Ontario

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.

Gold in Decayed Vegetation

in Murphy Township Center

(Westward from Highway 655)

on unpatented mining claims
521621, 521622, 521623

in respective cells
42A11C033, 034, 035

Report by Hermann Daxl, M.Sc.(Minex), Claim Holder

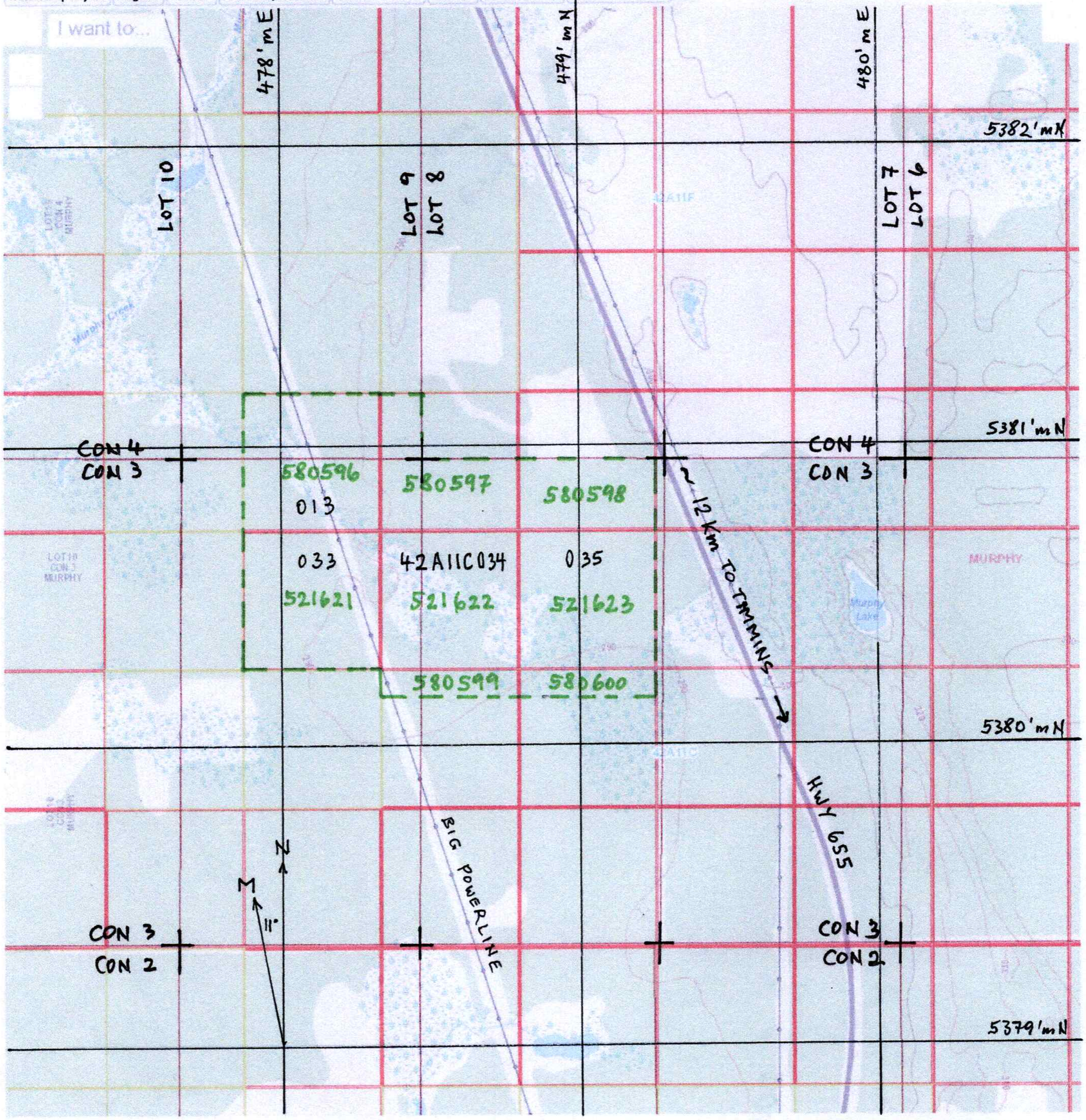
23 April 2020

[Français]

Ontario Ministry of Energy, Northern Development and Mines
MLAS

About | Navigation | Map Information | Markup & Printing

Select Map Layers | Legend | Point | Search By Location | Plans & Permits | Query | Measure Area | Measure Distance

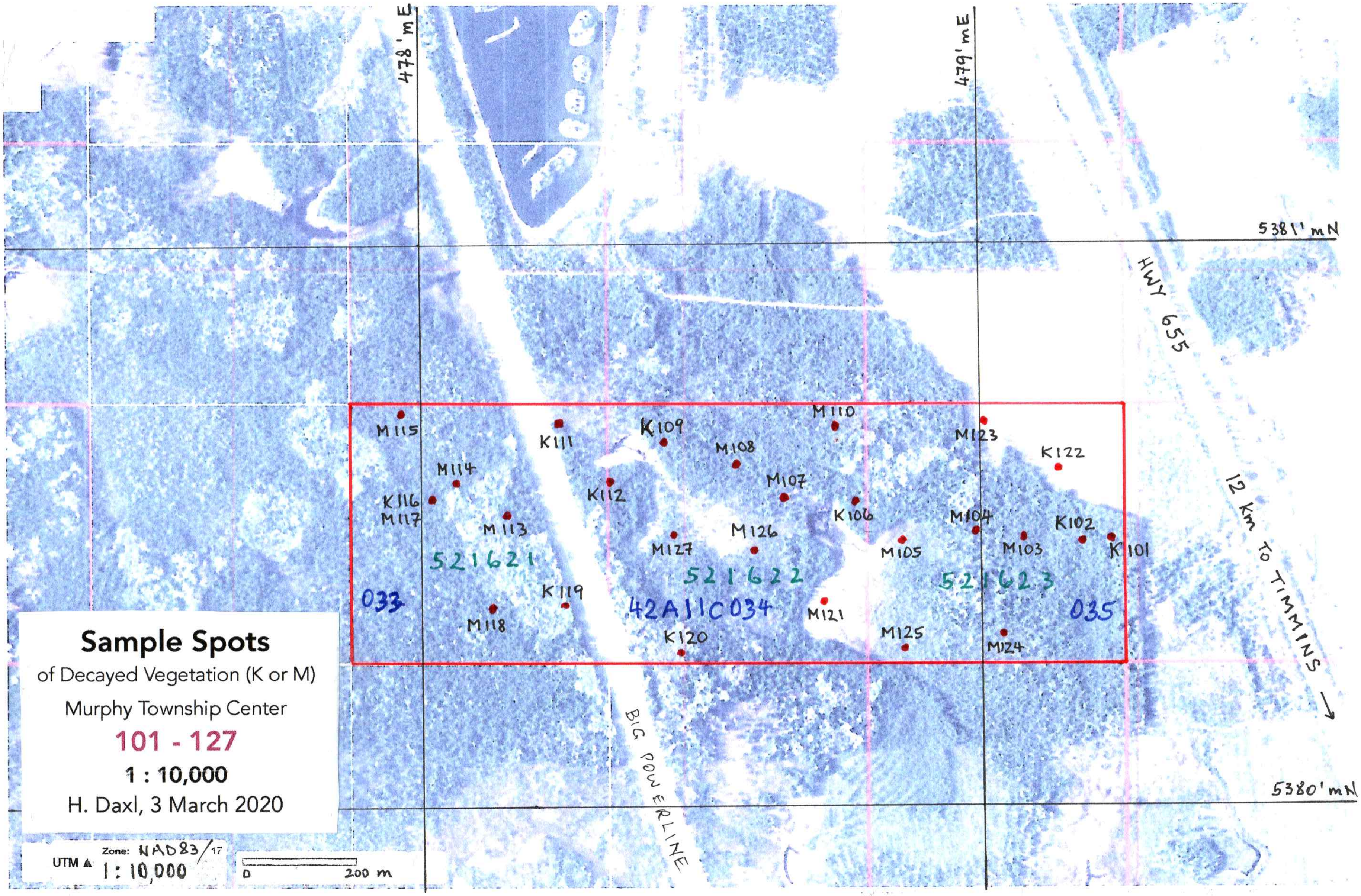


MURPHY TOWNSHIP 8 DAXL CLAIMS - 4 March 2020

Scale: 1:20,000

0 0.15 0.3km

Powered By Land Information Ontario


Sample Spots
of Decayed Vegetation (K or M)
Murphy Township Center
101 - 127
1 : 10,000
H. Daxl, 3 March 2020
UTM
Zone: NAD83/17
1: 10,000
0
200 m
478'mE
479'mE
5381'mN
5380'mN
HWY 655
12 km TO TIMMINS
BIG POWERLINE
M115
K111
K109
M108
M110
M123
K122
M114
K112
M107
K116
M117
K106
M104
K102
M113
M126
M105
M103
K101
M127
521621
521622
521623
033
K119
42A11C034
M121
035
M118
K120
M125
M124

Ontario

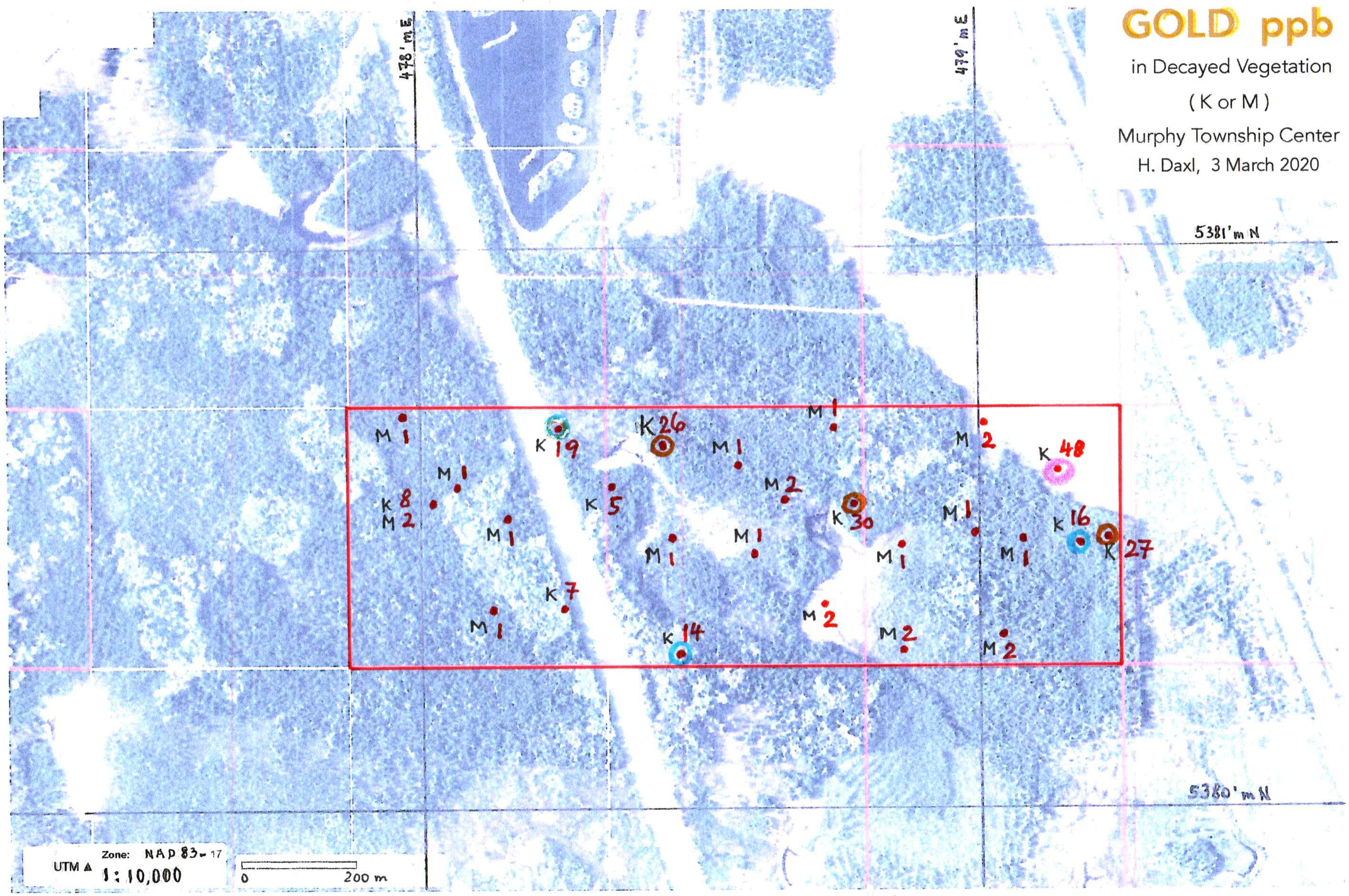
GOLD ppb

in Decayed Vegetation

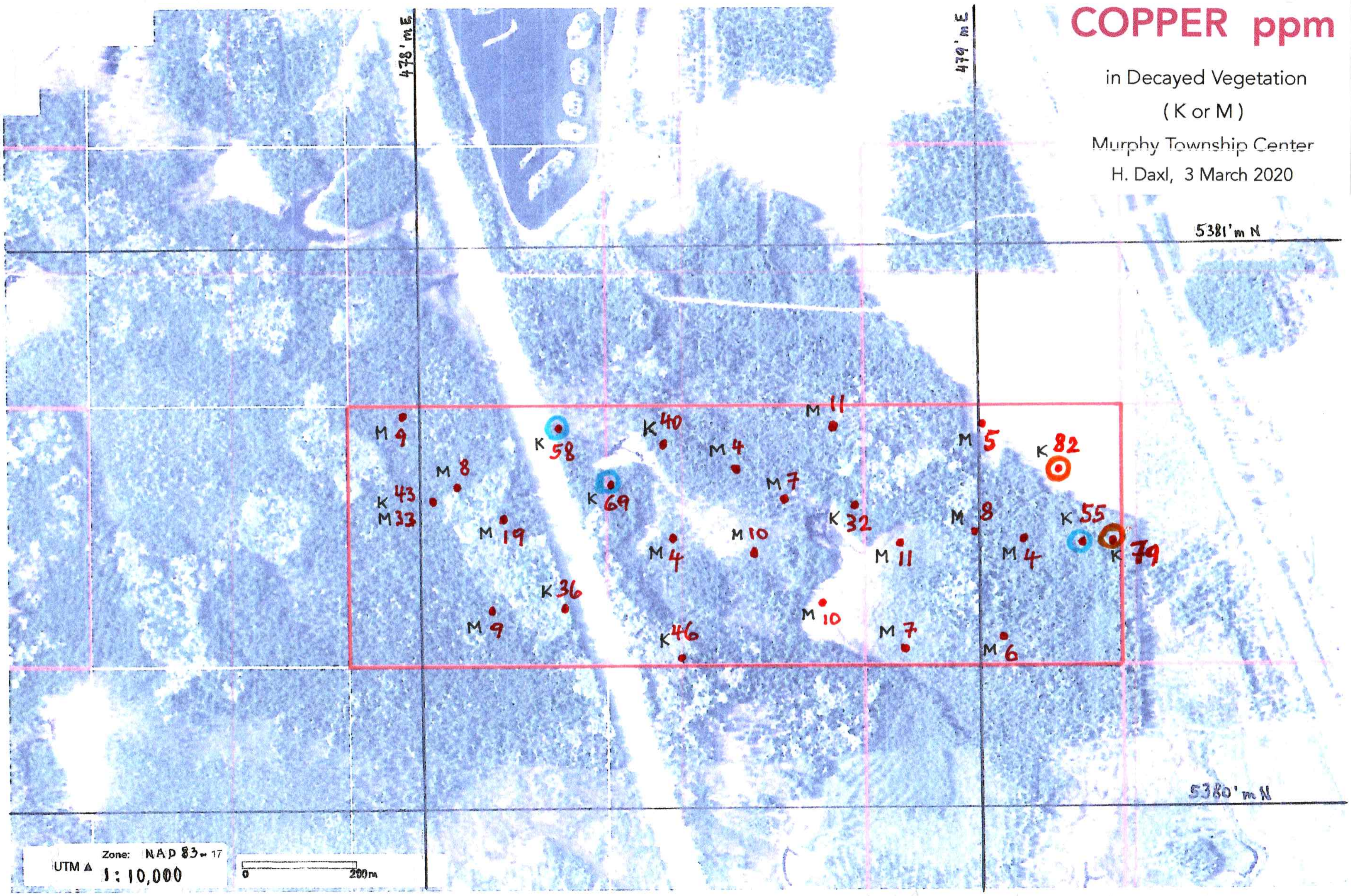
(K or M)

Murphy Township Center

H. Daxl, 3 March 2020



Ontario Ministry of Energy, Northern Development and Mines



Ontario

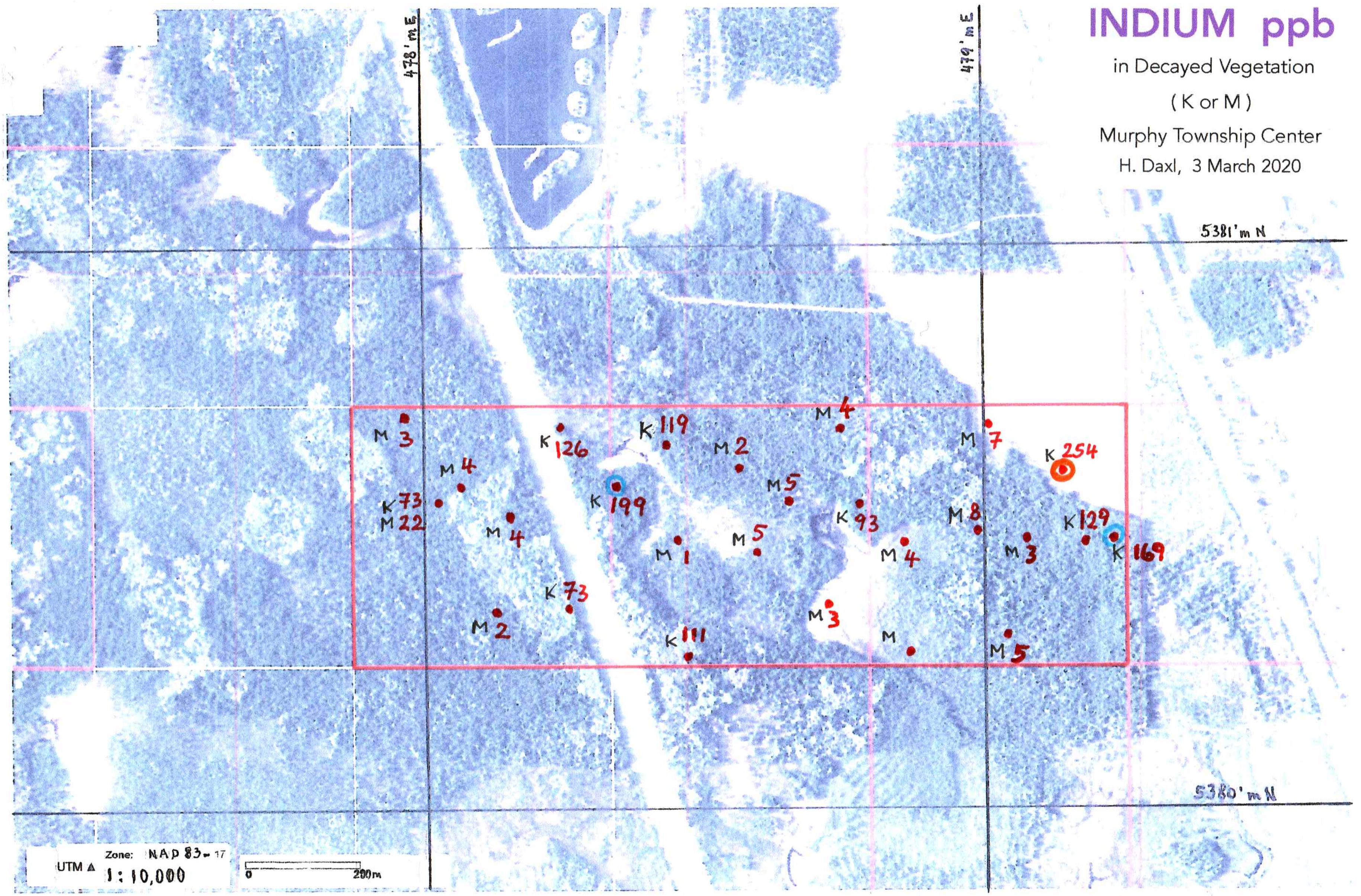
INDIUM ppb

in Decayed Vegetation

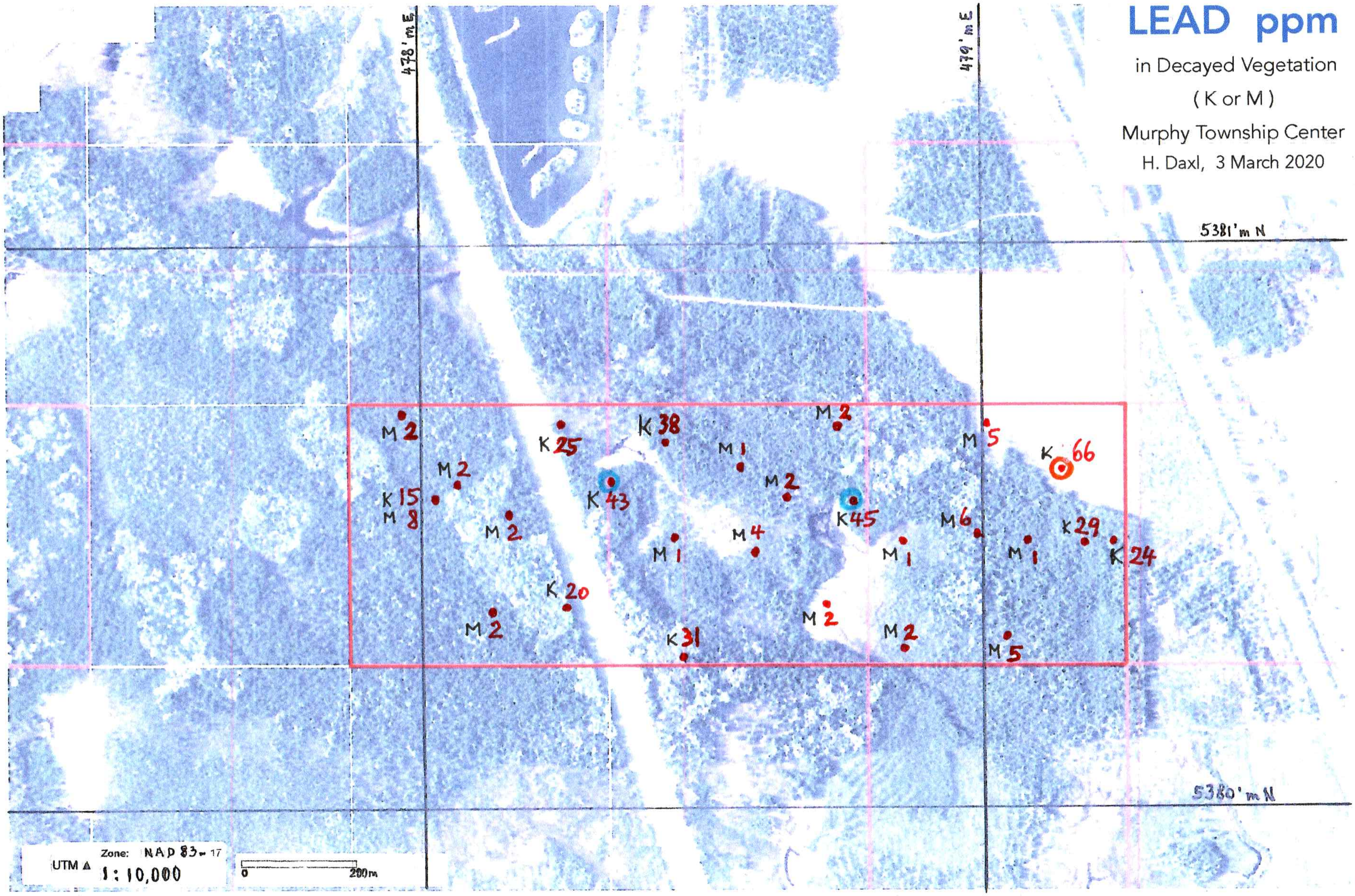
(K or M)

Murphy Township Center

H. Daxl, 3 March 2020

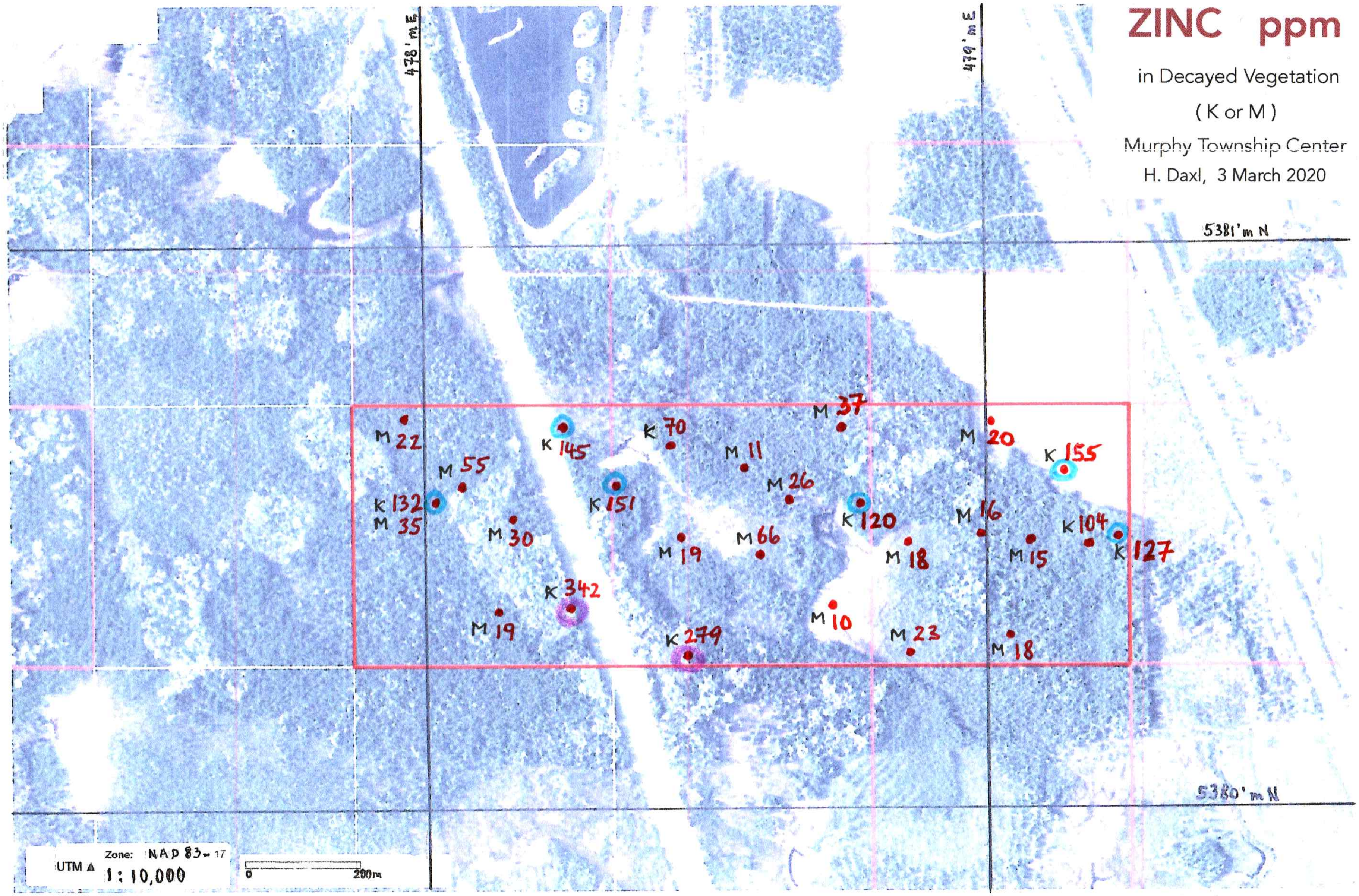


Ontario



LEAD ppm
in Decayed Vegetation
(K or M)
Murphy Township Center
H. Daxl, 3 March 2020
478' m E
479' m E
5381' m N
5380' m N
M 2
K 25
K 38
M 2
M 5
K 66
M 1
M 2
K 15
M 8
K 43
M 2
K 45
M 6
K 29
M 2
M 4
M 1
M 1
M 1
K 24
K 20
M 2
M 2
M 2
K 31
M 5
UTM
Zone: NAD 83 - 17
1 : 10,000
0
200m

Ontario


ZINC ppm
in Decayed Vegetation
(K or M)
Murphy Township Center
H. Daxl, 3 March 2020
478' m E
479' m E
5381' m N
5380' m N
M 22
K 145
K 70
M 11
M 37
M 20
K 155
M 55
K 151
M 26
K 132
M 35
M 30
K 120
M 16
K 104
K 127
M 19
M 66
M 18
M 15
K 342
M 19
M 10
K 279
M 23
M 18
UTM
Zone: NAD 83 - 17
1 : 10,000
0
200m

Introduction

The elevated values of <48 ppb gold in decayed vegetation from 0 - 6 cm below surface (K-samples), on my 3 unpatented mining claims 521621 - 623, full cells 42A11C033 - 035 respectively, in central Murphy Township, 12 km north of Timmins, can only come from bedrock. This again proves such widely spaced sampling as an efficient prospecting method even over deep overburden. I collected 10 such K-samples, and where not available, 17 of black swamp muck (M-samples) from <1m depths, on 23, 26, 28 June 2019, after having informed the owner of surface rights as he wished.

The topography is flat around 290 m above sea level with few meters of gentle slope toward the central swamp with its effluent towards WNW into Murphy Creek at 1 km. Thin humus on sand covers the northeast which has been deforested recently. Mostly high conifers exist around the central open swamp and westward with often over 1 m deep black muck probably all on clay. Details are annotated with the sample results.

Quite unexplored, the geology is mostly assumed to be metasedimentary rocks in the north, in contact with the intermediate metavolcanic rocks of the south, according to the abrupt drop from the magnetic high of the south (OGS Maps 81071 and P.3305).

Off my claims, early October 1971, Amax Exploration Inc. (42A11SE0180) drilled two 90m holes, TX-77-71 and TX-78-71, into the north-south conductor about 200 m SSE from the SE corner of my claim 521623. The 155 m of AXT (3.5cm) drill core was dacite, dacite tuff and agglomerate, with <75 cm massive pyrrhotite or pyrite intersections explaining the conductor and magnetism. I found no analyses. The 10 m vertical overburden was swamp muck on clay, with fine sand at the base.

My three claims of my present work stretch west from near highway 655 about 12 km north of Timmins. The region is mostly sand, and is flat with the highway, which facilitates parking. The surface rights holder can open the gate further north at NAD83 - 479255E - 5380928N near the northeast corner of my claim group which includes also claims 580596 - 600. That gravel trail westward, and the big powerline in the west, are the only developments on the 3 claims worked. Please refer to the attached map.

Present Work

This is not like socalled humus sampling nor fresh specific vegetation sampling, because humus usually includes sand-silt-clay which overrides all usefulness, and the very low values of fresh vegetation are too easily influenced by many factors. If you need a theory to trust the facts below, here is some logic. Element ions rising from excess mineralization accumulate on earth's surface. Some plants take up elements, others reject them at the rootlets. In the end the elements rising to the leaves also accumulate and concentrate between those rootlets. All get into my K-samples, regardless of plant species. My 6-minute video demonstrates such sampling.
`www.youtube.com>watch>v=zHgkvo0wSI0`

I collected 27 samples (101 - 127) of two types, decayed vegetation from 0 - 6 cm depth into humus (K), or deep dense black muck from swamps (M) where was no K. K-samples are composites from several spots over about 30m, to average and cover more ground, whereas M-samples are 10cm long core from the noted depth in single 5cm diameter auger holes. This K and M is annotated to qualify values as two levels (or two populations), as K benefits from accumulation, whereas M would merely scavenge what it can, depending on waterflow in swamps, especially where the bottom cannot be reached.

After drying, rolling, rubbing, and sieving to <250 micron, I homogenized each sieving and checked for inorganic content. To remove sand and silt, which would dilute or contaminate, I sieved K106 and K109 to 125-250 micron. Further dry swirling in a plastic gold pan and skimming off the organics was necessary for samples 106, 109, 119, 120, 122. Basically the resulting sievings are condensed vegetation and therefore are suitable for vegetation analyses with the necessary very low detection limits.

Considering density, values of organics with 10 % remaining inorganic dilution would have to be boosted by 30%, however, I used only the original lab results, and annotated any remaining sand-silt content. Clay-rich samples can dry hard and do not release the trapped clay, but like in MC117, clay content often shows as higher Al, Ce, La, Li, Fe, Cr, Ni, and others. Micas could be the carriers.

The possibly very thick overburden should be no barrier, but could attenuate and spread out results. This discovery needs to be followed up with narrow sampling. Please refer to the attached lecture handout for more details about this very efficient and reliable prospecting method.

Results

The considerable gold in each of the 10 K-samples, ranging from 5 - 48 ppb Au, suggest a large gold zone under the 3 claims. More K-samples will be needed before a local concentration can be outlined. Please refer to the annotated list of analyses, the sample map, and element overlays for gold, copper, indium, lead, zinc.

The 17 M-samples are quite barren, but should not distract from this important discovery. Water in the 1m wide brook of this swamp hardly moves, whereas the swamp is very wet. Apparently the water flows throughout the muck and flushes out elements here. M-samples have worked well in stagnant other swamps for copper (my assessment work reports 1212 and 2935).

To refute the assumption that such gold could come from the very minor sand-silt still in 6 of these sievings, I submitted the 60%-sand portion of sample K120, as well as the <125 micron fraction of K109 which contained 60 % sand-silt, as samples 129 and 131 respectively. As dregs of dry swirling, they would also have contained any gold dust. Despite the multiple sand-silt content, the gold content was only a fraction in both, reflecting only the remaining organic content.

K109	with estimated	10	volume % sand	26	ppb gold
K131	"	60	"	9	"
K120	"	5	"	14	"
K129	"	60	"	6	"

Also no inorganics were found in sample K111, yet it had 19 ppb gold, and M114 with 3% sand had only 1 ppb gold.

Other elements, including arsenic, appear quite normal, with the expected difference between K and M samples. Like gold, the highest values for other elements in decayed vegetation from 0 - 6 cm occur in K122, namely: 48 ppb Au, 254 ppb In, 82 ppm Cu, 66 ppm Pb, and if one assumes that zinc near the power line may be contamination from it, 155 ppm Zn.

The tower of the big power line stands at the SE corner of claim 521621, about 100 m from both samples with the highest zinc values, K119 - 342 ppm Zn, and K120 - 279 ppm Zn. The possibility of contamination needs to be investigated. The ratio Cd : Zn is only half of that it other samples.

All samples were analyzed with method 2G - unashed vegetation - aqua regia - ICP/MS - 0.5 g aliquots, by Activation Laboratories Ltd., Ancaster, who also analyzed K101 and K112 by the similar method Ultratrace 2, and 6 more by neutron activation - Code 2B - Vegetation - medium vials - double irradiation time at extra cost. In addition, 7 samples were also analyzed with method ME-VEG41 - unashed vegetation - HNO3/HCl - ICPAES /ICPMS - 1 g aliquots, by ALS Canada Ltd., North Vancouver. Ultratrace 2 is not suitable for gold, but all others were in fair agreement including my test samples and standard reference materials. The attached results are annotated for better comparison.

Conclusions and Recommendations

These widespread and rather high, confirmed gold values can come only from the rock below, as contamination from sand-silt has been ruled out. This discovery in only 3 field trips on 3 claims shows the efficiency of the method for finding mines.

Narrower infill samples may outline specific zones. More experimentation may also discover a better sample medium for the swamp that covers a large part of the 3 claims.

Respectfully submitted,

Timmins, 23 April 2020 Hermann Daxl, M.Sc.(Minex), Claim Holder

DECAYED VEGETATION 0-6 cm depth (K) OR
BLACK SWAMP MUCK (M...) at cm depth.
sieved < 250 µm except * 125-250 micron (106+109)

MURPHY TOWNSHIP

BY 2G - UNASHED VEGETATON - AQUA REGIA - ICP/MS
- 1 g aliquots

Results **Activation Laboratories Ltd.** **Report: A19-08903** - REV 2

STILL VOL.% sand D silt T clay C	Analyte Symbol	at cm	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Ce	Co
	Unit Symbol		ppb	%	ppb	%	ppb	ppb	ppb	%	ppb	ppb	ppb
	Detection Limit		10	0.004	10	0.001	10	50	0.5	0.025	10	1	2
	Method Code	↓	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3D	101	K	185 230 ✓	0.218	2100	< 0.001	22600	< 50	240.0	0.326	1780 ✓	4600	1360 ✓
0	102	K	130	0.127	1870	< 0.001	34800	< 50	201.0	0.320	1010	3310	989
0	103	M 80	20	0.212	1690	0.001	27500	100	16.4	4.340	370	2990	1420
0	104	M 50	60 ✓	0.525	2240	< 0.001	48600	170	48.4	2.590	580 ✓	8980	1910 ✓
0	105	M 30+80	60	0.382	980	< 0.001	41800	230	19.3	3.050	540	7800	1030
5D	106 *	K 125-250 µm	640	0.646	2070	< 0.001	110000	200	274.0	0.601	1000	13500	5740
0	107	M 60+90	40	0.424	1330	0.001	54400	170	22.0	3.240	320	6940	1370
0	108	M 50+90	20	0.216	1070	0.001	34400	80	9.1	3.450	160	3210	255
10D	109 *	K 125-250 µm	100	0.277	2200	< 0.001	41700	< 50	273.0	0.369	700	5280	1240
0	110	M 50+80	60	0.524	1350	< 0.001	51200	280	19.5	2.530	410	9220	1590
0	111	K	110	0.166	2100	< 0.001	61200	50	166.0	1.320	780	2970	977
0	112	K	340 285	0.208	3020	< 0.001	84700	50	291.0	0.641	1230	3840	1990
0	113	M 60	60	0.377	950	< 0.001	67000	160	27.0	3.700	1130	6580	992
3D	114	M 50	70	1.010	2710	< 0.001	50000	330	15.4	3.840	990	15900	2520
0	115	M 60+90	30	0.263	840	< 0.001	41800	140	14.6	3.120	380	3810	637
0	116	K	60	0.066	1370	0.004	20000	< 50	139.0	0.595	1290	1440	582
? ?	117	MC 20 v.sticky	130	2.470	2120	0.001	95700	1240	89.4	2.500	700	50200	4360
0	118	M 60+80	40	0.343	2480	0.001	72700	140	13.5	4.710	510	4430	1540
8DT	119	K	180 ✓	0.217	1120	0.001	203000 ✓ 233000	90	129.0	1.770	1880 ✓	5080	3650 ✓
5D	120	K	290 ✓	0.204	1420 1990	< 0.001	164000 ✓	80 ✓	183.0 242	1.380 ✓	1800 ✓	4570 ✓	2920 2320
0	121	M 50	40	0.370	1330	< 0.001	32100	180	18.8	2.780	340	6800	935
2D	122	K	390 ✓	0.272	3250 3880	< 0.001	54400 ✓	60	403.0 486	0.491 ✓	1590 ✓	4510 3820	1510 ✓
0	123	M 35	20 ✓	0.205	970	< 0.001	42500	50	25.2	3.950	270 ✓	2080	508 ✓
0	124	M 50	40	0.350	1070	< 0.001	32100	120	28.4	2.690	440	6420	1750
0	125	M 60+80	40	0.263	950	< 0.001	41900	130	20.2	2.750	590	3980	1220
0	126	M 60+90	60	0.586	1160	< 0.001	49000	240	35.1	2.350	690	18300	3030
0	127	M 50+80	20	0.218	1120	< 0.001	34600	90	8.6	2.820	160	3280	718
2T	128	M TEST 7279	90 ✓	1.260 ✓	1370	0.001	56000	460 ✓	24.5	1.860 ✓	3210 2880	25500 23000	3350 ✓
60D	129	60% Sand part of 120	100	0.107	640	< 0.001	54400	< 50	64.0	0.472	590	10300	1070
	130	OREAS 47	110 ✓	1.150	8530 vs: 9530	< 0.001	60700 ✓	240 ✓	114.0 150	0.800 0.547	550 ✓	48700 ✓	48100 ✓

Results **Activation Laboratories Ltd.** **Report: A19-08903** - REV 2

STILL Vol. %	Analyte Symbol	at cm ↓	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf
Sand D	Unit Symbol		ppb	ppb	ppb	ppb	ppb	ppb	%	ppb	ppb	ppb	ppb
silt T	Detection Limit		20	2	10	0.5	1	1	0.003	4	4	1	3
clay C	Method Code		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3 D	101	K	7250 6390	277	80400 78700 86100	157.0	75	50	0.298 ✓	726	139	37	18
0	102	K	4180	212	55000	129.0	51	44	0.211	472	120	38	24
0	103	M 80	2760	142	4070	191.0	98	56	0.365	420	130	25	54
0	104	M 50	7070 ✓	392	7980 7830	452.0	221	138	0.898 ✓	1320	330	40	75
0	105	M 30+80	3910	152	10900	413.0	219	133	0.302	786	340	55	133
5 D	106	* K 125-250 μm	11100	1510	31600	416.0	185	141	0.638	2650	353	50	29
0	107	M 60+90	5860	309	7240	414.0	218	127	0.441	1100	312	43	150
0	108	M 50+90	2970	186	3820	184.0	104	63	0.466	473	146	23	93
10 D	109	* K 125-250 μm	5420	421	40400	197.0	79	63	0.363	1100	158	71	19
0	110	M 50+80	6730	364	11100	571.0	296	170	0.404	1080	411	55	108
0	111	K	4110	192	57500	130.0	62	49	0.212	519	100	45	34
0	112	K	5130 ✓	400	68900 ✓	137.0	66	51	0.384	780	129	41	12
0	113	M 60	4800	155	19200	420.0	217	121	0.524	861	289	43	195
3 D	114	M 50	15800	196	8130	950.0	576	297	0.921	1150	696	121	85
0	115	M 60+90	2620	153	8680	209.0	117	73	0.217	575	169	25	105
0	116	K	3700	138	42800	64.4	30	20	0.125	281	95	49	19
2 ?	117	MC 20 v.sticky	35800	1800	33300	2350.0	1180	729	1.640	6250	1770	192	267
0	118	M 60+80	4700	268	9160	283.0	141	79	0.677	777	193	36	99
8 DT	119	K	4360 3730	504	35800 37800	138.0	69	57	0.208 ✓	877	143	27	13
5 D	120	K	4160 4510	405 ✓	45600 53700	146.0	67	48	0.227 ✓	805 ✓	128	33	22
0	121	M 50	4580	190	9740	356.0	186	111	0.405	845	271	46	148
2 D	122	K	6150 5170	333 287	81700 84500 ✓	162.0	89	64	0.346 0.304 ✓	971 879	157	56	23
0	123	M 35	1970 ✓	126	4930 ✓	129.0	59	36	0.173 ✓	373	96	28	31
0	124	M 50	3290	264	6490	312.0	153	95	0.588	918	238	45	87
0	125	M 60+80	3110	179	6860	211.0	110	60	0.287	552	147	26	102
0	126	M 60+90	8920	560	10200	600.0	308	197	0.355	1680	485	67	99
0	127	M 50+80	2960	273	4440	191.0	102	61	0.196	560	137	22	100
2 T	128	M TEST 7279	8270	209 ✓	377000 330000	5180.0	3110	1650	0.303 ✓	2540	3820	388	65
60 D	129	60 % sand part of 120	2430	215	18100	196.0	67	44	0.128	676	222	41	23
	130	OREAS 47	34800 ✓	1270 ✓	156000 ✓	1350.0	669	647	1.830 ✓	4210 vs. 3280	1150	187	279

Results **Activation Laboratories Ltd.** **Report: A19-08903**

STILL Vol.% sand D silt T clay C	Analyte Symbol / Unit Symbol / Detection Limit / Method Code (at cm ↓)	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na
	Unit Symbol	ppb	ppb	ppb	%	ppb	ppb	ppb	%	%	ppb	%
	Detection Limit	10	0.4	0.2	0.01	3	10	0.4	0.002	0.00001	10	0.005
	Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3D	101 K	190	26.9	169.0 ✓	0.08	2340	930	6.6	0.090	0.02769	520 ✓	< 0.005
0	102 K	290	20.8	129.0	0.09	1600	580	5.6	0.073	0.01389	510	< 0.005
0	103 M 80	130	35.6	2.5	< 0.01	1510	300	10.1	0.196	0.01236	1190 ✓	< 0.005
0	104 M 50	340	83.6	7.9 ✓	0.03	4490	1540	27.1	0.161	0.05654	450 ✓	0.005
0	105 M 30+80	210	78.3	4.2	0.01	5270	580	26.3	0.144	0.01785	350	0.008
5D	106 * K 125–250 µm	270	66.3	93.3	0.13	6510	5060	17.5	0.180	0.21327	550	0.005
0	107 M 60+90	150	75.0	4.9	0.03	4090	1670	30.1	0.213	0.01403	500	0.006
0	108 M 50+90	120	36.6	1.9	0.01	1650	430	11.7	0.200	0.01003	680	0.006
10D	109 * K 125-250 µm	270	33.8	119.0	0.07	2630	1460	9.6	0.078	0.04182	480	< 0.005
0	110 M 50+80	180	110.0	4.3	0.03	5820	1890	36.9	0.174	0.03514	600	< 0.005
0	111 K	300	22.0	126.0	0.07	1550	1180	6.2	0.142	0.04786	440	< 0.005
0	112 K	430	23.9	199.0	0.08	1930	1190	7.4	0.090	0.17316	500 410	< 0.005
0	113 M 60	180	76.3	3.5	0.01	3620	650	29.8	0.215	0.01237	340	< 0.005
3D	114 M 50	140	196.0	3.8	0.02	7360	3240	74.1	0.280	0.01002	330	0.009
0	115 M 60+90	150	40.5	2.8	0.01	2090	630	14.5	0.231	0.01677	450	< 0.005
0	116 K	180	9.4	72.7	0.08	681	370	3.0	0.079	0.07407	270	< 0.005
? ?	117 MC 20 v.sticky	290	426.0	21.6	0.22	29300	19500	143.0	0.470	0.02910	430	0.010
0	118 M 60+80	140	51.3	2.1	0.02	2140	1380	16.0	0.308	0.02533	1200	0.006
8DT	119 K	150	28.7	72.9 ✓	0.11	2770	1400	8.4	0.153	0.26041 ✓	240 ✓	< 0.005
5D	120 K	260 ✓	24.1	111.0 125	0.10 ✓	2410 ✓	1530	7.6	0.135 0.119	0.16379 ✓	340 ✓	< 0.005
0	121 M 50	120	68.6	3.2	0.01	3610	720	23.2	0.168	0.00709	180	< 0.005
2D	122 K	420 ✓	32.5	254.0 ✓	0.06 ✓	2270	1030	9.8	0.094	0.02450 ✓	710 620	< 0.005
0	123 M 35	140	23.9	6.6 ✓	< 0.01	1110	180	6.9	0.144	0.01160 ✓	530 ✓	< 0.005
0	124 M 50	220	56.0	4.6	0.02	3490	1130	16.3	0.152	0.03196	490	< 0.005
0	125 M 60+80	140	37.3	1.6	< 0.01	1920	530	11.8	0.151	0.02232	660	< 0.005
0	126 M 60+90	100	118.0	4.8	0.04	7560	2760	36.4	0.210	0.03607	610	< 0.005
0	127 M 50+80	70	36.3	0.9	0.01	1640	520	13.3	0.190	0.01191	510	< 0.005
2T	128 M TEST 7279	210	1070.0	4.6	0.01	38600 ✓	620	449.0	0.091	0.00129 ✓	320 ✓	0.010
60D	129 60% sand part of 120	80	29.4	40.5	0.04	5220	860	6.0	0.052	0.06115	130	< 0.005
	130 OREAS 47	30	246.0	45.4 VS. 37	0.14	26600 ✓	11400 8830	73.1 ✓	0.631 0.484	0.03143 ✓	12500 ✓	0.104 0.091

Results **Activation Laboratories Ltd.** **Report: A19-08903** —REV 2

STILL Vol.% Sand D Silt T Clay C	Analyte Symbol / Unit Symbol / Detection Limit / Method Code	at cm ↓	Nb	Nd	Ni	P	Pb	Pr	Rb	Re	Sb	Se	Sm
	Unit Symbol		ppb	ppb	ppb	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb
	Detection Limit		2	5	10	0.004	5	2	20	0.2	5	10	2
	Method Code		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3D	101	K	212	2150	7500 7780 6570	0.074	23700 19050	505	5360	0.7	92	1270 3610	365
0	102	K	134	1540	5500	0.063	28800	365	4560	0.7	88	1550	270
0	103	M 80	122	1570	3160	0.037	1260	359	1000	2.4	13	1380	279
0	104	M 50	314	4110	4130 ✓	0.072	5910 4500	998	2500	1.1	26	2140 1695	730
0	105	M 30+80	203	4450	4110	0.040	1430	1090	940	0.9	24	1040	713
5D	106	* K 125-250 µm	683	5480	8920	0.092	45200	1380	49400	0.3	90	1100	825
0	107	M 60+90	301	4010	5040	0.035	2180	964	2620	0.8	22	2010	656
0	108	M 50+90	128	1720	3720	0.029	1220	396	860	1.0	13	850	277
10D	109	* K 125-250 µm	246	2340	5300	0.064	38400	593	6560	0.5	103	1180	411
0	110	M 50+80	316	5460	5800	0.060	1630	1310	2960	1.0	24	900	890
0	111	K	140	1400	4640	0.067	24600	354	4150	0.4	73	1220	244
0	112	K	186	1790	6540 5800	0.100	43400 35000	425	7810	0.6	113	1350	302
0	113	M 60	293	3550	6110	0.027	2170	838	1120	0.8	35	2400	598
3D	114	M 50	382	8090	6380	0.077	1620	1870	1880	3.5	8	1380	1440
0	115	M 60+90	160	2020	3930	0.028	1550	486	1060	0.8	26	970	374
0	116	K	57	735	3170	?	15200	168	2900	< 0.2	180	280	116
2?	117	MC 20 v. sticky	1410	24700	21600	0.107	8040	6220	21100	2.0	50	4100	4070
0	118	M 60+80	246	2180	6830	0.045	1590	528	2630	2.5	18	1210	422
8DT	119	K	216	2170	5930 ✓	0.105	19700 15950	552	10100	0.6	52	930 1535	331
5D	120	K	210	1970	6340 ✓	0.100 ✓	31200 ✓	493	9470	0.3	72	1110	335
0	121	M 50	252	3400	6610	0.032	1900	797	1290	0.7	22	1810	623
2D	122	K	201 ✓	2240	9330 12800 8490	0.085 ✓	55400 65900 58200	517	4130	0.6	154	7310 3350 7150	366
0	123	M 35	96	1090	3000 ✓	0.033	5000 4440	252	810	1.9	38	750 966	193
0	124	M 50	200	3030	2600	0.057	4700	748	1950	1.0	28	1130	526
0	125	M 60+80	148	1810	3410	0.031	1890	428	800	1.3	25	1750	319
0	126	M 60+90	434	6760	5960	0.061	3690	1670	5060	1.3	20	1350	1070
0	127	M 50+80	139	1700	3780	0.031	989	392	1350	1.5	16	860	304
2T	128	M TEST 7279	238	43900	40500 ✓	0.079	33600 27600	10100	1120	7.2	34	7390	7520
60D	129	60% sand part of 120	173	4310	2510	0.030	13300	1120	4120	0.2	25	290	626
	130	OREAS 47	334	20700 vs. 17800	82900 ✓	0.052 ✓	343000 284000	5360 ✓	8820 7150	0.7	24 ✓	1650	3040

Results **Activation Laboratories Ltd.** **Report: A19-08903** – REV 2

STILL Vol.% sand D silt T clay C	Analyte Symbol	at cm ↓	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V
	Unit Symbol		ppb	ppb	ppb	ppb	ppb	ppb	%	ppb	ppb	ppb	ppb
	Detection Limit		30	50	1	2	5	1	0.15	0.5	0.1	0.5	20
	Method Code		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3 D	101	K	880 450	13500	31	29	18	335 144	< 0.15	79.9	8.7	105.0 85	3920 ✓
0	102	K	770	11800	36	23	14	236	< 0.15	60.7	6.7	85.7	2420
0	103	M 80	40	47200	31	31	12	292	< 0.15	42.4	11.6	167.0	2980
D	104	M 50	240 130	43500	19	78	28	876 427	< 0.15	60.6	28.2	912.0 ✓	5130
0	105	M 30 + 80	40	54000	31	74	8	812	< 0.15	31.5	27.1	312.0	5910
5 D	106 *	K 125-250 µm	1170	25000	7	74	29	464	< 0.15	158.0	20.5	214.0	11200
0	107	M 60 + 90	90	73400	23	75	13	1050	< 0.15	48.3	28.1	2840.0	4910
0	108	M 50 + 90	50	105000	26	34	8	551	< 0.15	27.0	11.5	244.0	2560
10 D	109 *	K 125-250 µm	1230	16600	14	34	17	272	< 0.15	57.9	11.0	137.0	4190
0	110	M 50 + 80	90	50900	17	100	9	886	< 0.15	40.4	36.8	266.0	6120
0	111	K	640	43300	16	23	21	297	< 0.15	52.7	8.2	86.5	2730
0	112	K	1220	18400	5	28	22	224	< 0.15	133.0	7.8	96.0	4580
0	113	M 60	100	74000	25	71	8	1240	< 0.15	39.4	28.7	707.0	5910
3 D	114	M 50	50	65500	19	162	6	788	< 0.15	48.0	70.6	823.0	9950
0	115	M 60 + 90	60	72800	19	39	12	690	< 0.15	34.1	16.2	211.0	3590
0	[116	K	410	19200	8	11	53	206	< 0.15	29.9	2.6	46.7	1650
? ?	[117	MC 20 v. sticky	590	54200	5	408	30	3660	< 0.15	165.0	148.0	3160.0	22600
0	118	M 60 + 80	60	54400	13	45	7	725	< 0.15	49.7	18.4	14700.0	3730
8 DT	119	K	570 170	63600	3	27	19	198 89	< 0.15	107.0	7.8	92.2 72	3670 ✓
5 D	120	K	780	48600	3	30	23	295 127	< 0.15	110.0 ✓	7.4	93.4 ✓	4710 3600
0	121	M 50	90	62600	21	65	8	1060	< 0.15	41.4	26.2	322.0	5960
2 D	122	K	1930 820 ✓	23500 ✓	11	34	27 ✓	225 104 ✓	< 0.15	134.0 ✓	10.8	121.0 ✓ 101	4230 ✓
0	123	M 35	110 90	61000	16	22	17	196 142	< 0.15	32.5	8.1	118.0 ✓	2220
0	124	M 50	150	42300	12	57	10	660	< 0.15	40.3	19.9	197.0	5040
0	125	M 60 + 80	40	54000	17	35	5	574	< 0.15	25.8	13.7	152.0	3720
0	126	M 60 + 90	140	41700	12	110	13	817	< 0.15	55.6	38.1	323.0	8960
0	127	M 50 + 80	40	55100	16	35	7	598	< 0.15	30.0	11.3	130.0	2550
	128	M-TEST 7279	100 ✓	46500	18	858	19	623	< 0.15	83.1	397.0	2210.0 ✓	5580 ✓
	129	60 % sand part of 120	360	16800	4	43	10	1480	< 0.15	49.4	7.3	191.0	2300
	130	OREAS 47	2650 ✓	47300 vs. 31400	< 1	244 ✓	15	3210 ✓	< 0.15	85.0 ✓	84.2	482.0 ✓	24700 ✓

Results **Activation Laboratories Ltd.** **A19-08903 – REV2**

STILL Vol. % (sand D, silt T, clay C)	Analyte Symbol / Unit Symbol / Detection Limit / Method Code	at cm ↓	W ppb 5 AR-MS	Y ppb 4 AR-MS	Yb ppb 3 AR-MS		Zn ppb 100 AR-MS		Zr ppb 20 AR-MS	ACT N.A. ↓	Au ppb 0.2 AR-MS	ALS ↓			Pt ppb 0.2 AR-MS	INORGANIC TOP AT cm
3 D	101	K	241	698	69	136000	127000 ✓		750		27.1	10.2		2	1.8	10 fine sand, leached on brown
0	102	K	199	547	45		104000		880	17.8	16.4				2.2	10 coarse wet sand
0	103	M 80	37	986	97		15400		1850		0.7	θ		2	0.6	>100
0	104	M 50	45 ✓	2150	208		16200 ✓	4800	3150		0.9	0.8		1	0.4	60 clay
0	105	M 30+80	35	2300	213		18000		4960		1.0				0.9	>100
5 D	106 *	K 125–250 μm	140	1760	159		120000		1380	22.8	29.8		⊙		0.6	8 silt
0	107	M 60+90	34	2040	195		25900		6100		2.0				0.9	>100
0	108	M 50+90	24	940	85		10900		2990	θ	1.1				0.7	>100
10 D	109 *	K 125–250 μm	217	860	73		69700		670		26.0		⊙		1.1	10 sand, leached 5 cm on brown
0	110	M 50+80	29	2940	248		36600		5140		0.8				0.5	>100
0	111	K	411	618	52		145000		1350		18.6				0.7	>30 clay
0	112	K	274	671	59	163000	151000		460		5,3					10 clay
0	113	M 60	24	2210	202		29600		8040	θ	1.3				1.4	80 gray clay
3 D	114	M 50	436	5550	546		54600		4620		1.1				0.4	60 clay
0	115	M 60+90	21	1170	113		22100		4120		1.1				0.8	>100
0	116	K	207	321	28		132000		650		8.3 ✓	DUPL			1.2 ✓	>30 clay
22	117	MC 20 v. sticky	63	11800	1060		34700		12800		1.7				0.8	
0	118	M 60+80	62	1390	142		18700		4710		1.0				1.0	>100
8 DT	119	K	119 ✓	706	55		342000 ✓	590	460		6.8	4.3	⊙	1	0.2	10 clay – clay hill
5 D	120	K	113	640 ✓	50		279000 ✓		580	16.6	14.0	14.2	⊙	3	0.3	10 sand
0	121	M 50	43	1860	177		9500		5730		2.1				1.4	100 sand
2 D	122	K	457 290 ✓	748 ✓	81		155000 ✓	1040	870	35.3	47.7	27.0	⊙	2	1.5	8 sand
0	123	M 35	22 30	623	59		19900 ✓		1140 ✓		1.5	1.0		1	0.3	50 sand
0	124	M 50	32	1550	128		17800		3060		1.6				0.7	80 clay
0	125	M 60+80	25	1100	106		23000		3120	θ	1.6				1.6	>100
0	126	M 60+90	36	3060	277		65600		4030		1.3				0.5	>100
0	127	M 50+80	13	956	101		19100		3250		0.9 ✓	DUPL			0.8 ✓	>100
2 T	128	M-TEST 7279	53	35700	3070		116000 ✓		2650		2.7				1.1	
60 D	129	60% sand part of 120	124	727	52		94600		830		5.7				< 0.2	
	130	OREAS 47	60 110	6360 5750	597 500		215000 ✓		7410 6700		39.7 ✓ vs. 32.4 A.R. vs. 44.3 F.A.				29.1 ✓ vs: 25.7 A.R. F.A. 29.2 F.A.	– SPIKED TILL STANDARD – AQUA REGIA – FIRE ASSAY

⊙ SWIRLED TO REMOVE ANY SPARSE PARTICLES AND SAND-SILT.

BY NEUTRON ACTIVATION, CODE 2B
Vegetation, med vials, double irrad. time.

Results **Activation Laboratories Ltd.** **Report: A19-15757**

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hg	Hf	Ir	K	Mo	Na	Ni	Rb	Sb	Sc
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.3	0.01	5	0.01	0.01	0.1	0.3	0.05	0.005	0.05	0.05	0.1	0.01	0.05	1	2	1	0.005	0.01
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
8054 = 102	17.8	< 0.3	2.40	28	8.96	0.57	3.6	12.1	0.22	0.290	0.52	0.60	< 0.1	1.10	< 0.05	1920	< 2	< 1	0.300	1.23
8055 = 106	22.8	< 0.3	2.21	299	5.73	0.26	8.6	34.5	2.31	0.780	< 0.05	2.02	< 0.1	0.82	< 0.05	6190	< 2	106	0.430	3.54
8056 = 108	< 0.1	< 0.3	1.45	39	32.00	2.88	1.8	6.8	< 0.05	0.500	< 0.05	0.23	< 0.1	0.83	0.15	509	< 2	5	0.030	0.83
8057 = 113	< 0.1	< 0.3	1.19	132	9.94	3.08	2.0	11.2	< 0.05	0.560	0.08	0.69	< 0.1	0.70	0.35	622	< 2	< 1	0.070	1.39
8058 = 120	16.6	< 0.3	2.17	326	8.38	1.29	6.2	15.7	0.60	0.330	< 0.05	1.24	< 0.1	0.84	< 0.05	5320	< 2	39	0.340	1.60
8059 = 125	< 0.1	< 0.3	1.90	61	15.30	2.14	2.4	10.2	< 0.05	0.330	0.14	0.24	< 0.1	0.81	< 0.05	507	< 2	< 1	0.070	0.89

Results **Activation Laboratories Ltd.**

Analyte Symbol	Se	Sr	Ta	Th	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Lu	Yb	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	0.1	100	0.05	0.1	0.01	0.05	2	0.01	0.1	0.3	0.001	0.05	0.1	0.001	0.005	
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
8054 = 102	< 0.1	< 100	< 0.05	0.9	< 0.01	< 0.05	101	2.65	4.6	< 0.3	0.487	0.09	< 0.1	0.020	0.210	2.43
8055 = 106	< 0.1	< 100	< 0.05	2.7	0.33	< 0.05	81	9.39	15.9	9.6	1.370	0.28	< 0.1	0.040	0.560	3.18
8056 = 108	< 0.1	< 100	< 0.05	1.0	0.34	< 0.05	< 2	2.82	6.1	12.0	0.511	< 0.05	< 0.1	0.030	0.250	2.96
8057 = 113	< 0.1	< 100	< 0.05	2.0	0.66	< 0.05	27	5.11	8.3	5.6	0.932	0.15	< 0.1	0.050	0.450	3.74
8058 = 120	< 0.1	< 100	< 0.05	1.4	< 0.01	< 0.05	242	4.40	7.6	5.1	0.666	0.22	< 0.1	0.030	0.280	2.91
8059 = 125	< 0.1	< 100	< 0.05	1.0	0.39	< 0.05	< 2	3.06	5.7	3.7	0.487	< 0.05	< 0.1	0.010	0.240	2.64

RERUN TESTS

Results **Activation Laboratories Ltd.** **Report: A19-15558** ULTRATRACE 2 - AQUA REGIA

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
938 OREAS 47	10.2	0.2	2	0.131 0.09	0.59	1.13	0.057	0.047	0.14	0.84	37 25	41 30	0.13	329	2.01 1.65	47.7	78.7	156.0	241.0 213	3.43
939 = 101	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 = 112	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

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
938 OREAS 47	< 0.1	8.7	0.2	7.3	47.9 31	7.26 5	8.9 6.7	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 2.54
939 = 101	< 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 = 112	< 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

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
938 OREAS 47	0.39 0.2	< 0.02	1.07	78.4 62	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 32.4	0.09	256.0	0.18
939 = 101	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 24	0.32
940 = 112	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 43	0.41

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
938 OREAS 47	3.3	0.5	20
939 = 101	0.1	< 0.1	220
940 = 112	< 0.1	< 0.1	300

RERUN TESTS

Results **Activation Laboratories Ltd.** **Report: A19-15558** ULTRATRACE 2 - AQUA REGIA

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
938 OREAS 47	10.2	0.2	2	0.131	0.59	1.13	0.057	0.047	0.14	0.84	37	41	0.13	329	2.01	47.7	78.7	156.0	241.0	3.43
939 = 101	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 = 112	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

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
938 OREAS 47	< 0.1	8.7	0.2	7.3	47.9	7.26	8.9	4.8	5.0	2.1	1.3	0.2	0.7	< 0.1	0.9	13.40	0.104	0.51	0.04	2.96
939 = 101	< 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 = 112	< 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

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
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 = 101	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 = 112	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

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
938 OREAS 47	3.3	0.5	20
939 = 101	0.1	< 0.1	220
940 = 112	< 0.1	< 0.1	300

Decayed Vegetation (K) or **Black Swamp Muck** (M), sieved <250 micron, by 1g Unashed Vegetation Analyses HNO3 and HCL, ALS Canada Ltd., VA20074895

Vol.% sand D silt T	Sample	Depth Cm	VA20074895 ME-VEG41 Au ppb	VA20074895 ME-VEG41 Ag ppm	VA20074895 ME-VEG41 Al %	VA20074895 ME-VEG41 As ppm	VA20074895 ME-VEG41 B ppm	VA20074895 ME-VEG41 Ba ppm	VA20074895 ME-VEG41 Be ppm	VA20074895 ME-VEG41 Bi ppm
	100 TEST		0.9	0.017	0.16	1.34	12	38.9	0.07	0.015
3 D	101 K		10.2	0.236	0.19	2.65	4	24.3	0.03	0.285
0	104	M 50	0.8	0.058	0.46	2.70	6	57.3	0.16	0.058
8 DT	119 K		4.3 SW	0.188	0.15	1.36	11	233.0	0.07	0.170
2 D	122 K		27.0 SW	0.376	0.21	3.85	4	57.8	0.05	0.486
0	123	M 35	1.0	0.022	0.18	1.25	8	47.7	0.05	0.038
60 D	131	<125 µm OF 109 K	9.0	0.044	0.15	1.24	1	20.8	0.03	0.180

SW = SWIRLED TO REMOVE SAND (D) OR SILT (T) OR HEAVIES LIKE GOLD DUST.
M50 = BLACK MUCK AT 50 cm DEPTH.

Sample	VA20074895 ME-VEG41 Ca %	VA20074895 ME-VEG41 Cd ppm	VA20074895 ME-VEG41 Ce ppm	VA20074895 ME-VEG41 Co ppm	VA20074895 ME-VEG41 Cr ppm	VA20074895 ME-VEG41 Cs ppm	VA20074895 ME-VEG41 Cu ppm	VA20074895 ME-VEG41 Fe %
100 TEST	3.42	0.188	2.430	0.669	2.19	0.070	5.07	0.308
101 K	0.35	1.690	3.520	1.325	6.39	0.238	86.10	0.272
104 M	2.90	0.548	10.500	2.070	7.60	0.307	7.83	0.937
119 K	1.86	1.880	4.140	3.670	3.73	0.385	37.80	0.185
122 K	0.51	1.450	3.650	1.340	5.17	0.252	84.50	0.304
123 M	4.07	0.249	1.900	0.501	2.04	0.077	4.85	0.176
131	0.18	0.313	11.400	0.687	3.51	0.226	27.30	0.230

Sample	VA20074895 ME-VEG41 Ga ppm	VA20074895 ME-VEG41 Ge ppm	VA20074895 ME-VEG41 Hf ppm	VA20074895 ME-VEG41 Hg ppm	VA20074895 ME-VEG41 In ppm	VA20074895 ME-VEG41 K %	VA20074895 ME-VEG41 La ppm	VA20074895 ME-VEG41 Li ppm
100 TEST	0.347	0.041	0.072	0.072	<0.005	<0.01	1.160	0.1
101 K	0.602	0.069	0.024	0.242	0.175	0.08	1.670	0.6
104 M	1.165	0.036	0.124	0.296	0.010	0.02	4.510	0.8
119 K	0.711	0.019	0.014	0.171	0.077	0.10	2.220	0.9
122 K	0.788	0.157	0.032	0.404	0.254	0.05	1.755	0.6
123 M	0.332	0.063	0.032	0.137	0.008	<0.01	0.984	0.1
131	0.750	0.019	0.027	0.112	0.074	0.03	5.050	0.8

Sample Description	VA20074895 ME-VEG41 Mg	VA20074895 ME-VEG41 Mn	VA20074895 ME-VEG41 Mo	VA20074895 ME-VEG41 Na	VA20074895 ME-VEG41 Nb	VA20074895 ME-VEG41 Ni	VA20074895 ME-VEG41 P	VA20074895 ME-VEG41 Pb
	%	ppm	ppm	%	ppm	ppm	%	ppm
100 TEST	0.186	107.0	0.50	0.013	0.129	4.11	0.019	0.71
101 K	0.072	290.0	0.53 ✓	0.006	0.194	6.57	0.086	19.05 ✓
104 M	0.138	564.0	0.47 ✓	0.010	0.399	4.08	0.081	4.50
119 K	0.127	2550.0 ✓	0.24 ✓	0.005	0.250	5.31	0.123	15.95
122 K	0.074	256.0	0.62 ✓	0.002	0.186	8.49	0.088	51.20
123 M	0.126	121.0	0.52 ✓	0.008	0.108	2.87	0.034	4.44
131	0.038	165.0	0.25	0.003	0.262	2.41	0.031	17.75

Sample Description	VA20074895 ME-VEG41 Pd	VA20074895 ME-VEG41 Pt	VA20074895 ME-VEG41 Rb	VA20074895 ME-VEG41 Re	VA20074895 ME-VEG41 S	VA20074895 ME-VEG41 Sb	VA20074895 ME-VEG41 Sc	VA20074895 ME-VEG41 Se
	ppb	ppb	ppm	ppm	%	ppm	ppm	ppm
100 TEST	<1 ✓	2 ✓	0.21	0.001	0.20	0.07	0.31	1.060
101 K	1	2	4.61	<0.001	0.15	0.27	0.30	3.610
104 M	1	1	1.67	0.001	0.27	0.09	0.64	1.695
119 K	<1	1	6.88	<0.001	0.17	0.15	0.16	1.535
122 K	1	2	3.21	<0.001	0.16	0.41	0.29	7.150
123 M	<1	1	0.51	0.001	0.28	0.13	0.27	0.966
131	<1	<1	2.67	<0.001	0.07	0.12	0.25	1.670

Sample Description	VA20074895 ME-VEG41 Sn	VA20074895 ME-VEG41 Sr	VA20074895 ME-VEG41 Ta	VA20074895 ME-VEG41 Te	VA20074895 ME-VEG41 Th	VA20074895 ME-VEG41 Ti	VA20074895 ME-VEG41 Tl	VA20074895 ME-VEG41 U
	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
100 TEST	0.04	113.00	0.008	<0.02	0.353	0.003	0.012	0.260
101 K	0.45	11.80	0.004	0.03	0.144	0.006	0.088	0.085
104 M	0.13	45.10	0.008	0.03	0.427	0.007	0.046	0.965
119 K	0.17	63.30	0.002	0.04	0.089	0.006	0.102	0.072
122 K	0.82	19.80	0.004	0.04	0.104	0.005	0.123	0.101
123 M	0.09	59.80	0.006	0.03	0.142	0.003	0.019	0.115
131	0.35	6.59	0.001	<0.02	0.935	0.007	0.029	0.199

Sample Description	VA20074895 ME-VEG41 V	VA20074895 ME-VEG41 W	VA20074895 ME-VEG41 Y	VA20074895 ME-VEG41 Zn	VA20074895 ME-VEG41 Zr	
	ppm	ppm	ppm	ppm	ppm	
100 TEST	3.09	0.02	0.831	16.5	2.88	– BLANK FOR Au, Pt, Pd ✓
101 K	3.83	0.30	0.558	131.5 ✓	0.95	– ON 5 cm humus on leached fine sand
104 M	6.26	0.04	2.370	15.7 ✓	4.80	– ON clay at 60 cm
119 K	3.61	0.11	0.615	355.0 ✓	0.59	– ON 5 cm humus on clay
122 K	4.13	0.29	0.631	153.0 ✓	1.04	– ON 5cm humus on sand
123 M	2.78	0.03	0.658	17.6 ✓	1.14	– ON sand at 50 cm
131	3.32	0.05	0.887	37.1	1.03	– ON 5cm humus on leached sand

Reruns by similar vegetation method, 1 g unashed in HNO3 topped with HCl,
ALS Vancouver, VA19229922.

SAMPLE DESCRIPTION	ME-VEG41 Au ppb	ME-VEG41 Ag ppm	ME-VEG41 Al %	ME-VEG41 As ppm	ME-VEG41 B ppm	ME-VEG41 Ba ppm	ME-VEG41 Be ppm	ME-VEG41 Bi ppm	ME-VEG41 Ca %	ME-VEG41 Cd ppm	ME-VEG41 Ce ppm
197 = 120	14.2	0.312	0.16	1.99	9	187.0	0.07	0.242	1.44	1.705	4.390
198 = 122	35.3	0.376	0.22	3.88	5	59.1	0.05	0.462	0.50	1.500	3.820
199 OREAS 47	40.9	0.090	0.70	8.80	3	58.4	0.17	0.109	0.51	0.469	41.200

SAMPLE DESCRIPTION	ME-VEG41 Co ppm	ME-VEG41 Cr ppm	ME-VEG41 Cs ppm	ME-VEG41 Cu ppm	ME-VEG41 Fe %	ME-VEG41 Ga ppm	ME-VEG41 Ge ppm	ME-VEG41 Hf ppm	ME-VEG41 Hg ppm	ME-VEG41 In ppm	ME-VEG41 K %
197 = 120	2.92	4.51	0.381	53.70	0.207	0.785	0.051	0.022	0.279	0.125	0.10
198 = 122	1.51	5.84	0.287	84.00	0.305	0.879	0.155	0.033	0.392	0.238	0.06
199 OREAS 47	49.50	27.70	1.160	148.00	1.255 ~	2.610	0.025	0.162	0.014	0.024	0.11

SAMPLE DESCRIPTION	ME-VEG41 La ppm	ME-VEG41 Li ppm	ME-VEG41 Mg %	ME-VEG41 Mn ppm	ME-VEG41 Mo ppm	ME-VEG41 Na %	ME-VEG41 Nb ppm	ME-VEG41 Ni ppm	ME-VEG41 P %	ME-VEG41 Pb ppm	ME-VEG41 Pd ppm
197 = 120	2.33	1.2	0.119	1620.0	0.36	0.004	0.249	6.26	0.116	31.00	0.001
198 = 122	1.90	0.7	0.079	248.0	0.62	0.003	0.206	9.33	0.091	55.4	0.001
199 OREAS 47	24.40	8.4	0.433	238.0	10.35 12.7	0.066	0.155	77.20	0.052	257.00	0.035 0.044

SAMPLE DESCRIPTION	ME-VEG41 Pt ppm	ME-VEG41 Rb ppm	ME-VEG41 Re ppm	ME-VEG41 S %	ME-VEG41 Sb ppm	ME-VEG41 Sc ppm	ME-VEG41 Se ppm	ME-VEG41 Sn ppm	ME-VEG41 Sr ppm	ME-VEG41 Ta ppm	ME-VEG41 Te ppm
197 = 120	0.003	8.16	0.001	0.16	0.17	0.24	2.640	0.33	53.7	0.003	-0.02
198 = 122	0.031 ?	3.62	0.001	0.15	0.37	0.37	7.310	0.89	22.6	0.005	0.03
199 OREAS 47	0.020 0.026	7.22	-0.001	0.04	0.01	2.76	0.089	? 0.69 2.54	28.1	0.001	-0.02

SAMPLE DESCRIPTION	ME-VEG41 Th ppm	ME-VEG41 Ti %	ME-VEG41 Tl ppm	ME-VEG41 U ppm	ME-VEG41 V ppm	ME-VEG41 W ppm	ME-VEG41 Y ppm	ME-VEG41 Zn ppm	ME-VEG41 Zr ppm
197 = 120	0.127	0.006	0.111	0.093	4.71	0.15	0.69	289.0	0.98
198 = 122	0.107	0.006	0.128	0.115	4.87	0.25	0.77	153.0	1.24
199 OREAS 47	3.060	0.049 ~	0.078	0.423	22.20	0.02	5.45	201.0	5.75 6.7

Quality Analysis ... Actlabs Innovative Technologies

Report No.:	**A19-08903-Rev2**
Report Date:	**17-Apr-20**
Date Submitted:	**09-Jul-19**
Your Reference:	**MU-2G-1**

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

ATTN: Hermann Daxl

CERTIFICATE OF ANALYSIS

101 - 130

30 Vegetation samples were submitted for analysis. <250 µm sievings of decayed vegetation submitted

The following analytical package(s) were requested:		Testing Date:
2G	Unashed Vegetation ICP/MS	

AQUA REGIA

REPORT **A19-08903-Rev2**

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:

Note: Not enough material for reanalysis Au, Pt, Pd for 1 sample

CERTIFIED BY:

Emmanuel Eseme , 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

Quality Analysis ... Actlabs Innovative Technologies

Report No.:	**A19-15757**
Report Date:	**11-Dec-19**
Date Submitted:	**19-Nov-19**
Your Reference:	**DALTEX-2**

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

ATTN: Hermann Daxl

CERTIFICATE OF ANALYSIS

8036 - 8059

24 Vial samples were submitted for analysis. Decayed vegetation sieved < 250 in medium vials

The following analytical package(s) were requested:		Testing Date:
2B-~~15g~~ - Vegetation	QOP INAAGEO (Vegetation INAA)	2019-12-03 13:51:20

by Neutron Activation, double irradiation time for vials.

REPORT **A19-15757**

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:

Footnote: INAA data may be suppressed due to high concentrations of some analytes.

CERTIFIED BY:

Emmanuel Eseme , 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

Quality Analysis ... **Actlabs** Innovative Technologies

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

SCOTT LAKES, BARTLETT Tp.

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

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 - AQUA REGIA - 0.5g aliquots	QOP AquaGeo/QOP Ultratrace-1 (Aqua Regia ICPOES/ICPMS)	2019-11-21 08:57:22

REPORT **A19-15558**

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

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

Finalized Date: 16-OCT-2019
This copy reported on 28-OCT-2019
Account: DAXHER

CERTIFICATE VA19229922

P.O. No.: WAC 5/6 < 250 µm decayed vegetation sievings
This report is for 59 Vegetation samples submitted to our lab in Vancouver, BC, Canada on 13-SEP-2019. as submitted

The following have access to data associated with this certificate:

HERMANN DAXL		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
VEG-MILL01	Maceration of dry plant material
TRA-21	Transfer sample
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-VEG41	Vegetation - HNO3/HCl ICPAES-ICPMS 1 g aliquots

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 *****

Comments: ** CORRECTED COPY for adjusting reporting units for Au, Pd, Pt and Fe **

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
TIMMINS ON P4P 1B4

Finalized Date: 13-APR-2020
Account: DAXHER

CERTIFICATE VA20074895

Project: PGE2
P.O. No.: 23.3.2020 Decayed, sieved < 250 micron, as submitted
This report is for 38 Vegetation samples submitted to our lab in Vancouver, BC, Canada on 31-MAR-2020.

The following have access to data associated with this certificate:

HERMANN DAXL		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21g	Received Wet Sample Wt in grams
LOG-22	Sample login - Rcd w/o BarCode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-VEG41	Vegetation - HNO3/HCl ICPAES-ICPMS – UNASHED – 1 g aliquots

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

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 were 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/zHqkvo0wSI0`). 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 safe 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 other elements in such samples I send 3 - 5 g tightly packed in sachets to Actlabs in Ancaster for Ultratrace 2 - aqua regia ICP-OES/MS, or to ALS in North Vancouver for ME-VEG41-unashed-HNO3/HCl-ICP-AES/MS which includes also platinum-palladium.

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.

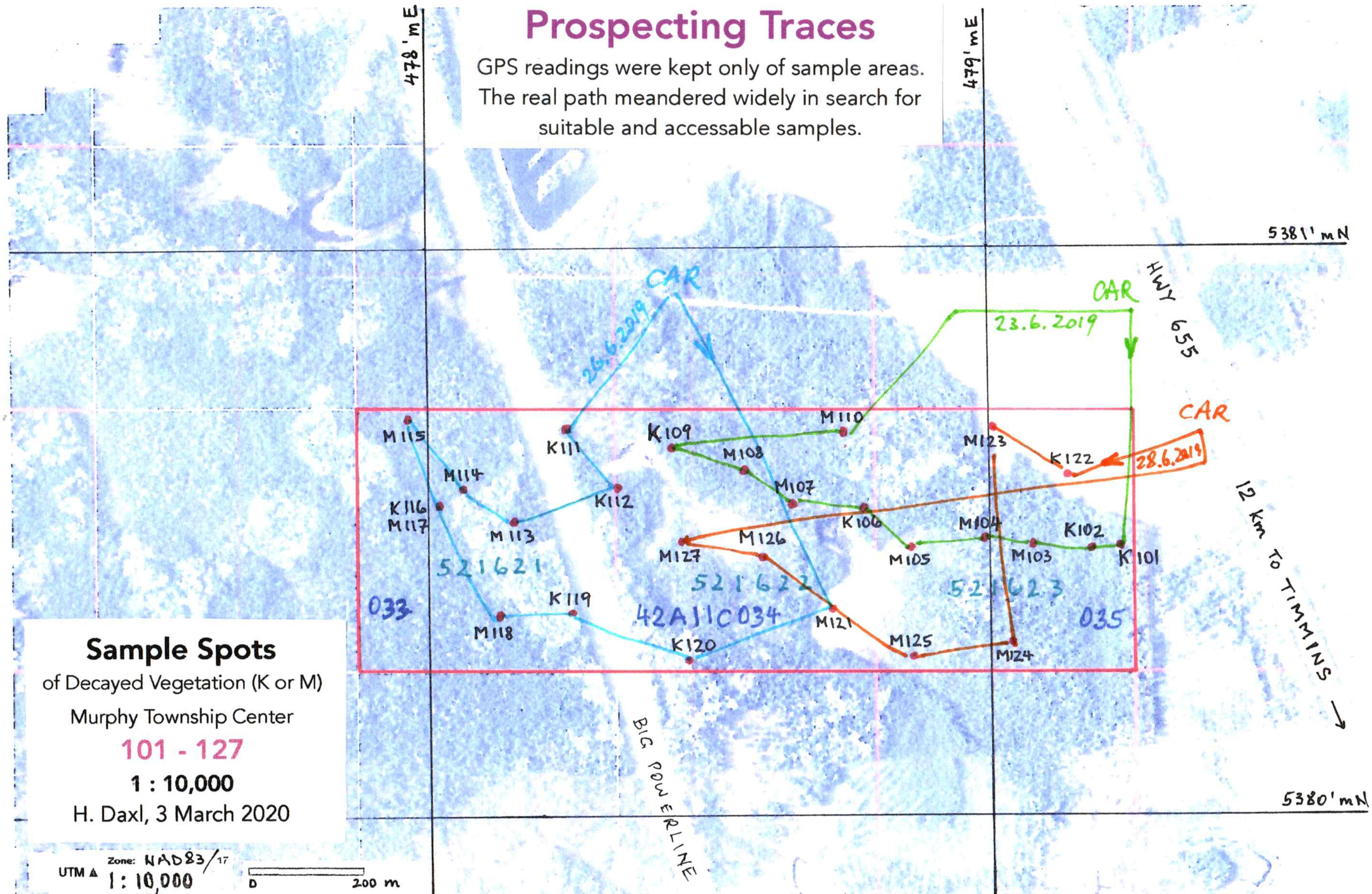
I use the auger in swampy areas to sample the deeper dense black muck, which works well for copper, nickel, chromium, but not so well for gold, zinc, lead, manganese. Water movement may flush out elements, therefore I try for the deepest and densest muck, but stay clear above any inorganic bottom. A 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), crushablility, 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.

Date	Field date	Lab Work	Logistics
2019			
23-Jun	collect 101-110		
24-Jun		prep samples	
26-Jun	collect 111-121		
27-Jun		prep samples	
28-Jun	collect 122-127		
29-Jun		prep samples	plot on maps
03-Jul		prep samples	
05-Jul		package and ship samples	
29-Nov			evaluate sample results
2020			
25-Jan			evaluate samples to retest
06-Feb			report/maps
01-Mar			report/maps
03-Mar			report/replot samples to new scale
17-Apr			Report writing
18-Apr			Report writing
22-Apr			Report writing
23-Apr			Report writing
	3 days	5 days	9 days



Prospecting Traces
GPS readings were kept only of sample areas.
The real path meandered widely in search for
suitable and accessable samples.
478'mE
479'mE
5381'mN
5380'mN
CAR
26.6.2019
CAR
23.6.2019
CAR
28.6.2019
HWY 655
12 km TO TIMMINS
BIG POWERLINE
M115
K111
K109
M110
M123
K122
M108
M114
M107
K112
K116
M117
M113
K106
M104
K102
M126
M127
M105
M103
K101
521621
521622
521623
033
K119
42A11C034
035
M118
M121
M125
K120
M124
Sample Spots
of Decayed Vegetation (K or M)
Murphy Township Center
101 - 127
1 : 10,000
H. Daxl, 3 March 2020
UTM Zone: NAD83/17
1: 10,000
0
200 m

Addendum to Assessment Work Report 3616, H. Daxl, 23 April 2020

NAD 83 GPS Coordinates for Decayed Vegetation Samples (K or M)

K-Samples are composites of 6 spots in 15 m radius plotted in the center

Sample Easting Northing

Number 47 . . . . 538 . . . .

101 9234 0475

102 9180 0469

103 9077 0475

104 8998 0489

105 8861 0471

106 8786 0541

107 8650 0550

108 8569 0602

109 8431 0648

110 8746 0678

111 8238 0683

112 8337 0574

113 8158 0515

114 8065 0580

115 7968 0700

116 8019 0544

117 " "

118 8121 0352

119 8258 0362

120 8466 0274

121 8721 0365

122 9142 0598

123 9007 0684

124 9038 0306

125 8863 0279

126 8600 0456

127 8451 0480