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BC Geological Survey

Assessment Report
Title Page and Summary

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

TOTAL COST: $3,622.70

AUTHOR(S): Andris Kikauka

SIGNATURE(S): A. Kikauka

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

YEAR OF WORK: 2018

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5700634

PROPERTY NAME: HCJ

CLAIM NAME(S) (on which the work was done): 1057068

COMMODITIES SOUGHT: Silica

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082N 046

MINING DIVISION: Golden

NTS/BCGS: 082 N 07/W, 082N.026

LATITUDE: 51 ° 13 ' 25 " LONGITUDE: 116 ° 51 ' 20.8 " (at centre of work)

OWNER(S):

1) Andris Kikauka

2) Glen Rodgers

MAILING ADDRESS:

4199 Highway 101
Powell R, BC V8A 0C7

PO BOX 215 STATION MAIN
Cranbrook, BC V1C 4H7

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

1) same

2)

MAILING ADDRESS:

same

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

High purity quartzite occurs as 10-450 meter thick beds, generally trending NW, but near Horse Creek trending is NNE, with steep E dip, Ordovician Mt Wilson quartzite is underlain by shale McKay Grp & overlying limestone-dolomite Beaverfoot-Brisco Fm. Cretaceous faulting-folding has scrambled-tilted quartzite like a jigsaw puzzle, a large portion of quartzite is impure, locating highest quality (99.5% SiO2) material most likely in core (competent, resistant to erosion) sections away from fringe impurities

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 3685

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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			
Silt			
Rock	7 ALS ME-ICP06 whole rock geochemistry	1057068	3,622.70
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:	3,622.70

Lat. 51 13' 25" N
Long. 116 51' 20.8" W
NTS 082 N/07 W
BCGS 082N.026
UTM 510,100 E, 5,674,700 N (NAD 83)

GEOCHEMICAL REPORT
HCJ PROPERTY (MTO ID 1057068, & 1057265), SILICA MINERAL CLAIMS

HORSE CREEK
COLUMBIA RIVER,
NICHOLSON, BC
GOLDEN MINING DIVISION

Submitted by:
Andris Kikauka, P.Geo.
4199 Highway 101,
Powell R, BC V8A 0C7

37,599

June 20, 2018

Mineral Titles Online

Mineral Claim Exploration and Development Work/Expiry Date Change

Confirmation

Recorder: KIKAUKA, ANDRIS ARTURS (114051)
Submitter: KIKAUKA, ANDRIS ARTURS (114051)
Recorded: 2018/JUN/15
Effective: 2018/JUN/15
D/E Date: 2018/JUN/15

Mineral Claim Exploration and Development Work/Expiry Date Change

- ☑ Select Input Method
- ☑ Select/Input Titles
- ☑ Input Lots
- ☑ Link Event Numbers
- ☑ Data Input Form
- ☑ Upload Report
- ☑ Review Form Data
- ☑ Process Payment
- ☑ Confirmation

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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: **5700634**

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

Work Start Date: 2018/MAY/17
Work Stop Date: 2018/MAY/18
Total Value of Work: $ 3622.70
Mine Permit No:

Summary of the work value:

Title Number	Claim Name/Property	Issue Date	Good To Date	New Good To Date	# of Days For-ward	Area in Ha	Applied Work Value	Sub-mission Fee
1057068	HCJ	2017/DEC/18	2018/DEC/18	2020/sep/01	623	586.64	$ 5000.84	$ 0.00
1057265	HCJ 2	2017/DEC/28	2018/DEC/28	2020/sep/01	613	20.22	$ 169.61	$ 0.00

Financial Summary:

Total applied work value: $ 5170.45

PAC name: Andris Arturs Kikauka
Debited PAC amount: $ 1547.75
Credited PAC amount: $ 0

Total Submission Fees: $ 0.0

Total Paid: **$ 0.0**

Please print this page for your records.

The event was successfully saved.

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1.0 SUMMARY

The HCJ property consists of 2 mineral claims (MTO tenure numbers 1057068, & 1057265) located in the Golden Mining Division. Total area of the HCJ mineral claims is 606.86 hectares (1,498.94 acres). Work carried out on the HCJ property in 2018 is centered at 116 degrees 51' 20.8" West Longitude and 51 degrees 13' 25" North Latitude. The property follows the surface trace of Mount Wilson Formation high purity quartzite, and is located approximately 3-9 kilometers southeast of Golden, BC.

Industrial mineral exploration targets were investigated on the HCJ property in 1972 by I.B. Halferdahl, P Eng (MEMPR Assessment Report 3685). The main target includes a moderate to steep dipping, 20-400 meter wide Ordovician age high purity quartzite bed exposed over an intermittent (segmented lithology units due to structural displacement) strike length of approximately 6,000 meters.

Fieldwork carried out in 2018 consisted of geochemical sampling 7 rock chip samples submitted for whole rock geochemical analysis, ALS code ME-ICP06, Rock samples were prepared by ALS Minerals, North Vancouver, BC, using Prep 31: a special zirconia (tungsten carbide) ring pulverization disc was used (ALS code PUL-33) versus chrome steel pulverization disc, in order to minimize iron contamination. Also GPS surveying quartzite outcroppings of Mount Wilson Formation quartzite and noting trace impurities was carried out in the southernmost portion of the claims at . A total of 7 rock chip quartzite samples (ID numbers 18HCJ-1 to 7) were taken from the lower elevation (1,252-1,357 meters elev), and steeper (>25% slope), portions of the main quartzite (Mount Wilson Formation). Whole rock geochemical analysis is summarized as follows:

Sample ID	Zone name	MTO claim	Easting NAD 83	Northing NAD 83	Elev (m)	Elev (ft)
18HCJ-1	Horse Ck	1057068	510044	5674629	1252	4106.6
18HCJ-2	Horse Ck	1057068	510057	5674656	1281	4201.7
18HCJ-3	Horse Ck	1057068	510057	5674675	1287	4221.4
18HCJ-4	Horse Ck	1057068	510071	5674702	1303	4273.8
18HCJ-5	Horse Ck	1057068	510101	5674760	1344	4408.3
18HCJ-6	Horse Ck	1057068	510110	5674785	1358	4454.2
18HCJ-7	Horse Ck	1057068	510133	5674799	1377	4516.6

Sample ID	Lithology	type	Strike	Dip	% SiO2	% Al2O3	% Fe2O3	% MgO
18HCJ-1	quartzite	subcrop			99.8	0.15	0.03	0.02
18HCJ-2	quartzite	subcrop			98.7	0.09	0.03	0.01
18HCJ-3	quartzite	outcrop	16	80 E	99.5	0.1	0.03	0.04
18HCJ-4	quartzite	subcrop			99.7	0.1	0.03	0.01
18HCJ-5	quartzite	subcrop			99.5	0.09	0.03	0.03
18HCJ-6	quartzite	subcrop			99.2	0.11	0.04	0.02
18HCJ-7	quartzite	subcrop			99.9	0.09	0.03	0.01
average						0.1	0.03	0.02

Sample ID	% CaO	Na2O	K2O	%P2O5	% LOI	% Total	% SiO2 / % Total
18HCJ-1	0.05	0.02	0.07	0.01	0.12	100.29	99.51
18HCJ-2	0.02	0.02	0.07	0.01	0.2	99.43	99.27
18HCJ-3	0.02	0.02	0.05	<0.01	0.11	99.96	99.54
18HCJ-4	0.02	0.03	0.06	0.01	0.13	100.18	99.52
18HCJ-5	0.01	0.03	0.07	<0.01	0.07	99.87	99.63
18HCJ-6	0.02	0.03	0.12	0.02	0.1	99.73	99.47
18HCJ-7	0.01	0.02	0.07	0.02	0.11	100.29	99.61
average	0.02	0.02	0.07	0.01	0.12	average	99.51

Based on sum of SiO2%/Total% values, the mean value of the SiO2%/Total% for 7 rock chip samples analyzed is 99.51%. This purity is considered suitable for glass making (including production of fiberglass & ceramics), filler applications such as paints, pntty, stucco, other building materials, and/or ferrosilicon production as well as high tech end use such as silicon metal.

The relatively high SiO2 content of 7 samples (Fig 5, 6, 7, & 8) taken along approximately 250 meter strike length of Mt Wilson Formation quartzite, compares favourably with other silica producers such as Moberly, and Hunt Properties near Golden, BC. Impurity compounds of interest (Al2O3, MgO, CaO, Fe2O3) approach specifications required for producing ferrosilicon alloy. Based on the range of %SiO2 and impurity values such as MgO, CaO, P2O5, Al2O3, and Fe2O3, it is possible that the HCJ quartzite silica is suitable for use as a raw material for ferrosilicon production. Based on favourable geochemical analysis results from rock chip sampling on the South Zone (Horse Creek) Quartzite Zone in May, 2018, further geological mapping, geochemical sampling, and evaluation of commercial applications for HCJ silica is warranted. Recommended future fieldwork would consist of 1 km access trail in order to perform core drilling (using light and portable skid mounted core drill), and geochemical analysis to estimate grade and tonnage of high purity quartzite. Approximate budget of $125K is recommended.

2.0 Introduction

This assessment report describes property history and geological and geochemical fieldwork on the HCJ Silica mineral occurrences located near Horse Creek (May 17-18, 2018). The intent of the fieldwork was to identify continuity and grade of the Mount Wilson quartzite north of Horse Creek in order to locate drill targets for future development.

British Columbia has not been a major producer of silica. Some quartz, especially from veins, has been used as a flux in smelter operations. The Gypo quartz vein near Oliver produced about 600,000 tonnes of quartz up to 1968 when the main mining operations ceased. Most of this material was used in the building industry and to produce ferrosilicon. In more recent years a significant amount of production has taken place from the Moberly Mountain and Hunt deposits, in quartzite of the Mount Wilson Formation, near Golden. Silica sand from the Moberly

Mountain deposit is sold for a variety of uses. Quarrying was begun in 1980 and the 1984 production was 85,000 to 90.000 tonnes. The Hunt deposit has produced intermittently since 1980 at approximately 30,000 tonnes per year, with much of the product being shipped to a ferrosilicon plant in Wenatchee, Washington. Some of the fines have been used by cement producers in British Columbia and Alberta.

3.0 Location, Access, Infrastructure, & Physiography

The HCJ property consists of 2 mineral claims (MTO tenure numbers 1057068, & 1057265) located in the Golden Mining Division. Work carried out on the HCJ property in 2018 is centered at 116 degrees 51' 20.8" West Longitude and 51 degrees 13' 25" North Latitude. The property is located approximately 3-9 kilometers southeast of Golden, BC.

Road access to the claim block is via Highway 95, approximately 3-9 kilometers southeast of Golden, BC. Previous work done on he property was performed in the southern (lower elevation) portion of the quartzite unit, and access gained along a trail from a network of forest service roads. Recent improvements in the access roads have been done in the area immediately north of Horse Creek and improves access to the southern portion of the HCJ property.

Soil cover is negligible over the high elevation portions of the property. The lower elevation portions of the property exhibit moderate, vegetated slopes with a good 10-30 cm soil profile. Glacial till many meters thick covers the creek gully portions of the property and gradually thins to the ridge orests. Two periods of glaciation are evident with the predominant direction of iee retreat being to the northeast. The property is forested with spruce, pine and fir.

4.0 Property Status

Property status data obtained from MTO website indicates the HCJ property is registered 50% to Andris Kikauka (Free Miner Certificate number 114051), and 50% to Glen Rodgers (Free Miner Certificate number 123054). Total area of the HCJ mineral claims is 606.86 hectares (1,498.94 acres). The HCJ property consists of 2 mineral claims (MTO tenure numbers 1057068, & 1057265) located in the Golden Mining Division. Total area of the HCJ mineral claims is 606.86 hectares (1,498.94 acres). Work carried out on the HCJ property in 2018 is centered at 116 degrees 51' 20.8" West Longitude and 51 degrees 13' 25" North Latitude.

Title Number	Claim Name	Owner	Title Type	Issue Date	Good To Date	Status	Area (ha)
1057068	HCJ	114051 (50%)	Mineral	2017/DEC/18	2020/SEP/01	GOOD	586.6375
1057265	HCJ 2	114051 (50%)	Mineral	2017/DEC/28	2020/SEP/01	GOOD	20.2212

Details of the status of tenure ownership for the HCJ Silica 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 HCJ silica claim has not been surveyed.

The mineral tenures comprising the HCJ Silica 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.

5.0 Area History

The Nicholson (Hunt) high purity quartzite deposit is located about 12 kilometres south-southeast of Golden, about 3 kilometres east of the Columbia River and south of Horse Creek.

Quarrying operations take place on quartzite of the Middle and/or Upper Ordovician Mount Wilson Formation. Quartzites in the area are exposed in faulted segments and are massive, hard, firmly cemented, pale grey or bluish to white, or light buff coloured. The quartz grains are 0.12 to 0.85 millimetre in diameter with most in the 0.25 to 0.50 millimetre range. A northeast trending transverse fault has the effect of repeating the uppermost bed of high quality silica. Thinly bedded, fine-grained dolomite of the Middle Ordovician-Silurian Beaverfoot Formation outcrops locally and strikes between 220 to 280 degrees and dips 32 to 35 degrees northwest.

Shipments began in 1980 and production has been approximately 30,000 tonnes per year (Open File 1987-15). The silica is used for silicon and ferrosilicon production. In 1984, some the finer grained waste was reportedly used in cement manufacturing.

Open-pittable reserves were estimated in 1985 to be 3 million tonnes grading 99.5 per cent (Z.D. Hora, personal communication 1991; Open File 1987-15). Two samples taken in 1985 from the stockpile of processed material analysed 99.85 and 99.90 weight per cent silica (Open File 1987-15).

Bert Miller Trucking and Contracting Ltd. is producing approximately 60,000 tonnes annually and has started to process the undersize product, accumulating at a rate of 10,000 tonnes annually, into a variety of fine to coarse aggregate products (Information Circular 1996-1, page 9).

Nugget Contracting Ltd. was producing 70,000 tonnes annually, of which 50,000 tonnes is shipped to Wenatchee, Washington (Information Circular 1997-1, page 12)

6.0 Geological Setting

The HCJ property is located in the foreland thrust zone of the Rocky Mountains. It covers a sedimentary clastic-carbonate rock package located near the confluence of the Columbia and Kicking Horse River. Weakly metamorphosed sedimentary rocks generally have a north-northwest strike, but locally a north-northeast strike is prominent. Minor folding was noted in the weakly metamorphosed and re-crystallized carbonate sequence immediately adjacent to Mount Wilson Fm quartzite unit. The hard quartzite can be described as frosty white sedimentary quartzite with a clastic texture containing fine, well-rounded polished grains 1/8 - 1/4 m in diameter. Very competent bonding allows breaking to occur through the quartz grains. Minor

iron staining occurs along some fracture planes and is interstitial to the quartz grains in some small sections.

As a result of thrust faulting, limestone to the northeast of the zone exhibits open folding. The structure of the area is typical of the middle and southern Rocky Mountains which are bounded by faults, many of which are local thrusts and many others are nearly vertical, yielding structural terraces.

Two easterly dipping thrust faults are believed to trend northwest, close to the western and eastern edge of the HCJ property. These faults have displacement the Mount Wilson Fm quartzite. The faulting may be responsible for the north-northeast orientation of the quartzite in the area immediately north of Horse Creek.

The following table lists the formations and gives a brief lithological:
Description

Age	Formation Name	Lithology	Thickness
Pleistocene		Glacial till (2 events), travertine, conglomerate	1-10 m (increasing to 300 m in valley)
Mid Devonian	**DCBH** Harrogate	Limestone	40-110 m
Mid Devonian	**DCBH** Cedared	Dolomite	40-110 m
Mid Devonian	**DCBH** Burnais	Limestone, gypsum, anhydrite	150-400 m
Mid Silurian-Upper Ordovician	**OSBW** Beaverfoot, Mount Wilson	Limestone, dolomite, quartzite	450-1,000 m
Ordovician	**Ow** HCJ	Quartzite, sandstone	0-300 m
Ordovician	**Og** Glenogle	Shale, limestone, siltstone	0-640 m
Cambrian Ordovician	**CmOM** McKay	Limestone, shale, conglomerate	0-1,200 m

Formations recognized on the HCJ property (and adjacent area):

Mckay Formation
The Mckay Formation ranges in age from Upper Cambrian to Ordovician and comprises a thick succession of alternating thinly bedded limestones, limey shales and limey argillites with occasional massive limestone and cherty dolomite sub-units. Many of the limestone beds are intraformational conglomerates with oval shaped fragments of dense fine-grained limestone in a matrix of fine-grained limestone which is occasionally dolomitic and/or ferrugenous. Cherty nodules and lenses are common near the top of the McKay Formation. Ripple marks and mud cracks are common. The weathered colour is commonly light-grey but reddish-brown where ferrugenous. The McKay Formation usually weathers recessively. It reaches maximum thickness of 1200 meters.

Mt Wilson Formation Quartzite

No fossils have been found in this formation but from its stratigraphic position it is known to be middle-upper Ordevician in age. It consists of massive beds of white sedimentary quartzite and a few brownish -white beds. The quartzite is a compact, medium grained rock which usually contains about 98% well rounded quartz grains. The brownish-white beds are medium to coarse grained and are less pure in composition. HCJ has a whitish weathering colour which makes it distinctive and useful as a marker bed. Occasionally where small amounts of hematite are present as fracture coating, the Mt Wilson Fm quartzite unit is typically coated in a distinct, jet black lichen, contrasting the snow white colour of the quartzite. A slight difference in grain size is the best way to distinguish bedding, and interpretation is complicated by cross-bedding deposited in a high energy environment. Coarser grained heds weather more readily. Poasible eross-hedding is occasionally seen. The Mt Wilson Formation is known to thin northward. Based on surface trace of Mount Wilson Fm quartzite on the subject property, the formation reaches over 400 meters in thickness. The actual contact between the Glenogie Fm (siltstone, sandstone, shale, argillaceous limestone) and the Mount Wilson Fm quartzite is always concordant. The contact with Beaverfoot Fm (carbonate, argillaceous dolomite) and Mount Wilson Fm is often marked by fault traces trending NE and NW with steep dips. Chemical analysis has shown the quartzite to contain greater than 99.5% SiO2 in the areas sampled in 2018 located 200-450 meters north of Horse Creek (Fig 5, 6, 7, & 8)

Beaverfoot-Brisco Formation

This formation is known from fossil evidence to be Ordovician to Silurian in age. It consists chiefly of thin-medium bedded light-grey dolomites and blue-grey limestones. Near the top, the rocks are mostly limestones with minor black-shaley interbeds. Occasional sub-units are nodular and appear mottled on weathered surface. These nodules formed from selective dolomitization of the primary limestone. Minor chert nodules and lenses are present. The formation weathers light-grey and can be distinguished from the Jubilee dolomites by its well bedded character, presence of fossils and scarcity of laminations. It reaches thicknesses of up to 600 meters.

Burnais Formation

The Burnais is a recent name for the thick succession of bedded gypsum/anhydrite and interbedded fossiliferous limestones that occur between Wardner and Invermere. The Burnais is composed mainly of well bedded, laminated dark-grey-black gypsum which was laid down as an evaporitic deposit within an inter-tidal basin. Thicknesses of over 600 ft (183 m) have been recorded for the gypsum beds. Occasional interbeds and lenses of hlack fetid cherty limestone are found within the gypsum unit. The Burnais commonly weathers.recessively and is exposed only when faulted up or when shielded from erosion by more resistant strata. The Burnais gypsum usually averages 85%-90% gypsum and the depth of hydration (the original anhydrite beds after thousands of years of contact with near surface waters were turned into gypsum) usually ranges from 12 to 30 meters. Salt (NaCl) is usually present as sporadic and irregular patches. The presence of sinkholes at surface is a reliable indicator of gypsum below in the Lussier River valley. Gypsite, which is a sulphate efflorescence or caliche, also indicates underlying gypsum. The black, nodular limestone that is also grouped with the Burnais is oceasionally fossiliferous.

Harrogate Formation
This formation underlies the far north-east corner of the map area. It consists of thin-medium bedded purple-grey-black limestone which weathers light-grey. The limestone is occasionally nodular, fossiliferous, fetid and shaley in appearance due to interbeds of calcareous shale. Large scale folding is absent from the area although some minor folds were observed associated with bedding plane slip or as drag folding due to faulting. The general bedding attitude of all the formations are to strike about 320° and to dip 40° - 80° northeast. Foliation, as a result of weak metamorphism, becomes more pronounced as sub-parallel oriented platy mineral in argillaceous or silty rock.

Industrial Mineral potential includes the Mount Wilson Fm quartzite that may be of economic interest as source of silica for glass making, ferrosilicon, and other high purity silica end uses.

7.0 Deposit Types

The HCJ silica property has potential to host a high purity quartzite type silica deposit similar to the other quartzite deposits of the Mount Wilson Formation in SE British Columbia. The Mount Wilson Formation hosts silica producers such as Moberly (Van Heemskirk), Hunt and HCJ Properties near Golden, BC. The Mount Wilson Formation is formerly known as the Wonah Formation. The Mount Wilson (HCJ) Formation is a quartzite deposit type that rests unconformably on argillaceous siltstone (minor limonite) to the east, and is capped to the west by dolomite and calcareous sediments.

The best sources of silica raw materials in British Columbia are probably quartzite units (vs quartz vein and/or pegmatite), due to high purity, and large potential size of the quartzite deposits (Foye,1987). Quartzite units are resistant to weathering and form prominent outcrop. Bedding is inconspicuous but can usually be distinguished by variations in grain size between beds.

The HCJ quartzite consists of snow white coloured, high purity silica that contains >99.5% SiO2 and < 0.5% impurities such as Al2O3, Fe2O3, CaO, MgO, Na2O, K2O.

8.0 Geochemical Rock Chip Sampling 2018

8.1 Methods and Procedures

Approximately 2 hectares of the HCJ property was geochemically sampled (Fig 5, 6, 7, & 8). A total of 7 sub-outcrops were rock chip channel sampled using a rock hammer and chisel. Approximately 0.78-1.22 kgs of acorn sized broken rock chips were collected (avoiding contamination by vegetation and contact with metallic objects such as rock hammers), placed in marked poly ore bags, and shipped to ALS Minerals Ltd. Rock chip sample and geological mapping station locations were described and located by Garmin 60Cx portable GPS receivers.

Rock samples were analyzed by ALS Minerals, North Vancouver, BC, using Prep 31: a special zirconia (tungsten carbide) ring pulverization disc was used (ALS code PUL-33) versus chrome steel pulverization disc, in order to minimize iron contamination, and finished using whole rock analysis fused bead lithium borate fusion method (ME-ICP-06).

8.2 ROCK CHIP SAMPLE GEOCHEMICAL ANALYSIS

A total of 7 rock chip samples were taken from approximately 100 X 250 meter area of quartzite exposed as outcrop and subcrop along a ridge crest at 1,252-1,357 meters elevation, and approximately 200-450 meters north of Horse Creek.

A description of 7 rock chip samples taken from the area north of Horse Creek canyon are listed as follows:

Quartzite samples 18HCJ-1 to 7 whole rock geochemical analysis and averages (ALS cert VA18127707):

Sample ID	Zone name	MTO claim	Easting NAD 83	Northing NAD 83	Elev (m)	Elev (ft)
18HCJ-1	Horse Ck	1057068	510044	5674629	1252	4106.6
18HCJ-2	Horse Ck	1057068	510057	5674656	1281	4201.7
18HCJ-3	Horse Ck	1057068	510057	5674675	1287	4221.4
18HCJ-4	Horse Ck	1057068	510071	5674702	1303	4273.8
18HCJ-5	Horse Ck	1057068	510101	5674760	1344	4408.3
18HCJ-6	Horse Ck	1057068	510110	5674785	1358	4454.2
18HCJ-7	Horse Ck	1057068	510133	5674799	1377	4516.6

Sample ID	Lithology	type	Strike	Dip	% SiO2	% Al2O3	% Fe2O3	% MgO
18HCJ-1	quartzite	subcrop			99.8	0.15	0.03	0.02
18HCJ-2	quartzite	subcrop			98.7	0.09	0.03	0.01
18HCJ-3	quartzite	outcrop	16	80 E	99.5	0.1	0.03	0.04
18HCJ-4	quartzite	subcrop			99.7	0.1	0.03	0.01
18HCJ-5	quartzite	subcrop			99.5	0.09	0.03	0.03
18HCJ-6	quartzite	subcrop			99.2	0.11	0.04	0.02
18HCJ-7	quartzite	subcrop			99.9	0.09	0.03	0.01
average						0.1	0.03	0.02

Sample ID	% CaO	Na2O	K2O	%P2O5	% LOI	% Total	% SiO2 / % Total
18HCJ-1	0.05	0.02	0.07	0.01	0.12	100.29	99.51
18HCJ-2	0.02	0.02	0.07	0.01	0.2	99.43	99.27
18HCJ-3	0.02	0.02	0.05	<0.01	0.11	99.96	99.54
18HCJ-4	0.02	0.03	0.06	0.01	0.13	100.18	99.52
18HCJ-5	0.01	0.03	0.07	<0.01	0.07	99.87	99.63
18HCJ-6	0.02	0.03	0.12	0.02	0.1	99.73	99.47
18HCJ-7	0.01	0.02	0.07	0.02	0.11	100.29	99.61
average	0.02	0.02	0.07	0.01	0.12	average	99.51

9.0 Discussion of Results

The Mount Wilson Fm quartzite (equivalent to Wonah Formation) located on MTO claim HCJ (tenure 1057068), occurs in the area southernmost portion of the property. Fieldwork in 2018 identified an area of approximately 250 X 100 m that appears to be underlain by Mount Wilson quartzite. The area is relatively steep near Horse Creek canyon (below 1,250 meters elevation), but the gradient lessens above 1,250 meters elevation. It is likely that further mapping and sampling is required to establish boundaries of the Mount Wilson Fm quartzite, especially in the area along the ridge (in the south end of the property) at 1,250 to 1,600 meters elevation.

Further mapping, sampling and exploration core drilling at 50 meter spacing (shallow angle drill holes at the margin of quartzite exposure), can establish continuity of grade of the HCJ quartzite. There appears to be relatively good continuity of SiO2 grades from 7 rock chip samples taken along strike of the HCJ quartzite. The prominent topography of the quartzite unit would allow quarry development, and open pit wall slopes with favourable bench height and width of berms.

10.0 Conclusions

The HCJ silica property has potential to host quartzite occurrences that are similar to past producers. Reviewing available data, the writer offers the following interpretations & conclusions. The HCJ quartzite is a significant silica resource, comparing favourably in size with other deposits in BC such as Moberly Mountain, and Hunt silica deposits that are located near Golden. The high purity of the HCJ property silica may be favourable for high tech end uses. Metallurgical testing, in order to test for processing of silica quartz to metallurgical grade silicon, is warranted.

Access to the property is relatively good with a reasonable access road connecting HCJ Silica. There is good infrastructure in the form of a well maintained Forest Service Road to CPR rail line in the Golden valley, and major powerline.

The HCJ property features exposed HCJ Formation (equivalent to Mount Wilson Formation) high purity silica as a quartzite lithology that follows a segmented ridge crest that strikes north, and dips steeply to the east. Quartzite exposed along the crest of the ridge is accessible by logging roads. The orientation of the deposit along the crest of a ridge is ideal for open pit mining with a relatively low stripping ratio. High purity quartzite located on the HCJ property South and Central Zone has been mapped over a strike length of 850 metres and a maximum width of about 50 metres.

11.0 Recommendations

Future exploration and development of HCJ Silica should be focused on defining the extensions of known quartzite formations of primarily the South Zone (Horse Creek) and secondarily of the Stacey Creek Zone. In order to outline exploration and development of HCJ property zones of high purity quartzite, geochemical data should be collected and can be used to interpret

economics of projected cost vs benefit preliminary economic analysis of mining, mineral processing and marketing. Core drilling, geological mapping, and geochemical sampling is also recommended. In order to provide light track vehicle access to the South Zone (Horse Creek) site, a 1.0 kilometer distance of temporary access trail to the site, is warranted.

Further metallurgical testing for use in ferrosilicon production and other end uses is warranted. Silicon production for the Aluminum or chemical market is another possible end use. The SiO2-reactivity test, also known as the Hanover drum test measures the thermal stability of quartz, and tests for the reducing agents is an important one for choosing the right material; improper material will reduce the effectiveness of the processing. For a feasible furnace operation, it is very important that the SiO_2 is stable in the lower furnace part, and the stability property is tested by the Hanover drum test. Approximate cost for completing core drilling and metallurgical testing is $125,000.00.

12.0 References

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Rodgers, 1990, Geological, Geochemical and Geophysical Report, Dragoon No 1-6 Claims, Fort Steele Mining Division, for South Kootenay Goldfields Inc. BC Assessment Report 20,754

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 thirty five years in precious and base metal exploration in the Cordillera of Western Canada, U.S.A., Mexieo, 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 geochemical sampling carried during May, 2018
6. I have a direet interest in the subject property. The recommendations in this report are intended to serve as general guidelines 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 refleeted 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.,

June 20, 2018

ITEMIZED COST STATEMENT-
HCJ MINERAL TENURES 1057068, 1057265
FIELDWORK PERFORMED MAY 17-18, 2018,
WORK PERFORMED ON MINERAL TENURE 1057068
GOLDEN MINING DIVISION, NTS 82N (TRIM 082N.026)

FIELD CREW:

A. Kikauka (Geologist) 2 days (surveying, mapping)	**$**	**1,050.00**
G. Rodgers (Geologist) 2 days (surveying, mapping)	**$**	**1,050.00**

FIELD COSTS:

Mob/demob/preparation	**200.15**
Meals and accommodations	**190.90**
Truck mileage & fuel	**288.79**
Li Borate Fusion ICP AES geochemical analysis (7 rock samples), prepared using carbide pulverizing disk (PU-33)	**342.86**
Report	**500.00**
Total=	**$ 3,622.70**

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

Appendix A

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

Finalized Date: 15-JUN-2018
Account: KIKAND

CERTIFICATE VA18127707

Project: HCJ Horse CK

This report is for 7 Rock samples submitted to our lab in Vancouver, BC, Canada on 31-MAY-2018.

The following have access to data associated with this certificate:

ANDRIS KIKAUKA

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
PUL-33	Pulverise in Tungsten Carbide
CRU-QC	Crushing QC Test
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP06	Whole Rock Package - ICP-AES	ICP-AES
OA-GRA05	Loss on Ignition at 1000C	WST-SEQ
TOT-ICP06	Total Calculation for ICP06	ICP-AES

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:

Colin Ramshaw, Vancouver Laboratory Manager

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

Finalized Date: 15-JUN-2018
Account: KIKAND

Project: HCJ Horse CK

CERTIFICATE OF ANALYSIS VA18127707

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-ICP06 SiO2 % 0.01	ME-ICP06 Al2O3 % 0.01	ME-ICP06 Fe2O3 % 0.01	ME-ICP06 CaO % 0.01	ME-ICP06 MgO % 0.01	ME-ICP06 Na2O % 0.01	ME-ICP06 K2O % 0.01	ME-ICP06 Cr2O3 % 0.002	ME-ICP06 TiO2 % 0.01	ME-ICP06 MnO % 0.01	ME-ICP06 P2O5 % 0.01	ME-ICP06 SrO % 0.01	ME-ICP06 BaO % 0.01	OA-CRA05 LOI % 0.01
18HCJ1		1.14	99.8	0.15	0.03	0.02	0.05	0.02	0.07	0.004	0.02	<0.01	0.01	<0.01	<0.01	0.12
18HCJ2		1.22	98.7	0.09	0.03	0.01	0.02	0.02	0.07	0.007	0.01	<0.01	0.01	<0.01	0.26	0.20
18HCJ3		0.92	99.5	0.10	0.03	0.04	0.02	0.02	0.05	0.006	0.01	<0.01	<0.01	<0.01	0.07	0.11
18HCJ4		0.78	99.7	0.10	0.03	0.01	0.02	0.03	0.06	0.005	0.01	<0.01	0.01	<0.01	0.07	0.13
18HCJ5		0.88	99.5	0.09	0.03	0.03	0.01	0.03	0.07	0.007	0.02	<0.01	<0.01	<0.01	0.01	0.07
18HCJ6		1.04	99.2	0.11	0.04	0.02	0.02	0.03	0.12	0.009	0.02	<0.01	0.02	<0.01	0.04	0.10
18HCJ7		1.22	99.9	0.09	0.03	0.01	0.01	0.02	0.07	0.005	0.01	<0.01	0.02	<0.01	0.01	0.11

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

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Finalized Date: 15-JUN-2018
Account: KIKAND

Project: HCJ Horse CK

CERTIFICATE OF ANALYSIS VA18127707

Sample Description	Method / Analyte / Units / LOD	TOT-ICP06 Total % 0.01
18HCJ1		100.29
18HCJ2		99.43
18HCJ3		99.96
18HCJ4		100.18
18HCJ5		99.87
18HCJ6		99.73
18HCJ7		100.29

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

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To: KIKAUKA, ANDRIS
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Finalized Date: 15-JUN-2018
Account: KIKAND

Project: HCJ Horse CK

CERTIFICATE OF ANALYSIS VA18127707

CERTIFICATE COMMENTS

LABORATORY ADDRESSES

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

Applies to Method:			
CRU-31	CRU-QC	LOG-22	ME-ICP06
OA-CRA05	PUL-33	SPL-21	TOT-ICP06
WEI-21			

Pulverizing Procedures
Pulverize using non-ferrous disks and bowls

Analytical Method:

'Flying Disk' or 'Ring and Puck' style grinding Mill

A crushed sample split, (the split size being determined by the chosen method), is ground in a ring mill pulverizer using various ring sets (depending on chosen method).

Method Code	Split Mass	Specifications	Description
PUL-33	20 g	85 % < 75 µm	Tungsten carbride ring pulverization.
PUL-33a	25 g	80 % < 45 µm	Fine Tungsten carbride ring pulverization.
PUL-41	70 g	85 % < 75 µm	Zirconia ring pulverization.
PUL-42	50 g	85 % < 75 µm	Agate Mill pulverization.
PUL-QC	25 g	See method specification	Testing procedure for ring pulverized material.

Note: All grinding surfaces impart some degree of metal content to samples during preparation.

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

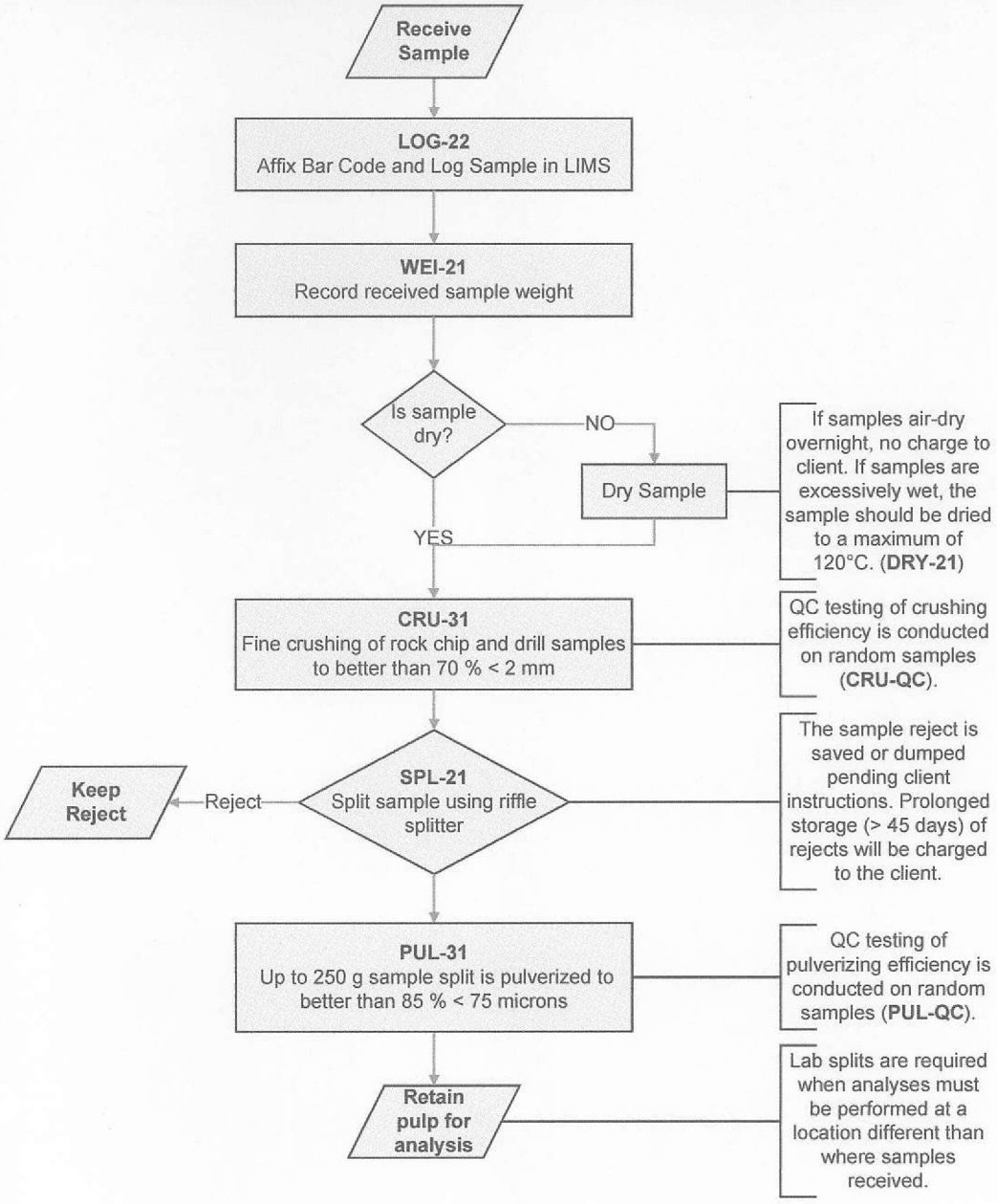
Sample preparation is the most critical step in the entire laboratory operation. The purpose of preparation is to produce a homogeneous analytical sub-sample that is fully representative of the material submitted to the laboratory.

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-ICP06 and OA-GRA05
Analysis of major oxides by ICP-AES

ME-ICP06

Sample Decomposition:

Lithium Metaborate/Lithium Tetraborate ($LiBO_2/Li_2B_4O_7$) Fusion* (FUS-LI01)

Analytical Method:

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

A prepared sample (0.100 g) is added to lithium metaborate/lithium tetraborate flux, mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in 100 mL of 4% nitric acid/2% hydrochloric acid. This solution is then analyzed by ICP-AES and the results are corrected for spectral inter-element interferences. Oxide concentration is calculated from the determined elemental concentration and the result is reported in that format.

Element	Symbol	Units	Lower Limit	Upper Limit
Aluminum	Al_2O_3	%	0.01	100
Barium	BaO	%	0.01	100
Calcium	CaO	%	0.01	100
Chromium	Cr_2O_3	%	0.01	100
Iron	Fe_2O_3	%	0.01	100
Magnesium	MgO	%	0.01	100
Manganese	MnO	%	0.01	100
Phosphorus	P_2O_5	%	0.01	100
Potassium	K_2O	%	0.01	100
Silicon	SiO_2	%	0.01	100
Sodium	Na_2O	%	0.01	100

Element	Symbol	Units	Lower Limit	Upper Limit
Strontium	SrO	%	0.01	100
Titanium	TiO_2	%	0.01	100

***Note**: For samples that are high in sulphides, we may substitute a peroxide fusion in order to obtain better results.

OA-GRA05, ME-GRA05

Sample Decomposition: Thermal decomposition Furnace or TGA (OA-GRA05 or ME-GRA05)
Analytical Method: Gravimetric

If required, the total oxide content is determined from the ICP analyte concentrations and loss on Ignition (L.O.I.) values. A prepared sample (1.0 g) is placed in an oven at 1000°C for one hour, cooled and then weighed. The percent loss on ignition is calculated from the difference in weight.

Method Code	Parameter	Symbol	Units	Lower Limit	Upper Limit
OA-GRA05	Loss on Ignition (Furnace)	LOI	%	0.01	100
ME-GRA05	Loss on Ignition (TGA)	Moisture	%	0.01	100
		LOI	%	0.01	100

Appendix B Rock Chip Sample Description & Geochemistry

Sample ID	Zone name	MTO claim	Easting NAD 83	Northing NAD 83	Elev (m)	Elev (ft)
18HCJ-1	Horse Ck	1057068	510044	5674629	1252	4106.6
18HCJ-2	Horse Ck	1057068	510057	5674656	1281	4201.7
18HCJ-3	Horse Ck	1057068	510057	5674675	1287	4221.4
18HCJ-4	Horse Ck	1057068	510071	5674702	1303	4273.8
18HCJ-5	Horse Ck	1057068	510101	5674760	1344	4408.3
18HCJ-6	Horse Ck	1057068	510110	5674785	1358	4454.2
18HCJ-7	Horse Ck	1057068	510133	5674799	1377	4516.6

Sample ID	Lithology	type	Strike	Dip	% SiO2	% Al2O3	% Fe2O3	% MgO
18HCJ-1	quartzite	subcrop			99.8	0.15	0.03	0.02
18HCJ-2	quartzite	subcrop			98.7	0.09	0.03	0.01
18HCJ-3	quartzite	outcrop	16	80 E	99.5	0.1	0.03	0.04
18HCJ-4	quartzite	subcrop			99.7	0.1	0.03	0.01
18HCJ-5	quartzite	subcrop			99.5	0.09	0.03	0.03
18HCJ-6	quartzite	subcrop			99.2	0.11	0.04	0.02
18HCJ-7	quartzite	subcrop			99.9	0.09	0.03	0.01
average						0.1	0.03	0.02

Sample ID	% CaO	Na2O	K2O	%P2O5	% LOI	% Total	% SiO2 / % Total
18HCJ-1	0.05	0.02	0.07	0.01	0.12	100.29	99.51
18HCJ-2	0.02	0.02	0.07	0.01	0.2	99.43	99.27
18HCJ-3	0.02	0.02	0.05	<0.01	0.11	99.96	99.54
18HCJ-4	0.02	0.03	0.06	0.01	0.13	100.18	99.52
18HCJ-5	0.01	0.03	0.07	<0.01	0.07	99.87	99.63
18HCJ-6	0.02	0.03	0.12	0.02	0.1	99.73	99.47
18HCJ-7	0.01	0.02	0.07	0.02	0.11	100.29	99.61
average	0.02	0.02	0.07	0.01	0.12	average	99.51

MINFILE Record Summary

MINFILE No 082N 046

Appendix C

XML Extract

Print Preview | PDF | -- SELECT REPORT -- | New Window

File Created: 24-Jul-85 by BC Geological Survey (BCGS)
Last Edit: 26-Aug-93 by Gary R. Foye(GRF)

SUMMARY

Summary Help

Name	HCJ	**NMI**	
		Mining Division	Golden
Status	Showing	**BCGS Map**	082N026
Latitude	51° 16' 04" N	**NTS Map**	082N07W
Longitude	116° 54' 00" W	**UTM**	11 (NAD 83)
		Northing	5679608
		Easting	506976
Commodities	Silica	**Deposit Types**	R07 : Silica sandstone
Tectonic Belt	Foreland	**Terrane**	Ancestral North America

Capsule Geology Quartzite beds of the Middle and/or Upper Ordovician Mount Wilson Formation strike 120 to 140 degrees and dip 60 to 75 degrees northeast. On the HCJ property the quartzite forms a continuous northwesterly trending cliff. Thicknesses up to 30 metres may be sufficiently free of impurities to constitute high-grade silica. The unit varies from a quartzite with well-cemented glassy quartz grains to a less well-cemented white sandstone.

Bibliography

EMPR ASS RPT *3685
EMPR GEM 1972-616,617
EMPR OF 1987-15
EMPR PF (82N General File - Prospector's map, 1937)
GSC MAP 295A; 1497A
GSC OF 481

Fig 1 General Location HCJ Mineral Claims

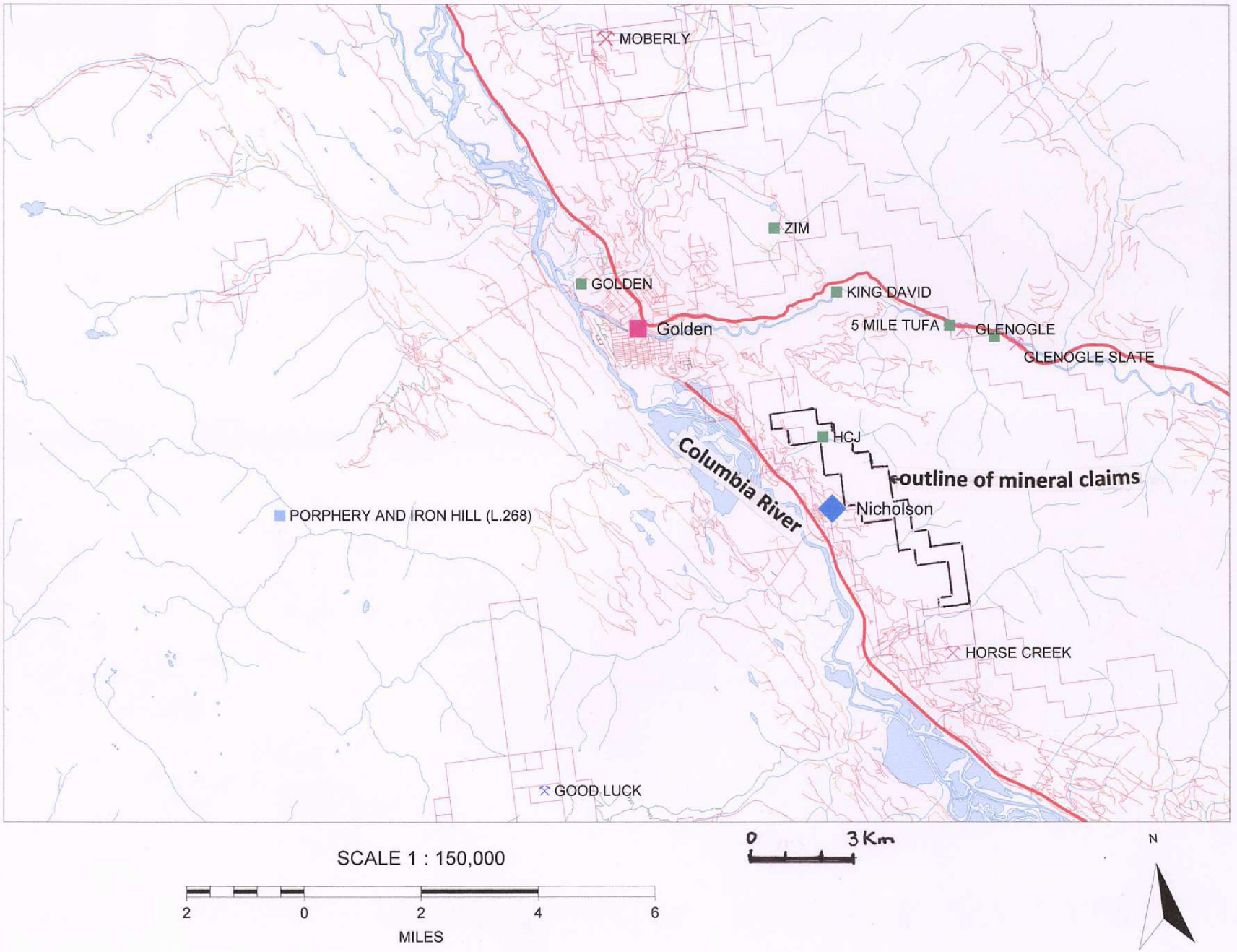
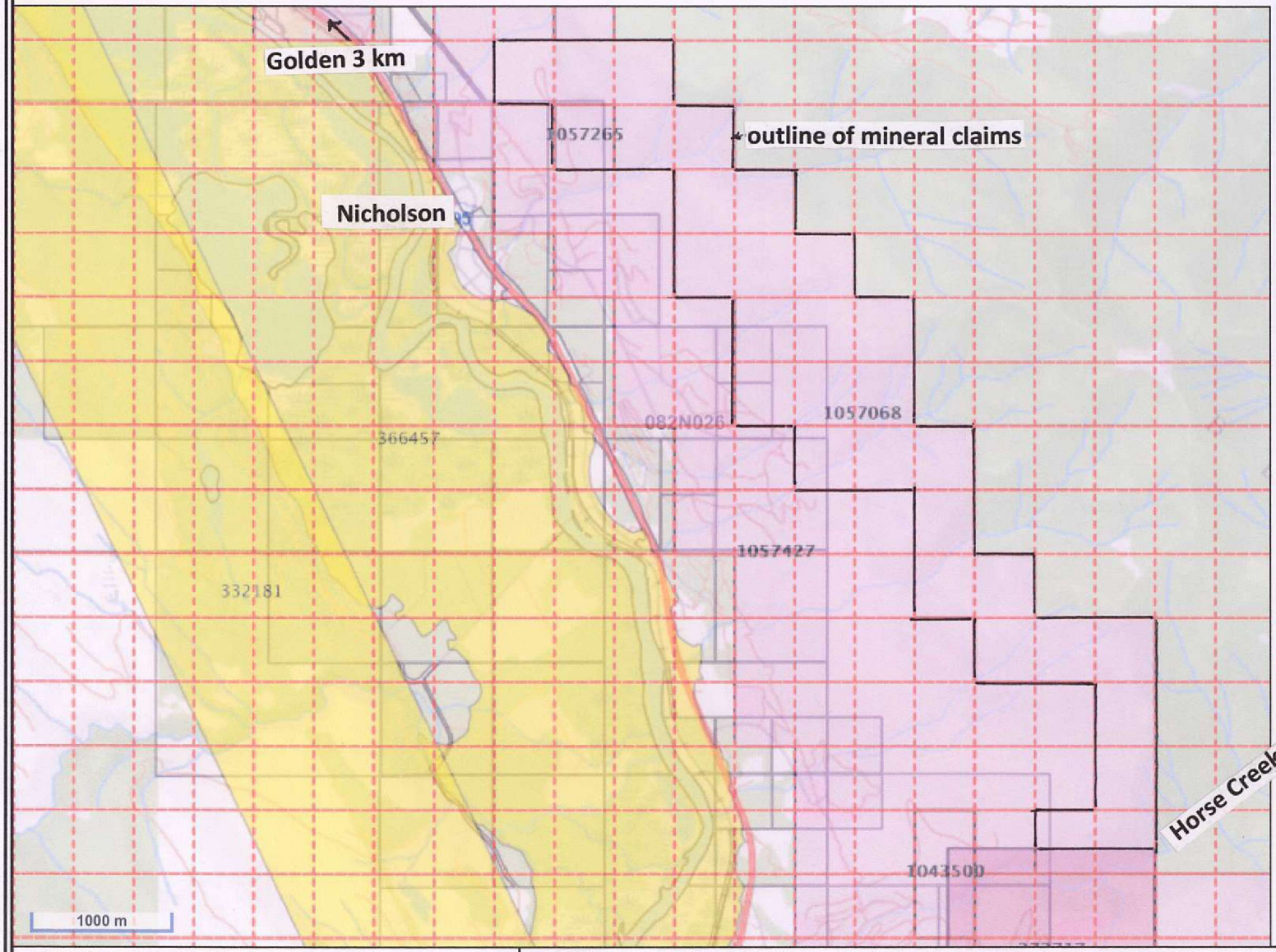


Fig 2A MTO Claim Map



Legend

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

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

Administrative Boundaries
Federal Transfer Lands - Outlined
Federal Transfer Lands - Colour Filled
National Parks - Outlined
National Park
National Parks - Colour Filled
Conservancy Areas - Tantalis - Colour Filled
Conservancy Areas
Ecological Reserves - Tantalis - Colour Filled

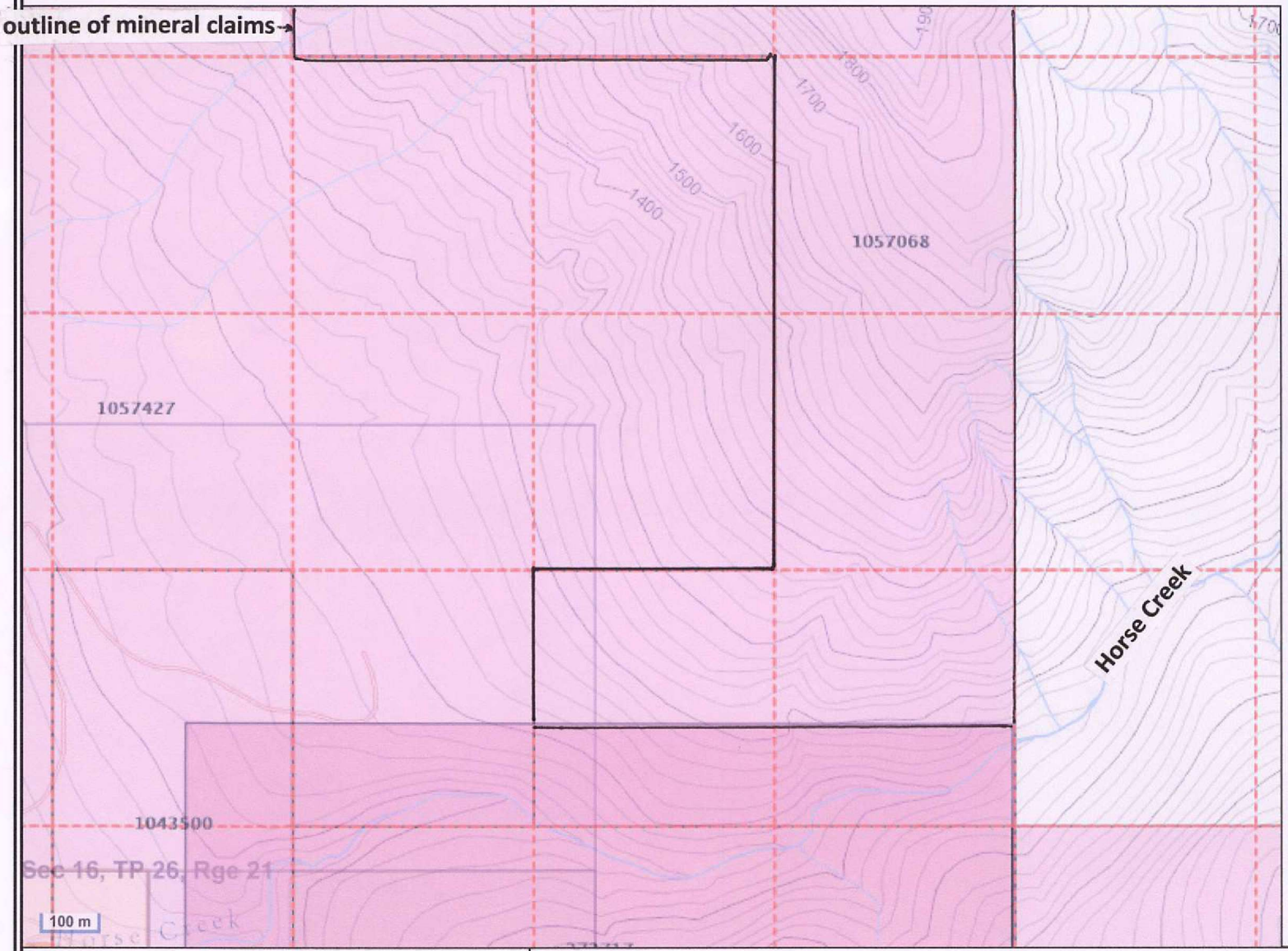
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Printed using the Mineral Titles Online (MTO) application.BCGS 082N.026, Golden Mining Division

Center: 51°14'48", -116°54'16"
Scale: 1 : 67710
SRS: EPSG:3857
UTM Zone: 11

N

Fig 2BMTO Claim Map (Detail)



Legend

Mineral Titles (MTO)

MTO Grid

Title (current)

LEASE

CLAIM

Reserves

No Registration

Conditional

Heritage/Historic Site

Crown Land Layers (Tantalis)

Land Act Survey Parcels - Tantalis - Legal Descriptions

Label Text

Land Act Survey Parcels - Tantalis - Outlined

Administrative Boundaries

Federal Transfer Lands - Outlined

Federal Transfer Lands - Colour Filled

National Parks - Outlined

National Park

National Parks - Colour Filled

Conservancy Areas - Tantalis - Colour Filled

Conservancy Areas

Ecological Reserves - Tantalis - Colour Filled

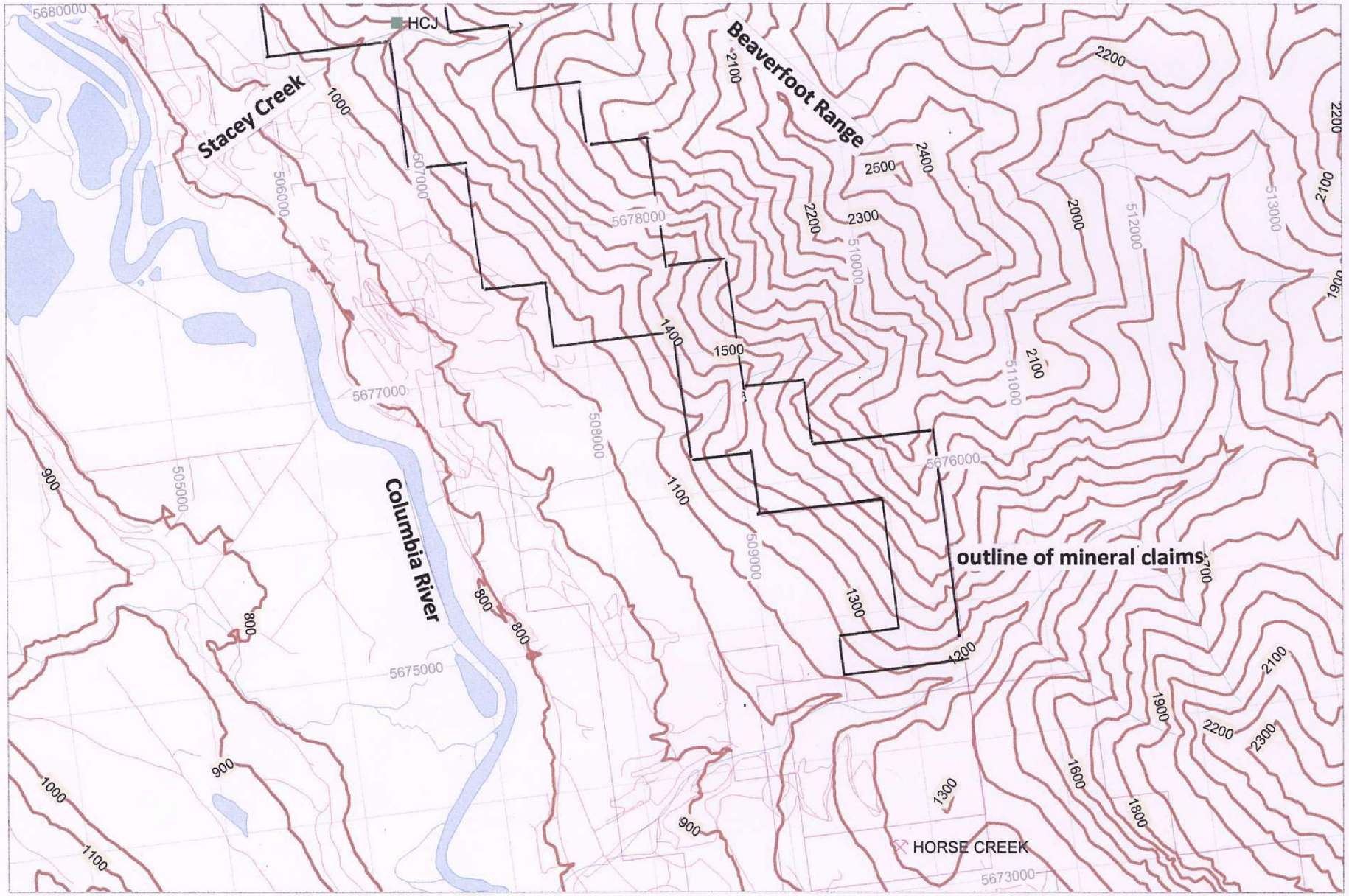
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Printed using the Mineral Titles Online (MTO) application.BCGS 082N.026, Golden Mining Division

Center: 51°13'35", -116°51'38"
Scale: 1 : 16927
SRS: EPSG:3857
UTM Zone: 11

N

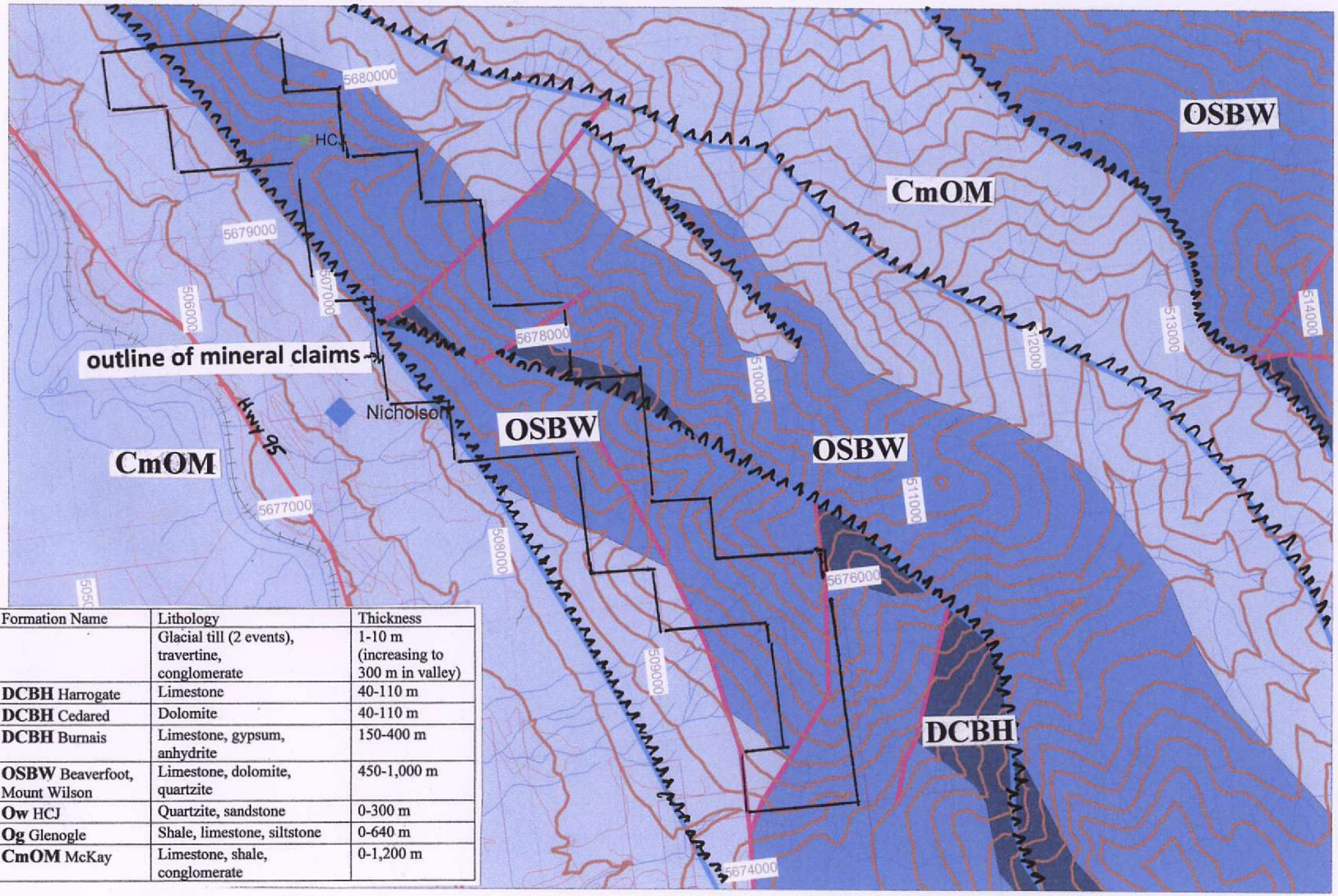
Fig 3 Topography HCJ Mineral Property



NTS 082N 07/W, BCGS 082N.026, Golden Mining Division

Fig 4 General Geology

NTS 082N 07/W, BCGS 082N.026, Golden Mining Division



Age	Formation Name	Lithology	Thickness
Pleistocene		Glacial till (2 events), travertine, conglomerate	1-10 m (increasing to 300 m in valley)
Mid Devonian	**DCBH** Harrogate	Limestone	40-110 m
Mid Devonian	**DCBH** Cedared	Dolomite	40-110 m
Mid Devonian	**DCBH** Burnais	Limestone, gypsum, anhydrite	150-400 m
Mid Silurian-Upper Ordovician	**OSBW** Beaverfoot, Mount Wilson	Limestone, dolomite, quartzite	450-1,000 m
Ordovician	**Ow** HCJ	Quartzite, sandstone	0-300 m
Ordovician	**Og** Glenogle	Shale, limestone, siltstone	0-640 m
Cambrian Ordovician	**CmOM** McKay	Limestone, shale, conglomerate	0-1,200 m

0 1 Km

SCALE 1 : 45,000

2,000 0 2,000 4,000 6,000

FEET

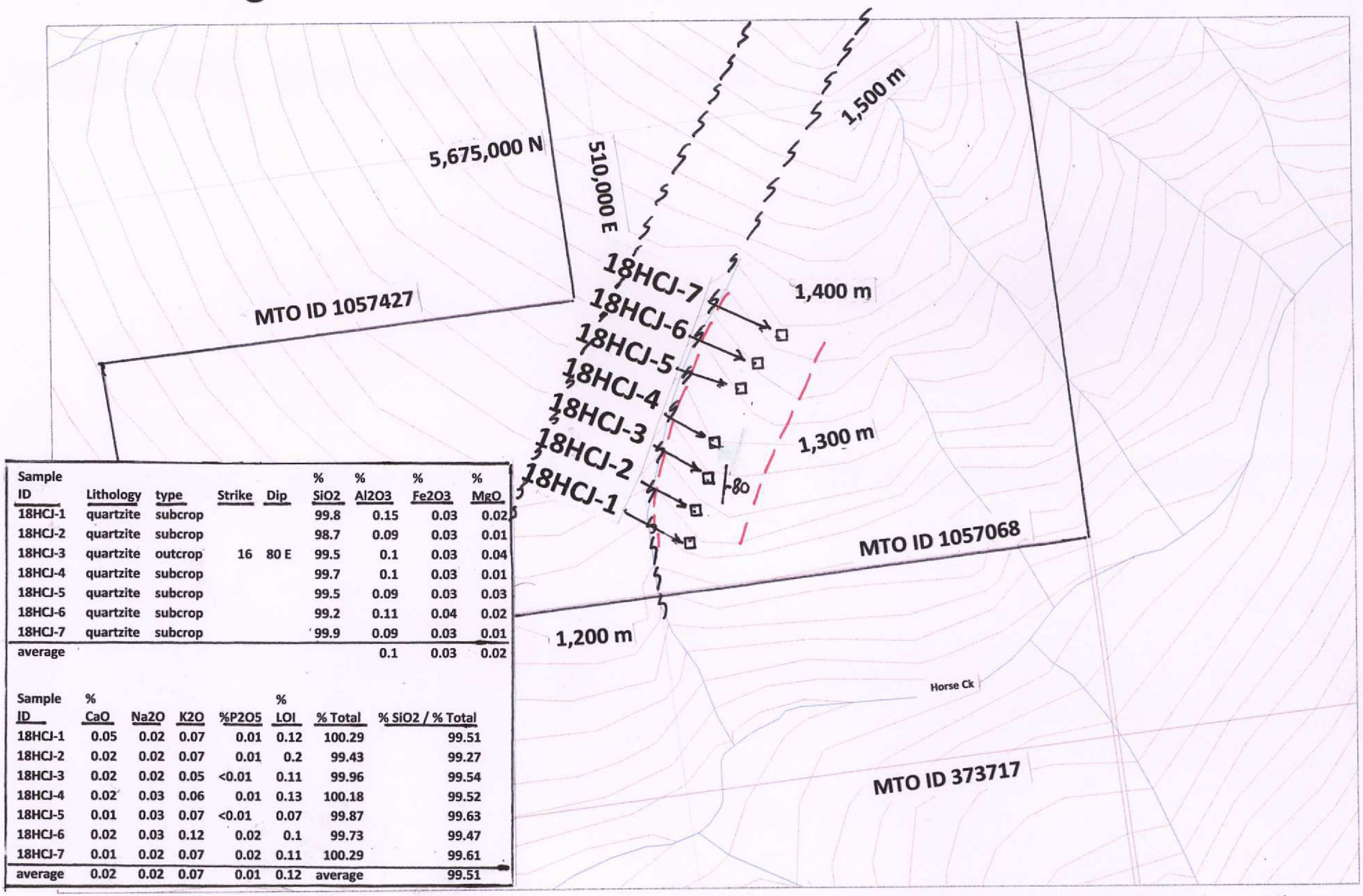
Turquoise Line= Thrust Fault

Red Line= Fault

Source: BCGS Mapplace

N

Fig 5 HCJ1-7 Rock Chip Sample Location



Sample ID	Lithology	type	Strike	Dip	% SiO2	% Al2O3	% Fe2O3	% MgO
18HCJ-1	quartzite	subcrop			99.8	0.15	0.03	0.02
18HCJ-2	quartzite	subcrop			98.7	0.09	0.03	0.01
18HCJ-3	quartzite	outcrop	16	80 E	99.5	0.1	0.03	0.04
18HCJ-4	quartzite	subcrop			99.7	0.1	0.03	0.01
18HCJ-5	quartzite	subcrop			99.5	0.09	0.03	0.03
18HCJ-6	quartzite	subcrop			99.2	0.11	0.04	0.02
18HCJ-7	quartzite	subcrop			99.9	0.09	0.03	0.01
average						0.1	0.03	0.02

Sample ID	% CaO	Na2O	K2O	%P2O5	% LOI	% Total	% SiO2 / % Total
18HCJ-1	0.05	0.02	0.07	0.01	0.12	100.29	99.51
18HCJ-2	0.02	0.02	0.07	0.01	0.2	99.43	99.27
18HCJ-3	0.02	0.02	0.05	<0.01	0.11	99.96	99.54
18HCJ-4	0.02	0.03	0.06	0.01	0.13	100.18	99.52
18HCJ-5	0.01	0.03	0.07	<0.01	0.07	99.87	99.63
18HCJ-6	0.02	0.03	0.12	0.02	0.1	99.73	99.47
18HCJ-7	0.01	0.02	0.07	0.02	0.11	100.29	99.61
average	0.02	0.02	0.07	0.01	0.12	average	99.51

0 200 m

SCALE 1 : 5,000

500 0 500 1,000 1,500

FEET

NTS 082N 07/W, BCGS 082N.026, Golden Mining Division

Rock Chip Sample

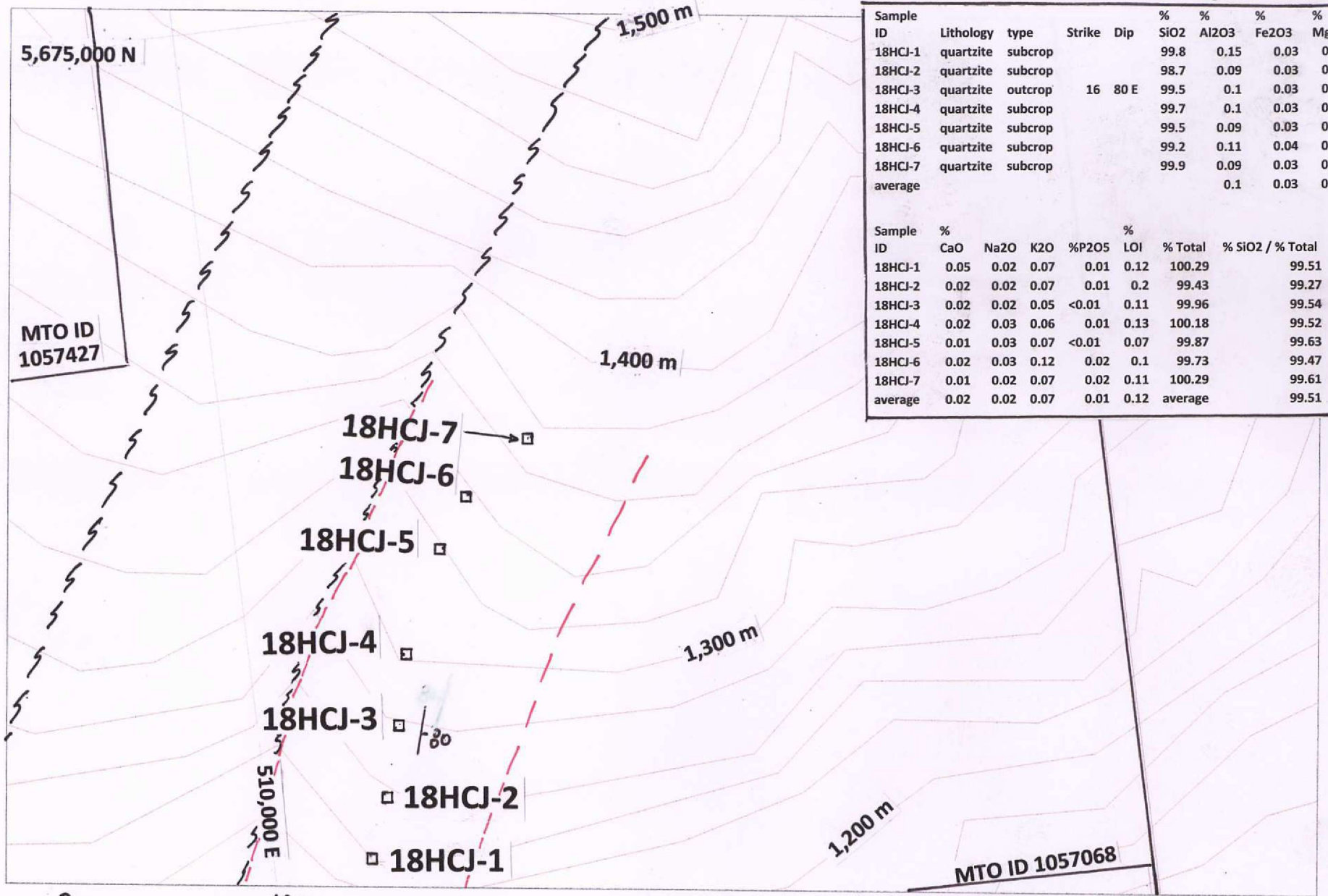
Surface Trace Quartzite

Bedding

Fault

N

Fig 6 HCJ1-7 Rock Chip Sample Geochemistry



Sample ID	Lithology	type	Strike	Dip	% SiO2	% Al2O3	% Fe2O3	% MgO
18HCJ-1	quartzite	subcrop			99.8	0.15	0.03	0.02
18HCJ-2	quartzite	subcrop			98.7	0.09	0.03	0.01
18HCJ-3	quartzite	outcrop	16	80 E	99.5	0.1	0.03	0.04
18HCJ-4	quartzite	subcrop			99.7	0.1	0.03	0.01
18HCJ-5	quartzite	subcrop			99.5	0.09	0.03	0.03
18HCJ-6	quartzite	subcrop			99.2	0.11	0.04	0.02
18HCJ-7	quartzite	subcrop			99.9	0.09	0.03	0.01
average						0.1	0.03	0.02

Sample ID	% CaO	Na2O	K2O	%P2O5	% LOI	% Total	% SiO2 / % Total
18HCJ-1	0.05	0.02	0.07	0.01	0.12	100.29	99.51
18HCJ-2	0.02	0.02	0.07	0.01	0.2	99.43	99.27
18HCJ-3	0.02	0.02	0.05	<0.01	0.11	99.96	99.54
18HCJ-4	0.02	0.03	0.06	0.01	0.13	100.18	99.52
18HCJ-5	0.01	0.03	0.07	<0.01	0.07	99.87	99.63
18HCJ-6	0.02	0.03	0.12	0.02	0.1	99.73	99.47
18HCJ-7	0.01	0.02	0.07	0.02	0.11	100.29	99.61
average	0.02	0.02	0.07	0.01	0.12	average	99.51

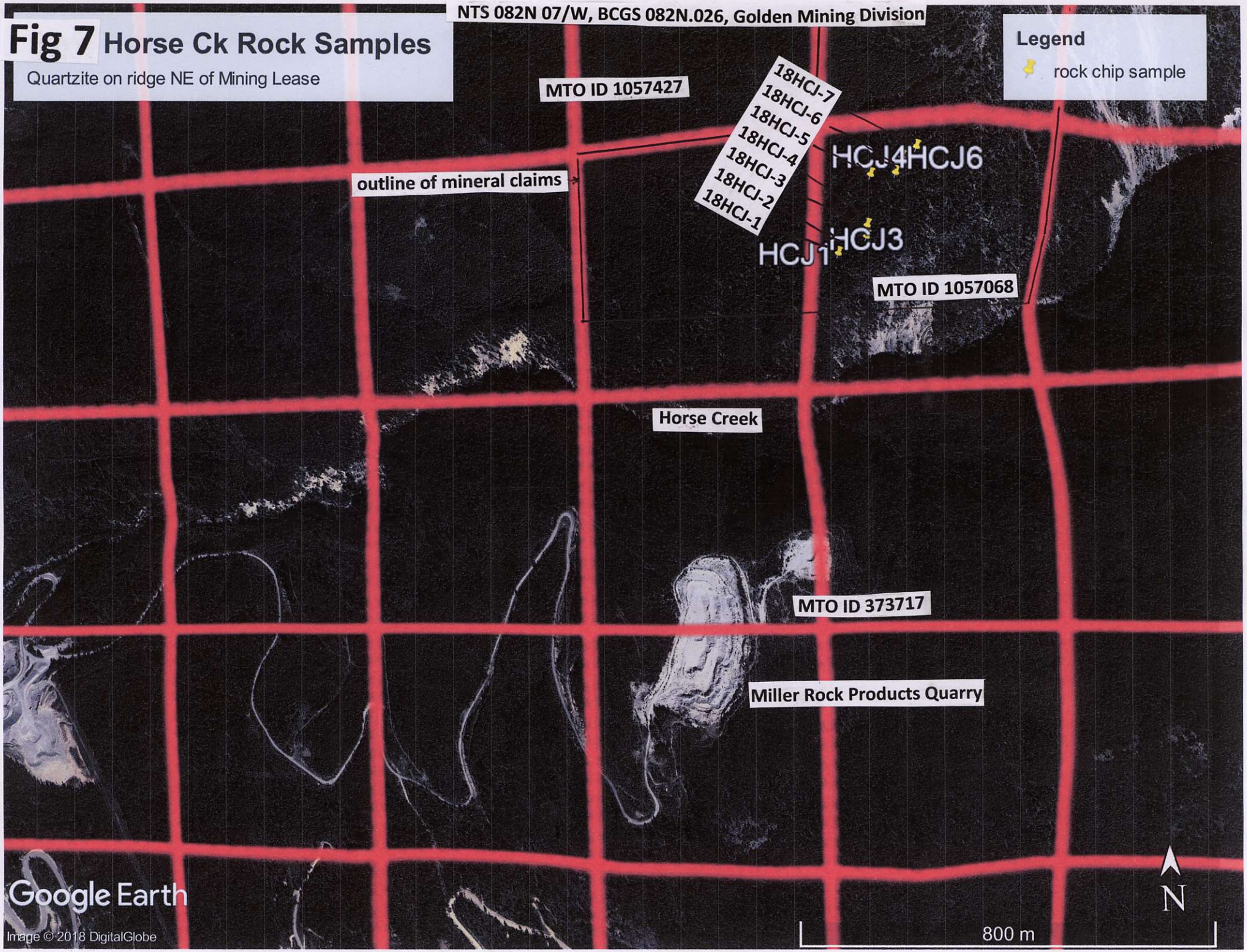


Fig 7 Horse Ck Rock Samples
Quartzite on ridge NE of Mining Lease
NTS 082N 07/W, BCGS 082N.026, Golden Mining Division
Legend
rock chip sample
MTO ID 1057427
18HCJ-7
18HCJ-6
18HCJ-5
18HCJ-4
18HCJ-3
18HCJ-2
18HCJ-1
HCJ4
HCJ6
outline of mineral claims
HCJ1
HCJ3
MTO ID 1057068
Horse Creek
MTO ID 373717
Miller Rock Products Quarry
Google Earth
Image © 2018 DigitalGlobe
N
800 m

NTS 082N 07/W, BCGS 082N.026, Golden Mining Division

Fig 8 Rock Sample

Location, NTS 082N 7/W