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Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical

TOTAL COST: $6,681.70

AUTHOR(S): Andris Kikauka

SIGNATURE(S): A. Kikauka

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

YEAR OF WORK: 2023

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5993238

PROPERTY NAME: Hellroaring

CLAIM NAME(S) (on which the work was done): 1104827 Hellroaring Creek Dpst

COMMODITIES SOUGHT: Be, Ta, Rb, feldspar (ceramic grade), gemstones, mica

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082FNE 110

MINING DIVISION: Fort Steele

NTS/BCGS: 082F09E, 082F060

LATITUDE: 49 ° 34 ' 00 " LONGITUDE: 116 ° 10 ' 33 " (at centre of work)

OWNER(S):
1) John Bakus
2) Andris Kikauka

MAILING ADDRESS:
1-1572 Lorne St E.
Kamloops BC V2C 1X6

4199 101 Highway
Powell R, BC V8A0C7

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

MAILING ADDRESS:

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Purcell Supergroup Aldridge Fm and Creston Fm Proterozoic quartzite, siltstone, argillite intruded by Moyie sill/dyke gabbroic complex rare metal bearing pegmatitic and aplitic phases of Hellroaring stock, quartz-beryl in core zone, multiple phases of differentiation

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 13415, 15760

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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			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil	10 prep 41, ME-MS41	1104827	2,295.95
Silt	3 prep 41, ME-MS41	1104827	1,477.95
Rock	7 prep 31, ME-MS41	1104827	2,907.80
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$6,681.70

Print Form

Hellroaring Creek Event 5993238 Download Aug 09 2023

Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

Event Number: **5993238**

Work Type: Technical Work
Technical Items: Geochemical, PAC Withdrawal (up to 30% of technical work required)

Work Start Date: 2023/JUN/18
Work Stop Date: 2023/JUN/22
Total Value of Work: $ 6681.70
Mine Permit No:

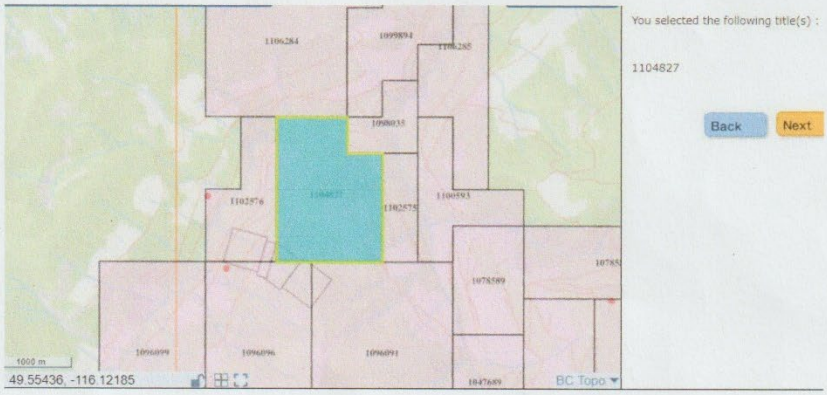
Summary of the work value:

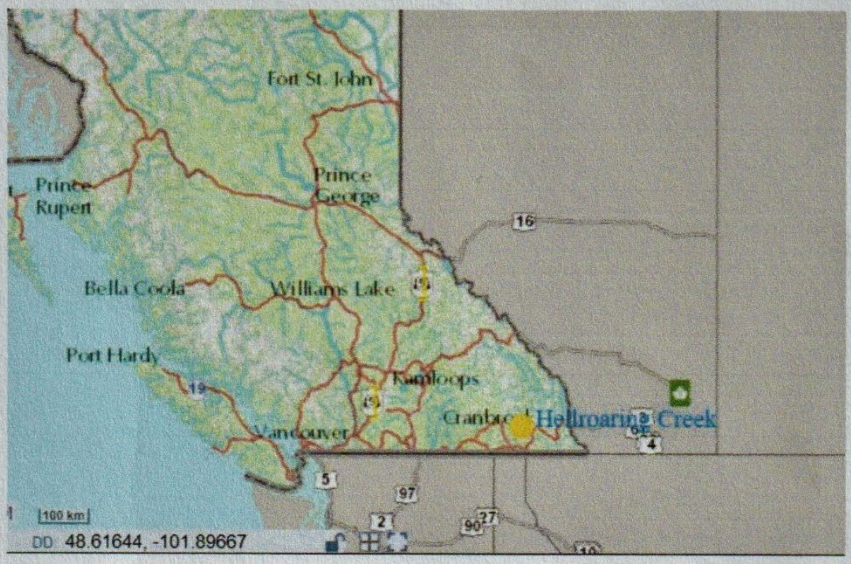
Title Number	Claim Name	Issue Date	Good To Date	New Good To Date	# of Days For-ward	Area in Ha	Applied Work Value	Sub-mission Fee
1104827	HELLROARING CREEK DPST	2023/JUN/18	2023/NOV/04	2028/may/08	1647	230.45	$ 9545.23	$ 0.00

Financial Summary:

Total applied work value: $ 9545.23

PAC name: bakus
Debited PAC amount: $ 2863.53




Fort St. John
Prince Rupert
Prince George
Bella Coola
Williams Lake
Port Hardy
Kamloops
Cranbrook
Hellroaring Creek
Vancouver
16
19
5
97
2
27
4
100 km
DD 48.61644, -101.89667


St. Mary Lake Regional Park
1106284
1099894
1098035
1102576
1104827
1100593
Hellroaring Creek
1078589
1096099
1096096
1096091
1047689
Image © 2023 Maxar Technologies
2287 m
Imagery Date: 9/8/2020 lat 49.551716° lon -116.146305°

NTS 082F 09/E, TRIM 082F.060

LAT. 49 34' 05" N

LONG. 116 10’ 32" W

GEOCHEMICAL

REPORT ON

HELLROARING MINERAL PROPERTY

Be, Ta, Li (ceramic grade felspar, gemstones, mica)

MINERAL OCCURRENCES

HELLROARING CREEK

MARYSVILLE, BC

Fort Steele Mining Division

by

Andris Kikauka, P.Geo.

4199 Highway 101,

Powell River, BC V8A 0C7

August 25, 2023

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LIST OF FIGURES

SUMMARY

The Hellroaring prospect is situated in the St. Mary's Lake area of the Purcell Range, located about 10 km (6 miles) west-southwest of Marysville, BC (Fig 1, 2). The Hellroaring MTO tenure 1102773 covers a total area of approximately 230.45 hectares (569.2 acres).

The Hellroaring Creek mineral claims feature pegmatitic texture tourmaline-muscovite granite that may be suitable for ceramic & glass industrial grade feldspar (with potential for by-product mica, beryllium, silica, garnet, & tourmaline). The property has had considerable previous work is considered a developed prospect. The Hellroaring mineral claims feature coarse to medium grain pegmatitic (graphic) granite with potential to host ceramic and glass grade feldspar.

The area has been mapped by the Geological Survey of Canada, Rice, 1941, and again in more detail by Leech in 1957. It was over this period that Ag-Pb-Zn polymetallic vein type deposits were developed on the west flank of the anticline that separates Angus and Hellroaring Creeks . An underground operation on four Crown-granted claims known as the Warhorse (Boy Scout) Group (located immediately east of Hellroaring Ck at 1,400-1,600 m elevation), produced very limited amounts of lead, zinc, minor silver and gold in quartz veins within Aldridge quartzites. The Warhorse (Boy Scout) is considered a polymetallic Ag-Pb-Zn +/- Au vein type deposit, work by previous operators had indicated approximately 23,000 to 27,000 tonnes at 6 per cent lead, 8 per cent zinc, 171 grams per tonne silver (Northern Miner, Dec. 30, 1965, NOTE: historic non-compliant resource estimate).

The Hellroaring Creek stock was staked and assessed by the Richfield Oil Corporation in the mid 1960's as a potential beryllium prospect. Most of their work was concentrated on the northernmost extremities of the pegmatite and they concluded the beryllium grade was too low. It was as a potential beryllium deposit that the Hellroaring Creek prospect first came to the attention of Lumberton Mines Limited. In 1984, a 32.4 km grid was established from Angus Creek in the southeast to Hellroaring Creek in the northwest. Previous drilling in 1985-86 revealed extensive areas of relatively "clean" pegmatite void of significant contamination (concentrations of tourmaline, iron and manganese staining and occasional traces of sulphides). Feldspar is the most abundant mineral averaging between 65% and 70% of the pegmatite. All principal constituents of the pegmatite ore are environmentally benign and, preliminary studies indicate, readily marketable. Exploration work in 1986 included grid establishment, roadbuilding, trenching, mapping and drilling 21 BQ diamond drill holes totalling 2010.4 m of core. Economic amounts of beryllium were absent in the drill core, though metallurgical testing of the feldspar pegmatite by CANMET indicated that feldspar and mica concentrates meet industry standards with full liberation at 50 mesh.

Analyses and petrology indicates the feldspar to be a mixture of both potassium rich microcline and sodic-plagioclase. Quartz occurs as large blocks up to two metres in length as well as in aplitic and graphic phases. It comprises, on average, approximately 25% of the pegmatite. Muscovite comprising approximately 5% of the intrusive, occurs as fine-grain fracture coatings and as large books up to 10 cm in diameter. Schorl (coarse-grain tourmaline) is the most

common accessory mineral found and is present as very fine grained, feathery crystals, to coarse crystals exceeding 3 cm in diameter and 10 cm in length (tourmaline crystals up to 1 meter in length). Percentages of tourmaline vary irregularly with few zones being completely void of the mineral. Other accessory minerals include pink garnets. Occasional traces of pyrrhotite, pyrite and galena were also observed. Manganese and iron staining is common. To date, thicknesses of up to 150 m have been drilled into the pegmatite, and several holes were terminated in quartzite or diorite. Contacts between the pegmatite and quartzite are usually very sharp. The metamorphosed sediments contain abundant fine grained tourmaline, and it is considered that the metamorphosed sediments are xenoliths within the pegmatite. Samples of core are described as follows:

1) Pegmatite Composition: Blocky very clean-clean crystalline quartz, feldspar, muscovite with less than traces of tourmaline, garnet, negligible staining.
2) Pegmatite Composition: Clean crystalline quartz, feldspar, muscovite, negligible tourmaline with abundant Fe and Mn stain.
3) Pegmatite Composition: Clean crystalline quartz, feldspar, muscovite, negligible tourmaline with abundant Fe and Mn stain.
4) Pegmatite Composition: Coarse - med. crystalline, feldspar, quartz, muscovite with 2-3% med.-coarse crystalline tourmaline, negligible staining.
5) Pegmatite Composition: Aplitic, very fine-fine crystalline, feldspar, quartz, muscovite, 3-8% tourmaline, 1-2% garnet and minor Fe stain.

The writer performed fieldwork consisting of geochemical sampling and accompanying descriptions on the south portion of Hellroaring mineral property between 1,330-1,650 m elev on the east side of the north trending ridge in the center of the property. Fieldwork was carried out June 18-22, 2023, on MTO tenure 1104827 (Hellroaring Creek Dpst). Technical work is recorded in this assessment report, and reported as MEM (BCGS) Event number 5993238.

Geochemical sampling was carried out on exposed surface bedrock located in close proximity to historic mapped lenses of feldspar (mica, beryllium). A total of 7 rock chip, 10 soil, and 3 stream sediment samples were collected from the central and northeast portion of the property (rock sample ID 23HR-1 to 7, soil sample ID HRS-51 to 60, stream sediment ID HRSLT-1 to 3). Rock chip, soil and stream sediment samples were prepared (using method ALS code prep-31 for rock, and prep-41 for soil and stream sediment), and analyzed by ALS Minerals, North Vancouver, BC, using ALS code ME-ICP61 (48 element 4 acid ICP-AES). Geological descriptions and geochemical analysis results from Hellroaring claim (MTO ID 1104827) are listed as follows:

ROCK CHIP SAMPLES

Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type
23HR-1	East	560210	5490744	1600	outcrop
23HR-2	East	560211	5490741	1602	outcrop
23HR-3	Main	559752	5491305	1585	angular float
23HR-4	Main	559731	5491297	1589	angular float
23HR-5	Main	559703	5491293	1606	angular float
23HR-6	Main	559746	5491206	1615	subcrop
23HR-7	Main	559791	5491246	1589	subcrop

ID no.	Lithology	Alteration	Width
23HR-1	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	20 cm
23HR-2	pegmatite border phase	K-feldspar, serictite, biotite	30 cm
23HR-3	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	
23HR-4	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	
23HR-5	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	
23HR-6	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	50 cm
23HR-7	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	50 cm

ID no.	Li ppm	Be ppm	Cs ppm	P ppm	Nb ppm	Mn ppm	Rb ppm	Ta ppm	Y ppm	Zr ppm
23HR-1	**26.8**	**14.7**	**17.4**	**1230**	**3.7**	**266**	**71.2**	**5.04**	**2.4**	**53.8**
23HR-2	**124**	**7.8**	**42.3**	**770**	**49.1**	**703**	**124**	**21**	**1.2**	**20.7**
23HR-3	**20.6**	**11.8**	**3.02**	**370**	**5.5**	**1655**	**70.6**	**1.39**	**7.9**	**9.4**
23HR-4	**20.4**	**5.27**	**24.2**	**380**	**27.4**	**4820**	**523**	**4.81**	**17.5**	**15.1**
23HR-5	**27.4**	**13.45**	**2.51**	**350**	**9.9**	**1115**	**76.9**	**2.05**	**5.4**	**7.9**
23HR-6	**21.6**	**11.05**	**2.03**	**430**	**4**	**2890**	**56.7**	**2.17**	**10.9**	**14.1**
23HR-7	**80.6**	**7.14**	**7.98**	**680**	**4.1**	**521**	**41.2**	**8.43**	**0.9**	**4.4**

A total of seven rock chip samples taken, two are from a well exposed pegmatite outcrop in the east portion of the claim, and the other five samples are from the central area (Fig 5). The beryllium values of rock chip samples range from 5.3-14.7 ppm Be. The highest value of 14.7 ppm Be correlates with high phosphorous (1,230 ppm P) and zirconium (53.8 ppm Zr), suggesting that apatite (or other P bearing minerals) and/or zircon (or other zirconium bearing minerals) may be associated with increased beryllium geochemical analysis values.

Beryl is found on or near the central N-S trending ridge at about 1,500-1,600 m elevation. Beryl is associated with highly fractionated portion (large euhedral-subhedral tourmaline, and minor garnet) of the Hellroaring Creek granitic stock. Detailed mapping and sampling in this area is required to identify drill targets for the purpose of locating beryllium bearing mineralization at depth.

SOIL SAMPLES

Sample ID	Zone	Easting NAD 83	Northing NAD 83	Elev (m)	Type	Texture	Depth	Colour
HRS-51	Main	559850	5491100	1600	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-52	Main	559850	5491150	1587	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-53	Main	559850	5491200	1562	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-54	Main	559850	5491250	1549	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-55	Main	559850	5491300	1520	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-56	Main	559750	5491100	1603	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-57	Main	559750	5491150	1590	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-58	Main	559750	5491200	1564	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-59	Main	559750	5491250	1547	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-60	Main	559750	5491300	1518	B horizon soil	sand, silt, clay	20 cm	red brown

Sample ID	**Be ppm**	**P ppm**	**Ba ppm**	**Ce ppm**	**La ppm**	**Rb ppm**	**Ta ppm**	**Mn ppm**	**S %**	**Ti %**	**U ppm**
HRS-51	**4.62**	**460**	**490**	**71.6**	**33.7**	**139.5**	**4.02**	**371**	**0.02**	**0.37**	**3.2**
HRS-52	**3.16**	**660**	**550**	**75.2**	**35.4**	**127**	**1.17**	**328**	**0.02**	**0.371**	**2.6**
HRS-53	**2.19**	**410**	**520**	**81.1**	**39.4**	**129**	**0.78**	**224**	**0.01**	**0.354**	**1.5**
HRS-54	**2.53**	**770**	**510**	**60.4**	**30.1**	**105.5**	**0.93**	**460**	**0.02**	**0.415**	**1.7**
HRS-55	**3.31**	**950**	**500**	**61.3**	**28.9**	**103**	**0.92**	**720**	**0.02**	**0.384**	**2.1**
HRS-56	**2.37**	**1660**	**580**	**41.1**	**19.1**	**88.8**	**1.09**	**1475**	**0.03**	**0.42**	**2.1**
HRS-57	**4.89**	**1110**	**490**	**48.6**	**23.4**	**111**	**1.07**	**711**	**0.03**	**0.402**	**3.3**
HRS-58	**6.02**	**1080**	**500**	**45.8**	**21.9**	**106**	**1.47**	**1055**	**0.03**	**0.405**	**2.6**
HRS-59	**5.77**	**1400**	**500**	**78.9**	**33.6**	**134**	**1.22**	**528**	**0.04**	**0.401**	**28.7**
HRS-60	**3.03**	**2160**	**500**	**44.6**	**22**	**80.9**	**0.85**	**505**	**0.03**	**0.406**	**17.2**

A total of ten soil samples taken from the central area (Fig 6-12). The beryllium values of soil samples range from 2.2-6.0 ppm Be. The higher values of Be correlate with increased Ta that occur on the 559,750 E line of soil samples (furthest west line). There is a noticeable increase in phosphorous (1,080-2,160 ppm P) on the west line (559,750 E, ID numbers HRS-56-60). This marks a distinct change from the east line (559,850 E, ID numbers HRS 51-55) which ranges 410-950 ppm P. Elevated phosphorous in soil is a useful vector for Be (and rare metal) bearing mineralization. Further soil sampling of the area north of the 2023 soil survey area, at 1,500-1,600 m elevation is recommended.

STREAM SEDIMENT SAMPLES

Sample ID	Zone	Easting NAD 83	Northing NAD 83	Elev (m)	Texture	Stream size	Colour
HRSLT-1	NE	560365	5491332	1349	sand, silt	small	grey
HRSLT-2	NE	560307	5491502	1339	sand, silt	very small	grey
HRSLT-3	NE	560244	5491593	1334	sand, silt	small	grey

Sample	Be ppm	P ppm	Ba ppm	Ce ppm	La ppm	Rb ppm	Ta ppm	Mn ppm	S %	Ti %	U ppm
HRSLT-1	**4.61**	**490**	**490**	**75.7**	**37.4**	**114**	**0.98**	**659**	**0.04**	**0.389**	**7.5**
HRSLT-2	**4.57**	**440**	**490**	**78.2**	**39.7**	**117.5**	**1.08**	**633**	**0.04**	**0.391**	**7**
HRSLT-3	**4.39**	**420**	**440**	**67.1**	**37.2**	**109**	**0.81**	**489**	**0.03**	**0.303**	**63.4**

A total of three stream sediment samples were taken from the northeast portion of the claim (Fig 6-12). The beryllium values of stream sediment samples range from 4.4-4.6 ppm Be. considered an indicator for increased hydrothermal mineralization in this area that is underlain or in close proximity to the Hellroaring Creek granitic stock. Geological mapping and sampling follow-up on sample HRSLT-3 is recommended, including area SW (above the sample at 1,330-1,540 m elevation).

Further evaluation of commercial applications of Hellroaring feldspar (mica, beryllium, silica, tourmaline) as well as geochemical analysis of rock and soil samples prior to core drilling are recommended. Further recommended geochemistry (notably Be and Li) of the pegmatitic granite to target specific portions of the Hellroaring Creek Stock. The fractional crystallization of pegmatites include a border phase and a core phase associated with K feldspar. The K-feldspar zones are characterized by increased microcline/albite ratios (increased potassium and decreased sodium). K-feldspar rich zones represent a potential area of rare metal enrichments and are more likely to have concentrations of rare metals such as beryllium, tantalum or lithium. Industrial grade feldspar with potential by-product mica, silica, tourmaline are likely to be associated with rare metals.

Contingent on results of proposed geochemical sampling, a follow-up program of drilling is recommended in order to determine grade and distribution of Hellroaring ceramic grade feldspar (mica mainly muscovite, beryllium mainly beryl, silica concentrated in core zone of wider pegmatites, tourmaline-schorl large black euhedral crystals).

1.0 Introduction

This technical report has been prepared for the purpose of assessment and reporting requirements. This report describes property history and recent geochemical fieldwork done on the Hellroaring Feldspar (mica, beryllium, silica) industrial and rare metal mineral claims. This report is prepared to comply with BC Ministry of Energy and Mines Mineral Act requirements for filing assessment reports.

2.0 Location, Access, Infrastructure, & Physiography

The Hellroaring Feldspar (mica, beryllium) property consists of MTO tenure ID numbers 1033194,1029860, and 1033236 that are located approximately12 km (7.7 miles) south of Kimberly, BC (Fig 1, 2). The property is located on NTS map sheet 082G/12W and on TRIM map sheet 082G.051 in the Fort Steele Mining Division of southern British Columbia, Canada (Figure 2). The Hellroaring Feldspar (mica, beryllium, silica) occurrences are located near latitude 49°34' 00" N and longitude 116°10' 33" W. The property covers a north trending ridge with zones of relatively pure feldspar (with potential for by-product mica, silica, & beryllium). Elevations on the claims range from 1,100 to 1,900 meters (3,608-6,232 feet).

The Hellroaring feldspar (mica, beryllium) property can be accessed using Hellroaring Creek FSR, which is connected to paved roads to Marysville located 12 km east-northeast of the property. There is good infrastructure in the form of paved highways, a railway spur line and a major power line all of which are within 12 kilometres of the property. Hellroaring feldspar (mica, beryllium) deposit is partly exposed on surface outcrops near the axis of a north trending ridge. A series of northwest, northeast, east and north trending faults has resulted in offsets of geologic contacts. Hellroaring Stock (exposed on a topographic high), occurs in an area of converging fault structures and anticline fold axes.

Vegetation on the property consists mainly of Lodgepole Pine with lesser Douglas Fir and Western Yellow Larch, with minor birch and aspen. The nearest towns are Cranbrook and Kimberly on Highway 95A. Both Kimberly and Cranbrook have suitable infrastructure to support mining and mineral processing.

3.0 Property Status

The Hellroaring claim consists of one mineral tenure (listed below) located within the Fort Steele Mining Division (Figure 2).

Title Number	Name	Issue Date	Good To Date	Hectares
1104827	Hellroaring creek dpst	2023/JUN/18	2028/MAY/08	230.45

The total area of the mineral tenure that comprise the property is 230.45 hectares (569.2 acres). Details of the status of tenure ownership for the Hellroaring Feldspar (mica, beryllium) property were obtained from the Mineral-Titles-Online (MTO) electronic staking system managed by the Mineral Titles Branch of the Province of British Columbia. This system is based on mineral tenures acquired electronically online using a grid cell selection system. Tenure boundaries are

based on lines of latitude and longitude. There is no requirement to mark claim boundaries on the ground as these can be determined with reasonable accuracy using a GPS. The Hellroaring claim has not been surveyed.

The mineral tenures comprising the Hellroaring Feldspar (mica, beryllium) mineral property are shown in Figure 2. The claim map shown in Figure 2 was generated from GIS spatial data downloaded from the Government of BC GeoBC website. These spatial layers are the same as those incorporated into the Mineral-Titles-Online (MTO) electronic staking system that is used to locate and record mineral tenures in British Columbia. Information posted on the MTO website indicates that mineral tenure 1104827 IS owned 75% by John Nick Bakus (FMC 223385), and 25% by Andris Arturs Kikauka (FMC 114051).

4.0 Hellroaring (& Adjacent) Property History

The area has been mapped by the Geological Survey of Canada, Rice, 1941, and again in more detail by Leech in 1957. It was over this period that Ag-Pb-Zn polymetallic vein type deposits were developed on the west flank of the anticline that separates Angus and Hellroaring Creeks . An underground operation on four Crown-granted claims known as the Warhorse (Boy Scout) Group (located immediately east of Hellroaring Ck at 1,400-1,600 m elevation), produced very limited amounts of lead, zinc, minimal traces of silver and gold in quartz veins within Aldridge quartzites. The Warhorse (Boy Scout) is considered a polymetallic Ag-Pb-Zn +/- Au vein type deposit, work by previous operators had indicated approximately 23,000 to 27,000 tonnes at 6 per cent lead, 8 per cent zinc, 171 grams per tonne silver (Northern Miner, Dec. 30, 1965, NOTE: non-compliant historic resource estimate).

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In 2019 the writer carried out fieldwork on the subject property. Geological descriptions and geochemical analysis results from Hellroaring Upper Zone (>1,625 m elevation) and Lower Zone (<1,625 m elevation) are listed as follows:

Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type
19HR-1	Upper Zone	559631	5491128	1659	angular float
19HR-2	Upper Zone	559627	5491080	1670	angular float
19HR-3	Upper Zone	559620	5491028	1679	outcrop
19HR-4	Upper Zone	559709	5490905	1726	outcrop
19HR-5	Upper Zone	559647	5491256	1625	outcrop
19HR-6	Lower Zone	559753	5491364	1538	outcrop
19HR-7	Lower Zone	559766	5491380	1520	outcrop
19HR-8	Lower Zone	559633	5491466	1477	outcrop
19HR-9	Upper Zone	559647	5491055	1673	angular float
19HR-10	Lower Zone	559788	5491397	1502	outcrop

Sample ID	Lithology	Alteration	Width (cm)
19HR-1	pegmatite border phase	clay, K-feldspar, magnetite	
19HR-2	pegmatite border phase	clay, K-feldspar, magnetite	
19HR-3	pegmatite border phase	calcite, pyrolusite, K-feldspar, magnetite	20
19HR-4	pegmatite non-border phase	K-feldspar	40
19HR-5	pegmatite non-border phase	K-feldspar	50
19HR-6	pegmatite non-border phase	K-feldspar	50
19HR-7	pegmatite non-border phase	K-feldspar	50
19HR-8	pegmatite non-border phase	K-feldspar	50
19HR-9	pegmatite border phase	clay, calcite, pyrolusite, K-feldspar, magnetite	
19HR-10	pegmatite non-border phase	K-feldspar	50

Sample ID	Al2O3%	BaO%	CaO%	Fe2O3%	K2O%	MgO%	MnO%	Na2O%	P2O5%	SO3%	SiO2%	TiO2%
19HR-1	23.03	0.04	0.32	2.63	6.71	0.37	0.64	0.39	0.29	0.03	61.94	0.04
19HR-2	29	0.05	0.4	2.46	8.48	0.49	0.56	0.28	0.33	0.01	52.77	0.04
19HR-3	17.46	0.03	5.59	3.07	4.93	0.29	2.46	1.46	0.2	0.04	55.66	0.03
19HR-4	19.08	0.03	0.02	1.49	5.17	0.23	0.04	0.78	0.02	0.01	69.92	0.08
19HR-5	15.96	0.02	0.29	2.54	2.53	0.13	0.67	3.67	0.08	0.01	72.88	0.03
19HR-6	15.26	0.02	0.39	1.58	0.89	0.15	0.18	6.98	0.12	0.01	73.65	0.03
19HR-7	14.32	0.02	0.35	1.37	1.36	0.11	0.13	6.32	0.14	0.01	74.89	0.02
19HR-8	16.66	0.02	0.22	1.63	2.86	0.17	0.18	3.89	0.09	<0.01	72.02	0.04
19HR-9	20.28	0.04	1	3.04	5.98	0.35	1.44	0.35	0.5	0.03	62.52	0.04
19HR-10	15.28	0.02	0.35	2.05	2.01	0.14	0.37	4.31	0.09	0.01	73.61	0.04

Sample ID	Total%	LOI%	As ppm	Be ppm	La ppm	Pb ppm	Zn ppm	Cd ppm	P ppm	U ppm	Sr ppm
19HR-1	100.2	3.49	221	1.3	<10	307	788	5.3	1200	40	16
19HR-2	99.4	4.32	151	2.1	<10	141	811	4.6	1410	40	17
19HR-3	99.67	7.18	124	1.4	<10	176	7980	32.3	800	40	73
19HR-4	99.27	2.35	3	1	<10	12	27	<0.5	30	<10	1
19HR-5	99.92	1.02	17	0.7	<10	38	49	0.5	220	30	1
19HR-6	99.65	0.36	9	<0.5	<10	6	13	<0.5	380	10	1
19HR-7	99.43	0.38	3	<0.5	<10	5	11	<0.5	480	10	1
19HR-8	99.18	1.35	18	0.6	<10	59	91	1.1	260	10	3
19HR-9	99.8	3.63	539	1.4	<10	152	2840	13.6	2180	50	29
19HR-10	99.25	0.9	7	0.5	<10	14	32	0.5	270	20	1

TYPICAL ANALYSES (6 SAMPLES), FELDSPATHIC AND ALUMINOUS MATERIALS FROM FELDSPAR DEPOSITS (FROM LEFOND, 1983)

Si02 67.54	67.04	71.84	79.20	63.71	61.40
AI2O319.25	18.02	16.06	12.10	21.89	22.74
Fe203 0.06	1.94	0.09	0.06	0.09	0.06
CaO 1.94	0.38	0.48	0.52	5.70	0.70
MgO trace	trace	trace	trace	trace	trace
K2O 4.05	12.10	7.60	2.62	2.37	4.95
Na20 6.96	2.12	3.72	4.80	5.60	9.54
Li20	-	-	0.35	-	-
T1O2	-	-	-	0.43	-
Loss on ignition 0.13	0.30	0.20	0.35	0.21	0.60

Metallurgy with respect to ceramic and glass end use should include testing for the following: 1) no colouring oxides: Zr03, Cr203, NiO, C03O4, CuO, 2) no refractory minerals: zircon, corundum, spinel, 3) no sulphates or chlorides, 4) 5-10% K2O. Also grain size determination is important considerations for ceramic and glass end use of feldspar (MacClean, 1991).

Hellroaring claims 2019 geochemical analysis discussion of results:

Feldspar (& Ag-Pb-Zn +/- Au polymetallic veins) - Geochemical analysis results indicate 6 of 10 rock chip samples would be suitable for feldspar (mica, silica) beneficiation tests for ceramic and glass end use. 4 of 10 rock chip samples 19HR-1, 2, 3, & 9 contain 0.08-0.8% Zn, 0.01-0.03% Pb, 0.01-0.05% As across 0.2 meter width and as angular float taken from 1,660-1,680 m elevation, and would not be suitable for feldspar (mica, silica) beneficiation tests for ceramic and glass end use. Rock chip samples 19HR-1, 2, 3, & 9 are considered to be prospective for Ag-Pb-Zn (+/- Au) polymetallic vein type deposits but are considered as contaminants for use as industrial grade feldspar.

Hellroaring claims 2019 geochemical analysis discussion of results (continued):

Be- Geochemical analysis results show that beryllium bearing minerals are not present (analysis values range from 0.5-2.1 ppm Be). As beryl occurrences on the property are site specific, i.e. related to specific phases, e.g. border or core phase, and/or dykes/sills, e.g. Tanco pegmatite in SE Manitoba is characterized by beryl found locally in the border phase, but is rarely encountered in the intermediate zones and core zones. The Hellroaring property requires considerable detailed geochemical evaluation to outline zones of elevated beryllium, and based on previous work, these areas are considered to be from 1,500-1,750 m elevation along the ridge located in the center of the property. It is possible to develop the Hellroaring property as feldspar resource with by-product beryl.

Silica + Mica- There are zones of nearly pure SiO2 in the Hellroaring Stock, but silica zones are approximately 1-5 meters width. Coarse grain books of muscovite (mica) 1-10 cm size are common throughout the Hellroaring Stock. The beneficiation process for feldspar ceramic and glass industrial use, may result in by-product mica + silica (can be assess by future metallurgical testing of feldspar).

5.0 Regional Geology

The Hellroaring Group of claims occur within the middle Proterozoic Purcell Supergroup of clastic and carbonate rocks. The lower part of the Purcell Supergroup is exposed on the subject property. At the base of the Supergroup, the Aldridge Fm is comprised of argillites, siltstones and fine grained quartzites, and is conformably overlain by shallow water Creston Fm sediments and clastic Kitchener Fm. The Moyie diorite, considered to be at least 1225 m.a. intrudes the Purcell Supergroup. The East Kootenay orogeny produced uplift, folding, tilting, faulting and granitic intrusion. Ryan and Blenkinsop (1971) dated the Hellroaring stock as slightly younger than 1225 m.a. The stock consists of a coarse grained granitic tourmaline-muscovite pegmatite. The pegmatite is exposed over approximately 4 km in extent and approximately 1.5 km in width. The configuration of the pegmatite appears to be irregular in thickness. Based on data from 1985-85 drilling it is possible that Hellroaring Stock is a lopolith (sheeted intrusion) with satellite dyke/sills trending north and northwest. The true width of the pegmatitic granite layer may be in the order of 100-300 meters, but covering a surface area of 1.5 X 4 km. The satellite dyke/sills may be prospective for Be and Li bearing minerals.

Lithological units in the area of Hellroaring Feldspar (mica, beryllium) are described as follows:

LITHOLOGY LEGEND

Kgd Cretaceous granodiorite

uPrCE Upper Proterozoic-Lower Cambrian Eager Fm slate siltstone, argillite, limestone

mPrH Mid-Proterozoic Hellroaring Creek granitic stock (pegmatitic)

mPrPD Mesoproterozoic Purcell Supergroup- Dutch Creek Fm Undivided sediments

mPrPC Mesoproterozoic Purcell Supergroup- Creston Fm Undivided sediments

mPrPA Mid-Proterozoic Purcell Group Aldridge Fm argillite, greywacke, conglomerate, turbidite

A description of lithologies that occur in close proximity to the subject property are listed as follows:

There are two Cretaceous, 200-600 m diameter (elongated N-S), 'Angus Creek' stocks located 2-7 km south and southeast of the subject property (in Angus Creek valley). The Cretaceous intrusive rocks contain variable hornblende and biotite accessory minerals, and consist of granodiorite to quartz monzonite. Cretaceous intrusive activity is responsible for relative movement (following pre-existing fault and/or shear zones) along west, south, northwest, and northeast trending regional faults (Laramide uplift in the area of the Hellroaring pegmatite stock). It is unclear whether the Cretaceous intrusive rocks are associated with Warhorse (Boy Scout), and Bronco Ag-Pb-Zn (+/- Au) polymetallic veins (e.g. Warhorse-Boy Scout, and Bronco). However, it is postulated that intrusive-related hydrothermal emanations have re-mobilized galena-sphalerite-pyrite minerals hosted in siliceous gangue (with local arsenopyrite). Galena-sphalerite mineralization occurs along an east trending fault structure that aligns with the Bronco Ag-Pb-Zn (+/-Au) polymetallic vein type mineralization (Fig 8).

Upper Proterozoic-Lower Cambrian Eager Fm slate, siltstone, argillite, limestone (and Creston Fm greenish-grey, laminated and banded siltstone) occur 2-6 km south of the subject property, and the Eager and Creston Fm are characterized by folded, weakly metamorphosed and contorted clastic and carbonate sequences that are affected by Cretaceous Angus Creek Stocks.

A description of lithologies that occur on the subject property are listed as follows:

Mid-Proterozoic Hellroaring Creek granitic tourmaline-muscovite pegmatite stock minor pink garnet and blue green white beryl is exposed along the axis of a north trending ridge. Based on the widest exposures, the estimated thickest portion of the exposed the granitic tourmaline-muscovite pegmatite stock is at 1,480-1,625 m elevation (Lower Zone), and at 1,625-1,780 m elevation (Upper Zone). Both Upper and Lower Zone are prospective sources of ceramic and glass grade industrial feldspar (with potential for by-product mica, silica, beryllium, and tourmaline). Locally, there are 010, 135, and 170 degree trending faults that form complex converging structures that affect Mid-Proterozoic Purcell Group Aldridge Fm (argillite, greywacke, conglomerate, turbidite, gabbroic Moyie Sills with retro-grade chlorite-actinolite) sequence of lithologies underlying the Hellroaring granitic tourmaline-muscovite pegmatite stock.

6.0 2023 Field Program

6.1 Scope & Purpose

2023 geochemical sampling was carried out in order to evaluate rare metal potential in a 700 X 700 m area, located in the central, east and northeast portion of Hellroaring feldspar (mica, silica, beryllium, tourmaline), at 1,330-1,600 meters elevation. The area where granitic stock is partly exposed as sub-crop and outcrop. Previous rock chip sampling outlined areas beryllium minerals at 1,500-1,700 m elevation along the central N-S trending ridge (topographic high), and current sampling focused on Be bearing mineralization in the central area.

6.2 Methods and Procedures

Geochemical sampling was carried out on exposed surface bedrock located in close proximity to historic mapped lenses of feldspar (mica, beryllium). A total of 7 rock chip, 10 soil, and 3 stream sediment samples were collected with hammer and maul from the central and northeast portion of the property (rock sample ID 23HR-1 to 7, soil sample ID HRS-51 to 60, stream sediment ID HRSLT-1 to 3). Acorn sized rock chips were collected averaging 1 kg in weight and placed in marked poly ore bags and sealed. Soil samples were taken using a tree planting shovel to a depth of 25 cm to obtain mineral soil located in the B horizon, below the higher organic A horizon. Soil approximately 500 gms weight, was placed in marked kraft envelopes and dried. Stream sediment samples were approximately 1 kg of fines collected from the bank of active creek channels. Stream sediment was placed in marked kraft bags and dried. Rock chip, soil and stream sediment samples were shipped to ALS North Vancouver, BC prepared (using method ALS code prep-31 for rock, and prep-41 for soil and stream sediment), and analyzed using ALS code ME-ICP61 (48 element 4 acid ICP-AES detailed method and procedures described in Appendix B). ALS Minerals prepares the rock samples by crushing better than 70% passing a 2 mm screen split and pulverized rock chip samples. A split of 250 grams is pulverized to better than 85% passing a 75 micron screen. The sample pulp is analyzed using ME-ICP61 4 acid 48 element ICP to test for various metals.

6.3 Rock, Soil & Stream sediment geochemical sampling

The writer performed fieldwork consisting of geochemical sampling and accompanying descriptions on the south portion of Hellroaring mineral property between 1,330-1,650 m elev on the east side of the north trending ridge in the center of the property. Fieldwork was carried out June 18-22, 2023, on MTO tenure 1104827 (Hellroaring Creek Dpst). Technical work is recorded in this assessment report, and reported as MEM (BCGS) Event number 5993238.

Geochemical sampling was carried out on exposed surface bedrock located in close proximity to historic mapped lenses of feldspar (mica, beryllium). A total of 7 rock chip, 10 soil, and 3 stream sediment samples were collected from the central and northeast portion of the property (rock sample ID 23HR-1 to 7, soil sample ID HRS-51 to 60, stream sediment ID HRSLT-1 to 3). Rock chip, soil and stream sediment samples were prepared (using method ALS code prep-31 for rock, and prep-41 for soil and stream sediment), and analyzed by ALS Minerals, North Vancouver, BC, using ALS code ME-ICP61 (48 element 4 acid ICP-AES). Geological descriptions and geochemical analysis results from Hellroaring claim (MTO ID 1104827) are listed as follows:

ROCK CHIP SAMPLES

Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type
23HR-1	East	560210	5490744	1600	outcrop
23HR-2	East	560211	5490741	1602	outcrop
23HR-3	Main	559752	5491305	1585	angular float
23HR-4	Main	559731	5491297	1589	angular float
23HR-5	Main	559703	5491293	1606	angular float
23HR-6	Main	559746	5491206	1615	subcrop
23HR-7	Main	559791	5491246	1589	subcrop

ID no.	Lithology	Alteration	Width
23HR-1	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	20 cm
23HR-2	pegmatite border phase	K-feldspar, serictite, biotite	30 cm
23HR-3	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	
23HR-4	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	
23HR-5	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	
23HR-6	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	50 cm
23HR-7	pegmatite non-border phase	clay, K-feldspar, serictite, biotite, barite	50 cm

ID no.	Li ppm	Be ppm	Cs ppm	P ppm	Nb ppm	Mn ppm	Rb ppm	Ta ppm	Y ppm	Zr ppm
23HR-1	**26.8**	**14.7**	**17.4**	**1230**	**3.7**	**266**	**71.2**	**5.04**	**2.4**	**53.8**
23HR-2	**124**	**7.8**	**42.3**	**770**	**49.1**	**703**	**124**	**21**	**1.2**	**20.7**
23HR-3	**20.6**	**11.8**	**3.02**	**370**	**5.5**	**1655**	**70.6**	**1.39**	**7.9**	**9.4**
23HR-4	**20.4**	**5.27**	**24.2**	**380**	**27.4**	**4820**	**523**	**4.81**	**17.5**	**15.1**
23HR-5	**27.4**	**13.45**	**2.51**	**350**	**9.9**	**1115**	**76.9**	**2.05**	**5.4**	**7.9**
23HR-6	**21.6**	**11.05**	**2.03**	**430**	**4**	**2890**	**56.7**	**2.17**	**10.9**	**14.1**
23HR-7	**80.6**	**7.14**	**7.98**	**680**	**4.1**	**521**	**41.2**	**8.43**	**0.9**	**4.4**

A total of seven rock chip samples taken, two are from a well exposed pegmatite outcrop in the east portion of the claim, and the other five samples are from the central area (Fig 5). The beryllium values of rock chip samples range from 5.3-14.7 ppm Be. The highest value of 14.7 ppm Be correlates with high phosphorous (1,230 ppm P) and zirconium (53.8 ppm Zr), suggesting that apatite (or other P bearing minerals) and/or zircon (or other zirconium bearing minerals) may be associated with increased beryllium geochemical analysis values.

Beryl is found on or near the central N-S trending ridge at about 1,500-1,600 m elevation. Beryl is associated with highly fractionated portion (large euhedral-subhedral tourmaline, and minor garnet) of the Hellroaring Creek granitic stock. Detailed mapping and sampling in this area is required to identify drill targets for the purpose of locating beryllium bearing mineralization at depth.

SOIL SAMPLES

Sample ID	Zone	Easting NAD 83	Northing NAD 83	Elev (m)	Type	Texture	Depth	Colour
HRS-51	Main	559850	5491100	1600	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-52	Main	559850	5491150	1587	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-53	Main	559850	5491200	1562	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-54	Main	559850	5491250	1549	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-55	Main	559850	5491300	1520	B horizon soil	sand, silt, clay	20 cm	dark brown
HRS-56	Main	559750	5491100	1603	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-57	Main	559750	5491150	1590	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-58	Main	559750	5491200	1564	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-59	Main	559750	5491250	1547	B horizon soil	sand, silt, clay	20 cm	red brown
HRS-60	Main	559750	5491300	1518	B horizon soil	sand, silt, clay	20 cm	red brown

Sample ID	Be ppm	P ppm	Ba ppm	Ce ppm	La ppm	Rb ppm	Ta ppm	Mn ppm	S %	Ti %	U ppm
HRS-51	**4.62**	**460**	**490**	**71.6**	**33.7**	**139.5**	**4.02**	**371**	**0.02**	**0.37**	**3.2**
HRS-52	**3.16**	**660**	**550**	**75.2**	**35.4**	**127**	**1.17**	**328**	**0.02**	**0.371**	**2.6**
HRS-53	**2.19**	**410**	**520**	**81.1**	**39.4**	**129**	**0.78**	**224**	**0.01**	**0.354**	**1.5**
HRS-54	**2.53**	**770**	**510**	**60.4**	**30.1**	**105.5**	**0.93**	**460**	**0.02**	**0.415**	**1.7**
HRS-55	**3.31**	**950**	**500**	**61.3**	**28.9**	**103**	**0.92**	**720**	**0.02**	**0.384**	**2.1**
HRS-56	**2.37**	**1660**	**580**	**41.1**	**19.1**	**88.8**	**1.09**	**1475**	**0.03**	**0.42**	**2.1**
HRS-57	**4.89**	**1110**	**490**	**48.6**	**23.4**	**111**	**1.07**	**711**	**0.03**	**0.402**	**3.3**
HRS-58	**6.02**	**1080**	**500**	**45.8**	**21.9**	**106**	**1.47**	**1055**	**0.03**	**0.405**	**2.6**
HRS-59	**5.77**	**1400**	**500**	**78.9**	**33.6**	**134**	**1.22**	**528**	**0.04**	**0.401**	**28.7**
HRS-60	**3.03**	**2160**	**500**	**44.6**	**22**	**80.9**	**0.85**	**505**	**0.03**	**0.406**	**17.2**

A total of ten soil samples taken from the central area (Fig 6-12). The beryllium values of soil samples range from 2.2-6.0 ppm Be. The higher values of Be correlate with increased Ta that occur on the 559,750 E line of soil samples (furthest west line). There is a noticeable increase in phosphorous (1,080-2,160 ppm P) on the west line (559,750 E, ID numbers HRS-56-60). This marks a distinct change from the east line (559,850 E, ID numbers HRS 51-55) which ranges 410-950 ppm P. Elevated phosphorous in soil is a useful vector for Be (and rare metal) bearing mineralization. Further soil sampling of the area north of the 2023 soil survey area, at 1,500-1,600 m elevation is recommended.

STREAM SEDIMENT SAMPLES

Sample ID	Zone	Easting NAD 83	Northing NAD 83	Elev (m)	Texture	Stream size	Colour
HRSLT-1	NE	560365	5491332	1349	sand, silt	small	grey
HRSLT-2	NE	560307	5491502	1339	sand, silt	very small	grey
HRSLT-3	NE	560244	5491593	1334	sand, silt	small	grey

Sample	Be ppm	P ppm	Ba ppm	Ce ppm	La ppm	Rb ppm	Ta ppm	Mn ppm	S %	Ti %	U ppm
HRSLT-1	**4.61**	**490**	**490**	**75.7**	**37.4**	**114**	**0.98**	**659**	**0.04**	**0.389**	**7.5**
HRSLT-2	**4.57**	**440**	**490**	**78.2**	**39.7**	**117.5**	**1.08**	**633**	**0.04**	**0.391**	**7**
HRSLT-3	**4.39**	**420**	**440**	**67.1**	**37.2**	**109**	**0.81**	**489**	**0.03**	**0.303**	**63.4**

A total of three stream sediment samples were taken from the northeast portion of the claim (Fig 6-12). The beryllium values of stream sediment samples range from 4.4-4.6 ppm Be. considered an indicator for increased hydrothermal mineralization in this area that is underlain or in close proximity to the Hellroaring Creek granitic stock. Geological mapping and sampling follow-up on sample HRSLT-3 is recommended, including area SW (above the sample at 1,330-1,540 m elevation).

7.0 Discussion of Results

The Hellroaring Pb-Zn-As zone may be related to late-stage (border phase) hydrothermal emanations hosted in faults/fractures developed in the Hellroaring Pegmatite Stock (Fig 3B). Further evaluation of commercial applications of Hellroaring feldspar (mica, beryllium, silica, tourmaline) as well as geochemical analysis of rock and soil samples prior to core drilling are recommended. Further recommended geochemistry (notably Be and Li) of the pegmatitic granite to target specific portions of the Hellroaring Creek Stock. The fractional crystallization of pegmatites include a border phase and a core phase associated with K feldspar. The K-feldspar zones are characterized by increased microcline/albite ratios (increased potassium and decreased sodium). K-feldspar rich zones represent a potential area of rare metal enrichments and are more likely to have concentrations of rare metals such as beryllium, tantalum or lithium. Industrial grade feldspar with potential by-product mica, silica, tourmaline are likely to be associated with rare metals.

Uranium values of 17.2-28.7 ppm U in 2 out of 10 soil samples, are below the Provincial threshold of 100 ppm U. All other soil samples are just above detection limit averaging 2 ppm U.

Metallurgy with respect to ceramic and glass end use should include testing for the following: 1) no colouring oxides: Zr03, Cr203, NiO, C03O4, CuO, 2) no refractory minerals: zircon, corundum, spinel, 3) no sulphates or chlorides, 4) 5-10% K2O. Grain size determination is important considerations for ceramic and glass end use of feldspar (MacClean, 1991).

8.0 Conclusion

Future exploration and development of Hellroaring mineral claims should be focused on defining the extensions of known feldspar (mica, silica, beryllium). In order to outline zones of high purity ceramic grade feldspar, and beryl as a by-product mineral. Geochemical data should be collected from the area between 1,500-1,750 m elevation. Based on geochemically defined targets, core drilling in the central and south portion of the property is recommended. In addition to drilling, a program of metallurgical testing (bulk sampling), for use in various end products is recommended.

9.0 Recommendations

Further evaluation of commercial applications of Hellroaring feldspar (mica, beryllium, silica, tourmaline) as well as geochemical analysis of rock and soil samples prior to core drilling are recommended. Detailed geological mapping, and geochemistry is recommended, targeting specific portions of the Hellroaring Stock. The fractional crystallization of pegmatites suggests that a border phase and a core phase of the pegmatite may have economic concentrations of rare metals such as beryllium, tantalum or lithium. Industrial grade feldspar may be associated with rare metals. Contingent on results of proposed detailed geochemical sampling, a follow-up program of drilling in the area of the southern and central portion of the property (between 1,500-1,7,20 m elevation), is recommended in order to determine grade and distribution of Hellroaring feldspar (mica, beryllium, silica, tourmaline).

10.0 References

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CERTIFICATE AND DATE

I, Andris Kikauka, of 4199 Highway, Powell River, BC am a self-employed professional geoscientist. I hereby certify that:

1. I am a graduate of Brock University, St. Catharines, Ont., with an Honours Bachelor of Science Degree in Geological Sciences, 1980.
2. I am a Fellow in good standing with the Geological Association of Canada.
3. I am registered in the Province of British Columbia as a Professional Geoscientist.
4. I have practiced my profession for forty years in precious and base metal exploration in the Cordillera of Western Canada, U.S.A., Mexico, Central America, and South America, as well as for three years in uranium exploration in the Canadian Shield.
5. The information, opinions, and recommendations in this report are based on fieldwork carried out in my presence on the subject property during which time a technical evaluation consisting of rock, stream sediment and soil sampling carried out on the subject property.
6. I have a direct interest in the Hellroaring mineral claim. The recommendations in this report are for the purpose of describing future exploration work, and cannot be used for the purpose of public financing.
7. I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. This technical work report supports requirements of BCEMPR for Exploration and Development Work/Expiry Date Change.

Andris Kikauka, P. Geo.,

August 25, 2023

ITEMIZED COST STATEMENT-

HELLROARING PROJECT-MTO Claim 1104827
GEOCHEMICAL FIELDWORK
Dates worked: June 18-22, 2023
BCGS 082K.088, NTS 082 K 16 W, FORT STEELE MINING DIVISION
Work carried out on MTO tenure number: 1104827

FIELD CREW:

A. Kikauka (Geologist) 4 days	$ 3,500.00

FIELD COST:

Preparation, Mob and Demob	$ 287.50
Equipment, Supplies, Generator	32.80
Geochemical analysis 10 soil samples, 7 rock chip samples, 3 stream sediment samples, (& shipping to ALS Canada, Laboratories) Prep 31 for rock, prep 41 for soil and stream sediment, all samples analyzed using method code ME-MS41 multi-element geochemistry, multi-element ICP	815.75
Meals and accommodations	370.15
Fuel and vehicle rental	429.05
Communication (sat phone, VHF radios)	96.45
Report	1,150.00
Total amount=	$ 6,681.70

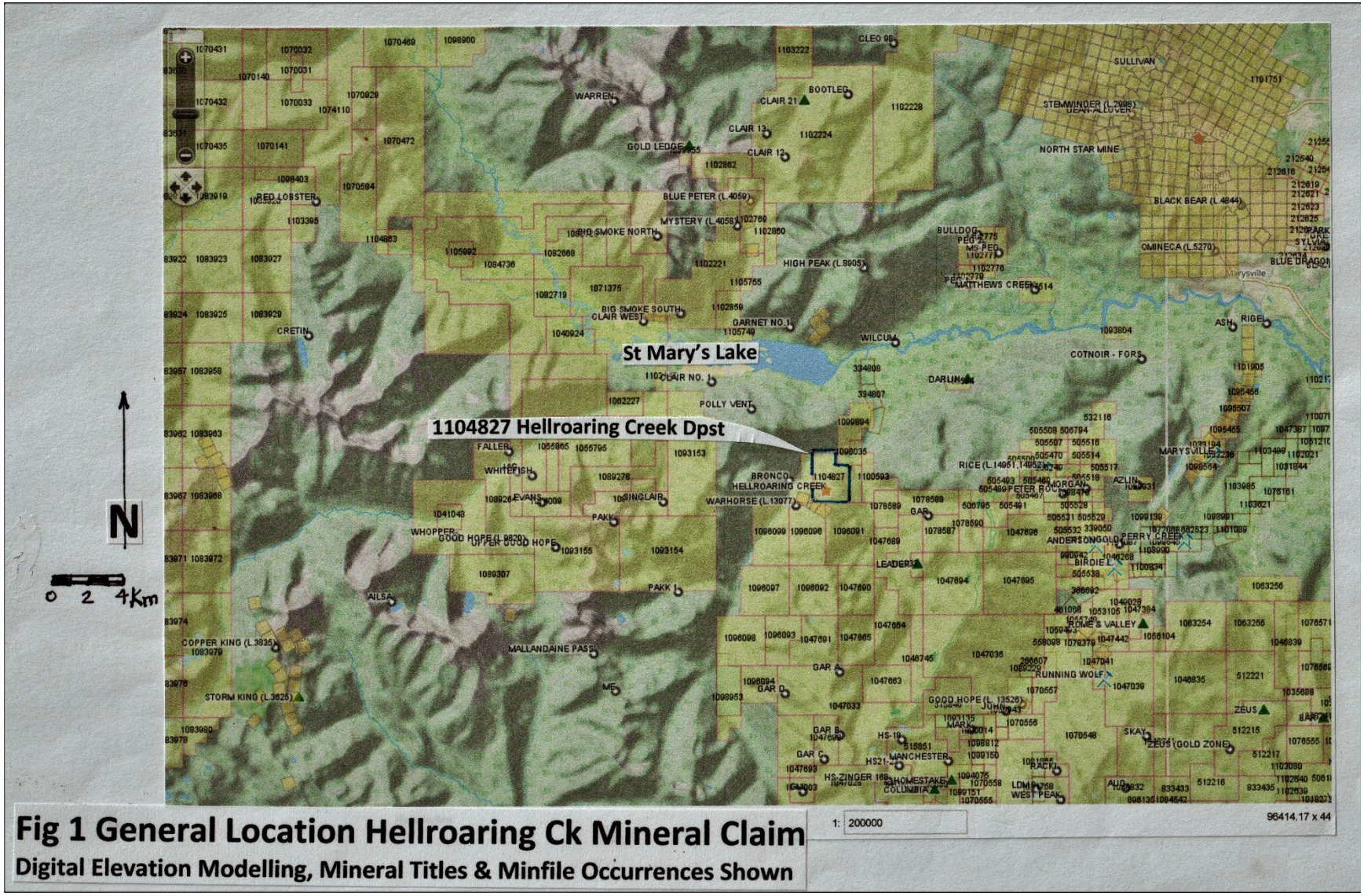
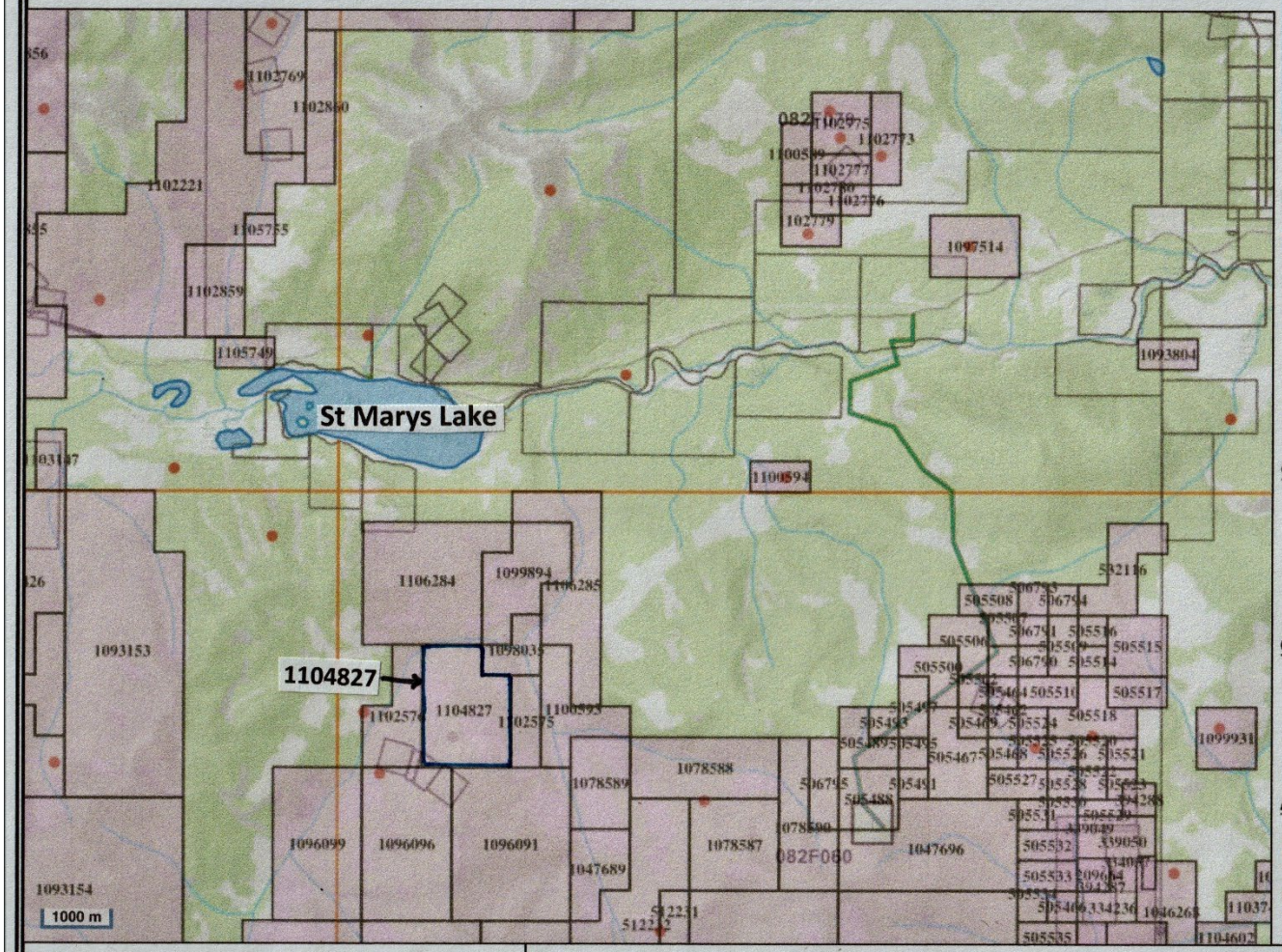


Fig 1 General Location Hellroaring Ck Mineral Claim

Digital Elevation Modelling, Mineral Titles & Minfile Occurrences Shown

Fig 2 MTO Claims

NTS 082F 9/E BCGS 082F.060 Ft Steele Mining Division



Legend

Mineral Titles (MTO)
MTO Grid
Title (current)
LEASE
CLAIM
Reserves
No Registration
Conditional
Heritage/Historic Site

Other Mining Layers
Mineral Occurrences (MINFILE)
Producer
Past Producer
Developed Prospect
Other

Crown Land Layers (Tantalis)
Land Act Survey Parcels - Tantalis - Legal Descriptions
Label Text
Land Act Survey Parcels - Tantalis - Outlined

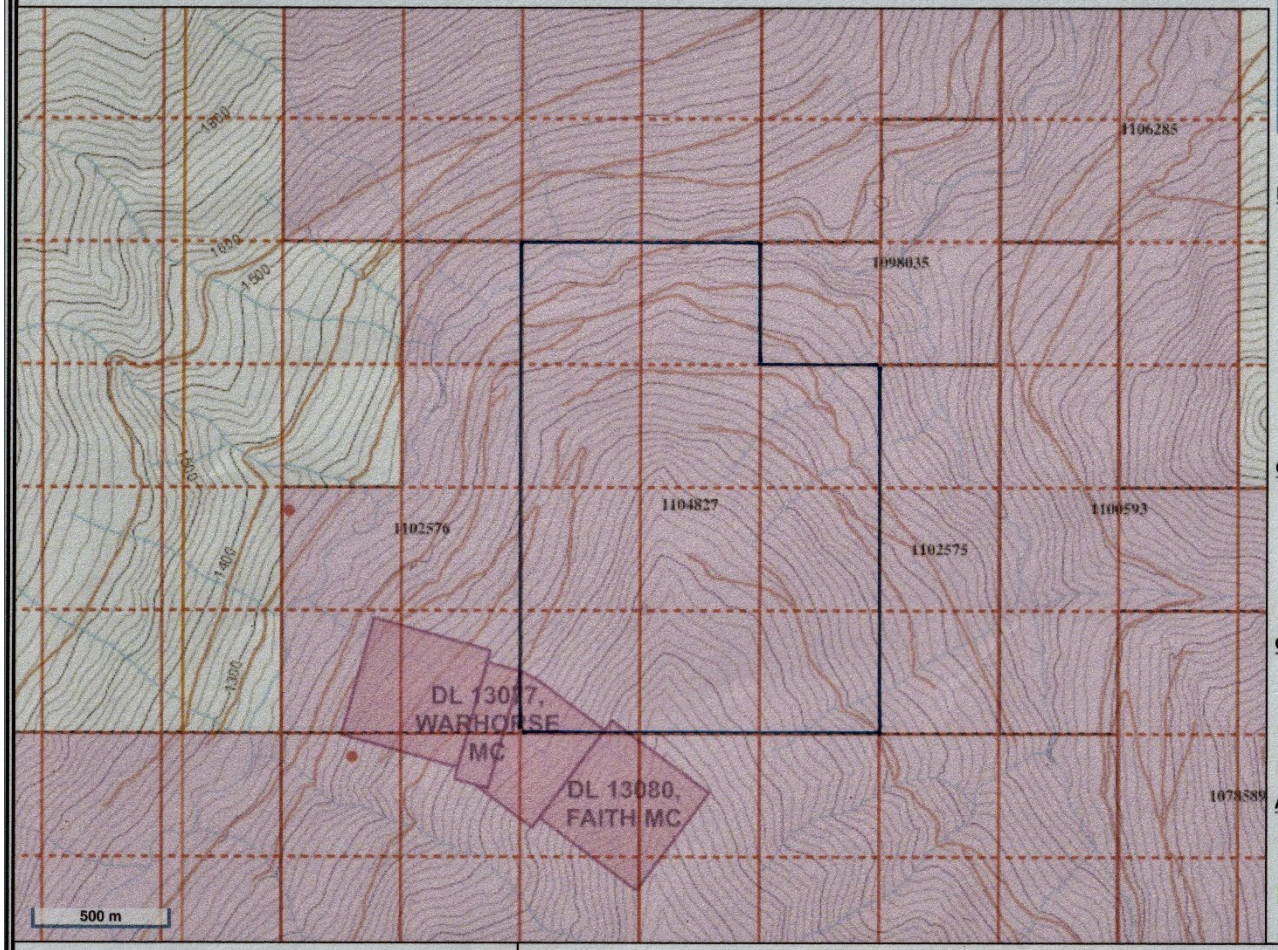
Administrative Boundaries
Local Regional Greenspaces - Outline
Local and Regional Greenspa
Local Regional Greenspaces - Colour Filled
Federal Transfer Lands - Outlined

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

Printed using the Mineral Titles Online (MTO) application. Ft Steele Mining Division

Center: 49°36'7", -116°8'6"
Scale: 1 : 135420
SRS: EPSG:3857

Fig 2B Hellroaring (Detail)



Legend

Mineral Titles (MTO)
MTO Grid
Title (current)
LEASE
CLAIM
Reserves
No Registration
Conditional
Heritage/Historic Site

Other Mining Layers
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Producer
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Printed using the Mineral Titles Online (MTO) application. Ft Steele Mining Division

NTS 082F 9/E BCGS 082F.060 Ft Steele Mining Division

Center: 49°34'16", -116°10'34"
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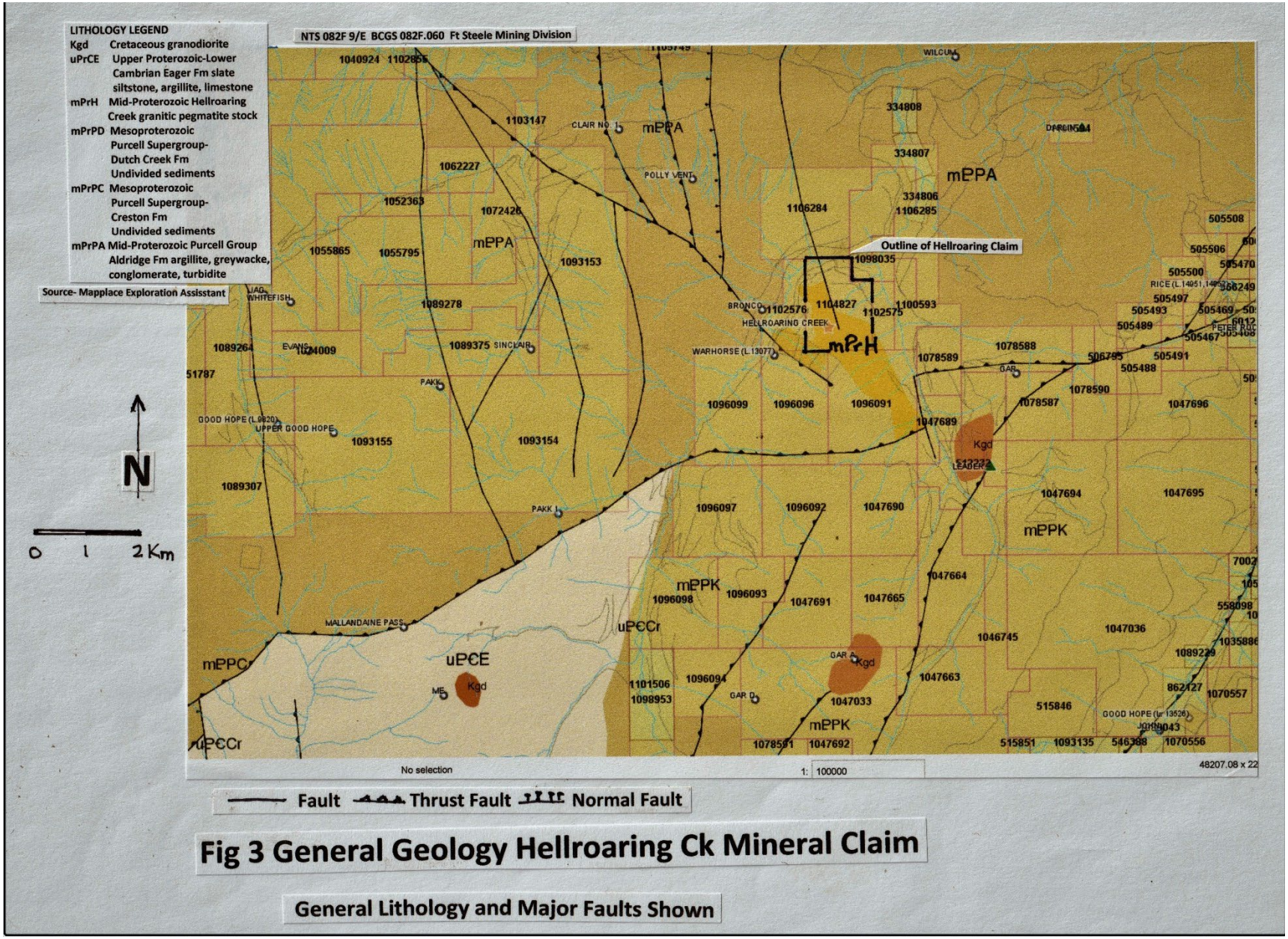


Fig 3 General Geology Hellroaring Ck Mineral Claim

General Lithology and Major Faults Shown

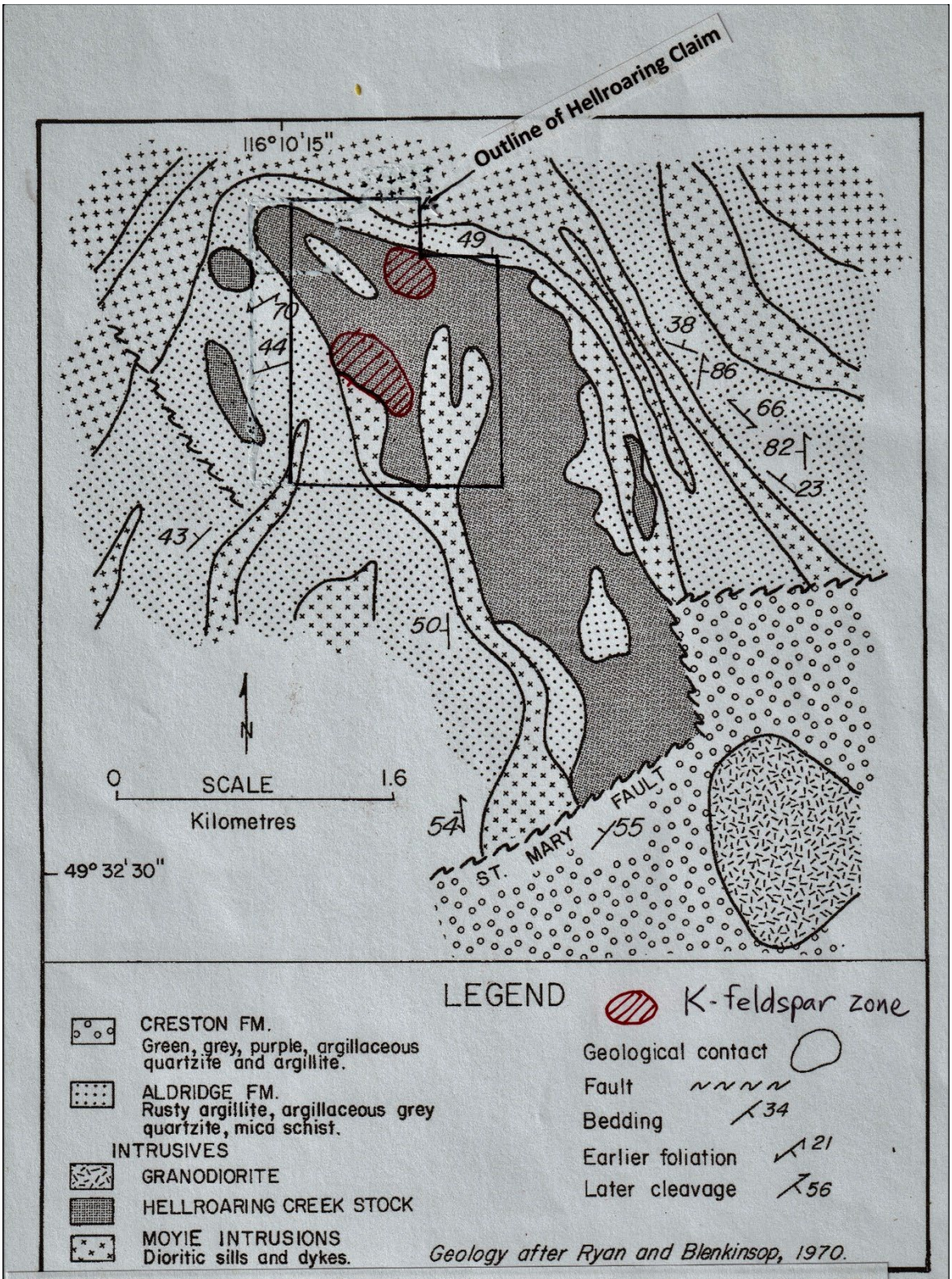


Fig 3B Detailed Geology Hellroaring Ck Mineral Claim

Source: Modified after Ryan & Belenkinsop, 1970 (Geology of the Hellroaring Stock)

Note- K-Feldspar Zone defined by increased Microcline/Albite ratios

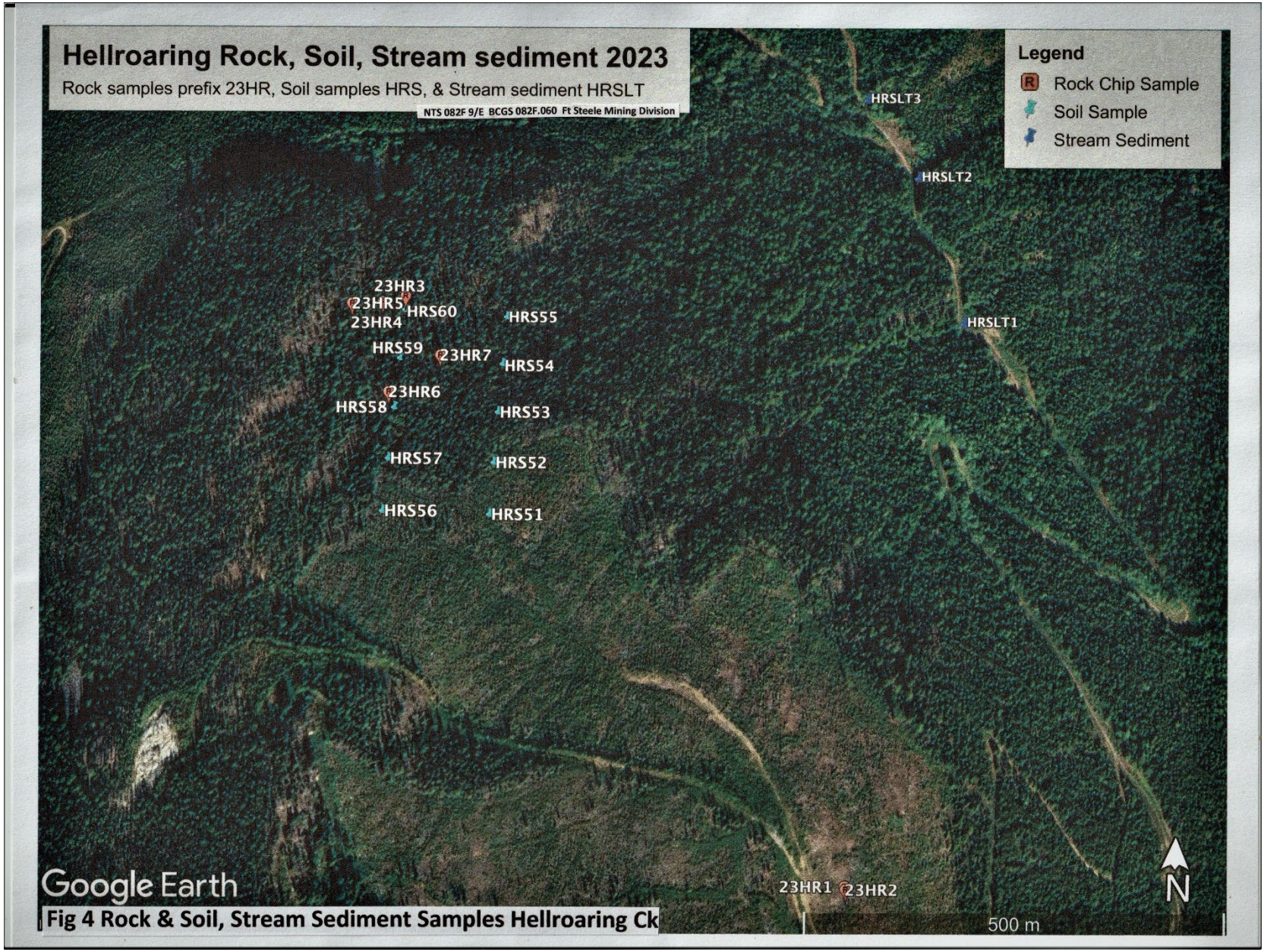
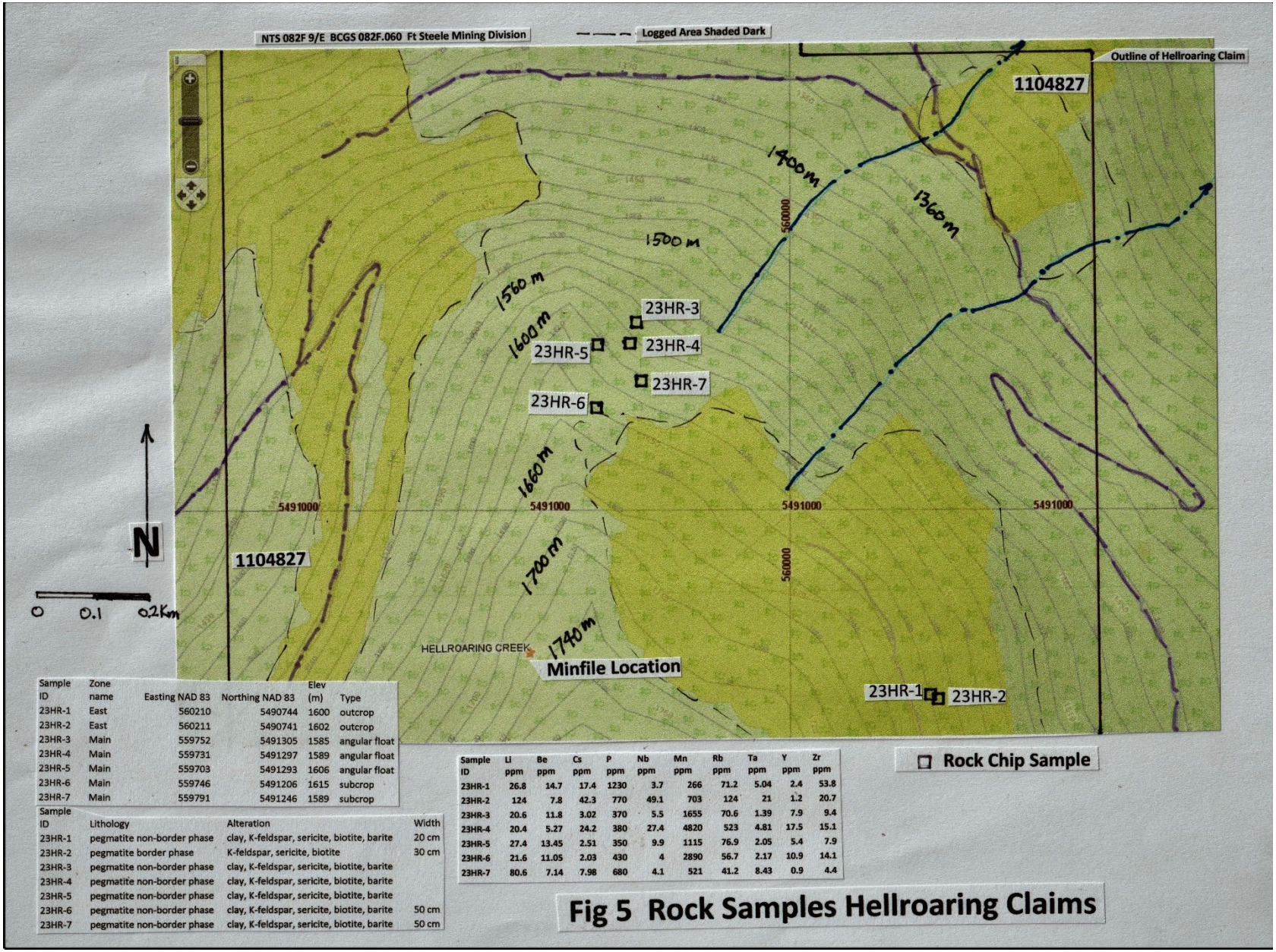


Fig 4 Rock & Soil, Stream Sediment Samples Hellroaring Ck



Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type
23HR-1	East	560210	5490744	1600	outcrop
23HR-2	East	560211	5490741	1602	outcrop
23HR-3	Main	559752	5491305	1585	angular float
23HR-4	Main	559731	5491297	1589	angular float
23HR-5	Main	559703	5491293	1606	angular float
23HR-6	Main	559746	5491206	1615	subcrop
23HR-7	Main	559791	5491246	1589	subcrop

Sample ID	Lithology	Alteration	Width
23HR-1	pegmatite non-border phase	clay, K-feldspar, sericite, biotite, barite	20 cm
23HR-2	pegmatite border phase	K-feldspar, sericite, biotite	30 cm
23HR-3	pegmatite non-border phase	clay, K-feldspar, sericite, biotite, barite	
23HR-4	pegmatite non-border phase	clay, K-feldspar, sericite, biotite, barite	
23HR-5	pegmatite non-border phase	clay, K-feldspar, sericite, biotite, barite	
23HR-6	pegmatite non-border phase	clay, K-feldspar, sericite, biotite, barite	50 cm
23HR-7	pegmatite non-border phase	clay, K-feldspar, sericite, biotite, barite	50 cm

Sample ID	Li ppm	Be ppm	Cs ppm	P ppm	Nb ppm	Mn ppm	Rb ppm	Ta ppm	Y ppm	Zr ppm
23HR-1	26.8	14.7	17.4	1230	3.7	266	71.2	5.04	2.4	53.8
23HR-2	124	7.8	42.3	770	49.1	703	124	21	1.2	20.7
23HR-3	20.6	11.8	3.02	370	5.5	1655	70.6	1.39	7.9	9.4
23HR-4	20.4	5.27	24.2	380	27.4	4820	523	4.81	17.5	15.1
23HR-5	27.4	13.45	2.51	350	9.9	1115	76.9	2.05	5.4	7.9
23HR-6	21.6	11.05	2.03	430	4	2890	56.7	2.17	10.9	14.1
23HR-7	80.6	7.14	7.98	680	4.1	521	41.2	8.43	0.9	4.4

Fig 5 Rock Samples Hellroaring Claims

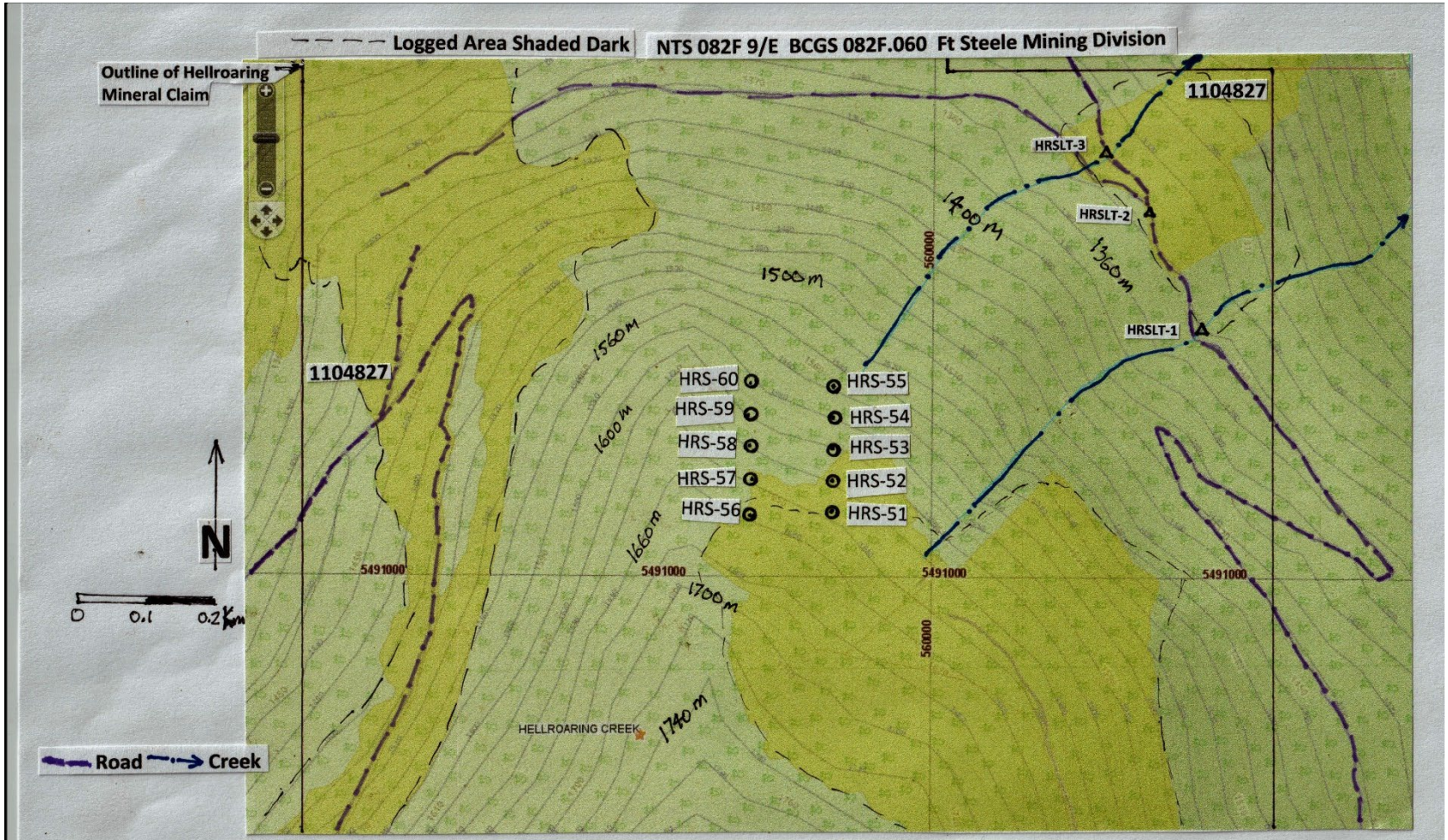


Fig 6 Soil Samples Hellroaring Claims

⊙ Soil Sample △ Stream Sediment Sample

Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type	Texture	Stream size	Colour
HRSLT-1	NE	560365	5491332	1349	stream sediment	sand, silt	small	grey
HRSLT-2	NE	560307	5491502	1339	stream sediment	sand, silt	very small	grey
HRSLT-3	NE	560244	5491593	1334	stream sediment	sand, silt	small	grey

Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type
HRS-51	Main	559850	5491100	1600	B horizon soil
HRS-52	Main	559850	5491150	1587	B horizon soil
HRS-53	Main	559850	5491200	1562	B horizon soil
HRS-54	Main	559850	5491250	1549	B horizon soil
HRS-55	Main	559850	5491300	1520	B horizon soil
HRS-56	Main	559750	5491100	1603	B horizon soil
HRS-57	Main	559750	5491150	1590	B horizon soil
HRS-58	Main	559750	5491200	1564	B horizon soil
HRS-59	Main	559750	5491250	1547	B horizon soil
HRS-60	Main	559750	5491300	1518	B horizon soil

Sample ID	Texture	Depth	Colour
HRS-51	sand, silt, clay	20 cm	dark brown
HRS-52	sand, silt, clay	20 cm	dark brown
HRS-53	sand, silt, clay	20 cm	dark brown
HRS-54	sand, silt, clay	20 cm	dark brown
HRS-55	sand, silt, clay	20 cm	dark brown
HRS-56	sand, silt, clay	20 cm	red brown
HRS-57	sand, silt, clay	20 cm	red brown
HRS-58	sand, silt, clay	20 cm	red brown
HRS-59	sand, silt, clay	20 cm	red brown
HRS-60	sand, silt, clay	20 cm	red brown

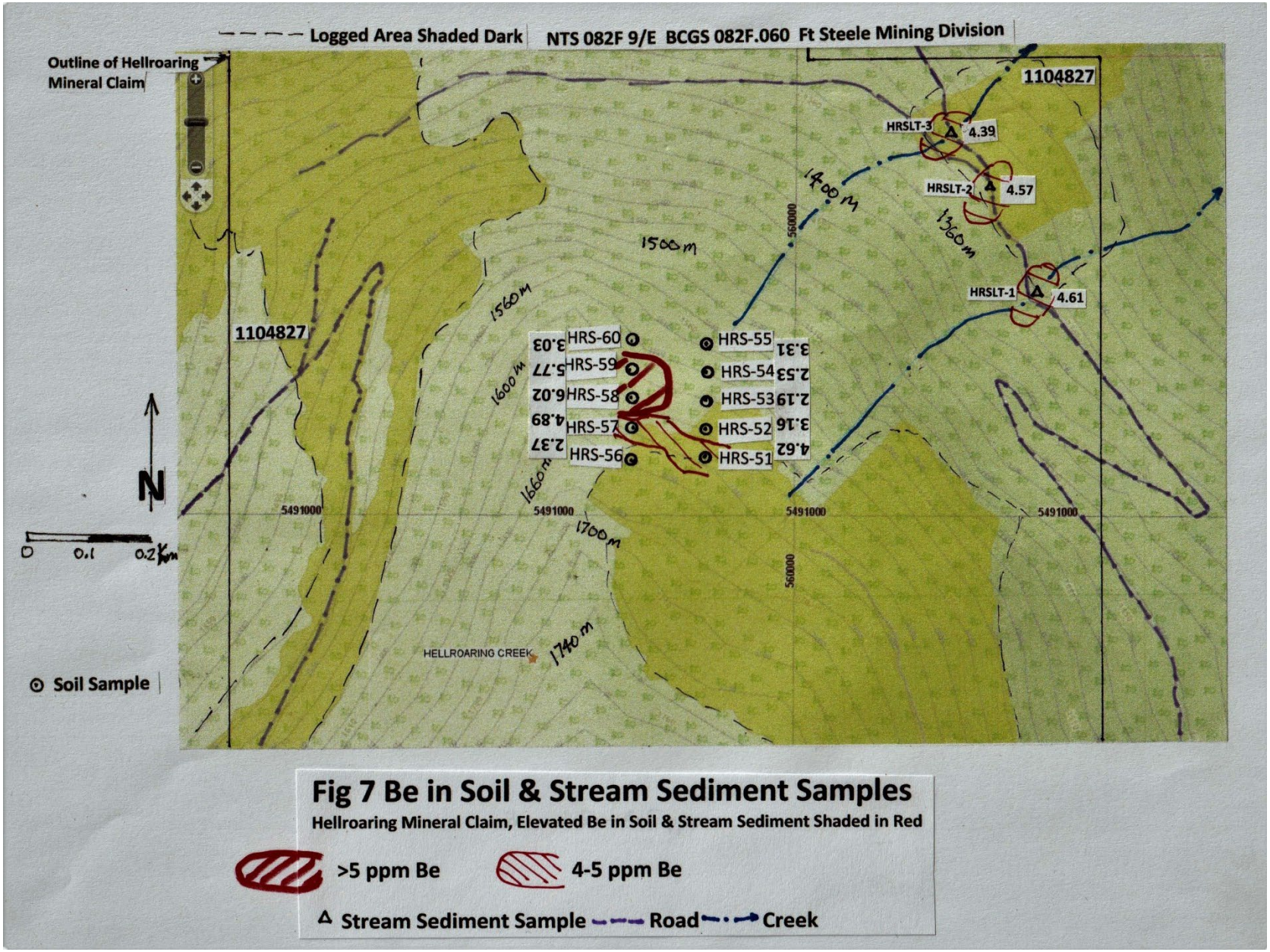


Fig 7 Be in Soil & Stream Sediment Samples

Hellroaring Mineral Claim, Elevated Be in Soil & Stream Sediment Shaded in Red

>5 ppm Be

4-5 ppm Be

Stream Sediment Sample — Road — Creek

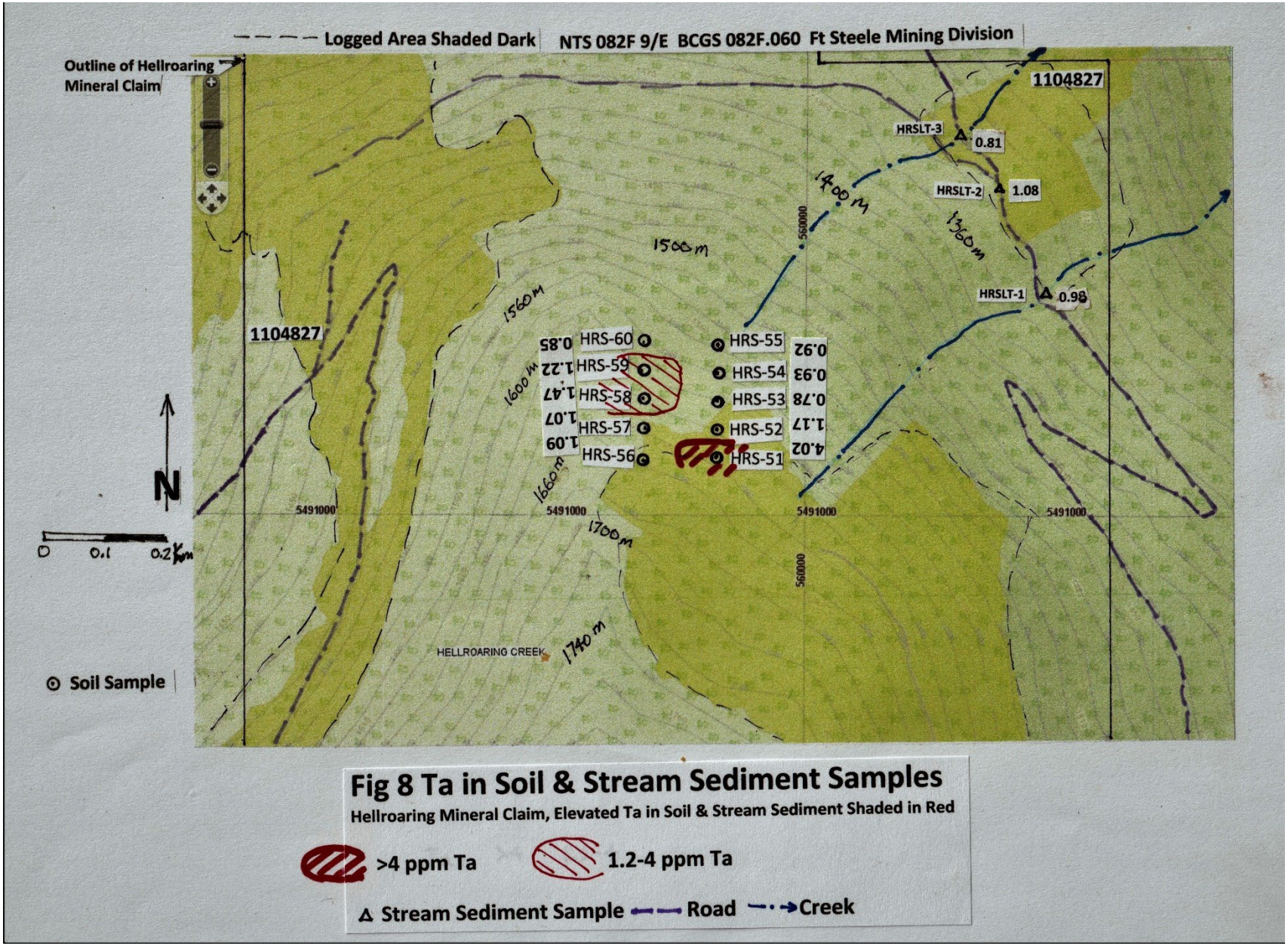


Fig 8 Ta in Soil & Stream Sediment Samples

Hellroaring Mineral Claim, Elevated Ta in Soil & Stream Sediment Shaded in Red

>4 ppm Ta

1.2-4 ppm Ta

Stream Sediment Sample — Road — Creek

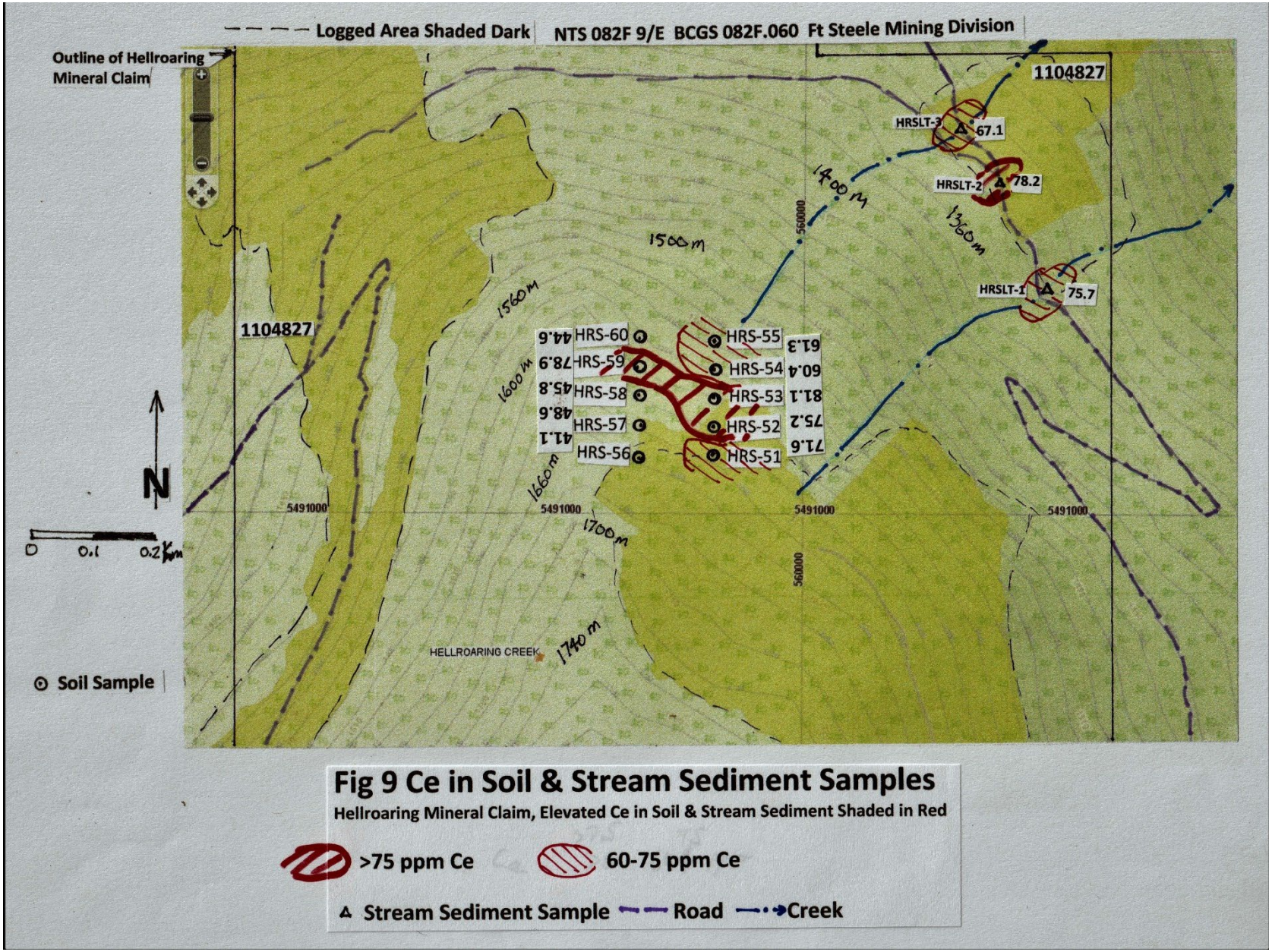


Fig 9 Ce in Soil & Stream Sediment Samples

Hellroaring Mineral Claim, Elevated Ce in Soil & Stream Sediment Shaded in Red

>75 ppm Ce 60-75 ppm Ce

Stream Sediment Sample Road Creek

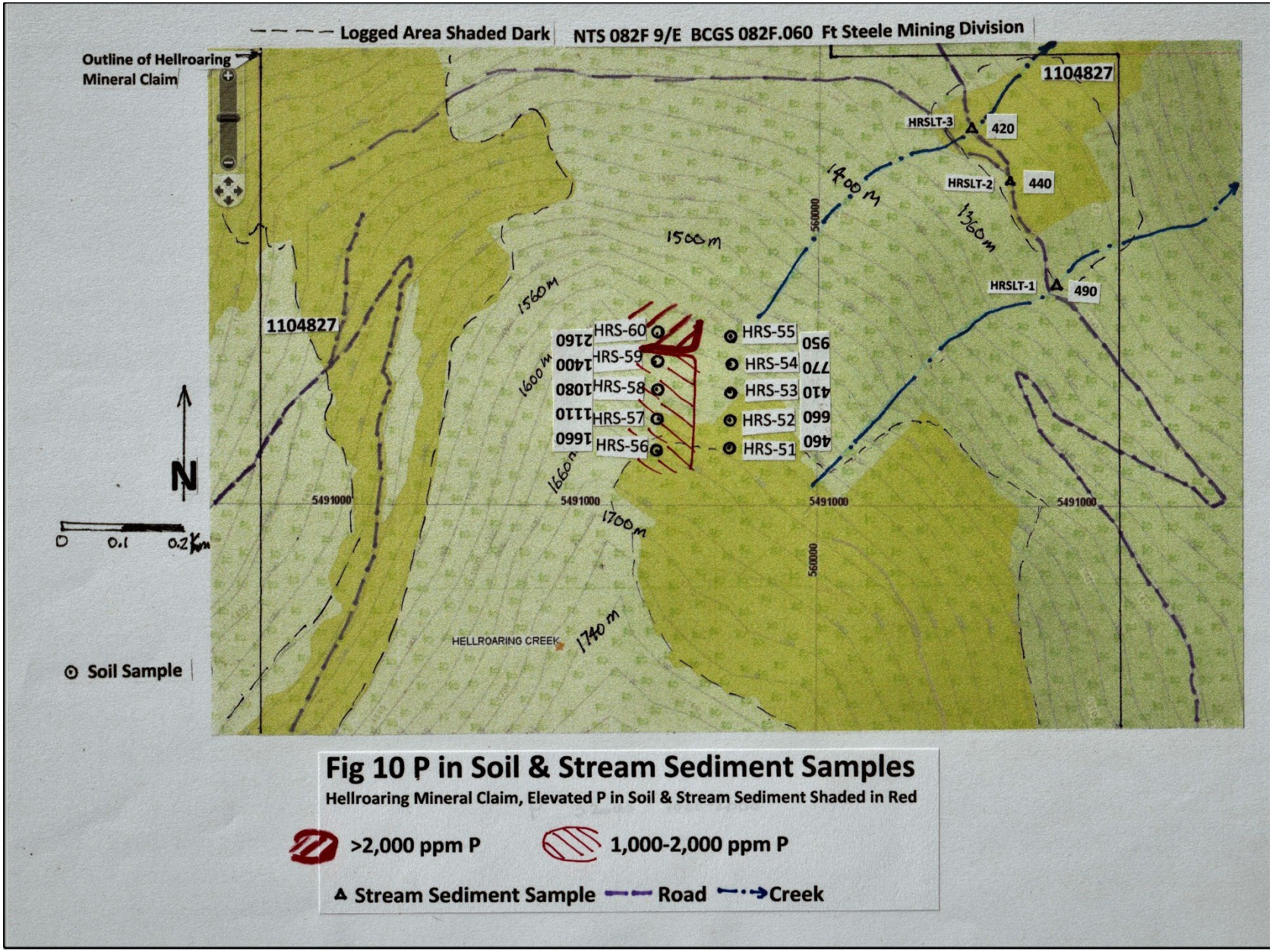


Fig 10 P in Soil & Stream Sediment Samples

Hellroaring Mineral Claim, Elevated P in Soil & Stream Sediment Shaded in Red

>2,000 ppm P

1,000-2,000 ppm P

Stream Sediment Sample — Road — Creek

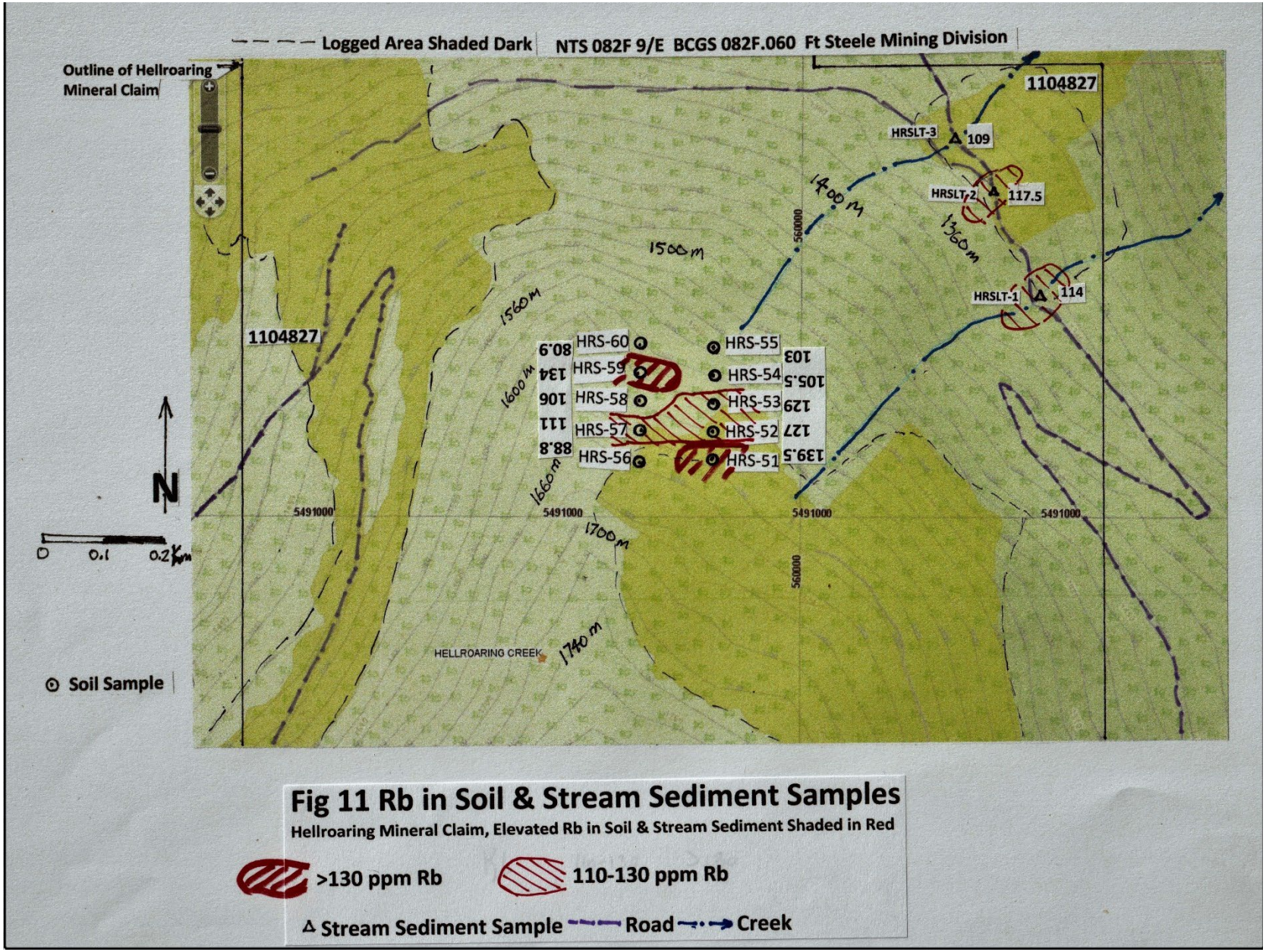


Fig 11 Rb in Soil & Stream Sediment Samples

Hellroaring Mineral Claim, Elevated Rb in Soil & Stream Sediment Shaded in Red

>130 ppm Rb

110-130 ppm Rb

Stream Sediment Sample — Road — Creek

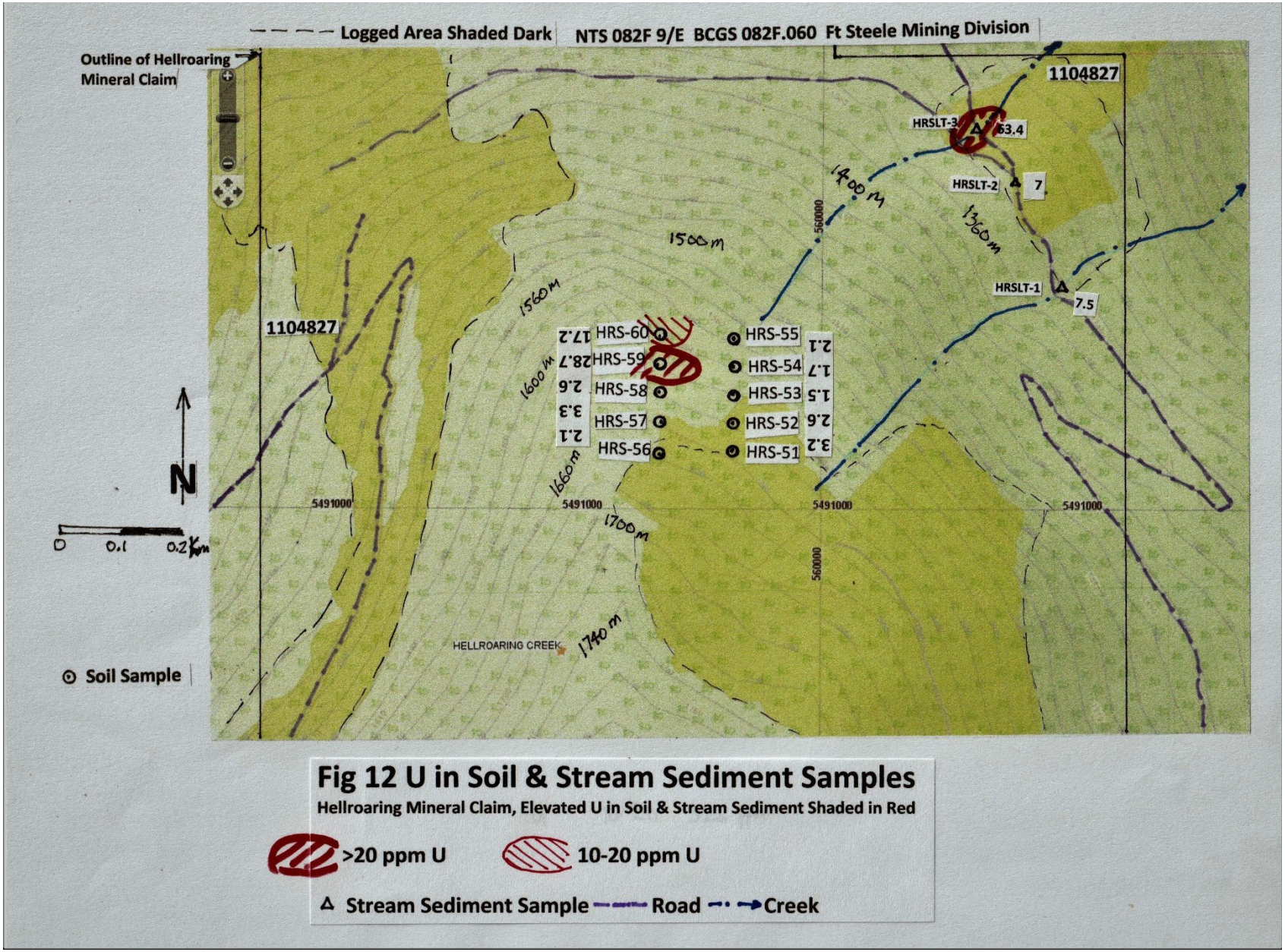


Fig 12 U in Soil & Stream Sediment Samples

Hellroaring Mineral Claim, Elevated U in Soil & Stream Sediment Shaded in Red

>20 ppm U

10-20 ppm U

Stream Sediment Sample — Road — Creek

BRITISH COLUMBIA

MINFILE Detail Report
BC Geological Survey
Ministry of Energy, Mines and Petroleum Resources

Location/Identification

MINFILE Number: 082FNE110
National Mineral Inventory Number: 082F9 Gem1
Name(s): **HELLROARING CREEK**
LINDA, LINDA 1
Status: Developed Prospect
Mining Division: Fort Steele
Electoral District: East Kootenay
Regions: British Columbia
Resource District: Rocky Mountain Forest District
BCGS Map: 082F060
NTS Map: 082F09E
UTM Zone: 11 (NAD 83)
Latitude: 49 34 00 N
Northing: 5490779
Longitude: 116 10 33 W
Easting: 559594
Elevation: 1615 metres
Location Accuracy: Within 500M
Comments: Centre of drill hole 86-13 on the east side of Hellroaring Creek, 18 kilometres southwest of Kimberley (Exploration in B.C. 1987, Figure B32).

Mineral Occurrence

Commodities: Feldspar, Mica, Beryllium, Gemstones, Rubidium, Beryl

Minerals
Significant: Feldspar, Microcline, Albite, Muscovite, Beryl, Tourmaline, Garnet
Associated: Quartz, Pyrite, Pyrrhotite, Galena, Arsenopyrite
Associated Comments: Trace pyrite, pyrrhotite, galena and arsenopyrite.
Mineralization Age: Middle Proterozoic

Deposit
Character: Massive, Disseminated
Classification: Pegmatite, Magmatic, Syngenetic, Industrial Min.
Type: O01: Rare element pegmatite - LCT family, O03: Muscovite pegmatite, O04: Feldspar-quartz pegmatite
Dimension: 4000x1500x0 metres
Comments: Pegmatite stock.

Host Rock

Dominant Host Rock: Plutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Helikian	Purcell	Aldridge	------
Helikian	Purcell	Creston	------
Proterozoic	------	------	Moyie Intrusions

Isotopic Age	Dating Method	Material Dated
------	------	------
------	------	------
------	------	

Lithology: Medium Grained Pegmatite, Granodiorite Sill, Granodiorite Dike, Argillite, Quartzite, Mica Schist
Comments: Pegmatite of the Middle Proterozoic Hellroaring Creek stock.

Geological Setting

Tectonic Belt: Omineca
Physiographic Area: Purcell Mountains
Terrane: Ancestral North America
Metamorphic Type: Regional
Relationship: Post-mineralization

Inventory

Ore Zone: NORTH
Year: 1965
Category: Indicated
Report On: Y
Quantity: 450,000 tonnes
NI 43-101: N

Commodity	Grade
Beryllium	0.1000 per cent

Comments: Grade given for beryllium oxide.
Reference: Assessment Report 13415, page 21.

Capsule Geology

The Hellroaring Creek pegmatite stock is about 20 kilometres southwest of Kimberley and 31 kilometres west-northwest of Cranbrook. The stock has been explored for feldspar, quartz, mica and, in the 1960's, beryllium.

The area is underlain by quartzite and argillite of the Creston Formation and argillite, quartzite and mica schist of the Aldridge Formation, both of the Helikian Purcell Supergroup. These metasediments are intruded by sills and dykes of granodiorite of the Proterozoic Moyie Intrusions, which are in turn intruded by pegmatite of the Middle Proterozoic Hellroaring Creek stock. The east trending St. Mary fault separates this area from the area underlain by Creston Formation metasediments to the south. The Aldridge Formation is folded into an open northwest plunging anticline with the Hellroaring Creek stock emplaced in the core.

The pegmatite stock trends north-northwest for 4 kilometres within the Aldrige Formation and is up to 1.5 kilometres wide. The stock appears to be a series of large dyke swarms. Most of the sampling and diamond drilling is concentrated in an area at the north end of the stock, where drilling encountered thicknesses of up to 150 metres.

The stock is comprised of medium to coarse grained white to light grey pegmatite typically containing 60 to 70 per cent feldspar, 20 to 30 per cent quartz, 0 to 10 per cent muscovite and 0 to 10 per cent tourmaline. Beryl, garnet, pyrite, pyrrhotite, galena and arsenopyrite occur in minor to trace amounts. The feldspar occurs in distinct microcline and albite rich zones. Quartz occurs in massive lenses several metres thick that are free of feldspar. Muscovite forms fine flakes along fractures and books, up to 13 centimetres across, in irregular patches. Thin needle-like tourmaline crystals (3 by 10 millimetres) and blades up to 3 centimetres long occur in patches. Beryl forms erratically scattered very pale bluish green and white crystals and irregular masses up to 7.5 centimetres in diameter and 15 centimetres in length that tend to be associated with plagioclase, quartz and muscovite. Garnet is present as pink to red grains 1 to 2 millimetres across in addition to occasional veinlets of pyrite, pyrrhotite, galena and arsenopyrite. Iron and manganese staining is common on outcrops and in drill core.

Work in 1965, by Richfield Oil Corporation, indicated the north end of the stock contains 450,000 tonnes of 0.1 per cent beryllium oxide (Assessment Report 13415, p. 21). Diamond drilling in 1985 and 1986 by Lumberton Mines Ltd. encountered zones containing in excess of 1 per cent tourmaline (Assessment Report 15760, p. 12). Nineteen samples of feldspathic pegmatite analyzed as follows in per cent (Exploration in B.C. 1987, p. B111):

SiO2	64.86 to 76.72
Al2O3	12.61 to 19.00
K2O	0.45 to 12.45
Na2O	1.95 to 6.44
CaO	0.05 to 0.64
Fe2O3	0.05 to 4.24

Tests carried out by CANMET indicate that the pegmatite can be processed to produce feldspar and mica concentrates that meet industry standards with full liberation at 50 mesh.

This stock was first staked in 1958 as a beryllium prospect. Subsequent exploration, by various operators in the 1960's and by Lumberton Mines Ltd., in 1984 and 1985 failed to discover beryllium reserves of sufficient grade to warrant further development as a beryllium prospect. However, this work combined with further sampling and diamond drilling by Lumberton Mines in 1986 indicates that the stock contains a considerable amount of glass and ceramic

grade feldspar.

The property is located on the east side of Hellroaring Creek between the 1,219 and 1,524 metre elevations, 33.7 kilometres due south of the east end of St. Mary Lake.

In 1958 H. Bennett of Cranbrook located the Linda and Linda No. 1 claims on a pegmatite showing in which he found beryl crystals. International Beryllium Corporation was formed in 1961 to prospect the property, which had been expanded to 32 claims. Some 1,219 metres of trenching was done before the project was abandoned.

The property was acquired by Canuck Beryllium Corporation and a small amount of stripping and open-cutting was reported done by the company in 1963. An agreement between Canuck Beryllium, a subsidiary of Peace River Petroleum Ltd., and Richfield Oil Corporation of California for prospecting and development work on the property was announced in August 1, 1965. Under the terms of the agreement, Richfield Oil will have control over operations. Work in 1965 was limited to blasting and sampling some 365.7 metres of trench. This work is reported to indicate 500,000 tons averaging 0.1 per cent Beryllium oxide (Bearcat Explorations Ltd. News Release., 1/02/1984).

Some 4,550 acres of mineral claims covering these showings were acquired in early 1984 by Bearcat Explorations Ltd. (80 per cent) and Colt Exploration (Western) Ltd. (20 per cent). A joint venture agreement that same year with Fairholme Development Ltd. and Barnwell industries, Inc. provided financing for an initial stage of exploration. Work carried out in 1984 by Lumberton Mines Limited, Bearcats 100 per cent owned subsidiary, included trenching and 500 m of diamond drilling in 7 HQ drill holes; subsequent joint venture interests were: Colt (15 per cent), Fairholme (5 per cent), Barnwell (25 per cent), Bearcat (55 per cent). Further work in 1985-86 included 2584 metres of diamond drilling in 29 holes, and bulk sample flotation tests.

This work delineated three surface areas with significant high-grade ceramic feldspar; potential by-products are high-grade mica, high-grade silica, and a minor amount of beryllium in the form of beryl.

Surface prospecting by Chapleau Resources Ltd. in 2000 revealed a number of new untested outcrops of beryl-rich pegmatite. The work is reported to have extended "the old Richfield zone south for 500 metres and 500 metres east". Values high in beryllium and rubidium are reported from grab samples taken by Chapleau (George Cross Newsletter, August 1, 2000 (No. 147).

Bibliography

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EMPR ASS RPT *13415; *15760
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EMPR OF 1988-14, 1991-10
EMPR PF (Prospectors Report 1999-13 by David Javorsky)
EMPR PRELIM MAP 16
EMR MP CORPFILE (International Beryllium Corp.; Canuck Beryllium Corp.)
GSC EC GEOL 23, p. 62; 29, p. 71
GSC MAP 603A; 12-1957
GSC MEM 228
GSC P 60-21, p. 12
CJES *Vol. 8, 1971, pp. 85-95 (Ryan, B.D. and Blenkinsop, J. (1971): Geology and Geochronology of the Hellroaring Creek Stock, British Columbia)
GCNL #25,#70,#166, 1984; #147(Aug.1), #229(Nov.30), 2000

N MINER Aug. 30, 1984
Placer Dome File
WWW
http://www.infomine.com/index/properties/HELLROARING_STOCK_PEG.html

EMPR PFD 1914, 1915, 901284, 904078, 812412, 861826, 861827, 827881, 827899, 827900, 827913

Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2014/11/27	**Revised By:**	Laura deGroot (LDG)	**Field Check:**	N

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2103 Dollarton Hwy
North Vancouver BC V7H 0A7
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www.alsglobal.com/geochemistry

To: **KIKAUKA, ANDRIS**
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 23-JUL-2023
This copy reported on
24-JUL-2023
Account: KIKAND

CERTIFICATE VA23177504

Project: Hellroaring and Peg

This report is for 21 samples of Soil submitted to our lab in Vancouver, BC, Canada on 29-JUN-2023.

The following have access to data associated with this certificate:

ANDRIS KIKAUKA

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
DISP-01	Disposal of all sample fractions
LOG-22	Sample login - Rcd w/o BarCode
SCR-41	Screen to -180um and save both

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS61	48 element four acid ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number.Results apply to samples as submitted.All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, Director, North Vancouver Operations

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: **KIKAUKA, ANDRIS**
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 23-JUL-2023
Account: KIKAND

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177504

Sample Description	Method	WEI-21	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Recvd Wt.	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
	Units	kg	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.02	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01
HRS-51		0.26	0.07	7.38	48.8	490	4.62	0.42	0.84	0.16	71.6	9.2	35	8.68	13.1	3.27
HRS-52		0.28	0.11	7.60	29.2	550	3.16	0.33	0.83	0.21	75.2	9.5	32	7.61	15.2	3.15
HRS-53		0.24	0.17	6.68	12.8	520	2.19	0.27	0.76	0.13	81.1	5.2	30	6.20	7.7	2.45
HRS-54		0.28	0.35	7.23	20.6	510	2.53	0.42	0.91	0.27	60.4	11.0	30	7.06	11.6	3.15
HRS-55		0.36	0.47	6.93	25.5	500	3.31	0.35	0.97	0.40	61.3	8.4	28	6.88	11.8	2.84
HRS-56		0.20	0.77	8.08	18.7	580	2.37	0.74	1.18	0.87	41.1	11.8	18	7.47	16.4	2.74
HRS-57		0.34	0.19	8.03	66.2	490	4.89	0.71	0.99	0.26	48.6	8.2	25	7.90	16.0	2.98
HRS-58		0.30	0.20	7.49	47.3	500	6.02	0.65	0.97	0.42	45.8	7.9	26	7.60	15.3	3.04
HRS-59		0.34	0.69	7.83	781	500	5.77	0.64	0.92	0.52	78.9	13.6	34	17.55	29.5	3.56
HRS-60		0.20	0.59	8.12	897	500	3.03	0.46	1.06	0.39	44.6	11.0	21	6.65	17.6	3.00
HRSLT-1		0.68	0.06	6.54	51.9	490	4.61	0.47	1.40	0.23	75.7	10.2	33	7.35	13.8	3.38
HRSLT-2		0.66	0.06	6.51	47.9	490	4.57	0.40	1.37	0.21	78.2	10.1	32	7.54	13.8	3.21
HRSLT-3		0.66	0.13	6.16	53.1	440	4.39	0.32	1.19	0.18	67.1	8.5	34	12.00	14.8	2.69
PS101		0.30	0.17	7.18	9.0	550	1.94	0.26	1.73	0.11	69.5	11.9	40	4.03	28.1	3.10
PS102		0.50	0.07	6.51	7.8	490	2.22	0.20	2.02	0.07	75.0	11.0	54	4.38	24.4	3.17
PS103		0.32	0.08	6.10	10.0	400	1.79	0.24	2.30	0.13	62.7	12.4	50	3.94	22.5	3.20
PS104		0.36	0.07	6.39	10.4	450	1.89	0.21	2.36	0.13	61.4	16.2	54	3.80	25.1	3.37
PS105		0.46	0.22	7.71	14.6	560	2.64	0.42	1.74	0.10	88.9	16.0	63	5.63	68.5	4.06
PS106		0.28	0.12	6.17	7.0	450	1.78	0.21	2.22	0.14	56.4	11.0	45	3.78	23.2	2.85
PS107		0.40	0.09	6.52	10.6	480	1.93	0.24	2.20	0.09	64.1	15.4	53	4.04	30.7	3.32
PS108		0.26	0.52	8.32	29.1	520	2.78	0.58	1.73	0.28	133.5	24.8	81	9.66	231	5.02

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 23-JUL-2023
Account: KIKAND

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177504

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb
	Units	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm
	LOD	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5	0.05	0.01	0.1	0.2	10	0.5
HRS-51		17.15	0.09	1.4	0.080	2.01	33.7	41.2	0.83	371	0.90	1.52	14.5	14.0	460	31.9
HRS-52		18.35	0.09	2.2	0.083	1.96	35.4	39.7	0.77	328	1.08	1.58	12.2	15.0	660	29.2
HRS-53		17.90	0.12	1.4	0.073	1.92	39.4	30.0	0.66	224	0.67	1.47	10.4	8.9	410	16.0
HRS-54		19.45	0.10	1.7	0.082	1.70	30.1	45.6	0.57	460	1.12	1.59	11.4	11.0	770	25.6
HRS-55		19.45	0.09	1.8	0.086	1.71	28.9	37.7	0.60	720	1.01	1.70	11.2	9.3	950	25.9
HRS-56		22.9	0.06	4.3	0.065	1.55	19.1	39.0	0.47	1475	1.27	2.04	11.2	12.5	1660	34.3
HRS-57		21.2	0.08	3.5	0.075	1.70	23.4	36.9	0.55	711	1.29	1.89	12.4	11.1	1110	47.0
HRS-58		21.8	0.08	3.1	0.075	1.62	21.9	36.8	0.52	1055	1.33	1.83	14.0	11.4	1080	46.1
HRS-59		20.1	0.11	2.3	0.082	1.75	33.6	51.6	0.70	528	1.38	1.61	13.9	14.7	1400	86.0
HRS-60		22.7	0.09	4.5	0.071	1.49	22.0	37.6	0.50	505	1.69	1.88	10.9	11.2	2160	53.7
HRSLT-1		16.40	0.12	0.8	0.100	2.08	37.4	39.3	0.73	659	0.80	1.65	10.2	9.2	490	33.0
HRSLT-2		16.10	0.12	0.7	0.102	2.05	39.7	38.1	0.71	633	0.77	1.66	10.9	9.0	440	30.9
HRSLT-3		14.45	0.12	0.8	0.077	1.79	37.2	36.5	0.69	489	0.66	1.61	8.3	14.5	420	26.2
PS101		17.65	0.11	2.8	0.070	1.44	30.0	33.7	0.84	481	0.67	1.49	9.8	21.8	1250	18.3
PS102		16.30	0.12	1.0	0.072	1.71	40.9	27.7	1.00	471	0.48	1.41	10.8	20.8	230	16.2
PS103		15.40	0.12	1.0	0.079	1.43	34.1	25.5	1.06	548	0.64	1.37	9.4	21.8	380	22.0
PS104		16.05	0.10	1.2	0.079	1.57	28.0	27.5	1.20	599	0.59	1.50	9.6	24.0	430	17.6
PS105		19.15	0.18	1.4	0.082	1.93	61.9	44.2	1.04	633	0.81	1.20	10.6	35.2	400	24.4
PS106		15.20	0.11	1.2	0.075	1.43	32.6	30.2	0.97	625	0.50	1.42	8.5	22.0	370	27.4
PS107		16.10	0.11	1.3	0.072	1.62	33.8	30.3	1.14	598	0.62	1.49	9.6	24.6	440	21.1
PS108		20.4	0.43	1.2	0.092	2.04	152.0	56.4	1.38	1110	0.96	0.85	10.2	53.4	790	49.5

***** See Appendix Page for comments regarding this certificate *****

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To: **KIKAUKA, ANDRIS**
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 23-JUL-2023
Account: KIKAND

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177504

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V
	Units	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	LOD	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1
HRS-51		139.5	<0.002	0.02	0.35	11.6	1	8.3	99.4	4.02	<0.05	7.59	0.370	0.61	3.2	86
HRS-52		127.0	<0.002	0.02	0.42	11.3	<1	5.4	130.0	1.17	<0.05	8.93	0.371	0.57	2.6	75
HRS-53		129.0	<0.002	0.01	0.40	9.9	1	3.6	121.5	0.78	<0.05	7.15	0.354	0.47	1.5	65
HRS-54		105.5	<0.002	0.02	0.45	9.6	<1	4.5	147.0	0.93	<0.05	6.90	0.415	0.50	1.7	77
HRS-55		103.0	<0.002	0.02	0.43	10.4	1	4.3	150.5	0.92	<0.05	5.92	0.384	0.42	2.1	73
HRS-56		88.8	<0.002	0.03	0.53	7.6	1	4.9	237	1.09	<0.05	5.49	0.420	0.62	2.1	59
HRS-57		111.0	<0.002	0.03	0.44	9.0	1	6.1	176.0	1.07	0.05	6.34	0.402	0.58	3.3	70
HRS-58		106.0	<0.002	0.03	0.62	8.9	1	6.3	177.5	1.47	0.05	6.10	0.405	0.55	2.6	71
HRS-59		134.0	<0.002	0.04	0.43	11.4	2	7.3	139.5	1.22	<0.05	8.26	0.401	0.61	28.7	73
HRS-60		80.9	<0.002	0.03	0.43	8.2	1	3.9	211	0.85	<0.05	6.03	0.406	0.41	17.2	63
HRSLT-1		114.0	<0.002	0.04	0.26	14.3	1	5.2	127.5	0.98	<0.05	8.22	0.389	0.48	7.5	84
HRSLT-2		117.5	<0.002	0.04	0.25	13.5	1	5.1	129.0	1.08	0.05	7.92	0.391	0.45	7.0	82
HRSLT-3		109.0	<0.002	0.03	0.28	10.7	2	3.5	121.0	0.81	<0.05	6.98	0.303	0.43	63.4	62
PS101		64.1	<0.002	0.01	0.37	13.5	1	2.4	192.5	0.83	<0.05	7.61	0.412	0.35	2.9	77
PS102		85.2	<0.002	0.01	0.33	17.0	1	2.7	154.0	0.85	<0.05	9.41	0.409	0.40	3.3	88
PS103		77.7	<0.002	0.02	0.38	16.5	1	2.4	158.5	0.70	<0.05	8.05	0.414	0.32	2.2	86
PS104		78.2	<0.002	0.01	0.36	17.9	1	2.5	164.5	0.69	<0.05	6.46	0.427	0.33	1.8	95
PS105		98.9	<0.002	0.02	0.41	18.0	1	3.0	144.5	0.87	<0.05	13.80	0.395	0.51	6.0	93
PS106		70.6	<0.002	0.02	0.43	14.5	1	2.5	176.5	0.65	<0.05	5.84	0.385	0.31	2.0	79
PS107		78.2	<0.002	0.01	0.38	17.7	1	2.5	165.5	0.72	<0.05	7.53	0.427	0.38	3.4	92
PS108		132.5	<0.002	0.03	0.42	27.6	1	3.2	130.5	0.77	0.05	19.05	0.367	0.72	18.5	98

***** See Appendix Page for comments regarding this certificate *****

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To: KIKAUKA, ANDRIS
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177504

Sample Description	Method Analyte Units LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
HRS-51		2.9	14.2	142	47.0
HRS-52		2.2	16.1	156	80.3
HRS-53		1.7	13.8	99	48.5
HRS-54		1.9	14.2	186	65.6
HRS-55		2.0	15.6	142	61.2
HRS-56		1.4	14.9	236	150.0
HRS-57		1.9	15.4	165	120.5
HRS-58		1.9	14.6	175	110.0
HRS-59		7.0	21.0	656	77.6
HRS-60		1.5	16.8	306	163.0
HRSLT-1		2.7	22.5	85	21.5
HRSLT-2		2.6	22.9	82	21.4
HRSLT-3		1.5	32.9	95	24.1
PS101		1.4	20.9	76	93.2
PS102		1.5	24.5	56	31.6
PS103		1.2	21.2	55	33.2
PS104		1.3	22.4	64	35.8
PS105		2.2	33.6	69	43.2
PS106		1.2	22.0	72	40.5
PS107		1.3	26.7	78	40.2
PS108		2.4	121.5	121	38.0

***** See Appendix Page for comments regarding this certificate *****

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Finalized Date: 23-JUL-2023
Account: KIKAND

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177504

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: REEs may not be totally soluble in this method.
ME-MS61

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:			
DISP-01	LOG-22	ME-MS61	SCR-41
WEI-21			

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To: **KIKAUKA, ANDRIS**
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 26-JUL-2023
This copy reported on
27-JUL-2023
Account: KIKAND

CERTIFICATE VA23177507

Project: Hellroaring and Peg

This report is for 15 samples of Rock submitted to our lab in Vancouver, BC, Canada on 29-JUN-2023.

The following have access to data associated with this certificate:

ANDRIS KIKAUKA		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
DISP-01	Disposal of all sample fractions
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS61	48 element four acid ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, Director, North Vancouver Operations

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Finalized Date: 26-JUL-2023
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CERTIFICATE OF ANALYSIS VA23177507

Sample Description	Method	WEI-21	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Recvd Wt.	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
	Units	kg	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.02	0.01	0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01
23HR-1		1.34	0.01	8.28	3.3	40	14.70	0.01	0.49	0.05	10.30	0.8	3	17.40	1.2	0.47
23HR-2		1.16	<0.01	10.35	4.2	30	7.80	0.02	0.32	<0.02	2.94	1.8	26	42.3	2.4	2.17
23HR-3		0.76	0.29	6.86	27.0	10	11.80	11.55	0.36	0.11	3.41	0.3	9	3.02	1.4	1.12
23HR-4		0.72	<0.01	7.23	7.8	10	5.27	0.06	0.07	<0.02	2.54	0.1	13	24.2	1.2	1.33
23HR-5		1.34	0.03	6.39	35.2	10	13.45	0.31	0.72	0.15	6.24	1.8	14	2.51	1.3	1.35
23HR-6		1.10	0.04	6.99	6.3	10	11.05	0.91	0.40	0.11	6.02	0.2	11	2.03	0.9	1.48
23HR-7		1.12	0.03	9.11	3.5	20	7.14	0.02	0.33	0.07	2.16	1.1	6	7.98	1.0	2.13
23PEG-1		2.06	0.07	9.27	4.4	100	19.00	0.47	0.77	0.53	5.01	2.5	6	6.45	7.6	0.84
23PEG-2		2.22	0.06	11.45	4.5	190	23.3	0.13	0.80	0.46	6.24	5.3	6	8.00	22.8	2.24
23PEG-3		2.10	0.04	6.95	3.3	20	10.10	0.30	0.58	2.13	2.98	0.6	9	2.57	2.4	0.56
23PEG-4		2.24	0.02	6.93	1.9	100	0.90	0.05	6.31	0.04	36.4	30.6	6	1.12	35.7	8.80
23PEG-5		2.60	0.13	8.08	4.5	130	22.2	4.97	0.15	0.51	20.1	6.2	15	8.02	133.0	3.14
23PEG-6		2.44	0.04	7.20	1.9	50	6.97	0.10	0.68	0.13	10.55	0.4	9	1.89	2.1	0.42
23PEG-7		2.92	0.03	8.07	3.1	20	8.18	0.68	0.16	0.43	1.42	0.8	23	10.30	1.2	0.76
23PEG-8		2.88	0.04	6.80	1.8	30	11.80	0.55	0.52	0.05	5.55	0.9	13	3.04	1.5	0.65

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Finalized Date: 26-JUL-2023
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Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177507

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb
	Units	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm
	LOD	0.05	0.05	0.1	0.005	0.01	0.5	0.2	0.01	5	0.05	0.01	0.1	0.2	10	0.5
23HR-1		17.70	<0.05	3.2	<0.005	0.58	3.7	26.8	0.04	266	0.34	6.94	3.7	1.8	1230	13.1
23HR-2		29.9	<0.05	1.6	<0.005	0.82	1.2	124.0	0.16	703	0.41	5.48	49.1	1.6	770	10.1
23HR-3		15.50	<0.05	0.5	0.005	0.62	1.4	20.6	0.03	1655	0.96	4.09	5.5	0.7	370	26.8
23HR-4		21.5	<0.05	0.9	0.046	4.67	1.0	20.4	0.03	4820	1.00	1.42	27.4	1.5	380	16.2
23HR-5		15.95	<0.05	0.5	0.022	0.62	2.6	27.4	0.17	1115	1.14	3.44	9.9	1.4	350	7.9
23HR-6		15.20	<0.05	0.8	0.010	0.53	2.5	21.6	0.05	2890	0.92	4.04	4.0	0.6	430	12.8
23HR-7		24.2	0.06	0.3	<0.005	0.34	0.8	80.6	0.16	521	0.72	5.03	4.1	1.1	680	21.7
23PEG-1		15.35	<0.05	0.6	0.007	1.56	2.4	12.1	0.06	1205	0.59	5.32	9.3	2.0	540	51.4
23PEG-2		20.1	0.05	0.6	0.012	2.69	2.7	20.5	0.14	4000	0.37	4.60	19.3	2.0	440	63.2
23PEG-3		12.65	<0.05	0.2	<0.005	1.55	1.6	7.5	0.03	645	0.86	4.29	7.9	1.4	430	30.7
23PEG-4		17.80	0.21	0.7	0.172	0.55	15.3	11.0	2.52	1240	0.53	1.40	5.9	14.6	440	3.5
23PEG-5		17.10	0.09	0.8	0.031	2.85	8.2	15.6	0.17	4710	1.38	1.02	30.6	2.6	210	45.0
23PEG-6		15.15	<0.05	0.1	0.009	1.48	4.9	4.8	0.03	261	0.88	3.74	6.2	0.9	380	31.8
23PEG-7		32.1	<0.05	0.2	0.035	3.09	0.6	7.6	0.11	139	2.20	1.33	44.4	1.3	200	17.6
23PEG-8		16.20	<0.05	0.1	0.005	1.48	2.6	8.6	0.06	170	1.26	3.12	14.7	0.7	680	23.5

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
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To: **KIKAUKA, ANDRIS**
4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 26-JUL-2023
Account: KIKAND

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177507

Sample Description	Method	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
	Analyte	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V
	Units	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	LOD	0.1	0.002	0.01	0.05	0.1	1	0.2	0.2	0.05	0.05	0.01	0.005	0.02	0.1	1
23HR-1		71.2	<0.002	<0.01	0.13	0.4	9	23.4	27.4	5.04	<0.05	3.68	0.005	0.28	3.4	3
23HR-2		124.0	<0.002	<0.01	0.15	0.8	9	50.0	14.1	21.0	<0.05	2.31	0.035	0.51	2.6	14
23HR-3		70.6	<0.002	<0.01	0.17	1.4	2	12.2	6.6	1.39	<0.05	0.76	0.006	0.30	15.5	<1
23HR-4		523	<0.002	<0.01	0.09	4.0	2	50.4	4.8	4.81	<0.05	1.02	0.010	2.40	12.3	1
23HR-5		76.9	<0.002	<0.01	0.11	2.0	3	13.2	12.2	2.05	<0.05	1.21	0.029	0.33	3.2	10
23HR-6		56.7	<0.002	<0.01	0.10	1.3	2	5.7	4.4	2.17	<0.05	1.70	0.011	0.27	18.6	1
23HR-7		41.2	<0.002	<0.01	0.11	0.7	7	17.2	14.8	8.43	<0.05	0.61	0.036	0.17	1.1	8
23PEG-1		116.5	<0.002	<0.01	0.12	0.7	8	10.6	86.3	5.07	<0.05	0.83	0.011	0.58	2.9	2
23PEG-2		189.0	<0.002	0.01	0.07	1.9	7	17.0	126.0	9.54	<0.05	1.18	0.033	0.89	1.8	7
23PEG-3		96.6	<0.002	<0.01	0.11	0.5	4	5.7	17.0	1.90	<0.05	0.31	0.006	0.54	4.3	<1
23PEG-4		13.5	<0.002	0.02	0.38	42.5	1	8.3	130.0	0.45	<0.05	4.48	0.584	0.07	1.1	289
23PEG-5		198.5	<0.002	<0.01	0.11	0.2	3	15.4	51.0	10.50	0.08	4.14	0.021	0.88	8.5	1
23PEG-6		73.1	<0.002	<0.01	0.08	1.5	2	5.2	73.1	1.54	<0.05	1.94	0.010	0.37	2.6	<1
23PEG-7		258	<0.002	<0.01	0.07	2.8	4	49.4	13.4	10.45	<0.05	0.20	0.031	1.00	0.2	2
23PEG-8		106.0	<0.002	<0.01	0.08	1.8	2	10.4	38.3	2.94	<0.05	1.15	0.023	0.48	1.5	<1

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4199 HIGHWAY 101
POWELL RIVER BC V8A 0C7

Finalized Date: 26-JUL-2023
Account: KIKAND

Project: Hellroaring and Peg

CERTIFICATE OF ANALYSIS VA23177507

Sample Description	Method / Analyte / Units / LOD	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
23HR-1		1.0	2.4	35	53.8
23HR-2		1.4	1.2	241	20.7
23HR-3		1.1	7.9	45	9.4
23HR-4		4.1	17.5	31	15.1
23HR-5		1.3	5.4	82	7.9
23HR-6		0.4	10.9	67	14.1
23HR-7		0.4	0.9	196	4.4
23PEG-1		2.9	5.8	60	7.8
23PEG-2		6.6	13.6	50	8.3
23PEG-3		1.6	2.6	84	3.9
23PEG-4		0.8	36.0	100	16.1
23PEG-5		6.4	23.7	63	11.8
23PEG-6		2.8	4.4	30	2.9
23PEG-7		12.4	0.7	68	2.0
23PEG-8		5.0	8.9	36	1.9

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CERTIFICATE OF ANALYSIS VA23177507

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: REEs may not be totally soluble in this method.
ME-MS61

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

CRU-31	CRU-QC	DISP-01	LOG-22
ME-MS61	PUL-31	PUL-QC	SPL-21
WEI-21			

PREP-31
Standard Sample Preparation: Dry, Crush, Split and Pulverize

Sample preparation is the most critical step in the entire laboratory operation. The purpose of preparation is to produce a homogeneous analytical sub-sample that is fully representative of the material submitted to the laboratory.

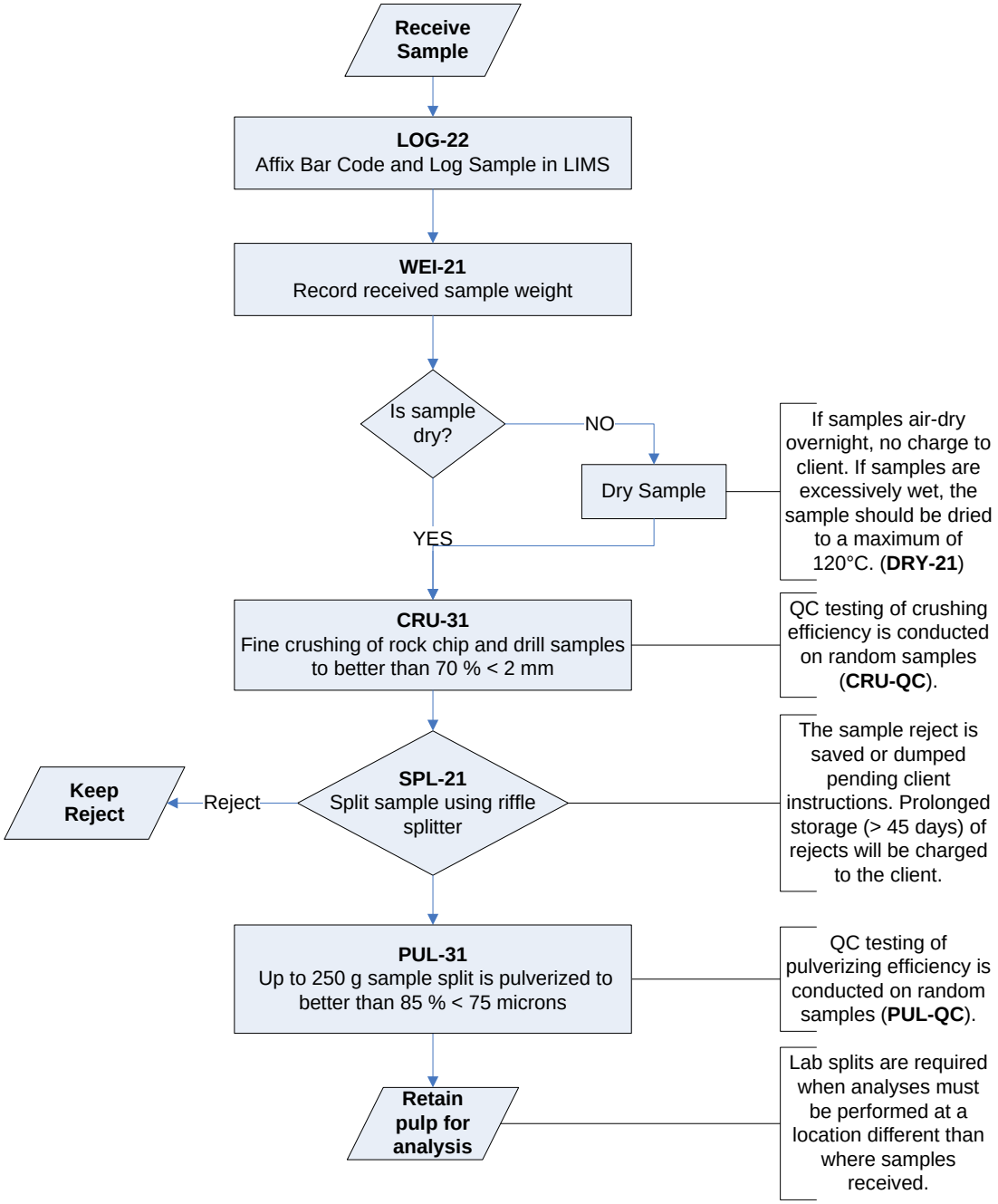
The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70 % passing a 2 mm (Tyler 9 mesh, US Std. No.10) screen. A split of up to 250 g is taken and pulverized to better than 85 % passing a 75 micron (Tyler 200 mesh, US Std. No. 200) screen. This method is appropriate for rock chip or drill samples.

Method Code	Description
LOG-22	Sample is logged in tracking system and a bar code label is attached.
CRU-31	Fine crushing of rock chip and drill samples to better than 70 % of the sample passing 2 mm.
SPL-21	Split sample using riffle splitter.
PUL-31	A sample split of up to 250 g is pulverized to better than 85 % of the sample passing 75 microns.

Flow Chart -

Sample Preparation Package – PREP-31

Standard Sample Preparation: Dry, Crush, Split and Pulverize



ME-ICP41 – Trace Level Methods Using Conventional ICP-AES Analysis

Sample Decomposition:

HNO3- HCl Aqua Regia Digestion (GEO-AR01)

Analytical Method:

Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)

A prepared sample (0.50 g) is digested with aqua regia for 45 minutes in a graphite heating block. After cooling, the resulting solution is diluted to 12.5 mL with deionized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. The analytical results are corrected for inter element spectral interferences.

NOTE: In the majority of geological matrices, data reported from an aqua regia leach should be considered as representing only the leachable portion of the particular analyte.

List of Reportable Analytes:

Analyte	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Silver	Ag	ppm	0.2	100	Ag-OG46
Aluminum	Al	%	0.01	25	
Arsenic	As	ppm	2	10000	
Boron	B	ppm	10	10000	
Barium	Ba	ppm	10	10000	
Beryllium	Be	ppm	0.5	1000	
Bismuth	Bi	ppm	2	10000	
Calcium	Ca	%	0.01	25	
Cadmium	Cd	ppm	0.5	1000	
Cobalt	Co	ppm	1	10000	
Chromium	Cr	ppm	1	10000	
Copper	Cu	ppm	1	10000	Cu-OG46
Iron	Fe	%	0.01	50	
Gallium	Ga	ppm	10	10000	
Mercury	Hg	ppm	1	10000	
Potassium	K	%	0.01	10	
Lanthanum	La	ppm	10	10000	
Lithium	Li	ppm	10	10000	
Magnesium	Mg	%	0.01	25	
Manganese	Mn	ppm	5	50000	
Molybdenum	Mo	ppm	1	10000	
Sodium	Na	%	0.01	10	
Nickel	Ni	ppm	1	10000	
Phosphorus	P	ppm	10	10000	
Lead	Pb	ppm	2	10000	Pb-OG46
Sulfur	S	%	0.01	10	
Antimony	Sb	ppm	2	10000	
Scandium	Sc	ppm	1	10000	
Strontium	Sr	ppm	1	10000	
Thorium	Th	ppm	20	10000	

Analyte	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Titanium	Ti	%	0.01	10	
Thallium	Tl	ppm	10	10000	
Uranium	U	ppm	10	10000	
Vanadium	V	ppm	1	10000	
Tungsten	W	ppm	10	10000	
Zinc	Zn	ppm	2	10000	Zn-OG46

Elements Listed below are available upon request:

Analyte	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Cerium	Ce	ppm	10	10000	
Hafnium	Hf	ppm	10	10000	
Niobium	Nb	ppm	10	10000	
Rubidium	Rb	ppm	10	10000	
Selenium	Se	ppm	10	10000	
Silicon	Si	ppm	10	10000	
Tin	Sn	ppm	10	10000	
Tantalum	Ta	ppm	10	10000	
Tellurium	Te	ppm	10	10000	
Yttrium	Y	ppm	10	10000	
Zirconium	Zr	ppm	5	10000	

Geochemical Procedure

ME- MS61r
(REE Add- on package to ME- MS61)*
Ultra- Trace Level Method Using ICP- MS and ICP- AES

Sample Decomposition:

HF-HNO_3-$HClO_4$ acid digestion, HCl leach (GEO-4A01)

Analytical Method:

Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)
Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

A prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and analyzed by inductively coupled plasma-atomic emission spectrometry. Following this analysis, the results are reviewed for high concentrations of bismuth, mercury, molybdenum, silver and tungsten and diluted accordingly. Samples meeting this criterion are then analyzed by inductively coupled plasma-mass spectrometry. Results are corrected for spectral interelement interferences.

NOTE: Four acid digestions are able to dissolve most minerals; however, although the term "*near-total*" is used, depending on the sample matrix, not all elements are quantitatively extracted.

Results for the additional rare earth elements will represent the acid leachable portion of the rare earth elements and as such, cannot be used, for instance to do a chondrite plot.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	0.01	100
Aluminum	Al	%	0.01	50
Arsenic	As	ppm	0.2	10 000
Barium	Ba	ppm	10	10 000
Beryllium	Be	ppm	0.05	1 000
Bismuth	Bi	ppm	0.01	10 000
Calcium	Ca	%	0.01	50

Element	Symbol	Units	Lower Limit	Upper Limit
Cadmium	Cd	ppm	0.02	1 000
Cerium	Ce	ppm	0.01	500
Cobalt	Co	ppm	0.1	10 000
Chromium	Cr	ppm	1	10 000
Cesium	Cs	ppm	0.05	500
Copper	Cu	ppm	0.2	10 000
Iron	Fe	%	0.01	50
Gallium	Ga	ppm	0.05	10 000
Germanium	Ge	ppm	0.05	500
Hafnium	Hf	ppm	0.1	500
Indium	In	ppm	0.005	500
Potassium	K	%	0.01	10
Lanthanum	La	ppm	0.5	10 000
Lithium	Li	ppm	0.2	10 000
Magnesium	Mg	%	0.01	50
Manganese	Mn	ppm	5	100 000
Molybdenum	Mo	ppm	0.05	10 000
Sodium	Na	%	0.01	10
Niobium	Nb	ppm	0.1	500
Nickel	Ni	ppm	0.2	10 000
Phosphorous	P	ppm	10	10 000
Lead	Pb	ppm	0.5	10 000
Rubidium	Rb	ppm	0.1	10 000
Rhenium	Re	ppm	0.002	50
Sulphur	S	%	0.01	10
Antimony	Sb	ppm	0.05	10 000
Scandium	Sc	ppm	0.1	10 000

Element	Symbol	Units	Lower Limit	Upper Limit
Selenium	Se	ppm	1	1 000
Tin	Sn	ppm	0.2	500
Strontium	Sr	ppm	0.2	10 000
Tantalum	Ta	ppm	0.05	100
Tellurium	Te	ppm	0.05	500
Thorium	Th	ppm	0.2	10 000
Titanium	Ti	%	0.005	10
Thallium	Tl	ppm	0.02	10 000
Uranium	U	ppm	0.1	10 000
Vanadium	V	ppm	1	10 000
Tungsten	W	ppm	0.1	10 000
Yttrium	Y	ppm	0.1	500
Zinc	Zn	ppm	2	10 000
Zirconium	Zr	ppm	0.5	500
Dysprosium	Dy	ppm	0.05	1 000
Erbium	Er	ppm	0.03	1 000
Europium	Eu	ppm	0.03	1 000
Gadolinium	Gd	ppm	0.05	1 000
Holmium	Ho	ppm	0.01	1 000
Lutetium	Lu	ppm	0.01	1 000
Neodymium	Nd	ppm	0.1	1 000
Praseodymium	Pr	ppm	0.03	1 000
Samarium	Sm	ppm	0.03	1 000
Terbium	Tb	ppm	0.01	1 000
Thulium	Tm	ppm	0.01	1 000
Ytterbium	Yb	ppm	0.03	1 000