BATTLE MOUNTAIN (CANADA) INC.

KIRKLAND LAKE PROJECT

REPORT ON GEOLOGICAL MAPPING AND SAMPLING

May, 1991

RAND PROPERTY
(Kirkland Gold Rand Property)

TECK TOWNSHIP, LARDER LAKE MINING DIVISION

ONTARIO, CANADA

Kirkland Lake, Ontario
Project # 75-JV-28

M. W. Masson
August 30, 1991

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1.0 SUMMARY

During May 1st - 31st, 1991, geological mapping and sampling was completed on the Rand property at a scale of 1:2500.

The property is underlain by steeply south dipping Timiskaming Group volcanic/sedimentary sequences to the north and by Larder Lake Group mafic volcanic rocks and narrow interflow sedimentary rocks to the south, separated by the Larder Lake Break.

Six weakly mineralized alteration and structural zones were identified as targets for diamond drilling.

2.0 INTRODUCTION

2.0 Introduction

This report describes the results of geological mapping and sampling at a scale of 1:2500 by M. W. Masson during May 1st-31st, 1991. The property was mapped using a 50 metre line grid with 25 metre picket spacing. Prior to the mapping a compilation was made of the historical geological and exploration data base for the property (Masson, 1991a).

An important objective of the geological mapping and sampling was the evaluation of the possible easterly extensions of a series of altered and variably mineralized zones on the Amalgamated Kirkland property, immediately to the west. These alteration zones are characterized by corresponding linear zones of low magnetic amplitudes. The winter ground geophysics on the Rand property delineated a series of linear magnetic lows which were originally identified from the 1989 airborne geophysical survey flown over the Kirkland Lake area by Battle Mountain. A specific objective, therefore, was to evaluate the bedrock geology in the areas of these magnetic lows.

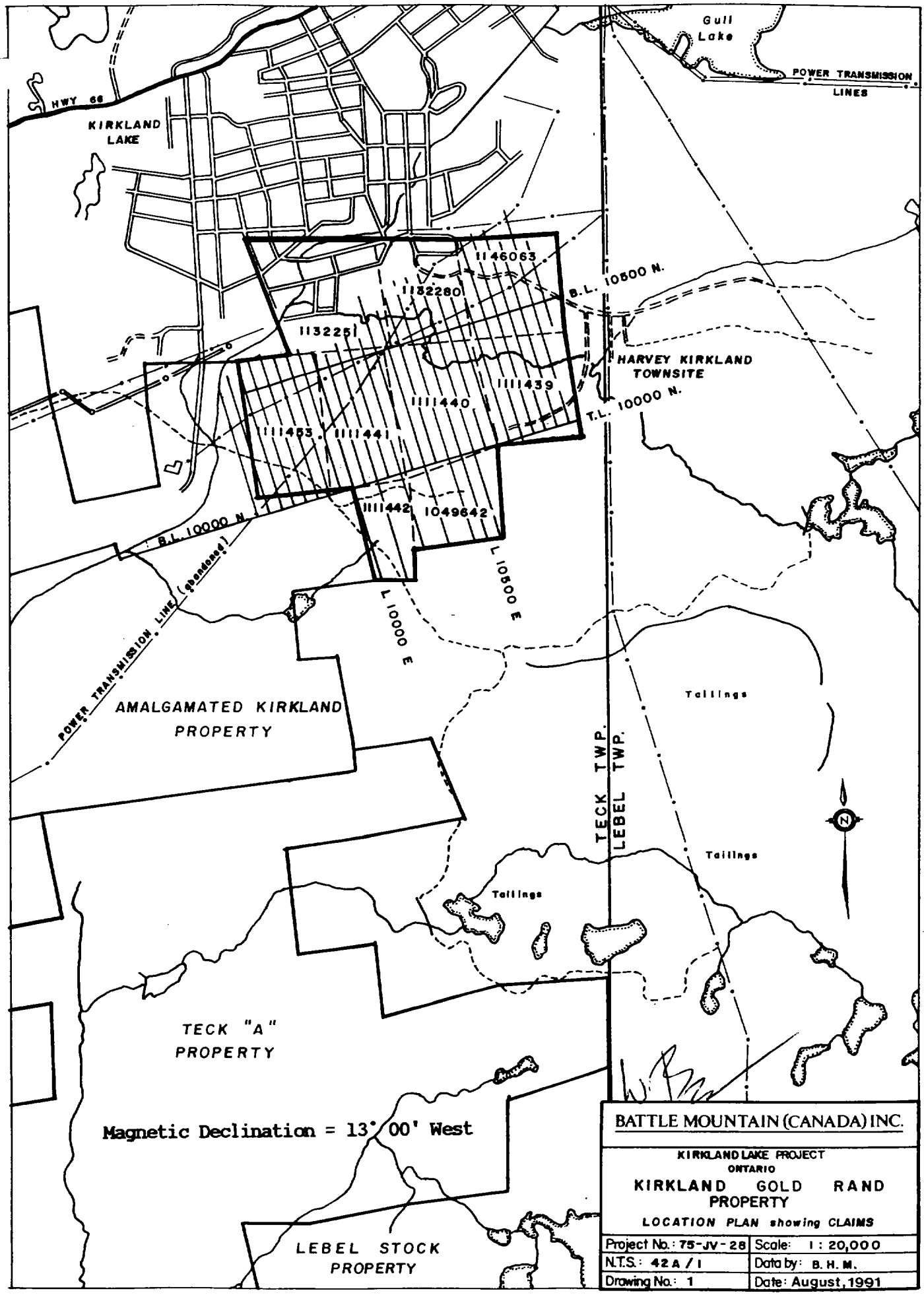
2.1 Property Location and Access

The Rand property consists of nine (9) unpatented mining claims (approximately 344 acres) as listed below, in the Larder Lake Mining Division, located in the eastern part of Teck Township, immediately south and east of the Town of Kirkland Lake. Eight of these claims correspond with historical patents which formed the original Kirkland Gold Rand property which became open at various dates and were staked in the years shown below. Current Assessment Work Credits up to, but excluding, this geological mapping are also shown as man-days and as dollars at the conversion rate of $22 per man day to correspond to the new Ontario Mining Act.

Claim No.	Historical Patent	Date of Record	Current Ass. Days	Current Ass. $
L.1049642.		Dec. 5, 1988	105	$2,310
L.1111439	L.6680	June 1, 1989	83	$1,826
L.1111440	L.6679	June 1, 1989	107.75	$2,370
L.1111441	L.6681	June 1, 1989	105	$2,310
L.1111442	L.6678	June 1, 1989	105	$2,310
L.1111453	L.6682	June 1, 1989	82	$1,804
L.1132251	L.2678	May 18, 1990	0*	
L.1132280	L.2679	May 18, 1990	45	$ 990
L.1146063	L.5941	May 18, 1990	60	$1,320

* On Extension until November 29th, 1991

Access to the property is provided by Pollock Street (Harvey Kirkland Road) which crosses its northeastern corner; Rand Avenue located in the northwestern corner; and by a semi-private bush road immediately to the east, which ends in the southeast corner (Figure 1). There are numerous walking trails and narrow bush roads throughout the claims.



BATTLE MOUNTAIN (CANADA) INC.

KIRKLAND LAKE PROJECT
ONTARIO

KIRKLAND GOLD RAND PROPERTY

LOCATION PLAN showing CLAIMS

Project No.: 75-JV-28	Scale: 1 : 20,000
N.T.S.: 42A/1	Data by: B. H. M.
Drawing No.: 1	Date: August, 1991

3.0 PREVIOUS WORK

The original Kirkland Gold Rand property, now forming the major part of the present Rand Property, was originally explored during the earliest prospecting in the Kirkland Lake area. Early development, in the late 1910's and early 1920's, was by Ontario Kirkland Gold Mines and Ontario Montreal Mines. Subsequently, Kirkland Premier Mines explored narrow, pyritic quartz veins on claim L.1132280 (historical patented claim L.2679).

In 1931, Kirkland Gold Rand Ltd. was organized, but commencement of operations was delayed until 1935 due to a lack of financing. Between 1935 and 1937 two shafts were sunk on old patent L.2679 and six levels (150, 300, 450, 550, 675 and 800 feet) were developed; subsequently, No. 1 winze was sunk from 290 metres west of the No.1 Shaft on the 800 foot (244 m) level to the 1425 foot (434 m) level. Kirkland Gold Rand was succeeded by Hudson-Rand Gold Mines, who re-opened and re-sampled the underground workings from September, 1946 to May, 1947.

A full description of the Kirkland Gold Rand Mine is given in the report dated March, 1991, titled: "Historical Data Compilation on the Kirkland Gold Rand Mine" by M. W. Masson, August, 1991.

During the 1970's, various exploration programs, which consisted of prospecting, mapping, geophysics and diamond drilling, were carried out by Kerr Addison and Newmont Exploration in the Larder Lake Group on current claims L.1049642 and L.1111442. In 1974 Kerr Addison Mines drilled four winkie holes (AXT core), totalling 330 feet, in the vicinity of trenching at approximately line 104+50E, 99+00N of the present grid.

In 1978 Newmont Exploration carried out magnetometer, VLF-EM and IP surveys on what is now claim L.1049642. A fence of two holes (D78-1, D78-7) for a total of 452 metres was drilled in the same area as the previous Kerr Addison drilling and trenching.

Weakly anomalous gold was reported from cherty magnetite iron- formations within quartz-carbonate altered volcanics of the Larder Lake group. The best intersections were 430, 470 and 1010 ppb Au over widths of one metre each.

During January 1991 a new grid was cut by Northland Technical Surveys as an extension of the 1989 grid on the adjacent Amalgamated Kirkland property, using the common corner point of the Rand and Amalgamated Kirkland properties at L100+00E, 100+00N (See Figure 1). Subsequently, in February, 1991, magnetometer and VLF-EM surveys were carried out by Timmins Geophysics Ltd. on behalf of Battle Mountain (Canada) Inc.

4.0 REGIONAL GEOLOGY

The Kirkland Lake area is in the central part of the Archean, Abitibi Greenstone belt, on the south limb of the major east-west trending, east plunging Blake River synclinorium, between the Round Lake and Lake Abitibi batholiths.

The northern and southern limbs of this synclinorium are marked by wide, east-west trending deformation zones, known as the Porcupine-Destor and Cadillac-Larder Lake Breaks, respectively. The Cadillac-Larder Lake Break can be traced from Val d'Or, Quebec to the Matachewan area in Ontario, and lies immediately south of the Town of Kirkland Lake. The Larder Lake Break passes through the southern part of the Rand Property.

All the significant past- and presently-producing gold mines in the Kirkland Lake District are located north of the Larder Lake Break, along a sub-parallel structure known as the Kirkland Lake Main Break.

5.0 PROPERTY GEOLOGY

5.0 Introduction

The geological mapping programme used a grid with a surveyed base-line along 105+00N and a tie-line along 100+00N (the base line on the adjacent Amalgamated Kirkland property), both oriented at 071°; the cross-lines at 341° were spaced at 50 metres across most of the property, and at 100 metres for the area south of the 100+00N tie-line. The results of the mapping are presented on Drawings GL-019 and GL-020 at a scale of 1:2,500.

The Rand property covers parts of the two geologically distinct Timiskaming and Larder Lake Groups. All the rocks on the property are metamorphosed to the lower greenschist facies (chlorite) and the prefix "meta-" has therefore been dropped, but is inherent throughout the following description of the rock types on the property.

The northern part of the property is underlain by the Timiskaming Group interbedded sedimentary and volcanic rocks, more specifically as conglomerates, graywackes, mudstones and trachytic ash- lapilli- and block-tuffs. These have been intruded by irregular shaped bodies of syenite and syenite porphyry.

The southern part is underlain by Larder Lake Group mafic to ultramafic volcanic rocks and minor sedimentary rocks, intruded by small syenite/felsite bodies. Large areas of the volcanic rocks are altered to a quartz + carbonate ± fuchsite assemblage.

Part of the Murdock Creek Stock lies along the south side of the property.

The major structure on the property is the Larder Lake Break. It forms two sub-parallel splays enclosing the Larder Lake Group rocks. The northern splay is historically referred to as the South Harvey Fault (Thomson, 1950) and the southern as the Larder Lake Break. Two additional faults sub-parallel to the Larder Lake Break at 055°-075° cross the Timiskaming sequence in the central and northern parts of the property; these have been referred to historically as the Middle Harvey Fault and North Harvey Fault, respectively.

Two prominent cross-faults at 030°-035° are interpreted in the central part of the property from off-sets in the Timiskaming stratigraphic units and their corresponding magnetic features. These are parallel to the Murdock Creek Fault which, from regional mapping (Thomson, 1950), has been shown as crossing the northwestern corner of the property in an area underlain by urban development and which was, therefore, not mapped.

5.1 Stratigraphic Units

5.1.1 Larder Lake Group

The Larder Lake Group (LLG) volcanic and sedimentary rocks form a band along the southern side of the property between the Murdock Creek Stock to the south and the Timiskaming

Group to the north. the Larder Lake Break marks the structural contact between the LLG and the Timiskaming Group.

Volcanic Rocks

The LLG mafic volcanic rocks are massive, dark green to blue-green and very fine grained. They are quite featureless in this area, and do not display the features and textures often associated with the LLG in the surrounding area, such as polysuturing, spinifex, variolites or pillows.

In places, they displayed patchy zones which were strongly magnetic, especially from L106+00E to L107+00E. In addition, they contained some massive, irregular, barren, white, quartz pods and veins up to 1.5 metres wide.

Green/Brown Carbonate Altered (Ultramafic(?)) Rocks

Numerous outcrops of what were probably originally ultramafic volcanic or sub-volcanic intrusive rocks are now seen only as carbonate ± chlorite ± fuchsite ± quartz alteration zones. These are exposed in the southern part of the property on claims L.1111440, L.1111442 and L.1049642, as well as on the adjoining Amalgamated Kirkland property to the west. They are described further below under alteration.

Sedimentary Rocks

Only five exposures of identifiable sedimentary rocks within the LLG were recognized on the property, as either graywacke, chert, or magnetite iron-formation. These exposures are very limited in size, and generally confined to individual outcrops, indicating that the sedimentary rocks are either thin beds or lenses within the volcanic rocks.

The graywackes are characteristically well banded to layered as alternating bands or beds, 2 mm to 1 cm thick, of approximately equal proportions of dark green chlorite and reddish-brown to pinkish feldspar. This unit is typically non-magnetic. Bedding was from 080° to 090°, dipping vertically to 62° to the south.

One exposure of two visually distinguishable cherts was mapped on the north flank of a large quartz-carbonate-fuchsite outcrop at L97+00E, 99+85N. The first is dark grey-blue, with 1-2% disseminated pyrite throughout; the second is dark blue-black with little to no discernible sulphide mineralization. Both varieties were sampled and contained 60 and 80 ppb Au, respectively. Both cherts are massive and non-bedded. Although no bedding was evident, the north side of this outcrop trends approximately parallel to the base line at 072°, which may reflect the strike of the unit.

A one metre wide band of "iron-formation" was located in a small outcrop at L103+80E, 99+50N, bounded on both sides by dark green, chloritic mafic volcanic rocks. This band is massive, non-bedded, very hard (cherty), very fine grained and contains approximately 60% non-crystalline magnetite. It trends 097° and dips 86° to the south. One grab sample was taken and assayed 404 ppb Au.

5.1.2 Timiskaming Group

The northern and central portions of the Rand property are underlain by Timiskaming group sedimentary and volcanic rocks which have been intruded by irregular shaped plugs and sills of syenite and syenite-porphyry. The southern contact with the LLG is structural.

Sedimentary Rocks

The sedimentary rocks on the property are polymictic conglomerates and graywackes, together with minor siltstone.

The conglomerates are typically matrix supported, polymictic and interbedded with graywackes. The clasts form 5-35% of the rock as pebbles to cobbles, generally rounded to sub-rounded, consisting of a wide variety of rock types including granitoids, syenite, quartz porphyries, mafic volcanic rocks, trachyte, red jasper, and vein quartz. The matrix has the composition of the graywackes.

The graywackes are very massive, fine grained, non-bedded, generally chloritic and non-magnetic. The contain small, sub-rounded, polymictic rock fragments including jasper, as well as quartz and feldspar grains, in a very fine grained chloritic matrix.

There are a few minor exposures of extremely fine-grained, buff-brown to light green and well bedded or laminated siltstone. Bedding is typically very fine, from a few millimetres to 1 cm, and quite frequently disrupted by small scale faulting and slumping.

Volcanic Rocks

The volcanic rocks are all pyroclastic (epiclastic) "trachytic"[1] ash-, lapilli- and block-tuffs, all of which are moderately to strongly magnetic. The majority of the exposures are unaltered, undeformed and massive.

The ash tuffs are fine grained, well sorted, massive to well-bedded. They are generally quite mafic and dark green, with a red-brown tinge due to the presence of pink-red feldspar and/or fine (1-3 mm) trachyte clasts. Frequently, these clasts display porphyritic or trachytoid textures.

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[1] A local field term used to describe volcanic rocks with essentially no quartz or jasper in the matrix, and in the coarser facies distinguished by the absence of jasper fragments, compared with the conglomerates, and a somewhat more angular form to the larger clasts. In some lenses the clasts are more monolithic, with a porphyritic or trachytoid texture. Chemically the flows, which are visually similar to these clasts, are alkalic phonolites or syenites.

The lapilli- and block-tuffs are compositionally the same as the ash tuffs, which forms the matrix of these coarser units, and with which they are interbedded or lensoid. The clasts are monolithic, red-pink, sub-rounded to elliptical, fine-grained to porphyritic syenite or trachyte. No bedding was recognized.

The block-tuffs typically contain large trachyte clasts, averaging 1-20 cm in diameter (up to 50 cm), but consist of only a very small part (1-2%) of any outcrop, which otherwise consists predominantly of ash- or lapilli-tuff. There are a few exposures (e.g. L100+50E, 104+50N) where the predominant clast size is greater than 6 cm, and where the clasts form up to 25% of the unit.

Between L96+00E and L100+50E, at 104+40N and 104+85N there are two parallel, massive, moderately to strongly magnetic, porphyritic units which may be trachytic flows ("white-spotted porphyry" or "leucite-trachyte"). They have been mapped as syenites, and are described further below under Intrusive Rocks.

Stratigraphy

Within the exposed area of the Timiskaming on the property there are three recognisable stratigraphic units which are more or less conformable. In addition, there is a small exposure of conglomerate in the far northwestern corner of the property, west of the Murdock Creek Fault.

Underlying large parts of the northern three claims is a relatively well exposed unit almost exclusively of graywacke. It includes narrow, interbedded conglomerates at the east end, as well as minor, trachytic tuffs, and is intruded by a large syenite mass to the north. These sediments and the syenite are the host rocks to the veins in the Kirkland Gold Rand mine.

The central unit is a well exposed, mixed, interbedded, lensoid assemblage of volcanic rocks with interbeds of mixed graywacke and conglomerate. Within the volcanic rocks there is an apparent increase in clast size from west to east from L105+00E to 110+00E at around 104+00N. At the west end, they are massive to well bedded ash tuff, grading to lapilli tuffs in the central part, which in turn grade into coarser, blocky tuffs to the east.

The southernmost unit is poorly exposed, except in the southwest corner of the property where it consists of interbedded graywacke and conglomerate. These sediments are interpreted to lie south of the volcanic exposures, and north of the LLG, throughout the eastern part of the property, primarily on the basis of their geophysical signature. In the southwest corner of the property the boundary between this sedimentary unit and the volcanic unit to the north is a gradational or facies change. The irregular, wavy contact on the geological map reflects this facies variation, rather than isoclinal folding.

5.2 Intrusive Rocks

Three areas of intrusive rocks were mapped on the property, consisting of the:

(i) The Murdock Creek Stock,
(ii) Intrusives in the Larder Lake Group, and
(iii) Intrusives in the Timiskaming Group.

All three groups are compositionally similar as facies of syenite, but are distinguishable by their form and distribution within each area.

The Murdock Creek Stock

There are large outcrops of the regionally more extensive Murdock Creek Stock in the most southern parts of the property on claims L.1049642 and L.1111442, where it forms a large hill.

This stock is textually variable over short distances, from aphanitic red felsite to a medium grained, massive hornblende ± biotite syenite with at least 10-15% mafic minerals and which is weakly and patchily magnetic.

The stock contains mega-xenoliths or roof pendants of massive, mafic volcanic rocks which are relatively fresh and unaltered, and equivalent to the LLG further to the north.

Intrusives in the Larder Lake Group

Within the LLG volcanic rocks and alteration zones from L99+50E to L103+00E there are some small, irregular, discontinuous syenites and felsites which may be dykes or apophysis of the Murdock Creek Stock. They display very sharp, abrupt contacts with surrounding lithologies. Two distinct varieties have been mapped:

(i) Syenite Porphyry, and
(ii) Felsite.

The syenite/syenite-porphyry is typically dark red, hematitic massive, fine-grained to porphyritic with up to 5-10% subhedral to euhedral, white plagioclase phenocrysts, averaging 0.5 cm in size, set in a very fine grained, red groundmass. At L99+50E, 100+25N, the porphyritic syenite contains 0.5% disseminated pyrite where it is in contact with the LLG mafic volcanic rocks. The adjacent LLG volcanic rocks are moderately to strongly ankeritic for up to one metre and contain 1-2% pyrite. This contact strikes 080°, dips vertically and displays a strong rodded lineation which plunges 56° to the east. Samples from this area returned from 45 to 115 ppb Au.

The massive, very fine grained to aphanitic felsites are light brown to pink, and contain 0.5-1.0% finely disseminated pyrite. The outcrops have a moderate to strong brown carbonate weathering rind. At L100+75E, 99+02N, there is a 1.5 m wide, fine-grained, pink felsite dyke trending 070°, plunging approximately 60° to the east. It intrudes quartz-carbonate (fuchsite) altered volcanic rocks which are contorted and wrapped around the felsite. It contains 1% finely disseminated pyrite and 3% barren, white quartz veinlets up to 0.5 cm wide. A grab sample of the felsite contained 50 ppb Au.

Intrusives in the Timiskaming Group

Syenite and feldspar porphyritic syenite intrude the Timiskaming Group volcanic and sedimentary rocks in the northern and western parts of the property. Typically these are massive, brick-red, fine-grained to porphyritic, with on average 5-7% (up to 15-20%) subhedral to euhedral

plagioclase phenocrysts, averaging 0.5 cm in diameter (up to 1.5 cm), in a very fine-grained feldspathic matrix. Quite frequently a red, hematitic dusting is visible coating the phenocrysts. Occasionally, these syenites contain minor dispersed spotty leucoxene and an altered, mafic amphibole (augite?).

These intrusives are typically non-magnetic, but with a few notable exceptions. For example, at L96+50E, 104+80N, there is a red, porphyritic syenite which contains 1-2% irregular magnetite grains, disseminated and along microfractures.

There are two parallel, massive, moderately to strongly magnetic, porphyritic units at 104+42N and 104+85N from L96+00E to L100+50E, which have been mapped as syenite (unit 46p), but which may be trachytic flows. They contain 5-10% phenocrysts which are clear to grey-white, pseudo-prismatic to pseudo-hexagonal in form, and have a poorly developed cleavage ("white-spotted porphyry" or "leucite-trachyte"). The groundmass is a dirty red-brown, very fine grained to aphanitic, and typically micro-fractured, with fractures often penetrating the phenocrysts. The phenocrysts weather high on the outcrop surfaces.

5.3 Structure

5.3.1 Internal Structures

Observed bedding within the Larder Lake Group is confined to the small exposures of interflow sediments within the massive basaltic units. These sediments strike at 080° to 097° and dip vertically to 62° to the south.

Bedding within the Timiskaming is of two prominent directions. North of the North Harvey Fault, in the northeast corner of the claim group, the conglomerates and graywackes strike northeast and dip to the west at 80°. In the underground workings around the Kirkland Gold Rand No. 1 Shaft, the bedding was reported as striking 060°, dipping 60° to the southeast.

South of the North Harvey Fault, bedding was seen only in the ash tuff horizons where it strikes from 058° to 095° and consistently dips to the south at 60° to 85°. This is consistent with the distribution of the different lithological units within the Timiskaming volcanic and sedimentary rocks.

No clear evidence of folding was observed anywhere on the property.

5.3.2 Faults and Fault Zones

The "Larder Lake Break" has historically been traced as striking east-west through the Larder Lake Group (LLG) volcanic rocks in the southern part of the Rand property, as defined by the zone of quartz + carbonate ± fuchsite alteration (see Alteration, below). Due to the generally crenulated and folded nature of these rocks, it is impossible to establish the prominent fabric directions or the distribution of the individual volcanic units. Locally a prominent foliation or shearing direction of 040° to 045°, dipping vertically to 60° to the southeast, is traceable in the carbonate units. For

example, a zone of carbonate alteration was traced from L99+00E, 97+75N to the northeast (040°) to the trench at 102+75E, 100+150N, which displays a strong 040° fabric. At L99+20E, 99+80N there is an outcrop of quartz + carbonate schist which strikes at 045°. This prominent 040°-045° direction may reflect a series of faults along which the alteration zones have been developed, crosscutting stratigraphy.

In the present interpretation, the Larder Lake Break is defined as two parallel faults which enclose the block of LLG volcanic rocks and their enclosed alteration zones. The Larder Lake Fault - North Branch, was historically referred to as the South Harvey Fault, and marks the contact between the Timiskaming to the north and the LLG rocks. It is shown on the geology map as lying along the north side of the LLG outcrops, south of the low swampy ground in the south-central portion of the property, and north of a linear zone of low magnetics within the LLG volcanic rocks. The Larder Lake Fault - South Branch lies between the LLG rocks and the Murdock Creek Stock.

Three sub-parallel faults or shear zones trending 060° to 075° within the Timiskaming Group are represented by sericite ± chlorite schists ranging from 0.5 metres to over 10 metres wide. From north to south, these are:

(i) The Black Fault
(ii) The North Harvey Fault
(iii) The Middle Harvey Fault

The Black Fault is close to the southern contact of the prominent syenite body which lies along the northern boundary of the property. It strikes 065° and dips 75° to the south. Where exposed at L107+50E, 108+00N, along the syenite/sediment contact, it is a 0.5-1.0 m wide, chlorite + sericite ± ankerite schist. No mineralization or quartz veining was evident. This fault is referred to as the Black Fault after the Black property to the northeast.

The North Harvey Fault is best exposed in the sediments from L108+00E to L110+00E at 106+25N. Here the fault is an over 5 m wide chlorite ± ankerite schist, striking 070° and dipping 65-75° to the south. The westerly extension of this fault may lie within the syenite body between L97+50E to 101+50E at approximately 105+75N. A prominent gully, trending 070°, exists between outcrops exposed on L100+00E, from 105+55N to 105+75N. Outcrops on both the north and south sides of this gully are strongly altered and deformed sericite ± ankerite schists, within syenite porphyry (see Alteration - Section 5.3). Along the side of the gully, at L99+95E, 105+50N, the unit is strongly silicified.

A third sub-parallel shear, previously been referred to as the Middle Harvey Fault, strikes 057° to 065° and dips 70°-75° to the south. It is exposed within the trachytic tuffs in the eastern-central portion of the property, along 103+75N at L106+00E to 110+00E, and in the tuffs to the west along 102+00N at L98+00E to L98+50E. This zone is at least 10 to 15 metres wide as sericite ± chlorite ± ankerite schist.

A prominent foliation fabric at 065° to 075° and dipping roughly 70° south, is evident within most lithologies in the Timiskaming sequence, reflecting the major regional foliation in the Kirkland Lake area.

Two prominent cross faults are interpreted within the Rand property, trending approximately 025°-030°. These are parallel to the Murdock Creek Fault, which is not exposed, but is interpreted

from regional considerations to lie in the northwestern corner of the property, in the built-up area of the Town of Kirkland Lake.

The "East Cross Fault" is interpreted from truncation of lithologies in the Timiskaming sequence and the displacement of the Larder Lake Break - North Branch (South Harvey Fault); in addition it is marked by a linear magnetic low. At the south end of the fault there is an apparent sinistral displacement of up to 220 metres, while to the north the sinistral displacement is 30 to 50 metres. The difference in the offset is possibly due to a rotational component. It is not known if the East Cross Fault extends any further north than the North Harvey Fault to penetrate the syenite to the north; however, there is a strong foliation at 040° in the intrusive at L108+50E, 107+75N.

The West Cross Fault strikes 025° and displays an apparent sinistral offset of up to 50 metres. It may turn from 025° to 046° and merge with the shearing around the "No. 3 Shaft" at L99+50E, 103+00N, where previous stripping exposed strongly sericite altered sediments with strong slip planes at 046°, dipping 82° southeast. Bedding in this area is 085°, dipping 60°S, and a well developed intersection lineation is visible on the fault plane plunging 46° southwest.

6.0 ALTERATION AND MINERALIZATION

6.1 Alteration

6.1.1 Larder Lake Group

Weakly altered volcanic rocks in the Larder Lake Group typically consist of a chlorite ± ankerite assemblage, with weak to moderate "rusty" weathering.

Strong alteration of the volcanic rocks is displayed by broad zones of quartz + carbonate ± fuchsite. These rocks typically have deep, strong "rusty" rinds and knobby weathered surfaces due to differential weathering between the soluble carbonates and the abundant, but irregularly distributed, resistive quartz. Quartz forms up to 50% of these zones as irregular veins, pods, disseminations, and crosscutting ladder vein systems.

These strongly altered areas were probably originally ultramafic volcanic or sub-volcanic intrusive rocks. They are exposed in the southern part of the property on claims L.1111440, L.1111442 and L.1049642, as well as on the adjoining Amalgamated Kirkland property to the west.

Fresh rocks are characteristically bright green (fuchsitic) to buff-brown (iron-bearing carbonate), and contain sporadic, disseminated pyrite, locally up to one percent. These zones are often irregularly crenulated and folded, but with very little preferred orientation to their fabrics. However, locally, for example in the trench at L103+00E, 100+00N, the dominant orientation of the fabric is 040°, dipping vertically to 60° to the southeast.

This 040° trend to the carbonate alteration has been mapped in the past as, or considered to be, remnant primary bedding within the LLG volcanic rocks, i.e. between mafic and ultramafic units. However, small exposures of sediments, within the volcanic units, strike approximately east-west. This 040° alteration trend may be a structural foliation as a shear-set of "tension-gashes" joining the two branches of the Larder Lake Fault, or represent unconformable layering or complex folding within the LLG.

6.1.2 Timiskaming Group and Related Intrusive Rocks

Weakly altered rocks of the Timiskaming group are characterized by chlorite ± ankerite ± hematite assemblages.

Strong alteration is associated with shear zones (see Structure - 5.3) and consists of three types of assemblages:

(i) chlorite ± ankerite ± sericite ± hematite,
(ii) sericite ± chlorite ± ankerite, and
(iii) sericite ± quartz ± pyrite.

Six extensive alteration zones are present on the Rand property:

(i) in the vicinity of the old Rand Mine, as discussed below;
(ii) in the syenite body at 97+50E - 101+50E, 105+75N, as discussed below;

(iii) chlorite + hematite + ankerite in the syenite sills or trachyte flows at 104+50N to 105+00N from 96+00E to 100+50E;

(iv) sericite + hematite, sericite + ankerite + quartz, and sericite + pyrite to the west of the "No. 3 Shaft" at 103+00N, 98+00E to 100+00E;

(v) sericite + ankerite + hematite close to the southern contact of the Timiskaming volcanics with the southern band of sediments in the southwest corner of the property; and

(vi) sericite + chlorite + ankerite ± quartz along the Middle Harvey Fault at 104+00N from 106+00E to 109+00E.

To the east and south of the Kirkland Gold Rand No. 1 Shaft the graywackes are highly altered, sericitized and weakly silicified, as well as moderately to strongly foliated; they are typically light yellow-green and contain 1-2% disseminated pyrite and 1% barren quartz veins. This zone of alteration is apparently restricted in extent because the equivalent graywackes along strike are unaltered and chloritic.

East of the No. 1 Shaft, on L105+00E at 107+30N, an exposure of the syenite/sediment contact is bleached and silicified for up to 5 metres into the syenite. An 8-10 cm wide quartz + sericite + 3-5% pyrite vein is located within this altered contact area.

The largest area of alteration on the property, up to 50 metres wide, is in the syenite to the west-southwest of the Kirkland Gold Rand mine. This is an area of sheared, sericitized syenite porphyry, possibly related to the North Harvey Fault (see Structure, Section 5.3). Previous geological mapping (Thomson, 1950) shows these exposures as trachyte tuffs, with narrow dykes of syenite. These outcrops are well foliated to schistose, with strongly bleached, yellow-white (sericitic) weathered surfaces.

It is difficult to determine the original lithology in this area because of the extreme deformation and alteration; however, locally remnant feldspar phenocrysts or "eyes" are detectable, indicating a probably syenite precursor. In addition, this alteration zone is bounded on both sides by syenites with the characteristic red, hematitic alteration of the syenites elsewhere on the property and in the district. These red syenites abruptly become sheared and sericitized on the edges of the sericitic alteration zone. If these outcrops are altered, sheared syenites as mapped by us, then the original syenite in this area is substantially wider at up to 75 metres, than previously indicated by Thomson of 10-15 metres.

6.1 Mineralization

A total of 164 grab samples were taken during the course of mapping and are listed in Table 1 and shown on Map GA-017. Table 2 lists the anomalous grab samples with assays greater than 100 ppb gold, which are shown on Map GA-018. Assay Certificates are attached in Appendix I.

There are two styles of mineralization on the Rand property:

(i) localized, disseminated pyrite up to 1-2% in moderately deformed, foliated lithologies throughout the property, with only slightly anomalous gold;

(ii) banded pyrite and quartz + sericite + pyrite veins associated with the Kirkland Gold Rand Mine, locally anomalous to high grade in gold.

The principal areas of mineralization on the property are associated with the Kirkland Gold Rand Mine. Two quartz + sericite + 3-5% pyrite veins or silicified zones were located in the area of the No. 1 Shaft. These "veins" average 8-15 cm wide, strike 080° to 088° and dip vertically to 86° to the south. They are typically 75% grey-white to blue quartz, with 20-25% irregular, wispy, interstitial sericite altered host rocks and 3-5% finely disseminated pyrite. The wall-rocks adjacent to the veins are weakly silicified and moderately sericitic, generally with 1% disseminated pyrite. Grab samples of silicified vein material returned up to 43.0 g/t Au, while wall-rocks immediately adjacent to the vein were only slightly anomalous. The gold content decreases rapidly away from the veins, consistent with the decrease in silicification.

There is a 3-4 metre wide syenite sill at L106+00E, 106+90N, with 0.5-1% disseminated pyrite, which intrudes foliated tuffs containing 1-2% patchy, disseminated pyrite and 1-3 cm wide quartz + pyrite veinlets. One 7 cm wide sample, with quartz and pyrite veinlets, assayed 13.0 g/t Au gold.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Mapping and sampling on the Rand property failed to uncover any new mineralization on surface. However, some significant alteration zones were outlined.

As shown in the earlier compilation report (Masson, 1991a), the veins in the Kirkland Gold Rand Mine are locally high grade, as confirmed by the samples taken during this mapping program. However, the majority were in graywackes, generally not considered a favourable host within the district, and were narrow and of short strike length. However, the West Drift Vein where intersected in the deep drill hole from the 800 foot level was within a syenite body. This syenite might lie in the built-up area to the west of the mine workings where there are no exposures, or it might connect with the exposed and altered syenite to the west southwest of the No. 1 Shaft. Two deep drill holes are recommended to test the area west of the underground intersection in the West Drift Vein, to see whether this mineralization can be found closer to surface , up-plunge along the indicated easterly rake of the mineralization in the old workings.

Most of the magnetic lows, considered as possible easterly extensions of the mineralized zones associated with the magnetic lows on the adjacent Amalgamated Kirkland property were shown to correspond to relatively narrow sedimentary units within the dominantly volcanic, and magnetic, central member of the Timiskaming sequence, or marked the major grid east-west shear zones which define the north and south boundaries of this volcanic member.

The 50 metre wide zone of sericite alteration in the syenite porphyry at the northwest end of the outcrop area of the property, west-southwest of the Kirkland Gold Rand Mine, might be reflecting one of the alteration zones similar to those on the Amalgamated Kirkland property. Grab samples of this sheared and altered material failed to return any significant assays. A buried fault zone (the North Harvey Fault) is interpreted along the south side of this altered area, and it remains a favourable target for gold mineralization, and is recommended for diamond drilling.

The strong alteration associated with the syenite sills or trachyte flows south of 105+00N close to the west side of the property, and the associated linear zone of low magnetics may be reflecting the extension of the "102" structure on the Amalgamated Kirkland property, immediately to the west. It is recommended that a three-hole fence be completed across the western portion of claim L.1111453 to test for the possible continuation of the "102" structure in this area.

Anomalous grab samples of up to 100 ppb gold were taken in foliated to sheared, sericitized conglomerates at L97+00E, 101+52N. The fault zone intersected in this area is poorly exposed but is coincident with an area of low magnetics and two VLF-EM conductors. It is recommended that one drill hole should test this zone in the search for gold mineralization at depth.

VLF-EM conductors located during the winter geophysics lie more or less in the area of the quartz-carbonate altered rocks of the Larder Lake Group. The source of these conductors was not identified on surface and they could warrant testing by some short test holes.

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Kirkland Lake Project, Rand Property, Historical Data Compilation on the Kirkland Gold Rand Mine; Battle Mountain (Canada) Inc.

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Geology of the Main Ore Zone at Kirkland Lake; Ontario Dept. of Mines; Annual Report for 1948, 5, Part 5.

TABLE 1

RAND PROPERTY
(Kirkland Gold Rand)

SURFACE GRAB SAMPLE DESCRIPTIONS AND ASSAYS

Sample No.	Easting	Northing	Sample Description	Au, ppb
751	104+35E	106+30N	Sheared ash tuff, ser + carb ± hem.	12
752	104+35E	106+35N	Sheared ash tuff, ser + carb ± hem.	5
753	104+35E	106+40N	Sheared ash tuff, ser + carb ± hem.	9
754	104+50E	106+45N	Foliated to schistose wacke, ser+ hem, minor py.	Nil
755	104+50E	106+50N	Foliated wacke ser + hem ± chl.	10
756	104+65E	106+60N	Moderately foliated wacke, hem + ser.	7
757	104+70E	106+60N	Moderately foliated wacke, hem ± ser.	Nil
758	104+40E	106+85N	Moderately foliated wacke, hem ± ser, 1% banded py.	Nil
759	104+25E	106+79N	Foliated wacke, hem + ser, 1% py.	5
760	104+25E	106+93N	Foliated wacke, hem + ser, 1% py.	7
761	104+58E	106+92N	Moderately foliated wacke hem + ser,< 0.5 py.	Nil
762	104+50E	107+10N	Weakly foliated wacke, chl + ank, 0.5% laminated py.	Nil
763	105+00E	107+60N	Syenite porphyry, hem ± ser ± py.	27
764	104+75E	107+65N	Syenite porphyry, weakly bleached, ser ± sil ± py.	Nil
765	104+86E	107+62N	Syenite porphyry - weakly bleached, ser ± sil.	Nil
766	104+75E	107+50N	Syenite porphyry,moderate ser. ± sil, moderate py.	Nil
767	104+78E	107+28N	Syenite/wacke contact, bleached sericitic zone, 10 m, ser ± qtz ± py.	Nil
768	104+78E	107+27N	Sericitic alteration zone, ser ± qtz ± py.	Nil
769	104+92E	107+27N	Sericitic alteration zone, ser ± qtz ± py.	Nil
770	104+92E	107+29N	Sericitic alteration zone, ser ± qtz ± py.	21
771	104+96E	107+28N	Sericitic alteration zone, ser ± qtz ± py.	99
772	104+96E	107+31N	8 cm wide qtz + ser, 3-5% py vein @ syenite/sericitic wacke contact.	43072
773	105+00E	107+33N	Sericitic alteration zone, ser ± qtz ± py.	197
774	104+85E	106+95N	Schist, ser + ank + 0.5% py.	Nil
775	104+90E	106+90N	Schist, ser + ank + 0.5% py.	12
776	105+52E	106+65N	Massive trachyte ash tuff	7

TABLE 1, Continued

RAND PROPERTY
(Kirkland Gold Rand)

SURFACE GRAB SAMPLE DESCRIPTIONS AND ASSAYS

Sample No.	Easting	Northing	Sample Description	Au, ppb
777	105+50E	106+90N	Foliated wacke, chl + ank.	Nil
778	105+50E	107+02N	Massive to foliated wacke, hem + ser.	26
779	105+48E	107+12N	Sheared wacke, ser + ank ± hem.	5
780	105+35E	107+00N	Foliated wacke, hem + ser.	24
781	106+00E	106+75N	Massive ash tuff	Nil
782	106+03E	106+83N	Intercalated ash tuff/wacke, sporadic, < 1%, diss py.	5
783	106+00E	106+88N	Foliated tuff with 1% diss py.	197
784	106+00E	106+91.5N	Moderately sericitized (spotty) syenite, 0.5% py.	164
785	106+00E	106+94N	Foliated tuff - chl + ank ± ser, 1-2% py.	905
786	106+60E	106+85N	½ m wide shear in tuff, chl + ank + 1% py.	17
787	107+00E	107+90N	½ m wide sheared contact zone (syenite/wacke)	5
788	107+00E	107+90N	Syenite porphyry @ contact, hem ± ser.	17
789	107+44E	108+09N	Syenite/wacke contact, ½ m - 1 m wide, chl ± ser.	7
790	107+42E	108+04N	Sheared wacke @ syenite contact	20
791	107+44E	108+08N	Sheared conglomerate @ syenite contact	14
792	107+70E	108+09N	½-1 m wide sheared contact zone	5
793	107+80E	108+10N	Sheared syenite/wacke contact, chl + ank ± ser.	3
794	108+00E	106+25N	Sheared wacke, chl + ank near N. Harvey Fault	14
795	108+10E	106+26N	Sheared wacke chl + ank ± ser.	14
796	108+15E	106+28N	Sheared wacke	Nil
797	107+98E	106+74N	Sheared wacke chl + ank, syenite contact	Nil
798	108+00E	106+80N	Foliated-schistose syenite @ contact chl ± ser.	Nil
799	108+60E	106+85N	Chl + ser ± fuchsite schist @ contact	Nil
800	108+90E	107+90N	Sericitized sediments with X-faulting.	Nil
13501	108+96E	107+95N	Sericitized sediments with X-faulting.	Nil
13502	110+40E	106+50N	Sheared wacke chl + ser, near North Harvey Fault	19
13503	103+95E	106+73N	Massive wacke, chl + ank, 0.5-1% py.	12
13504	103+93E	106+95N	Massive wacke, chl + ank, 0.5-1% py.	Nil
13505	103+91E	107+60N	Weakly sericitized syenite, ank.	17
13506	103+85E	107+61N	Schist, ser + ank + 0.5% py.	55

TABLE 1, Continued

RAND PROPERTY
(Kirkland Gold Rand)

SURFACE GRAB SAMPLE DESCRIPTIONS AND ASSAYS

Sample No.	Easting	Northing	Sample Description	Au, ppb
13507	103+70E	107+25N	Schist, ser + ank + 0.5% py.	19200
13508	103+72E	107+25N	Qtz + ser + 1-2% py. vein + wallrock in old trench.	2115
13509	103+70E	107+25.5N	Moderately silicified wacke @ north side of qtz vein, sample 13508.	14
13510	103+50E	107+00N	Massive wacke, chl + hem, 0.5% py.	30
13511	105+46E	104+23N	Foliated ash tuff.	Nil
13512	105+70E	104+30N	Lapilli tuff, chl + ank.	Nil
13513	105+90E	103+77N	2-3 m wide schist ser, chl + ank ± qtz.	3
13514	105+80E	103+80N	1-2 m wide schist ser, chl + ank.	7
13515	106+00E	103+75N	1-2 m wide schist ser, chl + ank.	3
13516	106+50E	104+90N	1 m wide chl + ser + ank schist	10
13517	106+50E	104+80N	1-2 m wide shear chl + ser + ank, near conglomerate/tuff contact.	Nil
13518	106+90E	104+77N	Schist, ser + chl + ank.	5
13519	108+50E	103+95N	Schist, 1-2 m wide, chl + ser ± ank.	Nil
13520	101+35E	105+25N	Moderately well foliated ash tuff, chl + ank ± ser.	7
13521	101+00E	105+49N	Sheared syenite contact ser + hem + chl.	3
13522	100+96E	105+51N	Sheared, foliated, syenite porphyry	10
13523	100+80E	105+40N	Syenite porphyry @ contact	3
13524	100+59E	105+32N	Shear, 1 m wide chl + ser + ank.	7
13525	100+50E	105+50N	Bleached syenite, ser + ank ± hem ± fuchsite.	Nil
13526	100+45E	105+35N	Foliated to sheared, lapilli tuff with 3-5% qtz/cb veins.	3
13527	100+00E	105+15N	Sheared syenite, 0.5-1 m wide.	3
13528	100+00E	105+36N	Sheared contact syenite/trachyte, 1-2 m wide, chl + ser + ank.	5
13529	100+15E	105+38N	Sheared syenite/trachyte contact, + ank ± ser.	6
13530	99+94E	105+45N	Sheared tuff @ syenite contact with 1% py.	256
13531	99+82E	105+82N	Bleached syenite, ser ± ank ± fuchsite.	Nil
13532	99+87E	105+83N	Bleached syenite, ser ± ank ± fuchsite.	3
13533	100+00E	105+84N	Bleached syenite, ser ± ank.	Nil

TABLE 1, Continued

RAND PROPERTY
(Kirkland Gold Rand)

SURFACE GRAB SAMPLE DESCRIPTIONS AND ASSAYS

Sample No.	Easting	Northing	Sample Description	Au, ppb
13534	100+10E	105+55N	Bleached sericitized syenite	Nil
13535	99+90E	105+52N	Weakly laminated , silicified syenite (?) at contact.	Nil
13536	99+90E	105+56N	Bleached syenite, moderately silic. with wispy ser.	Nil
13537	98+03E	105+54N	Hematitic syenite near contact.	12
13538	97+94E	105+50N	Massive foliated lapilli tuff.	Nil
13539	98+00E	105+53N	Shear, 0.5 m wide, chl + ser + ank.	Nil
13540	97+93E	105+62N	Syenite breccia dyke, 1 m wide.	Nil
13541	97+45E	105+57N	Foliated wacke with 0.5-1% pyrite.	7
13542	106+00E	106+95N	Hematitic tuff, 7 cm wide, 1% py. veinlets.	13063
13543	105+59E	107+01N	10 cm qtz + ank vein < 0.5% py.	740
13544	107+44E	107+13N	Sericitized wacke.	Nil
13545	104+96E	107+31N	11 cm qtz. breccia vn with 3% py + ser wacke 1% py	21814
13546	98+75E	106+10N	Moderately sil + ser syenite near north contact.	15
13547	98+76E	106+11N	Moderately silicified + sericitized syenite.	Nil
13548	98+80E	106+15N	Highly silicified + bleached syenite.	6
13549	102+55E	103+85N	Foliated conglomerate @ tuff contact.	34
13550	102+52E	103+77N	Sheared wacke, ser + hem.	22
13551	102+00E	103+75N	Sheared conglomerate, ser + ank.	19
13552	101+50E	104+60N	Massive ash tuff.	13
13553	99+70E	103+05N	Laminated sediments, ser + ank ± Q.V.'s @ shaft area.	3
13554	99+82E	103+10N	Sheared conglomerate with 0.5% py.	9
13555	99+50E	103+02N	Sheared, laminated sediments with late, barren qtz vns.	Nil
13556	99+50E	104+73N	Hematitic syenite with late X-cutting quartz veinlets.	Nil
13557	99+00E	104+45N	Foliated lapilli tuff, minor patchy py.	Nil
13558	99+00E	104+80N	Moderately ser syenite, minor py + qtz/cbnt vns.	Nil
13559	98+93E	104+95N	Foliated zone, ½ m wide, @ syenite contact, 0.5% py.	45
13560	98+43E	103+45N	Foliated conglomerate with 0.5% py.	5
13561	98+50E	103+20N	Foliated conglomerate ser + hem ± ank.	27
13562	98+50E	102+12N	Sericite schist, 1-2 m wide.	Nil
13563	98+10E	102+97N	Foliated, sericitic conglomerate with 0.5% py.	12

TABLE 1, Continued

RAND PROPERTY
(Kirkland Gold Rand)

SURFACE GRAB SAMPLE DESCRIPTIONS AND ASSAYS

Sample No.	Easting	Northing	Sample Description	Au, ppb
13564	96+90E	101+52N	Foliated, sericitic conglomerate, moderately sheared.	99
13565	96+50E	103+90N	White, barren quartz vein, 3-5 cm wide.	19
13566	96+60E	102+05N	Foliated conglomerate/wacke, chl + ser.	13
13567	97+00E	99+80N	Dark grey-blue chert (LLG) with 1-2% py.	78
13568	97+00E	99+79N	LLG - green carb. + fuchsite + qtz.	24
13569	97+00E	99+80N	Black chert, massive, weakly mineralized.	69
13570	97+00E	100+15N	Foliated to laminated wacke.	4
13601	97+01E	101+51N	Sericitized, foliated conglomerate.	5
13602	96+75E	101+52N	Sericitized, foliated conglomerate.	9
13603	96+65E	101+51N	Sericitized, foliated conglomerate.	141
13604	97+50E	105+95N	Moderately sericitic & hematitic syenite.	5
13605	97+50E	105+70N	Moderately sericitic & hematitic syenite.	7
13606	97+75E	105+60N	Syenite, hematite + sericite.	Nil
13607	97+63E	105+95N	Foliated syenite, sericite + hem.	Nil
13608	98+00E	105+77N	Bleached, schistose syenite, ser + hem ± ank.	Nil
13609	98+55E	105+85N	Bleached, schistose syenite, ser ± hem ± ank.	Nil
13610	98+80E	106+10N	Bleached syenite, weakly silicified, ser + ank.	Nil
13611	98+60E	105+70N	Syenite, ank + hem.	Nil
13612	99+00E	105+50N	Massive syenite, hematitic.	Nil
13613	98+90E	105+60N	Syenite, ank + hem.	Nil
13614	99+00E	106+30N	Massive ash/lapilli tuff.	7
13615	99+30E	106+00N	Syenite, ser + ank + hem.	Nil
13616	99+40E	105+95N	Syenite, ser + ank + hem.	Nil
13617	99+50E	105+90N	Foliated syenite, ser + ank ± hem.	9
13618	99+50E	105+35N	Massive, foliated lapilli tuff.	9
13619	99+70E	105+45N	Foliated ash tuff, chl + ank.	Nil
13620	100+25E	105+50N	Weakly sericitic, hematitic syenite.	Nil
13621	100+00E	105+33N	Sheared chloritic tuff with trace py.	13
13622	100+00E	105+36N	Sheared, chloritic ± sericitic tuff.	5
13623	99+85E	105+45N	Sheared, ser. tuff, 0.5% diss py, 1-5 mm qtz vnlts.	98

TABLE 1, Continued

RAND PROPERTY
(Kirkland Gold Rand)

SURFACE GRAB SAMPLE DESCRIPTIONS AND ASSAYS

Sample No.	Easting	Northing	Sample Description	Au, ppb
13624	99+75E	105+50N	Silicified, sericitic tuff/syenite (?), 0.5% py.	33
13625	99+00E	104+88N	Sheared, sericitic syenite porphyry.	3
13626	97+38E	104+60N	Sheared, sericitic wacke. Trace py.	Nil
13627	97+00E	101+60N	Sheared, foliated sericitic wacke.	22
13628	97+50E	100+55N	Sheared, sericitic conglomerate, trace py.	10
13629	100+75E	99+02N	Felsite dyke in green carb. 1% py.	50
13630	99+25E	99+80N	Qtz - green carb, fuchsite.	3
13631	99+60E	100+27N	Syenite/Felsite with 0.5% py.	45
13632	99+55E	100+22N	Syenite/mafic volcanic contact with 2% py.	115
13633	99+55E	100+23N	Syenite/volcanic contact, 1% py.	91
13634	101+52E	100+80N	Light brown, felsite, 0.5% py.	26
13635	101+50E	100+90N	Shear, qtz + green carb, trace py.	Nil
13636	102+55E	100+68N	Qtz + fuchsite.	3
13637	102+60E	100+60N	Qtz + fuchsite + 0.5% py.	197
13638	102+62E	100+53N	Qtz + fuchsite ± brown carb.	3
13639	102+70E	100+40N	Qtz + fuchsite ± brown carb.	42
13640	102+75E	100+34N	Qtz + fuchsite ± brown carb.	65
13641	102+90E	100+14N	Foliated to sheared mafic volcanic.	Nil
13642	102+90E	99+05N	Qtz + fuchsite ± felsite.	Nil
13643	103+90E	99+05N	Qtz + fuchsite ± felsite.	Nil
13644	103+85E	99+50N	Magnetite iron formation, 1 m wide, > 60% mag.	404

Total No. of Grab Samples - 164

Abbreviations:

qtz	Quartz	carb or cb	Carbonate	ser	Sericite	py	Pyrite
mag	Magnetite	hem	hematite	ank	ankerite	chl	Chlorite
vn	Vein	vnlts	Veinlets	diss	disseminated	sil	silicification

TABLE 2

RAND PROPERTY
(Kirkland Gold Rand)

ANOMALOUS SURFACE GRAB SAMPLE ASSAYS

Sample No.	Co-ordinates Easting	Northing	Sample Description	Assay ppb, Au
1. Area of Kirkland Gold Rand Mine				
a. Between No.1 and No.2 Shafts				
13507	103+70E	107+25N	Schist, ser + ank + 0.5% py	19,200*
13508	103+72E	107+25N	Qtz + ser + 1-2% py vn + wallrock in old trench.	2,115
b. East Of No.1 Shaft, Around Line 105 East				
771	104+96E	107+28N	Sericitic alteration zone, ser ± qtz, < 1% py.	99
772	104+96E	107+31N	8 cm wide qtz + ser + 3-5% py vein @ syenite/ser wacke contact.	43,072*
773	105+00E	107+33N	Sericitic alteration zone ser ± qtz ± py.	197
13545	104+96E	107+31N	11 cm qtz breccia vn 3% py + ser wacke - 1% py.	21,814*
c. East of No.1 Shaft, Around Line 105+50 East				
13543	105+59E	107+01N	10 cm qtz + ank vein < 0.5% py.	740
d. East of No.1 Shaft, Around Line 106+00 East				
783	106+00E	106+88N	Foliated tuff with 1% diss. py.	197
784	106+00E	106+91.5N	Moderately sericitized (spotty) syenite - 0.5% py.	164
785	106+00E	106+94N	Foliated tuff, chl + ank ± ser, 1-2% py.	905*
13542	106+00E	106+95N	Hematitic tuff, 7 cm wide, with 1% py vnlts.	13,063*

* Note: Samples with more than one assay were averaged.

TABLE 2, Continued
RAND PROPERTY
(Kirkland Gold Rand)

ANOMALOUS SURFACE GRAB SAMPLE ASSAYS

Sample No.	Co-ordinates Easting	Northing	Sample Description	Assay ppb, Au
2. Syenite West-Southwest of Kirkland Gold Rand Mine, Around Line 100+00 East				
13530	99+94E	105+45N	Sheared tuff @ syenite contact, 1% py.	256*
13623	99+85E	105+45N	Sheared, ser tuff, 0.5% diss py, 1-5 mm qtz vnlts.	98*
3. Conglomerate in Southwest Corner of Property, Claim L.1111453, Around Line 97+00 East				
13564	96+90E	101+52N	Foliated, ser conglomerate - moderately sheared.	99*
13603	96+65E	101+51N	Sericitized, foliated conglomerate.	141*
4. Within Larder Lake Group				
a. Line 99+50 East Area				
13632	99+55E	100+22N	Syenite/mafic volcanic contact with 2% py.	115
13633	99+55E	100+23N	Syenite/volcanic contact, 1% py.	91
b. Line 102+50 East Area				
13637	102+60E	100+60N	Qtz + fuchsite + 0.5% py.	197*
c. Line 104+00 East Area				
13644	103+85E	99+50N	Magnetite iron formation, 1 m wide, 60%* mag.	404*

Abbreviations:

Qtz	Quartz	Carb or Cb	Carbonate	Ser	Sericite or sericitic
py	Pyrite	Mag	Magnetite	vn	Vein
vnlts	Veinlets	ank	Ankerite	chl	Chlorite or chloritic
diss	disseminated				

APPENDIX I

ASSAY CERTIFICATES

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2845-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: MAY-09-91

Copy 1. HOLD COPY 567-4840
2. FAX # 567-6448

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted MAY-06-91 by .

Sample Number	Au ppb	Au check ppb	Au 2nd ppb
751	12	12	
752	5		
753	9		
754	Nil		
755	10		
756	7		
757	Nil		
758	Nil		
759	5		
760	7		
761	Nil		
762	Nil		
763	27		
764	Nil		
765	Nil		
766	Nil		
767	Nil		
768	Nil		
769	Nil		
770	21		
771	99		
772	42137	42171	43989
773	197		
774	Nil		
775	12		
776	7		
777	Nil		
778	26		
779	5		
780	24	24	

Au was determined using 1 AT fusions.

Certified by R Landin

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2869-RG1

Company: **BATTLE MOUNTAIN CANADA INC.** Date: MAY-09-91

Project: 75-JV-28

Attn: WAYNE BENHAM

Copy 1. HOLD COPY
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 5 ROCK samples submitted MAY-07-91 by M. MASSON.

Sample Number	Au ppb	Au check ppb
781	Nil	
782	5	
783	197	
784	164	
785	946	864

Au was determined using 1 AT fusions

Certified by R Candini

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2866-RG1

Company: BATTLE MOUNTAIN CANADA INC
Project: 75-JV-28
Attn: W. BENHAM

Date: MAY-09-91
Copy 1. HOLD PHONE 567-4840
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 9 ROCK samples submitted MAY-07-91 by M. MASSON.

Sample Number	Au ppb	Au check ppb
786	17	
787	5	
788	17	
789	7	
790	21	19
791	14	
792	5	
793	3	
794	14	

Au was determined using 1 AT fusions

Certified by R. Landin

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2887-RG1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: MR.W.BENHAM

Date: MAY-14-91
Copy 1. P.O.BOX 635 KIRKLAND LAKE,ONT.P2N 1K3
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 16 ROCK samples submitted MAY-10-91 by M. MASSON.

Sample Number	Au ppb	Au check ppb	Au 2nd ppb	Au check 2nd ppb
795	14	14		
796	Nil			
797	Nil			
798	Nil			
799	Nil			
800	Nil			
13501	Nil			
13502	19			
13503	12			
13504	Nil			
13505	17			
13506	55			
13507	19680	19474	18514	19132
13508	1966	2263		
13509	14			
13510	30			

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2905-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: MAY-17-91
Copy 1. P.O.BOX 635,KIRKLAND LAKE, ONT. P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 23 GRAB samples submitted MAY-14-91 by ROBERT PEEVER.

Sample Number	Au ppb
13511	Nil
13512	Nil
13513	3
13514	7
13515	3
13516	10
13517	Nil
13518	5
13519	Nil
13520	5/9
13521	3
13522	10
13523	3
13524	7
13525	Nil
13526	3
13527	3
13528	5
13529	6
13530	264/247
13531	Nil
13532	3
13533	Nil

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2925-RG1

Company: **BATTLE MOUNTAIN CANADA INC.**
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: MAY-23-91
Copy 1. P.O.BOX 635,KIRKLAND LAKE, ONT. P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 12 ROCK samples submitted MAY-16-91 by M. MASSON.

Sample Number	Au ppb	Au check ppb	Au 2nd ppb
13534	Nil		
13535	Nil		
13536	Nil		
13537	12		
13538	Nil		
13539	Nil		
13540	Nil		
13541	7		
13542	12892	13234	
13543	740		
13544	Nil		
13545	21497	22012	21874

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2936-RG1

Company: **BATTLE MOUNTAIN CANADA INC.**
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: MAY-22-91
Copy 1. P.O.BOX 635,KIRKLAND LAKE, ONT. P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 3 ROCK samples submitted MAY-17-91 by M. MASSON.

Sample Number	Au ppb
13546	14/15
13547	Nil
13548	6

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2951-RG1

Company: BATTLE MOUNTAIN (CANADA) INC.
Project: 75-JV-28
Attn: W. BENHAM

Date: MAY-24-91
Copy 1. P.O. BOX 635,KIRKLAND LAKE,ONT.P2N 3K1
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 16 ROCK samples submitted MAY-22-91 by .

Sample Number	Au PPB
13549	34
13550	22
13551	19
13552	14/12
13553	3
13554	9
13555	Nil
13556	Nil
13557	Nil
13558	Nil
13559	45
13560	5
13561	27
13562	Nil
13563	12
13564	99/99

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2975-RG1

Company: **BATTLE MOUNTAIN CANADA INC.**
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: MAY-29-91
Copy 1. P.O.BOX 635, KIRKLAND LAKE,ONT. P2N 1K3
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 6 ROCK samples submitted MAY-27-91 by M. MASSON.

Sample Number	Au ppb
13565	19
13566	13
13567	69/86
13568	24
13569	60/77
13570	4

Au was determined using 1AT fusions.

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2976-RG1

Company: BATTLE MOUNTAIN CANADA INC.
Project: 75-JV-28
Attn: WAYNE BENHAM

Date: MAY-30-91
Copy 1. P.O.BOX 635, KIRKLAND LAKE,ONT. P2N 1K3
2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 29 ROCK samples submitted MAY-27-91 by M. MASSON.

Sample Number	Au ppb
13601	5
13602	9
13603	141/141
13604	5
13605	7
13606	Nil
13607	Nil
13608	Nil
13609	Nil
13610	Nil
13611	Nil
13612	Nil
13613	Nil
13614	7
13615	Nil
13616	Nil
13617	9
13618	9
13619	Nil
13620	Nil
13621	13
13622	5
13623	103/93
13624	33
13625	3
13626	Nil
13627	22
13628	10
13629	45/55

Au was determined using 1AT fusions.

Certified by Donna Gardner

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

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

1W-2999-RG1

Company: **BATTLE MOUNTAIN (CANADA) INC.** Date: MAY-31-91
Project: 75-JV-28 Copy 1. BOX 635, KIRKLAND LAKE P2N 3K1
Attn: W. BENHAM 2. FAX TO 567-6448

We hereby certify the following Geochemical Analysis of 15 ROCK samples
samples submitted MAY-29-91 by M. MASSON.

Sample Number	Au ppb
13630	3
13631	45
13632	115
13633	87/94
13634	26
13635	Nil
13636	3
13637	199/195
13638	3
13639	42
13640	65
13641	Nil
13642	Nil
13643	Nil
13644	417/391

Au was determined using 1 AT fusions

Certified by Donna Gardner

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

APPENDIX II

CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

I, Mark W. Masson of 12 O'Meara Blvd. in the Town of Kirkland Lake in the Province of Ontario.

DO HEREBY CERTIFY:

1. That I am a graduate of Queen's University, Kingston, Ontario with a Bachelor of Science (B.Sc.), Honours Geology, 1982.

2. That I have been practicing my profession as an exploration geologist since 1982.

3. That I carried out the geological mapping and supervised the sampling described in this report.

Signed

Mark W. Masson
Kirkland Lake, Ontario

Dated this August 30, 1991

Ministry of Northern Development [illegible] Mines

Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: DOCUMENT No. W9180.00074

42A01NE0105 2.14390 TECK

900

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s): BATTLE MOUNTAIN (CANADA) INC. T-5179	Client No.: 105640
Address: Suite 2910, 390 Bay Street, Toronto, Ontario M5H 2Y2	Telephone No.: (416) 867-9815
Mining Division: Larder Lake / Township/Area: Teck Township	M or G Plan No.: M 392
Dates Work Performed From: May 1, 1991	To: August 31, 1991

Work Performed (Check One Work Group Only)

	Work Group	Type
X	Geotechnical Survey	Geology
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

RECEIVED
DEC 16 1991
105
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs $ 22,314.15

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Mark W. Masson (Author)	P. O. Box 1343, Kirkland Lake, Ont. P2N 3P2
Swastika Laboratories	P. O. Box 10, Swastika, Ont. P0K 1T0
Wayne Benham, Geologist	P. O. Box 653, Kirkland Lake, Ont. P2N 3K1

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date: Nov 5, 1991	Recorded Holder or Agent (Signature): Orval E. Leigh

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

RECEIVED
LARDER LAKE
MINING DIVISION
91 NOV 6 PM 2 54

Name and Address of Person Certifying		
Wayne Benham, P. O. Box 635, Kirkland Lake, Ont. P2N 3K1		
Telepone No.: (705) 567-4840	Date: Nov 6, 1991	Certified By (Signature): W. Benham

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
$ 22,314.15	Nov. 6/91		RECEIVED LARDER LAKE MINING DIVISION 91 NOV 6 PM 2 23 RECEIVED
	Deemed Approval Date: Feb 4/92	Date Approved	
	Date Notice for Amendments Sent		

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
10	1049642	1	2,479.35	0	0	2,479.35
8	1111439	1	2,479.35	0	0	2,479.35
8	1111440	1	2,479.35	0	0	2,479.35
15	1111441	1	2,479.35	0	0	2,479.35
10	1111442	1	2,479.35	0	0	2,479.35
15	1111453	1	2,479.35	0	0	2,479.35
4	1132251	1	2,479.35	0	0	2,479.35
15	1132280	1	2,479.35	0	0	2,479.35
15	1146063	1	2,479.35	0	0	2,479.35
	9		22,314.15	0	0	22,314.15
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☒ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature

Date

0241 (08/91)

Ontario

Ministry of Northern Development [illegible]es

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

DOCUMENT No.
Transaction No./N° de transaction
W9180 • 05074

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	16,343.92	
	Field Supervision Supervision sur le terrain		16,343.92
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type ASSAYING	1,859.15	
			1,859.15
Supplies Used Fournitures utilisées	Type OFFICE	40.73	
	FIELD	85.08	
	PRINTING	286.25	
			[illegible]
Equipment Rental Location de matériel	Type		
			[illegible]
	Total Direct Costs Total des coûts directs		[illegible]

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type TRUCK RENTAL	1,708.10	
	FUEL	414.81	
			2,122.91
Food and Lodging Nourriture et hébergement		2,954.71	[illegible]
Mobilization and Demobilization Mobilisation et démobilisation		564.63	[illegible]
	Sub Total of Indirect Costs Total partiel des coûts indirects		[illegible]
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			[illegible]
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs)	**Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles**		22,314.15

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as V.P & Manager-Exploration am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
Orval E. Leigh	June 5/91

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction Number/Numéro de transaction
DOCUMENT NO.
W9180.05074

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	16,343.92	
	Field Supervision Supervision sur le terrain		16,343.92
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type ASSAYING	1,859.15	
			1,859.15
Supplies Used Fournitures utilisées	Type OFFICE	40.73	
	FIELD	85.08	
	PRINTING	266.25	
			392.06
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		18,595.13

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type TRUCK RENTAL	1,708.10	
	FUEL	414.81	
			2,122.81
Food and Lodging Nourriture et hébergement		2,954.71	2,954.71
Mobilization and Demobilization Mobilisation et démobilisation		564.63	564.63
	Sub Total of Indirect Costs Total partiel des coûts indirects		5,682.25
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		3,719.02
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		22,314.15

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as V.P & Manager-Exploration am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature Orval E. Leigh — Date June 5/91

Orval E. Leigh

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

0212 (04/91)

ASSESSMENT WORK CREDIT

FILE NUMBER: 2.14390

DATE: January 23, 1992

RECORDER'S REPORT NUMBER: W9180-05074

RECORDED HOLDER: Battle Mountain Inc.

CLIENT NUMBER: 105640

TOWNSHIP OR AREA: Teck Township

1) Assessment Credit for Geology Survey over 9 mining claims.

Total Assessment Credit claimed: $ 22,314.15

Level of Assessment Credit approved on January 22, 1992 is $ 22,314.15.

CLAIM NO.	VALUE OF ASSESSMENT WORK DONE ON CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED TO BANK
L 1049642	$ 2231.42	$ 0.00	$ 2231.42
L 1111439	$ 1785.13	$ 0.00	$ 1785.13
L 1111440	$ 1785.13	$ 0.00	$ 1785.13
L 1111441	$ 3347.12	$ 0.00	$ 3347.12
L 1111442	$ 2231.42	$ 0.00	$ 2231.42
L 1111453	$ 3347.12	$ 0.00	$ 3347.12
L 1132251	$ 892.57	$ 0.00	$ 892.57
L 1132280	$ 3347.12	$ 0.00	$ 3347.12
L 1146063	$ 3347.12	$ 0.00	$ 3347.12
9 CLAIMS	$ 22314.15	$ 0.00	$ 22314.15

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Branch
Geoscience Approvals Section
159 Cedar Street, 4th Floor
Sudbury, Ontario
P3E 6A5

Toll Free: 1-800-465-3880
Telephone: (705) 670-7264
Fax: (705) 670-7262

January 23, 1992

Our File: 2.14390
Your File: W9180-5074

Mining Recorder
Ministry of Northern Development
and Mines
4 Government Road East
Kirkland Lake, Ontario
p2N 1A2

Dear Sir:

SUBJECT: APPROVAL OF ASSESSMENT WORK SUBMITTED ON MINING CLAIMS L.1049642 ET AL. IN TECK TOWNSHIP.

The receipts verifying your expenses have been received and approved as of January 20, 1992.

The assessment work credits for the Geological Surveys, under section 12, of the Mining Act Regulations, submitted on the above work report have been approved as January 20, 1992.

The Assessment credit form submitted supersedes the one filed as part of the Notice of Deficiency dated December 23, 1991.

Please indicate this approval on your records.

Yours sincerely,

Ron Gashinski
Senior Manager, Mining Lands Branch
Mines and Minerals Division

TA/jl
Enclosures:

cc: Assessment Files Office
Toronto, Ontario

Resident Geologist
Kirkland Lake, Ontario

LEGEND

60 ALTERATION

- 61 Chlorite ± Talc ± Carbonate ± Quartz
  - 612 Weak
  - 613 Moderate
  - 614 Strong
- 62 Sericite ± Carbonate ± Chlorite ± Quartz
  - 622 Weak
  - 623 Moderate
  - 624 Strong
- 65 Carbonate ± Chlorite Fuchsite ± Quartz
  - 652 Weak
  - 653 Moderate
  - 654 Strong
- 69 Carbonatized Syenite

40 INTRUSIVES

- 41 Diabase
  - 412 Lamprophyre
- 42 Peridotite
- 43 Pyroxenite
- 44 Gabbro
- 45 Diorite
- 46 Syenite
  - 461 Augite Syenite
  - 462 Melo Syenite
  - 463 Meso Syenite
  - 464 Leuco Syenite

20 SEDIMENTS

- 21 Conglomerate
- 22 Greywacke
- 23 Arenite
- 25 Siltstone
- 26 Mudstone
- 27 Iron Formation

10 VOLCANICS

- 111 Komatiites
- 13 Basalts
- 18 Trachytes
  - 181 Flows
  - 18a Tuffs

SYMBOLS

- Bedding, dipping, vertical (facing unknown)
- Bedding, dipping, vertical, overturned (facing known)
- Pillow facing direction, dipping, vertical, overturned
- Foliation (S1a), dipping, vertical dip unknown
- Foliation (S2 or S1b), dipping, vertical, dip unknown
- Joint, dipping, vertical
- Fault, dipping, vertical
- Shear zone, defined, inferred
- Mineral elongation strike and plunge
- Synclinal, Anticlinal Axis
- Geological contact, known, inferred
- Diamond Drill Hole
- Outcrop Area
- Limit of deep subcrop
- Historic trench
- Pit or trench outline
- Shaft

GRAIN/CLAST SIZE

SEDIMENTARY ROCKS

a - fine grained
b - medium grained
c - coarse grained
p - pebble
d - cobble
e - boulder
g - grit

VOLCANIC ROCKS

a - ash tuff
b - lapilli tuff
c - block tuff
f - flow
fbr - flow breccia

IGNEOUS ROCKS

f.g. - fine grained
m.g. - medium grained
c.g. - coarse grained
p - pegmatitic

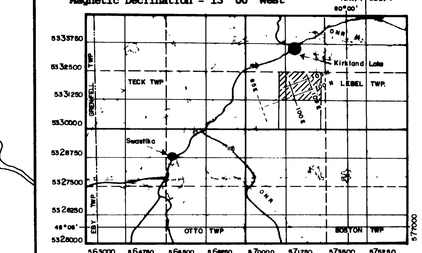
SAMPLE NO 8801 — 1600 ← PPB AU
LOCATION — 1.6 → g/t AU

ABBREVIATIONS

agp. - augite porphyritic	fp - feldspar porphyritic	qv. - quartz vein	
amg - amygdaloidal	fsp - feldspathic	ser. - sericitic	
amp - amphibolite	gf. - graphitic	sil. - silicic	
ank - ankerite	hem. - hematite	sp. - sphalerite	
bx - breccia	lam - laminated	spx - spinifex	
cc - calcite	m - massive	sh. - sheared	
cb - carbonate	mag. - magnetite	frc. - trachoidal	
ch. - chlorite	p. - pillowed	var. - variolitic	
cp - chalcopyrite	pb. - galena	ves. - vesicular	
fc - fractured	py. - pyrite	sch. - schist	
fd - found	bl. - bleached	qtz. - quartz	
fuc. - fuchsite	bldr. - boulder	jsp. - jasper	

Magnetic Declination = 13° 00' West

42A/1 | 32D/4 sheet



SCALE 1:125,000

METRES 2000 0 4000 METRES

1:2,500 SHEET	1:5,000 SHEET	1:10,000 SHEET	1:20,000 SHEET
125m	250m	500m	1.0Km
1732 ft	3800m	7000m	14 Km

BATTLE MOUNTAIN (CANADA) INC.

2.14390

KIRKLAND LAKE PROJECT

ONTARIO

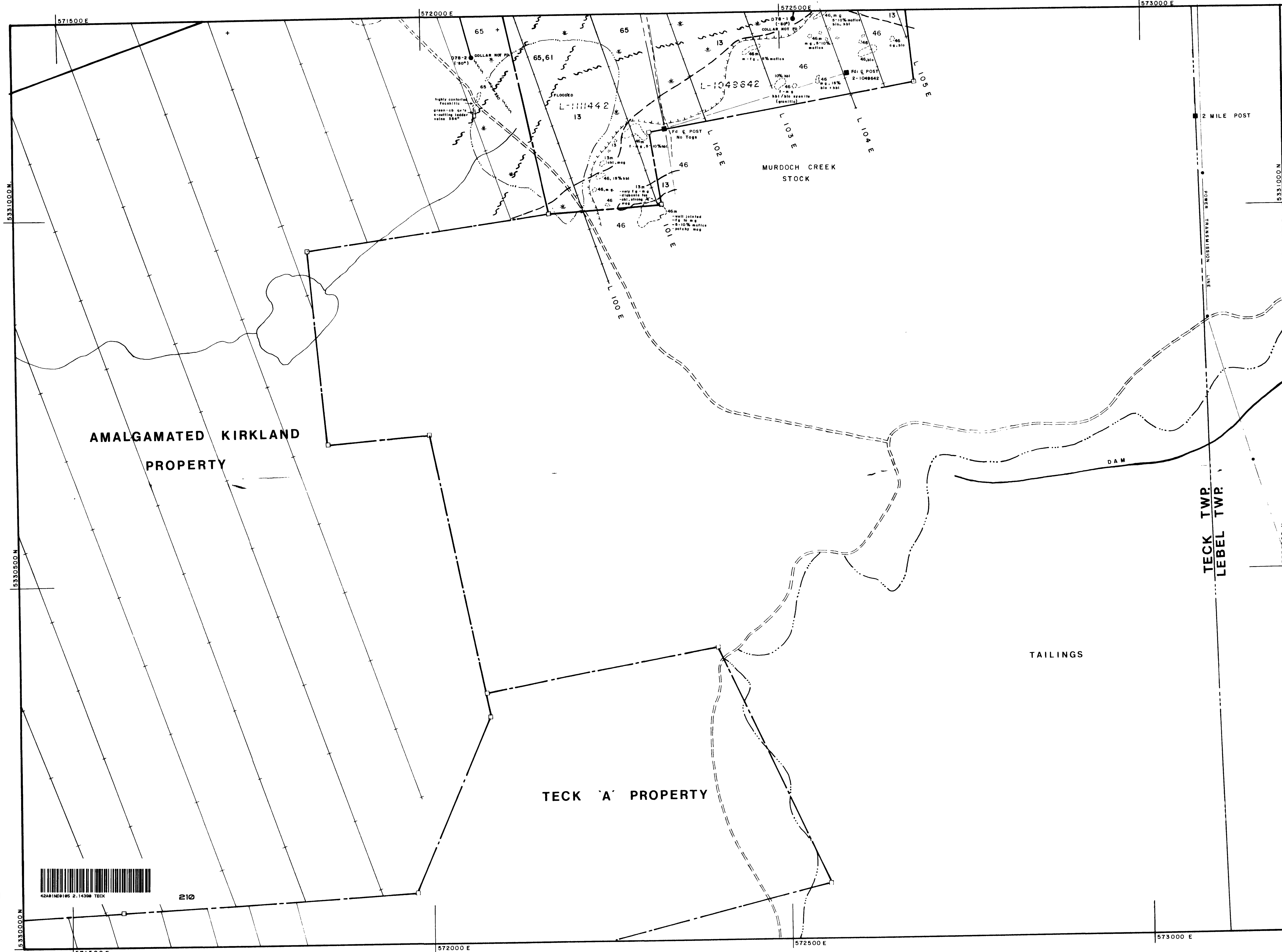
KIRKLAND GOLD RAND PROPERTY

(GEOLOGY PLAN)

Interpretated Geology

PROJECT No · 75-JV-28	DATA BY: Mark Masson
NTS: 42A/1 & 32D/4	DRAWN BY: B.H. Madill, Tech.
DRAWING No.: GL-019 (NORTH SHEET)	DATE: 05/31/91
SCALE: 1: 2500	

50 0 50 100 metres



LEGEND

60 ALTERATION

- 61 Chlorite ± Talc ± Carbonate ± Quartz
  - 612 Weak
  - 613 Moderate
  - 614 Strong
- 62 Sericite ± Carbonate ± Chlorite ± Quartz
  - 622 Weak
  - 623 Moderate
  - 624 Strong
- 65 Carbonate ± Chlorite Fuschite ± Quartz
  - 652 Weak
  - 653 Moderate
  - 654 Strong
- 69 Carbonatized Syenite

40 INTRUSIVES

- 41 Diabase
  - 412 Lamprophyre
- 42 Peridotite
- 43 Pyroxenite
- 44 Gabbro
- 45 Diorite
- 46 Syenite
  - 461 Augite Syenite
  - 462 Mela Syenite
  - 463 Meso Syenite
  - 464 Leuco Syenite

20 SEDIMENTS

- 21 Conglomerate
- 22 Graywacke
- 23 Arenite
- 25 Siltstone
- 26 Mudstone
- 27 Iron Formation

10 VOLCANICS

- 11 Komatiites
- 13 Basalts
- 18 Trachytes
  - 18f Flows
  - 18a Tuffs

SYMBOLS

- Bedding, dipping, vertical (facing unknown)
- Bedding, dipping, vertical, overturned (facing known)
- Pillow facing direction, dipping, vertical, overturned
- Foliation (S1a), dipping, vertical dip unknown
- Foliation (S2 or S1b), dipping, vertical, dip unknown.
- Joint, dipping, vertical
- Fault, dipping, vertical
- Shear zone, defined, inferred
- Mineral elongation strike and plunge
- Synclinal, Anticlinal Axis
- Geological contact, known, inferred
- Diamond Drill Hole
- Outcrop Area
- Limit of deep subcrop
- Historic trench
- Pit or trench outline
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GRAIN/CLAST SIZE

SEDIMENTARY ROCKS

- a - fine grained
- b - medium grained
- c - coarse grained
- p - pebble
- d - cobble
- e - boulder
- g - grit

VOLCANIC ROCKS

- a - ash tuff
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- c - block tuff
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- fbx - flow breccia

IGNEOUS ROCKS

- f.g. - fine grained
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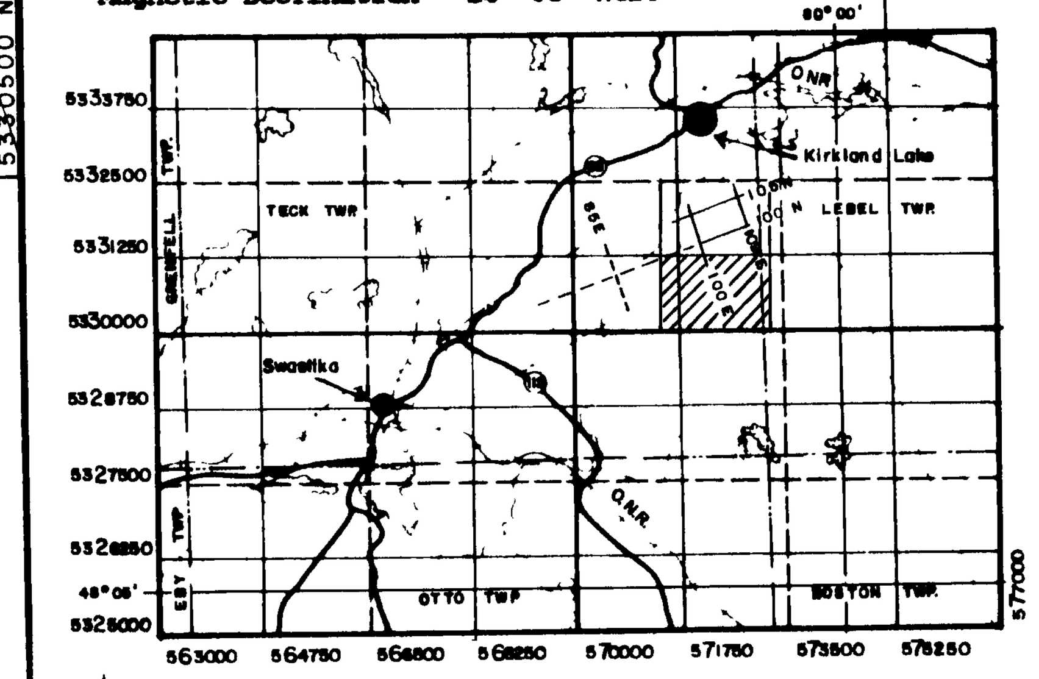
- p - pegmatitic

SAMPLE NO. 8501 — LOCATION — 1600 PPB AU — 1.6 g./t AU

ABBREVIATIONS

agp.	augite porphyritic	fp.	feldspar porphyritic	q.v.	quartz vein
amg.	amygdaloidal	fsp	feldspathic	ser	sericitic
amp.	amphibolite	gf.	graphitic	sil.	silicic
ank	ankerite	hem.	hematite	sp.	sphalerite
bx.	breccia	lam.	laminated	spx	spinifex
ca.	calcite	m	massive	sh.	sheared
cb.	carbonate	mag.	magnetite	tra.	trachoidal
ch	chlorite	p.	pillowed	var.	variolitic
cp	chalcopyrite	pb.	galena	ves.	vesicular
fc.	fractured	py.	pyrite	sch.	shist
fd	found	bl	bleached	qtz.	quartz
fuc.	fuchsite	bldr.	boulder	jsp.	jasper

Magnetic Declination = 13° 00' West



SCALE: 1:125,000

METRES 2000 0 4000 METRES

1:2,500 SHEET (1250 m × 1750 m) — 1:5,000 SHEET (2500 m × 3500 m) — 1:10,000 SHEET (5000 m × 7000 m) — 1:20,000 SHEET (1.0 Km × 14 Km)

BATTLE MOUNTAIN (CANADA) INC

2.14390

BATTLE MOUNTAIN GOLD COMPANY

KIRKLAND LAKE PROJECT

ONTARIO

KIRKLAND GOLD RAND PROPERTY

(GEOLOGY PLAN)

Interpretated Geology

PROJECT No.: 75-JV-28	DATA BY: Mark Masson
NTS: 42A/1 & 32D/4	DRAWN BY: B H Madill, Tech
DRAWING No.: GL-020 (SOUTH SHEET)	DATE: 05/31/91

SCALE 1:2500 — 50 0 50 100 metric

2.14390

2.14390
Geol.

Areas shown thus [hatched] for slime disposal

Mining claim L 5779 - Mining Rights subject to Sec 36 of the Mining Act (1950 1990)

SURFACE WITHDRAWN FROM STAKING

(R1) SURFACE RIGHTS WITHDRAWN FROM STAKING SECTION 43/70 ORDER NO W76/80

(R2) SURFACE AND MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO W108/82

(R3) ~~SURFACE AND MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 UNDER NO W8/86 ORDER NO O-20/88 OPENS PART W-08/86~~

(R4) SURFACE AND MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO W9/86 ORDER NO. O-22/88 OPENS PART OF W9/86

(R5) ~~SURFACE AND MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO W18/86~~ ORDER NO O-L19-90 NR OPENS W18/86 NOV 15/90

(R6) ~~MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO. W96/87 NR~~ ORDER NO O-93/88 OPENS W-90/87

(R7) MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36/80 ORDER NO W-22/88

(R8) ~~SURFACE RIGHTS WITHDRAWN FROM STAKING SECTION 36 ORDER NO W-L 5789 NR~~ ORDER NO O-L17-90 NR OPENS W-L2/89NR

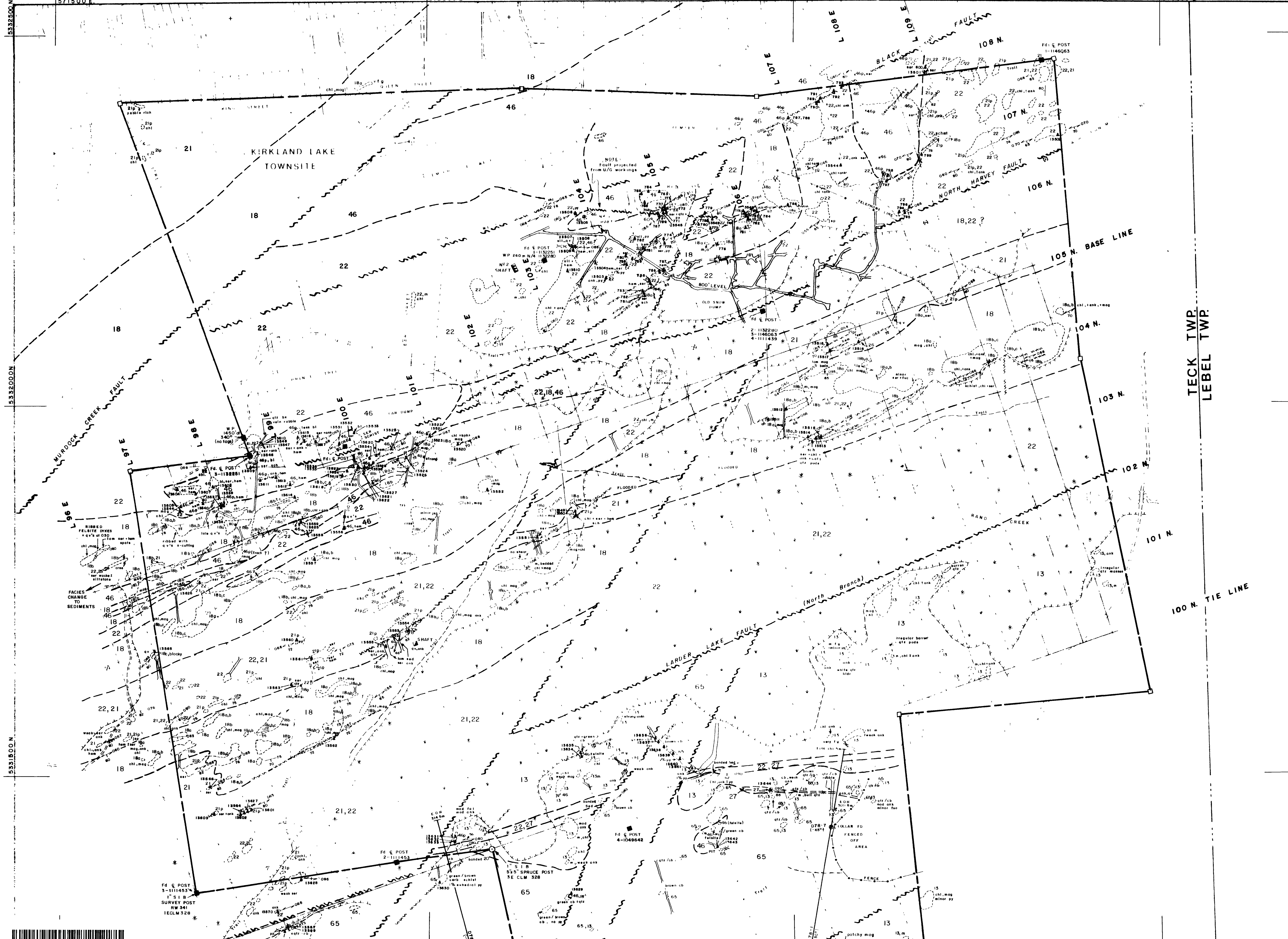
~~MINING RIGHTS WITHDRAWN FROM STAKING PROCEDURE~~

(R9) ~~MINING RIGHTS WITHDRAWN FROM STAKING SECTION 36 ORDER NO. W-L 5789 NR~~ ORDER NO O-L11/90 OPENS W-L3/89NR

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

DATE OF ISSUE
DEC 13 1991
LARDER LAKE
MINING RECORDER'S DISTRICT

MINISTRY OF NORTHERN DEVELOPMENT



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  - 18f Flows
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- Outcrop Area
- Limit of deep subcrop
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- d - cobble
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- g - grit

VOLCANIC ROCKS

- a - ash tuff
- b - lapilli tuff
- c - block tuff
- f - flow
- fbx - flow breccia

IGNEOUS ROCKS

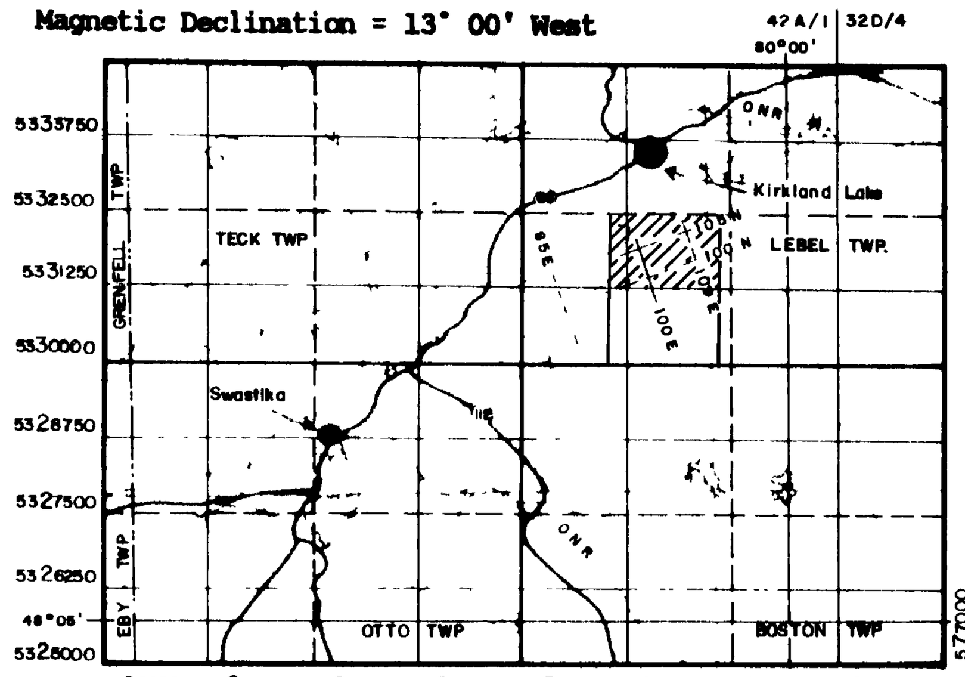
- f g. - fine grained
- m g. - medium grained
- c g - coarse grained
- p - pegmatitic

SAMPLE NO → 8501 △ 1600 ← PPB AU
LOCATION 1.6 ← g/t AU

ABBREVIATIONS

agp.	augite porphyritic	fp	feldspar porphyritic	qv	quartz vein
amg	amygdaloidal	fsp	feldspathic	ser	sericitic
amp.	amphibolite	gf.	graphitic	sil	silicic
ank	ankerite	hem.	hematite	sp	sphalerite
bx	breccia	lam	laminated	spx	spinifex
ca	calcite	m	massive	sh.	sheared
cb	carbonate	mag.	magnetite	trc.	tracholdal
ch.	chlorite	p.	pillowed	var.	variolitic
cp	chalcopyrite	pb.	galena	ves.	vesicular
fc	fractured	py.	pyrite	sch.	shist
fd	found	bl	bleached	qtz.	quartz
fuc.	fuchsite	bldr	boulder	jsp.	jasper

Magnetic Declination = 13° 00' West



SCALE: 1:125,000

METRES 2000 0 4000 METRES

1:2,500 SHEET (1250 m × 1750 m) | 1:5,000 SHEET (2500 m × 3500 m) | 1:10,000 SHEET (5000 m × 7000 m) | 1:20,000 SHEET (10 Km × 14 Km)

BATTLE MOUNTAIN (CANADA) INC.

BATTLE MOUNTAIN GOLD COMPANY

KIRKLAND LAKE PROJECT

ONTARIO

KIRKLAND GOLD RAND PROPERTY

(GEOLOGY PLAN)

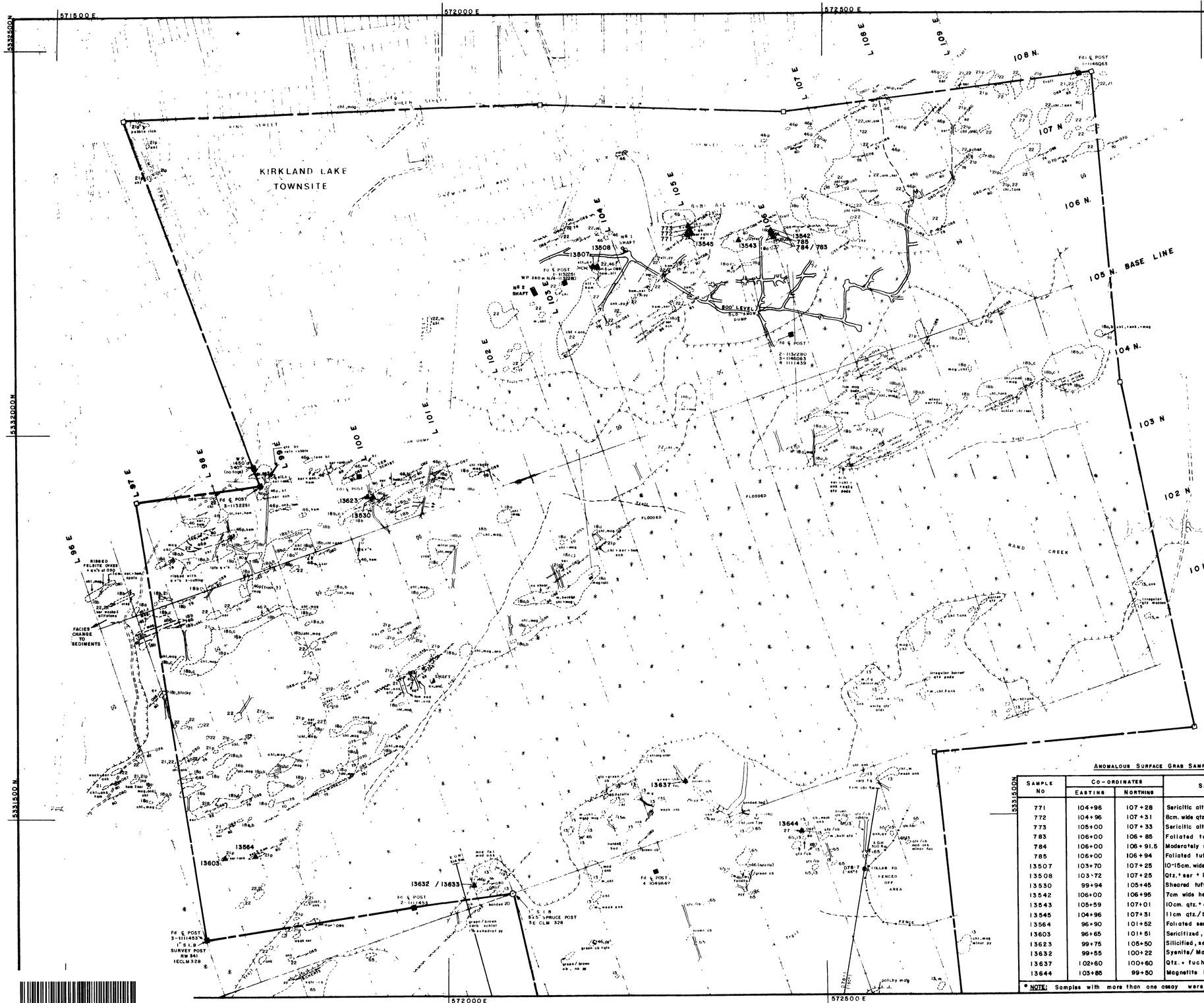
showing

GRAB SAMPLE LOCATIONS

PROJECT No · 75-JV-28	DATA BY: MM/WB/BM/BP/DC
NTS: 42A/1 & 32D/4	DRAWN BY: B H. Madill, Tech.
DRAWING No.: GA-017	DATE: 05/31/91

SCALE: 1:2500

50 0 50 100 metres



LEGEND

60 ALTERATION

- 61 Chlorite ± Talc ± Carbonate ± Quartz
  - 613 Weak
  - 613 Moderate
  - 614 Strong
- 62 Sericite ± Carbonate ± Chlorite ± Quartz
  - 622 Weak
  - 623 Moderate
  - 624 Strong
- 66 Carbonate ± Chlorite Fuchsite ± Quartz
  - 662 Weak
  - 663 Moderate
  - 664 Strong
- 69 Carbonatized Syenite

40 INTRUSIVES

- 41 Diabase
- 41R Lamprophyre
- 42 Peridotite
- 43 Pyroxenite
- 44 Gabbro
- 53 Diorite
- 48 Syenite
  - 481 Augite Syenite
  - 482 Mela Syenite
  - 483 Meso Syenite
  - 484 Leuco Syenite

20 SEDIMENTS

- 21 Conglomerate
- 22 Greywacke
- 23 Arenite
- 24 Siltstone
- 25 Mudstone
- 27 Iron Formation

10 VOLCANICS

- 11 Komatiites
- 15 Basalts
- 16 Trachytes
  - 16F Flows
  - 16T Tuffs

SYMBOLS

- Bedding, dipping, vertical (tops unknown)
- Bedding, dipping, vertical, younging of facing known; minor fold axis, plunge, dipping, vertical, overturned
- Foliation (S2), dipping, vertical dip unknown
- Foliation (S2 or S1b), dipping, vertical, dip unknown.
- Joint, dipping, vertical
- Fault, dipping, vertical
- Shear zone, defined, inferred
- Mineral elongation strike and plunge
- Synclinal, Anticlinal Axis
- Geological contact, known, inferred
- Diamond Drill Hole
- Outcrop Area
- Limit of deep cover
- Historic trench
- Pit or trench outline
- Shaft

GRAIN/CLAST SIZE

SEDIMENTARY ROCKS
- c - fine grained
- b - medium grained
- a - coarse grained
- p - pebble
- d - cobble
- e - boulder
- g - grit

VOLCANIC ROCKS
- a - ash tuff
- b - lapilli tuff
- c - block tuff
- f - flow
- fbx - flow breccia

IGNEOUS ROCKS
- f.g. - fine grained
- m.g. - medium grained
- c.g. - coarse grained +
- P - pegmatite

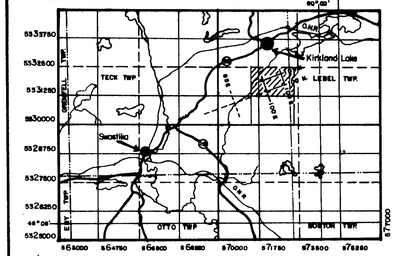
SAMPLE NO. 6501 — 1800 PPB AU — 1.6 oz/t AU — LOCATION

ABBREVIATIONS

agp. - augite porphyritic	fp. - feldspar porphyritic	q.v. - quartz vein
amg. - amygdaloidal	fsp - feldspathic	ser. - sericitic
amp. - amphibolite	gf. - graphitic	sil. - silicic
ank. - ankerite	hem. - hematite	sp. - spherulite
bx. - breccia	lam. - laminated	spx. - spherulitic
ca. - calcite	m. - massive	sh. - sheared
cb. - carbonate	mag. - magnetite	tfg. - trachytoidal
ch. - chlorite	p. - pitted	vax - variolitic
cp. - chalcopyrite	pb. - galena	vac. - vesicular
fo. - fractured	py. - pyrite	sch. - schist
fd - found	bl. - blocked	qtz. - quartz
fus. - fuchsite	bldr. - boulder	jsp. - jasper

Magnetic Declination = 13° 00' West

42 A/1 | 32 D/4



SCALE: 1:25,000

METRES 8000 0 4000 METRES

1:2500 SHEET | 1:5000 SHEET | 1:10,000 SHEET | 1:20,000 SHEET

ANOMALOUS SURFACE GRAB SAMPLE ASSAY SUMMARY

SAMPLE No	CO-ORDINATES EASTING	CO-ORDINATES NORTHING	SAMPLE DESCRIPTION	ASSAY PPB / AU	
771	104+96	107+28	Sericitic alt'n. zone - ser. ± qtz. + <1% py.	99	
772	104+96	107+31	8cm. wide qtz.+ser.+3-5%py. vein @ syenite cont.	43,072	*
773	105+00	107+33	Sericitic alt'n zone - ser. ± qtz ± py.	197	
783	106+00	106+85	Foliated tuff - 1% diss. py.	197	
784	106+00	106+91.5	Moderately sericitized (spotty) syenite - <1%py.	164	
785	106+00	106+94	Foliated tuff - chl.+ank.± ser + 1-2% py.	905	*
13507	103+70	107+25	10-15cm. wide qtz.+ser.+3-5% py. vein.	19,200	*
13508	103+72	107+25	Qtz.+ser + 1-2% py vein + wall rock in old tr.	2,115	
13530	99+94	105+45	Sheared tuff @ syenite contact - 1% py.	256	*
13542	106+00	106+95	7cm wide hematitic tuff with 1% py. v'lets.	13,063	*
13543	105+59	107+01	10cm. qtz.+ank vein - <1% py.	740	
13545	104+96	107+31	11cm qtz./bx. vein - 3% py.+ser wacke-1%py.	21,814	*
13564	96+90	101+52	Foliated sericitic conglomerate - mod. sheared	99	*
13603	96+65	101+51	Sericitized, foliated conglomerate	141	*
13623	99+75	105+50	Silicified, sericitic tuff/syenite ? - 1% py.	98	*
13632	99+55	100+22	Syenite/Mafic volcanic contact with 2% py.	115	
13637	102+60	100+60	Qtz. + fuchsite + 1% py.	197	*
13644	103+85	99+50	Magnetite Iron Formation - 1cm wide - 60% mag	404	*

* NOTE: Samples with more than one assay were averaged.

BATTLE MOUNTAIN (CANADA) INC.

2.14390

KIRKLAND LAKE PROJECT

ONTARIO

KIRKLAND GOLD RAND PROPERTY

(GEOLOGY PLAN)

showing

ANOMALOUS (≥ 100ppb Au.) GRAB SAMPLES

PROJECT No.: 75-JV-28	DATA BY: M.M. / W.B. / B.M. / B.R. / D.C.
N.T.S.: 42A/1 & 32D/4	DRAWN BY: B.H. Madill, Tech.
DRAWING No.: GA-018	DATE: 06/05/91

SCALE: 1:2500

50 0 50 100 metres

+ SHEET ALIGNMENT POINT

+ SHEET ALIGNMENT POINT

+ SHEET ALIGNMENT POINT

42A01NE0105 2.14390 TECK

240