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Copper
in
Black Swamp Muck
in
Bartlett Township, Ontario

3 km West of Texmont Mine
on unpatented mining claim 510289
in cell 42A03G001

Report by Hermann Daxl, M.Sc.(Minex), Claim Holder
Timmins, 14 January 2020

Introduction

My three samples of black swamp muck with 110, 126, 147 ppm Cu on a NNE-trending fault 3km west of the historic Texmont Mine are promising. I sampled decayed vegetation from several areas of favourable geology or iron formations on my claims 510282 - 510295, 562001 - 562003, as a rapid and economic method that finds useful elements directly, instead via conductors as in the past, that returned no values when drilled. My other samples may not rule out small occurrences, but would have found a major nearby deposit, if there was one. Subsequently I registered claims 564900 - 564906 in the southeast to pursue the copper later.

My claims are quite accessible from Pine Street South about 42 km south of Timmins, via sand and dirt logging roads east from Marceau and Scott Lakes, as shown on the attached maps. The mixed forest has been variably cut and regrown. Steep valleys in thick sand overburden dominate the west, whereas in the east are swamps and small hills with thin overburden. Humus is only about 10 cm thick throughout, above a 10 cm leached horizon on a brownish enriched B-horizon of sand.

My western claims straddle the contact between ultramafics in the west and intermediate volcanics in the east, where the Muskasenda Lake Fault and the Scott Lakes Fault join. I took 15 samples there but found no anomalous values. My eastern claims lie mostly in intermediate volcanics with local gabbro, and with north-south trending iron formations which offered no surprises. However, the new copper values from the apparent fault through the western margin of the 1-2 km wide trondhjemite are of interest.

Historic Work

Historic work since 1943 consisted mostly of Mag and EM surveys, followed up by much trenching, and few drill holes (T-1199) in the areas of the N-S trending regional iron formation on my eastern claims. Much pyrrhotite or magnetite were discovered in the basalts with granitic dikes. Among the many samples of insignificant values only one of 5.2% Cu and 0.14 oz/t gold over 1m true width (T-445), and another near my sample SCIF-1 of 1.09 % Cu, 14 ppm Ag, 102 ppm As, was mentioned (T-3698). A 500 x 300 m soil survey across the iron formation there reported similar values as mine, but the method was not described (T-3698). In 1973 Texas Gulf took 181 samples of the enriched B-horizon of silt-clay, excluding organics, for Cu and Zn, using aqua regia, also around my samples SCIF-1 and K916 (T-1608). I have found that B-horizon of no use in several other regions and did not try it here, but my few organic samples were normal here.

Present Work

I collected the 35 samples 901- 935 of either decayed vegetation from 0 - 6 cm depth (K) or black swamp muck (M) between 8 and 28 October 2019. Certain elements are generally concentrated better in one or the other. For instance, zinc, manganese, lead, prefer K, whereas copper prefers M, which is important in their evaluation. K samples are composites from several spots over some 40 m, whereas black muck is from the noted depth in one auger hole, 20 cm above sand. I dried and sieved the samples <250 micron myself, because sand-silt-clay (DTC) needed to be removed, and any remainder noted. This was done by bracket sieving or swirling in a plastic gold pan and skimming off the organics. The extracted mostly inorganics of samples M921 and MT930 showed that they do not contaminate but would dilute significantly. In fact, all values of MT930 could be nearly doubled, considering volume-% and density, but were not. I annotated the results with all this influential information.

The analyses were done by Activation Laboratories Ltd. in Ancaster, Ontario, with aqua regia, Ultratrace 2, 0.5 g aliquots, verified with standards and test samples. Gold by this method is not reliable, but sample K904 needs to be investigated further.

Decayed vegetation scavenges elements emanating from excessive occurrences in the rock below, accumulating them either directly or via the plant cycle. They are further concentrated by decay, yet allow lab methods for vegetation with their lower detection limits. I attach a lecture handout showing further details about the method.

Copper

The 147, 126 and 110 ppm copper of black swamp muck M930, M933 and M934, although only moderately anomalous, are of interest for their location. The swamp is flanked by cliffs of pinkish aplite country rock on both sides, which could be due to a fault striking az. 35 as apparent from airphotos for about 4 km inside the western margin of the larger trondhjemite.

The 147 ppm Cu should probably be boosted because of an estimated 30 volume-% silt dilution of M930. Its extract 937 with 50 % sand-silt had lower values throughout, which confirms such dilution and also that here sand-silt-clay do not carry other values either.

The higher values of CrNiYLaCeNdSm in the 3 samples may therefore also come from this fault. Around Timmins these are usually from sand-silt-clay (DTC), which however in M933 and M934 are absent. Also the extract 936 from black muck M921 near the iron formation had 30 % silt, yet these elements were low. The usual high Li and Al in DTC is also missing here. The 8 ppm uranium is also from the three muck samples in this swamp and absent in the other swamps.

Sulfur of 0.73 % in M934 is higher than in the swamps near iron formations. Sulfur usually does not show much variation, but without iron formation here, this would suggest copper-sulfide

mineralization in this fault. Normal zinc speaks against influence from iron formations, especially when compared with muck samples M921 and M929 with elevated zinc.

The decayed vegetation from 0 - 6 cm depth K932 with only 18 ppm Cu should not distract, because copper is commonly lower in K, and also beside the creek here probably is too much water movement through the top layers of the swamp. I took this sample to confirm that. M933 is from 80 - 90 cm depth. The sharp contact to packed greenish silt is at 100 cm.

Zinc

Of the several somewhat elevated zinc values, decayed vegetation from 0 - 6 cm depth K910 with 239 ppb Zn and nearby K911 with 193 ppb Zn may be significant. The nearby outcrop may offer an explanation. The nearby 17 ppb Au of K904 is not reliable and will be verified.

The 157 and 107 ppm Zn in K916 and M921, is not explained by the adjacent samples of iron formations with only <56 ppm Zn, yet these are the likely source. M929 of 145 ppm Zn is interesting because usually Zn responds much better in K, yet the nearby K928 had only 94 ppm Zn. Possibly an iron formation is closer to M929. Similarly the 166 ppm Zn of M922 may also be due to an iron formation, which however have not revealed any economic values despite repeated exploration. The 102 ppm Zn of K923 is rather normal for a K-sample.

Iron Formations

Of their several known occurrences I sampled three kinds of neighbouring magmatic iron formations on claim 510288, cell 42A03J381, under and near the powerline, probably flow bottoms of basalt. All values other than iron are negligible, including Au, Pt, Pd by 30g fire assay. The 35 further elements were also done by ALS Canada Ltd., Vancouver, by aqua regia - ME-ICP41. Even SCIF-2 with about 20 volume-% pyrite had only 0.25% Cu, 498 ppm Co, 238 ppm As, none enough to be anomalous in my few nearby samples, not even copper, however, sulfur can be recognized in the muck samples. Please refer to the attached descriptions of samples SCIF-1, SCIF-2, SCIF-3.

Conclusions and Recommendations

The minor copper anomaly on claim 510289 should be pursued because of its interesting location and geology. Here again decayed vegetation sampling was a useful prospecting method. Also closer sampling of more iron formations may still find values.

Respectfully submitted,

Timmins, 14 January 2020

Hermann Daxl, M.Sc.(Minex), Claims Holder

Rock Samples - Please refer to the 38 analyses attached.

SCIF-1 - rusty sheared

Chips over 25 m across powerline at NAD83 - 481405 E - 5335184 N.

Rusty sheared basalt with centimetric pinkish granitic round to stretched inclusions, rusty weathering nodular cleavage 35/60, no fizz, nonmagnetic, Mohs' hardness H=5. 6 % Fe, 0.42 % S.

SCIF-2 - pyrite-rich

Under powerline at NAD83 - 481462 E - 5335015 N, around 10-m long trench 50 az.

Basalt flow or deuteric dike, dark greenish-gray, locally very magnetic, H=5, with <50% pyrite cubes <6 mm. Centimetric subround and boudinaged felsic xenoliths.

Glacial striations 360 az in fine-grained gabbro wallrock on both sides, powerline trends 347 az, both adjusted plus 10 degrees for local magnetism to fit map.

Chip sample averages 20% pyrite cubes <6 mm.

in % : 20 % Fe, >10% S, 0.25 % Cu;

ppm: 1.8 Ag, 238 As, 498 Co, 22 Cr, 85 Ni;

ppb: 27 Au, 40 Pd, <5 Pt.

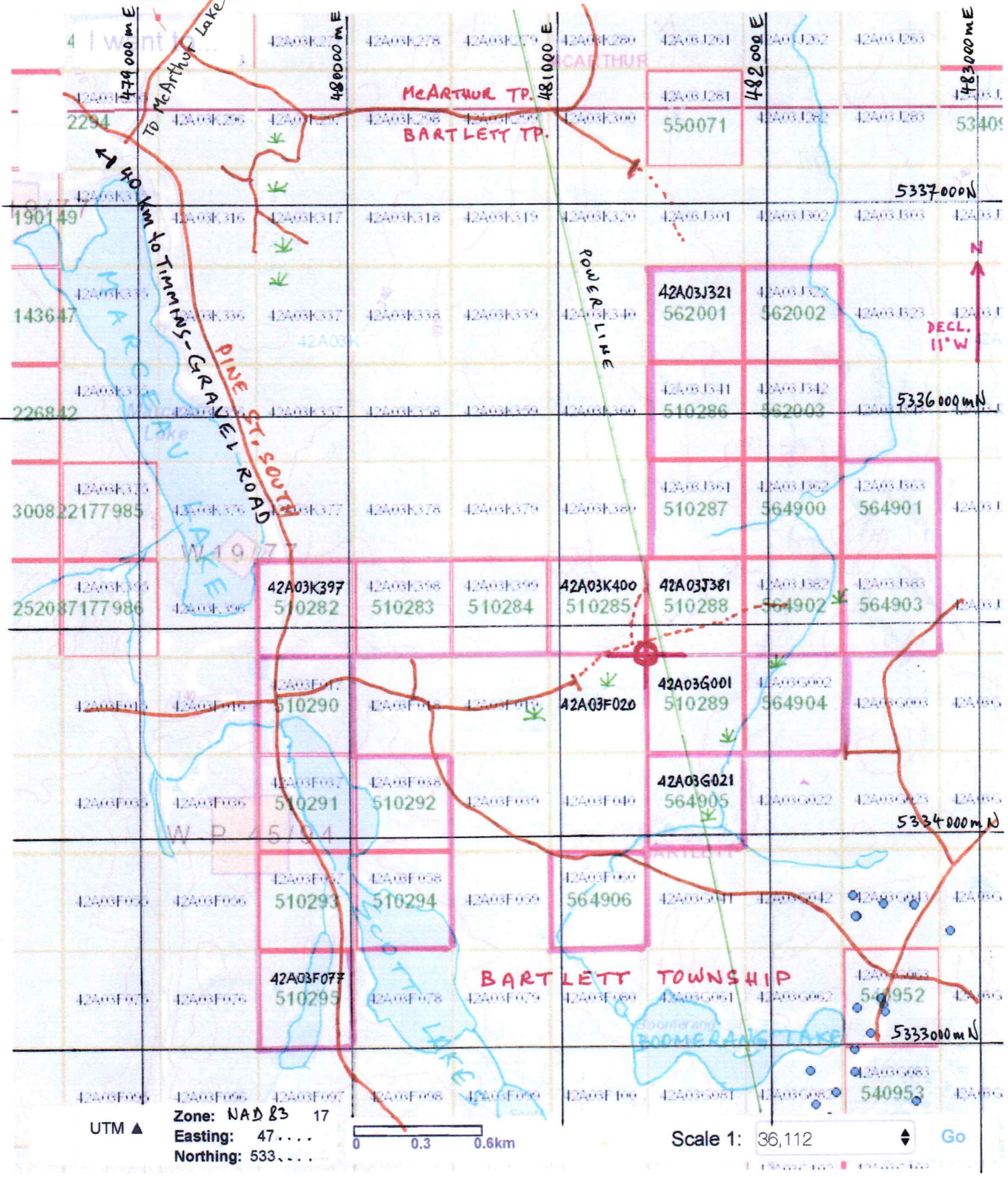
SCIF-3 - strongly magnetic layers

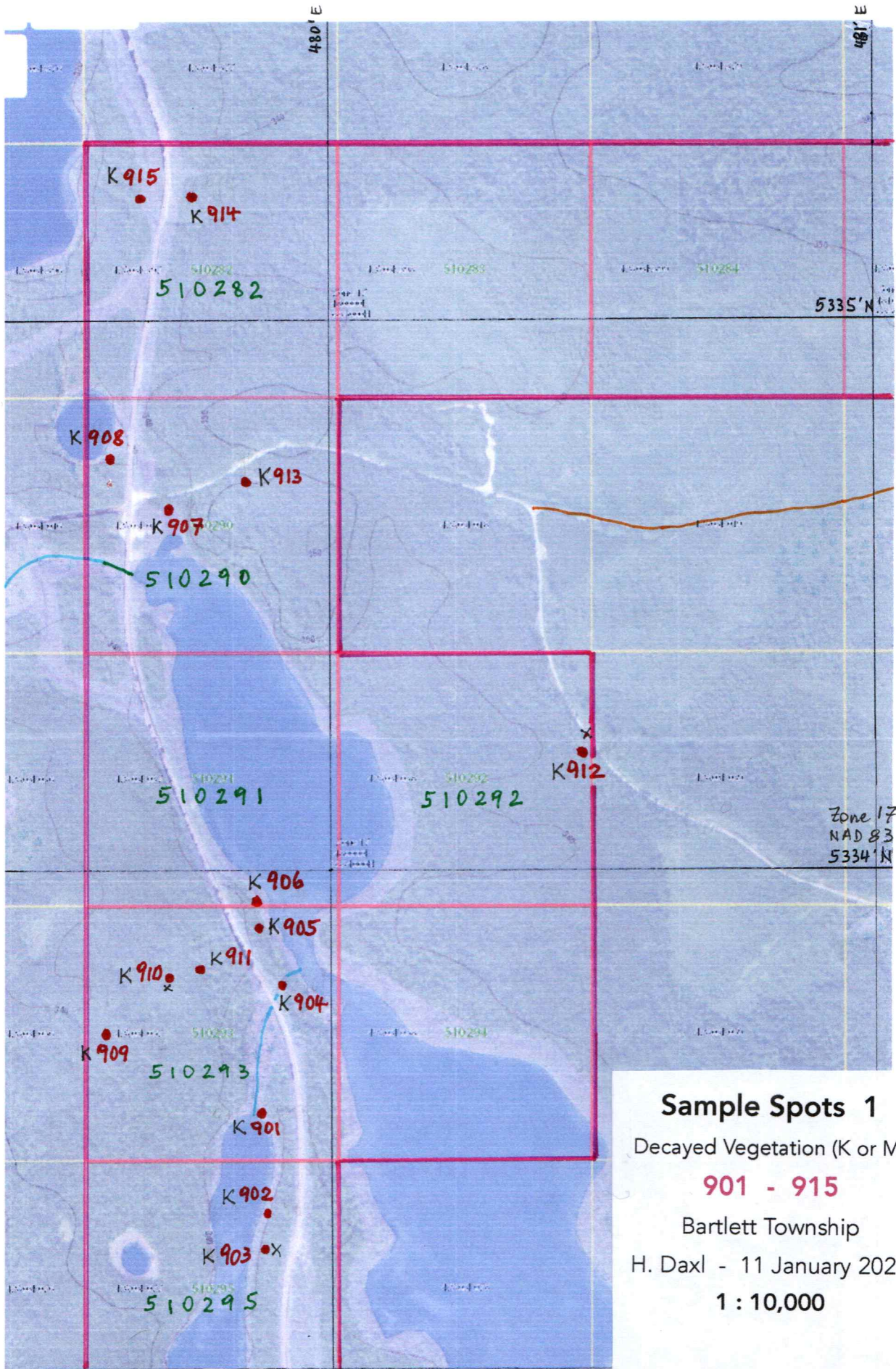
Peak at NAD83 - 481717 E - 5335057 N in steep ridge 20m north of trail.

Sharp straight centimetric layers about 40/80 of black aphanitic, nonconductive, very magnetic, ironstone of H=7, locally convoluted. Between much less magnetic layers of fine gabbro and fine pinkish stretched granitic layers.

30 % Fe, 0.03 % S.

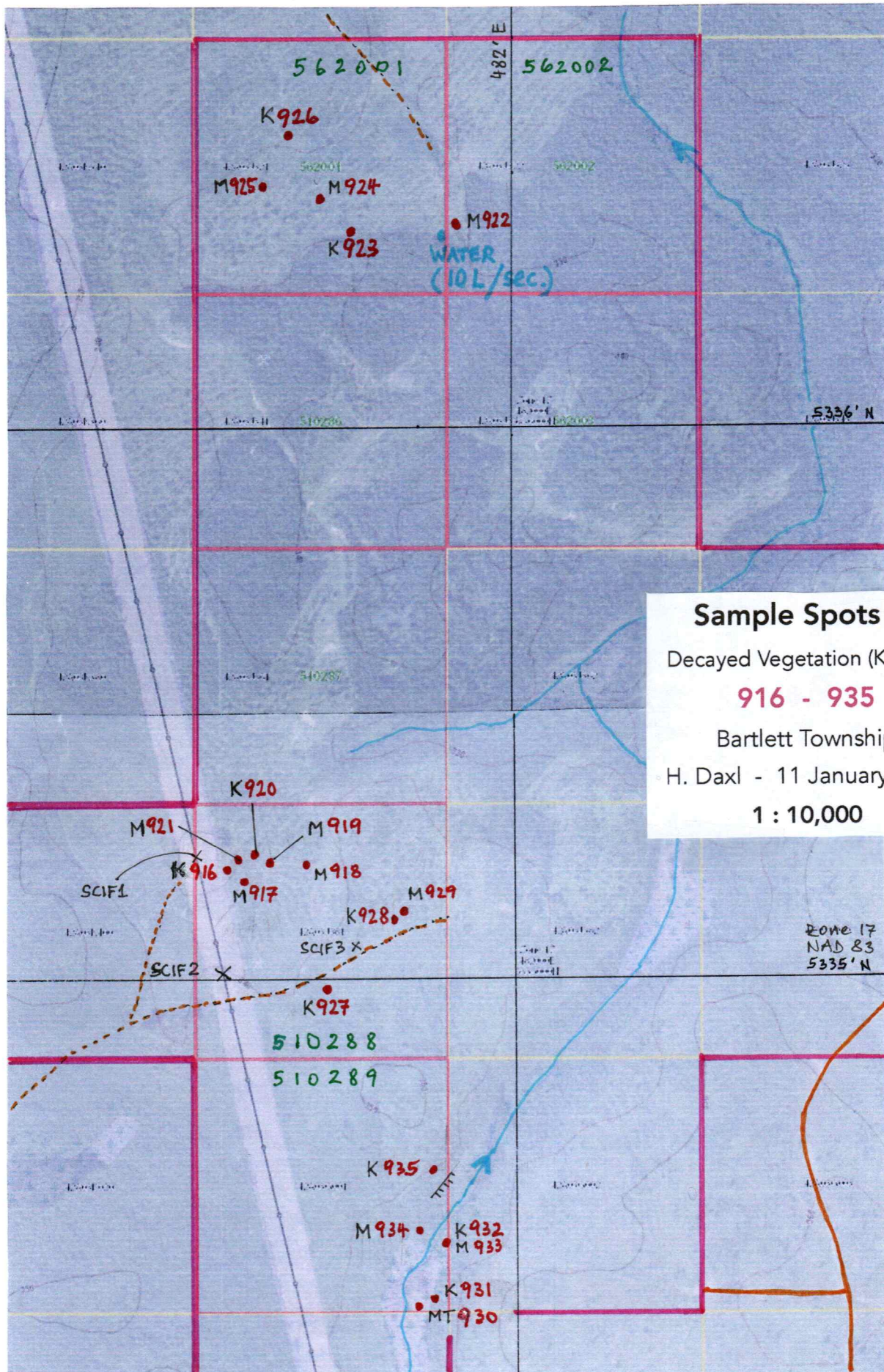
MLAS





Sample Spots 1
 Decayed Vegetation (K or M)
901 - 915
 Bartlett Township
 H. Daxl - 11 January 2020
 1 : 10,000

Zone 17
 NAD 83
 5334'N



Sample Spots 2

Decayed Vegetation (K or M)

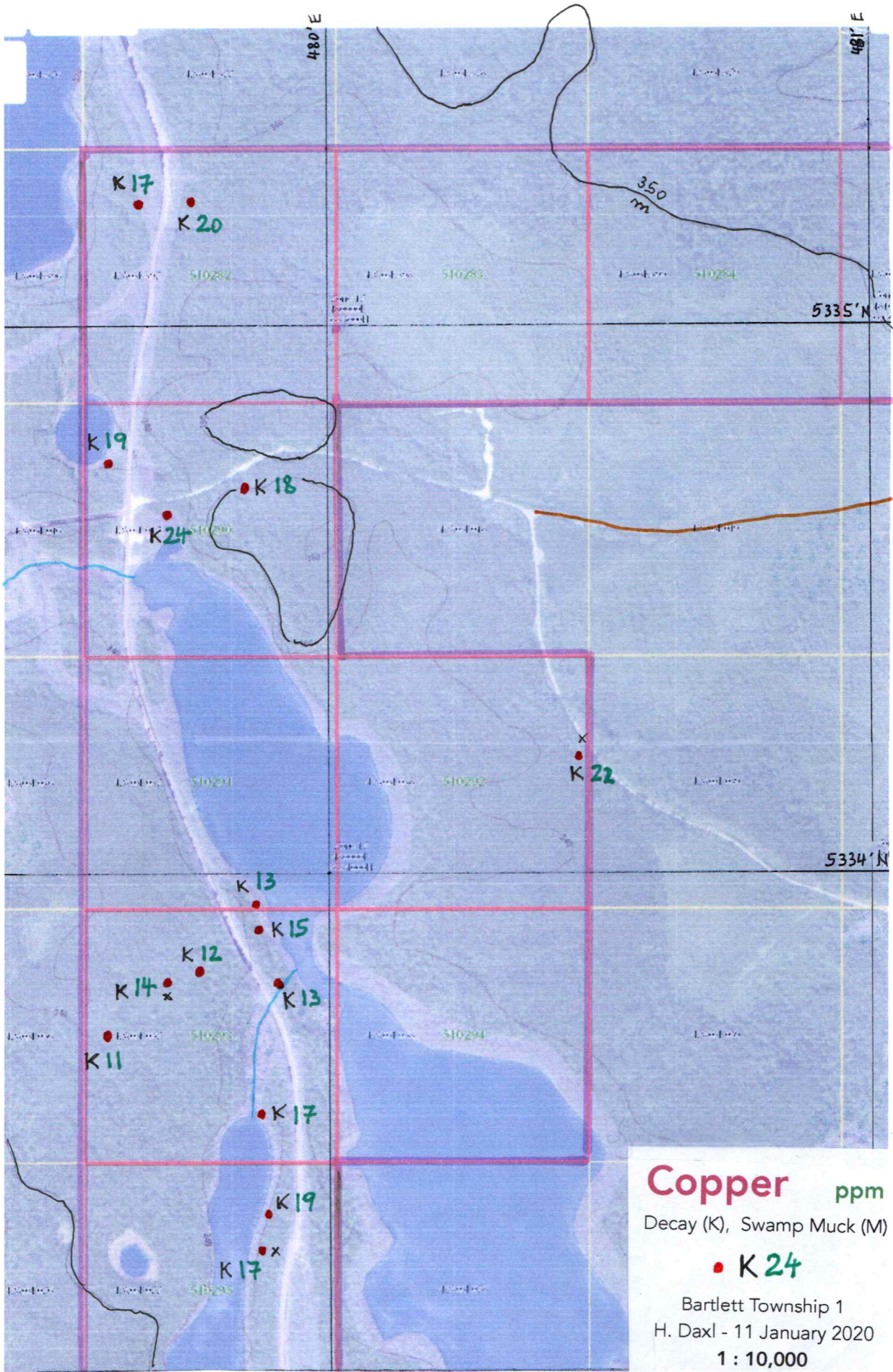
916 - 935

Bartlett Township

H. Daxl - 11 January 2020

1 : 10,000

Zone 17
NAD 83
5335' N



Copper ppm

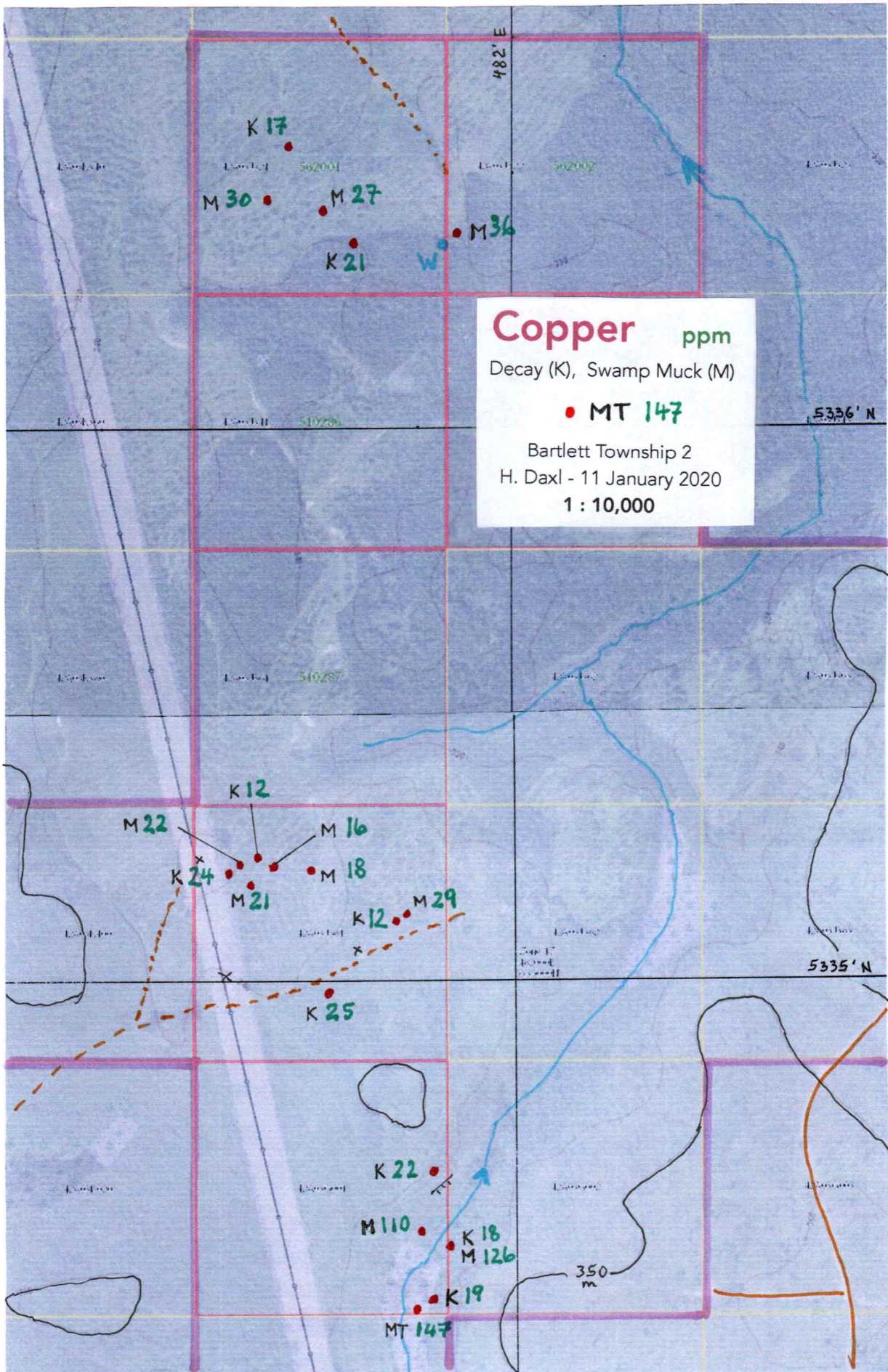
Decay (K), Swamp Muck (M)

● **K 24**

Bartlett Township 1

H. Daxl - 11 January 2020

1 : 10,000



Copper ppm
Decay (K), Swamp Muck (M)

• **MT 147**

Bartlett Township 2
H. Daxl - 11 January 2020
1 : 10,000

Grab some dirt - find a mine

Yes, you can find a mine on one claim unit in a few days work, if there is one !

You can also qualify and prioritize your drill targets.

This lecture is not about the vast science of soil sampling, but about the very specific method of **decayed vegetation sampling that works for gold and base metals in the Timmins region**. I would not completely rule out gold, if there is none in a sample, but if there really is, it can only be from rock within 50 m horizontally. Therefore 30 chosen samples can adequately cover a claim unit in just two days. I have tested the method, which I learned during my M.Sc. studies at Queen's University (Neil O'Brian), over six gold occurrences, also zinc and copper, and perfected it to work extremely well. However, to convince yourself, try it yourself over your known zones, gold or base metals, whereby you can also test your work. If it does not work for you, tell me.

The scientific name of the **decayed vegetation** I sample is mor, which I had never heard before. I call it the **decay horizon** or **K**, because that is where most decay of organics happens. It is quite apparent in the forests around Timmins, where the humus usually rests on fine sand. On clay it may be very thin, so greater care is necessary. **After brushing aside the loose debris, there is an interwoven carpet of rootlets, mold, fungi, decayed leaves and needles, from 0 to 6 cm depth, which you just grab and rip up** (<https://youtu.be/zHgkvo0wSI0>). One such small handful from each of 5 - 10 dry spots within a 10 - 20 m radius make a good-size sample. Avoid sand, silt, clay, charcoal, sticks, or greens. Seeds can stay in. There usually are no insects nor worms. Rings, watches, bracelets, or necklaces must never be worn when handling any samples.

This therefore is not a so-called humus sample, because humus has two more parts below it, moder and mull, and usually contains sand, silt, or clay. Also, I have never had high values in the usually underlying white leached sand nor the enriched brown B-horizon which other methods sample. So I am not surprised of their poor reputation.

It helps to envisage the hypothesis, that metal ions tend to migrate to surface, and also are taken up by rootlets and end up in leaves. This all fits my observations. Some metals (gold, zinc, copper, nickel, chromium, manganese, molybdenum, etc.) get therefore concentrated in these organics. I had repeated samples of <1500 ppb Au above a quartz-vein that ran 17000 ppb (17 g/t), which proves also direct migration. This and other veins had a halo of 25m, <100 ppb Au, which can be attributed only to fallen leaves and needles, because the underlying swamp muck had no gold. **I have proven this simple method for gold, copper, nickel, zinc, molybdenum, bismuth, cesium, arsenic. It even worked over 20 m thick clay or 60 m sand overburden.**

Favorable sample spots are where water can evaporate, even some 2m wide humps, or higher ground around trees. Possibly small valley floors may be better than ridges, however, flowing groundwater may intercept and dissipate the migrating metal ions, and not allow later concentration. The center of a sample is plotted with GPS, as selected sites are preferable to systematic sampling at line pickets. No statistical treatment is required; elements occur where you find them. Notes can be limited to peculiarities to remember the location, as discoveries need further work anyway.

Sample preparation requires special care and is best done in-house. Even if a lab listens, and follows special instructions, you will have to live with short-cuts. So here is my method. I spread the samples without delay on paper towels on 10-inch square paper plates, which I change whenever they are getting too damp. The lower towels can be dried and re-used. This takes two days, which is less than in open paper envelopes even in a car in the sun, as air circulation is necessary. An oven would have to be less than 50 degrees Celsius, and likely is too small. Then a sample needs to be rubbed or rolled with a glass bottle in a glass bowl to loosen enough fine organics for sieving <250 micron with a 1/4 mm plastic coffee filter. This work is fine-dusty and needs to be done outside or with a good exhaust fan. Any obvious sand or charcoal must not be crushed but removed before by swirling the bowl.

After sieving, if still some sand is visible, further dry swirling in a plastic gold pan will bring the organics to the top like scum which can be skimmed off clean. The rest can be panned with water, but is pretty useless. Bracket sieving to 125-250 micron may also

help to remove silt or clay, but clay dries very hard and even finely crushed it may not release the wanted organics. Maceration by a lab also needs special attention, but then how do you get the details for further adjustment in evaluation. Also coarser organics have somewhat lower values due to dilution with wood. The homogenized sievings need to be checked with a hand lens to estimate final sand and also silt content. Clay may show only as color and weight. Careful collection can usually save such extra work.

It is also very important to homogenize the sievings by rolling and overlapping using a bent sheet of paper, like labs used to do with pulps on a mat. Tightly packed samples stay homogenized. Keep left-overs in sachets, do not shake them. Collecting a heaped double-handful of such decayed vegetation, will yield the necessary 5 - 10 g of sievings.

The only reliable analysis for gold in such samples is by neutron activation, which however is not suitable for some base metal anomalies (e.g. nickel), and does not show copper. As samples are basically organics, I use Actlabs INAA, code 2B, vegetation, but fill their medium vials (7cm³ like a pinkie finger) myself to press as much as possible into them. I submit the varying tara (vial, stopper, label) for each, and weigh also each full vial so I can check for mix-up. They report the net weight (mass) from which one also can estimate roughly, whether a sample is diluted by silt or clay. The method is usually for 15-g briquettes, so that special double irradiation time has to be ordered for vials, for which they charge extra. Sandy samples or low inorganic standards are recognized and tolerated by the lab. They use organic standards. A lab order and shipment best include warnings, "very low-grade vegetation - keep away from rock pulps". Still contamination may happen, but all values >10 ppb Au need to be investigated further anyway. For base metals in such samples I send 2 - 4 g densely packed in a sachet to Actlabs for Ultratrace 2 - aqua regia ICP-OES/MS, but any values for gold thereby are admittedly not reliable for various reasons. Similar vegetation analyses include platinum, which may be worth a try.

Prospecting must include swamps and swampy areas where the described decayed vegetation may not exist. I therefore bring a Dutch auger in the bush, also useful as a walking stick, a weapon against bears, and to at least occasionally probe the deeper overburden. Bedrock is sometimes near enough to be scanned with the Beep Mat.

I use the auger in swampy areas to sample the deeper dense black muck, which works well for copper, nickel, chromium, but not so well for gold, zinc, lead, manganese. Water movement may flush out elements, therefore I try for the deepest and densest muck, but stay clear above any inorganic bottom. A closed two-handful from one auger hole will do, noting the sample depth. I wrap this ball with paper towels and squeeze out the water, before letting it dry with the decay samples.

Sampling the lake bottom sludge may be the only way to explore lakes, from a canoe or best on the ice in late March - early April in just above freezing weather. A 16 cm (6 inch) diameter hand ice auger will do. A bomb will not reach the dense sludge which works well for sulfur and base metals, but I had no occasion to test it for gold yet. A soil auger with extensions may be necessary, but water is usually shallow, so a dry 5m wooden pole makes it easier with less than 4 m of water. Sludge can be 10 m thick, but I got similar values throughout. I use a strong plastic bottle with the bottom cut off and a strong insulated cable tied around near the bottom to pull on one side. I push it 1 m into the sludge, then remove the pole before pulling. The bottle will tilt and scoop up a good lump. I remove the stopper from the bottle to drain the water, then dump the lump on the snow to drain further and collect it on my return.

Decay, muck, and sludge, have different concentration levels, and must be plotted as such. I suggest to add K, M, L to the values. Sample preparation and analyses are the same for all three. Notes of consistency (woody, fibrous, grainy, sticky, smeary), crushability, color, of M and L may be revealing.

So before you drill, do your shareholders a favor. Or before you lose a claim, grab some dirt. It takes a week to get a batch to the lab, then it takes at least 3-4 weeks to get the results for gold. A follow up again takes as much time, but a report for assessment credit is simple (see map). The best time to sample is May and October-November, like any work in the bush. In summer you raise clouds of flies from humus, and visibility for choosing sample spots may be difficult. Allow for some drying after a rain, but I doubt that seasons affects the metals. The gardening claw is in your hand now, but you can still phone me for help or advice, for set-up, organizing, or training, including field work. Hermann Daxl, M.Sc. (Minex), 705-264-4929.

Quality Analysis ...



Innovative Technologies

Report No.: A19-15558
Report Date: 27-Nov-19
Date Submitted: 15-Nov-19
Your Reference: SCOTT-KM1

Hermann Daxl
39-630 Riverpark Road
Timmins Ontario P4P 1B4
Canada

SCOTT LAKES, BARTLETT Tp.

ATTN: Hermann Daxl

CERTIFICATE OF ANALYSIS

901 - 945

45 Vegetation samples were submitted for analysis. *decayed and sieved < 250 micron vegetation*

The following analytical package(s) were requested:		Testing Date:
UT-2-0.5g	ULTRATRACE 2 - QOP AquaGeo/QOP Ultratrace-1 (Aqua Regia ICPOES/ICPMS)	2019-11-21 08:57:22

AQUA REGIA - 0.5g aliquots

REPORT **A19-15558**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

Assays are recommended for values above the upper limit. The Au from AR-MS is for information purposes, for accurate Au fire assay 1A2 should be requested.

CERTIFIED BY:


Elitsa Hrischeva, Ph.D.
Quality Control
Coordinator

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

DECAYED VEGETATION

Sieved <250µm except as marked Results

SCOTT LAKES, Bartlett Tp.
Activation Laboratories Ltd.

Report: A19-15558 ULTRATRACE 2 -
Aqua Regia - 0.5g

STILL
Sand
sift
content

Other
Sieved
Sizes
micron

Vol. %	Analyte Symbol	Unit Symbol	Detection Limit	Analysis Method	Li	Be	B	Na	Mg	Al	P	S	K	Ca	V	Cr	Ti	Mn	Fe	Co	Ni	Cu	Zn	Ga
		cm	ppm		ppm	ppm	ppm	%	%	%	%	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm
		↓	0.1		0.1	1	0.001	0.01	0.01	0.01	0.001	0.001	0.01	0.01	1	1	0.01	1	0.01	0.1	0.1	0.2	0.1	0.02
			AR-MS		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-ICP	AR-ICP	AR-MS	AR-MS	AR-MS	AR-MS	AR-ICP	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
1 T	901 K				1.3	<0.1	5	0.018	0.11	0.25	0.088	0.142	0.07	0.55	7	9	0.01	181	0.33	1.3	11.2	16.7	48.1	0.76
5 T	902 K				0.8	<0.1	5	0.016	0.09	0.20	0.069	0.146	0.06	0.78	6	7	<0.01	131	0.26	0.9	9.9	18.6	44.7	0.67
2 T	903 K				1.4	<0.1	4	0.023	0.12	0.27	0.111	0.140	0.09	0.39	8	11	0.01	185	0.39	1.5	13.1	17.1	51.4	0.75
5 T	904 K				3.7	<0.1	3	0.031	0.28	0.50	0.082	0.134	0.05	0.75	13	22	0.03	342	0.68	3.4	17.5	13.1	35.8	1.61
10 T	905 K				1.9	<0.1	4	0.020	0.15	0.30	0.078	0.124	0.05	0.73	9	11	0.02	332	0.39	2.1	10.2	14.7	71.4	0.99
3 T	906 K				1.8	<0.1	6	0.018	0.18	0.34	0.095	0.188	0.07	1.07	9	12	0.02	482	0.39	1.9	8.9	12.5	104.0	1.19
2 T	907 K				2.1	<0.1	4	0.017	0.17	0.38	0.084	0.111	0.08	0.55	11	18	0.02	869	0.48	2.9	20.6	24.2	63.3	1.29
4 DT	908 K				4.4	<0.1	5	0.021	0.36	0.62	0.072	0.097	0.08	0.74	16	40	0.04	397	0.83	4.4	23.4	18.8	66.5	1.68
5 T	909 K				1.4	<0.1	5	0.018	0.08	0.33	0.092	0.109	0.09	0.58	9	6	0.02	1410	0.30	1.5	5.7	11.0	89.6	1.62
6 DT	910 K				2.0	<0.1	6	0.020	0.11	0.32	0.140	0.153	0.10	1.07	9	10	0.01	2660	0.36	2.6	7.5	13.8	239.0	0.97
5 T	911 K				0.9	<0.1	8	0.018	0.09	0.19	0.112	0.124	0.11	0.98	5	5	<0.01	2970	0.17	1.2	6.4	11.5	193.0	0.49
8 DT	912 K				1.5	<0.1	5	0.016	0.12	0.30	0.112	0.147	0.09	0.73	9	12	0.01	3040	0.36	3.2	14.9	21.8	143.0	0.87
5 DT	913 K				1.3	<0.1	5	0.015	0.11	0.21	0.118	0.147	0.09	0.77	6	9	0.01	1380	0.27	2.1	9.4	17.6	105.0	0.55
2 DT	914 K				2.7	<0.1	4	0.024	0.20	0.47	0.096	0.112	0.08	0.40	13	25	0.02	368	0.66	3.3	21.0	19.5	77.5	1.65
1 DT	915 K				2.8	<0.1	4	0.016	0.21	0.38	0.102	0.126	0.08	0.74	12	21	0.02	491	0.56	3.6	16.8	17.3	47.3	1.26
3 T	916 K				2.0	<0.1	4	0.016	0.11	0.32	0.069	0.145	0.06	0.93	6	7	0.01	746	0.30	3.9	10.4	24.4	157.0	0.83
8 T	917 M	80			2.0	<0.1	6	0.015	0.19	0.39	0.059	0.420	0.02	2.57	9	12	0.02	194	0.41	1.9	7.6	21.3	65.9	0.91
2 T	918 M	80			1.0	<0.1	8	0.016	0.14	0.32	0.037	0.644	0.01	3.14	7	7	<0.01	272	0.53	1.1	8.0	17.9	45.5	0.53
4 T	919 M	90			0.8	<0.1	11	0.016	0.23	0.19	0.036	0.496	<0.01	3.69	4	6	<0.01	73	0.27	0.9	6.5	16.2	23.9	0.42
φ	920 K				0.5	<0.1	8	0.021	0.16	0.07	0.083	0.173	0.06	2.10	3	3	<0.01	3840	0.34	2.5	4.1	12.3	74.5	0.05
10 T	921 M	60+90			4.6	0.1	5	0.019	0.21	0.74	0.063	0.572	0.03	1.53	14	17	0.02	241	0.65	2.7	10.0	21.8	107.0	1.43
5 T	922 M	80			5.9	0.3	5	0.018	0.25	1.06	0.112	0.361	0.04	1.90	25	26	0.03	545	0.99	4.0	24.4	36.3	166.0	1.85
2 DT	923 K				0.6	<0.1	3	0.016	0.04	0.14	0.084	0.152	0.08	0.42	4	4	<0.01	397	0.17	0.8	7.9	20.7	102.0	0.37
φ	924 M	90			0.6	0.1	7	0.016	0.18	0.27	0.060	0.456	<0.01	2.73	8	8	<0.01	262	0.94	2.5	13.0	26.6	42.6	0.42
10 C	925 M	70			4.0	0.2	5	0.020	0.24	0.68	0.047	0.284	0.03	1.97	13	19	0.03	202	0.63	2.1	15.3	30.1	66.6	1.33
8 DT	926 K				0.6	<0.1	3	0.015	0.06	0.12	0.108	0.148	0.12	0.38	6	5	<0.01	617	0.22	0.8	6.2	17.2	81.4	0.36
2 T	927 K				0.6	<0.1	3	0.014	0.07	0.15	0.069	0.129	0.07	0.49	5	4	<0.01	351	0.16	1.0	6.6	25.2	73.8	0.48
10 DT	928 K				1.2	<0.1	4	0.016	0.07	0.25	0.094	0.141	0.08	0.46	9	6	0.02	1100	0.30	1.0	5.9	12.4	94.1	1.13
φ	929 M	60			1.3	0.2	6	0.017	0.21	0.40	0.067	0.484	0.02	3.22	8	11	<0.01	703	0.68	2.1	12.7	28.7	145.0	0.67
30 T	930 MT	50			3.3	0.4	2	0.020	0.22	1.08	0.081	0.445	0.03	1.31	45	109	0.03	32	0.53	2.4	65.8	147.0	24.1	2.49
2 DT	931 K				1.2	<0.1	3	0.017	0.08	0.25	0.068	0.149	0.06	0.37	7	10	<0.01	71	0.34	1.6	9.0	19.1	39.6	0.75

Results

Activation Laboratories Ltd.

Report: A19-15558

Analyte Symbol	Li	Be	B	Na	Mg	Al	P	S	K	Ca	V	Cr	Ti	Mn	Fe	Co	Ni	Cu	Zn	Ga
Unit Symbol	ppm	ppm	ppm	%	%	%	%	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	1	0.001	0.01	0.01	0.001	0.001	0.01	0.01	1	1	0.01	1	0.01	0.1	0.1	0.2	0.1	0.02
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-ICP	AR-ICP	AR-MS	AR-MS	AR-MS	AR-MS	AR-ICP	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
932 K	0.6	<0.1	4	0.015	0.11	0.12	0.073	0.171	0.07	1.12	6	9	<0.01	872	0.69	1.4	17.2	18.0	35.3	0.32
2 T 933 M 80+90	3.4	0.4	4	0.017	0.22	0.87	0.070	0.436	0.03	2.05	17	38	0.02	173	0.42	1.5	40.3	126.0	9.4	1.68
2 T 934 M 100	1.7	0.3	7	0.018	0.27	0.55	0.066	0.727	0.02	3.03	9	36	0.01	71	0.25	1.1	17.8	110.0	37.1	1.14
2 T 935 K	0.7	<0.1	3	0.015	0.05	0.18	0.106	0.152	0.08	0.28	5	4	<0.01	297	0.20	0.8	13.8	21.9	59.8	0.48
936 30% T of 921	4.5	0.1	4	0.021	0.18	0.58	0.059	0.402	0.03	1.14	12	15	0.03	180	0.57	2.7	8.7	15.4	86.6	1.30
937 50% DT of 930	3.1	0.3	2	0.017	0.20	0.89	0.074	0.354	0.03	1.05	35	87	0.03	32	0.48	2.0	50.6	109.0	20.7	2.15
938 OREAS 47	10.2 ✓	0.2 ✓	2	0.1310 ✓	0.59 ✓	1.13	0.057	0.047 ✓	0.14 ✓	0.84 ~	37 25	41 30	0.13	329 ✓	2.01 ✓	47.7 ✓	78.7 ✓	156.0 ✓	241.0 ✓	3.43 ✓
939 TEST	1.0	<0.1	3	0.019	0.08	0.22	0.095	0.136	0.08	0.30	6	9 ✓	<0.01	256	0.33	1.4 ✓	7.5 ✓	80.4 ✓	136.0 ✓	0.70
940 TEST	1.0	<0.1	4	0.014	0.08	0.20	0.122	0.163	0.08	0.62	7	6 ✓	<0.01	1530	0.39	2.0 ✓	5.8 ✓	69.2 ✓	163.0 ✓	0.65
941 TEST	0.6	<0.1	4	0.014	0.06	0.10	0.080	0.196 ✓	0.07	0.82	3	4	<0.01	460	0.17 ✓	1.1	4.1 ✓	99.5 ✓	217.0 ✓	0.32
942 TEST	0.6	<0.1	3	0.015	0.07	0.11	0.076	0.154	0.09	0.34	4	5	<0.01	57	0.21	0.8	4.5 ✓	125.0 ✓	159.0 ✓	0.36
943 TEST	4.5	0.3	6	0.021	0.22	0.88	0.108	0.283	0.09	1.48	12	17	0.02	96	0.50	1.6	6.2 ✓	18.2 ✓	59.4 ✓	2.67
944 TEST	0.5	<0.1	3	0.016	0.06	0.11	0.079	0.159	0.10	0.32	4	5	<0.01	147	0.18	0.8	4.4 ✓	118.0 ✓	180.0 ✓	0.38
945 TEST	1.0	<0.1	6	0.020	0.13	0.18	0.101	0.180 ✓	0.06	0.81	6 4	10	<0.01	219	0.45	1.6	6.0 ✓	46.7 ✓	185.0 ✓	0.51

K Decayed vegetation 0-6 cm depth.
 M Black swamp muck at stated depths.
 D Sand
 T Silt
 C Clay

Results

Activation Laboratories Ltd.

Report: A19-15558

Still sand silt content Vol. %	Analyte Symbol	at cm	Ge	As	Se	Rb	Sr	Y	Zr	Sc	Pr	Gd	Dy	Ho	Er	Tm	Nb	Mo	Ag	Cd	In	Sn
	Unit Symbol		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	Detection Limit	↓	0.1	0.1	0.1	0.1	0.5	0.01	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.01	0.002	0.01	0.02	0.05
	Analysis Method		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
1 T	901 K		<0.1	2.5	0.9	4.2	34.6	0.89	1.3	0.8	0.5	0.3	0.2	<0.1	<0.1	<0.1	0.4	0.52	0.070	0.37	0.04	0.79
5 T	902 K		<0.1	3.0	0.7	3.6	26.4	0.98	1.1	0.5	0.5	0.2	0.1	<0.1	<0.1	<0.1	0.2	0.36	0.053	0.40	0.05	0.81
2 T	903 K		<0.1	1.7	0.8	4.3	24.5	0.85	1.2	0.6	0.5	0.3	0.2	<0.1	<0.1	<0.1	0.4	0.39	0.081	0.39	0.04	0.65
5 T	904 K		<0.1	1.6	0.7	7.0	21.7	1.51	1.1	1.0	0.9	0.5	0.3	<0.1	0.1	<0.1	0.8	0.32	0.053	0.14	<0.02	0.23
10 T	905 K		<0.1	1.2	0.9	3.5	25.7	1.23	0.9	0.5	1.0	0.5	0.2	<0.1	0.1	<0.1	0.5	0.36	0.068	0.46	0.03	0.41
3 T	906 K		<0.1	1.2	0.8	4.1	23.9	0.99	0.7	0.4	0.7	0.4	0.2	<0.1	<0.1	<0.1	0.5	0.48	0.137	0.66	<0.02	0.50
2 T	907 K		<0.1	2.1	0.9	6.1	21.3	1.27	0.5	0.4	0.8	0.4	0.2	<0.1	<0.1	<0.1	0.5	0.57	0.073	0.58	0.05	1.00
4 DT	908 K		<0.1	1.7	0.7	4.4	22.9	2.06	1.3	1.3	1.3	0.7	0.4	<0.1	0.2	<0.1	0.8	0.35	0.054	0.35	0.03	0.56
5 T	909 K		<0.1	1.2	0.8	5.2	40.1	1.00	0.3	0.3	1.0	0.4	0.2	<0.1	<0.1	<0.1	0.5	0.33	0.365	0.72	<0.02	0.80
6 DT	910 K		<0.1	1.3	1.1	6.1	62.1	0.81	0.2	0.5	0.6	0.3	0.1	<0.1	<0.1	<0.1	0.5	0.29	0.148	1.27	0.03	0.54
5 T	911 K		<0.1	0.9	1.0	5.0	55.9	0.81	0.2	0.3	0.6	0.2	0.1	<0.1	<0.1	<0.1	0.3	0.31	0.099	0.72	0.03	0.75
8 DT	912 K		<0.1	1.7	1.1	6.6	46.9	1.05	<0.1	0.4	0.7	0.3	0.2	<0.1	<0.1	<0.1	0.3	0.45	0.169	1.24	0.07	1.15
5 DT	913 K		<0.1	1.3	0.6	6.2	49.7	0.95	0.8	0.3	0.6	0.3	0.2	<0.1	<0.1	<0.1	0.3	0.35	0.113	0.95	0.05	0.81
2 DT	914 K		<0.1	2.3	0.8	5.6	26.3	1.48	0.9	1.0	0.9	0.4	0.3	<0.1	0.1	<0.1	0.6	0.47	0.054	0.34	0.04	1.01
10 T	915 K		<0.1	1.7	0.6	4.8	31.1	1.48	1.1	0.7	0.8	0.4	0.3	<0.1	0.1	<0.1	0.6	0.32	0.060	0.38	0.03	0.55
3 T	916 K		<0.1	1.2	0.7	3.1	23.8	1.50	1.0	0.6	0.8	0.4	0.3	<0.1	0.1	<0.1	0.4	0.26	0.276	0.84	0.02	0.39
8 T	917	M 80	<0.1	1.5	1.1	1.5	32.5	2.59	2.6	1.1	1.1	0.6	0.5	<0.1	0.2	<0.1	0.5	0.49	0.046	0.37	<0.02	0.08
2 T	918	M 80	<0.1	3.8	0.7	0.8	44.4	2.01	0.8	0.7	0.7	0.4	0.4	<0.1	0.2	<0.1	0.2	1.50	0.040	0.43	<0.02	<0.05
4 T	919	M 90	<0.1	1.2	0.6	0.6	39.7	1.27	1.2	0.6	0.5	0.3	0.2	<0.1	0.1	<0.1	0.2	0.69	0.020	0.16	<0.02	<0.05
φ	920 K		<0.1	1.8	0.7	2.8	33.9	0.51	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.28	0.036	0.44	<0.02	0.11	
10 T	921	M 60+90	<0.1	1.5	0.8	2.1	31.0	3.48	1.8	1.1	1.5	0.9	0.6	<0.1	0.3	<0.1	0.8	0.56	0.068	0.82	<0.02	0.11
5 T	922	M 80	<0.1	2.8	1.2	3.9	38.6	7.30	2.4	1.4	3.7	1.9	1.3	0.2	0.7	<0.1	1.0	0.71	0.109	1.02	<0.02	0.13
2 DT	923 K		<0.1	1.5	0.6	4.3	16.4	0.41	0.4	0.3	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.32	0.098	0.77	0.05	0.80
φ	924	M 90	<0.1	2.1	0.6	0.7	45.5	2.44	1.2	0.6	0.8	0.5	0.4	<0.1	0.2	<0.1	0.1	0.72	0.049	0.39	<0.02	<0.05
10 C	925	M 70	<0.1	0.4	1.0	3.2	32.8	4.75	4.1	1.8	1.9	1.1	0.8	0.1	0.4	<0.1	0.9	0.37	0.066	0.54	<0.02	0.15
8 DT	926 K		<0.1	1.0	0.6	6.8	14.7	0.47	0.4	0.2	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.35	0.123	0.60	0.04	0.52
2 T	927 K		<0.1	1.2	0.7	3.5	20.7	1.37	0.5	0.5	0.6	0.4	0.2	<0.1	0.1	<0.1	0.2	0.26	0.114	0.55	0.02	0.46
10 DT	928 K		<0.1	1.5	0.6	4.5	26.7	0.75	1.1	0.4	0.7	0.3	0.2	<0.1	<0.1	<0.1	0.5	0.45	0.247	0.66	0.02	0.84
φ	929	M 60	<0.1	2.6	1.0	1.2	43.9	3.07	2.4	1.0	1.1	0.6	0.5	<0.1	0.2	<0.1	0.4	1.15	0.101	0.95	<0.02	<0.05
30 T	930	MT 50	<0.1	1.5	4.8	2.2	28.3	18.60	5.2	2.6	4.7	3.1	2.3	0.4	1.3	0.2	1.3	0.54	0.153	1.14	<0.02	0.19
2 DT	931 K		<0.1	1.4	0.8	3.9	20.2	1.41	0.9	0.6	0.8	0.4	0.3	<0.1	<0.1	<0.1	0.4	0.32	0.071	0.48	0.03	0.45

Results

Activation Laboratories Ltd.

Report: A19-15558

Analyte Symbol	Ge	As	Se	Rb	Sr	Y	Zr	Sc	Pr	Gd	Dy	Ho	Er	Tm	Nb	Mo	Ag	Cd	In	Sn
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.1	0.1	0.1	0.5	0.01	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.01	0.002	0.01	0.02	0.05
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
932 K	<0.1	4.3	0.8	3.1	32.6	1.34	0.6	0.3	0.4	0.3	0.2	<0.1	<0.1	<0.1	0.1	0.46	0.028	0.27	0.04	0.44
2 T 933 M 80+90	<0.1	<0.1	2.5	2.8	27.5	40.70	6.2	2.3	11.6	7.3	5.1	0.8	2.6	0.3	0.9	0.45	0.140	0.64	<0.02	0.11
2 T 934 M 100	<0.1	2.7	1.8	1.9	35.4	50.40	8.8	1.7	8.7	8.8	5.6	0.9	3.1	0.3	0.6	2.02	0.163	1.07	<0.02	0.08
2 T 935 K	<0.1	1.8	0.9	5.8	18.0	0.54	0.5	0.5	0.3	0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.30	0.056	0.49	0.06	0.87
936 30% T of 921	<0.1	0.6	0.9	2.0	25.5	3.53	1.3	1.1	1.6	1.0	0.6	<0.1	0.3	<0.1	0.9	0.40	0.068	0.65	<0.02	0.13
937 50% T of 930	<0.1	1.0	4.0	2.0	23.4	14.80	4.3	2.5	4.2	2.6	2.0	0.3	1.0	0.1	1.2	0.47	0.122	0.93	<0.02	0.15
938 OREAS 47	<0.1	8.7 ✓	0.2	7.3 ✓	47.9 ³	7.26 ⁵	8.9 ⁶	4.8 ³	5.0 ✓	2.1 ✓	1.3	0.2 ✓	0.7	<0.1	0.9	13.40 ✓	0.104 ✓	0.51 ✓	0.04 ✓	2.96 ^{2.5*}
939 TEST	<0.1	2.5 ✓	1.0	4.3	12.2	0.72	0.9	0.5	0.4	0.2	0.1	<0.1	<0.1	<0.1	0.3	0.37	0.185	1.53	0.14	0.65
940 TEST	<0.1	3.4 ✓	1.1	5.9	16.1	0.57	0.6	0.4	0.4	0.2	0.1	<0.1	<0.1	<0.1	0.2	0.41	0.285	1.03	0.19	0.93
941 TEST	<0.1	2.2 ✓	1.0	2.3	25.4	0.40	0.3	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.22	0.150 ✓	1.17	0.23	0.62
942 TEST	<0.1	2.1	1.2	3.4	21.5	0.46	0.5	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.35	0.148	1.02	0.26	0.73
943 TEST	<0.1	1.6	0.9	6.3	57.2	3.18	4.6	1.1	1.8	0.8	0.6	<0.1	0.3	<0.1	0.9	0.72	0.123	0.80	0.02	0.44
944 TEST	<0.1	2.2	1.1	3.7	14.8	0.44	0.2	0.3	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.23	0.171	1.50	0.24	0.44
945 TEST	<0.1	2.7 ✓	0.6	1.9	18.7	0.87	0.9	0.3	0.6	0.3	0.2	<0.1	<0.1	<0.1	0.3	0.40 ✓	0.127 ✓	0.78 ✓	0.09 ✓	0.79

Results

Activation Laboratories Ltd.

Report: A19-15558

STILL Sand Silt Content Vel. %	Analyte Symbol	at	Sb	Te	Cs	Ba	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Bi
	Unit Symbol	cm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm
	Detection Limit	↓	0.02	0.02	0.02	0.5	0.5	0.01	0.02	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.1	0.02
Analysis Method		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
1 T	901 K		0.64	<0.02	0.27	78.3	2.4	4.37	2.04	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	4.4	0.08	24.0	0.32
5 T	902 K		0.73	0.02	0.24	53.7	2.3	3.82	1.79	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	0.7	0.10	32.1	0.34
2 T	903 K		0.68	<0.02	0.27	77.3	2.2	4.08	1.99	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	0.6	0.07	17.3	0.25
5 T	904 K		0.40	<0.02	0.33	64.0	4.2	8.74	3.62	0.7	0.1	<0.1	0.1	<0.1	<0.1	<0.05	0.2	<0.001	16.6	0.05	5.1	0.11
10 T	905 K		0.46	<0.02	0.20	108.0	5.2	9.43	3.95	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	0.8	0.05	17.1	0.20
3 T	906 K		0.47	<0.02	0.30	93.7	3.6	6.71	2.72	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	<0.5	0.08	17.6	0.23
2 T	907 K		0.58	<0.02	0.43	113.0	4.1	7.51	3.37	0.4	0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	<0.5	0.12	40.5	0.52
4 DT	908 K		0.47	<0.02	0.30	55.0	5.6	10.90	5.06	0.7	0.2	<0.1	0.2	<0.1	<0.1	<0.05	0.2	<0.001	<0.5	0.09	17.9	0.25
5 T	909 K		0.55	0.03	0.32	191.0	5.6	8.69	3.71	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.08	28.6	0.27
6 DT	910 K		0.48	<0.02	0.35	296.0	3.1	5.69	2.18	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.09	21.9	0.23
5 T	911 K		0.62	<0.02	0.29	216.0	3.2	4.75	2.33	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.001	<0.5	0.14	24.5	0.24
8 DT	912 K		0.55	0.02	0.54	238.0	4.2	5.31	2.71	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.16	39.9	0.46
5 DT	913 K		0.49	<0.02	0.35	178.0	3.2	4.20	2.12	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.08	26.0	0.30
2 DT	914 K		0.65	0.04	0.45	96.8	4.1	7.51	3.71	0.5	0.1	<0.1	0.1	<0.1	<0.1	<0.05	0.2	0.003	<0.5	0.12	31.7	0.82
1 DT	915 K		0.46	<0.02	0.29	65.7	4.3	7.40	3.25	0.6	0.1	<0.1	0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.09	21.5	0.28
3 T	916 K		0.42	0.03	0.22	53.2	4.1	6.95	3.13	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.10	16.8	0.21
8 T	917 M 80		0.20	0.03	0.57	41.4	5.0	9.43	4.60	0.7	0.2	<0.1	0.2	<0.1	<0.1	<0.05	<0.1	0.001	<0.5	0.05	1.9	0.05
2 T	918 M 80		0.18	<0.02	0.32	36.2	3.0	5.15	2.94	0.6	0.1	<0.1	0.2	<0.1	<0.1	<0.05	<0.1	0.003	<0.5	0.05	0.9	0.04
4 T	919 M 90		0.16	<0.02	0.38	34.7	2.0	3.64	1.93	0.3	<0.1	<0.1	0.1	<0.1	<0.1	<0.05	<0.1	0.001	<0.5	0.03	1.0	0.04
φ	920 K		0.24	0.03	0.27	95.3	0.9	1.58	0.75	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.001	<0.5	0.05	8.6	0.13
10 T	921 M 60+90		0.16	0.02	0.35	52.9	6.8	13.50	6.12	1.2	0.2	0.1	0.3	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.06	3.0	0.05
5 T	922 M 80		0.17	0.03	0.48	132.0	17.2	31.20	14.70	2.8	0.5	0.3	0.6	<0.1	<0.1	<0.05	<0.1	0.001	<0.5	0.09	3.2	0.08
2 DT	923 K		0.84	0.03	0.33	94.0	1.1	2.01	0.94	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	1.0	0.09	25.2	0.36
φ	924 M 90		0.20	<0.02	0.11	77.3	4.0	5.36	3.37	0.6	0.1	<0.1	0.2	<0.1	<0.1	<0.05	<0.1	0.002	<0.5	0.05	0.9	0.05
10 C	925 M 70		0.22	<0.02	0.33	51.0	9.0	13.70	8.02	1.3	0.3	0.1	0.4	<0.1	0.1	<0.05	<0.1	<0.001	<0.5	0.06	2.2	0.05
8 DT	926 K		0.55	<0.02	0.27	95.8	1.3	2.41	1.09	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.001	<0.5	0.08	17.8	0.25
2 T	927 K		0.49	<0.02	0.26	72.4	3.2	3.62	2.58	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.05	16.7	0.22
10 DT	928 K		0.61	<0.02	0.36	137.0	3.3	5.93	2.52	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.09	30.3	0.31
φ	929 M 60		0.26	0.03	0.26	80.4	4.7	7.25	4.51	0.8	0.2	<0.1	0.2	<0.1	<0.1	<0.05	<0.1	0.002	<0.5	0.06	2.0	0.04
30 T	930 MT 50		0.36	0.03	0.46	80.3	22.9	26.00	19.90	3.7	0.7	0.4	1.2	0.2	0.1	<0.05	0.1	0.007	<0.5	0.06	4.0	0.09
2 DT	931 K		0.51	<0.02	0.29	78.7	4.1	5.57	3.17	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.06	16.5	0.25

Results

Activation Laboratories Ltd.

Report: A19-15558

Analyte Symbol	Sb	Te	Cs	Ba	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Bi
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm
Detection Limit	0.02	0.02	0.02	0.5	0.5	0.01	0.02	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.1	0.02
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
Ø 932 K	0.52	<0.02	0.15	98.9	2.0	2.72	1.76	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	3.0	0.05	16.4	0.25
2 T 933 M 80+90	0.28	<0.02	0.46	50.0	61.9	34.20	46.70	7.9	1.3	0.9	2.2	0.3	0.2	<0.05	0.1	0.003	<0.5	0.12	2.5	0.07
2 T 934 M 100	0.35	<0.02	0.31	46.2	34.1	12.90	38.70	8.7	1.3	1.1	2.7	0.4	0.3	<0.05	<0.1	0.003	<0.5	0.08	1.9	0.06
2 T 935 K	0.79	0.03	0.35	97.6	1.5	2.65	1.15	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	<0.5	0.09	25.4	0.40
936 30% T of 921	0.22	0.03	0.36	41.0	7.2	14.10	6.64	0.9	0.2	0.1	0.3	<0.1	<0.1	<0.05	<0.1	<0.001	<0.5	0.06	2.3	0.04
937 50% DT of 930	0.29	<0.02	0.42	69.8	19.7	24.00	17.40	2.5	0.6	0.3	1.0	0.2	0.1	<0.05	0.1	0.005	<0.5	0.05	3.4	0.07
938 OREAS 47	0.39	<0.02	1.07	78.4	26.0	41.70	19.10	2.9	0.7	0.3	0.6	<0.1	0.3	<0.05	0.1	<0.001	28.5	0.09	256.0	0.18
939 TEST	0.65	0.04	0.21	32.7	1.9	3.60	1.64	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.3	<0.001	4.9	0.10	18.4	0.32
940 TEST	0.63	0.02	0.31	100.0	1.6	2.98	1.37	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	5.3	0.13	35.0	0.41
941 TEST	0.57	<0.02	0.10	45.5	0.8	1.52	0.77	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	1.2	0.06	23.2	0.34
942 TEST	0.69	0.03	0.19	33.8	1.0	2.02	0.94	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	7.3	0.05	19.4	0.32
943 TEST	0.41	<0.02	0.92	63.0	9.2	16.20	6.83	1.1	0.2	0.1	0.3	<0.1	0.1	<0.05	<0.1	<0.001	<0.5	0.09	16.0	0.15
944 TEST	0.48	0.03	0.17	36.6	0.9	1.73	0.82	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	4.0	0.05	21.9	0.32
945 TEST	0.75	<0.02	0.19	50.2	2.6	4.82	2.27	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.4	<0.001	7.3	0.06	22.6	0.19

Results

Activation Laboratories Ltd.

Report: A19-15558

STILL Sand silt content VOL. %	Analyte Symbol Unit Symbol Detection Limit Analysis Method	at cm ↓	Th ppm 0.1 AR-MS	U ppm 0.1 AR-MS	Hg ppb 10 AR-MS	SWIRLED TO REMOVE SAND SILT	SOIL PROFILE cm H = HUMUS L = LEACHED DT B = BROWN DT - NOTES
1 T	901 K		0.3	0.1	230		10 H 5 L B - at lake
5 T	902 K		0.5	0.1	240		10 H 5 L B - mid-slope
2 T	903 K		0.1	0.1	210	1 x	- top slope, W of mafic d.c.?
5 T	904 K		0.2	0.2	100	2 x	10 H 5 L B
10 T	905 K		0.2	0.3	130		10 H 5 L B
3 T	906 K		<0.1	0.5	160	1 x	10 H 5 L B
2 T	907 K		<0.1	0.2	230	2 x	- on esker? gravel, boulder pavement?
4 DT	908 K		0.2	0.2	190	2 x	10 H 5 L B
5 T	909 K		0.1	0.2	150	3 x	5 H 5 L B
6 DT	910 K		0.1	0.1	120	1 x	5 H 5 L B - 10 m N of d.c.
5 T	911 K		<0.1	0.1	150	1 x	5 H 5 L B
8 DT	912 K		<0.1	0.1	230	1 x	- 50 m S of andesite flow?
5 DT	913 K		<0.1	0.1	170	1 x	
2 DT	914 K		0.2	0.2	240	1 x	10 H 5 L B
1 DT	915 K		0.1	0.2	200	1 x	5 H 5 L B
3 T	916 K		0.2	0.1	140		10 H 5 L B - SE of iron formation.
8 T	917 M	80	0.6	0.3	80	1/2 x	> 100 M
2 T	918 M	80	0.4	0.2	70		> 100 M
4 T	919 M	90	0.3	0.2	50		> 100 M
φ	920 K		<0.1	<0.1	110		- poor K in conifer swamp
10 T	921 M	60+90	0.3	0.4	50	1 x	M on sand at 1m - gas bubbles, dense despite creek
5 T	922 M	80	0.4	0.6	100		M on sand at 1m
2 DT	923 K		0.2	<0.1	230		5 H 5 L B
φ	924 M	90	0.3	0.2	120		> 100 M
10 C	925 M	70	1.2	0.5	110		M on greenish-gray silt at 80 cm
8 DT	926 K		0.2	0.1	210		
2 T	927 K		0.2	0.2	140		20 H on greenish silt
10 DT	928 K		0.1	0.2	160	1 x	5 H 5 L B
φ	929 M	60	0.5	0.5	110		M on MT 80-100, clean greenish T at 100 cm
30 T	930 MT	50	0.5	8.1	160	1 x	drained beaver pond, grades into beige silt.
2 DT	931 K		0.4	0.1	240	1 x	- 40 m NE of aplite cliff on shore

Results

Activation Laboratories Ltd.

Report: A19-15558

Analyte Symbol	Th	U	Hg	SWIRLED TO REMOVE SAND SILT	
Unit Symbol	ppm	ppm	ppb		
Detection Limit	0.1	0.1	10		
Analysis Method	AR-MS	AR-MS	AR-MS		
Ø 932 K	<0.1	0.4	170	M on greenish silt at 1m, eastward rocks at 70 cm depth. > 100 M - 80 m across slope on aplite cliff, 20 m above swamp.	
2 T 933 M 80+90	0.8	8.4	130		
2 T 934 M 100	0.6	7.6	170		
2 T 935 K	0.2	<0.1	240		
936 30% T of 921	0.3	0.3	50		
937 50% DT of 930	0.8	6.2	120		
938 OREAS 47 ✓	3.3 ✓	0.5 ✓	20		- STANDARD
939 TEST ✓	0.1	<0.1	220		
940 TEST ✓	<0.1	<0.1	300		
941 TEST ✓	<0.1	<0.1	190		
942 TEST ✓	<0.1	<0.1	250		
943 TEST ✓	0.3	1.6	220		
944 TEST ✓	<0.1	<0.1	230		
945 TEST ✓	0.2	<0.1	160		

Quality Control

Activation Laboratories Ltd.

Report: A19-15558

Analyte Symbol	Sb	Te	Cs	Ba	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Bi
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm
Detection Limit	0.02	0.02	0.02	0.5	0.5	0.01	0.02	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.1	0.02
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
902 Orig	0.76	0.02	0.24	52.8	2.3	3.95	1.84	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	0.7	0.10	31.9	0.35
902 Dup	0.69	0.02	0.23	54.5	2.2	3.68	1.74	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.2	<0.001	0.7	0.10	32.3	0.34
931 Orig	0.55	<0.02	0.30	80.6	4.2	5.75	3.27	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	0.9	0.06	16.7	0.24
931 Dup	0.46	0.04	0.28	76.9	4.0	5.39	3.07	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	<0.5	0.06	16.3	0.26
932 Orig	0.51	<0.02	0.15	100.0	2.1	2.81	1.79	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	0.8	0.06	16.5	0.25
932 Dup	0.52	0.06	0.14	97.4	2.0	2.62	1.72	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	0.1	<0.001	5.1	0.05	16.3	0.25
943 Orig	0.44	0.03	0.90	66.0	9.4	16.60	7.09	1.2	0.2	0.1	0.3	<0.1	0.2	<0.05	<0.1	0.001	<0.5	0.10	16.3	0.16
943 Dup	0.39	<0.02	0.93	60.0	8.9	15.70	6.58	1.0	0.2	0.1	0.2	<0.1	0.1	<0.05	<0.1	<0.001	<0.5	0.09	15.6	0.15
Method Blank																				
Method Blank																				
Method Blank																				

LOW GRADE GOLD ANALYSIS NOT SUITABLE

Quality Control

Activation Laboratories Ltd.

Report: A19-15558

Analyte Symbol	Th	U	Hg
Unit Symbol	ppm	ppm	ppb
Detection Limit	0.1	0.1	10
Analysis Method	AR-MS	AR-MS	AR-MS
902 Orig	0.6	0.1	240
902 Dup	0.5	0.1	240
931 Orig	0.4	0.2	220
931 Dup	0.4	0.1	250
932 Orig	0.1	0.4	180
932 Dup	<0.1	0.4	170
943 Orig	0.4	1.6	230
943 Dup	0.2	1.6	220
Method Blank			
Method Blank			
Method Blank			



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

To: **HERMANN DAXL**
39-630 RIVERPARK RD
TIMMINS ON P4P 1B4

Page: 1
 Total # Pages: 2 (A - C)
 Plus Appendix Pages
 Finalized Date: 18-DEC-2019
 Account: DAXHER

CERTIFICATE TM19312265

P.O. No.: ROCKS-5 DEC-2019

This report is for 8 Rock samples submitted to our lab in Timmins, ON, Canada on 6-DEC-2019.

The following have access to data associated with this certificate:

HERMANN DAXL

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
PUL-QC	Pulverizing QC Test
CRU-21	Crush entire sample
PUL-21	Pulverize entire sample

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	35 Element Aqua Regia ICP-AES 0.5 g	ICP-AES
Hg-MS42	Trace Hg by ICPMS 0.5 g	ICP-MS
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

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

Signature: 
 Saa Traxler, General Manager, North Vancouver



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

To: HERMANN DAXL
 39-630 RIVERPARK RD
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Page: 2 - A
 Total # Pages: 2 (A - C)
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 Finalized Date: 18-DEC-2019
 Account: DAXHER

ROCK CHIPS by aqua regia - ICP-AES
 all pulverized, 0.5 g aliquot used.

CERTIFICATE OF ANALYSIS TM19312265

Sample Description	Method Analyte Units LOD	WEI-21	PGM-ICP23	PGM-ICP23	PGM-ICP23	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Recvd Wt. kg	Au ppm	Pt ppm	Pd ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm
SCIF-1 20% rust		2.06	0.005	<0.005	0.001	<0.2	0.99	5	<10	20	<0.5	<2	0.14	<0.5	3	17
SCIF-2 20% py		1.66	0.027	<0.005	0.040	1.8	2.42	238	<10	20	<0.5	3	0.04	<0.5	498	22
SCIF-3 20% iron		1.67	<0.001	<0.005	0.001	<0.2	0.02	4	<10	10	1.0	3	0.18	<0.5	1	15
		✓ 30 g FIRE ASSAY														

CERTIFICATE OF ANALYSIS TM19312265

Sample Description	Method Analyte Units LOD	ME-ICP41	ME-ICP41	ME-ICP41	Hg-MS42	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm
SCIF-1		44	5.94	<10	<0.005	0.10	<10	0.41	413	1	0.02	1	350	2	0.42	<2
SCIF-2		2500	19.65	10	<0.005	0.07	<10	1.09	687	1	<0.01	85	290	2	>10.0	<2
SCIF-3		10	30.6	<10	<0.005	0.01	<10	0.05	87	<1	<0.01	<1	670	<2	0.03	<2

CERTIFICATE OF ANALYSIS TM19312265

Sample Description	Method Analyte Units LOD	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
SCIF-1		2	4	<20	0.02	<10	<10	21	<10	33
SCIF-2		4	2	<20	0.02	<10	<10	33	<10	56
SCIF-3		<1	11	<20	<0.01	<10	10	4	<10	6