

2-55744

BGM Property  
L71901  
Teck Township  
District of Temiskaming  
NTS 42/A 1  
80° 01' 43" W" 48° 08' 41" N

February 2015

Prepared by : E. Marion



PROVINCIAL RECORDING OFFICE SUDBURY											
RECEIVED											
FEB 25 2015											
A.M.						P.M.					
7	8	9	10	11	12	1	2	3	4	5	6

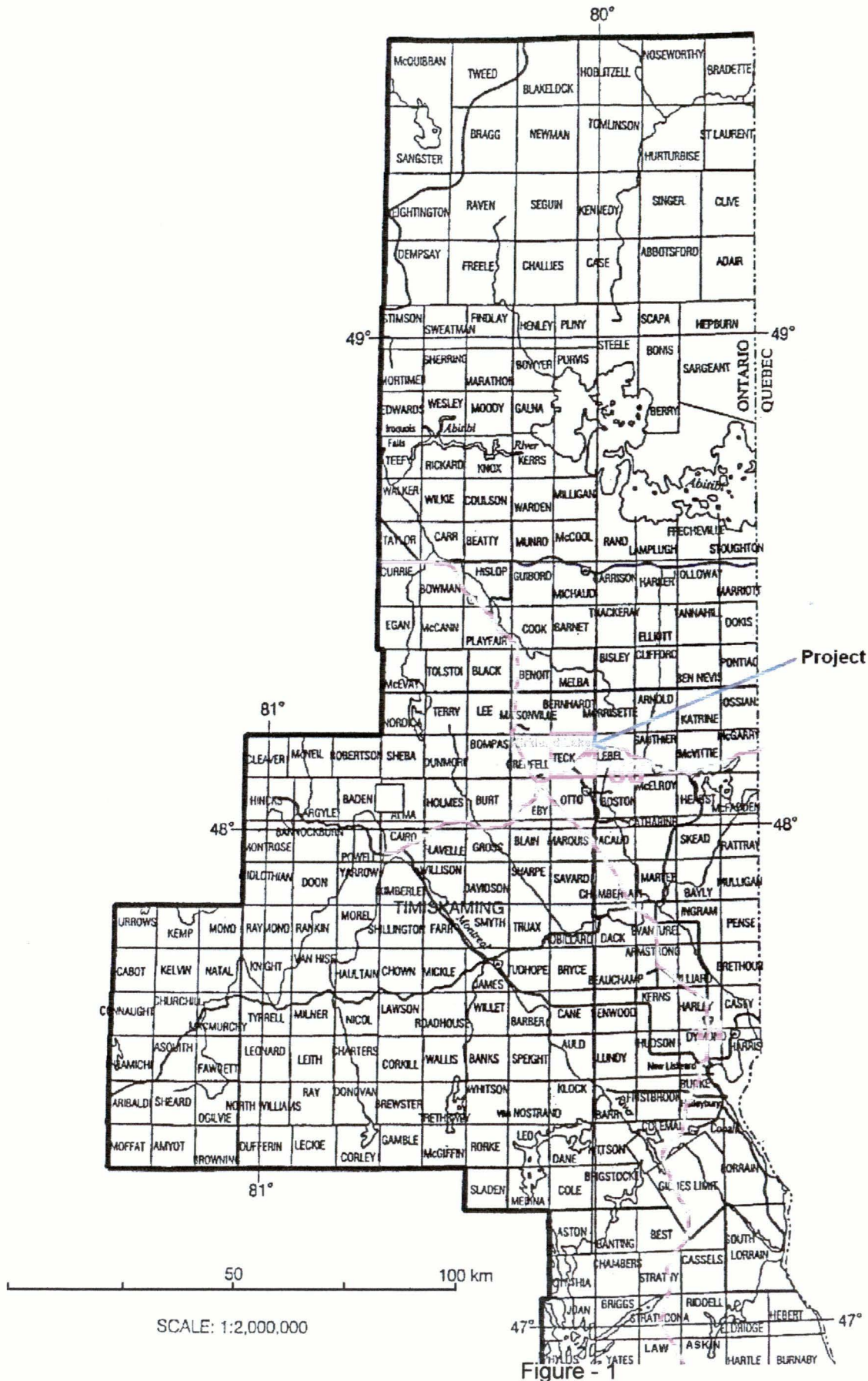
## INDEX

Property Location.....	3
Access .....	3
Claims.....	3
General Geology.....	3, 6
Local Geology.....	6, 7
Claim Geology.....	7, 9
Previous Work.....	9, 11
Present Work.....	11
Results/Discussion.....	11
Bibliography.....	i, ii
Drill Hole Log.....	13,14,15

## FIGURES

Fig - 1 Location.....	1
Fig - 2 Claim Map.....	2
Fig - 3 General Geology of the Kirkland Lake Area.....	4
Fig - 4 Local Geology.....	5
Fig - 5 Claim Geology.....	8
Fig - 6 Work Location.....	10
Fig - 7 Drill Hole Section.....	12

# Kirkland Lake Resident Geologist's District



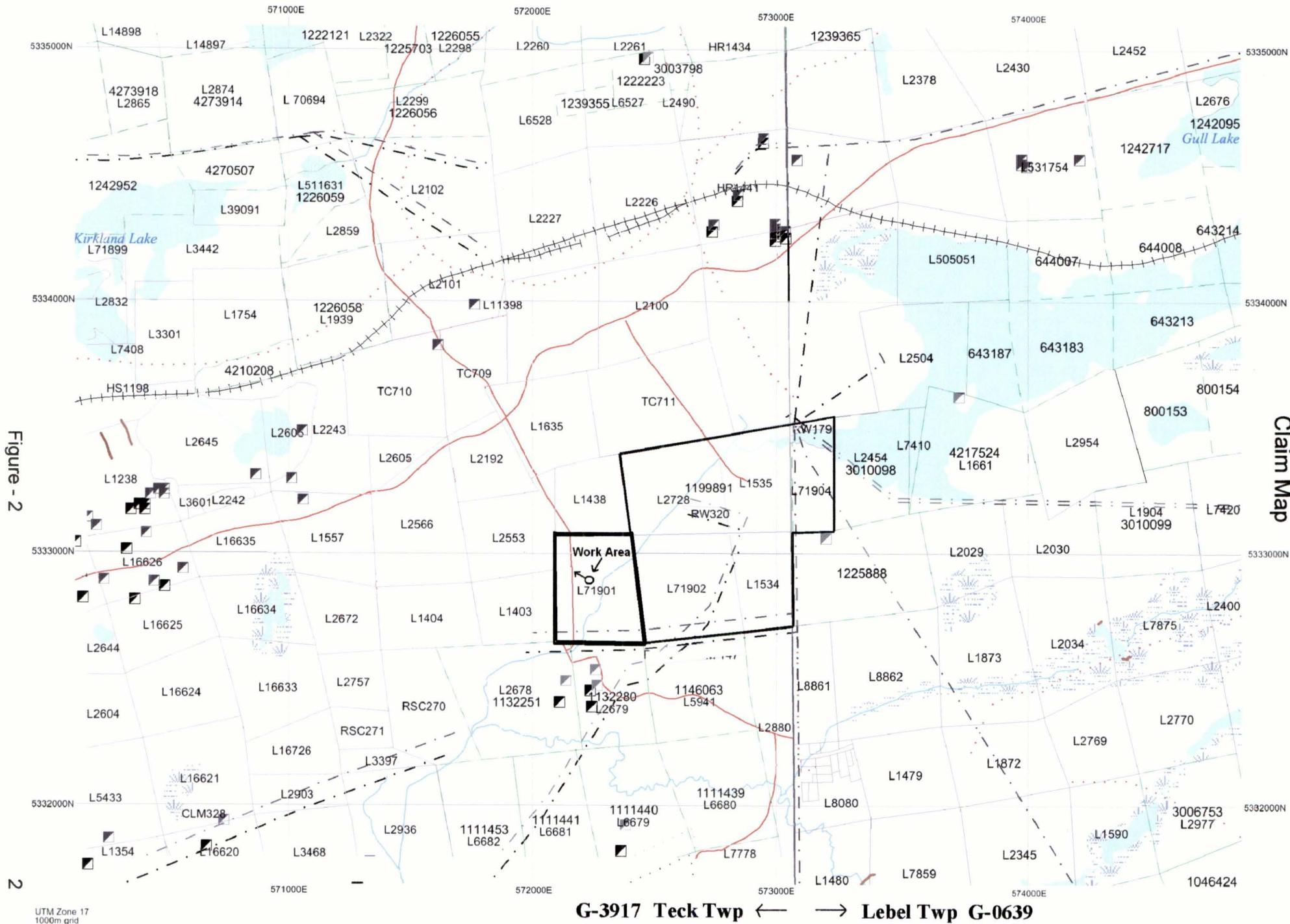


Figure - 2

Claim Map

UTM Zone 17  
1000m grid

G-3917 Teck Twp ← → Lebel Twp G-0639

## PROPERTY LOCATION

This property is located in Teck Township, Larder Lake mining division. The claims are located on the Teck Twp. - Lebel Twp. boundary. with L71901 at the south west of the group. This is in the Kirkland Lake Resident Geologist district and can be found on NTS 42 A\1 with the geographic center of the claim being at approximately 80°01'43"W and 48°08' 41"N.

All mining services and supplies are readily available in the area. Hydro lines and roads cross the property. Skilled workers are numerous in the region as the area is experiencing heightened mining and exploration activity.

## ACCESS

Turning south off of Highway 66 (Government Road) at Duncan Avenue and heading south on this street for 425 meters, the street will cross over the north boundary of the mining claim at a point about 800 feet west of the #1 claim post. The various streets give good access. Several outcroppings are accessible from the street.

## CLAIMS

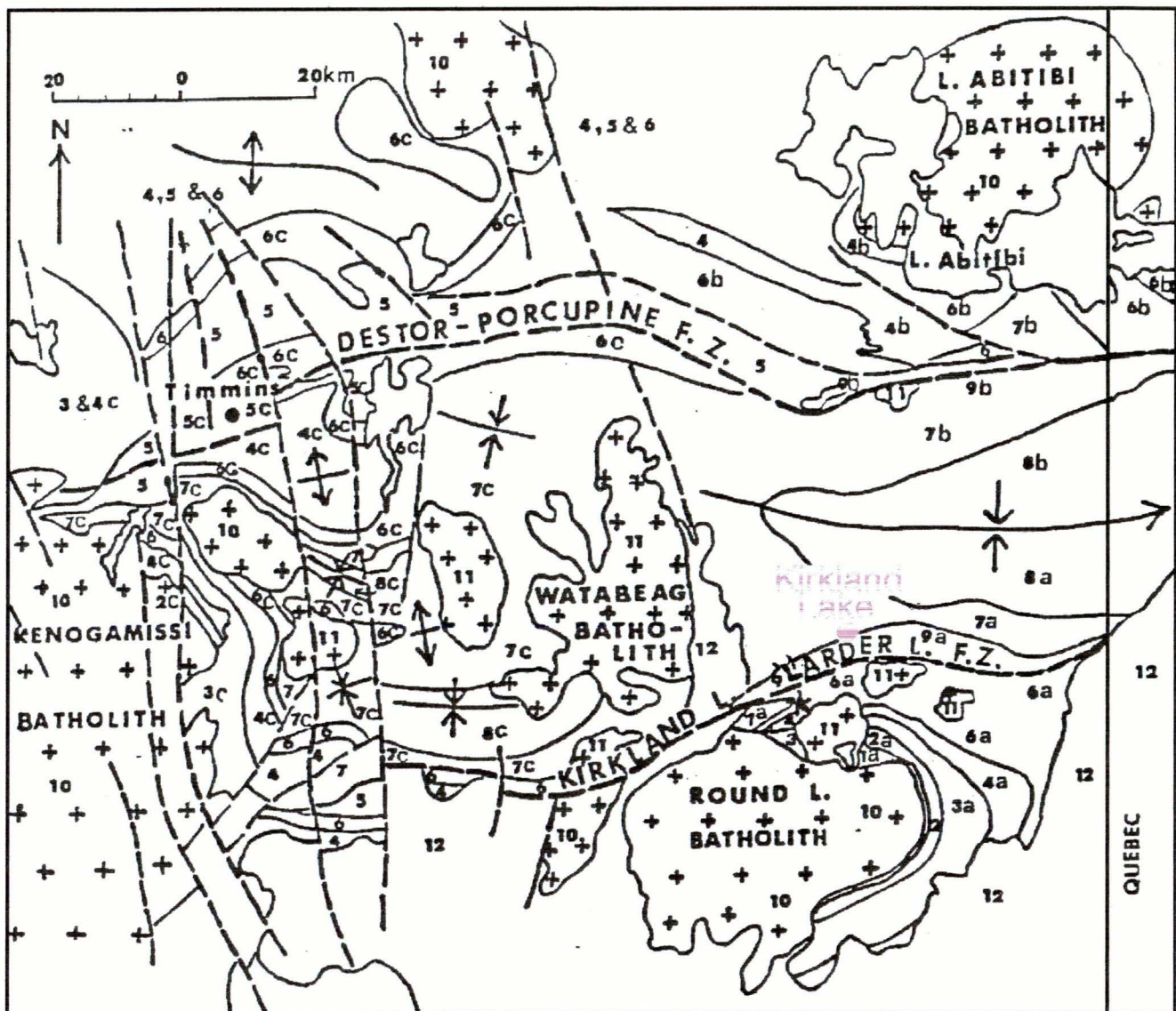
This project consists of a leased mining claim totalling one claim unit, covering approximately 15.3 hectares recorded as L71901, on Plan G-3917 of Teck Township, Temiskaming District. The claim covers one of the claims of the former Black Gold Mines property.

## GENERAL GEOLOGY

The Black property is in the Abitibi Greenstone Belt of the Superior Province, in a region dominated by variably deformed Archaean mafic to intermediate, pillowed to massive and agglomeratic volcanics with minor clastic interflow and fluvial sediments with attendant mafic to felsic intrusives. The oldest rocks exposed in the Kirkland Lake area are the Keewatin series, a group of volcanic rocks that is widespread and practically devoid of sedimentary members. Long and relatively narrow bands of diorite and gabbro are associated with the lava flows. Some of these are probably intrusive sills; other narrow bands may be only the coarse grained portions of thick flows. Unconformably overlying the Keewatin lavas is the Kirkland Lake belt of predominantly sedimentary rocks commonly known as the Timiskaming sediments occurring in a long and relatively narrow belt. To the north of the Temiskaming sediments, the Blake River intermediate volcanic rocks form a large east plunging synclinorium which host the Noranda area VMS deposits located about 60 kilometers to the east. The rocks of both the Keewatin and Timiskaming series were intruded by Algomian rocks, which occur as stocks, dikes, and irregular-shaped bodies ranging in composition from granite to diorite or lamprophyre. In Teck township the most important of the intrusives are the syenite, augite syenite, and syenite porphyry, the longer axes of which roughly parallel the strike of the sediments. The syenite is in the form of an irregular pipelike body 1,600 by 900 feet at surface and plunges westward at 43° through the Kirkland Lake mines. Both the augite syenite and syenite porphyry stocks are characterized by a steep dip on the north side with a flatter dip at the south contact, so that the widths of these stocks increase with depth. Each has a general westerly plunge.

The Larder - Cadillac Deformation Zone (LCDZ) is a major east-west structural control on gold bearing alteration and mineralization passes about 1400 meters south of the Black property. Much of its length coincides with the folded and deformed sinuous belt of sedimentary rocks of Temiskaming age. The LCDZ is a faulted zone in the area with a known length of more than 200 kilometers miles across northwestern Quebec and the Kirkland Lakes areas on west to Matachewan. It is a strong wide carbonatized shear zone, characterized by the presence of green mica and quartz stockworks. This "break" may be regarded as the most important structural feature, for it or its branches appear to have had some influence on the localization of most of the ore bodies. It has been traced at intervals on surface to the east across Gauthier, McVittie and McGarry townships. The Larder Lake "break" is exposed in Teck township about a mile to the south of the Kirkland Lake fault on which the producing mines are located. From the southern part

# General Geology of the Kirkland Lake Area



## LEGEND

L.S. Jensen

### Proterozoic

Keeweenawan diabase (not shown)

12 Cobalt Group

### Archean

Metachewan diabase (not shown)

### Granitic rocks

11 Granodiorite, monzonite, quartz monzonite, syenite

10 Massive to gneissic quartz diorite, tonalite, trondjemite

### Upper Supergroup

9 9a\* Timiskaming Group, 9b\*\* Destor-Porcupine Complex

8 8a, 8n, Blake River Group, 8c\*\*\* Blake River (Upper Fm., Tisdale Group)

\*a refers to Kirkland Lake Area, south limb of synclinorium (Jensen 1978c, 1979).

\*\*b refers to Kirkland Lake Area, north limb of synclinorium (Jensen 1976, 1978b).

\*\*\*c refers to Timmins Area (Pyke, 1980).

\*\*\*\* (Goodwin, 1965).

7 7a, 7b, Kinojevis Group, 7c Kinojevis Group, (Middle Fm., Tisdale Group)

6 6a Larder Lake Group, 6b Stoughton Roquemaure Group, 6c Lower Fm., Tisdale Group

5 5c Porcupine Group

### Lower Supergroups

4 4a Skead Group, 4b Hunter Mine Group, 4c Upper Fm., Deloro Group

3 3a Catherine Group, 3c Middle Fm. Deloro Group

2 2a Wabewawa Group, 2c Lower Fm. Deloro Group

1 1a Pacaud tuffs\*\*\*\*

Figure - 3

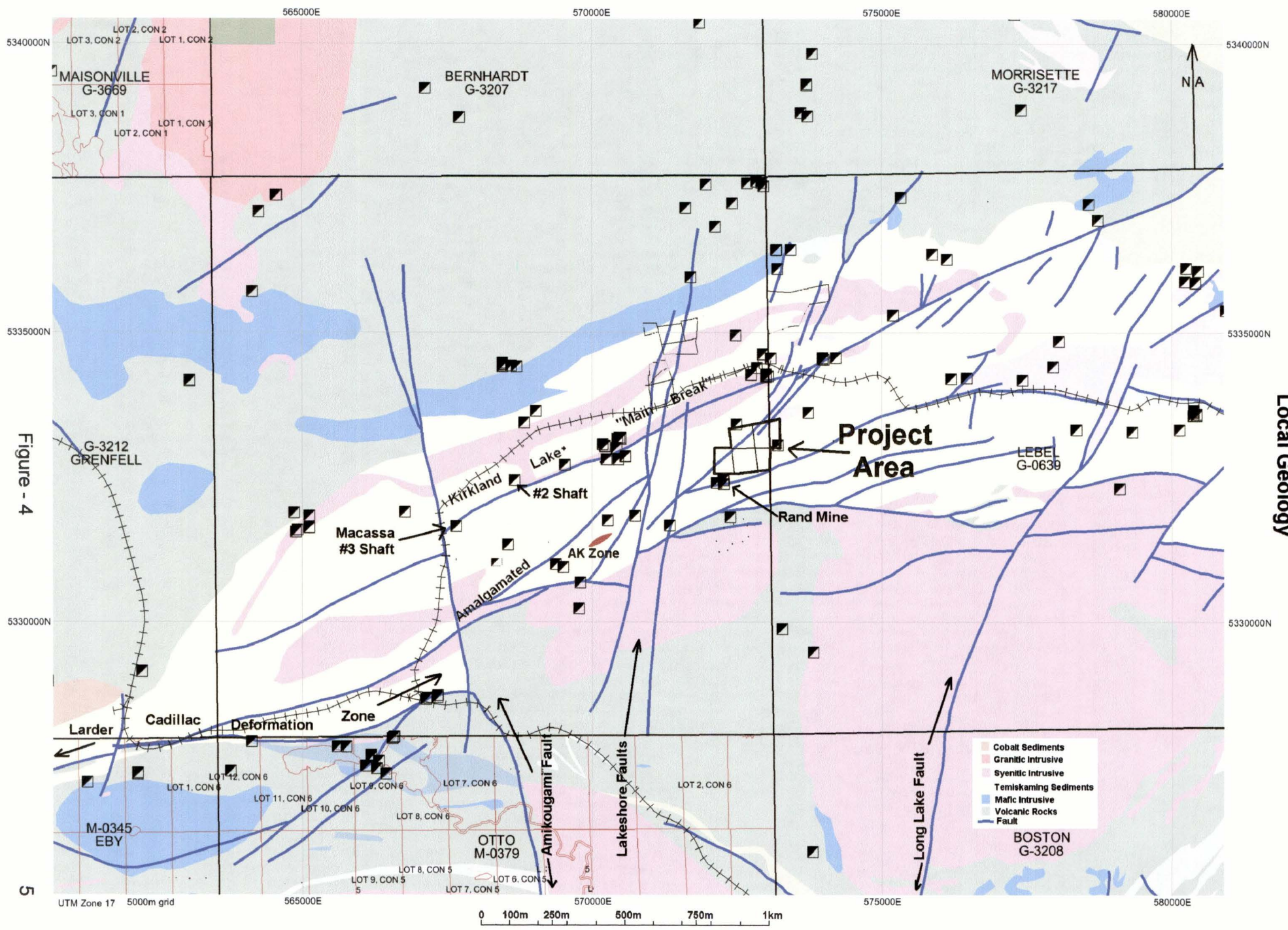


Figure - 4

Local Geology

- Cobalt Sediments
- Granitic Intrusive
- Syenitic Intrusive
- Temiskaming Sediments
- Mafic Intrusive
- Volcanic Rocks
- Fault

BOSTON  
G-3208

0 100m 250m 500m 750m 1km

UTM Zone 17 5000m grid

5

of Teck township it has been traced west-south-westward to where it is overlain by the later Cobalt series in Eby township. The amount of displacement along the Larder Lake "break" is not known. The length of the fault zone, combined with the alteration along it and the deformation of adjoining formations, suggests a very great total displacement. Evidence shows that the south side moved upward and eastward with respect to the north side.

No genetic relationship has been established between the gold deposits of the Kirkland Lake-Larder Lake area and any particular type of intrusive. Gold occurs in a variety of rock types at different properties, and even within the limits of one mine's workings. Ore bodies are found in: (1) carbonate rock (dolomite), (2) basaltic lava, (3) dacitic lava, (4) syenite dikes and stocks, (5) tuffs and clastic sediments, and (6) talc-chlorite schist with interfingering dikes. It will thus be apparent that structural deformation with accompanying rock alteration is of prime importance in the search for new ore bodies and that the rock types present are of secondary importance.

Widespread exploration has shown that ore bodies in the Kirkland Lake-Larder Lake gold belt have a closer relationship to structures than to rock types. The Kerr Addison mine, is located 36 km to the east has produced in excess of ten million ounces of gold. This ore deposit is hosted by altered and strongly sheared mafic to ultramafic volcanics and interflow graphitic sediments of the Larder Lake Group and it is associated with altered plugs and dykes, known locally as "albitite" of unknown original composition. It contains two distinct ore types: "green carbonate ore", as quartz veins in altered ultramafic volcanics rocks and "flow ore" as pyritic, altered deformed variolitic and pillowed basalts with only minor quartz veining. Both ore types are spatially associated with the Kerr Fault, a strong persistent splay off the LCDZ.

The main ore zone or "Main Break" of Kirkland Lake is an outstanding example of the close association between ore and a fault system. The Kirkland Lake Main Break is also a splay of the LCDZ. Ore is found in all rock types of the camp with the exception of a few late diabase dikes. Any promising pre-ore structure regardless of the nature of the country rock should be further evaluated.

The new "South Mine" complex, consisting of multiple mineralized zones of ore-grade mineralization has been discovered in an area extending 600 feet to 2,200 feet south of the Kirkland Lake Camp workings. These are both north-south, and east-west structures. Current drilling is successfully expanding the ore eastward and southward. The understanding is that these heavily mineralized structures are tension or crossover faults in the large block lying between the Main Break and a structural feature to the south. The Amalgamated Fault hosted resource previously mentioned does share similarities with the style of mineralization found in the South Mine complex, but as of yet, no convergence or cross-cutting relationship has been established. It may well be that these tension faults in the South Mine complex originate from the main locus of the LCDZ further south.

Following the introduction of the gold bearing veins, faulting again took place. The earliest post-ore faulting appears to be the horizontal movements that are evidenced by the offsetting of later diabase dikes on the "Main break" and South vein fault. The Lake Shore post-ore fault is the largest transverse fault and has been traced from surface to the deepest workings. This fault dips steeply to the southeast. The east side moved down and north relative to the west side. The horizontal component of the movement is about 650 feet, and the vertical component is more than 300 feet. The Amikougami Creek, Sylvanite, and O'Connell Lake faults probably belong to the same period of post-ore transverse faulting as the Lake Shore fault.

## LOCAL GEOLOGY

The seven mines in Kirkland Lake, of which only the Macassa Mine is still in operation, have produced in excess of 30 million ounces of gold at an average grade of about .49 oz/ton. At these mines, anticlinal veining plus multiple north-dipping and south-dipping veins are present in addition to ore veins along each Break. The productive breaks are generally quite extensive laterally and have been mined down to 8200 feet.

The "Main break" or Kirkland Lake fault is thrust-fault vein structure striking about N.67°E. with a steep southerly dip, passing through all the 7 producing mines and has been identified to a depth of 7,000. It cuts through the Timiskaming sediments and the various intrusive rocks.



Geological sections enable the formations on either side of the fault to be matched, thus giving the amount of movement that has taken place. It is possible that the Kirkland Lake fault branches away from the Larder Lake "break" in the vicinity of Kenogami Lake. The principal structure is a thrust fault of some magnitude. The south side moved up almost vertically for 1,400 feet relative to the north side. There is no appreciable change in the dip of the main shear plane at either end of the Kirkland Lake camp. The fault is represented in some places by a single plane, in others by 2 or 3 planes spaced within a few feet or by fault planes, forming bows in the structure, which may be separated over distances of several hundred feet. Where more than one plane is present the ground between the faults is fractured by cross-over faults, and regions where these are plentiful provide the widest ore bodies.

Veins are also found on numerous subsidiary structures. Some on the minor faults formed coincidentally with the larger ones and others on tension fractures that were formed during release of the compressive forces. The tension fractures may parallel the major faults or may angle between these structures with dips varying from vertical to flat. Favourable locations for tension fractures are in the wedge-shaped blocks between the main faults.

In 1991, Battle Mountain Inc made a significant gold discovery in hole AK91-31 which intersected 9.70 g/t Au over 5.15m, on the Amalgamated Kirkland property, which is about 3000 meters south-west on strike from the Black claims. This new gold zone consists of pyritic quartz breccia veins associated with brittle deformation zone, now named the "AK zone". This strong persistent break is located about two kilometres to the south and subparallel to the Kirkland Lake Main Break. Initial drilling programs beginning in 1993, defined a gold zone with the approximate dimensions of 500 m x 125 m x 5.1 m grading 7.4 g/t Au. The continuing exploration efforts to date (2012) have expanded this gold zone to a depth of about 600 meters, and a strike of about 800 meters. The mineral resource now stand at Indicated: 1.2 Mt @ 4.5 g/t (164,000oz), and Inferred: 1.5 Mt @ 4.2 g/t (207,000oz). It is notable that a south west rake to the mineralized shoot that is similar to that of the Main Break 2000 meters to the north, is emerging from the released plotted data.

#### ORE OCCURRENCES

In the Kirkland Lake camp, fissure veins are the commonest type and are responsible for the larger ore bodies on the various faults. Other structures are representative of stockworks, breccia, and gash veins. Hard competent rocks such as the felsic or porphyritic syenites which failed under tension during different periods of movement along or near this line of weakness account for the majority of the ores mined along the Main Break. Quartz is the principal gangue mineral, though its proportion in the ores milled is relatively small. Some calcite is usually associated with the quartz. Other minerals in small amounts are albite, orthoclase, ankerite, barite, tourmaline, actinolite, and apatite. Secondary minerals are represented by sericite, carbonates, chlorite, and pyrite. Gold, last to be deposited, is found native in the gangue and in fractures in the wall rocks and earlier-formed vein minerals, and is present in calaverite ( $\text{AuTe}_2$ ) and petzite, ( $\text{AgAu}^{\text{Te}}$ ). It is also associated with fine pyrite, which mineral constitutes about 2 percent of the ore by weight. Silver is associated with the gold and is also present in the petzite. Other minerals in the ores are chalcopyrite, hematite, galena, sphalerite, molybdenite, graphite, and the tellurides altaite ( $\text{PbTe}$ ), coloradoite ( $\text{HgTe}$ ), and melonite ( $\text{Ni}_2\text{Te}_3$ ). The longest stoping length of ore is at the 3,000-foot horizon, where a length of 6,400 feet of ore was shared by the Teck-Hughes, Lake Shore, and Wright-Hargreaves. Of this, 2,600 feet lies on the "Main break" and the remainder on the North vein fault.

At the new South Mine complex, most of the new discoveries are sulphide zones rather than the quartz-vein hosted gold found historically, and comprise silicified pyritic tuff or porphyry with visible gold and tellurides. A distinct buff colored albitic alteration is evident in many zones.

It is important to note that even in a mining camp such as Kirkland Lake that has been the subject to a tremendous amount of exploration work, that as recently as the mid 1990's and 2005, new gold bearing structures are being found.

#### CLAIM GEOLOGY

The claim encompasses one of the claims of the former Black Gold Mine. The property is

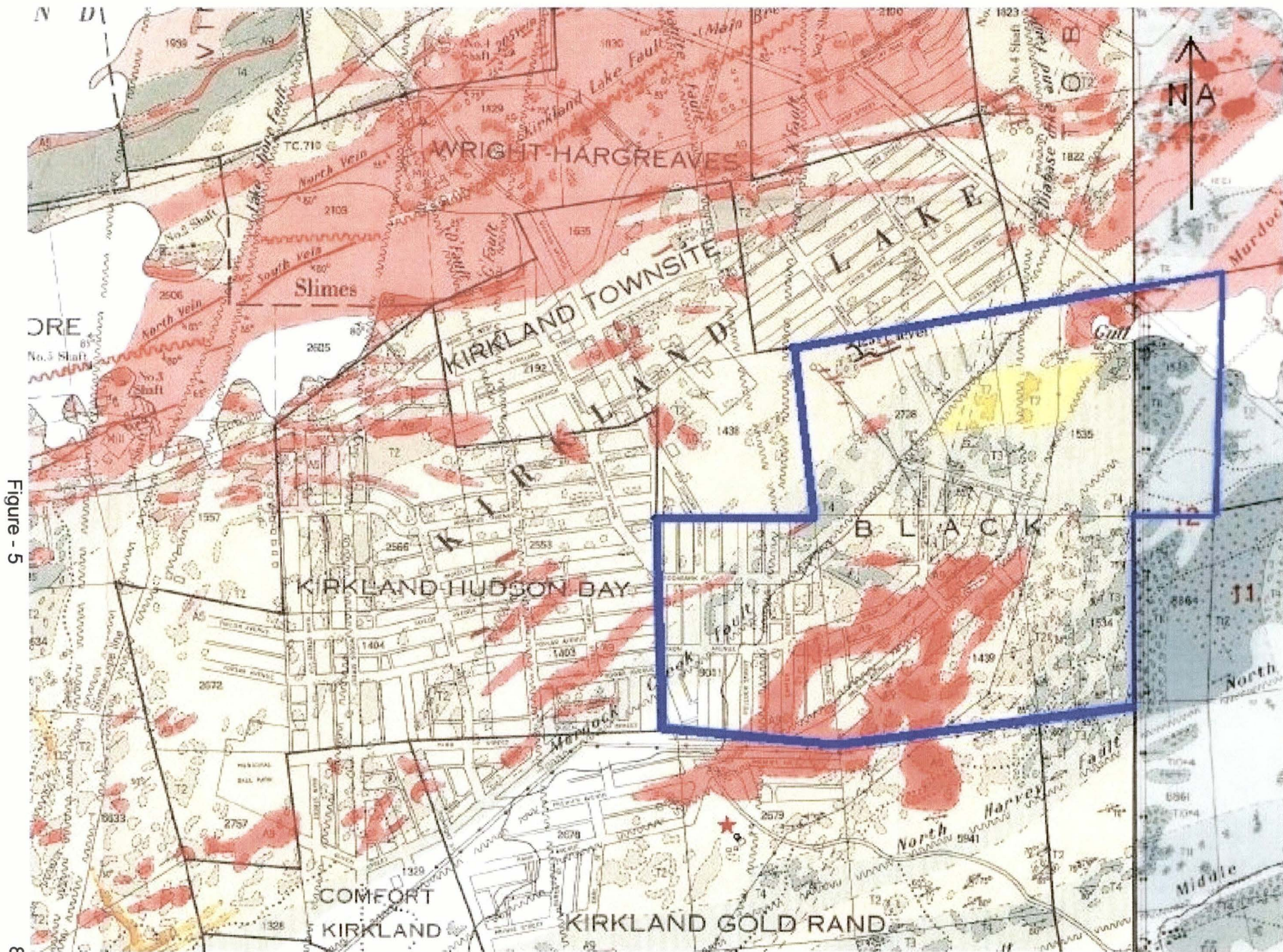
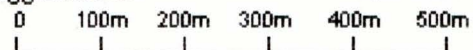


Figure - 5

8

T2 - Conglomerate    T3 - Tuffaceous Conglomerate    T4 - Tuff and Agglomerate  
 T7 - Trachyte, Trachytic Breccia    A9 - Syenite/Feldspar Porphyry

SOURCE : Map No 1945 -1 Township of Teck, Jas. E. Thomson



located in Kirkland Lake directly south of, and contiguous to the Wright Hargreaves and the Toburn gold mines, two of the historic producing gold mines on the "Kirkland Lake Main Break".

The property is underlain by Temiskaming aged sediments consisting of greywacke, polymictic conglomerate, tuff and small amounts of trachyte. Numerous Algoman aged feldspar porphyry dykes cut the sediments in a general east - west direction. This assemblage is the same as that of the productive mines adjacent to this property.

The property is eastward on strike of the very high grade, multi million ounce "South Mine Complex" presently yielding terrific exploration results for Kirkland Lake Gold on the adjacent property holding. Current drilling is successfully expanding the ore eastward. The Black Gold Mine property is the only land holding likely to host "South Mine Complex" gold presently available\* in Kirkland Lake.

Recent drilling by the holders of the Rand Gold Mine property contiguous directly south of the property has encountered a new high grade gold system only about 150 meters from the common boundary. It appears that this zone may trend onto the Black claims.

Favourable geology is present on the property. Proven gold bearing laterally extensive quartz veins previously discovered on the property. Potential for ore shoots in this vein system is quite good. Gold bearing veins/breaks of the Kirkland Lake camp were mined only 1000 feet north of this property, on the Kirkland Townsite Mine property.

## PREVIOUS WORK

The key claim (shaft claim) to the north east of L71901 was acquired in the early days of the camp. On the extreme north west of the property, there are three parallel quartz veins/breaks which were exposed on outcrop. They are numbered 1, 2, and 3 from north to south. They strike slightly north of east and dip steeply to the south. Frequent showings of visible gold were noted along the veins.

In around 1917, an inclined shaft was put down 125 feet and about 40 feet of drifting was done on the #1 vein. The vein was exposed by this work as a narrow quartz stringer dipping steeply to the south. The reported assays gave up to .72 oz/ton across 1½ feet.

In 1935, a cross-cut was driven south from the shaft on the 125 foot level. The #2 vein was drifted on for 205 feet to the east of the shaft, and for about 95 feet to the west of the shaft. Channel samples on the #2 vein showed values up to 2.52 oz/ton, with an average of about .21 oz/t for the entire 295 foot length of the vein.

In around 1937, a total of 13 drillholes were put down to search for the possible extension of the 1, 2, and 3 veins in the shaft-area and to investigate the nearby Murdock Creek fault. All holes gave numerous sections of gold values, with vein material assaying up to 1.4oz/t. Wide areas of alteration and pyrite mineralization are well detailed in the available drill logs. These vein system appears to have good continuity and been shown to be gold bearing across a strike length of about 500 feet to a depth of about 1000 feet, and is open on strike and dip.

Drilling of the Murdock Creek zone encountered a brecciated quartz-calcite zone with gold values across up to 39 foot core length, with one 8½ foot section assaying .128 oz/ton. This zone is open along strike and dip.

The property was dormant until the late 1960's when the mining rights reverted to the crown. In mid 1980 Strike Minerals acquired the property by staking. The mineral rights of claim L2728 was staked as L566424, and the mineral rights of claim L1535 was staked as L566425. Strike Minerals performed assessment work as follows :

In July 1981, an AQ sized drill hole was put down 101½ feet. The hole was located 400 feet east and 150 feet south of the #4 post of L566424. The drill log notes conglomerate for the length of the hole but there is no mention of the #2 vein. From the layout, it appears that the drill hole was collared too far to the north and overshot the #2 vein. The hole would not have reached the #1 vein before the completion depth.

In October of 1982 Strike Minerals sampled a 60 foot ± length of the #2 vein. Twenty samples were taken with the average being about .261 oz/ton for all the samples.

In October of 1983, an AQ sized drill hole B-2 was put down to a depth of 183 feet. The hole was located 600 feet west and 200 feet south of the #1 post of L566424. The #2 vein was encountered at 87 feet to 88 feet. No assays accompany the assessment report.

WORK LOCATION MAP  
L71901, TECK TWP.  
LARDER LAKE MINING DIVISION

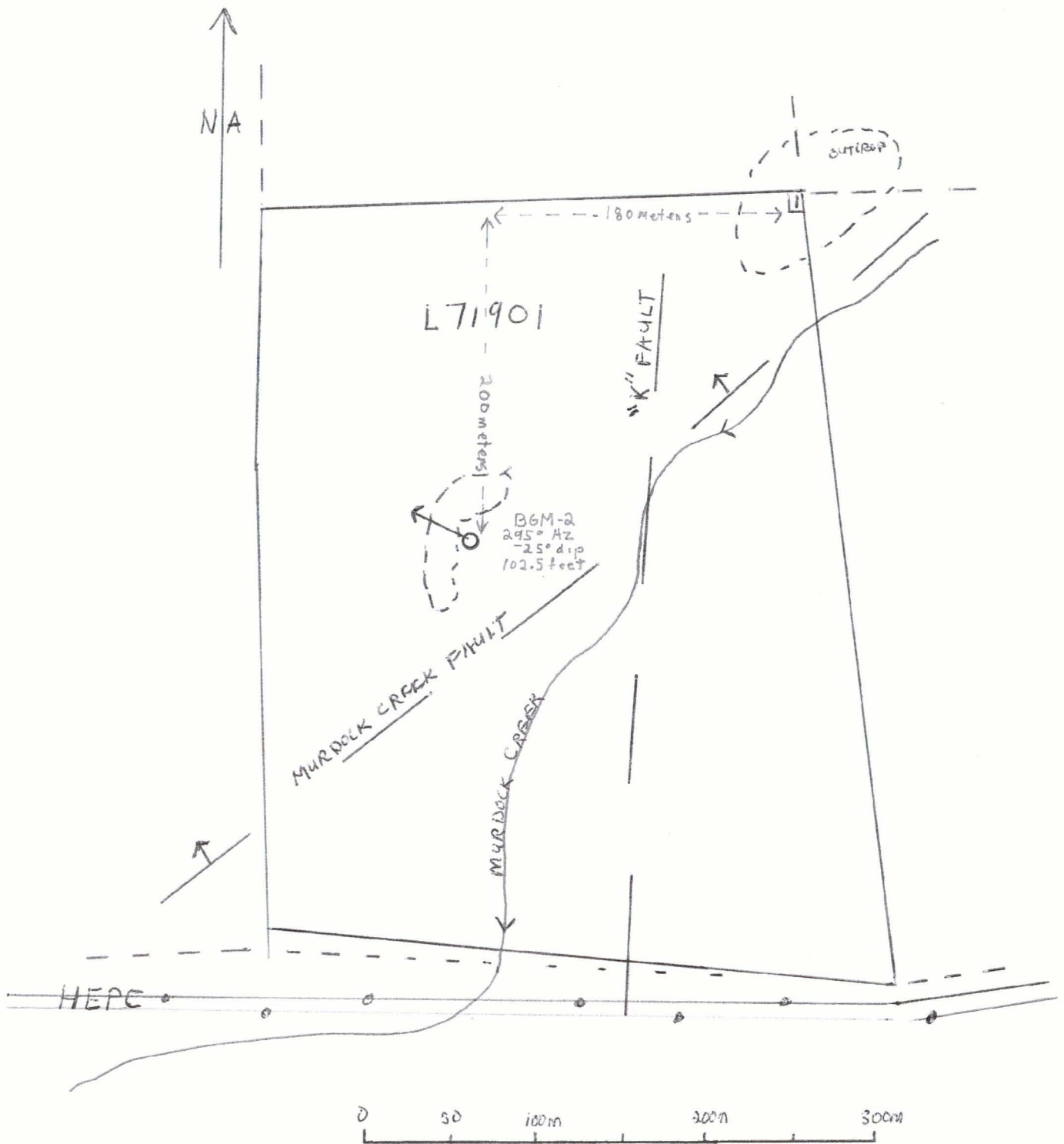


Figure - 6

In July of 1985, an AQ sized drill hole B-3 was put down to a depth of 101 feet. The hole was located 50 feet west of hole B-2. The #2 vein was encountered 41 feet down hole. No assays accompany the assessment report. None of the 3 holes went deep enough to cross the #1 vein.

Strike Minerals allowed the claims to lapse in 1995. The author of this report staked the claims when they came open in September of 1995. The claims were finally registered in the name of the author in April of 2007.

2007 to present - Ongoing sampling and geochemical studies are being done by the author to verify the auriferous nature of the exposed #2 vein and determine mineral associations. Assays of vein material showed up to .51 oz/t with average assay of about .25 oz/t and assays of pyritic wallrock assayed up to .25 oz/t with the average about .07 oz/ton. The sampling program was successful in verifying the auriferous nature of the #2 vein. The results were comparable to those of the prior sampling work. Further sampling was done in 2010 and 2012 to determine trace mineral-gold associations in the mineralized pyritic wall rock to the #2 vein.

No recorded work on L71901 exists in the MNDM files. The only mention of drilling occurring is made in the Thirty-seventh annual report of the Ontario Department of Mines, 1928 Vol. XXXVII, Part I where it is noted that during drilling work being done to assess the adjacent claim that

*"(in 1927) A diamond-drill hole was started on the Black claim and at a depth of 700 feet entered the Townsite property. This hole had reached a depth of 1,525 feet on April 8."*

No other mention of historical work on this claim.

## PRESENT WORK

During the winter of 2013, in February and early March a 102½ foot X-Ray drill hole at - 25° dip oriented at 295° astronomic was put down on L71901 to assess a trachytic sequence partly exposed in outcrop.

## RESULTS

The hole cut variably chlorite altered, green to reddish tinged greenish, mildly magnetic trachytic tuffs for its whole length. Numerous quartz breccia veins were encountered. The rock is moderately carbonatized as 7% HCL bubbles well on fresh surfaces. A strong sericitic alteration centered around a break/vein was encountered at about 88 feet down hole. Generally the quartz veining was at about 45 degrees to the core angle, but at about 90° to the hole. It is expected that after orientation of the features encountered that the features may be dipping to the south at about 70° and strike at about 65° astronomic as most other local features.

## RECOMENDATIONS

Sampling and geochemical assessment of the sludges followed up by sampling of the core should be completed.

L71901 TECK TWP.  
BGM-2  
DRILL HOLE SECTION  
(LOOKING N.-E.)

295° Az. Ast.  
25° dip

interfacial outcroppings

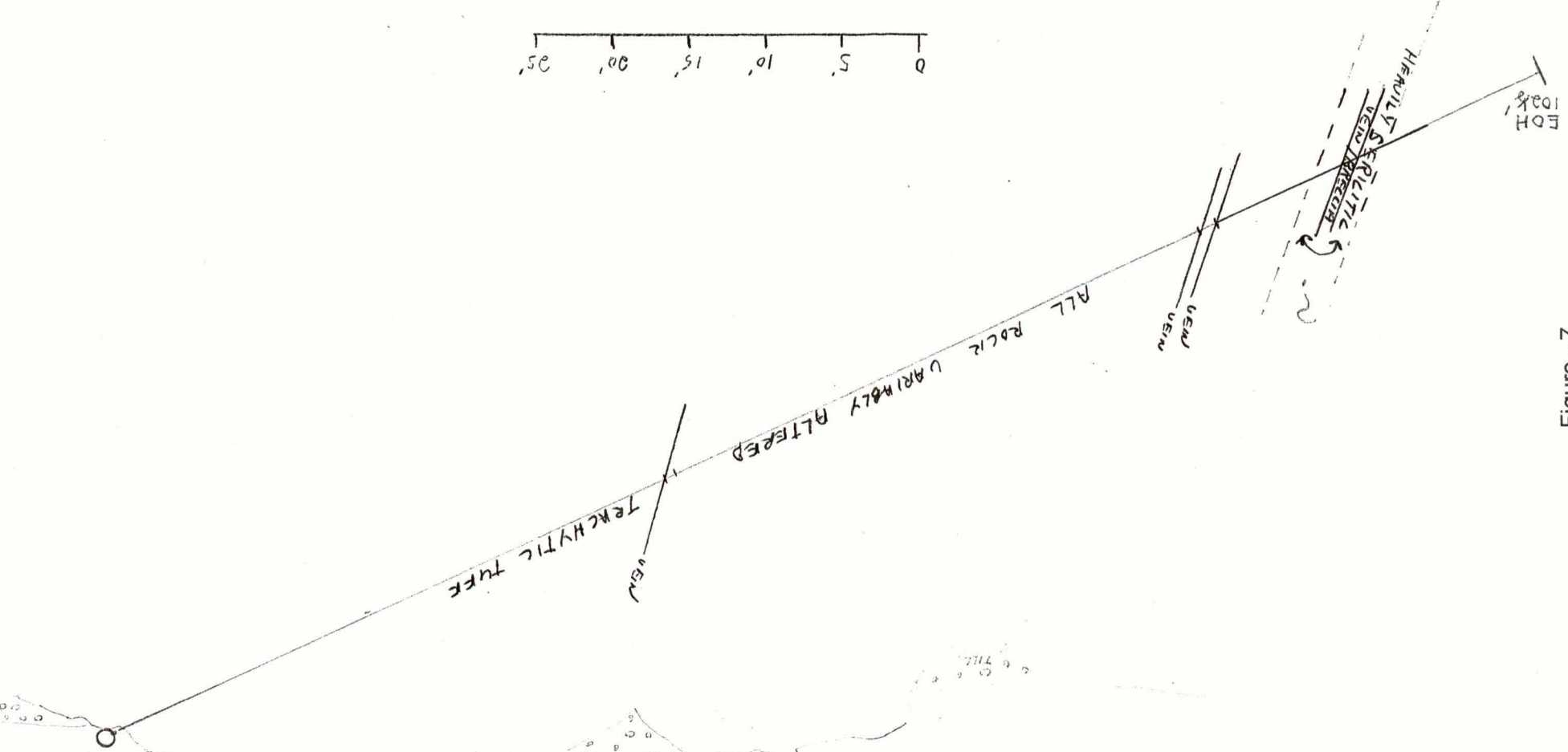


Figure - 7



Complete this form and related sketch in duplicate. Remplir en deux exemplaires la présente formule et le croquis annexé

Fill in on every page. Remplir ces cases à chaque page

Table with columns: Footage/Avancement (From/De, To/À), Rock Type (Type de roche), Description (Colour, grain size, texture, minerals, alteration, etc.), Planar Feature Angle, Core Specimen Footage, Your Sample No., Sample Footage, Sample Length, Assays.

\* For features such as foliation, bedding, schistosity, measured from the long axis of the core. \* Exemples de caractéristiques : foliation, schistosité, stratification. L'angle est mesuré par rapport à l'axe longitudinal de la carotte.

† Additional credit available. See Assessment Work Regulation. † Des crédits supplémentaires sont offerts. Consulter les règlements relatifs aux travaux d'évaluation. Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.



Complete this form and  
related sketch in duplicate.  
Remplir en deux exemplaires la  
présente formule et le croquis annexé

Fill in on every page  
Remplir ces cases à  
chaque page

Hole No. Forage n° <b>BGM - 2</b>	Page No. Page n° <b>2</b>
-----------------------------------------	---------------------------------

Footage/Avancement		Rock Type Type de roche	Description (Colour, grain size, texture, minerals, alteration, etc.) Description (Couleur, granulométrie, texture, minéraux, transformation, etc.)	Planar Feature Angle/Angle des caractéristiques planes	Core Specimen Footage / Longueur en pieds des carottes prélevées	Your Sample No. N° d'échantillon du prospecteur	Sample Footage/Niveau de pré- lèvement de l'échantillon (en pieds)		Sample Length Longueur de l'échantillon	Assays † / Analyses minéralurgiques		
From/De	To/À						From/De	To/À				
			wisps, fracture coatings and small replacement of grains. Wisps and stringers generally at about 45° to core angle. From 66' to about 75' more lithic fragments and altered-replaced somewhat pyritized clasts to 3" in this section. From 75' to 102½', visibly larger grain size.									
		23' 6"	1/2" calcite vein at about 30° to C.A. Banded appearance									
		38' 8" to 38' 11"	3" calcite - quartz vein at about 45° to C.A. Angular fragments of tuff, buff altered tuff and pinkish trachyte in a whitish calcite-quartz									
		39' 7' to 39' 9"	quartz breccia at about 35° to C.A. with bleached angular <1/4" tuff fragments									
		45' to 45' 4"	Several "rusty quartz" veinlets to 1/4" at 45° to 90° to C.A.									
		49' 6' to 50'	Calcite - quartz healed breccia with several chalcopryite specks									
		47' to 54'	Extensively fractured with tight white calcite cementing, more pyrite noted than section above or below. Thin sericitic wisps throughout.									
		56' 6"	Bedding? or foliation at about 70° to C.A.									
		58' 5"	Two 1/8 glassy quartz-sericite stringers about 1" apart with noticeable buff-brown bleaching between and to about 3/8" into wallrock.									
		69' 2"	Very fine grain section at about 45° to C.A. with fair amount of fine grain pyrite.									
		76' 6" 1"	Quartz breccia vein with many angular inclusions to 1/4" size									
75'	102½'		Becoming more sericitic approaching vein, with most prominent at about 86' to 91' centered around vein noted next.									
		88' 3' to 89' 4"	Vein-break. Quartz-calcite vein to breccia, Heavily chloritic 2" gougey section before vein from 88' 4" to 88' 6". Many reddish feldspathic fragments and fine grain to pinpoint pyrite and some chalcopryite throughout.									
		90' 8"	Several pinkish calcite stringers to 1/8" at about 35° to C.A.									
		91' 4"	5 pinkish calcite veinlets to about 1/4" at from about 30° to 45° to C.A.									
		92' to 92' 4"	Several gashy calcite veinlets									
		92' 4" to 92' 10"	Quite sericitic section with calcite wisps									
		93' 6" to 94' 3"	Several pinkish calcite stringers and gashy fillings									
14		95' 2" to 95' 5"	Two 1/4" veinlets about 3' apart with buff-brown bleaching between and to 1/2' into wallrock.									

\* For features such as foliation, bedding, schistosity, measured from the long axis of the core.  
\* Exemples de caractéristiques : foliation, schistosité, stratification. L'angle est mesuré par rapport à l'axe longitudinal de la carotte.

† Additional credit available. See Assessment Work Regulation.  
† Des crédits supplémentaires sont offerts. Consulter les règlements relatifs aux travaux d'évaluation.  
Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.





**Diamond Journal de  
Drilling forage au  
Log forage au  
diamant**

Complete this form and  
related sketch in duplicate.  
Remplir en deux exemplaires la  
présente formule et le croquis annexé

Fill in on every page  
Remplir ces cases à  
chaque page

Hole No. Forage n°	Page No. Page n°
BGM - 2	1

Drilling Company Compagnie de forage <b>E Marion</b>	Collar Elevation Élévation du collier	Bearing of hole from true North/Position du forage par rapport au nord vrai <b>295° Ast.</b>	Total Footage Avancement total du forage <b>102½'</b>	Dip of Hole at Inclinaison du forage au Collar/collier <b>-25°</b>	Address/Location where core stored Adresse/endroit où la carotte est stockée <b>126 Duncan Ave, Kirkland Lake</b>	Map Reference No. N° de référence sur la carte <b>NTS 42/A1</b>	Claim No. N° de concession minière <b>L71901</b>
Date Hole Started Date de commencement du forage <b>Feb 24 2013</b>	Date Completed Date d'achèvement <b>March 4 2013</b>	Date Logged Date d'inscription au journal <b>Feb 5, 2015</b>	Logged by Inscrit par <b>E Marion</b>	FL/Pl	Property Name Nom de la propriété <b>BGM</b>	Location (Twp, Lot, Con. or Lat. and Long.) Emplacement (canton, lot, concession, ou latitude et longitude) <b>Teck Twp., Larder Lake Mining Division, 180meters west and 200 meters south of #1 post of L71901</b>	
Exploration Co., Owner or Optionee Compagnie d'exploration, propriétaire ou titulaire d'option <b>7247915 Canada Inc</b>		Date Submitted Date de dépôt <b>Feb 24, 2015</b>	Submitted by (Signature) Déposé par (signature) 	FL/Pl			
				FL/Pl			
				FL/Pl			

Footage/Avancement		Rock Type Type de roche	Description (Colour, grain size, texture, minerals, alteration, etc.) Description (Couleur, granulométrie, texture, minéraux, transformation, etc.)	Planer Feature Angle* Angle des caractéristiques planes	Core Specimen Footage † / Longueur en pieds des carottes prélevées	Your Sample No. N° d'échantillon du prospecteur	Sample Footage/Niveau de pré- lèvement de l'échantillon (en pieds)		Sample Length Longueur de l'échantillon	Assays † / Analyses minéralurgiques
From/De	To/À						From/De	To/À		
0	102½'	TRACHYTIC TUFF	Medium greenish grey tuff trending to a pinkish grey green in sections. Generally tuff with minor chloritized or altered fragments, though a section with several clasts to occurs near the end of the hole. Reddish - pinkish tinge due to amount of grains crystals and fragments of pinkish feldspar or pinkish trachyte. Generally finer grained tuff of about 1/10 mm to 1/5 mm size grains and frags but increasing downhole to about 1/4 mm to 1/3mm grain sizes with last 30 feet of hole visibly larger grain than first 30 feet Some bedding noted at roughly 45° to core angle, with cross bedding? at 135° to C.A. on the same length of core. Whole section variably weakly to mild magnetic with magnetite occurring as grains and tiny masses sometimes concentrated along "grain" of unit. Moderately micro - fractured throughout and all well cemented with dominantly white calcite wisps and stringers with some quartz veins, with numerous tight healed fractures displace all others. Numerous of the stringers are of a pinkish calcite type. Most discernable vein sets at about 40° to 45° to C.A., ~60° to C.A. and 25° to 30° to C.A., with a flatter oblique set at about 8° to 15° to core angle. Whole section moderately carbonitized with 7% HCL bubbling well. All tuffs show a hardness of less than an iron nail. Pinpoint size whitish pyrite and chalcopyrite grains to about 1/2 mm generally less than 1% throughout but appears to increase somewhat down hole. The top of hole is somewhat chloritized with some relict features completely replaced by chlorite, but is noted throughout all core. From 40' down, rock becoming more sericitic with abundant		Sludge		0	22'	22'	
					"		22'	40'	18'	
					"		40'	50¼'	0¼'	
					"		50¼'	61¼'	10½'	
					"		61¼'	71¼'	10½'	
					"		71¼'	82¼'	10½'	
					"		82¼'	93'	10¼'	
					"		93'	102½'	9½'	

\* For features such as foliation, bedding, schistosity, measured from the long axis of the core.  
\* Exemples de caractéristiques : foliation, schistosité, stratification. L'angle est mesuré par rapport à l'axe longitudinal de la carotte.

† Additional credit available. See Assessment Work Regulation.  
† Des crédits supplémentaires sont offerts. Consulter les règlements relatifs aux travaux d'évaluation.  
Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

## Bibliography

- Charlewood, G.H.  
1964: Geology of Deep Developments on the Main Ore Zone at Kirkland Lake District of Temiskaming, Ontario Department of Mines, Geological Circular No. 11 Accompanied by Sheets A through H, scale 1 inch to 400 feet
- Colvine, A.C., et. al.  
1988: Archaean Lode Gold Deposits in Ontario; Ontario Geological Survey, Miscellaneous Paper 139, Part 1-A Depositional Model and Part 11- A Genetic Model
- Downes, M.J.  
1981: Structural and Stratigraphic Aspects of Gold Mineralization in the Larder Lake Area, Temiskaming District Ontario; in Genesis of Archean, Volcanic Hosted Gold Deposits, Symposium Held at the University of Waterloo, March 7, 1980, Ontario Geological Survey  
Miscellaneous Paper 97, p. 66-70
- Fortescue, J.A.C. and Gleeson, C.F.  
1984: An introduction to the Kirkland Lake (KLIP) Basal Till Geochemical and Mineralogical Study (1979-1982), Temiskaming District, Ontario Geological Survey, Map 80 714, Geochemical Series, Compiled 1984
- Gamble, David A.P., P. Geo  
2011, Oct 11 Technical Report on the Resources at the Amalgamated Kirkland Property, Teck Township, Larder Lake Mining Division, Report for NI 43 - 101 on behalf of Queenston Mining
- Hicks, K.D., and Hattori, K.  
1988: Magmatic-Hydrothermal and Wall Rock Alteration Petrology at the Lake Shore Gold Deposit, Kirkland Lake, Ontario; in Geoscience Research Grant Program, Summary of Research 1987 to 1988, Ontario Geological Survey, Miscellaneous Paper 140, Grant 313, p. 192-204
- Hattori, Keiko, and Levesque, G.  
1989: Hydrothermal Activity in the Kirkland Lake Intrusive Complex, Temiskaming District, Ontario, in Geoscience Research Grant Program, Summary of Research 1988 to 1989, Ontario Geological Survey, Miscellaneous Paper 143, Grant 313, p. 59-67
- Jensen, L.S. and Langford, F.F.  
1983: Geology and Petrogenesis of the Archean Abitibi Belt in the Kirkland Lake Area, O.G.S. Open File Report 5455
- Jensen, L.S.  
1981: Gold Mineralization in the Kirkland Lake-Larder Lake Area; in Genesis of Archean, Volcanic Hosted Gold Deposits, Symposium Held at the University of Waterloo, March 7, 1980, Ontario Geological Survey  
Miscellaneous Paper 97, p. 59-65
- Lovell, H.L.  
1972: Geology of the Eby and Otto Area, District of Temiskaming, Ontario Department of Mines and Northern Affairs, Geological Report 99, Accompanied by Map 2239, scale 1 inch to 1/2 mile
- Lovell, H.L. and Caine, T.W.  
1970: Lake Temiskaming Rift Valley; Ontario Department of Mines  
Miscellaneous Paper 39
- MacLean, A.  
1956: Geology of Lebel Township, District of Temiskaming, Ontario Department of Mines, Bulletin 150, Accompanied by Map 53a, scale 1 inch to 1,000 feet
- Moore, J.C.G.  
1966: Geology of Burt Holmes Area, District of Temiskaming, Ontario Department of Mines Geological Report 44, Accompanied by Map 2078, scale 1 inch to 1/2 mile

- Ontario Geological Survey  
1979: Airborne Electromagnetic and Total Intensity Magnetic Survey, Kirkland Lake Area, Teck Township, District of Temiskaming : by Questor Surveys Limited for the Ontario Geological Survey, Prelim. Map P.2263A North Half, and 2263B South Half, Geophys. Series., Scale 1:20,000, Survey and compilation February and March 1979
- Ontario Geological Survey  
1986: Volcanology and Mineral Deposits, Miscellaneous Paper 129
- Ontario Geological Survey  
1990: OGS Miscellaneous Paper 147, Report of Activities, Resident Geologists, page 257, G. Meyer et. al Past production in the Kirkland Lake Resident Geologist's District, (to the end of 1988),
- Powell, W.G., Hodgson, C.J., and Hanes, J.A.  
1989: The Expression of the Larder Lake Break in the Matachewan Area, Temiskaming District, Ontario; in Geoscience Research Grant Program, Summary of Research 1988 to 1989, Ontario Geological Survey, Miscellaneous Paper 143, Grant 329, p. 125-132
- Powell, W.G.  
1991. The distribution, structural history and relationship to regional metamorphism of high strain zones forming the Larder Lake-Cadillac deformation zone, Matachewan area, Abitibi Belt; Ontario Geological Survey, Open File Report 5789, 150p
- Rupert, R.J., and Lovell, H.L.  
1970: Geology of Bernhardt and Morrisette Townships, District of Temiskaming, Ontario Department of Mines Geological Report 84, Accompanied by Map 2193, scale 1 inch to 1/2 mile
- Savage, W.S.  
1964: Mineral Resources and Mining Properties in the Kirkland Lake - Larder Lake Area, District of Temiskaming, Ontario Department of Mines Mineral Resource Circular No. 3 Accompanied by Chart A Kirkland-Larder Lake Area, scale 1 inch to 2 miles
- Thomson, Jas. E.  
1948: Geology of Teck Township, District of Temiskaming, Ontario: Map No. 1945-1, scale : 1 inch to 1000 feet, Compilation for Publication by Jas. E. Thomson 1943 and 1944
- Thomson, Jas. E.  
1948: Geology of Teck Township and the Kenogami Lake Area : Ontario Department of Mines, Vol. XXVII, Part V, P. 1-53
- Thomson, Jas. E., Charlewood, G.H., Griffin, K., Hawley, J.E., Hopkins, Harold, MacIntosh, C.G., Ogrizlo, O.S., and Perry, Wm. Ward  
1948: Geology of the Main Ore Zone at Kirkland Lake : Ontario Department of Mines, Vol. XXVII, Part V, P. 54-188
- Todd, E. W.,  
1928: Kirkland Lake Gold Area (a detailed study of the central zone and vicinity): Ontario Department of Mines, Vol. XXVIII
- Toogood, D.J. and Hodgson, C.J.  
1986: Relationship Between Gold Deposits and the Tectonic Framework of the Abitibi Greenstone Belt in the Kirkland Lake-Larder Lake Area; Geoscience Research Grant Program, Summary of Research 1985 to 1986, Ontario Geological Survey, Miscellaneous Paper 130, Grant 227, p.79-86
- Kirkland Lake Assessment Files - KL - 0864 C.P. Forbes, "Black Property", Teck Twp.  
KL -0239 Black Gold Mine