

We are committed to providing [accessible customer service](#).

If you need accessible formats or communications supports, please [contact us](#).

Nous tenons à améliorer [l'accessibilité des services à la clientèle](#).

Si vous avez besoin de formats accessibles ou d'aide à la communication, veuillez [nous contacter](#).

Claim No 653127; Report of Assessment Work 2021

Lost Hope Mine Kirkland West Gold Project

Eby Township, Larder Lake Mining Division, Ontario, Canada

LOST HOPE MINE



INCORPORATED

1985

Prepared by: M.A. Raitanen

03/27/22

Table of Contents

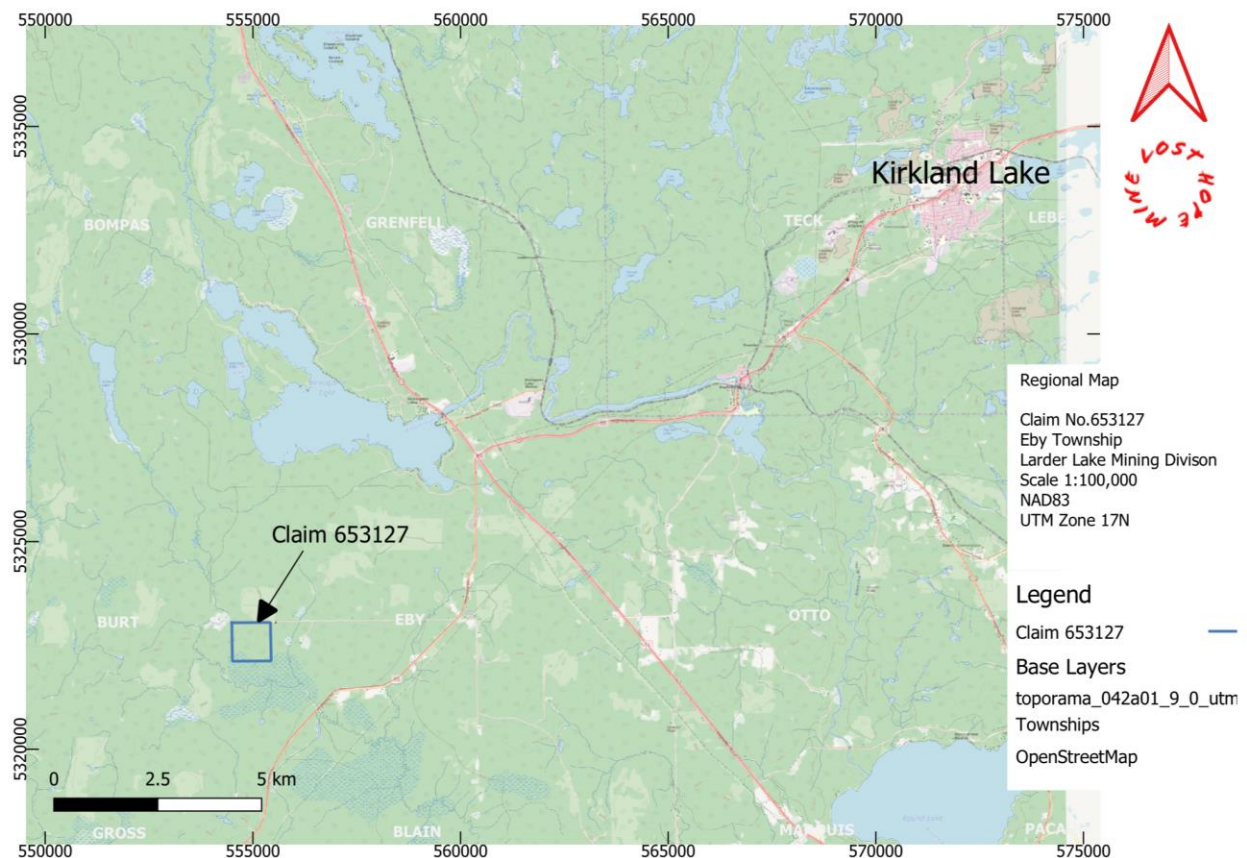
Summary	3
Location	3
Access & Geography	5
General Geology	6
Site Geology	7
Field Work & Methodology	8
Findings	17
References	18
Appendix a – Author’s Qualifications	19
Appendix b – Software Used	20
Appendix c- Assay Results	21
Appendix d – Old Claim Post	23
Appendix e – MDI42A01SE00080	24
Appendix f – Beep Mat	28

Summary

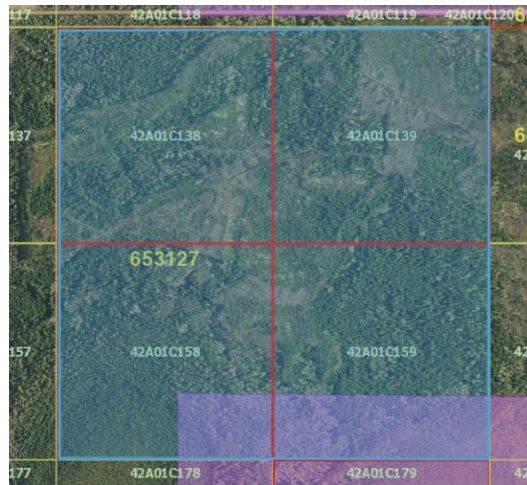
The purpose of this report is to detail & summarize the work performed on noted claims for assessment reporting during the (spring to fall) exploration season of 2021. During that period, a trail was commissioned for the purpose of providing access to the subject property for prospecting, an exposed section of bedrock was sampled & assayed, and, two surveys were performed with a Beep Mat electromagnetic geophysical instrument. These claims have no recorded history & as such, this work was undertaken to provide geological initial geological data from which to evaluate and plan further early exploration activities. A local contractor, Canadian Exploration Services, was hired to clear the trail along an alignment chosen by the author. The Beep Mat survey, sampling and related work was completed by the author. Swastika Laboratories provided the assaying services. Controls are referenced to UTM grid coordinates, Zone 17N, North American Datum 1983 (NAD 83) projected coordinate system.

Location

The claim is located in the Larder Lake mining division approximately 15 kilometers southwest of the Town of Kirkland Lake & 30 km northeast of Matachewan. It is roughly 600km north of Ottawa or Toronto via Highway 11. 4km west of Highway 11, the group of claims lies to the west of Highway 66, on West Road, which is across from Eby Pothole Road. It is in the Kirkland Lake Resident Geologists District, Larder Lake Mining Division.

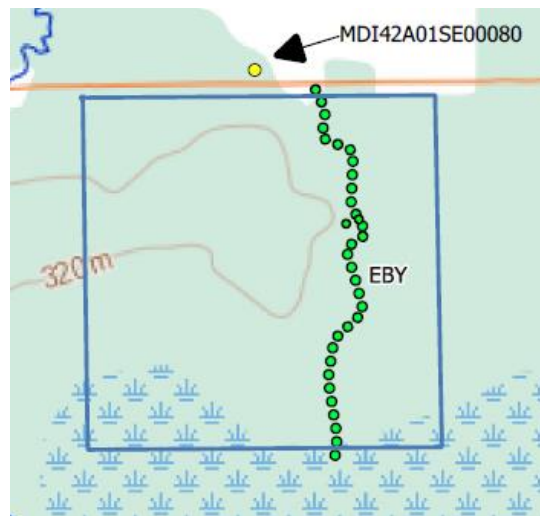


The author, Marcus Raitanen, is the registered claim holder & the claims were staked electronically through the Ontario Mining Lands Administration System in 2020. The cell numbers are: 42A 01 C138, C139, C158, & C159 & fall on Crown Lands but-for an encumbrance at the southern extent of C158 & C159 where there is an overlapping patented property with mineral rights (the South Half of Lot 11, Concession 3). Underlying the cell claims, legacy claims were staked in the earlier days as evidenced on historical Plan M-345 which is available through [Historical Mining Claim Map website](#). The legacy claims belie the North Half of Lot 11, Concession 3, which is Crown land.



Assessment reports were not found for any previous work on these legacy claims. The cell claims, the subject property, are a larger than the legacy claims were at roughly 20 ha per cell vs 16 ha respectively. The cells are georeferenced to the [provincial grid](#) which shifts them just west of the original surveyed lot lines.

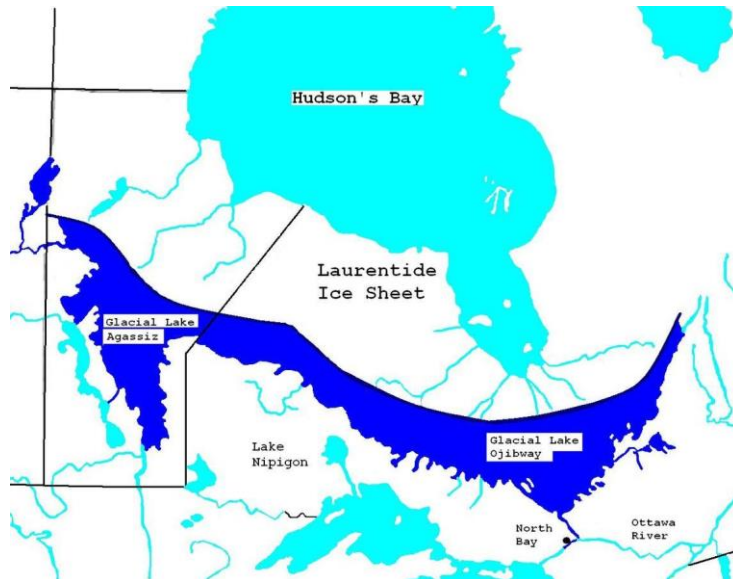
The area to the north of West Road has been explored with numerous gold occurrences noted in the Ministry of Northern Development and Mines (MNDM) Mineral Deposit Inventory. The closest of which is MDI42A01SE00080, details of which are appended to this report.



Eby Township is an unorganized township, it is sparsely populated today but allegedly there were 80 families of Finnish settlers who lived in the township at one time. An old stove lid dated 1921 was discovered on the property during construction of the trail. Old claim posts were discovered and flagged just east of the midpoint of the block of cell claims at the northern extent of the property (at West Road) and the southern extent of the property (at the patented lot which encumbers the mining claim's property line).

Access & Geography

Two of the cell claims (C138 & C139) front West Road. West Road is a maintained gravel road, it is in excellent condition and accessible by car from Kirkland Lake, Toronto, or Ottawa. After parking, access to the property is by foot. To facilitate ingress and egress into the site, a contractor was hired to cut a trail alignment (by hand, using trained line cutters with chainsaws) following an alignment which roughly bisects the claim block north to south. This trail was used to provide a base line for the first Beep Mat survey (BM-LHM-121) as well as provide access to the location which was sampled for assay, at 'Old Timers Ridge', which was named as such because there is evidence of an old pit, likely left by prospectors some time ago. The trail is essentially a line-cut without a prepared surface therefore it is only traversable by foot, it is not suitable for vehicles or any sort of wheeled traffic. Off-trail, the vegetation is extremely thick and by most definitions impassible. Dense transitions of tag alder and poplar appear to have been created by past small scale logging operations, likely wood lots used by the early settlers. Towards the South end of the property, the forest consists principally of balsam, black spruce, & tamarack and appears to be undisturbed by human activity. Just past the mining claims, to the South, there is a peat bog and low lying area that the author surmises to be a remnant of glacial Lake Barlow-Ojibway.

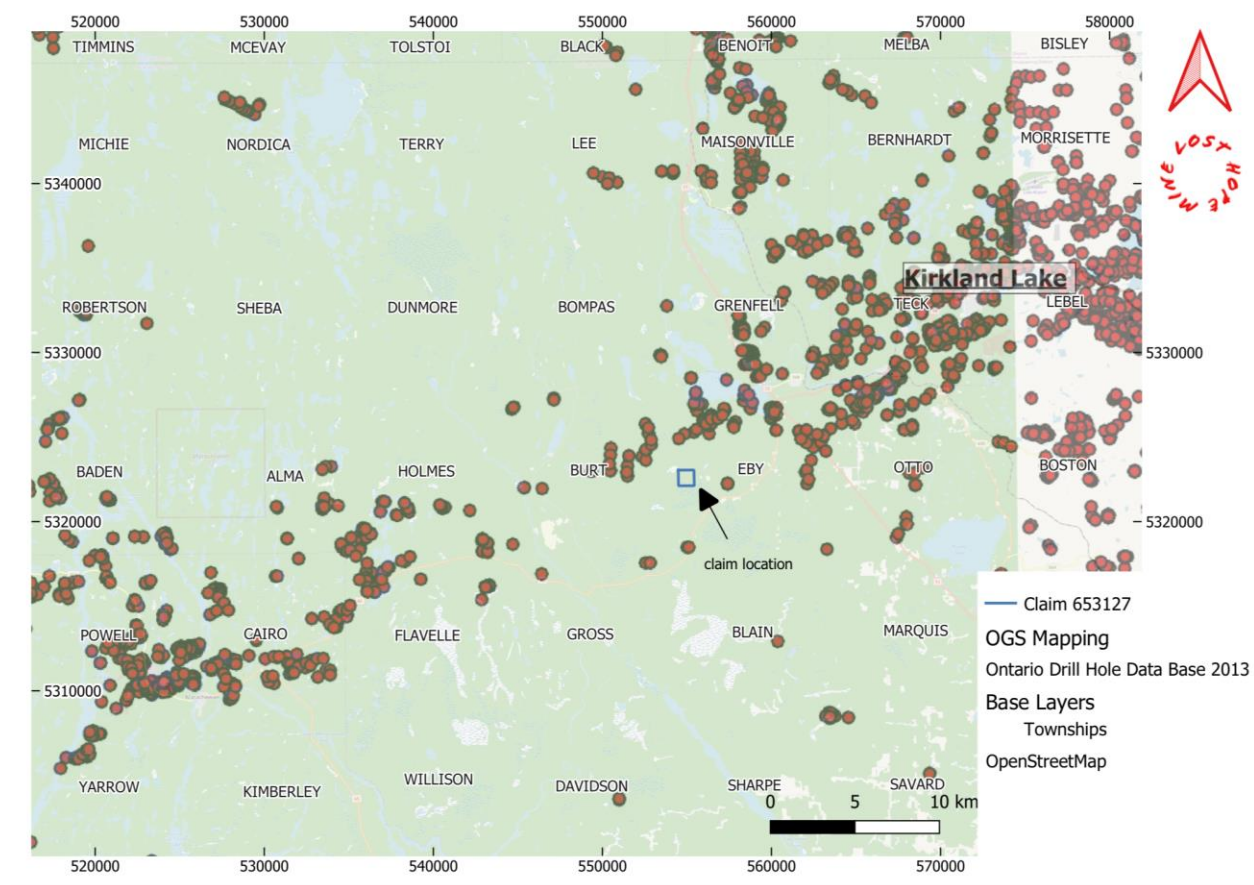


Map of Glacial Lake Agassiz and Lake Ojibway ca 7900 YBP. Designed from Teller and Leverington, 2004 (U.S. Geological Survey) Creative Commons License, Source: Wikipedia

General Geology

The subject area is within the south-west limit of the Abitibi greenstone belt (Goodwin 1966) which consists of precambrian volcanic, sedimentary, and intrusive rocks (Lovell 1972). The greenstone belt extends roughly from Wawa in Ontario to Val D'Or, Quebec. Kirkland Lake falls in the Abitibi greenstone belt and was the site of a gold rush, the Kirkland Lake Gold Rush (1912) which followed the Cobalt Silver Rush (1903), Larder Lake Gold Rush (1906), and the Porcupine Gold Rush (1909). Gold was also discovered in Swastika, west of Kirkland Lake.

Kirkland Lake lies north-east of the subject area and the locale, informally known as the Kirkland Lake gold camp, is one of the world's largest gold producing regions. There remains still many areas which are underexplored west of Kirkland Lake as illustrated by the distribution of recorded drill holes (shown as red dots) from Kirkland Lake to Matachewan in the following figure.



Gold mines are in production in Teck Township (Kirkland Lake) and Powell Township (Matachewan) presently & the subject property is located between them, roughly 15km from Kirkland Lake & 30km from Matachewan.

The setting of gold occurrences in Kirkland Lake have been studied in great detail over the last 100 years and numerous resources are available for further research. (Isplarov, et al., 2008)

Site Geology

There is a large outcropping in the subject claim group, roughly at their middle intersection. This outcropping, hereinafter referred to as “Old Timers Ridge”, was the location which was sampled & assayed as well as the subject of the second Beep Mat survey which was undertaken (BM-LHM-221). The outcropping has numerous intrusions and quartz veins. An old pit was found which has a mineralized quartz-feldspar vein running through it.



Photo depicts quartz stringers visible on Old Timers Ridge

Field Work & Methodology

The exploration program conducted throughout 2021 consisted of; the exploration of the North – South bisect along the new trail with a Beep Mat (BM-121), the exploration of a bedrock exposure (Old Timer’s Ridge) with a Beep Mat (BM-221), and, cleaning and sampling of a section of bedrock on Old Timer’s Ridge.

The Beep Mat is an electro-magnetometer. An electro-magnetometer is a geophysical instrument used to detect the electromagnetic properties of rocks. The device is a portable unit, designed to be operated by a single user. The data collected was recorded in the field using the device’s memory & then downloaded to a computer for use in making the maps and charts which follow. The Beep Mat unit used was on loan from the office of the Kirkland Lake District Resident Geologist.

The field work was undertaken during the following periods:

Sub section	Start date	End date	Operation
a	05/20/21	05/20/21	Field Tech from Canadian Exploration Services flags trail alignment
a	05/24/21	05/27/21	Chainsaw crew from Canadian Exploration Services clears trail
b	06/04/21	06/07/21	Traverse by author, specimens collected
c	08/07/21	08/14/21	Beep Mat Survey BM-121 performed, samples collected
d	09/25/21	09/29/21	Beep Mat Survey BM-221 performed, specimens collected

Sub section a

Canadian Exploration Services was contracted to build (clear) a trail following an alignment chosen by the author using publicly available topographic information along with Google Earth 3d projections. A work permit was obtained from the MNR in Kirkland Lake for trail construction (on the North Half of Lot 11, Concession 3, Eby Township). The work was performed with chainsaws by hand, no heavy equipment was used. During construction, the work crew discovered an old claim post (see appendix) & reported on a trail remnant which was later investigated. That trail remnant was found to lead to Old Timer’s Ridge.

Sub section b

The author visited the project site and conducted a traverse of the trail alignment. The purpose of this visit was to observe and document any bedrock exposures for investigation. The trail remnant which Canadian Exploration Services had reported on was found to lead to a large bedrock exposure. This exposure was named Old Timer’s Ridge by the author.

The rock structure photographed below became the subject of the stripping & sampling operation conducted in Sub section c.



Porphyritic float was observed, the below specimen was collected and cut with a diamond saw.



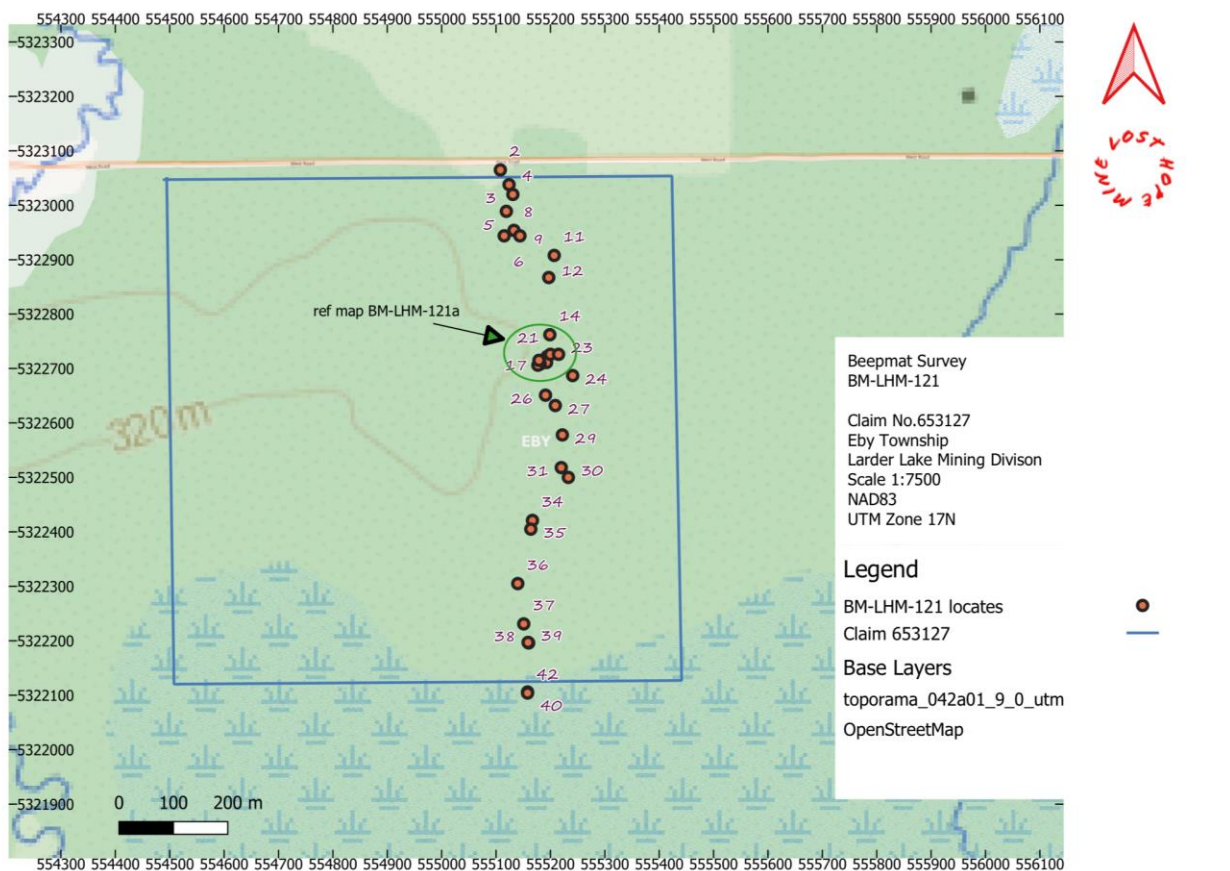
Sub section c

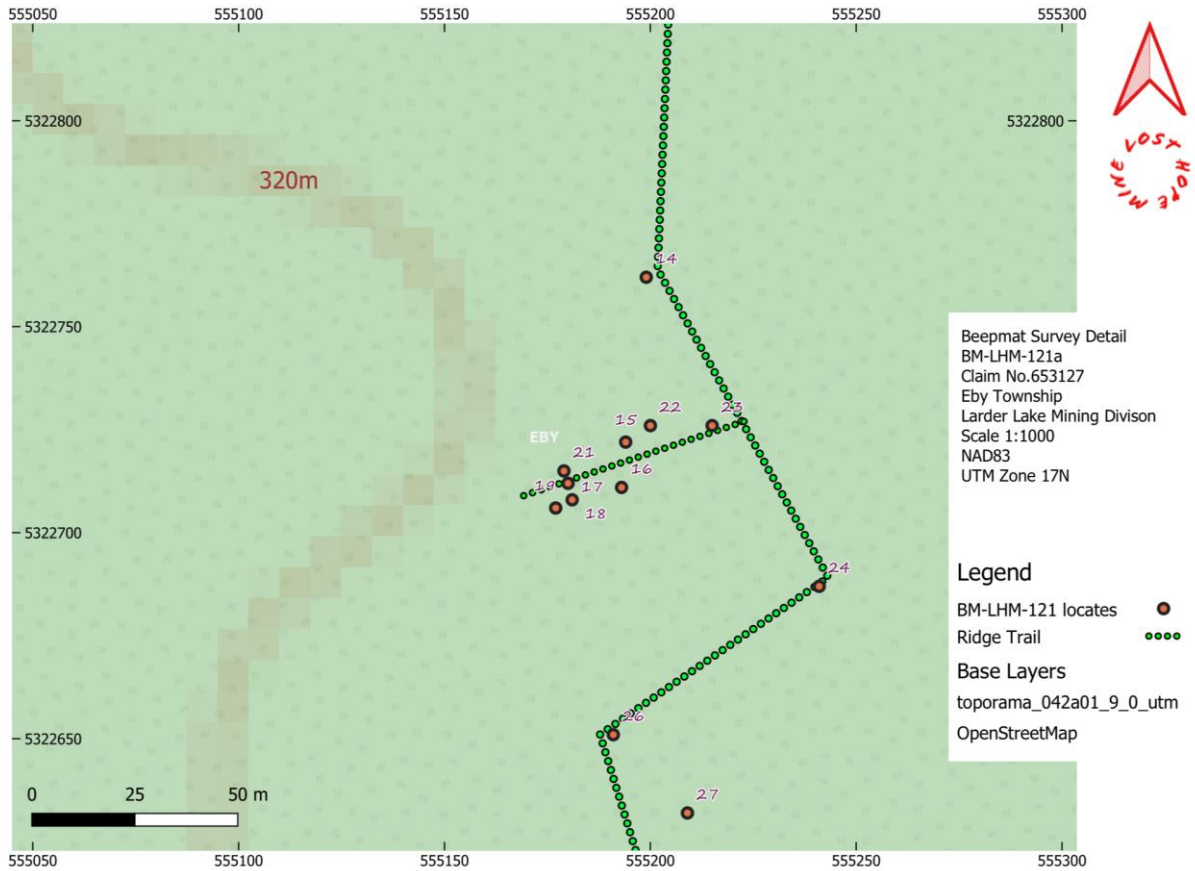
The first Beep Mat survey, BM121, and the stripping/sampling operation was performed during this period. The entire length of the new trail was surveyed with the Beep Mat and data was logged to provide a magnetic profile. Data was also collected at the proposed sampling location identified in Sub section b. This area was then stripped of moss and overburden with hand tools and cleaned. Samples were collected for assay & the results are detailed on the following table:

Sample No.	Au (g/Mt)	Easting	Northing	Type
LHM_GB_121	< 0.01	555180	5322712	Rock grab sample
LHM_GB_122	< 0.01	555181	5322708	Rock grab sample
LHM_GB_123	< 0.01	555179	5322706	Rock grab sample
LHM_GB_124	< 0.01	555177	5322715	Rock grab sample
LHM_GB_125	< 0.01	555178	5322719	Rock grab sample
LHM_CS_126	< 0.01	aggregate	of above locations	Composite sample

When breaking the rock with a pick, an odour of sulphur was detected by the author. Detailed assay data is appended to this report.

The area stripped and sampled is roughly 10m³ and not subject to the Mining Act requirement to file a Work Plan.





Field Data Beepmat Survey - Survey No. BM-Lost Hope Mine-121						
Date: August 10, 2021						
UTM: 17N						
Memory	HFR	LFR/MAG	Ratio	Easting	Northing	Comments
2	4	-28	0	555108	5323065	0
3	-43	-24	0	555124	5323038	0
4	-60	-12	0	555131	5323020	0
5	-37	2	0	555119	5322989	0
6	-38	7	0	555115	5322944	0
8	-68	-41	0	555133	5322954	0
9	-28	2	0	555144	5322944	0
11	6	-3	0	555207	5322908	0
12	10	1	0	555197	5322867	0
14	-12	8	0	555199	5322762	0
15	-58	-42	0	555194	5322722	base of Old Timers Ridge
16	-51	-2	0	555193	5322711	0
17	-570	-509	0	555180	5322712	on ridge (0.5% magnetite)
18	-504	-445	0	555181	5322708	on ridge (0.4% magnetite)

19	-71	-29	0	555177	5322706	on ridge (0.0%)
21	-223	-201	0	555179	5322715	on ridge (0.2% magnetite)
22	-422	-396	0	555200	5322726	on ridge (0.4% magnetite)
23	-130	-109	0	555215	5322726	base of Old Timers Ridge
24	-110	-81	0	555241	5322687	0
26	-63	-42	0	555191	5322651	0
27	-400	-366	0	555209	5322632	0
29	-5	2	0	555222	5322578	0
30	-4	2	0	555233	5322500	0
31	-27	6	0	555220	5322518	0
34	4	-4	0	555167	5322421	0
35	6	-3	0	555164	5322405	0
36	-20	-8	0	555140	5322305	0
37	13	-5	0	555151	5322231	0
38	1	-4	0	555160	5322196	0
39	-11	-6	0	555159	5322197	0
40	5	-4	0	555158	5322106	0
42	-30	-4	0	555158	5322104	0

Unit : GDD BM-8 #7239

UTM data recorded using GPS app 'GPS UTM' on iPhone

Weather : light rain followed by clearing, 20 degrees Celsius

Methodology : Beep Mat pulled at walking pace with data recorded at either; paced intervals, or, when a signal was detected.

Operator : M. Raitanen, Field Tech, Lost Hope Mine

Comment: the author has used the term memory, locate, and station, interchangeably in the field work and report.

Sub section d

The second Beep Mat survey, BM221, was undertaken during this period. The focus and objective was to locate other investigative points of interest on Old Timers Ridge. Accordingly, the author walked the length of the exposure along several latitudes and marked each location with readings above -2000 gammas with a flag.

There were four areas of interest, and they were recorded as memory (station) numbers 1-4. Station #2 is roughly the same location as sampled and assayed in Sub section c. Station #4 appears to be an old bedrock pit, the author located and followed a quartz-feldspar vein with high magnetic readings from

the old bedrock pit to Station #3. That quartz-feldspar vein's approximate strike is shown in the following photograph in yellow bearing north-west.

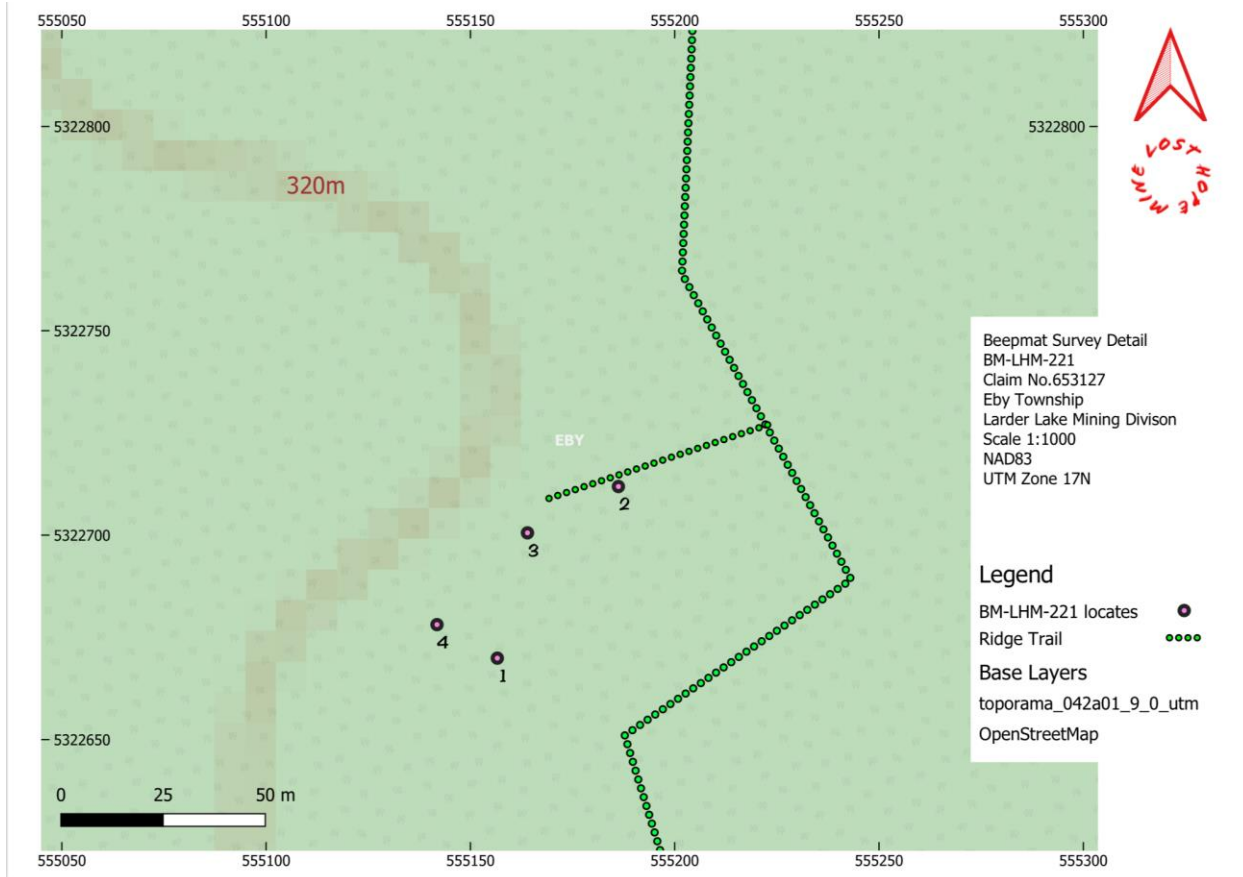




It was observed that the moss has changed to a lighter yellow colour here. This could be indicative of absorbed metal content, as described by (Easton, 1995).

Peter Chadwick, the Kirkland Lake District Resident Geologist, visited the site with the author on September 28, 2021 & viewed 'Old Timer's Ridge' including the magnetized quartz vein mentioned above. Some (sulphide) mineralization was observed & Peter collected a sample. His report will be available separately. A specimen was retained by the author and logged as GB LHM 302, it is shown in the below photograph.





Field Data Beepmat Survey - Survey No. BM-Lost Hope Mine-221						
Date: September 27, 2021						
UTM: 17N						
Memory	HFR	LFR/MAG	Ratio	Easting	Northing	Comments
1	-3324	-3183	-	555157	5322670	sulfides observed
2	-1758	-1667	-	555186	5322712	quartz stringers, photo on p8
3	-2281	-2163	-	555164	5322701	black colour in quartz vein
4	-2219	-2102	-	555142	5322678	old pit
Unit : GDD BM-8 #7239 UTM data recorded using GPS app 'GPS UTM' on iPhone Weather : overcast, 15 degrees Celsius Methodology : Beep Mat pulled at walking pace over previously stripped and sampled area & then over the entire South section of showing with flags and data recorded only at the very highest readings. Operator : M. Raitanen, Field Tech, Lost Hope Mine Comment: the author has used the term memory, locate, and station, interchangeably in the field work and report.						

Findings

No gold values were reported in the assay results however, the observation of sulphides in quartz veins demonstrates that the area does contain mineralization. Further investigation of Old Timer's Ridge & off the ridge (throughout the rest of the claim) to locate additional exposures and investigative targets would be helpful in fully appraising the likelihood of a gold occurrence or gold deposit on these claims. Additionally, the potential for the sulphides leading to a critical mineral deposit should also be investigated. The author will plan exploration activities for 2022 accordingly.

References

- Beep Mat Manual BM 8 10_10_2017 EN.pdf - Instrumentation GDD Inc. 860 boul. de la Chaudière, Quebec
- Cobalt Silver Rush. (n.d.) In Wikipedia. https://en.wikipedia.org/wiki/Cobalt_silver_rush
- Davis, George H. 1984. Structural Geology of Rocks and Regions, Wiley & Sons, ISBN 0-471-09267-3
- Easton, R.M. 1995. Lichens and Rocks: A Review, Geoscience Canada; Volume 21, No.2, Revision date January 15
- Everend L. Bruce. 1914. The Swastika Gold Area, Mining Journal, Railway & Commercial Gazette, London, Volume 105.
- Ispolatov, V., Lafrance, B., Dube, B., Creaser, R., Hamilton, M., 2008. Geologic and Structural Setting of Gold Mineralization in the Kirkland Lake-Larder Lake Gold Belt, Ontario, Society of Economic Geologists, Inc. Economic Geology, v. 103, pp. 1309–1340
- Larder Lake, Ontario. (n.d.) In Wikipedia. https://en.wikipedia.org/wiki/Larder_Lake,_Ontario
- Lovell, H.L. 1972. Geology of the Eby and Otto Area, District of Timiskaming; Ontario Dept. of Mines and Northern Affairs, GR99, 30p.
- Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry Mineral Deposit Inventory; https://www.geologyontario.mndm.gov.on.ca/MDI_Description.html
- Porcupine Gold Rush. (n.d.) In Wikipedia. https://en.wikipedia.org/wiki/Porcupine_Gold_Rush



Author's Qualifications

- I am a licensed Prospector in the Province of Ontario & have completed the Mining Act Awareness Program (MAAP, 2021).
- I have worked as a Civil Engineering Technologist since graduating from Loyalist College (1998). My experience consists of both field work and inspection in construction & geotechnical engineering as well as risk management of construction projects through the insurance industry.
- I have a Canadian Risk Management (CRM) designation & have passed professional ethics exams to acquire a Fellow Chartered Insurance Professional (FCIP) designation. I hold registered insurance broker's licenses in both Ontario & British Columbia which require completion of an annual ethics course to maintain.
- I have undertaken a self-directed study of Q GIS, Geographic Information Systems (GIS), and, Geographic Information Science (GIS).
- I was taught to prospect for gold in and around Kirkland Lake by my father, Bill Raitanen, grandfather, Lasse Raitanen, and their partners Fern & Phil Rivard (operating under the trade name Lost Hope Mine) in the 1980's. My first job was working for Lost Hope Mine as a Diamond Drill Helper.
- I have personally written this report & conducted the prospecting work described herein.

This report is not intended to meet NI 43-101 requirements.

MARaitanen

Appendix b

Software Used

Mapping – QGIS version 3.16.11 'Hannover', Windows 10

GPS field data – Tomstrails GPS UTM, iOS

Report writing – MS Word, Office Professional 2013

Data collection – MS Excel, Office Professional 2013

Data transfer – Hyperterminal, Microsoft utility provided with Beep Mat



Swastika Laboratories Ltd

Assaying - Consulting - Representation

Assay Certificate

Certificate Number: 21-3489

Company: **Lost Hope Mine**
 Project: **LHM-21**
 Attn: **Marcus Raitanen**

Report Date: **23-Aug-21**

We hereby certify the following Assay of 5 rock/grab samples submitted 13-Aug-21 by Marcus Raitanen

Sample Number	Au	Au Chk
	FA-AAS g/Mt	FA-AAS g/Mt
Blank Value	< 0.01	
OREAS 253	1.28	
GB 121	< 0.01	
GB 122	< 0.01	
GB 123	< 0.01	
GB 124	< 0.01	
GB 125	< 0.01	< 0.01

Certified by

Valid Abu Ammar

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0
 Telephone (705) 642-3244 Fax (705) 642-3300



Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 1

Assay Certificate

Certificate Number: 21-3488

Company: **Lost Hope Mine**

Project: LHM-21

Report Date: 23-Aug-21

Attn: Marcus Raitanen

We hereby certify the following Assay of 1 composite samples submitted 13-Aug-21 by Marcus Raitanen

Sample Number	Au	Au Chk
	FA-AAS g/Mt	FA-AAS g/Mt
Blank Value	< 0.01	
OREAS 253	1.25	
CS 126	< 0.01	< 0.01

Certified by


Valid Abu Ammar

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 Fax (705) 642-3300

Appendix d

Old claim post discovered during trail construction



MDI42A01SE00080 exhibit 1 of 4

HOLE-NO: 80-C25

UTM-COORD: 5551,3229
ELEVATION: 1,000

-1.600+0.125MM NCN-MAGNETIC HEAVY MINERAL FRACTION(SG+3.3)

SAMPLE NUMBER	DEPTH (FT)	SAMPLE MATERIAL	CU PPM	PB PPM	ZN PPM	NI PPM	MO PPM	AS PPM	AG PPM	AU PPB	U PPM
80-025-01	34.5- 41.0	GRAVEL	95	12	49	35	4	16	.8	2100	5.2

-0.125MM NCN-MAGNETIC HEAVY MINERAL FRACTION(SG+3.3)

SAMPLE NUMBER	DEPTH (FT)	SAMPLE MATERIAL	CU PPM	PB PPM	ZN PPM	NI PPM	MO PPM	AS PPM	AG PPM	AU PPB	U PPM
80-025-01	34.5- 41.0	GRAVEL	65	30	43	34	2	50	.1	60	19.7

-0.063MM WHOLE SAMPLE SIEVED SEPARATE

SAMPLE NUMBER	DEPTH (FT)	SAMPLE MATERIAL	CU PPM	PB PPM	ZN PPM	NI PPM	MO PPM	AS PPM	AG PPM	AL PPM	U PPM
80-025-01	34.5- 41.0	GRAVEL	18	3	20	15	1	1	.1	20	1.5

BEDROCK CHIPS

SAMPLE NUMBER	DEPTH (FT)	SAMPLE MATERIAL	CU PPM	PB PPM	ZN PPM	NI PPM	MO PPM	AS PPM	AG PPM	AU PPB	U PPM
80-025-02	41.0- 45.0	BEDROCK	48	1	67	43	3	1	.1	10	.9

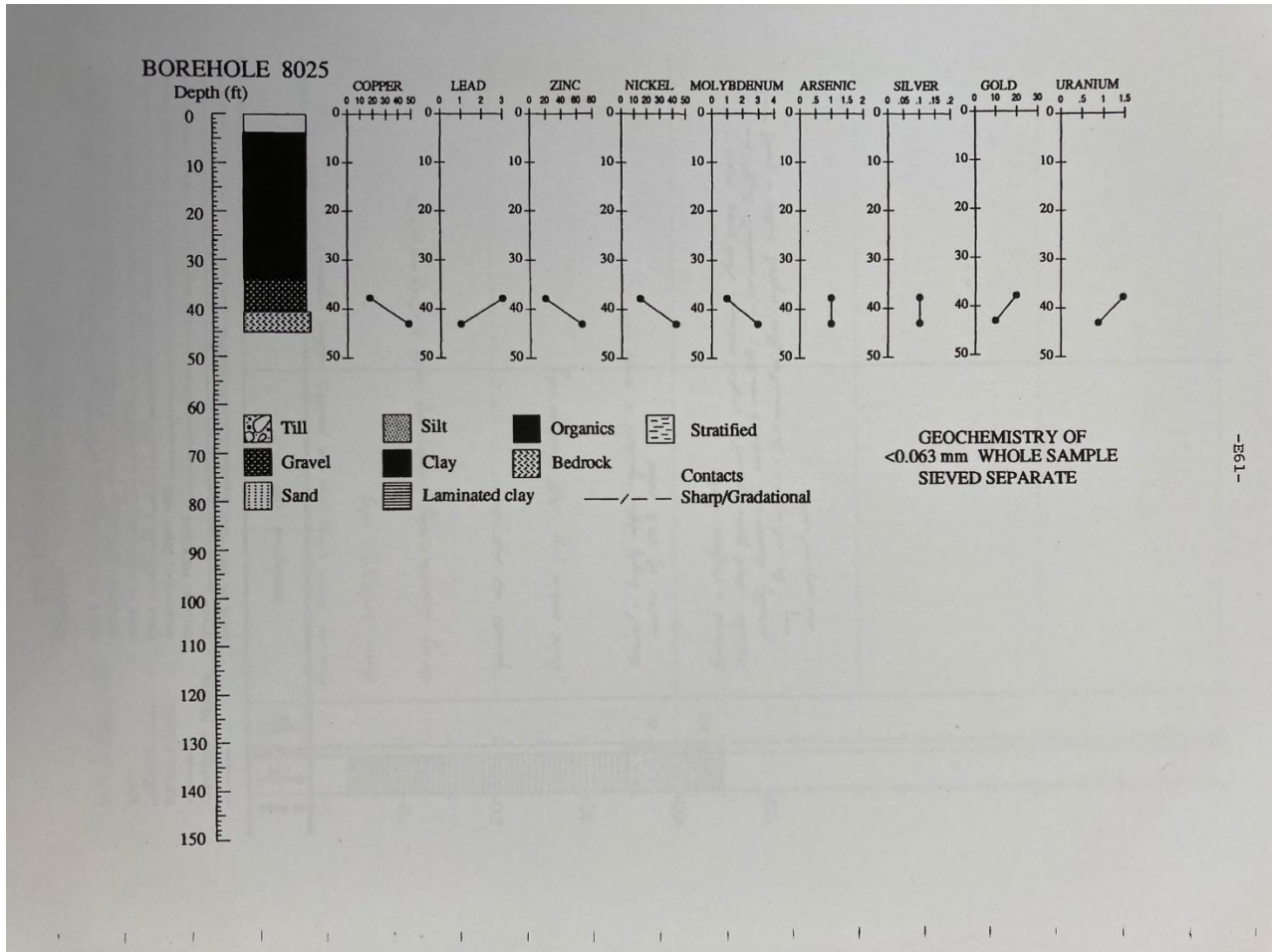
COMMENT
 BY MR. — Bedrock @ bottom of
 Oct 22/21 80-25 DESCRIBED
 AS
 BASALT!

Sample No.	% Garnet	% Hematite	% Sulphides	% Limonite	% Epidote	% Pyroxene	% Zircon Group	Sorting	Remarks
KLIP-80-23-01C	15	3	7		30	28	9	poor	2% colourless vitreous mineral 1% rusty, light mineral 4% massive pyrite magnetite
23-01F	16	2	4		30	31	11	well	1% emerald green material 2% colourless vitreous mineral massive pyrite 2% magnetite
24-01C	10	5	32	1	14	20	4	poor	pyrite bearing rock chips pyrite with quartz massive pyrite
									15% magnetite chalcopyrite (tr.)
24-01F	13	5	11		26	34	7	well	pyrite with quartz massive pyrite 3% magnetite
24-02C	17	6	19		23	26	7	poor	pyrite with quartz massive pyrite limonitized pyrite
									2% magnetite chalcopyrite (tr.)
24-02F	19	4	5		31	26	6	well	2% emerald green material 7% colourless vitreous mineral massive pyrite 1% magnetite
24-03C	20	5	19		31	13	8	poor	3% colourless vitreous mineral pyrite with quartz massive pyrite 5% magnetite
24-03F	15	4	5		29	26	14	well	6% colourless vitreous mineral massive pyrite 1% magnetite
25-01C	20	3	6		28	26	10	poor	1% emerald green material 2% colourless vitreous mineral massive pyrite 4% magnetite
25-01F	15	2	5		31	32	12	well	2% colourless vitreous mineral massive pyrite 1% magnetite
26-01C	21	3	10		24	28	8	poor	1% emerald green material 3% colourless vitreous mineral pyrite with quartz massive pyrite
26-01F	27	2	4		24	27	12	well	2% emerald green material 1% colourless vitreous mineral 2% massive pyrite
27-01C	28	4	5		26	14	14	poor	5% emerald green material 3% colourless vitreous mineral 2% magnetite
27-01F	24	2	2		14	38	6	well	2% emerald green material 11% colourless vitreous mineral 1% magnetite
28-01C	38	3	tr.		19	26	7	well	3% emerald green material 3% colourless vitreous mineral granular pyrite tr. magnetite
28-01F	27				21	30	6	well	4% emerald green material 12% colourless vitreous mineral
28-02C	20	1			34	30	11	well	3% emerald green material 1% magnetite
28-02F	26				26	24	9	well	9% emerald green material 6% colourless vitreous mineral 1% magnetite
29-01C	34	2			25	27	5	poor	2% emerald green material 3% colourless vitreous mineral 2% magnetite
29-01F	17	1			27	33	5	poor	7% emerald green material 10% colourless vitreous mineral tr. magnetite

**ONTARIO GEOLOGICAL SURVEY
REVERSE CIRCULATION DRILL HOLE LOG**

DATE 7 Aug 19 80 HOLE NO. KUP 80-25 LOCATION 80°15'40" W / 48°03'27" N Eby Tp.
 GEOLOGIST R.C. JAP DRILLER A. Hojny BIT NO. 020058 BIT FOOTAGE 0-45'
 SHIFT DRILL TO _____ MOVE TO HOLE 10:40 - 11:30 hrs.
 TOTAL HOURS _____ DRILL 11:30 - 12:20 hrs., pull rods to 12:45 hrs.
 MECHANICAL DOWN TIME _____
 DRILLING PROBLEMS _____
 OTHER _____
 CONTRACT HOURS _____ MOVE TO NEXT HOLE 12:45 - 13:15 hrs.

IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0				Road cut brown clayey sand and pebbles, black organic
10				Brown oxidized clay.
20				Grey kaustonic clay, medium grey, sandy to sticky and plastic
20				granites and deep stone
30				Dark medium grey stiff kaustonic clay
40			01	Gravel, largely mafic megacrysts in coarse sand matrix of 50% sand
40			02	Bedrock & surface broken
50				Foliated dark green epithermal mafic volcanic, Pale green layers - possibly bedded with carbonate veins, intermediate stuff? and may be siliceous. Dissected fine purple cubes in quartz veins and adjacent wall.



Appendix f

Description of the Beep Mat

The Beep Mat is a simple and efficient electromagnetic prospecting instrument adapted to the search of outcrops and/or boulders containing conductive and/or magnetic minerals. It basically consists of a sleigh-shaped short probe and a reading unit. For prospecting, you pull the probe on the ground to be explored. The Beep Mat takes continuous readings while you walk and sends out a distinctive audible signal when detecting a conductive or a magnetic object in a radius of up to 3 meters. The Beep Mat directly detects and signals the presence of ores, even slightly conductive, containing chalcopyrite, galena, pentlandite, bornite and chalcocine. It also detects native metals (copper, silver, gold) as well as generally barren conductive bodies (pyrite, graphite and pyrrhotite), but which may contain precious ores such as gold or zinc (sphalerite), which are themselves non-conductive. Besides detecting conductors, the Beep Mat measures their intrinsic conductivity and their magnetic susceptibility (magnetite content). This helps geologists and geophysicists better interpret others geophysical and geological surveys.

A map of conductivity, magnetic susceptibility and magnetic total field can be done from these results. A second field operation to recognize the nature of conductors could be scheduled.

Beepmat Signal interpretation

- HFR and LFR are respectively the High frequency (HFR) and Low frequency (LFR) response (relative conductivity). They increase near a conductor. The concentration of the sulfite will be proportional to the HFR/LFR response. We generally pick up a sample where the outcrop has the higher response. The High frequency (HFR) is always displayed. The Low frequency (LFR) is displayed as long as no magnetite is present; otherwise the unit displays MAG instead of LFR.
- MAG is the magnetic value (relative susceptibility) and increases in presence of magnetite, its value is indicated by a negative sign (magnetic content). A reading of -1000 corresponds approximatively to 1% of magnetite, or, 1000 gammas
- Rt is unaffected by the amount of conductive material (intrinsic conductivity). The Rt qualifies the conductor from 0 %, poor conductor to 100 %, excellent conductor (conductor quality). The Rt is calculated only if no magnetite is present. For HFR below 10 Hz, the Rt value is not precise enough and Rt = 0 % will be displayed.
- Negative HFR and MAG readings indicate the presence of a body containing magnetite and that the Beepmat's primary recording parameter is magnetism rather than conductivity.

Analysis

The HFR corresponds to the variation of the high frequency and the LFR or MAG corresponds to the reaction of the low frequency. When approaching a magnetite rich sample (for example, a vein), the low frequency reacts more than the high frequency, so the MAG value should appear a little more negative than HFR value. The MAG value increases in negative value. When approaching a conductive sulfide sample, the HFR reacts more than the LFR. Therefore, the HFR value should appear and increase while the LFR value should remain low. If the HFR value is high and the LFR is almost equivalent, it means that the conductivity of the sample is high and that the body could turn out to be metal.

Reference: Manual BM 8 10_10_2017 EN.pdf

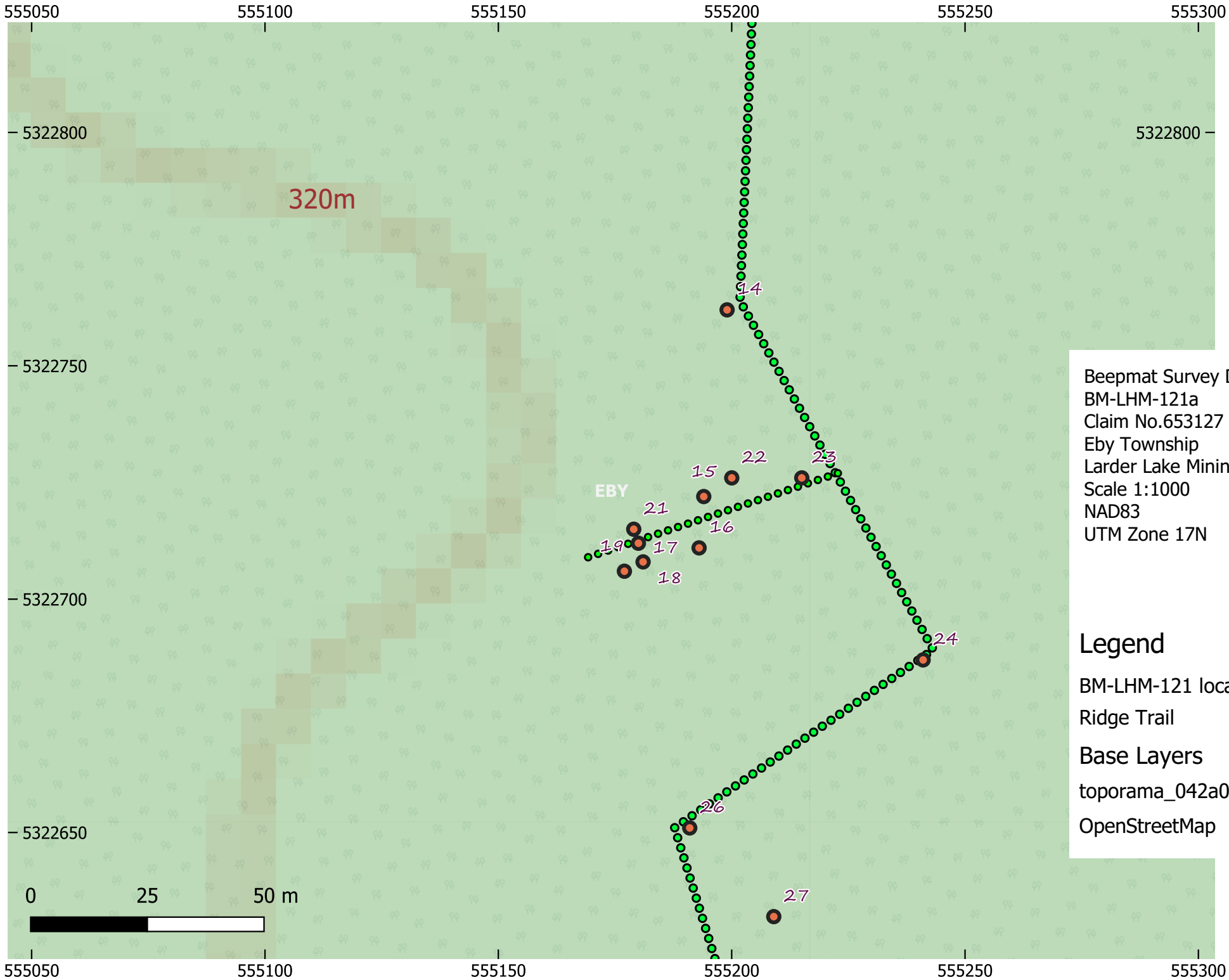
Instrumentation GDD Inc. 860 boul. de la Chaudière, Quebec (Quebec) G1X 4B7 Tel.: 1-418-877-4249
Fax: 1-418-877-4054 E-Mail: gdd@gddinstrumentation.com

Only two commonly occurring minerals are strongly magnetic; magnetite and pyrrhotite. Hence, magnetic surveys, both ground and airborne, are used to detect the presence of these minerals in varying concentrations. Magnetic data are also useful as a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite. (Geotronics Surveys Ltd., 1974)



The Beep Mat is a miniaturized electromagnetic survey instrument that has been likened to a simplified version of the helicopter-borne uncoil. It consists of a uncoil operating at about 2.1 megaHertz inserted in a polyethylene shell with a separate readout module that allows the measurement of the relative c; value of the conductivity of 3 cubic metres or susceptibility (magnetite content) of 1 cubic metre of any material immediately underlying the instrument (penetrating to a depth of about 1.5m).

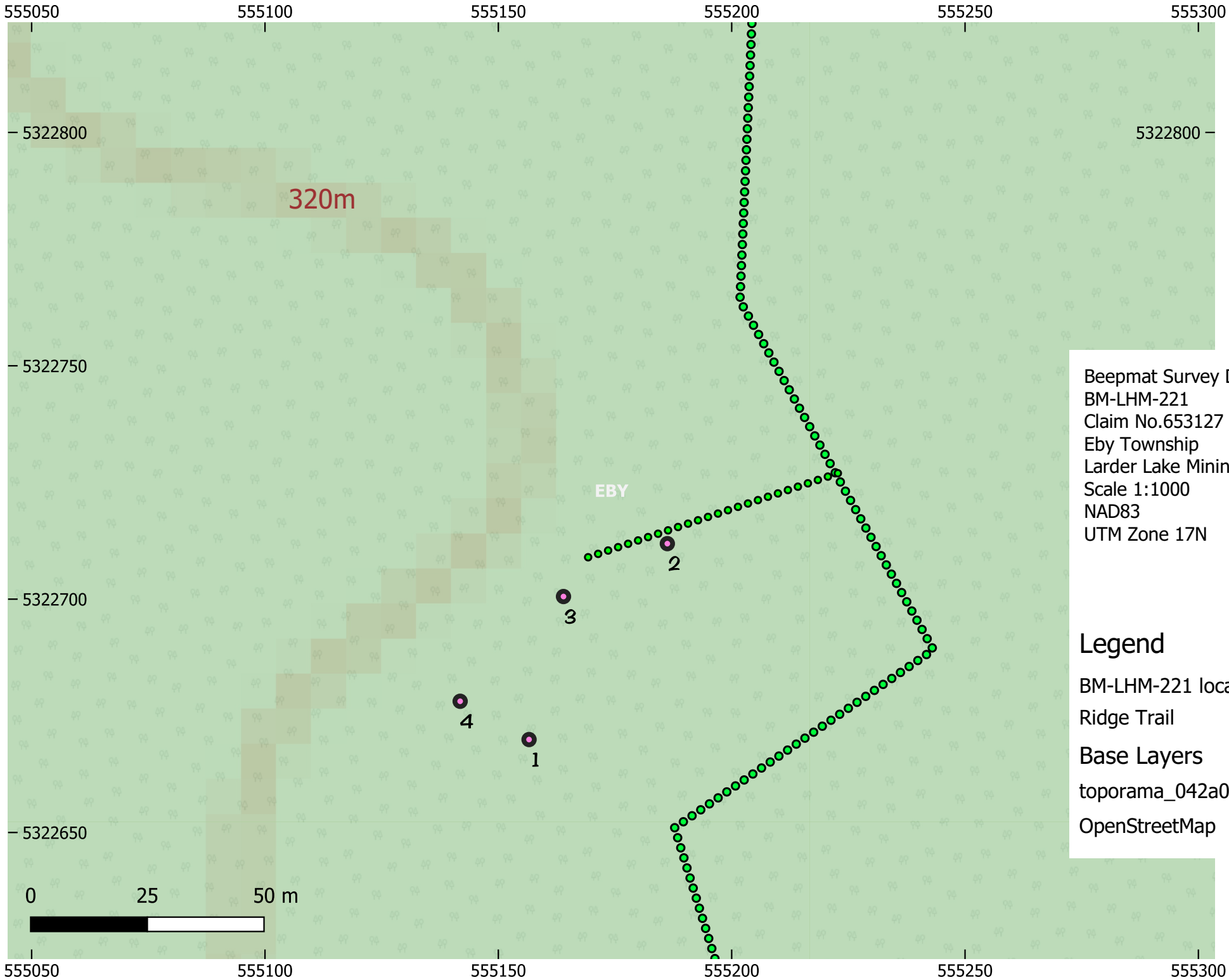
Each type of rocks has its own signature on the BEEP MAT and therefore help to provide a very accurate geology map. The different type of rocks with the BEEP MAT readings indicating the magnetite content are as follows:

7.	Diabase:	-2000 to -7000	2% - 7% Magnetite
6a.	Syenite:	-1800 to -2180	1.8% to 2.1% Mg
6b.	Q-F Porphyry:	-680 to -780	0.68% to 0.78% Mg
6d.	Quartz-Monzonite:	-1000 to -1500	1% to 1.5% Mg
6e.	Granodiorite:	-30	almost neutral
4.	Gabbro: (vary)	-2700 to -3000	2.7% to 3% Mg
3abc.	Metasediments:	-20 to -35	almost neutral
3d	Iron Formation:	-5000	5% Mg
2	Felsic flows:	-20 to -35	almost neutral
1.	Mafic flows:	-35 to -75	almost neutral





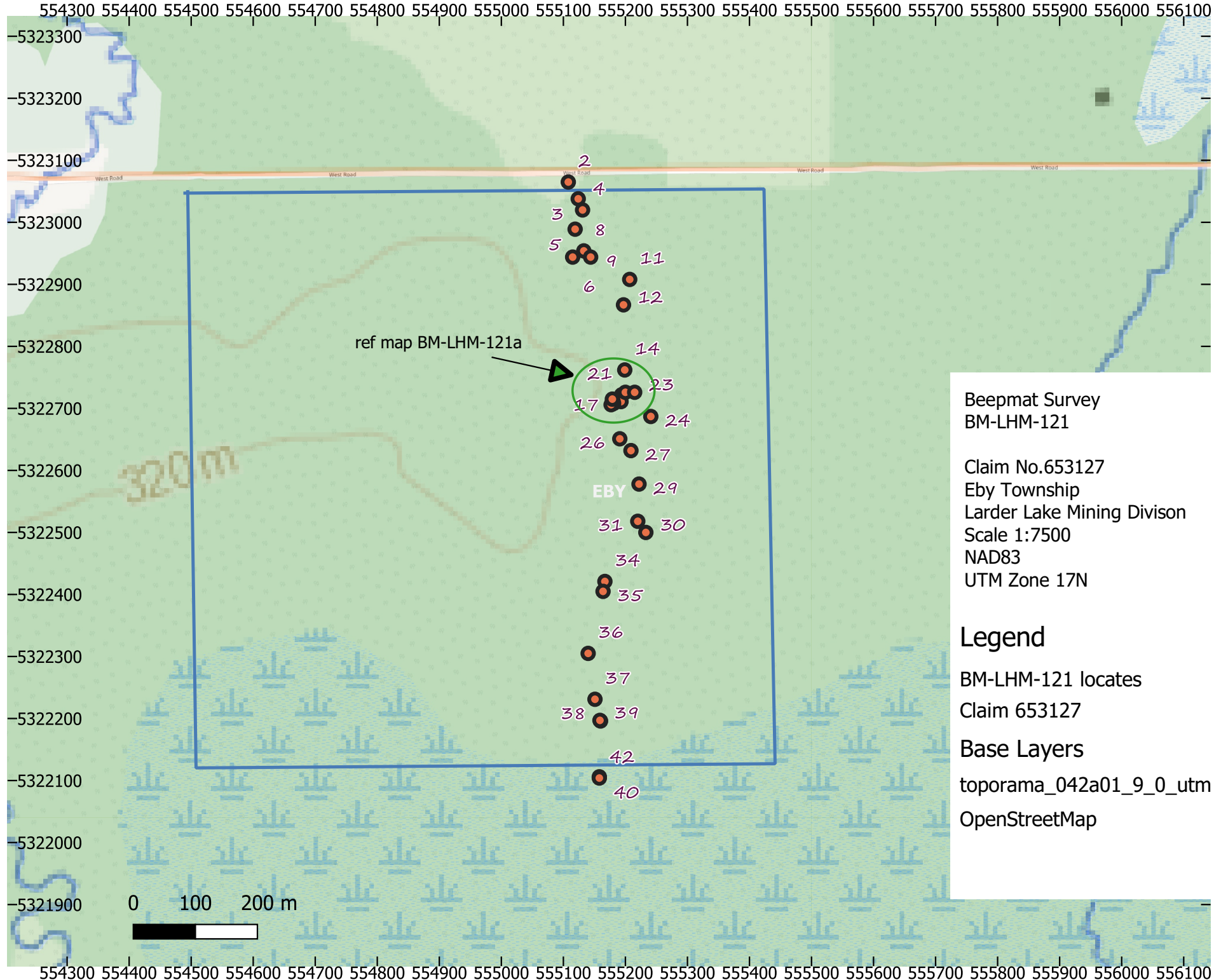
Beepmat Survey Detail
 BM-LHM-121a
 Claim No.653127
 Eby Township
 Larder Lake Mining Divison
 Scale 1:1000
 NAD83
 UTM Zone 17N

Legend
 BM-LHM-121 locates 
 Ridge Trail 
Base Layers
 toporama_042a01_9_0_utm
 OpenStreetMap



Beepmat Survey Detail
 BM-LHM-221
 Claim No.653127
 Eby Township
 Larder Lake Mining Divison
 Scale 1:1000
 NAD83
 UTM Zone 17N


Legend
 BM-LHM-221 locates 
 Ridge Trail 
Base Layers
 toporama_042a01_9_0_utm
 OpenStreetMap




Beepmat Survey
 BM-LHM-121

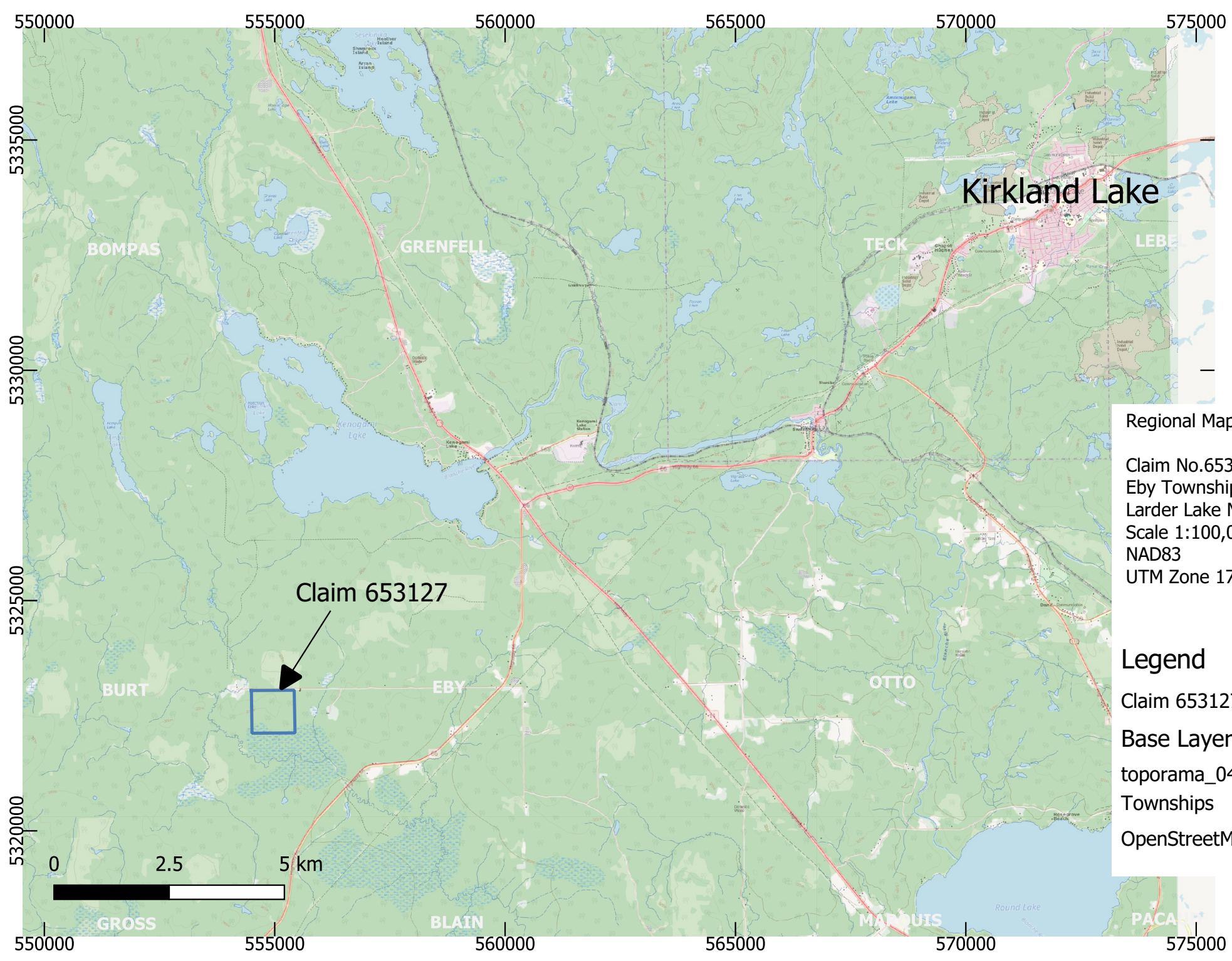
Claim No.653127
 Eby Township
 Larder Lake Mining Divison
 Scale 1:7500
 NAD83
 UTM Zone 17N

Legend

BM-LHM-121 locates 

Claim 653127 

Base Layers
 toporama_042a01_9_0_utm
 OpenStreetMap



Regional Map
 Claim No.653127
 Eby Township
 Larder Lake Mining Divison
 Scale 1:100,000
 NAD83
 UTM Zone 17N

Legend
 Claim 653127 ———
 Base Layers
 toporama_042a01_9_0_utm
 Townships
 OpenStreetMap



Claim 653127



LOST HOPE MINE

Expense Report

May Summary of Third Party Expenses for Trail

PURPOSE: Construction

NAME: Marcus A. Raitanen

Date	Description	Hotel	Gas	Food	Prospecting	Consumables	Misc	Total
5/20/2021	Canadian Exploration Services (sheet 4 of this workbook)						\$ 565.00	\$ 565.00
5/27/2021	Canadian Exploration Services (sheet 5 of this workbook)						\$ 3,390.00	\$ 3,390.00
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
Total		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,955.00	\$ 3,955.00

total \$ 3,955.00

NOTES: Work performed by contractor, xref Q2885 CXS

Company Name

LOST HOPE MINE

Expense Report

PURPOSE: June summary of expenses

NAME: Marcus A. Raitanen

Date	Description	Hotel	Gas	Food	Prospecting	Consumables	Misc	Total
6/4/2021	travel		\$88.90	\$ 31.73	\$ 300.00			\$ 420.63
6/5/2021	prospecting			\$ 48.36	\$ 300.00			\$ 348.36
6/6/2021	gas		\$ 88.85					\$ 88.85
6/7/2021	hotel for 3 nights, travel home	\$ 254.25			\$ 300.00			\$ 554.25
6/5/2021	flagging tape/roll					\$ 2.88		\$ 2.88
								\$ -
								\$ -
								\$ -
Total		\$ 254.25	\$ 177.75	\$ 80.09	\$ 900.00	\$ 2.88	\$ -	\$ 1,414.97

total \$ 1,414.97

NOTES: Work performed by author - see Sheet 6 for receipts

Company Name

LOST HOPE MINE

Expense Report

PURPOSE: August summary of expenses

NAME: Marcus A. Raitanen

Date	Description	Hotel	Gas	Food	Prospecting	Consumables	Misc	Total	
8/9/2021	travel		\$ 98.09		\$ 300.00			\$ 398.09	
8/10/2021	beepmat (BM 121)				\$ 300.00			\$ 300.00	
8/10/2021	safety glasses x2					\$ 6.76		\$ 6.76	
8/10/2021	rock chisels x2					\$ 13.63		\$ 13.63	
8/10/2021	gas		\$ 63.55					\$ 63.55	
8/10/2021	food			\$ 39.48				\$ 39.48	
8/13/2021	stripping & sampling				\$ 300.00			\$ 300.00	
8/13/2021	food			\$ 24.68				\$ 24.68	
8/14/2021	hotel	\$ 500.00					\$ -	\$ 500.00	
8/14/2021	travel				\$300			\$ 300.00	\$ 1,946.19
Total		\$ 500.00	\$ 161.64	\$ 64.16	\$ 1,200.00	\$ 20.39	\$ -	\$ 1,946.19	
									total

NOTES: Work performed by author - see Sheet 7 for receipts

Company Name

LOST HOPE MINE

Expense Report

PURPOSE: September summary of expenses

NAME: Marcus A. Raitanen

Date	Description	Hotel	Gas	Food	Prospecting	Consumables	Misc	Total
9/29/2021	travel		\$71.76		\$ 300.00		\$ -	\$ 371.76
9/27/2021	food			\$ 48.05	\$ -		\$ -	\$ 48.05
9/27/2021	beepmat (BM-221)				\$300			\$ 300.00
9/25/2021	travel		\$ 85.00	\$ 43.35	\$ 300.00			\$ 428.35
9/25/2021	hotel	\$ 316.40						\$ 316.40
9/27/2021	flagging tape/1 roll					\$ 2.88		\$ 2.88
9/28/2021	site visit with Resident Geologist (1/2d including travel)				\$ 150.00			\$ 150.00
								\$ -
Total		\$ 316.40	\$ 156.76	\$ 91.40	\$ 1,050.00	\$ 2.88	\$ -	\$ 1,617.44

total \$ 1,617.44

NOTES: Work performed by author - see sheet 9 for receipts

Company Name

LOST HOPE MINE

Expense Report

PURPOSE: Final summary of expenses

NAME: Marcus A. Raitanen

Date	Description	Hotel	Gas	Food	Prospecting	Consumables	Misc	Total
8/24/2021	Assay services (Swastika Labs)						\$ 162.72	\$ 162.72
10/31/2021	Report writing				\$ 300.00		\$ -	\$ 300.00
10/30/2021	Mapping in QGIS				\$300			\$ 300.00
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
								\$ -
Total		\$ -	\$ -	\$ -	\$ 600.00	\$ -	\$ 162.72	\$ 762.72

total \$ 762.72

NOTES: See sheet 8 for Swastika Labs receipt

expense report	report totals
1 \$	3,955.00
2 \$	1,414.97
3 \$	1,946.19
4 \$	1,617.44
5 \$	762.72
\$	9,696.32