

Ministry of Forests, Mines and Lands  
BC Geological Survey

**ASSESSMENT REPORT  
TITLE PAGE AND SUMMARY**

TITLE OF REPORT [type of survey(s)]		TOTAL COST
2010/2011 PROSPECTING, GEOCHEMICAL, GEOLOGY AND PHYSICAL WORK		21,824.78
AUTHOR(S)	SIGNATURE(S)	
DAVID J. PIGGIN, RPF, PROSPECTOR	<i>[Signature]</i>	
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S)		YEAR OF WORK
STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S)		
4852056 - APRIL 30, 2010 to APRIL 8, 2011;		
4859460 - APRIL 9, 2011 to MAY 3, 2011; 4872068 MAY 4, 2011 to MAY 12, 2011;		
PROPERTY NAME		
BARRIER RIDGE		4872080 - MAY 13, 2011 to MAY 31, 2011
CLAIM NAME(S) (on which work was done)		
744542, 744562, 744582, 744602, 759003, 767042, 767062, 767102, 767123, 840411, 840413, 840415, 840417, 840488, 844642, 844643, 844644, 844645, 844646, 844647		
COMMODITIES SOUGHT		
Au, Ag, Cu, Pb, Zn		
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN		
082M066, 082M069, 082M222 and		
MINING DIVISION		NTS
KAMLOOPS		082M021, 082031 (082M022+023)
LATITUDE		LONGITUDE
51 ° 17 ' 34 "		119 ° 53 ' 46 " (at centre of work)
OWNER(S)		
1) DAVID J. PIGGIN 2) ASTRAL MINING CORPORATION		
MAILING ADDRESS		
91-137 MCGILL ROAD OLD STOCK EXCHANGE BUILDING KAMLOOPS, B.C. V2C 1L9 SUITE B18 - 475 HOWE STREET VANCOUVER, B.C. V6C 2B3		
OPERATOR(S) [who paid for the work]		
1) (SAME AS ABOVE) 2) (SAME AS ABOVE)		
MAILING ADDRESS		

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

BALDY BATHOLITH, GRANITE INTRUSION, MID-CRETACEOUS  
EAGLE BAY ASSEMBLY, DEVONIAN MISSISSIPPIAN, METASEDIMENTS, VMS, SCHIST  
LIMESTONE, TSHINAKIN LIMESTONE, CHLORITE SCHIST  
SILVER MINERALIZATION IN QUARTZ VEINS IN LIMESTONE; SILVER LEAD  
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS 03350, 05363, 08210,  
12847, 13168, 13207, 13297, 13793, 14123, 14397, 16190, 16331, 17739, 18489  
19047, 19173, 19851, 22956.

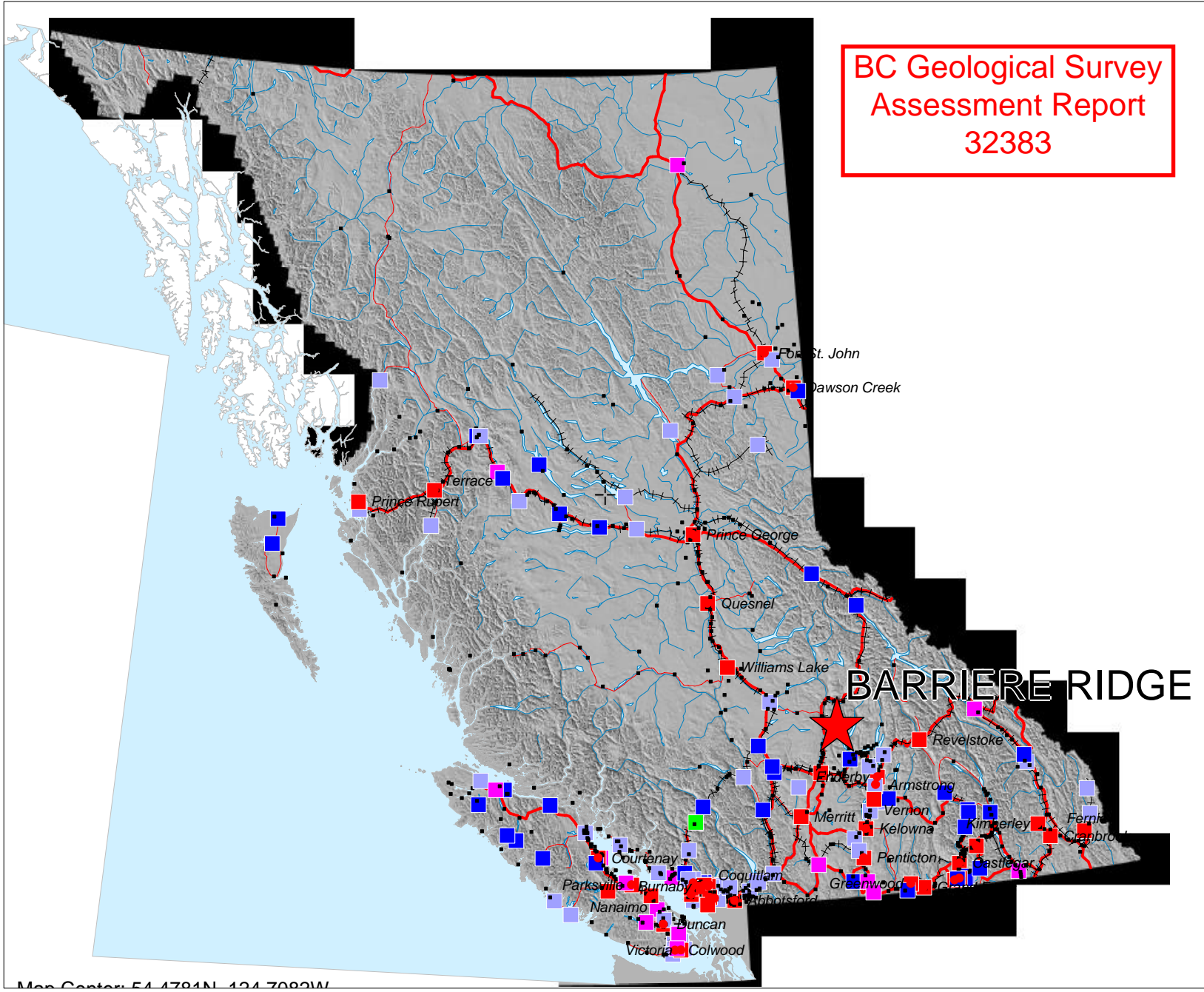
(OVER)

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	LITERATURE SEARCH + DATA BASE + REPORT - ALL TENURES.		\$ 6,775.00
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL			
(number of samples analysed for ...)			
Soil	6-AK2011-0676	{ 744542, 744582, 759003, 744562, 744602, 767123, 767062, 844642, 844644 }	\$154.26
Silt	27-AK2010-1339, AK2011-0689+0690		\$ 771.94
Rock			
Other			
DRILLING			
(total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)	8,307.98 ha		7510.81
PREPARATORY/PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail	2.3m x 1.2m x 0.6m		
4 HAND TRENCHES	1.35m x 0.3m x 0.2m		300.00
Trench (metres)	1.5m x 0.8m x 0.2m		
Underground dev. (metres)	0.9m x 0.4m x 0.3m		
Other	BEAR DOG - 1 day		N/C
TOTAL COST			21,824.78

# ARIS MapBuilder

-  BARRIERE RIDGE Location
- BC Administrative Area Layers
- Topographic Layers
- Raster Layers
- BC Border Layers

BC Geological Survey  
Assessment Report  
32383

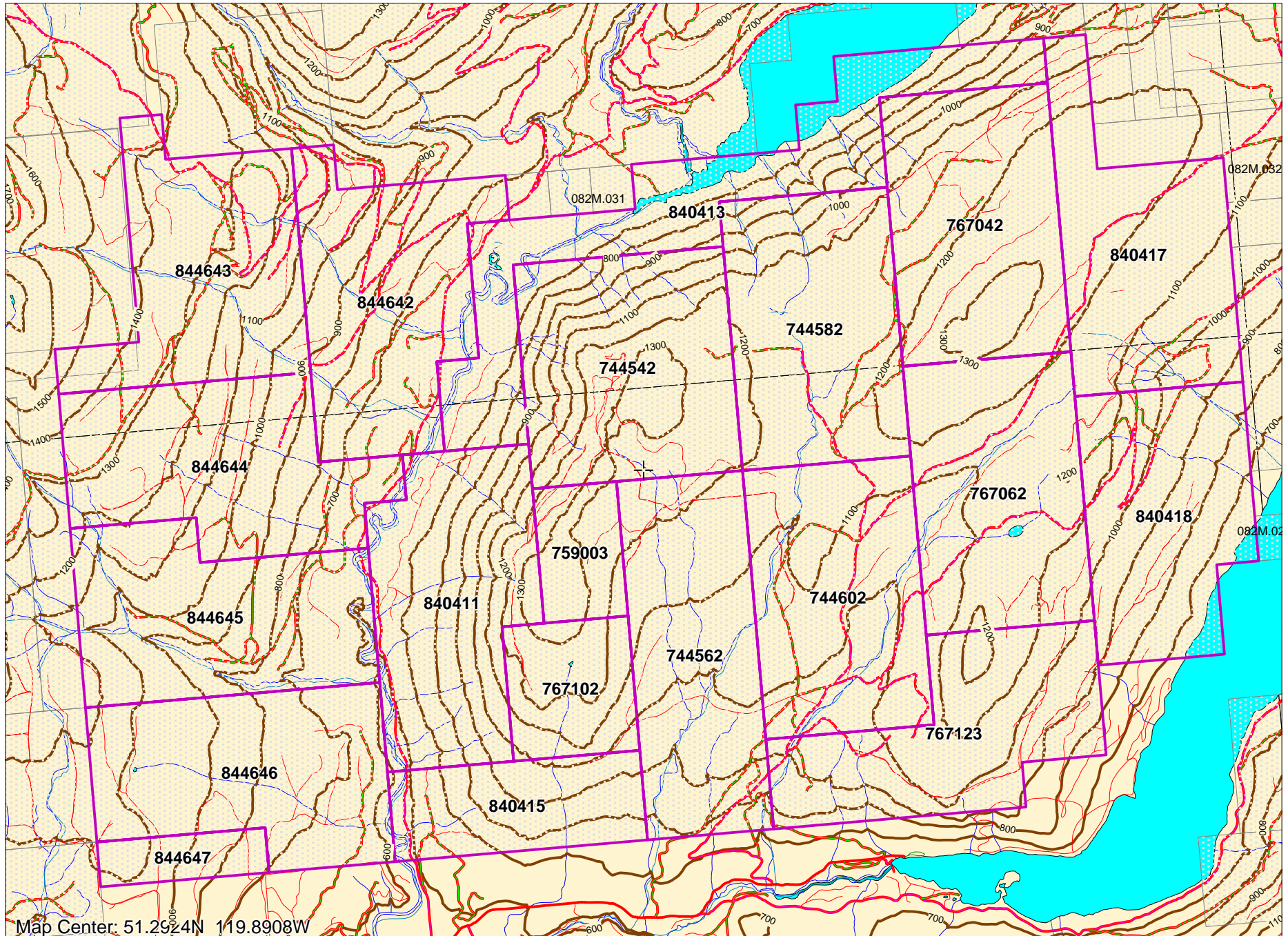


Map Center: 54.4781N 124.7082W

SCALE 1 : 8,238,587

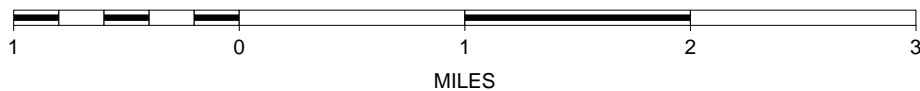


# BARRIERE RIDGE: OVERVIEW TENURES, ROADS, CONTOURS



Map Center: 51.2924N 119.8908W

SCALE 1 : 53,831



# Mineral Titles Online Report

*Click on Tenure Numbers for more information.*

*Click column headings to sort results.*

[Download to Excel](#)

Tenure Number	Type	Claim Name	Good Until	Area (ha)
<a href="#">744542</a>	Mineral	BLUFF1	20120315	505.2364
<a href="#">744562</a>	Mineral	BLUFF2	20120315	485.3074
<a href="#">744582</a>	Mineral	BLUFF3	20120315	485.0088
<a href="#">744602</a>	Mineral	BLUFF4	20120315	485.2667
<a href="#">759003</a>	Mineral	SILVER	20120315	121.2995
<a href="#">767042</a>	Mineral	RIDGE5	20120315	484.9257
<a href="#">767062</a>	Mineral	RIDGE6	20120315	485.1844
<a href="#">767102</a>	Mineral	RIDGE7	20120315	181.9975
<a href="#">767123</a>	Mineral	RIDGE8	20120315	444.9574
<a href="#">840411</a>	Mineral	RIDGE9	20111208	485.2319
<a href="#">840413</a>	Mineral	RIDGE10	20111208	505.0888
<a href="#">840415</a>	Mineral	RIDGE11	20111208	242.7164
<a href="#">840417</a>	Mineral	RIDGE12	20111208	464.764
<a href="#">840418</a>	Mineral	RIDGE13	20111208	444.7881
<a href="#">844642</a>	Mineral	BIRK1	20120127	484.9368
<a href="#">844643</a>	Mineral	BIRK2	20120127	464.6854
<a href="#">844644</a>	Mineral	BIRK3	20120127	485.0789
<a href="#">844645</a>	Mineral	BIRK4	20120127	485.223
<a href="#">844646</a>	Mineral	BIRK5	20120127	485.3746
<a href="#">844647</a>	Mineral	BIRK6	20120127	80.9083

Total Area: 8307.98 ha

[LIBC Metadata](#)

[Mineral Title Online](#)  
[BC Geological Survey](#)  
[British Columbia Ministry of Energy and Mines](#)  
*Last updated in April 2007*

## 2010/2011 PROSPECTING, GEOCHEMICAL, GEOLOGICAL, AND PHYSICAL WORK

### ASSESSMENT REPORT FOR THE BARRIERE RIDGE CLAIMS

KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

#### ASTRAL MINING CORPORATION

Manfred Kurschner, President, CEO, & Director

Old Stock Exchange Building

Suite 818, 475 Howe Street,

Vancouver, B.C, Canada, V6C 2B3

Phone (604) 569-0800 [www.astralmining.com](http://www.astralmining.com) email: mkurschner@astralmining.com

Lat 51 deg 17' 34" N; and Long 119 deg 53' 36" W; UTM NAD83 Zone11: 298264.1 E 5686369.6 N

Map Sheets: 082M021; 082M031 (082M022; 082M032)

GENERAL LOCATION: 66 kilometres northeast of Kamloops, British Columbia, Canada.

West of East Barriere Lake; South of North Barriere Lake and Birk Creek; within lower section of Sprague Creek.

### **MINERAL TENURES – 20 Individual Claims – 8,307.9800 hectares**

Event No.	Date	Tenure Numbers	Area (hectares)	Total Value of Work(\$)	PAC Account (\$)	Total Applied Work (\$)
4852056	April 8, 2011	744542, 744562, 744582, 744602, 759003	2,082.1188	\$ 5,412.11	2,302.19	\$ 7,714.30
4859460	May 3, 2011	744542, 744562, 744582, 744602, 759003, 767042, 767062, 767102, 767123	3,679.1838	\$ 4,012.50	\$ 1,503.05	\$ 5,515.55
4872068	June 16, 2011	744542, 744562, 744582, 744602, 759003, 767042, 767062, 767102, 767123, 840411, 840413, 840415, 840417, 840418	5,821.7730	\$ 1,673.15	\$ 621.65	\$ 2,294.80
4872080	June 16, 2011	744542, 744562, 744582, 744602, 759003, 767042, 767062, 767102, 767123, 840411, 840413, 840415, 840417, 840418, 844642, 844643, 844644, 844645, 844646, 844647	8,307.9800	\$ 4,414.25	\$ 1,885.88	\$ 6,300.13
		<b>ASSESSMENT REPORT SUMMARY</b>	<b>8,307.9800 hectares</b>	<b>\$ 15,512.01</b>	<b>\$ 6,312.77</b>	<b>\$ 21,824.78</b>

PREPARED BY:

**David J. Piggin, R.P.F.**, Free Miner 140689, 91-137 McGill Road, Kamloops, British Columbia, V2C 1L9,  
[david.j.piggin@telus.net](mailto:david.j.piggin@telus.net) Cell: (250) 319-3191 Home: (250) 851-0071

## **SUMMARY**

The BARRIERE RIDGE Claims (20 tenures, 8,307.9800 hectares) were explored by David J. Piggin and Astral Mining Corporation from April 30, 2010 to May 31, 2011 as per Events 4852056, 4859460, 4872068, and 4872080. These claims were optioned to Astral Mining Corporation, Vancouver, BC, Canada on March 2, 2011 by David J. Piggin, a local prospector. The claims were located 66 kilometres northeast of Kamloops, British Columbia near North Barriere and East Barriere Lakes. The Barriere Ridge claims do not include DL4023 KDYD WHITE ROCK MC (see also MINFILE 082M 066 WHITE ROCK) which is a crown granted mineral claim.

**EXPLORATION WORK COMPLETED:** The majority of the exploration work focused on prospecting; literature searches; developing a project database from old prospector assistance reports as well as proprietary prospector data; locating old MINFILE sites; and sampling in the vicinity of a new discovery referred to as the SILVERGAL. The following is a brief summary of the works completed:

- 8,307.9800 hectares were prospected for Au, Ag, Cu, Pb, Zn; including mapping, history, and database works.
- Samples collected, GPS'd and assayed: 27 rock, and 6 soil (prospecting).
- Samples collected, GPS'd and not assayed: 5 rock.
- Ice flow direction measurements, based on drumlin type landforms observed in the field as well as outcrop striations, were taken in the field at 8 sites. Ice direction between North Barriere Lake and East Barriere Lake varied from 160 degrees to 200 degrees (down ice direction) and averaged 180.75 degrees.
- 4 hand trenches were completed varying in size up to 2.3m x 1.2m x 0.6m; samples were collected as required.
- 18 infrastructure locations were GPS'd for future reference and safety purposes; and included road signs, bridge locations, a domestic water intake to rural residence, and a locked gate to the Barriere Ridge Resort.

### **SELECTED ANOMALOUS EXPLORATION RESULTS:**

Previous exploration at MINFILE 082M 066 WHITE ROCK reported Au 0.34 g/t, Ag 92.6 g/t, Pb 2.2 %, Zn 0.8% over 0.56 metres; MINFILE 082M 069 SILVER MINNOW Ag 925.7 g/t, Au 0.69 g/t over 0.61 metres; MINFILE 082M 222 CAD Ag 15.6 g/t, Pb 0.04%, Zn 1.2% over 10 cm; and David Piggin reported in a Prospectors Assistance Program Report (1998) gold in soils up to 555 ppb and in a stream sediment with Au 40 ppb, Ag 1.0 ppm, As 65 ppm, Bi 15 ppm, Mo 6 ppm, Zn 99 ppm.

A new discovery called the SILVERGAL (NAD83 UTM Zone 11. 299086.182E 5684025.205N) was made by David J. Piggin. It is located 3 km SE of WHITE ROCK or 2.5 km SE of SILVER MINNOW; and returned:  
10E41160 BR11Q9D:

Au 30 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb >2000 ppm, Zn 3076 ppm

10E41157 BR11Q9C: Ag 220 g/t, Pb 12.4 %, Bi 270 ppm, Cr 202 ppm, S 1.69 %, Se 110 ppm

10E41158 BR11Q9A: Au 20 ppb, Ag 5.8 g/t, Bi 5 ppm, Cr 232 ppm, Pb 2250 ppm

10E41172 BR11-104: Ag 27.2 ppm g/t, Cu 244 ppm

10E41174 BR11-106: Ag 6.8 ppm, Ca > 10 percent, Cu 428 ppm, Mg 8.88 %, P 1080 ppm, Sb 245 ppm, Zn 176 ppm

The SILVERGAL outcrops at a log landing with quartz veins in limestone and is mineralized with galena, silver mineral, chalcopyrite, malachite. Soil sample 10E41156 BR11T8A 200 m east of SILVERGAL returned Au 30 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm. Machine trenching and drilling is required at SILVERGAL to assess this significant grassroots discovery.

**RECOMMENDED EXPLORATION:** Based on these assay results; and previous work at BARRIERE RIDGE further exploration work is required to assess the SILVERGAL, SILVER MINNOW, adjacent to WHITE ROCK, as well as a number of new anomalies found in 2010/2011 and historic data. Future work will require prospecting; geological mapping; database management; soil, stream, and outcrop sampling; air and ground geophysics surveys; machine trenching; and drilling as well as First Nations consultation. A five year program of \$1,000,000 is recommended, commencing in 2011.

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### MAPS, GEOLOGICAL REPORTS, DATA SPREADSHEETS, AND ASSAY CERTIFICATES

- A. MINERAL TENURE ONLINE – OVERVIEW MAP** for BARRIERE RIDGE with report area in red outline (1:87,609).
- B. ARIS: SIX OVERVIEW AND DETAILED CLAIM MAPS SHOWING TENURES, ROADS, CONTOURS, AND WATER.**
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  - BARRIERE RIDGE ARIS MAP: South East Corner of the BARRIERE RIDGE Claims (1:35,000).
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- C. BIOGEOCLIMATIC SUB-ZONES** within the BARRIERE RIDGE Claims on an Orthographic Map (scale 1:85,000).
- D. OVERVIEW LOCATION FOR SELECTED HISTORIC MINES AND DEPOSITS** in the vicinity of the BARRIERE RIDGE claims and Kamloops, B. C. (Mineral Tenures Online - 1:929,947)
- E. OVERVIEW GEOLOGY AND MINFILE OCCURRENCES** on an Orthographic Map (1:55,000).
- F. OVERVIEW OF PROSPECTING, SAMPLE, HAND TRENCHING, AND GPS LOCATIONS:** Map showing the general location collected samples and hand trenches, tenures, and geology on an Orthographic Map (1:55,000).
- G. DETAILED LIST OF ALL SAMPLES, GPS (UTM NAD83) COORDINATES, and ASSAY CERTIFICATES in a SPREADSHEET** (3 pages). Includes a sample summary, sample type, detailed sample description, and elevation.
- H. DETAILED LIST AND LOCATION (map) OF HAND TRENCHES, ICE FLOW DIRECTION, AND SELECTED INFRASTRUCTURE LOCATIONS:** [color orthographic map 1:10,000; data spreadsheet (1 map, 2 page list):
- I. DETAILED LIST OF ANOMALOUS ROCK AND SOIL SAMPLES–** 2 Spreadsheets as follows (see also maps in next Appendix):
- (a) List of Rock Anomalies (2 pages)
  - (b) Anomalous Soil Samples only (1 page)
- J. DETAILED MAPS SHOWING ANOMALOUS ROCK AND SOIL RESULTS IN YELLOW:** A total of 6 maps (1:10,000 and 1:55,000) showing the location of ROCK and SOIL sample anomalous results, and tenures.
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  - (b) Tenure 74562 – SILVERGAL Rock Anomalies (1:10,000).
  - (c) Tenure 767123 –Rock Anomalies in South East Corner of Claims (1:10,000).
  - (d) Tenure 744542 – Rock Anomalies in North West Corner of Claims (1:10,000).
  - (e) Tenure 744562, 744602 – SILVERGAL Soil Anomaly and Adjacent Soil Anomalies (1:10,000).
  - (f) Tenure 767123 – Soil Anomalies in South East Corner of Claims (1:10,000).

- K. ECO TECH LABORATORY LIMITED, STEWART GROUP – ANALYTICAL PROCEDURES REPORT:** Provides a summary Analytical Procedures, Sample Preparation, Gold Fire Assay geochem processes, and ICP-AES Aqua Regis Digestion (AR-ES) processes (2 pages).
- L. ASSAY CERTIFICATES FOR ECO TECH LABORATORY LTD (ALEX STEWART GROUP):**
- (a) 2010 Certificates AK2010-1339.
  - (b) 2011 Certificates AK2011-0676, AK2011-0689. AK2011-0690.

## **I - INTRODUCTION:**

The purpose of this report is to provide a summary of exploration work for the BARRIERE RIDGE claims. The work was completed by David J. Piggin (Free Miner 140689); and Astral Mining Corporation, Old Stock Exchange Building, Suite 818, 475 Howe Street, Vancouver, B.C, Canada, V6C 2B3, [www.astralmining.com](http://www.astralmining.com) between April 30, 2010 and May 31, 2011. On March 2, 2011, these claims were optioned by David J. Piggin to Astral Mining Corporation.

The BARRIERE RIDGE claims are located 66 km NE of Kamloops, B.C., Canada. Alternatively, the claims are located 20 km east of Barriere, B.C. on the Barriere Lakes Public Road (PR). The claims are situated along the west shore of East Barriere Lake; along the south shore of North Barriere Lake; south of Birk Creek; and within the mid to lower elevations of Sprague Creek. The onsite arterial access is via the Fir Road (public), Russell Forest Service Road (FSR), the Birk FSR, Sprague FSR, Barriere Ridge North FSR, and Barriere Ridge South FSR.

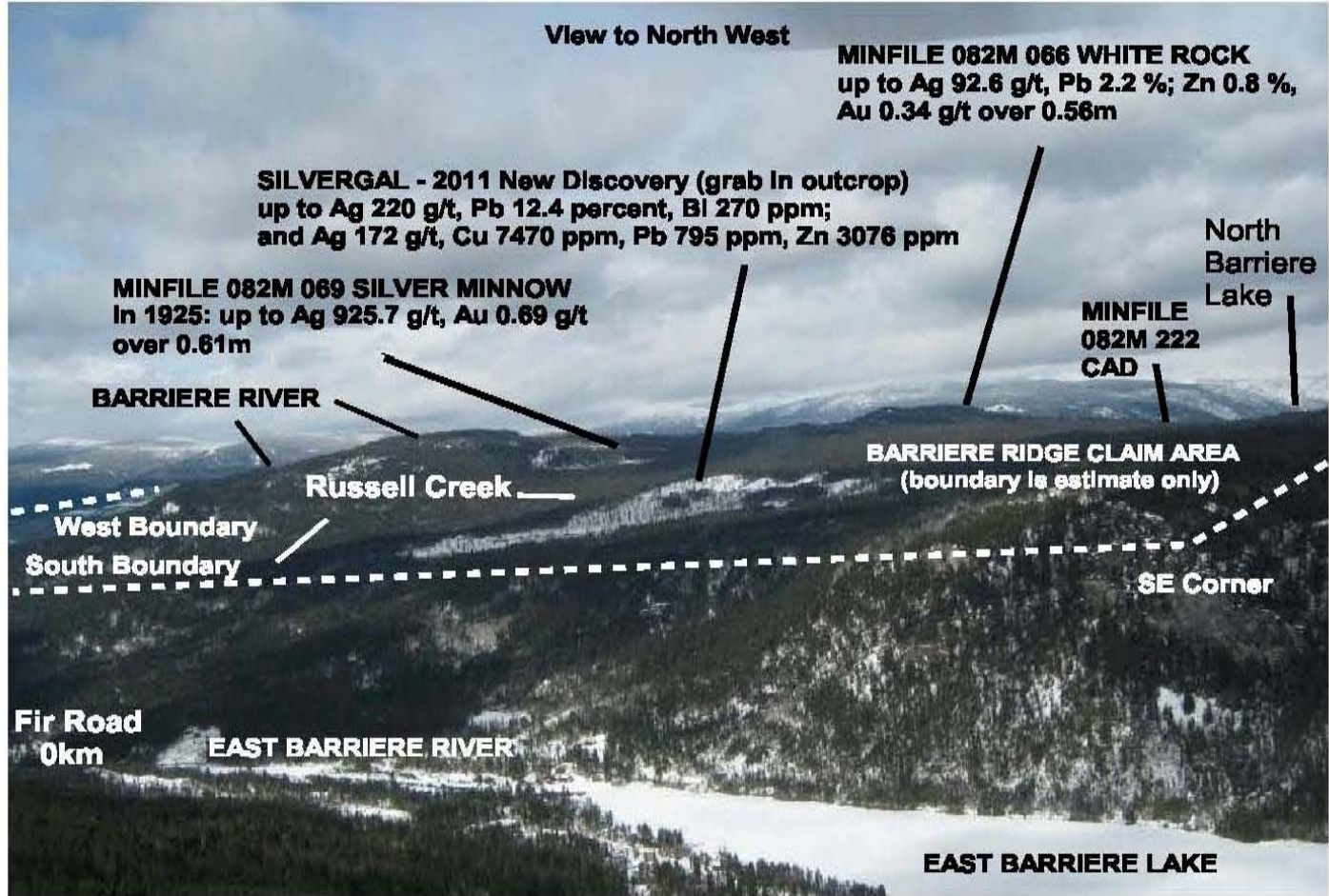
The Mineral Claim Exploration and Development Work/Expiry Date MTOonline documents were recorded under Events 4852056, 4859460, 4872068, and 4872080. The specific mineral titles included in this assessment report are as follows: 744542, 744562, 744582, 744602, 759003, 767042, 767062, 767102, 767123, 840411, 840413, 840415, 840417, 840418, 844642, 844643, 844644, 844645, 844646, and 844647. There are 20 claims for a total area 8,307.9800 hectares. . The total applied work was \$ 21,824.78. A Mineral Titles Online map showing the assessment report area is given in APPENDIX A.

An 18.09 hectare crown granted mineral claim DL4023 KDYD WHITE ROCK MC (situated within Tenure 744542) is save and excepted from BARRIERE RIDGE claims; and is believed to be held by George Robert Mitchell (Free Miner 141118). This crown granted mineral claim was granted on January 1, 1921. MINFILE 082M066 WHITE ROCK is located with DL4023 KDYD WHITE ROCK MC.

The primary objectives of the 2010/2011 exploration program were as follows:

- (a) Confirm the published geological mapping and regional (BSGS) geochemical survey results within the BARRIERE RIDGE claim area, in general terms.
- (b) Conduct a literature search of ARIS and other reports due to the long history of exploration (pre 1921).
- (c) Where possible create a geo-referenced database with related documents based on historic or past work including prospector assistance grant works.
- (d) Locate and research the MINFILE 082M 066 WHITE ROCK; MINFILE 082M 069 SILVER MINERAL; and MINFILE 082M 222 CAD occurrences and prospect adjacent areas.
- (e) Research tenure and ownership of DL4023 KDYD WHITE ROCK MC.
- (f) Prospect and follow-up regional soil geochemical data from OPEN FILE 1997-9.
- (g) Determine ice flow direction based on field reconnaissance of drumlins; and ice flow striations and related features on undisturbed rock outcrop.
- (h) Hand trench and sample the outcrops.
- (i) Sample anomalous float rocks in glacial till; and sample and assay related soil.
- (j) Prospect recent logging areas for new anomalous areas.
- (k) Sample stream sediments.
- (l) Report assay results from sediments, soils, float rock, sub-crop, and outcrops.
- (m) Prospect, collect, and report new data using grassroots and hand exploration techniques.
- (n) Propose new explorations works for the 2011 and following field seasons.

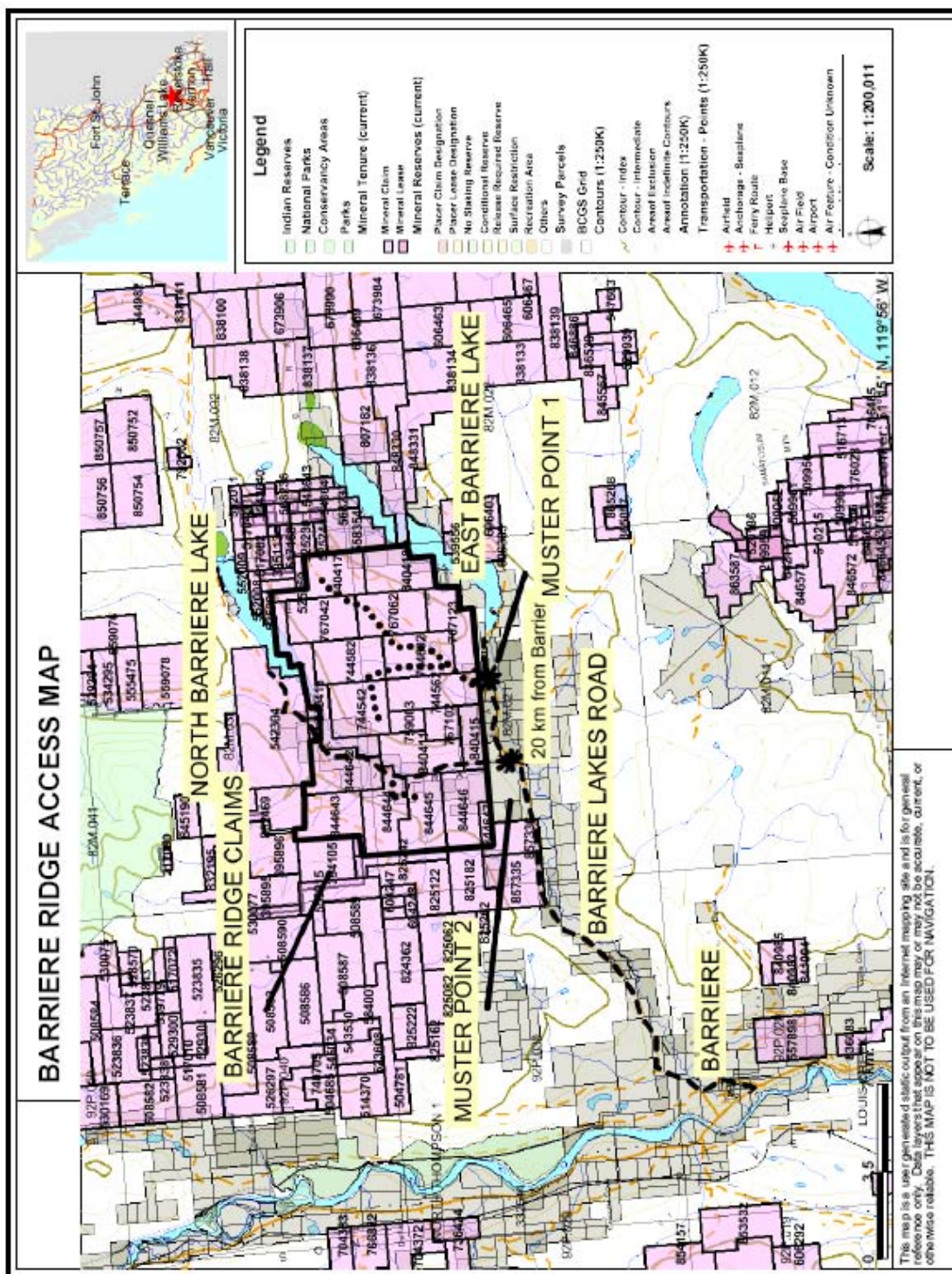
**Photograph #1: Overview of BARRIERE RIDGE claims: Showing MINFILE Occurrences and claim boundary (estimated).  
Taken in a northwesterly direction from the SW end of East Barriere Lake.**



## LOCATION, ACCESS, INFRASTRUCTURE, FACILITIES:

The City of Kamloops is located at the junction of the Trans Canada Highway (Hwy), Yellowhead Hwy (No. 5), Coquihalla Hwy, and Highway 97 which is the confluence of the South Thompson and North Thompson Rivers. The Village of Barriere is located 65 km north of Kamloops on the Yellowhead Hwy and is the nearest community to the BARRIER RIDGE Claims. The Barriere Lakes PR was used to access these claims.

**Illustration # 2: BARRIER RIDGE MTONline access map (1:200,011) showing tenures and access road.**



The onsite access is via the Russell Forest Service Road (FSR), the Birk FSR, Sprague FSR, Barriere Ridge North FSR, and Barriere Ridge South FSR; as well as a number of related spur roads.

### **East Half of Claims:**

Leaving Barriere travel east on the Barriere Lakes PR (paved) for 20 km (Zone 11 and 295678 E; 5681505 N); then continue straight onto the East Barriere Lake PR (gravel) for 3.5 km; and then turn left onto to Fir Road (Zone 11. 299226 E and 5681913 N). Within 100 metres you will encounter the Russell FSR #8534 at 0 km. The road radio frequency is FM 158.19.

### **West Half of Claims**

Leaving Barriere travel east on the Barriere Lakes PR (paved) for 20 km (Zone 11 and 295678 E; 5681505 N); then turn left on the North Barriere Lake PR (gravel). Continue straight onto the North Barriere road (gravel) to

- 1 km North Barriere PR and turn right on the Barriere Ridge South FSR, or
- 4.0 km North Barriere PR and turn right on the Barriere Ridge North FSR, or
- 4.8 km North Barriere PR and turn left on the Sprague FSR #3410, or
- Estimate 7.0 km North Barriere PR and turn left on FSR 3400.18, or
- 8.0 km North Barriere PR and turn left on the Birk FSR at 8.0 km

The road radio frequency is FM 158.19.;

### **PROPERTY STATUS:**

The property was staked by David J. Piggin (100%) in April 2010. An Option Agreement, dated for reference purposes March 2, 2011, was signed with Astral Mining Corporation, The Old Stock Exchange Building, Suite 818 – 475 Howe Street, Vancouver, British Columbia, Canada, V6C 2B3, phone (604)-569-0800 [www.astralmining.com](http://www.astralmining.com).

### **PHYSIOGRAPHY AND CLIMATE:**

The area covered by this report is 8,307.9800 hectares and the site characteristics are variable therefore, the following is a brief summary of the general Physiography and Climate of the Honeymoon Claims (See **TABLE 1** below, and maps in the APPENDIX).

The BARRIERE RIDGE claims are located along the lower slopes [of the mid-portion] of the Barriere River and East Barriere River; as well as the lower to upper elevations of Russell Creek, Sprague Creek; on the northwest side of East Barriere Lake, and on the southwest side of North Barriere Lake. In general terms, the aspect is south. In the main Barriere River valley (towards North Barriere Lake) the aspect is north, southeast, and northwest. The average elevation is about 1100 metres (above sea level – ASL).

The claims are bounded on the east side (i.e. 840418) by East Barriere Lake at 700 metres and on the west side (i.e. 844643) at 1425 metres which is on the Birk Creek plateau. The north boundary is bounded (i.e. 840413) by Birk Creek, Harper Creek, and North Barriere at about 700 metres. The south boundary is bounded by the main Barriere River valley at about 800 metres. The highest point is located in the eastern half of the claims on the northwest corner of the west boundary of Tenure 844643 at 1425 metres.

Slopes are gentle to moderately steep; and are very steep in the vicinity of Tenure 744542, 840411, 840413, 840415, and 844645. Sprague Creek draw and lower portion of Russell Creek are deeply gullied. There are numerous vertical rock faces and talus slopes at Tenure 767123, 840411, 744542. These rock faces are useful for prospecting and identifying rock units; and have been underexplored.

BARRIERE RIDGE is located within the Northern Wet-belt Climatic Region and the North Wet-Belt Transition Climatic Region (Lloyd et al 1990). More specifically, they are within the Interior Cedar Hemlock (ICHmk2, ICHmw3) Biogeoclimatic Zone (BGCZ), the Engelmann Spruce Sub-Alpine Fir (ESSFdc2) BGCZ, Interior Douglas-fir (IDFmw2) BGCZ, and the Montane Spruce (MSdm2) BGCZ.

**TABLE 1: Physiography and Biogeoclimatic Zones by Tenure Number.** This table gives a summary of the aspect and elevation based on ARIS maps, and Biogeoclimatic Zone classification in based on Lloyd et al 1990.

Tenure Number	Aspect	Mean Slope (%)	Elevation Range (metres ASL)	Mean Elevation (metres ASL)	Biogeoclimatic Subzone
744542	NW, SE	45	625-1375	1200	ICHmw3.
744562	S	20	700-1275	1050	ICHmw3.
744582	S, N, Flat	15	725-1250	1150	ICHmw3.
744602	S	15	850-1200	1050	ICHmw3.
759003	E, NW, Flat	20	1150-1375	1300	ICHmw3.
767042	Mainly NW	25	700-1350	1200	ICHmw3.
767062	SW, Flat, SE	15	975-1300	1125	ICHmw3.
767102	SW, S, SE	40	850-1325	1150	ICHmw3.
767123	S, SE	25	750-1250	1025	ICHmw3.
840411	W, NW	50	600-1375	900	ICHmw3.
840413	N, NW	60	625-1100	800	ICHmw3.
840415	S, SW	35	625-1050	850	ICHmw3; IDFmw2 on SW corner.
840417	SE, Flat, N	25	925-1275	1175	ICHmw3.
840418	SE	40	625-1200	900	ICHmw3.
844642	SE	25	600-1175	800	ICHmw3.
844643	SE	40	875-1450	1250	ICHmk2 on west half; ICHmw3 on eastern ¼; ESSFdc2 in the NW corner.
844644	E, SE	40	600-1475	1100	ICHmk2 on west half; ICHmw3 on east half; IDFmw2 in center of south boundary; ESSFdc2 in the NW corner.
844645	SE, S, NE	45	600-1250	900	IDFmw2; ICHmw3 on eastern 1/4; MSdm2 in NW corner and SW corner.
844646	E, SE, Flat	15	575-1125	875	IDFmw2; MSdm2 in NW corner; ICHmw3 in NE corner
844647	E, S	30	700-1025	900	IDFmw2.

In general terms, the Interior Cedar Hemlock (ICH) climate is continental dominated by easterly moving air masses, resulting in cool, wet winters and warm, moderately dry summers. Snow fall is moderate to high. Frost occurrences during the summer are uncommon.

- For the ICHmw2, the mean annual precipitation is 656 mm; and the mean snowfall is 252 cm (184 cm to 259 cm). The mean frost free period is 130 days.
- For the ICHmw3, the mean annual precipitation is 671 mm; and the mean snowfall is 252 cm (211 cm to 287 cm). The mean frost free period is 127 days

The Engelmann Spruce Sub-Alpine Fir (ESSF) climate is a continental climate characterized by long, cold winters with high snow cover, and short cool summers. The snow pack reaches a maximum depth of 1 to 4 metres and remains until late May. Frosts are common and moisture deficits are uncommon during the growing season.

- For the ESSFdc2, the mean annual precipitation is 839 mm; and the mean snowfall is estimated to be 650 cm which is slightly greater than the ESSFdc1 at 635 cm.

The Interior Douglas-fir (IDF) climate is continental characterized by warm dry summers, a relatively long growing season, and cool winters with a low to moderate snowfall.

- For the IDFmw2, the mean annual precipitation is 521 mm and the mean annual snow fall is 171 cm (137 cm to 202 cm). The mean frost free period is 139 days.

The Montane Spruce (MS) climate is cool, continental; and frost may be common during the growing season. Summers are moderately short and warm. Winters are cold with moderate snowfall.

- For the MSdm2, the mean annual precipitation is 606 mm; and the mean snowfall is 307 cm (216 cm to 398 cm). The mean frost free period is 85 days

The large body of water in in East Barriere Lake and North Barriere Lake may moderates the effects of the general climate conditions; and yet proximity of the Dunn Peak snow pack may also influences climatic conditions at Russell Creek and Sprague Creek especially in the spring and fall.

The property is tree covered and is extensively logged with numerous haul roads, spur roads, and skidder trails or dozer trails throughout. Harvesting is active at various locations on the BARRIERE RIDGE Claims. Some of the oldest logging roads are brushing in and/or have immature trees growing on them.

## **LOCAL INFRASTRUCTURE:**

The following is a brief summary of the local infrastructure:

1. Deep Sea Port: The nearest deep sea port is at Vancouver, B. C. about 350 km southeast of Kamloops.
2. Railroad: The Canadian National Railway (CNR) mainline goes through Barriere (on the Yellowhead Hwy) about 20 km west of the claims; and also through Kamloops enroute to the deep sea port at Vancouver.  
The Canadian Pacific Railway (CPR) mainline goes through Kamloops on the Trans Canada Hwy about 65 km south of Barriere enroute to the deep sea port at Vancouver.
3. Utility Distibution Lines:
  - A power distribution line runs from Barriere 20 km along the Barriere Lakes PR and within 1 to 2 km of the claim boundary.
  - Telephone/Cellphone: There is land line telephone service to homes along the south boundary of the claims; and there is cell phone service in Barriere and along the Barriere Lakes PR but there is no cellphone service from the claim area.
4. Commercial Resort: The private East Barriere Resort is accessed by the Russell FSR (turn off about 2 km); and there is a public resort on the north shore of North Barriere Lake.
5. Forest Service Recreation Sites: There is a public recreation site on the west end of East Barriere Lake immediately adjacent to Tenure 767123; and on the north shore of North Barriere Lake.
6. Community Recreation: There is a community recreation site south of Tenure 844647 on the Barriere Lakes PR.
7. Roads and Logging Companies: Tolko Industries Ltd of Kamloops (offices at Heffley Creek 250-518-7212) is a major forest licensee in the Sprague Creek and Birk Creek areas; and the BC Timber Sales Program, Kamloops Timber Sales Office (250-371-6500) is the major licensee harvesting timber from the Russell Creek area. The Kamloops Forest District administers forest tenures in the claims area 250-371-6500.

The primary roads are the East Barriere and North Barriere roads. These roads are maintained to a high standard, where practicable are almost 2 lanes wide, and are ploughed in the winter. The Russell FSR and Sprague FSR are one lane wide and are not ploughed unless there is active logging on the road system. The

Russell FSR is maintained by the BC Timber Sales Program; and the Sprague FSR is maintained by Tolko Industries Ltd

8. Sawmill and Plywood: . Tolko Industries Ltd has veneer (plywood) operation at Heffley Creek on the Yellowhead Highway. Adams Lake Lumber Co. Ltd (International Forest Products Ltd.) has a large scale sawmill at 0 km on the Adams West FSR – just north of Squilax on the Trans Canada Hwy.
9. Logging Road Frequencies:  
East Barriere Lake FSR and North Barriere Lake FSR – FM 158.19 (Tolko)
10. Emergency Facilities:  
There is a full service hospital with emergency facilities (heliport) in Kamloops including police, BC Ambulance Service, and search and rescue. There is an ambulance, health centre, clinic, doctors, and police station in Barriere. Active logging operations will have industrial first aid attendants on site.
9. Education: There is are elementary and high schools in Barriere and Kamloops. Thompson Rivers University in Kamloops has various degree programs; and has a geology faculty.
10. Kamloops Exploration Group provides community support and a business network for companies and individuals interested in prospecting, geology and geoscience [www.keg.bc.ca](http://www.keg.bc.ca) . A service directory is available for download from the website
11. Residential Garbage Disposal: At Barriere there is a Thompson Nicola Regional District (TNRD) garbage dump which is located 5 km east of Barriere on the Barriere Lakes PR.

## HISTORY:

The following section is divided into 4 parts as follows: Past Producers and Producers, Advanced Development Projects, MINFILE occurrences, Assessment Reports, Prospector Assistance Program Reports, Regional Surveys.

### A. Local Past Producers and Producers:

Three historic past producer mines are located in the immediate vicinity of the BARRIERE RIDGE claims and they are as follows:

- Samatosum Mountain (MINFILE 082M-244) located 12 km to the south of Barriere Ridge (Table 2).
- Homestake Mine (MINFILE 082M-025) located 16 km to the south of Barriere Ridge (Table 3).
- Windpass Mine (MINFILE 092P039 located 16 km to the northwest of Barriere Ridge (Table 4).

**Table 2: Samatosum Mountain (MINFILE 082M-244) recovery table.**

1989 to 1992	Metric	Imperial
<b>Silver</b>	429,356,776 grams	13,804,121 ounces
<b>Gold</b>	639,118 grams	20,548 ounces
<b>Copper</b>	3,678,016 kilograms	8,108,635 pounds
<b>Lead</b>	5,069,127 kilograms	11,175,509 pounds
<b>Antimony</b>	97,620 kilograms	215,215 pounds
<b>Zinc</b>	9,538,263 kilograms	21,028,264 pounds

**Table 3: Homestake Mine (MINFILE 082M-025) recovery table.**

1926 to 1941 (intermittent)	Metric	Imperial
<b>Silver</b>	7,750,829 grams	281,345 ounces
<b>Gold</b>	11,259 grams	362 ounces
<b>Copper</b>	9,138 kilograms	20,146 pounds
<b>Lead</b>	141,295 kilograms	311,502 pounds
<b>Zinc</b>	203,310 kilograms	448,222 pounds

**Table 4: Windpass Mine (MINFILE 092P-039) recovery table.**

1916 to 1944 (intermittent)	Metric	Imperial
<b>Silver</b>	93,435 grams	1,886 ounces
<b>Gold</b>	1,071,684 grams	37,798 ounces
<b>Copper</b>	78,906 kilograms	173,956 pounds
<b>Mined</b>	93,435 tonnes	102,965 tons
<b>Milled</b>	73,319 tonnes	80,798 tons

From a regional perspective (within 150 km radius):

- The AFTON MINE (Teck Corp) near Kamloops, a former producer, is 77 km to the southwest of BARRIERE RIDGE. This mine was in production for 20 years.
- The HIGHLAND VALLEY COPPER (Teck Resources Ltd - 97.5%) near Logan Lake, is located 120 km southwest of BARRIERE RIDGE. This mine is the largest mine in Canada and produces Cu and Mo. A total of 42,488,000 tonnes were milled in 2010. The mine is expected to close in 2025.

#### **B. Advanced Development Projects (within 150 km):**

From a regional perspective, within 150 km of the BARRIERE RIDGE there are a number of active advanced development projects as follows:

The Harper Deposit (MINFILE 082M 009) 22 km north BARRIERE RIDGE, is currently being developed by Yellowhead Mining Inc. of Vancouver ([www.yellowheadmining.com](http://www.yellowheadmining.com)) and they have identified a 43-101 compliant resource of over 569 million tonnes grading Cu 0.32% and an inferred resource of 62.7 million tonnes grading Cu 0.33%. Preliminary economic assessments, environmental assessment processes, geotechnical and hydrogeological studies, and First Nations studies are currently underway. Drilling is ongoing.

New Gold Inc.'s – New Afton Project ( [www.newgold.com](http://www.newgold.com)) 10 km south of Kamloops is in the development stage and mining is scheduled to commence in the second half of 2012. The mine is being developed for underground block cave at 11,000 tonnes per day. The proposed average annual production will be 120,000 tonnes of concentrate containing 85,000 ounces of Au, and 75 million pounds of Cu. Proven and probable reserves are Au = 1.05 million ounces, Cu = 993 million pounds, Ag 3.1 million ounces.

Abacus Mining and Exploration Corp ([www.amemining.com](http://www.amemining.com)) and KGHM AJAX Mining Inc have a joint venture at the new AJAX deposit which is beneath the former AJAX PIT at the AFTON MINE (Teck Corp) just south of Kamloops. This joint venture is currently in various environmental assessment and permitting processes. A recent Ni-43-101 compliant Preliminary Economic Assessment Report (June 22, 2009) indicated the Ajax copper-gold project proposes a 60,000 tonne per day operation producing an average of 110 million pounds of Cu and 100,000 ounces of Au in concentrate per year.

#### **C. MINFILE Occurrences:**

The early history of exploration in the area is not well known although a number of references were found in the Ministry of Mines Annual Report from 1924, 1925, 1926, 1927 and 1928 (Bruce Madu, pers. comm. 2011); and in the Ministry of Energy and Mines MINFILE ([www.empr.gov.bc.ca/mining/geoscience/minfile/Pages/default.aspx](http://www.empr.gov.bc.ca/mining/geoscience/minfile/Pages/default.aspx)) information system.

Within the outer boundary of the BARRIERE RIDGE claims there are 3 MINFILE occurrences as follows:

- MINFILE 082M 066 WHITE ROCK (with DL4043 KDYD WHITE ROCK MC)
- MINFILE 082M 069 SILVER MINNOW (aka SILVER MINERAL)
- MINFILE 082M 222 CAD

**DL4043 KDYD WHITE ROCK MC**, which contains MINFILE 082M 066 WHITE ROCK, is save and excepted from the BARRIERE RIDGE Claims because it is a crown granted mineral claim and it is owned by a third party George Robert Mitchell. The Crown Grant was made on January 1, 1921.

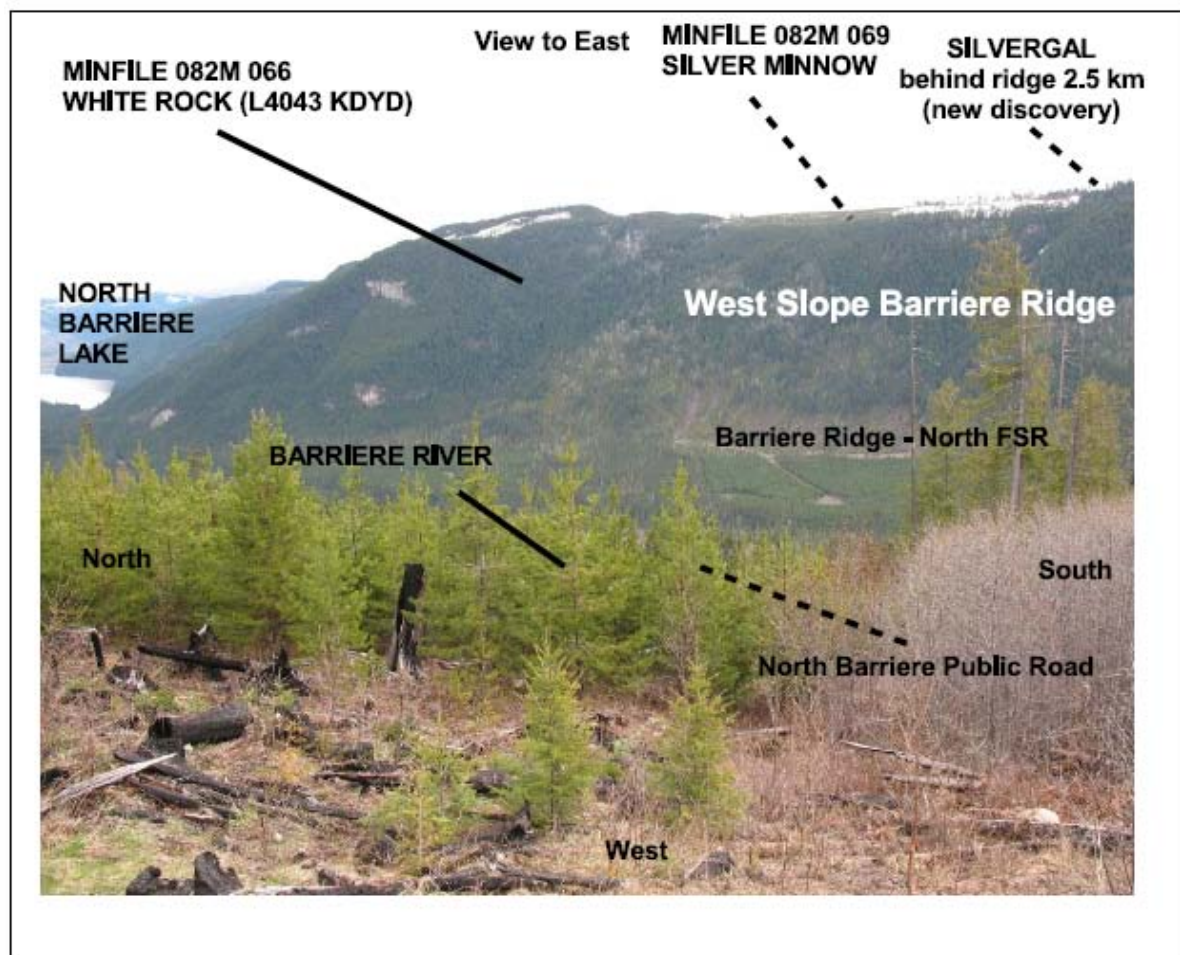
WHITE ROCK is immediately adjacent to SILVER MINNOW and geologically relevant to the BARRIERE RIDGE claim group therefore it is included with this discussion even though it is not in the claim group. The following is a brief description of each of the above 3 MINFILE occurrences as well as some important historic descriptions. Refer to the MINFILE website for more specific references and information.

**MINFILE 082M 066 WHITE ROCK (with DL4043 KDYD WHITE ROCK MC) and  
MINFILE 082M 069 SILVER MINNOW (aka SILVER MINERAL):**

The WHITE ROCK showing is described as epigenetic hydrothermal polymetallic veins Ag-Pb-Zn+/-Au; and with a vein/stockwork character. The significant minerals are galena tetrahedrite, sphalerite, and chalcopryite; and it is associated with quartz, calcite, azurite and malachite. The MINFILE indicates a “56 centimetre sample assayed 2.2 percent lead, 0.8 percent zinc, 92.6 grams per tonne silver and 0.34 grams per tonne gold (Annual Report 1950”).

The SILVER MINNOW is described as epigenetic hydrothermal polymetallic veins Ag-Pb-Zn+/-Au; and with a vein character. The significant mineral is galena; and it is associated with quartz and calcite. In 1925 a sample assayed Ag 925.7 grams per tonne and Au 0.69 grams per tonne.

**Illustration # 3:** West Slope of Barriere Ridge showing location of MINFILE 082M066 WHITE ROCK, and the approximate of location of MINFILE 082M069 SILVER MINNOW and a new discovery SILVERGAL located 2.5 km to the east/southeast of the ridge top. (IMG\_3751.jpg).



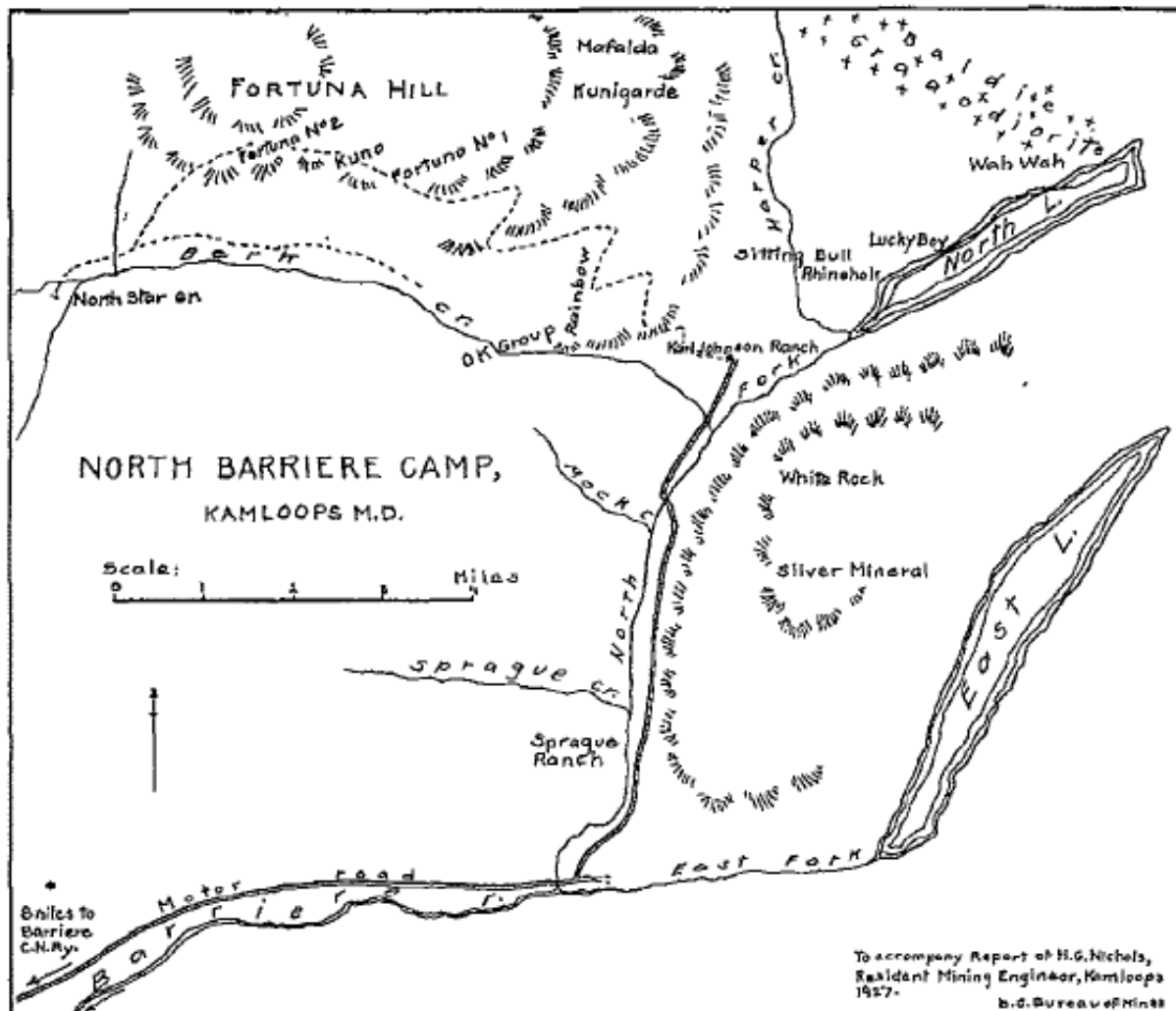
The 1924 "Report of the Minister of Mines" (annual report) (Bruce Madu pers. com. 2011) indicated as follows:

*"On the east side the Barriere river, just south of the outlet of North Barriere lake, some work has been done this season on the Silver Minnow group, owned by Ralph Hainer, of Barriere. Some galena carrying good silver values is reported to have been opened up." (1924). And also*

#### *Silver Minnow Group*

*This property lies about 1,200 feet above the Barriere river on its eastern side, 4 miles below the outlet of North Barriere lake. It is owned by Harry Stephens, of Kamloops, and associates. The ore, which is galena, occurs in an altered limestone. What cuts were in existence in 1922 when this ground was visited showed no great quantity of this mineral. Recent reports, however, would indicate that a short distance below the original workings a new lead had been discovered which has bettered the situation. This ore is reported to assay around 78 per cent lead, with 35 to 40 oz. in silver to the ton." (1924)*

**Illustration # 4:** Historic 1927 map of the Barriere Lakes area taken from the Report of the Minister of Mines (1927 Annual Report page 188) (Bruce Madu pers. com. 2011) showing the location of the WHITE ROCK and SILVER MINNOW showings. The map is attributed to N.G. Nichols, Resident Mining Engineer, Kamloops, BC Bureau of Mines.



The 1925 Ministry of Mines Annual Report (Bruce Madu pers. com. 2011) indicated as follows:

*Silver Mineral Group*

*Assessment-work has been continued on several properties mentioned in the 1924 Annual Report, but with the exception of the Silver Mineral group, owned by H. Stephens and associates, of Kamloops, no developments of moment have been reported.*

*Reference was made to this property under the title of Silver Minnow group in the Annual Report for 1924. The property is reached from Barriere, on the line of the Canadian National Railway, by a wagon-road to the junction of the North and East forks of the Barriere river, a distance of 23 miles, and from thence by trail 5 miles up the North fork. Prospecting has been carried out around an area where there appears to be an intersection between two series of fissures in an altered schist formation, both of which appear to be trending towards a zone of shearing in a band of limestone which can be traced across the hill for a considerable distance in a general north-south direction. Open-cuts in this shear-zone, at a vertical height of about 1,400 feet above the creek-level, show a width of 12 feet, over which the limestone has been greatly crushed and altered, with 2 feet of quartz on the hanging wall. Galena is found scattered through the quartz and also in fractures and cross-seams passing through the body of the limestone. About 200 feet higher up the hill there is a series of five seams paralleling one another in a general north-east and south-west zone of shearing. At this point an 8-inch seam of quartz, fairly well mineralized with galena, is also exposed. Mineralization in the north-east and south-west seam appears to die out at a distance of 150 feet from the intersection, but, under the conditions of snowfall obtaining at the time of the examination, it was not possible to determine this point definitely, or in fact to do fair justice to the occurrence in general. The massive nature of the bodies of galena, which at one point were 2 feet wide, and the possibilities in connection with the wide zone of shearing above mentioned, in which also mineralization is noted, afford encouragement for developing this property at greater depth. An accurate survey of the several occurrences is necessary to such development, but it would seem that a favourable site for a crosscut tunnel could be selected. A sample of the galena above referred to, taken from a point about 75 feet from the east-west zone of shearing, and across a width of 2 feet, assayed: Gold, 0.02 oz.; silver, 27oz. to the tone; lead, 50 percent". (1925)*

The 1927 Ministry of Mines Annual Report (Bruce Madu pers. com. 2011) indicated as follows:

*White Rock:*

*These claims, owned by the White Rock Mining Company, of Vancouver, are situated on Bunker hill, on the east side of Barriere river, at an elevation of between 1,500 and 2,400 feet above the river. Within a zone 500 feet wide that crosses the belt of limestone which has been described as the Tshinakin formation, of Cambrian age, there is a series of quartz veins and strings having a strike slightly east of north and with a steep dip to the east. One of these veins is about 18 inches wide and carries heavy silver-lead mineral where it passes into the Silver Mineral, adjacent to the White Rock on the south. There are four other veins of a width greater than 12 inches, the remainder being in the nature of veinlets representing a general silicification in this zone crossing the limestone. A tunnel is being driven at a vertical depth of about 600 feet below the highest outcrop to intersect these veins at a distance of approximately 800 feet north of the point where an open-cut has been made on the Silver Mineral. It is estimated that this tunnel will have to be driven for a distance of about 450 feet, and as a means for determining the significance of this series of quartz veins it constitutes a useful piece of prospecting. The occurrence of high-grade silver-lead mineral in association with the belt of limestone is a favourable indication, but it might be desirable to do some more surface work with a view to determining the main trend of the mineralization before incurring too much expenditure upon underground work. In this connection it may be mentioned that the contact of the limestone-belt with the schists of the Barriere formation lies at a distance of a few hundred feet to the south and it is around this line that the principal exposures of silver-lead mineral have been found. Some specks of galena are found in the pinkish limestone also as scattered inclusions in the quartz veins. A sample taken across 8 inches of mineralized section of one vein assayed: Gold, trace; silver, 17.6 oz. to the ton; lead, 34 per cent.; and a sample of small oxidized seam in the tunnel assayed: Gold 0.10 oz. to the ton; silver 21.5 oz. to the ton." (1927).*

The 1928 Ministry of Mines Annual Report (Bruce Madu pers. com. 2011) indicated as follows:

**White Rock:**

*This property is situated on the south side of the Barriere river at a distance of approximately 20 miles from the Canadian National Railway at a Barriere. The mineral occurrences, in the form of quartz veins and stringers carrying silver-lead minerals, are found in a series of fractures, sympathetic to the main fault-zone that is identified with the valley of the Barriere river.*

*The formation is composed of a series of bands of limestone and schist, and the main series of fractures, which have a north-east, south-west strike, is developed principally in the limestone, cutting the formation almost at right angles.*

*Work upon this property has been confined to the development of the veins belonging to this major system of fracturing, and exploratory crosscut tunnel was commenced during the year 1927 with a view to intersecting the system of veins.*

*Following further work during the current year, in the course of which an exposure of some promise was made in an open-cut on one of these veins, the above tunnel was abandoned in favour of a programme of crosscutting and drifting with a view to developing this vein at a depth of 100 feet.*

*The open-cut work above referred to was surface cut that exposed the foot-wall of the quartz vein to a depth of about 30 feet and over a length of in the vein of about 10 feet at the bottom of the cut. The foot-wall thus exposed was plastered with kidneys of galena, more particularly towards the bottom of the cut.*

*At the time of inspection in the month of June last no attempt had been made to intersect the vein at this point, and it cannot therefore be stated whether the mineral exposed on the wall represented only a foot-wall scale or average composition of the whole vein, which at surface appeared to be about 4 feet wide.*

*The proposed crosscut and drift to explore this vein at a depth appeared to be entirely justified and could hardly fail to afford valuable information in regard to the ore-bearing possibilities of these vein occurrences.*

*The property therefore may be considered as a prospect that warrants fully the carrying-out of a limited amount of work, but the character of the fracturing is not one upon which continuity, either of veins themselves or of the mineralization, is to be counted upon without proof. (1928)*

**Silver Mineral:**

*Prospecting-work has continued on this group by the owner, H. Stephens, of Kamloops, and some bodies of a good grade silver-lead ore were uncovered near the boundary between this property and White Rock group. (1928).*

**MINFILE 082M 222 CAD**

The CAD is described as epigenetic polymetallic veins Ag-Pb-Zn+/-Au; and with a vein character. Significant minerals are pyrite, spalerite, and galena; and associated with quartz and calcite. The alteration type is chloritic. Assessment Report 13168 reported Ag 15.6 grams per tonne, Pb 0.04 percent, Zn 1.2 percent over 10 cm vein width.

**D. Assessment Reports:**

There are at least 19 Assessment Reports within located within the BARRIERE RIDGE boundary, based on the Assessment Report Information System (ARIS). In the interest of brevity a detailed discussion of the results of the work is not included in this report. The reports can be downloaded from the following website if additional information is required.

<http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx>

The following is a complete list of these 19 ARIS reports:

- 03350 Duncanex Resources., B.J. Price and JR. Woodcock., September 27, 1971, \$ 9,989.77
- 05363 Richard A. Rabbitt, D.L. Rabbit, 1974 \$ 2,200.40
- 08210 Cyprus Anvil Mining Corporation, B.V. Hall and P.E. Walcott, July 11, 1980, \$ 10,190.93

- 12847A Noranda Exploration Company Limited, G. Shevchenko, February 1985 \$ 7,059.07
- 12847B Noranda Exploration Company Limited, L. Bradish, December 1984 \$ 19,215.00
- 13168 J.D. Graham & Noranda Exploration Company Limited, R.G. Wilson, December 1984, \$ 15,974.38
- 13207 Racer Resources Ltd (Ashton & Graham), J.D. Blanchflower, December 4, 2011, \$ 24,301.05
- 13297 Mammoth Resources Limited, G.J. Dickie and G.D. Hodgson, November 1984, \$12,025.00
- 13793 Racer Resources Ltd (Ashton & Graham), J.D. Blanchflower, July 25, 1985, \$ 8,625.65
- 14123 J.D. Graham and Taywin Resources Ltd, J.D. Blanchflower, September 19, 1985, \$ 18, 635.18
- 14397 J.D. Graham & Noranda Exploration Company Limited, G. Shevchenko, February 1986, \$ 21,830.05
- 16190 T.H. Thompson & National Resources Exploration Ltd, B.W. Kyba, July 15, 1987, \$ 2,549.64
- 16331 J.D. Graham & Merritech Development Corporation, J.D. Blanchflower, February 27, 1987,\$ 57, 271.32
- 17739 National Resources Exploration Ltd, D.C. Miller, April 20, 1988, \$7,767.55
- 18489 Minnova Inc., D.W. Blackadar, February 12, 1989, a portion of \$ 60,035.00
- 19047 National Resources Exploration Ltd & Minnova Inc, C.J. Clayton, September 7, 1989, \$1,109.50
- 19173 Falconbridge Limited, S.G. Clemmer, September 1989, \$ 2,739.83
- 19851 National Resources Exploration Ltd & Minnova Inc, D.R. Heberlein, March 1990, \$32,000.00
- 22956 Rich Coast Resources Ltd, Michael Fox, March 23, 1993, \$5,801.80

In addition to this, there are a number (15+) ARIS reports located near the boundary of BARRIERE RIDGE on adjacent mineral claims. In the interest of brevity they are not listed here but are available through the Exploration Assistant (Map Place) and ARIS program websites.

#### **E. Prospector Assistance Program Reports:**

In 1998, the author David J. Piggan, earned a Prospector Assistance Grant #98/99 P94 (1998-43) for \$ 10,000.00. Grassroots exploration work was completed over the eastern half of the BARRIERE RIDGE property and a report was submitted and approved. A copy of the report can found on the following website.

<http://www.empr.gov.bc.ca/Mining/Geoscience/PropertyFile/Pages/1998pros.aspx>

Prospectors work followed up on regional stream sediment and soil surveys ( e.g. OPEN FILE 1997-9) as well as historic work; and was supported by Mike Cathro, PGeo., the Regional Geologist. A number of significant Au, Ag, and base metal anomalies were found in stream sediment and soil samples. A soil sieve sample was collected south of North Barriere Lake and the sieve sample was targetws a significant gold in soils anomaly as follows:

Sample 13C (Tag 103282) Certificate AK-0222i.xls: (UTM NAD 83 Zone 11, 293723E 5641293N)

Au 555 ppb, Ag 0.8 ppm, As 25 ppm, Bi 15 ppm, Mo 6 ppm, Pb 70 ppm, Zn 215 ppm.

**TABLE 5:** Ssieve sample, Weev 13C-09 (Tag 103213) Certificate AK98- 0595i.xls returned the following values.

Sample Tag #	Weight (grams)	Mesh Size	Au ppb
103213 Weev 13C-09	91	+32	15
	53	+60	35
	37	+80	20
	62	+140	35
	38	+230	35
	41	-230	65
Repeat		+80	105

A number of anomalous stream sediment samples collected. The best sample was as follow:  
Weevil 16-1 (Tag 103283) Certificate AK-0222i.xls:  
Au 40 ppb, Ag 1.0 ppm, As 65 ppm, Bi 15 ppm, Mo 6 ppm, Zn 99 ppm.

## **II – TECHNICAL DATA AND INTERPRETATION**

### **2010/2011 EXPLORATION PROGRAM**

#### **PROPERTY GEOLOGY:**

The property geology and rock type descriptions are based entirely on Schiarizza and Preto Dec 1987; Dixon and Warren et al 1997; Logan and Mann April 2000; and GeoFile 2005-4 downloaded from the Ministry of Energy Mines website. For detailed information, consult the above references and additional references given in LITERATURE CITED. See ILLUSTRATION # 5 and TABLE 6 below, and the geology map provided in the APPENDIX:

Regionally, this property is located in the Kootenay Terrane about 2 km south of the main contact between the Baldy Batholith Unit [**Kg**, also **KBBgd** and **KBBmg**] and the Eagle Bay Assemblage Unit [**EB**] (i.e. north of Tenure 840413). On the west side of the claims along the western boundary of Tenures 844644/844645, the claims are at the contact between the Fennell Formation [**IF**](Slide Mountain Terrane) and the Eagle Bay Assemblage (Kootenay Terrane) .

The Baldy Batholith is generally considered MID-CRETACEOUS at 80 to 100Ma. The **Kg** is a massive granite and granodiorite intrusive. The Eagle Bay Assemblage [**EB**] is a series of low-grade meta-sedimentary and meta-volcanic rocks. The Fennell Formation [**uF** – upper structural division; **IF** – lower structural division] is comprised of oceanic rocks which were tectonically emplaced over Mississippian rocks of the Eagle Bay Assemblage in early Mesozoic time. The **IF** and **EB** successions are cut by mid-Cretaceous granitic rocks, and by Early Tertiary quartz feldspar porphyry, basalt and lamprophyre dykes. The Late Devonian Paragneiss Unit [**Dgnp**], which is present just east of North Barriere Lake, is absent from the BARRIERE RIDGE claims.

The following is a brief description of the various rock types:

1. KOOTENAY TERRANE: Lower Cambrian (and older?) to Mississippian
  - (a) EBF: *Devonian and/or Mississippian – light to medium grey, rusty weathering felspathic phyllite, schist and fragmental schist derived from intermediate tuff and volcanic breccia; minor amounts of dark grey phyllite and siltstone.*

- (b) EBA: *Devonian – light silvery grey to medium greenish grey sericite-quartz phyllite and sericite-chlorite-quartz phyllite derived from felsic to intermediate volcanic and volcanoclastic rocks, including pyritic, feldspathic and coarsely fragmental varieties; lesser amounts of dark grey phyllite and siltstone, green chloritic phyllite, sericitic quartzite and pyritic chert (exhite?).*
- (c) EBG: *Lower Cambrian (may include younger and or older rocks) Medium to dark green calcareous chlorite schist, fragmental schist and greenstone derived largely from mafic to intermediate volcanic and volcanoclastic rocks; lesser amounts of limestone and dolostone; minor amounts of quartzite grit and light to dark grey phyllite.*
- EBGp: *dark grey phyllite, calcareous phyllite and limestone; minor amounts of rusty weathering carbonate-sericite-quartz phyllite (metatuff?).*
  - EBGq: *light to medium grey quartzite.*
  - EBGt: *Tshinakin limestone member – massive light grey finely crystalline limestone dolostone.*
- (d) EBP: *Mississippian – dark grey phyllite and slate with interbedded siltstone, sandstone and grit; lesser amounts of conglomerate, limestone, dolostone, chlorite-sericite quartz schist, quartzite and metatuff.*
- EBPv: *metavolcanic breccia and tuff.*
- (e) EBQ: *Lower Cambrian ? and Hadrynian ? – light to dark grey quartzite, micaceous quartzite, grit chlorite-muscovite-quartz schist and phyllite; lesser amounts of calcareous phyllite, calc-silicate schist, carbonate and green chlorite schist; eastern exposures include staurolite-garnet-mica schist and amphibolite.*
2. SLIDE MOUNTAIN TERRANE: Devonian to Permian: Fennell Formation – Lower Structural Division
- (f) IFu: *Undivided; mainly IFc, IFg and IFb, but may include any or all of the Fennell Formation rock types.*
- IFc: *grey and green bedded chert, cherty argillite, slate and phyllite.*
  - IFg: *gabbro, diorite, diabase.*
  - IFb: *grey and green pillowed and massive metabasalt; minor amounts of basaltic breccia and tuff.*
3. CRETACEOUS
- (g) **Kg**: *granite and granodiorite; Kg includes abundant pegmatite; KBBmg – medium to coarse grained, pink potassium feldspar megacrystic biotite monzogranite, hornblende-biotite monzodiorite and coarse pegmatite segregations; KBBgd – coarse potassium feldspar megacrystic hornblende-biotite granite to granodiorite, coarse equigranular biotite monzogranite (KBBg) and medium-grained aplite dikes.*

**GEOLOGY FAULTS:** A number of important geologic faults occur within the BARRIERE RIDGE claims (Scharizza and Preto Dec 1987 Figure 4 map). They are as follows:

- The Barriere River Fault which follows the Barriere River and North Barriere Lake in a southwest to northeast direction.
- The Birk Creek Fault which follows Birk Creek in a northwest to south east direction. This fault forms a junction with the Barriere River Fault at the confluence of Birk Creek. The fault forms a NE facing “U-shape” on the height of land between North Barriere Lake and East Barriere Lake; and continues in a southerly direction south of East Barriere Lake.

- ILLUSTRATION # 5:** Map excerpt directly from Figure 4 of Schiarizza and Preto Dec 1987 showing the geology and faults in the vicinity of North Barriere Lake and East Barriere Lake (estimated scale 1:100,000).



**TABLE 6: GEOLOGY OF THE BARRIERE RIDGE CLAIMS:** This table gives a detailed summary of each claim based on GeoFile 2005-4 and Open File 2007-7. See also Schiarizza and Preto 1987 and geology maps in the APPENDICIES

<b>Tenure</b>	<b>Geology</b>
744542	EBG; EBGt with fingers forming in northwest to southeast direction. Hosts WHITE ROCK MINFILE.
744562	EBG; with EBGq in the south 1/2.
744582	EBGp; EBG in SW corner; sliver of EBG in NW.
744602	EBG; EBGp in north 1/3. Hosts new discovery SILVERGAL showing.
759003	EBG; and EBGq in a finger on SW corner. Hosts SILVER MINNOW MINFILE.
767042	EBQ in center and east half; EBGp in SW corner and NW corner.
767062	EBG; EBGp in NW corner.
767102	EBG; EBGq in NE corner.
767123	EBG; EBGq in a NW to SE sliver in middle of claims.
840411	EBG; EBP? in a sliver on SW corner (see note below).
840413	Complex geology; EBG predominately with sliver of EBGt, EBA, EBP, EBQ.
840415	EBG; EBP? in sliver on west boundary (see note below).
840417	EBQ; with EBG on south 1/4; EBGp in sliver on east boundary.
840418	EBG.
844642	EBP on SW half; EBA on NE half.
844643	EBP; EBPv finger on north boundary.
844644	EBP; IFu of Fennell Formation on extreme west boundary.
844645	EBP? (see note below); IFu of Fennell Formation on extreme NW boundary.
844646	EBP? (see note below); EBF sliver on SW corner.
844647	EBP? on East half (see note below); EBF on west half.
<b>NOTE:</b>	<i>Tenures 840411, 840415, 844645, 844646, and 844647 have a portion classified as EBP? as the map Figure 4 (Schiarizza and Preto Dec 1987) specifically classify the geologic unit. In Figure 5 of (Schiarizza and Preto Dec 1987) Cross Section D describes the area as EBP therefore EBP is used in this table.</i>

#### **BRITISH COLUMBIA GEOLOGICAL SURVEY DATA (BCGS):**

The BCGS has completed a number of regional geochemistry surveys including till, stream water, steam/moss sediment, and geological mapping works as follows:

- (a) *Till Geochemistry of the Adams Lake Plateau - North Barriere Lake Area (82M/4 & 5) – Open File 1997-9.* (Bobrowsky et. al. 1997).
- (b) *Regional Stream Water Geochemistry of the Adams Lake – North Barriere Lake Area, British Columbia (NTS 82M/4 and 82M/5) – Open File 1998-9* (Lett, Sibbick, Runnells January 1999)
- (c) *Stream Geochemical Exploration for Pluton-Related Quartz Vein Gold Deposits in Southern British Columbia - Open File 2000-23.* (Lett, Jackaman, Englund April 2000).
- (d) *Geology & Mineralization around Baldy Batholith, Southcentral BC. Map Scale 1:50 000. NTS 82M/3, 4, 5 & 6.* Open File 2000-7. (Logan and Mann April 2000).
- (e) *Geology of the Adams Plateau-Clearwater-Vavenby Area; B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1987-2.* Schiarizza, P. and Preto, V. (1987).
- (f) *British Columbia Regional Geochemical Survey, Seymour Arm - NTS82M - RGS 33* (P.F. Maytysek et al 1991)

Anomalies and geological mapping summarized in these 6 OPEN FILE/PAPER references, when considered together, formed part of the basis for this 2010/2011 exploration program. On a number of occasions, the author spoke to various authors named above to obtain (free) advise concerning various aspects of their work (i.e. Jim Logan, Ray Letts, and Paul Schiarizza).

## 2010/2011 EXPLORATION METHODS, WORKS AND OBJECTIVES:

### (A) Sampling Methods and Analysis Procedures:

Sample locations were marked with winter weight survey ribbon, and/or an aluminum tag or white Tyvek tag. In most circumstances the interval between sample locations was marked with “candy stripe orange & black” survey ribbon, and each sample site was marked with florescent orange or florescent pink ribbon. A Garmin 60CSx or Garmin 76 was used to collect Global Position System (GPS) waypoints. GPS data was collected using the Universal Transverse Mercator Grid (UTM) in NAD 83 and usually 4 or more satellites were used for waypoints unless narrow gullies, ravines, and heavy timber made waypoint collection problematic. Where the sample location is problematic, in terms of satellite reception (i.e. deep gully, forest cover), and only 2 satellites were obtained the UTM coordinates were interpolated from 3 adjacent waypoints by an iterative process, or by hip chain and compass bearing. Adjusted waypoints were confirmed by referencing the sample location on an orthographic map, at a scale of 1:5000, and/or re-confirming the location with prospecting field notes.

Sample waypoints were named according to the following naming convention:

- The Barriere Ridge claims had a prefix of “BR\_\_”.
- The Sprague Creek area had a prefix of “SG\_\_”.
- Stream sediment sample waypoints – “\_SS\_” (i.e. BRSS\_\_).
- Moss Mat sediment sample waypoints – “\_MM\_” (i.e. BRMM\_\_).
- Soil or Till sample waypoints – “\_T\_” or “\_T” (i.e. SGT\_\_ or (i.e. “BR\_\_T”.
- Float Rock sample waypoints – “\_FT\_” (i.e. BRFT\_\_) or (i.e. BRFL\_\_).
- Rock sample waypoints – “\_R\_” (i.e. BR\_R\_\_) and are associated with talus or outcrops.
- Grab sample waypoints – “\_GR\_” (i.e. BR\_GR\_\_)
- Quartz Veins waypoints – “\_Q\_” or “\_QZ\_” or “\_QTZ\_” (i.e. BR\_QZ\_\_) or (i.e. SG\_QZ\_\_)

Important samples sites were photographed with a digital camera for future reference. Rocks, outcrops and sample sites were photographed in the field, and then at home a close up of each sample rock (macro zoom) was taken before being assayed. Before sealing the sample bag for assay, a voucher specimen piece was taken from the sample bag, and marked and securely stored for future reference.

### (B) Stream Sediment Surveys:

Usually a stream sediment sample is collected in tandem with a moss mat sample because the moss mats tended to give more reliable data for gold anomalies.

Stream sediment surveys were collected using a clean plastic hand trowel, black plastic gold pan (40cm diameter), black plastic door screen (0.1 inch square), and kraft sample bags. Stream sediments were collected from the centre of the main stream channel. The trowel or D-handled spade was used to dig the gravels and sand from the creek bed and the material was dumped into a clean plastic gold pan which had been covered by the black plastic screen. Approximately 4.5 litres of gravel, sand, and silt were collected; sieved with a plastic screen, and lightly panned. Gravels were removed and discarded on the stream bank. The whole remaining sample was troweled or poured into a kraft sample bag. In some cases, the kraft bags were double bagged because they were too wet and would break. The location was GPS'd, and samples were air dried in Kamloops prior to assay at Eco Tech Laboratories, Kamloops ([www.stewartgroupglobal.com](http://www.stewartgroupglobal.com)).

To determine if stream sediment assay results were anomalous they were compared to statistical (i.e. 90 percentile) references given in Lett, Jackaman, Englund April 2000.

### (C) Moss Mat Surveys:

Usually a moss mat sample is collected in tandem with a stream sediment sample because the stream sediment samples tended to give more reliable data for elements other than gold.

Moss mat samples were collected using methods recommended in Open File 2000-23 (Lett, Jackaman, Englund April 2000), and based on numerous personal communications with Dr. Ray Letts a co-author. Moss mats were collected by hand from the main stream channel and from (overhanging or partially submerged) moss on the edge of the main water flow. The moss was attached to rocks, logs, and stream banks. Moss Mat samples were compacted tightly into white “cloth” linen-like bags. Approximately 4.0 – 5.0 litres of moss, organics, sands, and silts were collected. Large gravels and sticks were removed unless they were encrusted with sediments. In order to ensure moss mat samples were not cross contaminated while packing them out of the bush the moss mat bags were put into plastic bags. These plastic bags were removed at the vehicle so the samples would not become moldy prior to drying. The location was GPS’d, and samples were air dried in Kamloops prior to assay at Eco Tech Laboratories in Kamloops.

Based on recommendations in Open File 2000-23, moss mat sampling is a preferred sampling method for heavy sediments like gold. For the purposes of prospecting at each sample site both a stream sediment sample and a moss mat samples were collected. In the odd case, a moss mat was not collected due to the lack of suitable stream moss for collection purposes. There was no intent to conduct efficacy studies on the two sampling methods as part of this assessment report.

To determine if moss mat assay results were anomalous they were compared to statistical (i.e. 90 percentile) references given in Lett, Jackaman, Englund April 2000.

#### **(D) Soil Sampling:**

Surface soils (exposed in road cuts or skidder trails or bare soils) containing color anomalies were observed in some locations. On a prospective basis, random soil samples were collected from apparently altered soils. A shallow pit or hand trench (i.e. 0.5m x 0.5m x 0.4m) was dug with a hand trowel, grub hoe, geotul, or shovel. The soil sample was collected with a clean plastic hand trowel and put in a kraft soil bag. If samples were very wet they were double bagged to ensure the samples was secure. The location was GPS’d and photographed; and samples were then air dried in Kamloops prior to assay at Eco Tech Laboratories. To determine if soil sample assay results were anomalous they were compared to statistical (i.e. 90 percentile) references given in Open File 1997-9 (Bobrowsky, et al. 1999).

In certain circumstance, soil samples or till samples were collected where, sulphide bearing (i.e. pyrite), quartz, altered soils, or prospective glacial float boulders were observed.

When a soil grid is completed, it is done using a hand held compass and hip chain; and sample stations are marked with survey ribbon and Tyvek tags. In addition, the baseline is marked with orange tree marking paint. The point of commencement (center of baseline) is usually marked as follows “**10,000N + 10,000E**”. These soil samples are taken with a hand powered soil auger except on rocky sites where a geotul or rock hammer is used to dig a small sampling pit. Where possible, soil samples were collected from the top of the B horizon (usually Bf, Bm, Bmf, or Bh) based on the reference *The Canadian System of Soil Classification* (1987) as well as the *Taxonomic Classification of Humus Forms in Ecosystems of British Columbia* (Klinka et al 1981).

#### **(E) Rock Samples:**

Rock samples were collected using a geotul, rock hammer, sledge hammer or grub hoe. In certain cases small prospecting hand trenches (i.e. 0.5m x 0.5m x 0.4 m) were made to collect the sample. All samples were broken to a suitable size and collected in samples bags secured with survey ribbon. The sample bags were permanently marked for identification purposes and survey ribbon (sample no.) was placed inside the bag just in case the markings on the bag were rubbed off.

The location was GPS’d. The collection site and rocks were photographed with a digital camera, and again (macro zoom) prior to being sent to the assay lab for processing. Where necessary, field notes described the location of the samples and rough sketch maps were made of rock faces showing the detailed sample location.

Care was taken to note if samples were from subcrop, a random sample, selective sample, channel sample, grab sample, glacial float sample, stream float sample, or from outcrop. Some rocks were collected, observed and not assayed. These rocks were discarded in a sensitive manner.

**(F) Assay and Analytical Procedures:**

All assays were done by Eco Tech Laboratory Limited (EcoTech), 10041 Dallas Drive, Kamloops, British Columbia, V2C 6T4 (250-573-5100) [www.stewartgroupglobal.com](http://www.stewartgroupglobal.com).

Eco Tech Laboratory Ltd. is registered for ISO 9001:2008 by KIWA International (TGA-AM-13-96-00) for “*provision of assay, geochemical and environmental analytical services*”. In the interest of brevity, an Analytical Procedure Assessment Report including sample preparation procedures, gold fire assay procedures, and ICP-AES Aqua Regis Digestion (AR-ES) procedures is given in the APPENDICES. This document was provided by Eco Tech Laboratory Ltd, Kamloops.

**(G) 2009/2010- Exploration and Analytical Results:**

In this report, the cost summary is presented at the end of this report just before the APPENDICES. The value of work applied to the following Events 4852056, 4859460, 4872068, and 4872080 was \$ 15,512.01 and \$ 6,312.77 was added from the Astral Mining Corporation PAC account. The total applied work was \$ 21,824.78.

In general terms, exploration works involved prospecting, stream sediment sampling, moss mat sampling, soil sampling, outcrop sampling, till float sampling, stream float sampling, small hand trenching in altered soils, hand trenching outcrops, channel sampling, geology mapping, assaying, and compass/GPS traversing in highly prospective terrain.

The following is a brief summary of the works completed:

- A total of 8,307.9800 hectares was prospected for Au, Ag, Cu, and Zn.
- 33 rock samples were collected and GPS'd, described and photographed.
- 27 of these rock samples were assayed.
- 5 rock samples were collected and not assayed.
- No stream sediment or moss mat samples were collected due to spring run-off and snow in creeks.
- 6 prospecting soil samples were collected and assayed.
- 4 hand trenches were completed and samples collected where warranted.
- 8 ice flow direction – compass readings were taken on the east half of BARRIERE RIDGE and then GPS'd, and included in the BARRIERE RIDGE database.
- A literature search was partially completed on Assessment Reports, MINFILE occurrences, and historic annual reports (1924 to 1928).
- Prospector Assistance Program data (1998), proprietary prospector data, and current data were summarized into a BARRIERE RIDGE database.
- 18 Infrastructure points were identified, GPS'd, and included in the BARRIERE RIDGE database (e.g. roads junctions/signs, bridges, domestic water sources, private locked gates).
- Joint prospector and geologists field works including sampling, prospecting, mapping, and geology were completed.
- Prospector and geologist met informally with First Nations representatives for two Indian Bands at the Kamloops Exploration Group KEG Conference. The meetings were unscheduled and separate; and were “stand-up-meet and greet” type meetings lasting less than 30 minutes. The two bands were involved were the North Thompson Indian Band and the Adams Lake Indian Band. Informal discussion will continue as required.

All exploration, geology, and prospecting related maps, spreadsheets, GPS coordinates, sample descriptions, and assay certificates are given in the APPENDICIES for example:

- An overview map showing the general location of the samples and prospecting areas.
- Detailed spreadsheets giving the GPS locations of all samples and anomalous samples, sample number, assay tag number and assay certificates, sample descriptions, hand trenches, and etc.
- Detailed maps showing all samples, all anomalous values, ice direction data, and hand trench locations.

Discussion of the exploration work is provided here in the following sections: Rock Samples, Soil Samples, Moss Mat and Stream Sediment Samples, Hand Trenches, Ice Flow Direction, Property Database, First Nations Discussion, and Miscellaneous – Wildlife.

## 1. Rock Samples:

A total of 27 rock samples were collected and assayed. A complete list of the assay sample tag numbers, GPS coordinates, rock descriptions, detailed location maps (1:10,000), anomalous results, and assay certificates are given in the APPENDICIES. A short list of selected highly anomalous results for certain selected elements is given in TABLE 7 Selected Rock Anomalies as follows:

**TABLE 7: Selected Rock Anomalies** (for selected elements):

<b>SILVERGAL Showing: Outcrop on log landing with quartz/limestone with galena, silver mineral?, chalcopyrite, malachite</b>	
10E41157 BR11Q9C	Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 202 ppm, S 1.69 percent, Se 110 ppm
10E41157 BR11Q9C repeat	Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 208 ppm, S 1.78 percent, Se 110 ppm
10E41157 BR11Q9C respit	Ag 220 g/t, Pb 12.4 percent, Bi 285 ppm, Cr 226 ppm, S 1.80 percent, Se 120 ppm
10E41160 BR11Q9D	Au 25 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb >2000 ppm, Zn 3076 ppm
10E41160 BR11Q9D repeat	Au 30 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb >2000 ppm, Zn 3076 ppm
10E41158 BR11Q9A	Au 20 ppb, Ag 5.8 g/t, Bi 5 ppm, Cr 232 ppm, Pb 2250 ppm
10E41172 BR11-104	Ag 27.2 ppm g/t, Cu 244 ppm
10E41174 BR11-106	Ag 6.8 ppm, Ca > 10 percent, Cu 428 ppm, Mg 8.88 percent, P 1080 ppm, Sb 245 ppm, Zn 176 ppm
10E41173 BR11-105	Ag 1.2 ppm, Ca > 10 percent, Mg 7.37 percent, P 2210 ppm, Zn 228 ppm

<b>IRON and SULFUR Dominant Anomalies: Semi-massive sulfide, float rock in soils within road cut-slope. Host is green chlorite schist.</b>	
10E41166 BR11FRA1 repeat	Au 15 ppb, Bi 15 ppm, Cu 508 ppm, Fe >10 percent, S 5.06 percent
10E41165 BR11FRA	Au 10 ppb, Bi 5 ppm, Cu 274 ppm, Fe 8.45 percent, S 2.72 percent

<b>CALCIUM, MAGNESIUM, PHOSPHOROUS: Parrellel quartz veins and stockwork in host between WHITE ROCK and SILVER MINNOW MINFILES. No significant minerals but anomalous Ca, Mg, P.</b>	
10E41130 BRQZCST	Ca > 10 percent, Mg >10 percent, P 6050 ppm
10E41131 BRQZRCH	Ca > 10 percent, Mg >10 percent, P 3380 ppm

**SILVERGAL: A NEW DISCOVERY: (see ILLUSTRATIONS below) Ag-Pb-Cu-Zn**

On April 30, 2011, while prospecting an area of new logging for Astral Mining Corporation, David J. Piggin discovered a new Ag-Pb-Cu-Zn outcrop which returned:

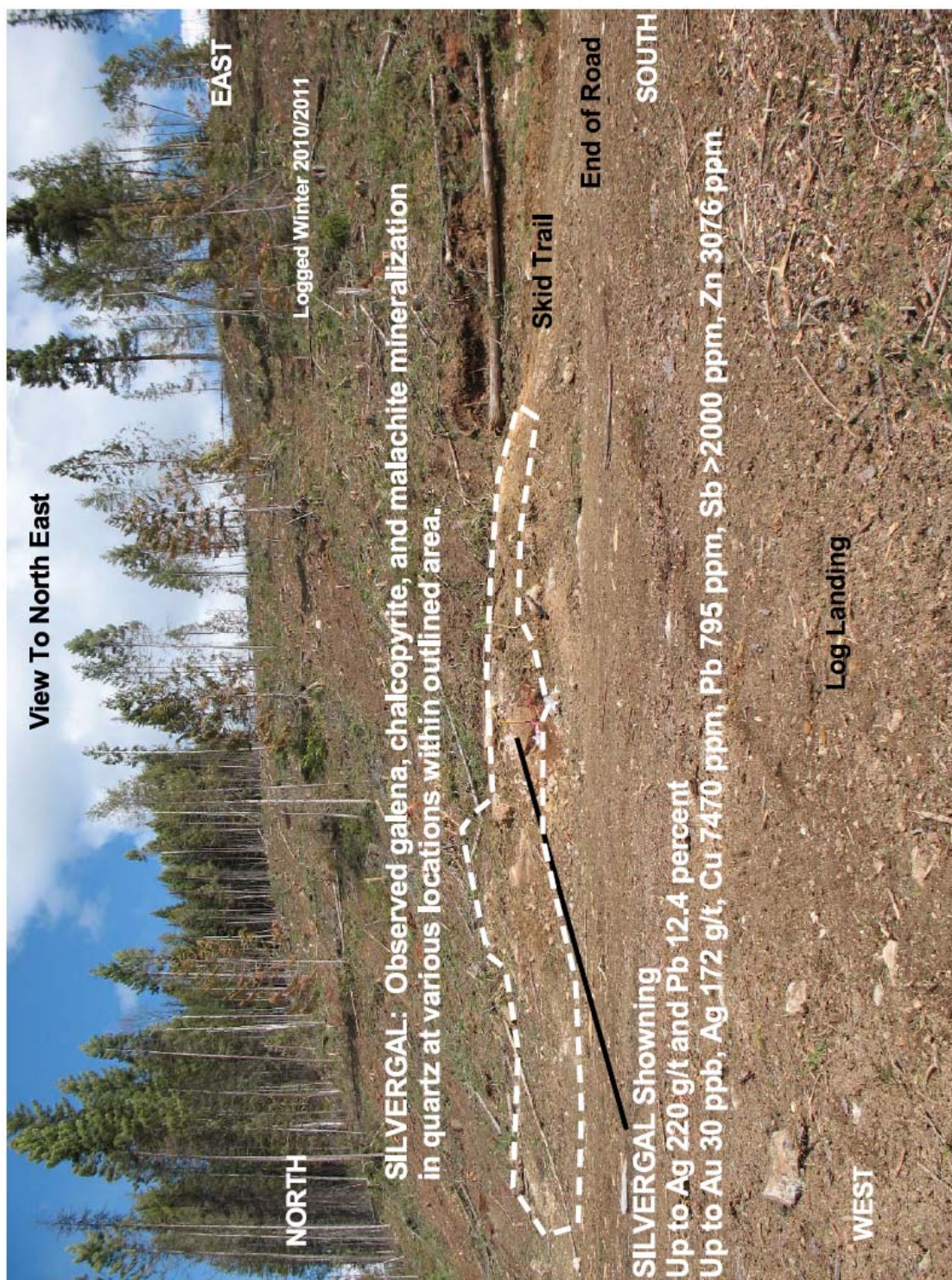
**Sample Tag 10E41157 BR11Q9C:**

Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 202 ppm, S 1.69 percent, :Se 110 ppm.

**10E41160 BR11Q9D repeat**

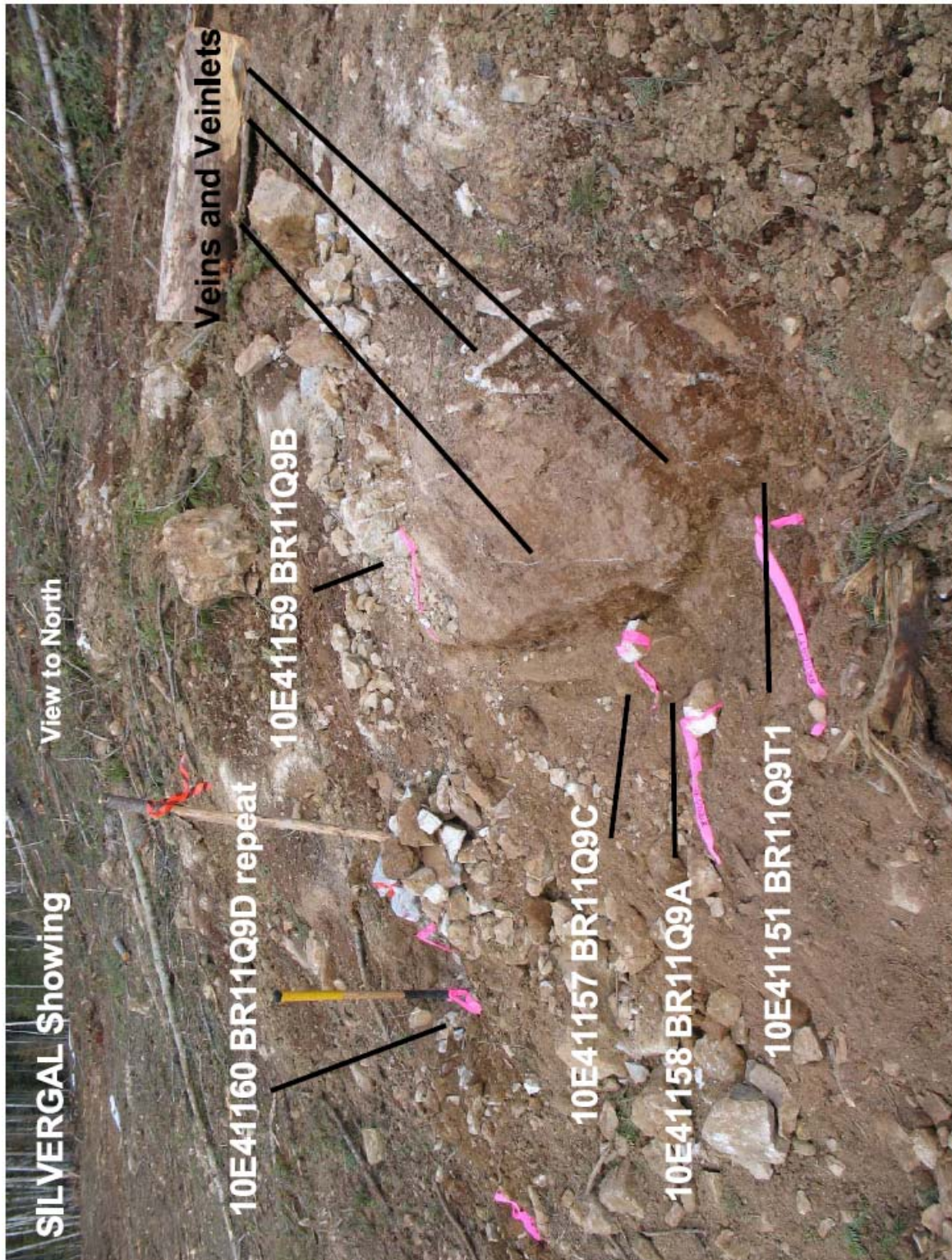
Au 30 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb >2000 ppm, Zn 3076 ppm

**ILLUSTRATION # 6: SILVERGAL showing in overview taken in northwesterly direction (IMG\_3676.JPG).**



The minerals observed were galena, an unknown silver mineral, chalcopyrite and malachite. The SILVERGAL was exposed at the toe of a slope by a dozer during logging development when a landing and skid trail were constructed. The showing is located at the end of a haul road at the junction of a landing and skid trail. A prospector hand trench 1.35 metres x 0.3 metres x 0.2 metres was constructed to expose mineralization and collect samples.

**ILLUSTRATION # 7: SILVERGAL showing detail taken in northerly direction (IMG\_3688.JPG).**



The showing is comprised of quartz veins and veinlets (many are parallel and some crossover) within a limestone host. Glacial till obscures much of the showing but, initial measurements indicate the area of quartz veining is not less than 6 metres wide with a strike of 350 degrees; and the dip appears to be nearly vertical. In some areas the veins grade into veinlets. Some of the veinlets may grade towards a stockwork pattern.

**ILLUSTRATION # 8: SILVERGAL showing close-up of malachite staining in sample 10E41160 BR11Q9D** (IMG\_3695a.JPG). Photo has been edited slightly to eliminate photo flash glare.



**ILLUSTRATION # 9:** SILVERGAL showing close-up galena in sample 10E41160 BR11Q9D (IMG\_3695a.JPG).



Machine trenching and drilling will be required to determine if stockwork mineralization is prevalent. Much of the showing is covered by soil from the logging operation and therefore, this is a high priority target for:

- machine trenching and drilling
- air and ground geophysics
- a soil geochemical grid
- and further prospecting..

SILVERGAL is an estimated 2.5 km south east of the SILVER MINNOW and 3.5 km south east of the WHITE ROCK MINFILE occurrences.

It is also about 800 metres south west of Regional Till Survey sample **969540** (Bobrowsky et. al. 1997) which returned in **Ag 84 ppb**. This soil sample is relevant because a 2010/2011 soil sample **10E41156 BR11T8A** located 200 metres east of the SILVERGAL reported **Au 30 ppb**,

#### **Multi-Element Rock Samples:**

A number of float rock samples anomalous for multi-elements were assayed as follows:

##### **10E41166 BR11FRA1 repeat**

**Au 15 ppb, Bi 15 ppm, Cu 508 ppm, Fe >10 percent, S 5.06 percent**

##### **10E41167 BR11FRD**

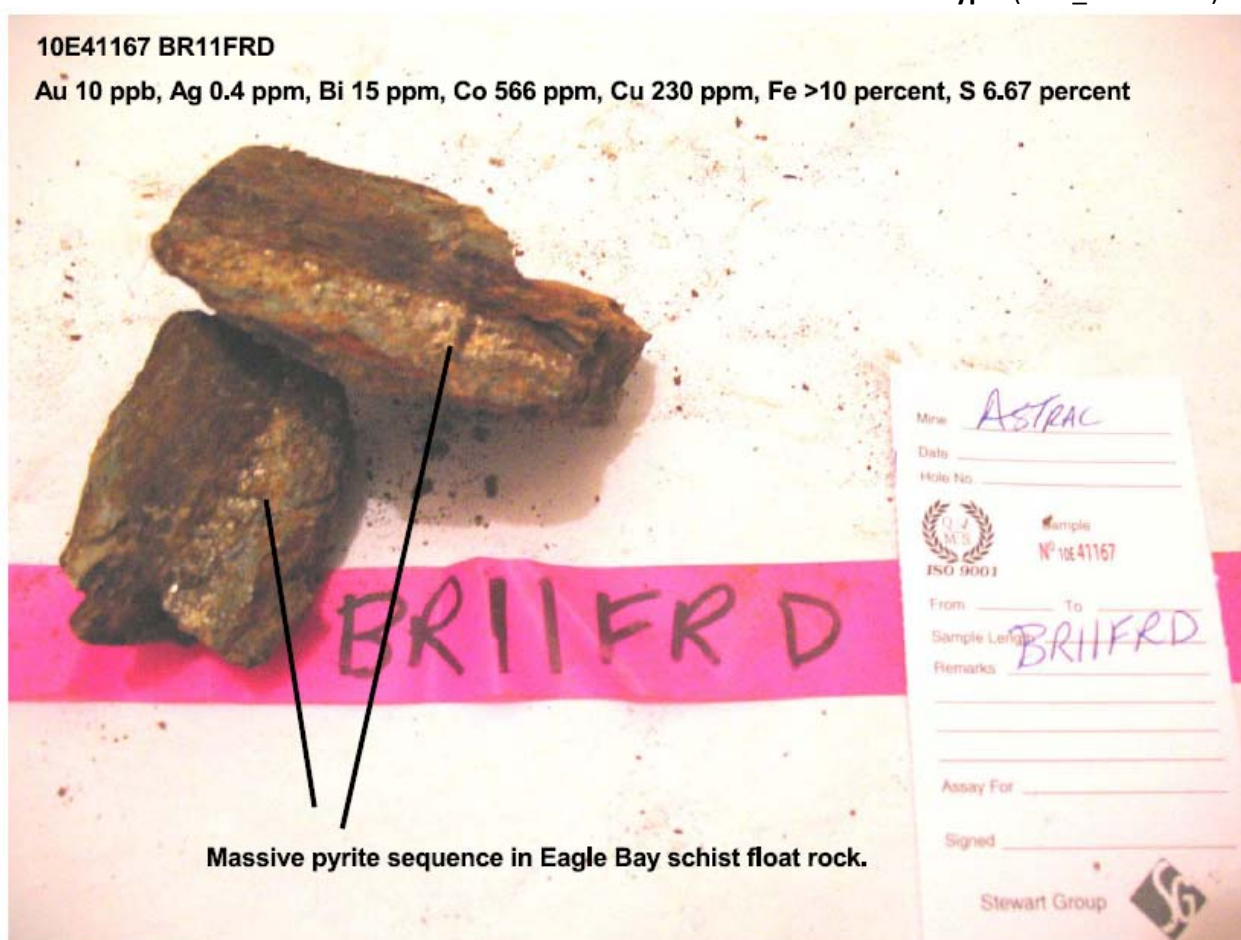
**Au 10 ppb, Ag 0.4 ppm, Bi 15 ppm, Co 566 ppm, Cu 230 ppm, Fe >10 percent, S 6.67 percent**

Both of these samples were collected in a cut slope on a road and were about 165 metres apart. These rocks suggest the presence of a VMS type showing hosted in dark green coloured chloritic schist up ice from the sample location(s). A couple small torpedo shaped VMS float rocks were also noted (not sampled) hinting at a good prospecting opportunity. Additional prospecting is required to determine the source of these multi-element float rocks.

**ILLUSTRATION # 10:** Multi-element float rock 10E41166 BR11FRA1– VMS type (IMG\_3847a.JPG).



**ILLUSTRATION # 11: Multi-element float rock 10E41167 BR11FRD – VMS type (IMG\_3853a.JPG).**



## **2. Soil Samples:**

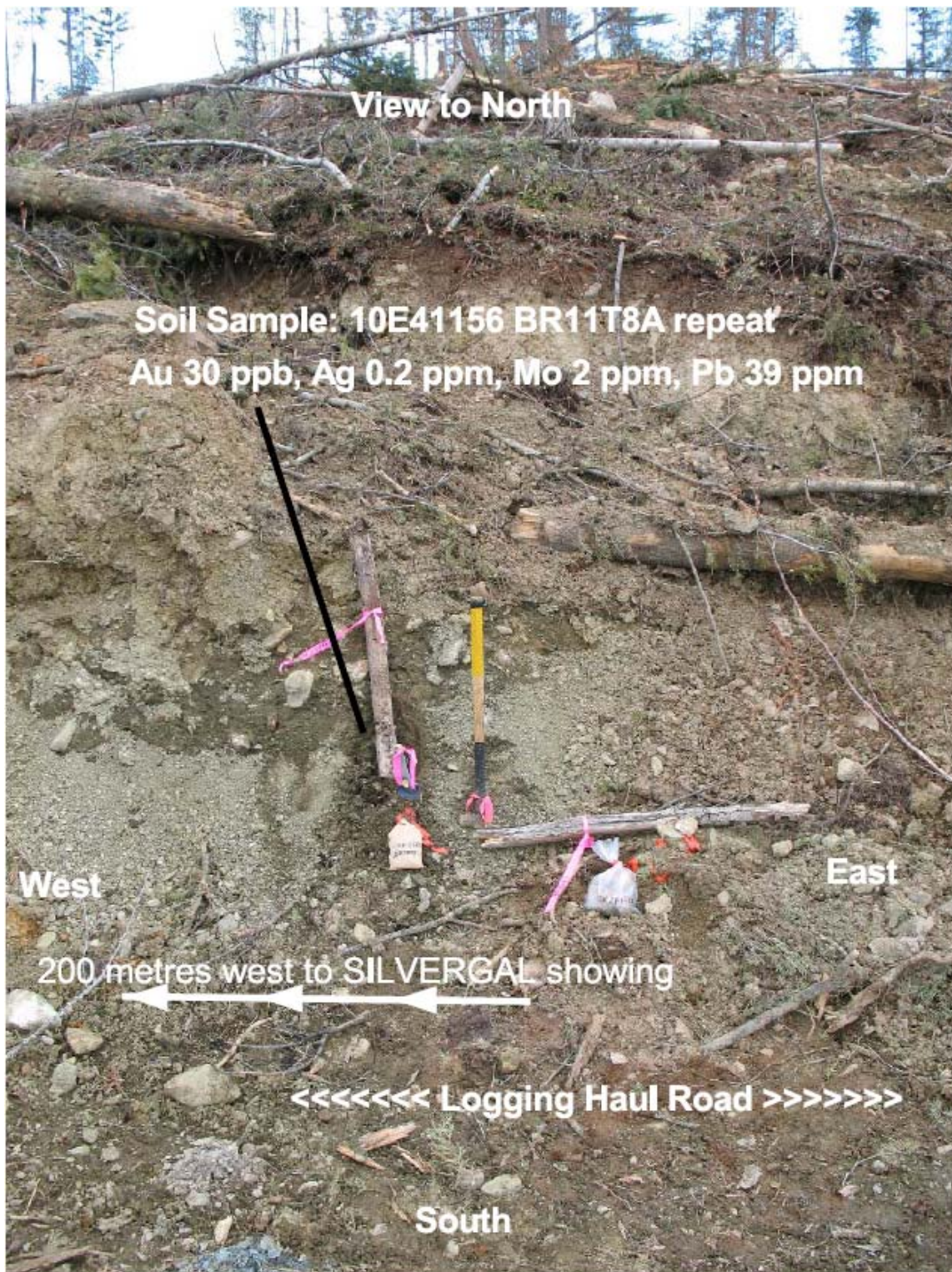
A total of prospecting 6 soil samples were collected and assayed. These soil samples were collected in kraft soil bag using a geotul or grub hoe and plastic trowel. Usually a small sampling hand trench (less than 0.5m x 0.5m x 0.4m) was made. Prospecting samples were taken where glacial float boulders or observed soil alteration suggested that mineralization may be present near the float rock or near the soil colour anomaly

All 6 sample locations and assay results, including anomalous values, are reported in the APPENDICES in spreadsheets, detailed maps, and assay certificates. A short list of selected highly anomalous results for certain selected elements is given as follows:

**TABLE 8: Selected Soil Anomalies.**

<b>SOIL SAMPLE: Anomalous Results.</b>	
<b>10E41151 BR11Q9T1</b>	<b>Au 5 ppb, Ag 0.6 ppm, Mo 3 ppm, Pb 417 ppm, Zn 222 ppm</b>
<b>10E41156 BR11T8A repeat</b>	<b>Au 30 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm</b>
<b>10E41155 BR11T7A</b>	<b>Au 10 ppb, Ag 0.2 ppm, Mo 9 ppm, Pb 51 ppm</b>

**ILLUSTRATION #12: Soil sample at waypoint Br11fr8a showing Sample 10E41156 BR11T8A with Au 20 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm (IMG\_3733.JPG)**



**Other Multi-Element Soil Anomalies:** Sample **10E41155 BR11T7A** located 570 metres north east of SILVERGAL returned **Au 10 ppb, Ag 0.2 ppm, Mo 9 ppm, Pb 51 ppm**. The soil sample taken at SILVERGAL **10E41151 BR11Q9T1** returned **Au 5 ppb, Ag 0.6 ppm, Mo 3 ppm, Pb 417 ppm, Zn 222 ppm**.

### 3. Moss Mats and Stream Sediments

No moss mat or stream sediment samples were collected due to spring run-off conditions and the presence of snow in most of the creek draws. Stream sediment and moss mat sampling will continue later in the summer and fall.

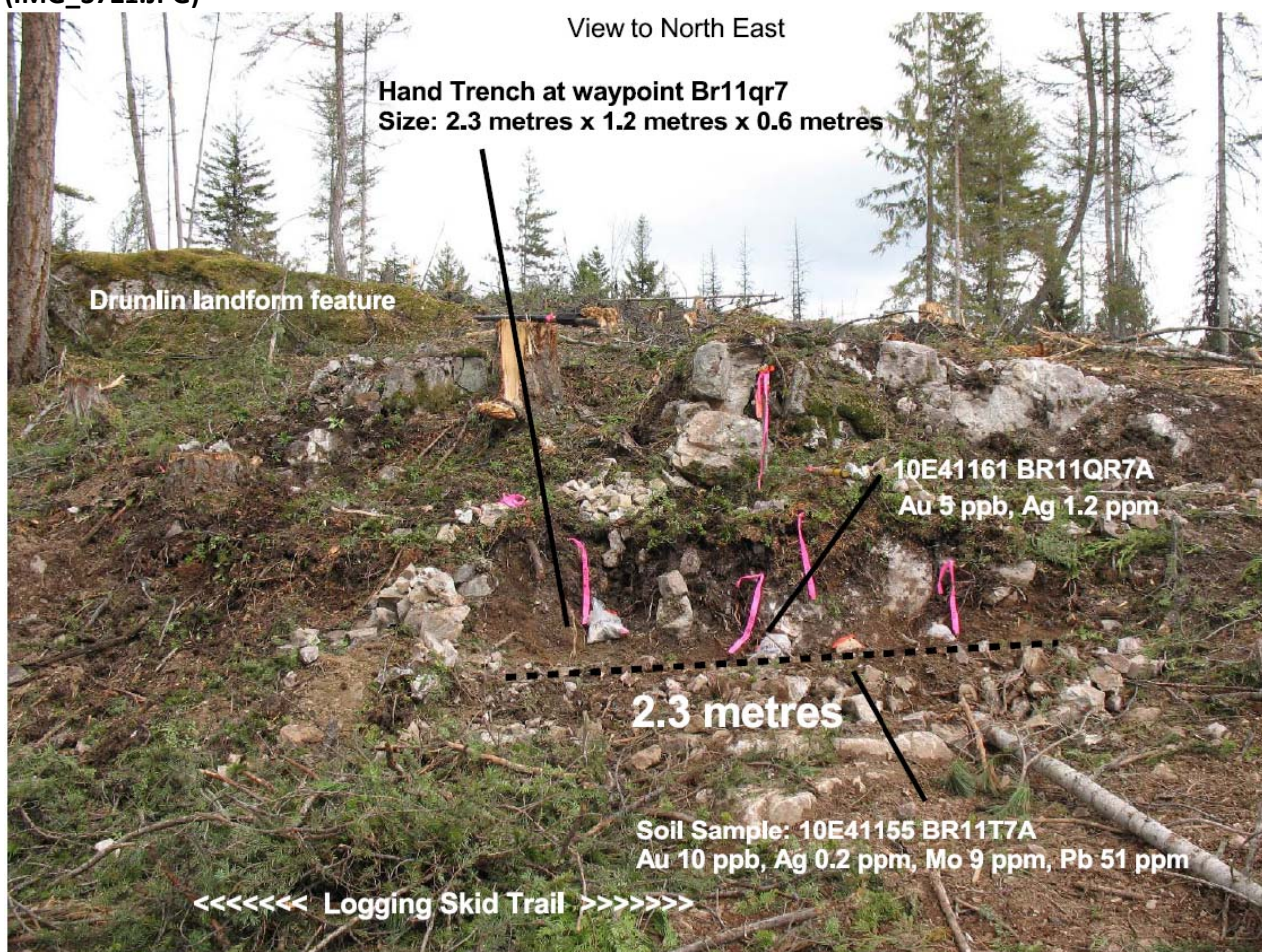
### 4. Hand Trenches:

A total of 4 hand trenches were completed as follows:

**TABLE 9: Hand Trenches.**

GPS Waypoint	Zone	Easterly	Northerly	Elevation (metres)	Dimensions/Comments
Br11qr7	11	299554.267	5684344.005	1071	2.3m x 1.2m x 0.6 m
Br11q9a	11	299086.182	5684025.205	1030	1.35m x 0.3m x 0.2m. The SILVERGAL showing.
Br11fta	11	302524.028	5684002.303	1017	1.5m x 0.8m x 0.2 m
Br11frd	11	302434.314	5683863.523	1009	0.9m x 0.4m x 0.3 m

**ILLUSTRATION #13 : Hand Trench at waypoint Br11qr7 showing Sample 10E41161 BR11QR7A with Au 5 ppb, Ag 1.2 ppm and Sample 10E41155 BR11T7A Au 10 ppb, Ag 0.2 ppm, Mo 9 ppm, Pb 51 ppm (IMG\_3721.JPG)**

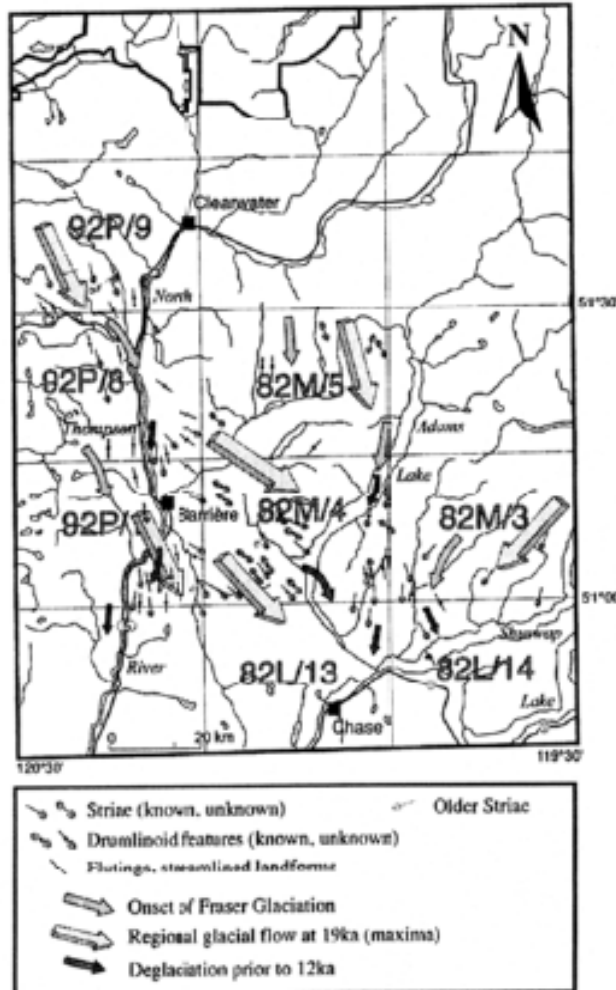


## 5. Ice Flow Direction:

The determination of ice flow direction is a high priority in glaciated terrain and is essential in assessing soil, stream, and float rock anomalies. From a regional perspective, the ice flow direction, based on published data given in see Illustration # 14, Illustration 15, and TABLE 10 (R.C. Paulen et al. 2000) (R. Letts, W. Jackaman Jan 2002), suggests that regional ice flow was as follows:

- from the **northwest to southeast** at a location along the south and west boundary of BARRIERE RIDGE (Chip Creek, Sprague Creek, Barriere River); and
- **north to south** at a location along the north shore of North Barriere Lake or north boundary of BARRIERE LAKE (Harper Creek, Saskum Creek).

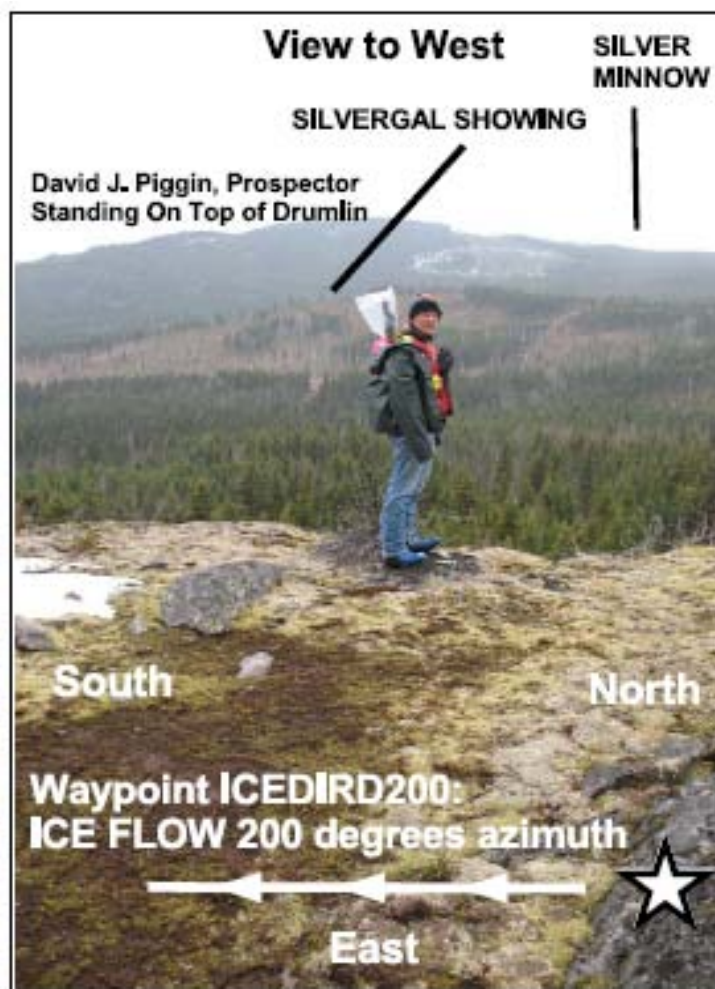
**ILLUSTRATION # 14:** Published Ice Flow Directions from R.C. Paulen et al. 2000 and R. Letts, W. Jackaman Jan 2002.



To assess ice flow direction site specific field data was collected. A total of 8 ice flow direction – compass readings and location (GPS) readings were taken on BARRIERE RIDGE. All of the samples were collected east of the Barriere River (east half of claims). No ice direction readings were collected west of the Barriere River.

Ice flow direction was calculated using a handheld Ranger Silva compass; and was based on drumlin type landforms observed in the field as well as outcrop striations along the linear apex of the drumlin landforms. Based on these observations the Ice direction between North Barriere Lake and East Barriere Lake varied from 160 degrees to 200 degrees (down ice direction) and averaged 180.75 degrees. The following is photograph of a sample location as well as a list of the sample data (TABLE 10).

**ILLUSTRATION # 15:** David J. Piggin at Waypoint ICEDIRD200 showing ice flow direction as 200 degrees azimuth.



**Table 10: Site specific Ice Direction – Locations and Compass Readings (degrees azimuth):**

Ice Direction Waypoint	UTM Zone	Easterly	Northerly	Elevation (metres)	Ice Direction (degrees)	Comments
ICEDIRA160	11	300902.996	5682910.429	1062	160	Compass reading in down ice direction.
ICEDIRB180	11	300796.566	5683132.131	1051	180	Compass reading in down ice direction.
ICEDIRC172	11	300694.078	5683353.327	1068	172	Compass reading in down ice direction.
ICEDIRD200	11	302611.950	5684165.017	1024	200	Compass reading in down ice direction. See Illustration # 15.
ICEDIRE178	11	299577.267	5684380.446	1080	178	Compass reading in down ice direction.
ICEDIRF176	11	299222.781	5684111.385	1070	176	Compass reading in down ice direction.
ICEDIRG200	11	299092.808	5684149.572	1044	200	Compass reading in down ice direction.
BR11R10	11	302607.470	5684114.121	1016	180	Compass reading in down ice direction.

During a field trip with Dr. Ray Letts of the BC Geological Survey and the author (circa 1998/1999), ice striations were examined in the vicinity of MINFILE 082M 066 WHITE and it was determined the ice flow was generally north to south. The purpose of the field trip was to provide prospector field training in ice flow direct determination; and to consider related float rock and soil – ice flow observations.

Therefore, it appears the ice direction on the east half of the claims is affected by the same ice flow that covered Harper Creek and Saskum Lake. Additional ice flow readings are required on the west half of the claims to determine the site specific ice flow direction.

**6. Property Database:**

A property database was commenced by David J Piggin and Dale Brittliffe and is currently being debugged and analyzed to developed targets for the 2011 program.

**7. First Nations Discussions:** David J. Piggin and Dale Brittliffe met informally with First Nations representatives for two Indian Bands at the Kamloops Exploration Group KEG Conference. The meetings were unscheduled and separate; and were “stand-up-meet and greet” type meetings lasting less than 30 minutes each. The two bands were the North Thompson Indian Band and the Adams Lake Indian Band. Informal discussion will continue as required. Discussions were wide ranging and set a positive tone for future discussions including economic opportunities, cultural considerations, and future consultation.

**8. Miscellaneous –Wildlife Observations:** On April 30, 2011 a wolf track was observed following single moose track. In a two day period in May 2011 over 12 bears were observed between Russell Creek and Sprague Creek.

### **III – CONCLUSIONS AND RECOMMENDATIONS:**

As a result of the exploration work from April 30, 2010 and May 31, 2011 based on Events 4852056, 4859460, 4872068, and 4872080 the following conclusions and recommendations were made.

**A. Exploration Work Completed:** The majority of the 2010/2011 exploration work was completed in the Russell Creek and Sprague Creek. The following is a brief summary of the works completed:

- 8,307.9800 hectares were prospected for Au, Ag, Cu, Pb, Zn; including mapping, history, and database works.
- Samples collected, GPS'd and assayed: 27 rock, and 6 soil (prospecting).
- Samples collected, GPS'd and not assayed: 5 rock.
- Ice flow direction measurements, based on drumlin type landforms observed in the field as well as outcrop striations, were taken in the field at 8 sites. Ice direction between North Barriere Lake and East Barriere Lake varied from 160 degrees to 200 degrees (down ice direction) and averaged 180.75 degrees.
- 4 hand trenches were completed varying in size up to 2.3m x 1.2m x 0.6m; samples were collected as required. 18 infrastructure locations were GPS'd for future reference and safety purposes; and included road signs, bridge locations, a domestic water intake to rural residence, and a locked gate to the Barriere Ridge Resort.

## B. New Discovery SILVERGAL, and Highly Anomalous Exploration Results:

MINFILE data on the BARRIERE RIDGE claims had results as follow:

### **MINFILE 082M 066 WHITE ROCK (with DL4043 KDYD WHITE ROCK MC):**

The WHITE ROCK showing is described as epigenetic hydrothermal polymetallic veins Ag-Pb-Zn+/-Au; and with a vein/stockwork character. The significant minerals are galena tetrahedrite, sphalerite, and chalcopryite; and it is associated with quartz, calcite, azurite and malachite. The MINFILE indicates a “56 centimetre sample assayed 2.2 percent lead, 0.8 percent zinc, 92.6 grams per tonne silver and 0.34 grams per tonne gold (Annual Report 1950”).

### **MINFILE 082M 069 SILVER MINNOW (aka SILVER MINERAL):**

The SILVER MINNOW is described as epigenetic hydrothermal polymetallic veins Ag-Pb-Zn+/-Au; and with a vein character. The significant mineral is galena; and it is associated with quartz and calcite. In 1925 a sample assayed Ag 925.7 grams per tonne and Au 0.69 grams per tonne over 0.61 metres.

### **MINFILE 082M 222 CAD:**

Assessment Report 13168 reported Ag 15.6 grams per tonne, Pb 0.04 percent, Zn 1.2 percent over 10 cm vein width.

1. **SILVERGAL SHOWING:** As a result of this 2010/2011 exploration program, a new discovery was made called the SILVERGAL (NAD83 UTM Zone 11. 299086.182E 5684025.205N) and it is located in Russell Creek about 3 km south east of DL 4023 KDYD WHITE ROCK MC. This new discovery returned as follows:

<b>SILVERGAL Showing: Outcrop on log landing with quartz/limestone with galena, silver mineral, chalcopryite, malachite</b>	
<b>10E41157 BR11Q9C</b>	<b>Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 202 ppm, S 1.69 percent, Se 110 ppm</b>
<b>10E41157 BR11Q9C repeat</b>	<b>Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 208 ppm, S 1.78 percent, Se 110 ppm</b>
<b>10E41157 BR11Q9C respit</b>	<b>Ag 220 g/t, Pb 12.4 percent, Bi 285 ppm, Cr 226 ppm, S 1.80 percent, Se 120 ppm</b>
<b>10E41160 BR11Q9D</b>	<b>Au 25 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb &gt;2000 ppm, Zn 3076 ppm</b>
<b>10E41160 BR11Q9D repeat</b>	<b>Au 30 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb &gt;2000 ppm, Zn 3076 ppm</b>
10E41158 BR11Q9A	Au 20 ppb, Ag 5.8 g/t, Bi 5 ppm, Cr 232 ppm, Pb 2250 ppm
10E41172 BR11-104	Ag 27.2 ppm g/t, Cu 244 ppm
10E41174 BR11-106	Ag 6.8 ppm, Ca > 10 percent, Cu 428 ppm, Mg 8.88 percent, P 1080 ppm, Sb 245 ppm, Zn 176 ppm
10E41173 BR11-105	Ag 1.2 ppm, Ca > 10 percent, Mg 7.37 percent, P 2210 ppm, Zn 228 ppm

2. **FLOAT ROCKS:** A number of anomalous multi-element float rocks were also collected as follows:

10E41166 BR11FRA1 repeat – float with semi-massive sulfides in green chloritic schist.

Au 15 ppb, Bi 15 ppm, Cu 508 ppm, Fe >10 percent, S 5.06 percent

10E41167 BR11FRD – float with massive pyrite in a schist

Au 10 ppb, Ag 0.4 ppm, Bi 15 ppm, Co 566 ppm, Cu 230 ppm, Fe >10 percent, S 6.67 percent

These float rocks suggest the presence of VMS type mineralization therefore, follow-up prospecting is required.

3. **SOILS:** A number of highly anomalous soil samples were also collected as follows:

<b>SOIL SAMPLE: Anomalous Results.</b>	
<b>10E41151 BR11Q9T1</b>	<b>Au 5 ppb, Ag 0.6 ppm, Mo 3 ppm, Pb 417 ppm, Zn 222 ppm</b>
<b>10E41156 BR11T8A repeat</b>	<b>Au 30 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm</b>
<b>10E41155 BR11T7A</b>	<b>Au 10 ppb, Ag 0.2 ppm, Mo 9 ppm, Pb 51 ppm</b>

These samples as well as historic soil samples from a Prospectors Assistance Grant (i.e. Au 555 ppb) and from a Regional Till Survey (i.e. Sample 969540 Au 84 ppb) have returned many multi-element anomalies that require follow-up surveys, prospecting, geophysics, and trenching. One 1998 stream sediment sample from a Prospectors Assistance Grant returned:

Weevil 16-1 (Tag 103283) Au 40 ppb, Ag 1.0 ppm, As 65 ppm, Bi 15 ppm, Mo 6 ppm, Zn 99 ppm.

4. **HAND TRENCHES:** A number of hand trenches were constructed to expose mineralization and collect samples and they varied in size as follows: 2.3m x 1.2m x 0.6 m; at the SILVERGAL showing - 1.35m x 0.3m x 0.2m; 1.5m x 0.8m x 0.2 m; 0.9m x 0.4m x 0.3 m.
5. **ICE FLOW DIRECTION:** A total of 8 ice flow direction – compass readings and location (GPS) readings were taken on BARRIERE RIDGE. All of the samples were collected east of the Barriere River (east half of claims). No ice direction readings were collected west of the Barriere River. Based on these observations the Ice direction between North Barriere Lake and East Barriere Lake varied from 160 degrees to 200 degrees (down ice direction) and averaged 180.75 degrees.

Based on these assay results and previous work to date, further exploration work is required such as prospecting for new discoveries; prospecting and sourcing known anomalies; geological mapping; database management; soil, stream, and outcrop sampling; air and ground geophysics surveys; trenching; and drilling as well as First Nations consultation. A five year program of \$1,000,000 is recommended, commencing in 2011.

C. **MINFILE 082M 069 SILVER MINNOW (aka SILVER MINERAL):**

Based on the MINFILE geological capsule for the SILVER MINNOW, there is a need to find/prospect and sample/trench the SILVER MINNOW showing to compare it to the WHITE ROCK and SILVERGAL. The SILVER MINNOW has not been located during or studied in relation to discovery at SILVERGAL. A literature search was conducted to find the field work related to the SILVER MINNOW and site specific information was not obtained. Various references were found in the Minister of Mines Report(s) for 1924 to 1928. Astral Mining Corporation is currently working with the Regional Geologist to narrow down the search area.

Bruce Madu, P. Geo. (Ministry of Energy, Mines, and Petroleum Resources) is provided excellent support in order to obtain any historic data related to the WHITE ROCK and SILVER MINNOW not already available in MINFILE or Assessment Reports.

- D. **British Columbia Geological Survey (BCGS) and Regional Geologist:** Open File reports are extremely useful for prospecting the North Barriere and East Barriere Lake area.. There is a wealth of geological, mapping, geochemical, sampling, and exploration information in the till, stream chemistry, moss mat, stream sediment, and mapping data. The GeoFile 2005-4 download data set proved to be invaluable for spatial mapping

purposes. It was noted that GeoFile 2005-4 needs to be updated with respect to new mapping available in Open File 2000-7. Personal communication with Drs. Ray Letts, Jim Logan, Paul Schiarizza of the BCGS proved invaluable for exploration purposes.

The Regional Geologist – Bruce Madu provided valuable historic information concerning the WHITE ROCK and SILVER MINNOW occurrences; and provided contacts in Victoria (i.e. Janice Chan) in order to continue the search of 1909-1930 era documentation.

- E. **Spatial Data:** Work was commenced by David J. Piggin and Dale Brittliffe on a spatial data base and will continue until all data sources are coalesced. There is a need to bring all this data together into a spatial data base (i.e. MapInfo or Arcview) to determine possible exploration targets. There exists various published (government) data files for stream chemistry, stream sediment surveys, soil and till sampling, rock sampling, and related information. In addition to this there are ad hoc data sets, ARIS reports, and proprietary information (DL 4023 KDYD WHITE ROCK MC) that contain useful data

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## AUTHORS QUALIFICATIONS

The author has been a prospector since 1997 and has the following qualifications:

- Registered Professional Forester (2412).
- Retired from the Ministry of Forests and Range, Southern Interior Forest Region with 35 years of meritorious service.
- Director, Vice President, and Member of the Kamloops Exploration Group (KEG).
- Plan and participate in KEG meetings in Kamloops since 1997.
- Attend the Cordilleran Roundup (Vancouver) and maintained a prospector's booth for most years.
- Attend the KEG (Kamloops) and maintained a prospector's booth for most years.
- KEG Prospectors Course (University College of the Cariboo) in 1997.
- Attended numerous KEG and Geoscience BC short courses or field trips for prospecting, geochemistry, (basic) geophysics, mineralization, ore bodies, and formations such as the Nicola Volcanics.
- Attended numerous KEG and Geoscience BC field trips to Afton (Abacus), New Gold Inc (underground), Gibraltar, Mount Polley, Highland Valley Copper, Samatsum, Copper Mountain, and etc.
- Conducted numerous "one on one" field tours of properties with company geologists, and government geologists.
- Conducted one rotary wing geological inspection with geologist.
- Completed Prospectors Assistance Grant #98/99 P94.
- Completed contract ground staking for mining companies.
- Completed contracts for over 75 line kilometers of soil surveys for mining companies.
- Collected 2000+ of soil samples for assay by exploration companies.
- Collected 500+ prospecting soil samples.
- Collected 300+ moss mats and stream sediments samples.
- Collected 300+ rock samples.
- Completed advanced courses in Mathematics and Physics in the 1970s; and Forest Sciences such as Forest Hydrology, Forest Soils, Forest Ecology, Statistics, and Forest Mensuration in the 1980s..
- Project Management Courses, Continuous Improvement, Conflict Resolution, Coaching & Facilitating (meetings and teams), and business processes.
- Member of Provincial Working Groups related to government initiatives.
- Budgeted and implemented up to \$ 1.2 million per year of forestry related contracts.
- Contracted and/or supervised professionals working to a scientific and/or professional standard.
- Certified Incident Commander for forest fires.
- Completed Assessment Reports 29378 July 4, 2007 \$ 6,375.11; 29407 November 18, 2007 \$ 11,040.10; 29569 August 26, 2007; 29709 December 20, 2007 \$ 7037.87; 29960 March 1, 2008 \$ 25,177.09; 30869 June 2, 2009, \$ 29,959.06.
- Optioned and sold the MAGNUM CLAIMS (near Ajax Pit at Afton) to New Gold Inc, near Kamloops, British Columbia.
- Optioned the HONEYMOON CLAIMS to Acrex Ventures Ltd., Vancouver, British Columbia.
- Optioned the HONEYMOON CLAIMS to Astral Mining Corporation, Vancouver, British Columbia.
- Optioned the BARRIERE RIDGE CLAIMS to Astral Mining Corporation, Vancouver, British Columbia.

## Software Programs and Other Equipment Used In Support of this Report

The following computer software and equipment used in support of the exploration and development work, and in the preparation of this report.

1. Microsoft Office 2010: EXCEL, WORD, OUTLOOK, ACCESS, NOTEPAD.
2. Internet Explorer (version 7).
3. Mineral Tenures Online mapping software.
4. ARIS MapBuilder and Exploration Assistant..
5. MINFILE.
6. Arcview 3.2a.
7. Adobe Acrobat Standard 7.
8. Trackmaker version 13.1 (freeware) for GPS download.
9. DNR Garmin GPS download.
10. Garmin 12XL – Global Positioning Unit.
11. Garmin GPSmap 60CSx – Global Positioning Unit.
12. Canon A630 digital camera.
13. Stone Blaze, belt chain, surveying tool.
14. Hand held Ranger Silva Compass, Azimuth.
15. Clinometer, Sunnto, (degrees, percent).
16. Iwamoto Hand lens.
17. Survey ribbon (various colours), metal tags, and tyvek tags with wire; and sample pages.
18. Rock hammer, geotul, and various sledge hammers, shovels, and trowels.
19. Gold pan, black, for collecting sediment samples prior to bagging.
20. Black plastic door screen (0.1 inch square mesh) for screening stream sediment samples.
21. Samples were collected with plastic bags (rock), stream sediments/soil (kraft bags), moss mats (linen bags).
22. 2 Trapper Nelson pack boards with sacks.
23. Ford, F150 4x4 pickup, with canopy/boat racks.
24. Shindawa powersaw and Husqvarna Chainsaw.
25. 1 hand tank pumps (fire) and fire extinguishers for fire prevention
26. First aid kit for safety.

<b>BARRIERE RIDGE: COST SUMMARY</b>					
<b>EVENTS: 4852056, 4859460, 4872068, 4872080</b>					
<b>Exploration Work type</b>	<b>Comment</b>	<b>Days</b>			<b>Totals</b>
Personnel (Name)* / Position	Field Days (list actual days)	Days	Rate	Subtotal*	
David J. Piggin, RPF, Prospector	December 10, 2011	1	\$300.00	\$300.00	
Judy Burr, field crew	December 10, 2010	1	\$250.00	\$250.00	
David J. Piggin, RPF, Prospector	December 28, 2010	0.3	\$300.00	\$90.00	
David J. Piggin, RPF, Prospector	April 29, 2011	1	\$350.00	\$350.00	
David J. Piggin, RPF, Prospector	April 30, 2011	1	\$350.00	\$350.00	
David J. Piggin, RPF, Prospector	May 1, 2011	1	\$350.00	\$350.00	
David J. Piggin, RPF, Prospector	May 2, 2011	1	\$350.00	\$350.00	
Judy Burr, field crew	May 2, 2011	1	\$250.00	\$250.00	
David J. Piggin, RPF, Prospector	May 3, 2011	1	\$350.00	\$350.00	
David J. Piggin, RPF, Prospector	May 18, 2011	1	\$350.00	\$350.00	
David J. Piggin, RPF, Prospector	May 19, 2011	1	\$350.00	\$350.00	
Dale Brittliffe, Geologist	May 18, 2011	1	\$650.00	\$650.00	
Dale Brittliffe, Geologist	May 19, 2011	1	\$650.00	\$650.00	
"Daisy", Black Lab, BEAR DOG	1 Days		\$0.00	\$0.00	
				<b>\$4,640.00</b>	<b>\$4,640.00</b>
<b>Office Studies</b>	<b>List Personnel (note - Office only, do not include field days)</b>				
Literature search	Dale Brittliffe, P. Geo	2	\$650.00	\$1,300.00	
	David Piggin, RPF Prospector	2	\$300.00	\$600.00	
Database compilation	Dale Brittliffe, P. Geo	1.5	\$650.00	\$975.00	
	David Piggin, RPF Prospector	8	\$300.00	\$2,400.00	
Computer modelling			\$0.00	\$0.00	
Reprocessing of data			\$0.00	\$0.00	
General research			\$0.00	\$0.00	
Report preparation	David Piggin, RPF Prospector	5	\$300.00	\$1,500.00	
Other (specify)		0	\$0.00	\$0.00	
Other (specify)				\$0.00	
				<b>\$6,775.00</b>	<b>\$6,775.00</b>
<b>Airborne Exploration Surveys</b>	<b>Line Kilometres / Enter total invoiced amount</b>				

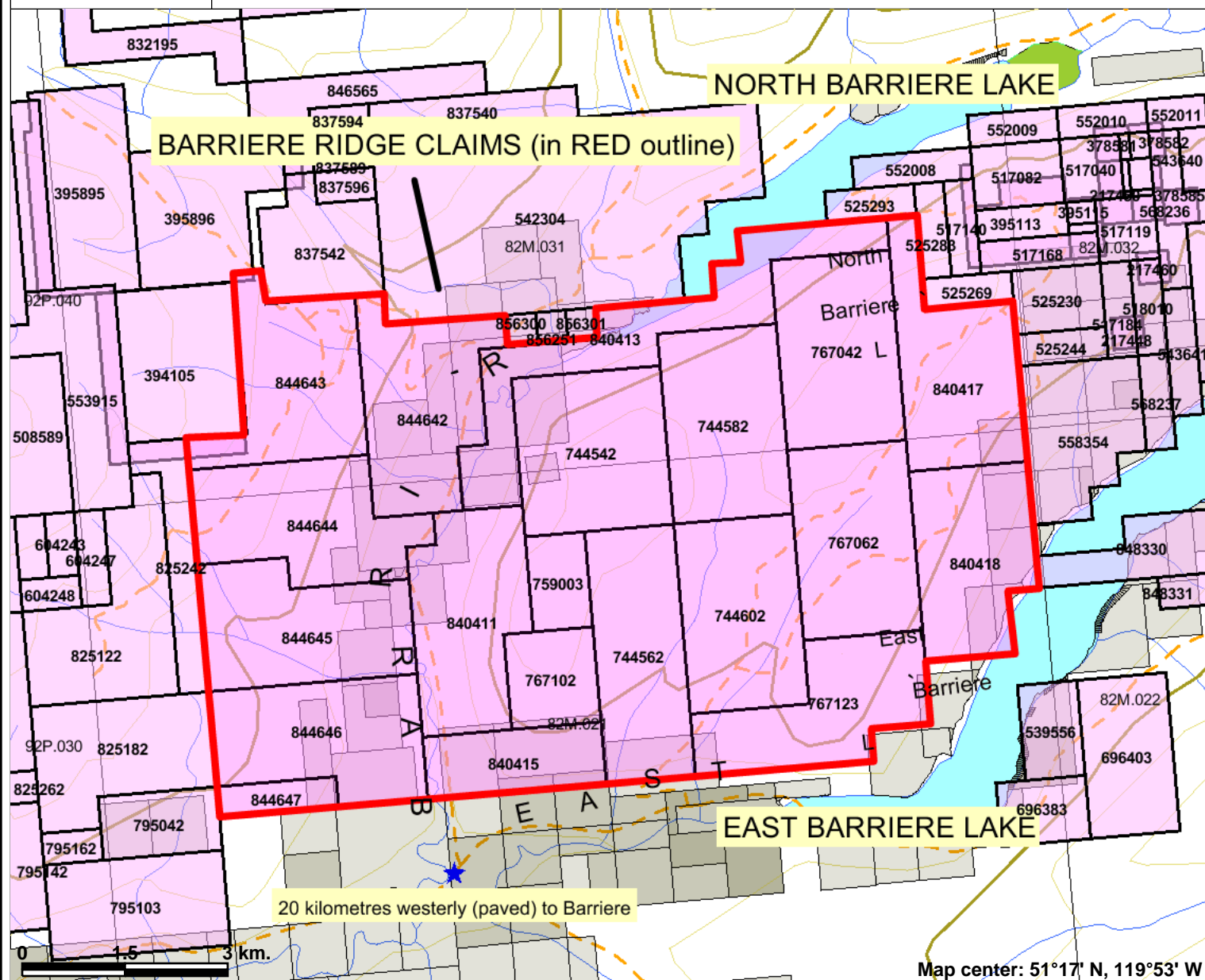
Aeromagnetics			\$0.00	\$0.00	
Radiometrics			\$0.00	\$0.00	
Electromagnetics			\$0.00	\$0.00	
Gravity			\$0.00	\$0.00	
Digital terrain modelling			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Remote Sensing</b>	<b>Area in Hectares / Enter total invoiced amount or list personnel</b>				
Aerial photography			\$0.00	\$0.00	
LANDSAT			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Ground Exploration Surveys</b>	<b>Area in Hectares/List Personnel</b>				
Geological mapping	0			\$0.00	
Regional	0	note: expenditures here			
Reconnaissance	0	should be captured in Personnel			
Prospect	0	field expenditures above			
Underground				\$0.00	
Trenches				\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Ground geophysics</b>	<b>Line Kilometres / Enter total amount invoiced list personnel</b>				
Radiometrics				\$0.00	
Magnetics				\$0.00	
Gravity				\$0.00	
Digital terrain modelling				\$0.00	
Electromagnetics	note: expenditures for your crew in the field			\$0.00	
SP/AP/EP	should be captured above in Personnel			\$0.00	
IP	field expenditures above			\$0.00	
AMT/CSAMT				\$0.00	
Resistivity				\$0.00	
Complex resistivity				\$0.00	
Seismic reflection				\$0.00	
Seismic refraction				\$0.00	
Well logging	Define by total length			\$0.00	
Geophysical interpretation				\$0.00	
Petrophysics				\$0.00	
Other (specify)				\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Geochemical Surveying</b>	<b>Number of Samples</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Drill (cuttings, core, etc.)			\$0.00	\$0.00	
Stream sediment			\$0.00	\$0.00	
Soil	AK2011-0676	6	\$25.71	\$154.26	

Rock	AK2010-1339	6	\$35.22	\$211.32	
	AK2011-0689	9	\$26.26	\$236.34	
	AK2011-0690	12	\$27.02	\$324.28	
Water			\$0.00	\$0.00	
Biogeochemistry			\$0.00	\$0.00	
Whole rock			\$0.00	\$0.00	
Petrology			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$926.20</b>	\$926.20
<b>Drilling</b>	<b>No. of Holes, Size of Core and</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Diamond			\$0.00	\$0.00	
Reverse circulation (RC)			\$0.00	\$0.00	
Rotary air blast (RAB)			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	\$0.00
<b>Other Operations</b>	<b>Clarify</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Trenching			\$0.00	\$0.00	
Bulk sampling			\$0.00	\$0.00	
Underground development			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	\$0.00
<b>Reclamation</b>	<b>Clarify</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
After drilling			\$0.00	\$0.00	
Monitoring			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	\$0.00
<b>Transportation</b>		<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Airfare		1	\$483.00	\$483.00	
Taxi			\$0.00	\$0.00	
truck rental	F150 4x4 pickup supercab	10.5	\$75.00	\$787.50	
kilometers	F150 4x4 pickup supercab	2442.87	\$0.45	\$1,099.29	
ATV			\$0.00	\$0.00	
fuel			\$0.00	\$0.00	
Helicopter (hours)			\$0.00	\$0.00	
Fuel (litres/hour)			\$0.00	\$0.00	
Other				\$0.00	
				<b>\$2,369.79</b>	\$2,369.79
<b>Accommodation &amp; Food</b>	<b>Rates per day</b>				
Hotel		2	\$120.00	\$240.00	
Camp		0	\$0.00	\$0.00	
Meals		11	\$45.00	\$495.00	
				<b>\$735.00</b>	\$735.00
<b>Miscellaneous</b>					
Telephone			\$0.00	\$0.00	
Other (Specify)	Field Supplies		\$66.02	\$66.02	
				<b>\$66.02</b>	\$66.02

<b>Equipment Rentals</b>					
Field Gear (Specify)	Chainsaw	0	\$0.00	\$0.00	
Other (Specify)					
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Freight, rock samples</b>					
			\$0.00	\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>TOTAL Expenditures</b>		<b>TOTAL VALUE OF WORK</b>			<b>\$15,512.01</b>
		<b>ASTRAL MINING PAC WITHDRAWAL</b>			<b>\$6,312.77</b>
		<b>TOTAL APPLIED WORK</b>			<b>\$21,824.78</b>

## **APPENDICIES**

# BARRIERE RIDGE CLAIMS: TENURE OVERVIEW



## Legend

- Indian Reserves
- National Parks
- Conservancy Areas
- Parks
- Mineral Tenure (current)
- Mineral Claim
- Mineral Lease
- Mineral Reserves (current)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Survey Parcels
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- Area of Indefinite Contours
- Annotation (1:250K)
- Transportation - Points (1:250K)
- Airfield
- Anchorage - Seaplane
- Ferry Route
- Heliport
- Seaplane Base
- Air Field
- Airport
- Air Feature - Condition Unknown

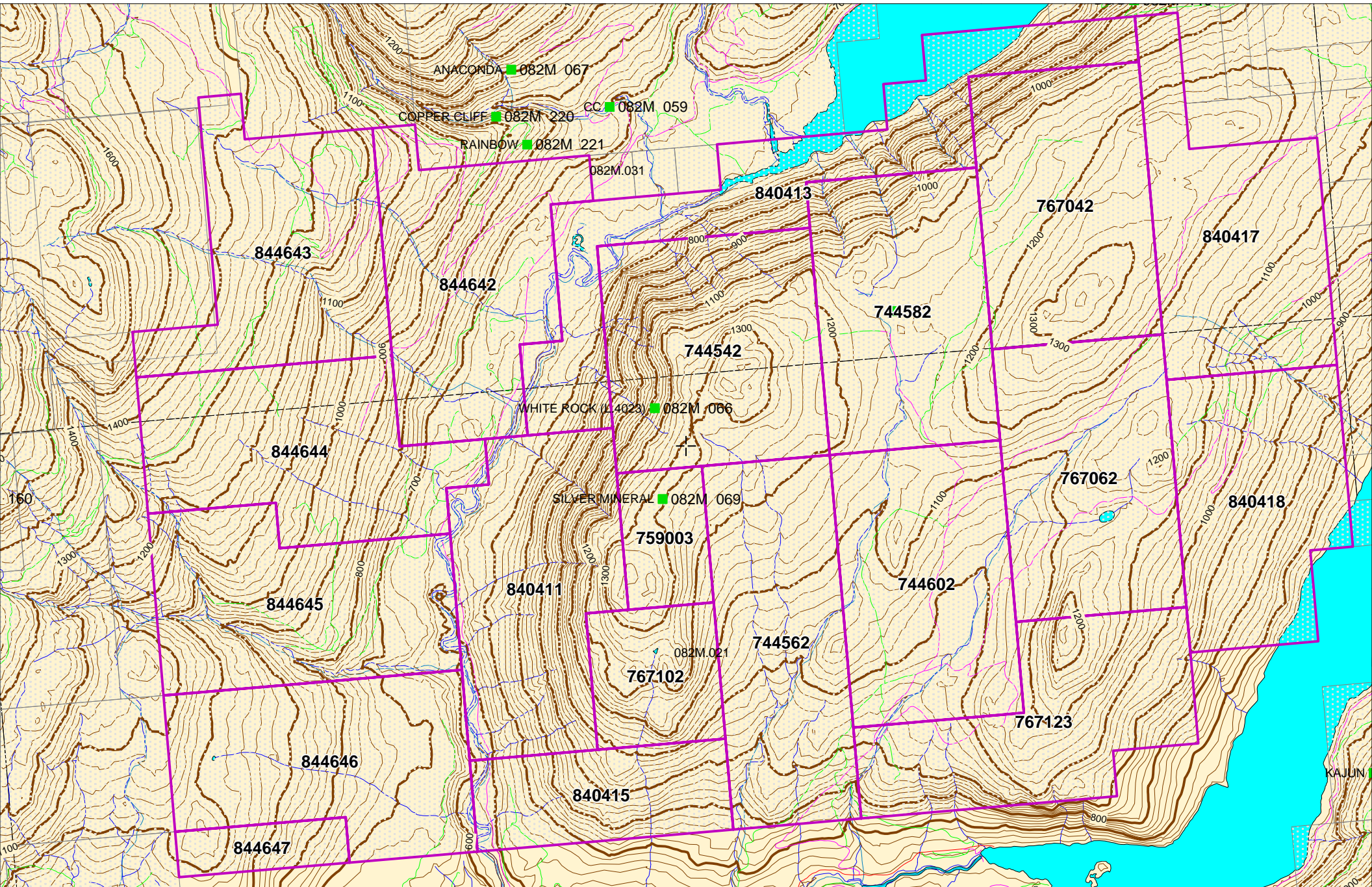


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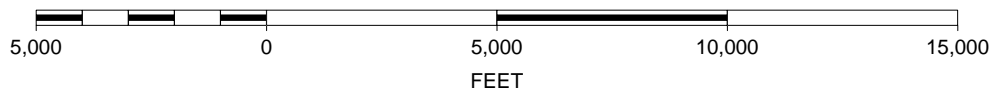
Map center: 51°17' N, 119°53' W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

# Barriere Ridge: Tenures, Roads, Contours; and showing MINFILE locations



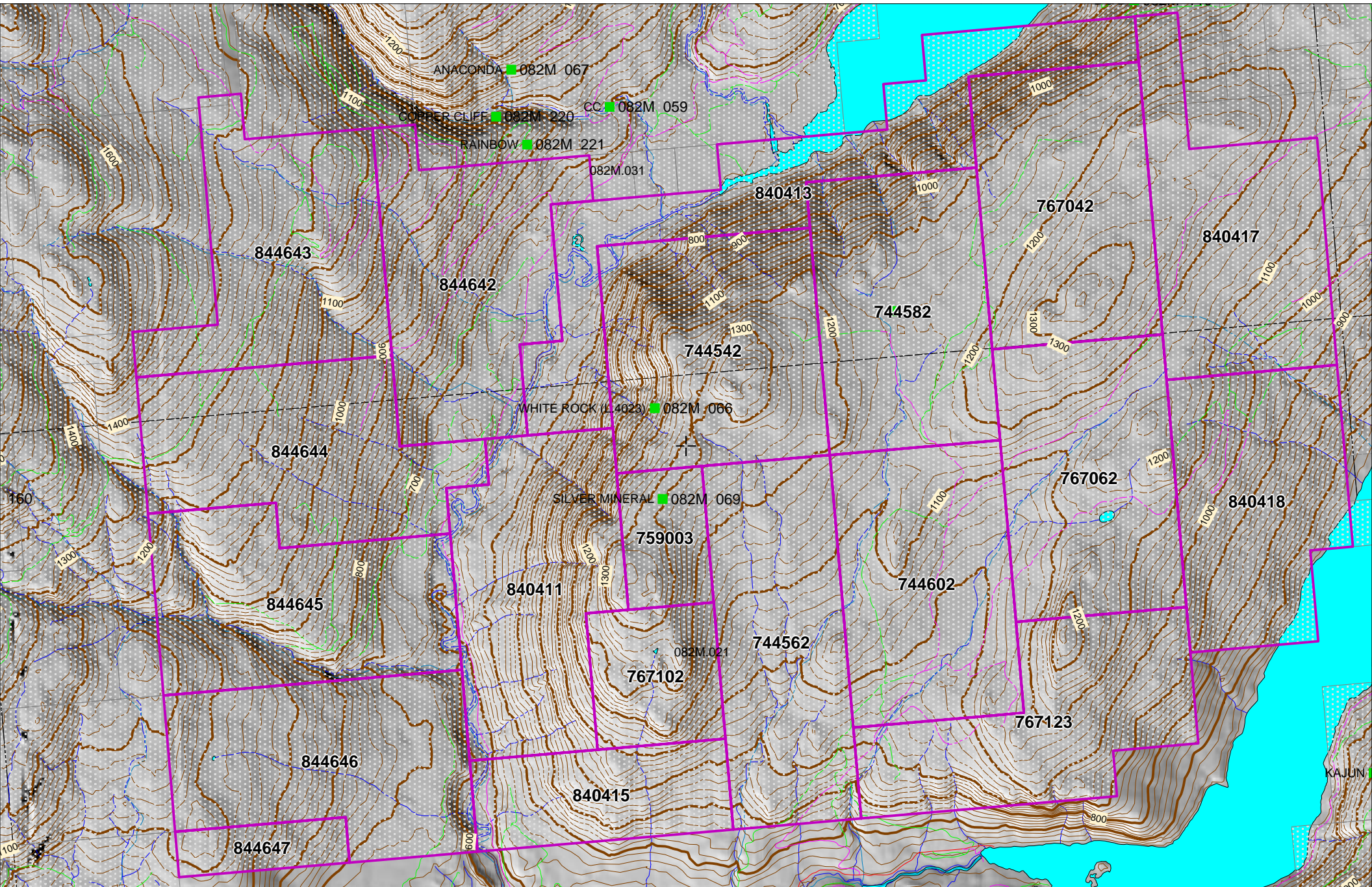
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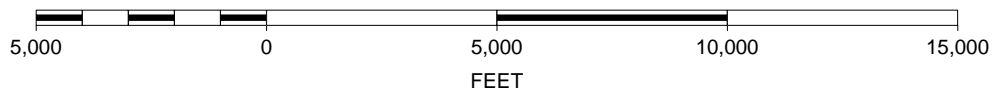
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# Barriere Ridge: Tenures, Roads, Contours; and showing MINFILE locations

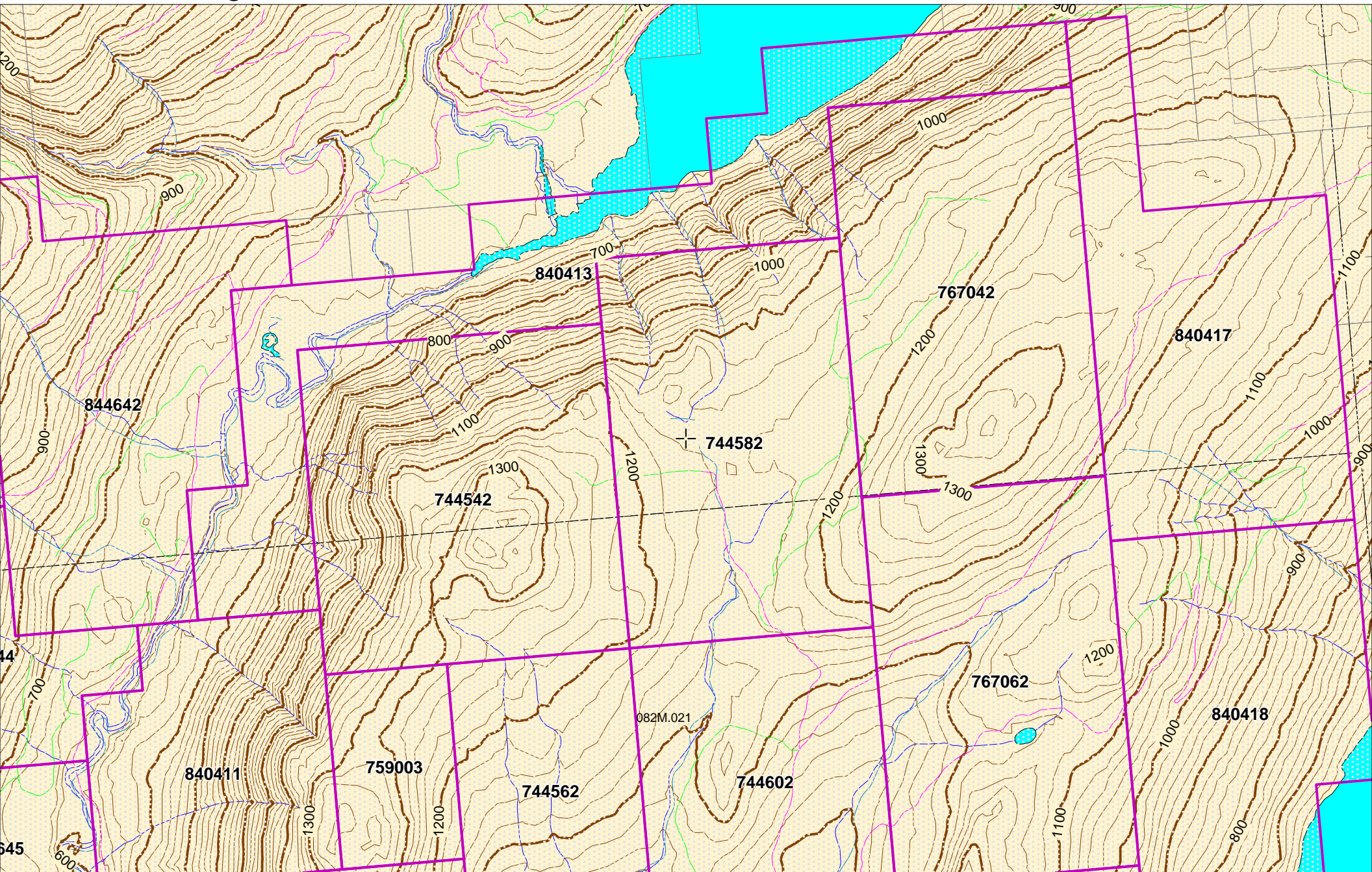


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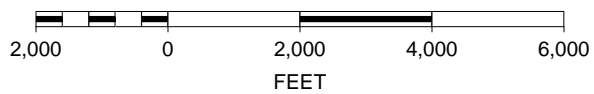


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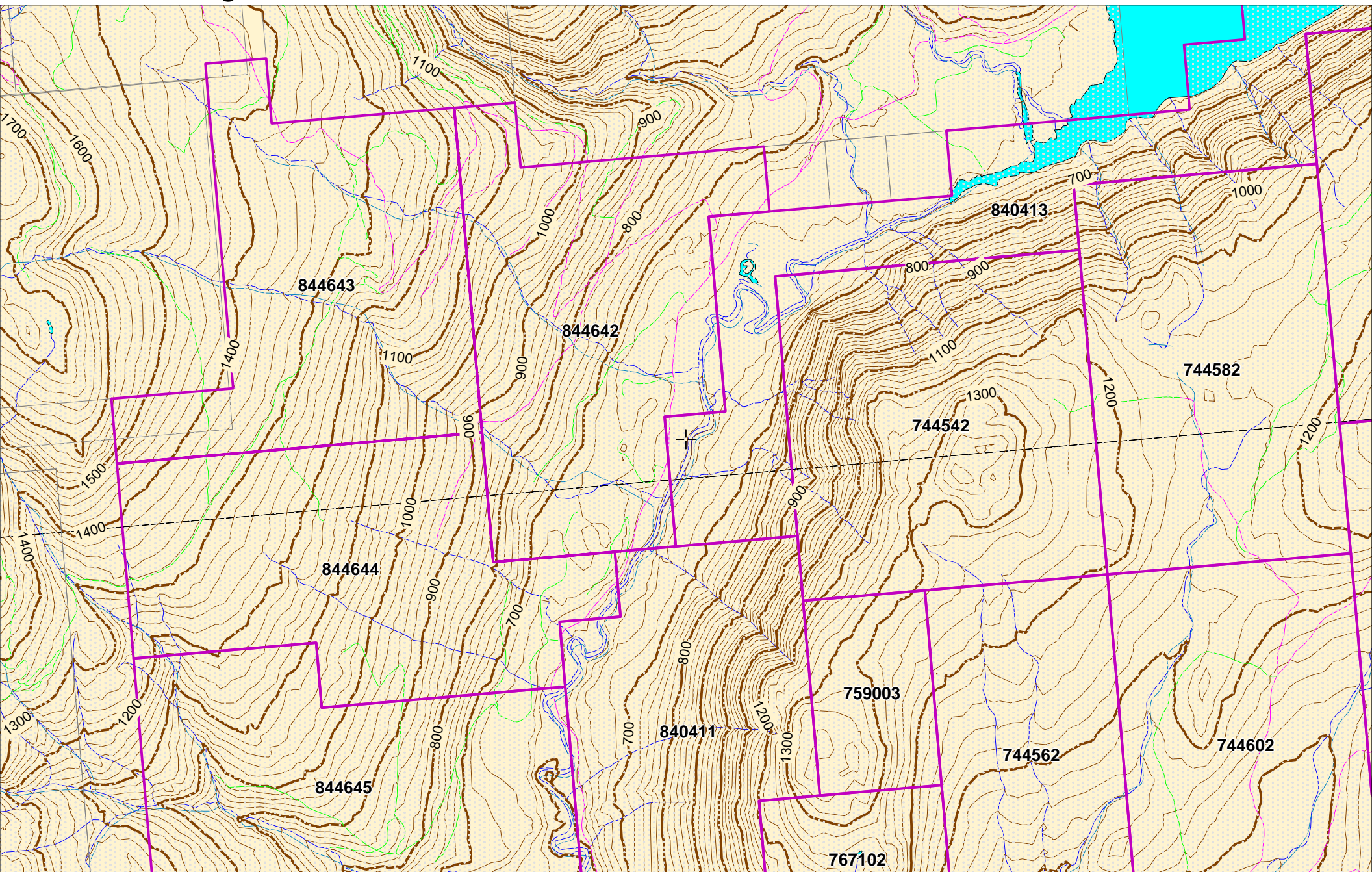
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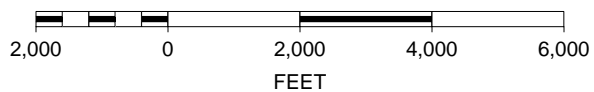
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# Barriere Ridge NW Corner: Tenures 744542, 744582, 759003, 844642, 844643, 844644

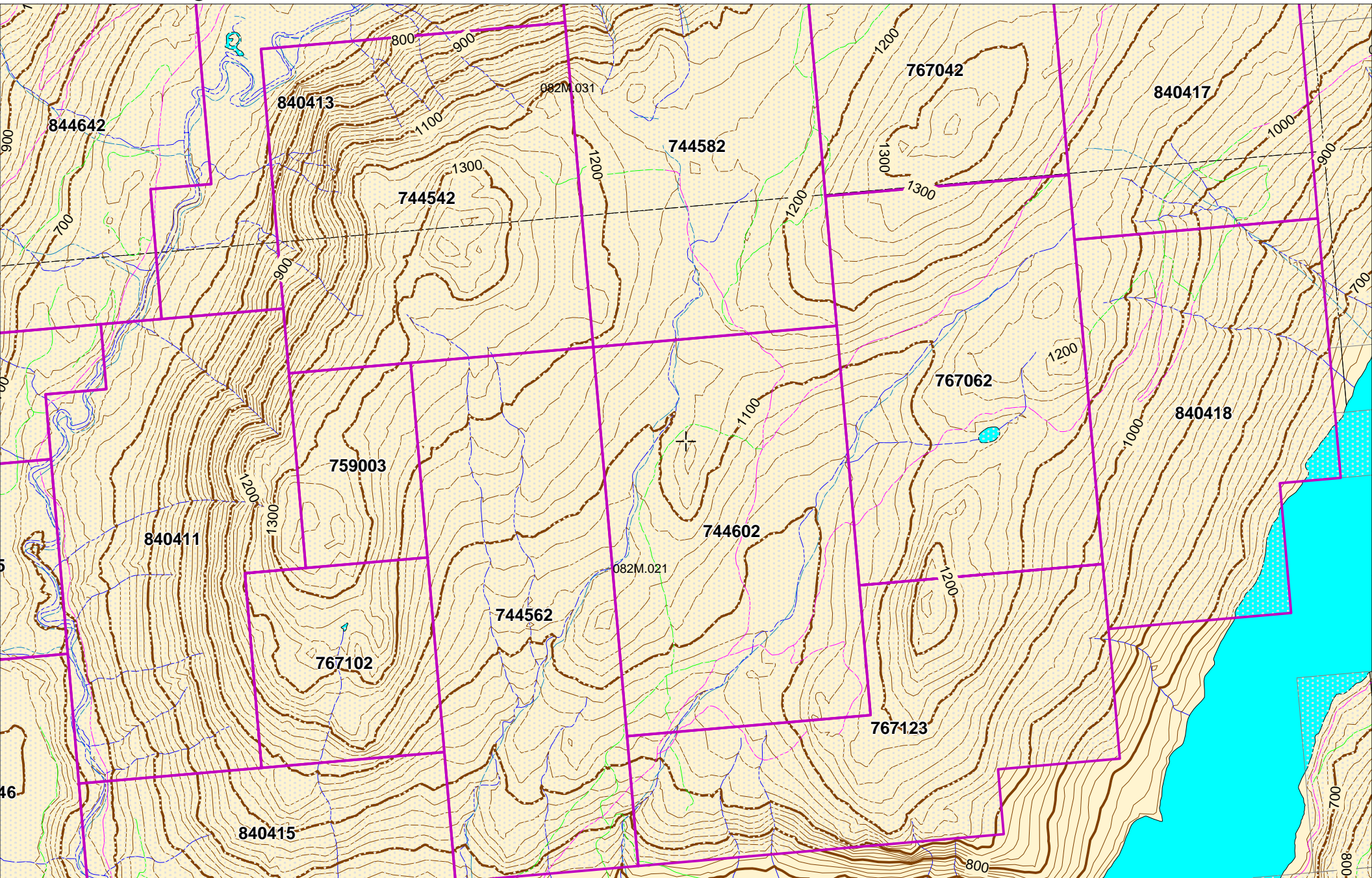


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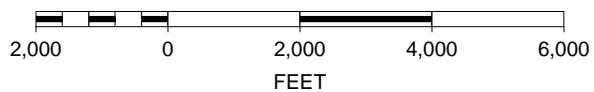


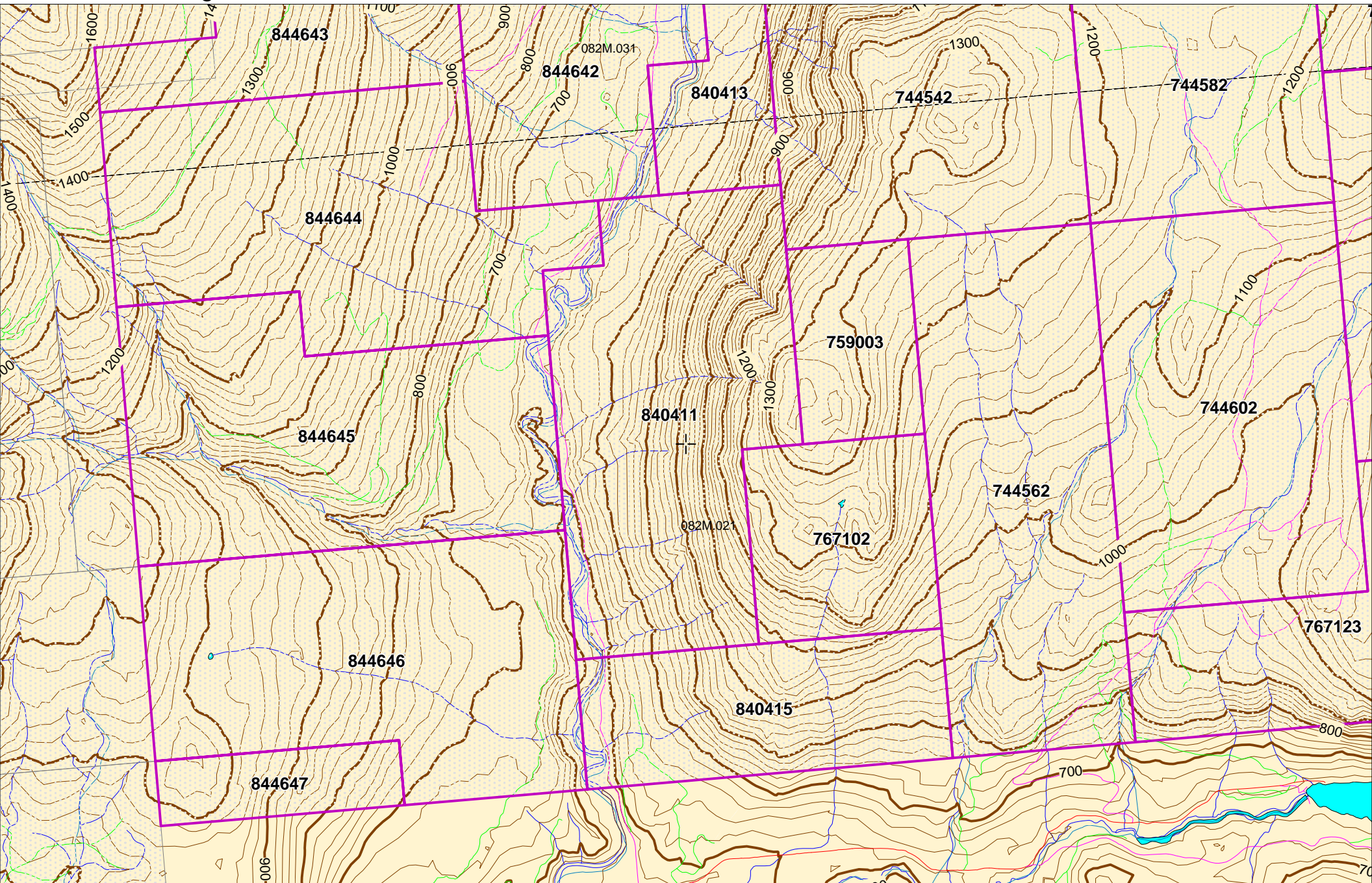
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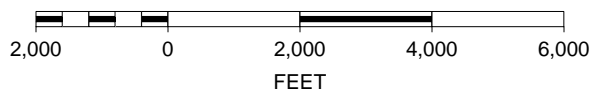


SCALE 1 : 35,000





SCALE 1 : 35,000



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**Barriere Ridge: Biogeoclimatic Subzones by Tenure**

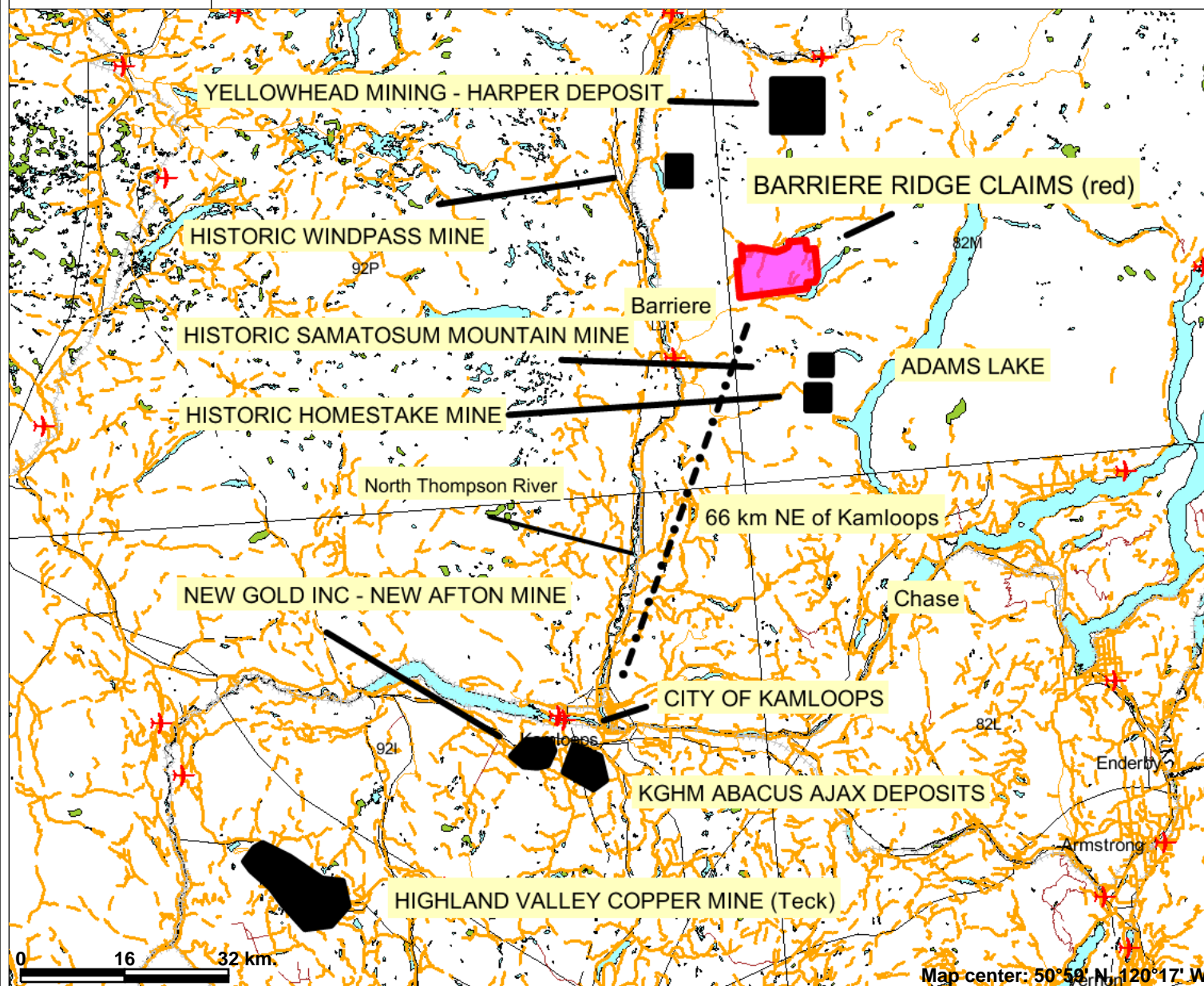
The map displays various land parcels with their respective tenure types and subzone designations. Key subzones include ESSF dc 2, ESSFwc 2, ICH mw 3, ICH mk 2, MS dm 2, and IDF mw 2. The map also shows rivers, roads, and map sheet grid lines. A scale bar indicates 1:85,000.

**Legend:**

- Mta\_acq\_te.shp
- BioGeoClimatic Subzones - Variants
- Rivers
- Map Sheet Grid Lines
- ROADS

**Scale:** 1:85,000

# BARRIERE RIDGE: Overview of Mines & Deposits



## Legend

- NTS Grid
- Annotation (1:250K)
- Transportation - Points (1:250K)
  - ✈ Airfield
  - ✈ Anchorage - Seaplane
  - ✈ Ferry Route
  - ✈ Heliport
  - ✈ Seaplane Base
  - ✈ Air Field
  - ✈ Airport
  - ✈ Air Feature - Condition Unknown
  - ✈ Airport.Abandoned
- Transportation - Lines (1:250K)
  - ✈ Ferry Route
  - ✈ Aerial Cableway
  - ✈ Road (Gravel Undivided) - 1 Lane
  - ✈ Road (Gravel Undivided) - 3 Lanes
  - ✈ Road - Paved.lanes.2or More.Divided
  - ✈ Road (Paved Undivided) - Not Elevated - 1 Lane
  - ✈ Road (Paved Undivided) - Not Elevated - 2 Lanes
  - ✈ Road - Paved.lanes.3or More.Undivided
  - ✈ Road (Unimproved)
  - ✈ Road - Loose.access Dry Weather
  - ✈ Road (Winter Road)
  - ✈ Road - Paved.lanes.2.Undivided
  - ✈ Road - Paved.lanes.2.Undivided.U/C
  - ✈ Road - Paved.Divided.access.Non Standard
  - ✈ Track - Cart/Tractor
  - ✈ Causeway (Railway)
  - ✈ Cut (Roadway)
  - ✈ Trail
  - ✈ Tunnel
  - ✈ Bridge
  - ✈ Rail Line - Narrow Gauge - Single Track



Scale: 1:929,947

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# OVERVIEW GEOLOGY, MINFILES, AND SILVERGAL SHOWING

**MINFILE 082M 066**

**EBP WHITE ROCK**  
(DL4043 KDYD WHITE ROCK MC)

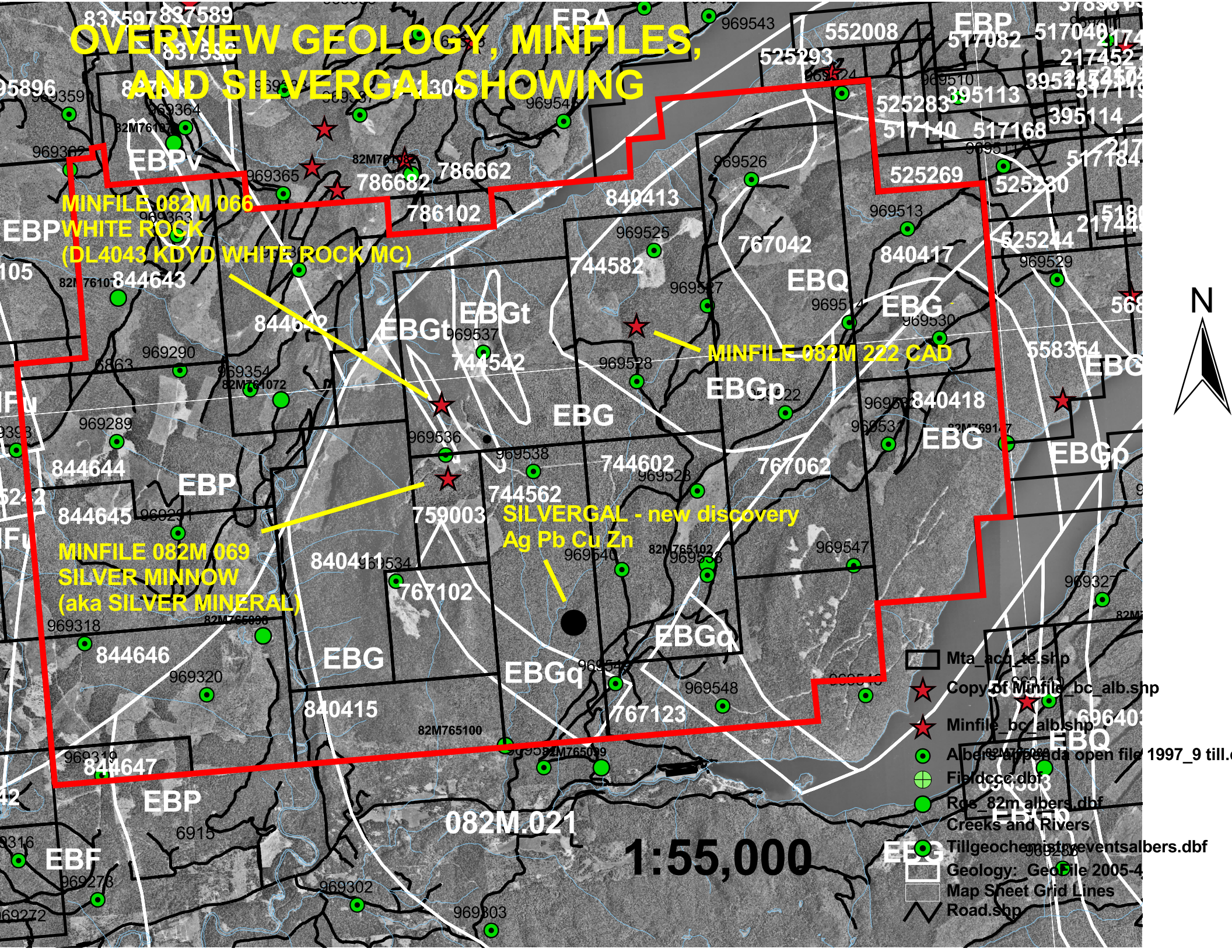
MINFILE 082M 222 CAD

**SILVERGAL - new discovery**  
Ag Pb Cu Zn

MINFILE 082M 069  
SILVER MINNOW  
(aka SILVER MINERAL)

082M.021

1:55,000



N

**OVERVIEW OF HAND TRENCHES, SAMPLES, ICE DIRECTION, PROSPECTING WAYPOINTS**

The map displays a detailed view of the Barrow, Alaska area, showing a network of roads and a grid of coordinates. A red boundary outlines a specific region of interest. Various labels are scattered across the map, including EBP, EBG, EBGt, EBGp, EBGq, and EBGg. A scale bar at the bottom right indicates a scale of 1:55,000. The map also shows a network of roads and a grid of coordinates.

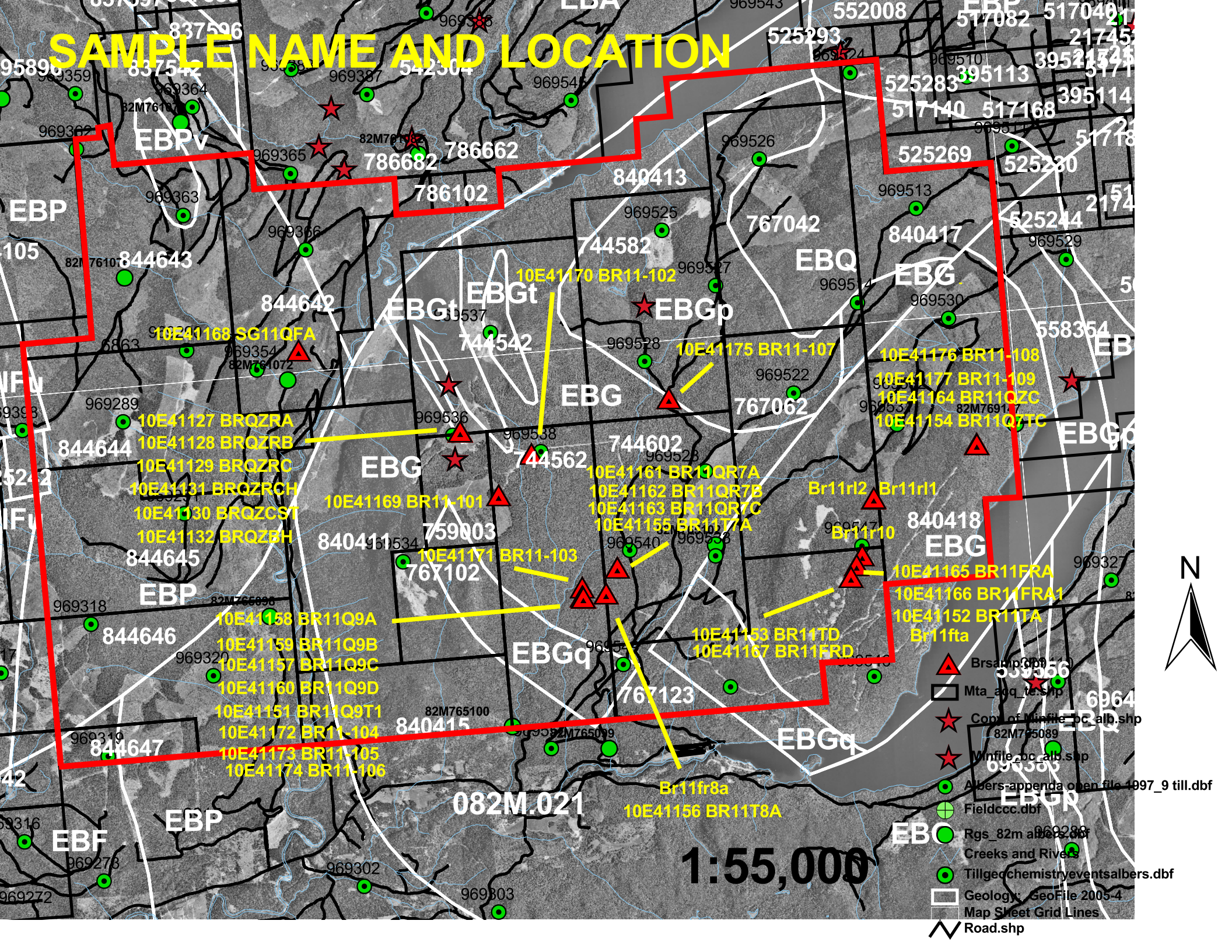


1:55,000

<b>BARRIERE RIDGE:</b>									
<b>LIST OF SAMPLES, GPS (UTM NAD83) COORDINATES, and ASSAY CERTIFICATES</b>									
Includes sample type, detailed description, and elevation (metres).									
ALL ASSAY RESULTS BY ECO TECH LABORATORY LTD - ALEX STEWART GROUP - KAMLOOPS, B.C.									
<b>TOTAL NUMBER OF ROCK SAMPLES = 32</b>					<b>TOTAL NUMBER OF SOIL SAMPLES = 6</b>				
<b>TOTAL NUMBER OF ROCK SAMPLES ASSAYED = 27</b>									
<b>TOTAL ROCK SAMPLES NOT ASSAYED = 5</b>									
Sample Tag	Assay Certificate	Sample Type	Field Sample Name	GPS Waypoint	Zone	Easterly	Northerly	Elevation (m)	Comments
10E41127 BRQZRA	AK2010-1339i.xls	rock	BRQZRA	Brqzra	11	297821.150	5686270.439	1291	parallel quartz veins, saliceous cherty host.
10E41128 BRQZRB	AK2010-1339i.xls	rock	BRQZRB	Brqzra	11	297821.150	5686270.439	1291	parallel quartz veins, saliceous cherty host.
10E41129 BRQZRC	AK2010-1339i.xls	rock	BRQZRC	Brqzra	11	297821.150	5686270.439	1291	parallel quartz veins, saliceous cherty host.
10E41130 BRQZCST	AK2010-1339i.xls	rock	BRQZCST	Brqzra	11	297821.150	5686270.439	1291	stockwork, parallel quartz veins, saliceous cherty host.
10E41131 BRQZRCH	AK2010-1339i.xls	rock	BRQZRCH	Brqzra	11	297821.150	5686270.439	1291	channel sample, parallel quartz veins, saliceous cherty host.
10E41132 BRQZBH	AK2010-1339i.xls	rock	BRQZBH	Brqzra	11	297821.150	5686270.439	1291	host rock for parallel quartz veins, saliceous cherty host.
10E41157 BR11Q9C	AK 2011-0690i.xls	rock	BR11Q9C	Br11q9a	11	299086.182	5684025.205	1030	SILVERGAL, select grab with galena in qtz
10E41158 BR11Q9A	AK 2011-0690i.xls	rock	BR11Q9A	Br11q9a	11	299086.182	5684025.205	1030	SILVERGAL, Limestone with quartz vein 6m wide near vertical dip, 350deg Az, somewhat U shaped, veinlets
10E41159 BR11Q9B	AK 2011-0690i.xls	rock	BR11Q9B	Br11q9a	11	299086.182	5684025.205	1030	SILVERGAL, Limestone with qtz veinlets 1.5cm mostly parallel but crossing over, malachite
10E41160 BR11Q9D	AK 2011-0690i.xls	rock	BR11Q9D	Br11q9a	11	299086.182	5684025.205	1030	SILVERGAL, qtz vein with malachite, dark unknown mineral, and chalcopryrite
10E41161 BR11QR7A	AK 2011-0690i.xls	rock	BR11QR7A	Br11qr7	11	299554.267	5684344.005	1071	qtz vein and limestone

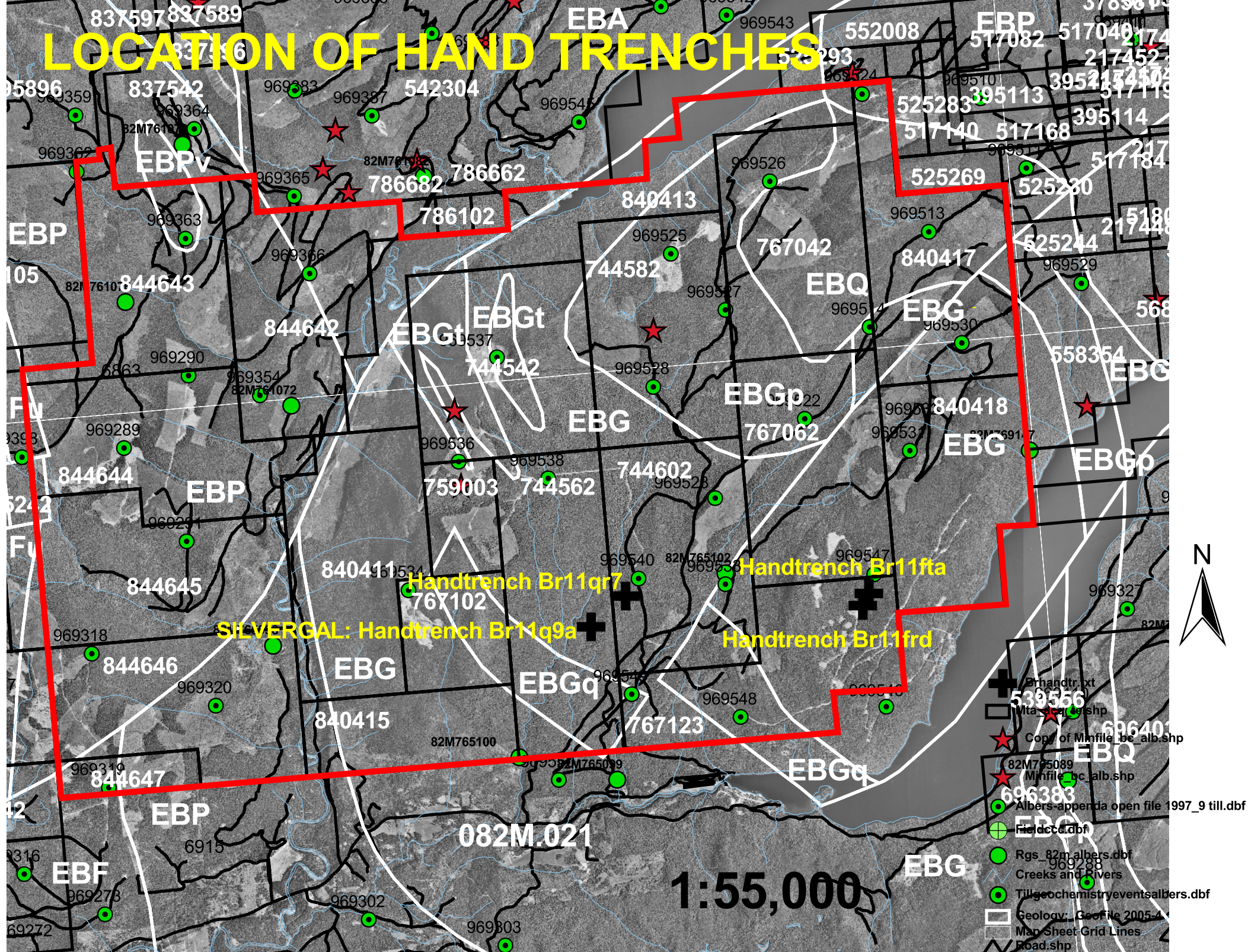
Sample Tag	Assay Certificate	Sample Type	Field Sample Name	GPS Waypoint	Zone	Easterly	Northerly	Elevation (m)	Comments
10E41162 BR11QR7B	AK 2011-0690i.xls	rock	BR11QR7B	Br11qr7	11	299554.267	5684344.005	1071	qtz vein and limestone
10E41163 BR11QR7C	AK 2011-0690i.xls	rock	BR11QR7C	Br11qr7	11	299554.267	5684344.005	1071	qtz vein and limestone
10E41164 BR11QZC	AK 2011-0690i.xls	rock	BR11QZC	Br11qzc	11	304200.058	5685308.836	797	qtz vein with malachite
10E41165 BR11FRA	AK 2011-0690i.xls	rock	BR11FRA	Br11fta	11	302524.028	5684002.303	1017	sulfides in float boulder
10E41166 BR11FRA1	AK 2011-0690i.xls	rock	BR11FRA1	Br11fta	11	302524.028	5684002.303	1017	sulfides in float boulder
10E41167 BR11FRD	AK 2011-0690i.xls	rock	BR11FRD	Br11frd	11	302434.314	5683863.523	1009	massive sulphides in small float rock.
10E41168 SG11QFA	AK 2011-0690i.xls	rock	SG11QFA	Sg11qfa	11	295944.838	5687523.846	676	quartz float, scattered quartz in soils.
10E41169 BR11-101	AK 2011-0689i.xls	rock	BR11-101	Br11-101	11	298196.886	5685424.641	1186	Float, qtz vein and vein breccia material
10E41170 BR11-102	AK 2011-0689i.xls	rock	BR11-102	Br11-102	11	298668.798	5685885.184	1217	White bull qtz vein, Lm ox boxworks after py
10E41171 BR11-103	AK 2011-0689i.xls	rock	BR11-103	Br11-103	11	299091.615	5684155.116	1039	Silver Gal showing, milky qtz stockwork in sub/outcrop veins to 3cm, little to no sulphide, zone appears to strike 180
10E41172 BR11-104	AK 2011-0689i.xls	rock	BR11-104	Br11-104	11	299077.725	5684044.362	1029	Bull qtz, milky white qtz only, vein material sourced from Silver Gal showing
10E41173 BR11-105	AK 2011-0689i.xls	rock	BR11-105	Br11-105	11	299078.000	5684044.000	1029	milky white bull qtz stockwork (veins to 3cm) within altered limestone
10E41174 BR11-106	AK 2011-0689i.xls	rock	BR11-106	Br11-106	11	299082.417	5684043.683	1026	Qtz subcrop/grab sample, miky qtz with rare veneer of malachite/azurite +/- minor diss py
10E41175 BR11-107	AK 2011-0689i.xls	rock	BR11-107	Br11-107	11	300458.331	5686353.858	1148	Flat 10cm Qtz vein within eagle bay sed. White, milky, rare py,
10E41176 BR11-108	AK 2011-0689i.xls	rock	BR11-108	Br11-108	11	304198.000	5685310.000	797	Yellowish, Lm stained bull quartz v subcrop in low roadcut. Some py pseudomorphs + rare fresh py +/- asp.

Sample Tag	Assay Certificate	Sample Type	Field Sample Name	GPS Waypoint	Zone	Easterly	Northerly	Elevation (m)	Comments
10E41177 BR11-109	AK 2011-0689i.xls	rock	BR11-109	Br11-109	11	304197.000	5685311.000	797	western of the two veins, Yellowish, Lm stained bull quartz v subcrop in low roadcut. Some py pseudomorphs + rare fresh py +/- asp.
	not assayed	rock	Br11fr8a	Br11fr8a	11	299375.063	5684040.698	1047	pyrite in qtz float
	not assayed	rock	Br11r10	Br11r10	11	302607.470	5684114.121	1016	green chlorite schist with pyrite in one location
	not assayed	rock	Br11fta	Br11fta	11	302524.028	5684002.303	1017	grab small rusty quartz adjacent to sulfide float rocks
	not assayed	rock	Br11rl1	Br11rl1	11	302833.734	5684797.306	1038	grab sample numerous rocks, limestone finger, massive green chlorite schist host
	not assayed	rock	Br11rl2	Br11rl2	11	302838.773	5684803.841	1040	grab sample, dark coloured limestone with small veinlets across sidement layers
10E41151 BR11Q9T1	AK 2011-0676i.xls	soil	BR11Q9T1	Br11q9a	11	299086.182	5684025.205	1030	SILVERGAL, sample next to 10E41158 BR11Q9A
10E41152 BR11TA	AK 2011-0676i.xls	soil	BR11TA	Br11fta	11	302524.028	5684002.303	1017	sulfides in float rocks some torpedo shaped
10E41153 BR11TD	AK 2011-0676i.xls	soil	BR11TD	Br11frd	11	302434.314	5683863.523	1009	next to sulphide float rock
10E41154 BR11Q7TC	AK 2011-0676i.xls	soil	BR11Q7TC	Br11qzc	11	304200.058	5685308.836	797	quartz vein with malachite on road
10E41155 BR11T7A	AK 2011-0676i.xls	soil	BR11T7A	Br11qr7	11	299554.267	5684344.005	1071	soil sample over 2.3 m channel
10E41156 BR11T8A	AK 2011-0676i.xls	soil	BR11T8A	Br11fr8a	11	299375.063	5684040.698	1047	rusty stones in basal till quartz float

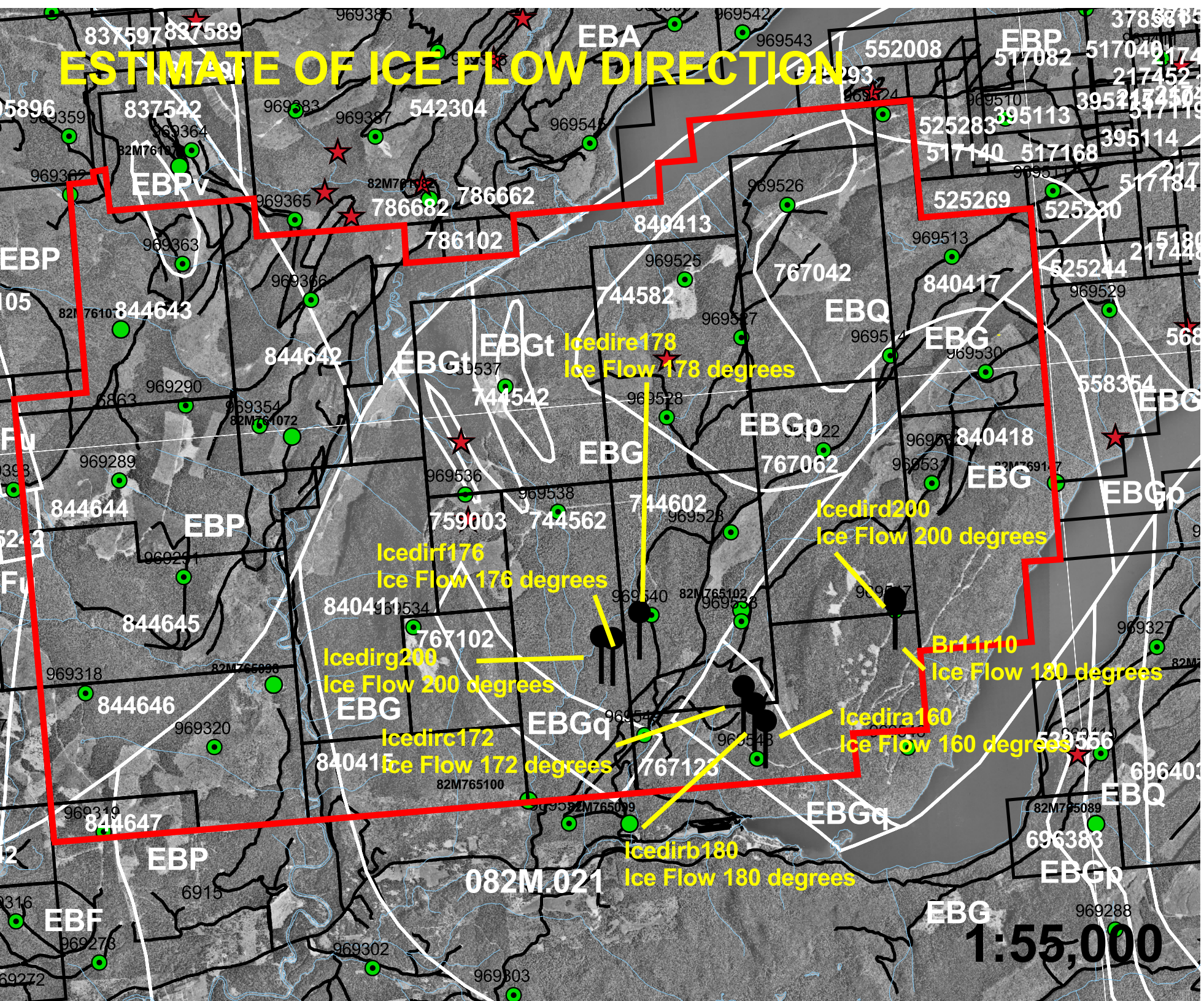
[illegible]

<b>BARRIERE RIDGE:</b>							
<b>LIST OF HAND TRENCH LOCATIONS</b>							
GPS readings NAD 83							
GPS Waypoint Name	Zone	Easterly	Northerly	Elevation (metres)	Trench Name	Trench Size	COMMENT
Br11qr7	11	299554.267	5684344.005	1071		2.3m x 1.2m x 0.6 m	hand trench 2.3m x 1.2m x 0.6 m
Br11q9a	11	299086.182	5684025.205	1030	SILVERGAL	1.35m x 0.3m x 0.2m	SILVERGAL, Sample 10E41160 BR11Q9D at hand trench 1.35m x 0.3m x 0.2m
Br11fta	11	302524.028	5684002.303	1017		1.5m x 0.8m x 0.2 m	hand trench 1.5m x 0.8m x 0.2 m
Br11frd	11	302434.314	5683863.523	1009		0.9m x 0.4m x 0.3 m	hand trench 0.9m x 0.4m x 0.3 m
<b>BARRIERE RIDGE:</b>							
<b>LIST OF ICE FLOW DIRECTION AND LOCATIONS</b>							
Estimated Ice flow direction measured in degrees azimuth with hand held Ranger Silva Compass.							
The average ice direction on east half of BARRIERE RIDGE claims is 180.75 degrees.							
GPS readings NAD 83							
GPS Waypoint Name	Zone	Easterly	Northerly	Elevation (metres)	Estimated Ice Flow Direction (degrees)		
Icedira160	11	300902.996	5682910.429	1062	160		
Icedirb180	11	300796.566	5683132.131	1051	180		
Icedirc172	11	300694.078	5683353.327	1068	172		
Icedird200	11	302611.950	5684165.017	1024	200		
Icedire178	11	299577.267	5684380.446	1080	178		
Icedirf176	11	299222.781	5684111.385	1070	176		
Icedirg200	11	299092.808	5684149.572	1044	200		
Br11r10	11	302607.470	5684114.121	1016	180		
Note: No samples collected on west half of BARRIERE RIDGE claims.							

# LOCATION OF HAND TRENCHES

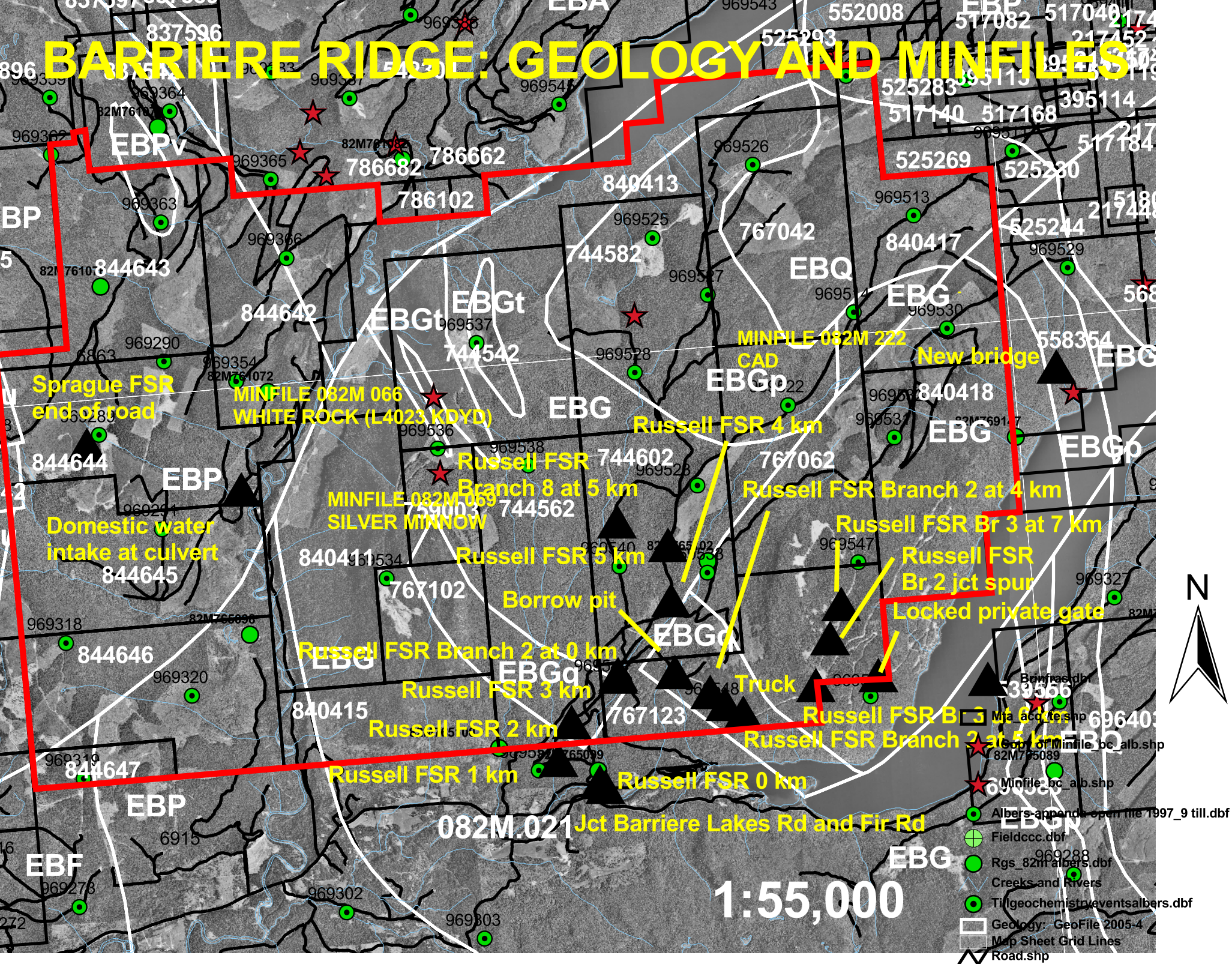


# ESTIMATE OF ICE FLOW DIRECTION



<b>BARRIERE RIDGE:</b>					
<b>LIST OF INFRASTRUCTURE LOCATIONS</b>					
<b>Road Junctions, Kilometer signs, Water Structures, Borrow Pits, Private Gate.</b>					
GPS readings NAD 83					
GPS Waypoint Name	Zone	Easterly	Northerly	Elevation (metres)	Comment
Ebgp Pit	11	300637.613	5682893.204	984	Borrow pit Eagle Bay rock, just past 4km sign on Russell FSR Branch 2
Lockedgate	11	302688.719	5682842.725	730	Locked private gate at Barriere Ridge Estates 1-866-374-9754
Russ 0km	11	299170.048	5681979.930	631	Russell FSR 0 km
Russ 1km	11	298704.537	5682305.996	693	Russell FSR 1 km
Russ 2km	11	298920.896	5682746.051	798	Russell FSR 2 km
Russ 3km	11	299550.036	5683219.243	912	Russell FSR 3 km
Russ Br2 0km	11	299552.620	5683244.416	909	Russell FSR Branch 2 at 0 km
Russ Br8 5km	11	299771.824	5685085.661	1093	Russell FSR Branch 8 at 5 km
Russellmain5KM	11	300349.521	5684727.600	1024	Russell FSR 5 km
Russellmain4KM	11	300304.858	5684054.420	1000	Russell FSR 4 km
Jct Br2andSPUR	11	302161.010	5683359.026	971	Russell FSR Branch 2 jct with spur road
Fir Rd Jct	11	299226.480	5681913.916	629	Junction of Barriere Lakes Public Road and Fir Public Road; main access to east half of BARRIERE RIDGE claims. About 100 metres north along road to 0 km sign Russell (main) FSR.
Branch2 4KM	11	300240.183	5683187.407	963	Russell FSR Branch 2 at 4 km
Branch2 5KM	11	301004.480	5682595.239	1002	Russell FSR Branch 2 at 5 km
Branch3 6Km	11	301920.392	5682817.353	955	Russell FSR Branch 3 at 6 km
Branch3 7KM	11	302347.307	5683750.557	1003	Russell FSR Branch 3 at 7 km
BridgeBranch4	11	305302.107	5686279.091	698	New bridge installation, not in BARRIERE RIDGE claims
Waterintake	11	295291.754	5686039.157	652	Spague FSR, domestic water intake at culvert in creek, small pond area above culvert, plastic water pipe and related structures in creek bed.
Sraugejctend1	11	293498.103	5686808.189	1201	Sprague FSR end of road, upper end of Sprague Creek.
Truck	11	300797.079	5682727.497	995	Russell FSR Branch 2, spur road junction to left off main road, brushed in.

# BARRIER RIDGE: GEOLOGY AND MINFILES



BARRIERE RIDGE							
LIST OF ROCK ANOMALIES							
UTM NAD83							
Sample Tag	Waypoint	Zone	Easterly	Northerly	Elevation (metres)	Rock Anomalies	COMMENT
<b>1. HIGHLY ANOMALOUS</b>							
10E41157 BR11Q9C	Br11q9a	11	299086.182	5684025.205	1030	Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 202 ppm, S 1.69 percent, Se 110 ppm	SILVERGAL, select grab with galena in qtz
10E41157 BR11Q9C repeat	Br11q9a	11	299086.182	5684025.205	1030	Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 208 ppm, S 1.78 percent, Se 110 ppm	SILVERGAL, select grab with galena in qtz
10E41157 BR11Q9C resplit	Br11q9a	11	299086.182	5684025.205	1030	Ag 220 g/t, Pb 12.4 percent, Bi 285 ppm, Cr 226 ppm, S 1.80 percent, Se 120 ppm	SILVERGAL, select grab with galena in qtz
10E41160 BR11Q9D	Br11q9a	11	299086.182	5684025.205	1030	Au 30 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb >2000 ppm, Zn 3076 ppm	SILVERGAL, qtz vein with malachite, dark unknown mineral, and chalcopryrite
10E41160 BR11Q9D	Br11q9a	11	299086.182	5684025.205	1030	Au 25 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 795 ppm, Sb >2000 ppm, Zn 3076 ppm	SILVERGAL, qtz vein with malachite, dark unknown mineral, and chalcopryrite
10E41158 BR11Q9A	Br11q9a	11	299086.182	5684025.205	1030	Au 20 ppb, Ag 5.8 g/t, Bi 5 ppm, Cr 232 ppm, Pb 2250 ppm	SILVERGAL, Limestone with quartz vein 6m wide near vertical dip, 350deg Az, somewhat U shaped, veinlets
<b>2. ANOMALOUS</b> (interesting results)							
10E41172 BR11-104	Br11-104	11	299077.725	5684044.362	1029	Ag 27.2 ppm g/t, Cu 244 ppm	Bull qtz, milky white qtz only, vein material sourced from Silver Gal showing
10E41174 BR11-106	Br11-106	11	299082.417	5684043.683	1026	Ag 6.8 ppm, Ca > 10 percent, Cu 428 ppm, Mg 8.88 percent, P 1080 ppm, Sb 245 ppm, Zn 176 ppm	Qtz subcrop/grab sample, miky qtz with rare veneer of malachite/azurite +/- minor diss py

Sample Tag	Waypoint	Zone	Easterly	Northerly	Elevation (metres)	Rock Anomalies	COMMENT
<b>3. ANOMALOUS FOR IRON AND SULFER, AND WITH SOME METALS</b>							
10E41165 BR11FRA	Br11fta	11	302524.028	5684002.303	1017	Au 10 ppb, Bi 5 ppm, Cu 274 ppm, Fe 8.45 percent, S 2.72 percent	sulfides in float boulder
10E41166 BR11FRA1	Br11fta	11	302524.028	5684002.303	1017	Au 15 ppb, Bi 15 ppm, Cu 482 ppm, Fe >10 percent, S 4.56 percent	sulfides in float boulder
10E41166 BR11FRA1 repeat	Br11fta	11	302524.028	5684002.303	1017	Au 15 ppb, Bi 15 ppm, Cu 508 ppm, Fe >10 percent, S 5.06 percent	sulfides in float boulder
10E41167 BR11FRD	Br11frd	11	302434.314	5683863.523	1009	Au 10 ppb, Ag 0.4 ppm, Bi 15 ppm, Co 566 ppm, Cu 230 ppm, Fe >10 percent, S 6.67 percent	massive sulphides in small float rock.
<b>3. ANOMALOUS FOR CALCIUM, MAGNESIUM, AND PHOSPOROUS (only) - see also 10E41174 BR11-106 above</b>							
10E41130 BRQZCST	Brqzra	11	297821.150	5686270.439	1291	Ca > 10 percent, Mg >10 percent, P 6050 ppm	stockwork, parrellel quartz veins, saliceous cherty host.
10E41131 BRQZRCH	Brqzra	11	297821.150	5686270.439	1291	Ca > 10 percent, Mg >10 percent, P 3380 ppm	channel sample, parrellel quartz veins, saliceous cherty host.
10E41132 BRQZBH	Brqzra	11	297821.150	5686270.439	1291	Ca > 10 percent, Mg >10 percent, P 2340 ppm	host rock for parrellel quartz veins, saliceous cherty host.
10E41159 BR11Q9B	Br11q9a	11	299086.182	5684025.205	1030	Au 10 ppb, Ca > 10 percent, Mg 7.49 percent, P 2220 ppm	SILVERGAL, Limestone with qtz veinlets 1.5cm mostly parallel but crossing over, malachite
10E41173 BR11-105	Br11-105	11	299078.000	5684044.000	1029	Ag 1.2 ppm, Ca > 10 percent, Mg 7.37 percent, P 2210 ppm, Zn 228 ppm	milky white bull qtz stockwork (veins to 3cm) within altered limestone

<b>BARRIERE RIDGE</b>							
<b>LIST OF SOIL SAMPLE ANOMALIES - 90 PERCENTILE BASED ON OPEN FILE 1997-9</b>							
UTM NAD 83							
Sample Tag	Waypoint	Zone	Easterly	Northerly	Elevation (metres)	Soil Anomalies at 90 percentile	COMMENT
10E41151 BR11Q9T1	Br11q9a	11	299086.182	5684025.205	1030	Au 5 ppb, Ag 0.6 ppm, Mo 3 ppm, Pb 417 ppm, Zn 222 ppm	SILVERGAL, next to rock sample 10E41158 BR11Q9A
10E41151 BR11Q9T1 Repeat	Br11q9a	11	299086.182	5684025.205	1030	Au 5 ppb, Ag 0.6 ppm, Mo 3 ppm, Pb 417 ppm, Zn 222 ppm	SILVERGAL, next to rock sample 10E41158 BR11Q9A
10E41156 BR11T8A repeat	Br11fr8a	11	299375.063	5684040.698	1047	Au 30 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm	200 metres east of SILVERGAL; rusty stones in basal till
10E41156 BR11T8A	Br11fr8a	11	299375.063	5684040.698	1047	Au 20 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm	200 metres east of SILVERGAL; rusty stones in basal till
10E41155 BR11T7A	Br11qr7	11	299554.267	5684344.005	1071	Au 10 ppb, Ag 0.2 ppm, Mo 9 ppm, Pb 51 ppm	570 meters north east of SILVERGAL, next to rock sample 10E41161 BR11QR7A, soil sample over 2.3 m channel

# ROCK ANOMALIES

10E41130 BRQZCST Ca > 10 percent,  
Mg > 10 percent, P 6050 ppm  
10E41131 BRQZBCH Ca > 10 percent,  
Mg > 10 percent, P 3380 ppm  
10E41132 BRQZBH Ca > 10 percent,  
Mg > 10 percent, P 2340 ppm  
10E41159 BR11Q9B:  
Au 10 ppb, Ca > 10 percent,  
Mg 7.49 percent, P 2220 ppm

10E41167 BR11FRD: Au 10 ppb,  
Ag 0.4 ppm, Bi 15 ppm, Co 566 ppm,  
Cu 230 ppm, Fe > 10 percent, S 6.67 percent

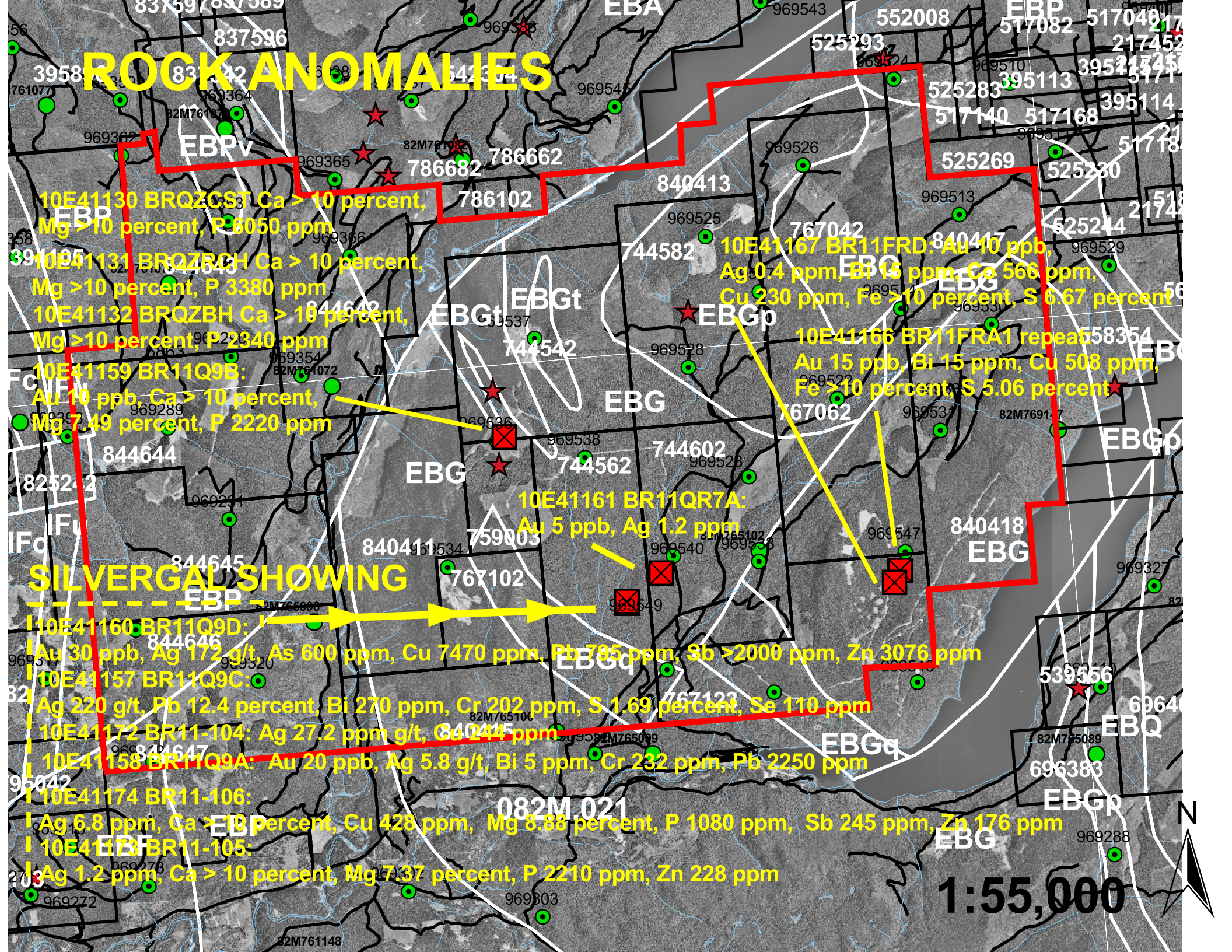
10E41166 BR11FRA1 repeat  
Au 15 ppb, Bi 15 ppm, Cu 508 ppm,  
Fe > 10 percent, S 5.06 percent

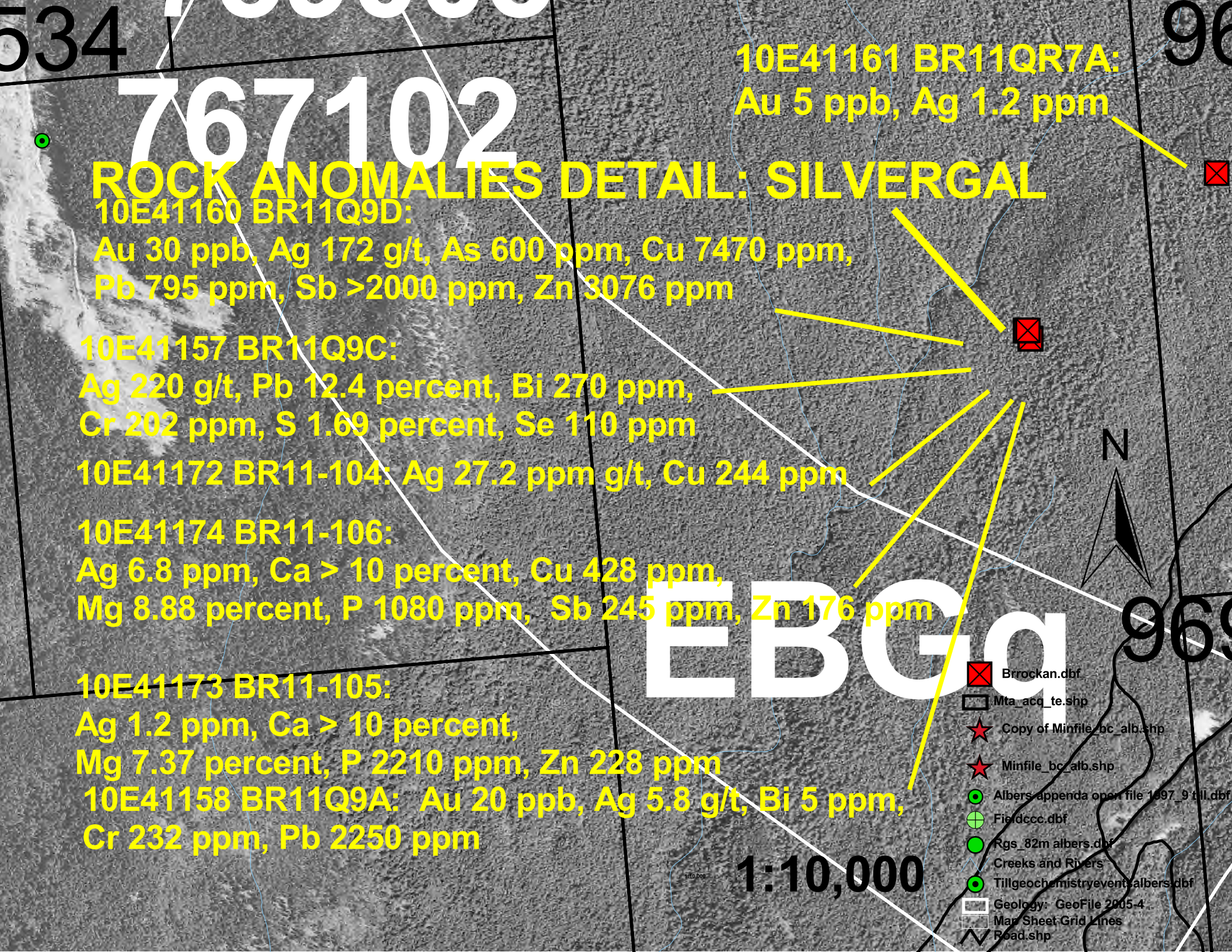
10E41161 BR11QR7A:  
Au 5 ppb, Ag 1.2 ppm

## SILVERGAL SHOWING

10E41160 BR11Q9D:  
Au 30 ppb, Ag 172 g/t, As 600 ppm, Cu 7470 ppm, Pb 785 ppm, Sb > 2000 ppm, Zn 3076 ppm  
10E41157 BR11Q9C:  
Ag 220 g/t, Pb 12.4 percent, Bi 270 ppm, Cr 202 ppm, S 1.69 percent, Se 110 ppm  
10E41172 BR11-104: Ag 27.2 ppm g/t, Cu 244 ppm  
10E41158 BR11Q9A: Au 20 ppb, Ag 5.8 g/t, Bi 5 ppm, Cr 232 ppm, Pb 2250 ppm  
10E41174 BR11-106:  
Ag 6.8 ppm, Ca > 10 percent, Cu 428 ppm, Mg 8.88 percent, P 1080 ppm, Sb 245 ppm, Zn 176 ppm  
10E41173 BR11-105:  
Ag 1.2 ppm, Ca > 10 percent, Mg 7.37 percent, P 2210 ppm, Zn 228 ppm

1:55,000

















# ROCK ANOMALIES DETAIL: SOUTH EAST CORNER

969547 840418  
EBG

1:10,000

10E41166 BR11FRA1 repeat:  
Au 15 ppb, Bi 15 ppm, Cu 508 ppm,  
Fe >10 percent, S 5.06 percent

10E41167 BR11FRD: Au 10 ppb,  
Ag 0.4 ppm, Bi 15 ppm, Co 566 ppm,  
Cu 230 ppm, Fe >10 percent, S 6.67 percent

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-  Copy of Minfile\_bc\_alb.shp
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-  Albers-appendix open file 1997\_9 till.dbf
-  Fieldccc.dbf
-  Rgs\_82m albers.dbf
-  Creeks and Rivers
-  Tillgeochemistryeventsalbers.dbf
-  Geology: GeoFile 2005-4
-  Map Sheet Grid Lines
-  Road.shp



# ROCK ANOMALIES DETAIL: NORTH WEST CORNER

744542

969536

9695

744

EBG

- Brrockan.dbf
- Mta\_acd\_e.shp
- Copy of Minfile\_bc\_alb.shp
- Minfile\_bc\_alb.shp
- Albers-append open file 1997\_9 till.dbf
- Fieldccc.dbf
- Rgs\_82m albers.dbf
- Creeks and Rivers
- Tillgeochemistryeventsalbers.dbf
- Geology: GeoFile 2005-4
- Map Sheet Grid Lines
- Road.shp

10E41130 BRQZCST Ca > 10 percent,  
Mg >10 percent, P 6050 ppm

10E41131 BRQZRCH Ca > 10 percent,  
Mg >10 percent, P 3380 ppm

10E41132 BRQZBH Ca > 10 percent,  
Mg >10 percent, P 2340 ppm

10E41159 BR11Q9B:  
Au 10 ppb, Ca > 10 percent,  
Mg 7.49 percent, P 2220 ppm

1:10,000

759003

767102

# SOIL ANOMALY DETAIL: SILVERGAL AND ADJACENT SITES

10E41155 BR11T7A:

Au 10 ppb, Ag 0.2 ppm, Mo 9 ppm, Pb 51 ppm

10E41156 BR11T8A repeat:

Au 30 ppb, Ag 0.2 ppm, Mo 2 ppm, Pb 39 ppm

## SILVERGAL SHOWING












10E41151 BR11Q9T1:

Au 5 ppb, Ag 0.6 ppm, Mo 3 ppm, Pb 417 ppm, Zn 222 ppm

EBGq

9695

1:10,000

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-  Rgs\_82m albers.dbf
-  Creeks and Rivers
-  Tillgeochemistryeventsalbers.dbf
-  Geology: GeoFile 2005-4
-  Map Sheet Grid Lines
-  Road.shp

# SOIL ANOMALY DETAIL: SOUTH EAST CORNER

840418  
EB

10E41153 BR11TD Au 10 ppb, Cu 108 ppm, Pb 27 ppm

- Brsoilan.dbf
- Mt\_acq\_te.shp
- Copy of Minfile\_bc\_alb.shp
- Minfile\_bc\_alb.shp
- Albers-appendix open file 1997\_9 till.dbf
- Fieldccc.dbf
- Rgs\_82m albers.dbf
- Creeks and Rivers
- Tillgeochemistryeventsalbers.dbf
- Geology: GeoFile 2005-4
- Map Sheet Grid Lines
- Road.shp

969546

1:10,000



## **Analytical Procedure Assessment Report**

Eco Tech Laboratory Ltd. is registered for ISO 9001:2008 by KIWA International (TGA-ZM-13-96-00) for the “provision of assay, geochemical and environmental analytical services”. Eco Tech also Participates in the annual Canadian Certified Reference Materials Project (CCRMP) and Geostats Pty bi-annual round robin testing programs. The laboratory operates an extensive quality control/quality assurance program, which covers all stages of the analytical process from sample preparation through to sample digestion and instrumental finish and reporting.

### **SAMPLE PREPARATION (codes vary)**

Samples (minimum sample size 250g) are catalogued and logged into the sample-tracking database. During the logging in process, samples are checked for spillage and general sample integrity. It is verified that samples match the sample shipment requisition provided by the clients. The samples are transferred into a drying oven and dried.

Soils are prepared by sieving through an 80-mesh screen to obtain a minus 80-mesh fraction. Samples unable to produce adequate minus 80-mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh.

Rock samples are crushed on a Terminator jaw crusher to -10 mesh ensuring that 70% passes through a Tyler 10 mesh screen.

Every 35 samples a re-split is taken using a riffle splitter to be tested to ensure the homogeneity of the crushed material.

A 250 gram sub sample of the crushed material is pulverized on a ring mill pulverizer ensuring that 95% passes through a -150 mesh screen. The sub sample is rolled, homogenized and bagged in a pre-numbered bag.

A barren gravel blank is prepared before each job in the sample prep to be analyzed for trace contamination along with the processed samples.

### **GOLD FIRE ASSAY: GEOCHEM (Au2-15,30,50)**

A 15/30/50 g sample size is fire assayed along with certified reference materials using appropriate fluxes. The flux used is pre-mixed, purchased from Anachemia which contains Cookson Granular Litharge. (Silver and Gold Free). The ratios are 66% Litharge, 24% Sodium Carbonate, 2.7% Borax, 7.3% Silica. (The charges may be adjusted based on the sample). Flux weight per fusion is 150g. Purified Silver Nitrate or inquarts for the necessary silver addition is used for inquartation. The resultant dore bead is parted and then digested with nitric acid followed by hydrochloric acid solutions and then analyzed on an atomic absorption instrument (Perkin Elmer/Thermo S-Series AA instrument).

Over-range geochem values (Detection limit 5-1000ppb) for rocks are re-analyzed using gold assay methods (see below).

Appropriate certified reference material and repeat/re-split samples (Quality Control Components) accompany the samples on the data sheet for quality control assessment.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are emailed, faxed or mailed to the clients.



## ICP-AES AQUA REGIS DIGESTION (AR-ES)



A 0.5 gram sample is digested with a 3:1:2 (HCl: HNO<sub>3</sub>: H<sub>2</sub>O ) solution in a water bath at 95°C. The sample is then diluted to 10ml with water. All solutions used during the digestion process contain beryllium, which acts as an internal standard for the ICP run. The sample is analyzed on a Thermo IRIS Intrepid II XSP ICP unit. Certified reference material is used to check the performance of the machine and to ensure that proper digestion occurred in the wet lab. QC samples are run along with the client samples to ensure no machine drift occurred or instrumentation issues occurred during the run procedure. Repeat samples (every batch of 10 or less) and re-splits (every batch of 35 or less) are also run to ensure proper weighing and digestion occurred.

Results are collated by computer and are printed along with accompanying quality control data (repeats, re-splits, and standards). Any of the base metal elements (Ag, Cu, Pb, Zn) that are over limit (>1.0%) are immediately run as an ore grade assay (see protocol below).

Results are emailed, faxed or mailed to the clients.

### Detection Limits:

Element	Unit	LDL	Element	Unit	LDL
<b>Ag</b>	ppm	0.5	<b>Mn</b>	ppm	5
<b>Al *</b>	%	0.01	<b>Mo</b>	ppm	1
<b>As</b>	ppm	5	<b>Na *</b>	%	0.01
<b>Ba *</b>	ppm	2	<b>Ni</b>	ppm	1
<b>Be *</b>	ppm	1	<b>P</b>	%	0.001
<b>Bi</b>	ppm	5	<b>Pb</b>	ppm	3
<b>Ca *</b>	%	0.01	<b>S *</b>	%	0.01
<b>Cd</b>	ppm	1	<b>Sb *</b>	ppm	5
<b>Co</b>	ppm	1	<b>Sn *</b>	ppm	5
<b>Cr *</b>	ppm	2	<b>Sr *</b>	ppm	2
<b>Cu</b>	ppm	2	<b>Ti *</b>	ppm	10
<b>Fe *</b>	%	0.01	<b>U</b>	ppm	5
<b>Hg</b>	ppm	5	<b>V</b>	ppm	2
<b>K *</b>	%	0.01	<b>W *</b>	ppm	5
<b>La *</b>	ppm	2	<b>Y *</b>	ppm	1
<b>Li *</b>	ppm	2	<b>Zn</b>	ppm	2
<b>Mg *</b>	%	0.01			

**\*Elements marked with an asterisk\* may not be totally digested**

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www.stewartgroupglobal.com



**StewartGroup**  
Geochemical & Assay

## **CERTIFICATE OF ANALYSIS AK 2010-1339**

**David J. Piggin**  
91-137 McGill Rd  
**Kamloops, BC**  
V2C 1L9

13-Jan-11

*No. of samples received: 6*  
*Sample Type: Rock*  
**Project: Barriere Ridge**  
**Shipment #:Not Indicated**  
*Submitted by:David Piggin*

ET #.	Tag #	Au ppb
1	10E41127 BRQZRA	5
2	10E41128 BRQZRB	<5
3	10E41129 BRQZRC	<5
4	10E41130 BRQZCST	<5
5	10E41131 BRQZRCH	<5
6	10E41132 BRQZBH	5

### **QC DATA:**

#### ***Repeat:***

1	10E41127 BRQZRA	<5
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#### ***Resplit:***

1	10E41127 BRQZRA	<5
---	-----------------	----

#### ***Standard:***

OXE74	605
-------	-----

NM/ap  
XLS/10

  
**ECO TECH LABORATORY LTD.**  
Norman Monteith  
B.C. Certified Assayer

13-Jan-11

Stewart Group  
ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4  
[www.stewartgroupglobal.com](http://www.stewartgroupglobal.com)

ICP CERTIFICATE OF ANALYSIS AK 2010- 1339

David J. Piggin  
91-137 McGill Rd  
Kamloops, BC  
V2C 1L9

Phone: 250-573-5700  
Fax : 250-573-4557

No. of samples received: 6  
Sample Type: Rock  
Project: **Barriere Ridge**  
Shipment #: **Not Indicated**  
Submitted by: **David Piggin**

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al%	As	Ba	Be	Bi	Ca%	Cd	Co	Cr	Cu	Fe%	Hg	K%	La	Li	Mg%	Mn	Mo	Na%	Ni	P	Pb	S%	Sb	Sc	Se	Sn	Sr	Ti%	U	V	W	Y	Zn
1	10E41127 BRQZRA	<0.2	0.03	<5	30	<1	<5	3.69	<1	1	134	4	0.54	<5	<0.01	<2	<2	2.32	255	<1	<0.01	7	2060	9	0.04	<5	<1	<10	<5	80	<0.01	<5	4	<5	3	20
2	10E41128 BRQZRB	<0.2	<0.01	<5	2	<1	<5	0.84	<1	<1	238	4	0.26	<5	<0.01	<2	<2	0.24	45	<1	<0.01	5	80	3	<0.01	<5	<1	<10	<5	8	<0.01	<5	2	<5	<1	6
3	10E41129 BRQZRC	<0.2	<0.01	<5	<2	<1	<5	0.36	<1	<1	258	2	0.25	<5	<0.01	<2	<2	0.05	35	<1	<0.01	4	40	3	<0.01	<5	<1	<10	<5	6	<0.01	<5	<2	<5	<1	2
4	10E41130 BRQZCST	<0.2	0.03	<5	22	<1	<5	>10	<1	1	24	6	0.52	<5	<0.01	<2	2	>10	335	<1	0.01	8	6050	30	0.18	<5	<1	<10	<5	146	<0.01	<5	4	<5	7	40
5	10E41131 BRQZRCH	<0.2	0.02	5	14	<1	<5	>10	<1	2	8	2	0.62	<5	<0.01	<2	2	>10	330	<1	0.01	10	3380	12	0.19	<5	<1	<10	<5	150	<0.01	<5	4	<5	4	34
6	10E41132 BRQZBH	<0.2	0.02	<5	20	<1	<5	>10	<1	1	6	4	0.52	<5	<0.01	<2	2	>10	325	<1	0.01	8	2340	9	0.19	<5	<1	<10	<5	130	<0.01	<5	4	<5	4	40

**QC DATA:**

**Repeat:**

1	10E41127 BRQZRA	<0.2	0.03	<5	30	<1	<5	3.75	<1	1	134	4	0.55	<5	<0.01	<2	<2	2.31	255	<1	<0.01	7	2060	9	0.04	<5	<1	<10	<5	82	<0.01	<5	4	<5	3	20
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**Resplit:**

1	10E41127 BRQZRA	<0.2	0.03	<5	34	<1	<5	3.89	<1	1	130	4	0.56	<5	0.01	<2	<2	2.48	270	<1	<0.01	7	2110	9	0.04	<5	<1	<10	<5	84	<0.01	<5	4	<5	3	22
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**Standard:**

Pb129a	11.7	0.81	5	66	<1	<5	0.49	59	6	12	1432	1.58	<5	0.10	4	<2	0.68	380	3	0.03	5	410	6183	0.81	15	<1	<10	<5	32	0.05	<5	18	<5	2	>10000
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ICP: Aqua Regia Digest / ICP- AES Finish.  
Ag : Aqua Regia Digest / AA Finish.

NM/ap  
dt/1\_4876S  
XLS/10

  
ECO TECH LABORATORY LTD.  
Norman Monteith  
B.C. Certified Assayer

Eco Tech Laboratory Ltd  
10041 Dallas Drive  
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Fax: +1 250 573 4557  
www.stewartgroupglobal.com



**StewartGroup**  
Geochemical & Assay

## **CERTIFICATE OF ANALYSIS AK 2011-0676**

**Astral Mining Corp**  
Suite 404-999 Canada Pl  
**Vancouver, BC**  
V6C 3C1

6-Jun-11

*No. of samples received: 6*  
*Sample Type: Soil*  
**Project: Barriere Ridge**  
*Submitted by: David Piggitt*

ET #.	Tag #	Au (ppb)
1	10E41151 BR11Q9T1	5
2	10E41152 BR11TA	5
3	10E41153 BR11TD	10
4	10E41154 BR11Q7TC	5
5	10E41155 BR11T7A	10
6	10E41156 BR11T8A	20

### **QC DATA:**

#### ***Repeat:***

1	10E41151 BR11Q9T1	<5
6	10E41156 BR11T8A	30

#### ***Standard:***

OXG83	995
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### **FA/AA Finish**

NM/kk  
XLS/11

**ECO TECH LABORATORY LTD.**

Norman Monteith  
B.C. Certified Assayer

6-Jun-11

Stewart Group  
ECO TECH LABORATORY LTD.  
10041 Dallas Drive  
KAMLOOPS, B.C.  
V2C 6T4  
[www.stewartgroupglobal.com](http://www.stewartgroupglobal.com)

ICP CERTIFICATE OF ANALYSIS AK 2011-0676

Astral Mining Corp  
Suite 404-999 Canada Pl  
Vancouver, BC  
V6C 3C1

Phone: 250-573-5700  
Fax : 250-573-4557

No. of samples received: 6  
Sample Type: Soil  
Project: Barriere Ridge  
Submitted by: David Piggitt

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al%	As	Ba	Be	Bi	Ca%	Cd	Co	Cr	Cu	Fe%	Hg	K%	La	Li	Mg%	Mn	Mo	Na%	Ni	P	Pb	S%	Sb	Sc	Se	Sn	Sr	Ti%	U	V	W	Y	Zn
1	10E41151 BR11Q9T1	0.6	2.08	10	190	<1	<5	1.83	<1	14	38	48	4.00	<5	0.08	14	10	1.18	1095	3	0.02	39	2010	417	<0.01	5	6	<10	<5	20	0.08	<5	48	<5	15	222
2	10E41152 BR11TA	<0.2	1.22	<5	68	<1	<5	0.15	<1	21	70	60	2.51	<5	0.11	12	4	0.53	300	1	<0.01	48	310	18	0.01	<5	3	<10	<5	6	0.10	<5	36	<5	4	44
3	10E41153 BR11TD	<0.2	1.97	5	122	<1	<5	1.68	<1	28	98	108	4.10	<5	0.31	18	14	1.24	880	1	0.03	65	920	27	<0.01	<5	6	<10	<5	32	0.11	<5	66	<5	8	68
4	10E41154 BR11Q7TC	<0.2	1.13	<5	58	<1	<5	0.17	<1	15	34	54	3.45	<5	0.12	16	4	0.44	470	1	0.01	54	530	18	<0.01	<5	3	<10	<5	10	0.05	<5	28	<5	7	46
5	10E41155 BR11T7A	0.2	1.22	30	60	<1	<5	0.14	<1	18	32	88	4.29	<5	0.06	14	4	0.36	560	9	0.01	53	540	51	0.02	<5	7	<10	<5	10	0.03	<5	30	<5	4	80
6	10E41156 BR11T8A	0.2	1.47	15	74	<1	<5	3.69	<1	27	44	90	4.10	<5	0.16	18	8	0.88	865	2	0.02	51	1020	39	<0.01	<5	4	<10	<5	52	0.05	<5	44	<5	7	80

QC DATA:

Repeat:

1	10E41151 BR11Q9T1	0.6	2.08	10	190	<1	<5	1.83	<1	14	38	48	3.99	<5	0.08	14	10	1.16	1075	3	0.02	39	2050	417	<0.01	<5	6	<10	<5	20	0.08	<5	48	<5	14	224
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Standard:

PB129a	1.4	1.13	85	40	<1	<5	0.56	<1	14	68	22	2.04	<5	0.08	16	14	0.59	360	1	0.03	31	430	30	0.01	<5	4	<10	<5	14	0.08	<5	40	<5	7	40
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ICP: Aqua Regia Digest / ICP- AES Finish.

NM/kk  
dt/icp12\_659s  
XLS/11

  
ECO TECH LABORATORY LTD.  
Norman Monteith  
B.C. Certified Assayer



**CERTIFICATE OF ANALYSIS AK 2011-0689**

**Astral Mining Corp**  
 Suite 818-475 Howe Street  
**Vancouver, BC**  
 V6C 2B3

9-Jun-11

*No. of samples received: 11*  
*Sample Type: Rock*  
**Project: Barriere Ridge**  
*Submitted by: David Piggin*

ET #.	Tag #	Au (ppb)
1	10E41169 BR11-101	5
2	10E41170 BR11-102	5
3	10E41171 BR11-103	5
4	10E41172 BR11-104	5
5	10E41173 BR11-105	10
6	10E41174 BR11-106	5
7	10E41175 BR11-107	<5
8	10E41176 BR11-108	5
9	10E41177 BR11-109	5
10	10E41178 BR11-110	490
11	10E41179 BR11-111	10

} NOT IN BARRIERE RIDGE

**QC DATA:**

**Repeat:**

1	10E41169 BR11-101	<5
10	10E41178 BR11-110	490

**Resplit:**

1	10E41169 BR11-101	5
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**Standard:**

OXE86	610
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**FA Geochem/AA Finish**  
 NM/EL  
 XLS/11

  
**ECO TECH LABORATORY LTD.**  
 Norman Monteith  
 B.C. Certified Assayer

9-Jun-11

Stewart Group  
**ECO TECH LABORATORY LTD.**  
 10041 Dallas Drive  
**KAMLOOPS, B.C.**  
 V2C 6T4  
[www.stewartgroupglobal.com](http://www.stewartgroupglobal.com)

## ICP CERTIFICATE OF ANALYSIS AK 2011-0689

Astral Mining Corp  
 Suite 818-475 Howe Street  
**Vancouver, BC**  
 V6C 2B3

Phone: 250-573-5700  
 Fax : 250-573-4557

No. of samples received: 11  
 Sample Type: Rock  
**Project: Barriere Ridge**  
 Submitted by: David Piggin

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al%	As	Ba	Be	Bi	Ca%	Cd	Co	Cr	Cu	Fe%	Hg	K%	La	Li	Mg%	Mn	Mo	Na%	Ni	P	Pb	S%	Sb	Sc	Se	Sn	Sr	Ti%	U	V	W	Y	Zn
1	10E41169 BR11-101	<0.2	0.06	<5	12	<1	<5	0.50	<1	2	210	6	0.42	<5	0.02	<2	<2	0.02	2400	<1	0.02	7	40	30	<0.01	<5	<1	<10	<5	16	<0.01	<5	2	<5	2	14
2	10E41170 BR11-102	<0.2	0.03	<5	6	<1	<5	3.47	<1	1	136	8	0.63	<5	<0.01	<2	<2	2.11	210	<1	0.01	6	60	18	<0.01	<5	<1	<10	<5	50	<0.01	<5	2	<5	1	32
3	10E41171 BR11-103	<0.2	<0.01	<5	<2	<1	<5	1.06	<1	<1	232	2	0.28	<5	<0.01	<2	<2	0.65	55	<1	<0.01	5	10	9	<0.01	<5	<1	<10	<5	12	<0.01	<5	<2	<5	<1	6
4	10E41172 BR11-104	27.2	<0.01	10	<2	<1	<5	0.10	1	<1	228	244	0.26	<5	<0.01	<2	<2	0.02	30	<1	<0.01	6	120	12	0.02	95	<1	<10	<5	2	<0.01	<5	<2	<5	<1	36
5	10E41173 BR11-105	1.2	0.04	75	18	<1	<5	>10	2	6	64	48	1.47	<5	<0.01	2	2	7.37	795	2	0.01	51	2210	45	<0.01	20	3	<10	<5	148	<0.01	<5	8	<5	9	228
6	10E41174 BR11-106	6.8	0.04	30	14	<1	<5	>10	2	3	46	428	1.32	<5	<0.01	<2	4	8.88	1105	<1	0.01	11	1080	24	<0.01	245	1	<10	<5	150	<0.01	<5	8	<5	7	176
7	10E41175 BR11-107	<0.2	0.07	<5	2	<1	<5	0.13	<1	3	202	4	0.53	<5	<0.01	<2	<2	0.03	150	<1	0.05	11	310	3	0.15	<5	<1	<10	<5	10	<0.01	<5	<2	<5	2	4
8	10E41176 BR11-108	<0.2	0.08	<5	10	<1	<5	0.40	<1	6	210	10	1.37	<5	0.01	<2	<2	0.05	345	<1	0.03	22	190	9	0.09	<5	1	<10	<5	16	<0.01	<5	2	<5	3	10
9	10E41177 BR11-109	<0.2	0.08	<5	6	<1	<5	1.09	<1	8	182	12	1.90	<5	<0.01	4	<2	0.06	500	<1	0.05	43	100	15	0.09	<5	2	<10	<5	14	<0.01	<5	2	<5	2	16
10	10E41178 BR11-110	1.2	0.16	<5	26	<1	<5	0.62	<1	10	176	62	2.56	<5	0.10	2	2	0.06	170	<1	0.02	17	100	12	1.71	<5	<1	<10	<5	64	<0.01	<5	4	<5	2	8
11	10E41179 BR11-111	0.2	0.70	<5	00	<1	<5	0.70	<1	5	02	16	1.89	<5	0.20	24	10	0.24	360	<1	0.07	8	420	12	0.30	<5	2	<10	<5	104	0.03	<5	34	<5	8	32

→ NOT IN BARRIERE RIDGE

## QC DATA:

## Repeat:

1	10E41169 BR11-101	<0.2	0.06	<5	10	<1	<5	0.49	<1	2	212	6	0.42	<5	0.02	<2	<2	0.02	2390	<1	0.02	7	40	27	<0.01	<5	<1	<10	<5	16	<0.01	<5	2	<5	2	14
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## Replit:

1	10E41169 BR11-101	<0.2	0.05	<5	8	<1	<5	0.55	<1	1	202	4	0.39	<5	0.01	<2	<2	0.03	2455	<1	0.02	7	40	30	<0.01	<5	<1	<10	<5	20	<0.01	<5	2	<5	3	10
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## Standard:

PB129a	11.6	0.84	5	64	<1	<5	0.46	57	6	12	1448	1.65	<5	0.11	4	<2	0.66	370	2	0.03	6	420	6087	0.79	15	<1	<10	<5	30	0.05	<5	20	<5	2	9998
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ICP: Aqua Regia Digest / ICP- AES Finish.

NM/EL  
 dl/2\_689S  
 XLS/11

  
**ECO TECH LABORATORY LTD.**  
 Norman Monteith  
 B.C. Certified Assayer

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**StewartGroup**  
Geochemical & Assay

## **CERTIFICATE OF ASSAY AK 2011-0690**

**Astral Mining Corp**  
Suite 818-475 Howe Street  
**Vancouver, BC**  
V6C 2B3

10-Jun-11

*No. of samples received: 12*  
*Sample Type: Rock*  
**Project: Barriere Ridge**  
*Submitted by: David Piggitt*

ET #.	Tag #	Ag (g/t)	Ag (oz/t)	Pb (%)
1	10E41157 BR11Q9C	220	6.42	12.4
4	10E41160 BR11Q9D	172	5.02	

**QC DATA:**

**Standard:**

GBM908-14	305	8.90	3.30
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**FA/AA Finish**

NM/EL  
XLS/11

  
**ECO TECH LABORATORY LTD.**

Norman Monteith  
B.C. Certified Assayer

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10041 Dallas Drive  
Kamloops, BC  
V2C 6T4 Canada  
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Toll Free + 1 877 573 5755  
www.stewartgroupglobal.com



**StewartGroup**  
Geochemical & Assay

## CERTIFICATE OF ANALYSIS AK 2011-0690

**Astral Mining Corp**  
Suite 818-475 Howe Street  
**Vancouver, BC**  
V6C 2B3

9-Jun-11

*No. of samples received: 12*  
*Sample Type: Rock*  
**Project: Barriere Ridge**  
*Submitted by: David Piggin*

ET #.	Tag #	Au (ppb)
1	10E41157 BR11Q9C	45
2	10E41158 BR11Q9A	20
3	10E41159 BR11Q9B	10
4	10E41160 BR11Q9D	30
5	10E41161 BR11QR7A	5
6	10E41162 BR11QR7B	10
7	10E41163 BR11QR7C	5
8	10E41164 BR11QZC	5
9	10E41165 BR11FRA	10
10	10E41166 BR11FRA1	15
11	10E41167 BR11FRD	10
12	10E41168 SG11QFA	10

### QC DATA:

#### **Repeat:**

1	10E41157 BR11Q9C	40
4	10E41160 BR11Q9D	25
10	10E41166 BR11FRA1	10

#### **Resplit:**

1	10E41157 BR11Q9C	45
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#### **Standard:**

OXE86	615
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### **FA/AA Finish**

NM/cr/el  
XLS/11

**ECO TECH LABORATORY LTD.**

Norman Monteith  
B.C. Certified Assayer

9-Jun-11

Stewart Group  
**ECO TECH LABORATORY LTD.**  
 10041 Dallas Drive  
**KAMLOOPS, B.C.**  
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## ICP CERTIFICATE OF ANALYSIS AK 2011-0690

Astral Mining Corp  
 Suite 818-475 Howe Street  
**Vancouver, BC**  
 V6C 2B3

Phone: 250-573-5700  
 Fax : 250-573-4557

No. of samples received: 12  
 Sample Type: Rock  
**Project: Barriere Ridge**  
 Submitted by: David Piggitt

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al%	As	Ba	Be	Bi	Ca%	Cd	Co	Cr	Cu	Fe%	Hg	K%	La	Li	Mg%	Mn	Mo	Na%	Ni	P	Pb	S%	Sb	Sc	Se	Sn	Sr	Ti%	U	V	W	Y	Zn
1	10E41157 BR11Q9C	>50	0.02	<5	16	<1	270	1.44	7	<1	202	8	0.33	<5	<0.01	<2	<2	0.86	95	<1	0.01	5	70	>10000	1.69	80	<1	110	<5	16	<0.01	<5	2	<5	1	8
2	10E41158 BR11Q9A	5.8	0.02	<5	4	<1	5	0.28	<1	<1	232	4	0.31	<5	<0.01	<2	<2	0.15	75	<1	0.01	5	110	2550	0.04	<5	<1	<10	<5	4	<0.01	<5	2	<5	<1	10
3	10E41159 BR11Q9B	<0.2	0.05	<5	14	<1	<5	>10	<1	<1	80	4	0.56	<5	0.01	<2	2	7.49	355	<1	0.02	7	2220	141	<0.01	<5	1	<10	<5	118	<0.01	<5	10	<5	7	48
4	10E41160 BR11Q9D	>50	0.05	600	8	<1	<5	4.24	71	3	156	7470	0.55	<5	<0.01	<2	<2	2.60	175	<1	0.01	6	230	795	0.27	>2000	<1	<10	<5	60	<0.01	<5	4	<5	2	3076
5	10E41161 BR11QR7A	1.2	0.16	<5	10	<1	<5	0.04	<1	3	188	46	0.66	<5	<0.01	2	<2	0.02	125	2	0.01	9	190	60	0.06	25	<1	<10	<5	6	<0.01	<5	2	<5	<1	20
6	10E41162 BR11QR7B	<0.2	0.08	<5	8	<1	<5	0.26	<1	3	188	10	0.39	<5	<0.01	<2	<2	<0.01	270	<1	0.01	12	90	12	0.08	<5	<1	<10	<5	10	<0.01	<5	<2	<5	<1	6
7	10E41163 BR11QR7C	0.2	0.08	<5	<2	<1	<5	0.02	<1	1	240	10	0.39	<5	<0.01	<2	<2	<0.01	45	1	0.01	7	90	36	0.01	5	<1	<10	<5	6	<0.01	<5	2	<5	<1	4
8	10E41164 BR11QZC	<0.2	0.27	<5	30	<1	<5	7.11	<1	17	126	42	4.16	<5	0.07	42	2	0.22	1255	2	0.03	80	980	15	<0.01	<5	4	<10	<5	106	<0.01	<5	10	<5	9	34
9	10E41165 BR11FRA	<0.2	0.19	<5	<2	<1	5	1.48	<1	52	56	274	8.45	<5	<0.01	<2	<2	0.02	825	<1	0.02	10	370	12	2.72	<5	<1	<10	<5	38	0.03	<5	6	<5	3	4
10	10E41166 BR11FRA1	<0.2	0.13	<5	<2	<1	15	1.61	<1	93	52	482	>10	<5	<0.01	<2	<2	0.02	670	<1	0.02	18	220	18	4.56	<5	<1	<10	<5	20	0.02	<5	6	<5	3	2
11	10E41167 BR11FRD	0.4	1.57	15	46	<1	<5	1.15	<1	566	160	230	>10	<5	0.09	10	6	1.34	230	2	0.06	68	2590	33	6.67	5	4	20	<5	46	0.40	<5	68	<5	5	20
12	10E41168 SG11QFA	<0.2	0.22	<5	78	<1	<5	0.07	<1	5	154	134	3.39	<5	0.10	<2	<2	0.03	245	<1	0.06	23	260	15	0.24	<5	2	<10	<5	18	<0.01	<5	14	<5	1	72

**QC DATA:****Repeat:**

1	10E41157 BR11Q9C	>50	0.02	<5	16	<1	270	1.52	8	<1	208	8	0.35	<5	<0.01	<2	<2	0.86	100	<1	0.01	5	70	>10000	1.74	80	<1	110	<5	16	<0.01	<5	2	<5	1	8
10	10E41166 BR11FRA1	0.2	0.13	<5	<2	<1	15	1.58	<1	109	54	508	>10	<5	<0.01	<2	<2	0.02	675	<1	0.02	19	220	12	5.06	<5	<1	10	<5	20	0.02	<5	6	<5	3	2

**Resplit:**


1	10E41157 BR11Q9C	>50	0.02	<5	10	<1	285	1.39	8	<1	226	10	0.35	<5	<0.01	<2	<2	0.75	90	<1	<0.01	6	70	>10000	1.80	85	<1	120	<5	14	<0.01	<5	2	<5	1	10
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**Standard:**

PB129a		11.2	0.80	5	70	<1	<5	0.44	59	6	12	1420	1.64	<5	0.11	4	<2	0.68	370	2	0.04	6	420	6185	0.82	15	<1	<10	<5	30	0.05	<5	20	<5	2	9942
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ICP: Aqua Regia Digest / ICP- AES Finish.

NM/cr/el  
 dl/2\_689S  
 XLS/11

  
**ECO TECH LABORATORY LTD.**  
 Norman Monteith  
 B.C. Certified Assayer