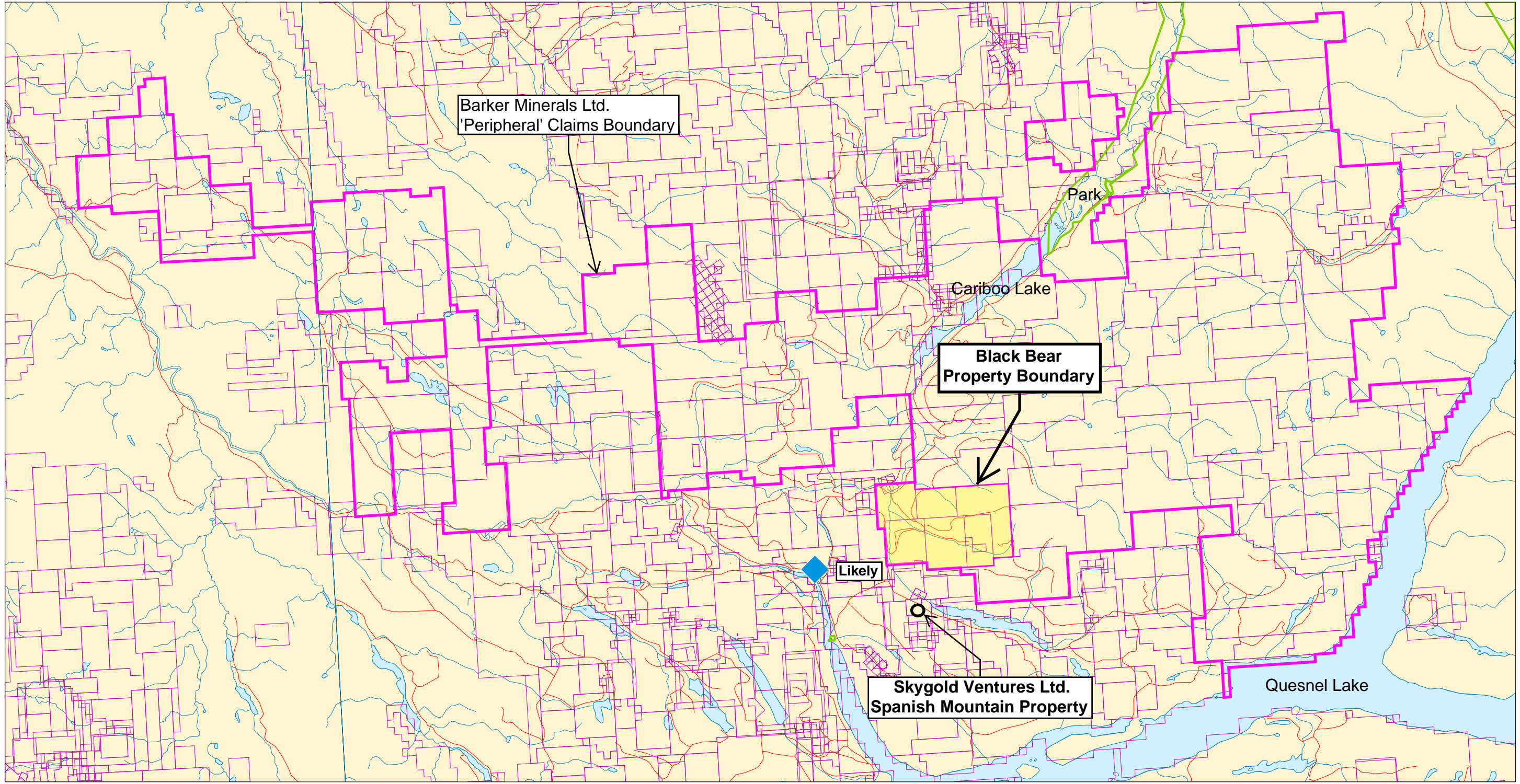


Map Center: 54.4781N 124.7082W

SCALE 1 : 10,000,000

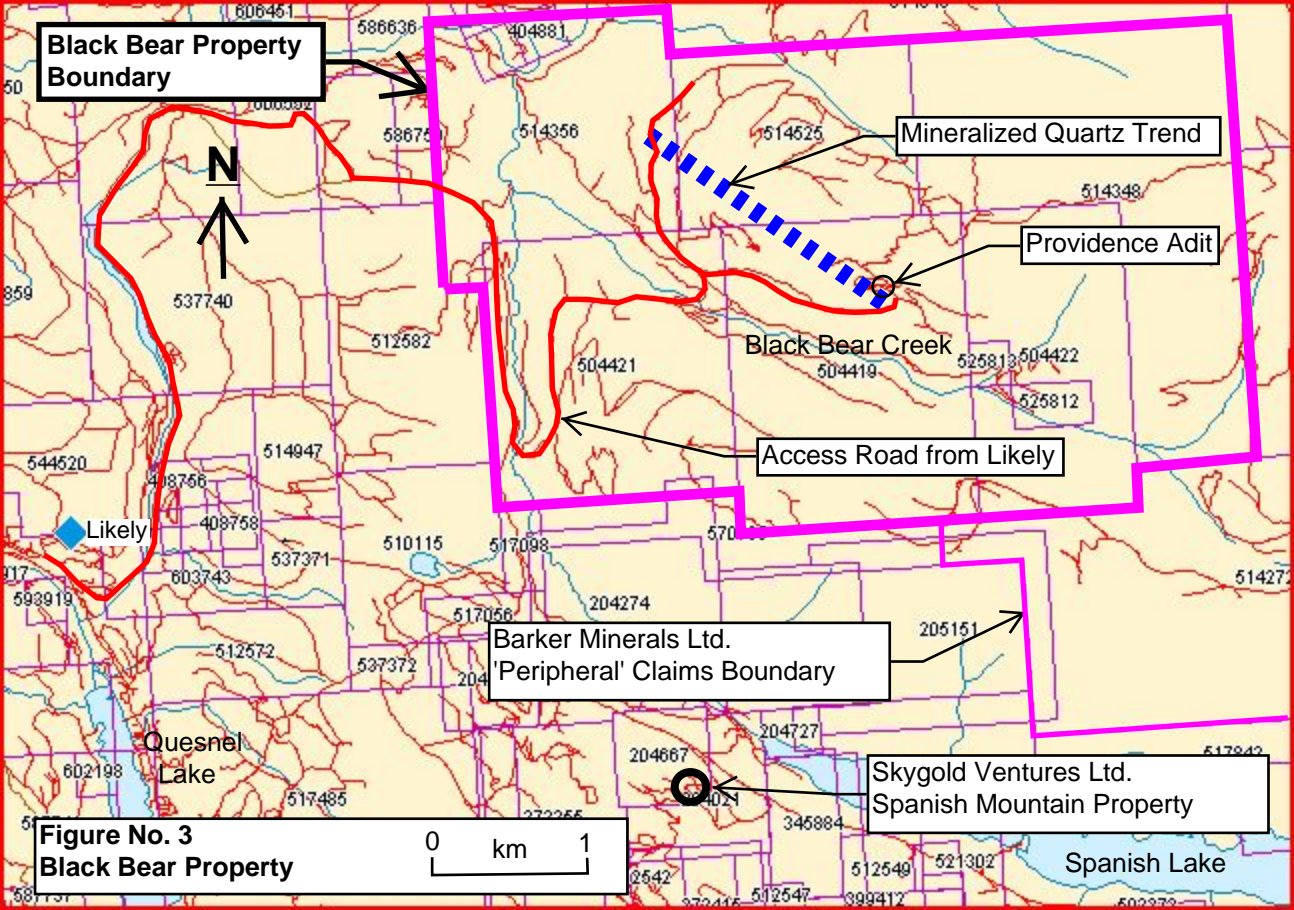


**Barker Minerals Ltd. Mineral Claims**  
**Cariboo Mining Division**



**Figure No. 2**





**Black Bear Property Boundary**

**N**



**Mineralized Quartz Trend**

**Providence Adit**

**Black Bear Creek**

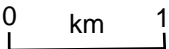
**Access Road from Likely**

**Likely**

**Barker Minerals Ltd.  
'Peripheral' Claims Boundary**

**Skygold Ventures Ltd.  
Spanish Mountain Property**

**Figure No. 3  
Black Bear Property**



**Spanish Lake**

**Quesnel Lake**

The Black Bear Property is situated in the central part of the Quesnel Highland between the eastern edge of the Interior Plateau and the western foothills of the Columbia Mountains. This area contains rounded mountains that are transitional between the rolling plateaus to the west and the rugged Cariboo Mountains to the east. Pleistocene and Recent ice sheets flowed away from the high mountains to the east over these plateau carving U-shaped valleys. The elevation ranges from 800 – 1,800 m.

Precipitation in the region is heavy, as rain in the summer and snow in the winter. Drainage is generally to the west, mainly via Black Bear Creek which joins Spanish Creek flowing northward approximately along the west side of the Black Bear property. Vegetation is old-growth spruce, fir, pine, hemlock and cedar forest in all but the alpine regions of the higher mountains. Weldwood has been actively logging fir, spruce and pine in the area, principally during winters. Snow can limit the work season to approximately May to November, but drilling can be conducted any time during the year if the access road is plowed clear.

## **8.0 HISTORY**

Historical work programs done on areas presently covered by Barker Minerals' Black Bear property are briefly described below.

Placer mining for gold was conducted on Black Bear Creek in the early 1900's and earlier.

Some of the information below is from the Energy, Mines & Petroleum Resources (EMPR) Annual Reports for 1902, 1926, 1947, 1948, 1949 and Exploration in BC for 1976, 1977, 1980.

### **8.1 Work Done in 1926-1951**

The Annual Report for 1926 for the Black Bear 1-4 claims states that 'many quartz showings', some of 'impressive size' were being handpicked of galena for the silver content. A quartz vein 'at least 50 feet wide' was identified at a falls in Black Bear Creek; from it a picked grab sample assayed 0.02 oz/T Au, 43 oz/T Ag, 40% Pb. Another wide vein was exposed in an open cut at 3,300 foot elevation on the north side of Black Bear Creek about 2 miles up from the mouth. 10 to 15 tons of ore were taken from here in 1926; a picked grab sample assayed 0.06 oz/T Au, 144 oz/T Ag, 76% Pb. Two adits were begun in 1926; by 1947 they totaled 190 feet of crosscuts and drifts exploring 3 vein structures; the property name was Providence by this time. In 1948 5 tons of ore sent to the Trail smelter yielded 319 oz. Ag, 3,294 lb. Pb, 12 lb. Zn. Exploration in 1976 to 1980 by successive owners included 200 soil samples, 5 diamond drill holes (355m) mainly targeting 3 quartz veins, and geological mapping.

### **8.2 Work Done in 1951-1968**

R.B. Stokes (1972) states that in 1951 7 tons of handpicked ore from the main vein yielded 1 oz. Au, 683 oz. Ag, 6,401 lb. Pb and 15 lb. Zn. In 1967-68 Plutus Mines Ltd. drove 825 feet of tunnels to explore the 3 main Ag-Pb-bearing quartz veins. Stokes states that 11 underground



diamond drill holes (2,217 feet) were done in 1968 but no record of this was found in the Minister of Mines Annual Reports or Assessment Reports.

### **8.3 Work Done in 1972**

The relevant report is Assessment Report 3944 by R.B. Stokes.

Work was done on the B.G. claims by D.G. Leighton on the quartz and galena showings on the north side of Black Bear Creek as had been worked since 1926. In the 1972 program 410 soil samples were collected over 3 grids. Strongly anomalous values (up to 7,500 ppm Pb and 66 ppm Ag) occurred over an extension of the main zone where the most prominent vein was traceable for 600 feet. Further soil sampling and geological mapping were recommended, to be followed up by hand and mechanical trenching.

### **8.4 Work Done in 1976**

The relevant reports are Assessment Report 6048 by R. Buckley and Exploration in BC, 1977, pg. E179-180.

Work was done on the old showings in the adit area on the Like claims by DeKalb Mining Corp. Some trenching was done and samples collected from these. Five diamond drill holes (355 m) were done. The holes did not encounter significant veins. Further diamond drilling was recommended to test the known veins.

### **8.5 Work Done in 1980**

The relevant report is Assessment Report 8291 by J.G. Payne.

Trenching by hand and backhoe and geological mapping were done on the Like claims by Anglo Canadian Mining Corp. in the area of the old showings and adits. It was concluded that chip samples taken across the mineralized veins would not be representative due to the erratic occurrence of high grade pockets of argentiferous galena. Thus average values of veins are not a significant factor, whereas the presence of veins with some galena are significant. It was determined that the mineralized quartz veins are controlled along northwest trending zones and that exploration should be along these zones from the known showings.

### **8.6 Work Done in 1981**

The relevant report is Assessment Reports 8318 by D.G. Mark.

A seismic refraction survey was done for Mr. G. Smith on a placer lease at the mouth of Spanish Creek at Cariboo River. The purpose was to discover buried river channels which could contain concentrations of placer gold. Several possible channels in bedrock were outlined.

### **8.7 Work Done in 1981**

The relevant report is Assessment Report 9916 by J.W. MacLeod.

Prospecting was done for Mr. W. Greyson on the NOV 1,2,3 claims in the vicinity of 2 old adits and a dam associated with placer operations, on the west side of Spanish Creek opposite the mouth of Black Bear Creek. The exploration was for a porphyry gold type deposit. A number of quartz veins were sampled; 9 rock samples were collected. A recommendation was made for a soil sampling survey to be done.

### **8.8 Work Done in 1981**

The relevant report is Assessment Report 10251 by T.A. Jones. Canadian Nickel Company Ltd. did prospecting and reconnaissance stream sampling on the BB claim group along Spanish and Black Bear Creeks. The exploration was for gold. Ten rock, 23 stream and 7 heavy mineral stream samples were collected. Two small streams draining the north side of Black Bear Creek in the vicinity of the Providence adit had 100 ppb and 200 ppb Au. These were recommended for follow-up. Stronger Au anomalies on Spanish and Black Bear Creeks were got from areas of historic placer workings and no recommendation was made regarding these.

### **8.9 Work Done in 1982**

The relevant report is Assessment Report 10812 by J.L. Deleen. A single diamond drill hole (71 m) was done by W. Grayson on the NOV 1,2,3 claims on the west bank of Spanish Creek near where it is joined by its tributary, Black Bear Creek. The purpose was to test the value of several quartz veins above a nearby old adit. The core contained small quartz veins, up to 20 cm. Core samples were anomalous in precious and base metals but were not considered economic. It was suggested further soil sampling would be useful but no specific work was recommended.

### **8.10 Work Done in 1983**

The relevant report is Assessment Report 11773 by J.L. Deleen. Apex Energy Corp. did soil sampling on the NOV 1,2,3 claims. The exploration interest was due to small quartz veins in outcrops and a long history of small placer Au workings on Spanish and Black Bear Creeks. The soil sampling was concentrated on the west bank of Spanish Creek opposite from the confluence of Black Bear Creek from the east. 1,610 soils were collected. Six areas, variably anomalous in Au, Ag, Cu or As were identified. A percussion drilling program was recommended on 4 of these.

### **8.11 Work Done in 1983**

The relevant report is Assessment Report 12566 by B. Woodsworth. Prospecting traverses were done over the Big 2 and 3 claims by Clearbrook Mining Ltd. to assess the general geology and the prospects for quartz vein-related Au mineralization. These claims covered the upper part of Black Bear Creek east of the Providence area. Four rock samples were collected. A program of prospecting, mapping and soil sampling was recommended, to be possibly followed up by 600 m of percussion drilling in 10 holes.

### **8.12 Work Done in 1984**

The relevant report is Assessment Report 13285 by G.N. Cooper. Homestake Mineral Development Company did geochemical sampling and geological mapping on the Trump claim group. Work was concentrated on the west flank of China Mountain between Black Bear Creek and Collins Creek, northwest of the Providence area. 163 soil, 12 stream silt and 41 rock samples were collected. The purpose was to determine the prospects for galena and silver-bearing quartz veins. Four quartz veins, some described as large, containing galena were discovered. The highest geochem results from selected grab samples

were 24,953 ppm Pb and 458.4 ppm Ag. The highest results in the soils were 521 ppm Pb and 4.5 ppm Ag; these were adjacent to galena-bearing quartz veins. The highest Au in soil was 115 ppb but this could not be reproduced in a later sample from the site. Further work to determine the economic significance of the galena-bearing quartz veins was suggested but a work program was not specified.

### **8.13 Work Done in 1984**

The relevant report is Assessment Report 13306 by E.R. Rockel. Apex Energy Corp. did geophysical work at scattered locations on the NOV claim group. The work was concentrated on the west bank of Spanish Creek. 2.75 line km of IP were done, as well as 5.25 km of VLF-EM and 3.75 km of magnetics. IP, EM and magnetic anomalies were mainly attributed to various possible causes such as graphite, lithologic variations, depth of overburden and sulphide mineralization. The limited survey did not allow specific interpretations but drilling was suggested to test locations of coincident geophysical and previous geochemical anomalies. Mechanical trenching was recommended at several locations. Additional geophysical work was suggested to follow up any encouraging sub-surface exploration.

### **8.14 Work Done in 1984-1985**

The relevant report is Assessment Report 13986 by G.A. Medford. Ranald Resources Ltd. did soil sampling and a ground magnetic survey over approximately 24 line km on the LT1 claim on the north side of China Mountain approximately 3 km northeast of the Providence adit on Black Bear Creek. Approximately 650 soil samples were collected. A strong magnetic anomaly trending 600 m north-northeasterly and open to the south, coincided with a gossanous area. Three other magnetic anomalies coincided with Pb, Zn and Ag soil anomalies. A three-phase work program was recommended. It included staking additional ground to the south, mapping, geophysics, rock and soil sampling, trenching and drilling.

### **8.15 Work Done in 1987**

The relevant report is Assessment Report 17103 by S.A.S. Croft. Malcom Resources Ltd. did geochemical and geophysical work on the east part NOV claim group. Work was concentrated on the east side of Spanish Creek and north and east sides of Black Bear Creek, and at 'Spanish Canyon' in Spanish Creek, just west of the mouth of Black Bear Creek. The VLF-EM survey did not detect any conductors that coincided with anomalous geochemistry. Several weak conductor anomalies were thought to probably related to lithologic variations. The soil sampling survey included 574 soil samples collected. Thirteen soil lines were done between Black Bear Creek to the west and the low road to the east used in 2008 to access the Providence adit area. Four anomalies were identified including Au pathfinder elements, Ag, Pb and Zn which supported a southeastward extension of an auriferous quartz vein structure from exposures in Spanish Canyon. Grab rock samples of quartz veins from trenches at Spanish Canyon had up to 0.818 oz/T Au, 4.43 oz/T Ag and 2.8% Pb; these values were translated from ICP analysis results. Economic gold values in quartz veins were strongly associated with argentiferous galena and pyrite in calc-silicate selvages. The geological setting of the NOV claim group was considered to be similar to the Frasersgold deposit 65 km to the

southeast. It was suggested that exploration should be continued but no specific recommendations were made.

### **8.16 Work Done in 1988**

The relevant report is Assessment Report 17751 by M. Matherly.

Prospecting was done by Mr. Matherly on the B.B. Claim in the area of the headwaters of Black Bear Creek. 47 grab rock samples were collected. A sample of quartz with galena had 2,240 ppm Pb, 152.8 ppm Ag and 50 ppb Au.

### **8.17 Work Done in 1989**

The relevant report is Assessment Report 20062 by D.A. Thompson.

Work on the Otto claims by Priority Ventures Ltd. included diamond drilling of 6 holes (294 m). The property covered most of the area between Black Bear Creek and Collins Creek to the north. The drilling tested a quartz vein at least 7.6 m wide in a surface exposure. Grab samples from the vein had up to 66.5% Pb, 73.79 oz/T Ag and 0.023 oz/T Au. Soil samples taken the previous year over the vein had values up to 4,000 ppm Pb and 14.4 ppm Ag in an area described as a major Ag-Pb anomaly. The vein had a strike of 157° and could be followed for 254 m. The drill holes intersected quartz-carbonate veins in up to 12 feet widths and had frequent and extensive intersections of quartz-carbonate flooding in up to 40-foot widths. Zones with galena returned significant Ag and Pb values but no significant Au or Zn. Trenching, VLF-EM and prospecting were recommended to outline the extensions of quartz veins and to determine drill hole targets.

### **8.18 Work Done in 1996**

The relevant report is Assessment Report 24989 by C.A.R. Lammle.

The assessment report describes work done on the Barker Minerals' 'Peripheral' group of claims. The Black Bear property comprised a portion of the 'Peripheral' group. In 1996 the 'Peripheral' group of claims covered an approximately 30 km x 40 km area on the east side of Cariboo Lake. The 'Peripheral' group, and later expansions of it would by 2009 also include Barker Minerals' Frank Creek massive sulphide discovery and other prospects named Ace, Simlock, Kangaroo, Cariboo, Black Stuart, Big Gulp, SCR, Sellers Creek, Unlikely, Peacock (Rollie Creek), Tasse, Upper Grain, Maud, MAG and Gerimi. Only the work done at Black Bear is discussed here.

Cursory mapping was done near the Providence adit and upper parts of Black Bear Creek. A VLF-EM and magnetic survey was done along an approximately 9.0 km long traverse along a road in the upper part of Black Bewar Creek and eastward. Profiles of the data showed anomalies but no detailed interpretation was attempted. It was recommended that anomalous areas be re-visited and checked.

### 8.18 Work Done in 1997

The relevant report is Assessment Report 25437 by J.G. Payne.

The assessment report describes work done on the Barker Minerals' 'Peripheral' group of claims. The Black Bear property comprised a portion of the 'Peripheral' group. Only the work done at Black Bear is discussed here.

Several stream sediment samples were collected in the vicinity of the Providence adit and the upper parts of Black Bear Creek. These were weakly or moderately anomalous in Au, Ag, Zn, Mo, As and Se. Sample No. R#62 had 236 ppb Au in a small stream below the Providence adit. The stream anomalies were described as a base and precious metal exploration target but no specific recommendation was made regarding these.

### 8.19 Work Done in 1998

The relevant report is Assessment Report 25904 by J.G. Payne.

The assessment report describes work done on the Barker Minerals' 'Peripheral' group of claims. The Black Bear property comprised a portion of the 'Peripheral' group. Only the work done at Black Bear is discussed here.

Reconnaissance rock sampling was done in the areas of the Providence adit and Trump showings to the NW. Grab samples of galena in quartz veins had some high values:

<u>Sample No.</u>	<u>Pb</u> <u>%</u>	<u>Ag</u> <u>oz/Ton</u>	<u>Au</u> <u>oz/Ton</u>	<u>Bi</u> <u>%</u>	<u>Location</u>
11-07-98-59	52.84	142.56	0.081	1.24	Providence adit
18-07-98-66	53.72	56.68	0.015	0.55	Trump showing
19-07-98-69	37.6	36.5	0.023	0.35	Trump showing

Several stream sediment samples were collected in the vicinity of the Providence adit. These were weakly anomalous in Au, Ag, and base metals. Detailed mapping and follow-up geochemical sampling and geophysical surveys were recommended.

### 8.20 Work Done in 1999

The relevant report is Assessment Report 26003 by J.G. Payne.

Approximately 10.0 line km of cut grid was established on the Black Bear property approximately 4.0 km SE of the Providence adit, on which prospecting and geological mapping were recommended to be done.

### 8.21 Work Done in 2000

The relevant report is Assessment Report 26504 by J.G. Payne.

A VLF-EM geophysical survey was done over the Black Bear Grid, cut the previous year. Profiles of the data did not suggest any obvious anomalies; no interpretation or recommendations were made.

## **9.0 GEOLOGICAL SETTING**

### **9.1 Regional Geology**

The geological descriptions in this Section derive mainly from Struik (1988), Panteleyev et al. (1996) and Payne and Perry (2001); these authors are quoted extensively.

The western Canadian Cordillera is made up of a number of terranes representing crustal blocks of fundamentally contrasting histories. The terranes are commonly bounded by faults and trench complexes or collisional suture zones.

The fundamental geologic components that make up the terranes are referred to as 'tectonic assemblages'. The assemblages represent rocks deposited in specific tectonic settings during certain periods of time and, therefore, are commonly bounded by unconformities or faults. They represent distinctive successions of stratified rocks and other characteristic lithologies, mainly coeval metamorphic, plutonic and ultramafic rocks. The assemblages are categorized in terms of their predominant depositional setting or position relative to the orogen, for example, island arc, back arc, ocean basin or continent-margin foredeep clastic wedge or passive-margin sediment, and so forth. Tectonic assemblages are commonly named after their principal constituent formation, group or region in which the assemblage is best described. During the mid-Jurassic the North American continental plate collided with a group of island arcs to the west.

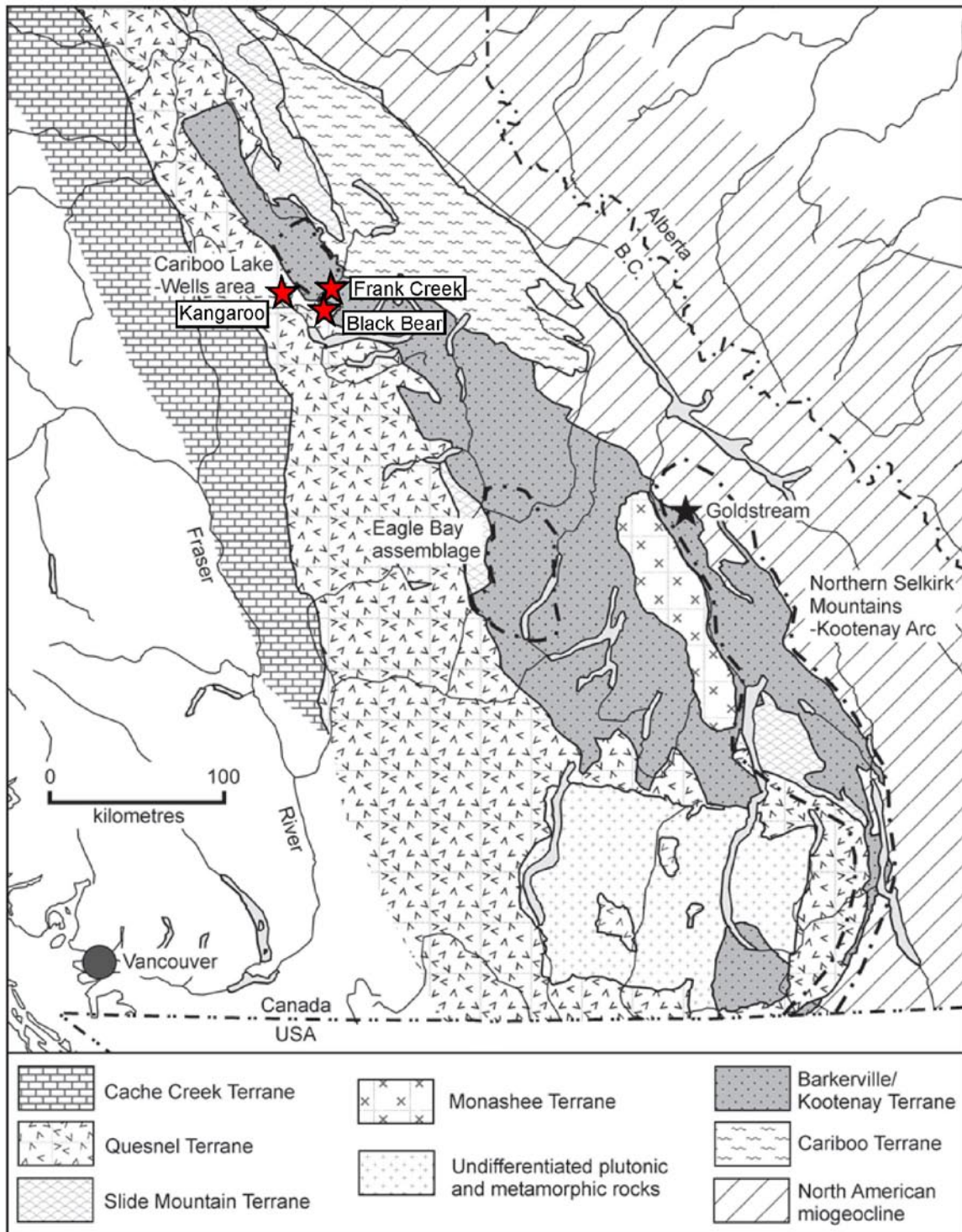


Figure No. 4 Terrane Map of Southern British Columbia. Barker Minerals' properties are indicated by red stars. The black star (Goldstream) is a massive sulphide deposit where production from 1983 to 1996 by then owner Imperial Metals Corp. totaled 2,224,387 tonnes yielding 26,228 kg Ag, 78,269 tonnes Cu and 7,988 tonnes Zn (BCGS Minfile 082M 141).

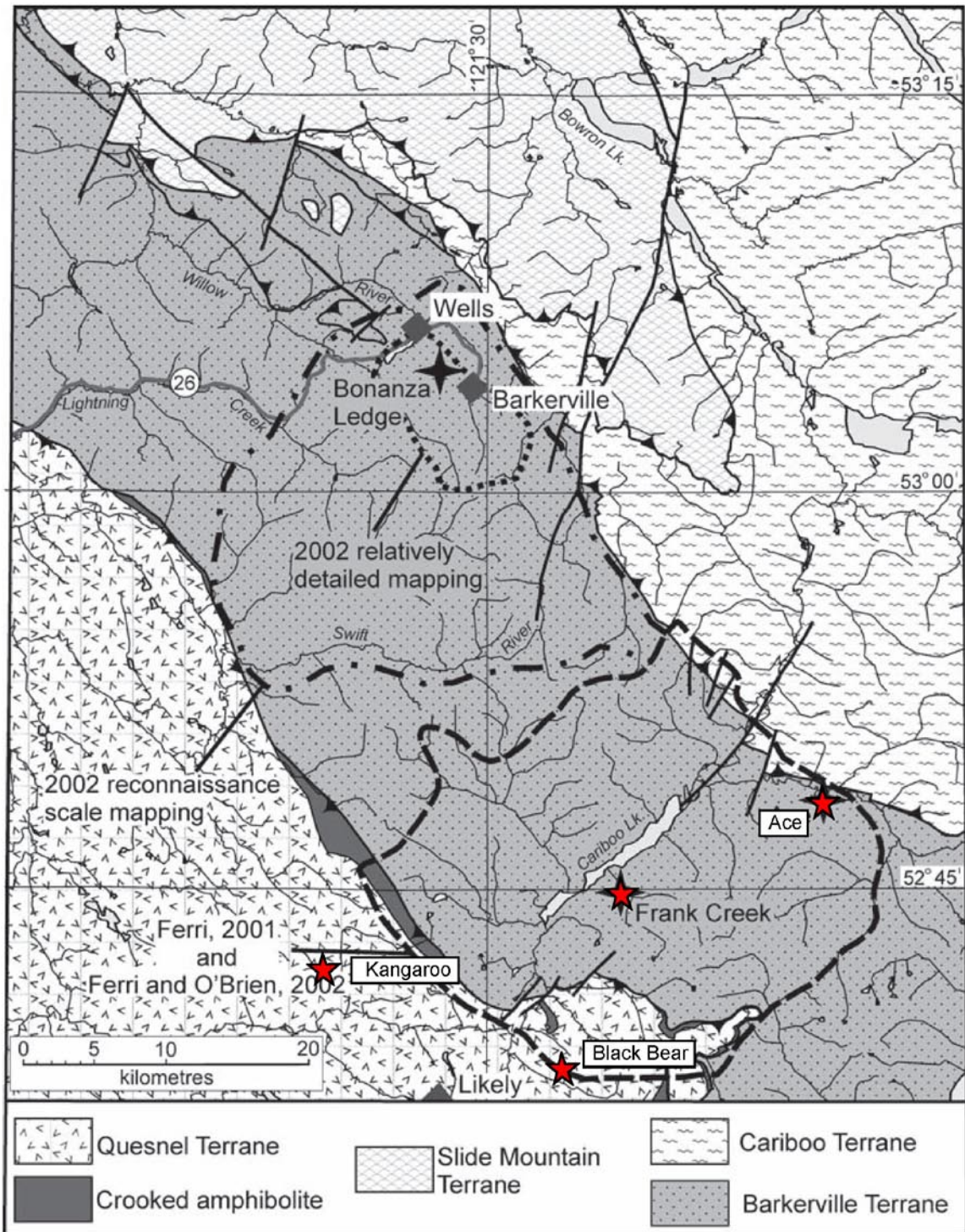


Figure No. 5 Terrane Map of Cariboo Lake – Wells Area showing areas mapped by BCGS in 2000 – 2002. Barker Minerals' properties are indicated by red stars.



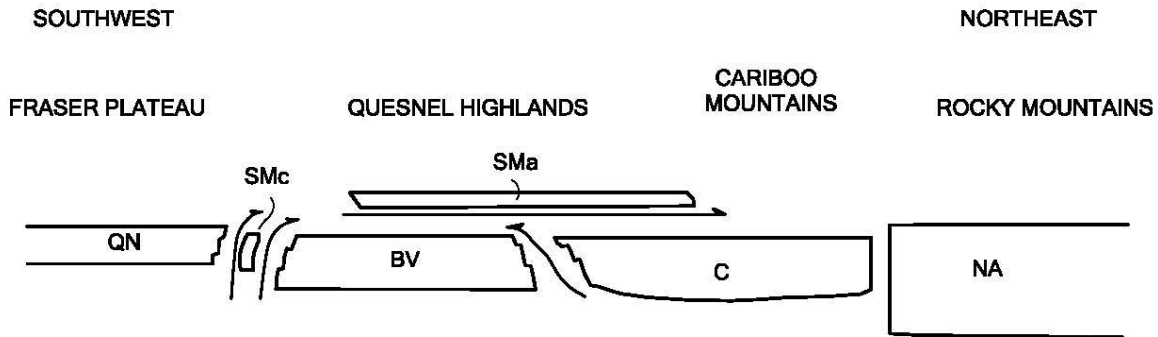


Figure No. 6 Schematic Regional Structural Section from southwest to northeast across the four Terranes in Barker Minerals' claims area, showing the relative structural position of the Terranes. The Terrane symbols are BV-Barkerville, C-Cariboo, Sma-Slide Mountain (Antler Formation), SMc-Slide Mountain (Crooked amphibolite), QN-Quesnel and NA-North American. (after Struik, 1988).

### Quesnel Terrane

The Quesnel terrane was accreted to the North American continent during the Late Triassic to Early Jurassic. The Eureka thrust fault marks the boundary between the Quesnel and Barkerville terranes. The terrane is partly submarine and partly subaerial, consisting of volcanic and volcanoclastic rocks and co-magmatic intrusions, with minor carbonate lenses and related sedimentary rocks.

The principal assemblage in the Quesnel Terrane is the Triassic-Jurassic Nicola island arc – marginal basin sequence. The underlying rocks are the Crooked amphibolite, part of the Slide Mountain assemblage, a mylonitized mafic and ultramafic unit of oceanic marginal basin volcanic and sedimentary rocks. Rocks of Quesnel Terrane and Crooked amphibolite are structurally coupled and tectonically emplaced by the Eureka Thrust onto the Barkerville Terrane, to the east.

Two lithostratigraphic subdivisions of the Quesnel Terrane consists of a basal Middle to Late Triassic metasedimentary unit of dominantly black phyllitic rocks, approximately 7 km thick, and an overlying Late Triassic to Early Jurassic volcanic arc assemblage, approximately 9 km thick. The overlying volcanic rocks outline a northwesterly trending belt of subaqueous and subaerial volcanic rocks, deposited along a series of volcanic-intrusive centres that define the Quesnel island arc of predominantly alkalic basalts.

The Quesnel Trough is a well-mineralized region typical of other Late Triassic to Early Jurassic volcano-plutonic island arcs in the Cordillera. It hosts a wide variety of mineral deposits. The principal recent exploration and economic development targets in the central Quesnel belt are alkalic intrusion-related porphyry copper-gold deposits and gold-bearing propylitic alteration

zones formed in volcanic rocks peripheral to some of the intrusions. Other important targets are auriferous quartz veins in the black phyllite metasedimentary succession. The veins in some black phyllite members have potential to be mined as large tonnage, low-grade deposits. Tertiary rocks are mineralized with copper and gold. Antimony-arsenic and mercury mineralization in some apparently low temperature quartz-calcite veins indicated the potential for epithermal deposits. Placer mining for gold, said to occur together with platinum, has been of major historical and economic importance.

### **Slide Mountain Terrane**

Rocks of the Devonian to Late Triassic Slide Mountain Terrane were partly obducted, partly subducted during collision of an oceanic plate with the continent. Small slices of mainly mafic volcanic rocks and ultramafic rocks of the Slide Mountain Terrane occur in and parallel to the Eureka thrust. Minor lithologies include chert, meta-siltstone and argillite.

The Crooked amphibolite, considered likely a part of the Slide Mountain Terrane, includes three major constituent rock types: greenstone, metagabbro and meta-ultramafite. North of Quesnel Lake, the map units consist of mafic metavolcanics, amphibolite, chlorite schist, serpentinite, ultramafic rocks and pillow lavas. Chemical analyses indicate subalkaline tholeiitic compositions of basalts formed on the ocean floor. If the Crooked amphibolite is a sheared and metamorphosed equivalent of the Antler Formation and is part of the Slide Mountain Terrane, it is separated from the underlying Barkerville Terrane by the Eureka thrust, a wide zone of mylonitization. The Crooked amphibolite and the overlying rocks of Quesnel Terrane are structurally coupled and emplaced tectonically onto Barkerville Terrane.

### **Barkerville Terrane**

The Barkerville Terrane is made up of the Snowshoe Group and Quesnel Lake gneiss. The Snowshoe rocks are Upper Proterozoic to Upper Devonian metasediments, considered correlative in age with Eagle Bay rocks of the Kootenay Terrane to the south and Yukon-Tanana Terrane to the north. The Snowshoe rocks are dominated by varieties of grit, quartzite, pelite, limestone and volcanoclastic rocks. The stratigraphic sequence is not well understood. The region was deformed by intense, complex, in part isoclinal folding and overturning. Locally, strong shear deformation produced mylonitic textures. The Quesnel Lake gneiss is a Devonian to Mississippian intrusive unit varying in composition from diorite to granite to syenite. It is generally coarse grained, leucocratic, often with megacrysts of potassium feldspar. The main body of gneiss is 30 km long by 3 km wide and is elongated parallel to the eastern border of the Intermontane belt. Its contacts are in part concordant with, and in part perpendicular to, metamorphic layering.

The contact between the Barkerville Terrane and Cariboo Terrane to the east is the Pleasant Valley Thrust. The Barkerville and Cariboo Terranes were juxtaposed prior to emplacement of the Slide Mountain Terrane which was thrust over both of them. The northeastern third of the Barkerville Terrane is the main zone of economic interest in the Cariboo district. Struik described it as "gold-enriched", because it contains the historic Wells and Barkerville mines and

the Cariboo Hudson deposit, approximately 40 km and 20 km northwest of the project area, respectively.

### **Cariboo Terrane**

The northeastern part of Barker Minerals' 'Peripheral' claim group is underlain by Precambrian to Permo-Triassic marine peri-cratonic sedimentary strata of the Cariboo terrane. The Cariboo Terrane consists mainly of limestone and dolomite with lesser siliceous, clastic, sedimentary rocks and argillite. Some geologists believe that the Cariboo Terrane is a shallow, near-shore facies and the Barkerville is a deeper, offshore facies of the same erosion-deposition system. No rifting is suspected between the Cariboo Terrane and the North American continent, in contrast to that between the Barkerville Terrane and the North American continent. Lithologies within the Cariboo Terrane correlate well with parts of the Cassiar Platform and Selwyn Basin of Yukon and northern British Columbia.

The Cariboo and Barkerville Terranes are separated by the regional Pleasant Valley thrust fault, which dips moderately to steeply northeast. Struik (1988) states the Cariboo block was thrust from the east over the Barkerville block along a strike length of over 100 km. The Cariboo Terrane was cut by the Jurassic-Cretaceous Little River stock, a medium-grained granodiorite grading to quartz monzonite. Some of the carbonate layers in the lowest part of the Cariboo terrane (or upper part of the Barkerville Terrane) are enriched in zinc and lead. Since the 1970's, preliminary exploration on stratiform Zn-Pb targets has been conducted in this area.

### **Glaciation and glacial deposits**

The last glacial stage that affected the Quesnel Highland, the Fraser glaciation, began 30,000 years ago. Much of this ice had melted by 10,000 years ago, but small remnants are preserved high in the alpine areas of the Cariboo Mountains. At lower elevations, glaciers of this age scoured the debris left by preceding ice advances, almost completely destroying them, leaving a chaotic assemblage of unsorted till, moraine and drift, with lenses of gravel and sand that had been roughly sorted by melt water and rivers, leaving behind beds of silt and clay that were stratified by settlement in ice-dammed lakes. In the Cariboo area, the debris covers bedrock in valleys below 1,700 m, leaving typical glacial features such as U-shaped valleys, ice-sculpted drumlins, moraine terraces and glacier and river benches. On the Barker Minerals properties, glacial deposits range from one to a few tens of metres thick. Some glacial till deposits are overlain by well-bedded glaciolacustrine clay and silt deposits up to a few tens of metres thick.

In much of the Cariboo district, a layer of distinctive, hard, compact, semi-rigid blue clay sits either on or slightly above bedrock and acts as "false" bedrock. It was formed from glacial drift left behind by the last ice advance prior to the Fraser glaciation and was compacted by the weight of the Fraser stage ice. In the placer-gold areas of the Cariboo, large amounts of gold were recovered from gravel resting on this clay. In places the clay layer was penetrated by the placer miners to reach richer "pay streaks" on true bedrock below.

## **9.2 Local Geology**

The geology of the Black Bear property consists of dark grey argillite, locally graphitic, with relatively minor interbedded limestone, phyllitic argillites and minor calcareous siltstone. Horizons of bleached light grey to greenish phyllite are commonly associated with mineralized quartz veins. Several occurrences of a dark green ultramafic or gabbroic rock occur in small outcrops and large rounded boulders. This rock commonly contains fuchsite. Andesitic volcanoclastics and pillow breccia have been described in the north side of Collins Creek (Cooper, 1984).

Bedding and foliation parallel to bedding strike NW-SE and dip shallow to moderately NE. Panteleyev et. al. (1996) mapped the fold axis of an antiform in the Collins Creek area of the Black Bear property and a splay of the Eureka Thrust Fault along Black Bear Creek.

## **10.0 DEPOSIT TYPES**

Barker Minerals is exploring the Black Bear Property for Au-quartz veins (BCGS Deposit Type I01) and Polymetallic veins: Ag-Pb-Zn+/-Au (BCGS Deposit Type I05). The possibility of large tonnage stratigraphically controlled mineralization similar to the gold deposit at Spanish Mountain 5.0 km to the southwest is also considered. The BCGS Deposit Types are described in Appendix A.

The economic target at Black Bear is high grade Ag ± Au in quartz-galena veins in sedimentary rocks. Though analyses for gold in quartz grab samples have given values around 0.818 oz/T Au (see Croft, 1988), Black Bear has been explored mainly for silver to date. Placer gold operations have occurred on Black Bear and Spanish Creeks over several decades.

## **11.0 MINERALIZATION**

Mineralization on Black Bear property consists of discontinuous blebs of galena and pyrite in quartz and quartz-iron carbonate veins. These mineralized veins occur as float and outcrop over approximately a 2 km NW-SE trend from the Providence adit at the SE end.

Between 1926 and 1951 pockets of high grade ore were mined by hand for silver and lead. In 1948 5 tons of ore yielded 319 oz. Ag, 3,294 lb. Pb, 12 lb. Zn. In 1951 7 tons of handpicked ore from the main vein yielded 1 oz. Au, 683 oz. Ag, 6,401 lb. Pb and 15 lb. Zn.

Showings of galena in quartz veins occur near the mouth of the Providence adit. Figure No. 5 – 2008 Sampling Area in this report shows the locations of previously unknown or unreported galena showings in quartz vein occurrences in float and outcrop. The Figure also provides geochemical and assay results for rock samples collected in 2008. The quartz and quartz-iron carbonate veins discovered in 2008 tended to be 1.5 m wide and smaller. Their orientations

tended to be NW-SE strike and shallow to moderate dips NE, similar to veins noted in historical work.

Some historic veins at Black Bear Creek were described as 'at least 50 feet wide' (EMPR Ann. Rpt., 1926). Historical assays are provided in Sections 8.1 to 8.19 in this report.

## **12.0 EXPLORATION**

Work on the Black Bear property in 2008 consisted of prospecting and rock sampling of numerous new quartz vein outcrops and float discovered early in the year. The locations of the 2008 work are shown on Figure No. 5. Fourteen rock and 6 soil samples were collected. New roads built for logging activities made more accessible a 2.0 km long area between the Providence adit to the southeast and the area of the 'Trump' quartz-galena showings to the northwest. Galena with less pyrite occurred in many of the veins and quartz breccia. Some quartz boulders were up to 1 m x 2 m in size. At a location 750 m northwest of the Providence adit was an approximately 2 m x 20 m exposure of quartz in outcrop. The new quartz-galena showings in the 2 km x 1 km area indicate a strong persistence of the of the quartz veining northwest of the Providence workings.

## **13.0 DRILLING**

Barker Minerals Ltd. has done no drilling on the Black Bear property. Small drill programs were done:

in 1968 by Plutus Mines Ltd. (11 holes, 2,217 feet (676 m)),

in 1976 by DeKalb Mining corp. (5 holes, 355 m),

in 1982 by W. Grayson (1 hole, 71 m),

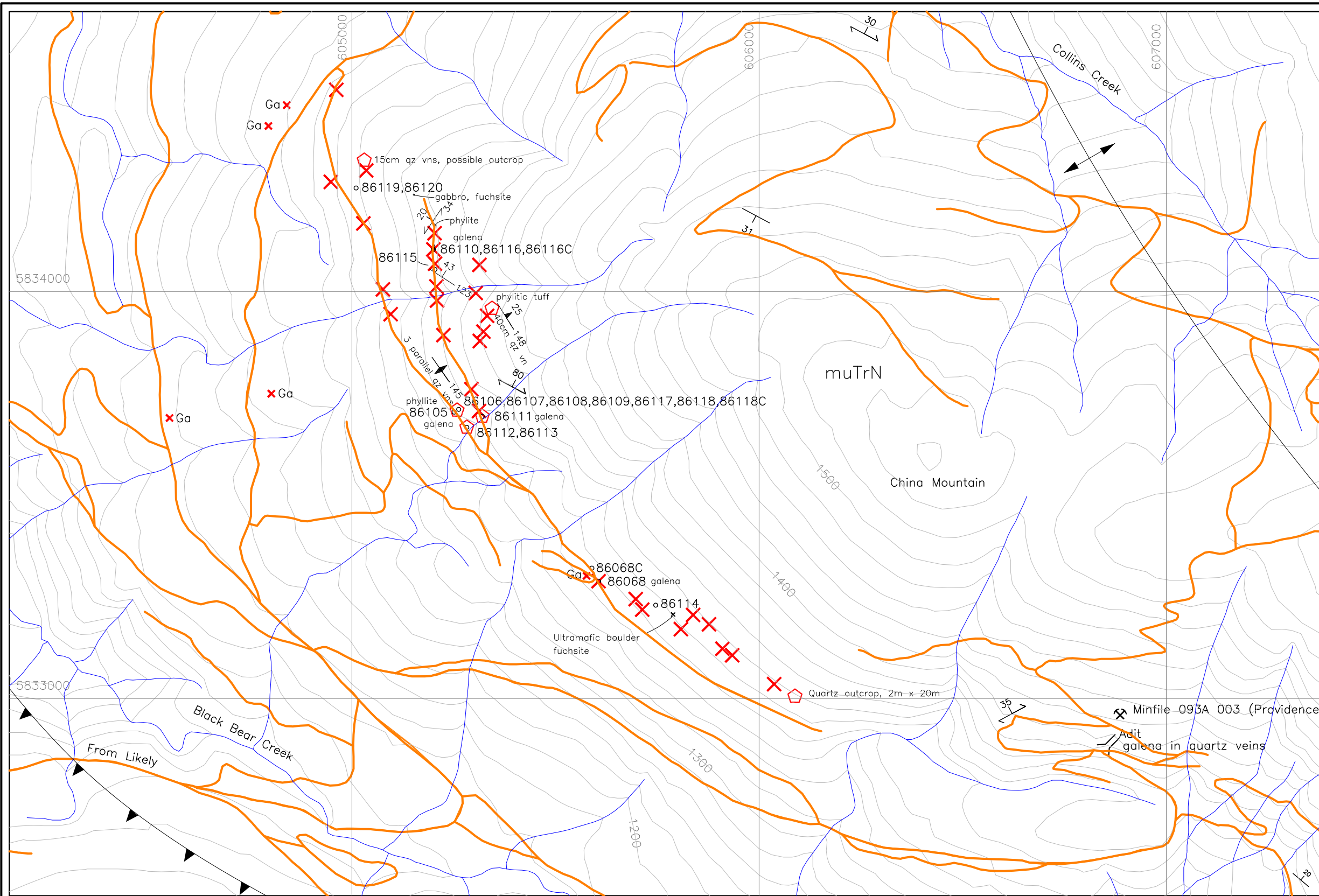
in 1989 by Priority Ventures Ltd. (6 holes, 294 m).

The drilling in 1989 intersected quartz-carbonate veins in up to 12 feet widths and had frequent and extensive intersections of quartz-carbonate flooding in up to 40-foot widths. Zones with galena returned significant Ag and Pb values.

The above programs are discussed in Sections 8.2, 8.4, 8.9 and 8.17 in this report.

## **14.0 SAMPLING METHOD and APPROACH**

The historical methods used may vary and are not always described in detail in the assessment reports. The assessment reports should be consulted for the sampling methodology in the relevant year's work.

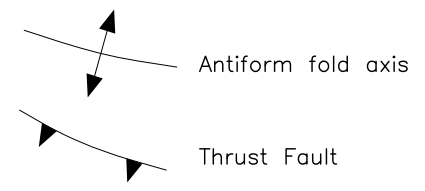


**Rock Samples Collected in 2008**

Sample No.	Type	Width (m)	Ag (ppm)	Pb (ppm)	Pb %
86068	Rock	0.15	97.9	>5,000	9.83
86068C	Soil		0.7	159	
86105	Rock	0.15	100	>5,000	3.07
86106	Rock	0.25	66	>5,000	1.55
86107	Rock	1.40	3.2	861	
86108	Rock	grab	0.4	115	
86109	Soil		2.4	1,780	
86110	Rock	grab	44.7	>5,000	1.27
86111	Rock	0.40	72.1	>5,000	1.90
86112	Rock	0.35	58.3	>5,000	1.76
86113	Soil		3.6	1,920	
86114	Soil		1.1	255	
86115	Rock	0.30	<0.3	41	
86116	Rock	0.30	<0.3	37	
86116C	Soil		22.8	1,030	
86117	Rock	0.40	0.7	885	
86118	Rock	0.35	<0.3	70	
86118C	Soil		35.5	4,210	
86119	Rock	grab	<0.3	18	
86120	Rock	grab	<0.3	20	

**Geologic Legend**  
 Nicola Group (muTrN)  
 Dark grey argillite, locally graphitic, phyllitic argillite, minor interbedded calcareous siltstone and limestone.

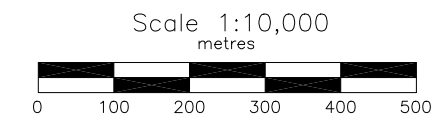
The indicated fold and fault traces and several orientations are from Panteleyev et. al. (1996).



**LEGEND**

- Topographic Contour & Elevation Contour interval 20 metres
- Creek
- Road
- Quartz occurrence in outcrop or sub-outcrop discovered in 2008
- Quartz float occurrence discovered in 2008
- Quartz veins, with and without galena, identified in historic Assessment Report 13285, Map 1, (approximate locations)
- Orientations of strata, veins, foliation

UTM Coordinate System  
 Map Datum: NAD 83  
 Zone: 10



BARKER MINERALS LTD.  
 BLACK BEAR PROPERTY  
 2008 SAMPLING AREA

Cariboo Mining Division, B.C.

NTS Mapsheet: 93A/11	Date: October 5, 2009
Drawn by: RT	Fig.No. 7

Barker Minerals' approach and sampling method in its sampling work in 2008, described below, is common industry practice.

### **Rock Samples**

Outcrops and float containing sulphide mineralization were sampled by grab or chip sampling. Grab samples consisted of a single chunk of rock or several pieces from a single, discrete site. Where specified, chip samples were taken over a specified sample length across a geological unit or structure of interest. Rock samples from surface sampling were bagged and tied and stored prior to shipment in plastic rice bags to the analytical lab.

### **Soil Samples**

Soil samples were collected with a shovel from near the top of the "B" soil horizon generally 300 gram weight, from about 30 cm depth. Samples were collected and placed in standard paper envelopes manufactured for the purpose. The sample bags were labelled with a sample number or according to station and line if on a cut grid. On return to base camp in Likely the samples were air-dried in their bags and stored in the garage or cabin at the camp before being placed into a box for shipment to the lab. At the lab the samples were oven-dried, then sieved to -80 mesh and measured portions taken for geochemical analysis.

## **15.0 SAMPLE PREPARATION, ANALYSES and SECURITY**

All chemical analytical work was performed by certified chemists at an accredited laboratory, ActLabs Laboratories Ltd. of Ancaster, Ontario. ActLabs code 1H ('Au+48') analytical method was used. 1H Method 1H analyzed for Au and 48 pathfinder elements and used variously, INNA (neutron activation) or ICP (inductively coupled plasma) analytical methods.

The following description of ActLabs' methods, *in italics*, is from their website.

### ***ActLabs Method 1H (Au+48)***

#### *INNA Portion:*

*An approximately 30 g aliquot, if available, is encapsulated and weighed in a polyethylene vial and irradiated with flux wires and an internal standard (1 for 11 samples) at a thermal neutron flux of  $7 \times 10^{12} \text{ n cm}^{-2} \text{ s}^{-1}$ . After a seven day decay to allow Na-24 to decay the samples are counted on a high purity Ge detector with a resolution of better than 1.7 KeV for the 1332 KeV Co-60. Using the flux wires the decay corrected activities are compared to a calibration developed from multiple certified international reference materials. The standard present is only a check on accuracy of the analyses and is not used for calibration purposes. From 10-30% of the samples are rechecked by re-measurement.*

#### *Total Digestion – ICP Portion:*

*A 0.25 g sample is digested at 260°C with four acids beginning with hydrofluoric, followed by a mixture of nitric and perchloric acids, heated using precise programmer controlled heating in several ramping and holding cycles which takes the sample to dryness. After dryness is*

attained, samples are brought back into solution using aqua regia. With this digestion certain phases may be only partially solubilized. This leach is partial for magnetite, chromite, barite, spinels, zircon and massive sulphides. The solutions are analyzed using either a Varian VISTA PRO, Varian 735-ES Perkin Elmer OPTIMA 3000 Radial ICP.

### **Inductively Coupled Plasma Mass Spectrometry (ICP/MS)**

ICP-MS is a versatile, rapid and precise analytical technique which provides high quality multi-element and isotopic analyses for samples in solution. It is capable of determining the concentrations of 70+ elements in a single analytical run. The detection limit for most elements in solution is in the sub-ppb range. For some elements it may lie in the sub-ppt range.

The ICP-MS instrument employs an argon plasma as the ionization source and a quadrupole mass spectrometer to detect the ions produced. During analysis, the sample solution is nebulized into flowing argon gas and passed into an inductively coupled plasma. The gas and nearly everything in it is atomized and ionized, forming a plasma. The plasma is a source of both excited and ionized atoms. The positive ions in the plasma are then focused down a quadrupole mass spectrometer where they are separated according to mass, detected, multiplied and counted.

The versatility of the ICP-MS technique makes it a multi-disciplinary analytical tool. It is widely used in many industries including geological, environmental, biological, agriculture, clinical, chemical, semiconductor, nuclear and research laboratories, as a key analytical tool for the determination of trace level elements. This technique is most suitable for water and selective leach solutions where best detection limits are required.

Samples wherein the Pb value was >5,000 ppm were re-analysed by fire assay, providing results in % values.

### Fire Assay

The two main methods used for fire assay are the lead collection (used for Au, Pt, Pd, Rh) and the nickel sulphide collection (used for all the platinum group elements). The lead fire assay method is a highly precise and accurate method for the total determination of gold and other precious metals in samples. The gravimetric finish (where the gold flake is weighed) is typically used on ore-grade samples - samples which contain higher levels of gold. Samples are mixed with fluxes containing lead oxide, fused, cupelled to recover a doré bead, nitric acid parted to separate the precious metal, then analyzed to determine the amount of metal.

During fire assaying, fluxes (materials such as borax, soda ash, silica) are added to the sample. Usually lead, in the form of litharge (PbO), is also added. The fluxes (except for the litharge which is added for oxidation and sodium carbonate which is added for de-sulfurization), are added for the purpose of lowering the melting point and imparting a homogeneous fluidity to the melted oxide impurities.

The samples with the fluxes are then added to a crucible, placed in a 1000°C to 1200°C assay furnace and left for a predetermined time, to melt or “fuse” the contents of the crucible. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is



*carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. When cooled, the lead button is placed in a cupel which is designed to absorb the lead when heated to the melting point, leaving only a tiny metal bead of Ag which contains Au, Pt and Pd.*

*The bead can then be parted from the silver leaving a gold flake which can be weighed (gravimetric finish) or dissolved in acid and the amount of metal determined by atomic absorption (AA). The other widely used analytical finishes include inductively coupled plasma optical emission mass spectrometry (ICP-OES) or inductively coupled plasma mass spectrometry (ICP-MS).*

*High-quality, reproducible results are obtainable in a relatively short time for most natural geological materials and mill products. However, certain matrices must be pre-treated and rocks of different composition must be properly fluxed to achieve good recoveries.*

## **16.0 DATA VERIFICATION**

This author has traversed the Black Bear Property and verified the locations of the important samples and work locations on the property and personally supervised the 2008 field program.

The analytical laboratories used standard reference materials and calibration solutions and repeat measurements on solutions in order to insure quality control and data verification in regard to chemical analyses. ActLabs routinely analyses duplicate samples and standards and reports these analyses on the data certificates. Barker Minerals has preserved the analysis certificates as issued by the accredited analytical laboratories per each sample and test.

Check samples from WCM Minerals of Burnaby, BC with certified known metals content were sent at intervals to ActLabs for analysis. ActLabs' values are compared to the certified values. The reliability of the ActLabs' values were considered acceptable.

This author considers that the sampling methods by Barker Minerals have been in accordance with normal practice in the mineral exploration industry and have been done in an ethical manner. Secure locked storage of samples before shipment is in the garage and main building at Barker Minerals' field office at which field programs are based.

## **17.0 ADJACENT PROPERTIES**

Minfile No. 093A 043 – Spanish Mountain

Black Bear and Spanish Mountain are in the same mineral deposit class according to the BCGS Minfile No. 093A 003 (Providence, Black Bear) and Minfile No. 093A 043 (Spanish Mountain). Black Bear is located 5.0 km northeast of the Spanish Mountain gold deposit which hosts both high-grade structurally controlled mineralization and lower grade stratigraphically controlled mineralization.

The BCGS description for Minfile No. 093A 043 – Spanish Mountain provides the following description of the geology and mineralization at Spanish Mountain.

*Gold mineralization with associated base metals occurs within quartz veins. The veins formed during and after deformation along the limbs and localized within hinge regions of mesoscopic folds. There is a suggestion that these quartz veins are also fault or shear-controlled. Mineralization consists of coarse gold, galena, sphalerite, chalcopyrite, tetrahedrite and pyrite with quartz, mariposite and ankerite gangue. Gold also occurs in limonitic pseudomorphs after pyrite within siltstone. Coarse gold visible in some quartz veins may be the product of supergene enrichment. Drilling results indicate that gold mineralization in the quartz veins is discontinuous or in podiform shoots. The veins are generally narrow but can be up to 4 metres wide. The quartz veins also cut felsic porphyry. Several zones of oxidized material, containing a small amount of reserves, have been identified and tested.*

Below is a description of mineralization and a reserves estimate for the Main Zone at Spanish Mountain provided by the owner, Skygold Ventures Ltd., on their website, October 3, 2009:

*Skygold Ventures Ltd. (TSX-V:SKV) has made one of the most important gold discoveries in recent British Columbia history. Located in the Cariboo Region, Skygold's 100% owned 10,500 acre Spanish Mountain property has revealed that it is host to a potentially bulk mineable, large tonnage sediment hosted gold system with significant size potential.*

*After completing an extensive review of all historical and technical data in 2004 and determining that less than 10% of the known gold anomaly had been tested the company embarked on a drill program that incorporated numerous step outs in every direction. This campaign provided the initial discovery of the Main Zone during which two holes #216 and #221 intercepted 60 to 80 metre widths of disseminated gold mineralization in a sedimentary host. The discovery matched the type of environment demonstrated by the large geochemical footprint and the focus of the exploration program shifted to the delineation of a large tonnage deposit which could be mined by low cost open pit methods.*

*Over the last two years drilling and compilation work has outlined a gold mineralized system measuring 1300 metres x 850 metres, referred to as the "Main Zone" which remains open in all directions. The Zone has consistently demonstrated a 10 to 135 metre thickness with average gold grades of greater than 1.0 g/t gold. Several drill holes have intersected two distinct mineralized horizons with a second horizon ranging between 10 and 88 metre thickness occurring below the Main Zone. Certain holes such as DDH-289 which averaged 0.83 g/t gold over 319.75 metres would indicate that mineralization is continuous between the two horizons. In addition to the two main horizons, there appears to be a third stratigraphically higher horizon at the north end of the Main Zone.*

*The gold system hosts both high-grade structurally controlled mineralization delivering intercepts such as 29.07 g/t gold over 10 metres, 7.99 g/t gold over 19 metres and 5.04 g/t gold over 22.9 metres while the lower grade stratigraphically controlled mineralization is*

characterized by intercepts of 1.81g/t gold over 94.5 metres, 1.34g/t gold over 116 metres and 1.30g/t gold over 86.9 metres. A test mining sample of 2,100 tonnes taken in 2000 averaged 3.02 grams Au/ton.

This project offers potential for a significant near-surface gold deposit, located near existing infrastructure and amenable to low cost open pit, bulk mining methods.

The expansion of the Main Zone was driven by the extensive 2008 diamond drilling program which, in the opinion of the Company, has yet to define the limits of the deposit to the north and south and at depth. The Company is currently planning a follow-up program aimed at resource expansion and optimization.

The updated NI 43-101 resource at selected gold cut-off grades is as follows:

*Spanish Mountain updated resources (at a 0.50 g/t gold cut-off)*

Classification	Gold Cut-off (g/t)	Tonnes	Gold (g/t)	Gold (ounces)
Measured	0.50	44,260,000	0.826	1,180,000
Indicated	0.50	58,000,000	0.754	1,410,000
Measured & Indicated	0.50	102,260,000	0.785	2,580,000
Inferred	0.50	11,650,000	0.787	290,000

*Spanish Mountain updated resources (at a 0.70 g/t gold cut-off)*

Classification	Gold Cut-off (g/t)	Tonnes	Gold (g/t)	Gold (ounces)
Measured	0.70	23,300,000	1.038	780,000
Indicated	0.70	24,910,000	0.977	780,000
Measured & Indicated	0.70	48,210,000	1.007	1,560,000
Inferred	0.70	5,790,000	0.979	180,000

*Spanish Mountain updated resources (at a of 0.30 g/t gold cut-off )*

Classification	Gold Cut-off (g/t)	Tonnes	Gold (g/t)	Gold (ounces)
Measured	0.30	77,110,000	0.641	1,590,000
Indicated	0.30	133,610,000	0.547	2,350,000
Measured & Indicated	0.30	210,710,000	0.581	3,940,000
Inferred	0.30	24,760,000	0.574	460,000

Readers are cautioned that mineral resources, which are not mineral reserves, do not have demonstrated economic viability.

## **18.0 MINERAL PROCESSING and METALLURGICAL TESTING**

This section is not applicable.

## **19.0 MINERAL RESOURCES and MINERAL RESERVE ESTIMATES**

This section is not applicable.

## **20.0 OTHER RELEVANT DATA and INFORMATION**

This section is not applicable.

## **21.0 INTERPRETATION and CONCLUSIONS**

Quartz veins containing galena and silver mineralization occur extensively over a 2.0 km trend northwestward from the Providence adit. Many new mineralized quartz occurrences were discovered by prospecting in 2008. Small amounts of high grade silver mineralization have been hand-extracted from the Providence adit prior to 1951.

Rock samples highly anomalous in gold and placer gold have been sporadically discovered in Black Bear Creek. Though silver has been the focus of exploration in the past, gold should also be explored for on the Black Bear property. The Spanish Mountain gold deposit is approximately 5.0 km SW of Black Bear.

Modern exploration in the 1980's consisted of very limited drill programs mainly targeting individual veins. A larger, more systematic exploration program including mapping and geochemical and geophysical surveys on a grid and trenching and drilling.

## **22.0 RECOMMENDATIONS**

### **Black Bear: Phase 1**

Grid preparation and line cutting (40.0 line km)	\$	40,000
Road building/rehab (3,000 m)	\$	300,000
Trenching (2,000 m)	\$	200,000
Drilling @ \$150/metre (includes mob/demob, drilling) 1,000 m	\$	150,000
Geophysics (40.0 km IP)	\$	200,000
(40.0 km mag/vlf)	\$	15,000
Geochemistry		
1,000 core/rock samples @ \$60/sample	\$	60,000
2,000 soil samples @ \$40/sample	\$	80,000
Consulting/core logging & cutting	\$	40,000
Camp manager/cook/expediter	\$	30,000
Vehicles/transportation/mobilization & demob	\$	30,000
Fuel	\$	50,000
Camp costs/supplies/maintenance/repairs	\$	20,000
Room & board/food	\$	30,000
Planning, supervision, report	\$	40,000
Contingency (approx. 10%)	\$	120,000
	<b>\$</b>	<b>1,405,000</b>

If warranted by results from Phase 1, the 2<sup>nd</sup> phase of work would include:

### **Black Bear: Phase 2**

Road building/rehab (2,000 m)	\$	200,000
Trenching (2,000 m)	\$	200,000
Drilling @ \$150/metre (includes mob/demob, drilling) 5,000 m	\$	750,000
Geochemistry		
2,500 core/rock samples @ \$60/sample	\$	150,000
Consulting/core logging & cutting	\$	80,000
Camp manager/cook/expediter	\$	50,000
Vehicles/transportation/mobilization & demob	\$	50,000
Fuel	\$	100,000
Camp costs/supplies/maintenance/repairs	\$	40,000
Room & board/food	\$	60,000
Planning, supervision, report	\$	60,000
Contingency (approx. 10%)	\$	180,000
	<b>\$</b>	<b>1,920,000</b>

## **23.0 REFERENCES**

BC Ministry of Energy Mines and Petroleum Resources, Mineral Deposit Models:  
BCGS Deposit Type I01 - Au-Quartz Veins  
BCGS Deposit Type I05 - Polymetallic veins: Ag-Pb-Zn+/-Au

BC Ministry of Energy Mines and Petroleum Resources, Minfile Mineral Inventory:  
Minfile No. 093A 003 (Providence, Black Bear, Otto)  
<http://minfile.gov.bc.ca/Summary.aspx?minfilno=093A%20%20003>

BC Ministry of Energy Mines and Petroleum Resources, Minfile Mineral Inventory:  
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BC Ministry of Energy Mines and Petroleum Resources, Minfile Mineral Inventory:  
Minfile No. 093A 154 (Trump) <http://minfile.gov.bc.ca/Summary.aspx?minfilno=093A%20%20154>

Geoscience BC Quest Project – Quesnellia Exploration Strategy  
<http://www.geosciencebc.com/s/Quest.asp>

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## **24.0 DATES and SIGNATURES**

### **Certificate of Author:**

I, Rein Turna, P.Geo. do hereby certify that:

1. I am currently employed as Vice President of Exploration by Barker Minerals Ltd.

Barker Minerals Ltd.  
8384 Toombs Drive  
Prince George, B.C., Canada, V2K 5A3  
Telephone: (250) 563-8752  
Email: Barker@telus.net

I own and am President of my wholly owned consulting company:

Geocon Exploration Management Ltd.  
5818 Falcon Road  
West Vancouver, B.C., Canada, V7W 1S3  
Telephone: (604) 921-8908  
Email: geocon002@shaw.ca

2. I graduated with the degree Bachelor of Sciences in Geological Sciences from the University of British Columbia in 1975.
3. I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have worked as a geologist over 30 years since my graduation from university.
5. I have read the definition '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.
6. I personally supervised the most recent work program on the Black Bear property, completed October 8, 2008.
7. I am responsible for the preparation of all sections in the technical report titled Technical Report on the BLACK BEAR Property – Cariboo Lake Area – Cariboo Mining Division, British Columbia (the 'Black Bear Report').
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. Greater than half of my gross income comes from employment with Barker Minerals Ltd.

I hold 370,000 common shares without par value in the capital of Barker Minerals Ltd.

I hold 220,000 warrants, each entitling me to purchase one common share of Barker Minerals Ltd. at a price of \$0.10 per share until December 31, 2010.

I hold 150,000 warrants, each entitling me to purchase one common share of Barker Minerals Ltd. at a price of \$0.05 per share until January 5, 2011.

I have a stock option plan with Barker Minerals Ltd. wherein I hold an option to purchase up to 150,000 common shares in the capital stock of Barker Minerals Ltd. at the purchase price of \$0.40 per share. The grant date of this option is April 20, 2007. The expiry date of this option is April 20, 2011.

10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for the regulatory purposes, including electronic publication in the public company files on their website accessible by the public, of the Technical Report.

Dated this 5th Day of October, 2009

-- Signed and Stamped --

---

**Signature: Rein Turna, BSc., PGeo.**

**Consent of Author:**

Geocon Exploration Management Ltd.  
5818 Falcon Road, West Vancouver, B.C., Canada, V7W 1S3  
Telephone: (604) 921-8908  
Email: geocon002@shaw.ca

Barker Minerals Ltd.  
British Columbia Securities Commission  
Alberta Securities Commission  
Ontario Securities Commission  
TSX Venture Exchange

I, Rein Turna, P.Geo., am the author of the Technical Report titled "Technical Report on the Black Bear Property – Cariboo Lake Area – Cariboo Mining Division, British Columbia" dated October 5, 2009 (the "Black Bear Report") and consent to the inclusion of any extracts from or a summary of the Black Bear Report in the Annual Information Form of the Company (the "AIF") and to the filing of the Report with the securities regulatory authorities referred to above. I also consent to the reference to myself in the AIF.

I also certify that I have read the AIF being filed and have no reason to believe that there are any misrepresentations in the information contained in it that are derived from the Black Bear Report or, within my knowledge as a result of the services provided by me in connection with the Black Bear Report.

Dated this 5th Day of October, 2009

-- Signed and Stamped --

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Signature: **Rein Turna, BSc., PGeo.**

## Appendix A

### B.C. Geological Survey Deposit Types

## Au-QUARTZ VEINS

### I01

by Chris Ash and Dani Alldrick  
British Columbia Geological Survey

Ash, Chris and Alldrick, Dani (1996): Au-quartz Veins, in Selected British Columbia Mineral Deposit Profiles, Volume 2 - Metallic Deposits, Lefebvre, D.V. and Höy, T, Editors, British Columbia Ministry of Employment and Investment, Open File 1996-13, pages 53-56.

#### IDENTIFICATION

**SYNONYMS:** Mother Lode veins, greenstone gold, Archean lode gold, mesothermal gold-quartz veins, shear-hosted lode gold, low-sulphide gold-quartz veins, lode gold.

**COMMODITIES (BYPRODUCTS):** Au (Ag, Cu, Sb).

#### EXAMPLES (British Columbia (MINFILE #) - Canada/ International):

Phanerozoic: Bralorne-Pioneer ([092JNE001](#)), Erickson ([104P 029](#)), Taurus ([104P 012](#)), Polaris-Taku ([104K 003](#)), Mosquito Creek ([093H 010](#)), Cariboo Gold Quartz ([093H 019](#)), Midnight ([082FSW119](#)); Carson Hill, Jackson-Plymouth, Mother Lode district; Empire Star and Idaho-Maryland, Grass Valley district (California, USA); Alaska-Juneau, Jualin, Kensington (Alaska, USA), Ural Mountains (Russia).

Archean: Hollinger, Dome, McIntyre and Pamour, Timmins camp; Lake Shore, Kirkland Lake camp; Campbell, Madsen, Red Lake camp; Kerr-Addison, Larder Lake camp (Ontario, Canada), Lamaque and Sigma, Val d'Or camp (Quebec, Canada); Granny Smith, Kalgoorlie and Golden Mile (Western Australia); Kolar (Karnataka, India), Blanket-Vubachikwe (Zimbabwe, Africa).

#### GEOLOGICAL CHARACTERISTICS

**CAPSULE DESCRIPTION:** Gold-bearing quartz veins and veinlets with minor sulphides crosscut a wide variety of hostrocks and are localized along major regional faults and related splays. The wallrock is typically altered to silica, pyrite and muscovite within a broader carbonate alteration halo.

#### TECTONIC SETTINGS:

Phanerozoic: Contained in moderate to gently dipping fault/suture zones related to continental margin collisional tectonism. Suture zones are major crustal breaks which are characterized by dismembered ophiolitic remnants between diverse assemblages of island arcs, subduction complexes and continental-margin clastic wedges.

Archean: Major transcrustal structural breaks within stable cratonic terranes. May represent remnant terrane collisional boundaries.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** Veins form within fault and joint systems produced by regional compression or transpression (terrane collision), including major listric reverse faults, second and third-order splays. Gold is deposited at crustal levels within and near the brittle-ductile transition zone at depths of 6-12 km, pressures between 1 to 3 kilobars and temperatures from 200o to 400 oC. Deposits may have a vertical extent of up to 2 km, and lack pronounced zoning.

**AGE OF MINERALIZATION:** Mineralization is post-peak metamorphism (i.e. late syncollisional) with gold-quartz veins particularly abundant in the Late Archean and Mesozoic.

Phanerozoic: In the North America Cordillera gold veins are post-Middle Jurassic and appear to form immediately after accretion of oceanic terranes to the continental margin. In British Columbia deposits are mainly Middle Jurassic (~ 165-170 Ma) and Late Cretaceous (~ 95 Ma). In the Mother Lode belt they are Middle Jurassic (~ 150 Ma) and those along the Juneau belt in Alaska are of Early Tertiary (~56-55 Ma).

Archean: Ages of mineralization for Archean deposits are well constrained for both the Superior Province, Canadian Shield (~ 2.68 to 2.67 Ga) and the Yilgarn Province, Western Australia (~ 2.64 to 2.63 Ga).

**HOST/ASSOCIATED ROCK TYPES:** Lithologically highly varied, usually of greenschist metamorphic grade, ranging from virtually undeformed to totally schistose.

Phanerozoic: Mafic volcanics, serpentinite, peridotite, dunite, gabbro, diorite, trondhjemite/plagiogranites, graywacke, argillite, chert, shale, limestone and quartzite, felsic and intermediate intrusions.

Archean: Granite-greenstone belts - mafic, ultramafic (komatiitic) and felsic volcanics, intermediate and felsic intrusive rocks, graywacke and shale.

**DEPOSIT FORM:** Tabular fissure veins in more competent host lithologies, veinlets and stringers forming stockworks in less competent lithologies. Typically occur as a system of en echelon veins on all scales. Lower grade bulk-tonnage styles of mineralization may develop in areas marginal to veins with gold associated with disseminated sulphides. May also be related to broad areas of fracturing with gold and sulphides associated with quartz veinlet networks.

**TEXTURE/STRUCTURE:** Veins usually have sharp contacts with wallrocks and exhibit a variety of textures, including massive, ribboned or banded and stockworks with anastomosing gashes and dilations. Textures may be modified or destroyed by subsequent deformation.

**ORE MINERALOGY (Principal and subordinate):** Native gold, pyrite, arsenopyrite, galena, sphalerite, chalcopyrite, pyrrhotite, tellurides, scheelite, bismuth, cosalite, tetrahedrite, stibnite, molybdenite, gersdorffite (NiAsS), bismuthimite (Bi<sub>2</sub>S<sub>2</sub>), tetrydymite (Bi<sub>2</sub>Te<sub>2</sub>S).

**GANGUE MINERALOGY (Principal and subordinate):** Quartz, carbonates (ferroan-dolomite, ankerite ferroan-magnesite, calcite, siderite), albite, mariposite (fuchsite), sericite, muscovite, chlorite, tourmaline, graphite.

**ALTERATION MINERALOGY:** Silicification, pyritization and potassium metasomatism generally occur adjacent to veins (usually within a metre) within broader zones of carbonate alteration, with or without ferroan dolomite veinlets, extending up to tens of metres from the veins. Type of carbonate alteration reflects the ferromagnesian content of the primary host lithology; ultramafics rocks - talc, Fe-magnesite; mafic volcanic rocks - ankerite, chlorite; sediments - graphite and pyrite; felsic to intermediate intrusions - sericite, albite, calcite, siderite, pyrite. Quartz-carbonate altered rock (listwanite) and pyrite are often the most prominent alteration minerals in the wallrock. Fuchsite, sericite, tourmaline and scheelite are common where veins are associated with felsic to intermediate intrusions.

**WEATHERING:** Distinctive orange-brown limonite due to the oxidation of Fe-Mg carbonates cut by white veins and veinlets of quartz and ferroan dolomite. Distinctive green Cr-mica may also be present. Abundant quartz float in overburden.

**ORE CONTROLS:** Gold-quartz veins are found within zones of intense and pervasive carbonate alteration along second order or later faults marginal to transcrustal breaks. They are commonly closely associated with, late syncollisional, structurally controlled intermediate to felsic magmatism. Gold veins are more commonly economic where hosted by relatively large, competent units, such as intrusions or blocks of obducted oceanic crust. Veins are usually at a high angle to the primary collisional fault zone.

Phanerozoic: Secondary structures at a high angle to relatively flat-lying to moderately dipping collisional suture zones.

Archean: Steep, transcrustal breaks; best deposits overall are in areas of greenstone.

**ASSOCIATED DEPOSIT TYPES:** Gold placers ([C01](#), [C02](#)), sulphide manto Au (J04), silica veins (I07); iron formation Au ([I04](#)) in the Archean.

**ASSOCIATED DEPOSIT TYPES:** Gold placers ([C01](#), [C02](#)), sulphide manto Au (J04), silica veins (I07); iron formation Au ([I04](#)) in the Archean.

**GENETIC MODEL:** Gold quartz veins form in lithologically heterogeneous, deep transcrustal fault zones that develop in response to terrane collision. These faults act as conduits for CO<sub>2</sub>-H<sub>2</sub>O-rich (5-30 mol% CO<sub>2</sub>), low salinity (<3 wt% NaCl) aqueous fluids, with high Au, Ag, As, (±Sb, Te, W, Mo) and low Cu, Pb, Zn metal contents. These fluids are believed to be tectonically or seismically driven by a cycle of pressure build-up that is released by failure and pressure reduction followed by sealing and repetition of the process (Sibson et al., 1988). Gold is deposited at crustal levels within and near the brittle-ductile transition zone with deposition caused by sulphidation (the loss of H<sub>2</sub>S due to pyrite deposition) primarily as a result of fluid-wallrock reactions, other significant factors may involve phase separation and fluid pressure reduction. The origin of the mineralizing fluids remains controversial, with metamorphic, magmatic and mantle sources being suggested as possible candidates. Within an environment of tectonic crustal thickening in response to terrane collision, metamorphic devolatilization or partial melting (anatexis) of either the lower crust or subducted slab may generate such fluids.

**COMMENTS:** These deposits may be a difficult deposit to evaluate due to "nugget effect", hence the adage, "Drill for structure, drift for grade". These veins have also been mined in British Columbia as a source of silica for smelter flux.

## EXPLORATION GUIDES

**GEOCHEMICAL SIGNATURE:** Elevated values of Au, Ag, As, Sb, K, Li, Bi, W, Te and B ± (Cd, Cu, Pb, Zn and Hg) in rock and soil, Au in stream sediments.

**GEOPHYSICAL SIGNATURE:** Faults indicated by linear magnetic anomalies. Areas of alteration indicated by negative magnetic anomalies due to destruction of magnetite as a result of carbonate alteration.

**OTHER EXPLORATION GUIDES:** Placer gold or elevated gold in stream sediment samples is an excellent regional and property-scale guide to gold-quartz veins. Investigate broad 'deformation envelopes' adjacent to regional listric faults where associated with carbonate alteration. Alteration and structural analysis can be used to delineate prospective ground. Within carbonate alteration zones, gold is typically only in areas containing quartz, with or without sulphides. Serpentinite bodies, if present, can be used to delineate favourable regional structures. Largest concentrations of free gold are commonly at, or near, the intersection of quartz veins with serpentinized and carbonate-altered ultramafic rocks.

## ECONOMIC FACTORS

**TYPICAL GRADE AND TONNAGE:** Individual deposits average 30 000 t with grades of 16 g/t Au and 2.5 g/t Ag (Berger, 1986) and may be as large as 40 Mt. Many major producers in the Canadian Shield range from 1 to 6 Mt at grades of 7 g/t Au (Thorpe and Franklin, 1984). The largest gold-quartz vein deposit in British Columbia is the Bralorne-Pioneer which produced in excess of 117 800 kilograms of Au from ore with an average grade of 9.3 g/t.

**ECONOMIC LIMITATIONS:** These veins are usually less than 2m wide and therefore, only amenable to underground mining.

**IMPORTANCE:** These deposits are a major source of the world's gold production and account for approximately a quarter of Canada's output. They are the most prolific gold source after the ores of the Witwatersrand basin.

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# POLYMETALLIC VEINS Ag-Pb-Zn+/-Au

## 105

by David V. Lefebure and B. Neil Church  
British Columbia Geological Survey

Lefebure, D.V. and Church, B. N. (1996): Polymetallic Veins Ag-Pb-Zn+/-Au, in Selected British Columbia Mineral Deposit Profiles, Volume 2 - Metallic Deposits, Lefebure, D.V. and Høy, T, Editors, British Columbia Ministry of Energy of Employment and Investment, Open File 1996-13, pages 67-70.

### IDENTIFICATION

**SYNONYMS:** Clastic metasediment-hosted silver-lead-zinc veins, silver/base metal epithermal deposits.

**COMMODITIES (BYPRODUCTS):** Ag, Pb, Zn (Cu, Au, Mn).

**EXAMPLES (British Columbia (MINFILE # - Canada/International):**

Metasediment host: Silvana ([082FNW050](#)) and Lucky Jim ([082KSW023](#)), Slocan-New Denver-Ainsworth district, St. Eugene ([082GSW025](#)), Silver Cup ([082KNW027](#)), Trout Lake camp; Hector-Calumet and Elsa, Mayo district (Yukon, Canada), Coeur d'Alene district (Idaho, USA), Harz Mountains and Freiberg district (Germany), Příbram district (Czechoslovakia).

Igneous host: Wellington ([082ESE072](#)) and Highland Lass - Bell ([082ESW030](#), [133](#)), Beaverdell camp; Silver Queen ([093L 002](#)), Duthie ([093L 088](#)), Cronin ([093L 127](#)), Porter-Idaho ([103P 089](#)), Indian ([104B 031](#)); Sunnyside and Idorado, Silverton district and Creede (Colorado, USA), Pachuca (Mexico).

### GEOLOGICAL CHARACTERISTICS

**CAPSULE DESCRIPTION:** Sulphide-rich veins containing sphalerite, galena, silver and sulphosalt minerals in a carbonate and quartz gangue. These veins can be subdivided into those hosted by metasediments and another group hosted by volcanic or intrusive rocks. The latter type of mineralization is typically contemporaneous with emplacement of a nearby intrusion.

**TECTONIC SETTINGS:** These veins occur in virtually all tectonic settings except oceanic, including continental margins, island arcs, continental volcanics and cratonic sequences.

Metasediment host: Veins are emplaced along faults and fractures in sedimentary basins dominated by clastic rocks that have been deformed, metamorphosed and intruded by igneous rocks. Veins postdate deformation and metamorphism.

Igneous host: Veins typically occur in country rock marginal to an intrusive stock. Typically veins crosscut volcanic sequences and follow volcano- tectonic structures, such as caldera ring-faults or radial faults. In some cases the veins cut older intrusions.

### DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:

**AGE OF MINERALIZATION:** Proterozoic or younger; mainly Cretaceous to Tertiary in British Columbia.

**HOST/ASSOCIATED ROCK TYPES:** These veins can occur in virtually any host. Most commonly the veins are hosted by thick sequences of clastic metasediments or by intermediate to felsic volcanic rocks. In many districts there are felsic to intermediate intrusive bodies and mafic igneous rocks are less common. Many veins are associated with dikes following the same structures.

**DEPOSIT FORM:** Typically steeply dipping, narrow, tabular or splayed veins. Commonly occur as sets of parallel and offset veins. Individual veins vary from centimetres up to more than 3 m wide and can be followed from a few hundred to more than 1000 m in length and depth. Veins may widen to tens of metres in stockwork zones.

**TEXTURE/STRUCTURE:** Compound veins with a complex paragenetic sequence are common. A wide variety of textures, including cockade texture, colloform banding and crustifications and locally druse. Veins may grade into broad zones of stockwork or breccia. Coarse-grained sulphides as patches and pods, and fine- grained disseminations are confined to veins.

**ORE MINERALOGY (Principal and subordinate):** Galena, sphalerite, tetrahedrite- tennantite, other sulphosalts including pyrargyrite, stephanite, bournonite and acanthite, native silver, chalcocopyrite, pyrite, arsenopyrite, stibnite. Silver minerals often occur as inclusions in galena. Native gold and electrum in some deposits. Rhythmic compositional banding sometimes present in sphalerite. Some veins contain more chalcocopyrite and gold at depth and Au grades are normally low for the amount of sulphides present.

## **GANGUE MINERALOGY (Principal and subordinate):**

Metasediment host: Carbonates (most commonly siderite with minor dolomite, ankerite and calcite), quartz, barite, fluorite, magnetite, bitumen.

Igneous host: Quartz, carbonate (rhodochrosite, siderite, calcite, dolomite), sometimes specular hematite, hematite, barite, fluorite. Carbonate species may correlate with distance from source of hydrothermal fluids with proximal calcium and magnesium-rich carbonates and distal iron and manganese-rich species.

**ALTERATION MINERALOGY**: Macroscopic wall rock alteration is typically limited in extent (measured in metres or less). The metasediments typically display sericitization, silicification and pyritization. Thin veining of siderite or ankerite may be locally developed adjacent to veins. In the Coeur d'Alene camp a broader zone of bleached sediments is common. In volcanic and intrusive hostrocks the alteration is argillic, sericitic or chloritic and may be quite extensive.

**WEATHERING**: Black manganese oxide stains, sometimes with whitish melanterite, are common weathering products of some veins. The supergene weathering zone associated with these veins has produced major quantities of manganese. Galena and sphalerite weather to secondary Pb and Zn carbonates and Pb sulphate. In some deposits supergene enrichment has produced native and horn silver.

**ORE CONTROLS**: Regional faults, fault sets and fractures are an important ore control; however, veins are typically associated with second order structures. In igneous rocks the faults may relate to volcanic centers. Significant deposits restricted to competent lithologies. Dikes are often emplaced along the same faults and in some camps are believed to be roughly contemporaneous with mineralization. Some polymetallic veins are found surrounding intrusions with porphyry deposits or prospects.

**GENETIC MODELS**: Historically these veins have been considered to result from differentiation of magma with the development of a volatile fluid phase that escaped along faults to form the veins. More recently researchers have preferred to invoke mixing of cooler, upper crustal hydrothermal or meteoric waters with rising fluids that could be metamorphic, groundwater heated by an intrusion or expelled directly from a differentiating magma. Any development of genetic models is complicated by the presence of other types of veins in many districts. For example, the Freiberg district has veins carrying F-Ba, Ni-As- Co-Bi-Ag and U.

**COMMENTS**: Ag-tetrahedrite veins, such as the Sunshine and Galena mines in Idaho, contain very little sphalerite or galena. These may belong to this class of deposits or possibly the five-element veins. The styles of alteration, mineralogy, grades and different geometries can usually be used to distinguish the polymetallic veins from stringer zones found below syngenetic massive sulphide deposits.

## **ASSOCIATED DEPOSIT TYPES:**

Metasediment host: Polymetallic mantos (M01).

Igneous host: May occur peripheral to virtually all types of porphyry mineralization ([L01](#), [L03](#), [L04](#), [L05](#), [L06](#), [L07](#), [L08](#)) and some skarns ([K02](#), [K03](#)).

## **EXPLORATION GUIDES**

**GEOCHEMICAL SIGNATURE**: Elevated values of Zn, Pb, Ag, Mn, Cu, Ba and As. Veins may be within arsenic, copper, silver, mercury aureoles caused by the primary dispersion of elements into wallrocks or broader alteration zones associated with porphyry deposit or prospects.

**GEOPHYSICAL SIGNATURE**: May have elongate zones of low magnetic response and/or electromagnetic, self potential or induced polarization anomalies related to ore zones.

**OTHER EXPLORATION GUIDES**: Strong structural control on veins and common occurrence of deposits in clusters can be used to locate new veins.

## **ECONOMIC FACTORS**

**TYPICAL GRADE AND TONNAGE** : Individual vein systems range from several hundred to several million tonnes grading from 5 to 1500 g/t Ag, 0.5 to 20% Pb and 0.5 to 8% Zn. Average grades are strongly influenced by the minimum size of deposit included in the population. For B.C. deposits larger than 20 000 t the average size is 161 000 t with grades of 304 g/t Ag, 3.47 % Pb and 2.66 % Zn. Copper and gold are reported in less than half the occurrences, with average grades of 0.09 % Cu and 4 g/t Au.

**ECONOMIC LIMITATIONS**: These veins usually support small to medium-size underground mines. The mineralization may contain arsenic which typically reduces smelting credits.



**IMPORTANCE:** The most common deposit type in British Columbia with over 2 000 occurrences; these veins were a significant source of Ag, Pb and Zn until the 1960s. They have declined in importance as industry focused more on syngenetic massive sulphide deposits. Larger polymetallic vein deposits are still attractive because of their high grades and relatively easy beneficiation. They are potential sources of cadmium and germanium.

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**ACKNOWLEDGEMENTS:** Georges Beaudoin and Don Sangster are thanked for their suggestions to improve the profile.

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**Appendix B**  
**Glossary of Technical Terms and Abbreviations**

Ag	Silver.
Anomalous	Chemical and mineralogical changes and higher than typical background values in elements in a rock resulting from reaction with hydrothermal fluids or increase in pressure or temperature.
Anomaly	The geographical area corresponding to anomalous geochemical or geophysical values.
Argentiferous	Containing silver.
As	Arsenic.
Au	Gold.
Background	The typical concentration of an element or geophysical response in an area, generally referring to values below some threshold level, above which values are designated as anomalous.
BCGS	British Columbia Geological Survey
cm	Centimetre
Cu	Copper.
DDH	Diamond drill hole.
EM	Electromagnetic.
Float	Loose rocks or boulders; the location of the bedrock source is not known.
Fuchsite	Chromian mica.
Galena	Lead sulphide.
Grab sample	A sample of a single rock or selected rock chips collected from within a restricted area of interest.
g/t	Grams per tonne (metric tonne). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)

Ha	Hectare - an area totalling 10,000 square metres, e.g., an area 100 metres by 100 metres.
Intrusive	A magmatic rock that cuts into and alters older rocks and may be the source of minerals deposited into the rocks intruded, creating skarn or porphyry type mineral deposits.
km	Kilometre.
m	Metre.
Mo	Molybdenum.
NI 43-101	<p>National Instrument 43-101 is a mineral resource classification and is a national instrument for the <i>Standards of Disclosure for Mineral Projects</i> with the Canadian Securities Administrators. The NI is a strict guideline for how public Canadian companies can disclose scientific and technical information about mineral projects. Disclosures include press releases, presentations, oral comments, and websites. The instrument requires that a "Qualified Person" be attributed to the information. A qualified person is defined as:</p> <ul style="list-style-type: none"> <li>• an engineer or geoscientist with at least 5 years experience in the mineral resources field</li> <li>• a subject matter expert in the mineral resources field and has a professional association.</li> </ul>
NW-SE	Northwest - southeast.
Orogen	The physical manifestations of the process of mountain building. Orogens are usually long, thin, arcuate tracts of rock that have a pronounced linear structure resulting in terranes.
oz/T	<p>ounces per ton (Imperial measurement).  34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)</p>
oz/st	<p>ounces per short ton (Imperial measurement, same as oz/T).  34.29 g/t (metric tonnes) = 1.00 oz/st (short tons)</p>
Pathfinder	Elements that occur in anomalous amounts together with the economic element being explored for.
Pb	Lead.
ppb	Parts per billion.

ppm	Parts per million (1 ppm = 1,000 ppb = 1 g/t)
Sb	Antimony.
Terrain	An arbitrarily defined geographic location.
Terrane	A major crustal block with a particular geologic history. (See Section 9.0 for more).
VLF-EM	Very low frequency electromagnetic.
Zn	Zinc

**APPENDIX L**

**GEOLOGICAL COMPILATION on the ACE PROPERTY  
and the Simlock Property**

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# **GEOLOGICAL COMPILATION**

on the

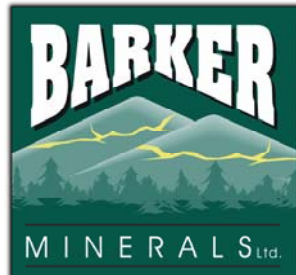
## **Ace Property and the Simlock Property**

Cariboo Lake Area

Cariboo Mining Division, British Columbia

for

Barker Minerals Ltd.  
8384 Toombs Drive  
Prince George, BC  
V2K 5A3



Prepared by:

Rein Turna, P.Geol.

October 11, 2009

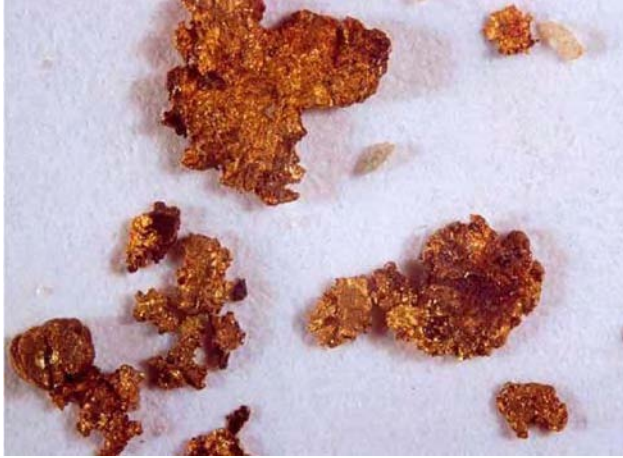


Plate 1  
Ace Property. Gold flakes, size up to approximately 1 mm, collected from stream at culvert # 7, F Road. Photo from Lammlé (1996) and Barker Minerals Ltd. website.

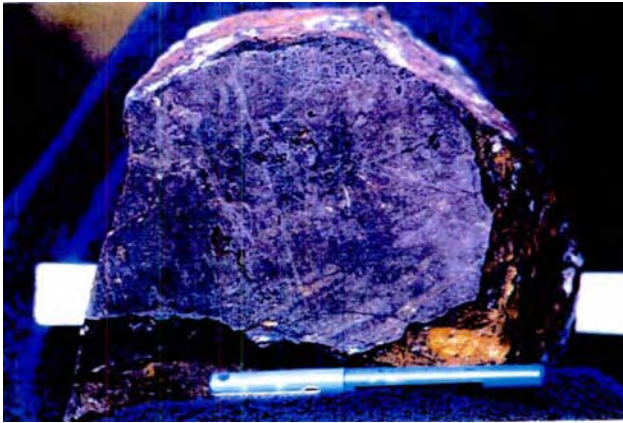


Plate 2  
Ace Property. Massive sulphide boulder. Photo from Lammlé (1996) and Barker Minerals Ltd. website.



Plate 3  
Ace Property. Massive sulphide boulder, Colleen Road. Photo from Barker Minerals Ltd. website.

## **2.0 TABLE OF CONTENTS**

	Page No.
3.0 Summary .....	vi
4.0 Introduction .....	1
5.0 Reliance on Other Experts .....	1
6.0 Property Description and Location .....	2
7.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography .....	4
8.0 History .....	5
8.1 History of Work Done in the Area of Ace Property .....	5
8.1.1 Work Done in 1980 .....	5
8.1.2 Work Done in 1993-94 .....	3
8.1.3 Work Done in 1995 .....	8
8.1.4 Work Done in 1996 .....	10
8.1.5 Work Done in 1996 .....	11
8.1.6 Work Done in 1997 .....	13
8.1.7 Work Done in 1998 .....	14
8.1.8 Work Done in 2000 .....	16
8.1.9 Work Done in 2001 .....	17
8.1.10 Work Done in 2002 .....	17
8.1.11 Work Done in 2003-04 .....	18
8.2 History of Work Done in the Area of Simlock Property .....	20
8.2.1 Work Done in 1983 .....	20
8.2.2 Work Done in 1986 .....	21
8.2.3 Work Done in 1988 .....	22
8.2.4 Work Done in 1989 .....	22
8.2.5 Work Done in 1990 .....	23
8.2.6 Work Done in 1991 .....	24
8.2.7 Work Done in 1992 .....	24
8.2.8 Work Done in 1993 .....	25
8.2.9 Work Done in 1995 .....	25
8.2.10 Work Done in 1997 .....	26
8.2.11 Work Done in 1998 .....	26
8.2.12 2000's .....	26
8.2.13 Work Done in 2003 .....	27
8.2.14 Barker Minerals' Claims Staked in 2008 .....	28
9.0 Geological Setting .....	29
9.1 Regional Geology .....	29
9.2 Local Geology .....	35
9.2.1 Geological Mapping by Tutt (2000) .....	36
9.2.2 On the 'Felsite' .....	41



	Page No.
10. Deposit Types .....	44
10.1 Regarding Ace .....	44
10.2 Regarding Simlock .....	45
11.0 Mineralization .....	47
12.0 Exploration .....	48
13.0 Drilling .....	52
14.0 Sampling Method and Approach .....	56
15.0 Sample Preparation, Analyses and Security .....	57
16.0 Data Verification .....	59
17.0 Adjacent Properties .....	60
17.1 Simlock Property .....	60
17.2 Cariboo Property .....	60
17.3 Mae Property .....	61
18.0 Mineral Processing and Metallurgical Testing (this section is not applicable) .....	62
19.0 Mineral Resource and Mineral Reserve Estimates (this section is not applicable) .....	62
20.0 Other Relevant Data and Information .....	62
21.0 Interpretation and Conclusions .....	63
21.1 Regarding Ace .....	63
21.2 Regarding Simlock .....	65
22.0 Recommendations .....	65
22.1 Regarding Ace .....	65
22.2 Regarding Simlock .....	67
23.0 References .....	68
24.0 DATES and SIGNATURES .....	75
Certificate of Author .....	75
Consent of Author .....	77
25: Additional Requirements for Technical Reports on Development Properties and Production Properties (this section is not applicable) .....	78
26: Illustrations .....	78
(see list of Plates and Figures below)	

## Plates

	Page No.
Plate No. 1 Ace Property. Gold flakes from stream, Culvert #7, F Road .....	i
Plate No. 2 Ace Property. Massive sulphide boulder .....	i
Plate No. 3 Ace Property. Massive sulphide boulder, Colleen Road .....	i

## Figures

	Page No.
Figure No. 1 Barker Minerals Ltd., Property Location .....	3
Figure No. 2 Barker Minerals Ltd., Mineral Claims.....	after pg 3
Figure No. 3 Topography and Road Access to Ace and Simlock Properties .....	after pg 3
Figure No. 4 Terrane Map of Southern British Columbia .....	30
Figure No. 5 Terrane Map of Cariboo Lake – Wells Area .....	31
Figure No. 6 Schematic Regional Structural Section .....	32
Figure No. 7 Little River Area, Geology of Ace and Simlock Properties .....	after pg 78
Figure No. 8 Ace Property, Geology in Area of Lower Hardychuck and F Roads .....	37
Figure No. 9 Ace Property, Legend and Section .....	38

The following Figures are after page 78.

Figure No. 10 Ace Property, Drill Hole and Trench Locations	
Figure No. 11 Ace Property, VLF-EM Survey (1995)	
Figure No. 12 Ace Property, Magnetism (1995)	
Figure No. 13 Ace, Ground Magnetism, IP Anomalies & HLEM Indicated Conductors	
Figure No. 14 Ace Property, Chargeability (1996)	
Figure No. 15 Ace, Felsic Rocks and Geophysical Conductors	
Figure No. 16 Ace VMS and Vein Gold Project, E-Scan Resistivity Lows & HLEM Conductor	
Figure No. 17 Ace Property, Arsenic in Soils	
Figure No. 18 Ace Property, Gold in Soils	

- Figure No. 19 Ace Property, Zinc in Soils
- Figure No. 20 Ace Property, Lead in Soils
- Figure No. 21 Ace Property, Copper in Soils
- Figure No. 22 Ace Property, Ace VMS and Gold Project, Quartz Float Boulders Exceeding 220 ppb Gold
- Figure No. 23 Ace Property, Ace VMS and Gold Project, Felsic Rocks and Geophysical Anomalies
- Figure No. 24 Simlock Property, Historic Work Locations
- Figure No. 25 Placer Mines of Harvey Creek

### Tables

	Page No.
Table No. 1 Ace and Simlock Properties Mineral Claim Details .....	2
Table No. 2 Ace Project Assays .....	49
Table No. 3 Ace Property Diamond Drill Hole Details .....	52
Table No. 4 Ace VMS project Significant DDH Intersections (1998 and 2002) .....	55

### Appendices

Appendix A - B.C. Geological Survey Deposit Types .....	after Section 26.0
<ul style="list-style-type: none"> <li>• Au-quartz veins</li> <li>• Sedimentary exhalative</li> <li>• Besshi massive sulphide</li> <li>• Plutonic-related Au quartz veins and veinlets</li> </ul>	
Appendix B - Glossary of Technical Terms and Abbreviations .....	after Section 26.0

### **3.0 SUMMARY**

The Ace property is located approximately 33 km northeast of the settlement of Likely and 100 km northeast of the City of Williams Lake, British Columbia. The property is owned 100% by Barker Minerals Ltd. of Prince George, B.C. The size of the Ace property is 6,940 ha (359 units) and occurs within an 80 km x 30 km contiguous block of claims owned by Barker Minerals, informally named the 'Peripheral' group of claims, approximately 120,000 ha in size.

The mineral prospects on the Ace property are for two different types of mineralization. The first, older type is for massive sulphides, possibly sedimentary exhalative (sedex) similar to the Sullivan deposit in southern British Columbia. Besshi-type volcanogenic massive sulphides possibly similar to the Goldstream deposit, approximately 225 km southeast of the Ace property have also been considered as a type for the Ace. The type of massive sulphide occurring at Ace is still a question due to a lack of outcrop and insufficient trenching and drilling done to date. The second, younger deposit type at Ace is for gold-quartz veins, similar to the lode gold deposits at the Wells-Barkerville camp, 40 km to the northwest. The Cariboo Gold Quartz Mine and Mosquito Creek Mine at Wells are considered possible type examples for the gold-quartz vein mineralization at Ace.

Between 1994 and 2003 Barker Minerals has conducted extensive geochemical, geophysical and prospecting surveys on the Ace property, creating an extensive data base. Approximately 2,000 m of trenching has been done. A total of 12 DDH holes (1,906 m) have been drilled. The amount of trenching and drilling done to date has not been an adequate follow-up of the numerous targets the other surveys have defined over a large area.

Exploration has tended to concentrate on the massive sulphide prospect while the gold-quartz veins have not been aggressively followed up. Gold-quartz mineralization on Ace may be similar to lode gold-quartz occurrences in the Wells-Barkerville gold camp where gold ore bodies were associated with massive sulphide lenses and later quartz veins. The Ace gold mineralization may also be related to a relatively recently-recognized class of gold deposit called Plutonic-Related Au Quartz Veins.

Barker Minerals has not done any work yet on its relatively recently-acquired Simlock property. The Simlock property is located on the west side of the Ace property. Simlock Creek and its main branch, Harvey Creek, has been worked by placer gold miners from 1860 to 1940. Modern exploration between 1983 and 2003 defined a 1,500 m gold geochemical trend associated with gold-quartz vein occurrences and local massive sulphide lenses. Similar to occurrences at the Wells-Barkerville gold camp, the mineralization at Simlock appears associated with a favourable limestone unit in the same Paleozoic metasedimentary rocks as at lode gold mines at Wells.

The Ace property is a significant massive sulphide and vein-gold prospect. A work program for continuing exploration for massive sulphides and gold-quartz veins is recommended. A work program is also recommended for the adjacent Simlock property.

## **4.0 INTRODUCTION**

This report was prepared at the request of Mr. Louis E. Doyle, President of Barker Minerals Ltd. The purpose of this report is to summarize the geology, mineralization and historical work done to date on Barker Minerals' Ace property and recommend further work to enhance the economic potential of Barker Minerals' mineral properties in the Cariboo Lake area. The major portion of this report is concerned with the Ace property on which extensive surveys have been done by Barker Minerals between 1993 and 2003.

A discussion of the historical work done on Barkers' Simlock property is also provided, as the property is adjacent to the Ace and has similar style quartz-gold mineralization in the same geological setting. Barker has not done any work on its relatively recently-acquired Simlock property. For overall clarity the extensive discussion of the historical work by previous owners at Simlock Creek will be provided in Section 8.2 - History and the deposit model type will be discussed in Section 10.2 - Deposit Types alongside such same discussions for Ace.

A schedule of work is proposed for the Ace and Simlock properties.

Other adjacent properties, Barker's Cariboo property and Mae property are briefly discussed in Section 17.0 - Adjacent Properties.

In other sections of this report, unless otherwise clearly stated, discussion is in reference to the Ace property.

The sources of information for this report include historical assessment reports, government publications and reports filed with the System for Electronic Document Analysis and Retrieval (SEDAR). This author has worked for Barker Minerals Ltd. as an independent consultant in 2006 and as Vice President of Exploration since April, 2007.

## **5.0 RELIANCE on OTHER EXPERTS**

The geological descriptions in Section 9.1 – Regional Geology derive mainly from British Columbia Geological Survey (BCGS) publications by L.C. Struik (1988) and A. Panteleyev et al. (1996) and Barker Minerals' geologists J.G. Payne and B.J. Perry (2001).

Other writers are quoted in *italics* extensively in various sections of this report and are credited at the relevant locations. They are BCGS geologists T. Hóy and F. Ferri and consultants to Barker Minerals T.J. Barrett, W.H. MacLean, S.D. McKinley, J.G. Payne and B.J. Perry. Also, early interpretations of historical surveys by consultants to Barker, C.A.R. Lammle, H.P. Salat, P.E. Walcott and C.J. Wild are provided in this report in Section 8.0 History. D.F. Symonds, consultant to historical owners working at Simlock Creek is also quoted.

All of the above are professional geologists or engineers. Msrs. McKinley and Perry were Qualified Persons under NI-43-101 at the time of their writing their reports, as was D.F. Symonds from 2003.

The extensive knowledge of L.E. Doyle, gained from his own prospecting activities, research and management of exploration projects in the Cariboo region have been instrumental in determining the exploration methods and strategy in Barker Minerals' projects since 1993. Under supervision of qualified professionals he has overseen all aspects of Barker Minerals' exploration and has been the driving force in designing projects and interpreting exploration results.

## **6.0 PROPERTY DESCRIPTION and LOCATION**

The Ace and Simlock Properties consist of the mineral claim tenures listed in Table No. 1 below, acquired and maintained under Mineral Titles Online (MTO), British Columbia's internet-based mineral titles administration system.

<b><u>Property</u></b>	<b><u>Tenure Number</u></b>	<b><u>No. of Units</u></b>	<b><u>Owner</u></b>	<b><u>Good To Date</u></b>	<b><u>Status</u></b>	<b><u>Area (ha)</u></b>
Ace	504412	8	Barker Minerals Ltd. 100%	2009/Oct/31	Good	78.24
Ace	504413	32	Barker Minerals Ltd. 100%	2009/Oct/31	Good	626.05
Ace	504414	35	Barker Minerals Ltd. 100%	2009/Oct/31	Good	684.05
Ace	504415	23	Barker Minerals Ltd. 100%	2009/Oct/31	Good	449.54
Ace	504416	26	Barker Minerals Ltd. 100%	2009/Oct/31	Good	508.36
Ace	504418	24	Barker Minerals Ltd. 100%	2009/Oct/31	Good	469.26
Ace	514307	39	Barker Minerals Ltd. 100%	2009/Oct/31	Good	762.23
Ace	514256	24	Barker Minerals Ltd. 100%	2009/Oct/31	Good	469.10
Ace	514319	83	Barker Minerals Ltd. 100%	2009/Oct/31	Good	1622.87
Ace	514320	8	Barker Minerals Ltd. 100%	2009/Oct/31	Good	156.44
Ace	514325	57	Barker Minerals Ltd. 100%	2009/Oct/31	Good	1114.31
Simlock	592299	19	Barker Minerals Ltd. 100%	2009/Oct/1	Good	370.99
Simlock	592300	25	Barker Minerals Ltd. 100%	2009/Oct/1	Good	488.16
Simlock	592302	17	Barker Minerals Ltd. 100%	2009/Oct/1	Good	331.94
Simlock	604584	25	Barker Minerals Ltd. 100%	2010/May/16	Good	487.98
Simlock	608523	15	Barker Minerals Ltd. 100%	2010/July/19	Good	390.30

Table No. 1 – Ace and Simlock Properties Mineral Claim Details. Total Ace area: 6,940 ha  
 Total Simlock area: 2,069 ha  
Total area: 9,009 ha

The Ace property is outlined, relative to Barker's main ('Peripheral') group of claims, in Figure No. 2 – Barker Minerals Ltd. Mineral Claims. The mineral claims comprising the property are located directly south of Little River and approximately 10 km east of the north end of Cariboo Lake in the Cariboo Mining Division in British Columbia, and are 100% owned by Barker Minerals Ltd. of Prince George, B.C.

The property is approximately 33 km northeast of the settlement of Likely and 100 km northeast of the City of Williams Lake. The City of Prince George is 165 km to the northwest.

The geographic coordinates of the property are:

52.80° North Latitude and 121.12° West Longitude or  
627000 E and 5852000 N UTM coordinates (NAD 83).

The relevant map is: N.T.S. Map No. 93A/14.

Exploration work that has been conducted on the Ace Property by Barker Minerals has been done under Mine Permit No. 08-1000921-0220. The permit can be modified by amendments to allow future work. Barker Minerals has posted a security with the Province of B.C. in the amount of \$8,000 for reclamation purposes.

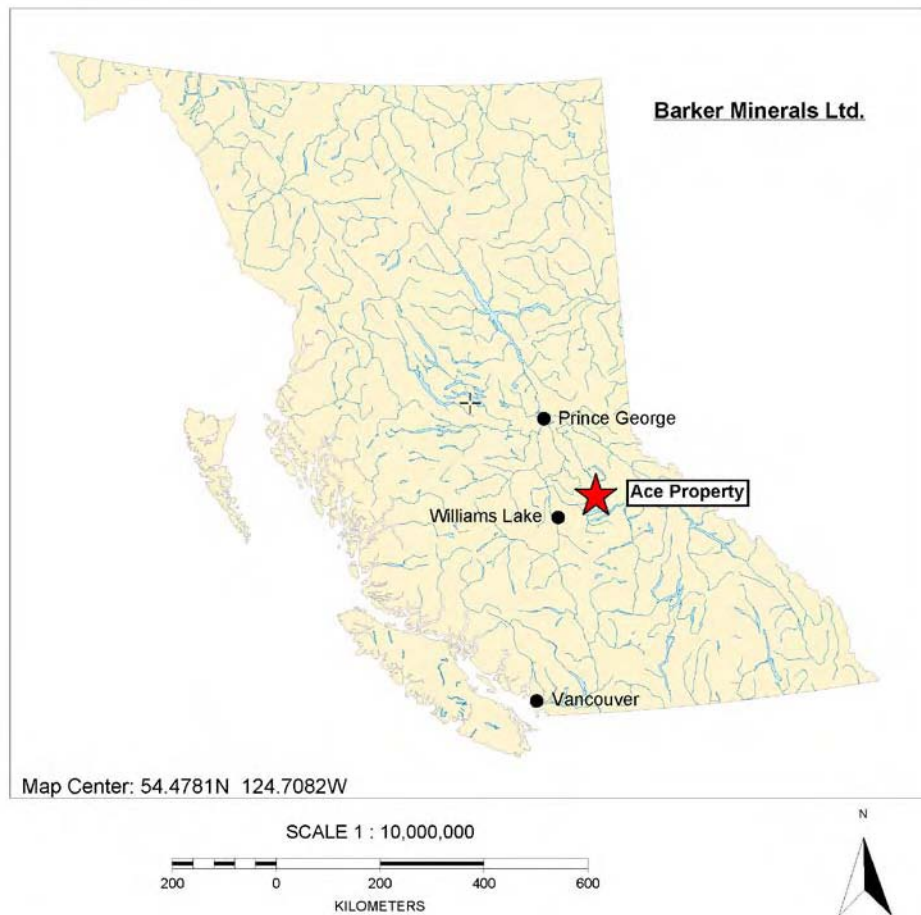
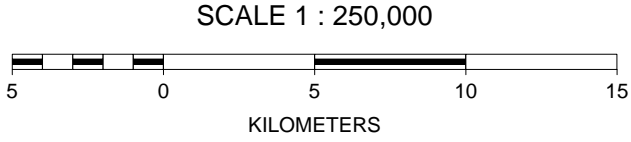
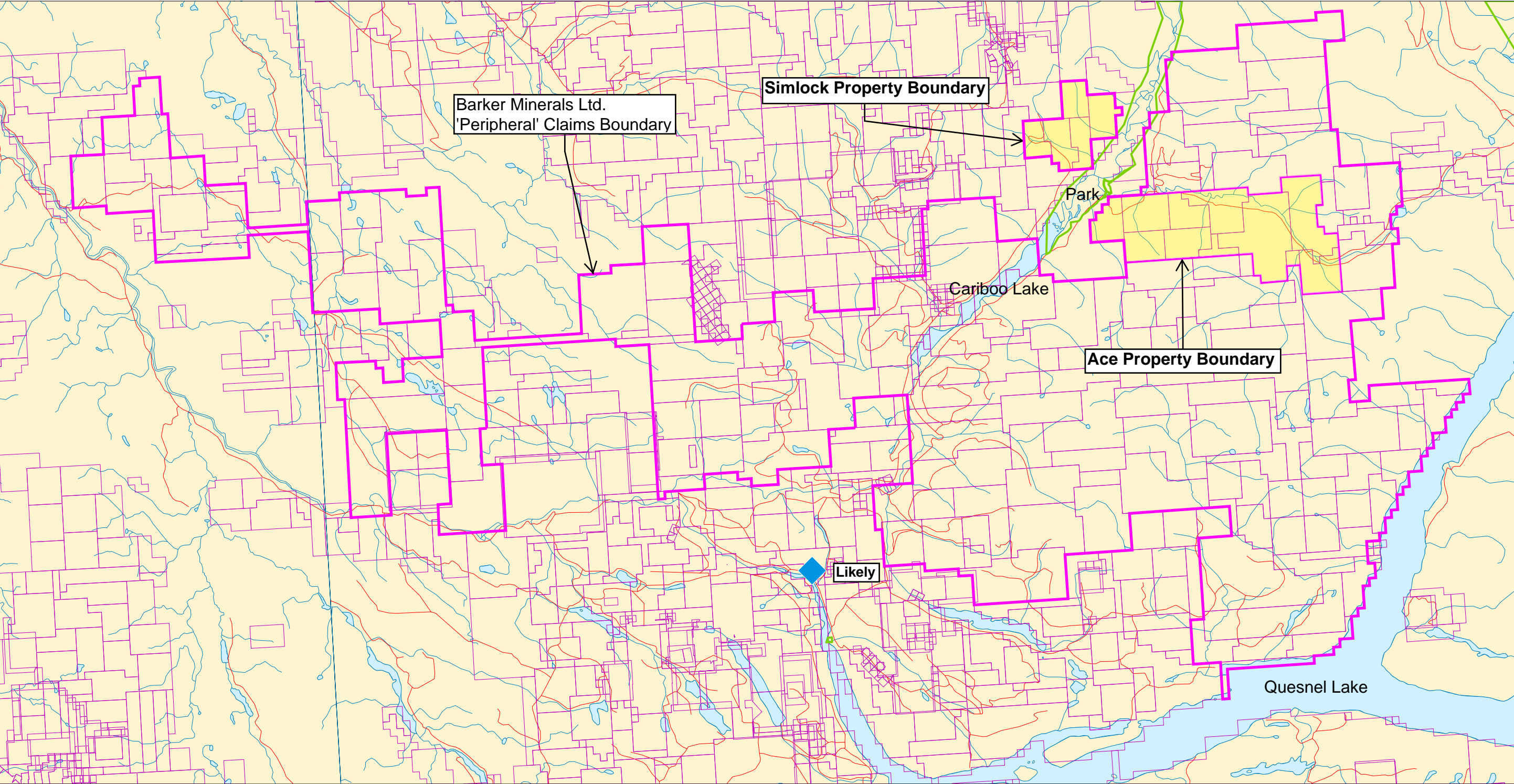


Figure No. 1 Ace Property Location.

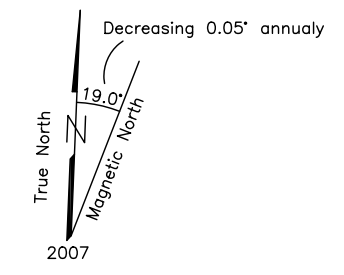
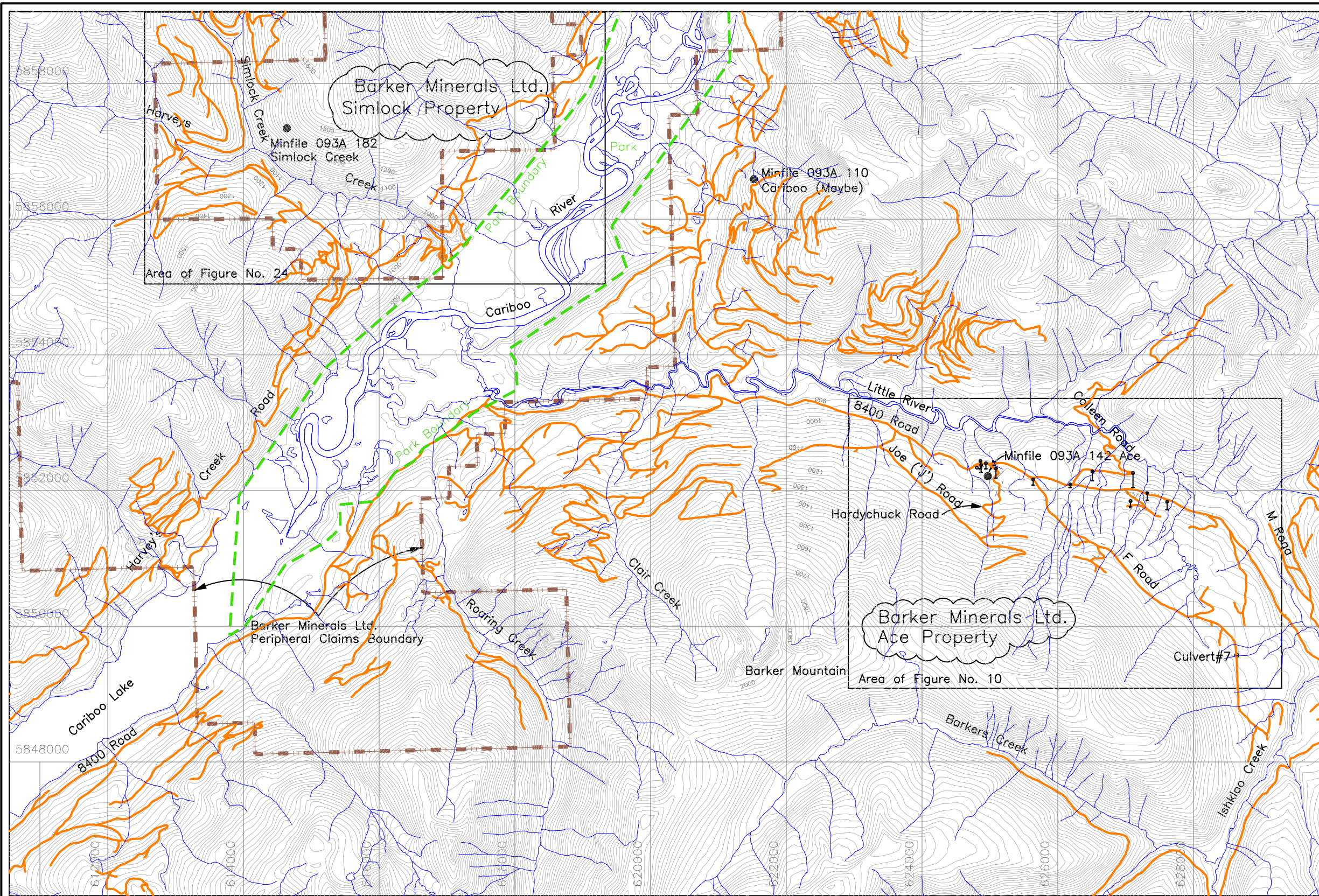
**Barker Minerals Ltd. Mineral Claims**  
**Cariboo Mining Division**



**Figure No. 2**



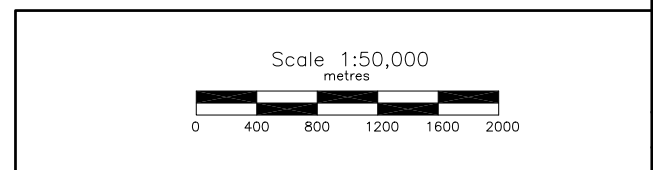




**LEGEND**

- Topographic Contour & Elevation  
Contour interval 20 metres
- Creek, Pond, Swamp
- Road
- Barker Minerals DDH Location
- Minfile Location
- Barker Minerals Claim Boundary

UTM Coordinate System  
Map Datum: NAD 83  
Zone: 10



<b>BARKER MINERALS LTD.</b>	
Topography and Road Acces to Ace and Simlock Properties	
Cariboo Mining Division, B.C.	
NTS Mapsheet: 93 A/14	Date: July 24, 2009
Drawn by: RT	Fig.No. 3

## **7.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY**

The closest large centre to the Barker Minerals project areas is Williams Lake located approximately 100 km to the southwest. Williams Lake is an intermediate-sized city and served by Highway 97, the B.C. Railway, a major hydroelectric power grid and a modern airport. By road, Likely is 65 km northeast of 150 Mile House on Highway 97. Access to Barker Minerals exploration areas, including the Ace Property, is via gravel logging roads bearing northeast from Likely. The distance from Likely to Ace is approximately 50 km by road. In Likely, Barker Minerals maintains a property that includes a house, a bunkhouse, a workshop and a large general-purpose tent and a core-cutting shack. The house serves as a field office.

The Ace Property is situated in the central part of the Quesnel Highland between the eastern edge of the Interior Plateau and the western foothills of the Columbia Mountains. This area contains rounded mountains that are transitional between the rolling plateaus to the west and the rugged Cariboo Mountains to the east. Pleistocene and Recent ice sheets flowed away from the high mountains to the east over these plateau carving U-shaped valleys. The elevation ranges from 900 m to 2,050 m between Little River and the top of Mount Barker.

Precipitation in the region is heavy, as rain in the summer and snow in the winter. Drainage is to the west via the Cariboo, Little and Quesnel Rivers to the Fraser River. Quesnel Lake, the main scenic and topographic feature in the region, is a deep, long, forked, glacier-carved lake with an outlet at 725 m elevation. Vegetation is old-growth spruce, fir, pine, hemlock and cedar forest in all but the alpine regions of the higher mountains. Weldwood has been actively logging fir, spruce and pine in the area, principally during winters. Snow can limit the work season to approximately May to November, but drilling can be conducted any time during the year if the access road is plowed clear.

## **8.0 HISTORY**

### **8.1 History of Work Done in the Area of Ace Property**

There is no record of any mineral exploration work in the area of the current Ace property prior to 1980.

#### **8.1.1 Work done in 1980**

The relevant report is Assessment Report 9666 by M.G. Larsen.

Prospecting was done in 1979-80 by M.G. Larsen on the Big Chris claims, owned by Dorothy Roming, consisting of 2 claim units located on the south side of Little River approximately 6.5 km ENE of Mount Barker. The report's map indicates the property to be located near '16 mile' on the main road (to Maeford Lake) along the south side of Little River.

'Huge boulders of well mineralized rock' were said to lie on a logged-off slope between 400 feet from Little River and the 3,900 foot elevation. Bornite, chalcopyrite, sphalerite and pyrite were noted in strongly metamorphosed sedimentary rocks within a fault zone in a small creek.

Overburden was observed to be deep, measured 12 feet at one location. A chemical test kit, flame and fluorescent lamp were used to detect various elements and minerals. Though Zn, Cu, Ni, Co and W apparently tested positive in the field tests, subsequent assays indicated only trace amounts. No recommendation on the results was made.

#### **8.1.2 Work done in 1993-94**

The relevant report is Assessment Report 23733 by H.P. Salat and C.A.R. Lammle.

Prospecting, geological mapping and petrographic studies, stream silt and soil sampling were done on the Ace claims, consisting of 96 claim units owned by Barker Minerals Ltd. The claim group covered much of the ridge east of Mount Barker, between Barkers Creek to the south and Little River to the north. The centre of the claims was approximately 5.5 km ENE of Mount Barker, between the F Road and Hardychuck Road, branches of the main 8400 Road along the south side of Little River.

Initial prospecting by L.E. Doyle, later president of Barker Minerals Ltd., discovered coarse gold flakes in a rivulet on the north side of the ridge east of Mount Barker. The original sediment Sample No. 93-11-1001 from culvert #7, approximately 4.5 km up the F Road, assayed 129.0 g/t Au. Payne (1999) thought this sample may have been contaminated by another from 2 km down the F Road (northwest) but check Sample Nos. 93-11-1002 and 1003 from the same location as the original sample assayed 73.8 g/t and 41.8 g/t Au. Discrepancies in the assay values are attributable to a 'nugget' effect. Concentrate from the pulp from the original sample returned 6,526.00 g/t Au. Salat (1995) mentioned this in the context of stream sample results in the area though such an analysis of concentrate is not comparable with normal stream sediment analyses.

Outcrop was sparse but an extensive train of mineralized quartz vein float, up to 1 to 2 metres in size, and a few outcrops, often sulphide-rich, contained pyrite, pyrrhotite and arsenopyrite, with lesser chalcopyrite, bornite, galena and sphalerite. The quartz WNW-trending float train generally paralleled the 8400 Road between the 8423 – 8431 km markers. Several quartz boulders consisted of massively-textured sulphides making up 25 to 30% of the rock mass. Tourmaline (a complex silicate containing boron) and graphite were also noted in some samples. The quartz samples were often anomalous in Bi, Cu, Cr, As, Ag, Pb and Zn besides Au. Bi, Cu and Cr were considered the best pathfinders for Au in the quartz samples. Geochemical and assay results from samples of mineralized quartz float were:

F Road	geochem or
<u>sample no.</u>	<u>assay results</u>
1047	555 ppb Au
1085	505 ppb Au
1123	775 ppb Au
1160	22.03 g/t Au, 8.80% As
1162	1.02 g/t Au
1163	0.59 g/t Au
1187	990 ppb Au
1188	1,900 ppb Au
1345	1.76 g/t Au

#### Hardyck (S) Road

	geochem or
<u>sample no.</u>	<u>assay results</u>
1261	18.8 g/t Au, 2,025 ppm Bi, 1,252 ppm Pb
1263	1.51 g/t Au
1280	10.70% Pb, 1.42% Zn

#### Colleen Rd.

	geochem or
<u>sample no.</u>	<u>assay results</u>
1326	>10,000 ppm Pb, >10,000 ppm Zn
1327	0.19 g/t Au
1328	0.16 g/t Au
1329	0.19 g/t Au
1344	3,750 ppm Pb, 2,294 ppm Zn
1358	23.71 g/t Au
1359	1.13 g/t Au

At certain locations mineralized quartz veins in outcrop were discovered. Grab samples from these returned:

F Road	geochem or
<u>sample no.</u>	<u>assay results</u>
1124	355 ppb Au

Slopes above end of F Road	geochem or
<u>sample no.</u>	<u>assay results</u>
1148	0.41 g/t Au
1150	0.36 g/t Au

Colleen Road	geochem or
<u>sample no.</u>	<u>assay results</u>
1287	1.52 g/t Au
1289	6.05 g/t Au

Main Cirque	geochem or
<u>sample no.</u>	<u>assay results</u>
1176	140 ppb Au
1195	300 ppb Au
1196	425 ppb Au

Additional rock geochemical results from various years' prospecting are provided in this report in Table No. 2 – Ace Project Assays in Section 12.0 - Exploration.

These outcrop occurrences tended to confirm that the source locations of the stream sediment and quartz float with high Au values were within the area of the Ace claims. The most prominent quartz vein in outcrop was at the site of Sample No. 1150 approximately 1.0 km uphill, SE of the highly anomalous stream sediment at culvert #7 on the F Road. Here a 0.5 m to 2.0 m wide rusty vein was observed to trend over 100 m.

Approximately 25 km of lines were cut and flagged for subsequent soil sampling. 750 soil samples were collected at intervals of 25 to 50 m. The main sampling grid was approximately 2.9 square km in area over the upper part of F Road around the area of culvert #7. Smaller sampling areas were to the NW at Colleen Road, S (Hardychuck) Road and the lower part of F Road. The assessment report consists of two separate but complementary reports by the authors, Salat and Lammle.

Though he drew no maps showing the geochemical results, Salat was of the opinion that the soil survey had no area significantly anomalous in Au or the expected pathfinder elements Cu, As, Bi, Ba. He noted anomalous soils at the bottom of the F Road had Au up to 190 ppb, with anomalous As. Salat could not explain what he considered to be overall poor results in the

soils. Deep soils, which could have masked the soil response, were noted in the survey area. Salat presented the soil geochemical results in tables. Lammle, writing later, drew geochemical maps on which he contoured the results for 9 elements including Au, Ag, Pb, Zn, Cu, Bi, Sb, As, Fe. Six principal anomalous areas were thus evident. Lammle summarized these soil anomalies as:

- 1) 8400 Road (Ace 84 through Ace 62 claims) coincident with float train area found by detailed prospecting. Au, Ag, Pb, Zn, Sb, As, Fe.
- 2) F Road – 4.5 km (Ace 11 through Ace 20 claims) sand-silt obtained from nearby culvert outlet contained anomalous Au, Ag, Pb, Zn, Cu, Bi, Sb.
- 3) F Road – 1.0 km (Ace 86 area).
- 4) 600W 3400S (Ace 29 through Ace 30 claims). Au, Ag, Pb, Zn, Sb.
- 5) F Road – 5.0 km (Ace 2 through Ace 14 claims). Pb, Zn, Cu, Sb.
- 6) 1400W 3900S (Ace 8 area). Pb, Cu.

Several rock specimens from widely separated areas on the Ace property contained abundant fine-grained tourmaline in material described as tourmaline-quartz-graphite skarn. Lammle tentatively suggested a possible correlation with similar alteration mineralization at the Sullivan Mine, a sedex massive sulphide deposit in a similar geological setting in southern British Columbia.

Salat considered the quartz-related Au mineralization on the Ace property may be generally comparable with similar gold-bearing veins known at the Mosquito Creek and Cariboo Mountain gold mines and Island Mountain deposit in the Well-Barkerville area, 40 km to the NW. The similarities were:

- Sulphide-rich quartz veins hosted in metamorphosed sediments in a similar geological setting.
- Bi, Ag and base metal sulphides with Au.
- Cr-mica in alteration zones.

Salat recommended comprehensive follow-up work to include 100 km of cut grid, trenching on Colleen Road and S (Hardychuck) Road, soil sampling, magnetic and IP geophysics, prospecting, geological mapping and 800 m of diamond drilling. Salat also made a recommendation to determine the reason for the apparent lack of response in the soil geochemistry in the area where stream sediment samples on F Road were high in Au. Lammle recommended similar comprehensive follow-up work, particularly in the areas of soil anomalies 1 and 2, above, as well as VLF-EM.

### **8.1.3 Work done in 1995**

The relevant report is Assessment Report 24286 by C.A.R. Lammle.

Prospecting, geological, petrographic, geochemical and geophysical work was done on the Ace claims, consisting now of 155 mineral claims within a larger contiguous block of 441 mineral

claim units (9,500 ha area) owned by Barker Minerals Ltd. The total claim block covered the ridge east of Mount Barker approximately between Little River and Barkers Creek to the north and south and Ishkloo Creek and Roaring Creek to the east and west. The north boundary of the claim block extended approximately 2 km north of Little River. Only the work done at Ace is discussed here.

Approximately 100 km of grid lines were cut and flagged in 1995 in preparation for subsequent soil geochemical and geophysical surveys to be done on them. 1,780 soil samples were collected at 25 m intervals over 44.5 line km of the grid. This area was in the central part of the Ace property, in the area of Colleen Road and the lower part of F road, NW of the previous year's sampling. 2,040 additional soils were collected at 25 m intervals and stored to await analysis on a selective basis. Lammler stated that over 690 rock samples were collected in 1995 but results for all of these are not presented in the assessment report. Ground magnetometer and VLF-EM surveys were done at 25 m intervals over 109.7 line km of the 1994-95 cut grids. Additional reconnaissance geophysical traverses were made at several locations off the grid.

Petrographic studies were done on several rock polished sections. Gold-bearing telluride minerals, bismuthenite, native bismuth and gold were observed in quartz in Sample No. 94-10-1358, the same sample from Colleen Road which assayed 23.71 g/t Au in the previous year's work. In this sample the volume of Au-Te and Au-Bi minerals were much higher than native gold. It was estimated that telluride minerals in the quartz was 100 times greater than that of native gold. It was suggested that the economic potential of Au in compounds with Te and Bi was probably higher than in native Au itself.

The VLF-EM, magnetics, prospecting and Au, As, Zn, Pb and Cu soil results from the 1995 surveys are presented in Figure Nos. 11 to 13 and 17 to 22 in Section 26.0 - Illustrations.

From the geophysical and soil geochemical data Lammler interpreted that:

A large magnetic anomaly was centered on the lower part of F Road. It consisted of a circular low relief magnetic anomaly, approximately 1.0 km across, coinciding with a circular VLF-EM anomaly over approximately the same area. The VLF-EM anomaly was characterized as a 'disturbed' area of sinuous local anomalies, in contrast with more linear anomalies outside of the circular area. This magnetic and EM anomalous area was surrounded by a 'boron halo', consisting of anomalous boron in soils, approximately 2.5 km across. Boron is a component of the mineral tourmaline. Within this area quartz float, including those with the best Au values, occurred extensively. See Figure Nos. 11 to 13 and 18 for these interpreted circular concentric anomalies. This early interpretation of circular concentric anomalies seems to have been subsequently downgraded in importance as it was not mentioned again in later work programs.

The most significant geochemical and geophysical anomalies were assigned letters A to K, with the large 'boron halo' feature given letter V. The locations of anomalies F to K and V are indicated on Figure Nos. 11 and 12. Individual magnetic anomalies varied from 200 m to

1,000 m in length and tended to parallel the NW-SE regional geological trend. Numerous electromagnetic conductors varying from 200 m to 600 m in length were defined.

Anomaly F-G, approximately 1.5 km long, a coincident conductor and magnetic-high anomaly, was co-linear with a NE-SW oriented fault, mapped by Struik (1988), termed 'GSC-2 fault' by Lammle. It lay head-end or up-ice from the best part of the widest part of the quartz float train; accordingly it was considered a high-priority exploration target.

Anomaly H and H-I consisted of partly co-incident, variably strong and moderate VLF-EM and magnetic anomalies. The H-I portion of this 'T' shaped anomaly trended NE-SW approximately 1.0 km. The H anomaly, 700 m long, represented the strongest portion of a 2,000 m NW-SE conductive trend through the 'boron halo' centre. Soils overlying this 2,000 m zone were anomalous in Au, Mo, As, Zn, Cu and Pb. Zn and Mo were offset north somewhat from the other four elements. The highest Au value in soils was 1,230 ppb.

Anomalies J and K were VLF-EM conductor anomalies located along the NW extension of the 2,000 m zone related to Anomaly H.

Diorites, weakly mineralized with chalcopyrite, exposed 1.3 km SW of the circular concentric geophysical and 'boron halo' anomalies had a trend suggesting the large circular anomaly (V) may be underlain by a related intrusive. It was considered such a mineralized intrusion, if present, would be a logical cause for mineralization of the type found in the train of quartz float boulders, for the hypothetical convection cell that could have caused the co-centric boron halo, and the other anomalous metals in soils. Lammle stated that sulphide-rich rock specimens viewed by senior BC government geologists elicited speculation of possible Besshi-type massive sulphides.

Further EM and soil sampling was recommended to complete the geophysical and geochemical surveys southeast toward the 1994 survey grid. Trenching and diamond drilling were also recommended though no specific targets were mentioned.

#### **8.1.4 Work done in 1996**

The relevant report is Assessment Report 24988 by L.E. Doyle.

A magnetic survey was done on the Roar claims, consisting of 8 placer claim units owned by Barker Minerals Ltd. These claims were situated in the west end of the Ace mineral claims, north of Mount Barker, on the south side of Little River, crossing the lower portion of north-flowing Clair Creek.

A 350 m x 450 m area had a magnetic survey done over it (#3 Mini Grid Quartz Sweat Rock Area). A 400 m x 100 m area containing a pair of magnetic highs was determined to parallel the regional stratigraphy. Follow-up by test pits and backhoe trenching was recommended.



### 8.1.5 Work done in 1996

The relevant report is Assessment Report 24989 by C.A.R. Lammle, G.A. Shore & S.N. Roach.

The Ace property, consisting of 176 mineral claim units, occurred within a larger group of Barker Minerals' claims, consisting of 2,590 mineral claims, later termed the 'Peripheral' group of claims. In 1996 the 'Peripheral' group covered an approximately 30 km x 40 km area on the east side of Cariboo Lake. This large group was staked in response to discoveries made at Ace property and in regional prospecting during 1993-95 by Louis Doyle and Barker Minerals. The 'Peripheral' group, and later expansions of it would by 2009 also include Barker Minerals' Frank Creek massive sulphide discovery and other prospects named Simlock, Kangaroo, Black Bear (Providence), Cariboo, Black Stuart, Big Gulp, SCR, Sellers Creek, Unlikely, Peacock (Rollie Creek), Trump, Tasse, Upper Grain, Maud, MAG and Gerimi.

The assessment report describes prospecting, geological, geochemical and geophysical and trenching surveys done widely over the 'Peripheral' group of claims. Only the work done at Ace is discussed here. The assessment report consists of independent reports by the three authors, covering separate aspects of the total program.

600 fill-in soil samples were collected on area of the Ace Grid and the results were plotted on updated geochem maps. The overall soil geochem coverage was increased and existing Pb, Zn and Bi anomalies were defined more completely.

Ground VLF-EM and magnetic surveys were done over 77.3 line km on the grid and along roads in the area. VLF-EM anomalies were interpreted as probably being related to graphitic faults. Magnetic anomalies occurred between two known normal faults (termed by Barker as the GSC-1 and GSC-2 faults).

A conventional pole-dipole induced polarization (IP) geophysical survey was done over 26.4 line km at the northwestern portion of the Ace Grid. The IP geophysical contractor (Scott Geophysics Ltd.) agreed to allow the geological contractor (Lammle) to correlate the IP data with all the other work and interpret the results. Lammle interpreted that high chargeabilities coincident with low resistivities occurred over the entire surveyed area. Lammle concluded that graphitic strata and faults were responsible for the strong and broad IP response. As the graphitic response would tend to envelope and mask-out subtler responses due to mineralization Lammle recommended that more reliance be placed in geochemical and magnetic surveys on Ace and further EM or IP surveys would not be useful. [This author believes there is much interpretable detail in the IP data that is correlatable with the other geological, geophysical and geochemical data]. Figure Nos. 14 and 15 in Section 26.0 show the results of the IP chargeability and resistivity surveys.

A resistivity (3-D E-SCAN) survey was done by Premier Geophysics Ltd. on the southeastern (named 'Kloo') portion of the Ace Grid. This was around the location of culvert #7 on the F Road where coarse gold flakes were discovered in 1993. G.A. Shore authored the relevant portion of the assessment report. A shallow strong low resistivity anomaly, apparently a strong

conductor approximately 400 m x 400 m in area, was centred at approximately 10E-36S in the area of the Ace 24 claim. The results of this survey are shown in Figure No. 16 in Section 26.0 of this report. This strong anomaly was approximately 1.5 km north of culvert #7 and occurred astride the quartz float train outlined in 1994. Shore suggested this as a prime low resistivity anomaly worthy of follow-up, along with others, and recommended enlarging the 3-D E-SCAN survey area and correlation of the data with geological mapping before determining drill targets.

36 prospecting test pits and 280 metres of mechanical trenching were done. Several bedrock exposures were anomalous in Au. Rock samples from Test Pit 30 on F Road returned 1,065 ppb and 1,386 ppb Au. Rocks from Trenches A and G on Colleen and Hardychuck (S) Roads had values up to 296 ppb and 213 ppb Au. A trench exposure at Ace Grid 6+00W 0+30N on Ace 63 claim (on Hardychuck Road) exposed significant galena mineralization. Concentrations of Au were found to correlate positively with Cu, Pb, Fe, Te and SiO<sub>2</sub>, and to a lesser degree with As, Bi and Hg; a negative correlation existed between Au and Zn (Perry, 2002). Overall, however, the trenching results were not considered satisfactory.

S.N. Roach was responsible for geological mapping over selected areas of the 'Peripheral' group of claims including the Ace property. Roach's opinion was that a chemical exhalative sedimentary unit consisting of chert to cherty tuff existed on the Ace property which could be used as a marker horizon in geological mapping. Roach collected 267 rock samples over the Peripheral claim group including several collected at Ace, which had no important results. Roach recommended detailed geological mapping to be done on the lines of the Ace Grid.

Lammle recommended that further work be done on the Ace property; this to include geological mapping, detailed stream sediment sampling and detailed mapping and sampling of existing trenches. Other specific recommendations were:

- 22 line km of detailed VLF-EM and magnetic surveys were recommended over the two faults termed GSC-1 and GSC-2. Both these faults were associated with conductor and magnetic anomalies in the 1995 survey though the grid lines and VLF transmitting stations used were not the of the optimal orientations or directions for the NE-SW oriented structures. The proposed survey was intended to delimit these faults with greater precision; similar faults were related to mineralization at the lode gold mines at Wells and Barkerville 40 km to the NW.
- A 2.0 m wide quartz vein (LED 14 Quartz Vein), apparently co-linear with VLF-EM conductors on Ace 22 claim was recommended to be further explored.
- Individual boulders in the extensive quartz float train were recommended to be mapped for indications of their genesis, geology, mineralogy, source, host rock and metals content.
- Individual magnetic-low (termed 'black hole') anomalies, possibly related to alteration or carbonate, were recommended for geological and geochemical follow-up.

A second phase to include trenching and drilling was anticipated, but specific targets were to await results to be got from the above recommended work.

### 8.1.6 Work done in 1997

The relevant report is Assessment Report 25437 by J.G. Payne.

The assessment report describes prospecting, geological, geochemical and trenching surveys done on the Ace and 'Peripheral' group of claims. The Ace property comprised a portion of the larger 'Peripheral' group of Barker Minerals' claims. Only the work done at Ace is discussed here.

Regarding prospecting work done over the 8 km long quartz float train since 1994, Payne wrote, of 53 widespread float boulders of sulphide-bearing quartz veins the average gold content was 3.1 g/t Au with values ranging up to 29.0 g/t, and that many of the higher-grade gold samples contained significant values of lead (1,000-2,000 ppm Pb), bismuth (100-2,500 ppm Bi), selenium (20-50 ppm Se) and tellurium (10-34 ppm Te), and that several pyrrhotite-rich massive sulphide boulders contained 3-13% Zn+Pb and up to 3 oz/ton Ag and 0.25% Cu. This statement was not verified by this author but a portion is reiterated by Hőy and Ferri (1998), citing Lammle.

Work in 1997 on the Ace property included:

the Ace Grid was enlarged with 31.0 km of cut line,  
11.9 km of magnetomer prospecting was done as a guide in locating trenches,  
twenty trenches (1,084 m total) were excavated, generally near the foot of Hardyck Road,  
343 rock chip and grab samples were collected,  
336 soil samples, collected in 1996 on the periphery of the Ace grid, were analyzed in 1997,  
stream sediment samples were collected.

Streams crossing the known quartz float train had sediments weakly anomalous in gold at the locations listed below.

<u>Sample No.</u>	<u>Au (ppb)</u>	<u>Location</u>
R85	89	Little River
R91	17	Levine Creek, 5 km W of Colleen Road
R93	31	4 km W of Colleen Road
R97	30	3.4 km W of Colleen Road
R99	41	Below Hardyck Road
R101	21	Below Hardyck Road
R105	49	On Colleen Road
R115	24	Ishkloo Creek

Geological mapping over 2 square km in the Ace core area and in trenches determined that what was considered a significant felsic volcanic rock unit, dominated by plagioclase, existed along the 8 km long quartz float train, along which gold-bearing massive sulphide float had also been found. This felsic rock was what Roach (1997) called a chemical exhalative sedimentary rock. The felsic rock unit contained typically up to 5% disseminated pyrite and locally, up to

50% sulphides, mainly pyrite and pyrrhotite. In the area of the main trenches some of this rock unit was completely replaced by massive, fine grained pyrite and dark green chlorite.

Trenches exposed zones up to 10 m thick of semi-massive sulphide containing 20-50% pyrite and pyrrhotite. Rock samples collected from trenches and over the grid tended to be grabs as opposed to chip channels. Several samples of massive sulphide had up to 2% Zn. Several grab samples collected during geological mapping were high in gold; Sample No. A97-42 at grid location 22+30 S 7+40 E had 5,040 Au in a 15-20 cm wide quartz vein in outcrop. Sample No. A97-50 on 'M Road' was quartz float with 6,420 ppb Au. The M Road is crossed by HLEM Conductor A, which would be discovered in the 2000 HLEM survey.

The rocks were considered to show many of the characteristics of the footwall rocks to a volcanogenic massive sulphide deposit. The major chargeability and resistivity anomaly which passes through the area of the main trenches and runs parallel with the host rocks was interpreted as being caused by a massive to semi-massive sulphide body at the top (northeast) side of the felsic rock unit. Previously the anomaly was thought to have been related to graphitic schist which occurs in the hangingwall to the felsic volcanic. In either case, the sulphide-rich rocks and graphitic rocks would be co-incident and overly the felsic rock unit.

Two main alteration assemblages recognized were:

- semi massive to massive sulphide dominated by granular pyrite intergrown with abundant dark green chlorite and lesser sericite and quartz.
- felsite containing 20-30% disseminated pyrrhotite.

Both types of altered rock contained anomalous values in base and precious metals.

Drilling was recommended along the main zone of the felsic volcanic rocks.

### **8.1.7 Work done in 1998**

The relevant report is Assessment Report 25904 by J.G. Payne.

The assessment report describes prospecting, geological, geochemical and geophysical surveys and drilling done on the Ace and 'Peripheral' group of claims. The Ace property comprised a portion of the larger 'Peripheral' group of Barker Minerals' claims. Only the work done at Ace is discussed here.

Seven DDH holes (1,260 m) were drilled on the Ace property. Geological mapping was done. Petrographic studies were made of the 'felsite' marker unit and other rocks and drill core.

A unit of plagioclase-rich rocks, approximately 7 km in length and up to 80 m thick, was interpreted by Payne as metamorphosed and altered felsic volcanic rock. On the north side of Little River a similar felsic rock unit, up to 50 m thick, contained disseminated lenses of pyrite and pyrrhotite. These felsic units contained local concentrations of galena, sphalerite or chalcopyrite. These rocks suggested a potential for volcanogenic massive sulphide deposits.

The 7 drill holes targeted conductivity, low resistivity and magnetic anomalies in a zone suspected to be underlain by the felsic rocks with a potential for massive sulphides. The area of the drilling was between Colleen Road to the east and the main area of trenching, near Hardychuck Road, to the west. Six of the 7 holes intersected the felsite which ranged from 3.5 m to 81.5 m in thickness. DDH 98-3 had 0.45 m of massive sulphide at the top of the felsite section. DDH 98-7 had 0.36 m of semi massive sulphide in the middle of the felsite section. Rocks within the felsite and below it were anomalous in precious and base metals and in pathfinder elements though no ore grade assays were achieved. Rocks further below and above the felsite were weakly or moderately anomalous.

An unspecified number of rock samples were collected in prospecting. Of 31 samples deemed anomalous on Table 1b of the assessment report, several sulphide-rich quartz floats were high in gold:

Sample no.	Au (ppb)	grid location
#148	9,130	16+75S 12+00 E at the foot of Jim Road
9821	14,620	13+50S 4+90E on main creek 500 m east of Colleen Road.

Other samples had >1,000 ppb Au or were highly anomalous in base metals or pathfinder elements. The common and widespread occurrence of sulphide-rich quartz float with high Au values were indications of a local source on the Ace property but the general lack of outcrop in the areas of most interest continued to challenge the discovery of bedrock sources. Figure No. 22 in Section 26.0 of this report is from Perry, (2000). It shows the locations of quartz float boulders anomalous in Au known up to then though actual assay values and sample numbers are not specified.

Several prospecting road traverses were done in 1998 in the eastern part of the property. A magnetometer was used and several soil, stream sediment and rock samples were collected, with no significant results.

Payne's opinion was that data from the 1998 work tended to confirm the presence of a volcanogenic massive sulphide environment associated with metamorphosed felsic volcanic rock along the trend of the quartz boulder field and the massive sulphides and gold-bearing quartz-sulphide veins were from the same geological environment. Most of the geophysical anomalies obtained in the earlier studies were thought to be explainable by the rock and alteration types seen in the drill holes. The main geophysical and geochemical anomaly at the western end of the main trenching area remained open to the west in an area interpreted to be underlain by the felsic volcanic rocks. The area west of DDH 98-3 was considered to be a major exploration target. A broad geophysical anomaly in an area of 'felsite' rubble and abundant boulders of quartz veins anomalous in precious and base metals northeast of the 1998 drilling was also recommended for further exploration.

It was recommended to extend the geophysical and geochemical surveys east and west of the surveys along the axis of the main zone of the felsic volcanic rocks. The 'idealized' grid drawn

on the maps in the previous exploration programs was to be rectified and redrawn onto new maps on which previous geological, geochemical and geophysical data would be plotted and re-interpreted on the rectified grid. Further geological mapping was recommended along with drilling of geological and geophysical targets.

#### **8.1.8 Work done in 2000**

The relevant report is Assessment Report 26504 by J.G.Payne .

The assessment report describes various surveys done on the Ace and Peripheral group of claims. The Ace property comprised a portion of the larger 'Peripheral' group of Barker Minerals' claims. Only the work done at Ace is discussed here.

HLEM and magnetometer surveys were carried out. The purpose of the HLEM survey was to locate conductors that could be attributable to massive sulphide mineralization. The magnetic survey was to discrimination of graphitic and sulphide conductors based on pyrrhotite and magnetite content.

Three conductors, A, B, and C were discerned. Conductor A had a strike length of 1,200 m, was associated with a magnetic high and was open to the east. It was also associated with the main resistivity low anomaly from the 3-D E-SCAN survey of 1996 (see Figure No. 16 in Section 26.0). Conductor A crossed the M Road on which rock Sample No. A97-50 had 6,420 ppb Au in quartz float in 1997. Conductors B and C were relatively weak and did not have very much strike length. Conductor B had higher chargeabilities and low resistivity associated with it (see Figure Nos. 14, 15 and 23). The HLEM survey confirmed the location of the resistivity low from the 1996 IP survey and showed it to be a weak conductor. The seven DDH holes done in 1998 along this resistivity low (Figure No. 15) did not explain the cause of this zone of higher conductivity.

Most of the magnetic high features had a northwesterly trend, paralleling the bedrock lithology, though a westerly trending magnetic pattern cut across the central portion of the grid and seemed possibly related to Conductor A from the HLEM survey (Figure No. 13).

Sixteen float rock samples collected during prospecting were variously anomalous in precious, base and pathfinder elements. Sample No. 2106 had 4,100 ppb Au. The locations of quartz float boulders anomalous in Au known up to the year 2000 are indicated in Figure No. 22 though actual assay values and sample numbers are not specified.

Geological mapping was recommended, especially in areas of potential felsic volcanic rocks that had not yet been examined. The HLEM and geochemical surveys done along the trend of the felsic volcanic rocks, including on the north side of the Little River were recommended to be extended east and west. The HLEM anomalies (Conductors A, B and C) were recommended to have a gravity survey done over them. It was anticipated that follow-up of this work would include trenching and diamond drilling.

### **8.1.9 Work done in 2001**

The relevant report is Assessment Report 26805 by P.E. Walcott.

The assessment report describes various surveys done at several locations on the Peripheral group of claims including the Ace. Only the work done at Ace is discussed here.

HLEM and gravity surveys were done on Ace property. The purpose of the HLEM survey was to better define existing EM anomalies. The gravity survey was to assist in the discrimination of graphitic and sulphide conductors, based on the premise that a conductor with an associated gravity anomaly could be attributed to a possible massive sulphide body. Several gravity anomalies were detected, some coincident with known conductors from the previous year's work. It was recommended that these gravity-conductor anomalies be investigated by drilling.

### **8.1.10 Work done in 2002**

The relevant report is Assessment Report 27125 by L.E. Doyle.

The Ace property, as in previous years, consisted of 176 mineral claim units within the larger 'Peripheral' group of Barker Minerals' claims comprised, in 2002, of 4,092 mineral claims (105,222 ha). Only the work done at Ace is discussed.

Limited magnetic, HLEM and gravity surveys were continued at targeted areas on Ace property. The purpose of the surveys were, as in the previous year, to better define existing magnetic and EM anomalies prior to drill testing and to assist in the discrimination of graphitic and sulphide conductors. A weak gravity anomaly was detected on Lines 400N and 500N, associated with a 10 m wide conductor. It was deemed this gravity anomaly was too weak to suggest the presence of a significant massive sulphide body at this location.

Five DDH holes (646 m) were drilled in 2002. DDH hole Ace-02-01 tested a coincident HLEM conductor and modest gravity anomaly on Line 16S (16S Zone). A 6.5 m section of the felsite unit, containing up to 10% pyrite and pyrrhotite, was encountered; it was considered that the hole did not test the targeted geophysical anomalies as the targeted zone seemed to be faulted off. A 7 cm quartz vein had 745 ppb Au, otherwise the hole had no significant mineralization. DDH hole Ace-02-02 tested a magnetic anomaly. In this hole a 7.5 cm wide quartz vein had 692 ppb Au. The hole was not drilled deep enough to adequately explain the magnetic anomaly. The other three holes followed up on two DDH holes in 1998 which intersected the felsite unit. DDH holes Ace-02-03,04 and 05 each intersected at least 40 m of the felsite unit. DDH hole Ace-02-03 intersected 3.3 m of semi-massive to massive sulphide mineralization with anomalous Cu, Pb and Zn. Mineralized felsite extended an additional 69 m down the hole below the more strongly mineralized section. In DDH hole Ace-02-04 a 10 m interval of felsite had up to 663 ppm Cu, 855 ppm Zn, 704 ppm Pb and 575 ppb Au. DDH hole Ace-02-05 tested a magnetic high coincident with a modest gravity anomaly. This hole started out in the felsite, likely below the sulphide horizon. The felsite, interfingering with schist and argillite, had a sulphide content less than 10% pyrite and pyrrhotite; this was deemed sufficient to explain the magnetic and weak gravity anomalies.

The small drill program, consisting of five widely spaced holes, tested only a few of the numerous geophysical, geochemical and geological targets on the property. Offsetting faults encountered in DDH hole Ace-02-01 (16S Zone) prevented adequate testing of the geophysical targets there. The area of DDH holes Ace-02-03 to 05 (5N Zone) required compilation of all existing data before further drilling would be proposed.

B.J. Perry wrote a technical report (Perry, 2002) summarizing work done since 1993 on Barker Minerals' mineral properties, including the Ace. The report included some new compilation maps which were included as an appendix in the Assessment Report by L.E. Doyle (2003).

Payne's (1998) recommendations regarding the areas west and northeast of the main trenching area were reiterated. An elongate HLEM anomaly (Conductor A from the 2000 HLEM survey) in the southeastern part of the project area was also recommended for further follow-up. The geophysical contractor (P.E. Walcott, 2002) recommended an expansion of the HLEM and gravity surveys along the strike of the favourable horizons in exploration for VMS massive sulphide mineralization.

#### **8.1.11 Work done in 2003-04**

The relevant report is Assessment Report 27655 by L.E. Doyle.

The Ace property consisted of a portion of Barker Minerals' 'Peripheral' group of claims which comprised, in 2004, of 4,401 mineral claims. The assessment report describes various surveys done at several locations on the Peripheral group of claims including the Ace. Only the work relevant to the Ace property is discussed here.

Eleven trenches (428 m) were excavated on Ace property in 2003 in the vicinity of Jim Road. The trenches targeted magnetic, HLEM and geochemical anomalies. Lithogeochemical and petrographic studies were done on Ace drill core.

Rocks in the trenches often contained small amounts of disseminated pyrrhotite but it was not clear whether this was sufficient to produce a magnetic anomaly. The trenches did, however, expose black graphitic mudstones, some containing significant amounts of disseminated and semi-massive sulphides. These rocks were considered the likely source for HLEM conductors in the area. The most significant outcome of the trenching may have been the discovery of 'coticule' rocks, graphitic mudstones containing Mn and up to 25% reddish brown garnets, in boulders and sub-outcrop. This rock has been inferred to represent metamorphosed Mn exhalites formed around subaqueous hydrothermal systems and can provide an excellent marker unit and guide for exploration.

The objective of the lithogeochemical study (Barrett and MacLean, 2003) was to:

- determine the primary lithogeochemistry and alteration features of the main rock types, particularly those hosting semi massive to massive sulphides,
- resolve uncertainties regarding the 'felsite' unit and schists of intermediate composition,



- identify stratigraphic packages and contacts in order to help locate potentially mineralized horizons,
- interpret the overall geological setting.

Barrett and MacLean determined the 'felsite' was 'intermediate', with no felsite character in terms of its immobile-element ratios; this ruled out the presence of felsic volcanic rocks on the Ace property. The high absolute  $\text{Al}_2\text{O}_3$  and  $\text{TiO}_2$  contents of the 'felsites' made it unlikely these rocks were exhalites (i.e. chemical precipitates laid down on the seafloor). The 'felsite' was interpreted to have formed as a result of sub-seafloor Na metasomatism of clastic sediments such as greywacke and arkose. The composition of the Ace schists was comparable to unaltered clastic sediments hosting the Sullivan Zn-Pb (sedex) deposit, while the Ace 'felsite' was considered compositionally and mineralogically comparable to the albite-chlorite-pyrite alteration zone in the Sullivan hangingwall and on modern spreading ridges and at ancient Besshi-type deposits.

Recommendations for further work included:

- prospecting to be continued for mineralized boulders as well as 'coticule' rocks;
- further trenching to test geophysical and geochemical anomalies in the F Road area and in the eastern part of the property over the E-SCAN strong resistivity low from the 1996 survey;
- a reconnaissance program including geological mapping and lithogeochemical sampling to include delimiting the area of the 'felsite' rocks and to improve understanding of the regional structure and local geology;
- soil sampling was recommended in the areas of:
  - central portion of the Ace grid
  - northwest of Colleen Road
  - west of the existing surveys
  - eastern part of J (Joe) Road
- enzyme leach geochemical technique was recommended to analyze soils due to its effectiveness to 'see through' deep glacial cover;
- a Titan-24 IP geophysical survey to be done over the eastern part of the Ace property in the areas overlapping 8400, Jim and F Roads and the E-SCAN anomaly from the 1996 survey;
- Barrett and MacLean additionally recommended drilling through known zones of albite alteration and Mn horizons.

## 8.2 History of Work Done in the Area of Simlock Property

Gold was discovered in Harveys Creek in 1860. It quickly became known as a very rich creek. ...after 1874 much of the gold mined was not recorded (Mark, 1983).

The recorded gold mined was 3,754 oz from 1879 to 1897. This figure does not include the production from Barney Bowe's large hydraulic workings during the 1930's (Symonds, 2003).

1930's Harveys Creek placer miners held the opinion that one to two million ounces of placer gold were taken out but there is no documentation to support this. Placer gold mining in Harvey Creek continued until 1940 (Ostler, 1989).

Bowman (1889) wrote:

*[An] ironstone ledge, one-quarter miles below falls of Harvey Creek. Olive and bluish feldspar with iron pyrites. Over three feet in width. Strike east and west; dip, N. <math>60^{\circ}</math>; with the slates apparently. It is three to eight feet wide, and is repeated in another locality near it. Contents: siderite and magnetic pyrites and a little iron pyrites; a great body of metal, being nearly solid ore. Assay by Hoffman showed a distinct trace of gold; silver, none. The ledge weathers red on the surface. Projecting into the creek, boulders from it strew the placer mines below.*

### 8.2.1 Work Done in 1983.

The relevant report is Assessment Report 11580 by D.G. Mark.

Work was done for Harvey Creek Gold Placers Ltd. within the HH claim group comprised of 6 mineral claim units and 4 placer leases. The property was on Harveys Creek below the confluence with Simlock Creek.

A seismic refraction survey was carried out. The objective was to locate a buried creek channel possibly carrying placer gold and to determine depths to bedrock.

A slow velocity zone was located which was believed to be a buried stream channel in filled by sediments or glacial tills. The zone was 500 m long and open at either end. The channel was considered to probably be ancient course of Harveys Creek parallel to the present course.

The depth of overburden ranged from 1 m to 31 m, averaging approximately 10 metres. The lower bedrock velocities suggested the rock may be phyllites, argillites, and siltstones. Those in the upper velocity range suggested quartzites, meta-greywackes, schists, and limestones.

Recommended follow-up was to include further seismic work to determine the extent of the buried channel. Prospecting, geological mapping, soil sampling and geophysical surveys were also recommended to determine whether bedrock gold mineralization may occur on the property.

### **8.2.2 Work Done in 1986**

The relevant report is Assessment Report 15862 by A. Burton.

Work was done for Harvey Creek Gold Placers Ltd. within the HH claim group comprised of 142 mineral claim units and 11 placer claims on Harvey's Creek.

A geochemical program was carried out that consisted of heavy stream sediment sampling designed to identify various lode gold deposits. Twenty eight sediment samples were taken from streams; a sluice box was used to concentrate the heavy minerals. The concentrates were then split into coarse (plus 140 mesh) and fine (minus 140 mesh) portions and analyzed separately for gold and silver. The coarse (plus 140 mesh) fraction from all the samples were also analyzed for lead, zinc, and tungsten.

Sample values ranged from less than 5 ppb to greater than 20,000 ppb Au. Pb values ranged from 50 ppm to 2,000 ppm. Zn values ranged from 176 ppm to 1,200 ppm. W values from 1 ppm to 375 ppm. Ag values ranged from 0.1 ppm to 18.0 ppm.

Gold in the coarse portions of the samples were considered to be of placer origin. The fine portions tended to have higher gold values than the coarse portions. Gold in the fine portions of the samples were considered to be of lode origin when the corresponding coarse portion had no gold.

Simlock Creek and several of its tributaries were highly anomalous in gold, with values ranging from 440 ppb to 8,000 ppb Au. Harveys Creek and its tributaries below the confluence with Simlock Creek were also highly anomalous in gold, with values ranging from 580 ppb to +10,000 ppb Au. Results from the upper parts of Harveys Creek were not always anomalous but results of 145 ppb, 700 ppb and 950 ppb Au were got. Three Creek, 2 km to the NE of Harvey Creek, had 720 ppb Au and an unnamed creek, 3 km to the SW, had up to 3,550 ppb Au. The Au values quoted in this paragraph are from the fine (-140 mesh) fractions.

Gold values in the coarse (+140 mesh) fractions were also highly anomalous in Simlock and lower half of Harveys Creek, with +10,000 ppb Au at the bottom of Harveys Creek, +20,000 ppb Au on Simlock Creek just above the confluence with Harveys Creek, and +10,000 ppb Au farther up Simlock Creek. Three Creek and the creek to the SW also had high Au values in the coarse fractions. Harveys Creek above the confluence with Simlock Creek had all low Au values in the coarse fractions.

It was concluded that the sampled material was not of glacially transported origin and that the stream sediment anomalies were due to several local lode deposits. Follow-up prospecting and additional stream sediment sampling was recommended.

### **8.2.3 Work Done in 1988**

The relevant report is Assessment Report 18528 by D.F. Symonds and A. Burton.

Work was done for Harvey Creek Gold Placers Ltd. on the Simlock Creek Property which consisted of 156 units in the HH group of mineral claims.

Geochemical soil sampling was carried out consisting of 1,175 samples analysed for Au, Ag, Pb, Zn, and Cu. The sampling grid represented 24.8 kilometres of lines spaced at 100m intervals. Au and/or Pb anomalies occurring on the east side of Simlock Creek ('East Grid') ran roughly parallel to the trend of regional geologic contacts. Follow-up prospecting in this area found galena mineralization occurring in limestone in contact with argillites.

A ground magnetic survey was conducted over 18.6 line km on the grid. Within the context of the survey, actual magnetic variations were found to be negligible. The extreme western edge of the survey grid showed a possible geologic contact going into a rock unit having a higher magnetic susceptibility. It was stated that unless the location of regional scale geologic contacts were deemed important, a further ground magnetic survey would be of limited use.

Further work recommended for the property was in-fill geochemical soil sampling, prospecting and trenching.

### **8.2.4 Work Done in 1989**

The relevant report is Assessment Report 19426 by J. Ostler.

Work was done on the Simlock Creek Property by optioner Logan Mines Ltd. for the owner Frank R. Hallam, trustee of Harveys Creek Gold Placers Ltd.

A program of fill-in soil sampling was conducted over parts of the soil grids where the 1988 program indicated higher concentrations of gold, silver or lead. 222 soil samples were taken over a total of 2.3 km of line and were tested for various metals depending on the interest at their location. The soil survey generally confirmed the results from the previous year's survey.

Twenty trenches were hand-excavated to explore for bedrock sources of mineralized float and soils from locations in the Simlock Creek drainage. 398 rock and soil samples were collected from the trenches. The trench walls were sampled at several levels in an attempt to discern the distance from a mineralized source. Sample No. 249668 from trench HE 921 contained 7,520 ppb Au; the visible mineralization consisted of disseminations of pyrite with minor galena. It was stated that this effort was futile because mineralization occurred in small ptigmatic veins and segregations throughout the stratigraphy. [In this author's opinion, if such high gold values may occur in apparently minor mineralization 'throughout the stratigraphy', it suggests the possibility of a bulk tonnage deposit]. Ostler stated (1989, pg. 11) *'when the mines near Wells were operating, single veins were considered too small to develop. Concentrations of veins were mined...'*

All the above work was done on both banks of the lower part of Simlock Creek above the confluence with Harvey Creek. It was confirmed that high metal concentrations in soil and stream sediments in the Simlock Creek drainage were attributable to local bedrock sources.

The property was determined to be underlain by marble, metasilstone and amphibolite of the Downey succession of the Palaeozoic Snowshoe Group which forms a part of the Barkerville Terrane. Ostler stated that the mineralization he observed seemed to have been concentrated by local sweating and filter pressing into ptigmatic veins and permeable beds during regional metamorphism. The predominant rock type observed in the Simlock grid area, marble, was deemed too ductile to have been able to develop extensive brittle fracture sets to contain economic mineralization. He also concluded '*the low silt-metal concentrations attained during the 1986 stream [sampling] program (Burton, 1987) indicates...that there is little chance of finding economic mineralization*'. This statement seems unjustified considering the numerous very high gold results (including several stream sample locations with +10,000 and + 20,000 ppb Au, and many other samples with 100's or 1,000's ppb Au in the fine and coarse fractions), on Simlock and lower Harveys Creek in the 1986 program. Ostler may have considered the values of metals other than Au, (see Section 8.2.2, this report), were too low considering the sample types were heavy mineral concentrates, but this author is inclined to disagree with such an opinion, as base or pathfinder metal values needn't necessarily have been very high.

Ostler recommended no further exploration work be done on the Simlock Creek property.

### **8.2.5 Work Done in 1990**

The relevant report is Assessment Report 21310 by D.F. Symonds.

Work was done for Harveys Creek Gold Placers Ltd. on the Simlock Creek property comprised of 156 units.

A total of 14 rock and 26 soil samples were collected in a very limited portion of the geochemically anomalous areas near where a soil sample collected in 1989 had 4,500 ppb Au. Soil profile samples were collected at 6 locations. These soil profiles returned relatively weak anomalous Au values. Bedrock exposed at 4 of these locations was micaceous quartzite, sometimes with abundant pyrite. The rock samples collected had no anomalous gold except for a sample from a 30 cm wide sphalerite-galena showing which had 110 ppb Au, 19.3 ppm Ag, 1.20% Pb and 13.50% Zn. The soil samples had only sporadic weak anomalous Au; one soil had 750 ppm Pb and 850 ppm Zn.

The 1990 work program was too limited in scope to produce useful results. A systematic program of mechanical trenching was recommended.

### **8.2.6 Work Done in 1991**

The relevant report is Assessment Report 22352 by A. Burton and J.M. Ryder.

Work was done for Harvey Creek Gold Placers Ltd. on the Simlock Creek property.

Terrain Analysis was carried out by interpretation of 1:15,000 scale colour stereoscopic air photos. The terrain characteristics appeared to be uncomplicated, thus no field checking was carried out. The terrain unit boundaries were all gradational and the general locations of boundary lines were transferred onto a 1:10,000 scale topographic base map. The geology of the well known lode gold belt of the Cariboo was extrapolated from the north, southward through the Simlock property.

A study of previous geochemical soil surveys concluded that the gold soil anomalies were locally derived and not transported from some distant place. The glacial directions of the district were examined and rock fragments in coarse material from soil samples were investigated to rule out transportation from adjacent known areas of mineralization.

Suggested further work was for expanded soil geochemical surveys, geological mapping and prospecting to be extended along the strike of favourable horizons. Taking vertical soil geochemical profiles in areas of opportunity was also recommended.

### **8.2.7 Work Done in 1992**

The relevant report is Assessment Report 22908 by A. Burton.

Work was done for Harvey Creek Gold Placers Ltd. on the Simlock Creek property consisting of 58 mineral claim units.

A total of 12 grab rock samples and 126 soil samples over 2.52 line km of grid lines were taken on the property SE of the 1988 sampling grid. The rock samples were taken in order to aid the identification of the lode source for the gold in soil anomalies previously discovered. They were analyzed for gold; the results were inconclusive. The soil samples were all considered to clearly be taken from local colluvium with no glacial till being found in the immediate area. The soil survey results demonstrated the known gold soil anomalies extend along and are controlled by the regional stratigraphic trend. Coarser (+10 mesh) fractions of 16 gold anomalous soil samples were geochemically analyzed for Au. These proved to be highly anomalous. The fractions were made up from locally derived rock fragments. This indicated the sample material is derived from an anomalous gold "zone" along a stratum from a lode source that is most likely nearby and upslope from the sample sites.

The assessment report map indicated 'ironstone ledges – stratabound massive sulphides' on the north side of Harveys Creek approximately 1,400 m below the confluence with Simlock Creek. These may be the 'ironstone ledge' mapped by Bowman, (1890) as being located on the south side of the creek. Burton stated the stratiform sulphide body was associated with a limestone contact in Harveys Creek. He suggested the limestone was equivalent to the Aurum

limestone in the Cariboo Gold Quartz and Mosquito Creek gold mines 35 km to the north; its contact being an ore control in the Wells gold mining camp.

Recommendations for further work were the same as stated for previous year; further trenching and later diamond drilling were also recommended.

### **8.2.8 Work Done in 1993**

The relevant report is Assessment Report 23221 by J.G. Simpson.

Work was done for Harvey Creek Gold Placers Ltd. on the Simlock Creek property.

A soil geochemical sampling program was carried out, filling in and extending the 1992 soil grid. 134 soil samples and three rock samples of vein quartz material were taken along 2.68 km of new grid lines. The results demonstrated a 1,500 m continuity of anomalous gold soil values roughly paralleling the southeast stratigraphic trend, and largely within the quartz mica schist horizon of the Simlock Creek sequence. Two groupings of continuous high values were considered to possibly represent major fold nose areas. One group had soil samples with values up to 2,932 ppb Au (from the 1993 survey), and the other group in the vicinity of the main grid had values up to 4,500 ppb Au (from the 1989 survey).

Overburden was also sampled on new road cuts crossing the gold soil anomaly on the main grid. A total of 19 bulk soil samples were taken for gold analysis from cuts through overburden material reaching three to five feet below the soil surface. The geochemical results were comparable with overlying soil analyses.

Recommendations for further work involved extending the geochemical soil survey farther southeast and also for backhoe trenching to bedrock to occur uphill from high soil values.

### **8.2.9 Work Done in 1995**

The relevant report is Assessment Report 24193 by J.G. Simpson.

Work was done for Harvey Creek Gold Placers Limited on the Simlock Creek property.

A 63 metre long trench was excavated across was considered the best gold anomaly from previous soil surveys and sampled at 1.5 metre intervals for a total of 42 rock samples. Overall the results were disappointing for gold values. A sample with quartz vein and associated rusty graphitic schist had the highest value at 93 ppb Au. A detailed geological and structural mapping of the bedrock geology exposed in the trench was done.

No further work was recommended.

### **8.2.10 Work Done in 1997**

The relevant report is Assessment Report 25337 by D.F. Symonds.

Work was done for Harvey Creek Gold Placers Ltd. on the Simlock Creek property.

Eleven soil profiles were taken along a new access road in the area of the 1988 East Grid. The 11 profile locations were in an area of the 1988 grid where there were only background soil geochemical results, between the two groupings of continuous high values described in the 1993 work. The sampling depths in each profile were, on average, 30 cm, 100 cm and 200 cm. Samples from these profiles were analysed for Au, Ag, As, Cu, Mo, Pb, Sb, and Zn. It was observed that the average values for all of the elements considered were nearly identical for the three soil horizon levels. This seemed to suggest that consistent results may be obtained even though soil samples are taken from a variety of horizons and depths, from the "B" horizon down to the material near bedrock.

No recommendations for further work were made.

### **8.2.11 Work Done in 1998**

This work was not reported in an assessment report but Symonds (2004) states:

*In 1998, Harvey Creek Gold Placers extended the access road into the 1993 sampling grid on the Simlock Creek Property. The purpose of this road building was to access areas of anomalous gold in soil at higher elevations where thinner overburden could be expected. This road building and limited trenching program was successful in exposing several gold, silver, lead and zinc mineralized quartz structures including a significant exposure (1.18 oz/ton gold over 4.1 metres) located 10 metres up slope from a geochemical soil station that returned a gold value of 2,932 ppb [in the 1993 survey].*

Symonds' NI 43-101 report (2003) provides further details:

*A 4.1 metre wide silicified zone averaging 1.18 oz/ton gold, 1.67 oz/ton silver and 0.81% lead in phyllites was sampled as follows;*

*Sample # 98126: continuous 160 cm chip channel of quartz material.*

*Au – 0.165 oz/ton, Ag – 1.8 ppm, Pb – 861 ppm, Zn – 1,637 ppm*

*Sample # 98126B: continuous 160 cm chip channel of quartz material.*

*Au – 2.286 oz/ton, Ag – 125.2 ppm, Pb – 7,335 ppm, Zn – 613 ppm*

*Sample # 98126C: continuous 90 cm chip channel of quartz material.*

*Au – 1.015 oz/ton, Ag – 65.9 ppm, Pb – 22,395 ppm, Zn – 1,772 ppm*

### **8.2.12 2000's**

Symonds (2004) states:

*In 2001 the Simlock Creek Property was optioned to Extant Investments Inc. (now named Sydney Resource Corporation).*



### 8.2.13 Work Done in 2003

The relevant report is Assessment Report 27658 by D.F. Symonds.

Work was done for Sydney Resource Corp. on the Simlock Creek property totaling 58 mineral claim units.

A total of 286 soil samples and 50 rock samples were taken on the property, along with 1.7 km of ground magnetic readings at spacings of 5 to 25 metres.

Symonds stated that:

*The purpose of this program was threefold:*

- 1) to find and sample the massive sulphide occurrences documented by Amos Bowman in the 1880's;*
- 2) to attempt to trace the exposure (1.18 oz/ton gold over 4.1 metres) located 10 metres up slope from a geochemical soil station that returned a gold value of 2,932 ppb;*
- 3) to sample areas of outcrop on the property for potential mineralization.*

North-dipping massive sulphide lenses were located on both sides of Harveys Creek. The M Grid was established to sample the area of the massive sulphides on the south side of Harveys Creek below the confluence with Simlock Creek. 155 soils and 24 rock samples were collected. Anomalous soil results over a 30 m area had a sample with 927 ppb Au and 860 ppm Cu adjacent to the massive sulphide body. The soils had no elevated values of Pb or Zn in this area. Of the 24 rock samples collected over the massive sulphides 9 had elevated Cu values ranging from 244 ppm to 684 ppm, with no other metals anomalous. Ground magnetic lines run over the massive sulphide strata at 5 meter station spacings were successful in detecting the massive sulphide strata, with a weak magnetic response of 200 to 700 nT above background. The massive sulphide lenses examined were deemed to be narrow and discontinuous, with no appreciable economic values.

Symonds stated the massive sulphide lenses sampled were less than 100 cm (3 feet) thick. Bowman (1890) located his 'ironstone ledge' approximately 500 m east of the sulphide lenses sampled in 2003 (see Figure Nos. 24, 25). His description of the massive sulphides as "three to eight feet wide, and is repeated in another locality near", suggests the massive sulphides viewed by Bowman in the 1880's and Symonds in 2003 may have been different. Also, the northward dip of the massive sulphides and their location near the north boundary of the M Grid and beyond on the north side of the creek suggests the M Grid was located too far south and almost none of the grid should have been expected to have covered the massive sulphides. This may explain why the M Grid had poor soil geochemical results. The Barney Bowe placer workings of the 1930's are located on the north side of Harvey Creek just west, upstream from the 2003 massive sulphide lenses.

The High Grid was established to sample the area where rock sampling in 1998 returned 1.18 oz/ton gold over 4.1 metres. The grid was located within the area of the 1992-93 Grid. 109 soil samples were collected. Ten of the soils had anomalous values ranging from 59 ppb to 1,737

ppb Au in an anomalous area approximately 80 m NW of the gold-bearing rock sample. Sample No. 3150, approximately 100 m south of the High Grid, had 4,668.9 ppb Au, was later re-analyzed by assay as 8.69 g/t Au.

Rock sampling at “sites of opportunity” resulted in the discovery of a previously unmapped gold-mineralized area in a borrow pit on the main access road on the west side of Simlock Creek near the NW corner of the Simlock Creek property. Eleven rock samples from the ‘Pit’ included:

Sample No. 3151, a grab from a 30 cm sulphide zone at the borrow pit, had 4,439.0 ppb Au, was later re-analyzed by assay as 4.57 g/t Au.

Sample No. 3159, a 50 cm chip sample from a sulphide zone at the borrow pit, had 8,757.9 ppb Au, was later re-analyzed by assay as 10.06 g/t Au.

The new showing was approximately 1.3 km NW of the High Grid location and 2.6 km NW of the middle of the M Grid. This trend helped to affirm the NW-SE locus of the favourable mineralized zone and its parallelism with the regional geologic trend.

In 2003 D.F. Symonds wrote a NI 43-101 compliant report on the Simlock Creek Property (Symonds, 2003), where he wrote: *[the] anomalous gold trend [on Simlock Creek] is about 1.5 kilometres in length and is open to the southeast. There is room to potentially increase the length of the trend up to an additional kilometre towards the western boundary of the Simlock Property. The anomalous gold trend is supported by the presence of gold, silver and lead mineralization in place at six locations along the trend.*

The assessment report recommended follow-up trenching and mapping for the High Grid and ‘Pit’ areas. No further work was recommended at the M Grid.

#### **8.2.14 Barker Minerals’ Claims Staked in 2008**

In October, 2008 and July, 2009 Barker Minerals Ltd. staked the mineral claims comprising the Simlock property after the previous owners’ claims lapsed.

## **9.0 GEOLOGICAL SETTING**

### **9.1 Regional Geology**

The geological descriptions in this Section derive mainly from Struik (1988), Panteleyev et al. (1996) and Payne and Perry (2001); these authors are quoted extensively.

The western Canadian Cordillera is made up of a number of terranes representing crustal blocks of fundamentally contrasting histories. The terranes are commonly bounded by faults and trench complexes or collisional suture zones.

The fundamental geologic components that make up the terranes are referred to as 'tectonic assemblages'. The assemblages represent rocks deposited in specific tectonic settings during certain periods of time and, therefore, are commonly bounded by unconformities or faults. They represent distinctive successions of stratified rocks and other characteristic lithologies, mainly coeval metamorphic, plutonic and ultramafic rocks. The assemblages are categorized in terms of their predominant depositional setting or position relative to the orogen, for example, island arc, back arc, ocean basin or continent-margin fore deep clastic wedge or passive-margin sediment, and so forth. Tectonic assemblages are commonly named after their principal constituent formation, group or region in which the assemblage is best described. During the mid-Jurassic the North American continental plate collided with a group of island arcs to the west.

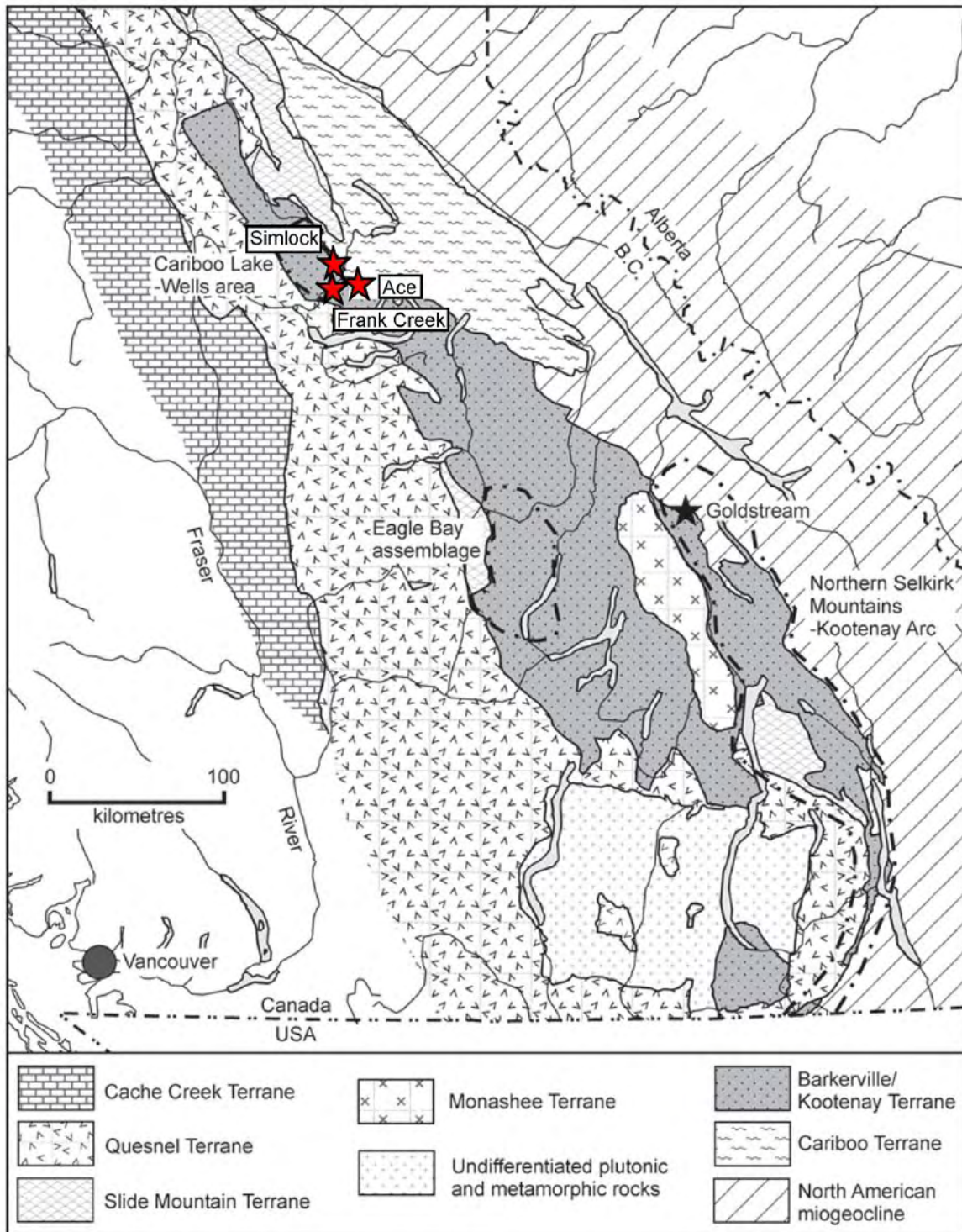


Figure No. 4 Terrane Map of Southern British Columbia. Barker Minerals' properties are indicated by red stars. The black star (Goldstream) is a massive sulphide deposit where production from 1983 to 1996 by then owner Imperial Metals Corp. totaled 2,224,387 tonnes yielding 26,228 kg Ag, 78,269 tonnes Cu and 7,988 tonnes Zn (BCGS Minfile 082M 141).

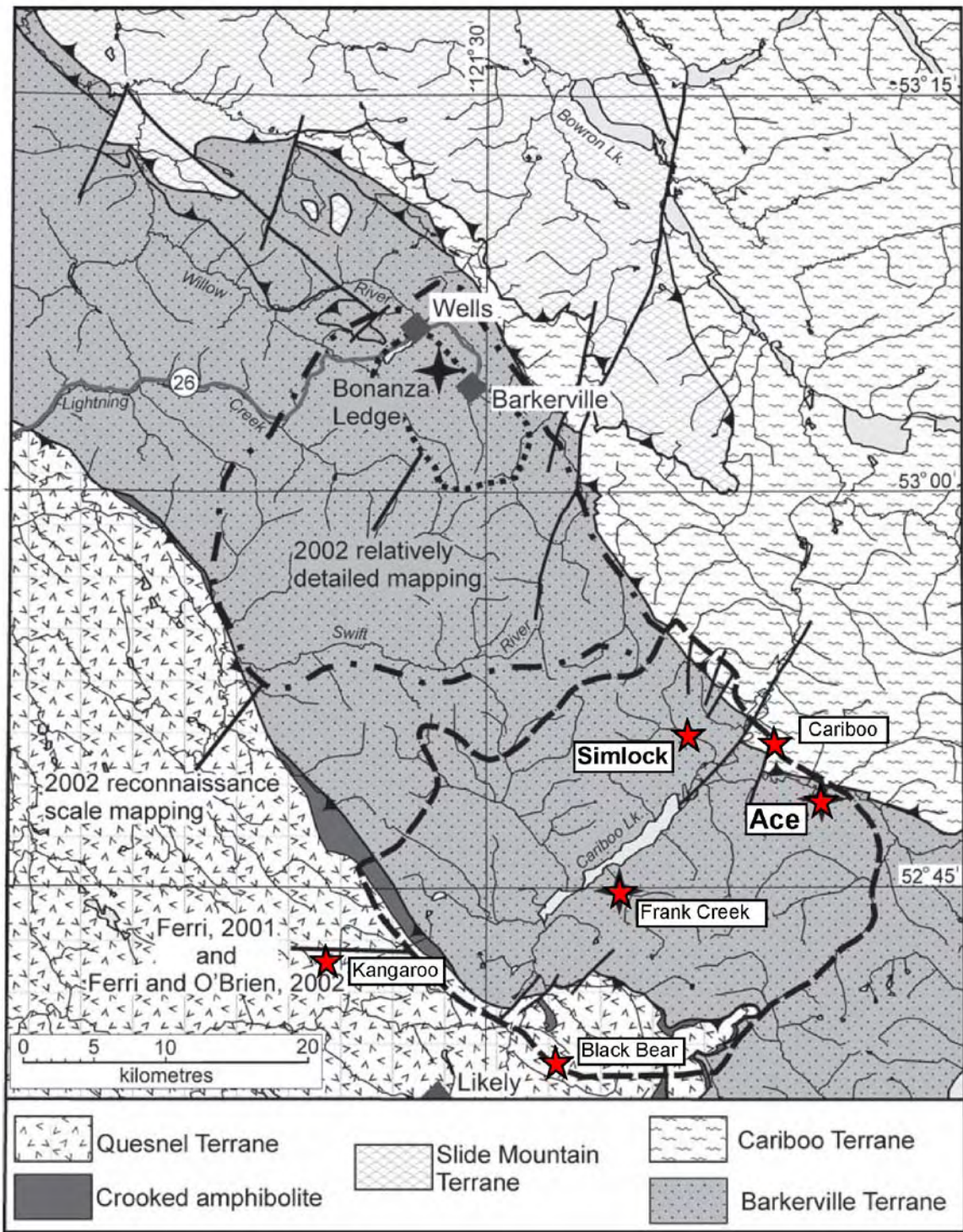


Figure No. 5 Terrane Map of Cariboo Lake – Wells Area showing areas mapped by BCGS in 2000 – 2002. Barker Minerals' properties are indicated by red stars.

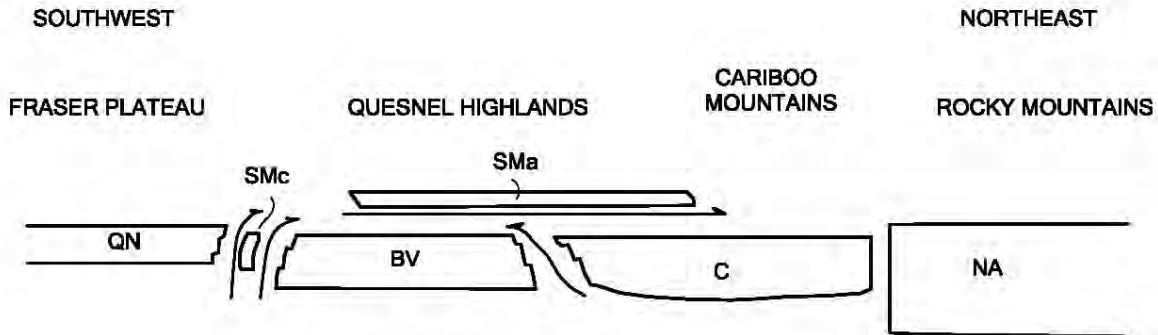


Figure No. 6 Schematic Regional Structural Section from southwest to northeast across the four Terranes in Barker Minerals' claims' area, showing the relative structural position of the Terranes. The Terrane symbols are BV-Barkerville, C-Cariboo, Sma-Slide Mountain (Antler Formation), SMc-Slide Mountain (Crooked amphibolite), QN-Quesnel and NA-North American. (after Struik, 1988).

### Quesnel Terrane

The Quesnel terrane was accreted to the North American continent during the Late Triassic to Early Jurassic. The Eureka thrust fault marks the boundary between the Quesnel and Barkerville terranes. The terrane is partly submarine and partly subaerial, consisting of volcanic and volcanoclastic rocks and co-magmatic intrusions, with minor carbonate lenses and related sedimentary rocks.

The principal assemblage in the Quesnel Terrane is the Triassic-Jurassic Nicola island arc – marginal basin sequence. The underlying rocks are the Crooked amphibolite, part of the Slide Mountain assemblage, a mylonitized mafic and ultramafic unit of oceanic marginal basin volcanic and sedimentary rocks. Rocks of Quesnel Terrane and Crooked amphibolite are structurally coupled and tectonically emplaced by the Eureka Thrust onto the Barkerville Terrane, to the east.

Two lithostratigraphic subdivisions of the Quesnel Terrane consists of a basal Middle to Late Triassic metasedimentary unit of dominantly black phyllitic rocks, approximately 7 km thick, and an overlying Late Triassic to Early Jurassic volcanic arc assemblage, approximately 9 km thick. The overlying volcanic rocks outline a northwesterly trending belt of subaqueous and subaerial volcanic rocks, deposited along a series of volcanic-intrusive centres that define the Quesnel island arc of predominantly alkalic basalts.

The Quesnel Trough is a well-mineralized region typical of other Late Triassic to Early Jurassic volcano-plutonic island arcs in the Cordillera. It hosts a wide variety of mineral deposits. The principal recent exploration and economic development targets in the central Quesnel belt are alkalic intrusion-related porphyry copper-gold deposits and gold-bearing propylitic alteration

zones formed in volcanic rocks peripheral to some of the intrusions. Other important targets are auriferous quartz veins in the black phyllite metasedimentary succession. The veins in some black phyllite members have potential to be mined as large tonnage, low-grade deposits. Tertiary rocks are mineralized with copper and gold. Antimony-arsenic and mercury mineralization in some apparently low temperature quartz-calcite veins indicated the potential for epithermal deposits. Placer mining for gold, said to occur together with platinum, has been of major historical and economic importance.

### **Slide Mountain Terrane**

Rocks of the Devonian to Late Triassic Slide Mountain Terrane were partly obducted, partly subducted during collision of an oceanic plate with the continent. Small slices of mainly mafic volcanic rocks and ultramafic rocks of the Slide Mountain Terrane occur in and parallel to the Eureka thrust. Minor lithologies include chert, meta-siltstone and argillite.

The Crooked amphibolite, considered likely a part of the Slide Mountain Terrane, includes three major constituent rock types: greenstone, metagabbro and meta-ultramafite. North of Quesnel Lake, the map units consist of mafic metavolcanics, amphibolite, chlorite schist, serpentinite, ultramafic rocks and pillow lavas. Chemical analyses indicate subalkaline tholeiitic compositions of basalts formed on the ocean floor. If the Crooked amphibolite is a sheared and metamorphosed equivalent of the Antler Formation and is part of the Slide Mountain Terrane, it is separated from the underlying Barkerville Terrane by the Eureka thrust, a wide zone of mylonitization. The Crooked amphibolite and the overlying rocks of Quesnel Terrane are structurally coupled and emplaced tectonically onto Barkerville Terrane.

### **Barkerville Terrane**

The Barkerville Terrane is made up of the Snowshoe Group and Quesnel Lake gneiss. The Snowshoe rocks are Upper Proterozoic to Upper Devonian metasediments, considered correlative in age with Eagle Bay rocks of the Kootenay Terrane to the south and Yukon-Tanana Terrane to the north. The Snowshoe rocks are dominated by varieties of grit, quartzite, pelite, limestone and volcanoclastic rocks. The stratigraphic sequence is not well understood. The region was deformed by intense, complex, in part isoclinal folding and overturning. Locally, strong shear deformation produced mylonitic textures. The Quesnel Lake gneiss is a Devonian to Mississippian intrusive unit varying in composition from diorite to granite to syenite. It is generally coarse grained, leucocratic, often with megacrysts of potassium feldspar. The main body of gneiss is 30 km long by 3 km wide and is elongated parallel to the eastern border of the Intermontane belt. Its contacts are in part concordant with, and in part perpendicular to, metamorphic layering.

The contact between the Barkerville Terrane and Cariboo Terrane to the east is the Pleasant Valley Thrust. The Barkerville and Cariboo Terranes were juxtaposed prior to emplacement of the Slide Mountain Terrane which was thrust over both of them. The northeastern third of the Barkerville Terrane is the main zone of economic interest in the Cariboo district. Struik described it as "gold-enriched", because it contains the historic Wells and Barkerville mines and

the Cariboo Hudson deposit, approximately 40 km and 15 km northwest of the Ace project area, respectively.

### **Cariboo Terrane**

The northeastern part of Barker Minerals' 'Peripheral' claim group is underlain by Precambrian to Permo-Triassic marine peri-cratonic sedimentary strata of the Cariboo terrane. The Cariboo Terrane consists mainly of limestone and dolomite with lesser siliceous, clastic, sedimentary rocks and argillite. Some geologists believe that the Cariboo Terrane is a shallow, near-shore facies and the Barkerville is a deeper, offshore facies of the same erosion-deposition system. No rifting is suspected between the Cariboo Terrane and the North American continent, in contrast to that between the Barkerville Terrane and the North American continent. Lithologies within the Cariboo Terrane correlate well with parts of the Cassiar Platform and Selwyn Basin of Yukon and northern British Columbia.

The Cariboo and Barkerville Terranes are separated by the regional Pleasant Valley thrust fault, which dips moderately to steeply northeast. Struik (1988) states the Cariboo block was thrust from the east over the Barkerville block along a strike length of over 100 km. The Cariboo Terrane was cut by the Jurassic-Cretaceous Little River stock, a medium-grained granodiorite grading to quartz monzonite. Some of the carbonate layers in the lowest part of the Cariboo terrane (or upper part of the Barkerville Terrane) are enriched in zinc and lead. Since the 1970's, preliminary exploration on stratabound Zn-Pb targets has been conducted in this area.

### **Glaciation and glacial deposits**

The last glacial stage that affected the Quesnel Highland, the Fraser glaciation, began 30,000 years ago. Much of this ice had melted by 10,000 years ago, but small remnants are preserved high in the alpine areas of the Cariboo Mountains. At lower elevations, glaciers of this age scoured the debris left by preceding ice advances, almost completely destroying them, leaving a chaotic assemblage of unsorted till, moraine and drift, with lenses of gravel and sand that had been roughly sorted by melt water and rivers, leaving behind beds of silt and clay that were stratified by settlement in ice-dammed lakes. In the Cariboo area, the debris covers bedrock in valleys below 1,700 m, leaving typical glacial features such as U-shaped valleys, ice-sculpted drumlins, moraine terraces and glacier and river benches. On the Barker Minerals properties, glacial deposits range from one to a few tens of metres thick. Some glacial till deposits are overlain by well-bedded glaciolacustrine clay and silt deposits up to a few tens of metres thick.

In much of the Cariboo district, a layer of distinctive, hard, compact, semi-rigid blue clay sits either on or slightly above bedrock and acts as "false" bedrock. It was formed from glacial drift left behind by the last ice advance prior to the Fraser glaciation and was compacted by the weight of the Fraser stage ice. In the placer-gold areas of the Cariboo, large amounts of gold were recovered from gravel resting on this clay. In places the clay layer was penetrated by the placer miners to reach richer "pay streaks" on true bedrock below.



## 9.2 Local Geology

### General Description

The following descriptions of the geology on the Ace property by Barker Minerals' geologists are derived mainly from the particular sources below, listed chronologically:

Salat, H.P., (1995)  
Lammle, C.A.R., (1995, 1997)  
Payne, J.G., (1998, 1999)  
Tutt, D.W., (2000)  
Wild, C.J., (2002)  
Barrett, T.J. and MacLean, W.H., (2003)  
McKinley, S.D., (2004)

The Ace property, and Little River area in general, are situated on the Barkerville Terrane which is in fault contact with the Cariboo Terrane to the northeast. The property is underlain by the Palaeozoic Downey succession of the Snowshoe Group. The Downey succession consists of micaceous quartzite, phyllite and schist, with some marble and amphibolite.

The north-facing slopes of Barker Mountain and the ridge to the east have very little outcrop which has hampered geological mapping. Much of what is known of the geology has been got from outcrops on the high ridges, creek beds, trenches and drill core.

The Ace property is underlain by a sequence of metamorphosed and strongly deformed sedimentary and possibly intermediate volcanic rocks. The most prevalent lithologies are quartz-feldspar-muscovite-chlorite±biotite±garnet-bearing schists. At a road cut at the 8423 km post on the 8400 Road is exposed a finely laminated, plagioclase-rich siliceous rock generally termed a 'felsite'. This rock is associated with local semi-massive to massive occurrences of sulphides in trenches. Notable as well, is a thick, pyrite and pyrrhotite-rich graphitic layer. Black, locally graphitic phyllites, containing pyrite and pyrrhotite, occur on lower slopes. Calcareous argillite, quartzite and limestone are also present but are poorly exposed.

In several several cliffs along the north slope of the Mount Barker ridge the 'west cirque' area has a thick succession of coarse grained greywacke and mica schist interpreted as a turbidite sequence. Locally, good graded bedding exists, indicating stratigraphic tops are up (not overturned).

Deeper in the stratigraphic section of Barker Mountain and along Ishkloo Creek, underlying the turbidite sequence, are minor amphibolite and biotite amphibolite whose precursor may have been mafic volcanic rocks. In the 'main cirque' a 50-100 m thick unit consists of chloritic meta-andesite with a wide variety of crystallinity; it varies from coarse-grained diorite to foliated granular andesite to chloritic schist or amphibolite (Salat, 1995). Struik (1988) mapped the north-facing slopes of Mount Barker as metadiorite and amphibolites. Ferri and O'Brien (2003)

mapped this sill-like body as diorite and gabbro on which they got two age dates (both approximately 280.0 Ma - early Permian).

All rock formations in the area have experienced greenschist facies metamorphism. Metamorphic grade increases toward the southeast. The garnet isograd appears to coincide with Ishkloo and Barker Creeks in the Barkerville Terrane. Kyanite float was found north of Little River. All the rocks show at least one foliation or pervasive cleavage. The original bedding is rarely evident and relationships between units are difficult to determine.

The Ace property is divided into thirds by two NE-trending faults, mapped by Struik (1988) as right-lateral strike slip faults offsetting the Pleasant Valley Thrust fault. Lammler (1996) considered these to be normal faults and the block between them representing a horst and the down-dropped blocks on either side being grabens. For convenience he named the faults 'GSC-1' and 'GSC-2'. Geophysical evidence from the 1996 work program tended to extend the GSC-2 fault southwest to the top of the Barker Mountain ridge.

Payne (1999) mapped the Ace property extensively in 1998 and his geological map is the one most useful for the general property. Tutt (2000) mapped the main trenching area (5N zone) near the foot of Hardychuck Road in more detail the following year. Though Tutt's work was of limited scope his section and detailed description of the rock units are useful. Wild (2002) further refined the detailed geological maps in the 5N and 16S Zones.

### **9.2.1 Geological Mapping by Tutt (2000)**

Tutt mapped the rocks in the area of trenching on the Ace property for his B.Sc. thesis for the University of Victoria. In his thesis Tutt provides detailed descriptions of the five map able rock units in the Ace property's central area near the foot of Hardychuck Road and F Road. His geological map (borrowing from Payne, 1999) and section are provided here and selected portions of his descriptions of the rock units, in *italics* are below. Note that Barrett and MacLean (2003) considered rocks that Tutt called 'volcanic' or 'tuffs' are more likely to be metamorphosed clastic sediments on the basis of their litho-geochemistry and detrital textures.

*Geological mapping...resulted in the identification of five units, two of which contain subunits. Working up stratigraphic section (from SW to NE) these five units are: [1] F-Road schist, [2] 8400 Road contact unit, [3] biotite-rich schist, [4] Little River schist, and [5] the Bralco Limestone.*

[1] *F-Road Schist (quartz-muscovite-chlorite-(calcite) schist)*

*Metamorphosed pelitic sediments:*

*Sedimentary rocks comprise this unit. The sediments consist almost entirely of quartz and muscovite with some chlorite and biotite. Compositional layers of equigranular quartz and*

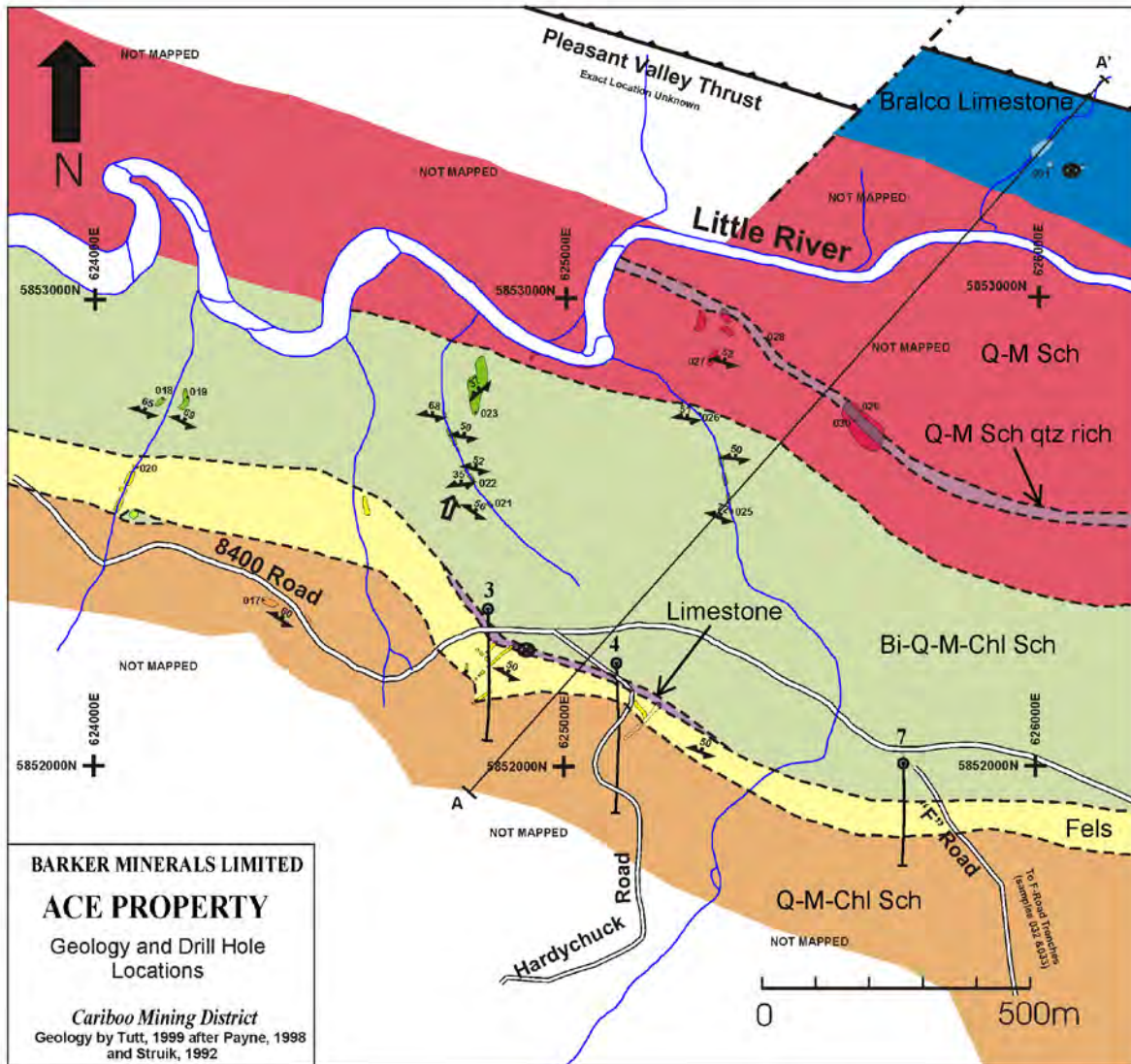



Figure No. 8 Ace Property, Geology in Area of Lower Hardychuck and F Roads. DDH holes shown are from 1998. Trenches near DDH holes 3 and 4 are from 1997. Source: Tutt (2000). See also Figure Nos. 10 and 23 for all trenches and DDH's on Ace property.


## Legend


### Bralco Limestone

 LIMESTONE/MARBLE; massive, white, non-fossiliferous.


### Downey Succession

#### Little River Schists


 QUARTZ-MUSCOVITE-SCHIST; bleached to light grey pelitic sediments, and thin bedded quartzites.


 QUARTZ-MUSCOVITE-SCHIST; white, massive, quartz rich (>90%), quartzite

#### Biotite-rich Schists


 BIOTITE-QUARTZ-MUSCOVITE-CHLORITE-SCHIST; medium blue-grey pelitic sediments with abundant biotite porphyroblasts

#### 8400 Road Contact Unit


 LIMESTONE; (marble) micritic finely laminated, fine grained, blue-grey calcareous interbeds


 QUARTZ-PLAGIOCLASE-MUSCOVITE-BIOTITE-CHLORITE-SCHIST; light grey to white mafic to intermediate volcanic tuffs and flows (?), pelitic sediments, and calcareous sediments. Pyrite and pyrrhotite with lesser chalcocopyrite and sphalerite occur in cleavage parallel layers


#### F-Road Schist


 QUARTZ-MUSCOVITE-CHLORITE-(CALCITE)-SCHIST; brown to grey pelitic sediments and occasional quartzites. Frequent carbonate alteration


### SYMBOLS


 Conodont sample location

 Drill hole location

 First schistosity


 Road (gravel)


 Geological contact (observed)

 Geological contact (inferred)

 Topping direction

 Fault (motion unknown)

 Thrust fault

 Sample location

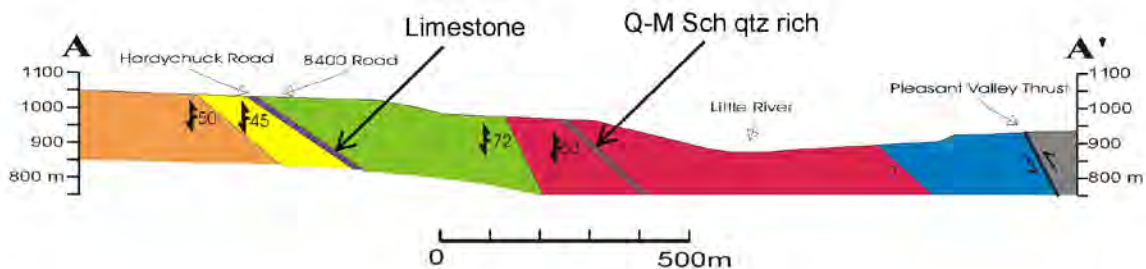


Figure No. 9 Ace Property, Legend and Section Related to Geology in Figure No. 8. Source: Tutt (2000).

*muscovite crystals make up 95% of the nearly completely recrystallized rock matrix. Locally, quartz veins and veins showing a variety of crosscutting relationships cut this unit, and exposures in the F-Road trenches show late stage carbonate alteration containing up to 10% calcite.*

[2] *8400 Road Contact Unit (quartz-plagioclase-muscovite-biotite-chlorite schist)*

*Semi-massive to massive sulphides in mafic volcanic tuffs:*

*The 8400 Road Contact Unit, [mapped as 'felsite' by Payne, (1997)] consists of variably metamorphosed and interbedded pelitic sediments, calcareous sediments, and mafic volcanic tuffs. This unit varies in thickness from a few metres in surface exposures and drill holes 98-04 and 98-07, to 70 m in drill hole 98-03. Pelitic sediments make up about 20% of this unit with calcareous sediments making up 15% and volcanically derived tuff making 65%. The pelitic sediments are metamorphosed to greenschist to lower amphibolite facies with some retrograde alteration to chlorite. These sediments appear light to medium grey and weather nearly white. Bedding is poorly to moderately defined and generally consists of fine laminae interspersed with occasional centimetre-scale coarser beds. Except for two occurrences of poor flow banding (which could be sheared beds) in drill holes 98-03 and 98-04, no primary volcanic textures are evident. These rocks contain abundant plagioclase (up to 45%). [Barrett and MacLean (2003) consider this to represent albite alteration of clastic sedimentary rocks].*

*Occasional quartz veins, varying in orientation and age, crosscut this unit and occasionally contain elongate acicular euhedral tourmaline crystals. Sulphide mineralization consists of pyrrhotite and pyrite, with lesser sphalerite and chalcopyrite. Pyrrhotite occurs as blebs and disseminations throughout the rock matrix. Pyrite exists as large metamorphic crystals, as smaller crystals within the rock matrix, and as disseminations along fractures and veins. Sphalerite occurs as blebs associated with pyrite and/or pyrrhotite. Chalcopyrite occurs in minor amounts as inclusions in pyrite.*

*Calcareous sediments including limestone make up about 15% of the 8400-Road contact unit, and are moderately silicified and sericite-altered and frequently finely laminated. In drill core from holes 98-03 and 98-07, the limestone occurs as finely laminated 5 to 100 cm thick sequences that are often interbedded with the metamorphosed pelitic rocks described above. None of the limestone lithologies mapped in this study contain any sulphide mineralization.*

[3] *Biotite-rich Schist (biotite-quartz-muscovite-chlorite schist)*

*Biotite-rich metamorphosed mudstone or siltstone:*

*The biotite-rich schist outcrops in three of the four creeks within the map area [Figure No. 8]. The presence of abundant biotite porphyroblasts (2-10 vol. %), and its medium to dark grey and sometimes bluish colour, distinguishes the biotite-rich schist from the 8400 Road contact unit and the Little River schist. Graded bedding was seen in outcrops of this unit, giving a top direction to the north-northeast and indicating that bedding is parallel or sub-parallel to the regional foliation which generally strikes to the northwest and dips moderately to northeast.*

*Biotite porphyroblasts are set in a fine-grained matrix of quartz and muscovite. Fine compositional bands of quartz and muscovite can be seen. It is interpreted that quartz and muscovite recrystallized in bands that were originally representative of the primary bedding. Since this is the only unit that contains biotite porphyroblasts, it is likely that their presence reflects the original composition of the protolith, which in this case is interpreted to be a mudstone or siltstone.*

*The contact between the biotite-rich schist and the 8400 Road contact unit can be seen in the drill holes 98-03, 98-04, and 98-07. Rocks near this contact are bleached and appear to be more sheared than those further up stratigraphy. In the upper part of hole 98-03, this may be interbedded with some of the pelitic sediments of the 8400 Road contact unit suggesting a transitional contact between the two units.*

#### *[4] Little River Schist (quartz-muscovite schist)*

*Quartz-rich pelitic sediments and quartzites.*

*The Little River schist, which outcrop along the Little River and on a ridge 700 m north of drill hole 98-04, may in fact be part of the biotite-rich sediments. The Little River schist consists primarily of quartz and muscovite.*

*The Little River schist lacks the biotite porphyroblasts of the biotite-rich schist, are more siliceous, and show no evidence of primary structures. While these differences may be a result of the metamorphism, the differences are sufficient to warrant its consideration as a distinct unit.*

*Its colour varies from medium grey to bleached grey-white. Within this unit, along the bedrock ridge, is a distinct, 10 to 30 m thick massive quartzite. This quartzite is white, and is composed dominantly of quartz with minor muscovite, chlorite, opaques, and plagioclase. Cleavage is rarely seen in this unit and no other structural features could be identified. This unit is thought to have formed as a result of a turbidite or submarine debris flow along the continental margin or slope.*

#### *[5] Bralco Limestone*

*Bleached white massive limestone:*

*The Bralco Limestone outcrops on the north side of the Little River. No structure or primary textures are evident. Struik (1986, 1988) assigned these rocks to the Bralco Limestone, which conformably overlies the Downey succession. No contact between these two units was seen in the field. The Bralco Limestone is thought to be truncated at its upper margin by the terrane-bounding Pleasant Valley Thrust Fault that placed Cariboo Terrane rocks otop of Barkerville subterranean rocks. No evidence of the Pleasant Valley Thrust Fault or any contact with Cariboo Terrane rocks was seen in this study.*

### 9.2.2 On the 'Felsite'

The 'felsite' rocks on the Ace property were considered by Salat (1995) to be a rhyolitic flow, by Roach (1997) to be a 'chemical sedimentary exhalitive', by Lammle (1997) an 'exhalite', by Payne (1998, 1999) and Perry (2002) as leucodiorite or felsic volcanic rocks, and by Tutt (2000) as 'volcanic tuffs'. Barrett and MacLean (2003) and McKinley (2004) termed the rock 'felsite'; notwithstanding its mode of origin it is generally called by that name by Barker Minerals.

Payne's (1999) discussion of the felsic [or 'felsite'] rock, is quoted in *italics* below:

*A fairly continuous stratabound interval of plagioclase-rich rocks, interpreted as metamorphosed and altered felsic volcanic rocks extends in an east-west direction for 7 km across the centre of the Ace project area from near the "J" Road at the west to Little River at the east. Because of very sparse outcrop west of the trenches, the thickness of felsic volcanic rocks in the region is unknown. In drill cores, the felsic unit is up to 80 metres. To the east, where the main band crosses Little River, the felsic volcanic unit is several metres thick. In the hanging wall (to the northeast) is a zone of quartz-muscovite-chlorite-leucoxene meta-sedimentary rocks containing intervals of bedded quartzite and quartz-rich schist. In the footwall (exposed mainly in drill core) are similar sedimentary rocks, but mainly lacking leucoxene.*

*North of Little River along a lower logging spur that extends east from the J road is a band up to 50 m thick of similar, altered felsic volcanic rocks containing disseminated lenses of pyrite or pyrrhotite.*

*The felsic volcanic unit is dominated by plagioclase with much less abundant amounts of muscovite, biotite and quartz. It commonly contains 0.5-5% disseminated lenses of pyrrhotite parallel to foliation. In many areas, replacement patches consist of coarser grained plagioclase, quartz, ankerite, chlorite and sulphides. Sulphides are mainly pyrrhotite or pyrite, with local concentrations of one or more of sphalerite, galena and chalcopyrite...In places near the top (northeastern) part of the [stratigraphic] section, the sulphide content increases greatly... Two main alteration assemblages were recognized in trenches. The first consists of semi-massive to massive sulphide dominated by granular pyrite intergrown with abundant dark green chlorite and much less abundant sericite and quartz. The other consists of felsite containing 20-30%, very fine grained, disseminated pyrrhotite. Both types of altered rocks contain anomalous concentrations of base and precious metals. The widespread presence of 0.5-5% disseminated pyrrhotite and/or pyrite in felsic volcanic rocks along the main trend of the Ace zone suggests the potential for volcanogenic massive sulphide deposits.*

*Six of the 7 DDH holes done in 1998 intersected 'felsite' whose thickness ranged from 3.5 m to 81.5 m.*

*Felsic volcanic rocks consist mainly of extremely fine grained plagioclase with minor biotite and/or muscovite. Many contain minor to abundant replacement and recrystallized patches of coarser grained plagioclase, with or without minor to abundant quartz, ankerite, muscovite and*

*pyrite. Some surface samples, previously described as metamorphosed diorite, are reinterpreted as recrystallized and replaced felsic volcanic rocks.*

*Some felsic volcanic rocks contain zones up to several metres wide of weak to strong biotite alteration, some of which occur in broad, diffuse envelopes about quartz-sulphide veins. In these zones, pyrrhotite is replaced by coarser grained porphyroblasts and lenses of pyrite.*

Barrett and MacLean (2003) were of the opinion that the 'felsite' rocks are hydrothermally altered clastic sedimentary rocks or andesitic to locally mafic sequences and owe their felsic appearance to albitization and silicification. They concluded that the results of their lithogeochemical study strongly suggests that felsic volcanic rocks are not present on the Ace property, and therefore that comparisons with massive sulphide deposits formed in bimodal volcanic-dominated terrains such as in the Noranda and Mattagami camps in Quebec and in Japan (Kuroko-type) are not appropriate. They stated that if further exploration shows that mineralization consists mainly of Fe sulphides + chalcopyrite, then this would support a Besshi-type setting, whereas if mineralization is mainly sphalerite + galena, then a sedex setting is suggested. Further, the apparent lack of sulphates (e.g. barite), and the presence of Mn-bearing argillaceous schists (cotucules) and albitized sedimentary rocks in the Ace area support a Besshi-type setting.

Barrett and MacLean performed an extensive lithogeochemical analysis of 'felsite' samples in order to try to determine what the protolith of this metamorphic rock may be; their discussion of the 'felsite' is quoted in *italics* below:

*The 'felsite'*

*One of the most interesting rock types in the Ace area, and also one of the most problematic, is the so-called 'felsite', which has been mapped on the basis of trenches, outcrops and drill cores as forming a more or less continuous unit with an east-west extent of at least a few kilometres and a thickness of about 50 to 80 m (in drill core). This lithology is characterized by a grey to grey-white colour and a fairly massive appearance, apart from the weak to moderate schistosity which is outlined by dark chlorite-biotite-bearing streaks. The rock is also generally hard due to the abundance of plagioclase (mainly albite) and quartz, as seen in thin section (Payne, 1998a, 1999, 2000). Payne initially thought that the 'felsite' might be a leucodiorite, but later considered it more likely a metamorphosed felsic volcanic rock. He accordingly viewed the Ace sulphide mineralization, which is spatially associated with the 'felsite', as likely being of VMS-type.*

*However, lithological analyses of the 'felsite' subsequently obtained by Tutt (2000)...and the present study indicate that this lithology is not felsic, as the samples do not include any dacitic to rhyolitic compositions; rather they range from broadly andesitic to basaltic andesite, at least in the terms of the contents of most major and trace elements. Because so little of the original texture remains, it is not clear if this rock was initially intrusive, extrusive, a reworked volcanoclastic, or a greywacke. If the 'felsite' does in fact continue along strike for a few kilometres, this could support the idea of an extrusive or sill-like body. However, it could*



conceivably also represent the altered and metamorphosed equivalent of a fairly monotonous sequence of greywacke to argillitic sediments.

While its pale colour and hardness are due mainly to the abundance of feldspar and minor quartz, the 'felsite' consistently has high  $TiO_2$  contents (0.7-1.2 %  $TiO_2$ ) and other chemical features such as 6-10 %  $Fe_2O_3$ , 2-3 %  $MgO$ , 52-60 %  $SiO_2$ , and 200-500 ppm V, which indicate that was either an andesitic rock or a clastic sedimentary rock such as a greywacke or shale prior to metamorphism. The exception to the broadly andesitic composition of the 'felsite' is the high  $Na_2O$  content (5-7 %) but low  $CaO$  (2-4 %) of many samples, this being the reverse of what would be expected for an unaltered andesite. These samples have probably undergone Ca-Na exchange during albitization of feldspars. Although Na depletion is the norm in altered volcanic rocks around many VMS deposits, particularly in the footwall, examples of Na enrichment do occur, e.g. in the footwall of the Marshall Zone of Myra Falls deposit on Vancouver Island (Barrett and MacLean, 2000). Na enrichment is also present in the vicinity of some massive sulphide deposits hosted by interbedded clastic turbidites and pelagic sediments, e.g. at the mid-Proterozoic Sullivan mine in southeastern British Columbia (Hamilton, 1982) and on the Middle Valley segment of the Juan de Fuca spreading ridge in the eastern Pacific Ocean (Goodfellow and Zierenberg, 1999).

[A sample of the 'felsite' was sent to the UBC geochronology lab to attempt an age determination]. The sample contained zircons with a morphology indicating that they were detrital, as opposed to primary zircons... The presence of detrital zircons casts doubt on a felsic volcanic or felsic intrusive origin for the 'felsite'.

The high absolute  $Al_2O_3$  and  $TiO_2$  contents of the 'felsites' in general in the Ace area makes it unlikely that these rocks contain any significant exhalite component (i.e. chemical precipitates laid down on the seafloor), although it is possible that they contain components such as Si and Na that were added during metasomatism of clastic sediments... The Ace quartz-muscovite-chlorite schists are compositionally similar to some of the unaltered turbidites at Middle Valley on the Juan de Fuca Ridge... Many fine-grained sandstones, siltstones and mudstones in the deep oceanic realm have compositions in terms of immobile-element ratios which are broadly comparable to Ace 'felsites' and schists. Sandier sediments typically contain more quartz than silty to muddy sediments, and thus the absolute amounts of immobile-element will be lowered, while silica is increased, which can produce a bulk analysis resembling that of a felsic volcanic rock.

The Sullivan Fe-Pb-Zn sulphide deposit at Kimberley, B.C. is hosted by sandy and silty turbidites and mudstones of the mid-Proterozoic Aldridge Formation... The immobile-element ratio that can be calculated from the reported analyses is  $Al_2O_3/TiO_2$ , which is in the 21-29 range, similar to values of many rocks at Ace. Unaltered Aldridge clastic rocks, tourmaline-altered rocks, chloritic rocks and albite-chlorite-pyrite rocks all have  $Al_2O_3/TiO_2$  ratios of 21-25, despite their wide variations in alteration mineralogy and major-element chemistry. Thus, the altered rocks must all represent chemically modified clastic rocks. Some of the altered Ace

*'felsites' with disseminated sulphides in fact have major-element compositions comparable to that of the average albite-chlorite-pyrite rock at Sullivan.*

## **10.0 DEPOSIT TYPES**

Barker Minerals Ltd has been exploring the Ace property for the following types of mineral deposits:

- Au-quartz veins (B.C. Mineral Deposit-Type I01)
- Sedimentary exhalative Zn-Pb-Ag (B.C. Mineral Deposit-Type E14)
- Besshi massive sulphide (B.C. Mineral Deposit-Type G04)
- Plutonic-related Au quartz veins (B.C. Mineral Deposit-Type L02)

Full descriptions of these BCGS mineral deposit types are in Appendix A.

### **10.1 Regarding Ace Property**

The BC Minfile No. 093A 142 classes the Ace deposit type as Au-quartz veins or Besshi massive sulphide. Payne (1999) considered the Ace to have volcanogenic massive sulphides associated with gold-bearing quartz-sulphide veins from the same geological environment. Barrett and MacLean (2003) concluded that overall, the lithological sequences at Ace show features of both Besshi-type and Sullivan (sedex)-type deposits.

In Hóy and Ferri's (1998) opinion the likely mineral deposit types at Ace was Besshi-type massive sulphide overprinted by later gold-quartz veins including sulphides remobilized from the earlier mineralization. Their discussion is quoted in *italics* below:

*Summary and Discussion:*

*Semimassive to massive sulphide mineralization on the Ace claims has similarities to Besshi style volcanogenic massive sulphide deposits. Host rocks include a succession of sericite phyllites, impure quartzites, minor calcareous units and chlorite phyllites. These are interpreted to be metasediments and mafic metavolcanic units. These are similar to and may correlate with the basal Index Formation in the Goldstream area [approximately 225 km SE of Ace], host to a number of massive sulphide deposits.*

*Sulphides, dominantly pyrrhotite and pyrite with minor chalcopyrite and sphalerite, are in a granular feldspathic schist. The protolith of this unit is unknown; however, it has similarities to the siliceous alteration zone that hosts Goldstream massive sulphides (Hóy, 1979) and the albite envelope around other Besshi style deposits (Slack, 1993) and is, therefore, interpreted to be largely an alteration envelope. More regional alteration includes potassic (sericite +/- K-spar), magnesium (chlorite and phlogopite), and widely dispersed pyrite and pyrrhotite.*

*The metal content, dominantly Cu and Zn with low Pb, is also similar to Besshi deposit. As well, anomalous concentrations of a variety of metals, including Co, Mo, Bi, As and Ni are typical of many Besshi deposits (Slack, 1993). These deposits can also contain high precious metal content, with typical grades of 5 to 20 ppm Ag and variable but locally high gold values.*

*The gold-quartz veins have some similarities with vein mineralization of the Barkerville-Wells camp. These deposits include both early replacement deposits and younger gold-sulphide veins. They all occur in the Downey succession, in rocks of greenschist facies regional metamorphism, and in fold hinges or along consistent fault or fracture patterns. By analogy, veins on the Ace property may have similar stratigraphic, metamorphic and structural control. Their distribution, coincident with semimassive sulphide mineralization and targets, and somewhat similar base and precious metal content, suggest that they be, in part, remobilized from these early deposits as has been suggested for deep level veins associated with deposits in the Besshi district, Japan (see Slack, 1993).*

Some Au-quartz veins at Ace included Au-bearing telluride minerals, bismuthenite and native bismuth (see Section 8.1.3, this report). Table No. 2 – Ace Project Assays in this report shows the occurrence of highly anomalous amounts of As, Bi, W and Te in samples of quartz veins. The correlation of bismuth with gold is a characteristic of Sumitomo's Pogo deposit (Hart, 2007, Fig. 3, approximately 10 Mt @ 17 g/t) in the Tintina Gold Province in central Alaska. Pogo is a high-grade vein gold deposit belonging to a relatively new deposit class called Reduced Intrusion-Related Gold Systems (RIRGS), also known as Plutonic-Related Au Quartz Veins. A diagnostic characteristic of RIRGS is a Au-Bi-Te-W geochemical signature, relatively Cu-poor, in veins related to an intrusive. This is distinct from the 'classic' porphyry Au-Cu deposit type. The 6 km x 1 km intrusive body at Ace (Unit Pd in Figure No. 7, this report) may represent a causative intrusion for possible RIRGS mineralization. RIRGS deposits were not recognized before 1999 and thus were not considered during the work done on the Ace property. A Pogo-type RIRGS mineral deposit should be considered as one of the possible exploration targets in future work on Ace.

## **10.2 Regarding Simlock Property**

The BC Minfile No. 093A 182 classes the Simlock Creek deposit type as hydrothermal veins.

Symonds, (2003) described the model for Simlock Creek:

*The Simlock Creek Property is located in the same geologically favourable belt of rocks that host the mines in the Barkerville and Wells camps. The ore-bearing horizons of mines to the north along strike with the Simlock Creek Property are considered to be a model for the geology and structure of the Simlock Creek Property. Field observations suggest that the limestone in Harveys Creek at the falls between its junction with Simlock Creek and the hydraulic placer pit workings of Barney Bowe, is the equivalent of the Aurum limestone unit in the Cariboo Gold Quartz and Mosquito Creek gold mines. This limestone is along the 'Baker' (sericitic, pelitic sediments) and the 'Rainbow' (black carbonaceous quartzites) contact that was used as an ore*

control in the Wells mining camp. This is commonly referred to as the Bonanza Ledge type of mineralization.

The associated pyrite and galena-bearing quartz veins are also found in Harveys Creek at this location. If this postulated reconstruction is correct, then the "Main Band" unit which carries the remainder of the ore bodies would be located stratigraphically where the gold soil anomalies occur in the grid east of Simlock Creek. It is not known if the Main Band limestone extends as a continuous unit this far south. The Baker sericitic and pelitic sediments are seen near Harveys Creek. The sericitic and carbonaceous sediments (Midas?) extend eastward upslope from the Simlock Creek gold anomalies. Thus there is room for the Main Band (Bonanza Ledge) units in the Simlock Creek Property geological section.

Of past producers in the Wells-Barkerville gold camp, 35 km to the NW, Symonds wrote of the Cariboo Gold Quartz and Mosquito Creek mines:

*Cariboo Gold Quartz (Minfile No. 93H-19): Past producer (gold, silver); the deposit consists primarily of quartz-pyrite veins; a series of north striking, east dipping faults and auriferous quartz veins are associated with fracture zones; the veins may contain cosalite, bismuthenite, arsenopyrite, ankerite, scheelite, galena, sphalerite and possibly tetrahedrite; the veins occur in a sequence of black and grey clastic sediments referred to as the Rainbow Member; production totaled 26,851 kg of gold and 2,859 kg of silver.*

*Mosquito Creek (Minfile No. 93H-10): Past producer (gold, silver); the deposit is hosted by Snowshoe Group (Barkerville Terrane) rocks, comprising light grey quartzite, phyllite, limestone and mafic rocks of the Baker Member and dark quartzite and phyllite of the Rainbow Member; this "Baker-Rainbow Contact" can be traced for over 15 kilometres through the "Cariboo Gold Belt"; gold mineralization occurs primarily in stratabound massive auriferous pyrite lenses concentrated in certain limestone beds known as the Main Band and Aurum limestones; significant mineralization includes pyrite, galena, sphalerite and scheelite; production totaled 1,090 kg of gold and 303 kg of silver.*

*Cariboo Hudson (Minfile No. 93A-71) [4.8 km NW of the confluence of Simlock and Harvey Creeks]: Past producer (gold, silver); gold, galena, sphalerite, scheelite, pyrrhotite mineralization reported to occur in quartz veins associated with north striking shears or faults; a 1.2 metre sample taken from the adit in 1938 assayed 102.09 g/t gold, 188.43 g/t silver and 24% lead; production totaled 161.3 kg of gold and 81.7 kg of silver; defined mineral resource potential of 70,000 tonnes grading 13 g/t gold and 21 g/t silver; half of the resource is drill indicated. [This quoted 'resource' is considered historic and not compliant with NI 43-101 legislation].*

## **11.0 MINERALIZATION**

Hóy and Ferri's, (1998) discussion of the mineralization evident on Ace property is quoted in *italics* below:

### *Mineralization and Alteration:*

*The two dominant deposit types on the Ace property, semimassive sulphides and gold-quartz veins, have been found in numerous float samples, in trenches and in a few of the natural exposures. Pyrite and pyrrhotite are naturally dispersed throughout phyllites on the Ace property. Semimassive sulphides, dominantly pyrite and pyrrhotite, are also concentrated parallel to foliation in coarse, quartzo-feldspathic schists. Sulphide concentrations greater than 50 percent are common and, therefore, the term 'massive sulphide' is locally appropriate. The sulphides are deformed, along with their gangue and host succession, in a ductile manner. A crude banding is often apparent, defined by variable sulphide/silicate concentrations. Chalcopyrite and sphalerite contents are variable, but generally less than a few percent each.*

*The sulphide host rock is typically a granular quartz-feldspathic schist or phyllite, with grain size up to several millimetres. In the field it has been variously referred to as an exhalite, leucocratic diorite, quartzite or siliceous alteration zone. However, as these various rock types are not all at a single stratigraphic horizon, it is possible that they represent, in part, distinct units. The schist is commonly banded due to either variable sulphide or possibly biotite content. This banding appears to be tectonic rather than a primary fabric. The schist comprises dominantly plagioclase (andesine and albite) and quartz with varying amounts [of] muscovite, sericite, biotite, ankerite, calcite and opaques (Payne, 1997). Several percent apatite is common, with local concentrations greater than 20 per cent.*

*Numerous white quartz veins, locally with abundant sulphides, occur on the Ace property. Some are folded along with their host rock while others are clearly post tectonic, cutting across foliation. These may be folded during deformation that crenulated foliation. Veins contain variable amounts of quartz and pyrite, generally minor base metal sulphides and muscovite, biotite, chlorite and tourmaline. 'Mineralogical studies indicate the presence of cubannite, various tellurides, cosalite, native bismuth and native gold and prismatic tourmaline. Geochemical analyses indicate presence of Fe, As, Au, Ag, Zn, Cu, Bi and Te and locally at least some Ni, Co, and Cr. For the most part, the microscope studies reveal that native gold is sometimes associated with native bismuth, native tellurium and with Bi and Te minerals. In others, gold is enclosed in quartz, in sulphide minerals and along the edges of sulphide minerals' (internal Barker Minerals report, August 1997).*

*Analyses of numerous quartz-sulphide float samples, collected and analyzed by Barker Minerals Ltd., indicate variable but locally appreciable gold content; 53 samples had an average gold content of 3,106 ppb, with a range from 220 ppb to 28,972 ppb (Lammle, 1997).*

Høy (2003) stated in a letter to Barker Minerals:

*Mylonites and shear zones within [the 'felsite'] suggest that it represents a major fault structure that trends east-northeast, approximately parallel to but locally cutting across stratigraphic units... This fault also helps explain the distribution of mineralization in float and trenches. Virtually all massive sulphide boulders occur to the north of the fault, as a defined boulder train that appears to approximately parallel the dominant structural, stratigraphic and geophysical trends; in contrast, many of the gold-rich quartz boulders occur to the south, but do extend north of the fault as well.*

## **12.0 EXPLORATION**

Barker Minerals Ltd. performed exploration work on the Ace property from 1994 to 2003. Since then the property has been dormant, with no significant work done in the field, while Barker pursued other prospects over its large 'Peripheral' group of claims. The work done by Barker on Ace is described in chronological order in Section 8.1 History in greater detail than in this section. The historical work is summarized concisely here under work-type headings such as geochemical, geophysical, trenching and drilling not necessarily with reference to which specific year the work was done.

### Geochemical:

Louis E. Doyle, later president of Barker Minerals Ltd, discovered coarse gold flakes in a small stream crossing F Road while prospecting in 1993. Three samples of the stream sediment from the same location assayed 129.0 g/t, 73.8 g/t and 41.8 g/t Au. Further prospecting in 1993-94 discovered an 8 km long train of quartz vein float containing sulphides and gold strewn across the north-facing slope of Mount Barker and eastward. Numerous rock samples (mostly float) were collected during extensive prospecting over the following years. The area was staked as the Ace property.

From 1994 to 2003 the Ace property experienced various geochemical, geophysical, mapping, trenching and diamond drilling exploration programs done on it. Approximately 130.0 line km of survey grid was marked out over which samples were collected and the other surveys done.

### Rocks:

Table No. 2 below, (after Table 1 in Perry, 2002), provides geochemical highlights from prospecting done within the area of the 'quartz float train'. Note that the Au values are in ppm.

Due to lack of outcrop all the samples are grabs from float. Figure No 22 in Section 26.0 in this report shows the locations of quartz float samples with high or anomalous Au values.

**Table No. 2 - Ace Project Assays**

Sample #	Sample Type	Assay Type	Assay										
			Au ppm	Ag ppm	Cu ppm or %	Pb ppm or %	Zn ppm or %	As ppm	Sb ppm	Bi ppm	W ppm	Te ppm	
1261	Q	2,3	18.8	10	.	.	.	.	.	.	2025	.	.
1199	Q	1,3	27.7	.	.	.	.	.	.	.	1965	.	.
CX-03	Q	1	18.2	6.8	.	.	.	.	.	.	1435	.	.
941160	Q	1	22.03	.	.	.	.	.	>10,000	.	35	.	.
1270	Q	3,1	13.3	.	.	.	.	.	.	.	386	.	.
1358	Q	1,3	23.7	.	.	.	.	.	.	.	510	.	46
1331	Q	3,1	2.5	.	.	.	.	.	.	.	250	337	.
951080	Q	3	7.6	.	.	.	.	.	.	.	775	224	.
1193	Q	3,1	8.2	.	.	.	.	.	.	.	318	781	28.6
1194	Q	3,1	5.4	.	.	.	.	.	.	.	289	210	26.2
9706	Q	3,4	6	.	.	.	.	.	213	3.1	1378	6	13.4
9709	Q	3,4	1.5	.	.	.	.	.	.	.	172	147	48
9798	Q	3,4	8.1	1.5	.	.	.	.	.	.	865	13	60.2

**Massive Sulphide Boulders: Grab Samples**

Sample #	Sample Type	Assay Type	Assay										
			Au ppm	Ag ppm	Cu ppm or %	Pb ppm or %	Zn ppm or %	As ppm	Sb ppm	Bi ppm	W ppm	Te ppm	
295	MS	2,3	0.08	32.8	269	5.20%	8.50%	220	.	.	35	.	.
9752	MS	3	0.07	.	387	0.76%	7.2%	.	.	.	57	.	.
CX-45	MS	2	.	.	.	7.7%	8.8%	.	.	.	.	.	.
99AGN	MS	2	.	43	.	5.7%	9.9%	.	.	.	.	.	.

**Cu-Stringer Boulders: Grab Samples**

Sample #	Sample Type	Assay Type	Assay										
			Au ppm	Ag ppm	Cu ppm or %	Pb ppm or %	Zn ppm or %	As ppm	Sb ppm	Bi ppm	W ppm	Te ppm	
1253	ST	3	0.25	27.2	4.1%	.	.	158	.	.	16	.	.

Legend:	
<b>Sample Type</b>	<b>Assay Type</b>
<b>MS</b> - Massive sulphide boulders	<b>1</b> - Fire Assay
<b>Q</b> - Quartz sulphide vein boulders	<b>2</b> - Metal Assay
<b>ST</b> - Copper stringer boulders	<b>3</b> - ICP
	<b>4</b> - Aqua Regia

**Soils:**

Approximately 5,000 soil samples were collected between 1994 and 1996. Six principal areas of anomalous soils (in Au, Ag, Pb, Zn, Cu, Bi, Sb, As, Fe) were described and drawn on maps by Lammler (1995,1996,1997). The soil anomalies tended to be somewhat subdued due to thick overburden occurring extensively. In 1995 a 2.5 km diameter circular-shaped boron soil anomaly, termed the 'boron halo', was outlined (Figure No. 17). The centre of this circular area was low on the F Road near its junction with the main 8400 Road. The northern part of the 'boron halo' was crossed by a NW-SE trending Zn and Pb anomaly, while a similarly-trending Cu anomaly crossed the southern part (Figure Nos. 19, 20, 21). The other anomalous metals cited above had no obvious relation to the 'boron halo'. The most significant geochemical and geophysical anomalies in 1995 were assigned letters A to K with the large circular boron feature

given letter V. The 1995 soil survey outlined the essential soil geochemical picture which was refined in certain areas by soils collected in succeeding years. Soil geochemical maps for Au, As, Zn, Pb and Cu are provided, (Figure Nos. 17 to 21), in Section 26.0 in this report.

#### Stream sediments:

Stream sediment samples were collected, mainly in 1997. Little River sediments were anomalous in gold at the Colleen Road bridge (89 ppb Au). Ishkloo Creek sediments were anomalous (24 ppb Au) just above the junction with Little River. Two small streams below Hardychuck Road were anomalous (41 ppb and 21 ppb Au), and up to 5 km west of Colleen Road, the slope on the south side of Little River had several small streams anomalous in gold (49 ppb, 30 ppb, 31 ppb, 17 ppb Au); these streams all crossed part of the area of the known quartz float train and further west.

#### Magnetics:

Magnetic surveys done between 1995 and 2000 produced linear anomalies, varying from 200 m to 1,000 m in length, which tended to parallel the NW-SE regional geological trend. The surveys also helped to outline bedrock lithologies and the trends of two parallel NE-SW trending faults (termed 'GSC-1' and 'GSC-2') approximately 2.6 km apart from each other. The linear anomalies of interest were mainly located between these two faults. Lammle (1996) interpreted that a large magnetic anomaly was centered on the lower part of F Road, between the GSC-1 and GSC-2 faults. It consisted of a circular low relief magnetic anomaly, approximately 1.0 km across, coinciding with a circular VLF-EM anomaly over approximately the same area. These concentric circular anomalies were centred within a 'boron halo' soil anomaly. Though the subtle concentric circular anomalies are shown on the assessment report maps (Figure Nos. 11 and 12 in Section 26.0), this early interpretation seems to have been subsequently downgraded in importance as it was not mentioned again in later work programs. Figure No. 13 shows the results of the magnetic surveys done in 1995, 1996 and 2000.

#### Electromagnetics:

VLF-EM and HLEM surveys were performed between 1995 and 2002. In the 1995 data a 1.0 km diameter circular VLF-EM anomaly, characterized as a disturbed area of sinuous local anomalies, coincided with a magnetic-low anomaly (Figure Nos. 11, 12) within the 2.5 km diameter 'boron halo' soil anomaly. As mentioned above, this circular concentric anomaly seems to have been subsequently downgraded in importance as it was not mentioned again in later work programs. Numerous other electromagnetic anomalies (conductors) varying from 200 m to 600 m in length were defined in the 1995-96 surveys. Several VLF-EM conductors were interpreted as probably being related to graphitic faults though others were considered possibly related to local sulphide concentrations. HLEM conductor A in 2000 had a 1,200 m strike length; it was associated with a magnetic high and was open to the east. This and Conductors B and C are shown with the magnetics in Figure No. 13 in Section 26.0. Conductor A is also shown on Figure No. 16 with the corresponding 3-D E-SCAN low resistivity anomaly from the 1996 survey. Conductors A and B may represent cross-stratigraphy mineralized structures such as faults or vein systems as their E-W trends are contrary to the NW-SE trend of the stratigraphy.



#### Conventional IP and 3-D E-SCAN Resistivity:

In 1996 a conventional pole-dipole induced polarization (IP) geophysical survey was done over the northwestern end of the Ace Grid. Lammler interpreted that high chargeabilities coincident with low resistivities occurred over the entire surveyed area. He concluded that graphitic strata and faults were likely responsible for the strong and broad IP response. The IP anomaly crossed the entire survey grid and remained open at each end. It coincided well with the VLF-EM conductors related to Anomalies H, J and K in the 1995 work. A possible interpretation would be a conductive fault zone, characterized by local concentrations of sulphides in a general alteration zone.

A resistivity survey (3-D E-SCAN), done in 1996, discovered a shallow strong low resistivity anomaly, 400 m x 400 m in area, on the southeastern portion of the Ace grid. This was considered a prime anomaly to follow up. This low resistivity anomaly also showed as an HLEM anomaly (Conductor A) in the 2000 work program. Figure Nos. 14, 15 and 16 show the results of the IP chargeability, resistivity and 3-D E-SCAN resistivity surveys.

#### Gravity:

Limited gravity surveys were done in 2001 and 2002 to assist in the discrimination of graphitic and sulphide conductors. Several gravity anomalies were detected, some coincident with known conductors, suggesting mineralization was the causative source.

#### Trenching:

The locations of Barker Minerals' trenches are indicated in Figure No. 10. In 1996 thirty six test pits and 280 m of mechanical trenching were done. Though several rock samples were highly anomalous in gold the overall trenching results were not considered satisfactory.

In 1997 twenty trenches (1,084 m total) were excavated over the area of the major chargeability and resistivity anomaly which passed through the area. It was determined that massive to semi-massive sulphides occurred at the top (northeast) side of the felsic rock unit. The rocks were considered to show many of the characteristics of the footwall rocks to a volcanogenic massive sulphide deposit.

In 2003 eleven trenches (428 m) were excavated in the area of Jim Road, targeting magnetic, HLEM, and geochemical anomalies. The trenches did not conclusively determine the source of the geochemical anomalies. Rocks in the trenches often contained small amounts of disseminated pyrrhotite but it was not clear if this was sufficient to produce a magnetic anomaly. The trenches did, however, expose black graphitic mudstones, some containing significant amounts of disseminated and semi-massive sulphides. These rocks were considered the likely source of HLEM conductors in the area. 'Coticule' rocks were discovered in boulders and sub-outcrop during the trenching. These were graphitic mudstones containing Mn and up to 25% reddish brown garnets. This rock has been inferred to represent metamorphosed Mn exhalites formed around subaqueous hydrothermal systems and may provide an excellent marker unit and guide for exploration.

### Drilling:

Seven DDH holes (1,260 m) were drilled on the Ace property in 1998. Five DDH holes (646 m) were drilled in 2002. The targets were mainly magnetic, EM and IP anomalies and the trend of the 'felsite' rock unit. The drill programs are discussed in detail in Section 8.0 History and Section 13.0 Drilling. The locations of Barker Minerals' DDH holes are shown in Figure Nos. 10 and 23.

### Geological Mapping:

Lack of outcrop over extensive areas of the Ace property has hindered geological mapping by Barker geologists. Minor geological mapping was done by Salat (1995) in the 'cirque' area in cliffs along the north slope of the ridge east of Mount Barker. Lammler (1997) did minor geological mapping in the main work area between the GSC-1 and GSC-2 faults. Payne (1998) made geological maps of the trenches excavated in 1997 and the area around Colleen Road. The following year (see Payne, 1999) he mapped extensively over the Ace property outlining the location of the 'felsite' unit. Its correlation with HLEM conductors and IP chargeability and low resistivity anomalies are obvious (Figure Nos. 15 and 23). Tutt (2000) added to Payne's map and produced a useful geological section and detailed rock unit descriptions. Wild (2002), after logging the core in the 2002 drill program, added detail to the geological map in the area of Hardychuck and Colleen Roads.

## **13.0 DRILLING**

A total of 12 DDH holes (1,906 m) have been drilled on the Ace property. Seven DDH holes (1,260 m) were drilled in 1998. Five DDH holes (646 m) were drilled in 2002.

Hole ID	Grid Location	UTM East	UTM North	Az. (°)	Dip (°)	Length (m)	Elev. (m)	Target
98-01		627094	5852254	180	-45	300.21	963	Geophysical anomaly.
98-02		626510	5852284	180	-45	199.63	1,020	Geophysical anomaly.
98-03		624861	5852434	180	-45	157.90	1,022	Geophysical anomaly.
98-04		625101	5852337	180	-45	199.94	1,032	Geophysical anomaly.
98-05		627072	5851845	180	-60	150.81	1,073	Geophysical anomaly.
98-06		626184	5852090	180	-70	134.11	1,047	Geophysical anomaly.
98-07		625638	5852164	180	-45	117.49	1,045	Geophysical anomaly.
02-01	6+65E/16+15S			180	-45	144.78	1,005	16S zone. HLEM conductor and gravity anomaly.
02-02	8+64E/18+80S			180	-45	164.90	1,025	16S zone. Magnetic anomaly.
02-03	5+70W/4+70N			180	-45	150.88	1,028	5N zone. Mineralization in Trench Tr-97-1B
02-04	5+00W/4+20N			180	-45	117.35	1,025	5N zone. 'Felsite' rock.
02-05	6+25W/5+00N			n/a	-90	67.97	1,027	5N zone. Magnetic and gravity anomalies.

Table No. 3 Ace Property Diamond Drill Hole Details

Perry's (2002) discussion of the results of the 1998 and 2002 drill programs is quoted in *italics* below:

*Barker Minerals' initial diamond drilling program at the Ace project (1998: 7 holes, DDH 98-01 to DDH 98-07, totalling 1260 m) targeted felsic strata and geophysical anomalies (chargeability highs, resistivity lows and magnetic highs) located within a zone suspected to be underlain partly by felsic rocks having exploration potential for massive sulphide deposits (Payne, 1999; BC Assessment Report). The holes were drilled between the main trench area and Colleen Road [see Figure Nos. 10, 15, 23 in Section 26.0 in this report]. Most of the holes were drilled to the south, dipping at -45°, which is approximately perpendicular to the regional trend of the metamorphic foliation. Two holes were drilled more steeply at -60° and -70° in order to attempt to penetrate specific geophysical anomalies. In some instances, it appears that the holes were not long enough to have reached the intended geophysical targets.*

*All drill holes of the 1998 program, except 98-05, intersected felsite, whose thickness ranged from 3.5 to 81.5 m. As the holes were drilled perpendicular or nearly so to the regional foliation, all thickness intervals are close to true thickness relative to the metamorphic event (Payne, 1999; BC Assessment Report). Because of the complex folding in the region, it is impossible to estimate true, pre-metamorphic thicknesses... At the top of the main felsic section in DDH 98-03, a mineralized zone was intersected for 0.75 m, containing two intersections of massive sulphide mineralization, 0.25 m and 0.20 m long, separated by an intersection of calcite (probably limestone) 0.30 m thick. The massive sulphide mineralization carries apparently anomalous concentrations of Au, Ag, Cu, Zn, As, Se, Te, Sb, Bi, Mo and Cd, as determined by non-statistical consideration of the analytical data. The footwall alteration zone below the massive sulphide is anomalous in many of the same elements, generally with smaller concentrations than in the massive sulphide. As well, the footwall zone carries anomalous concentrations of Mo. Anomalous metal concentrations in the footwall decrease moderately to rapidly away from the top of the section of felsitic rocks. Deeper in the footwall, many samples contain anomalous concentrations of Ag, Mo and Zn. In the centre of the felsite section, hole 98-07 intersected semi-massive sulphide mineralization for 0.36 m, containing anomalous concentrations of Ag, Cu, Bi and Se. Above and below this, the rocks contain anomalous concentrations of Ag, Zn, Mo, Bi and Se. Concentrations larger than 100 ppb Au, 500 ppb Ag, 200 ppm Cu, 70 ppm Pb and 150 ppm Zn are considered geochemically anomalous in this report.*

*During 2002, two diamond drill holes, ACE-02-01 and 02, were collared in the 16S Zone [see Figure Nos. 10, 23 in this report]. The first hole, Ace-02-01, tested a coincident max-min conductor and modest gravity anomaly and is located slightly up-ice from the high-grade (16.4% Zn/Pb) boulders found in previous programs. The top 49.0 metres consist of very siliceous quartz-muscovite schist and argillite. The next 10 metres consist of strongly calcareous marble, calc-schist, and argillite, immediately above a 6.5 metre section of "felsite". The felsite consists of plagioclase or albite with minor micas and quartz. The felsite in this area has concentrations in drill core up to 339 ppm Cu, 568 ppm Pb, and 156 ppm Zn. A narrow intercept (.07 metres) of Au/Bi/Te/W quartz vein assayed 745 ppb gold. Follow up geophysical surveys indicate that the*

*possibility exists that this zone was faulted off where drilling occurred; further interpretation is required to determine the next program for this zone (Wild, 2002).*

*The second hole, Ace-02-02, tested a magnetic high anomaly but failed to explain the source of this anomaly. This strong, large magnetic anomaly is located up-ice from a zone of Au/Bi/Te/W quartz sulphide boulders that have gold concentrations up to 11 grams per tonne (g/t). It is anticipated that the next phase of drilling will test this high priority target for its economic gold potential. A 7.5 centimetre wide quartz vein at 159.6 metres near the end of hole Ace-02-02 assayed 692 ppb gold (Wild, 2002).*

*The other three drill holes in the Ace Project area, Ace-02-03 to 05, tested the 5N Zone. All three intersected at least 40 metres of "felsite", which hosts sulphide mineralization elsewhere on the property. The fine-grained nature of the rock, its intimate relationship to a series of thin marble bands, and almost regional extent suggest that it may be an exhalative horizon and an excellent target horizon for massive sulphide deposits (Wild, 2002). [Barrett and MacLean (2003) interpreted these rocks to more likely be altered metasedimentary rocks].*

*Two of the recent holes intersected significant sulphide mineralization near the top of the interval. Ace-02-03 intercepted 3.3 metres of semi-massive to massive sulphide mineralization with anomalous Cu/Pb/Zn metals. Mineralized felsite extended an additional 69 metres down hole below the strongly mineralized layer. In drill hole Ace-02-04, a ten metre interval of mineralized felsite between 43.8 - 53.8 metres, was highly anomalous for base and precious metal with concentrations up to 663 ppm Cu, 855 ppm Zn, 704 ppm Pb and 575 ppb Au. This hole was collared within 400 metres of a cluster of previously identified high grade quartz vein float boulders assaying up to 29 g/t Au, and zinc-lead mineralization (10% Zn, 2%Pb) in bedrock.*

*The last hole, Ace-02-05, was collared on L5N at 6+25W and drilled vertically to test a coincident ground magnetic high and subtle gravity anomaly. It was collared in the felsite unit, likely below the sulphide horizon (Wild, 2002).*

*Veins containing anomalous metal concentrations are of three types. Quartz-pyrrhotite veins in DDH 98-01 carry anomalous concentrations of Cu, Ag and Bi. Quartz-pyrrhotite-tourmaline veins in DDH 98-02 carry anomalous concentrations of Au, Ag, Cu, Zn, Bi, Se and Te. A quartz-pyrrhotite vein in DDH 98-07 carries anomalous concentrations of Au, Ag, Cu, Pb, Bi and Se. Quartz (+pyrrhotite) veins intersected in DDH02-01, DDH 02-02, DDH 02-03 and DDH 02-04 carry anomalous metal concentrations of Au, Ag, As, Sb, Bi, Te, W, Mo and Tl with concentrations of gold up to 764 ppb over 7 cm in DDH 02-01, 692 ppb over 7.5 cm in DDH 02-02 and 526 ppb over 25 cm in DDH 02-04. All six samples from DDH02-01 had geochemical patterns anomalous in Au, Ag, As, Sb, Bi, Te, W, Mo and Tl. A zone from 42.5 metres to 58.6 metres in DDH02-04 was anomalous in Au, Ag, As, Sb, Bi, Te, W, Mo and Tl. Numerous barren quartz and barren quartz-chlorite veins are present in drill core in many rock types and are particularly abundant in some intervals of quartzite and quartz-rich schist.*

Significant intersections and analytical results are presented below in Table No. 4, (after Table 5c in Perry, 2002).

**Table No. 4 - Ace VMS Project Significant DDH intersections (1998 and 2002)**

<b>1998 Hole</b>	<b>Interval metres</b>	<b>Lth. (cm)</b>	<b>Au ppb</b>	<b>Ag ppb</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Mo ppm</b>	<b>Bi ppm</b>	<b>As ppm</b>	<b>Se ppm</b>	<b>Cd ppm</b>	<b>Sb ppm</b>	<b>Te ppm</b>	<b>Tl ppm</b>	<b>W ppm</b>
<b>98-03</b>	<b>39.25-39.50</b>	<b>25</b>	<b>149</b>	<b>760</b>	<b>604</b>	<b>22</b>	<b>309</b>	<b>4.1</b>	<b>1.1</b>	<b>775</b>	<b>16.1</b>	<b>1.7</b>	<b>2</b>	*	*	*
	39.5-39.8	30	27	<b>5510</b>	85	56	<b>202</b>	<b>22</b>	*	136	4.3	1.3	1.2	*	*	*
	<b>39.8-40.0</b>	<b>20</b>	<b>280</b>	<b>1495</b>	<b>467</b>	<b>42</b>	<b>345</b>	<b>7.8</b>	<b>1.9</b>	<b>396</b>	<b>17.6</b>	<b>2.2</b>	<b>3.1</b>	*	*	*
	40.45-41.60	115	39	<b>556</b>	<b>242</b>	<b>57</b>	142	4.1	*	81	5.1		*	*	*	*
	41.6-42.67	107	15	486	102	<b>77</b>	<b>411</b>	<b>51</b>	*	59	4.7	4.8	*	*	*	*
	42.67-43.7	103	33	<b>673</b>	<b>247</b>	<b>77</b>	<b>519</b>	<b>79</b>	*	73	6.2	6.5	1.7	*	*	*
	43.7-45.5	180	9	<b>886</b>	<b>214</b>	<b>158</b>	<b>875</b>	4.2	*	26	6.9	5.5	*	*	*	*
<b>98-04</b>	27.4-30.9	150	<b>111</b>	485	177	<b>68</b>	<b>738</b>	<b>20</b>	2.3	194	5.9	5.8	*	*	*	*
<b>98-06</b>	9.7-11.0	130	3	450	195	45	<b>267</b>	<b>25</b>	2.2	*	7.7	1.8	*	*	*	*
	11.0-12.04	104	2	<b>645</b>	79	<b>64</b>	104	<b>16.5</b>	3.1	*	3.9	1.1	*	*	*	*
<b>98-07</b>	<b>79.04-79.4</b>	<b>36</b>	<b>6</b>	<b>1195</b>	<b>538</b>	<b>36</b>	<b>127</b>	<b>11</b>	<b>15.2</b>	*	<b>15.9</b>		*	*	*	*
	84.5-86.0	150	5	<b>2790</b>	44	<b>376</b>	<b>460</b>	<b>75</b>	9.1	38	4.5	11.2	*	*	*	*
<b>2002 Hole</b>	<b>Interval metres</b>	<b>Lth. (cm)</b>	<b>Au ppb</b>	<b>Ag ppb</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Mo ppm</b>	<b>Bi ppm</b>	<b>As ppm</b>	<b>Se ppm</b>	<b>Cd ppm</b>	<b>Sb ppm</b>	<b>Te ppm</b>	<b>Tl ppm</b>	<b>W ppm</b>
<b>02-01</b>	13.65-13.80	15	8	380	<b>285</b>	<b>342</b>	14	6	<b>626</b>	0.2	1	0.16	<b>0.25</b>	<b>0.95</b>	0.24	<b>77</b>
	71.56-71.63	7	<b>764</b>	<b>1300</b>	<b>339</b>	<b>70</b>	106	4	<b>26.9</b>	0.2	3	0.06	<b>0.25</b>	<b>0.55</b>	<b>1.02</b>	<b>23</b>
<b>02-02</b>	159.63-159.75	7.5	<b>692</b>	400	72	30	40	6	<b>72</b>	0.2	*	0.02	0.05	<b>0.25</b>	0.3	<b>18</b>
<b>02-03</b>	21.0-21.6	60	*	<b>760</b>	35	<b>92</b>	<b>844</b>	<b>116</b>	4.7	0.2	3	16.6	0.05	0.05	0.18	8
	21.6-21.8	20	*	<b>540</b>	65	47	<b>628</b>	<b>26</b>	4.8	0.8	5	3	<b>0.25</b>	0.05	<b>0.72</b>	<b>12</b>
	21.8-22.35	55	*	340	78	45	<b>502</b>	<b>102</b>	1.5	0.2	5	6.3	<b>5</b>	0.1	0.22	7
	22.35-23.35	100	*	<b>700</b>	72	<b>73</b>	<b>446</b>	<b>104</b>	<b>10.3</b>	0.2	5	5.6	0.1	0.1	0.18	6
<b>02-04</b>	42.5-43.5	100	36	280	27	<b>63</b>	<b>278</b>	15	1.7	<b>35</b>	5	2.4	1.4	0.15	<b>0.92</b>	3
	43.5-43.75	25	<b>526</b>	360	113	32	70	8	2.5	<b>318</b>	7	0.6	<b>3.6</b>	<b>0.25</b>	0.5	5
	45.7-46.2	50	16	180	127	8	<b>732</b>	<b>28</b>	0.6	<b>23</b>	10	7.5	<b>1.1</b>	0.05	<b>1.26</b>	4
	54.25-54.6	35	34	<b>1440</b>	<b>663</b>	17	<b>234</b>	14	2.02	<b>42</b>	23	0.4	<b>2.6</b>	<b>1</b>	<b>0.72</b>	3
	57.6-57.9	30	14	<b>1420</b>	<b>486</b>	<b>50</b>	28	<b>42</b>	<b>29.4</b>	5	15	0.3	<b>0.25</b>	<b>0.25</b>	<b>0.28</b>	<b>12</b>
	58.5-58.67	0.15	42	<b>1640</b>	<b>571</b>	<b>68</b>	<b>206</b>	<b>84</b>	<b>31.5</b>	<b>69</b>	13	2.2	<b>0.45</b>	<b>0.25</b>	0.22	9

## **14.0 SAMPLING METHOD and APPROACH**

Work on the Ace property was done between 1993 and 2003. Since then the property has been dormant. The historical sampling methods used vary and are not always described in detail in the respective assessment reports. The assessment reports should be consulted for the sampling methodology in the respective year's work.

The sampling method and approach, in *italics* below, described by McKinley (2004), applies to Barker Minerals' exploration work on the Ace and 'Peripheral' properties in 2003 and is common industry practice.

### **Rock samples**

*Reconnaissance rock samples were all grab samples i.e. a single chunk or several pieces from a single, discrete site. Where specified, chip samples were taken as a series of evenly-spaced small pieces collected over a specified sample length across a geological unit or structure of interest. Outcrops and boulders containing sulphide mineralization were sampled by grab or chip sampling. All exposures of bedrock in trenched areas that contain sulphide mineralization were channel sampled. All drill core containing sulphide mineralization associated with the massive sulphide targets was sawn in half with a diamond saw. One half of each sample interval was sent out for assay, while the other half was saved for future reference.*

### **Geochemical soil, till and stream-sediment samples**

*Soil samples were collected with grub hoe and trowel, from near the top of the "B" soil horizon, or as near to that horizon as could be reasonably determined under field circumstances. Samples were collected and placed in standard kraft paper envelopes manufactured for the purpose. The sample bags were labelled with the station and line. On return to base camp in Likely, the samples were air-dried in their bags prior to shipment to the lab. At the lab the samples were oven-dried, then sieved to -80 mesh and aliquots taken for testing. Stream-sediment samples were collected by digging silt from the active stream bed, screening out coarse material in the field and sending the wet sample to the lab, where the -80 mesh fraction was obtained and analyzed.*

*During the 2003 program, a series of samples were collected from the glacial till profiles exposed in the trenches. Generally a large, several kilogram sample was collected in a plastic sample bag. In places, samples were taken of both the upper, brown oxidized till and the lower grey till for comparison. In most cases only the deeper grey till was sampled for the purpose of comparing with soil geochemical data. Excess water was carefully removed from the sample bags prior to shipping to the laboratory.*

### **Factors to affect accuracy and reliability of samples**

*A few samples of drill core were from intervals for which drill recovery was significantly less than 100%. These include some of the intervals of massive sulphide.*

*In the case of the 2003 till geochemical samples, these were intended to be single, “stand alone” samples and were not intended to comprise a property-wide till geochemical survey. Such a survey would require more consistency of sample type, location and size.*

### **Sample quality and representation**

*Samples are of high quality and are representative of the population from which they were collected.*

### **Geological controls**

*Sampling of drill core from the Ace drilling programs was mainly from distinctive “felsite” rocks and massive sulphide, with a few samples from interlayered limestone near the stratigraphic top of the section. As the zone of mineralization was up to 80 m wide, sampling was done mainly at 1-metre intervals, except where significant geological contacts indicated that sample borders should be at such contacts, e.g., of the massive sulphide.*

*Sampling of drill core from the Frank Creek initial drilling program was mainly from distinctive sediments and metasediments. A total of 300 samples were collected from the core by sawing marked intervals, bagging half the core from the interval and retaining the other half as a permanent core record. A total of 178 samples were collected from the Ace core and 112 samples from Frank Creek core. Samples and check samples were analyzed by Eco-Tech Laboratories (Kamloops, BC), Acme Laboratories (Vancouver, BC) and Chemex (Vancouver, BC) by standard ICP analysis, with Au, Pt, and Pd measured by fire assay. Cu, Pb, Zn samples above 10,000 ppm were analyzed by assay method. A suite of samples from a number of holes in both the Ace and Frank Creek project areas have also been analyzed for whole rock major elements, trace elements and rare earth elements in order to better characterize host rocks.*

## **15.0 SAMPLE PREPARATION, ANALYSIS and SECURITY**

The historical methods used vary and are not always described in detail in the respective assessment reports. The assessment reports should be consulted for the laboratory methodology in the respective year’s work.

The sample preparation, analyses and security, in *italics* below, described by McKinley (2004), applies to Barker Minerals in its exploration work on the Ace and ‘Peripheral’ properties in 2003.

*Core samples were cut and bagged at Likely under the supervision of John Payne, Ph. D., or Christopher J. Wild, P.Eng. In the case of the drill cores, the company re-sampled the core in order to obtain assay data on discreet features and intensely mineralized sub-intervals comprising the mineralized zones, and to facilitate additional whole rock chemical analyses. The samples were stored in a locked garage until shipment. Contract companies specializing in this type of work collected the geochemical exploration soil and stream sediment samples. Barker staff or contract geologists collected rock samples. All sampling during the 2003 program was conducted or supervised by Sean D. McKinley, P.Geo. A significant portion of the*

*lithogeochemical sampling carried out by Dr. Tim Barrett of OSC was observed by Sean D. McKinley, P.Geo.*

*Barker Minerals Ltd. personnel shipped samples to the analytical laboratories. Pulps, rejects and rock reference examples are stored at Barker Minerals' facilities in Langley. The drill core from the 1998 and 2002 drill programs is stored at the company's field camp in Likely, BC.*

*All assay and chemical analytical work was performed by certified laboratories. Acme Analytical Laboratories of Vancouver, B. C, performed most of the soil, stream and rock assays. Some check assaying was completed by Activation Laboratories in Ontario and Chemex of Vancouver. The results compared well. All analytical work in the 2003 program, including lithogeochemical work by Tim Barrett, was carried out by Acme Analytical Laboratories, Vancouver, B.C. In an extra effort to avoid cross-contamination, 2003 sample preparation included an extra wash with glass between each sample in the pulveriser (Acme procedure XWSH).*

#### **Fire assay**

*Traditional 30g lead fire assay followed by acid dissolution of the bead and ICP analysis of the resultant solution was used to determine gold, platinum, palladium in rock samples. 2003 samples that were noticeably graphitic and where gold was considered important were reanalysed using Acme Labs' 3B fire assay package for precious metals since the presence of carbon in the sample can adversely affect Au detection by conventional ICP techniques.*

#### **ICP**

*Normally Acme Laboratories provides a 30-element inductively-coupled plasma (ICP) analysis for soil and rock samples. The ICP method involves dissolving 0.5 grams of -80 mesh sample in aqua regia (1hr @ 95°C), and the resulting solution is then aspirated into an ICP emission spectrograph, which determines the concentrations of the 30 elements. A standard "wet" geo-analytical method involving dissolution in aqua regia, extraction by MIBK and determination by graphite furnace atomic absorption spectroscopy was used to determine trace geochemical concentrations of gold in soil samples. 2003 rock geochemical samples not requiring whole rock characterization or mineralized samples used this technique, but used the 36 element Acme 1DX ICP-MS package which gives lower detection limits for many elements than the 30 element 1D ICP-ES package.*

#### **Ultra-trace ICP**

*Sample preparation and dissolution are the same as for standard ICP analyses. However, much larger splits are used, usually 10 grams. This allows analysis of a broader range of elements with much greater sensitivity and accuracy, using the same ICP emission spectrograph. Till samples in the 2003 program utilized the Acme Labs 1F-MS ICP package using a larger 30 gram sample split which was deemed more representative for potentially gold-enriched samples.*



### **Hydride Method**

*Sample preparation and dissolution are the same as for ICP with 0.5 gram splits. As, Bi, Sb, Se, Te and Ge are then precipitated in a 50% ammonium hydroxide solution. After centrifuging, the precipitate is separated and re-dissolved in aqua regia. The hydrides of the analytes are then volatilized with borohydride solution, and determinations are made via the ICP emission spectrograph.*

### **Whole rock analysis**

*Samples are dried and crushed to -80 mesh. Then a 0.2 gram sub-sample is placed in a crucible with LiBO<sub>2</sub> flux, and melted during 25 minutes at 1025°C. The molten material is then dissolved in nitric acid, and the resulting solution is then aspirated into the ICP emission spectrograph for determination of the concentrations of major oxides and elements. 2003 rocks samples, where whole rock characterization was required, utilized Acme Labs major and trace element packages 4A and 4B (additional trace elements were added on using the 1DX package). The rare earth and refractory elements in package 4B were digested using LiBO<sub>2</sub> fusion and ICP-MS analysis; precious and base metals were analysed via aqua regia digestion and ICP-MS.*

### **High grade Au samples**

*High-grade gold samples were analyzed by a second lab as a confirmation of the high-grade gold bearing nature of the samples (Table 8 in Perry, 2002). Selected high-grade gold samples were examined by the Geological Association of Canada (Harris 1995), Dr. Payne (1994), and Dr. Skupinski (1994-5) whose petrographic reports confirmed the presence of gold and its associated minerals.*

*Occasionally, when high-grade gold results were obtained, Acme Labs ran a repeat analysis of a sub-sample of the pulp of the sample.*

*Barker occasionally submitted duplicate samples in order to check the precision of the analytical work being performed. In these instances, a rock sample would be divided into 3 similar portions, with 2 going for analyses with different sample numbers to the same or different laboratories and the 3<sup>rd</sup> sample being stored for future reference or confirmation purposes.*

This author considers that the sampling methods by Barker Minerals have been in accordance with normal practice in the mineral exploration industry and have been done in an ethical manner. Analyses were done by certified chemists at accredited laboratories. Secure locked storage of samples before shipment is in the garage and main building at Barker Minerals' field office at which field programs are based.

## **16.0 DATA VERIFICATION**

This author has traversed Barker Minerals' 'Peripheral' group of claims extensively and personally supervised the 2007-2008 field programs. On October 9, 2008 this author inspected

Barker's drill pads and trenches made between 1997 and 2003 on the Ace property and verified that evidence for this old work still exists, but was not involved in any of the work done on the Ace property. The quote, in *italics*, below is from McKinley (2004), mainly after Perry (2002).

*The analytical laboratories used standard reference materials and calibration solutions, repeat measurements on solutions and re-assays of pulps in order to insure quality control and data verification in regard to chemical analyses. Occasional cross-check analyses were performed by other certified laboratories, and the results compared favourably. [ActLabs routinely analyses duplicate samples and standards and reports these analyses on the data certificates.] The Company has preserved the Certificates of Assay as issued by the accredited analytical laboratories per each sample and test.*

*The geophysical surveys were conducted to industry standards by contracted professional geophysicists, including concurrent in-field checks on the validity of the data. Barker Minerals' staff has occasionally verified geophysical data via independent traverses with its own equipment.*

*Numerous samples were collected and analyzed independently by the Geological Survey of Canada (GSC), the British Columbia Geological Survey (BCGS) and several major mining companies as results of property reviews and visits, and the analytical results obtained independently compare well to Barker Minerals' results for similar material collected from the same locales.*

## **17.0 ADJACENT PROPERTIES**

### **17.1 Simlock Property (Au) - BC Minfile 093A 182**

Barker Minerals' Simlock property is approximately 10 km northwest from the bottom of the F Road on Ace property. For overall clarity the extensive discussion of the historical work by previous owners at Simlock Creek is provided in Section 8.2 - History and the deposit model type is discussed in Section 10.2 - Deposit Types alongside same such discussions for Ace. Recommendations for future work on Simlock are provided in Section 22.2.

### **17.2 Cariboo Property (Pb-Zn) - BC Minfile 093A 110**

Barker Minerals' Cariboo property is located 5.7 km northwest from the bottom of the F Road on Ace property and is contained within Barker's large 'Peripheral' group of claims (see Figure Nos. 5 and 7 for location). It is situated on the Cariboo tectonic terrane. The Minfile classes this prospect as a possible Irish (Kootenay Arc) carbonate-hosted Pb-Zn deposit-type. McKinley's (2004) discussion of this property is in *italics* below.

*Barker Minerals' Cariboo Prospect, also known as the Maybe Prospect, and classified as a developed prospect, was explored during 1986 and 1988 by Gibraltar Mines Ltd. The prospect*

*contains three main stratiform lenses of ankerite, quartz, sphalerite, galena and minor pyrite enclosed in limestone-rich strata of probable Middle Devonian age (Hóy and Ferri, 1998). These, in turn, are inter-layered with dark grey graphitic phyllite. One prominent quartzite bed occurs a hundred metres stratigraphically below the sulphide-rich beds. The rocks were deformed, sheared and foliated. Some of the lenses probably were formed by late- to post-tectonic remobilization.*

*The sulphide-rich layers of mineralization of the Cariboo Zn-Pb [showing] have a higher-grade central section up to 1 m. thick of more massive sphalerite with scattered patches of galena, with dispersed and vein sphalerite-galena mineralization extending 2-3 m on either side.*

*The large Zn/Pb ratio, moderate silver content and low gold content are similar to those of many carbonate-hosted, replacement Zn-Pb deposits, including those in the Early Cambrian platform carbonates of the Kootenay arc. Limited bulldozer trenching and [20] diamond drill holes by Gibraltar Mines resulted in an in-house mineral inventory estimate [where at a 1 per cent combined lead-zinc cutoff, the lower part of the Main zone contains 200,000 tonnes of continuous mineralization, and probably a similar volume of material occurs combined in the other zones, for a total of 400,000 tonnes at 4 per cent combined lead-zinc (BC Assessment Report 17357)]. This is not an appropriate resource category and does not comply with the requirements of current securities legislation.*

*During 1996 Barker Minerals conducted reconnaissance geological mapping and rock sampling, with some grab samples returning results of up to 32.8% Zn, with 2.4% - 4.5 % Pb and 63 g/t (2 oz/t ) Ag (Roach, 1997). The zinc and lead sulphides display enrichment in Hg and Sb, and the zone shows other characteristics of an epithermal system such as overall phyllic and advanced argillic alteration, quartz-carbonate and carbonate stockwork, and crustiform banded massive sphalerite and galena (Roach, 1997; BC Assessment Report 24989).*

*Perry (2002) recommended detailed geological mapping should be continued in the Cariboo prospect area in order to help determine the extent of deformation and in order to explore for targets of Zn+Pb replacement deposits along strike of the known zones. Compilation of all relevant data and limited diamond drilling [was] recommended in order to confirm the previous operator's drilling and in order to further define and investigate the size and economic potential of this deposit, which is open in both directions along strike and at depth.*

### **17.3 Mae Property (Pb-Zn-Cu) - BC Minfile 093A 087**

Barker Minerals' Mae property is located 8.7 km east from the foot of the F Road on Ace property and is contained within Barker's 'Peripheral' group of claims. It is situated on the Barkerville tectonic terrane. Barker has not done any work on this prospect. BC Minfile 093A 087 classes this prospect as possible Besshi massive sulphide deposit-type. The Minfile provides the summary of this property in *italics* below.

*The Mae showing is located just west of Maeford Lake. The property was staked in 1988, following the discovery of sulphide-bearing float and a follow-up soil geochemical survey. Subsequent soil surveys outlined three zones with coincident lead-zinc anomalies. Despite limited outcrop, mineralization was discovered in two of the anomalous zones*

*The area is underlain by a northwest dipping succession of garnet schist, black phyllite, calcsilicate gneiss and minor marble and amphibolite of the Downey Succession (Cambrian?). Immediately to the north, this succession is overlain by a thick limestone-marble unit, the Bralco limestone. Late northwest trending faults, with displacements of a few tens of metres, cut these units. The regional metamorphic grade is high, with garnets and staurolites developed in pelitic units and amphibole in calcsilicates and mafic metavolcanics.*

*The showing comprises a number of layers of stratabound lead-zinc-copper mineralization in the calcsilicate-amphibolite assemblage. Mineralization in the first anomalous zone comprises dispersed sulphides in thin, rusty-weathering, fine-grained quartz- garnet amphibolite layers. The amphibolites are interlayered with coarse-grained garnet-biotite schist, minor calcsilicate gneiss and thin impure marble layers. Pyrite (and marcasite) occurs in late veinlets and replacing pyrrhotite.*

*The second anomalous zone, on the slopes above the first zone, is underlain mainly by the Bralco limestone. The only discovered mineralization is minor galena in a sparry dolomite filled fracture within the marble.*

*These showings and host succession have similarities with manganese-rich, stratabound lead-zinc showings of the Bend prospect (Minfile 083D 001) north of Golden. They also have similarities with volcanogenic sulphide deposits, in particular Besshi-type deposits. These include a mixed mafic volcanic (?)/metasedimentary host succession and a copper, zinc and lead metal content.*

## **18.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

This section is not applicable.

## **19.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

This section is not applicable.

## **20.0 OTHER RELEVANT DATA AND INFORMATION**

The Class A Cariboo River Provincial Park, approximately 1.5 km wide by 20 km long, occupies the Cariboo River plain north of Cariboo Lake. No roads may be built nor mineral claims staked within this area. The main trenching area at Ace property, at the foot of Hardyck Road, is

7.0 km ESE of the park border. The confluence of Simlock and Harvey Creeks on the Simlock property is 3.4 km NW of the park boundary.

## **21.0 INTERPRETATION AND CONCLUSIONS**

### **21.1 Regarding Ace**

The Ace property is underlain by a sequence of sedimentary rocks including turbidites, and possibly intermediate volcanic rocks. The rocks are metamorphosed to schists, quartzites and minor limestone. Notable as well is a pyrite and pyrrhotite-rich graphitic layer and coticule rocks. Local semi-massive to massive occurrences of sulphide mineralization, dominantly pyrite and pyrrhotite, are associated with a finely laminated plagioclase-rich siliceous metamorphic rock unit generally termed a 'felsite', underlying the graphitic layer. A detailed lithochemical study concluded the 'felsite' rocks are most likely hydrothermally albitized and silicified clastic sedimentary rocks or possible andesitic volcanics.

Quartz veins, commonly containing sulphides, occur abundantly over an 8 km trend on the property in outcrop but mostly as float boulders. Gold, often with high Au assays and associated with bismuth and telluride and sulphide minerals, occurs in the quartz. Mineral deposit types considered at Ace have been Besshi or sedex massive sulphides, overprinted by later gold-quartz veins including sulphides remobilized from the earlier mineralization. The presence of Bi and Te mineralization with Au in the the quartz veins and a nearby large intrusive body suggest the possibility of Reduced Intrusion-Related Gold System mineralization at Ace.

Extensive geochemical and geophysical surveys done on the Ace property have tended to affirm that massive sulphide pods overlie and are contained within the hydrothermally altered 'felsite' rocks. The limited trenching and small amount of drilling to date mainly targeted chosen geophysical anomalies along the 2.5 km 'felsite' trend in exploration for massive sulphides. Overall this work has not been systematic nor intensive enough and important targets remain untested, for example the E-Scan resistivity low and Conductor A (Figure No.16). The 6 km x 1 km intrusive body on the south side of the Ace property has not been explored.

With the previous concentration of exploration on Ace for massive sulphides, insufficient attention has been paid to the gold-quartz occurrences considering their similarity to lode gold deposits at Wells-Barkerville. The high assays got so far, in float and outcrop occurrences, indicate the possibility of a high grade gold deposit on the property. More follow-up is required on soil geochemical anomalies and quartz occurrences with anomalous gold. Some examples requiring further work are:

- Soils anomalous in copper occur in the upper part of J (Joe) Road, middle part of F Road and near culvert #7 on the upper part of F Road (Figure No. 21). Anomalous arsenic (Figure No. 17) appears to be associated with copper at the first two of these locations.

- An anomalous NW-trending gold soil anomaly (Figure No. 18) traverses the 'boron halo' anomaly, following the lower part of the F Road. Figure No. 22 shows numerous quartz float boulders with gold values greater than 1,000 ppb Au have been found along the road here. The figure also shows that most of the gold-quartz occurrences have been found along road traverses and suggests much more, including outcrops, may be found off-road in continued prospecting.
- Veins oriented northerly or transverse to the regional strike of the rocks were the most productive at the Cariboo Gold Quartz Mine at Wells. Insufficient attention has been paid to the transverse GSC-1 and GSC-2 faults at Ace, in particular the F-G VLF-EM and magnetic anomaly from the 1995 survey. As well, all northerly or transverse faults and veins at Ace should be identified and assessed.
- The most prominent quartz vein in outcrop was at the site of Sample No. 1150 (0.36 g/t Au) approximately 1.0 km uphill, SE of the highly anomalous stream sediment at culvert #7 on the F Road. Here a 0.5 m to 2.0 m wide rusty vein was observed to trend over 100 m. Figure No. 22 shows the locations of other gold-quartz occurrences (boulders) high on Barker Mountain ridge; the outcrop for Sample No. 1150 is not shown though it is in Salat's (1995) map. This sample and other nearby veins should be followed up by trenching; overburden at these higher elevations is not expected to be deep.
- Overburden has been noted to be deep at the lower elevations at Ace and this may have hampered the creation of accurate soil geochemical maps. Barker's stored pulps could be re-analyzed with an enzyme leach method, reputed to be able to 'see through' deep overburden. This may give a better defined picture of the soil geochemistry and may show up important new anomalies co-incident with geophysical features.

The extensive data base at Ace should be put in a GIS in order to improve the view of it and to use it more effectively in discerning trends and correlations. A new comprehensive set of geochemical and geophysical maps needs to be made and plotted on an accurate topographic base.

The Ace property is a significant massive sulphide prospect, possibly similar to massive sulphide occurrences in southern British Columbia such as the Sullivan or Goldstream deposits or prospects in the Eagle Bay Group in the Kootenay Terrane. Later gold-quartz mineralization on Ace may be similar to lode gold-quartz occurrences in the Wells-Barkerville gold camp to the northwest where gold ore bodies were associated with massive sulphide lenses and later quartz veins.

## **21.2 Regarding Simlock**

Symonds (2003) concluded; *Lode gold exploration to date on the Simlock Creek Property has succeeded in detecting significant gold soil geochemical anomalies and gold/silver/lead mineralization over...approximately 1.5 kilometres in length. There is room on the property to extend this further...*

*The Simlock Creek Property is located in the same belt of favourable rocks that host significant past-producing gold mines in the Barkerville camp and the Wells camp. The trend of the gold soil geochemical anomaly and associated mineralization roughly parallels the strike of this belt of favourable rocks. The writer [Symonds] concludes that a program of further work is justified on the Simlock Creek Property, based upon exploration results to date and the favourable location of the property with respect to known mines in the area.*

This author concurs with Symonds' recommendation of a two-phase exploration program including an induced polarization geophysical survey and mechanical trenching and drilling. An HLEM survey should also be done; the objective of the geophysical surveys would be to discover disseminated and local massive sulphide bodies. Such bodies, often occurring with limestone, are an important locus for gold ore bodies in the Wells-Barkerville camp.

## **22.0 RECOMMENDATIONS**

### **22.1 Regarding Ace:**

New exploration should focus more on Au-quartz veins than has been done. A deposit-type sought would be similar to the lode Au mines in the Wells camp where Au-quartz veins with accompanying massive sulphide lenses were often associated with carbonate. Sedex or Besshi-type massive sulphide mineralization should still be pursued. A Pogo-type RIRGS mineral deposit should be considered as a possible exploration target in future work on Ace. Consequently the Pd intrusive unit (see Figure No. 7) on the south side of the Ace area should be prospected and evaluated.

The 'felsite' trend remains a valid and important locus of potential economic mineralization and intensive exploration including trenching and drilling should be continued along it.

Lines of the main and southeast grids should be extended southwest to 2.0 km from the baseline. The gap between the two old grids north of the baseline should be closed. The objective of enlarging the grid would be to follow historical soil geochemical anomalies, for example Cu and As, of which highest values are on the southwest edge of the existing grids, and to explore areas where Au-bearing quartz veins were found in float and outcrop. Soil sampling and IP geophysics should be done on the grid lines.

The Hardyck, Jim, J and F Roads should be brushed out to facilitate access to the work areas. A road should be built from the F Road to access quartz vein trenching and drill targets.

Extensive systematic mechanical trenching should be done on untested historical geochemical and geophysical targets and at known quartz vein locations. Existing geochemical and geophysical anomalies off the 'felsite' trend should be trenched and selected targets drilled. A second phase of trenching and drilling is anticipated in follow-up of new geochemical and geophysical anomalies resulting from the 1<sup>st</sup> phase exploration.

Ace: phase 1

Prospecting	\$	10,000
Grid preparation and line cutting (100.0 km)	\$	100,000
Road building/rehab (6,000 m)	\$	600,000
Trenching (5,000 m)	\$	500,000
Geochemistry @ \$60/sample		
4,000 soil samples (enzyme leach)	\$	240,000
3,000 rock, core samples	\$	180,000
Geophysics (100.0 line km IP)	\$	500,000
(100.0 line km mag/vlf)	\$	30,000
Geology, mapping	\$	60,000
Drilling @ \$150/metre (includes mob/demob, drilling)		
- grid pattern & targets – 10,000 m	\$	1,500,000
Consulting/core logging & cutting	\$	140,000
Camp manager/cook/expediter	\$	200,000
Vehicles/Transportation/Mobilization & demob	\$	300,000
Fuel	\$	200,000
Camp costs/supplies/maintenance/repairs	\$	100,000
Room & board/food	\$	240,000
Re-log historic core	\$	10,000
Planning, supervision, report	\$	60,000
Put all data into a GIS	\$	30,000
Contingency (approx. 10%)	\$	500,000
	<b>\$</b>	<b>5,500,000</b>

If warranted by results from phase 1, the 2<sup>nd</sup> phase of the work may include:

Ace: phase 2

Road building/rehab (2,000 m)	\$	200,000
Trenching (2,000 m)	\$	200,000
Geochemistry @ \$60/sample		
1,500 rock, core samples	\$	90,000
Drilling @ \$150/metre (includes mob/demob, drilling)		
- grid pattern & targets – 5,000 m	\$	750,000



Consulting/core logging & cutting	\$	60,000
Camp manager/cook/expediter	\$	60,000
Vehicles/Transportation/Mobilization & demob	\$	100,000
Fuel	\$	100,000
Camp costs/supplies/maintenance/repairs	\$	60,000
Room & board/food	\$	100,000
Planning, supervision, report	\$	60,000
Contingency (approx. 10%)	\$	<u>180,000</u>
	\$	<b>1,960,000</b>

## 22.2 Regarding Simlock:

70.0 km of grid lines should be cut and prepared for soil sampling and geophysical surveys. The purpose of the geochemical and geophysical surveys along with geological mapping and prospecting would be to define the favourable trends of the 'ironstone ledges' and limestone which are approximately known from the historical work. Mechanical trenching should be done on the Au-bearing quartz outcrops to enlarge and follow them. Intensive and extensive trenching along the ironstone-limestone trends should be done. A second phase of work involving drilling and further trenching would follow-up the results of the first phase work. The existing road network in the work area should be brushed out as necessary and several new trails should be built to access targeted trenching areas.

### Simlock: phase 1

Prospecting	\$	10,000
Grid preparation and line cutting (70.0 km)	\$	70,000
Road building/rehab (5,000 m)	\$	500,000
Trenching (5,000 m)	\$	500,000
Geochemistry @ \$60/sample		
3,000 soil samples (enzyme leach)	\$	180,000
200 rock samples	\$	12,000
Geophysics (70.0 line km IP)	\$	350,000
(70.0 line km mag/vlf)	\$	20,000
Geology, mapping	\$	40,000
Camp manager/cook/expediter	\$	50,000
Vehicles/Transportation/Mobilization & demob	\$	100,000
Fuel	\$	80,000
Camp costs/supplies/maintenance/repairs	\$	50,000
Room & board/food	\$	50,000
Planning, supervision, report	\$	60,000
Contingency (approx. 10%)	\$	<u>198,000</u>
	\$	<b>2,270,000</b>

If warranted by results from phase 1, the 2<sup>nd</sup> phase should include drilling and further trenching but the possible extent of this follow-up work cannot be estimated at this time.

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[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093A++087](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093A++087)

Minfile No. 093A 095 (International)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093A++095](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093A++095)

Minfile No. 093A 111 (Sylvain/Langis)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093A++111](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093A++111)

Minfile No. 093A 142 (Ace)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093A++142](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093A++142)

Minfile No. 093A 182 (Simlock Creek)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093A++182](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093A++182)

Minfile No. 093H 006 (Island Mountain)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093H++006](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093H++006)

Minfile No. 093H 010 (Mosquito Creek)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093H++010](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093H++010)

Minfile No. 093H 019 (Cariboo Gold Quartz)

[http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile\\_Detail.rpt&minfilno=093H++019](http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Minfile_Detail.rpt&minfilno=093H++019)

Geoscience BC Quest Project, [www.geosciencebc.com/s/Quest.asp](http://www.geosciencebc.com/s/Quest.asp)



## **24.0 DATES and SIGNATURES**

### **Certificate of Author:**

I, Rein Tuma, P.Geo. do hereby certify that:

1. I am currently employed as Vice President of Exploration by Barker Minerals Ltd.

Barker Minerals Ltd.  
8384 Toombs Drive  
Prince George, B.C., Canada, V2K 5A3  
Telephone: (250) 563-8752  
Email: Barker@telus.net

I own and am President of my wholly owned consulting company:

Geocon Exploration Management Ltd.  
5818 Falcon Road  
West Vancouver, B.C., Canada, V7W 1S3  
Telephone: (604) 921-8908  
Email: geocon002@shaw.ca

2. I graduated with the degree Bachelor of Sciences in Geological Sciences from the University of British Columbia in 1975.
3. I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.
4. I have worked as a geologist over 30 years since my graduation from university.
5. I have read the definition '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.
6. No significant work has been done on the Ace property since 2003. My most recent visit to the property was on October 9, 2008 to verify evidence of historic work (drilling & trenching) done by Barker Minerals Ltd.
7. I am responsible for the preparation of all sections in the technical report titled Technical Report on the ACE Property – Cariboo Lake Area – Cariboo Mining Division, British Columbia (the 'Ace Report').

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. Greater than half of my gross income comes from employment with Barker Minerals Ltd.  
  
I hold 370,000 common shares without par value in the capital of Barker Minerals Ltd.  
  
I hold 220,000 warrants, each entitling me to purchase one common share of Barker Minerals Ltd. at a price of \$0.10 per share until December 31, 2010.  
  
I hold 150,000 warrants, each entitling me to purchase one common share of Barker Minerals Ltd. at a price of \$0.05 per share until January 5, 2011.  
  
I have a stock option plan with Barker Minerals Ltd. wherein I hold an option to purchase up to 150,000 common shares in the capital stock of Barker Minerals Ltd. at the purchase price of \$0.40 per share. The grant date of this option is April 20, 2007. The expiry date of this option is April 20, 2011.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for the regulatory purposes, including electronic publication in the public company files on their website accessible by the public, of the Technical Report.

Dated this 11th Day of October, 2009

-- Signed and Stamped --

---

**Signature: Rein Turna, BSc., PGeo.**

**Consent of Author:**

Geocon Exploration Management Ltd.  
5818 Falcon Road, West Vancouver, B.C., Canada, V7W 1S3  
Telephone: (604) 921-8908  
Email: geocon002@shaw.ca

Barker Minerals Ltd.  
British Columbia Securities Commission  
Alberta Securities Commission  
Ontario Securities Commission  
TSX Venture Exchange

I, Rein Turna, P.Geo., am the author of the Technical Report titled "Technical Report on the Ace Property – Cariboo Lake Area – Cariboo Mining Division, British Columbia" dated October 11, 2009 (the "Ace Report") and consent to the inclusion of any extracts from or a summary of the Ace Report in the Annual Information Form of the Company (the "AIF") and to the filing of the Report with the securities regulatory authorities referred to above. I also consent to the reference to myself in the AIF.

I also certify that I have read the AIF being filed and have no reason to believe that there are any misrepresentations in the information contained in it that are derived from the Ace Report or, within my knowledge as a result of the services provided by me in connection with the Ace Report.

Dated this 11th Day of October, 2009

-- Signed and Stamped --

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Signature: **Rein Turna, BSc., PGeo.**

## **25.0 ADDITIONAL REQUIREMENTS**

This section is not applicable.

## **26.0 ILLUSTRATIONS**

Figure Nos. 7 and 10 to 25 are found in this Section. Refer to the Table of Contents for the locations of Figure Nos. 1 to 6 and 8 to 9.

**Appendix A**  
**B.C. Geological Survey Mineral Deposit Types**

**BESSHI MASSIVE SULPHIDE Zn-Cu-Pb**

G04

by Trygve Høy  
British Columbia Geological Survey



*Høy, Trygve (1995): Besshi Massive Sulphide, in Selected British Columbia Mineral Deposit Profiles, Volume 1 - Metallics and Coal, Lefebvre, D.V. and Ray, G.E., Editors, British Columbia Ministry of Energy of Employment and Investment, Open File 1995-20, pages 49-50.*

**IDENTIFICATION**

**SYNONYMS:** Besshi type, Kieslager.

**COMMODITIES (BYPRODUCTS):** Cu, Zn, Pb, Ag, (Au, Co, Sn, Mo, Cd).

**EXAMPLES (British Columbia - Canada/International):** Goldstream ([082M 141](#)), Standard ([082M 090](#)), Montgomery ([082M 085](#)), True Blue ([082FNE002](#)), Granduc (?) ([104B 021](#)), Windy Craggy (?) ([114P 020](#)); *Greens Creek (Alaska, USA), Besshi (Japan)*.

**GEOLOGICAL CHARACTERISTICS**

**CAPSULE DESCRIPTION:** Deposits typically comprise thin sheets of massive to well layered pyrrhotite, chalcopyrite, sphalerite, pyrite and minor galena within interlayered, terrigenous clastic rocks and calcalkaline basaltic to andesitic tuffs and flows.

**TECTONIC SETTINGS:** Oceanic extensional environments, such as back-arc basins, oceanic ridges close to continental margins, or rift basins in the early stages of continental separation.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** Terrigenous clastic rocks associated with marine volcanic rocks and sometimes carbonate rocks; these may overlie platformal carbonate or clastic rocks.

**AGE OF MINERALIZATION:** Any age. In British Columbia, most deposits are Cambrian, Late Triassic and less commonly Mississippian-Permian in age.

**HOST/ASSOCIATED ROCK TYPES:** Clastic sediments and marine volcanic rocks; basaltic tuffs and flows, shale and siltstone, commonly calcareous; less commonly chert and Fe formations. Possibly ultramafics and metagabbro in sequence.

**DEPOSIT FORM:** Typically a concordant sheet of massive sulphides up to a few metres thick and up to kilometres in strike length and down dip; can be stacked lenses.

**TEXTURE/STRUCTURE:** Massive to well-layered, fine to medium-grained sulphides; gneissic sulphide textures common in metamorphosed and deformed deposits; durchbewegung textures; associated stringer ore is uncommon. Crosscutting pyrite, chalcopyrite and/or sphalerite veins with chlorite, quartz and carbonate are common.

**ORE MINERALOGY (Principal and subordinate):** Pyrite, pyrrhotite, chalcopyrite, sphalerite, cobaltite, magnetite, galena, bornite, tetrahedrite, cubanite, stannite, molybdenite, arsenopyrite, marcasite.

**GANGUE MINERALOGY (Principal and subordinate):** Quartz, calcite, ankerite, siderite, albite, tourmaline, graphite, biotite.

**ALTERATION MINERALOGY:** Similar to gangue mineralogy - quartz, chlorite, calcite, siderite, ankerite, pyrite, sericite, graphite.

**ORE CONTROLS:** Difficult to recognize; early (syndepositional) faults and mafic volcanic centres.

**GENETIC MODEL:** Seafloor deposition of sulphide mounds in back-arc basins, or several other tectonic settings, contemporaneous with volcanism.

**ASSOCIATED DEPOSIT TYPES:** Cu, Zn veins.

### **EXPLORATION GUIDES**

**GEOCHEMICAL SIGNATURE:** Cu, Zn, Ag, Co/Ni>1; Mn halos, Mg enrichment.

**GEOPHYSICAL SIGNATURE:** Sulphide lenses usually show either an electromagnetic or induced polarization signature depending on the style of mineralization and presence of conductive sulphides.

**OTHER EXPLORATION GUIDES:** Mafic volcanic rocks (tholeiitic, less commonly alkalic) associated with clastic rocks; Mn-rich garnets in metamorphosed exhalative horizons, possible structures, such as faults; possible association with ultramafic rocks.

### **ECONOMIC FACTORS**

**GRADE AND TONNAGE:** Highly variable in size. B.C. deposits range in size from less than 1 Mt to more than 113 Mt. For example, Goldstream has a total resource (reserves and production) of 1.8 Mt containing 4.81 % Cu, 3.08 % Zn and 20.6 g/t Ag and Windy Craggy has reserves in excess of 113.0 Mt containing 1.9 % Cu, 3.9 g/t Ag and 0.08% Co. The type-locality Besshi deposits average 0.22 Mt, containing 1.5% Cu, 2-9 g/t Ag, and 0.4-2% Zn (Cox and Singer, 1986).

**IMPORTANCE:** Significant sources of Cu, Zn and Ag that can be found in sedimentary sequences that have not been thoroughly explored for this type of target.

### **REFERENCES**

**Cox, D.P. and Singer, D.A., Editors (1986):** Mineral Deposit Models; U.S. Geological Survey, Bulletin 1693, 379 pages. Høy, T. (1991): Volcanogenic Massive Sulphide Deposits in British Columbia; in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, McMillan, W.J., Coordinator, B. C. Ministry of Energy, Mines and Petroleum Resources, Paper 1991- 4, pages 89-123.

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**November 24, 1992**

# SEDIMENTARY EXHALATIVE Zn-Pb-Ag

E14

by Don MacIntyre  
British Columbia Geological Survey



*MacIntyre, Don (1995): Sedimentary Exhalative Zn-Pb-Ag, in Selected British Columbia Mineral Deposit Profiles, Volume 1 - Metallics and Coal, Lefebure, D.V. and Ray, G.E., Editors, British Columbia Ministry of Energy of Employment and Investment, Open File 1995-20, pages 37-39.*

## IDENTIFICATION

**SYNONYMS:** Shale-hosted Zn-Pb-Ag; sediment-hosted massive sulphide Zn-Pb-Ag; Sedex Zn-Pb.

**COMMODITIES (BYPRODUCTS):** Zn, Pb, Ag, (minor Cu, barite).

**EXAMPLES (British Columbia - Canada/International):** Cirque, Sullivan, Driftpile; Faro, Grum, Dy, Vangorda, Swim, Tom and Jason (Yukon, Canada), Red Dog (Alaska, USA), McArthur River and Mt. Isa (Australia); Megeen and Rammelsberg (Germany).

## GEOLOGICAL CHARACTERISTICS

**CAPSULE DESCRIPTION:** Beds and laminations of sphalerite, galena, pyrite, pyrrhotite and rare chalcopyrite, with or without barite, in euxinic clastic marine sedimentary strata. Deposits are typically tabular to lensoidal in shape and range from centimetres to tens of metres thick. Multiple horizons may occur over stratigraphic intervals of 1000 m or more.

**TECTONIC SETTING:** Intracratonic or continental margin environments in fault-controlled basins and troughs. Troughs are typically half grabens developed by extension along continental margins or within back-arc basins.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** Restricted second and third order basins within linear, fault-controlled marine, epicratonic troughs and basins. There is often evidence of penecontemporaneous movement on faults bounding sites of sulphide deposition. The depositional environment varies from deep, starved marine to ? shallow water restricted shelf.

**AGE OF MINERALIZATION:** The major metallogenic events are Middle Proterozoic, Early Cambrian, Early Silurian and Middle to Late Devonian to Mississippian. The Middle Proterozoic and Devonian-Mississippian events are recognized worldwide. In the Canadian Cordillera, minor metallogenic events occur in the Middle Ordovician and Early Devonian.

**HOST/ASSOCIATED ROCK TYPES:** The most common hostrocks are those found in euxinic, starved basin environments, namely, carbonaceous black shale, siltstone, cherty argillite and chert. Thin interbeds of turbiditic sandstone, granule to pebble conglomerate, pelagic limestone and dolostone, although volumetrically minor, are common. Evaporites, calcareous siltstone and mudstone are common in shelf settings. Small volumes of volcanic rocks, typically tuff and submarine mafic flows, may be present within the host succession. Slump breccia, fan conglomerates and similar deposits occur near synsedimentary growth faults. Rapid facies and thickness changes are found near the margins of second and third order basins. In some basins high-level mafic sills with minor dikes are important.



**DEPOSIT FORM:** These deposits are stratabound, tabular to lens shaped and are typically comprised of many beds of laminae of sulphide and/or barite. Frequently the lenses are stacked and more than one horizon is economic. Ore lenses and mineralized beds often are part of a sedimentary succession up to hundreds of metres thick. Horizontal extent is usually much greater than vertical extent. Individual laminae or beds may persist over tens of kilometres within the depositional basin.

**TEXTURE/STRUCTURE:** Sulphide and barite laminae are usually very finely crystalline where deformation is minor. In intensely folded deposits, coarser grained, recrystallized zones are common. Sulphide laminae are typically monomineralic.

**ORE MINERALOGY (Principal and subordinate):** The principal sulphide minerals are pyrite, pyrrhotite, sphalerite and galena. Some deposits contain significant amounts of *chalcopyrite*, but most do not. Barite may or may not be a major component of the ore zone. Trace amounts of *marcasite*, *arsenopyrite*, *bismuthinite*, *molybdenite*, *enargite*, *millerite*, *freibergite*, *cobaltite*, *cassiterite*, *valleriite* and *melnikovite* have been reported from these deposits. These minerals are usually present in very minor amounts.

**ALTERATION MINERALOGY:** Alteration varies from well developed to nonexistent. In some deposits a stockwork and disseminated feeder zone lies beneath, or adjacent to, the stratiform mineralization. Alteration minerals, if present, include silica, tourmaline, carbonate, albite, chlorite and dolomite. They formed in a relatively low temperature environment. Celsian, Ba-muscovite and ammonium clay minerals have also been reported but are probably not common.

**ORE CONTROLS:** Favourable sedimentary sequences, major structural breaks, basins.

**GENETIC MODEL:** The deposits accumulate in restricted second and third order basins or half grabens bounded by synsedimentary growth faults. Exhalative centres occur along these faults and the exhaled brines accumulate in adjacent seafloor depressions. Biogenic reduction of seawater sulphate within an anoxic brine pool is believed to control sulphide precipitation.

**ASSOCIATED DEPOSIT TYPES:** Associated deposit types include carbonate-hosted sedimentary exhalative, such as the Kootenay Arc and Irish deposits ([E13](#)), bedded barite ([E17](#)) and iron formation (F10).

### **EXPLORATION GUIDES**

**GEOCHEMICAL SIGNATURE:** The deposits are typically zoned with Pb found closest to the vent grading outward and upward into more Zn-rich facies. Cu is usually found either within the feeder zone or close to the exhalative vent. Barite, exhalative chert and hematite-chert iron formation, if present, are usually found as a distal facies. Sediments such as pelagic limestone interbedded with the ore zone may be enriched in Mn. NH<sub>3</sub> anomalies have been documented at some deposits, as have Zn, Pb and Mn haloes. The host stratigraphic succession may also be enriched in Ba on a basin-wide scale.

**GEOPHYSICAL SIGNATURE:** Airborne and ground geophysical surveys, such as electromagnetics or magnetics should detect deposits that have massive sulphide zones, especially if these are steeply dipping. However, the presence of graphite-rich zones in the host sediments can complicate the interpretation of EM conductors. Also, if the deposits are flat lying and comprised of fine laminae distributed over a significant stratigraphic interval, the geophysical response is usually too weak to be definitive. Induced polarization can detect flat-

lying deposits, especially if disseminated feeder zones are present.

**OTHER EXPLORATION GUIDES:** The principal exploration guidelines are appropriate sedimentary environment and stratigraphic age. Restricted marine sedimentary sequences deposited in an epicratonic extensional tectonic setting during the Middle Proterozoic, Early Cambrian, Early Silurian or Devonian-Mississippian ages are the most favourable.

### **ECONOMIC FACTORS**

**GRADE AND TONNAGE:** The median tonnage for this type of deposit worldwide is 15 Mt, with 10 % of deposits in excess of 130 Mt (Briskey, 1986). The median grades worldwide are Zn - 5.6%, Pb - 2.8% and Ag - 30 g/t. The Sullivan deposit, one of the largest deposits of this type ever discovered, has a total size of more than 155 Mt grading 5.7% Zn, 6.6% Pb and 7 g/t Ag. Reserves at the Cirque are 32.2 Mt grading 7.9% Zn, 2.1% Pb and 48 g/t Ag.

**ECONOMIC LIMITATIONS:** The large, near-surface deposits are amenable to high volume, open pit mining operations. Underground mining is used for some deposits.

**IMPORTANCE:** Sedimentary exhalative deposits currently produce a significant proportion of the world's Zn and Pb. Their large tonnage potential and associated Ag values make them an attractive exploration target.

### **REFERENCES**

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- MacIntyre, D.G. (1991):** Sedex - Sedimentary-exhalative Deposits, in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, McMillan, W.J., Coordinator, *B. C. Ministry of Energy, Mines and Petroleum Resources*, Paper 1991-4, pages 25- 69.
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**December 8, 1992**

# Au-QUARTZ VEINS

I01

by Chris Ash and Dani Alldrick  
British Columbia Geological Survey



Ash, Chris and Alldrick, Dani (1996): Au-quartz Veins, in *Selected British Columbia Mineral Deposit Profiles, Volume 2 - Metallic Deposits*, Lefebvre, D.V. and Høy, T, Editors, British Columbia Ministry of Employment and Investment, Open File 1996-13, pages 53-56.

## IDENTIFICATION

**SYNONYMS:** Mother Lode veins, greenstone gold, Archean lode gold, mesothermal gold-quartz veins, shear-hosted lode gold, low-sulphide gold-quartz veins, lode gold.

**COMMODITIES (BYPRODUCTS):** Au (Ag, Cu, Sb).

**EXAMPLES (British Columbia (MINFILE #) - Canada/ International):** Phanerozoic: *Bralorne-Pioneer (092JNE001), Erickson (104P 029), Taurus (104P 012), Polaris-Taku (104K 003), Mosquito Creek (093H 010), Cariboo Gold Quartz (093H 019), Midnight (082FSW119); Carson Hill, Jackson-Plymouth, Mother Lode district; Empire Star and Idaho-Maryland, Grass Valley district (California, USA); Alaska-Juneau, Jualin, Kensington (Alaska, USA), Ural Mountains (Russia).* Archean: *Hollinger, Dome, McIntyre and Pamour, Timmins camp; Lake Shore, Kirkland Lake camp; Campbell, Madsen, Red Lake camp; Kerr-Addison, Larder Lake camp (Ontario, Canada), Lamaque and Sigma, Val d'Or camp (Quebec, Canada); Granny Smith, Kalgoorlie and Golden Mile (Western Australia); Kolar (Karnataka, India), Blanket-Vubachikwe (Zimbabwe, Africa).*

## GEOLOGICAL CHARACTERISTICS

**CAPSULE DESCRIPTION:** Gold-bearing quartz veins and veinlets with minor sulphides crosscut a wide variety of hostrocks and are localized along major regional faults and related splays. The wallrock is typically altered to silica, pyrite and muscovite within a broader carbonate alteration halo.

### TECTONIC SETTINGS:

Phanerozoic: Contained in moderate to gently dipping fault/suture zones related to continental margin collisional tectonism. Suture zones are major crustal breaks which are characterized by dismembered ophiolitic remnants between diverse assemblages of island arcs, subduction complexes and continental-margin clastic wedges.

Archean: Major transcrustal structural breaks within stable cratonic terranes. May represent remnant terrane collisional boundaries.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** Veins form within fault and joint systems produced by regional compression or transpression (terrane collision), including major listric reverse faults, second and third-order splays. Gold is deposited at crustal levels within and near the brittle-ductile transition zone at depths of 6-12 km, pressures between 1 to 3 kilobars and temperatures from 200o to 400 oC. Deposits may have a vertical extent of up to 2 km, and lack pronounced zoning.

**AGE OF MINERALIZATION:** Mineralization is post-peak metamorphism (i.e. late syncollisional) with gold-quartz veins particularly abundant in the Late Archean and Mesozoic.

Phanerozoic: In the North America Cordillera gold veins are post-Middle Jurassic and appear to form immediately after accretion of oceanic terranes to the continental margin. In British Columbia deposits are mainly Middle Jurassic (~ 165-170 Ma) and Late Cretaceous (~ 95 Ma). In the Mother Lode belt they are Middle Jurassic (~ 150 Ma) and those along the Juneau belt in Alaska are of Early Tertiary (~56-55 Ma).

Archean: Ages of mineralization for Archean deposits are well constrained for both the Superior Province, Canadian Shield (~ 2.68 to 2.67 Ga) and the Yilgarn Province, Western Australia (~ 2.64 to 2.63 Ga).

**HOST/ASSOCIATED ROCK TYPES:** Lithologically highly varied, usually of greenschist metamorphic grade, ranging from virtually undeformed to totally schistose.

Phanerozoic: Mafic volcanics, serpentinite, peridotite, dunite, gabbro, diorite, trondhjemite/plagiogranites, graywacke, argillite, chert, shale, limestone and quartzite, felsic and intermediate intrusions.

Archean: Granite-greenstone belts - mafic, ultramafic (komatiitic) and felsic volcanics, intermediate and felsic intrusive rocks, graywacke and shale.

**DEPOSIT FORM:** Tabular fissure veins in more competent host lithologies, veinlets and stringers forming stockworks in less competent lithologies. Typically occur as a system of en echelon veins on all scales. Lower grade bulk-tonnage styles of mineralization may develop in areas marginal to veins with gold associated with disseminated sulphides. May also be related to broad areas of fracturing with gold and sulphides associated with quartz veinlet networks.

**TEXTURE/STRUCTURE:** Veins usually have sharp contacts with wallrocks and exhibit a variety of textures, including massive, ribboned or banded and stockworks with anastomosing gashes and dilations. Textures may be modified or destroyed by subsequent deformation.

**ORE MINERALOGY (Principal and subordinate):** Native gold, pyrite, arsenopyrite, galena, sphalerite, chalcopyrite, pyrrhotite, tellurides, scheelite, bismuth, cosalite, tetrahedrite, stibnite, molybdenite, gersdorffite (NiAsS), bismuthimite (Bi<sub>2</sub>S<sub>2</sub>), tetradyrite (Bi<sub>2</sub>Te<sub>2</sub>S).

**GANGUE MINERALOGY (Principal and subordinate):** Quartz, carbonates (ferroan-dolomite, ankerite ferroan-magnesite, calcite, siderite), albite, mariposite (fuchsite), sericite, muscovite, chlorite, tourmaline, graphite.

**ALTERATION MINERALOGY:** Silicification, pyritization and potassium metasomatism generally occur adjacent to veins (usually within a metre) within broader zones of carbonate alteration, with or without ferroan dolomite veinlets, extending up to tens of metres from the veins. Type of carbonate alteration reflects the ferromagnesian content of the primary host lithology; ultramafic rocks - talc, Fe-magnesite; mafic volcanic rocks - ankerite, chlorite; sediments - graphite and pyrite; felsic to intermediate intrusions -

sericite, albite, calcite, siderite, pyrite. Quartz-carbonate altered rock (listwanite) and pyrite are often the most prominent alteration minerals in the wallrock. Fuchsite, sericite, tourmaline and scheelite are common where veins are associated with felsic to intermediate intrusions.

**WEATHERING:** Distinctive orange-brown limonite due to the oxidation of Fe-Mg carbonates cut by white veins and veinlets of quartz and ferroan dolomite. Distinctive green Cr-mica may also be present. Abundant quartz float in overburden.

**ORE CONTROLS:** Gold-quartz veins are found within zones of intense and pervasive carbonate alteration along second order or later faults marginal to transcrustal breaks. They are commonly closely associated with, late syncollisional, structurally controlled intermediate to felsic magmatism. Gold veins are more commonly economic where hosted by relatively large, competent units, such as intrusions or blocks of obducted oceanic crust. Veins are usually at a high angle to the primary collisional fault zone.

Phanerozoic: Secondary structures at a high angle to relatively flat-lying to moderately dipping collisional suture zones.

Archean: Steep, transcrustal breaks; best deposits overall are in areas of greenstone.

**ASSOCIATED DEPOSIT TYPES:** Gold placers ([C01](#), [C02](#)), sulphide manto Au (J04), silica veins (I07); iron formation Au ([I04](#)) in the Archean.

**GENETIC MODEL:** Gold quartz veins form in lithologically heterogeneous, deep transcrustal fault zones that develop in response to terrane collision. These faults act as conduits for CO<sub>2</sub>-H<sub>2</sub>O-rich (5-30 mol% CO<sub>2</sub>), low salinity (<3 wt% NaCl) aqueous fluids, with high Au, Ag, As, (±Sb, Te, W, Mo) and low Cu, Pb, Zn metal contents. These fluids are believed to be tectonically or seismically driven by a cycle of pressure build-up that is released by failure and pressure reduction followed by sealing and repetition of the process (Sibson et al., 1988). Gold is deposited at crustal levels within and near the brittle-ductile transition zone with deposition caused by sulphidation (the loss of H<sub>2</sub>S due to pyrite deposition) primarily as a result of fluid-wallrock reactions, other significant factors may involve phase separation and fluid pressure reduction. The origin of the mineralizing fluids remains controversial, with metamorphic, magmatic and mantle sources being suggested as possible candidates. Within an environment of tectonic crustal thickening in response to terrane collision, metamorphic devolatilization or partial melting (anatexis) of either the lower crust or subducted slab may generate such fluids.

**COMMENTS:** These deposits may be a difficult deposit to evaluate due to "nugget effect", hence the adage, "Drill for structure, drift for grade". These veins have also been mined in British Columbia as a source of silica for smelter flux.

### ***EXPLORATION GUIDES***

**GEOCHEMICAL SIGNATURE:** Elevated values of Au, Ag, As, Sb, K, Li, Bi, W, Te and B ± (Cd, Cu, Pb, Zn and Hg) in rock and soil, Au in stream sediments.

**GEOPHYSICAL SIGNATURE:** Faults indicated by linear magnetic anomalies. Areas of alteration indicated by negative magnetic anomalies due to destruction of magnetite as a result of carbonate alteration.

**OTHER EXPLORATION GUIDES:** Placer gold or elevated gold in stream sediment samples is an excellent regional and property-scale guide to gold-quartz veins. Investigate broad 'deformation envelopes' adjacent to regional listric faults where associated with carbonate alteration. Alteration and structural analysis can be used to delineate prospective ground. Within carbonate alteration zones, gold is typically only in areas containing quartz, with or without sulphides. Serpentinite bodies, if present, can be used to delineate favourable regional structures. Largest concentrations of free gold are commonly at, or near, the intersection of quartz veins with serpentinitized and carbonate-altered ultramafic rocks.

### **ECONOMIC FACTORS**

**TYPICAL GRADE AND TONNAGE:** Individual deposits average 30 000 t with grades of 16 g/t Au and 2.5 g/t Ag (Berger, 1986) and may be as large as 40 Mt. Many major producers in the Canadian Shield range from 1 to 6 Mt at grades of 7 g/t Au (Thorpe and Franklin, 1984). The largest gold-quartz vein deposit in British Columbia is the Bralorne-Pioneer which produced in excess of 117 800 kilograms of Au from ore with an average grade of 9.3 g/t.

**ECONOMIC LIMITATIONS:** These veins are usually less than 2m wide and therefore, only amenable to underground mining.

**IMPORTANCE:** These deposits are a major source of the world's gold production and account for approximately a quarter of Canada's output. They are the most prolific gold source after the ores of the Witwatersrand basin.

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## PLUTONIC-RELATED AU QUARTZ VEINS & VEINLETS L02

by David V. Lefebure and Craig Hart

### IDENTIFICATION

SYNONYMS: Intrusion-related gold systems, gold porphyries, plutonic-related gold quartz veins. Plutonic-related gold, Au-lithophile element deposits, Fort Knox-type Au, high arsenic and/or bismuth plutonic-related mesothermal gold deposits, intrusion-hosted gold vein and brittle shear zone deposits.

COMMODITIES (BYPRODUCTS): Au (Ag, W).

EXAMPLES: (Yukon): **Dublin Gulch (106D 025)**, **Clear Creek (115P 014)**, **Scheelite Dome (115P 003)**, **Brewery Creek (116B 160)**; (British Columbia - *Canada/International*): *Cam Gloria?* (082M266), *Ridge Zone*, *Rozan Property* (082FSW179); *Fort Knox*, *Cleary Hill (Alaska, USA)*, *Mokrsko (Czech Republic)*, *Timbarra (New South Wales, Australia)*.

### L02 -Plutonic-related Au quartz veins and veinlets -Yukon and Alaska deposits

Deposit	country	tonnes	Au (g/t)	cutoff (g/t)
Ryan Lode	USA <sup>1</sup>	4,390,300	3	
Pogo	USA <sup>1</sup>	9,050,000	17.8	
Gil	USA <sup>1</sup>	9,700,000	1.37	
Brewery Creek	CNYT <sup>2</sup>	13,300,000	1.44	
True North	USA <sup>1</sup>	16,500,000	2.46	
Shotgun	USA <sup>1</sup>	55,000,000	3.05	0.55
Dublin Gulch	CNYT <sup>2</sup>	99,000,000	1.2	
Donlin Creek	USA <sup>1</sup>	110,700,000	2.91	1.5
Fort Knox	USA <sup>1</sup>	169,000,000	0.93	

### GEOLOGICAL CHARACTERISTICS

CAPSULE DESCRIPTION: Gold mineralization hosted by millimetre to metre-wide quartz veins hosted by equigranular to porphyritic granitic intrusions and adjacent hornfelsed country rock. The veins form parallel arrays (sheeted) and less typically, weakly developed stockworks; the density of the veins and veinlets is a critical element for defining ore. Native gold occurs associated with minor pyrite, arsenopyrite, pyrrhotite, scheelite and bismuth and telluride minerals.

<sup>1</sup>British Columbia Geological Survey

<sup>2</sup>Yukon Geological Survey



**TECTONIC SETTINGS:** Most commonly found in continental margin sedimentary assemblages where intruded by plutons behind continental margin arcs. Typically developed late in orogeny or post-collisional settings.

**DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING:** Veins form in tensional fractures and shears within, and near, the apices of small (<3 km<sup>2</sup>) granitoid intrusions at depths of 3-8 kilometres.

**AGE OF MINERALIZATION:** Any age, although they are best known (preserved?) in Paleozoic to Mesozoic rocks. Cenozoic deposits generally not yet exposed by erosion. Deposits in Alaska and the Yukon are Cretaceous age. Central Asian and European deposits are Carboniferous.

**HOST/ASSOCIATED ROCK TYPES:** The host rocks are granitic intrusions and variably metamorphosed sedimentary rocks. Associated volcanic rocks are rare. The granitoid rocks are lithologically variable, but typically granodiorite, quartz monzonite to granite. Most intrusions have some degree of lithological variation that appear as multiple phases that can include monzonite, monzogranite, albite granites, alkali syenite and syenite. The more differentiated phases commonly contain feldspar and quartz and less than 5% mafic minerals. Some deposits have abundant associated dykes, including lamprophyres, pegmatites, aplites and phases that have been fractionated from the main intrusion. Medium-to coarse-grained intrusions are commonly equigranular, but can contain megacrysts of potassium feldspar or porphyritic phenocrysts of quartz, plagioclase, or biotite. Biotite is common, hornblende is only locally observed, pyroxene is rare, and muscovite and tourmaline is common in more highly fractionated phases, aplites or pegmatites. The intrusions have a reduced primary oxidation state. Evidence of fluid saturation, such as mirolitic cavities, locally up to several centimetres, can be common; some intrusions exhibit much larger ones. Many of the granitoid intrusions have contact metamorphic aureoles that extend up to several km from the intrusion and can be much larger than the surface exposure of the intrusion. The stocks generally intrude variably metamorphosed sedimentary rocks (sandstone, shale, carbonate), however, some cut sequences which include metavolcanic rocks. In some cases the deposits are hosted by relatively high-grade metamorphic rocks including orthogneiss that may reflect the emplacement of the intrusions and veins at greater depths.

**DEPOSIT FORM:** Mineralization can be divided into intrusion-related, epizonal and shear-veins. Intrusion-related mineralization typically occurs widespread sheeted vein arrays. The arrays typically consist of numerous sheeted, or less commonly stockwork, veinlets and veins that form zones that are 10's of metres wide, and continuous for several 10's of metres. The veins are commonly hairline to centimetres wide, while some veins may be up to tens of metres thick. Epizonal mineralization is typically less focused, and may be disseminated, or occur as replacements. The thicker shear-veins are typically in fault zones outside of the pluton. The sheeted and stockwork zones extend up to a kilometre in the greatest dimension, while individual veins can be traced for more than a kilometre in exceptional cases.

**TEXTURE/STRUCTURE:** The sheeted veins are planar and often parallel to regional structures. The veins are generally extensional with no offset of walls, although some vein systems may also include shear-hosted veins. The veins may have minor vugs and drusy quartz. While most veins and structures are steeply dipping, shallowly dipping pegmatite and quartz bodies occur in some deposits, particularly those in the plutonic apices.

**ORE MINERALOGY [Principal and *subordinate*]:** Sulphide minerals are generally less than 3% and can be less than 1%. A number of deposits/intrusions have late and/or peripheral arsenopyrite, stibnite or galena veins. Native gold, sometimes visible, occurs with associated minor pyrite, arsenopyrite,

loellingite, pyrrhotite, variable amounts of scheelite or more rarely wolframite, and sometimes *molybdenite*, *bismuthinite*, *native bismuth*, *maldonite*, *tellurobismuthinite*, *bismite*, *telleurides*, *tetradymite*, *galena* and *chalcopyrite*. Epizonal veins are arsenopyrite-pyrite rich and lack associated Bi, Te and W minerals. The thicker, solitary veins typically contain higher percentages (<20%) of sulphide minerals. Generally, sulphide mineral content is higher in veins hosted in the country-rocks.

**GANGUE MINERALOGY** [Principal and *subordinate*]: Quartz is the dominant gangue mineral with associated minor *sericite*, *alkali feldspar*, *biotite*, *calcite* and *tourmaline*. In some deposits the quartz veins grade into pegmatite dykes along strike - a relationship that has been referred to as vein-dykes or pegmatite veins. The pegmatites in some deposits can carry significant amounts of gold or scheelite, although they do not usually constitute ore. Many "veins" may lack gangue and are simply sulphide mineral coatings on fracture surfaces.

**ALTERATION MINERALOGY**: These deposits are characterized by relatively restricted alteration zones which are most obvious as narrow alteration selvages along the veins. The alteration generally consists of the same non-sulphide minerals as occur in the veins, typically albite, potassium feldspar, biotite, sericite, carbonate (dolomite) and minor pyrite. Pervasive alteration, dominated by sericite, only occurs in association with the best ore zones. The wall rocks surrounding the granitoid intrusions are typically hornfelsed and if carbonaceous, contain disseminated pyrrhotite. Alteration appears to be more extensive with shallow depths of emplacement or greater distances from the intrusion. Epizonal deposits may have clay alteration minerals.

**WEATHERING**: The quartz veins resist weathering and can form linear knobs. Since alteration zones are frequently weak and the veins often contain only minor sulphide minerals, associated gossans or colour anomalies are rare. However, oxidized sulphide-rich epizonal mineralization may yield gossans.

**GENETIC MODELS**: The veins are genetically related to proximal granitoid intrusions, which explains their association with tungsten, bismuth and other lithophile elements, and the transitional relationships with pegmatites seen in some deposits. Mineralization likely formed from late stage fluids that accumulated in late-stage melts of differentiating granitic intrusions at depths of 2 to 8 km below the surface. These fluids typically contain elevated PCO<sub>2</sub> and have lower salinities which enable them to transport gold and/or tungsten and only limited amounts of base metals. At some point following sufficient differentiation to concentrate anomalous concentrations of elements, such as Au and W, the fluids are released along fractures that developed in response to regional stresses and faults that accommodated pluton emplacement. Locally fluids infiltrate permeable or reactive rock units to form replacement mineralization or skarns. Stockwork mineralization is not common, but may have higher grades due to increased vein density. The deeper vein systems had little or no meteoric water input. In most deposits there are several other styles of mineralization, such as skarns and distal sulphide-rich veins that can be related to the same granitic intrusions but have different metallogenic signatures as they formed from rapidly evolving fluids. These characteristics are typical of an intrusion-centred mineralizing system, but are not characteristic of the shear-veins that do not show any metallogenic zonation or associated deposit types. The epizonal deposits may have evidence vectoring towards a higher-temperature zone, but typically form outside of the steep thermal gradients that are proximal to a cooling pluton.

**ORE CONTROLS**: The mineralization is strongly structurally controlled and spatially related to highly differentiated granitoid intrusion. Mineralization is commonly hosted by, or close to, the most evolved phase of the intrusion (differentiation index greater than 80).

ASSOCIATED DEPOSIT TYPES: W and Au skarns (K05, K04), W veins (I12), stibnite-gold veins (I09), Au-quartz veins (I01), disseminated gold sediment-hosted deposits (E03) and possibly polymetallic veins (I05). The veins commonly erode to produce nearby placer deposits (C01, C02).

COMMENTS: Differentiated reduced granites also host Sn greisens, but these may indicate too much fractionation to be a good gold mineralizer. Porphyry deposits, which may have associated tungsten mineralization and stibnite-base metal-gold veins are typically associated with oxidized magmas. Epizonal deposits, such as the Donlin Creek and Brewery Creek deposits have characteristics that include high sulphidation epithermal deposits. These granites are emplaced at relatively shallow depths (less than 2 kilometres) and can occur in the same regions as W-Au veins.

### **EXPLORATION GUIDES**

GEOCHEMICAL SIGNATURE: Placer gold in creeks draining plutons or hornfels is the best geochemical indicator. Analysis of heavy mineral or silt samples for W, Au, As and Bi is particularly effective. Elevated values of Au-W-Bi-As  $\pm$  (Sn-Sb-Ag-Mo-Cu-Pb-Te-Zn) can be found in stream sediments, soils and rocks. Distal Sb and proximal Bi is a common association in the Yukon deposits.

GEOPHYSICAL SIGNATURE: Aeromagnetic data may be entirely flat as reduced granites have no magnetic signature. If the country rocks are reducing (e.g. carbonaceous), aeromagnetic signatures may produce "donut" anomalies with high magnetic values associated with pyrrhotite in the contact metamorphic zone fringing a non- magnetic intrusion.

OTHER EXPLORATION GUIDES: The number of deposits correlates inversely with the surface exposure of the related granitoid intrusion because stocks and batholiths with considerable erosion are generally less prospective. Evidence of highly differentiated granites and fluid-phase separation, such as pegmatites, aplites, unidirectional solidification textures (USTs) and leucocratic phases, indicates prospective settings. Lamprophyres indicate regions of high extension and potentially good structural sites for mineralization.

Gold, wolframite, and scheelite in stream gravels and placer deposits are excellent guides. The associated deposit types (e.g. skarns) can also assist in identifying prospective areas.

### **ECONOMIC FACTORS**

TYPICAL GRADE AND TONNAGE: The bulk mineable, intrusion-hosted low grade sheeted vein deposits contain tens to hundreds of million tonnes of ~ 0.8 to 1.4 g/t Au. The epizonal deposits have slightly higher grades, 2-5 g/t Au and the shear veins have from high grade deposits contain hundreds of thousands to millions of tonnes grading ~10 to 35 g/t Au. Gold to silver ratios are typically less than 1. Some gold-producing veins have produced W when it was deemed a strategic metal or it reached unusually high commodity prices.

#### **Intrusion-related**

Fort Knox, Alaska - 143.5 M tonnes grading 0.82 g/t Au (cutoff of 0.39 g/t)

Dublin Gulch (Eagle Zone), Yukon - 100 Mt grading 1.2 g/t Au

#### **Epizonal**

Brewery Creek, Yukon - 13 Mt of 1.44 g/t Au

Donlin Creek, Alaska

### **Shear-veins**

Pogo, Alaska - 9.05 Mt grading 17.83 g/t Au (cutoff of 3.43 g/t) Ryan Lode, Alaska Cleery Hill - ~1.36 Mt grading better than 34 g/t Au

**ECONOMIC LIMITATIONS:** The Fort Knox deposit has a low strip ratio and the ore is oxidized to the depths of drilling (greater than 300 m). A carbon-in-leach gold absorption with conventional carbon stripping process is used to recover the gold. The refractory nature of the arsenic-rich mineralization below the oxidation zone could render an otherwise attractive deposit sub-economic. Intrusion-hosted deposits may have a high work index.

**IMPORTANCE:** These deposits represent a potentially important gold resource which is found in regions that have seen limited gold exploration in recent years. A number of deposits are now known that contain more than a 100 tonnes of gold. In virtually all regions the production of gold from placers related to these deposits has far exceeded the lode gold production.

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**Appendix B**  
**Glossary of Technical Terms and Abbreviations**

Ag	Silver.
Al	Aluminum.
Albite	A type of plagioclase feldspar, typically Na-enriched.
Anomalous	Chemical and mineralogical changes and higher than typical background values in elements in a rock resulting from reaction with hydrothermal fluids or increase in pressure or temperature.
Anomaly	The geographical area corresponding to anomalous geochemical or geophysical values.
As	Arsenic.
Assay	A procedure to analyze (an ore, alloy, etc.) in order to determine the quantity of gold, silver, or other metal in it.
Au	Gold.
B	Boron.
Background	The typical concentration of an element or geophysical response in an area, generally referring to values below some threshold level, above which values are designated as anomalous.
BCGS	British Columbia Geological Survey
Bi	Bismuth.
Borrow pit	A small pit alongside a gravel road from which rock or gravel is “borrowed” for road-building.
Ca	Calcium.
Cd	Cadmium.
Chargeability	The degree to which an electrical charge or potential can be induced in the ground and the length of time this charge can be held.

cm	Centimetre
Co	Cobalt.
Coticule	Coticules (garnet-rich quartzites) are chemically distinctive lithologies of controversial origin. Relative to their host rocks, the coticules are enriched in Fe, Mn, and P, and depleted in Ti and alkalis (The Canadian Mineralogist, Volume 39, number 4, 1021-1037).
Cr	Chromium.
Cu	Copper.
DDH	Diamond drill hole.
EM	Electromagnetic.
Fe	Iron.
Felsite	Rock that is felsic, that is loosely defined as a light-coloured, fine-grained rock consisting chiefly of feldspars, feldspathoids, quartz, and other light-coloured minerals.
Float	Loose rocks or boulders; the location of the bedrock source is not known.
Geochemical	Having to do with chemical composition and determination of the relative and absolute concentrations of elements.
Grab sample	A sample of a single rock or selected rock chips collected from within a restricted area of interest. May not be representative of the average mineral grade or concentration.
Graphite	A very soft, dark mineral composed entirely of carbon.
g/t	Grams per tonne (metric tonne). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)
Ha	Hectare - an area totalling 10,000 square metres, e.g., an area 100 metres by 100 metres.
HLEM	Horizontal loop electromagnetic.
GIS	Geographic Information System includes mapping software and its application with data related to mineral exploration, remote sensing, land surveying, aerial

photography, photogrammetry, geography, and tools that can be implemented with GIS software.

Intrusive	A magmatic rock that cuts into and alters older rocks and may be the source of minerals deposited into the rocks intruded, creating skarn, porphyry or other types of mineral deposits.
IP	Induced polarization.
km	Kilometre.
Lode	A deposit of metalliferous ore that fills or is embedded in a fissure (or crack) in a rock formation or a vein of ore that is deposited or embedded between layers of rock.
Massive sulphides	See Besshi and sedex mineral deposit descriptions in Section 10.0 Deposit Types. See also the BCGS website for further massive sulphide deposit types.
Max-min	An HLEM technique to test for resistivity and conductivity of rocks.
Minfile	The BCGS mineral inventory which contains geological, location and economic information on over 12,300 metallic, industrial mineral and coal mines, deposits and occurrences in B.C
Mn	Manganese.
Mo	Molybdenum.
Na	Sodium.
Ni	Nickel.
NI 43-101	<p>National Instrument 43-101 is a mineral resource classification and is a national instrument for the <i>Standards of Disclosure for Mineral Projects</i> with the Canadian Securities Administrators. The NI is a strict guideline for how public Canadian companies can disclose scientific and technical information about mineral projects. Disclosures include press releases, presentations, oral comments, and websites. The instrument requires that a "Qualified Person" be attributed to the information. A qualified person is defined as:</p> <ul style="list-style-type: none"><li>• an engineer or geoscientist with at least 5 years experience in the mineral resources field</li><li>• a subject matter expert in the mineral resources field and has a professional association.</li></ul>



NE-SW	Northeast - southwest
NW-SE	Northwest - southeast.
nT	Nano-Teslas, a measure of magnetic field strength.
O	Oxygen.
Orogen	The physical manifestations of the process of mountain building. Orogens are usually long, thin, arcuate tracts of rock that have a pronounced linear structure resulting in terranes.
Outcrop	An exposure of bedrock in place.
oz/T	ounces per ton (Imperial measurement). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons)
oz/st	ounces per short ton (Imperial measurement, same as oz/T). 34.29 g/t (metric tonnes) = 1.00 oz/st (short tons)
Pathfinder	Elements that occur in anomalous amounts together with the economic element being explored for.
Pb	Lead.
Petrographic	Microscopic study of thin and polished sections of rock.
Porphyry	A deposit where primarily Cu-bearing minerals occur in disseminated grains or veinlets through a large volume of rock within or in close association with intrusive igneous rocks. Au and Mo are also important products of porphyry deposits.
ppb	Parts per billion.
ppm	Parts per million (1 ppm = 1,000 ppb = 1 g/t)
Ptygmatic	Type of primary folding in rocks, caused by the high-temperature and high-pressure processes to which the rocks owe their origin and character.
Protolith	The original rock before it was metamorphosed.
Pyrrhotite	FeS. A magnetic sulphide mineral. Can cause a positive magnetic anomaly.

Resistivity	A measure of how strongly a material opposes the flow of electric current.
Sb	Antimony.
Se	Selenium.
Si	Silicon.
Te	Tellurium.
Telluride	A compound of a metal with the chemical element tellurium.
Terrain	An arbitrarily defined geographic location.
Terrane	A major crustal block with a particular geologic history. (See Section 9.0 for more).
Ti	Titanium.
Tl	Thallium.
Trace	Refers to the very small amount of a mineral in a given rock with its make-up generally comprising less than 0.5% of the total volume.
V	Vanadium.
VLF-EM	Very low frequency electromagnetic.
VMS	Volcanogenic Massive Sulfide, type of metal sulfide ore deposit.
W	Tungsten.
Zn	Zinc.