

**BC Geological Survey
Assessment Report
35287**

NTS 082K 16W, TRIM 082K.088
LAT. 50 47' 47" N
LONG. 116 22' 06" W

**GEOLOGICAL, & GEOCHEMICAL
REPORT ON MINERAL TENURE
1027151
BOTTS LAKE
MAGNESITE MINERAL OCCURRENCES
BRISCO, B.C.**

Golden Mining Division

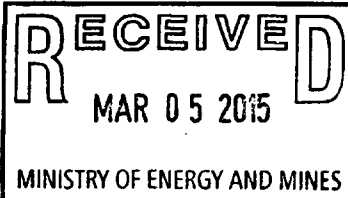
by

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**GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT**

January 25, 2015

35,287



Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

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

TOTAL COST: \$1,597.38

Geological, geochemical

AUTHOR(S): Andris Kikauka

SIGNATURE(S): A. Kikauka

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

YEAR OF WORK: 2014

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5538214

PROPERTY NAME: Botts Lake

CLAIM NAME(S) (on which the work was done): 1027151 Botts Lake

COMMODITIES SOUGHT: MgCO₃ magnesite

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082KNE035

MINING DIVISION: Golden

NTS/BCGS: 082K 16W, 082K.079

LATITUDE: 50° 47' 47" LONGITUDE: 116° 22' 06" (at centre of work)

OWNER(S):

1) MGX Minerals Inc
Jared Lazerson

2)

MAILING ADDRESS:

303-1080 Howe St
Vancouver, BC V6C 2T1

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 bearing dolomite occurs in Helikian Mt Nelson Fm of Purcell Group as stratabound magnesite horizons 10-15 m wide trends 130 degrees and dips at 47 degrees NE. Magnesite horizon is underlain by grey dolomite and capped by a chert layer less than 1m wide 'white marker', and above that is a red-purple dolomite/sst.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

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	1:10,000 2 hectares	1027151	777.61
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	1 Li borate Fusion ME-XRF-26(ALS)	1027151	819.77
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:	\$ 1597.38

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SUMMARY

The Botts Lake magnesite property consists of claim (1027151) totalling approximately 20.42 hectares (50.45 acres) located approximately 50 km (31.1 miles) south of Golden, BC (Fig 1, 2). The Botts Lake sparry magnesite occurrences are located in the west portion of the property along a north-northwest trending, moderate relief topographic high. The mineral claims are located approximately 8 kilometers west of Brisco, British Columbia. MGX Minerals (CSE: XMG) has carried out geological mapping and geochemical rock chip sampling (September 24, 2014 on the Botts Lake Magnesite Zones).

1 rock chip sample was geochemically analyzed by Li Borate fusion, whole rock analysis ME-XRF-06 (XRF26), performed by ALS Minerals, North Vancouver, BC (Appendix A). Botts Lake Magnesite rock sample analyses are listed as follows:

ID #	type	% MgO	% CaO	% Al ₂ O ₃	% Fe ₂ O ₃	% SiO ₂
14BOT-01	float	42.1	0.75	0.65	1.05	8.16

The magnesite on the Botts Lake 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 SiO₂ 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 at Botts Lake include SiO₂ (quartz), CaO (calcite, dolomite), and Fe (siderite). Talc was not observed in the Botts Lake magnesite sample.

Additional detailed geological mapping, and geochemical sampling are recommended to identify bedrock with magnesite mineralization. There is a major northwest trending, sub-vertically dipping fault cut through the northeast portion of the subject property (Fig 5). Extensions of mineralization may be down-dropped, uplifted and/or laterally displaced by post-mineral sub-vertical normal faulting. Further detailed mapping along the faults may identify possible extensions of the smaller magnesite zone outlined in 2014 sampling. Further mapping in the southwest portion of the Botts Lake property can be done in order to locate previous sampling of a 12 meter wide magnesite zone (Simandl and Hancock, 1992). The outcrop was not located by the writer, but previous mapping describes a 12 meter wide magnesite zone overlain by a cherty magnesite layer (<1 meter wide, referred to as the 'white marker'), and is further capped by a red to purple carbonate/clastic (dolomite/sandstone/hematite) sequence and underlain by a pale grey dolomite that are all part of the Helikian Mount Nelson Formation.

1.0 Introduction

This technical report has been prepared on behalf of MGX Minerals Inc, and describes geological, and geochemical fieldwork on the Botts Lake magnesite mineral occurrences carried out in September, 24, 2014.

2.0 Location, Access, Infrastructure, & Physiography

The Botts Lake 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 the magnesite showings are located at Latitude 50°47' 47" N and Longitude 116°22' 06" W. The property covers a northwest trending ridge that is located Between Bugaboo and Frances Creeks in the Golden Mining Division of southern British Columbia, Canada. (Figure 2). The property covers a series of low relief ridge crests that trends about 165° azimuth (Figure 5). Topography is moderate: Elevations on the claim block range from 1090 to 1155 meters.

The Botts Lake 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. Northwest trending concordant faults produce offsets of lithology in the northeast portion of Botts Lake mineral property. Displacement of the fault zone is relatively minor, in the order of 5-80 meters.

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 4200, 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 approximately 7 kilometres east of the Botts Lake property.

3.0 Property Status

The Botts Lake magnesite claim, located within the Golden Mining Division, consists of a mineral tenure (Figure 2).

Tenure number	Claim Name	Issue Date	Good To Date	Area in hectares
1027151	Botts Lake	2014/apr/01	2023/oct/30	20.42

The total area of the mineral tenures that comprise the property is 20.42 hectares (50.46 acres). Details of the status of tenure ownership for the Botts Lake 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 tenure comprising the Botts Lake 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 tenure 1027151 is owned 100% by Jared Lazerson. The mineral tenure is held on behalf of MGX Minerals Inc.

There has not been any mining or other exploration related physical disturbances on the Botts Lake 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 History of Nearby Driftwood Magnesite Property

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. According to Rodgers (1989) 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 shown in Figure 4 (Rodgers, 1989). 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 SiO₂, Al₂O₃, Fe₂O₃, MgO, CaO, Na₂O, K₂O, TiO₂, P₂O₅, 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 (Figure 4). 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 SiO₂. 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%

SiO₂ 2.48 to 13.1%

Al₂O₃ 0.05 to 1.11%

Fe₂O₃ 0.71 to 1.11%

CaO 0.34 to 3.21%

TiO₂ <0.01 to 0.1%

P₂O₅ 0.09 to 0.19%

MnO 0.02 to 0.04%

Cr₂O₃ 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 tasks 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 floatation 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., on 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 ₂ O ₃ %	SiO ₂ %	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				MgO	CaO	SiO2	Fe2O3	LOI
#	From m (ft)	To m (ft)	length m (ft)	%	%	%	%	%
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 intrusive (volcanic-associated?) 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 intrusive 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 intrusive (which is strikingly different from country rock) suggesting that it is a sill that is prominent at the west end of the East Magnesite Zone where it was intersected by DDH 1990-1 & 1990-2. The intrusive lenses encountered by drilling are generally fine-grained felsic composition and are probably volcanic-associated. These intrusive lenses have been described as 'trachyte', 'rhyolite' and 'mafic dike' (in the West Magnesite Zone).

5.0 Regional Geology

The Botts Lake magnesite 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 (Fig 3). The magnesite occurs in the upper part of the formation. The Botts Lake occurrence is classified as a stratabound sparry magnesite deposit that is most likely of an evaporitic origin. Lithological units in the area of Botts Lake 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 Botts Lake 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. 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 Botts Lake magnesite occurrences are 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 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-Horseshoe 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 "red-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. Northwest trending, regionally extensive graben/horst normal faults probably formed at this time.

The Botts Lake 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).

6.0 2014 Field Program

6.1 Scope & Purpose

The 2014 rock sampling was carried out in order to compile geological and geochemical analysis data on the subject property. The results of 2014 mapping and sampling are used to make recommendations for advancing future exploration. Fieldwork was carried out on behalf of MGX Minerals Inc.

6.2 Methods and Procedures

The 2014 mapping and sampling program involved identification of magnesite zones on the subject property. Rock chip samples were taken with rock hammer and chisel and consist of acorn to walnut sized bedrock pieces for a total weight of 1.64 kgs. Sample material was placed in a marked poly ore bag 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-XRF-06 (XRF-26) Li borate flux major oxide whole rock geochemical analytical methods (Appendix B).

6.3 Property Geology & Mineralization

Magnesite has been identified in angular shaped float (found in glacial till/overburden). Magnesite at Botts Lake property is found as angular float cobbles near a ridge crest. The Botts Lake area has very little outcrop exposed. The property is mainly covered by a 1-6 meter thick layer of overburden (glacial till). There are no cliffs present on the subject property. A regional scale, sub-vertically oriented, northwest trending fault zone was identified in the northeast portion of the property (Fig 5).

Freshly broken magnesite is typically a milky white color but weathers to a pale yellow to slightly pinkish color. Magnesite sample 14BOT-01 is light brown coloured on the weathered surface, but is milky white on fresh surfaces. Texture is typically massive to mottled and grain size ranges from coarsely to finely crystalline. White to very light gray quartz veins are scattered through the magnesite; quartz veins are generally very similar in color to magnesite. Where magnesite contacts with dolomite are exposed, they tend to be quite sharp and are easily recognized. 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 (as metamorphic quartz veins) are present in the host dolomite indicating these quartz veins are not related to development of the magnesite.

One rock chip sample was taken on the Botts Lake magnesite zone located in the northwest part of the property (Fig 5). This rock chip sample was taken as a float cobble in an area of thick glacial till and no outcrop:

ID #	Easting	Northing	Elev (m)	type angular float	lithology	alteration	minerals	comments
14BOT-01	544451	5627675	1131	float	Hmn 1B	siderite	magnesite	sparry, brown magnesite

ID #	type	% MgO	% CaO	% Al ₂ O ₃	% Fe ₂ O ₃	% SiO ₂
14BOT-01	float	42.1	0.75	0.85	1.05	8.16

There is no outcrop in the area where the sample was taken, but it's assumed that the lithology in the area is underlain by Helikian Mount Nelson Formation dolomite (Hmn 1a) and magnesite (Hmn 1b). Rock sample 14BOT-01 contains relatively high MgO content of 42.1% MgO, and relatively low CaO and Fe₂O₃

7.0 Discussion of Results

42.1% MgO magnesium oxide content of the float rock sample 14BOT-01 from the northwest portion of the subject property is an encouraging rock chip analysis result. Further work to find the source of the float rock sample 14BOT-01 magnesite, and the 12 meter wide outcropping of magnesite located approximately 100-250 meters south of sample 14BOT-01 is recommended.

MgO content (>40% MgO) approaches specifications required for producing calcined or deadburned magnesite. Impurities that affect magnesite quality include the following:

- 1 SiO₂ (quartz as sweat veining as a result of regional metamorphism), and quartz as cherty patches (recrystallized chert nodules)
- 2 CaO impurities that occur as isolated dolomite crystals/veins, and minor calcite as veins.
- 3 Fe impurities occurs as FeCO₃ (siderite) veins and patches, tr pyrite as late stage fracture fill.

8.0 Conclusion

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

- The Botts Lake mineral occurrence has a potential to host near surface, high purity, coarsely crystalline, 5-20 meter wide, and several hundred meter strike length zone of stratabound dolomite hosted magnesite. Additional mapping and sampling of the property is recommended to assess the extent of >40% MgO content similar float sample 14BOT-01.
- 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.

- The Botts Lake occurrences are 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 associated with emplacement of intrusive sills into the host stratigraphy.

9.0 Recommendations

Further geological mapping and geochemical sampling of the Botts Lake occurrence is recommended. Exploration and development of the Botts Lake magnesite property should be focused on defining magnesite mineralization. The west and central portion of the property appear to have the best potential (near the crest of a north-northwest trending ridge crest). Geochemical data collected can be used to interpret optimum geometry of detailed follow up work including access trail excavation, and trenching. If successful, a program of core drilling would be required to trace mineralization to depth. The northwest trending fault located in the northeast portion of the property requires detailed mapping to identify possible fault down-dropped (or uplifted) extensions of the magnesite zone.

10.0 References

- Aghamirian, M. and Imeson, D., 2008: An Investigation into the Beneficiation of Magnesite from Driftwood Magnesite Property, B.C., internal company report prepared for Tusk Exploration Ltd. by SGS Lakefield Research Ltd.
- Kikauka, A., 2000: Geological and Geochemical report on the MG 1-7 claims, Driftwood Creek, Brisco, B.C., Golden Mining Division. B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 26,345.
- Klewchuk, P., 2002: Prospectors Assistance Grant Report on MG 1-7 mineral claims, Driftwood Creek area, Golden Mining Division.
- Klewchuk, P. 2010: Assessment Report on Access Trail Construction and Diamond Drilling, Driftwood Creek Magnesite property; B.C. Ministry of Energy and Mines Assessment Report 31353, 43 pages.
- Klewchuk, P. 2010a: Report on the 2008 diamond drilling program, Driftwood Creek magnesite deposit, unpublished internal company report.
- MacIntyre, D., 2014, Technical Report Driftwood Creek Magnesite Property, for MGX Minerals Inc, filed on Sedar for CSE listing.
- McCammon, J.W., 1965: The Brisco Magnesite area; in B.C. Minister of Mines and Petroleum Resources, Annual report for 1964.
- Morris, R.J., 1978: Fish Magnesite Deposit; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 8760.
- Rodgers, G.M., 1989: Geological Report on the Tarn 1-8 mineral claims; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 19,416.
- Rodgers, G.M., 2008: An Investigation into the Beneficiation of Magnesite from Driftwood Magnesite property, B.C. Report prepared for Tusk Exploration Ltd. by SGS Lakefield Research Ltd.; B.C. Ministry of Energy, Mines & Petroleum Res, Assessment Rpt 30,243.
- Reesor, J.E., 1973: Geology of the Lardeau Map Area, east-half, B.C., GSC Memoir 369.
- Simandl, G.J., and Hancock, K.D., 1991: Geology of dolomite-hosted magnesite deposits of the Brisco and Driftwood Creek areas, Geological Fieldwork, 1991: B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1992-1, pp 461-477.
- Simandl, G.J. and Hancock, K.D., 1998: Sparry Magnesite, in Geological Fieldwork 1997, British Columbia Ministry of Employment and Investment, Paper 1998-1, pages 24E-1 to 24E-3.

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 twenty 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 geological mapping, surveying, geochemical rock sampling of mineralized zones carried out Sept 24, 2014 on Botts Lake mineral tenure on behalf of MGX Minerals Inc.
6. I have a direct interest in MGX Minerals Inc. The recommendations in this report 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. Kikauka



Jan 25, 2015

**ITEMIZED COST STATEMENT-
BOTTTS LAKE MINERAL TENURE 1027151
FIELDWORK PERFORMED SEPT 24, 2014,
WORK PERFORMED ON MINERAL TENURES 1027152
GOLDEN MINING DIVISION, NTS 82K 16W (TRIM 082K 088)**

FIELD CREW:

A. Kikauka (Geologist) 1 day (surveying, mapping) \$ 500.00

FIELD COSTS:

Mob/demob/preparation	185.90
Meals and accommodations	115.00
Truck mileage & fuel	305.00
Li Borate Fusion ICP AES geochemical analysis (1 rock samples)	41.48
Report	450.00

Total= \$ 1,597.38



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

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

Page: 2 - A
 Total # Pages: 2 (A - B)
 Plus Appendix Pages
 Finalized Date: 8-OCT-2014
 Account: KIKAND

APPENDIX A Geochemical Certificates

Project: BOT

CERTIFICATE OF ANALYSIS VA14141065

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg	ME-XRF26 Al2O3 %	ME-XRF26 BaO %	ME-XRF26 CaO %	ME-XRF26 Cr2O3 %	ME-XRF26 Fe2O3 %	ME-XRF26 K2O %	ME-XRF26 MgO %	ME-XRF26 MnO %	ME-XRF26 Na2O %	ME-XRF26 P2O5 %	ME-XRF26 SO3 %	ME-XRF26 SiO2 %	ME-XRF26 SrO %	ME-XRF26 TiO2 %
14BOT-1		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
		1.64	0.16	0.02	0.75	<0.01	1.05	<0.01	42.1	0.03	0.22	0.06	<0.01	8.16	<0.01	<0.01

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

WHOLE ROCK GEOCHEMISTRY

ME- XRF06

SAMPLE DECOMPOSITION

50% - 50% $\text{Li}_2\text{B}_4\text{O}_7$ - LiBO_2 (WEI- GRA06)

ANALYTICAL METHOD
X-Ray Fluorescence Spectroscopy (XRF)

A calcined or ignited sample (0.9 g) is added to 9.0g of Lithium Borate Flux (50 % - 50 % $\text{Li}_2\text{B}_4\text{O}_7$ - LiBO_2), mixed well and fused in an auto fluxer between 1050 - 1100°C. A flat molten glass disc is prepared from the resulting melt. This disc is then analysed by X-ray fluorescence spectrometry.

ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT
Aluminum Oxide	Al_2O_3	%	0.01	100
Barium Oxide	BaO	%	0.01	100
Calcium Oxide	CaO	%	0.01	100
Chromium Oxide	Cr_2O_3	%	0.01	100
Ferric Oxide	Fe_2O_3	%	0.01	100
Potassium Oxide	K_2O	%	0.01	100
Magnesium Oxide	MgO	%	0.01	100
Manganese Oxide	MnO MnO	%	0.01	100
Sodium Oxide	Na_2O	%	0.01	100
Phosphorus Oxide	P_2O_5	%	0.01	100
Silicon Oxide	SiO_2	%	0.01	100
Strontium Oxide	SrO_2	%	0.01	100
Titanium Oxide	TiO_2	%	0.01	100
Loss On Ignition	LOI	%	0.01	100
	Total	%	0.01	101

NOTE: Since samples that are high in sulphides or base metals can damage Platinum crucibles, a ME- ICP06 finish method can be selected as an alternative method.

APPENDIX C Rock Sample Descriptions

ID #	Easting	Northing	Elev (m)	width (m)	% MgO	% CaO	% Al2O3	% Fe2O3	SiO2
14BOT-01	544451	5627675	1131	angular float	42.1	0.75	0.65	1.05	8.16

ID #	lithology	alteration	minerals	comments
14BOT-01	Hmn 1B	siderite	magnesite	sparry, coarse grained, brown magnesite



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MINFILE Record Summary

MINFILE No 082KNE035

APPENDIX D Minfile Descriptions

Print Preview

MSWORD ▾

MINFILE Detail ▾

New Window

File Created:

24-Jul-85

by BC Geological Survey (BCGS)

Last Edit:

25-May-06

by Garry J. Payie(GJP)

[XML Extract](#)

SUMMARY

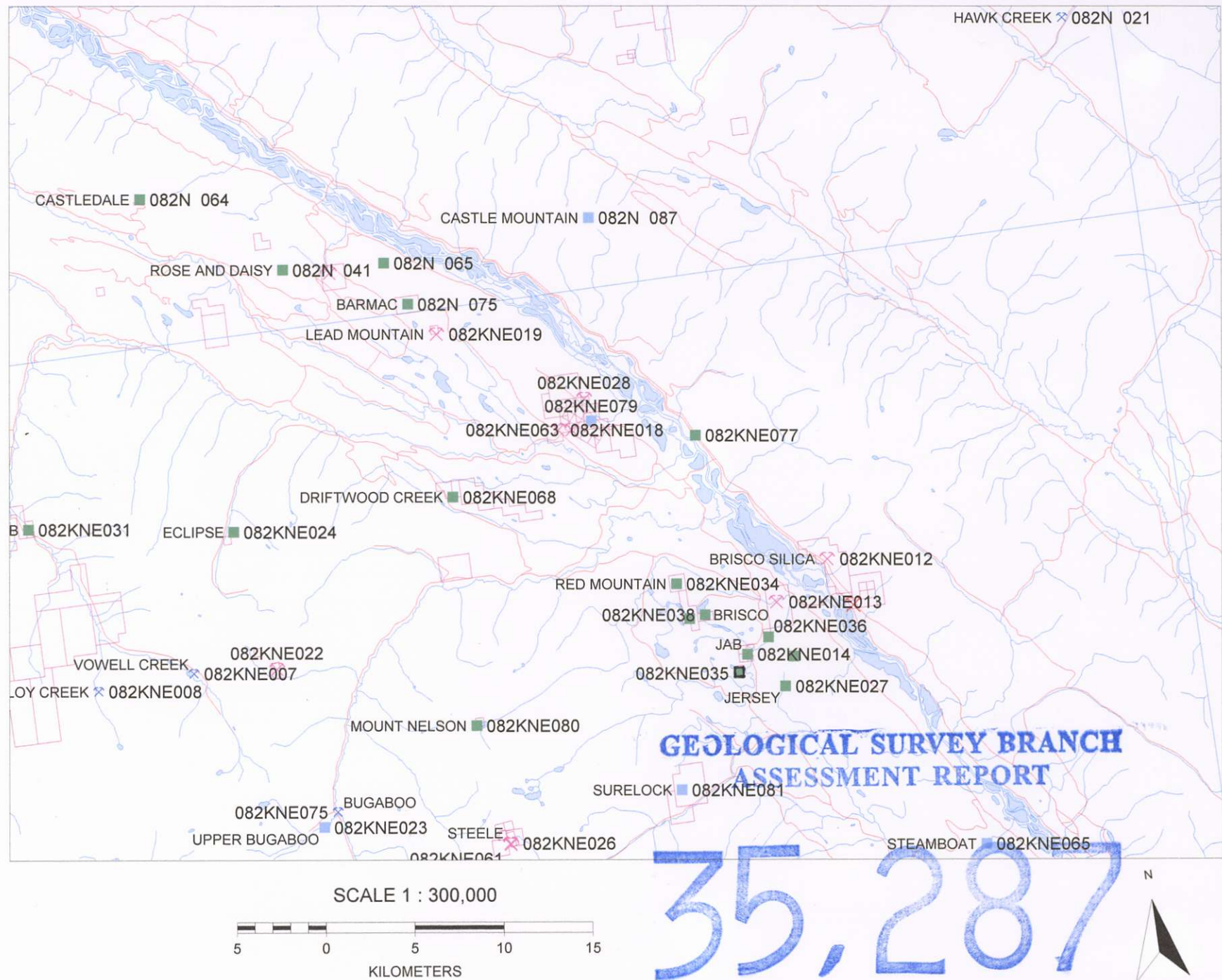
Summary Help ?

Name	BOTTS LAKE	NMI	
Status	Showing	Mining Division	Golden
Latitude	<u>50° 47' 47" N</u>	BCGS Map	082K079
Longitude	<u>116° 22' 06" W</u>	NTS Map	082K16W
Commodities	Magnetite, Copper	UTM	11 (NAD 83)
Tectonic Belt	Omineca	Northing	5627373
		Easting	544517
		Deposit Types	E09 : Sparry magnetite
		Terrane	Ancestral North America
Capsule	South of Botts Lake on Dunbar Creek, magnetite-bearing dolomite occurs in the lower part of the Middle Proterozoic Mount Nelson Formation of the Purcell Supergroup.		
Geology			
Botts Lake magnetite outcrops were traced over a distance of 118 metres along strike. The magnetite-bearing unit is at least 10 metres thick, strikes 130 degrees and dips 47 degrees east. The footwall consists of hard, aphanitic to fine-grained, dark grey to black dolomite which weathers pale grey. It is cut by pale grey dolomite and milky white quartz veinlets (<5 millimetres thick). Light to medium grey dolomite which weathers pale fawn in colour overlies the dark dolomite. The magnetite-bearing rock is snow white and weathers white or light grey. Field estimates indicate that the rock consists of a mixture of dolomite (40 to 70 per cent) and magnetite (30 to 60%) and is expected to have lower magnesia content than other magnetite deposits of the Brisco area. Traces of enargite (Cu3AsS4) were found in hairline fractures within this horizon.			

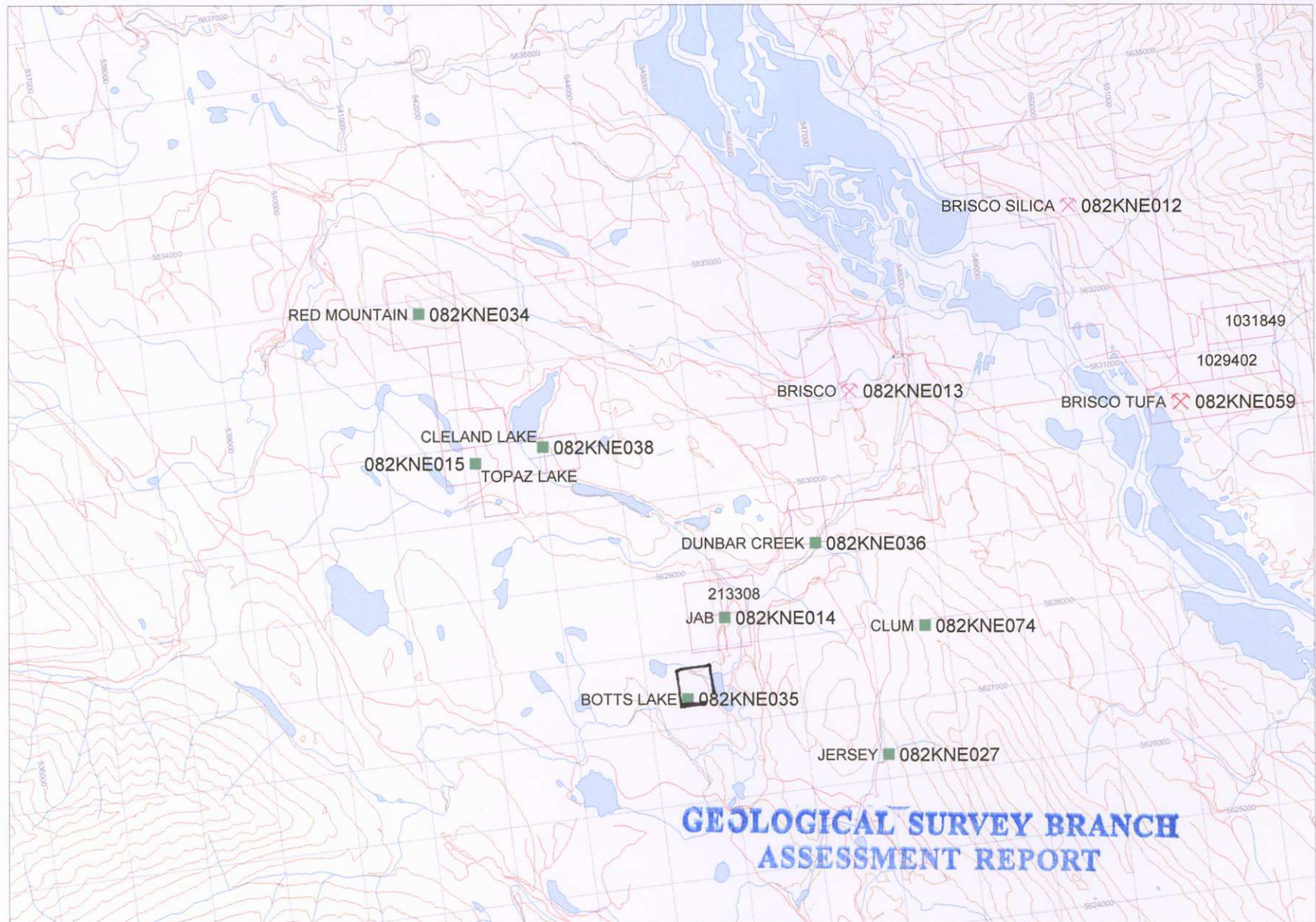
Bibliography EMPR AR 1964-199
EMPR FIELDWORK *1991, pp. 474-476
EMPR OF 1987-13

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Botts Lake Magnesite Property General Location Fig 1



Botts Lake Magnesite Property Location Fig 2



SCALE 1 : 75,000

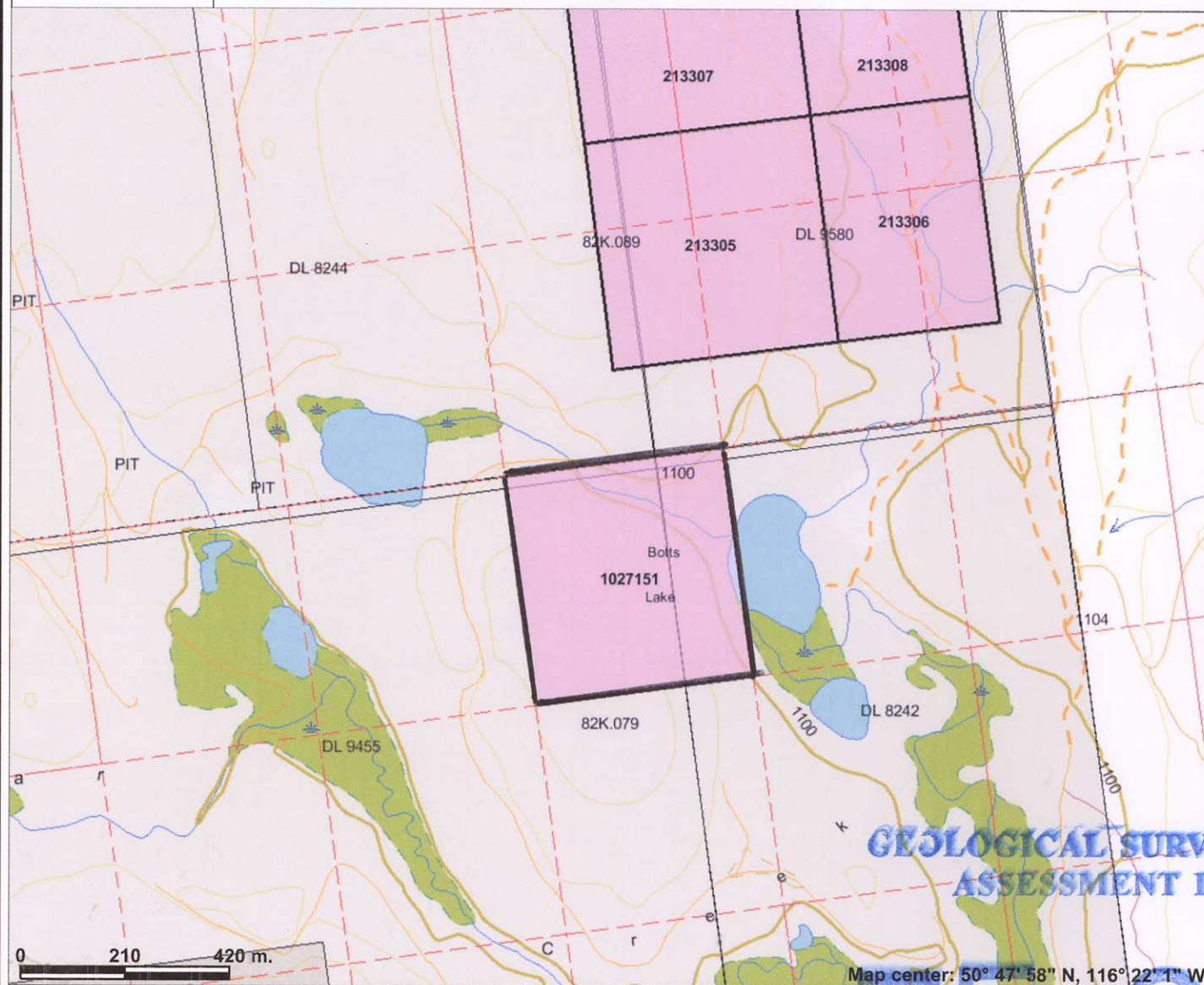
2 0 2 4 6

KILOMETERS

35,287



Fig 2B Mineral Claim Map



Legend

- ☐ Indian Reserves
- ☐ National Parks
- ☐ Conservancy Areas
- ☐ Parks
- ☐ Federal Transfer Lands
- ☐ MTO Grid (MTO)
- ☐ Mineral Tenure (current)
- ☒ Mineral Claim
- ☒ Mineral Lease
- ☐ Mineral Reserves (current)
- ☐ Placer Claim Designation
- ☐ Placer Lease Designation
- ☐ No Staking Reserve
- ☐ Conditional Reserve
- ☐ Release Required Reserve
- ☐ Surface Restriction
- ☐ Recreation Area
- ☐ Others
- ☐ First Nations Treaty Related Lands
- ☐ First Nations Treaty Lands
- ☐ Integrated Cadastral Fabric
- ☐ Survey Parcels
- ☐ BCGS Grid
- ☐ Contours (TRIM)
- ☒ Contour - Index
- ☒ Contour - Index.Indefinite
- ☒ Contour - Index.Depression
- ☒ Contour - Index.Depression Indefinite
- ☒ Contour - Intermediate
- ☒ Contour - Intermediate.Indefinite
- ☒ Contour - Intermediate.Depression

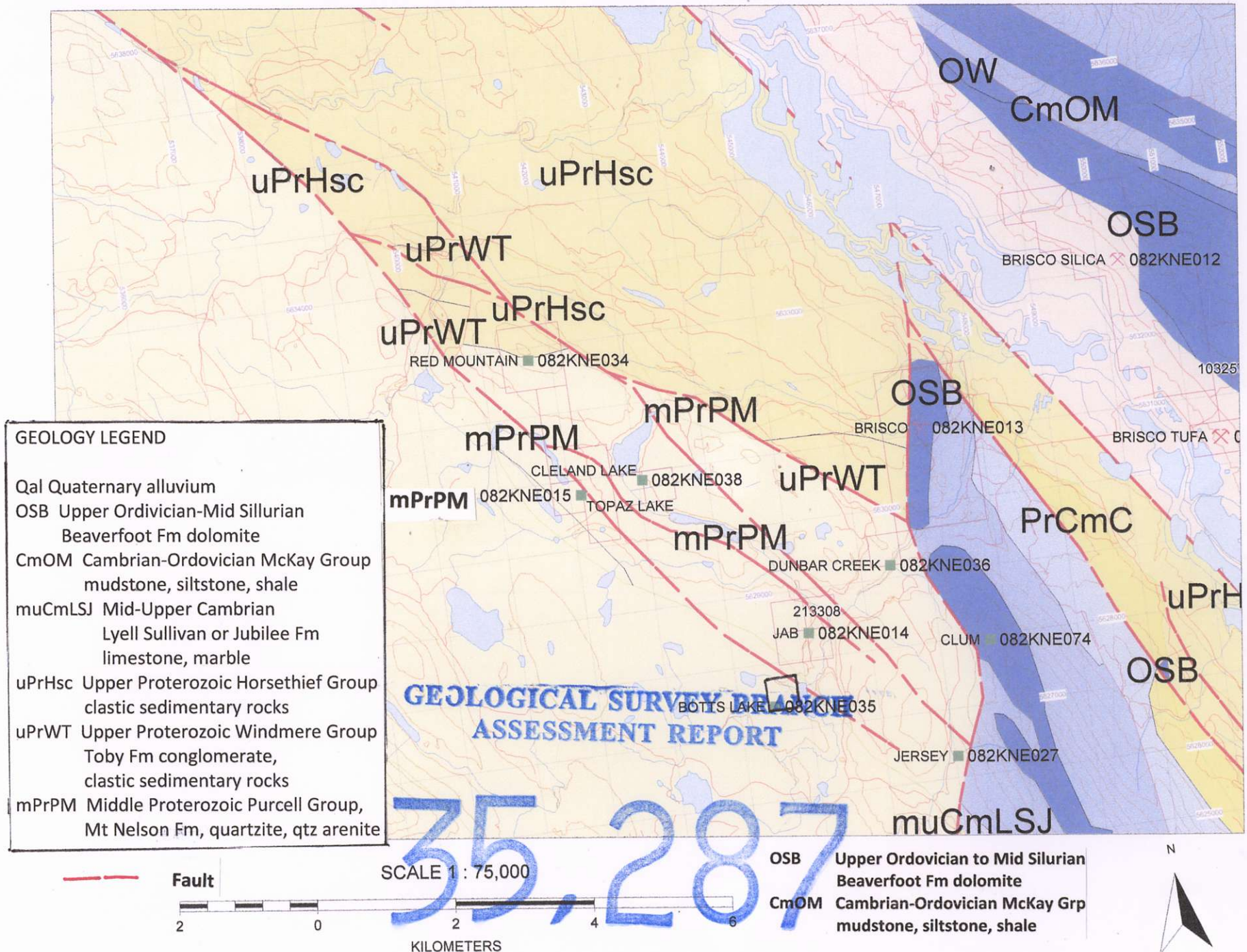
Scale: 1:12,101

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.

Notes: Mineral claim ID number 1027151

Map center: 50° 47' 58" N, 116° 22' 1" W

Botts Lake Magnesite Property General Geology Fig 3



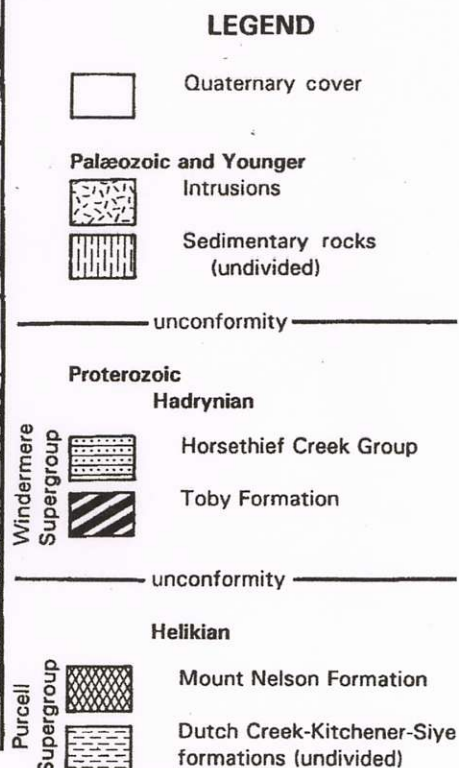
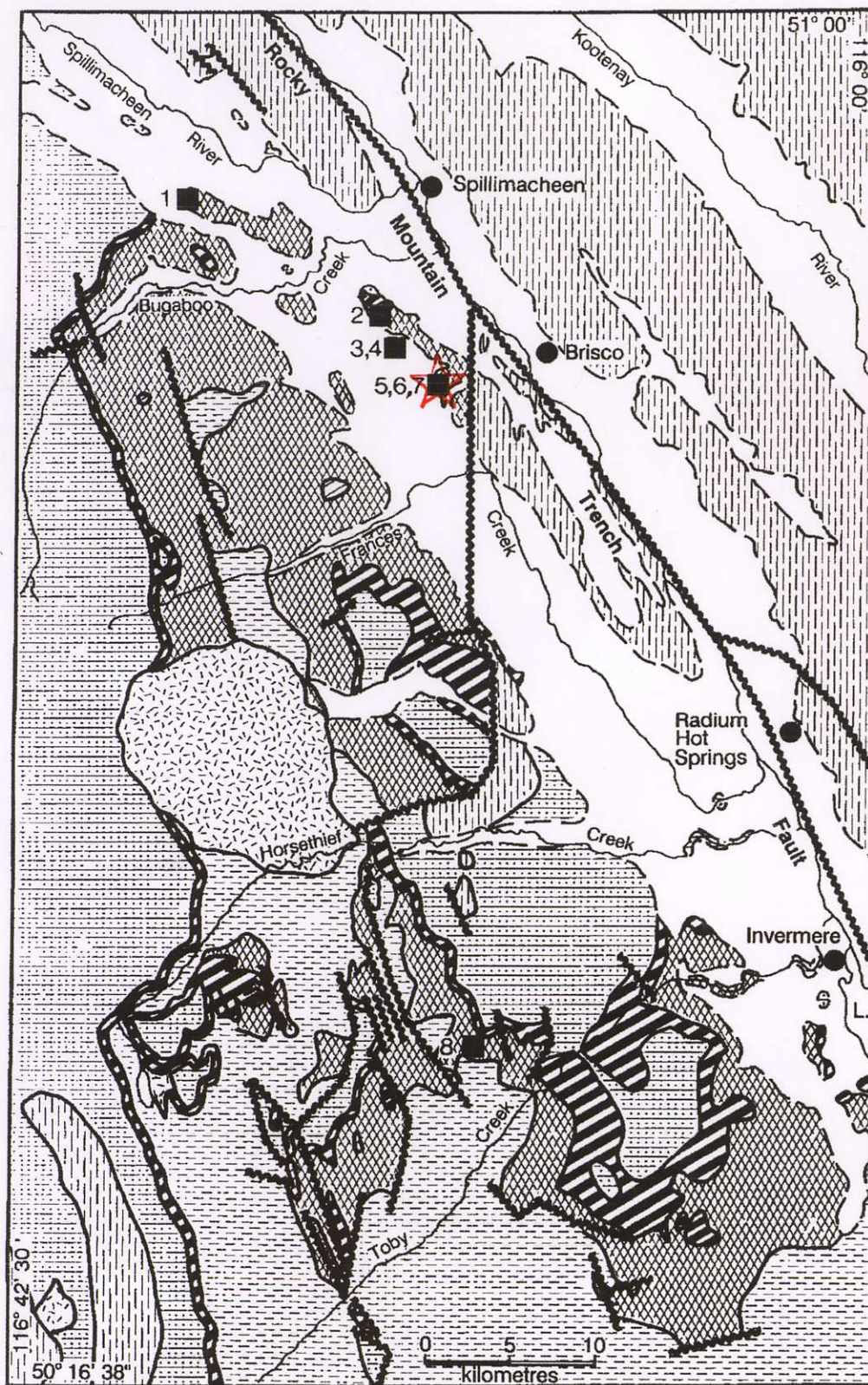
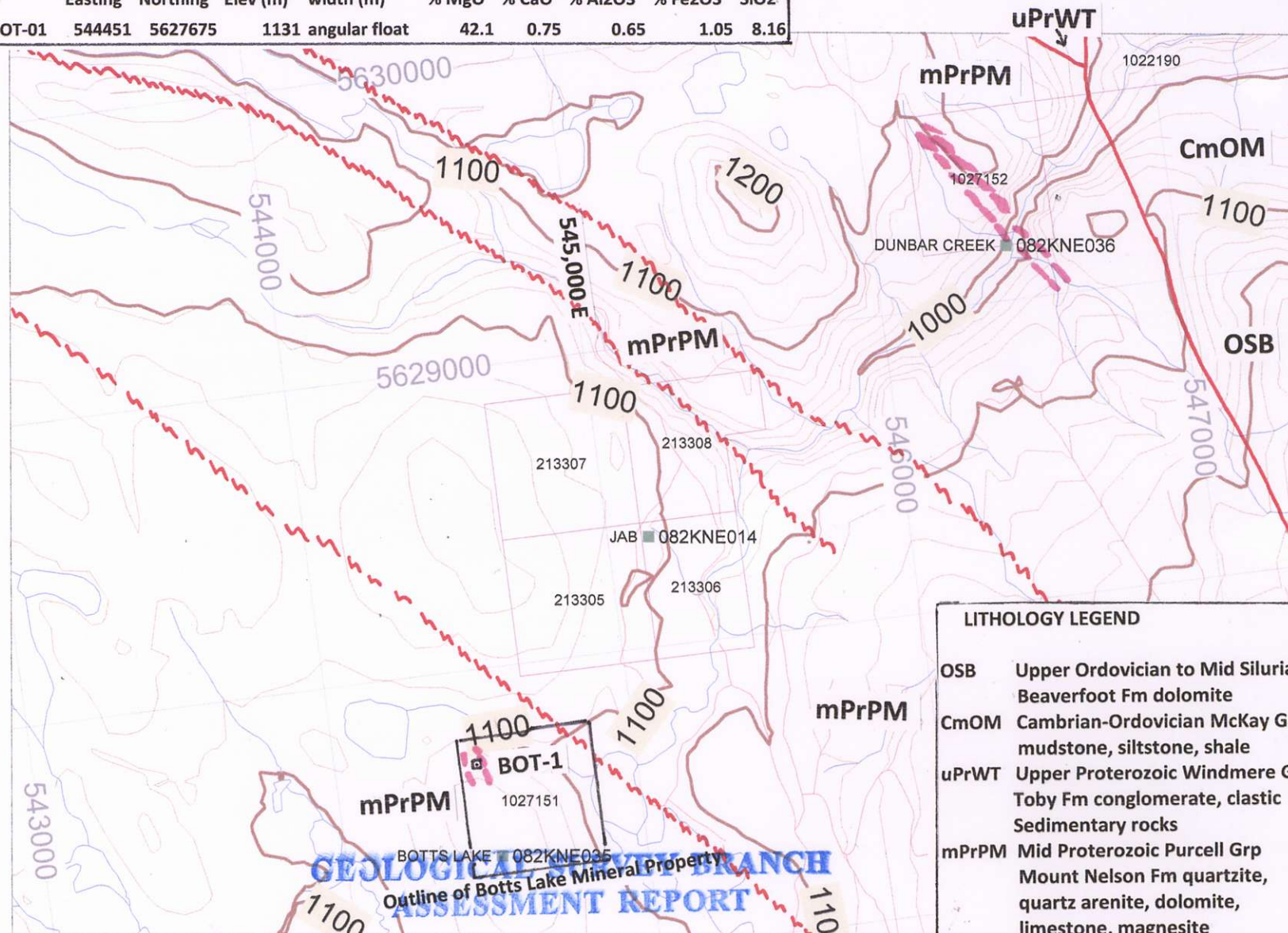


Fig 3B Regional Geology of Magnesite Deposits (after Reesor, 1973)

1-Driftwood Creek, 2-Red Mountain, 3-Topaz Lake, 4-Cleland Lake, 5-Dunbar 6-Jab, 7-Botts Lake, 8-Unnamed

Botts Lake Magnesite Property 2014 Rock Chip Location Fig 4

ID #	Easting	Northing	Elev (m)	width (m)	% MgO	% CaO	% Al ₂ O ₃	% Fe ₂ O ₃	SiO ₂
14BOT-01	544451	5627675	1131	angular float	42.1	0.75	0.65	1.05	8.16

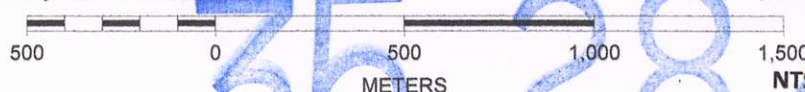


LITHOLOGY LEGEND

- OSB Upper Ordovician to Mid Silurian Beaverfoot Fm dolomite
- CmOM Cambrian-Ordovician McKay Grp mudstone, siltstone, shale
- uPrWT Upper Proterozoic Windmere Grp Toby Fm conglomerate, clastic
- Sedimentary rocks
- mPrPM Mid Proterozoic Purcell Grp Mount Nelson Fm quartzite, quartz arenite, dolomite, limestone, magnesite

Sparry, coarse grained, pearl white to grey magnesite, minor dolomite and quartzite

SCALE 1 : 20,000



- Fault (and major lithology contact)
- - - Fault (within Mount Nelson Fm)
- Strike and Dip of Bedding

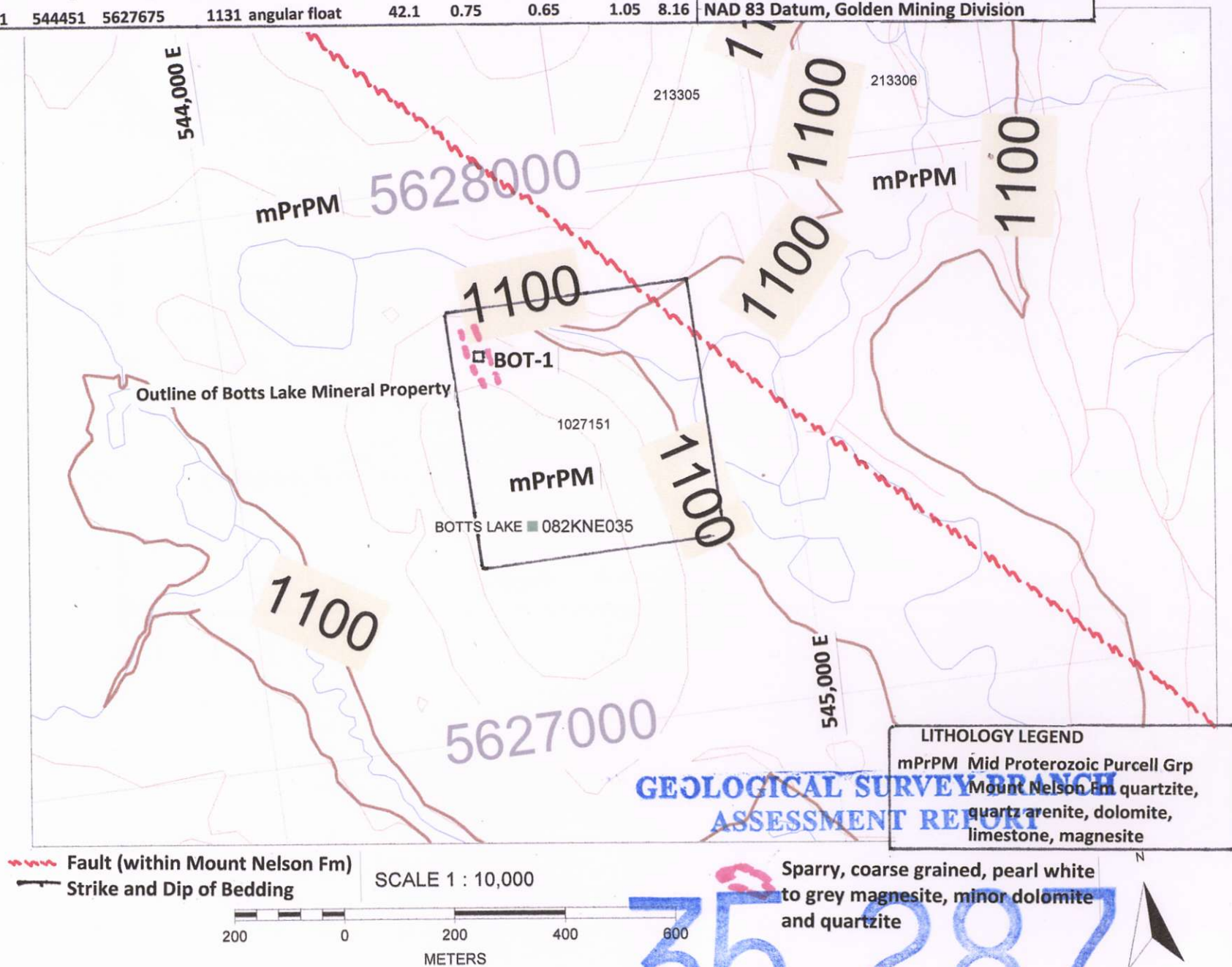
NTS 082K 16/W, BCGS 082K.088, UTM Zone 11, NAD 83 Datum, Golden Mining Division



Botts Lake Magnesite Property Geology & Mineralization Fig 5

ID #	Easting	Northing	Elev (m)	width (m)	% MgO	% CaO	% Al ₂ O ₃	% Fe ₂ O ₃	SiO ₂
14BOT-01	544451	5627675	1131	angular float	42.1	0.75	0.65	1.05	8.16

NTS 082K 16/W, BCGS 082K.088, UTM Zone 11,
NAD 83 Datum, Golden Mining Division

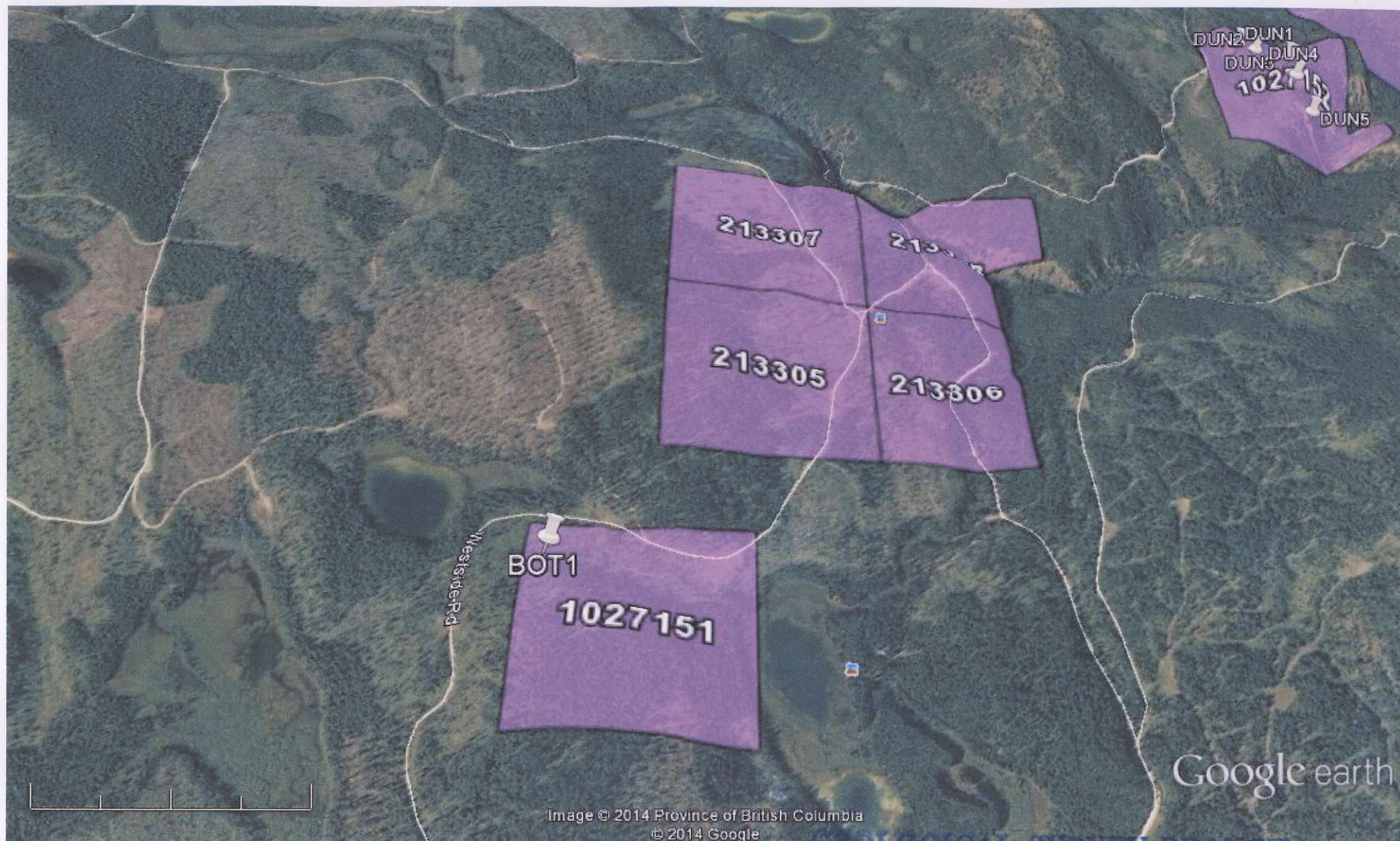


--- Fault (within Mount Nelson Fm)
— Strike and Dip of Bedding

Sparry, coarse grained, pearl white
to grey magnesite, minor dolomite
and quartzite



Photo: Rock Chip 14 BOT-1



Google earth

feet
km

1 4000

**Fig. 6 Google Earth Botts Lake Claim and Rock Sample Locations
NTS 082K 16W, BCGS 082K.088, Golden Mining Division**

35,287