



Ministry of Energy and Mines  
BC Geological Survey



**BC Geological Survey  
Assessment Report  
37633**



Assessment Report  
Title Page and Summary

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

TOTAL COST: \$3,093.54

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): 5703965

PROPERTY NAME: Red Mountain-Topaz-Cleland

CLAIM NAME(S) (on which the work was done): 1027148

COMMODITIES SOUGHT: Magnesite

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082KNE015, 082KNE034, 082KNE038

MINING DIVISION: Golden NTS/BCGS: 082 K 16/W, 082K.088

LATITUDE: 50 ° 50 ' 44 " LONGITUDE: 116 ° 24 ' 29 " (at centre of work)

OWNER(S):

1) MGX Minerals Inc 2) Jared Lazerson

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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):

Magnesite occurs as conformable beds 12-28 meters wide, strike length of 400 m (continuous) hosted in Proterozoic Mt Nelson Fm. Magnesite is intercalated in sequence of weakly metamorphosed sandstone (quartzite), shale (phyllite), and dolomite (marble). Magnesite is coarse crystalline (sparry) and resistant to weathering forming low-relief ridge crests trending 100 degrees dipping moderate S. Red Mtn magnesite has high silica (recrystallized chert) content SiO2 >10%, but Ca% values are low <1%

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 26344, 35288

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo Interpretation			
<b>GEOPHYSICAL (line-kilometres)</b>			
<b>Ground</b>			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil			
Silt			
Rock 8 ALS ME-XRF26 whole rock geochemistry		1027148	3,093.54
Other			
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
<b>TOTAL COST:</b>			<b>3,093.54</b>

NTS 082K 16/W, TRIM 082K.088

LAT. 50 50' 44" N

LONG. 116 24' 29" W

GEOCHEMICAL  
REPORT ON MINERAL TENURES  
1027148, 1027149, 1027150, 1030820, & 1030822  
RED MOUNTAIN (TOPAZ-CLELAND) MAGNESITE  
MINERAL OCCURRENCES  
BRISCO, B.C.

Golden Mining Division

by

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July 12, 2018

37,633

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## SUMMARY

The Red Mountain-Topaz-Cleland magnesite property consists of 5 contiguous claims (1027148, 1027149, 1027150, 1030820, & 1030822) totalling approximately 265.3 hectares (655.6 acres) located approximately 50 km (31.1 miles) south of Golden, BC (Fig 1, 2). The Red Mtn-Topaz-Cleland sparry magnesite occurrences are located in 3 separate areas of the property. The mineral claims are located approximately 10 kilometers west of Brisco, British Columbia. MGX Minerals (CSE: XMG) has carried out geochemical rock chip sampling (May, 2018) on the Red Mountain Magnesite Zone, located on the north portion of the mineral property. A total of 8 rock chip samples were taken on the subject property covering an area of approximately 40 X 330 meters located along a subtle, but definitive ridge crest (weak topographic high, outcrop forming unit, west-northwest trend, steep to moderate south dip).

The rock chip samples taken in 2018 were geochemically analyzed by Li Borate fusion, whole rock analysis ME-XRF-26, performed by ALS Minerals, North Vancouver, BC (Appendix A). Red Mountain Magnesite rock sample analyses are listed as

The magnesite on the Red Mountain-Topaz-Cleland property occurs as dolomite hosted, stratabound lenses that are approximately 10-40 meters in width (increased width and higher purity is noted in center of magnesite lens, increased CaO and SiO<sub>2</sub> near edges of magnesite, usually there are sharp contacts with dolomite). The compounds of interest (MgO) approach specifications (>40% MgO) required for producing calcined or deadburned magnesite. Impurities include SiO<sub>2</sub> quartz as sweat veining (result of regional metamorphism), and quartz as cherty patches (recrystallized chert nodules, especially for samples with >5% SiO<sub>2</sub>), CaO impurities that occur as isolated dolomite crystals, and veins and minor calcite as veins. Fe impurities occurs as FeCO<sub>3</sub> (siderite) veins and patches. Minor CaSO<sub>4</sub> 2H<sub>2</sub>O (gypsum), and rare talc (hydrated magnesium silicate) is found near the magnesite-dolomite contact zones on Red Mountain. Talc was not observed in the Topaz or Cleland magnesite horizons.

Additional detailed geological mapping, geochemical sampling and a program of diamond drill holes near the Topaz 2014 rock chip sample sites are recommended to identify depth extension of magnesite mineralization present on surface. Approximately 10 drill holes spaced 50-70 meters apart, and to a depth of 50-70 meters are recommended. Further geological mapping and geochemical sampling of the Red Mountain is recommended to identify wall rock contacts of the 20-40 meter wide, moderate to steeply dipping magnesite zone. The Cleland magnesite is fairly small in size but there are two faults either side of the magnesite and there may be extensions that are down-dropped by a sub-vertical fault and further detailed mapping along the faults may identify possible extensions of the smaller magnesite zone outlined in 2014 sampling.

Geochemical analysis results from 8 rock chip samples taken in 2018 on Red Mountain magnesite confirm the presence of high silica (average 14.48% SiO<sub>2</sub>). Silica can be removed by flotation methods in the beneficiation process for impure magnesite. The CaO average for 8 samples taken from Red Mtn is 0.87% CaO and is considered relatively low in comparison to other magnesite deposits in British Columbia which average >1% CaO. Calcium is considered a deleterious impurity in magnesite ores. The continuity (400 meter strike length) and consistent attitude (steep to moderate dip) of the Red Mountain magnesite layer makes it relatively easy to develop as a multi-level quarry. Given the high amount of silica present on Red Mountain magnesite (average 14.48% SiO<sub>2</sub> from 8 rock chip samples taken in 2018), the Topaz Lake magnesite showings are considered as the preferred target for development, given that silica (in this case re-crystallized chert) may be of value as a by-product, the Red Mountain magnesite has potential for economic mine (quarry on surface) development that would involve core drilling in a fence pattern to establish grade and tonnage.

## **1.0 Introduction**

This technical report has been prepared on behalf of MGX Minerals Inc and describes geochemical fieldwork on the Red Mtn magnesite mineral occurrences carried out in May 22-24, 2018. The report is intended to comply with assessment report technical requirements and identify potentially economic zones of magnesite mineralization.

## **2.0 Location, Access, Infrastructure, & Physiography**

The Red Mtn-Topaz-Cleland magnesite property is located approximately 60 kilometres south of Golden, B.C., and approximately 160 kilometres north-northwest of Cranbrook, B.C. (Figure 1). The property is located on NTS map sheet 082K/16W and on TRIM map sheet 082K 088. The center of 2018 magnesite fieldwork is located at Latitude 50°50' 44" N and Longitude 116°24' 29" W. The property covers a northwest trending ridge that is located between Bugaboo and Templeton Creeks in the Golden Mining Division of southern British Columbia, Canada. (Figure 2). The property covers a series of low and high relief ridge crests that trends about 115° to 135° azimuth (Figure 2). Topography is moderate except for the magnesite itself which locally forms short cliffs more than 10m (32.8 ft) high. The Cleland and Red Mountain magnesite has a moderate to steep dip, whereas Topaz Lake magnesite horizon has a shallow apparent dip. Elevations on the claim block range from 1080 to 1415 meters.

The Red Mtn-Topaz-Cleland magnesite property can be accessed by paved Interprovincial Highway 95, and from Brisco by the Brisco Road to Westside Road and followed to Cleland Lake Forest Service Road (FSR). There is good infrastructure in the form of paved highways, a CPR spur line and a major power line all of which are within 10 kilometres of the property. Magnesite weathers prominently and parts of the Red Mtn-Topaz-Cleland deposits are well exposed as isolated ridges within relatively low valley bottom topography, at an elevation of 1250 meters (4,100 feet), and along ridge crests near the summit of Red Mountain, at an elevation of 1,375 meters (4,510 feet). Numerous cliff exposures are present, with some cliff walls greater than 15 meters (50 feet) high. A series of northwest trending concordant faults

produce offsets of geologic contacts, displacement is relatively minor in the order of 5-20 meters, except for northwest trending, steep northeast dipping located north of Red Mountain.

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 Brisco and Spillimacheen on Highway 95. These are small towns with limited resources. The nearest population centers with significant services are Golden, population 4,200, a road distance of approximately 97 kilometres to the northwest and Invermere, population 3000, a road distance of approximately 67 kilometres to the southeast. Radium Hot Springs, population 900, is also close to the property but it is primarily a tourist town with limited services. Both Golden and Invermere have hotels, grocery stores, hardware stores, gas stations, medical services and heavy equipment service companies that work in the logging industry. Helicopter charters are available in Golden and Invermere. The property is 53 kilometres by air from Golden and 57 kilometres by air from Invermere.

Both Golden and Invermere are on paved Interprovincial Highway 95 and a CPR railway spur line serving the southeast B.C. coal fields that runs up the Southern Rocky Mountain Trench and parallels the Columbia River. Golden is on the Trans-Canada Highway and the CPR main line. A power transmission line parallels Highway 93 and is located approximately 7 kilometres due east of the Red Mtn-Topaz-Cleland property.

### 3.0 Property Status

The Red Mtn-Topaz-Cleland magnesite claims consists of five (5) contiguous mineral tenures (listed below) that are located within the Golden Mining Division (Figure 2).

Tenure number	Claim Name	Issue Date	Good To Date	Area in hectares
1027148	Red Mountain	2014/apr/01	2020/jan/01	81.61
1027149	Topaz Lake	2014/apr/01	2020/jan/01	20.41
1027150	Cleland Lake	2014/apr/01	2020/jan/01	20.41
1030820	Topaz Lake	2014/sep/07	2020/jan/01	122.46
1030822	Cleland East	2014/sep/07	2020/jan/01	20.41

The total area of the mineral tenures that comprise the property is 265.3 hectares (655.6 acres). Details of the status of tenure ownership for the Red Mountain-Topaz-Cleland 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 mineral tenures comprising the Red Mountain-Topaz-Cleland magnesite 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 tenures 1027148, 1027149, and 1027150 are owned 100% by Jared Lazerson (MGX Minerals Inc President), and mineral tenures 1030820 and 1030822 are owned 100% by MGX Minerals Inc.

There has not been any mining or other exploration related physical disturbances on the Red Mountain-Topaz-Cleland magnesite property that would be considered an environmental liability. The author is not aware of any environmental issues or liabilities related to historical exploration or mining activities that would have an impact on future exploration of the property.

#### **4.0 Area History**

Magnesite was first discovered in the Brisco area in the 1960's and a series of small deposits are described by McCammon (1965) in British Columbia Minister of Mines Annual Report for 1964. The Driftwood Creek Deposit is not included in McCammon's summary but was evidently discovered about this time as it was first staked in 1968.

In 1978, Kaiser Resources Ltd acquired the Driftwood Creek deposit (located approximately 18 kilometers northwest of Red Mountain) and carried out a program of surface geologic mapping and some very minor and poorly-documented diamond drilling. From their surface work, a resource of 22,500,000 tonnes of magnesite was inferred (using a specific gravity of 2.5). This resource estimate is not NI43-101 compliant. Publicly-available reports indicate some minor diamond drilling was done, but no data is provided. Kaiser drilled 12 short holes between 0.6 to 2.0 metres deep using a small plugger type drill in order to test near surface purity. The property was held for ten years, and then the claims were allowed to expire.

Magnesite at Driftwood Creek has been mapped over a strike length of 1900 meters and maximum width of about 220 meters. The magnesite occurs at surface in two discrete bodies; a larger 'Western Magnesite' and a smaller 'Eastern Magnesite'. The deposits have been folded into a series of anticline-syncline pairs that trend west-northwest along the ridge crest.

Two previous studies of the Driftwood Creek magnesite deposit have estimated tonnages, based primarily on surface mapping. These resource estimates are not NI43-101 compliant and cannot be relied upon. Kaiser Resources inferred 22,500,000 tonnes of magnesite using a specific gravity of 2.5 while Canadian Occidental inferred a resource of 29,400,000 tonnes using a specific gravity of 3.0.

From the southwest edge of the Driftwood mineral property, a 1 km access trail leads onto the western edge of the magnesite deposit and to the site of a small quarry where Kaiser Resources Ltd excavated a small bulk sample in 1978. A new road was built from this point in 2008 to provide access to both the Western and Eastern magnesite deposits.

In 1987, the Driftwood Creek magnesite deposit was staked by Canadian Occidental Petroleum Ltd. ('Canoxy'). In 1989, a 2500 metre baseline was established at azimuth 115° that was parallel to the magnesite area. Cross lines at 100 metres spacing were established across the magnesite and ranged from 50-500 metres in length. The lines were flagged at 50 metre intervals. This survey grid was used to do geological mapping and build cross sections at 1:2,000 and 1:1,000 scales. As part of the geologic mapping program, a total of 68 – 5 kilogram samples of magnesite were also collected along 17 cross-section survey lines. Samples were analyzed by Chemex Laboratories Ltd., Vancouver B.C. The analyses were done for SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, MgO, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, MnO, BaO and L.O.I. As well, a “dead-burned” assay was done for each sample. This involves analysis for %MgO after roasting at 1000°C for an hour. In 1990, Canadian Occidental did 219.8 metre of NQ diamond drilling in 4 holes. This drilling targeted the Eastern magnesite deposit. Drill core was split on site and samples taken at 1.5 metre intervals. Only sections through the magnesite were sampled. The core samples were shipped to Chemex Labs Ltd. in North Vancouver and were analysed for major oxides and loss on ignition (LOI). As well, a “dead-burned” assay was done for each sample. This involved analysis for %MgO after roasting at 1000°C for one hour.

In 1999, Driftwood magnesite ridge was staked by the present owners and some additional rock geochemistry was completed on part of the Western magnesite (Kikauka, 2000). This work involved sampling along north and northeast trending lines over exposed outcrop in ten locations within a 325 X 125 m. area (Kikauka, 2000). Weighted average values ranged from 41.1 to 45.5% for MgO and 0.4 to 8.3% for SiO<sub>2</sub>. Additional geochemistry, along with bulk sampling and access trail construction, was conducted in 2001 (Klewchuk, 2002). Twenty samples collected in 2001 provided the following range of values:

**Oxide Range of values**

MgO 39.98 to 44.42%

SiO<sub>2</sub> 2.48 to 13.1%

Al<sub>2</sub>O<sub>3</sub> 0.05 to 1.11%

Fe<sub>2</sub>O<sub>3</sub> 0.71 to 1.11%

CaO 0.34 to 3.21%

TiO<sub>2</sub> <0.01 to 0.1%

P<sub>2</sub>O<sub>5</sub> 0.09 to 0.19%

MnO 0.02 to 0.04%

Cr<sub>2</sub>O<sub>3</sub> 0.01 to 0.12%

A total of 911 metres of diamond drilling in 11 drill holes has been done on the Driftwood Creek magnesite property. The first drilling was done in 1990, by Canadian Occidental. This work targeted the Eastern Magnesite deposit. The 2008 diamond drilling was done by Tusk Exploration Ltd. and targeted the Western Magnesite deposit. Drilling indicates that there are zones of impurity especially at the base of the magnesite where it is in contact with underlying dolomite. Above this basal zone the grade and purity improves, approaching nearly pure magnesite in places

In 2008 SGS Lakefield Research conducted a beneficiation study on samples from the Driftwood Creek magnesite deposit (Rodgers, 2008). This work was done on behalf of Tusk Exploration Ltd. The objective of this work was to perform a metallurgical assessment of the Driftwood Creek magnesite deposit. The results of this study are contained in a report dated June 24, 2008 and authored by M. Aghamirian and D. Imeson. The first phase of beneficiation studies on two composite samples of magnesite, one each from the Western and Eastern deposits, was done by SGS. The objective of this work was to develop a process to recover magnesite from the "ore". A preliminary flotation flow sheet and reagent scheme was developed. This flow sheet consisted of pyrite and silicate flotation circuits. Magnesite concentrate was recovered as silicate flotation tailings. The magnesite recoveries from the Western and Eastern zone composites using reverse flotation were 91 and 92% respectively (Aghamirian and Imeson, 2008).

Aghamirian and Imeson (2008) derived the following conclusions from the results obtained;

- The "ore" has a high magnesite grade estimated at 93.4% for the Eastern deposit and 86.3% for the Western deposit. It responded well to beneficiation by silicate flotation with the magnesite concentrate generated as a silicate tailings.
- Efforts to reduce the iron content of the magnesite concentrate were not successful possibly due to the presence of iron in magnesite crystal structure as solid solution;
- Heavy media separation can be considered as a potentially suitable process for primary upgrading to reject a large portion of silicate minerals at approximately 73 to 80% and calcite at nearly 40% in a coarse fraction;
- Grinding and screening to different fractions, failed to generate an acceptable magnesite concentrate.
- High intensity dry and wet magnetic separations were tried to separate iron containing minerals. These methods failed to perform a reasonable task to reduce iron content of the magnesite concentrate.

Aghamirian and Imeson (2008) go on to state that the flowsheet and reagent scheme developed in the investigation was preliminary in nature, and more detailed test work should be conducted to optimize the flotation process.

In the fall of 2008, a program of trail access construction and diamond drilling was also completed on the property. This work was under the direction of Peter Klewchuk, P. Geo., one of the property owners, on behalf of Tusk Exploration Ltd. of Vancouver, B.C. Trails were constructed from existing access at the west end of the magnesite ridge onto the Western Magnesite where the thickest zone of magnesite exists and additional trail was constructed to access the Eastern Magnesite. In total about 3300 meters of trail was constructed. In late October and early November, seven NQ diamond drill holes were completed from an area near the thickest part of the Western Magnesite, for a total of 692 meters of diamond drilling. Core from this drilling was bagged and prepared for shipment to a laboratory but was never submitted. This core was subsequently analyzed by Torch River Resources in 2012 who were considering an option on the property. Torch River decided not to proceed with the option. Prior to 2014, four holes drilled in 1990 on the East Zone and seven holes drilled on the West Zone in 2008, for a total of 911 metres of diamond drilling in 11 drill holes, has been done on the Driftwood Creek magnesite property. First drilling was done in 1990 by Can Occidental. This work targeted the Eastern Magnesite deposit. The 2008 diamond drilling was done by Tusk Ltd. and targeted the Western Magnesite deposit. Previous drill hole collar data is listed as follows:

**List of 1990 & 2008 diamond drill holes, Driftwood Creek property.**

Hole	Easting	Northing	Elevation	Azimuth	Dip	Length(m)
90-1	531327	5639108	1400	25	-80	39.9
90-2	531328	5639113	1400	25	-50	47.6
90-3	531512	5638945	1410	25	-45	61
90-4	531406	5639034	1410	25	-45	71.9
MG-08-1	530427	5639563	1375	236	-46	141.5
MG-08-2	530490	5639481	1386	210	-46	133.5
MG-08-3	530578	5639391	1389	210	-44	52.2
MG-08-4	530612	5639469	1393	215	-44	82.7
MG-08-5	530611	5639465	1393	139	-49	99.4
MG-08-6	530555	5639498	1383	210	-46	100
MG-08-7	530477	5639524	1383	215	-47	82.7

**High grade magnesite drill hole intersections from the 1990 drilling program.**

Hole	Sample No.	From(m)	To(m)	Length	MgO%	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	MgO*%
90-1	421901	6.71	7.62	0.91	46.17	0.25	<0.01	91.5
90-1	421902	7.62	9.14	1.52	45.02	0.71	<0.01	88.1
90-2	421914	7.62	9.14	1.52	46.77	0.23	0.40	87.9
90-2	421915	12.19	13.72	1.52	44.61	0.41	1.48	89.2
90-2	421916	16.76	18.29	1.52	44.51	0.78	0.98	88.7
90-2	421917	18.29	19.81	1.52	44.47	0.53	0.96	88.7
90-2	421918	19.81	21.34	1.52	45.14	0.48	1.67	88.8
90-2	421919	21.34	22.86	1.52	45.29	0.66	1.82	87.2
90-2	421920	22.86	24.38	1.52	45.43	0.36	2.02	90.2
90-2	421921	24.38	25.91	1.52	44.73	0.40	1.77	88.5
90-2	421922	25.91	27.43	1.52	44.30	0.65	0.56	87.9
90-2	421923	27.43	28.96	1.52	41.10	0.35	0.33	89.5
90-2	421925	30.48	32.00	1.52	42.47	0.26	0.14	89.1
90-2	421928	35.05	36.58	1.52	47.23	0.41	0.53	89.6
90-2	421929	36.58	38.10	1.52	43.49	0.47	1.35	89.2
90-4	421723	15.24	16.76	1.52	44.89	0.12	1.19	87.9
90-4	421726	19.81	21.34	1.52	45.16	0.79	1.66	87.0
90-4	421729	24.38	25.91	1.52	45.68	0.05	0.73	89.4
90-4	421730	25.91	27.43	1.52	46.05	0.12	0.80	90.0
90-4	421731	27.43	28.96	1.52	43.59	0.82	2.56	90.5
90-4	421732	28.96	30.48	1.52	42.74	0.76	4.10	89.4
90-4	421733	30.48	32.00	1.52	43.24	0.73	3.62	90.7
90-4	421734	32.00	33.53	1.52	43.15	0.78	3.31	89.4
90-4	421735	33.53	35.05	1.52	43.60	0.92	2.80	89.6
90-4	421736	35.05	36.58	1.52	43.61	0.88	2.96	89.4
90-4	421738	38.10	39.62	1.52	43.97	0.58	2.72	90.7
90-4	421739	39.62	41.15	1.52	43.98	0.38	2.25	91.5
90-4	421740	41.15	42.67	1.52	44.08	0.66	2.64	91.1
90-4	421741	42.67	44.20	1.52	42.78	1.03	4.31	89.8

Drilling indicates that there are zones of impurity especially at the base of the magnesite where it is in contact with underlying dolomite. Above this basal zone the grade and purity improves, approaching nearly pure magnesite in places

In 2014, MGX Minerals Inc optioned the Driftwood property and a total of 437.52 m (1,435.07 ft) from 8 holes drilled in a 100 X 300 m area were located along the ridge top in the area of the Driftwood East Zone (Fig 6, 7). Also, a total of 14 rock chip samples across a width of 42 m (137.75 ft) were taken near the west portion of the East Zone, and one sample from the West

Zone(Fig 4, 6). Drill core was split at 3 m (9.84 ft) intervals and sampled using quality control/quality assurance protocol defined by NI 43-101. The samples were analyzed using Li Borate fusion, whole rock analysis ME-XRF-06 (XRF26), performed by ALS Minerals, Kamloops/North Vancouver, BC. Highlights of significant results are listed as follows:

DDH #	From m (ft)	To m (ft)	length m (ft)	MgO %	CaO %	SiO2 %	Fe2O3 %	LOI %
14 1	1 m (3.28 ft)	27 m (88.56 ft)	26 m (85.28 ft)	42.55	0.75	5.86	0.75	47.93
14 2	2 m (6.56 ft)	51 m (167.28 ft)	49 m (160.72 ft)	43.04	1.06	5.18	0.74	48.55
142A	.35 m (1.15 ft)	36 m (118.08 ft)	35.65 m (116.93 ft)	41.83	1.5	6.83	0.93	46.91
14 3	2.8 m (9.18 ft)	9 m (29.52 ft)	6.2 m (20.34 ft)	41.04	1.16	8.33	0.98	46.05
14 3	21 m (68.88 ft)	63 m (206.64 ft)	42 m (137.76 ft)	41.52	1.33	6.49	0.88	47.44
14 4	0.8 m (2.62 ft)	9 m (29.52 ft)	8.2 m (26.9 ft)	43.2	1.24	4.12	0.86	48.64
14 4	21 m (68.88 ft)	66 m (216.48 ft)	45 m (147.6 ft)	41.92	2.08	4.71	0.77	48.54
14 5	24 m (78.72 ft)	71.63 m (234.94 ft)	47.63 m (156.23 ft)	41.43	1.64	6.87	0.78	47.5
14 6	3 m (9.64 ft)	18 m (59.04 ft)	15 m (49.2 ft)	42.62	1.92	5.54	0.86	47.48
14 6	30 m (98.4 ft)	36.58 m (119.98 ft)	6.58 m (21.58 ft)	41.92	0.69	9.01	0.97	45.53
14 7	.2 m (0.67 ft)	54 m (177.12 ft)	53.8 m (176.46 ft)	43.1	1.17	4.93	0.93	47.13

The main lithology encountered by drilling is magnesite but there are also a number of other lithologies including dolomite, quartzite, siltstone, and an occurrence of fine-grained siliclastic unit at 10.17-19.45 m depth in diamond drill hole 14-3.

Quartz veining occurs as a result of metamorphic sweats, and is generally common in the magnesite with a few narrow zones of more intense veining intersected. Contacts between magnesite and other non-carbonate lithologies are typically quite sharp to narrowly gradational and these contacts are typically more disturbed by late tectonic activity. These zones of broken ground and faulting at lithologic contacts proved difficult to drill through. Especially the fine-grained siliclastic intersected at 10.17-19.45 m depth in diamond drill hole 14-3. None of the other 2014 drill holes intercepted the fine-grained siliclastic suggesting that it's prominent at the west end of the East Magnesite Zone where it was intersected by DDH 1990-1 & 1990-2. The indurated, silicified siliclastic encountered by drilling are generally fine-grained quartzite composition and are silicified by metasomatic processes. Similarly, formation of magnesite by Metasomatic replacement of dolomite, as proposed for the Mount Brnssilof magnesite deposit and formation of magnesite by the inflow of hydrothermal fluids into closed basins. Preferential dissolution of evaporitic rock may result in the development of karst and extensive zones of dissolution breccia along evaporitic horizons. Late diagenetic or hydrothermal fluids similar to those forming Mississippi Valley-type base metal permeable zones, replacing fine-grained dolomite and evaporite deposits could migrate preferentially through more porous lithologies, and in the case of Driftwood be considered an extreme case of dolomitization ( $Mg^{++}$  cations replacing  $Ca^{++}$  in  $CO_3^{--}$  anion. The chemical process of dolomitization is  $2 CaCO_{3(calcite)} + Mg^{2+} \leftrightarrow CaMg(CO_3)_2(dolomite) + Ca^{2+}$  thus, extreme dolomitization would result in >40% MgO content (typical Driftwood magnesite is 40-45% MgO).

The genesis of Driftwood magnesite is similar to Red Mountain (and satellite magnesite deposits such as Topaz Lk, Cleland Lk, Botts Lake, Dunbar Ck, Jab). Driftwood appears to be a unique structurally constrained magnesite deposit whereby widths exceed 100 m in the West Zone. Red Mountain (and nearby magnesite lenses) are much smaller in volume than Driftwood, and based on geological data, Red Mountain (and nearby magnesite lenses) are <40 meter true width.

## RED MOUNTAIN MAGNESITE HISTORY

In 2014, MGX Minerals performed geological mapping and geochemical sampling of Red Mountain, Topaz Lake and Cleland Lake magnesite zones. Results suggest Topaz Lake has good grades of MgO with low impurities. Topaz Lake occurrence consists primarily of coarse crystalline magnesite in an area of approximately 70 X 230 meters, the Cleland magnesite is exposed in a smaller area of approximately 70 X 180 meters (exposure is limited by thick overburden and lack of outcrop). The Red Mountain magnesite is exposed over a true width of approximately 20-40 meters, over a strike length of 400 meter. Geochemical results of 2014 rock chip samples from Cleland Lake (CLE), Red Mountain (RED), and Topaz Lake (TOP), magnesite zone are summarized as follows:

ID #	bedding strike	bedding dip	% MgO	% CaO	% Al2O3	% Fe2O3	% SiO2
14CLE-01	143	68 NE	19.1	29	0.65	2.31	3.26
14CLE-02	140	65 NE	19.2	28.8	0.12	2.02	4.46
14CLE-03	130	68 NE	39.7	4.44	0.03	2.03	4.16
14CLE-04	138	65 NE	43.4	1	0.58	1.56	2.27
14CLE-05			34.9	10.8	0.21	2.49	2.56
14TOP-01			42.2	2.86	0.74	1.27	2.26
14TOP-02			40.1	1.98	0.73	1.73	7.44
14TOP-03			44	0.92	1.3	1.39	2.78
14TOP-04			42.8	0.51	0.81	1.13	10.35
14TOP-05			40.9	3.9	0.14	1.58	3.12
14TOP-06			42.5	0.54	0.3	1.46	5.63
14RED-01	105		40	1.06	0.29	1.43	10.4
14RED-02	108		39.2	1.35	0.16	1.57	12
14RED-03	112		40.5	0.6	0.63	0.84	10.7
14RED-04	110		38	0.49	0.19	1.01	17.4
14RED-05	112		41	0.77	0.78	1.12	8.89

Results indicate MgO content ranges from 38.4 to 43.4% MgO at Cleland Lake showings (3 out of 5 samples contain dolomite). MgO content ranges from 40.9 to 42.8% at Topaz Lake, and 38 to 41% on Red Mountain. Samples taken at Topaz Lake are most favourable. Just south of the south end of Topaz Lake sparry magnesite is exposed as a shallow dipping horizon of magnesite bearing mineralization. The area that has been interpreted as a magnesite horizon is approximately 180 X 425 meters in area and has a depth of approximately 10-30 meters (possible thickening and increase in % MgO in center of mapped magnesite zone).

Collectively the 3 magnesite zones (Red Mtn, Topaz, Cleland) may be developed as a source or raw magnesite. Cleland Lake showings are dolomitic in part and samples that contain > 4% CaO are considered impure. Additional nearby deposits such as Botts Lake and Dunbar Creek offer additional sources of relatively low calcium, and relatively high silica magnesite. In general, the core area of the magnesite lenses (usually correlates with high competency, coarse crystalline sparry magnesite) contains the purest (relatively free of impurities) magnesite, whereas the edges of the magnesite lenses contain higher % CaO, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, & SiO<sub>2</sub> impurities.

## **5.0 Regional Geology**

The Red Mountain-Topaz-Cleland magnesite deposits are hosted by the Helikian (Precambrian) age Mount Nelson Formation, part of the Purcell Supergroup. The Mount Nelson Formation is about 1300 meters (4300 feet) thick and includes mainly dolomitic and quartzitic units with minor argillite (Fig 4). The magnesite occurs in the upper part of the formation. The Driftwood Creek deposit is classified as a stratabound sparry magnesite deposit that is most likely of an evaporitic origin. Lithological units in the area of Driftwood Creek are described as follows:

### **LITHOLOGY LEGEND**

- CmOM** Cambrian to Ordovician McKay Grp  
Mudstone, siltstone, shale
- uPrHsc** Upper Proterozoic Horsethief Ck Grp  
coarse clastic sedimentary rocks
- uPrWT** Upper Proterozoic Windmere Supergroup  
Toby Fm conglomerate, coarse clastic sediments
- mPrPM** Middle Proterozoic Purcell Supergroup  
Mt Nelson Fm quartzite, quartz arenite,  
dolomite, magnesite, argillite

The area of the Red Mountain-Topaz-Cleland magnesite deposits were first mapped by Reesor (1973). The following regional geologic information is extracted from Simandl and Hancock (1991). The Brisco and Driftwood Creek deposits are situated west of the Southern Rocky Mountain Trench fault. They are hosted by dolomites of the Middle Proterozoic (Helikian) Mount Nelson Formation of the Purcell Supergroup within the Purcell anticlinorium. Stratigraphic sections applicable to the area of the magnesite deposits were established by Walker (1926), Reesor (1973) and Bennett (1985). The geology of the Toby and Horsethief Creek areas has been described by Pope (1989, 1990). The upper part of the Mount Nelson Formation hosts the magnesite deposits.

All the magnesite deposits in the Brisco and Driftwood Creek area are located within the upper half of the Mount Nelson Formation. Most are lenticular and seem to form chains as illustrated by the Driftwood Creek deposits. All deposits are stratigraphically associated with red to purple dolomites, cherty dolomites, stromatolitic dolomites, dissolution breccias and other rocks containing dolomite pseudomorphs after halite and lenticular gypsum crystals. Locally, stromatolitic textures are preserved, even within magnesite-bearing rocks.

The Driftwood Creek and Brisco magnesite occurrences are classified as Sparry Magnesite deposits (E09) by the B.C. Ministry of Energy and Mines (Simandl and Hancock, 1998). This deposit type is characterized by stratabound and typically stratiform, lens-shaped zones of coarse-grained magnesite mainly occurring in carbonates but also observed in sandstones or other clastic sediments. Magnesite exhibits characteristic sparry texture.

There are two preferred theories regarding the origin of sparry magnesite deposits:

1. Replacement of dolomitized, permeable carbonates by magnesite due to interaction with a metasomatic fluid.
2. Diagenetic recrystallization of a magnesia-rich protolith deposited as chemical sediments in marine or lacustrine settings. The sediments would have consisted of fine-grained magnesite, hydromagnesite, huntite or other low temperature magnesia-bearing minerals.

The main difference between these hypotheses is the source of magnesia; external for metasomatic replacement and in situ in the case of diagenetic recrystallization. Temperatures of homogenization of fluid inclusions constrain the temperature of magnesite formation or recrystallization to 110° to 240°C. In British Columbia the diagenetic recrystallization theory may best explain the stratigraphic association with gypsum and halite casts, correlation with paleotopographic highs and unconformities, and shallow marine depositional features of the deposits (Simandl and Hancock, 1998).

Even where bedding transgressive contacts exist, the boundary tends to be fairly sharp (Klewchuk, 2010). Texture of the magnesite is variable, ranging from fine and medium grained to very coarse grained. Most of the deposit is of medium and fine-grained texture with irregular patches of more coarse-grained texture. Areas of coarse-grained magnesite appear to be irregularly developed within the area of exposed magnesite and are not obviously related to any structure. Thin quartz veins occur as metamorphic sweat, and are irregularly distributed through the magnesite, in a near-ubiquitous manner, although the concentration of quartz veins does vary. Quartz veins are present in the host dolomite indicating these quartz veins are not related to development of the magnesite.

The Cleland and Red Mountain magnesite has a moderate to steep dip, whereas Topaz Lake magnesite horizon has a shallow apparent dip. The Mount Nelson Formation, is separated from the overlying Toby Formation of Windermere Supergroup (Hadrinian) by an unconformity (Reesor, 1973; Pope 1989). This unconformity records East Kootenay orogenic events of regional uplift & thermal metamorphism dated at 750-850 Ma & submarine volcanics within the Purcell anticlinorium (Pope, 1989). The magnesite deposits are located within an area affected by low-grade regional metamorphism (Reesor, 1973; Bennett, 1985). All known magnesite occurrences are located outside the contact metamorphic aureole of Mid Cretaceous intrusions.

In the Toby-Horsethief Creek map area the Mount Nelson Formation is at least 1320 metres thick and is the uppermost unit of the Purcell Supergroup (Pope, 1990). It is divided into seven members. The descriptions below, in order from oldest to youngest are



summarized from Pope (1990). The "lower quartzite" is 50 to 150 metres thick, white, well sorted, thin-bedded (<20 cm), ripple laminated, fine to medium-grained quartz arenite. The "lower dolomite sequence" is characterized by its grey colour and light grey weathering surface, laminated beds 20 to 50 centimetres thick, soft sediment features, cryptalgal laminations and laterally linked hemispherical stromatolites. This dolomite also contains black argillite layers 1 to 2 centimetres thick and oolitic laminae. The top of the sequence is the cream coloured, cherty "cream marker dolomite" which is approximately 20 metres thick.

The "middle dolomite sequence" comprises the "middle quartzite", "orange dolomite" and "white markers". The "middle quartzite" is characterized by apple green colour. It consists of graded, crossbedded and massive arenites, siltstones and argillites. Beds are 10 to 50 centimetres thick with undulate bases and truncated tops. The orange dolomite consists of well-bedded silty or light beige to dark grey dolomites weathering orange-brown or orange-buff. Stromatolitic textures, cryptalgal lamination, chert intercalations, halite casts, solution-collapse breccias and dewatering features have been described in this unit. The stromatolitic dolomite most commonly forms the footwall to the Driftwood Creek magnesite deposit (Simandl and Hancock, 1992).

The "white markers" sequence is less than 70 metres thick and conformably overlies the orange dolomite. It consists of cream to medium grey dolomites and locally contains white magnesite beds up to 1 metre thick as well as purple, green and buff dolomitic mudstones and beds with dolomite-replaced halite crystals. It is assumed that the Driftwood Creek magnesite deposit occurs at this stratigraphic level.

The "purple sequence" conformably overlies the white markers. It consists of dolomites as well as dolomitic siltstones and sandstones consisting of 20 percent quartz, 70 percent dolomite and 10 percent hematite. These rocks contain halite casts and grade upward into purple shales with green reduction spots. Several mud chip breccias and monomictic conglomerates occur within this sequence. The upper part of the purple sequence is referred to as "purple shale unit". It consists of purple argillites with or without green reduction spots and laminae. The purple sequence is separated from the overlying upper middle dolomite by a conglomerate consisting of angular to rounded dolomite and quartzite clasts of variable dimensions, cemented by purple sandy argillite.

The "upper middle dolomite" is 80 metres thick and similar to the lower main dolomite, however it contains abundant allochems (oncolites and oolitic peloidal and pisolitic laminations) replaced by chert. The "upper quartzite" is over 260 metres thick. It is a cliff-forming well-sorted, quartz cemented and medium to coarse-grained arenite, characterized by massive bedding and poorly preserved sedimentary features. The "upper dolomite" has a conformable gradational contact with upper quartzite. Pale beige to dark grey, dolomite beds, 10 to 50 centimetres thick, are interbedded with quartz and dolomite-pebble conglomerates and dolomitic sandstones. The unit is characterized by abundant chert layers, cryptalgal structures replaced by black chert and by a distinctive, laminated, strongly contorted and locally brecciated blue-grey dolomite. The contact with underlying quartzite is transitional and consists of interbeds of purple argillite, quartzite and dolomite.

The earliest tectonic event in the area responsible for the syncline/anticline development within the Purcell Supergroup is likely related to formation of the Rocky Mountain fold and thrust belt in Late Cretaceous to Early Tertiary time. The northwest trending fault which parallels the Spillimacheen River, 4 kilometres north of the claims (Rodgers, 1990) probably formed at this time. The Red Mountain-Topaz-Cleland magnesite deposit is hosted by the Helikian (Precambrian) age Mount Nelson Formation, part of the Purcell Supergroup. The Mount Nelson Formation is about 1300 meters (4300 feet) thick and includes mainly dolomitic and quartzitic units with minor argillite. According to Simandl and Hancock (1992), magnesite and sparry carbonate form stratabound lenses and pockets within the "white marker beds" subdivision of the "middle dolomite" unit of the upper Mount Nelson Formation at the property. The magnesite is either white, pale grey or beige and weathers buff. The unit is characterized by coarse to sparry crystals and locally contains light green interbeds less than 1 centimetre in thickness. The interbeds are either regular or disrupted by growth of sparry magnesite crystals within coarse grain magnesite-rich zones (Simandl, Hancock, 1992). Vestiges of hemispherical stromatolites are observed locally in finer-grained magnesite-bearing rocks. Chert, quartz veinlets and dolomite are the most common impurities especially within the lower part of the magnesite deposit. Calcite, pyrite and talc are typically present in trace amounts. The abundance and proportion of impurities change irregularly both along strike and across bedding (Simandl and Hancock, 1992).

Magnesite weathers prominently and the Red Mountain and Topaz deposits are well exposed as a ridge crest. The Cleland is not as well exposed, and is complicated by sub-vertically oriented fault zones. Numerous cliff exposures are present on the subject property, with some cliff walls greater than 15 meters (50 feet) high. A series of cross-cutting faults produce some offset of geologic contacts but displacement is minor. The Cleland and Red Mountain magnesite has a moderate to steep dip, whereas Topaz Lake magnesite horizon has a shallow apparent dip.

## **6.0 2018 Field Program**

### **6.1 Scope & Purpose**

The 2018 rock sampling carried out by MGX Minerals Inc was carried out in order to assess geochemical analysis data on the subject property. The results of 2018 geochemical sampling are used to make recommendations for identify areas of priority follow-up exploration (including core drilling), and advancing the property to production.

### **6.2 Methods and Procedures**

The 2018 geochemical sampling involved a total of 8 rock chip samples that were taken across 1.0 meter intervals along exposures of bedrock in the Red Mtn magnesite zones. Rock chip samples were taken with rock hammer and chisel and consist of acorn to walnut sized bedrock pieces for a total weight ranging from kgs. Sample material was placed in marked poly ore bags and shipped to ALS Minerals Ltd, in North Vancouver, BC.

ALS Minerals Ltd crushed, split and pulverized samples using prep-31 code. This involves crushing to better than 70% passing a 2 mm screen. A split of 250 grams is pulverized to better

than 85% passing a 75 micron screen. The sample pulp is analyzed using ME-XRF26 Li borate flux major oxide whole rock geochemical analytical methods (Appendix A).

### **6.3 Property Geology & Mineralization**

Magnesite has been mapped over a strike length of 100-425 meters in 3 main areas of the subject mineral property, outlined as follows:

**1 Red Mountain-** (Fig 5, 6). A 40 X 400 m area located along the ridge crest near the topographic high, cliff forming unit, west-northwest trending, relic bedding is steeply dipping.

**2 Topaz Lake-** A 180 X 425 m area south of Topaz Lake, featuring a shallow northwest plunging synclinal fold axis, and a shallow dipping magnesite horizon.

**3 Cleland Lake-** A 30 X 180 m area in the southeast portion of the property is characterized by medium to coarse grained magnesite exposed on a dip slope, northwest trending, with a moderate to steep northeast dip.

Freshly broken magnesite is typically a milky white color but weathers to a pale yellow to slightly pinkish color. Texture is typically massive to mottled and grain size ranges from coarsely to finely crystalline. Faint banding, which may reflect original bedding, is rarely evident. Very minor wavy to strolitic gray talc laminae are present through the magnesite in a seemingly irregular manner. White to very light gray quartz veins are scattered through the magnesite; quartz veins are generally very similar in color to magnesite. Exposures of magnesite are commonly coated with a black lichen which appears to locally favour this rock type. Where magnesite contacts with dolomite are exposed, they tend to be quite sharp and are easily recognized. Texture of magnesite is variable, ranging from fine and medium grained to very coarse grained. Most of the deposit is of medium and fine-grained texture with irregular patches of more coarse-grained texture. Areas of coarse-grained magnesite appear to be irregularly developed within the area of exposed magnesite and are not obviously related to specific fault structures. Thin quartz veins occur as metamorphic sweets (re-crystallized chert, a hydrous silica), and are irregularly distributed through the magnesite, in a near-ubiquitous manner, although the concentration of quartz veins does vary. Quartz veins (as metamorphic quartz sweets) are present in the host dolomite indicating these quartz veins are not related to development of the magnesite, but are interpreted as metamorphic (re-crystallized) quartz.

A total of 8 rock chip samples were taken on the Red Mtn magnesite zones. A summary of the 7 rock chip samples taken across 1 m meter interval lengths (and 1 sub-erop sample, a total of 8 samples) are listed as follows (for location see Fig 5, 6, & 7):

Sample ID	Zone name	Eastling NAD		Elev (m)	Type	Lithology
		83	Northing NAD 83			
18RED-1	Main Zone	541289	5633092	1320	sub-crop	sparry magnesite
18RED-2	Main Zone	541322	5633089	1338	outcrop	sparry magnesite
18RED-3	Main Zone	541368	5633063	1359	outcrop	sparry magnesite
18RED-4	Main Zone	541442	5633053	1371	outcrop	sparry magnesite
18RED-5	Main Zone	541495	5632997	1380	outcrop	sparry magnesite
18RED-6	Main Zone	541555	5632983	1394	outcrop	sparry magnesite
18RED-7	Main Zone	541607	5632956	1406	outcrop	sparry magnesite
18RED-8	Main Zone	541644	5632926	1409	outcrop	sparry magnesite

Sample ID	Alteration	Mineralization	Bed Strike	Bed Dip	Width (cm)
18RED-2	qtz (chert) metamorphic sweats	magnesite			
18RED-2	qtz (chert) metamorphic sweats	magnesite	100	60 S	100
18RED-3	qtz (chert) metamorphic sweats	magnesite	95	65 S	100
18RED-4	qtz (chert) metamorphic sweats	magnesite			100
18RED-5	qtz (chert) metamorphic sweats	magnesite	106	60 S	100
18RED-6	qtz (chert) metamorphic sweats	magnesite	100	58 S	100
18RED-7	qtz (chert) metamorphic sweats	magnesite			100
18RED-8	qtz (chert) metamorphic sweats	magnesite	96	57 S	100

Sample ID	Al2O3%	BaO%	CaO%	Fe2O3%	K2O%	MgO%	MnO%	Na2O%
18RED-1	0.28	<0.01	0.7	0.93	0.04	40.1	0.01	0.08
18RED-2	0.19	<0.01	0.99	0.95	0.03	38.2	0.01	0.08
18RED-3	0.21	<0.01	0.6	1.05	0.05	39.9	0.01	0.1
18RED-4	0.21	<0.01	0.6	1.05	0.04	37.5	0.01	0.08
18RED-5	0.24	<0.01	0.88	0.91	0.04	39	0.01	0.09
18RED-8	0.26	<0.01	1.19	0.96	0.04	38.7	0.01	0.08
18RED-7	0.29	<0.01	0.89	0.92	0.03	40.3	0.01	0.08
18RED-8	0.28	<0.01	1.18	1.19	0.05	38.3	0.01	0.09

average      0.25                      0.87      0.99

Sample ID	P2O5%	SO3%	SiO2%	TiO2%	Total%	LOI%	MgO%/Total%
18RED-1	0.02	0.02	12.48	0.01	99.53	44.9	40.29
18RED-2	0.02	0.02	15.9	0.01	99.47	43.07	38.4
18RED-3	0.02	0.02	13.75	0.01	99.96	44.24	39.92
18RED-4	0.03	0.05	18.42	0.01	99.78	41.78	37.58
18RED-5	0.02	0.02	13.92	0.01	99.23	44.09	39.3
18RED-6	0.03	0.02	14.78	0.01	99.72	43.67	38.81
18RED-7	0.03	0.02	11.31	0.01	99.36	45.47	40.4
18RED-8	0.03	0.16	15.23	0.01	99.71	43.16	38.41

average                                      14.48                                      39.14

Geochemical analysis results from 8 rock chip samples taken in 2018 on Red Mountain magnesite confirm the presence of high silica (average 14.48% SiO<sub>2</sub>). Silica can be removed by flotation methods in the beneficiation process for impure magnesite. The CaO average for 8 samples taken from Red Mtn is 0.87% CaO and is considered relatively low in comparison to other magnesite deposits in British Columbia which average >1% CaO. Calcium is considered a deleterious impurity in magnesite ores. The continuity (400 meter strike length) and consistent attitude (steep to moderate dip) of the Red Mountain magnesite layer makes it relatively easy to develop. Given the high amount of silica present on Red Mountain magnesite (average 14.48% SiO<sub>2</sub> from 8 rock chip samples taken in 2018), the Topaz Lake magnesite showings are considered as the preferred target for development, given that silica (in this case re-crystallized chert) may be of value as a by-product, the Red Mountain magnesite has potential for economic mine (quarry on surface) development that would involve core drilling in a fence pattern to establish grade and tonnage.

## **7.0 Discussion of Results**

The magnesium oxide content ranging from 37.6-40.3 % MgO/%Total, from magnesite mineral zones on Red Mountain showings are prospective for development of magnesite resources on the subject property. The compounds of interest (MgO) approach specifications required for producing calcined or deadburned magnesite. Impurities such as SiO<sub>2</sub> (quartz occurring as metamorphic veins, a result of regional metamorphism and deep burial > 1 km), and quartz as cherty patches (recrystallized chert nodules, especially for samples with >5% SiO<sub>2</sub>), CaO impurities occurring as isolated dolomite crystals, and veins and minor calcite as veins. Fe impurities occurs as FeCO<sub>3</sub> (siderite) veins and patches. Minor CaSO<sub>4</sub> 2H<sub>2</sub>O (gypsum), and rare talc-serpentine (hydrated magnesium silicate) films are found near the magnesite-dolomite contact zones on Red Mountain. Talc-serpentine was not observed in the Red Mtn magnesite horizons.

## **8.0 Conclusion**

Reviewing available data, the writer offers the following interpretations & conclusions:

- The Topaz high purity coarsely crystalline magnesite is a high priority exploration target. The shallow dip is preferred for quarrying a large area to a depth of approximately 20-40 meters. The Cleland may have contain additional high MgO grades, and the two areas combined are favourable in size with other sparry magnesite deposits in BC e.g. Mt. Brussilof, Marysville, Driftwood, and Anzac. The Red Mountain showing has good width (approximately 20-40 meters) and strike length (approximately 400 meters), and is considered to be larger than Topaz Lake deposit, but the high silica at Red Mtn is considered an impurity (unless beneficiation testing identifies silica as a by-product)..
- Access to the property is relatively good with a reasonable access road connecting to Highway 95, Brisco, BC.
- There is good infrastructure in the form of a paved highway, CPR spur line and

power line all of which are located approximately 7 kilometres due east of the property.

- Magnesite horizon at Topaz and Cleland appears to be offset by pairs of regional, sub-vertical oriented faults that trend northwest and have resulted in warping the stratigraphy resulting in open, asymmetrical fold structures, a shallow northwest plunging synclinal fold axis (south of Topaz Lake), and a shallow dipping magnesite horizon.
- The orientation of Topaz (shallow dip and 180 X 425 meter area of magnesite outcrop) presents a favourable open pit mining situation with a relatively low stripping ratio.
- The Red Mountain-Topaz-Cleland deposits are all classified as a Sparry Magnesite deposit that are most likely of an evaporitic origin, that are characterized by pure beds of magnesite with relatively low levels of impurities.
- The local coarse crystallinity of the magnesite is believed to be related to recrystallization during a thermal metamorphic event.

## **9.0 Recommendations**

Future exploration and development of the Red Mountain-Topaz-Cleland magnesite property should be focused on defining the extensions of known magnesite mineralization of primarily the Topaz, and secondarily the Red Mountain and Cleland magnesite mineral occurrences. Geochemical data collected from the Red Mountain-Topaz-Cleland magnesite zones can be used to interpret optimum geometry of detailed follow up work including access trail excavation, trenching, and core drilling. A program of detailed geological mapping, geochemical sampling and a program of diamond drill holes near the Topaz 2014 rock chip sample sites are recommended to identify depth of magnesite mineralization present on surface. Approximately 10 drill holes located on the Topaz magnesite spaced 50-70 meters apart, and to a depth of 50-70 meters are recommended. Further geological mapping and geochemical sampling of the Red Mountain is recommended to identify boundaries of the 20-40 meter wide, steep dipping magnesite zone (Fig 5, 6). Access to possible drill sites at Red Mtn would be difficult in comparison to easier access at Topaz and Cleland magnesite zones. Topaz magnesite zone may require alternate access route (south of the zone a nearby forestry road can be utilized), that does not involve interference with recreational use for lake access to the north.

## **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 thirty five 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 geochemical sampling carried during May, 2018
6. I have a direct interest in MGX Minerals Inc. 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 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.,

A handwritten signature in black ink that reads "A. Kikauka". The signature is written in a cursive, slightly slanted style.

July 12, 2018



**ITEMIZED COST STATEMENT-  
RED MOUNTAIN MINERAL TENURE 1027148  
(Note: MTO tenure 1061094 added afterwards)  
FIELDWORK PERFORMED MAY 22-24, 2018,  
WORK PERFORMED ON MINERAL TENURE 1027148  
GOLDEN MINING DIVISION, NTS 82K 16W (TRIM 082K.088)**

**FIELD CREW:**

**A. Kikauka (Geologist) 3 days (surveying, mapping)      \$    1,575.00**

**FIELD COSTS:**

<b>Mob/demob/preparation</b>	<b>150.75</b>
<b>Meals and accommodations</b>	<b>188.20</b>
<b>Truck mileage &amp; fuel</b>	<b>287.75</b>
<b>Li Borate Fusion ICP AES geochemical analysis (8 rock samples)</b>	<b>391.84</b>
<b>Report</b>	<b>500.00</b>

**Total=      \$ 3,093.54**



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**303-1080 HOWE STREET**  
**VANCOUVER BC V6Z 2T1**

Page: 1  
 Total # Pages: 2 (A - B)  
 Plus Appendix Pages  
 Finalized Date: 14-JUN-2018  
 Account: MGXMIN

**Appendix A Geochemical Certificate and Methods**

**CERTIFICATE VA18127706**

Project: Red Mtn

This report is for 8 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	MGX MINERALS
----------------	--------------

**SAMPLE PREPARATION**

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

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
ME-XRF26	Whole Rock By Fusion/XRF	XRF
OA-GRA05x	LOI for XRF	WST-SEQ

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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Page: 2 - A  
 Total # Pages: 2 (A - B)  
 Plus Appendix Pages  
 Finalized Date: 14-JUN-2018  
 Account: MGXMIN

Project: Red Mtn

**CERTIFICATE OF ANALYSIS VA18127706**

Sample Description	Method Analyte Units LOD	WEI-21	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26	ME-XRF26
		Recvd Wt. kg	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SO3 %	SiO2 %	SrO %	TiO2 %
		0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
18RED 1		1.24	0.28	<0.01	0.70	<0.01	0.93	0.04	40.1	0.01	0.08	0.02	0.02	12.44	<0.01	0.01
18RED 2		1.66	0.19	<0.01	0.99	<0.01	0.95	0.03	38.2	0.01	0.08	0.02	0.02	15.90	<0.01	0.01
18RED 3		1.14	0.21	<0.01	0.60	<0.01	1.05	0.05	39.9	0.01	0.10	0.02	0.02	13.75	<0.01	0.01
18RED 4		1.30	0.21	<0.01	0.60	<0.01	1.05	0.04	37.5	0.01	0.08	0.03	0.05	18.42	<0.01	0.01
18RED 5		1.44	0.24	<0.01	0.88	<0.01	0.91	0.04	39.0	0.01	0.09	0.02	0.02	13.92	<0.01	0.01
18RED 6		1.46	0.26	<0.01	1.15	<0.01	0.96	0.04	38.7	0.01	0.09	0.03	0.02	14.78	<0.01	0.01
18RED 7		1.12	0.29	<0.01	0.89	<0.01	0.92	0.03	40.3	0.01	0.08	0.03	0.02	11.31	<0.01	0.01
18RED 8		0.78	0.28	<0.01	1.18	<0.01	1.19	0.05	38.3	0.01	0.09	0.03	0.16	15.23	<0.01	0.01

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



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Page: 2 - B  
 Total # Pages: 2 (A - B)  
 Plus Appendix Pages  
 Finalized Date: 14-JUN-2018  
 Account: MGXMIN

Project: Red Mtn

**CERTIFICATE OF ANALYSIS VA18127706**

Sample Description	Method Analyte Units LOD	ME-XRF26	OA-GRA05x
		Total %	LOI 1000 %
		0.01	0.01
18RED 1		99.53	44.90
18RED 2		99.47	43.07
18RED 3		99.96	44.24
18RED 4		99.78	41.78
18RED 5		99.23	44.09
18RED 6		99.72	43.67
18RED 7		99.36	45.47
18RED 8		99.71	43.16

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



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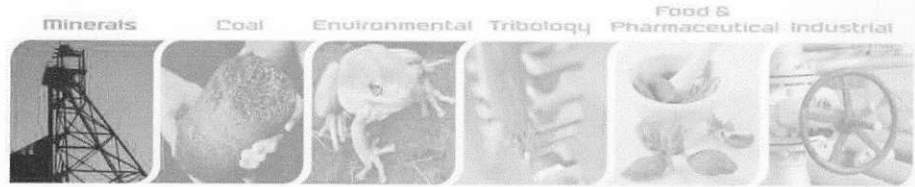
To: **MGX MINERALS INC**  
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Total # Appendix Pages: 1  
Finalized Date: 14-JUN-2018  
Account: MGXMIN

Project: Red Mtn

**CERTIFICATE OF ANALYSIS VA18127706**

	<b>CERTIFICATE COMMENTS</b>												
Applies to Method:	<p style="text-align: center;"><b>LABORATORY ADDRESSES</b></p> <p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table><tr><td>CRU-31</td><td>CRU-QC</td><td>LOG-22</td><td>ME-XRF26</td></tr><tr><td>OA-GRA05x</td><td>PUL-31</td><td>PUL-QC</td><td>SPL-21</td></tr><tr><td>WEI-21</td><td></td><td></td><td></td></tr></table>	CRU-31	CRU-QC	LOG-22	ME-XRF26	OA-GRA05x	PUL-31	PUL-QC	SPL-21	WEI-21			
CRU-31	CRU-QC	LOG-22	ME-XRF26										
OA-GRA05x	PUL-31	PUL-QC	SPL-21										
WEI-21													



## Sample Preparation Package

### 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.

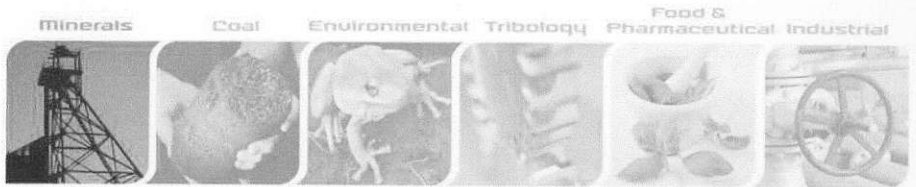
The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70 % passing a 2 mm (Tyler 9 mesh, US Std. No.10) screen. A split of up to 250 g is taken and pulverized to better than 85 % passing a 75 micron (Tyler 200 mesh, US Std. No. 200) screen. This method is appropriate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

Revision 03.03  
March 29, 2012

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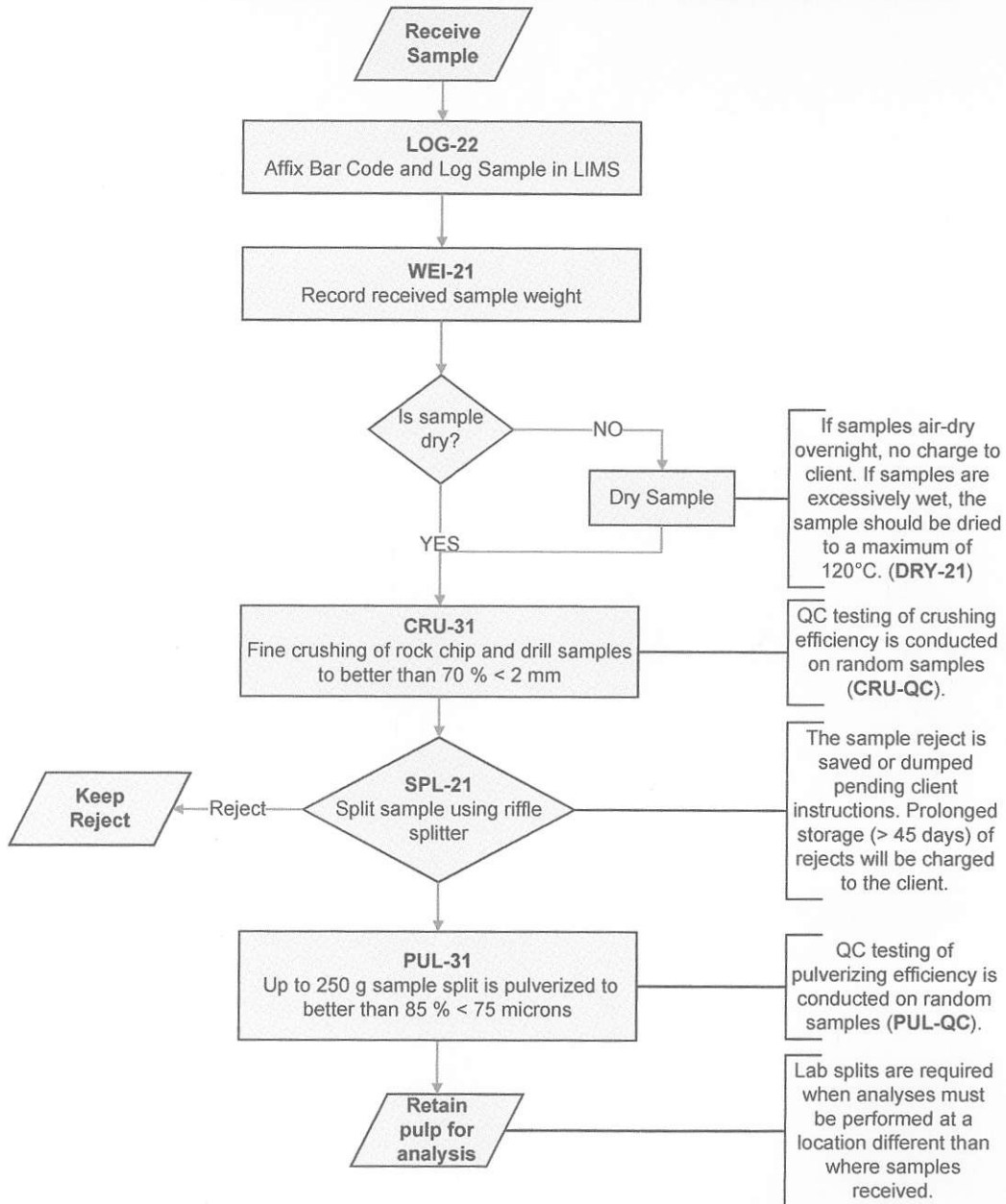


# Sample Preparation Package

## Flow Chart -

### Sample Preparation Package - PREP-31

#### Standard Sample Preparation: Dry, Crush, Split and Pulverize



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## ME-XRF26 – Silicate / Whole Rock by Fusion / XRF

### Sample Decomposition:

Lithium Borate Fusion (WEI-GRA12b)

### Analytical Method:

X-Ray Fluorescence Spectroscopy (XRF)

A prepared sample (0.66 g) is fused with a 12:22 lithium tetraborate - lithium metaborate flux which also includes an oxidizing agent (Lithium Nitrate), and then poured into a platinum mold. The resultant disk is in turn analyzed by XRF spectrometry.

The XRF analysis is determined in conjunction with a loss-on-ignition at 1000°C. The resulting data from both determinations are combined to produce a "total".

Analyte	Symbol	Units	Lower Limit	Upper Limit
<b>Aluminum</b>	Al <sub>2</sub> O <sub>3</sub>	%	0.01	100
<b>Barium</b>	BaO	%	0.01	66
<b>Calcium</b>	CaO	%	0.01	60
<b>Chromium</b>	Cr <sub>2</sub> O <sub>3</sub>	%	0.01	10
<b>Iron</b>	Fe <sub>2</sub> O <sub>3</sub>	%	0.01	100
<b>Potassium</b>	K <sub>2</sub> O	%	0.01	15
<b>Magnesium</b>	MgO	%	0.01	50
<b>Manganese</b>	MnO	%	0.01	39
<b>Sodium</b>	Na <sub>2</sub> O	%	0.01	10
<b>Phosphorus</b>	P <sub>2</sub> O <sub>5</sub>	%	0.01	46
<b>Sulphur</b>	SO <sub>3</sub>	%	0.01	34
<b>Silicon</b>	SiO <sub>2</sub>	%	0.01	100
<b>Strontium</b>	SrO	%	0.01	1.5
<b>Titanium</b>	TiO <sub>2</sub>	%	0.01	30
<b>Total</b>	Total	%	0.01	110



### Appendix B Rock Chip Sample Descriptions & Geochemistry

Sample ID	Zone name	Easting NAD 83	Northing NAD 83	Elev (m)	Type	Lithology
18RED-1	Main Zone	541289	5633092	1320	sub-crop	sparry magnesite
18RED-2	Main Zone	541322	5633089	1338	outcrop	sparry magnesite
18RED-3	Main Zone	541368	5633063	1359	outcrop	sparry magnesite
18RED-4	Main Zone	541442	5633053	1371	outcrop	sparry magnesite
18RED-5	Main Zone	541495	5632997	1380	outcrop	sparry magnesite
18RED-6	Main Zone	541555	5632983	1394	outcrop	sparry magnesite
18RED-7	Main Zone	541607	5632956	1406	outcrop	sparry magnesite
18RED-8	Main Zone	541644	5632926	1409	outcrop	sparry magnesite

Sample ID	Alteration	Mineralization	Bed Strike	Bed Dip	Width (cm)
18RED-1	qtz (chert) metamorphic sweats	magnesite			
18RED-2	qtz (chert) metamorphic sweats	magnesite	100	60 S	100
18RED-3	qtz (chert) metamorphic sweats	magnesite	95	65 S	100
18RED-4	qtz (chert) metamorphic sweats	magnesite			100
18RED-5	qtz (chert) metamorphic sweats	magnesite	106	60 S	100
18RED-6	qtz (chert) metamorphic sweats	magnesite	100	58 S	100
18RED-7	qtz (chert) metamorphic sweats	magnesite			100
18RED-8	qtz (chert) metamorphic sweats	magnesite	96	57 S	100

Sample ID	Al2O3%	BaO%	CaO%	Fe2O3%	K2O%	MgO%	MnO%	Na2O%
18RED-1	0.28	<0.01	0.7	0.93	0.04	40.1	0.01	0.08
18RED-2	0.19	<0.01	0.99	0.95	0.03	38.2	0.01	0.08
18RED-3	0.21	<0.01	0.6	1.05	0.05	39.9	0.01	0.1
18RED-4	0.21	<0.01	0.6	1.05	0.04	37.5	0.01	0.08
18RED-5	0.24	<0.01	0.88	0.91	0.04	39	0.01	0.09
18RED-6	0.26	<0.01	1.15	0.96	0.04	38.7	0.01	0.09
18RED-7	0.29	<0.01	0.89	0.92	0.03	40.3	0.01	0.08
18RED-8	0.28	<0.01	1.18	1.19	0.05	38.3	0.01	0.09
average	0.25		0.87	0.99				

Sample ID	P2O5%	SO3%	SiO2%	TiO2%	Total%	LOI%	MgO%/Total%
18RED-1	0.02	0.02	12.44	0.01	99.53	44.9	40.29
18RED-2	0.02	0.02	15.9	0.01	99.47	43.07	38.4
18RED-3	0.02	0.02	13.75	0.01	99.96	44.24	39.92
18RED-4	0.03	0.05	18.42	0.01	99.78	41.78	37.58
18RED-5	0.02	0.02	13.92	0.01	99.23	44.09	39.3
18RED-6	0.03	0.02	14.78	0.01	99.72	43.67	38.81
18RED-7	0.03	0.02	11.31	0.01	99.36	45.47	40.4
18RED-8	0.03	0.16	15.23	0.01	99.71	43.16	38.41
average			14.48				39.14


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MINFILE No 082KNE034

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PDF

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 New WindowFile Created: 24-Jul-85  
Last Edit: 10-Jan-95by BC Geological Survey (BCGS)  
by Kirk Hancock(KDH)[XML Extract](#)**Appendix C Minfile Description****SUMMARY**[Summary Help](#) **Name** RED MOUNTAIN, M1**Status** Showing  
**Latitude** [50° 50' 44" N](#)  
**Longitude** [116° 24' 29" W](#)**Commodities** Magnesite  
**Tectonic Belt** Omineca**Capsule Geology** The Red Mountain occurrence consists of a 12 to 28 metre thick by a 365 metre long zone of coarsely crystalline magnesite near the top of the Proterozoic Mount Nelson Formation.

The magnesite is massive pearl-white, coarsely crystalline with a buff colored weathered surface. It grades laterally into a grey, psuedo-fenestral dolomite and is underlain by a fine- grained dolomite with 1 to 5 centimetre thick chert lenses. Magnesite occurs as one centimetre long crystals and appears to replace dolomite near the basal contact. Locally the larger crystals within a matrix of 0.5 millimetre grains of magnesite give a distinct "porphyritic" (bimodal?) appearance. Considerable silica is present as scattered remnants of cherty patches.

**Bibliography** EMPR AR 1964-198  
EMPR FIELDWORK \*1992, pp. 467-470  
EMPR OF 1987-13**NMI**  
**Mining Division** Golden  
**BCGS Map** 082K088  
**NTS Map** 082K16W  
**UTM** 11 (NAD 83)  
**Northing** 5632817  
**Easting** 541674  
**Deposit Types** E09 : Sparry magnesite  
**Terrane** Ancestral North America

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**MINFILE Record Summary**
**MINFILE No 082KNE015**
[XML Extract](#)

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 File Created: 24-Jul-85 by BC Geological Survey (BCGS)  
 Last Edit: 21-Apr-08 by Mandy N. Desautels(MND)

**SUMMARY**
[Summary Help](#) 

<b>Name</b> TOPAZ LAKE, WHITEHORSE  <b>Status</b> Showing <b>Latitude</b> <u>50° 49' 38" N</u> <b>Longitude</b> <u>116° 24' 05" W</u>  <b>Commodities</b> Magnesite <b>Tectonic Belt</b> Omineca  <b>Capsule Geology</b> The Whitehorse claims, staked in 1960-61, covered the original magnesite discovery at the south end of Topaz Lake. The occurrence is a triangular shaped mass about 425 metres by 180 metres at the widest point. Drilling indicates 15 to 30 metres thickness of coarse- grained magnesite with 2 to 12 millimetre crystals underlain by a fine-grained cherty dolomite. The magnesite occurs in the trough of a northwest plunging syncline within the Mount Nelson dolomites and consists of a light to pearly grey rock with a rough rusty brown weathered surface. Visible impurities include quartz in scattered veinlets and grains as well as talc in minute shears.  A smaller magnesite body about 60 by 60 metres forms an apparent dip slope surface layer across the end of a low hillock about 150 metres northwest of Topaz Lake. Thickness is unknown but it is underlain by a fine-grained dolomite which hosts abundant sil- iceous chips. In addition, there are a number of other small magne- site bodies in the vicinity of the main occurrence.	<b>NMI</b> <b>Mining Division</b> Golden <b>BCGS Map</b> 082K088 <b>NTS Map</b> 082K16W <b>UTM</b> 11 (NAD 83) <b>Northing</b> 5630782 <b>Easting</b> 542160 <b>Deposit Types</b> E09 : Sparry magnesite <b>Terrane</b> Ancestral North America
<b>Bibliography</b> EMPR AR 1962-157; 1964-198 EMPR OF 1987-13 GSC MAP 12-1957 WWW <a href="http://www.infomine.com/index/properties/TOPAZ_1-12_MAGNESITE.html">http://www.infomine.com/index/properties/TOPAZ_1-12_MAGNESITE.html</a>	


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## MINFILE Record Summary

MINFILE No 082KNE038

[XML Extract](#)[Print Preview](#) | [PDF](#) | [-- SELECT REPORT --](#) |  New Window  
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Last Edit: 09-Oct-86 by Brian Grant(BG)

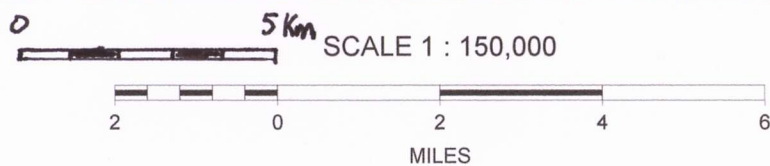
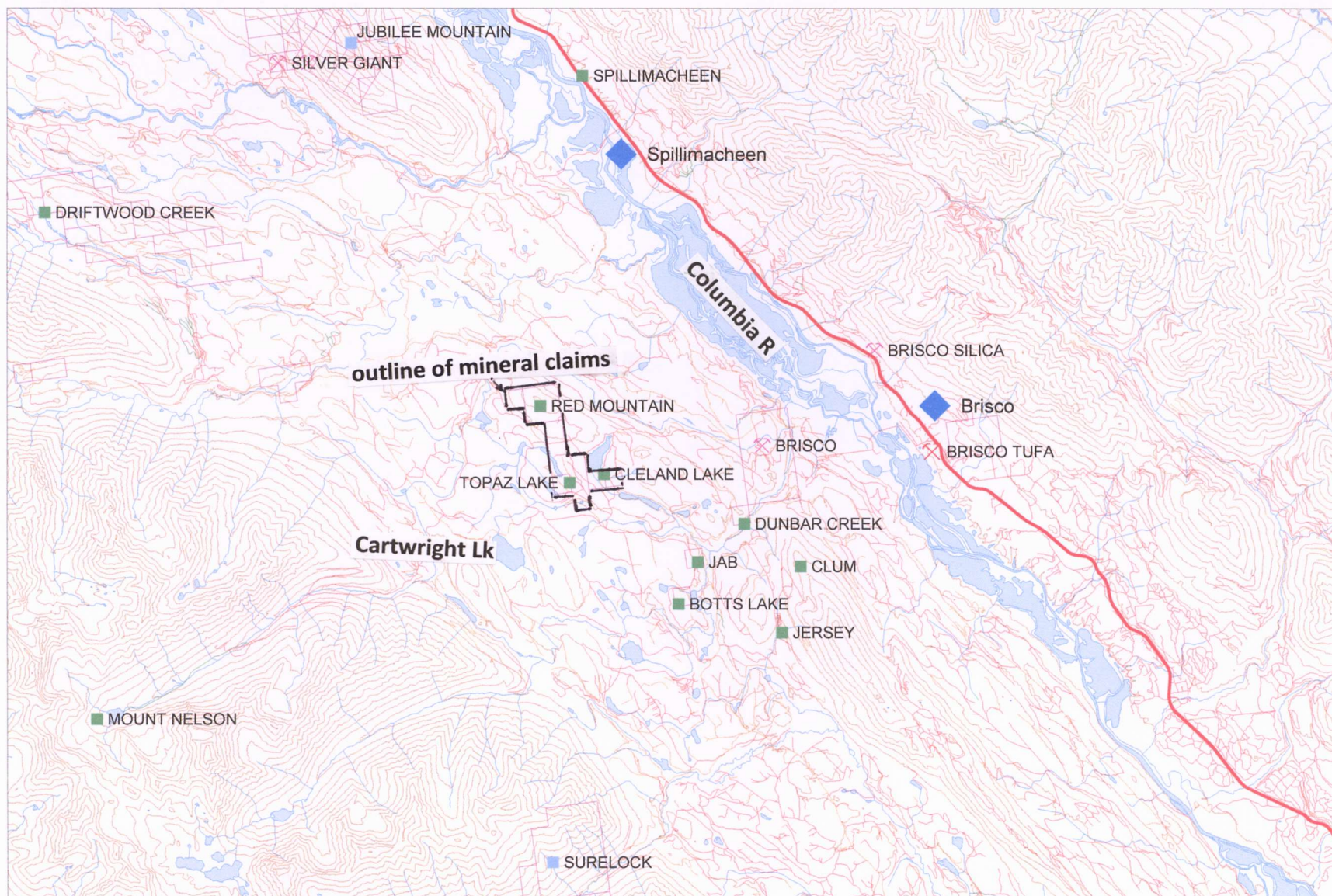
## SUMMARY

[Summary Help](#) 

<b>Name</b>	CLELAND LAKE	<b>NMI</b>	
<b>Status</b>	Showing	<b>Mining Division</b>	Golden
<b>Latitude</b>	50° 49' 41" N	<b>BCGS Map</b>	082K089
<b>Longitude</b>	116° 23' 19" W	<b>NTS Map</b>	082K16W
<b>Commodities</b>	Magnesite	<b>UTM</b>	11 (NAD 83)
<b>Tectonic Belt</b>	Omineca	<b>Northing</b>	5630882
<b>Capsule</b>	At the south end of Cleland Lake a medium to coarse-grained magnesite is exposed as a dip slope unit overlying a fine-grained dolomite typical of the top of the Proterozoic Mount Nelson Formation. It is exposed over the western side of a low ridge in a zone about 30 by 185 metres with a thickness of 3 to 6 metres. A chip sample across a three metre stratigraphic section of the occurrence contained 38.2 per cent MgO, 7.89 per cent CaO, 47.74 per cent CO <sub>2</sub> , 4.51 per cent SiO <sub>2</sub> and 1 per cent Fe (total).		
<b>Geology</b>			
<b>Bibliography</b>	EMPR AR 1964-194 EMPR OF 1987-13		



# Fig 1 Red Mtn (Topaz-Cleland) General Location








# Fig 2A MTO Claims General



## Legend

### Mineral Titles (MTO)

#### MTO Grid


-  Title (current)
-  LEASE
-  CLAIM

#### Reserves








-  No Registration
-  Conditional
-  Heritage/Historic Site

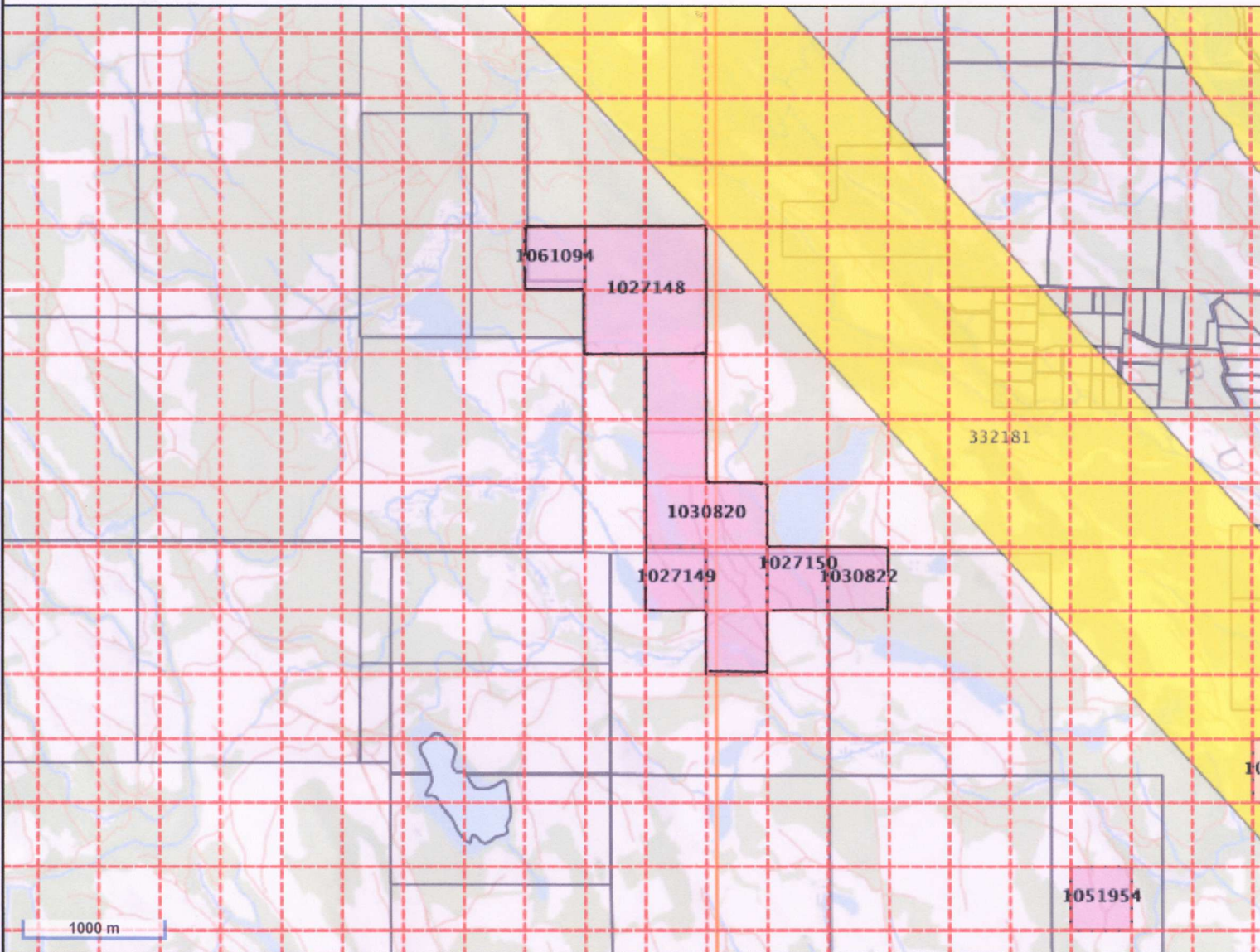
### Crown Land Layers (Tantalis)

- 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 Parks - Colour Filled
- 
- Conservancy Areas - Tantalis - Colour Filled
- 
- Conservancy Areas
- Ecological Reserves - Tantalis - Colour Filled
- 
- 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 Mineral Titles Online (MTO). NTS 082K 16/W, BCGS 082K.088 Golden Mining Division

**Center:** 50°50'0", -116°24'28"  
**Scale:** 1 : 67710  
**SRS:** EPSG:3857  
**UTM Zone:** 11





# Fig 3 MTO Claims 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

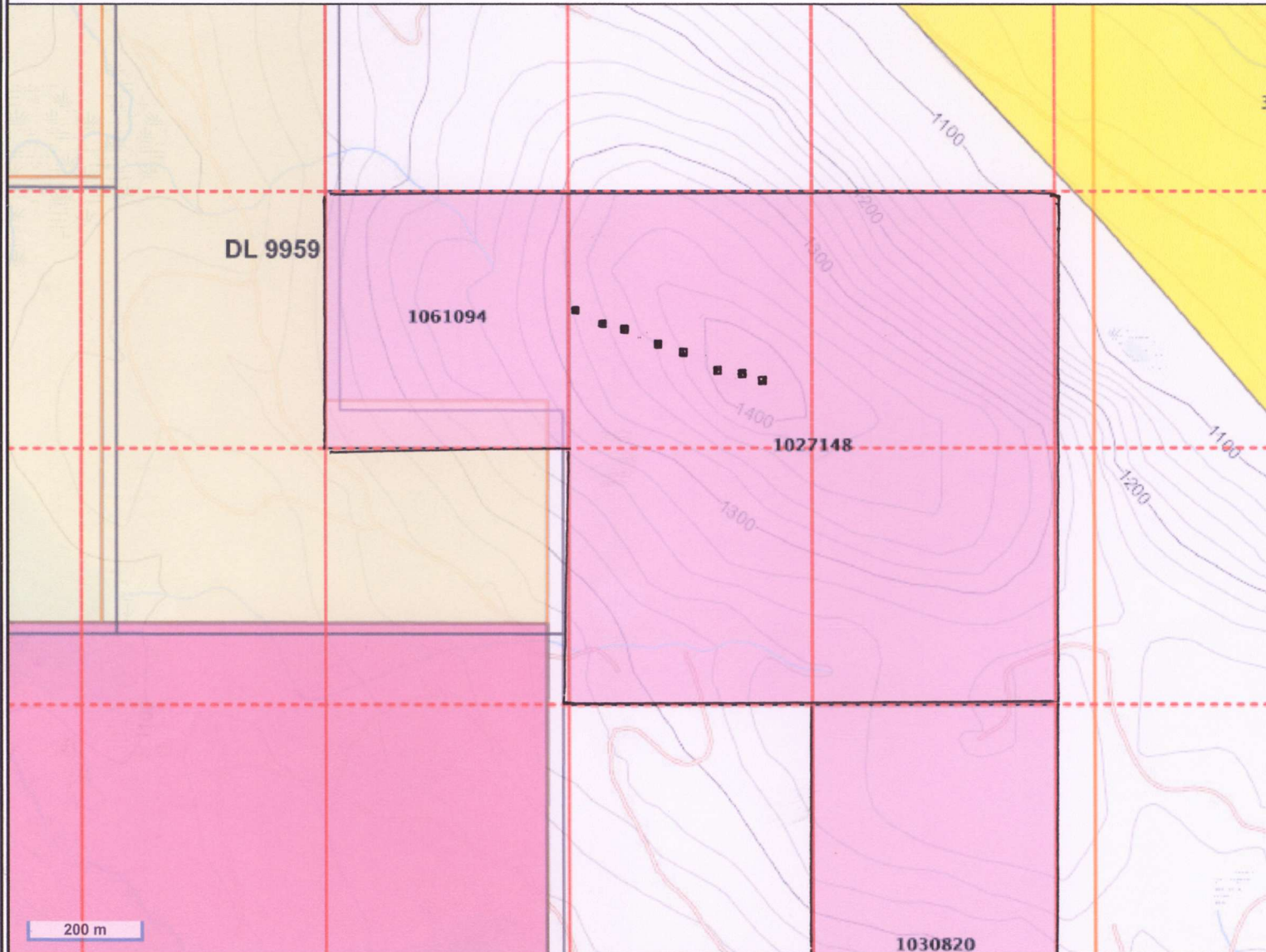
Ecological Reserves - Tantalis - Colour Filled

Center: 50°50'43", -116°24'42"

Scale: 1 : 16927

SRS: EPSG:3857

UTM Zone: 11



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 Mineral Titles Online (MTO). NTS 082K 16/W, BCGS 082K.088 Golden Mining Division

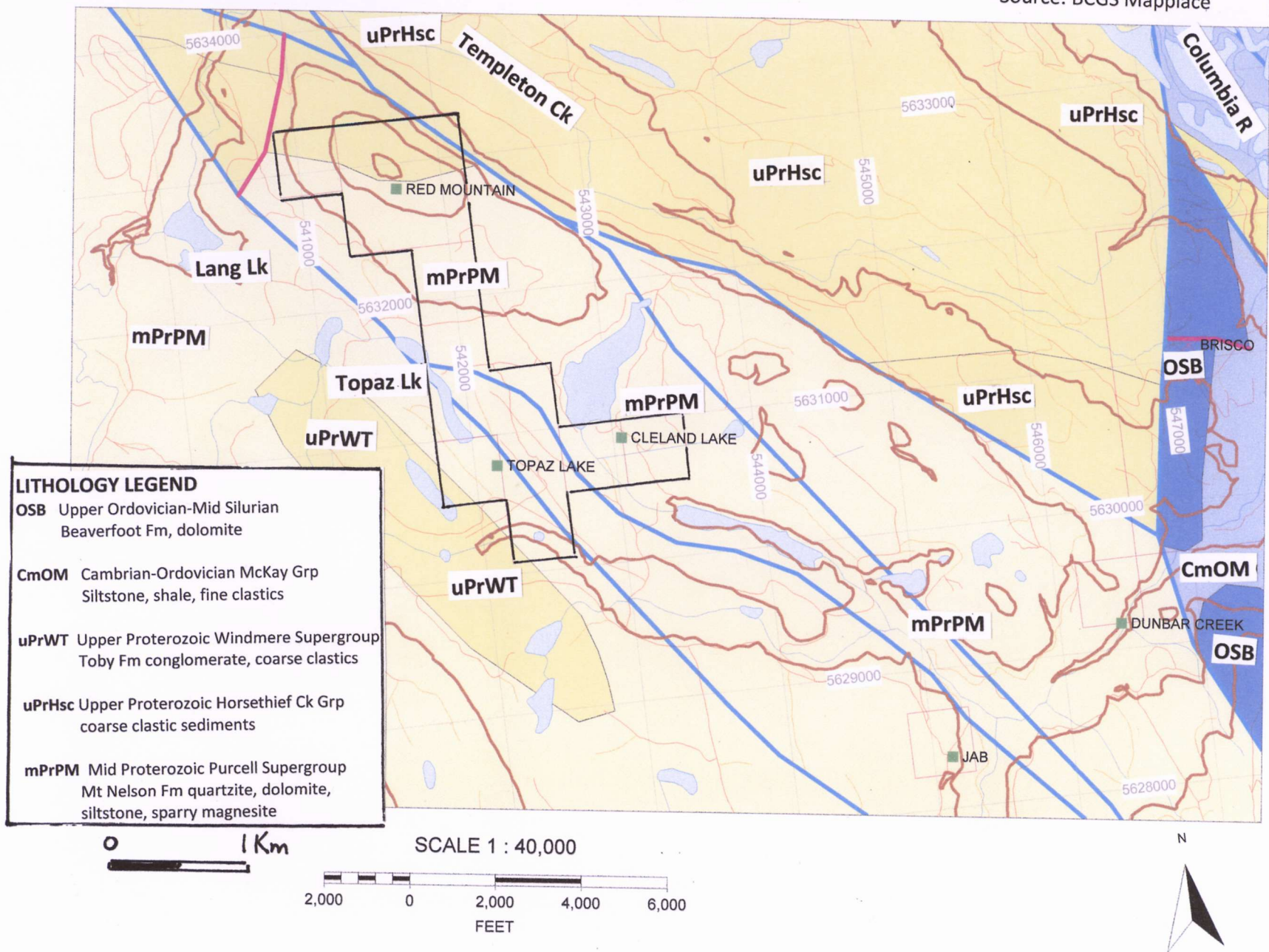
▪ **Rock Chip Sample (2018)**



# Fig 4 General Geology

NTS 082K 16/W, BCGS 082K.088, Golden Mining Division

Turquoise Line= Thrust Fault  
 Red Line= Fault  
 Source: BCGS Mapplace

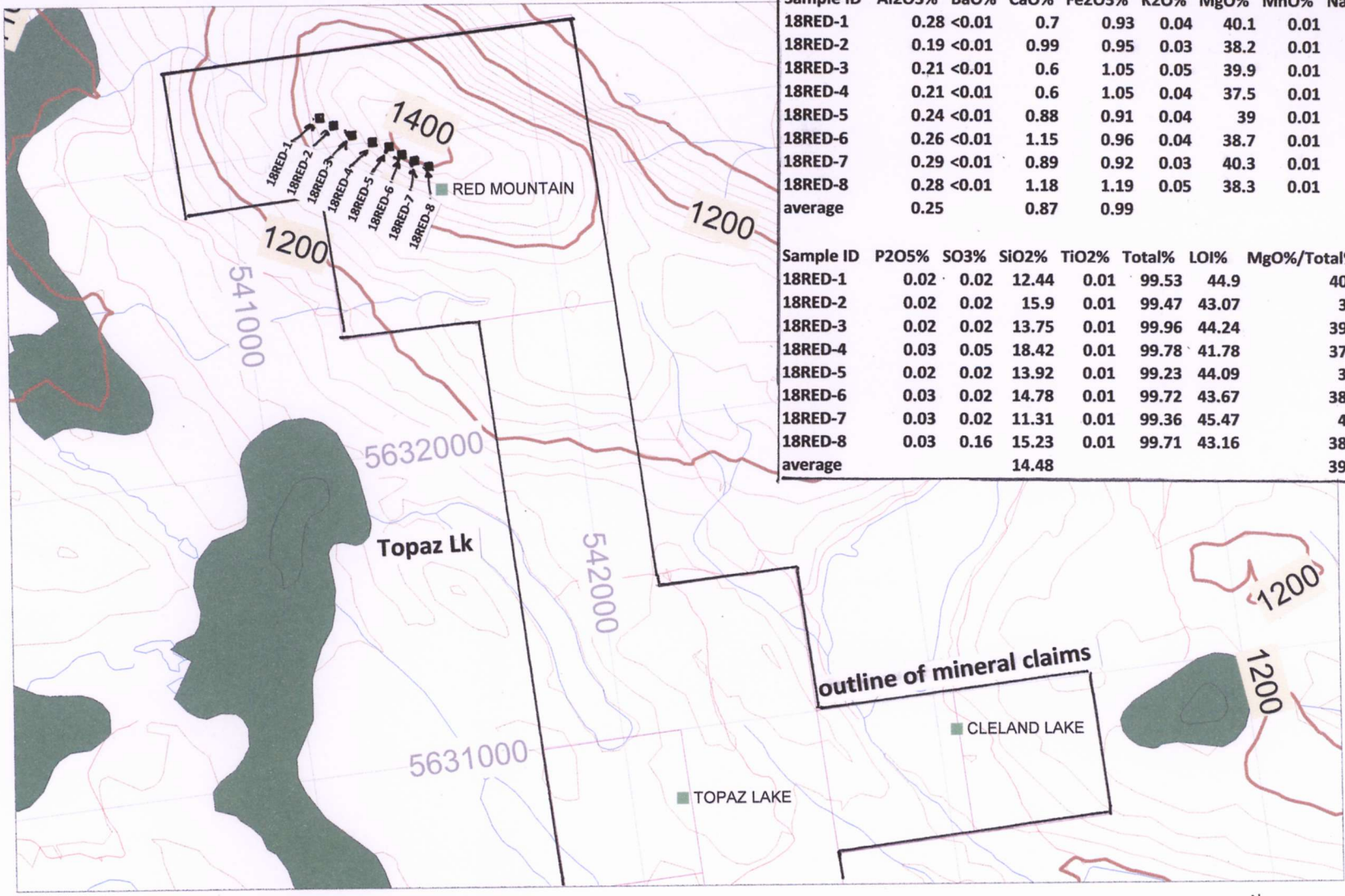




# Fig 5 Red Mtn (Topaz-Cleland) Rock Chip sample Locations

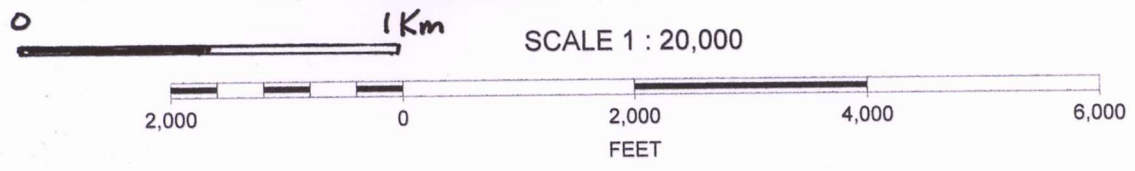
NTS 082K 16/W, BCGS 082K.088, Golden Mining Division

## Rock Chip Sample



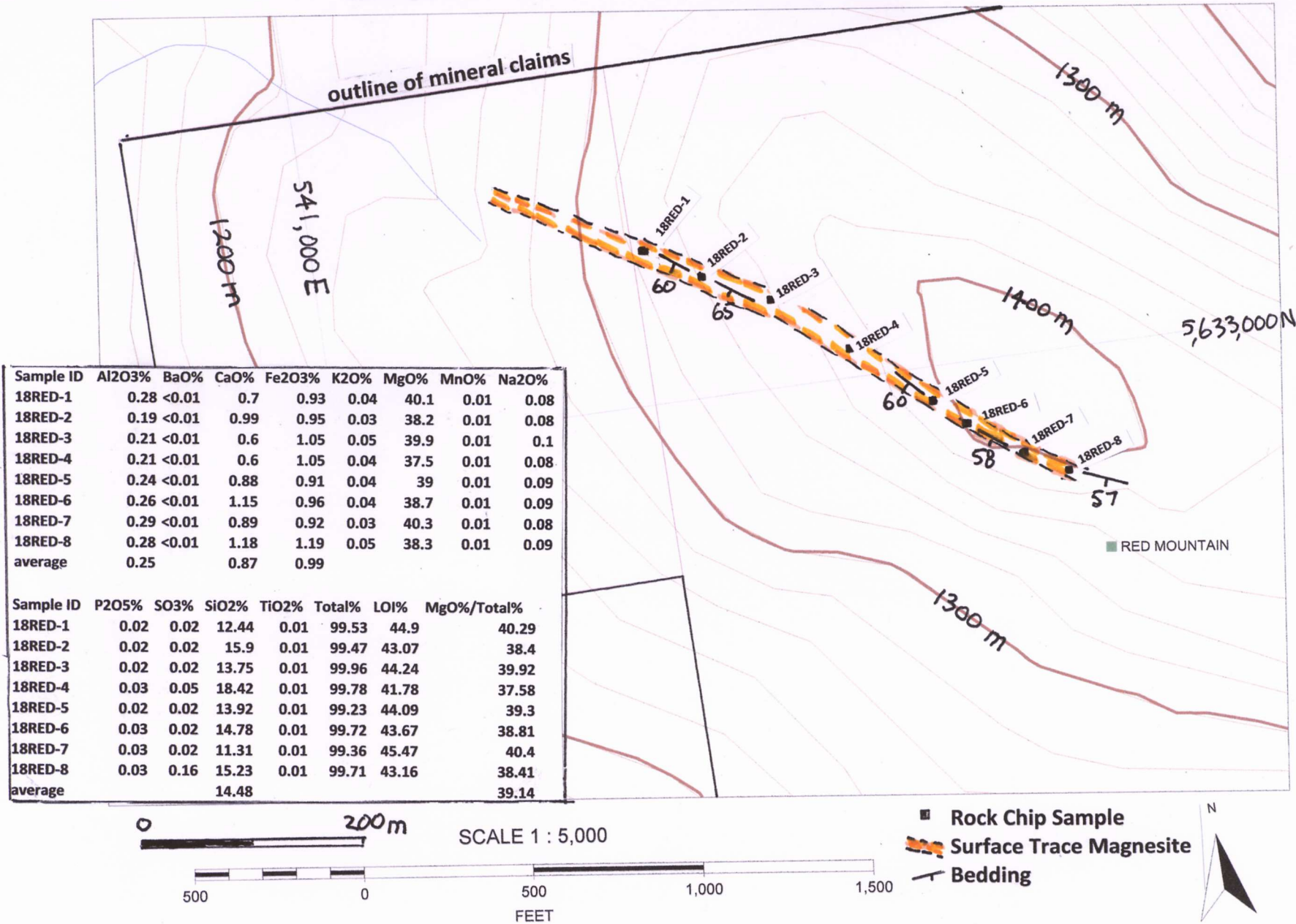
Sample ID	Al2O3%	BaO%	CaO%	Fe2O3%	K2O%	MgO%	MnO%	Na2O%
18RED-1	0.28	<0.01	0.7	0.93	0.04	40.1	0.01	0.08
18RED-2	0.19	<0.01	0.99	0.95	0.03	38.2	0.01	0.08
18RED-3	0.21	<0.01	0.6	1.05	0.05	39.9	0.01	0.1
18RED-4	0.21	<0.01	0.6	1.05	0.04	37.5	0.01	0.08
18RED-5	0.24	<0.01	0.88	0.91	0.04	39	0.01	0.09
18RED-6	0.26	<0.01	1.15	0.96	0.04	38.7	0.01	0.09
18RED-7	0.29	<0.01	0.89	0.92	0.03	40.3	0.01	0.08
18RED-8	0.28	<0.01	1.18	1.19	0.05	38.3	0.01	0.09
average	0.25		0.87	0.99				

Sample ID	P2O5%	SO3%	SiO2%	TiO2%	Total%	LOI%	MgO%/Total%
18RED-1	0.02	0.02	12.44	0.01	99.53	44.9	40.29
18RED-2	0.02	0.02	15.9	0.01	99.47	43.07	38.4
18RED-3	0.02	0.02	13.75	0.01	99.96	44.24	39.92
18RED-4	0.03	0.05	18.42	0.01	99.78	41.78	37.58
18RED-5	0.02	0.02	13.92	0.01	99.23	44.09	39.3
18RED-6	0.03	0.02	14.78	0.01	99.72	43.67	38.81
18RED-7	0.03	0.02	11.31	0.01	99.36	45.47	40.4
18RED-8	0.03	0.16	15.23	0.01	99.71	43.16	38.41
average			14.48				39.14



# Fig 6 Red Mtn (Topaz-Cleland) Rock Chip samples (Detail)

NTS 082K 16/W, BCGS 082K.088, Golden Mining Division






# Fig 7 Rock Samples

Red Mountain **Rock Chip Sample**

NTS 082K 16/W, BCGS 082K.088, Golden Mining Division

## Legend

 rock chip sample

- 18R1
- 18R2
- 18R3
- 18R4
- 18R5
- 18R6
- 18R7
- 18R8

Google Earth

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300 m

