

**BC Geological Survey  
Assessment Report  
40498**



**ASSESSMENT REPORT TITLE PAGE AND SUMMARY**

**TITLE OF REPORT: Geological & Geochemical Ace Property, Cariboo Mining Division, British Columbia**

**TOTAL COST: \$16,121.00**

**AUTHOR(S): Louis Doyle**

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

**NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-10-155 & MX-10-228**

**STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): 5941821 – (May 21, 2022 to July 4, 2022)**

**YEAR OF WORK: 2022**

**PROPERTY NAME: Ace Property**

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

**ACE 22 (tenure # 1092643)**

**COMMODITIES SOUGHT: Copper, Lead, Zinc, Silver & Gold**

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

**MINING DIVISION: Cariboo**

**BCGS: 93A/14**

**LATITUDE 52.8°**

**LONGITUDE 121.1°**

**UTM Zone 10 EASTING 625986 NORTHING 5851878**

**OWNER(S): Barker Minerals Ltd.**

**MAILING ADDRESS: P33 Valley Rd. Box 53, 150 Mile House B.C., V0K 2G0**

**OPERATOR(S) [who paid for the work]: Barker Minerals Ltd.**

**MAILING ADDRESS: P33 Valley Rd. Box 53, 150 Mile House B.C., V0K 2G0**

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

**Barkerville Terrane, Silver & Gold**

**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.**

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping	N/A		
Photo interpretation	N/A		
GEOPHYSICAL (line-kilometres)			
Ground	N/A		
Magnetic	N/A		
Electromagnetic	N/A		
Induced Polarization	N/A		
Radiometric	N/A		
Seismic	N/A		
Other	N/A		
Airborne	N/A		
GEOCHEMICAL (number of samples analysed for ...)			
Soil	N/A		
Silt	N/A		
Rock	N/A		
Heavy mineral	18	1092643	\$15,500.96
DRILLING (total metres, number of holes, size, storage location)			
Core	N/A		
Non-core	N/A		
RELATED TECHNICAL			
Sampling / Assaying	18	1092643	\$620.04
Petrographic	N/A		
Mineralographic	N/A		
Metallurgic	N/A		
PROSPECTING (scale/area)	N/A		
PREPARATORY / PHYSICAL			
Line/grid (km)	N/A		
Topo/Photogrammetric (scale, area)	N/A		
Legal Surveys (scale, area)	N/A		
Road, local access (km)/trail	N/A		
Trench (number/metres)	N/A		
Underground development (metres)	N/A		
Other	N/A		
<b>TOTAL COST</b>			<b>\$16,121.00</b>

## Mineral Titles Online

### Mineral Claim Exploration and Development Work/Expiry Date Change Confirmation

**Recorder:** BARKER MINERALS LTD (140410) **Submitter:** BARKER MINERALS LTD (140410)

**Recorded:** 2022/JUL/05

**Effective:** 2022/JUL/05

**D/E Date:** 2022/JUL/05

#### Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission.

**Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

**Event Number:** 5941821

**Work Type:** Technical Work  
**Technical Items:** Geochemical, Geological

**Work Start Date:** 2022/MAY/21

**Work Stop Date:** 2022/JUL/04

**Total Value of Work:** \$ 12000.00

**Mine Permit No:**

#### Summary of the work value:

Title Number	Claim Name	Issue Date	Good To Date	New Good To Date	# of Days Forward	Area in Ha	Applied Work Value	Submission Fee
1092643	ACE 22	2022/JAN/28	2022/JUL/14	2022/SEP/30	78	11146.98	\$ 11910.47	\$ 0.00

#### Financial Summary:

**Total applied work value:**\$ 11910.47

**PAC name:** Barker Minerals Ltd.

**Debited PAC amount:** \$ 0.0

**Credited PAC amount:** \$ 89.53

**Total Submission Fees:** \$ 0.0

---

**Total Paid:** \$ 0.0

*Please print this page for your records.*

The event was successfully saved.

Click [here](#) to return to the Main Menu.

**GEOLOGICAL & GEOCHEMICAL  
ASSESSMENT REPORT**

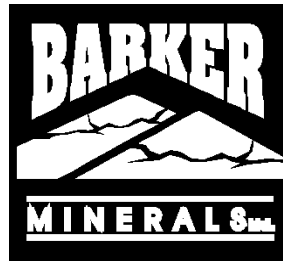
on the

**Ace Property**

Cariboo Mining Division, British Columbia

The geographic coordinates of the Ace property are:  
52.8° North Latitude and 121.1° West Longitude or  
625986 E and 5851878 N UTM coordinates (NAD 83)

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



for  
Barker Minerals Ltd.  
330 Valley Rd.  
150 Mile House, B.C.  
V0K 2G0

Prepared by:  
Louis Doyle

November 23, 2022

## TABLE OF CONTENTS

	<b>Page</b>
<b>1.0 SUMMARY</b> .....	i
<b>2.0 INTRODUCTION</b> .....	1
<b>3.0 PROPERTY DESCRIPTION and LOCATION</b> .....	1
<b>4.0 MINERAL CLAIMS</b> .....	3
<b>5.0 PHYSIOGRAPHY and ACCESSIBILITY</b> .....	5
<b>6.0 HISTORY</b> .....	7
<b>6.1 HISTORY OF THE WORK DONE ON THE ACE PROPERTY</b> .....	7
<b>6.1.1</b> Work done in 1980 .....	7
<b>6.1.2</b> Work done in 1993 - 1994 .....	7
<b>6.1.3</b> Work done in 1995 .....	9
<b>6.1.4</b> Work done in 1996 .....	10
<b>6.1.5</b> Work done in 1996 .....	10
<b>6.1.6</b> Work done in 1997 .....	10
<b>6.1.7</b> Work done in 1998 .....	11
<b>6.1.8</b> Work done in 2000 .....	11
<b>6.1.9</b> Work done in 2001 .....	12
<b>6.1.10</b> Work done in 2002 .....	12
<b>6.1.11</b> Work done in 2003 - 2004 .....	12
<b>6.1.12</b> Work done in 2014 - 2016 .....	13
<b>6.1.13</b> Work done in 2017 .....	13
<b>6.1.14</b> Work done in 2018 .....	14
<b>6.1.15</b> Work done in 2019 .....	14
<b>6.1.16</b> Work done in 2020 - 2021 .....	14
<b>7.0 GEOLOGY</b> .....	19
<b>7.1 Regional Geology</b> .....	19
Quesnel Terrane .....	19
Slide Mountain Terrane .....	20
Barkerville Terrane .....	21
Cariboo Terrane .....	21
Glaciation and Glacial Deposits .....	22
<b>7.2 Local Geology at Ace Area</b> .....	22
<b>8.0 EXPLORATION PROGRAM - 2022</b> .....	23
<b>8.1 Sampling Method and Approach</b> .....	23
<b>8.2 Economic Targets and Work Done</b> .....	23
<b>9.0 CONCLUSIONS</b> .....	24
<b>10.0 RECOMMENDATIONS</b> .....	24

## LIST of FIGURES

	<b>Page</b>
<b>Figure No. 1</b> - Main Property location in British Columbia	2
<b>Figure No. 2</b> - Barker Minerals Ltd. Mineral Claims	4
<b>Figure No. 3</b> - Access Roads from Likely to several of Barker Minerals' properties	6
<b>Figure No. 4</b> - Terrane Map of Southern British Columbia	16
<b>Figure No. 5</b> - Terrane Map of Cariboo Lake – Wells Area	17
<b>Figure No. 6</b> - Geology of Wells-Cariboo Lake Area	18
<b>Figure No. 7</b> - Schematic Regional Structural Section	19
<b>Figure No. 8</b> - Keymap for 2022 Work Area	After 24
<b>Figure No. 9</b> - Sample Location Map	After 25

## LIST of TABLES

	<b>Page</b>
<b>Table No. 1</b> - Mineral Claims Details	3

## LIST of APPENDIXES

<b>Appendix A</b>	Glossary of Technical Terms and Abbreviations	End of the report
<b>Appendix B</b>	Analytical Methods	End of the report
<b>Appendix C</b>	References	End of the report
<b>Appendix D</b>	Statements of Qualifications	End of the report
<b>Appendix E</b>	Statement of Expenditures	End of the report
<b>Appendix F</b>	Rock Samples Coordinates and Descriptions	End of the report
<b>Appendix G</b>	Geochemical Maps & XRF Tables - Sample Results	End of the report

## 1.0 SUMMARY

Field work performed in early 2022 on Barker Minerals Ltd's. Ace property consisted of till and stream sediment heavy mineral sampling programs on new logging roads and in newly logged areas with follow up XRF analysis. Eighteen sediment/clay samples were collected on six separate drainages which were then fine sieved in the field through a series of screen mesh sizes with a five gallon bucket of material brought out for each sample. The samples were then hand panned with the remaining heavy minerals sample analyzed by XRF at Barker's field office in Quesnel BC. The samples analyzed were set aside for future microscope studies where warranted. This report describes the work done in early 2022 and is a part of a larger program of the 2022 till sampling on the Ace property which will be reported in a future assessment report.

Six of the heavy mineral samples showed minor small gold particles which also had gold detected in the XRF analysis. Two samples had highly anomalous gold values which are listed below and did not appear to have visible gold in the panning process. There appears to be no significant association of gold with any other elements. Previous petrographic studies on the Ace project determined that native gold was present as well as gold mineralization being associated with Copper and Zinc elements.

The six samples high in Au are listed below.

<u>Sample No.</u>	<u>Au (ppm)</u>
A22-1a	25.86
A22-2	9.94
A22-2b	14.37
A22-3a	16.31
A22-5	23.35
A22-6	18.55

## **2.0 INTRODUCTION**

This report describes assessment work performed in 2022 on Barker Minerals Ltd.'s Ace Property. The work was concentrated in the area of tenure no. 1092643. Till and stream sediment samples were analyzed by X-ray fluorescence (XRF) for multiple elements. The purpose was to add geochemical information to the existing database, and to identify potential mineralized lithologic horizons in an on-going mineral exploration program. The last 3 years of logging activities has opened up areas with over 20 kilometers of new roads in a highly prospective area. These road systems are the basis of a large scale 2022 till and stream sediment sampling program to help determine the origin of the original gold discovery on the Ace property with many of the new access roads being located upslope from the original discovery area.

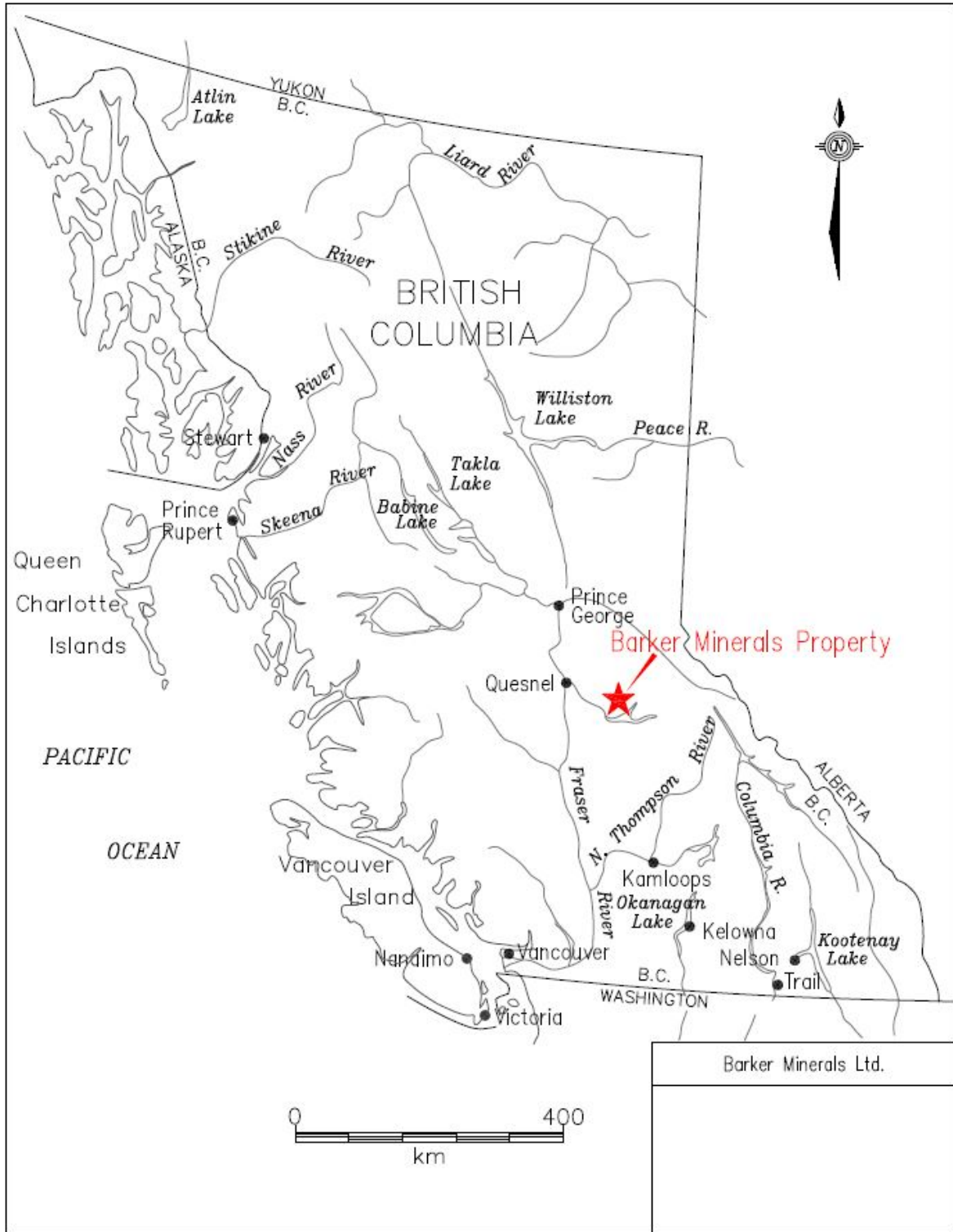
Definitions of technical terms used in this report are provided in Appendix A, Glossary of Technical Terms and Abbreviations. Geochemical abbreviations are used for the elements discussed. The elements and abbreviations are also in the Glossary:

## **3.0 PROPERTY DESCRIPTION and LOCATION**

The Ace property consists of contiguous claims listed in Table No. 1 – Ace Mineral Claims Details. The property's location in British Columbia is indicated in Figure No. 1 – Ace 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 approximately 10.0 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 150 Mile House, B.C. The property is approximately 35 km northeast of the settlement of Likely and 100 km northeast the City of Williams Lake. The City of Prince George is 160 km to the north.

The geographic coordinates of the Ace property are:  
52.8° North Latitude and 121.1° West Longitude or  
625986 E and 5851878 N UTM coordinates (NAD 83).

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



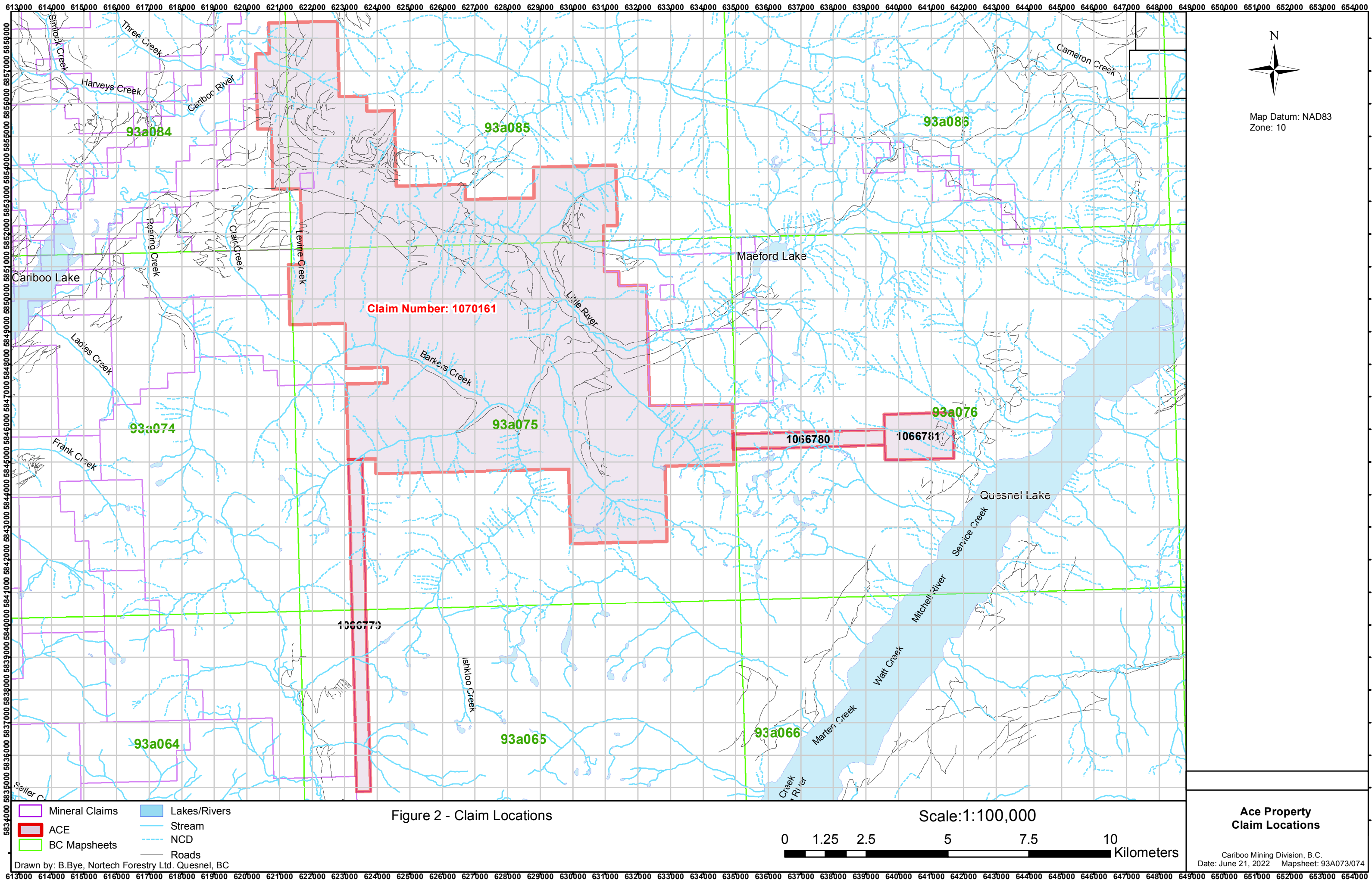
**Figure No. 1** - Barker Minerals Ltd. Ace property location in British Columbia.

#### 4.0 MINERAL CLAIMS

<u>Tenure Number</u>	Owner No.	<u>Owner</u>		<u>Status</u>	<u>Area (ha)</u>
1066779	140410	Barker Minerals Ltd.	100%	Good	431.19
1086280	140410	Barker Minerals Ltd.	100%	Good	19.54
1092643	140410	Barker Minerals Ltd.	100%	Good	11,146.98
1092644	140410	Barker Minerals Ltd.	100%	Good	508.91

Total Area is **12,106.62 ha**

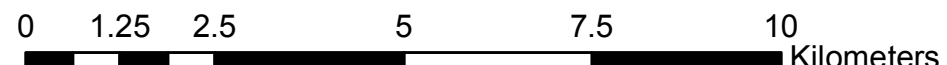
**Table No. 1 – Ace Mineral Claim Details, Barker Minerals Ltd.**



Map Datum: NAD83  
Zone: 10

Figure 2 - Claim Locations

Scale: 1:100,000



- Mineral Claims
- ACE
- BC Mapsheets
- Lakes/Rivers
- Stream
- NCD
- Roads

**Ace Property  
Claim Locations**

Cariboo Mining Division, B.C.  
Date: June 21, 2022 Mapsheet: 93A073/074

613000 614000 615000 616000 617000 618000 619000 620000 621000 622000 623000 624000 625000 626000 627000 628000 629000 630000 631000 632000 633000 634000 635000 636000 637000 638000 639000 640000 641000 642000 643000 644000 645000 646000 647000 648000 649000 650000 651000 652000 653000 654000

613000 614000 615000 616000 617000 618000 619000 620000 621000 622000 623000 624000 625000 626000 627000 628000 629000 630000 631000 632000 633000 634000 635000 636000 637000 638000 639000 640000 641000 642000 643000 644000 645000 646000 647000 648000 649000 650000 651000 652000 653000 654000

5834000 5835000 5836000 5837000 5838000 5839000 5840000 5841000 5842000 5843000 5844000 5845000 5846000 5847000 5848000 5849000 5850000 5851000 5852000 5853000 5854000 5855000 5856000 5857000 5858000

5834000 5835000 5836000 5837000 5838000 5839000 5840000 5841000 5842000 5843000 5844000 5845000 5846000 5847000 5848000 5849000 5850000 5851000 5852000 5853000 5854000 5855000 5856000 5857000 5858000

Drawn by: B.Bye, Nortech Forestry Ltd. Quesnel, BC

## 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).*

Access to the Ace property is via gravel logging roads bearing northeast from Likely. Figure No. 3 shows access roads from Likely to Barker's mineral properties.

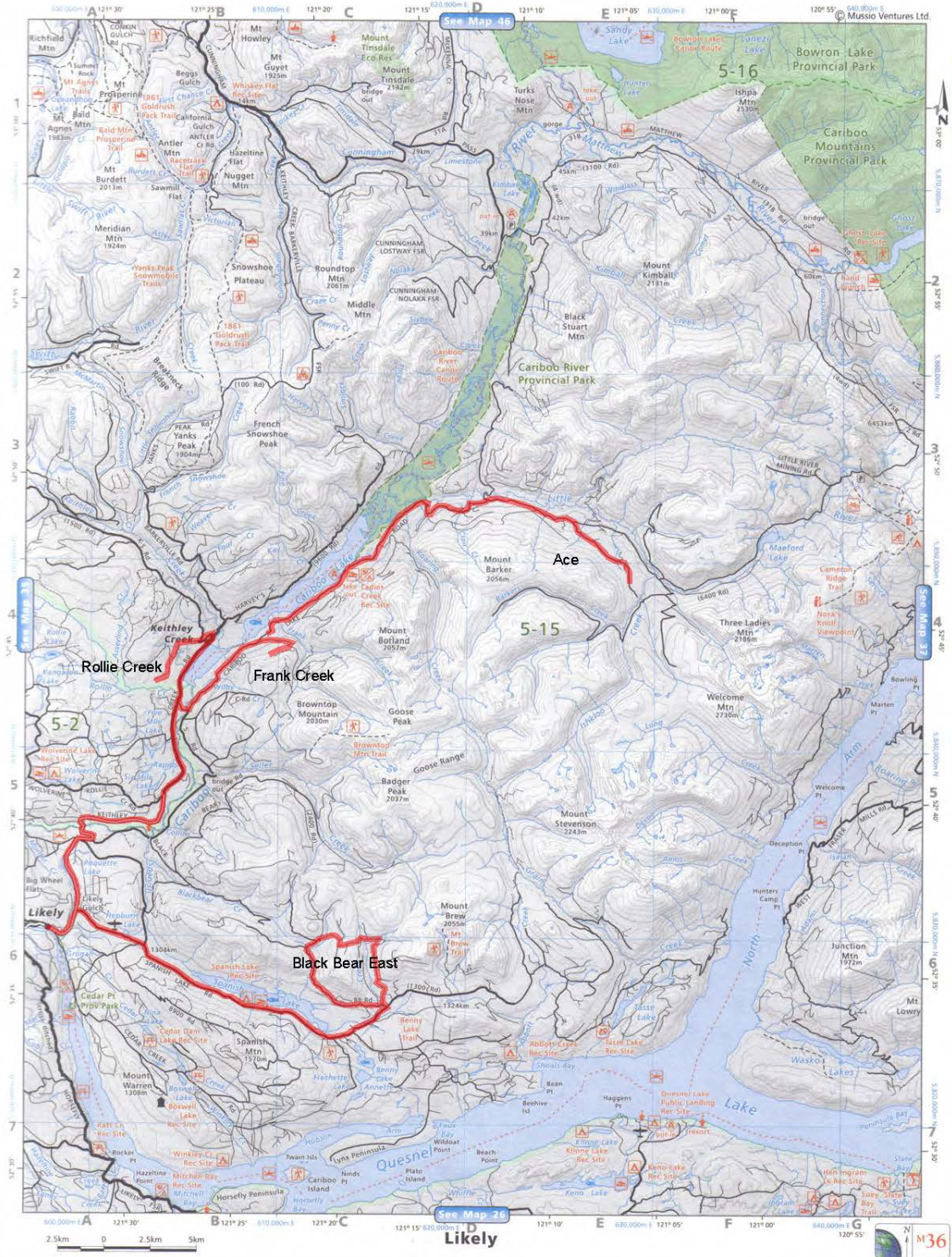


Figure No. 3 - Access roads from Likely to several of Barker Minerals' properties.

## 6.0 HISTORY

### 6.1 History of Work Done on the Ace Property

The Ace property has an extensive exploration work history beginning in 1980. There is no record of any mineral exploration work in the area of the current Ace property prior to 1980.

#### **6.1.1 Work done in 1980**

The relevant report is Assessment Report 9666 by M.G. Larsen.

“Huge boulders of well mineralized rock” were said to lie on a logged-off slope on the south side of Little River. Bornite, chalcopyrite, sphalerite and pyrite were noted in strongly metamorphosed sedimentary rocks.

#### **6.1.2 Work done in 1993 - 1994**

The relevant report is Assessment Report 23733 by H.P. Salat and C.A.R. Lammle.

Prospecting, geological mapping and stream silt and soil sampling were done on the Ace claims, owned by Barker Minerals Ltd. 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. 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.

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 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:

<u>F Road</u> <u>sample no.</u>	<u>geochem or</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

Hardychuck (S) Road

<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

<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:

<u>sample no.</u>	<u>assay results</u>
1124	355 ppb Au

Slopes above end of F Road

<u>sample no.</u>	<u>assay results</u>
1148	0.41 g/t Au
1150	0.36 g/t Au

Colleen Road

<u>sample no.</u>	<u>assay results</u>
1287	1.52 g/t Au
1289	6.05 g/t Au

Main Cirque

<u>sample no.</u>	<u>assay results</u>
1176	140 ppb Au
1195	300 ppb Au
1196	425 ppb Au

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.

It was 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.

Comprehensive follow-up work was recommended.

### **6.1.3 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 by Barker Minerals Ltd.

Approximately 100 km of grid lines were cut and flagged and 1,780 soil samples were collected in the area of Colleen Road and the lower part of F road. 2,040 additional soils were collected to await analysis on a selective basis. Ground magnetometer and VLF-EM surveys were done over 109.7 line km.

The most significant geochemical and geophysical anomalies were assigned letters A to K, with the large "boron halo" feature given letter V. 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.

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.

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.

#### **6.1.4 Work done in 1996**

The relevant report is Assessment Report 24988 by L.E. Doyle.

A magnetic survey was done on 8 placer claim units owned by Barker Minerals Ltd., situated in the west end of the Ace mineral claims, north of Mount Barker.

#### **6.1.5 Work done in 1996**

The relevant report is Assessment Report 24989 by C.A.R. Lammle, G.A. Shore & S.N. Roach.

600 fill-in soil samples were collected. Ground VLF-EM and magnetic surveys were done over 77.3 line km .

A conventional pole-dipole induced polarization (IP) geophysical survey was done over 26.4 line km.

A resistivity (3-D E-SCAN) survey was done around the location of culvert #7 on the F Road where coarse gold flakes were discovered in 1993. A shallow strong low resistivity anomaly, approximately 400 m x 400 m in area, was centered 1.5 km north of culvert #7 and occurred astride the quartz float train outlined in 1994. This was deemed to be a prime low resistivity anomaly worthy of follow-up, along with others, and it was recommended to enlarge the 3-D E-SCAN survey area and correlate the data with geological mapping before determining drill targets.

36 prospecting test pits and 280 metres of mechanical trenching were done. Rock samples from Test Pit 30 on F Road returned 1,065 ppb and 1,386 ppb Au. Rocks from trenches on Colleen and Hardychuck Roads had values up to 296 ppb and 213 ppb Au.

Further work was recommended to be done on the Ace property; this to include geological mapping, detailed stream sediment sampling and detailed mapping and sampling of existing trenches and 22 line km of detailed VLF-EM and magnetic surveys.

#### **6.1.6 Work done in 1997**

The relevant report is Assessment Report 25437 by J.G. Payne.

The Ace Grid was enlarged with 31.0 km of cut line. 11.9 km of magnetometer prospecting was done as a guide in locating trenches, 20 trenches (1,084 m total) were excavated, generally near the foot of Hardychuck 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, and stream sediment samples were collected.

Trenches exposed zones up to 10 m thick of semi-massive sulphide. 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 a felsic rock unit. Drilling was recommended along the main zone of the felsic volcanic rocks.

#### **6.1.7 Work done in 1998**

The relevant report is Assessment Report 25904 by J.G. Payne.

Seven DDH holes (1,260 m) were drilled on the Ace property. Geological mapping was done. 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.

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:

<b>Sample no.</b>	<b>Au (ppb)</b>	<b>grid location</b>
#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.

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. 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.

#### **6.1.8 Work done in 2000**

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

HLEM and magnetometer surveys were done to locate conductors that could be attributable to massive sulphide mineralization. Three conductors 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. Conductor A crossed the M Road on which rock Sample No. A97-50 had 6,420 ppb Au in quartz float in 1997.

Sixteen float rock samples collected during prospecting were variously anomalous in precious, base and pathfinder elements. Sample No. 2106 had 4,100 ppb Au.

Geological mapping was recommended, especially in areas of potential felsic volcanic rocks that had not yet been examined. The HLEM anomalies 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.

#### **6.1.9 Work done in 2001**

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

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.

#### **6.1.10 Work done in 2002**

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

Limited magnetic, HLEM and gravity surveys were continued at targeted areas.

Five DDH holes (646 m) were drilled . 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. Compilation of all existing data was recommended before further drilling would be proposed.

Expansion of the HLEM and gravity surveys along the strike of the favorable horizons in exploration for VMS massive sulphide mineralization was recommended.

#### **6.1.11 Work done in 2003 - 2004**

The relevant report is Assessment Report 27655 by L.E. Doyle.

Eleven trenches (428 m) were excavated, targeting magnetic, HLEM and geochemical anomalies. The most significant outcome of the trenching may have been the discovery of

'coticule' rocks, inferred to represent metamorphosed Mn exhalites formed around subaqueous hydrothermal systems and can provide a marker unit and guide for exploration.

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; a reconnaissance program including geological mapping and litho-geochemical 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 specific areas. An 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; additional drilling was recommended at known zones of alteration.

#### **6.1.12 Work done in 2014-2016**

The relevant assessment reports are by Turna, R., dated February 18, 2015 (AR 35157), July 31, 2015 (AR 35468), November 30, 2015 [AR 35717] and March 15, 2016 (AR 36160) and May 1, 2016. and July 20, 2016

In 2014 (AR 35157), 80 rock samples were collected on the flanks of Mount Barker.

In 2015 (AR 35468), 32 rocks were sampled on the ridge east of the mountain and 85 rock and 96 stream samples were collected in the vicinity of F Road. Three rock samples had 10.00 ppm Au, 10.50 ppm Au and 23.07 ppm Au.

In follow up work (AR 35717), 189 rock and 364 soils were sampled on the F and 8400 Roads. Three soils had 9.46 ppm Au, 11.35 ppm Au, 9.81 ppm Au.

In follow up work (AR 36160), 53 stream samples were collected from streams and seeps crossing the F Road. Two streams had 11.45 ppm Au and 12.55 ppm Au.

In follow up (AR dated May 1, 2016) work 193 rock samples were collected above the F Road. Some of these had anomalous results in Zn.

Continued exploration was recommended for quartz vein and intrusion related mineralization.

#### **6.1.13 Work done in 2017**

The relevant report is Assessment Report 37329 by Rein Turna.

226 rock samples were collected off the 8400 Road and F Road. Seven rock samples had gold values of 9.73 ppm, 10.67 ppm, 10.81 ppm, 11.15 ppm, 11.27 ppm, 11.99 ppm and 21.61 ppm Au. Continued exploration was recommended in accordance with regard to a synthesis of all previous work done and recommendations.

#### **6.1.14 Work done in 2018**

Work performed in 2018 is described in Assessment Reports 37739 and 37999 both by Rein Turna. Both of these Assessment Reports describe rock sampling done in follow up to soils sampled previously.

Assessment Report 37739 describes the analysis results of 225 float rock samples collected during this program. Eight rock samples had highly anomalous gold values (10.02 ppm, 10.45 ppm, 10.50 ppm, 10.71 ppm, 11.39 ppm, 11.57 ppm, 11.59 ppm, and 12.06 ppm Au).

Assessment Report 37999 describes the analysis results of 264 float rock samples. Ten of the samples had high results in gold (847.90, 13.18, 12.85, 12.62, 11.93, 10.97, 10.37, 9.65, 9.49 and 9.14 ppm Au).

More intensive and extensive rock and soil sampling was recommended along with a synthesis of the extensive work history be made to guide future work programs on the Ace property.

#### **6.1.15 Work done in 2019**

Rock sampling was done off the F Road branch of the 8400 Road on the south side of Little River on the central portion of the Ace property. A total of 303 float rock samples from 101 locations were analysed. The economic target was gold in quartz veins or within the rocks hosting the veins. Zn and Cu results are plotted on the Figure Nos. 9 and 10 after page 22. These elements were chosen for the maps as they are often best pathfinder elements for Au, and were more frequently detected during the survey than other elements. “<LOD” signifies the result is below the level of detection.

#### **Rock Sampling XRF Results:**

**Area A** (For complete results see Appendix G)

111 rock samples from Area A were analyzed. None of the samples contained detectable gold. 29 of the samples had elevated results in Zn and/or Cu.

**Area B** (For complete results see Appendix G)

192 rock samples from Area B were analyzed. 66 of the samples had elevated results in Zn and/or Cu. Five of the samples contained gold. None of the samples containing Au had significantly elevated results in Zn or Cu. The five samples high in Au are listed below.

#### **6.1.16 Work done in 2020 and 2021**

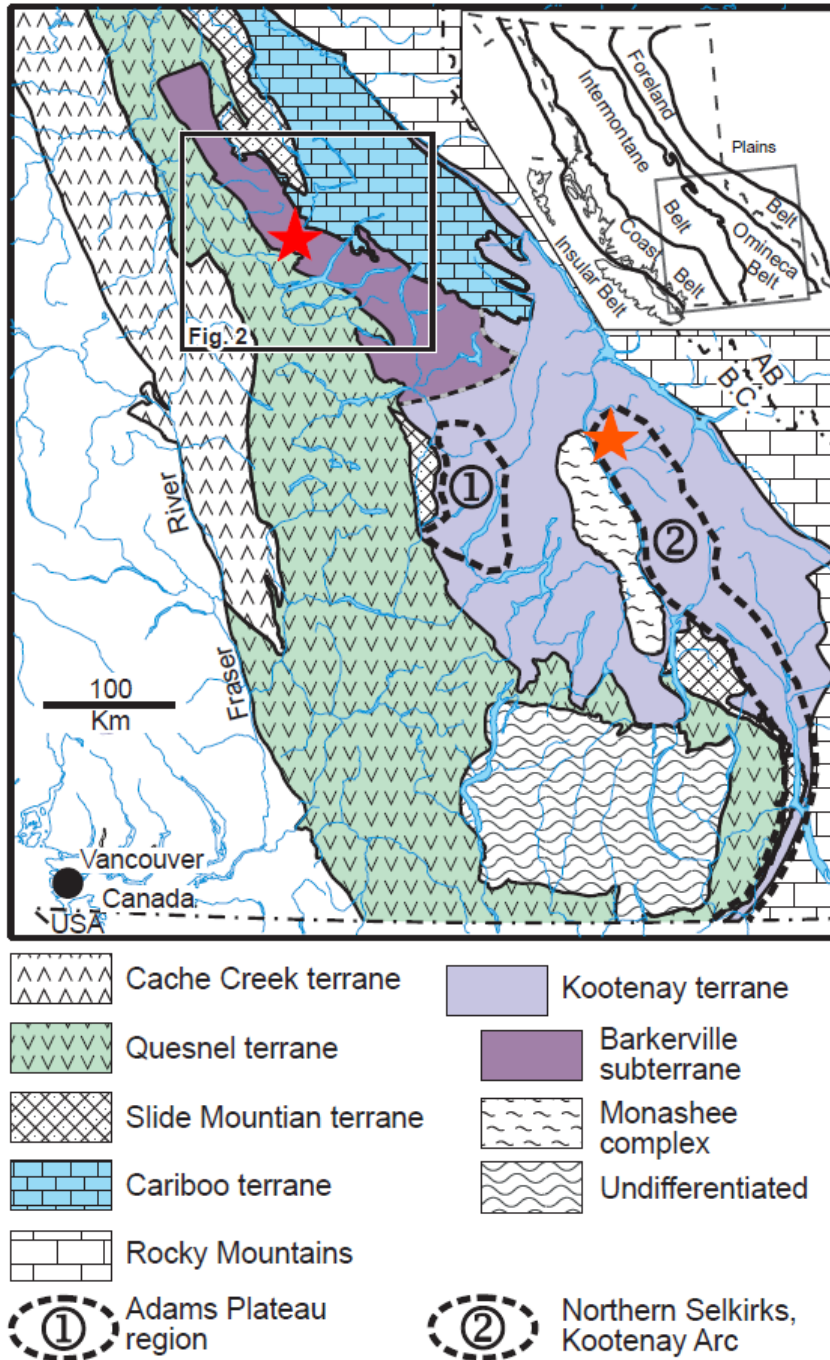
Work performed in 2020 and 2021 on Barker Minerals Ltd.’s Ace property consisted of rock sampling programs on new logging roads and in newly logged areas with follow up XRF analysis. Three hundred and forty-seven in-situ float rock samples in the field were analyzed 3 times each during this program while Two hundred and twenty-two float rock samples

were collected in the field and analyzed by XRF at Barker's field office in Quesnel BC. This report describes the work done and associated geochemical results.

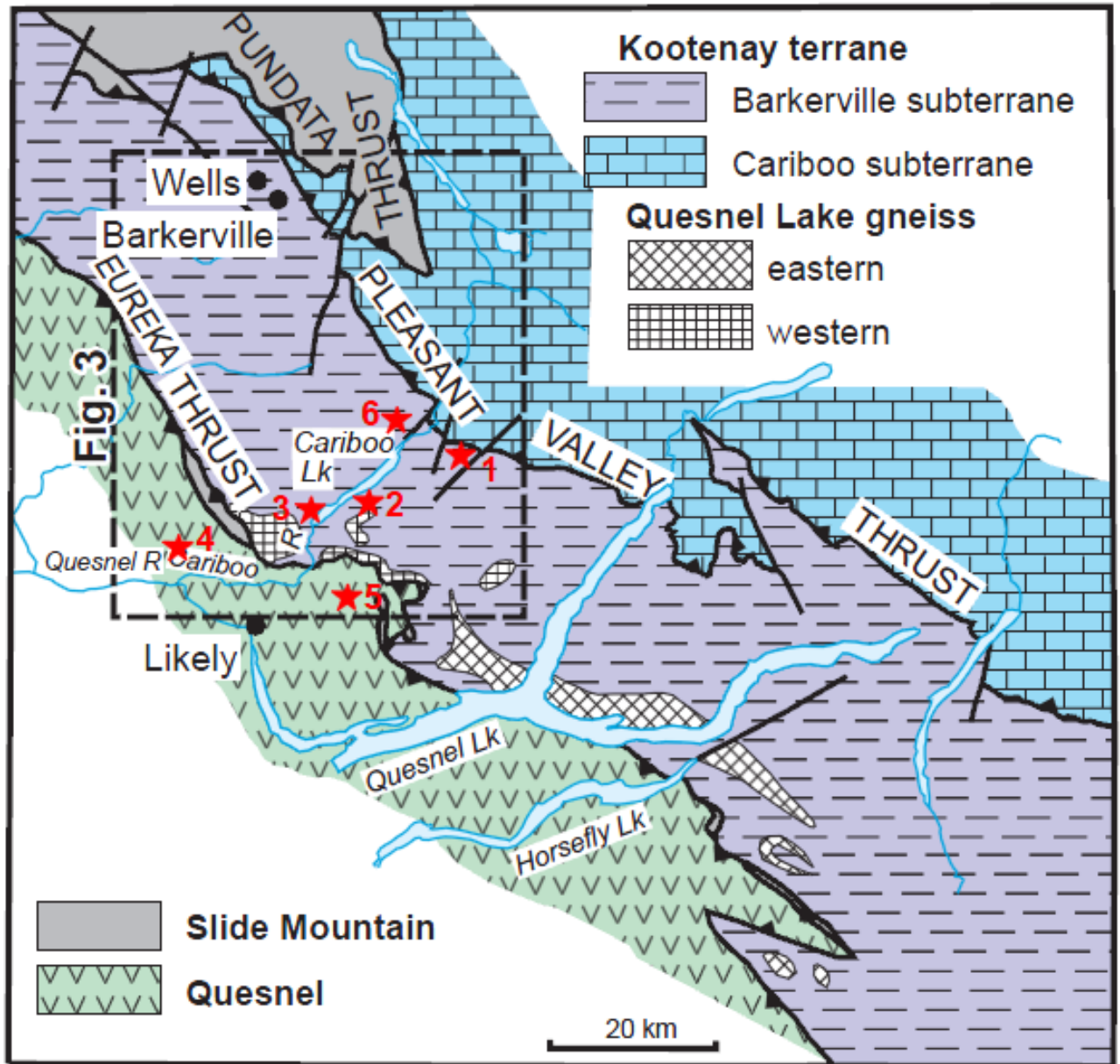
Twenty-one of the rock samples had highly anomalous gold values which are listed below. There appears to be no significant association of gold with any other elements. Previous petrographic studies on the Ace project determined that native gold was present as well as gold mineralization being associated with Bismuth and Tellurium elements.

The thirty-one samples high in Au are listed below.

<u>XRF No.</u>	<u>Au (ppm)</u>
3749	11.79
3768	10.48
3828	11.40
3905	25.86
3919	12.20
3927	9.94
3986	11.13
4105	10.41
4162	10.99
4186	20.46
4425	10.93
4455	11.12
4534	14.92
4544	10.95
4550	11.18
A2-1	9.81
A2-27	17.62
A2-28	12.55
A2-62	12.59
A2-145	10.54
A2-165	16.42

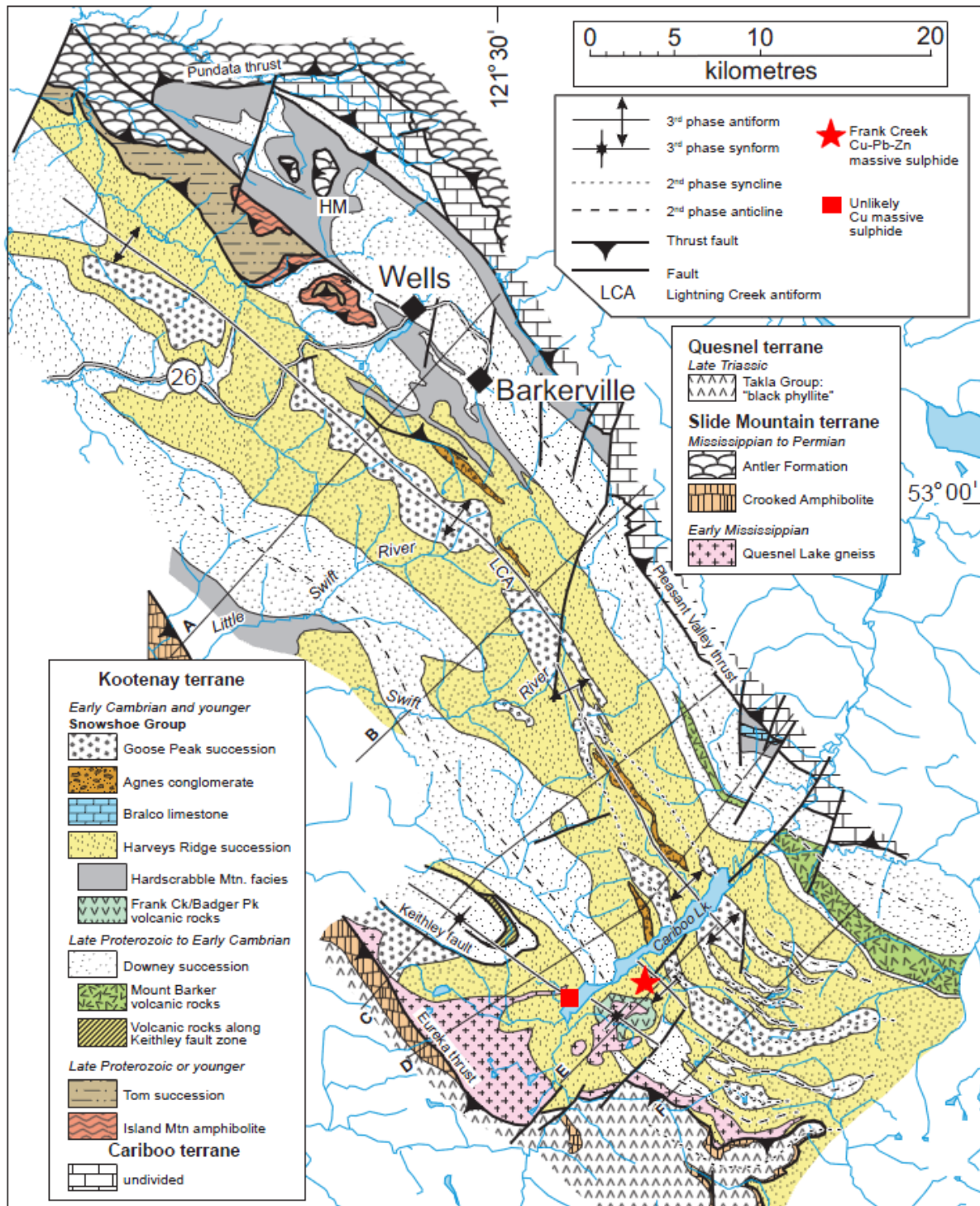


**Figure No. 4** - Terrane Map of Southern British Columbia. Barker Minerals' properties are indicated by the red star over the Barkerville subterrane. The brown star to the SE is the Barkerville Gold Mine Ltd.' Goldstream volcanogenic massive sulphide deposit. Map is from Ferri, F. & Schiarizza, P., 2006.



- ★1 Ace
- ★2 Frank Ck
- ★3 Unlikely
- ★4 Kangaroo
- ★5 Black Bear East
- ★6 Simlock

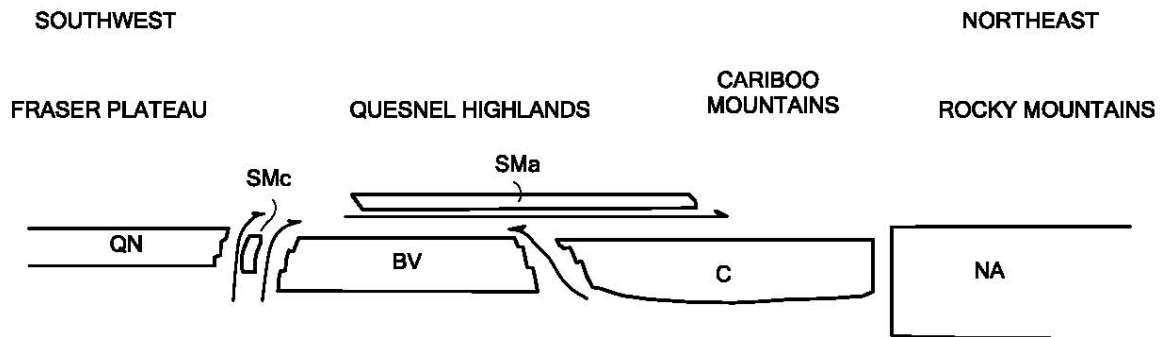
**Figure No. 5** - Terrane Map of Cariboo Lake – Wells Area. Several Barker Minerals' properties are indicated by red stars. Map is from Ferri, F. & Schiarizza, P., 2006.



**Figure No. 6** - Geology of Wells-Cariboo Lake area. Highlighted on the BCGS map are Barker Minerals' Frank Creek and Unlikely massive sulphide prospects. The Harveys Ridge succession consists of siltstone, quartzite and the Frank Creek volcanics. Map is from Ferri, F. & Schiarizza, P., 2006.

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. 7** - 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).

## 7.0 GEOLOGY

### 7.1 Regional Geology

#### 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 Group 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 to likely be 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 Group rocks are Upper Proterozoic to Upper Devonian metasediments, considered correlative in age with the Eagle Bay Formation in the Kootenay Terrane to the south. The Snowshoe Group 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 gold 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 Classier 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.

### **7.2 Local Geology at Ace Area**

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 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. 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.

All rock formations in the area have experienced greenschist facies metamorphism. Metamorphic grade increases toward the southeast. 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.

## **8.0 EXPLORATION PROGRAM, 2022**

### **8.1 Sampling Method and Approach**

Heavy mineral samples collected, processed and analyzed in 2022 for multiple elements using the Niton XL3t handheld X-ray fluorescence analyzer from Thermo Scientific Inc. Further information on this instrument is at the Niton website <http://www.niton.com/en/niton-analyzers-products/xl3/xl3t>. An overview of sample analysis using energy dispersive X-ray fluorescence (EDXRF), adapted from the Niton website, is in Appendix B.

Coordinates were collected at all sample locations. The coordinates are provided in Table No. 2. Barren granite was used for calibration of the XRF analyzer.

The XRF analysis method does not replace laboratory assay. It detects the presence or absence of multiple elements in prospecting and, up to a certain point, the intensity of mineralization and correlation among elements in a specimen. The XRF is very useful in analysis for base economic and pathfinder metals though Au needs to be in relatively high grade in order to be detected by the XRF.

### **8.2 Economic Targets and Work Done**

The economic target was gold in quartz veins or within the rocks hosting the veins. Au, Zn and Cu results are plotted on the chart in Appendix G. These elements were chosen for the maps as they are often best pathfinder elements for Au, and were more frequently detected during the survey than other elements. “<LOD” signifies the result is below the level of detection.

Field work performed in early 2022 on Barker Minerals Ltd's. Ace property consisted of till and stream sediment heavy mineral sampling programs on new logging roads and in newly logged areas with follow up XRF analysis. Eighteen sediment/clay samples were collected on 6 separate drainages which were then fine sieved in the field through a series of screen mesh sizes with a five gallon bucket of material brought out for each sample. The samples were then hand panned with the remaining heavy minerals sample analyzed by XRF at Barker's field office in Quesnel BC. The samples analyzed were set aside for future microscope studies were warranted. This report describes the work done in early 2022 and is a part of a larger program of the 2022 till sampling on the Ace property which will be reported in a future assessment report.

Six of the heavy mineral samples showed minor small gold particles which also had gold detected in the XRF analysis. Two samples had highly anomalous gold values which are listed below and did not appear to have visible gold in the panning process. There appears to be no significant association of gold with any other elements. Previous petrographic studies on the Ace project determined that native gold was present as well as gold mineralization being associated with Copper and Zinc elements.

The six samples high in Au are listed below.

<u>Sample No.</u>	<u>Au (ppm)</u>
A22-1a	25.86
A22-2	9.94
A22-2b	14.37
A22-3a	16.31
A22-5	23.35
A22-6	18.55

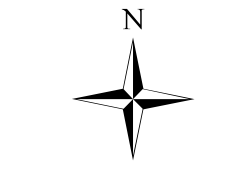
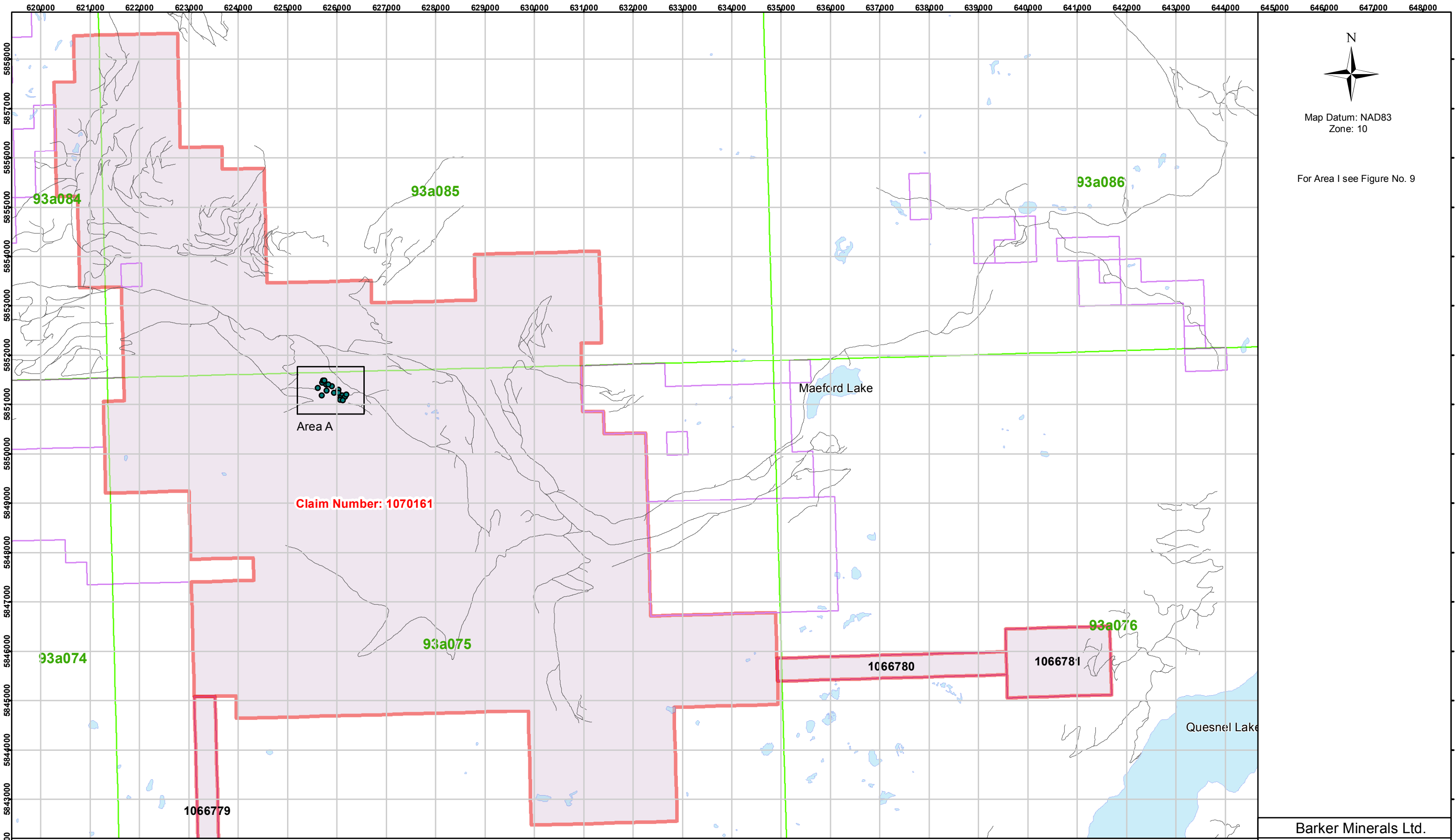
## **9.0 CONCLUSIONS**

Six of the eighteen sediment/clay samples had high results in Au with four of the six samples also appearing to have visible fine grains of gold in the hand panned samples. The locations of these samples should be followed up by more intensive and extensive rock and soil sampling where outcrop can be found.

Historic work in the Ace Property area determined gold occurs in quartz veins on the property. The 2022 rock sampling program was of limited scope. Most elevated gold values were not accompanied by elevated results in the elements deemed to be possible pathfinders, (zinc and copper). This may suggest that most gold that may occur in host veins, does so as a single native metal which has also been confirmed in previous petrographic studies of gold rich samples on the Ace project.

## **10.0 RECOMMENDATIONS**

More intensive and extensive rock and soil sampling is recommended to follow up the high gold results got in the early 2022 program. Also, the very extensive work history of the Ace property resulted in recommendations for comprehensive follow up work to be done. A synthesis of the historical work should be done along with work recommended by the previous programs in order to help plan the next major stage of exploration.



Map Datum: NAD83  
Zone: 10

For Area I see Figure No. 9



Area A

Claim Number: 1070161

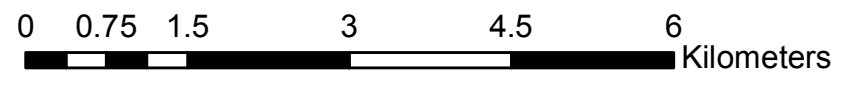
Maeford Lake

Quesnel Lake

**Legend**  
 Mineral Claims  
 Lakes/Rivers  
 ACE  
 BC Mapsheets  
 Drawn by: B.Bye, Nortech Forestry Ltd. Quesnel, BC

**Figure No: 8**

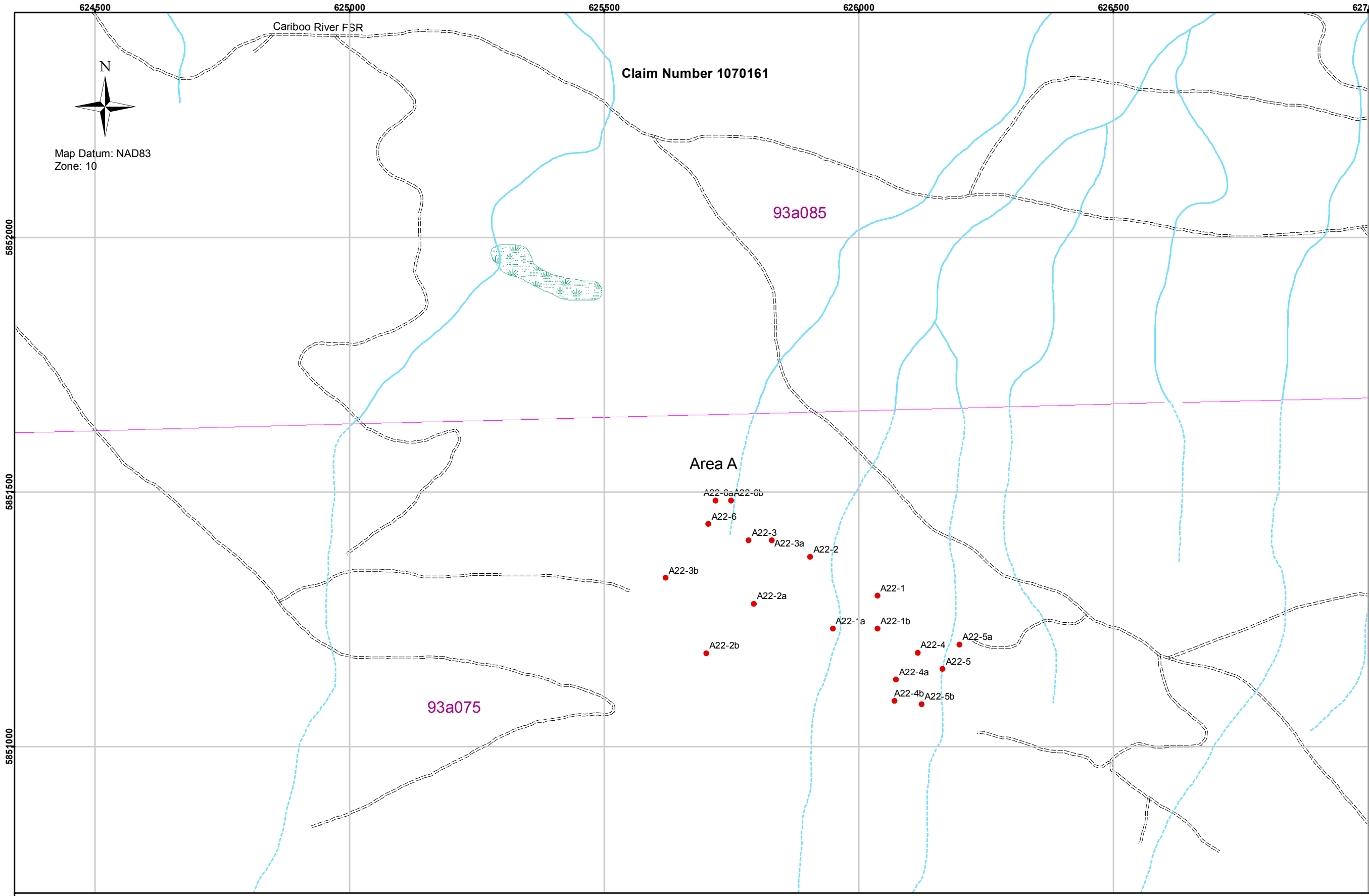
Scale: 1:70,000



Barker Minerals Ltd.

**Ace Property  
Keymap of Areas**

Cariboo Mining Division, B.C.  
Date: Dec. 9, 2022 Mapsheet: 93A073/074



Ace Property Area A  
Till & Sediment Samples XRF Results (ppm)

Sample No.	Au (ppm)	Cu (ppm)	Zn (ppm)
A22-1	0	21.95	140.6
A22-1a	25.86	25.17	35.07
A22-1b	0	56.18	80.95
A22-2	9.94	30.56	38.14
A22-2a	0	220.75	64.53
A22-2b	14.37	45.11	42
A22-3	0	76.18	72.9
A22-3a	16.31	24.92	19.72
A22-3b	0	101.93	32.91
A22-4	0	146.17	17.83
A22-4a	0	28.24	41.18
A22-4b	0	29.36	61.63
A22-5	23.35	0	0
A22-5a	0	91.56	130.1
A22-5b	0	76.18	72.9
A22-6	18.55	48.83	32.58
A22-6a	0	53.29	54.18
A22-6b	0	0	95.65

Results below level of detection are not shown  
Zn, Cu results over 100 ppm marked in red.  
See table No. \_\_\_ for XRF results.

**Legend**

- Till & Sediment Sample Locations
- ACE Claim
- All other Claims
- BC Mapsheets
- Lakes/Rivers
- Stream
- - - NCD
- Roads

Drawn by: B.Bye, Nortech Forestry Ltd. Quesnel, BC

Figure No: 9

Scale: 1:7,500

Meters

Barker Minerals Ltd.

**Ace Property  
Area A**

**Till & Sediment Sample Locations,  
numbers and Cu, Zn, Au Geochemistry**

Cariboo Mining Division, B.C.  
Date: December 12, 2022 Mapsheet: 93A075  
Claim Number: 1070161

5850500

624500

625000

625500

626000

626500

627000

## **APPENDIX A**

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

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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.
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.
B.C. MEMPR	British Columbia Ministry of energy Mines and Petroleum Resources.
Bi	Bismuth.
Cd	Cadmium.
cm	Centimetre.
Co	Cobalt.
Cu	Copper.
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.
eg.	<i>exempli grātiā</i> (for the sake of example).
EM	Electromagnetic.
E-W	East-West.
F	Fluorine.
Float	Loose rocks or boulders; the location of the bedrock source is not known.

GBC	Geoscience British Columbia.
Grab sample	A sample of a single rock or selected rock chips collected from within a restricted area of interest.
GSC	Geological Survey of Canada.
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.
Heavy mineral concentrate	A 10 kg sample is sieved and submitted to heavy liquid separation. The resultant heaviest concentrate is then separated into magnetic and non-magnetic portions. These are then examined under microscope or assayed.
Hg	Mercury.
HLEM	Horizontal loop electromagnetic.
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 geophysical survey.
kg	Kilogram.
km	Kilometre.
lb.	Pound.
Leucocratic	Light-coloured.
<LOD	Below the level of detection.
m	Metre.
Max-Min	An HLEM technique to test for resistivity and conductivity of rocks.
µm	Micron, micro-metre, one millionth of a metre.
Mn	Manganese.
Mo	Molybdenum.
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.

my	Million years.
NE-SW	Northeast-Southwest.
NNW-SSE	North northwest – South southeast.
NW	Northwest.
NW-SE	Northwest - Southeast.
N-S	North-South.
OF	Open File.
Orogenic	The physical manifestations of the process of mountain building. Orogens are usually long, thin, arcuate tracts of rock that are geologically active and have a pronounced linear structure resulting in terranes.
oz.	Ounce.
oz/st	ounces per short ton (Imperial measurement, same as oz/T). 34.29 g/t (metric tonnes) = 1.00 oz/st (short tons).
oz/T	ounces per ton (Imperial measurement). 34.29 g/t (metric tonnes) = 1.00 oz/T (short tons).
Pathfinder	A metallic element associated with an ore element such as silver or gold. Areas of anomalous “pathfinder” elements can suggest the possible presence of ore elements though the latter may not be detected initially.
Pb	Lead.
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.
Potassic alteration	Typical of porphyry copper and lode gold deposits, results in production of micaceous, potassic minerals such as biotite in iron-rich rocks, muscovite mica or sericite in felsic rocks, and orthoclase (adularia) alteration, often quite pervasive and producing distinct salmon-pink alteration zones.
ppb	Parts per billion.
ppm	Parts per million (1 ppm = 1,000 ppb = 1 g/t).
Propylitic alteration	Alteration of rocks due to hot fluids that have a high sodium ion composition. It typically results in epidote–chlorite–albite alteration with pyrite.
Protolith	The original rock before it was metamorphosed.

QUEST	Quesnellia Exploration Strategy, a BCGS geophysical survey.
Sedex	Sedimentary-exhalative mineral deposit type.
SE	Southeast.
Skarn	Forms by chemical metasomatism of rocks in the contact zone of intrusive rocks with rocks often containing carbonate minerals. Skarns in the igneous environment are associated with hornfels and wider zones of calc-silicate rocks. Skarns are often hosts for copper, lead, zinc, iron, gold, molybdenum, tin, and tungsten ore deposits.
Sb	Antimony.
Talus	A collection of rock fragments at the base of crags or mountain cliffs, that has accumulated through rockfall from adjacent cliff faces. Also called scree.
Te	Tellurium.
TEM or TDEM	Time Domain EM.
Tensor-magnetotelluric	See MT.
Terrain	An arbitrarily defined geographic location.
Terrane	A major crustal block with a particular geologic history.
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 ( $\text{Na}_2\text{O}$ plus $\text{K}_2\text{O}$ ) at similar $\text{SiO}_2$ than alkali basalt.
TRIM	Terrain Resource Information Management, series of 1:20,000 scale maps.
VLF	Very low frequency.
VLF-EM	Very low frequency electromagnetic.
VMS	Volcanic-related massive sulphide.
VHMS	Volcanic-hosted massive sulphide. Same as VMS.
XRF	X-ray florescence.
Zn	Zinc.

## **APPENDIX B**

### **Analytical Methods**

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## Overview of sample analysis using energy dispersive X-ray fluorescence using the Thermo Scientific Niton XL3t handheld XRF analyzer

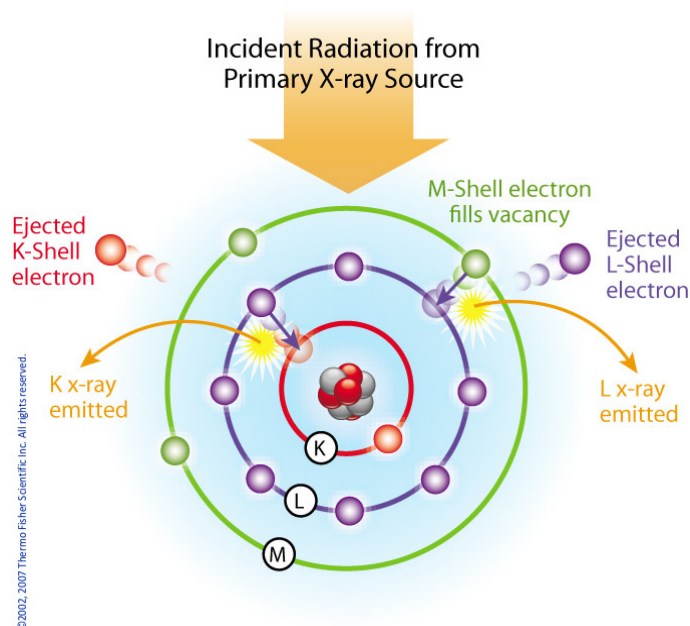
Thermo Scientific portable energy-dispersive x-ray fluorescence (EDXRF) analyzers, commonly known as XRF analyzers, can quickly and nondestructively determine the elemental composition of metal and precious metal samples of rocks, ore and soil.

Up to 40 elements may be analyzed simultaneously by measuring the characteristic fluorescence x-rays emitted by a sample. XRF analyzers can quantify elements ranging from magnesium (Mg - element 12) through uranium (U - element 92) and measure x-ray energies from 1.25 keV up to 85 keV in the case of Pb K-shell fluorescent x-rays excited with a  $^{109}\text{Cd}$  isotope. These instruments also measure the elastic (Rayleigh) and inelastic (Compton) scatter x-rays emitted by the sample during each measurement to determine, among other things, the approximate density and percentage of the light elements in the sample.

### Elemental Analysis - A Unique Set of Fingerprints

How does XRF work? Each of the elements present in a sample produces a unique set of characteristic x-rays that is a "fingerprint" for that specific element. XRF analyzers determine the chemistry of a sample by measuring the spectrum of the characteristic x-ray emitted by the different elements in the sample when it is illuminated by x-rays. These x-rays are emitted either from a miniaturized x-ray tube, or from a small, sealed capsule of radioactive material.

1. A fluorescent x-ray is created when an x-ray of sufficient energy strikes an atom in the sample, dislodging an electron from one of the atom's inner orbital shells.
2. The atom regains stability, filling the vacancy left in the inner orbital shell with an electron from one of the atom's higher energy orbital shells.
3. The electron drops to the lower energy state by releasing a fluorescent x-ray, and the energy of this x-ray is equal to the specific difference in energy between two quantum states of the electron.



Atom emits characteristic X-rays when illuminated by x-rays from a primary source.

When a sample is measured using XRF, each element present in the sample emits its own unique fluorescent x-ray energy spectrum. By simultaneously measuring the fluorescent x-rays emitted by the different elements in the sample, the Thermo Scientific portable XRF analyzers can rapidly determine those elements present in the sample and their relative concentrations - in other words, the elemental chemistry of the sample.



Overview of the Thermo Scientific Niton XL3t handheld XRF analyzer.

**APPENDIX C**

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**APPENDIX D**

**STATEMENT of AUTHOR'S QUALIFICATIONS**

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This report was prepared by Louis E. Doyle, Prospector, who has 27 years experience prospecting and managing exploration projects in the Cariboo Region of British Columbia.

**APPENDIX E**

Statement of Expenditures

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## Barker Minerals Ltd.

Work was completed between May 21, 2022 to July 4, 2022

Work was done on claim # 1092643

Event # 5941821

### Ace Property - Geological

	Date	Days	Rate	Sub-total
<b>Louis Doyle</b>				
Report writing		3	\$ 600.00	\$ 1,800.00
Room & board		3	\$ 100.00	\$ 300.00
<b>Brenda Bye</b>				
Map drafting		1	\$ 500.00	\$ 500.00
<b>Colleen Doyle</b>				
Report compilation and filing		2	\$ 300.00	\$ 600.00
Room & board		2	\$ 100.00	\$ 200.00
				<u>\$ 3,400.00</u>

### Ace Property - Geological

#### Brian Hall

Till sediment collection	June 22, 2022	1	\$ 600.00	\$ 600.00
Till sediment collection	June 23, 2022	1	\$ 600.00	\$ 600.00
Till sediment collection	June 24, 2022	1	\$ 600.00	\$ 600.00
Till sediment collection	June 25, 2022	1	\$ 600.00	\$ 600.00
Vehicle & gas		4	\$ 150.00	\$ 600.00
Room & board		4	\$ 100.00	\$ 400.00

#### Louis Doyle

Till sediment collection	June 22, 2022	1	\$ 600.00	\$ 600.00
Till sediment collection	June 23, 2022	1	\$ 600.00	\$ 600.00
Till sediment collection	June 24, 2022	1	\$ 600.00	\$ 600.00
Till sediment collection	June 25, 2022	1	\$ 600.00	\$ 600.00
Vehicle & gas		4	\$ 150.00	\$ 600.00
Room & board		4	\$ 100.00	\$ 400.00

#### Louis Doyle

Panning samples	July 1, 2022	1	\$ 600.00	\$ 600.00
Panning samples	July 2, 2022	1	\$ 600.00	\$ 600.00
Room & board		2	\$ 100.00	\$ 200.00

#### Brian Hall

Panning samples	July 1, 2022	1	\$ 600.00	\$ 600.00
Panning samples	July 2, 2022	1	\$ 600.00	\$ 600.00
Room & board		2	\$ 100.00	\$ 200.00

\$ 9,600.00

# Barker Minerals Ltd.

Work was completed between May 21, 2022 to July 4, 2022

Work was done on claim # 1092643

Event # 5941821

## Ace Property - Geochemical

### Brian Hall

XRF operator	July 3, 2022	0.5	\$	600.00	\$	300.00
XRF rental		0.5	\$	200.00	\$	100.00
						<b>\$ 400.00</b>

## Ace Property - Travel

### Brian Hall

Travel in/out	June 21, 2022	1	\$	600.00	\$	600.00
Room & board		1	\$	100.00	\$	100.00
Vehicle & gas		1	\$	150.00	\$	150.00

### Louis Doyle

Travel in/out	June 21, 2022	1	\$	600.00	\$	600.00
Room & board		1	\$	100.00	\$	100.00
Vehicle & gas		1	\$	150.00	\$	150.00
						<b>\$ 1,700.00</b>

## Ace Property - Misc. expenditures

Safety equipment (MTC), exploration supplies & equipment, communication devices & quad

Exploration supplies & equipment					\$	125.00
First aid equipment		4	\$	100.00	\$	400.00
Quad rental		4	\$	100.00	\$	400.00

### Communication devices

Hand held radios, satellite phones & SPOT locators		4	\$	24.00	\$	96.00
						<b>Sub-total \$ 1,021.00</b>

## Ace Property Expenditure Summary

<b>Geological Office</b>	<b>Sub-total</b>	<b>\$ 3,400.00</b>
<b>Geological</b>	<b>Sub-total</b>	<b>\$ 9,600.00</b>
<b>Geochemical</b>	<b>Sub-total</b>	<b>\$ 400.00</b>
<b>Travel</b>	<b>Sub-total</b>	<b>\$ 1,700.00</b>
<b>Misc. expenditures</b>	<b>Sub-total</b>	<b>\$ 1,021.00</b>
<b>Ace Expenditure Total</b>		<b>\$ 16,121.00</b>

## **APPENDIX F**

### Sample Locations and Descriptions

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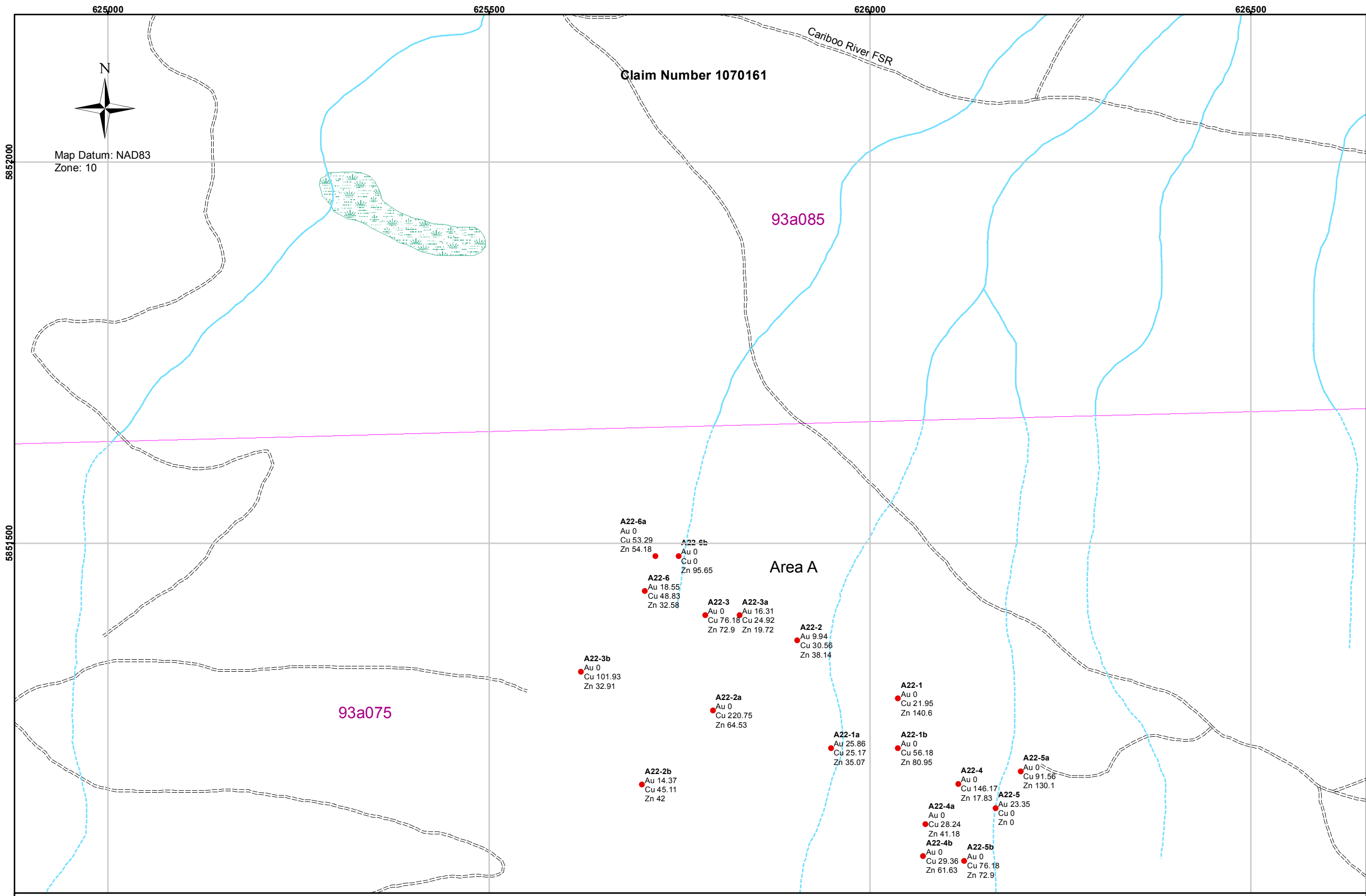
**Appendix F - Ace Property - Till and Sediment Sampling 2022 Locations**

<b>Sample No.</b>	<b>Appendix</b>	<b>Type</b>	<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Target and Description and Comment</b>
A22-1	Appendix - F	Till.Sed	626037	5851296	Culvert Sed sample - blue clay
A22-1a	Appendix - F	Till.Sed	625949	5851231	upslope from A22-1 - blue clay in stream flow
A22-1b	Appendix - F	Till.Sed	626037	5851231	upslope from A22-1a - blue clay in stream flow
A22-2	Appendix - F	Till.Sed	625905	5851372	Culvert Sed sample - blue clay
A22-2a	Appendix - F	Till.Sed	625794	5851280	upslope from A22-2 - blue clay in stream flow
A22-2b	Appendix - F	Till.Sed	625701	5851183	upslope from A22-2a - blue clay in stream flow
A22-3	Appendix - F	Till.Sed	625784	5851405	Culvert Sed sample - blue clay
A22-3a	Appendix - F	Till.Sed	625829	5851405	downslope from A22-3 - blue clay in stream flow
A22-3b	Appendix - F	Till.Sed	625621	5851331	upslope from A22-3 - blue clay in stream flow
A22-4	Appendix - F	Till.Sed	626116	5851184	Culvert Sed sample - blue clay
A22-4a	Appendix - F	Till.Sed	626073	5851131	upslope from A22-4 - blue clay in stream flow
A22-4b	Appendix - F	Till.Sed	626070	5851089	upslope from A22-4 - blue clay in stream flow
A22-5	Appendix - F	Till.Sed	626165	5851152	Culvert Sed sample - blue clay
A22-5a	Appendix - F	Till.Sed	626198	5851200	downslope from A22-5 - blue clay in stream flow
A22-5b	Appendix - F	Till.Sed	626124	5851083	upslope from A22-5 - blue clay in stream flow
A22-6	Appendix - F	Till.Sed	625705	5851437	Culvert Sed sample - blue clay
A22-6a	Appendix - F	Till.Sed	625719	5851483	downslope from A22-6 - blue clay in stream flow
A22-6b	Appendix - F	Till.Sed	625749	5851483	downslope from A22-6a - blue clay in stream flow

## **APPENDIX G**

### Geochemical Map and XRF Sample Results

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Ace Property Area A  
Geochemical Map

Till & Sediment Samples XRF Results (ppm)

Sample No.	Au (ppm)	Cu (ppm)	Zn (ppm)
A22-1	0	21.95	140.6
A22-1a	25.86	25.17	35.07
A22-1b	0	56.18	80.95
A22-2	9.94	30.56	38.14
A22-2a	0	220.75	64.53
A22-2b	14.37	45.11	42
A22-3	0	76.18	72.9
A22-3a	16.31	24.92	19.72
A22-3b	0	101.93	32.91
A22-4	0	146.17	17.83
A22-4a	0	28.24	41.18
A22-4b	0	29.36	61.63
A22-5	23.35	0	0
A22-5a	0	91.56	130.1
A22-5b	0	76.18	72.9
A22-6	18.55	48.83	32.58
A22-6a	0	53.29	54.18
A22-6b	0	0	95.65

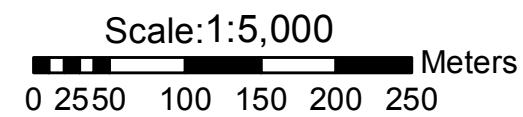
Results below level of detection are not shown  
**Zn, Cu results over 100 ppm marked in red.**  
 See table No. \_\_\_\_ for XRF results.

**Legend**

- Till & Sediment Sample Locations
- ACE Claim
- All other Claims
- BC Mapsheets
- Lakes/Rivers
- Stream
- NCD
- Roads

Drawn by: B.Bye, Nortech Forestry Ltd. Quesnel, BC

**Appendix G**



Barker Minerals Ltd.

**Ace Property  
Area A**

**Till & Sediment Sample Locations,  
numbers and Cu, Zn, Au Geochemistry**

Cariboo Mining Division, B.C.  
 Date: December 8, 2022    Mapsheet: 93A075  
 Claim Number: 1070161

Sample #	Units	Mo	Zr	Sr	U	Rb	Th
A22-1	ppm	< LOD : 3.05	127.99	120.49	< LOD : 6.72	63.96	17.57
A22-1a	ppm	< LOD : 3.20	437.99	515.93	11.74	< LOD : 1.50	23.41
A22-1b	ppm	< LOD : 4.34	25.22	194.99	< LOD : 8.92	25	< LOD : 13.88
A22-2	ppm	< LOD : 2.56	72.74	61.18	< LOD : 7.49	125.19	16.12
A22-2a	ppm	< LOD : 2.98	218.19	72.32	< LOD : 7.47	88.29	44.83
A22-2b	ppm	< LOD : 4.12	79.03	1514.95	13.16	34.86	34.22
A22-3	ppm	< LOD : 2.67	183.24	180.28	10.24	23.93	14.64
A22-3a	ppm	< LOD : 3.52	119.14	241.73	< LOD : 7.13	40.52	13.81
A22-3b	ppm	< LOD : 3.46	85.92	92.35	< LOD : 5.90	22.03	< LOD : 10.28
A22-4	ppm	42.06	139.64	111.18	< LOD : 6.17	6.54	16.38
A22-4a	ppm	< LOD : 2.69	283.02	220.56	8.11	44.45	23.21
A22-4b	ppm	< LOD : 1.92	6.67	56.23	< LOD : 5.33	14.68	< LOD : 7.59
A22-5	ppm	< LOD : 1.64	< LOD : 1.50	< LOD : 1.50	< LOD : 3.16	< LOD : 1.50	< LOD : 6.47
A22-5a	ppm	< LOD : 1.91	< LOD : 1.50	7.8	< LOD : 3.92	9.26	< LOD : 7.43
A22-5b	ppm	< LOD : 2.29	163.94	240.95	9.26	71.69	< LOD : 8.55
A22-6	ppm	< LOD : 4.90	153.53	49.6	< LOD : 8.30	15.99	25.73
A22-6a	ppm	< LOD : 4.67	294.27	122.59	< LOD : 8.55	31.65	31.15
A22-6b	ppm	< LOD : 4.06	76.47	566.87	< LOD : 9.36	33.85	< LOD : 14.01

Sample #	Units	Pb	Se	As	Hg	Au	Zn
A22-1	ppm	< LOD : 8.58	< LOD : 3.35	< LOD : 4.67	< LOD : 9.30	< LOD : 18.55	140.6
A22-1a	ppm	27.73	< LOD : 3.36	< LOD : 5.51	< LOD : 9.69	25.86	35.07
A22-1b	ppm	< LOD : 10.98	< LOD : 6.02	< LOD : 6.64	< LOD : 300000.00	< LOD : 10.62	80.95
A22-2	ppm	< LOD : 8.39	< LOD : 3.06	< LOD : 4.58	< LOD : 9.92	9.94	38.14
A22-2a	ppm	27.16	< LOD : 4.48	< LOD : 6.61	< LOD : 10.45	< LOD : 13.43	64.53
A22-2b	ppm	< LOD : 9.27	< LOD : 4.00	< LOD : 5.71	< LOD : 300000.00	14.37	42
A22-3	ppm	< LOD : 8.02	< LOD : 3.28	< LOD : 4.58	< LOD : 8.89	< LOD : 11.06	72.9
A22-3a	ppm	16.83	< LOD : 3.20	< LOD : 5.23	< LOD : 9.20	16.31	19.72
A22-3b	ppm	< LOD : 11.43	< LOD : 3.79	< LOD : 5.96	< LOD : 300000.00	< LOD : 11.59	32.91
A22-4	ppm	< LOD : 8.19	< LOD : 4.16	< LOD : 5.53	< LOD : 9.84	< LOD : 12.92	17.83
A22-4a	ppm	< LOD : 9.17	< LOD : 2.83	< LOD : 4.71	< LOD : 8.30	< LOD : 11.28	41.18
A22-4b	ppm	< LOD : 6.25	< LOD : 2.57	< LOD : 3.62	< LOD : 7.86	< LOD : 10.95	61.63
A22-5	ppm	< LOD : 4.71	< LOD : 1.97	< LOD : 2.60	< LOD : 6.50	23.35	< LOD : 8.70
A22-5a	ppm	50.65	< LOD : 2.61	< LOD : 6.93	9.73	< LOD : 11.75	130.1
A22-5b	ppm	< LOD : 7.84	< LOD : 3.50	< LOD : 4.24	< LOD : 8.08	< LOD : 11.06	72.9
A22-6	ppm	< LOD : 13.69	< LOD : 5.86	< LOD : 7.06	< LOD : 300000.00	18.55	32.58
A22-6a	ppm	< LOD : 11.69	< LOD : 4.98	< LOD : 6.96	< LOD : 300000.00	< LOD : 18.54	54.18
A22-6b	ppm	< LOD : 11.52	< LOD : 3.53	< LOD : 5.70	< LOD : 300000.00	< LOD : 16.92	95.65

Sample #	Units	W	Cu	Ni	Co	Fe	Mn
A22-1	ppm	< LOD : 67.54	21.95	118.42	< LOD : 194.68	51849.13	823.81
A22-1a	ppm	< LOD : 31.83	25.17	102.2	< LOD : 181.02	32458.99	1386.69
A22-1b	ppm	< LOD : 101.56	56.18	145.07	< LOD : 292.81	57720.18	< LOD : 4508.40
A22-2	ppm	< LOD : 65.82	30.56	167.86	< LOD : 214.00	114765.09	6032.53
A22-2a	ppm	< LOD : 68.42	220.75	184.92	< LOD : 231.98	146844.19	431.74
A22-2b	ppm	85.31	45.11	< LOD : 64.41	< LOD : 226.22	68540.87	< LOD : 2451.00
A22-3	ppm	< LOD : 54.87	76.18	109.2	< LOD : 147.26	13384.73	408.35
A22-3a	ppm	< LOD : 30.14	24.92	67.32	< LOD : 167.28	24714.91	669.49
A22-3b	ppm	< LOD : 75.16	101.93	209.21	< LOD : 278.10	178170.17	< LOD : 1901.15
A22-4	ppm	< LOD : 31.94	146.17	147.8	< LOD : 187.13	48216.88	5584.58
A22-4a	ppm	< LOD : 59.24	28.24	< LOD : 52.76	< LOD : 157.13	24573.63	383.45
A22-4b	ppm	< LOD : 56.33	29.36	< LOD : 51.30	< LOD : 143.01	19065.57	345.28
A22-5	ppm	< LOD : 48.84	< LOD : 16.56	< LOD : 43.73	< LOD : 97.53	1826.28	80.53
A22-5a	ppm	< LOD : 58.47	91.56	210.65	< LOD : 196.00	114588.87	14615.22
A22-5b	ppm	< LOD : 54.87	76.18	109.2	< LOD : 177.03	74985.26	469.59
A22-6	ppm	< LOD : 97.18	48.83	148.51	< LOD : 332.04	181168.45	17859.32
A22-6a	ppm	< LOD : 90.36	53.29	< LOD : 77.41	< LOD : 286.33	108835.7	10022.55
A22-6b	ppm	< LOD : 83.65	< LOD : 29.40	< LOD : 67.16	< LOD : 187.68	30280.23	< LOD : 2644.96

<b>Sample #</b>	<b>Units</b>	<b>Sb</b>	<b>Sc</b>
A22-1	ppm	< LOD : 17.76	< LOD : 669.98
A22-1a	ppm	< LOD : 17.88	< LOD : 2261.59
A22-1b	ppm	< LOD : 23.91	32.2
A22-2	ppm	< LOD : 19.93	< LOD : 283.46
A22-2a	ppm	< LOD : 19.27	< LOD : 414.77
A22-2b	ppm	< LOD : 20.22	325.53
A22-3	ppm	< LOD : 16.95	< LOD : 694.36
A22-3a	ppm	< LOD : 17.12	< LOD : 464.69
A22-3b	ppm	33.84	< LOD : 55.17
A22-4	ppm	< LOD : 18.11	< LOD : 371.50
A22-4a	ppm	< LOD : 16.27	< LOD : 145.25
A22-4b	ppm	< LOD : 15.80	< LOD : 106.08
A22-5	ppm	< LOD : 13.62	< LOD : 33.03
A22-5a	ppm	< LOD : 18.60	
A22-5b	ppm	< LOD : 16.24	< LOD : 79.16
A22-6	ppm	< LOD : 25.86	< LOD : 441.44
A22-6a	ppm	< LOD : 22.95	< LOD : 1201.22
A22-6b	ppm	< LOD : 20.38	