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# 2.57324

# Claim 1226058

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Teck Township; District of Temiskaming NTS 42/A 1 48°09' N 80°02' W" 7247915 Canada Inc.

Fall 2016

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# **FIGURES**

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# Kirkland Lake Resident Geologist's District



Figure - 1



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#### PROPERTY LOCATION

This property, herein referred by claim number or SD claims, is located in the Larder Lake mining division bordering the north-west corner of the town of Kirkland Lake. This is in the Kirkland Lake Resident Geologist district and can be found on NTS 42 A\1 with the geographic center being at approximately 80°00"42'W and 48°10" 05'N.

# ACCESS

Turning north off of Highway 66 (Government Road) at Duncan Avenue and heading north on this street for 400 meters the street will cross over a set of railway tracks. At this point the # 2 corner post of 1226058 is only 50 meters to the west.

#### CLAIMS

This work area consists of staked mining claim unit L1226058, totaling approximately 16 hectares recorded on Plan G-3917 of Teck Township. The Kirkland Lake Main Break is about 400 feet south of the claim and the portal to the Lakeshore mine access decline ramp is also about 400 feet to the south. The south boundary of the claim is contiguous to the Wright-Hargreaves Mine property on the east half and the Lakeshore Mine property on the west half, and the whole east boundary is contiguous to the Sylvanite Mine property.

# **GENERAL GEOLOGY**

This area is in the Abitibi Greenstone Belt of the Superior Province, in a region dominated by Archaen mafic to felsic pillowed, massive and agglomeratic volcanics and granitic batholiths with attendant intrusions, with minor clastic interflow and fluvial sediments. The claims lay north of the Larder - Cadillac Deformation Zone (LCDZ), a major east-west structural control on gold bearing alteration and mineralization, which in much of its length coincides with a folded and deformed sinuous belt of sedimentary rocks of Temiskaming age. To the north of the LCDZ, the Blake River intermediate volcanic rocks form a large east plunging synclinorium which host the Noranda area VMS deposits. To the south of the LCDZ in the Kirkland Lake area are magnesiun to iron rich theolitic volcanic rocks. The Kirkland Lake Main Break , a world class gold enriched system of mineralized veins and stockworks, splays of of the LCDZ south of the claim area.

#### CLAIM GEOLOGY/PREVIOUS WORK

The property lays in the Kirkland Lake camp. The seven mines in Kirkland Lake, of which only the Macassa Mine is still in production, has produced in excess of 30 million ounces of gold at an average grade of about .49 oz/ton. The portal to the Lakeshore Decline Ramp is situated about 150 meters south of the claims.

The claim is underlain by Temiskaming aged sediments and consist of greywacke, polymictic conglomerate. Numerous Algoman aged syenitic to feldspar porphyry dykes cut the sediments in a general east - west direction. This assemblage is similar to that of the productive mines south and adjacent to this property.

"Mud" breaks which is the local term for the gougy sericitic to chloritic alteration bearing fault zones, have been mapped as crossing 1226058 in a north east direction and are quite similar to the mud breaks immediately to the south on the Lakeshore Property. A study on these "Mud Breaks" on the Lakeshore Mine Property (Thomson and Charlewood 1948) have shown a direct relationship or control on gold deposition. One can only conclude that the same potential must exist on 1226058 as well.



Although these claims touch the heart of the prolific Kirkland Lake Gold Camp geology almost no work has been conducted across the southern of these claims in a thorough or methodical manner.

The geology of Teck Township is discussed at length in the 1928 report by E. W. Todd and I would refer the interested reader to this publication. The geology of the "Main Break" is discussed at length by Thomson and Charlewood (1948) The geology of Teck Township has been covered extensively by various authors and many thesis papers and mine reports have been published over the last 75 years. Much information on this township is in the Resident Geologists office in Kirkland Lake.

An exploration drift on the 3000 foot level was driven north from the Lakeshore Mine number 5 shaft and passes about 900 feet to the west of the claims. A east north east trending gold bearing vein/fault structure named the "29 Break" was drifted on for several hundred feet. The 29 vein was drifted on with chips of 0.118oz/ton across 6.6' for 570' including: 0.34 oz/ton across 5.7' for 45', 0.15 oz/ton across 5.0' for 60', and 0.20 oz/ton across 5.0' for 35' of drift. Assay sections under 0.03 oz/ton were not shown and probably not included in the calculation; on the other hand, 2 test holes grading to 1.77 ozlton were present. This 29 break feature will pass east west through at approximately the center of L1226059. Numerous other mineralized veins showing gold values were encountered in the crosscut directly to the west of L1226058 but were never followed up. In Kirkland Lake fashion, these veins may follow their respective shears for considerable lateral distance and would be expected to strike into the property. Drilling would be themanner to properly assess these targets which may or may not extend closer to surface.

In the 1985 to 1990 period the northern claim, L1226059 was drilled extensively for a specific target and the "29 Vein" at great depth by Newfield Minerals. No real program to define north/south oriented structures nearer to surface has been done. 36 deep holes and wedge cuts totalling about 104,755' were drilled by Newfields to test the 29 vein.break & the Brown Altered Zone or "BAZ" zone (graphitic unconformity) between surface and 3500' vertical. Low assays were received on the 29 vein extension (0.03 generally, over narrow widths)and the best value realised on the wider BAZ zone was 0.44 oz/ton over 5.1' at 3615' downhole. Due to the tight target area, large gaps of unexplored ground exist The south claim, L1221058, has a few shallow, far spaced drill holes.

The south boundary of L1226058 is common with the Wright-Hargreaves and Lakeshore Mines boundary. Only 100 meters south of L1226058, of the rich "North Vein" was mined from the two above mentioned mines.

The "Narrows Break" is a gold mineralized fault subparallel to the local ore bearing veins amd lies approximately 550 to 650 meters north of the Main Break. This feature has been traced by drilling mining and surface work for a stike length of about 4 kilometerrs from the Macassa Mine at the west end where the fault is referred to as the '05 break, to the east at the Toburn Mine. The break is also vertically extensive and has been actively explored and showed variable gold values and widths down to the -2100 meter level at the Macassa end. Underground exploration on the structure includes the former Wright Hargreaves, Lakshore, Teck Hughes and Macassa properties. The North "A" vein of Sylvanite and the No. 9 vein of Wright Hargreaves have been identified as the Narrows Break by Thomson (1950). An ore shoot was blocked out in the late 1980's Newfields drilling about 800 meters west of L1226058 on the Teck-Hughes section of this break. About 275,000 tons of material grading at around .18oz/ton (5.5g/tonne) was outlined in the shoot from surface down to about the -350 meter level. In the September 25 1985 report for Newfields Minerals, L J Cunningham reports that : "the No. 13 Vein (The Narrows Break) lies 200 feet south of the Newfields south boundary within the Lake Shore Mine. It is believed to be related to fracturing associated with the north contact of the Kirkland Lake stock. Lake Shore Mine tested the vein by 1,200 feet of drifting on the 3075 level and by raising for 800 feet from the 4200 level Extensive areas of gold mineralization were encountered and several sections were tested by limited stoping. The resulting grade ranged from 0.1 to 0.27 oz. gold per ton which was well below the grade of 0.45 oz. gold per ton of the Main Break. No work was done on the Narrows Break after 1945. Drilling information on higher levels of the Lake Shore and Wright-Hargreaves Mines indicates that the

**Claim Geology** 



Kirkland Lake stock bulges into the Newfields property. This suggests that the vein and possibly gold mineralization may be found on the Newfields' side of the line. At surface, the north contact of the Kirkland Lake stock lies 100 - 200 feet south of the Newfields' south boundary. If the Narrows vein has continuity and remains near the north contact of the Kirkland Lake stock, its position above the 3075 foot level will be close to the common boundary."

This Narrows break enters the claim L1226058 obliquely about mid way between the #2 and #3 posts. A vein mapped by Thomson(1964) on the Sylvanite Mine property directly east of L1226058 may be the off-set eastward continuation of the Narrows Break. The Narrows Break appears to be offset by the north-south trending "Lakeshore Fault" which follows pretty much along the east side of the claim. If so, this would indicate a displacement of east side north, about 240 meters along this feature. Sections prepared by Charlewood(1964) show stoped veins which would correspond with the surface mapping done by Thomson indicating mining/ore development along the Narrows break proximal to the claim area. Another of the Lakeshore faults splays passes on the west side of the claims. Very little displacement is mapped along this fault commonly referred to as the #5 Shaft Fault.

L1226058 and adjacent claim L1226059 to the north were originally known as the Vindicator property(1928). Todd reports that a hole was drilled to test under the northeast arm of the lake.(current L1226059). Brecciated porphyry and quartz were encountered but "gold values were unimportant". There was some evidence of old trenching noted on the Vindicator claims. In 1960 Westwind Explorations Limited drilled 4 surface holes totalling 3,517 feet. Locations are known for all holes but logs are available for only holes 1 and 2. Brief comments are available for holes 3 and 4. Hole W- 4 was collared in the general region of hole N-7. Veins crossed in the 3075' crosscut north from the Lakeshore Mine identified as the #19 and 20 veins are noted by Burke\* as being one of the targets in surface hole W-4. Burke refers to a zone of reddish alteration (approximately 600' below surface) as being the projected extension of the vein or veins.

### PRESENT WORK

In the early fall of 2016 a site visit was made to the south west area of claim L1226058. The locations of several outcops were visited and a sample was taken from a previously noted trench.

#### **RESULTS**

Several isolated exposures of mildly clastic tuff occur at the south central area of the claim were noted. The clasts tend to increase in discontinuous layers. An emerald green alteration of certain clasts and as odd flecks shows in mildly strained sediments in the railway rock at the south border of the claim. Varying chrome or vanadiun content of the source rocks may be determine the mineral to be mariposite or roscolite. To the north of this, little strain or alteration was evident in the rocks exposed.Old slumped hand workings were evident in the outcrop areas however recleaning was not in the current site program. No samples were taken here.

A trench occuring 100 meters north west of the #2 claim post area was revisited and a sample of the shearing/alteration was taken and submitted for geochemical alalysis. This trench has previously (Newfields et.al.) been correlated to what is locally referred to as the "Narrows Break". Shearing trending at about 70° ast is evident, with purplish brown hematized fine grained and slightly magnetic trachyte? rock laying on the north or footwall of the shearing and sheared tuffaceous conglomerate on the south or hanging wall. Further away (north) from the contact the color of the trachyte darkens to a homogenous grey-black color where nor slightly hematized.. The clastic tuff/ tuffaceous conglomerate is typical of the Temiskaming type with a fine to medium grained wacke matrix that is green to dark green where not altered. Various mafic to intermediate clasts occur with the most recognizable being the random red jasper clasts. The 60 to 90cm wide sheared contact area of the conglomerate shows numerous thin rusty



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quartz stringers and threads parallel to the platey shearing. The plates shows thin waxy coating of pale yellow to yellow beige sericite, with sericite also developed as replacement and masses within the sheared tuffaceous matrix. This is likely the portion of the set of shear and fracture planes which make up the Narrows break referred to in the historic reports.

**Sample #20210** was taken of the sheared wispy qz-carb veined altered clastic tuff. noted and gave a gold assay of 130ppb. Although rather low, it does indicate an enrichment over the average gold abundance of 5 to 15 ppb in the local metsediments. Multi element analysis shows minor elevations of lead, arsenic and a little antimony, which minerals would be typical of the mineralization in the Kirkland Lake vein systems.

The mineralized breaks in the Kirkland Main Break system generally have gold as micro to macroscopic flecks and aggregates of native metal with little significant correlation to sulphide content. These are less reactive targets for conventional induced polarization studies which typically give good targeting of sulphide rich styles of mineralization. From known geometries and claim boundary constraints there is limited strike and dip extent to the Narrows break feature. Systematic drilling of the structure as part of a larger holding covering greater extent potential would be the desired program to assess the Narrows break target.



# Swastika Laboratories Ltd

Assaying - Consulting - Representation

Page 1 of 1

# Assay Certificate

# Certificate Number: 16-1471

Company:	Eric Marion		
Project:	JKT-S.D.	Report Date:	31-Oct-16
Attn:	Eric Marion		

*We hereby certify* the following Assay of 3 rock/grab samples submitted 24-Oct-16 by Eric Marion

Sample Number		Au FA-MP ppb							
20210	1. 1	130			an paraon traver				

1. No Reject

is chut Certified by

**Denis Chartre** 

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



# Innovative Technologies

Date Submitted:03-Nov-16Invoice No.:A16-11588Invoice Date:21-Nov-16Your Reference:Marion 16-1471

Swastika Labs Box 10, 1 Cameron Ave. Swastika ON P0K 1T0 Canada

ATTN: Colleen Chouinard

# **CERTIFICATE OF ANALYSIS**

3 Pulp samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1E3 Aqua Regia ICP(AQUAGEO)

REPORT A16-11588

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:

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Emmanuel Eseme , Ph.D. Quality Control

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

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Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	mqq	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	pp
Lower Limit	20	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10
Method Code	AR-ICP	AF																					
1																							
20210	< 20	< 0.2	< 0.5	83	1070	< 1	77	19	74	1.72	15	< 10	59	1.1	< 2	2.49	87	126	4.69	< 10	< 1	0.55	

Activation Laboratories Ltd.

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#### Results

Results

# Activation Laboratories Ltd.

# Report: A16-11588

Report: A16-11588

Analyte Symbol	Mg	Na	Р	s	Sb	Sc	Sr	Ti	Te	п	U	v	w	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm	mqq	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP														
1															
															В
20210	1.54	0.041	0.092	0.77	3	8	386	< 0.01	< 1	< 2	< 10	48	< 10	12	3

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QC

Report: A16-11588

Analyte Symbol	Th	Aq	Cd	Сц	Mn	Mo	Ni	Pb	Zn	A	As	в	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Ha	к	La
Unit Symbol	nom	nom	nom	nom	nom	nom	oom	000	nom	9/4	nom	noom	nom	nom	nom	96	opm	nom	9%	000	nom	96	non
Lower Limit	20	0.2	0.5	1	s	1	1	2	2	0.01	2	10	10	0.5	0	0.01	1	1	0.01	10	1	0.01	10
Mathad Code	ARJOR	ARICE	AR-ICP	ABJCP	ARICR	ARICR	ARJOR	AP.ICP	ARJCR	ARJCP	AR.ICP	AR-ICP	ARJOR	AR-ICP	ABJICD	ARJCR	ARJCR	ABJCB	ABJCP	ABICE	ARICP	ABJOP	ARJCR
GYR-1 Moos	AN101	27.7	17	1060	702	14	21	660	670	0.24	291	An-10	294	0.7	1440	0.77	ANIOP E	Arrior	22.4	Antior	2	0.02	< 10
GXB-1 Cert	2 44	31.0	3 30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8 20	12.0	23.6	13.8	3 90	0.050	7.50
GXB-1 Meas	< 20	28.9	1.8	1130	845	14	33	689	696	0.36	398	< 10	453	0.8	1510	0.000	6	6	23.5	< 10	3.50	0.03	< 10
GXB-1 Cert	244	31.0	3 30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1 22	1380	0.960	8 20	120	23.6	13.8	3 90	0.050	7.50
DH-1a Meas	750	51.0	3.50	1110	002	10.0	41.0	750	700	0.02	461	10.0		1.66	1000	0.000	0.20	12.0	20.0	10.0	0.00	0.000	1.50
DH-1a Cert	910																						
GXR-4 Meas	< 20	3.4	< 0.5	6260	146	308	38	44	68	2.71	103	< 10	33	1.4	18	0.90	13	55	3.06	10	< 1	1.63	52
GXR-4 Cert	22.5	4.0	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5
GXR-4 Meas	< 20	3.5	< 0.5	6190	152	308	38	56	80	2.74	103	< 10	39	1.4	31	0.91	13	53	3.18	10	< 1	1.63	54
GXR-4 Cert	22.5	4.0	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5
GXR-6 Meas	< 20	0.4	< 0.5	66	1090	1	22	109	124	7.22	225	< 10	928	0.9	< 2	0.17	13	79	5.50	20	< 1	1.09	15
GXR-6 Cert	5.30	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9
GXR-6 Meas	< 20	0.3	< 0.5	69	1110	1	22	108	126	7.30	241	< 10	936	0.9	< 2	0.17	14	80	5.57	20	< 1	1.11	14
GXR-6 Cert	5.30	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9
SdAR-M2	< 20		5.5	249		14	48	896	839				138	5.0	< 2		13	11		< 10	1		48
SdAR-M2	14.2		5.1	236.00		12.2	49.9	808	760				990	6.6	1.05		12.4	49.6		17.6	1.44		46.6
(U.S.G.S.) Cert	14.2		0.1	200.00		13.5	40.0	005	/00				330	0.0	1.00		12.4	45.0		17.0	1.44		40.0
20210 Orig	< 20	< 0.2	< 0.5	85	1080	3	79	19	75	1.74	16	< 10	64	1.1	< 2	2.54	89	129	4.78	< 10	< 1	0.55	43
20210 Dup	< 20	< 0.2	< 0.5	81	1050	< 1	76	18	72	1.71	14	< 10	55	1.1	< 2	2.43	85	124	4.60	< 10	< 1	0.54	41
Method Blank	< 20	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	12	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10
Method Blank	< 20	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10
Method Blank	< 20	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	12	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10

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Report: A16-11588

Analyte Symbol	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	TI	υ	V	w	Y	Zr
Unit Symbol	%	%	%	%	ppm	ppm	ppm	%	ppm						
Lower Limit	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas	0.13	0.054	0.040	0.20	83	1	183	< 0.01	15	< 2	29	76	141	22	14
GXR-1 Cert	0.217	0.0520	0.0650	0.257	122	1.58	275	0.036	13.0	0.390	34.9	80.0	164	32.0	38.0
GXR-1 Meas	0.14	0.059	0.042	0.21	85	1	194	< 0.01	14	< 2	31	79	145	24	15
GXR-1 Cert	0.217	0.0520	0.0650	0.257	122	1.58	275	0.036	13.0	0.390	34.9	80.0	164	32.0	38.0
DH-1a Meas											2410				
DH-1a Cert											2629				
GXR-4 Meas	1.65	0.140	0.116	1.58	4	7	74	0.13	3	2	< 10	79	12	11	9
GXR-4 Cert	1.66	0.564	0.120	1.77	4.80	7.70	221	0.29	0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-4 Meas	1.64	0.143	0.116	1.60	4	7	77	0.13	5	< 2	< 10	80	12	11	10
GXR-4 Cert	1.66	0.564	0.120	1.77	4.80	7.70	221	0.29	0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-6 Meas	0.41	0.097	0.032	0.06	3	21	36		< 1	< 2	24	170	< 10	7	10
GXR-6 Cert	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
GXR-6 Meas	0.41	0.098	0.033	0.06	4	21	34		< 1	< 2	19	173	< 10	7	14
GXR-6 Cert	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
SdAR-M2 (U.S.G.S.) Meas						3	24				< 10	22	< 10	18	8
SdAR-M2 (U.S.G.S.) Cert						4.1	144				2.53	25.2	2.8	32.7	259
20210 Orig	1.57	0.043	0.094	0.82	2	8	390	0.01	< 1	< 2	< 10	49	< 10	12	3
20210 Dup	1.51	0.040	0.090	0.72	3	8	382	< 0.01	1	< 2	< 10	46	< 10	12	3
Method Blank	< 0.01	0.016	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	< 0.01	0.014	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	< 0.01	0.016	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1

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