

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](#).

ASSESSMENT WORK REPORT

CLAIM L 4273040

Lot 5 Conc 7, Lorrain Township

Larder Lake Mining Division

Claim Holder - Brian Anthony (Tony) Bishop client #108621

Report prepared and submitted by Tony Bishop

October 3, 2016

Table of Contents

• Assessment Report for Claim 4273040 Lorrain Township, Larder Lake Mining Division	Page 3
○ Intro	Page 3
○ Purpose	Page 3
○ Access	Page 3
○ History of Development	Page 3
• Fieldwork	Page 5
○ Traverse 1, September 8, 2015	Page 5
○ Traverse 2, September 21, 2015	Page 5
○ Traverse 3, June 13, 2016	Page 6
• Results	Page 6
• Conclusion	Page 7
• Recommendations	Page 7
• Expenses	Page 9
• Appendices	
○ Map Overview, Appendix 1	Page 10
▪ Map 1, Road Access in Claim Vicinity	Page 11
▪ Map 2, Aerial View	Page 12
▪ Map 3, Topographical Features and Rock Types	Page 13
▪ Map 4, Electromagnetic View of Claim Area	Page 14
▪ Map 5, Map of Area Claims	Page 15
○ Traverses, Appendix 2	Page 16
▪ Traverse 1, Map & Field Notes, September 8, 2015	Page 17
▪ Traverse 2, Map & Field Notes, September 21, 2015	Page 20
▪ Traverse 3, Map & Field Notes, June 13, 2016	Page 23
○ Microscope Photos of KIMs, Appendix 3	Page 25
○ Assay Certificate & Invoice, Appendix 4	Page 27
○ Methodologies for Field Work and Till Sample Processing, Appendix 5	Page 29
○ Sluice Efficiency Test Results, Appendix 6	Page 33
○ Flow Sheet for Concentrating and Retrieving KIMs from Till and Stream Samples, Appendix 7	Page 34
○ Equipment List, Appendix 8	Page 35
○ Equipment Photos, Appendix 9	Page 36
• Statement of Qualifications	Page 37
• References & Resources	Page 38
• Acknowledgements	Page 40

ASSESSMENT REPORT FOR CLAIM 4273040 LORRAIN TOWNSHIP, LARDER LAKE MINING DIVISION

Prepared by Brian A. (Tony) Bishop, submitted October 3, 2016

INTRO:

Hereby submitted by Brian Anthony (Tony) Bishop [Client No. 108621, 100% holder on record], on October 3, 2016, an assessment report for claim no. L 4273040 (recorded on October 3rd, 2014): The claim contains two units, situated in the North half of the South portion of Lot 5, Concession 7, in the North East section of Lorrain Township, Larder Lake mining division (reference Map/Claim Situ in Appendix 1). This report includes details of work done to date, including a reconnaissance survey and prospecting and preliminary geochemical surveys based on till sampling and analysis, with recommendations for further assessment of this in conjunction with work done on contiguous claims. Electron Microprobe Analysis is also planned. Appendices include detailed methodologies for field work and till sample processing (including results of processing efficiency test and flowchart for concentrating), maps, including maps and field notes of traverses, and relevant photographs.

PURPOSE:

The purpose of staking claim L 4273040 and the goal of the assessment work done to date and included in this report is to look for evidence and test the hypothesis that the claim may contain the top of a kimberlite pipe which manifests in the post-glacial topography as a small circular lake. Work completed to date includes a thorough on-foot observational examination of the claim, a research component, a carefully planned and mapped out series of soil sampling, screening, concentrating, sorting and examining potential kimberlite indicator minerals (KIMs) in collected soil samples, and recording this and other findings.

ACCESS:

Access to the claim is most easily gained by taking Highway 567, heading East and South from Highway 11B in North Cobalt for 6.5 km to a right turn onto a gated, former logging road, and travelling 14 kilometres to a short spur-skid way where a truck can be parked north of this target (reference Map/Access in Appendix 1). The lake lies approximately 300 metres downhill through a recently logged area, south of the truck parking.

Access to the far side of the lake and the rest of the claim can be made by means of canoeing across the lake, or on foot across the creek and cedar swamp on the west and south shore, or on foot through cedar swamp and old-growth scrag on the east and south shore of the lake, the latter two options being moderately arduous.

As the crow flies, the claim is 2.7 km from the nearest year-round road, 10.5 km from the Cobalt train station, 16 km from the Trans Canada Highway 11, 120 km from North Bay, and 400 km from Toronto. Lake Temiskaming lies a short distance to the East.

HISTORY OF DEVELOPMENT:

Abstract of human activity near the claim.

Before 1900, when the surveyors for the right-of-way of the Temiskaming and North Ontario (T.&N.O.) Railway worked north from North Bay past Long Lake Station [Cobalt, ON] up to Cochrane, there was limited activity in what is now Lorrain Township. Logging expeditions entered Lake Temiskaming after coming up the Ottawa River from Montreal as early as the late 1700s and some mid-to-late 1800s colonization of Lake Temiskaming on the Quebec shore. A farming community was settled on a bay a bit south and east of claim L 4274030 in the 1880s, in addition to a mission of oblate Fathers, and the posts of the Northwest Company and Hudson Bay Trading Companies not far away on Lake Temiskaming. Charles Farr founded Haileybury in the late 1880s and petitioned the government for railway access to facilitate colonization of the area. A colonization road did exist which reached the southernmost part of Lake Temiskaming on the Ontario side, but was never widely used.

The first government infrastructure nearest the claim was the building of the T. & N.O. railway which passed to the west, reaching Cobalt, Ontario in 1903-1904, where a silver and cobalt-nickel arsenide deposit was discovered. The mining boom which followed the discovery of silver at Cobalt often dominated the geological interest in the area for many decades, and although prospectors and geologists closely explored the terrain all around Cobalt (leading to the settling of Silver Centre south of claim L 4273040 in 1907-08), most of the exploration was guided by the search for more silver and cobalt-nickel arsenide deposits.

In the 1980s, there was renewed interest in the geology of the area, this time in search of diamond-bearing kimberlite pipes, stimulated in part by the discovery of an 800 carat yellow diamond by a settler "somewhere in the Cobalt area" in 1904 (which was soon after bought by Tiffany's), but became overshadowed by the vastly rich silver discoveries of the day. Soil sampling and geophysics by companies like Cabo and Tres-Or Resources Ltd., in addition to exploration by the Ontario Geological Survey, uncovered more than 50 known kimberlite pipes, some diamondiferous, outlining the existence of a Lake Temiskaming Kimberlite Field, on the Lake Temiskaming structural zone, which appears to have intruded the Canadian Shield in this region approximately 148 million years before present. Deep sonar has also revealed circular features beneath the water of Lake Temiskaming itself which are inferred to be kimberlite pipes.

Although there is now an identified kimberlite field in the region, no known pipes have been established in the immediate area around claim L 4273040, and no previous work of any kind on claim L 4273040 has been recorded to date, according to overlays researched at the Mining Recorder's Office in Kirkland Lake, except indirectly where Tres-Or Resources Ltd. performed work on 2 blocks of claims, examining several magnetic targets as possible kimberlite pipes for KIMs, and reported finding a small number of potential indicators including 2 pyropes, a few ilminites, and some chromites, ~1 ½ km down-ice of claim 4273040.

The Historical Map Archives on-line (MNDM) indicates some staking in the 1960's, however no reports appear to exist of any work done.

FIELDWORK: Please refer to Appendix 5 for Methodologies for Field Work and Till Sample Processing**Orientation Trip: October 8, 2014****Tony Bishop and Mike Barrette**

Mike Barrette (staker) and I drove to the claim so Mike could show me the logging road route to a suitable parking spot on the north end of the claim. No work was done at this time.

TRAVERSE 1: September 8, 2015**Tony Bishop and Graeme Bishop**

Graeme Bishop and I travelled to the claim to do some basic mapping, prospecting, checking for outcrops, and some till sampling on the western side of the claim. We parked on the logging road (WP1) and headed south towards the lake, with lots of meandering east and west to check for boulders and look for outcrops. Part way down I noticed a large boulder (MB) mineralized with sulphides ~2m west of the trail and upon investigating took a chip sample to be assayed (see Appendix 2). Continuing, we followed the trail towards the lake and discovered a small cleared area that appeared to have been a hunter's campsite at one time. A pink granite outcrop (PGO) approximately 2metres wide x 1m high x 5m long oriented more or less North & South is on the North side of the lake. Extending part way into the lake, were a number of boulders of similar appearance. The shore line on the N is sand and gravel till under a layer of humus. The growth nearest the lake is stunted cedars, further back, spruce. A till sample (TS1) was taken ~100'N of the lake conveniently under a large blown down tree root. Graeme dug down several feet and we bagged a ~10lb sample. Backtracking 50m we travelled NW largely through recently logged area and investigated numerous boulders exposed by logging (~90% were pink granite and ~10% were diabase). Again, no outcrops were found.

At WP2 we traversed SW to the diabase rock (DB) from which Mike Barrette had taken a chip sample while staking, to check if it was bedrock or float, and confirmed it is a boulder. Looking west from the diabase rock is what appears to be a semi-dry circular feature roughly the size of the lake to the east. Continuing SW and near the claim line we dug a till sample (TS2), then headed NW to WP3 where we turned N to the stream flowing into Goodwin Lake. Graeme went East upstream to take stream samples (SS3, SS4), while I went downstream to do the same (SS1, SS2). We screened the 2-3kg samples to -4 mesh, and as in a placer gold creek, dug behind and beneath boulders in the stream when possible, and in one case at the head of a small 2m x 1m gravel bar (SS1), where small heavy minerals would best concentrate.

As it travels downstream in the vicinity of the (western) claim line, the shallow stream flows through a very nice steep walled V-shaped valley ~25 metres wide and 15m deep, with a narrow boulder and gravel-strewn floor.

Continuing N we took a till sample (TS3). Then travelled to the end of a logging road (WP4) that connects to where our truck was parked.

Summarizing, the primary feature in claim L 4273040 is a small round lake, with an apparent surface area of about 3.22 hectares, with a small volume creek outletting due west to Goodwin Lake. The lake exhibits few obvious bedrock outcroppings along the perimeter of its shoreline, except for a pink granite outcrop on the north side. Sun-bleached deadfall in-situ surrounds the lake and none is carried away due to lack of strong water movement. The hydro activity of the lake seems limited to the annual accumulation and drainage of rain and snow/ice flowing into the west-bound creek, which is most sluggish adjacent to the lake, narrowly increasing in flow further west, where it flows through a V-shaped valley, thence into Goodwin Lake.

Overall, there is more or less a very slight decline in elevation from N to S over the claim. See Map and field notes in Appendix 2

TRAVERSE 2: September 21, 2015**Tony Bishop and Graeme Bishop**

Our 2nd traverse was planned to prospect and take more till samples from the east and south of the lake. We again parked and started at the same waypoint (WP1) as in Traverse 1. Shortly after leaving the truck Graeme saw a large black bear ahead of us, but fortunately we avoided directly encountering it.

Heading south down a gentle decline was moderately easy until we encountered a swampy/cedar area just below the logged area which slowed progress considerably. We crossed a small ~1' deep x ~2' wide creek with barely discernible water flow. Southeast and south of the lake we took samples TS1T2 and TS2T2 in mucky ground with some sand/gravel. At WP3 we then headed SE and took sample TS3T2 near the claim line. Continuing SE we headed just below the claim to

WP4T2, from where we turned NE and took sample TS4T2 on a slightly raised hillock. At WP5 we headed north and took sample TS5T2 near the road.

As we traversed we took time to examine numerous boulders, scraping moss and chipping the surface off. As on the west side of the claim, the boulders are predominantly pink granite (~90%) and coarse grained diabase (~10%). This corresponds to the large area of granite ("Lorrain Granite") shown on Geological Map 2052 (Cobalt Silver Area, Southeastern Sheet, Timiskaming District) surrounding the claim, with an area of diabase ~3km to the north. No outcrops were observed, although on Map 2052 three small outcrops of granite are shown to the west of the lake. See Map and field notes in Appendix 2

TRAVERSE 3: June 13, 2016 Tony Bishop and Graeme Bishop

On June 13, 2016, we made a return trip to the claim to take a larger till sample from near a location of one of the better previous samples (TS5T2) at the NE side of the claim, and also to further examine the lake from a canoe. Following the flagged trail to the lake, we carried a 12' SportsPal canoe to the pink granite outcrop site. At the shore, where several boulders extend for a short distance into the lake we were afforded a launching site for the canoe from an otherwise impossible 3m muskeg-like shoreline. I paddled the canoe around the lake perimeter while Graeme continued prospecting north of the lake. I found only one other practical landing site on the south shore that could later be used to access the area to the south and south-east of the claim on a planned comprehensive sampling program down-ice of the lake. This was deemed necessary as the cedar/swamp area to the east of the claim is treacherous to navigate, especially carrying till samples and gear. A trail was cut from this landing site to more open ground to the south. While in the canoe I measured the lake's pH at shore (pH 6.5) as well as the centre of the lake (also pH of 6.5). A dead cedar pole (tree) ~20' long was used to measure the lakes' depth, but did not reach bottom. A heavy weight and line will be used another trip. The stream to the west cannot be canoed due to the many deadfalls across it. See Map and field notes in Appendix 2

RESULTS: Please reference KIMs Photo in Appendix 3 in conjunction with the following results

Traverse 1:

In TS1 taken just up-ice of the target lake I did not expect positive results but it actually has a goodly number of potential KIMs. After deliberation, I believe these could have originated from the lake ~300m up ice to the North (as might be the few KIMs I found in three samples at the south end of the lake on Traverse 2). This complicated the sampling interpretation and led to the staking of the upper lake as being a viable target and also staking the two claims to the south of claim L4273040 so the results of a future sampling program planned there could actually be used as assessment work and the results still be related to claim L4273040, otherwise I could not eventually transfer any of this future work to L4273040 even though it applied to it.

TS2 also returned fairly good results but similar to TS1, could be related to transport from the direction of the new target to the North (mentioned above). As well, there is an interesting round feature close by in the swampy area to the West of the lake. More sampling needs to be done in this area.

The stream samples (SS1, SS2, SS3, SS4) deep in a narrow valley had very few potential KIMs. This stream is off-ice direction for the now recognized three potential targets in a North/South line, and could be sampling a far older till horizon due to its' depth in the valley than the other till samples taken so far.

The TS3 ~10 lb sample dug from under a tree root in the NW corner of claim L4273040 was completely barren of KIMs of any kind, exactly as anticipated being well off-ice of aforementioned 3 targets. This also follows my thought on the results of the stream samples. This sample is very important as from it can be inferred that the KIMs I am finding in other samples are not of a typical broad background result, but are very localized.

Traverse 2:

Till samples TS1T2, TS2T2, and TS3T2 were not anticipated to produce many (if any) indicators due to their very close proximity to the target/lake and the wet/muddy nature of the soil. However, some sand/gravel was screened out of the samples and was processed. Surprisingly, a small number of potential KIMs were observed under the microscope.

Till sample TS4T2 was taken under better conditions, and photographs are included of the concentrates. Oddly, when the concentrates were examined under a microscope, many small burnt twigs were observed that were quite solid and almost mineralized/calcified. These too were saved and photographed. Also, a number of shiny black sharp-edged irregular grains were picked out and photographed.

Graeme and I then walked a short way Southeast and ascertained that till sampling conditions vastly improve in that direction for future trips, for KIMs originating from the lake on L4273040.

The till sample TS5T2 was very interesting, including a coated red/purple garnet, and resulted in plans for the subsequent traverse (#3) to take a larger sample.

Traverse 3:

Till sample TP from Traverse 3 yielded many colourful and interesting KIMs, including a nice 1.5mm purple garnet, as well as a smaller purple garnet.

A gold grain was also found, having a frosted appearance, never before seen by the author despite many years of prospecting for placer gold in a number of provinces. Hopefully, further research will shed light on a how a transported nugget could retain or acquire what appears to be a crystallized/etched coating on it.

Zircons are a commonly ignored KIM. There are a great number of zircons in this and other samples checked. These are predominantly found as watermelon-shaped stones usually ~0.25 mm or less, with a transparent to translucent nearly colourless to a light yellow/orange tint, and often with a frosted appearance on the surface. However, one stone was observed, picked, and photographed from this sample. It has a sharp crystalline growth conjoined with the 'normal' shape of the zircon. As is common, the zircons fluoresce softly to medium bright yellow/yellow orange under SW ultraviolet light to the extent that viewing the -35 mesh sample under the microscope with the sample illuminated just with the SW UV lamp it looks much like viewing a star-filled night sky. A smaller percentage under LW ultraviolet light fluoresce a soft orange colour.

From the TP sample one elongated transparent/translucent blue stone was found and photographed through the microscope, and based on the photo shown to a geologist, was suggested to be a probable sapphire.

One unknown brilliant yellow stone was viewed under the microscope and subsequently picked and stored separately. These grains were micro-photographed and included in this report.

CONCLUSION:

I made many trips to the Mines Office to view the excellent KIM samples located there through their compound microscope as a comparison, and find many that seem to be identical to mine. As well, Google Images provides many excellent views of KIMs from a number of diamond exploration companies.

I have included a number of relevant photos to accompany this report of selected KIMs from these samples. For now, they are to be considered "potential KIMs" until select stones are sent for Electron Microprobe Analysis.

Initial findings suggest the round lake on L4273040 to be a potential kimberlite pipe, and as well there seems to be a strong potential for the existence of a kimberlite pipe up-ice of claim L4273040, possibly the circular lake immediately North/Northwest of the samples which contained considerable amounts of potential indicator minerals.

RECOMMENDATIONS:

Plans for the near future include further sampling to gain a more complete picture of the post-glacial terrain and how it relates to the position of indicator minerals already identified in the samples and in conjunction with contiguous claims. Discussion with Dave Crabtree, **Geoscience Laboratories** has occurred to initiate testing of individual stones for Kimberlite Indicator Mineral Identification by Electron Microprobe Analysis.

- Magnetometer survey on (frozen) lake with 50 metre spacing
- Send selected grains to Electron Microprobe Services, Geosciences Lab, Sudbury, for analysis (minimum 50 grains = ~\$800 cost)

- Map till sample results from this and adjacent claims into a broader more comprehensive coherent picture of KIM dispersal
- From till sample locations, with favourable results take larger 25+kg samples deeper into the till samples to be concentrated for viewing KIMs, down-ice of claim L 4273040
- Purchase a custom 12V trommel from GoldCube® Inc. (~\$800) to allow on-site processing of smaller 1 to 5 kg till samples for KIMs in a field lab
- As kimberlite often contains higher than background magnetite (black sands), initiate a Goldspear survey to detect concentration of magnetite and thereby KIMs, to improve till sampling results. As Goldspears can also detect down to -100 mesh gold grains and any other conductive grains at the same time with a separate tone, these results could be plotted as well. A number of 4' probe sections can be added to this detector to allow probing into water or mucky ground to possibly get meaningful results without mechanized drilling. At present, I have three 4' sections for 12' of capability.

EXPENSES of Assessment Work Claim L4273040 for Oct 3/14 – Oct 3/16 Reporting Period
REVISED COPY

Work Type	Units of work	Cost per unit of work	Total Cost
Till sample processing, HMC, separating into 6 mesh fractions, sorting, microscope picking and interpretation of KIMs and logging results, microphotography of select grains & KIMs picked, computer storage of microphotos, storage of picked grains & concentrates picked	Tony Bishop: 8 samples Note: Traverse 1 stream samples SS1 to SS4 were treated as one sample when processed. Traverse 2 samples TS1T2, TS2T2, TS3T2 were treated as one sample due to poor sampling conditions	\$500 per sample	\$4,000
Report preparation, map compilations, interpretations	Tony Bishop: 5 days	\$500 per day	\$2,500
Hired help Traverses 1,2,3	Graeme Bishop: 3 days	\$250 per day	\$750
Sampling plans, prospecting, till sampling, & supervision related to traverses	Tony Bishop: 3 ½ days	\$500 per day	\$1,750
Clerical support for reports & technical computer support	Chloe Bishop	\$400	\$400
Field work supplies: soil auger, shovel, field notebooks, compass, UV loupe, flagging tape, markers, sampling bags/tubs, sieves, batteries	Services Exploration, Rouyn-Noranda Guillevin International, Kirkland Lake (sample bags) Cole Parmer, Montreal (sieves) various	\$409.66 177.98 325.66 83.54	\$996.84
Transportation *based on CRA rate	4 return trips to claim (Oct 8/14, Sep 8, 21/15, Jun 13/16) = 254 km (return) x 4 = 1,016 km Supply trip to Services Exploration Sep 1/15 = 224 km @ .55/km	\$0.55 per km x 1,016 km = \$558.80 \$123.20	\$682
Food *based on CRA rate	3 Traverses, full days x 2 people	\$51 per day x 3 days x 2 people	\$306
Office supplies – computer paper/ink, USB, storage tubs, markers, labels	Various,	\$88.38	\$88.38
Shipping	(Cole-Parmer purchase)	\$25.92	\$25.92
Assay	Swastika Laboratories Ltd. #16-473 (Apr 27/16)	\$25.43	\$25.43
TOTAL VALUE OF ASSESSMENT WORK			\$11,524.57

Map Appendix Overview

MAP 1: Google Maps screenshot of local roads in claim vicinity, with claim marked

MAP 2: Google Earth B&W screenshot

In this larger scale Google Earth print, one can plainly see the Cross Lake Fault (1/2 km West of Claim L4273040), running NW through Goodwin Lake, Chown Lake, Kirk Lake, and Cross Lake. This is important as kimberlites are commonly proximal to faults. Roughly 1km North of Claim L4273040 an area of diabase is represented by a steep hill. Three lakes on Claims L4273040, L4282189, and L4281431 are in a line very close to due North and South. Lake Timiskaming is viewed in the NE quadrant of the photo.

MAP 3: Portion of MAP 2052, Cobalt Silver Area, Southeastern Sheet, Timiskaming District, Ontario Bureau of Mines

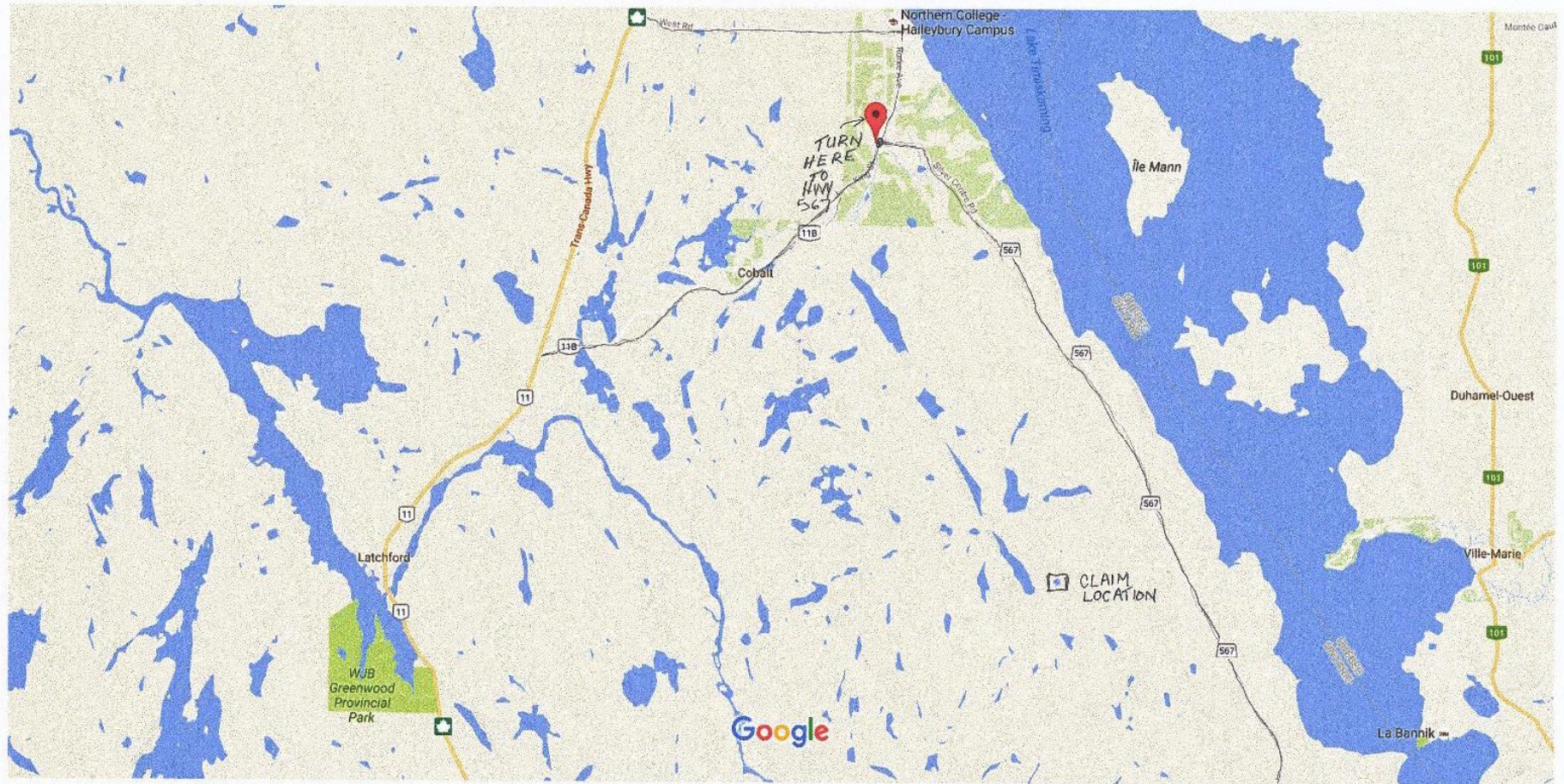
This map shows topographical features and rock types:

- 4a – Granite (Lorrain Granite)
- 9 -- Quartz Diabase (Nipissing Sill)

MAP 4: Portion of MAP 82 067, Airborne Magnetic and Electromagnetic Surveys, Temagami Area, Ontario Geological Survey

This map shows a concentrated series of parallel lines running through and encompassing Claim L4273040. This would likely mask any obvious magnetic signature the lake might have if it is a kimberlite. A geologist I consulted said it is possible the parallel low area could be considered as an inferred fault.

MAP 5: Map of Area Claims



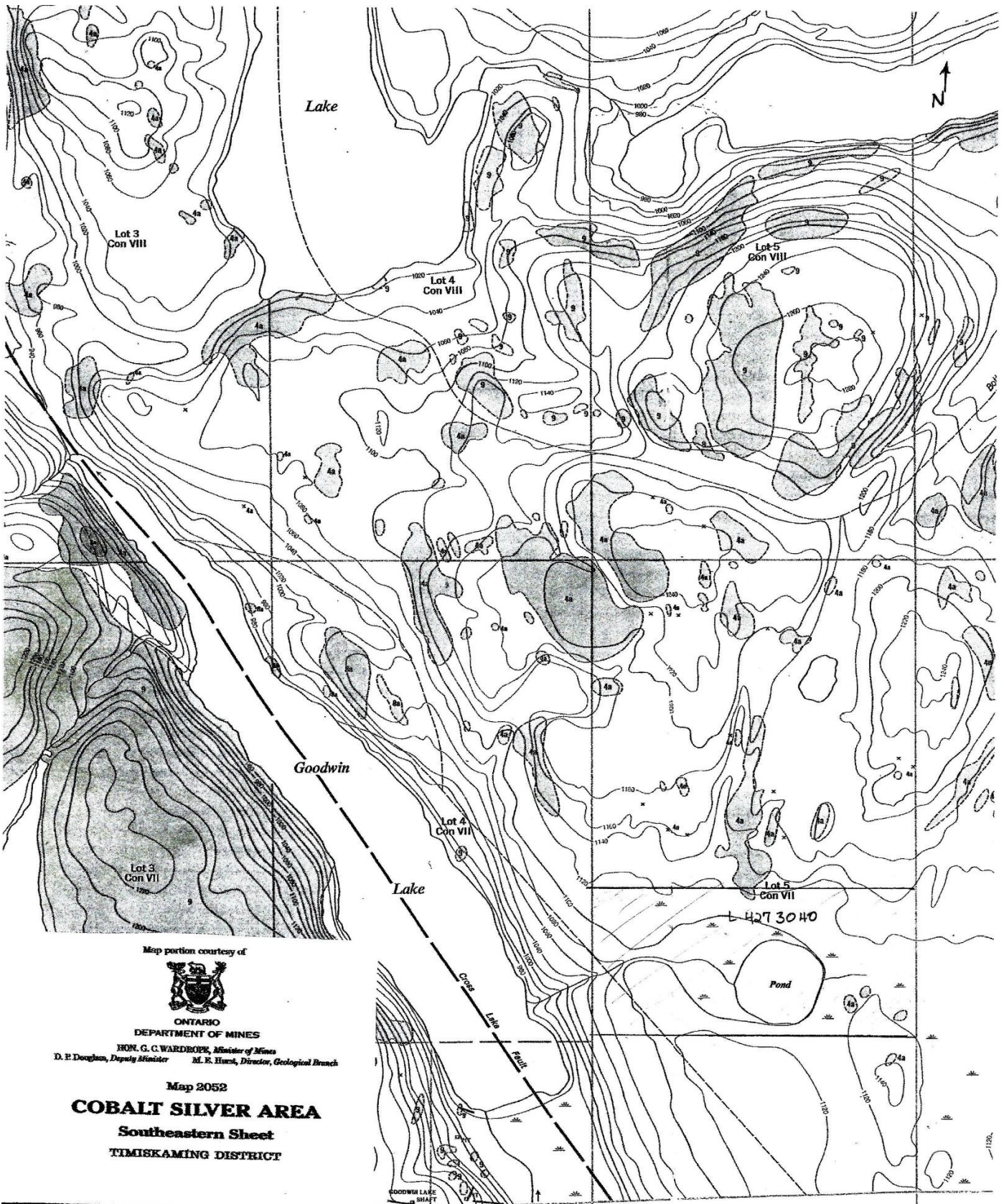
Map data ©2016 Google 2 km





MAP 2: Google Earth B&W screenshot

In this larger scale Google Earth print, one can plainly see the Cross Lake Fault (1/2 km West of Claim L4273040), running NW through Goodwin Lake, Chown Lake, Kirk Lake, and Cross Lake. This is important as kimberlites are commonly proximal to faults. Roughly 1km North of Claim L4273040 an area of diabase is represented by a steep hill. Three lakes on Claims L4273040, L4282189, and L4281431 are in a line very close to due North and South. Lake Timiskaming is viewed in the NE quadrant of the photo.



Map portion courtesy of



ONTARIO
DEPARTMENT OF MINES
HON. G. C. WARDROBE, Minister of Mines
D. E. DOUGLASS, Deputy Minister M. E. HUNT, Director, Geological Branch

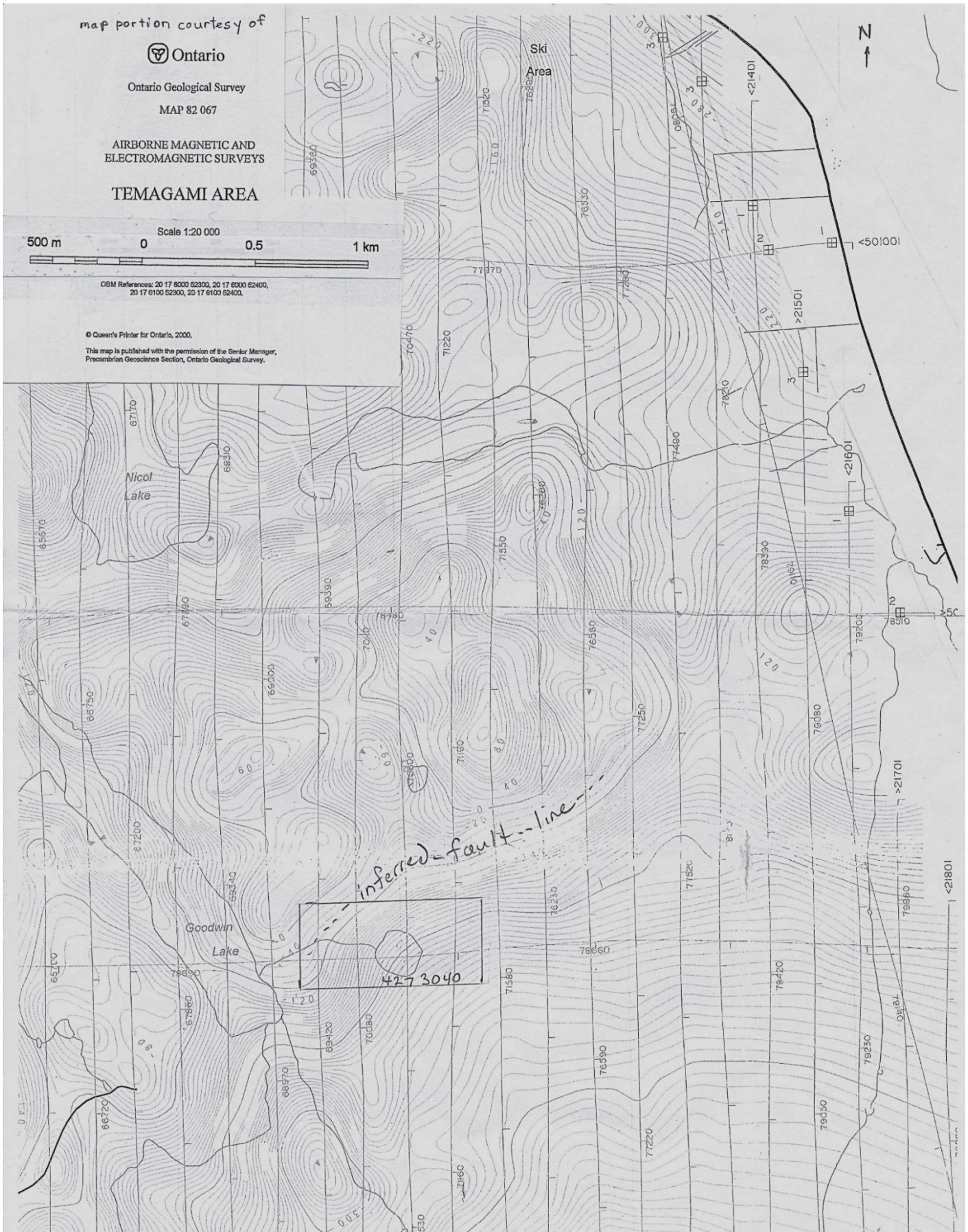
Map 2052
COBALT SILVER AREA
Southeastern Sheet
TIMISKAMING DISTRICT

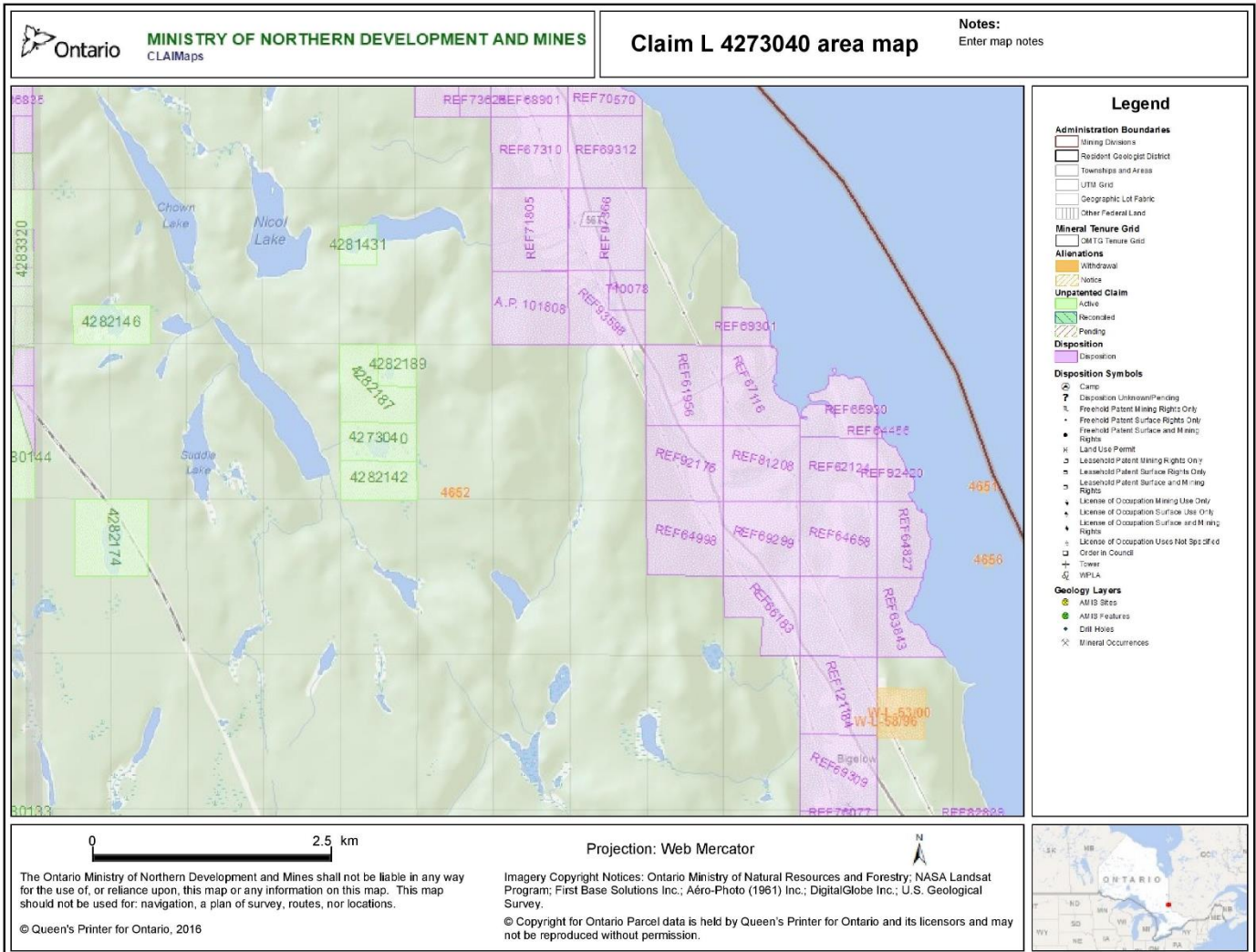
0 .2 .4 .6 .8 1.0 KILOMETRE

MAP 3

TOPOGRAPHICAL FEATURES AND ROCK TYPES

- 40 Granite (Lorrain Granite)
- 9 Quartz Diabase (Nipissing Sill)





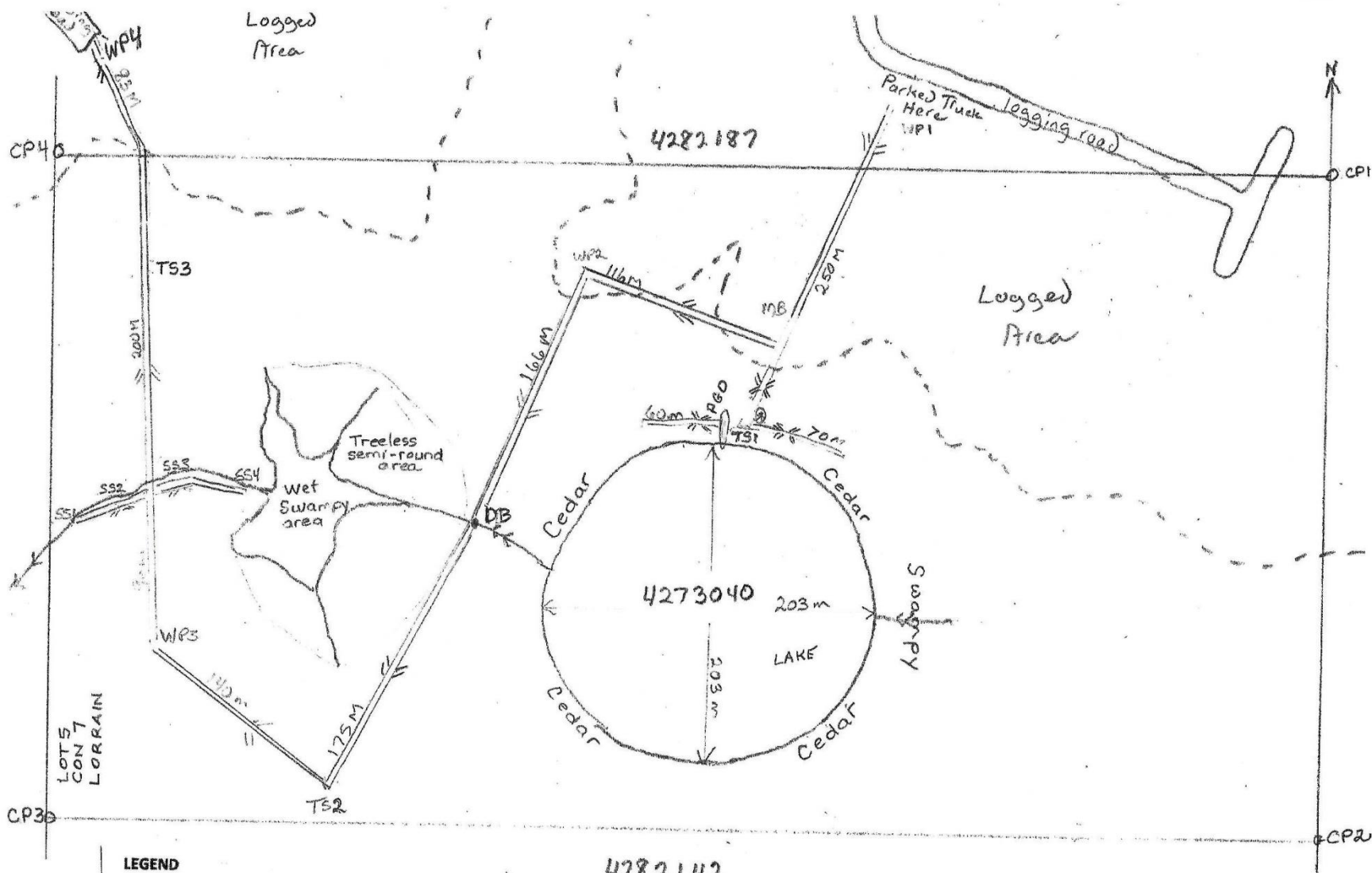
Map 5

Traverses Appendix Overview




TRAVERSE 1: September 8, 2015 – Map & Field Notes

TRAVERSE 2: September 21, 2015 – Map & Field Notes

TRAVERSE 3: June 13, 2016 – Map & Field Notes



LEGEND

-  EDGE OF LOGGED AREA
-  LOGGING ROAD
-  TRAVERSE LINE WITH DIRECTIONAL ARROWS

- WP# = way point #
- TS# = till sample #
- SS# = stream sample #
- MB = mineralized boulder
- DB = diabase boulder
- PGO = pink granite outcrop

TRAVERSE 1 Sept 8, 2015

L4273040

Traverse 1: field notes SEPTEMBER 8, 2015

Brian A. (Tony) Bishop, Graeme Bishop

Sample # / feature	Time/hrs worked	Coordinates 17T UTM	Elevation m	Activity / Description
WP1	7:30 am	0607135_E/5242601_N	352	Parked truck beside logging road, then followed flagged trail to lake
MB	8:04 am	0607041_E/5242456_N	347	Found a large mineralized/rusty boulder ~6' west of trail; took chip sample mineralized with sulphides for assay
TS1	8:49 am	0607023_E/5242394_N	344	Took ~ 6 lb till sample under fallen tree root. Medium brown sandy/rocky till
PGO	8:59 – 10:00 am	0607016_E/5242391_N	344	Pink granite outcrop, North/South orientation ~2m w x 1m h x 5m l. Boulders of same extending ~3m into lake. Checked shoreline E & W – cedar & spruce forest. Headed back towards MB
WP2	10:51 am	0606919_E/5242483_N	348	Heading ~NW to edge of logged area; sandy/rocky glacial till exposed; boulders ~90% pink granite, 10% diabase
DB	11:45 am	0606864_E/5242328_N	345	After WP2 headed ~SW to the water flow outlet of the lake; noted diabase boulder; opposite on the west is what more or less appears as a roundish semi-dry lake of nearly the same size as main lake. Ate lunch; continued SW
TS2	1:00 pm	0606771_E/5242164_N	345	Dug through 0.3m humus then ~1/2 m through sandy/rocky till, took ~2.5 kg sample. Mixed spruce etc.
WP3	1:32 pm	0606656_E/5242247_N	339	Changing direction to due N to stream.
SS1	1:48 pm	0606615_E/5242329_N	337	Deep valley ~25m wide and 15m deep; pretty little brook; sampled a ~2m x 1m gravel bar; screened to -4 mesh ~2.5 kg
SS2	↓	0606638_E/5242336_N	338	Dug under boulder downstream side. SS1 & SS2 collected by Tony
SS3	↓	0606671_E/5242352_N	340	Dug under boulder downstream side
SS4	2:48 pm	0606696_E/5242351_N	342	Stream is slow & a bit mucky. So-so sample. SS3 & SS4 collected by Graeme
TS3	3:20 pm	0606646_E/5242480_N	343	Met & headed north. Took till sample at large exposed tree root, dug down ~1/2 m; similar till of glacial sand/gravel boulders
WP4	3:45 pm	0606605_E/5242621_N	350	Back on logging road just north of Claim post 4. Headed back to truck (WP1). Organized samples and notes and headed for home 4:35pm

Traverse 1: L4273040**Page 2, Corner Post Coordinates and Legend**

Corner posts	Coordinates 17T UTM
CP1	0607381_E/5242536_N
CP2	0607420_E/5242126_N
CP3	0606606_E/5242137_N
CP4	0606590_E/5242530_N

LEGEND

----- **EDGE OF LOGGED AREA**

————— **LOGGING ROAD**

===== **TRAVERSE LINE WITH DIRECTIONAL ARROWS**

WP# = way point #

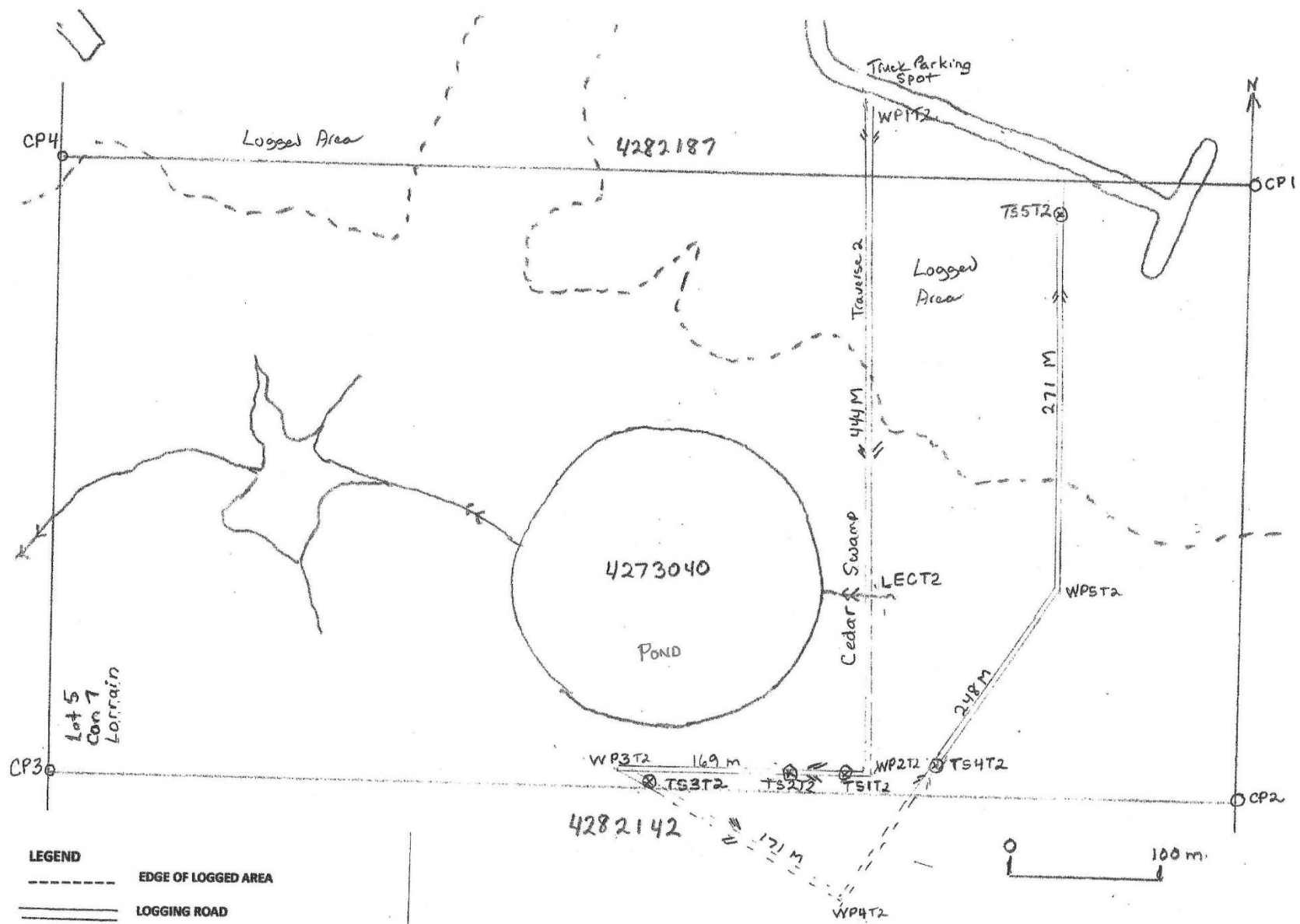
TS# = till sample #

SS# = stream sample #

MB = mineralized boulder

DB = diabase boulder

PGO = pink granite outcrop



- LEGEND**
- EDGE OF LOGGED AREA
 - ==== LOGGING ROAD
 - ↔ TRAVERSE LINE WITH DIRECTIONAL ARROWS

WP#T2 = way point # traverse 2
 LECT2 = little east creek traverse 2
 TS#T2 = till sample # traverse 2
 CP# = corner post #

TRAVERSE 2 Sept 21, 2015

L4273040

Traverse 2: field notes SEPTEMBER 21, 2015

Brian A. (Tony) Bishop, Graeme Bishop

Sample #	Time/hrs worked	Coordinates 17T UTM	Elevation m	Activity / Description
WP1T2	8:15 am	0607135_E/5242601_N	353	Parked truck; Headed south; Graeme saw a bear ahead; after logged area is a cedar swamp, very tough and slow walking; slow decline 1 st half of the claim
LECT2	9:58 am	0607149_E/5242294_N	343	Small creek, barely any measurable flow E to W, ~1-2' wide, ~1' deep
WP2T2	10:18 am	0607147_E/5242164_N	343	Somewhat drier ground; will now head west to collect samples
TS1T2	10:23 am	0607119_E/5242154_N	343	Dug down through mucky ground to some gravel/sand/muck. Took ~6lb sample
TS2T2	10:40 am	0607089_E/5242153_N	345	Same as TS1T2
WP3T2	11:17 am	0606980_E/5242161_N	345	Changing direction to South-East
TS3T2	11:45 am	0606999_E/5242150_N	346	Took till sample near claim line; still a bit mucky
WP4T2	12:07 pm	0607131_E/5242080_N	345	Wandered down to firmer ground and more open forest. Ate lunch; changing to NE heading
TS4T2	12:37 pm	0607190_E/5242167_N	342	Took a good screened -4 mesh sample at the north end of a hillock of gravel/sand under a downed tree root
WP5T2	1:04 pm	0607267_E/5242284_N	344	Still heading NE – switching to North heading
TS5T2	2:30 pm	0607263_E/5242528_N	350	Took screened -4 mesh till sample a bit south of the logging road
	2:50 pm			Back on logging road. Headed back to truck (WP1T2). Organized samples and notes and headed for home 3:25pm

Traverse 2: L4273040 September 21, 2015
Page 2, Corner Post Coordinates and Legend

Corner posts	Coordinates 17T UTM
CP1	0607381_E/5242536_N
CP2	0607420_E/5242126_N
CP3	0606606_E/5242137_N
CP4	0606590_E/5242530_N

LEGEND

----- EDGE OF LOGGED AREA

————— LOGGING ROAD

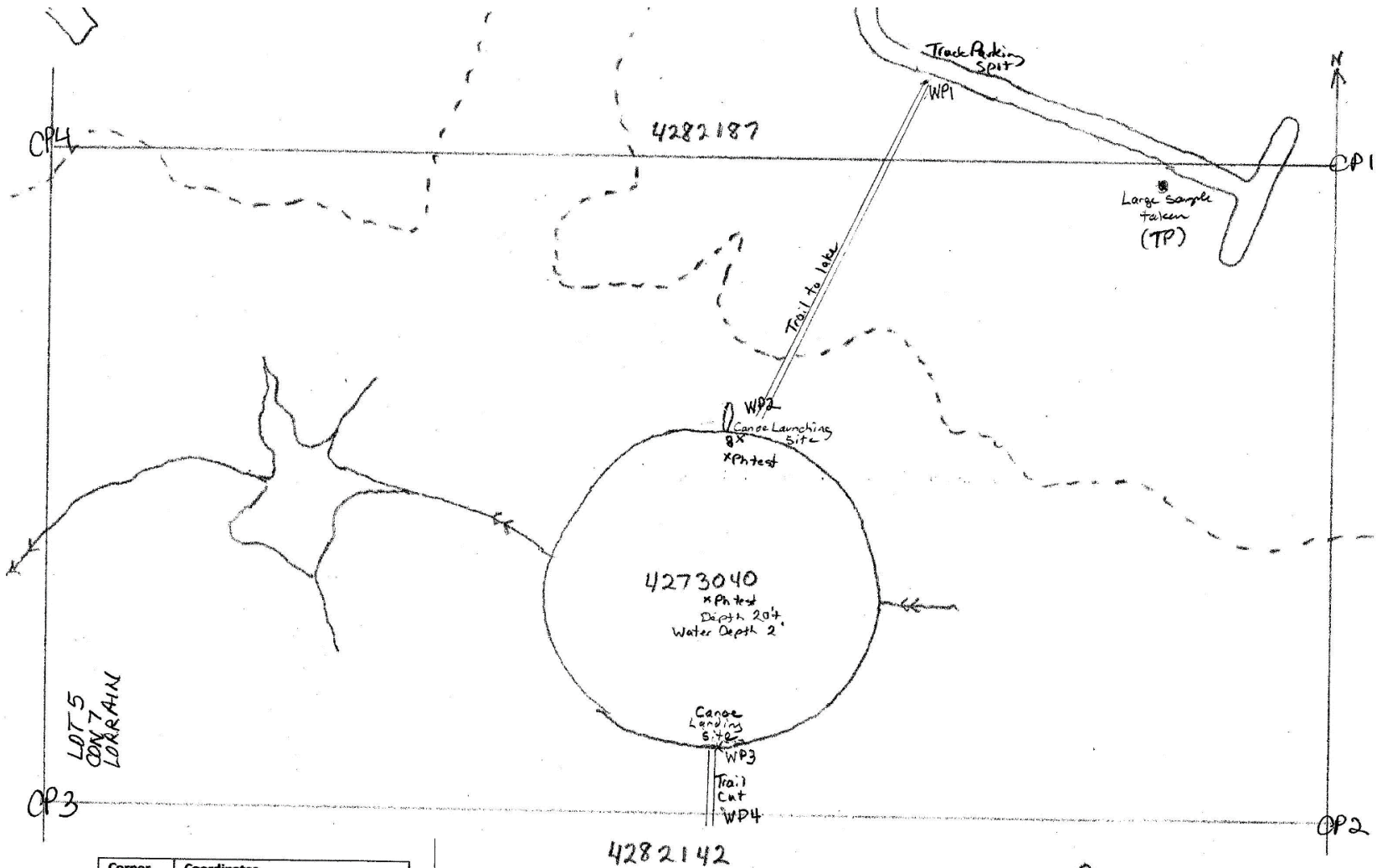
===== TRAVERSE LINE WITH DIRECTIONAL ARROWS

WP#T2 = way point # traverse 2

LECT2 = little east creek traverse 2

TS#T2 = till sample # traverse 2

CP# = corner post #



LOT 5
CON 7
LORRAIN

Corner posts	Coordinates 17T UTM
CP1	0607381_E/5242536_N
CP2	0607420_E/5242126_N
CP3	0606606_E/5242137_N
CP4	0606590_E/5242530_N

WP#T3 = way point # traverse 3
 TP = till sample traverse 3
 CP# = corner post

----- EDGE OF LOGGED AREA
 ===== LOGGING ROAD
 ———— TRAVERSE LINE WITH DIRECTIONAL ARROWS

L4273040

Traverse 3: field notes June 13, 2016

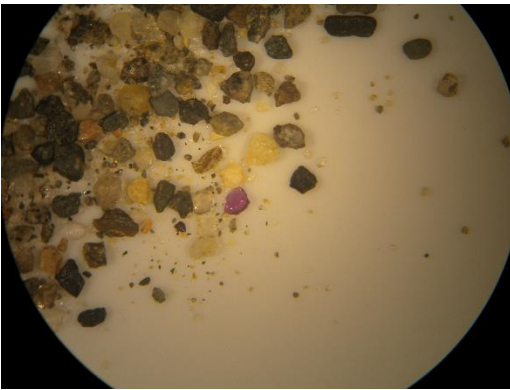
Brian A. (Tony) Bishop, Graeme Bishop

Sample #	Coordinates 17T UTM	Activity / Description
WP1		Left truck park spot and carried canoe to lake
WP2	0607016_E/5242391_N	Launched canoe from boulders at shore line.
LAKE		Measured pH at shore and centre of lake (both 6.5); clear water depth of ~2', then muck. Returned to shore to find cedar pole to test depth of muck. Pole easily pushed into muck to depth of ~20'. Not equipped to measure further/continuing depth. Returned pole to shore, and headed back out to scout shoreline perimeter
WP3	0607009_E/5242175_N	Found suitable landing area south shore. Left canoe on shore and cut trail to claim line WP4
WP4		Headed back to canoe, returned to north shore, carried canoe back to truck. Picked up gear to go to sample site TP
TP	0607270_E/5242520_N	Took large till sample of ~35kg on NE side of claim near the logging road and returned to truck

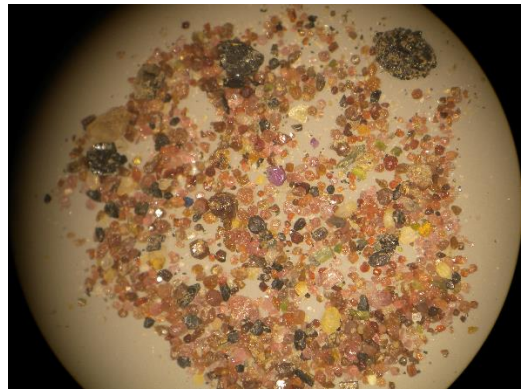
Corner posts	Coordinates 17T UTM
CP1	0607381_E/5242536_N
CP2	0607420_E/5242126_N
CP3	0606606_E/5242137_N
CP4	0606590_E/5242530_N

WP#T3 = way point # traverse 3
TP = till sample traverse 3
CP# = corner post

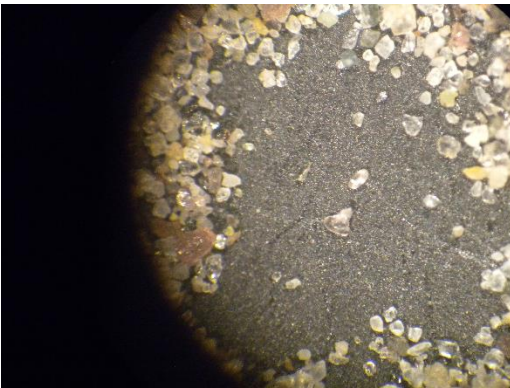
Microscope Photos of KIMs



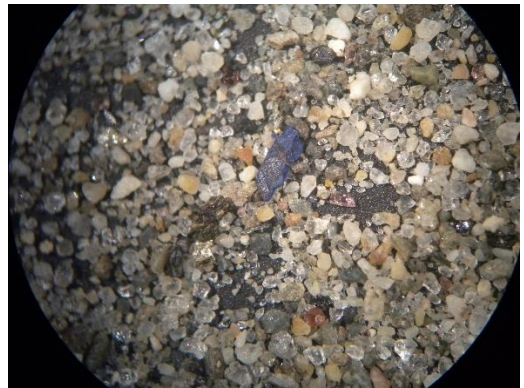
1 - 1.5mm purple garnet in unpicked KIMs, TP



2 - Same 1.5mm purple garnet in picked KIMs, TP



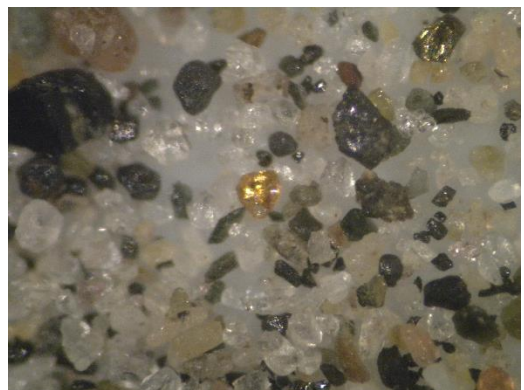
3 - 2 zircon crystals, watermelon shape $\sim 0.1 \times 0.2$ mm, Other sharper crystalline growth on one side, TP



4 - Blue stone potential sapphire in unpicked concentrates, TP



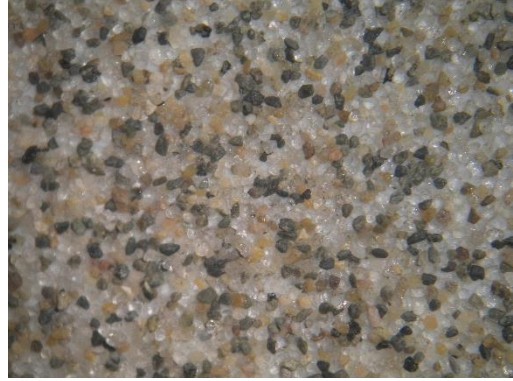
5 - Gold grain $1 \times 0.5 \times 0.2$ mm from -35 fraction with other KIMs, TP



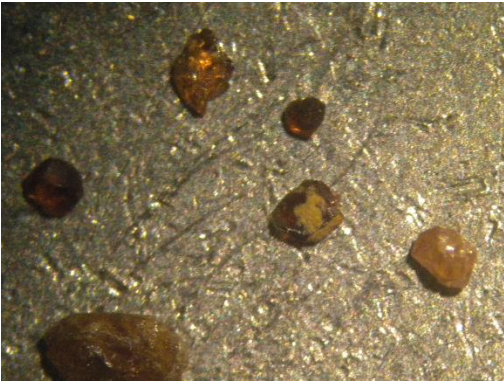
6 - Unknown yellow stone from -35 mesh in unpicked concentrates, TP



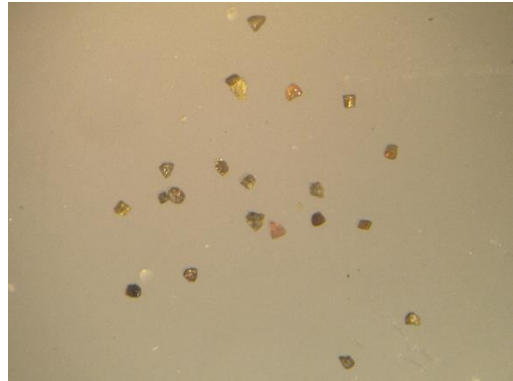
Stream concentrate, Few potential KIMs, SS



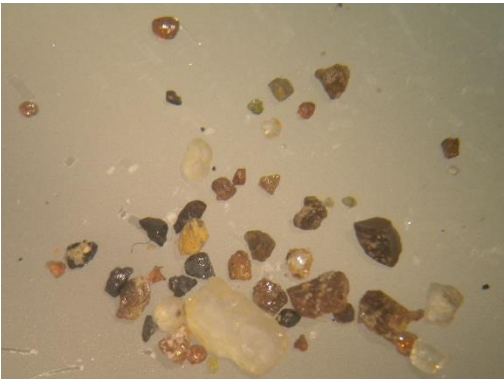
View of concentrates, TS3



Coated red/purple garnet, TS5T2



Picked grains, Mostly sulphides, TS3



Representative sample, TS3T2



Established 1928

Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 1

Assay Certificate

Certificate Number: 16-473

Company: **Tony Bishop**

Project:

Report Date: 21-Apr-16

Attn: **Tony Bishop**

We hereby certify the following Assay of 1 rock/grab samples
submitted 15-Apr-16 by Tony Bishop

Sample Number	Au	Au Chk
	FA-MP Toz/t	FA-MP Toz/t
TBIL	< 0.001	

Certified by Jing Lin

Jing Lin, M Sc.

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

Swastika Laboratories Ltd

Box 10, 1 Cameron Ave
Swastika, ON

Invoice

Date	Invoice #
4/22/2016	15679

Invoice To
TONY BISHOP RR#2,SITE#2 BOX 68 SWASTIKA, ONTARIO P0K 1T0

P.O. No.	Terms
	30 DAYS

Qty	Description	Cert #	Rate	Amount
1	GOLD ASSAY	16-473	14.50	14.50
1	SAMPLE PREPARATION		8.00	8.00
	HST (ON) on sales		13.00%	2.93

Paid cash April 27/16 \$0

THANK YOU FOR YOUR BUSINESS

HST Tax Total	\$2.93
Total	\$25.43

GST/HST No. 883022329

Methodologies for Field Work and Till Sample Processing

PREFACE:

I discovered that diamond exploration is unlike that for any other mineral resource. Initial exploration is largely till or stream sampling with or without previously picking a target area on a geological map or searching for a magnetic “bullseye” on a mag map. When near a road the cost of obtaining a till sample is low compared to a remote fly-in area where exorbitant transport costs come into play.

The high exploration costs associated with diamond prospecting are otherwise largely associated with processing the sample (i.e., assaying). For example, a gold assay on a sample is typically \$20 to \$30, base metals/platinum ~\$70 or so. A till sample for diamond indicators (not necessarily diamonds) is upwards of \$600 to \$800 per sample (for the initial identification). Individual stones (potential kimberlite indicator minerals or KIMs) then have to be tested at a current rate of \$14+ per grain, in minimum batches of 50 or more on an electron microprobe. This whole process points only to the *potential* for diamonds in the possible target. Diamonds themselves are so exceedingly rare in till samples that they are generally not looked for directly.

To further complicate issues, due to a number of glaciations in Canada in different directions, samples must be taken from tens of metres to several kilometres down-ice (usually at the last glacial direction) of the potential kimberlite source. This requires the bulk of meaningful sampling must be done off claim, sometimes a long way off claim, which then can not be applied for assessment work to maintain that claim in good standing. Direct sampling of a kimberlite target is only accomplished by bulk sampling with a large diamond drilling program, or if near surface, by more direct mechanized sampling methods (both very costly and permit intensive).

These initial obstacles can only be overcome by a lone prospector with determination, knowledge, the use of a collection of specialized equipment, and lots of time (and patience). Even for established commercial labs the bulk of the time and cost comes down to an individual meticulously picking KIMs with a pair of tweezers while viewing the concentrates from a sample under a microscope. This lengthy time consuming process is such that if large numbers of indicators are encountered, only a portion of the sample is picked for KIMs and then averaged (e.g., ‘guestimated’) to the full sample, possibly risking losing any all important G^{10} and other similar grains in the remaining portion.

As such, this Appendix is rather lengthy and details largely the method of processing till and stream samples by the author and achieving meaningful results.

METHODOLOGY/OVERVIEW OF FIELD WORK:

Great care and time was spent on viewing and researching maps (topo, mining, Google images, ice flow direction (actual and inferred past), fault lines, drainage patterns etc.) to determine the most likely locations to sample down ice of the main target to locate potential KIMs.

The initial sampling map actually took in 2 potential targets approx. 600 meters apart in close to a North-South orientation (also the last ice-flow direction), initially focusing mainly on the southernmost in claim L 4273040. This has led to more complicated sampling and the interpretation of results after processing.

Samples were not dried and weighed because too much loss of small particles occurs with wet (water) gravity concentration when a fine grained dry sample is being treated (the grain floats and gets lost). The actual weight of each sample is not terribly important in this reconnaissance survey, however I did weigh a representative number of samples and found them to be between 2 and 10 lbs. with most being 5 to 6 lbs. The purpose of looking for KIMs is first to find any to begin with in a till sample, and then determine an approximation of number of KIMs encountered over the chosen sampling sites and to extrapolate the initial source location. The sample size taken had much to do with the difficulty or ease of acquiring the sample in the field. To illustrate, one sample was taken from a shallow gully running in the down-

ice direction ~500 m from the target, from a tightly packed mass of various size boulders semi-cemented by clay, and required 45 minutes of hard work for a 2 lb. sample.

As is required, only the samples actually taken within the claim boundaries are detailed in this report. The many other samples' results from later traverses will follow in subsequent reports pertaining to my contiguous claims.

Farther north, 1900 m directly up-ice direction from this report's target location, lies a third potential target still within the sampling range for any possible KIMs in the group of claims. The results of a detailed correlation of data from the three sites will be included in future reports /relative to these contiguous claims /from the other targets and will include any relevant information from this report.

Initially, each numbered sample taken was processed separately to gain understanding of any local dispersal pattern if KIMs were located; this requires much time and effort but was deemed necessary to see if any pattern of KIM occurrence would emerge more clearly. So far I am finding potential KIMs in all samples (visual identification only – selected stones will be tested later), except for one till sample in the far NW corner of this claim, which is well off ice direction.

Standard 38cm x 28cm sample bags were used for collecting till samples. Small shovels were used to dig a 1' to 3' deep hole below the humus line and the bags filled 1/2 to 2/3 full, taped shut, and labelled. When possible the sample was screened through a 4 mesh screen, or if not, then larger rocks and roots were removed by hand. A hand auger was tried several times but the till is too heavily bouldered in this claim area for it to be used. In between samples the equipment was cleaned as well as possible to avoid cross-contamination. GPS coordinates were taken at each sample site and then recorded if not matching the prechosen map coordinates.

When possible, till samples were collected from under overturned tree roots. If it appeared that a trough extended from the target in the direction of ice flow or glacial water flow, the sample was collected as in a placer gold creek, that is – beneath the downstream side of boulders.

METHODOLOGY FOR PROCESSING TILL SAMPLES: Please also see **Sluice Efficiency Test Results Chart and Flow Chart for Concentrating and Retrieving KIMs from Till and Stream Samples attached**

EQUIPMENT:

1) GOLDFINDER CUSTOM MADE SLUICE (*since modified by the author for the efficient processing ~10 to 100+ lb soil samples, for initial kimberlite indicators / heavy mineral concentration*):

The Goldfinder sluice (see Equipment photo 1) is manufactured with aircraft grade aluminum in 3 sections, with sturdy fast connecting latches. It is 14' long, 14" wide, and has height adjustments at front and back of the top section, and front and back of the fully assembled sluice. From the manufacturer, it excels at saving very fine flour as well as coarser gold. The ability to save 90%+ of flour gold in any sluice is exceedingly rare. [The Goldfinder sluice was tested extensively in the 1970s by designer and developer Wayne Loewen on the Saskatchewan River as well as in-house tests with known gold grains counted before and after running through the sluice]. (This particular sluice was rented from me by the then Resident Geologist Gerhard Meyer and District Geologist Gary Grabowski, both of the Kirkland Lake MRO, for testing for gold in eskers on the shores of Abitibi Lake). I determined that with certain beneficial modifications from stock it could also be very good at saving kimberlite indicator minerals (KIMs) from larger or several combined smaller till samples.

Saving gold by gravity methods is comparatively easy as gold is about 5x heavier than indicator minerals or diamonds. To use the sluice to obtain a primary concentrate of KIMs, I removed the Hungarian riffles and the solid-backed 'miner's moss' carpet. I used a thicker, slightly more open-weave miner's moss, and overlying the miner's moss, a specific 4 mesh classifying screen. This was cut to fit in the top of the sluice and overlaps the original grizzly bars to reduce the size of the feed material being concentrated prior to the miner's moss sections, and to spill the +4 pebbles off the end of the top section which I saved to visually check for kimberlites or other minerals of interest. Initially I covered the next 3 miner's moss carpets with the same screen. A heavy duty ¾ HP submersible sump pump with a large flow rate replaced the 6 ½

HP Honda high pressure pump for a more correct water flow for the lighter material being run. This gave a 1" depth of water running above the top of the miner's moss. The sluice was run at a less steep angle than for gold to further enhance saving potential KIMs, with the first top section of the sluice adjusted to an angle of ½" in 36". The larger bottom section dropped 3" every 5'. Great care must be exercised to level the sluice to provide an even water flow across its surface.

The first run was on an ~80 lb. till sample from a spot I'd recovered potential KIMs from an earlier small till sample (TS5T2). The modified sluice considerably reduced the original volume of material, but most importantly the modified wrap around spray bar (see equipment photo in Appendix 9) blasts apart clay and other clumped material very quickly and the water flow then also quickly removes very fine silt, humus and plant matter as well as +4 mesh rocks. (Previously, I would spend 1 – 2 hrs or more trying to break this clay and such by hand with various utensils and water spray, and afterwards would have to screen out the humus and then classify to -4 mesh with screens.) Efficiency saving the 1 mm and smaller grains from clay strictly by hand methods is nearly impossible.

To test efficiency after this first trial run, I cleaned and kept separate the 4 carpet sections and the overflow of the sluice, which after further processing resulted in 25 separate samples of various meshes, and then checked the results under the microscope for indicators to determine if any losses were incurred and where. With this information, I was then able to make further modifications and retest to compare efficiencies. (I eventually removed the miner's moss from the top section leaving the classifying screen with an overlay of expanded metal covering it, and removed the +4 mesh classifying screens on the lower three sections, leaving just the miner's moss, which is also what the sluices' designer Wayne Loewen found was best for saving fine gold.)

The concentrate from the sluice was dried completely and screened to achieve fractions of -4+10 mesh, -10+20 mesh, -20+28 mesh, -28+35 mesh, and -35 mesh, (I have since replaced the -35 mesh with -40 mesh) which I weighed and then removed magnetics (magnetite) with a 2" diameter neodymium magnet encased in ABS housing. To separate ilmenites and chromites from the magnetite, I suspended the neodymium magnet one to two inches above the magnetic portion which easily lifted the magnetite but left behind the less magnetic portion which I then observed under a microscope. This portion often has various transparent quartz (?), and various other grains including garnets with black inclusions of probable magnetite, as well as the ilmenites and chromites. What remained was then panned with a Keene's Engineering riffle pan and the weight when dried recorded (interestingly, many professional labs list panning as the final concentration technique). This was all necessary to determine the efficiency of sluicing till samples for KIMs and other heavy minerals with this particular sluice. Surprisingly, the first top section with no miner's moss had an interesting number of potential KIMs as well as a 1.5 mm purple garnet (see photos 1 and 1a of TP sample). The next carpet had very many indicators, the next a goodly number of indicators, the final carpet and overflow had no KIMs or magnetite etc. that would typically comprise a heavy concentration. Sluice Efficiency Test Results are tabulated in Table 1.

2) TYLER PORTABLE SIEVE SHAKER:

The Tyler sieve shaker (Equipment photo 2) is utilized for larger samples. For individual small samples, screening is done by hand with standard sieve screens.

3) GOLDCUBE®:

As well as sluicing, I have since added as the next step running each individual screened concentrate smaller than 20 mesh through a Goldcube® (equipment photo 3), initially designed to save small-flour gold. I added a water flow control valve to better save the KIM grains, especially at the smallest mesh size. Applying the same methodology as for the sluice, with rigorous checks and rechecks to assess potential losses by running the overflow through several times and checking the resulting concentrates under a microscope, I have discovered the Goldcube® works very well as a concentrator for the small indicator minerals looked for in diamond exploration, as well as being quick and easy to use.

4) MANSKER JIG:

I also acquired and compared the efficiency of using a Mansker Jig for concentrating till samples, as some labs and explorationists use this device extensively for this purpose. I purchased one Coleparmer 8" HHSS #40 sieve for KIMs, and one Coleparmer 8" HHSS #100 sieve for lamprophyre indicators. Based on my findings I have determined a preference for my sluicing and Goldcube® methodology, as this appears to be superior to the Mansker Jig in concentrating KIMs. (Aside note: a Camel Spiral Concentrator (which also is used by some commercial labs) was also tested for KIM concentrates, and I found it to be the worst of the lot – essentially useless.)

5) PANNING:

The Goldcube® concentrates are then carefully panned with a Keene's Engineering Gold Pan down to a yet smaller concentrate for KIM picking under a microscope.

6) HIGH-SPEED CENTRIFUGE:

Recently I've acquired and am testing using a high-speed centrifuge to separate the final concentrate into specific gravity layers.

7) MICROSCOPE:

After these steps the indicators are then visually picked out (or a number estimated, and/or photographed under the microscope if too many to pick out or count) from each fraction under a Nikon SMZ-2B 8-50x binocular microscope with the help of Pelco (ceramic or carbon-fibre tipped) medical grade tweezers, and colour correct LED lamps for top, left and right, and below lighting. LW and SW ultraviolet lamps are also used in conjunction with the microscope to further identify various mineral grains.

8) PICKING KIMs:

Several types and sizes of manual tweezers were experimented with before a suitable tool was found for picking out KIMs from samples. Viewing through the binocular microscope, KIMs and any other different/interesting grains are picked out. For example, a number of sulphide grains are seen in every sample from a few to many dozens depending on the size of the sample. I've tried to pick these out as I see them under the microscope, but as this is not my primary focus (so I only have a representative sampling of them) I have been adding these to the KIMs in the storage container for each sample and if interest or need dictates, will be studied further. For now, I am also storing my once-picked-through concentrates in secure containers, as in some samples there are far too many potential KIMs to pick them all, and then as in most commercial labs, only a smaller but significant portion is hand-picked. See Flow Sheet for Processing Till Samples attached.

9) OTHER:

Lastly, I considered the use of Polytungstate for heavy liquid separation but at \$2500 US for 500 ml and special licensing and equipment requirements to use this product I quickly nixed that idea.

Sluice Efficiency Test Results

Appendix 6

Overflow Chart: collected in stainless steel pan after exiting sluice			
Dry weight from sluice = 3160 grams			
	Screened dry weight (grams)	Magnetic portion (grams)	After panning dry weight (grams)
-4+10 mesh =	1469		24
-10+20 mesh =	290	3	25
-20+28 mesh =	141	2	19
-28+35 mesh =	171	2	23
-35 mesh =	1058	x	
Total =	3129		

Sluice Top: expanded metal over classifying screen – no carpet			
Dry weight from sluice = 940 grams			
	Screened dry weight (grams)	Magnetic portion (grams)	After panning dry weight (grams)
-4+10 mesh =	241	15	24
-10+20 mesh =	128	6	25
-20+28 mesh =	66	3	19
-28+35 mesh =	80	3	23
-35 mesh =	419	x	
Total =	934		

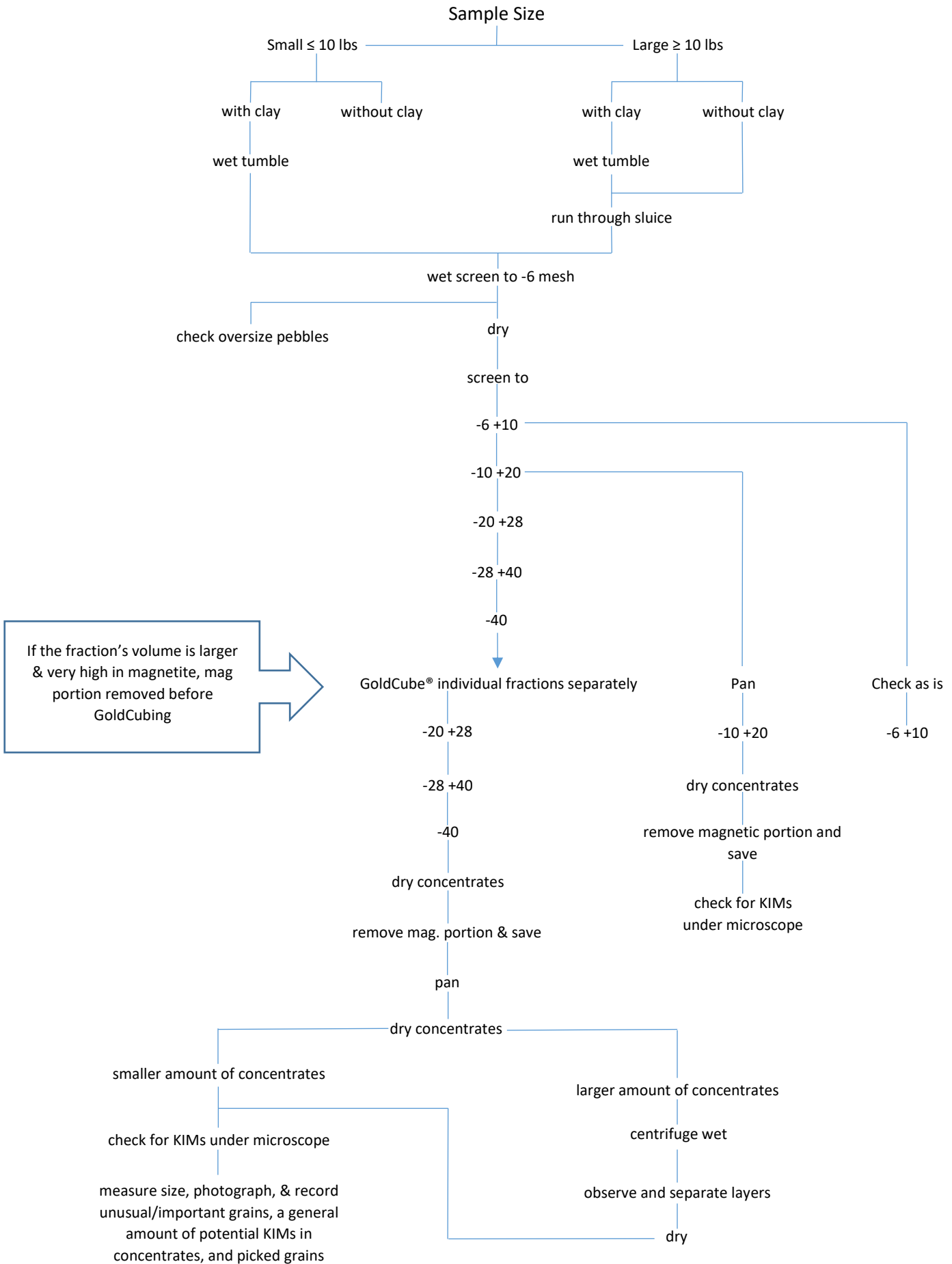
Sluice 1: classifying screen over miner's moss			
Dry weight from sluice = 2860 grams			
	Screened dry weight (grams)	Magnetic portion (grams)	After panning dry weight (grams)
-4+10 mesh =	136	6	26
-10+20 mesh =	495	20	18
-20+28 mesh =	258	6	19
-28+35 mesh =	336	7	17
-35 mesh =	1610	x	
Total =	2835		

Sluice 2: classifying screen over miner's moss			
Dry weight from sluice = 3020 grams			
	Screened dry weight (grams)	Magnetic portion (grams)	After panning dry weight (grams)
-4+10 mesh =	29	1	22
-10+20 mesh =	269	8	18
-20+28 mesh =	248	6	20
-28+35 mesh =	359	7	17
-35 mesh =	2106	x	
Total =	3011		

Sluice 3: classifying screen over miner's moss			
Dry weight from sluice = 2550 grams			
	Screened dry weight (grams)	Magnetic portion (grams)	After panning dry weight (grams)
-4+10 mesh =	220	10	15
-10+20 mesh =	441	13	17
-20+28 mesh =	198	5	16
-28+35 mesh =	210	4	16
-35 mesh =	1425	x	
Total =	2494		

(note: slight differences in sluice and screen weights could be accounted for by moisture differences and loss during screening, tumbling, and container transfers, but are statistically inconsequential)

Flow Sheet for Concentrating and Retrieving KIMs from Till & Stream Samples



Equipment List

- Mansker Jig
- Camel Spiral Concentrator
- Custom designed proprietary tube/spiral concentrator for fine to very fine material
- Diamond sieves
- Tyler – 8 sieve Motorized Portable Sieve Shaker
- Various test sieves from -4 to -100 mesh
- 12V and 120V and motorized water pumps for concentrators as needed
- Garrett Au Pans: 15" super sluice, 10"
- Keene's Engineering Au Pans: 14", 12", 10"
- Heavy duty 18" x 16" rubber panning tub
- Goldcube® fine Au/heavy mineral concentrator
- Goldspears (2 of) with extra 4' extensions for precious metal and magnetite soil testing, wet & dry
- Scintrex-Scintillation Counter Model BGS-1S
- Rock saws: 10", 18", 24", 36"
- Various metal/mineral detectors: MineLab Pro-find Pinpointer, Garrett's BFO, ADS VLF 5khz, AT-Gold 15 khz, ATX multi-frequency pulse
- Goldfinder 14' aircraft aluminum collapsible sluice with ¾ hp 120V submersible pump, 6 ½ hp Honda pump, dredging (3") capability, custom designed Hungarian and expanded metal riffles, -4 mesh classifying screen
- Digiweigh digital scale, readability 0.1 gram
- Mettler PM30, 0-60lb, 0.1g scales
- Fujifilm Finepix SL, Nikon Coolpix digital cameras, custom microscope adapter for Coolpix
- Canon EOS Rebel SLR, with commercial microscope adapter
- Zeiss OPMI-1 stereo 4-25x microscope with thru the lens variable halogen lighting, 6' articulating boom stand
- Zeiss Jena 4-25x compound microscope with separate oculars to 80x
- Bristol 40-1000x microscope
- Nikon SMZ 2B continuously variable 8-50x microscope with adjustable boom stand
- Individually switched, colour correct directed LED lighting
- Diamond Selector II
- Superbright 2000SW and Superbright II LW370 portable ultraviolet lights /battery/120V
- Inova multi-wavelength LW UV LED flashlight
- Clay-Adams high speed centrifuge
- 2" Neodymium magnet in waterproof ABS shell
- Weaker 4" x 6" flat magnet cut to fit Au pans
- Various shovels, auger, containers, compasses, GPS, maps, etc. as needed for soil/rock sampling
- Electronic pH tester and pH strips
- Toyota Tacoma 4x4
- 8' Boler, 14' Boler trailers/portable camps

Equipment Photos



1 - Goldfinder Sluice



1a - Panned and dried concentrates from sluice efficiency test ready to pick for KIMs under microscope



2 - Tyler motorized portable sieve shaker



3 - Goldcube®



4 - Variable speed industrial tumbler



5 - Microscopes



6 - 2-inch neodymium magnet



7 - Portable camp near claim

Statement of Qualifications:

I, Brian Anthony (Tony) Bishop p/I #A44063 of Kenogami (RR#2 Swastika, ON), hereby certify as follows concerning my report on Claim L 4273040 in the Township of Lorrain, Larder Lake Mining Division:

I have been prospecting and placer mining part-time for 43+ years in Ontario, British Columbia, and Nova Scotia (which led to writing a book *The Gold Hunter's Guide to Nova Scotia* (Nimbus Publishing, 1988, ISBN 0-920852-93-9) which was used in prospecting courses in Nova Scotia). I have held an Ontario Prospector's License for 36 years, and was issued a Permanent Prospector's License in 2005. I have completed a number of prospecting courses given by the Ministry, and have my Prospector's Blasting Permit. I was one of the directors on the Northern Prospectors Association (NPA) in the early years when Mike Leahy revitalized/resurrected the NPA in Kirkland Lake, and with Mike, initiated the annual gold panning event as part of Kirkland Lake Gold Days.

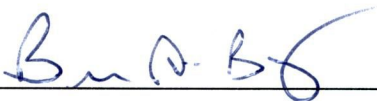
As well, I sold and used small scale mining and concentrating/processing equipment for over 20 years. This included instructing others in their use.

On short term contracts I have performed specialized work for Cobatec, Macassa, Castle Silver Mines Inc., Gold Bullion Development Corp, as well as short stints in Ecuador and Montana.

The last two years I have devoted to full-time diamond exploration. This has included 1,000+ hours of research from many diverse sources on exploration and processing techniques.

Drawing on this research and my many years of practical experience I have assembled a complete till processing lab I feel rivals many commercial ones. Importantly, I sometimes exceed their results by testing a wider range of samples' fraction sizes and as a result have found a number of kimberlite indicator minerals, notably a number of purple garnets all 1.0mm and larger in size (i.e., > 20 mesh) and other indicators that were larger than the usual upper cut-off for commercial labs' mesh sizes. Many redundancy tests are routinely performed to monitor potential losses of the KIMs and I feel my equipment and techniques closely match that of the industry.

Signed:



Brian Anthony (Tony) Bishop

October 3, 2016

References & Resources:

- (2000). Airborne Magnetic and Electromagnetic Survey, Temagami area, Ontario Geological Survey, Map 82 067
- Attawapiskat. (2015). Retrieved from <http://metalexventures.com/attawapiskat/>
- Ayer, J.A., Chartrand, J.E., Grabowski, G.P.D., Josey, S., Rainsford, D. and Trowell, N.F. (2006). Geological compilation of the Cobalt–Temagami area, Abitibi greenstone belt; Ontario Geological Survey, Preliminary Map P.3581, scale 1:100 000
- Baker, C.L., Gao, C. and Perttunen, M. (2010). Quaternary geology of the Cobalt area, northern Ontario; Ontario Geological Survey, Map 2685, scale 1:50 000
- Baron, K. M., Barnett, R. L., and Ewanchuck, J. (1995). Case history of the OPAP kimberlite pipe, Northeastern Ontario. Unpublished report, Cobalt Resident Geologists Office
- Basa, E. (2006, Dec 16). *Assessment Report on Till Sampling, Prospecting and Ground Geophysics on Kimberlite Targets in Lorrain Township*. Larder Lake Mining Division for Tres-Or Resources Ltd.
- Basa, E. (2007, Dec 8). *Assessment Report on Prospecting and Trenching on Kimberlite Targets in Lorrain Township*. Larder Lake Mining Division for Tres-Or Resources Ltd.
- Carlson, S. M. *Prospector's Guide to the Field Recognition of Kimberlites, Lamproites and Lamprophyres*, Kit 56, Mining Recording Office, Kirkland Lake
- CLAIMaps. Retrieved from <http://www.gisocoeapp.lrc.gov.on.ca/CLAIMaps/Index.html?site=CLAIMaps&viewer=CLAIMaps&locale=en-US>
- Cobalt Silver Area, Southeastern Sheet, Timiskaming District, Ontario Department of Mines, Map 2052
- Danoczi, J. (2008, February). Water requirements for the recovery of diamonds using grease technology. *The Journal of The South African Institute of Mining and Metallurgy*, 108, pp.123-129. Retrieved from <http://www.saimm.co.za/Journal/v108n02p123.pdf>
- Diamonds from the Deep and Shallow. Retrieved from <http://gemoc.mq.edu.au/Annualreport/annrep1998/Reshighlights98.htm#diamonds>
- Diamond Recovery. Retrieved from <http://www.stornowaydiamonds.com/English/our-business/diamond-fundamentals/diamond-recovery/default.aspx>
- Erllich, E. I., Hausel, W. D. (2002). *Diamond Deposits: Origin, Exploration, and History of Discovery*. Society for Mining, Metallurgy, and Exploration, Inc. (SME). Littleton, CO, USA
- Foster, W. R. (1948, November). Useful aspects of the fluorescence of accessory-mineral-zircon. *American Mineralogist*, 33(11), pp.724-735. Retrieved from http://www.minsocam.org/ammin/AM33/AM33_724.pdf
- Gao,C. (2012). Results of regional till sampling in the Cobalt-New Liskeard-Englehart areas, northern Ontario. *Ontario Geological Survey, Open File Report 6259*. pp. 87
- Google Inc. (2016). Google Earth (Version 7.1.7.2600) [Software]. Available from <https://www.google.ca/earth/download/ge/agree.html>
- Grutter, H. S., Gurney, J. J., Menzies, A. H., Winter, F. (2004, June 17) An updated classification scheme for mantle-derived garnet, for use by diamond explorers. *Lithos* 77, pp.841-857. Retrieved from <https://www.pdiam.com/assets/docs/articles/grutter-et-al-updated-garnet-classification-scheme-for-explorers-lithos-2004.pdf>
- Heffernan, V. (2008, August 15) Diamond Discoveries in Canada's North. *Earth Explorer*. Retrieved from http://www.earthexplorer.com/2008-08/Diamond_Discoveries_in_Canada_North.asp

(2009, June). Hot Zircons: An Indicator for Diamond Exploration. Retrieved from <http://www.asi-pl.com.au/f.ashx/Downloads/Alphachron/Alphachron-Diamond.pdf>

Indicator Minerals for Diamonds. Retrieved from <http://earthsci.org/mineral/mindep/diamond/Indicator.html>

Kimberlites. Retrieved from http://www.umanitoba.ca/science/geological_sciences/faculty/arc/kimberlite.html

Kjarsgaard, B. A. (2007). Kimberlite Pipe Models: Significance for Exploration. In B. Milkereit. *Proceedings of Exploration 07: Fifth Decennial International Conference on Mineral Exploration*. (pp. 667-677). Retrieved from <http://www.dmec.ca/ex07-dvd/E07/pdfs/46.pdf>

Krajick, K. (2001). *Barren Lands: An epic search for diamonds in the North American Arctic*. Henry Holt and Company. New York, NY

Lee, C. (n.d.). Contribution of structural geology. SRK News, 31, 3. Retrieved from http://www.srk.com/files/File/newsletters/SRKnews31-Diamonds_A4.pdf

Lovell, H. L., deGris, J. (1978) Lorrain Township, Southern Part, Concessions I to VI, District of Timiskaming. Ontario Geological Survey Preliminary Map. P1559

Magnetism in Gemstones. Retrieved from http://www.gemstonemagnetism.com/garnets_pg_4.html

McLean, H., Banas, A., Creighton, S., Whiteford, S., Luth, R. W., Stachel, T. (2007) Garnet Xenocrysts from the Diavik Mine, NWT, Canada: Composition, Color, and Paragenesis. *The Canadian Mineralogist*, 45. pp. 1131-1145

McClenaghan, M.B., Kjarsgaard, B.A. (2003). the Seed and Triple B Kimberlites and Associated Glacial Sediments, Lake Timiskaming, Ontario; *Geological Survey of Canada, Open File 4492*

McClenaghan, M.B., Kjarsgaard, I.M., Kjarsgaard, B.A. (2004). Kimberlite Mineral Chemistry and Till Geochemistry around the Seed and Triple B Kimberlites, Lake Timiskaming, Ontario; *Geological Survey of Canada, Open File 4822*, pp. 27

(1907). *Mineral Resources of the United States, Calendar Year, 1906*. pp. 1220

Ministry of Northern Development and Mines. Retrieved from <http://www.mndm.gov.on.ca/en>

Nguno, A. K. (2004). Kimberlite indicator minerals of the Gibeon Kimberlite Province (GKP), southern Namibia: Their character and distribution in kimberlite intrusions and fluvial sediments. *Geological Survey of Namibia, Namibia*, 13. pp. 33-42

Plouffe, A., Paulen, R.C., Smith, I.R., and Kjarsgaard, I.M. (2007). Chemistry of kimberlite indicator minerals and sphalerite derived from glacial sediments of northwest Alberta, *Alberta Energy and Utilities Board, Alberta Geological Survey, Special Report 87, Geological Survey of Canada, Open File 5545*

Reid, J. L. (2002). Regional modern alluvium sampling survey of the Mattawa-Cobalt corridor, northeastern Ontario. *Ontario Geological Survey, Open File Report 6088*. pp. 235

Sage, R. P. (2000) Kimberlites of the Lake Timiskaming Structural Zone. Supplement. *Ontario Geological Survey, Open File Report 6018*, pp. 123

(1906, August 1). *The Jewelers' Circular-Weekly*. pp. 55

Wilson, L., Head III, J. W. (2007, May 3). An integrated model of kimberlite ascent and eruption. *Nature*, 4471

Acknowledgements

REVISED COPY

To the following individuals (alphabetically listed) who provided geological, technical, historical, and other important help relating to claim L4273040: Chloë Bishop, Graeme Bishop, Jesse Bishop, Shelley Bishop, Dave Crabtree, Gary Grabowski, Mike Leahy, Gerhard Meyer, Doug Robinson, and the staff of the K.L. MNDM

David Crouch

Ed
TB

please check that
Jesse's name is also
on the master copy.

Ed
TB