52011SE0080 63.5247 MCVICAR LAKE

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MCVICAR LAKE PROJECT

(1446)

REPORT ON DIAMOND DRILLING WORK

McVicar Lake Area

Patricia Mining Division

NTS: 52 0/11 and 52 0/12

Submitted by:

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SUMMARY AND CONCLUSIONS

Sixteen diamond drill holes (DDH's) for a total aggregate footage of 4449.5' (1356.1m) were completed on the McVicar Lake Property during the period June 18, 1987 - August 17, 1987.

The principal target of interest was the McVicar Lake Altered Zone which comprises an intensely altered and mineralized northwest trending ductile shear zone located in the southeast portion of the project area.

In the area of interest the Altered Zone transects two main lithologies. Within the gabbro the regional strike of the zone is approximately 300° and dips steeply northeast. North of an east trending broad contact zone between gabbro and mafic metavolcanics the Altered Zone strikes approximately 330° with a similar steep northeasterly dip. In areas well to the north and south of the contact the Altered Zone is 5 to 6 metres thick, intensely altered and weakly mineralized with pyrite and associated gold in concentrations up to several hundred ppb Au.

In the vicinity of the contact, the Altered Zone is dilated with a thickness of up to 20 metres and contains discrete high grade and widespread low grade gold mineralization.

Of the sixteen DDH's drilled, eight returned sample intervals reporting greater than 1 g/tonne Au. One DDH (ML.27) yielded 14 g/tonne Au from a 4.63 metre continuous interval of massive quartz.

The bulk of the mineralization is localized within the dilated portion of the Altered Zone where intensely altered gabbroic and volcanic rocks host intervals of weakly deformed intermediate intrusives and boudinaged quartz veins. Mineralization exists as widespread pyrite mineralization (low grade) which is present throughout all rocks within the Altered Zone. Mineralization is syn to late

kinematic and is probably genetically related to the intermediate intrusive which intrudes the Altered Zone.

The dilated portion of the Altered Zone which in plan is some 300 metres long does not dip normal to the strike of the structure. It is inferred from diamond drilling data that the main zone of dilation and hence the zone of principal economic interest plunges approximately 30° to 45° to the ESE. The zone of maximum dilation is probably proximal to and localized by the gabbro/metavolcanic contact.

The nature of the host structure offers tremendous tonnage potential providing some continuity in grade can be established. Drilling to date has concentrated on delineating the near surface extent of the AZ. Very little attention was paid to establishing grade continuity within the structure itself. Clearly, grade continuity is a concern. Only low grade values (generally less than 1000 ppb Au) are associated with widespread pyrite mineralization. High grade mineralization is largely associated with quartz. Visual logging and sampling of quartz intervals has shown that much of the gold exists as visible gold at or near the walls of the vein. Assays of quartz intervals return both high grade and very low grade values and quartz veins are in themselves boudinaged. Drilling to date indicates that the best values are within the most dilated portion of the Altered Zone; analytical data suggests that continuity in grade may exist down plunge.

RECOMMENDATIONS

Results to date justify more work. Additional work must be designed to assess the economic potential of the Altered Zone structure. Verification of the persistence of the dilated structure at depth is a first priority. Diamond drilling should establish the dimensions and nature of gold mineralization within the structure to a vertical depth of 300m. Concurrent with diamond drilling work a program of surface stripping, mapping and sampling of the Altered Zone subcrop should be undertaken to establish the nature and distribution

of the gold mineralization. Surface work will provide invaluable information and greatly assist in the assessment of the significance of mineralized intervals in drill core.

Additional drilling, comprising detailed drilling of a near surface block about the high grade intersection in ML.27 is also recommended. Such work should ideally be completed following the results of surface sampling.

A detailed work proposal and budget estimate is provided under separate cover.

1.0 GENERAL INFORMATION

1.1 INTRODUCTION

This report pertains to diamond drilling work completed on the McVicar Lake property during the period June 18, 1987 - August 17, 1987.

The McVicar Lake project comprises 702 contiguous claims (Table I). Diamond drilling was completed on four claims within the property, they are as follows:

KRL 846024, KRL 846025, KRL 846028, KRL 846027

1.2 LOCATION AND ACCESS

The project area is situated approximately 80 km due west of the Town of Pickle Lake and 120 km northeast of Sioux Lookout in the Patricia Mining Division of northwestern Ontario, (Figure 1) within NTS: 52 0/11 and 0/12. The pertinent claim maps are Cannon Creek; Stoughton, McVicar and Saddle Lakes. Drilling activities were confined to the area immediately east of McVicar Lake (Figure 2).

There are no roads to the property. Access is by aircraft only. The closest charter aircraft are available in Pickle Lake. In 1987, BHP-UTAH utilized the services of KELNER AIRWAYS LIMITED in Pickle Lake.

1.3 TOPOGRAPHY AND VEGETATION

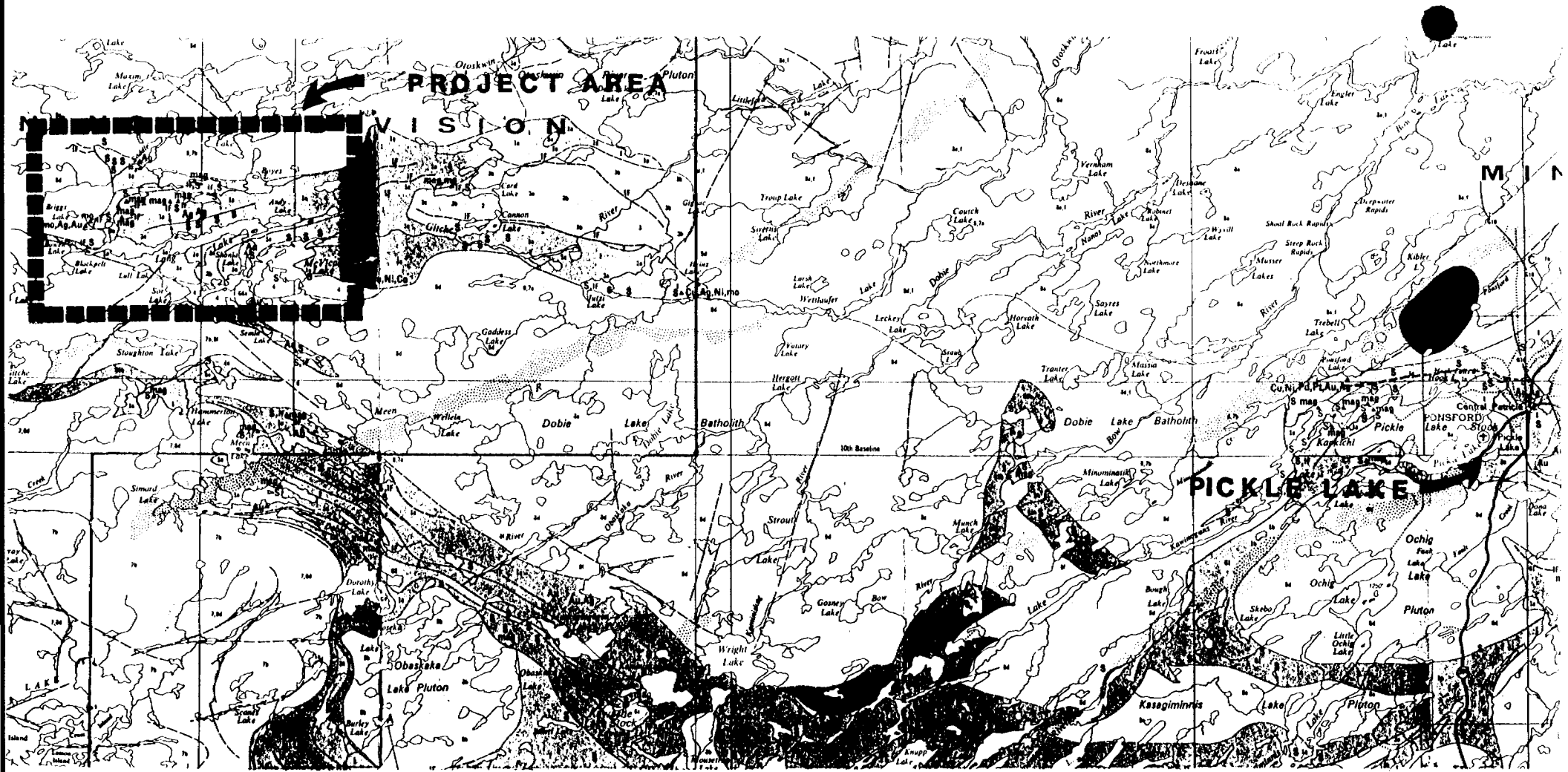
Relief throughout the entire project area is gentle, elevation range is in the order of 30m. Sand ridges, and planes, low rounded outcrops and intervening swamp and muskeg are the principal land forms.

TABLE I

MCVICAR LAKE PROJECT

LIST OF CLAIMS

KRL	846023 - 846037	KRL	890520 - 890546
	846053 - 846065		890555 - 890578
	852117		902929 - 902938
	852119		902949 - 902958
	852895 - 853034		902983 - 903000
	853036 - 853040		903101 - 903160
	853044		903201 - 903275
	853048 - 853073		903401 - 903408
	853075 - 853118		903439
	868683 - 868696		910818 - 910832
	868719 - 868735		910888 - 910892
	868756 - 868776		911381 - 911385
	868805 - 868835		926183 - 926189
	868874 - 868885		938033 - 928037
	886050 - 886101		929206 - 929210
PA	914865 - 914879	PA	914978 - 914993
PA	1006251-1006252	PA	1006492



Map 2218

CAT LAKE–PICKLE LAKE

Geological Compilation Series

KENORA AND THUNDER BAY DISTRICTS

FIGURE 1
LOCATION MAP OF THE PROJECT AREA, 80 KM WEST OF PICKLE LAKE

DARK GREY AREAS ARE GREENSTONE BELTS

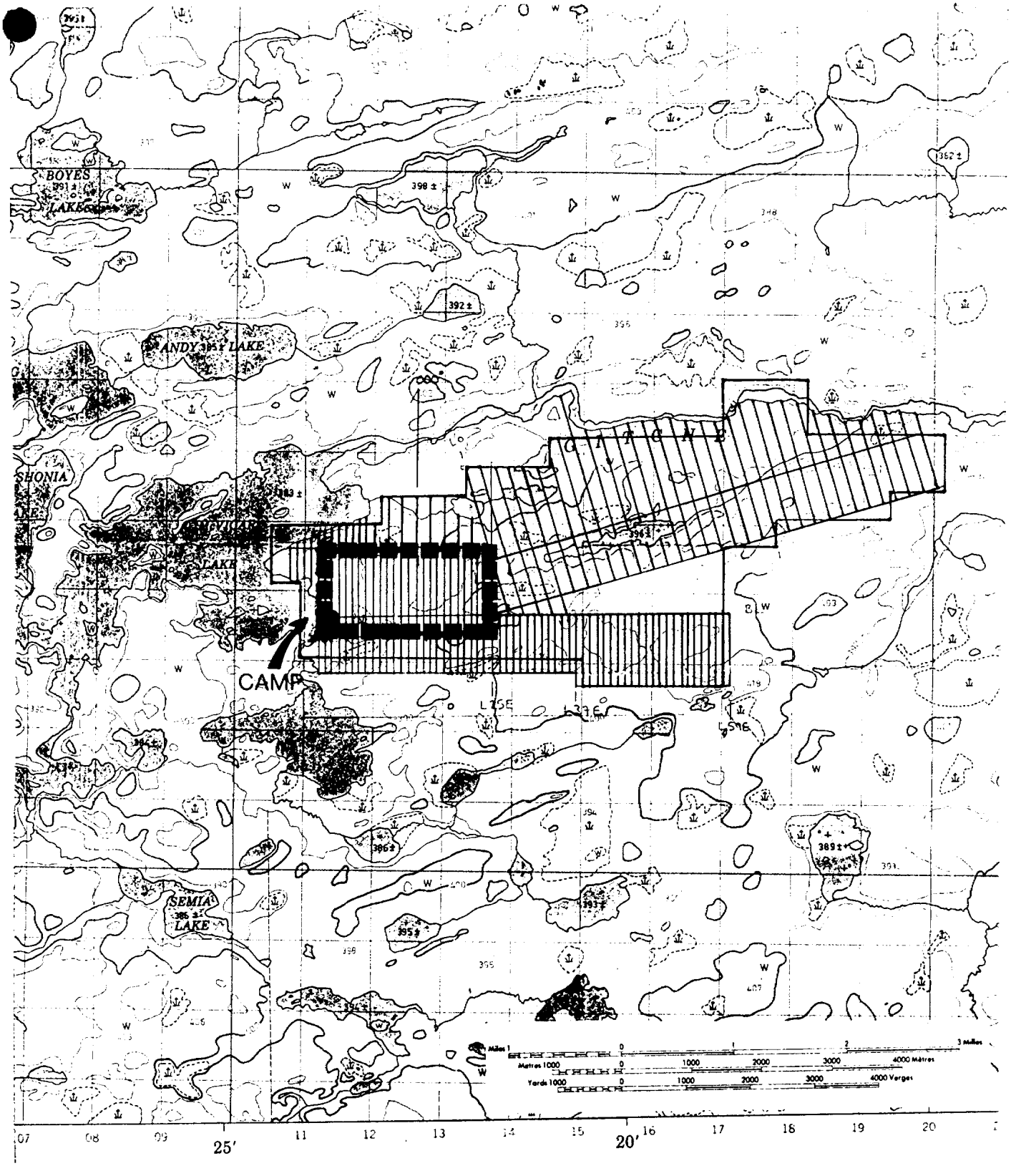


FIGURE 2
LOCATION MAP (52 O/11)
DRILLING ACTIVITIES
CONFINED TO AREA
(OUTLINED) IMMEDIATELY
EAST OF MCVICAR LAKE

In the McVicar Lake area outcrops are usually found nestled within sandy areas which are in themselves indicative of shallow overburden. Outcrop density in the area immediately east of McVicar Lake is approximately 15%, outcrop density within the entire claim group is approximately 10%.

Black Spruce in muskeg and poorly drained areas and Jackpine in sandy areas are the dominant tree types, respectively. Subordinate stands of poplar, birch, clumps of cedar near lakeshores and tamarac in swampy areas are common. Spagnum moss and Labrador tea are ubiquitous.

1.4 PREVIOUS DIAMOND DRILLING

KENLEW MINES LIMITED (KENLEW) staked a group of claims in 1959 which included the McVicar Lake claim group and a number of pyrrhotite and chalcopyrite showings to the east. In the immediate area of diamond drill hole (DDH) ML.01 (1986 BHP-UTAH program) they conducted a program of extensive stripping and drilled four boreholes for a total footage of 726' (221m). The old drill logs noted the presence of altered, sheared and mineralized volcanics/mafic intrusive, however, assay results did not accompany drill logs. KENLEW DDH #7, collared immediately southwest of an area of stripped and trenched subcrop of sheared and altered mafic volcanics (PLAN 01) was drilled north and was presumably designed to test underneath the trench area. The drill log of Kenlew DDH #7, available in public assessment files, was particularly interesting. It noted an interval of quartz veining and mineralization (pyrite) between 212' and 303'.

1.5 PREVIOUS WORK BY BHP-UTAH

Surface mapping and prospecting completed in 1985 delineated several areas of economic interest on the property. In particular, two economic gold assays were obtained from two areas which had been stripped, sampled and diamond drilled by KENLEW in 1959. At trench area #3 (PLAN 01) weakly altered massive mafic metavolcanics host a series of north trending intermediate feldspar

porphyritic dykes. At the margins of one of the dykes a narrow (<1.5m) shear zone hosts a very narrow (1-10 cm) quartz vein. One grab sample taken from the vein contains 5% sulphides (Py, Po, Cp) and assayed 48,550 ppb Au, later examination revealed the presence of native gold. Trench area 2 (PLAN 01) is established on a xenolith of mafic metavolcanics within metagabbro. The mafic metavolcanics, in contrast to Trench area 3, are intensely altered with attendant shearing and quartz veining. Quartz veins and boudins in the shear zone are conformable to shearing and range from 0.1m to 1.0m in thickness. Extensive channel and grab sampling indicated that gold is principally contained within the quartz veins. The best sample obtained from this area is a grab sample of quartz which assayed 6990 ppb Au.

Geophysical surveys (airborne EM/MAG/VLF, ground VLF, MAG and HLEM) completed in late 1985 and early 1986 highlighted a number of areas. Aeromagnetic map patterns (DIGHEM AEROMAG) correspond to three dominant lithologies:

- mafic metavolcanics (low magnetic relief),
- meta gabbro (moderate magnetic relief),
- iron formation (linear magnetic highs).

Bonafide bedrock conductors detected by airborne surveys comprise short (100m - 400m) strike length conductors in gabbro and long (300m - 1000m) formational conductors in iron formation. A third type of conductor detected by both airborne VLF and ground VLF and HLEM surveys comprises weak zones of conductivity. These are responding to accumulations of surficial conductive material, long strike length bedrock conductors, fault/shear zones and lithological contacts. The most prominent example of the latter is the metavolcanic - metagabbro contact.

Diamond drilling and surface work in 1986 tested examples of all three types of geophysical conductors. Short strike length conductors in metagabbro comprise podiform magmatic sulphides (po, py cp) and the more conductive sections of the long formational conductors comprise weakly sulphidized oxide facies iron formation. The more conductive examples of the third type of conductor could usually be explained by some bedrock feature such as brecciation, shearing, weak sulphide mineralization and/or lithological contacts.

Although none of the conductor targets proved to be of interest, the first hole of the program (DDH ML.01) tested the metavolcanic/metagabbro contact in the vicinity of surface gold mineralization and the presumed zone of mineralization intersected in KENLEW's DDH #7. It intersected a zone of intensely sheared and altered rocks which carried anomalous gold values (>100 pb Au) over a drill interval of 38.7' (11.8m). Additional drilling in 1986 comprised another 17 holes for a total aggregate footage of 6018' (1835m). Of the 18 holes, 11 intersected anomalous gold values. Two holes intersected ore grade Au mineralization over near mineable widths: DDH ML.02 intersected 12 g/tonne Au over 0.82 metres and DDH ML.18 intersected 7.3 g/tonne Au over 1.4 metres.

The bulk of the anomalous gold values were determined to be confined to a NW striking and shallow dipping (30-35 NE) zone of intense shearing, alteration and mineralization referred to as the altered zone (AZ). The AZ is parallel to a structurally superjacent zone of intense shearing referred to as the mylonite.

Four lithological elements were recognized within the AZ assemblage:

1. sheared mafic volcanics,
2. apple green mica schist,

3. massive to semi-massive quartz and,
4. intermediate intrusive.

Alteration is characterized by the addition of SiO_2 (quartz) Al_2O_3 and K_2O (white-green mica), BaO and S as well as depletion of Fe_2O_3 (includes FeO), CaO, MgO, Na_2O, MnO, P_2O_5 and SrO. Much of the depletion is related to amphibole and feldspar destructive alteration. Mineralization comprises pyrite, chalcopyrite, arsenopyrite and trace gold.

Additional work on the property undertaken in the early part of 1987 comprised emplacement of a new grid over the area of interest. A baseline (330° azimuth) was emplaced over the projected surface trace of the AZ and section lines oriented normal to the baseline provided the optimum traverse over the downdip portion of the AZ.

Previous ground EM surveys (VLF, HLEM) had not detected the AZ. This is attributed to the AZ's low sulphide content (1-5%) and its relatively shallow dip. The AZ does, however, constitute an IP target and bench tests on core indicated modest chargeabilities. An IP survey was performed over the area of interest in order to determine if the AZ exhibited a detectable IP response and if so to determine limits to the existing zone as well as outline additional zones of interest.

The results of the IP survey are discussed in Diorio (1987). In summary, the survey was successful in delineating a number of targets. Some were in response to magnetite in metavolcanics (ironstone) and metagabbro (disseminated), others coincided with podiform magmatic sulphides in metagabbro and a minority were coincident (or nearly so) with the projected surface trace of the AZ. IP survey results provided the impetus for additional exploratory drilling south of the metavolcanic/metagabbro contact in the summer and autumn of 1987. The results of that drill program are discussed in subsequent sections of this report.

1.6 DRILL PROGRAM OBJECTIVES

The principal objectives of the 1987 drill program were to establish the geometry, dimensions and verify the economic attractiveness of the AZ.

2.0 GEOLOGY

2.1 REGIONAL GEOLOGY

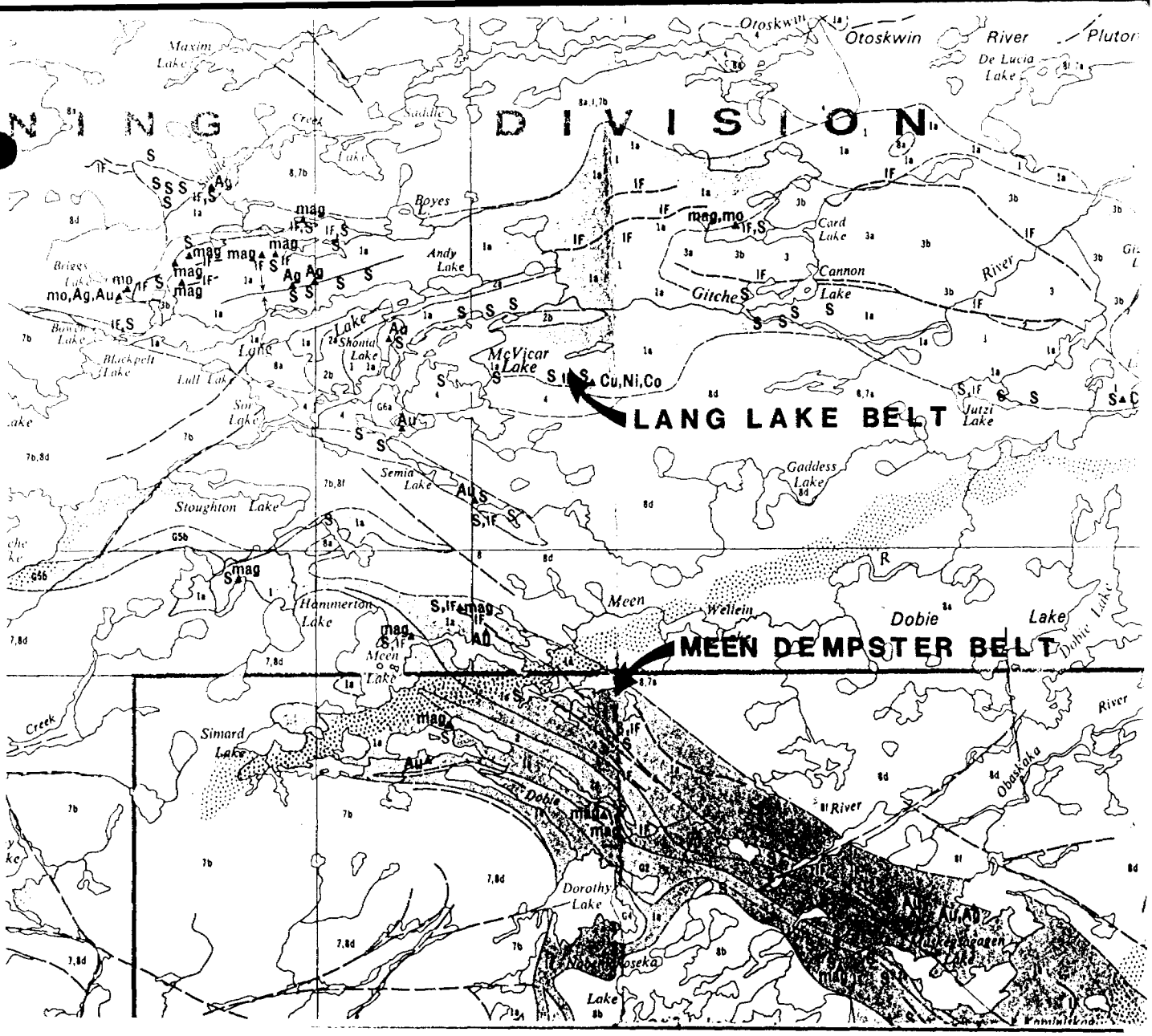
The project area is situated in the Lang Lake belt which is a small greenstone belt some 40 km in length and 8 to 11 km in width. It constitutes part of the Uchi Subprovince of the Superior Province of the Canadian Shield. Metavolcanics, metasediments and iron formation of Archean age are the dominant rock types. The entire belt has been isoclinally folded into an east trending and east plunging syncline. Late stage intrusive rocks which postdate major folding comprise an east trending elongated mafic stock or sill in the Sor - McVicar Lakes area and a north trending felsic intrusion in the Shonia-McVicar Lakes area. The latter intrusive divides the mafic intrusion into two parts and is probably the youngest major rock type in the area (Sage and Breaks, 1982).

The Lang Lake belt is considered to have originally been part of the Meen-Dempster belt. A late phase of extensional tectonics appears to have rafted the Lang Lake belt away from the Meen-Dempster belt (Figure 3).

2.2 LOCAL GEOLOGY

2.2.1 Introduction

In the vicinity of McVicar Lake , the greenstones are predominantly volcanic with only minor ironstone (BIF). Although there is evidence for some folding at a regional and outcrop scale, aeromagnetic data indicates that the thin bands of BIF in the immediate vicinity of the AZ continue almost in a straight line for several km to the northeast.



Map 2218

CAT LAKE–PICKLE LAKE

Geological Compilation Series

KENORA AND THUNDER BAY DISTRICTS

Scale 1:253,440 or 1 Inch to 4 Miles

FIGURE 4
LANG LAKE AND MEEN-DEMPSTER GREENSTONE BELT, THE FORMER GREENSTONE BELT APPEARS TO HAVE BEEN RAFTED AWAY FROM THE MEEN-DEMPSTER BELT IN THE STOUGHTON-SEMIA LAKE AREA

Surface geology in the immediate area of the AZ is relatively well known. This area was prospected and mapped in detail by BHP-UTAH in 1985 and the geology of the original claim group is shown in PLAN 01.

The northern part of the property is underlain by north-northeast trending mafic and intermediate metavolcanic flows. A broad east trending contact zone separates these rocks from a large body of metagabbro which underlies the southern part of the property. The AZ which strikes NNW with a moderate to shallow easterly dip transecting both principal lithologies and the intervening contact. The AZ is broadest in the gabbro immediately south of the contact.

Within the metavolcanics several conformable, thin and laterally persistent bands of magnetite and hematite ironstone trend through the original claim group and continue for several km to the northeast. A felsic dyke outcrops near the gabbro contact on L8+00E and several scattered outcrops of porphyritic mafic dyke occur with the mafic volcanics.

Diamond drilling of the AZ in 1986 and 1987, encountered a variety of rock types not seen at surface. These observations are summarized in the Table of Formations given below (TABLE II) and discussed in detail in the following sections.

All rocks encountered during the drill program have been metamorphosed to upper greenschist/lower amphibolite facies, for simplicity the prefix "meta" is omitted in subsequent discussion.

TABLE II

TABLE OF FORMATIONS

CENOZOIC	
Recent	Peat, stream deposits
Pleistocene	Boulder till, gravel, sand and clay
	unconformity
PRECAMBRIAN (Archean)	
Late Intrusive Rocks	tonalite, diorite, intermediate intrusive, porphyritic intermediate intrusive
Tectonites	altered zone, mylonite, brecciated basalt, brecciated porphyritic basalt, brecciated porphyritic anorthositic gabbro, brecciated gabbro
Early Intrusive Rocks	porphyritic anorthositic gabbro, anorthositic gabbro, gabbro
Sedimentary Rocks	volcanic mudstone, ironstone (BIF) chert
Volcanic Rocks	basalt, porphyritic basalt, basalt porphyry

2.2.2 Volcanic Rocks

Basalt and porphyritic basalt underlie the northern part of the grid area and comprise the volcanic rocks observed in the vicinity of the AZ. Basalt is typically dark to light grey - green in colour. It is fine to medium grained, aphyric to feldspar phyric, massive to weakly foliated. There is usually some degree of chlorite, carbonate and/or silica alteration even in areas well removed from the intense alteration and mineralization which characterizes the AZ.

DDH ML.21 situated in the northern part of the new grid (NG) area intersected feldspar porphyry (basalt porphyry) comprising 20% - 30% feldspar phenocrysts (1-2mm; up to 5mm) in a fine grained mafic rich matrix.

All volcanic rocks contain trace to 1% sulphides as fine grained disseminations and fracture coatings, of pyrite (py) although pyrrhotite (po) and trace chalcopyrite (cp) are common. Magnetite as finely disseminated crystals is also a common constituent and is present in concentrations ranging up to 5%.

2.2.3 Sedimentary Rocks

Very few intervals of sedimentary rocks were observed in drill holes which intersected the AZ. DDH ML.21 intersected a short interval of black chert comprising a weakly magnetic, finely laminated rock within fault gouge. DDH ML.16 drilled during the 1986 drill program intersected a short interval of chert/lean iron formation in basalt. DDH ML.20 intersected (siliceous) volcanic mudstone comprising a very fine grained, dark green grey, foliated and fractured rock between an interval of mylonite and brecciated gabbro. In this regard the latter rock's sedimentary character is questionable, however, intervals of banded iron formation are found as xenoliths within gabbro well removed from the margins of the gabbro intrusive (e.g. DDH ML.31).

2.2.4 Early Intrusive Rocks

The gabbroic intrusive underlies the southern part of the grid area. It is mineralogically and texturally variable and ranges from a gabbro to anorthosite in composition. There is much evidence of extensive deuteric alteration with some intervals being completely replaced by silica. Massive magmatic sulphides (po >py >>cp) are common near the contact with the volcanic and the contact would appear to be a broad, east trending diffuse zone (100's metres) of intrusion of gabbro into volcanics and incorporation of dekametre to decimetre (dm) scale volcanic xenoliths within gabbro.

Gabbro senso lato is generally melanocractic ranging from light grey green to dark green to black in colour. It is usually medium grained although both fine and coarse grained varieties are not uncommon. It is generally massive to weakly foliated. Primary magmatic layering is observed in DDH ML.23 where metre (m)-scale feldspar rich (60%) alternate with mafic rich (90%) intervals. Sulphide content ranges from minor (trace - 1%) disseminated py >po to magmatic sulphide segregations as disseminations, veinlets and massive accumulations comprising short (dm scale) intervals of up to 50% sulphides (po >py >>cp). Magnetite content ranges from nil to 5%, to over 50% in some sections. The latter concentration levels usually comprise centimetre (cm) to dm scale bands of magnetite over relatively short (m scale) intervals. They are considered to be a primary magmatic feature.

Anorthositic gabbro porphyry and porphyritic anorthositic gabbro are used interchangeably in drill logs (Appendix II.) It is a spectacular looking rock comprising 70%-90% white coarse grained (up to 1 cm) spheroidal feldspar phenocrysts in a fine grained mafic matrix. The feldspar phenocrysts are usually completely replaced by

silica and the rock is, therefore, almost completely white in colour and very hard. This type of alteration is considered to be deuteric and not related to silica alteration within or associated with the AZ.

Other observed alteration phenomena observed in gabbro away from the AZ include widespread weak millimetre (mm) to cm scale quartz - carbonate (chlorite) veining, patchy silica replacement associated with quartz veining and less common m-scale replacement zones. The latter are again considered to be of deuteric origin, whereas, the former are probably within the AZ's broad alteration envelope.

2.2.5 Tectonites

The altered zone (AZ) is a northwest trending zone of intense shearing, alteration and mineralization which constituted the target of interest throughout the 1986 and 1987 drill programs. The AZ and mylonite are structural equivalents although differ markedly in composition. Enveloping the AZ and the mylonite are intervals of brecciation within the various lithogies which are transected by the two structures. The breccia is clearly structural in origin and is the least deformed end member of this group of rocks. It comprises cm scale rock fragments of the host lithology within a carbonate rich matrix. In general the breccia is fragment supported and grades from intensely foliated and crenulated rock which has been subsequently fragmented and rotated adjacent to the AZ or mylonite to weakly veined rock at the outer margins of the breccia envelope. Although the outer contact of brecciated rock with non-brecciated rock is reasonably sharp there is usually some minor shearing or brecciation near or away from the margins of the breccia envelope.

The mylonite is a zone of intense cataclasis. The rock is extremely fine grained and intensely foliated and drill

core can be reduced to dollar sized fragments by hand. In some instances relic lithons are observed but for the most part primary mineralogy is reduced to an assemblage of chlorite and sericite. Within the mylonite there is usually minor weak carbonate alteration as foliation parallel and less commonly foliation oblique mm-cm scale veinlets as well as patches of weak pervasive carbonate alteration. Silica alteration is not as widespread as carbonate alteration but cm scale quartz carbonate veinlets, hairline veinlet networks and foliation conformable cm scale quartz boudins are not uncommon.

The Altered Zone which is the principal zone of interest and the structural equivalent of the mylonite is an extremely complex zone of deformation and intense alteration which is comprised of a number of different lithological elements. On drill sections, it is plotted as one unit, however, reference to the appropriate drill log will show that it is comprised of a number of discrete lithological elements. In 1986, four lithological elements were recognized. They comprise zones of intensely sheared mafic volcanic, abundant green mica, intermediate intrusive and massive to semi-massive quartz. Additional drilling in 1987 south of the gabbro-volcanic contact intersected all four zones (or their gabbroic equivalents) as well as several intervals of quartz-carbonate-sericite schist. The five lithological elements are discussed below.

(i) Sheared (and/or brecciated) basalt/gabbro:

These rocks are characterized by a well developed (intense) foliation and in many instances a recognizable fragmental texture. In some instances fragments may be foliated, crenulated and individually rotated with respect to the principal foliation. The mineralogy of the mm-cm scale fragments ranges from recognizable

fragments of protolith to intensely altered and deformed rock. Fragments may comprise up to 30% of the rock in a fine grained quartz-carbonate-chlorite-sericite matrix. Occasional wisps and rare dm scale intervals of apple green mica are also observed. Quartz veins as foliation parallel and foliation oblique mm-cm scale veinlets are common. Occasional cm scale quartz boudins and dm scale quartz veins are observed in some intervals. These rocks usually contain some pyrite, overall concentrations are probably in the order of 1-2% with the bulk of the sulphides associated with quartz and green mica.

(ii) Quartz-Carbonate-Sericite Schist:

This lithology grades into intervals of apple green mica and may in itself contain appreciable amounts of apple green mica. It is considered to be a more progressively altered and deformed variant type of the sheared gabbro or volcanic described above. It is intensely foliated comprising 40-60% mm scale lenticules of quartz-carbonate in a matrix of foliated sericite (+ / - green mica). Quartz boudins (dm scale) and foliation parallel cm scale quartz veins and boudins are common. This unit can contain up to 8% finely disseminated pyrite.

(iii)Apple Green Mica Schist:

This is considered to be the end member in the progressive deformation and alteration of the host lithology. In the volcanics the green micas are an intense apple green colour whereas in gabbro intervals of green mica can be more of an emerald green colour. It is largely comprised of green mica although varying amounts of white to yellowish micas, cm scale quartz veins and

boudins and weak pervasive carbonate alteration and rare patches of Fe-carbonate alteration give it a variegated appearance. Sulphide content in the interval is typically 3-5% finely disseminated pyrite. Minor disseminated magnetite is noted in DDH ML.34. This rock type is confined to the interior regions of the AZ and is usually in contact with intervals of massive quartz.

(iv) Quartz:

The bulk of the quartz is confined to the central or near-central regions of the AZ. Intervals of quartz can range up to several metres in thickness. Contacts are for the most part foliation parallel, particularly with dm-m scale intervals. Outcrop evidence and small scale structures in drill core indicate that the bulk of the quartz exists as cm-m scale boudins with one of the extension directions in the plane of the AZ parallel or nearly so to its strike.

Quartz can contain up to 90% lithic fragments. These comprise cm-dm scale fragments of the various other tectonites (excluding intermediate intrusive) within the AZ. In general the composition of lithic fragments in any one interval is homogenous. Pyrite mineralization which can range up to 3% is largely as fine grained disseminations within the lithic fragments, particularly fragments of apple green mica schist and sericite carbonate schist, and at fragment margins. Pyrite also occurs within the quartz at contact margins and within the interior as sparse disseminations.

Visible gold in quartz is rare but when observed it is always as very fine grained leafy aggregates which overall are no more than a mm in diameter. Without

exception all free gold observed to date occurs in quartz within a few cm of the walls of the vein.

(v) (Altered) Intermediate Intrusive:

This lithology is the most enigmatic of the lithological elements which comprise the AZ. During the 1986 drill program this rock was initially identified as bleached or metasomatized volcanic. As drilling progressed through 1987, it became apparent that the rock has in some instances recognizable intrusive contacts with the other rock types in the AZ.

The rock is aphanitic to fine grained, light tan to buff in colour, massive to weakly foliated with 2-5% fine grained oriented pyrite. In DDH ML.27 it contains inclusions of foliated gabbro. It is usually weakly altered (sericite, carbonate, rare Fe-carbonate) with weak quartz veining (cm scale) associated with weak pervasive carbonate alteration.

2.2.6 Late Intrusive Rocks

A variety of intermediate to felsic intrusive rocks are observed in a number of holes. They are for the most part massive or only weakly foliated. They display sharp intrusive contacts and in some instances aphanitic chill margins.

Tonalite is perhaps the most common of the late intrusive rocks. It is invariably leucocratic and is usually a light yellow grey colour. It is massive, fine grained rock with a hypidiomorphic-granular texture. It may in some instances be weakly foliated. Quartz content ranges up to 30%, mafics comprise up to 15% amphiboles which are in some instances altered to chlorite. Other alteration is limited to weak fracture controlled carbonate alteration.

Pyrite is usually present in amounts of trace to 1% and less commonly 2-3%.

Diorite is another common intrusive. It is light to medium green grey in colour, fine grained and massive. Weak fracture controlled carbonate and patchy silica alteration is common. In DDH ML.28 the rock has aphanitic chill margins in contact with an interval of brecciated gabbro. Pyrite mineralization comprises trace to 1% fine disseminations.

Intermediate intrusive rocks outside of the AZ are in general different than the intermediate intrusive observed in the altered zone. The inadvertent use of the same field term for two different rock types is unfortunate, however, the term is appropriate and the rock is not that common. These rocks, which occur over intervals of 1-2m, are dark green-grey in colour, massive, aphanitic to fine grained and weakly porphyritic. Quartz-carbonate alteration is usually weak and fracture controlled although replacement of feldspar phenocrysts by carbonate is common. Trace pyrite mineralization is confined to fracture surfaces.

Rare intervals of intermediate-felsic intrusive and one interval of felsite dyke are probably variant types of the intermediate intrusive just described. They are dark toffee to dark grey in colour, aphanitic to very fine grained and usually show some degree of conchoidal fracture. Weak fracture controlled carbonate alteration and minor (up to 1%) pyrite on fracture surfaces is common.

3.0 DIAMOND DRILLING

3.1 INTRODUCTION

Diamond drilling services were provided by Langley Drilling of Brampton, Ontario. A hydraulic JKS 300 drill was used to

drill 16 boreholes (Table III) including the extension (DDH ML.4x) of DDH ML.4 for a total aggregate footage of 4449.5' (1356.21m). All core is B.Q. and is stored at the McVicar Lake campsite.

All mineralized or otherwise interesting intervals were routinely split and forwarded to TECHNICAL SERVICES LABORATORIES in Mississauga, Ontario for assay.

All samples were assayed for Au, selected samples were assayed for Cu, Ni, Zn, Pt, Pd and WRA.

Drill logs are included in Appendix I and Certificates of Analysis in Appendix II.

Drill hole locations are shown in (PLAN 02) transverse sections are shown in PLANS 03-15, inclusive. A plan view and vertical longitudinal section of the AZ are included in PLANS 16 and 17, respectively.

To facilitate data presentation and discussion drill hole results are discussed by section from north to south.

Diamond drilling equipment employed by the contractor was sized in imperial units. To minimize error downhole intervals on core markers and downhole intervals on diamond drill logs are quoted in imperial units. All plans, sections and observations are in metric measure. As there are two grids over the area of interest, old grid (baseline azimuth 090) coordinates are prefixed by OG and new grid (baseline azimuth 330) coordinates are prefixed by NG. All thicknesses and dips of geological units noted in section descriptions are true thicknesses as measured in the section.

TABLE III

LIST OF DRILL HOLES

HOLE NUMBER	AZIMUTH	INCLINATION	TOTAL DEPTH
DDH ML.19	240°	-45°	329' (100.28)
20	240°	-45°	209' (63.70)
21	240°	-60°	279' (85.04)
22	240°	-60°	231.5' (70.56)
23	240°	-43°	369' (112.47)
24	240°	-45°	174' (53.04)
25	240°	-45°	199' (60.66)
26	240°	-70°	172' (52.43)
27	240°	-45°	219' (66.75)
28	200°	-45°	279' (85.04)
29	240°	-45°	169' (51.51)
30	240°	-45°	169' (51.51
4x	225°	-45°	320' (97.54)
31	240°	-43°	384' (117.04)
32	240°	-70°	299' (91.14)
33	240°	-45°	289' (88.09)
34	240°	-75°	359' (109.42)
TOTAL			4449.5' (1356.21)

* extension of ML.4
from 298' to 618'

TABLE IV

LITHOLOGICAL SUMMARY

DDH ML.21

INTERNAL	LITHOLOGY
0 - 10'	Overburden (casing removed)
10 - 60.5'	Feldspar porphyry (basalt porphyry)
60.5 - 65.7'	Brecciated volcanic
65.7 - 159'	Porphyritic basalt
159 - 179'	Brecciated basalt
179 - 186.8'	Fault gouge
186.8 - 188.3'	Black chert
188.3 - 205.5'	Fault gouge
205.5 - 230.0'	ALTERED ZONE
230.0 - 259.8'	Sheared basalt
259.8 - 279.0'	Gabbro
279'	END OF HOLE

3.2 SECTION NG 4+00 NORTH - DDH ML.21 (PLAN 03)

DDH ML.21 was collared at NG 4+00 North/0+00 East and drilled grid west (240°) at an inclination of -60°.

The target comprised a weak IP anomaly centered at NG 4+00 North/0+25 West. The location of the IP anomaly was within 50m downdip of the calculated northerly extension of the AZ.

Table IV is a lithological Summary of ML.21

The AZ in DDH ML.21 has an a thickness of 6.25 m and dips approximately 60 grid east. The AZ and nearby rocks are intensely weathered, characterized by dissolution of carbonate and oxidization of sulphides. Core recovery through some intervals is as low as 5%.

Assay results indicate anomalous gold values of up to 415 ppb in intervals of sheared/brecciated basalt flanking the AZ. Much of the AZ, which returned core recoveries of 90%, was not anomalous in gold despite a weak but characteristic alteration assemblage. Only one sample (1393) contained anomalous gold (500 ppb) and this was obtained from the very bottom of the interval.

3.3 SECTION NG 2+00 NORTH - DDH ML.22 (PLAN 04)

DDH ML.22 was collared at NG 2+00 North/0+00 East and drilled grid west (240°) at an inclination of -60°.

The target comprised a weak IP anomaly centered at NG 2+00 North/0+25 West. As in the previous section the IP anomaly was within 50 m downdip of the calculated surface trace of the AZ.

Table V is a lithological summary of ML.22.

The AZ in DDH ML.22 has an approximate true thickness of 6.0 metres and dips approximately 50° (grid east) NE. As in DDH ML.21, the AZ and flanking lithologies are intensely weathered

TABLE V

LITHOLOGICAL SUMMARY

DDH ML.22

INTERVAL	LITHOLOGY
0 - 30'	Overburden (casing removed)
30 - 106.7'	Basalt
106.7 - 128.5'	Brecciated basalt
128.5 - 137.5'	Sheared volcanic
137.5 - 159.0'	ALTERED ZONE
159.0 - 218.0'	Brecciated basalt
218.0 - 231.5'	Gabbro
231.5'	END OF HOLE

characterized by carbonate dissolution and intense oxidation. Core recovery through some intervals is as low as 20%.

Assay results through the AZ yield only background gold values. One sample (1409) of brecciated volcanic immediately below the AZ returned 200 ppb Au.

3.4 SECTION NG 0+50 SOUTH - DDH ML.24 (PLAN 05)

DDH ML.24 was collared at NG 0+50 south/0+00 East and drilled grid west (240°) at an inclination of -60°.

The target comprised the interpolated extension of the AZ between DDH ML.20 and DDH ML.18.

Table VI is a lithological summary

DDH ML.24 is collared in basalt immediately north of the gabbro/volcanic contact. The AZ has an approximate true thickness of 11.0 m and dips shallowly grid east NE at 20°. The mylonite, not observed in DDH ML.21 and ML.22, parallels the AZ and is 5.5 m thick.

As with the previous two holes, sections of the AZ are intensely weathered and core recoveries are poor and average 60% through the AZ.

Analysis of core from within and flanking the AZ yielded several intervals with highly anomalous gold concentrations. The best sample (1425) comprising a one metre interval of strongly sheared and brecciated volcanic assayed 11.5 g/tonne Au.

3.5 SECTION NG 1+00 SOUTH - DDH ML.20 AND ML.23 (PLANS 06 AND 07)

DDH ML.20 tests a zone of moderate chargeability centered at NG 1+00 South/0+50 West. The drill hole was collared in gabbro immediately south of the gabbro/volcanic contact at NG 1+00 South/0+05 West and drilled grid west (240°) at an inclination of -60°.

TABLE VI

LITHOLOGICAL SUMMARY

DDH ML.24

INTERVAL	LITHOLOGY
0 - 7.5'	Overburden (casing remains)
7.5 - 27.6'	Gabbro
27.6 - 36.3'	Brecciated gabbro
36.3 - 44.8'	Brecciated porphyritic basalt
44.8 - 65.0'	Mylonite
65.0 - 81.0' (?)	Brecciated basalt
81.0 - 122.3'	ALTERED ZONE
122.3 - 169.0'	Brecciated basalt
169.0 - 174.0'	Gabbro
174.0'	END OF HOLE

Table VII is a lithological summary of ML.20.

The mylonite in ML.20 has an a thickness of 9.75 m and dips about 15° NE. The subjacent AZ has a similar dip and is 15.0 m thick.

Reference to PLAN 06 shows that much of the AZ in this section contains anomalous gold with most sample intervals of the AZ assaying <560 ppb Au. One sample (1382) of quartz with visible gold at its lower contact returned an economic assay of 8.6 g/tonne Au over an interval of 1.4m.

DDH ML.23 tested a strong zone of chargeability beneath the bay in McVicar Lake, immediately west of the AZ structure. This anomaly detected during the IP survey of early 1987 is roughly parallel to the AZ structure. A surface inspection of outcrops on Line NG 2+00 South, in the vicinity of the southerly strike extension of the anomaly did not serve to explain the anomaly (PLAN 01). The most intense portion of the anomaly is 300m offshore and was, therefore, not accessible during the summer. A strong part of the anomaly, however, was accessible from the shoreline on L 1+00 S, and accordingly DDH ML.23 was collared on L 1+00S at 2+28W and drilled grid west (AZ 240) at an inclination of -43°.

Table VIII is a lithological summary of ML.23.

Apart from one narrow interval of volcanic (xenolith) the drill hole cored gabbro for its entire length. The source of the IP anomaly comprises several zones of magnetite rich gabbro; only trace to 1% sulphides (py >po) were observed in this hole.

Of particular interest is a narrow zone of weak alteration, with mineralogy characteristic of the AZ, through the interval 113.5' - 118.5'. Assay of this interval (1415, 1416) returned 10 ppb Au.

TABLE VII

LITHOLOGICAL SUMMARY

DDH ML.20

INTERVAL	LITHOLOGY
0 - 4.3'	Overburden (casing remains)
4.3 - 63.8'	Gabbro
63.8 - 68.0'	Brecciated gabbro
68.0 - 104.7'	Mylonite
104.7 - 106.5'	Siliceous volcanic mudstone
106.5 - 110.1'	Brecciated gabbro
110.1 - 169.0'	ALTERED ZONE
169.0 - 181.6'	Brecciated basalt
181.6 - 209.0'	Basalt
209.0'	END OF HOLE

TABLE VIII

LITHOLOGICAL SUMMARY

DDH ML.23

INTERVAL	LITHOLOGY
0 - 12'	Overburden (casing removed)
12 - 117.2'	Gabbro
117.2 - 129.5'	Porphyritic anorthositic gabbro
129.5 - 135.8'	Basalt
135.8 - 307.8'	Gabbro
307.8 - 322.2'	Porphyritic anorthositic gabbro
322.2 - 351.0'	Gabbro
351.0 - 355.2'	Brecciated gabbro
355.2 - 369.0'	Gabbro
369'	END OF HOLE

3.6 SECTION NG 1+50 SOUTH - DDH ML.25 AND ML.26 (PLAN 08)

DDH ML.25 and ML.26 collared at NG 1+50 South/0+05 East, were drilled grid west (240°) at an inclination of -45° and -70°, respectively. Both holes were designed to intersect the AZ between DDH ML.19 and ML.20.

Table IX is a lithological summary of the two holes.

Both holes intersected a considerable thickness of the AZ ranging from 13 m in ML.25 to 22 m in ML.26. In this particular section the apparent attitude of the AZ is variable. The lower contact dips 22° grid east NE, whereas the upper contact is virtually horizontal. In contrast to the previous section the mylonite is quite thin being about 2.5 m thick in ML.26. Although the mylonite is not logged in ML.25 an interval of brecciated (and sheared) gabbro is considered to be its structural equivalent.

As in previous holes anomalous gold values persist throughout most of the AZ. Four samples returned values in excess of 1000 ppb Au, the highest value was 3.1 g/tonne Au from sample 1463. It comprises a 1.95 m interval of carbonate-sericite schist from the AZ in ML.26.

3.7 SECTION NG 2+00 SOUTH - DDH ML.19, ML.31 AND ML.4X

(PLANS 09 AND 10)

Collar coordinates and orientation data for holes on this section are given below:

HOLE NO.	COLLAR LOCATION	AZIMUTH	INCLINATION
ML.19	NG 2+00 S/0+50E	240°	-45°
ML.31	NG 2+00 S/1+50E	240°	-45°
ML.4X	OG 0+25 S/3+50E	225°	-45°

TABLE IX

LITHOLOGICAL SUMMARY

DDH ML.25, AND DDH ML.26

DDH ML.25

INTERVAL	LITHOLOGY
0 - 11.0'	Overburden (casing remains)
11.0 - 44.8'	Gabbro
44.8 - 46.5'	Intermediate intrusive
46.5 - 58.0'	Brecciated gabbro
58.0 - 91.0'	Gabbro
91.0 - 161.0'	ALTERED ZONE
161.0 - 170.0'	Diorite
170.0 - 172.8'	Brecciated basalt
172.8 - 199.0'	Basalt
199.0'	END OF HOLE

DDH ML.26

INTERVAL	LITHOLOGY
0 - 5.0'	Overburden (casing remains)
5.0 - 40.5'	Gabbro
40.5 - 48' (approx)	Mylonite
48.0 - 68.0' (approx)	Gabbro
68.0 - 70.0'	Sheared gabbro
70.0 - 144.8'	ALTERED ZONE
144.8 - 148.6'	Diorite
148.6 - 152.5'	Gabbro
152.5 - 161.0'	Diorite
161.0 - 168.8'	Brecciated basalt
168.8 - 172.0'	Porphyritic basalt
172.0'	END OF HOLE

Table X is a lithological summary of the three holes.

ML.19 tested a broad IP target of moderate chargeability centered at NG 2+00 South/0+10 West. ML.4X, is an extension of ML.04, and tested the downdip extension of the AZ. ML.31 tested the AZ in between ML.19 and ML.4X.

ML.19 intersected 3.5 m of mylonite and 18.5 m of AZ. In ML.31 some 60 m downdip the mylonite thins somewhat to 2.5 m, whereas, the AZ is 2.0 m thick and is much thinner. The lower contacts of both units are parallel in section and dip 29° grid east, (NE).

ML.4X which intersects the mylonite and AZ some 160 m east encountered both intervals at a much shallower depth than expected implying either that the structure flattens to 15° or that there is some late stage faulting in the area which has elevated the east part of the section some 30 m relative to the west. Although the thickness and character of the mylonite is unchanged from the other holes, the AZ is all but absent and its presence is manifested as a thin interval of shearing within an interval of brecciated gabbro beneath the mylonite. If this interpretation is correct both units would appear to be converging at depth.

Analytical results indicate that much of the AZ in ML.19 is mineralized with the best results being obtained from two samples (1352, 1353) which together averaged 1.5 g/tonne Au over 3.05 m.

3.8 SECTION NG 3+00 SOUTH - DDH ML.27, ML.32, ML.33 AND ML.34

(PLAN 11)

Collar coordinates and orientation data for holes in this section are given below.

TABLE X

LITHOLOGICAL SUMMARY

DDH ML.19, DDH ML.31 AND DDH ML.4X

DDH ML.19

INTERVAL	LITHOLOGY
0 - 7'	Overburden (casing remains)
7 - 24'	Basalt
24 - 43'	Gabbro
43 - 60'	Silicified gabbro
60 - 68.5'	Basalt
68.5 - 83.5'	Brecciated basalt
83.5 - 86.5'	Brecciated volcanic mudstone
86.5 - 97.4'	Mylonite
97.4 - 118.6'	Brecciated basalt
118.6 - 180.3'	ALTERED ZONE
180.3 - 188.4'	Diorite
188.4 - 194.5'	Brecciated basalt
194.5 - 215.7'	Basalt
215.7 - 232.4'	Anorthositic gabbro porphyry
232.4 - 255.4'	Basalt
255.4 - 261.3'	Anorthositic gabbro porphyry
261.3 - 289.0'	Basalt
289.0 - 303.4'	Anorthositic gabbro porphyry
303.4 - 329.0'	Basalt
329.0'	END OF HOLE

DDH ML.31

INTERVAL		LITHOLOGY
0 - 18.5'		Overburden (casing remains)
18.5 - 54.5'		Basalt
54.5 - 57.0'		Intermediate intrusive
57.0 - 62.8'		Gabbro
62.8 - 65.5'		Brecciated gabbro
65.5 - 65.8'		Brecciated iron formation
65.8 - 66.4'		Brecciated gabbro
66.4 - 66.6'		Brecciated iron formation
66.6 - 67.8'		Brecciated gabbro
67.8 - 68.5'		Banded iron formation
68.5 - 76.2'		Brecciated gabbro
76.2 - 167.3'		Gabbro
167.3 - 173.0'	(approx)	Intermediate intrusive (porphyritic gabbro)
173.0 - 245.6'		Gabbro
245.6 - 259.4'		Brecciated gabbro
259.4 - 268.6'		Mylonite
268.6 - 284.3'		Brecciated gabbro
284.3 - 334.0'		Gabbro
334.0 - 348.8'		Brecciated gabbro
348.8 - 357.6'		ALTERED ZONE
357.6 - 366.4'		Brecciated gabbro
366.4 - 379.7'		Anorthositic gabbro porphyry
379.7 - 384.0'		Gabbro
384'		END OF HOLE

DDH ML.4X

INTERVAL	LITHOLOGY
298.0 - 360.4'	Gabbro
360.4 - 363.6'	Porphyritic intermediate intrusive
363.6 - 445.8'	Gabbro
445.8 - 456.1'	Brecciated gabbro
456.1 - 468.0'	Mylonite
468.0 - 475.1'	Brecciated mafic rock
475.1 - 477.2'	Tonalite dyke
477.2 - 510.8'	Brecciated mafic rock
510.8 - 570.0'	Gabbro
570.0 - 570.9'	Anorthositic gabbro porphyry
570.9 - 615.6'	Gabbro
615.6 - 615.9'	Anorthositic gabbro porphyry
615.9 - 618.0'	Gabbro
618.0'	END OF HOLE

HOLE NO.	COLLAR LOCATION	AZIMUTH	INCLINATION
ML.27	NG 3+00 S/1+00E	240°	-45°
ML.32	NG 3+00 S/1+50E	240°	-45°
ML.33	NG 3+00 S/1+50E	240°	-45°
ML.34	NG 3+00 S/2+50E	240°	-45°

Table XI is a lithological summary of all four holes

ML.27 tested a weak IP anomaly centered at Line NG 3+00 South/0+75 East, coincident with the southerly continuation of the AZ from section NG 2+00 South. ML.32, ML.33 and ML.34 test the downdip extension of the zone.

The thicknesses of the mylonite and AZ in this section are not as variable as those in NG 2+00 South. The mylonite thins downdip from 6.0 m in ML.27 to 3.0 m in ML.34. Similarly, the AZ thins from 13.0 m to 1.5 m. Evidence of the downdip convergence and flattening of the AZ and mylonite is observed in this section but it is not as pronounced as that in section NG 2+00 South. The upper contract of the mylonite dips 29° between ML.27 and ML.32 flattening to 21° between ML.32 and ML.34. Similarly the AZ dips 22° flattening to 16°.

Analytical results from ML.27 provided the most encouragement from the 1987 drill program. A 4.63 interval of quartz from the AZ in ML.27 averaged 14 g/tonne Au including a 1.86 m interval grading 32.5 g/tonne. Also from the AZ in ML.27 is a 1.28 m interval of intermediate intrusive which graded 3.2 g/tonne Au.

ML.32 and ML.34 also returned two highly anomalous assays. Sample 1543 from ML.32 returned 3.0 g/tonne Au from a 0.58 m interval of quartz and sample 1614 returned 7.5 g/tonne Au from a 0.82 m interval of green mica schist.

As with previous sections the AZ is weakly mineralized with the majority of values <500 ppb Au. In addition some anomalous

TABLE XI

LITHOLOGICAL SUMMARY

DDH ML.27, DDH ML.32, DDH ML.33 AND DDH ML.34

DDH ML.27

INTERVAL	LITHOLOGY
0 - 6'	Overburden (casing remains)
6 - 14.5'	Gabbro
14.5 - 18.3'	Porphyritic intermediate dyke
18.3 - 20.7'	Gabbro
20.7 - 58.7'	Diorite
58.7 - 62.7'	Brecciated mafic rock
62.7 - 82.8'	Mylonite
82.8 - 86.2'	Brecciated gabbro
86.2 - 114'	Brecciated basalt
114 - 148.5'	Brecciated gabbro
148.5 - 199.5'	ALTERED ZONE
199.5 - 204.5'	Brecciated gabbro
204.5 - 219.0'	Gabbro
219.0'	END OF HOLE

DDH ML.32

INTERVAL	LITHOLOGY
0 - 7'	Overburden (casing remains)
7 - 37'	Tonalite
37 - 53.5'	Gabbro
53.5 - 56.7'	Intermediate intrusive
56.7 - 59.0'	Brecciated basalt
59.0 - 60.7'	Tonalite
60.7 - 131.5'	Gabbro
131.5 - 142.9'	Brecciated gabbro
142.9 - 144.4'	Brecciated intermediate intrusive
144.4 - 155.7'	Mylonite
155.7 - 191.7'	Brecciated gabbro
191.7 - 255.5'	ALTERED ZONE
255.5 - 272.0'	Brecciated gabbro
272.0 - 299.0'	Gabbro
299.0'	END OF HOLE

DDH ML.33

INTERVAL	LITHOLOGY
0 - 10'	Overburden (casing remains)
10 - 30.3'	Tonalite
30.3 - 31.6'	Gabbro xenolith
31.6 - 33.5'	Tonalite
33.5 - 38.0'	Gabbro xenolith
38.0 - 45.1'	Tonalite
45.1 - 54.0'	Gabbro
54.0 - 58.0'	Intermediate felsic intrusive
58.0 - 69.2'	Gabbro
69.2 - 79.0'	Tonalite
79.0 - 133.5'	Gabbro
133.5 - 140.9'	Tonalite
140.9 - 149.0'	Brecciated gabbro
149.0 - 174.3'	Mylonite
174.3 - 220.0'	Brecciated gabbro
220.0 - 254.0'	ALTERED ZONE
254.0 - 260.3'	Brecciated gabbro
260.3 - 273.5'	Gabbro
273.5 - 282.3'	Anorthositic gabbro porphyry
282.3 - 289.0'	Gabbro
289.0'	END OF HOLE

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DDH ML.34

INTERVAL	LITHOLOGY
0 - 14'	Overburden
14 - 34.4'	Brecciated gabbro
34.4 - 55.3'	Gabbro
55.3 - 60.1'	Felsic intrusive
60.1 - 74.9'	Gabbro
74.9 - 89.1'	Brecciated gabbro
89.1 - 106.5'	Gabbro
106.5 - 131.7'	Tonalite
131.7 - 132.6'	Gabbro
132.6 - 133.3'	Felsite dyke
133.3 - 146.0'	Gabbro
146.0 - 164.7'	Tonalite
164.7 - 166.7'	Intermediate intrusive
166.7 - 168.3'	Tonalite
168.3 - 170.2'	Intermediate intrusive
170.2 - 184.7'	Tonalite
184.7 - 185.7'	Gabbro
185.7 - 190.0'	Intermediate felsic intrusive
190.0 - 193.6'	Brecciated gabbro
193.6 - 197.7'	Intermediate felsic intrusive
197.7 - 218.4'	Gabbro
218.4 - 227.0'	Tonalite
227.0 - 244.0'	Gabbro
244.0 - 264.0'	Brecciated gabbro
264.0 - 274.0'	Mylonite
274.0 - 275.3'	Intermediate intrusive
275.3 - 280.0'	Brecciated gabbro
280.0 - 314.5'	ALTERED ZONE
314.5 - 321.0'	Brecciated gabbro
321.0 - 356.0'	Anorthositic gabbro porphyry
356.0 - 359.0'	Gabbro
359.0'	END OF HOLE

gold values were returned from samples taken from brecciated gabbro between the AZ and mylonite as well as one sample (1555) of diorite below the AZ in ML.32 and one sample (1604) of mylonite from ML.34.

3.9 DDH ML.28 (PLAN 12)

ML.28 hole was collared at OG 3+00 East/2+10 South (NG 3+30 South/1+62 East) and drilled southwest (200°) at an inclination of -45°. The hole was designed to test an EM conductor (1986 HLEM survey) centered at OG 3+00 East/2+35 South and the downdip portion of the AZ between lines NG 3+00 South and NG 4+00 South.

Table XII is a lithological summary of ML.28.

The EM conductor comprises thin dm scale intervals of disseminated to massive sulphides (po>py>>cp) in gabbro. Samples (1486-1489 inclusive) of sulphide rich intervals were assayed for Au, Cu, Zn, Ni, Pt and Pd. As expected samples contain anomalous concentrations of Cu (<4500 ppm) and Ni (<3700 ppm). The other elements are present at near background levels.

The AZ in this section is 8.5 m thick and dips to the east at approximately 52°. The mylonite is only weakly developed and is identified as a band of intensely sheared gabbro within an interval of brecciated gabbro above the AZ. The AZ in ML.28 is very similar in thickness and attitude to that observed in ML.21 and ML.22. Another similarity is the absence, or at least poor development of the mylonite. Unfortunately core recoveries in holes ML.21 and ML.22 were poor throughout the intervals associated with the AZ.

Sampling and analysis of the AZ and adjacent intervals indicated the presence of anomalous gold concentrations (<400 ppb) throughout most of the AZ. One sample of brecciated gabbro from above and one sample of brecciated gabbro from below the AZ also returned anomalous values (<400 ppb Au).

TABLE XII
LITHOLOGICAL SUMMARY
DDH ML.28

INTERVAL	LITHOLOGY
0 - 5.0'	Overburden (casing remains)
5.0 - 18.0'	Gabbro
18.0 - 21.0'	Tonalite
21.0' - 26.5'	Gabbro/tonalite
26.5 - 29.2'	Gabbro
29.2 - 37.5'	Tonalite
37.5 - 57.4'	Gabbro
57.4 - 58.9'	Tonalite
58.9 - 64.0'	Gabbro
64.0 - 66.7'	Brecciated gabbro
66.7 - 69.0'	Intermediate felsic dyke
69.0 - 74.0'	Gabbro
74.0 - 76.0'	Basalt
76.0 - 110.0'	Gabbro (Sulphides po>py>>cp)
110.0 - 111.0'	Tonalite
111.0 - 120.5'	Gabbro (Sulphides po>py>>cp)
120.5 - 133.8'	Gabbro
133.8 - 135.7'	Tonalite
135.7 - 139.7'	Gabbro
139.7 - 144.0'	Brecciated gabbro
144.0 - 152.0'	Brecciated gabbro (mylonite)
152.0 - 184.0'	Brecciated gabbro
184.0 - 211.5'	ALTERED ZONE
211.5 - 220.2'	Brecciated gabbro
220.2 - 228.0'	Diorite
228.0 - 271.7'	Gabbro
271.7 - 279.0'	Porphyritic anorthositic gabbro
279.0	END OF HOLE

3.10 SECTION NG 4+50 SOUTH - DDH ML.29 (PLAN 13)

ML.29 was collared at NG 4+50 South/1+25 East and was drilled grid west (240°) at an inclination of -45°. The hole was designed to be short and was collared on the basis of results from ML.28 and the presumption that the undilated and steeply dipping AZ would straighten out and resume its regional 330° strike as observed in holes ML.21 and ML.22 north of the gabbro/-volcanic contact.

The AZ was intersected near the beginning of the hole testament to the AZ's more westerly strike of 315° through this part of the grid.

Table XIII is a lithological summary of hole ML.29.

The AZ is 6.0 m thick and dips approximately 80° grid east (NE). The mylonite was not observed.

Despite a well developed alteration assemblage, sampling and analysis of the AZ and adjacent intervals yielded only marginally anomalous values (<150 ppb Au) from three samples from within the AZ.

3.11 SECTION NG 5+20 SOUTH - DDH ML.30 (PLAN 14)

ML.30 was collared at NG 5+20 South/1+63 East and was drilled grid west at an inclination of -45°. ML.30 was designed to close off the dilated portion of the AZ and confirm the 315° trend of the AZ.

Table XIV is a lithological summary of ML.30.

In this section the AZ has roughly the same thickness (5.5 m) and has the same dip (-75° grid east) as it does in the previous section. The zone, however, trends a little more to the west at approximately 300°.

As with ML.29 the alteration assemblage through the AZ is well developed with much of the interval comprising weakly pyritic (1 - 2%) quartz-sericite carbonate schist. Only one sample (1517) returned an anomalous assay of 155 ppb Au..

TABLE XIII

LITHOLOGICAL SUMMARY

DDH ML.29

INTERVAL	LITHOLOGY
0 - 15'	Overburden (casing remains)
15 - 30.1'	Gabbro
30.1 - 35.5'	Brecciated gabbro
35.5 - 36.0'	Tonalite
36.0 - 60.7'	ALTERED ZONE
60.7 - 64.1'	Diorite
64.1 - 169.0'	Gabbro
169.0'	END OF HOLE

TABLE XIV

LITHOLOGICAL SUMMARY

DDH ML.30

INTERVAL	LITHOLOGY
0 - 10'	Overburden
10.0 - 27.8'	Gabbro
27.8 - 40.0'	Brecciated gabbro
40.0 - 60.0'	ALTERED ZONE
60.0 - 61.0'	Brecciated gabbro
61.0 - 82.0'	Gabbro
82.0 - 98.7'	Felsic intrusive
98.7 - 119.4'	Gabbro
119.4 - 124.8'	Felsite dyke
124.8 - 153.7'	Gabbro
153.7 - 166.3'	Porphyritic anorthositic gabbro
166.3 - 169.0'	Gabbro
169.0'	END OF HOLE

4.0 RESULTS

4.1 INTRODUCTION

Much of the drilling in 1987 focussed on the AZ south of the gabbro/volcanic contact. In 1986 drilling of the AZ was restricted to a small area within volcanics immediately north of the gabbro/volcanic contact. For convenience the 'Results' section from the 1986 drill report is included in Appendix III; subsequent discussion assumes the reader is familiar with it's contents.

Although five principal lithological elements are identified as comprising the AZ, the designation of the quartz-carbonate-sericite schist as a separate lithology was not made until late in the 1987 program. The quartz-carbonate-sericite schist which was cored in both the 1986 and 1987 programs, is usually logged as an intensely sheared (foliated) volcanic or gabbro. Its cream green colour and intensely foliated nature are, however, diagnostic and as such it would be possible to rename the appropriate intervals from existing drill logs.

On transverse and longitudinal sections sheared (foliated) volcanic and gabbro comprise two separate intervals and include intervals of quartz-carbonate-sericite schist.

4.2 ALTERATION AND MINERALIZATION

Outcrops in the western end of the McVicar Lake grid (PLAN 01) usually exhibit some degree of alteration ranging from weak pervasive carbonatization and/or weak hairline silica vein networks to discrete carbonate breccia zones and auriferous quartz veins with bleached wallrock margins. These features are well removed (100-200 m) from the AZ structure, however, they are clearly part of the same alteration sequence and constitute a part of its alteration envelope.

The rocks which comprise and are immediately adjacent to the AZ are profoundly altered. The five principal lithological elements which are described in detail in section 2.2.5 of this report can be divided into two groups. Sheared (and/or brecciated) basalt/gabbro, quartz-carbonate-sericite schist and apple green mica schist comprise variably altered products of highly strained gabbro and volcanic rocks. Intermediate intrusive and quartz were introduced into the AZ, they are a product of, or related to, hydrothermal fluids which intensely altered the surrounding highly strained rocks.

Gold mineralization exists as visible gold in quartz as well as gold associated with pyrite. The latter type of mineralization is noted in all rock types in and marginal to the AZ.

Free gold in quartz comprises very fine leafy aggregates within a few cm of the walls of the vein. It is very common for intervals of quartz not to contain any visible gold and to assay <500 ppb Au.

A pyrite-gold association is inferred from assay results and sample descriptions. In general gold tenor is proportional to pyrite abundance. Weak pyrite mineralization (generally 2-5%) exists throughout the AZ. As many of the better mineralized intervals also contain numerous cm scale quartz veinlets it is difficult to estimate what proportion of the gold is directly associated with pyrite.

All intervals of mineralized core were split in half and one half was forwarded to Technical Service Laboratories (TSL) in Mississauga for assay. Samples were comminuted and sieved and a 30g aliguot of 200g (92% - 200#) was obtained for analysis. Au determination was by fire assay with AA finish (FA/AA) for samples less than 1000 ppb Au. Samples with less than 1000 ppb Au were analysed by fire assay with a gravimetric finish. TSL

does not report FA/AA results for samples containing more than 1000 ppb Au.

Table XV is a listing of all samples with Au concentrations in excess of 100 ppb. A similar table is included in the 'Results' section of last year's report (Appendix III).

Average gold concentrations for each of the major lithological elements are listed in Table XVI.

Ore grade assays were obtained from samples of quartz, sheared metavolcanic, green mica schist and intermediate intrusive.

Eight holes, (ML.19, 20, 24, 25, 26, 27, 32, 34) returned assays of >1 g/tonne Au. All of these holes fall within the shallow dipping and dilated portion of the AZ structure.

By far the most significant assay was obtained from hole ML.27 which returned 14 g/tonne Au over a 4.63m interval of massive quartz. This hole also contains an interval of intermediate intrusive which assayed 3.4 g/tonne Au.

A free gold analysis was performed on thirteen high grade intervals. The results are included in Appendix II. Gold distribution within the samples is on average lower in the +100# fraction, however, there is little difference between Au in the -100# fraction and the weighted average of both fractions. Accordingly, there is little nugget effect within individual samples, however, as a number of quartz veins assay less than 500 ppb Au there would appear to be a substantial nugget effect within individual quartz veins.

There is a suggestion of grade continuity between holes ML.24 and ML.27. These holes are situated within the most dilated region of the AZ and the intersections define a line which is subparallel to the suspected southeasterly plunge of the dilated structure.

McVicar Lake 1987
Diamond Drilling

TABLE XV

Samples With >100 ppb Au

SAMPLE #	HOLE #	Au ppb	Au g/tonne	Au oz/T		LITHOLOGY	SAMPLE INTERVAL	(length)
1339	ML.19	320				Brec. MV	113.0'-116.8'	(3.8')
1346		120			(AZ)	Sheared MV	132.0'-132.5'	(0.5')
1348		270			(AZ)	Sheared MV	133.5'-136.0'	(2.5')
1350		205			(AZ)	Int Intrusive	139.8'-141.1'	(1.3')
1351		580			(AZ)	Sheared MV	141.1'-145.0'	(3.9')
1352		>1000			(AZ)	Sheared MV	145.0'-150.0'	(5.0')
1353		>1000			(AZ)	Sheared MV	150.0'-155.0'	(5.0')
1354		495			(AZ)	Int Intrusive	155.0'-160.0'	(5.0')
1355		135			(AZ)	Int Intrusive	160.0'-164.0'	(4.0')
1356		430			(AZ)	Sheared MV	164.0'-168.0'	(4.0')
1357		520			(AZ)	Sheared MV	168.0'-172.0'	(4.0')
1358		365			(AZ	Int Intrusive	172.0'-174.5'	(2.5')
1366	ML.20	200			(AZ)	Sheared Gabbro	117.0'-118.4'	(1.4')
1368		420			(AZ)	Sheared Gabbro	119.4'-122.7'	(3.3')
1369		560			(AZ)	Sheared MV	122.7'-126.0'	(3.3')
1370		175			(AZ)	Sheared MV	126.0'-128.6'	(2.6')
1371		315			(AZ)	Int Intrusive	128.6'-129.3'	(0.7')
1372		125			(AZ)	Sheared MV	129.3'-134'	(4.7')
1374		95			(AZ)	Sheared MV	138.7'-139.0'	(0.3')
1376		95			(AZ)	Int Intrusive	141.6'-142.8'	(1.2')
1377		510			(AZ)	Sheared MV	142.8'-145.0'	(2.2')
1378		105			(AZ)	Sheared Gabbro	145.0'-146.6'	(1.6')
1379		180			(AZ)	Quartz	146.6'-149.0'	(2.4')
1380		220			(AZ)	Quartz	149.0'-151.0'	(2.0')
1381		230			(AZ)	Quartz	151.0'-154.0'	(3.0')
1382		>1000		0.25	(AZ)	Quartz	154.0'-158.6'	(4.6')
1383				0.007	(AZ)	Sheared Gabbro	158.6'-163.0'	(4.4')
1384		250			(AZ)	Sheared Gabbro	163.0'-167.0'	(4.0')
1385		120			(AZ)	Brec. MV	167.0'-169.0'	(2.0')
1391	ML.21	205				Brec. MV	174.0'-179.0'	(5.0')
1393		500				Black Chert	186.6'-188.3'	(1.5')
1402		375			(AZ)	(Intensely oxidized)	229.0'-230.0'	(1.0')
1403		415				Sheared MV	230.0'-239.0'	(3.5')
1409	ML.22	200				Brec. MV	159.0'-160.0'	(1.5')
1421	ML.24	740			(AZ)	Int Intrusive	102.8'-106.0'	(3.2')
1422		220			(AZ)	Int Intrusive	106.0'-109.1'	(3.1')
1423		>1000		0.057	(AZ)	Sheared Brec.MV	109.1'-114.0'	(4.9')
1425		>1000		0.29	(AZ)	Sheared Brec.MV	119.0'-122.3'	(3.3')
1426		135			(AZ)	Brec. MV	122.3'-125.6'	(3.3')
1558		125				Brec. MV	134.0'-137.0'	(3.0')
1427		330				Brec. MV	137.0'-139.0'	(2.0')

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TABLE IV (Continued)

SAMPLE #	HOLE #	Au ppb	Au g/tonne	Au oz/T		LITHOLOGY	SAMPLE INTERVAL	(length)
1428	ML.25	95			(AZ)	Sheared Gabbro	91.0'- 96.0'	(5.0')
1436		320			(AZ)	Int. Intrusive	119.0'-120.7'	(1.7')
1437		140			(AZ)	Sheared Gabbro	120.7'-121.3'	(1.6')
1438		135			(AZ)	Int. Intrusive	121.3'-124.1'	(3.1')
1440		345			(AZ)	Int. Intrusive	126.1'-131.1'	(5.0')
1442		135			(AZ)	Sheared Gabbro	136.1'-141.6'	(5.0')
1445		>1000		0.033	(AZ)	Sheared Gabbro	148.0'-153.0'	(5.0')
1446		555			(AZ)	Sheared Gabbro	153.0'-158.0'	(5.0')
1447		540			(AZ)	Sheared Gabbro	158.0'-161.0'	(3.0')
1449	ML.26	240			(AZ)	Sheared Brec. Gabbro	70.0'- 75.0'	(5.0')
1450		400			(AZ)	Sheared Brec. Gabbro	75.0'- 80.0'	(5.0')
1451		530			(AZ)	Sheared Brec. Gabbro	80.0'- 85.0'	(5.0')
1457		675			(AZ)	Carb.- Sericite Schist	104.0'-109.0'	(5.0')
1458		265			(AZ)	Quartz	109.0'-112.0'	(3.0')
1459		210			(AZ)	Carb.-Sericite	112.0'-116.0'	(4.0')
1461		315			(AZ)	Int. Intrusive	119.3'-125.1'	(5.8')
1462		>1000		0.028	(AZ)	Int. Intrusive	125.1'-127.7'	(2.6')
1463		>1000		0.035	(AZ)	Carb.-Sericite Schist	127.7'-134.1'	(6.4')
1464		>1000		0.034	(AZ)	Int. Intrusive	134.1'-139.0'	(4.9')
1465		175			(AZ)	Sheared Brec. Gabbro	139.0'-141.8'	(2.8')
1466		>1000		0.038	(AZ)	Carb.-Sericite Schist	141.8'-143.2'	(1.4')
1467		235			(AZ)	Quartz	143.2'-144.8'	(1.6')
1468		400				Diorite	144.8'-148.6'	(3.8')
1469	ML.27	665				Brec. Gabbro	86.4'- 89.0'	(2.6')
1470		110				Brec. MV	89.0'- 94.0'	(5.0')
1570		420				Brec. MV	97.0'-100.0'	(3.0')
1474		>1000		0.96	(AZ)	Quartz	157.9'-164.0'	(6.1')
1475		>1000		0.057	(AZ)	Quartz	164.0'-169.0'	(5.0')
1476		>1000		0.041	(AZ)	Quartz	169.0'-173.1'	(4.1')
1477		95			(AZ)	Green Mica	173.1'-177.0'	(3.9')
1479		825			(AZ)	Sheared Gabbro	180.2'-183.6'	(3.4')
1480		455			(AZ)	Sheared Gabbro	183.6'-186.8'	(3.2')
1481		>1000		0.10	(AZ)	Int. Intrusive	186.8'-191.0'	(4.2')
1482		175			(AZ)	Sheared Gabbro	191.0'-192.0'	(1.0')
1490	ML.28	220				Brec. Gabbro	179.0'-184.0'	(5.0')
1491		195			(AZ)	Int. Intrusive	184.0'-187.4'	(3.4')
1492		370			(AZ)	Int. Intrusive	187.4'-190.7'	(3.3')
1493		400			(AZ)	Green Mica.	190.7'-194.1'	(3.4')
1498		170			(AZ)	Sheared Gabbro	209.0'-211.5'	(2.5')
1501		400				Brec. Gabbro	218.0'-219.0'	(1.0')

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TABLE IV (Continued)

SAMPLE #	HOLE #	Au ppb	Au g/tonne	Au oz/T		LITHOLOGY	SAMPLE INTERVAL	(length)
1504	ML.29	100			(AZ)	Sheared Gabbro	46.0'- 50.0'	(4.0')
1505		150			(AZ)	Sheared Gabbro	50.0'- 53.1'	(3.1')
1506		110			(AZ)	Sheared Gabbro	53.1'- 53.9'	(0.8')
1517	ML.30	155				Quartz Carb. Sericite Schist	54.0'- 56.0'	(2.0')
1524	ML.4X	995		0.035		Brec. Gabbro	468.0'-471.2'	(3.2')
1532	ML.31	110				Brec. Gabbro	254.4'-259.4'	(5.0')
1535		220			(AZ)	Green Mica	350.7'-353.0'	(2.3')
1539	ML.32	105				Brec. Gabbro	165.0'-170.0'	(5.0')
1543		>1000		0.089	(AZ)	Quartz	195.4'-197.3'	(1.9')
1544		310			(AZ)	Sheared Gabbro	197.3'-201.2'	(3.9')
1545		95			(AZ)	Sheared Gabbro	201.2'-204.0'	(2.8')
1546		190			(AZ)	Diorite	204.0'-209.0'	(5.0')
1547		270			(AZ)	Diorite	209.0'-214.0'	(5.0')
1550		280			(AZ)	Green Mica	220.1'-225.0'	(4.9')
1555		160				Tonalite	237.6'-242.6'	(5.0')
1587	ML.33	120			(AZ)	Sheared Gabbro	220.0'-223.0'	(3.0')
1594		440			(AZ)	Quartz	239.3'-244.0'	(4.7')
1595		190			(AZ)	Qtz Carb. Sericite Schist	244.0'-244.5'	(0.5')
1596		370			(AZ)	Carb. Quartz Sericite Schist	244.5'-247.8'	(3.3')
1604	ML.34	215				Mylonite - Brec. Gabbro	269.0'-274.0'	(5.0')
1605		695				Int. Intrusive	274.0'-275.0'	(1.0')
1606		155				Brec. Gabbro	275.0'-280.0'	(5.0')
1607		855			(AZ)	Sheared Brec. Gabbro	280.0'-285.0'	(5.0')
1608		335			(AZ)	Sheared Brec. Gabbro	285.0'-289.7'	(4.7')
1609		155			(AZ)	Int. Intrusive	289.7'-294.0'	(4.3')
1610		180			(AZ)	Sheared Gabbro	294.0'-296.5'	(2.5')
1611		275			(AZ)	Int. Intrusive	296.5'-299.0'	(2.5')
1612		400			(AZ)	Int. Intrusive	299.0'-304.0'	(5.0')
1613		545			(AZ)	Int. Intrusive	304.0'-306.1'	(2.1')
1614		>1000		0.22	(AZ)	Green Mica	306.1'-308.8'	(2.7')
1615		165			(AZ)	Sheared Gabbro	308.1'-314.5'	(6.4')
1616		285				Brec. Gabbro	314.5'-319.0'	(4.5')

TABLE XVI

Average Gold Concentrations
of Lithological Elements
Within the Altered Zone

LITHOLOGY	(Au (ppb) MAX. VALUE*	MIN. VALUE	AVERAGE	# SAMPLES
Sheared Metavolcanic	9900	95	629	14
Intermediate Int.	3400	95	412	20
Sheared Gabbro	1100	95	297	25
Quartz	32900	180	1657	10
Brecciated Metavolcanic	420	110	192	7
Brecciated Gabbro	995	110	277	7
Green Mica Schist	7500	220	250	2
Quartz Carbonate Sericite Schist	1300	115	467	6

* maximum value not included in average or #sample

Lithological continuity within the AZ is poor as would be expected within a shear zone. A crude zonation or symmetry is, however, apparent on the longitudinal section (Plan 17).

In general, substantial intervals of quartz are confined to the most dilated regions of the AZ. Intervals of intense green mica alteration tend to be localized within the AZ but near the edges of the dilatant zone.

4.3 STRUCTURE

At a regional scale the AZ south of the gabbro/volcanic contact is a NW trending ductile shear zone which is refracted NNW at the gabbro/volcanic contact. Boudinaged quartz veins within the AZ indicate a predominantly strike-slip displacement. A dextral sense of shear is indicated by intersections of gabbro in ML.21 and ML.22 and the area extent of the gabbro (inferred from aeromagnetic maps).

In detail the gabbro/volcanic contact is a broad diffuse zone and it is within this zone that the AZ is dilated and flattened. The bulk of the dilated and flattened structure lies within the gabbro within a few hundred metres of the gabbro/volcanic contact.

Diamond drilling has shown that the dilated portion of the AZ does not dip normal to the strike of the AZ structure. It appears to plunge approximately 30° to 45° to the ESE.

4.4 DISCUSSION

Although the AZ would appear to have provided a conduit for hydrothermal fluids throughout its entire drill defined length it is the zone of dilation which contains ore grade mineralization.

Any apparent lack of internal continuity in terms of lithologies within the AZ as well gold mineralization is due to the nature of the mineralized host. By definition the structure

itself comprises of a melange of transposed rock constituents which were mechanically and chemically transformed into a series of anastomosing lithotectonic elements.

From an economic viewpoint the most attractive part of the AZ is where it is widest. This zone of maximum dilation plunges approximately 30°-45° to the ESE. As the intensity of mineralization is greatest within the zone of dilation it is probable that it provided the principle conduit for mineralizing fluids. Accordingly, any overall continuity in grade is probably greatest down plunge.

Mineralization and deformation were, in part, synchronous. Intensely foliated, brecciated and rotated volcanic/gabbro fragments and boudinaged quartz veins within the AZ indicate at least two main periods of deformation. Breccia envelopes flanking the AZ suggest an abrupt decrease in confining pressures at the margin of the AZ implying that carbonate rich fluids were migrating through a high strain environment.

The mylonite like a younger brother, is thinner and mimicks the AZ for much of its course through the contact zone. It is considered to have been formed under the same or similar stress conditions which produced the AZ. However, it was formed after the dilated portion of the AZ was altered and mineralized to such an extent that it could not accommodate stress conditions in vicinity of the gabbro/volcanic contact. The mylonite was probably formed late in the alteration and mineralization sequence during the same event which boudinaged the quartz veins in the AZ. Hence, it is largely although not completely unmineralized and appears to converge with the AZ along strike and downdip.

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February 17, 1988

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Sage, R.P. and Breaks, F.W. (1982): Geology of the Cat Lake - Pickle Lake Area, Districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238 p. Accompanied by Map 2218, Scale 1:253,440 and Charts A,B and C.

McVicar Lake 1987
Diamond Drilling

APPENDIX I

Drill Logs - ML.19 - ML.30
ML.4X
ML.30 - ML.34

Hole No. ML 19 | Project: McVICAR LAKE | Page No: 02 Of 06

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: L 2+00S N. 0+50 E. | Date Finished: | Scale: 1" = 10'

Inclination: -45° Bearing: 241.0° | Total Depth: 329' | Logged By: R. WILLIAMS

ALTERATION: APPLE GREEN MICA | CARBONATE | SILICIFICATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BASALT 60' - 68.5'

LIGHT GREY GREEN
FINE GRAINED

BRECCIATED BASALT 68.5' - 83.5'

- MEDIUM GREEN, CHLORITIC, INTENSELY FOLIATED AND SUBSEQUENTLY BRECCIATED BASALT CM SCALE CARBONATE VEINLETS COMPRISE MATRIX
- CHLORITIC, SERICITIC, INTENSELY FOLIATED BRECCIA FRAGMENTS
- MODERATE CARBONATE ALTERATION
- IN PLACES FELDSPAR PHYRIC 1-2mm

BRECCIATED VOLCANIC MUDSTONE 83.5' - 86.5'

DARK GREEN, APHANITIC, COMPARITIVELY SOFT, VAGUE CM SCALE OUTLINES OF BRECCIA FRAGMENTS
TR PY ON FRACTURE SURFACES

MYLONITE 86.5' - 97.4'

LIGHT GREEN, INTENSELY FOLIATED ROCK
FINE GRAINED
COMPOSED PRINCIPALLY OF SERICITE - CHLORITE

BRECCIATED BASALT 97.4' - 118.6'

AS IN INTERVAL 68.5' - 83.5'
MINOR APPLE GREEN MICA
INTERMEDIATE [illegible] 99' - 100.5'
APHANITIC - F.G.
CREAM - BEIGE COLOUR 113' - 116.8'
3-5% (1-2mm) DISSEM. PYRITE
VERY WEAKLY FOLIATED.

ALTERED ZONE 118.6' - 180.3'

118.6'-126.0' SHEARED BASALT. WELL FOLIATED, MM-CM CARBONATE VEINLETS ~25-30° CA TO CORE // S_1, MINOR QTZ-CARB VEINING MM-CM SCALE IS TAN STAGE A.10 CUTS CARB VEINLETS AT A LOW ANGLE.

126.0'-129.5' BRECCIA 20-30% 2-4mm FELDSPAR PHENOS

GRADATIONAL CONTACT.

SHARP CONTACT

SHARP CONTACT 60° CA.

S_1 = 60° CA.

SHARP 60° CA CONTACT

S_1 50° CA

S_1 CONTACT 60° CA

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
60					60'		
	30-40% PY>PO			BQ	3.0' 63'	1334	
	Tr PY	69'	100%				
70	Tr PY	79'	100%				
80	TR PY	89'	100%				
	TR PY	99'	100%		99.4'		
	3-5% PY				4.6' 102'	1335	
					3.0' 105'	1336	
			100%		4.0' 109'	1337	
	TR PY	109'			4.0' 113'	1338	
	3-5% PY		100%		3.8 116.8'	1339	
	TR PY	119'			1.8' 118.6'	1340	

Hole No. ML19 | Project: McVICAR LAKE | Page No: 01 Of 06

Casing Collar Elev.: | Ground Elev.: | Date Started: JUNE 18, 1987 | Ref. to Claim Corner:

Coordinates: NGL 2+00 S N. 0+50 E. | Date Finished: JUNE 19, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 329' | Logged By: RODNEY N. THOMAS

COMMENTS: HOLE TESTS CHARGEABILITY ANOMALY COINCIDENT WITH PRESUMED SOUTHERLY EXTENSION OF ALTERED ZONE

AVE CORE REC'Y/HOLE

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0						OVERBURDEN 0-7'							
						7'-8' CVC RUBBLE. BASALT		7'					
10						BASALT 7'-24' (POSSIBLY GABBROIC 7'-12') LIGHT GREY/GREEN, FINE GRAINED, FELDSPAR PHYRIC WEAKLY BRECCIATED BY CM SCALE VEINLETS OF CARBONATE AS BRECCIA MATRIX IN PLACES SILICIFIED COMPRISING LIGHT CREAM GREEN REPLACEMENT	TR Py		90%	BQ			
20						GABBRO 24'-43' LIGHT GREY GREEN MEDIUM GRAINED (2mm) MASSIVE - WEAKLY FOLIATED HORNBLENDE GABBRO MODERATE CARBONATE ALTERATION AS HAIRLINE VEINLETS VERY WEAK SILICIFICATION AS MM-CM SCALE VEINLETS	1% Py	19'					
						GRADATIONAL CONTACT							
30						31.5 - 33.3 VOLCANIC ZENOLITH MODERATELY BRECCIATED CM SCALE CARBONATE VEINLETS ← B.A=40°	TR Py	29'	100%				
40						← SHARP CONTACT AT ~50° ← B.A=40°	TR Py	39'	100%				
						SILICIFIED GABBRO 43'-60' LIGHT GREY, WEAK-MODERATELY FOLIATED WEAK-INTENSELY SILICIFIED VARIABLE TEXTURE IN PLACES ALMOST GABBROIC TEXTURE TO FINE GRAINED VOLCANIC (SEDIMENTARY) CONTAINS VOLCANIC ZENOLITHS), SILICIFICATION AS SILICA (MM) VEIN NETWORKS TO COMPLETE REPLACEMENT	TR Py	49'	100%				
50							TR Py	59'	100%				

Hole No. MC 19 | Project: McOKAR LAKE | Page No: 03 Of 06

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: L 24005 N. 0150 E. | Date Finished: | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 329' | Logged By: KMT

SECTION | ALTERATION (APPLE CREEK MICA, CARBONATE, SILICIFICATION) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
1% Py	129'	100%	BQ	118.6' 3.4 122'	1341	
				4.0' 126'	1342	
				1.5' 123.5'	1343	
1% Py				3.0' 129'	1344	
				3.0' 132'	1345	
				0.5 132.5'	1346	
				0.5 133.5'	1347	
3-5% Py	134'	100%		2.5' 136'	1348	
				3.8' 139.8'	1349	
3-5% Py				1.2' 141'	1350	
				3.9' 145'	1351	
		100%		5.0 150'	1352	
3-5% Py	149'			5.0 155'	1353	
				5.0 160'	1354	
3% Py	159'	100%		4.0 164'	1355	
				4.0 168'	1356	
3-5% Py	169'			4.0 172'	1357	
3% Py				2.5' 174.5'	1358	
2% Py		100%		2.5' 177'	1359	
Tr-1% Py	179'			3.3 180.3	1360	
1% Py						

ALTERED ZONE cont'd 118.6' - 180.3'

129.5' - 129' INTERMEDIATE INTRUSIVE
GREY-BEIGE CALCITE [illegible] GRAINED

129' - 132.0' SHEARED BASALT
CM-DM SCALE LENTICULAR SILICIFIED [illegible]
QUARTZ AS CM SCALE VEINLETS AND BOUDINS

132.0 - 132.5' INTENSELY SHEARED BASALT

132.5 - 133.5 SHEARED BASALT 2% Py

133.5 - 139.8' INTENSELY SHEARED BASALT
3-5% F.G. DISSEM PY
PERVASIVE CARB ALT.
CM SCALE QTZ VEINLETS AND BOUDINS AND
RARE DM SCALE QTZ VEINS ⊥ CONFORMABLE TO S_1
D. WEAK < 1% APPLE CREEK MICA ALT

139.8' - 144.1' INTERMEDIATE INTRUSIVE

144.1' - 155' INTENSELY SHEARED BASALT
AS IN 133.5 - 139.8'

155' - 164' INTERMEDIATE INTRUSIVE
QUARTZ VEINING / ALBITIC ALTERATION
NEAR BOTTOM OF INTERVAL

164' - 172.0' INTENSELY SHEARED BASALT
AS IN 133.5' - 139.8'

172.0' - 178.6' INTERMEDIATE INTRUSIVE
WEAKLY FOLIATED 60° C.A.

178.6' - 180.3' INTENSELY SHEARED BASALT
1-2mm LENTICULAR STRETCHED FELDSPAR PHENOCRYSTS

S_1 60° CA

IRREGULAR CONTACT

OBSCURED CONTACT

DIP TEST 169' / 42°

SHARP CONTACT ~// S_1 70° CA S_1=60° CA

SHARP CONTACT ~// S_1, 95° CA
← S_1 = 95° CA

Hole No. ML19 | Project: McVICAR LAKE | Page No: 04 Of 06

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: L 2400 S N. 0150 E. | Date Finished: | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 329' | Logged By: RNT

SECTION | ALTERATION (APPLE GREEN MOD, CARBONATE, SILICIFICATION) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
~1% Py	189'	100%	BQ			
Tr Py	199'					
Tr Py	209'					
Tr Py	219'					
	229'					
	239'					

SHARP CONTACT 80° CA

DIORITE 180.3 - 188.4'

LIGHT GREY, MASSIVE, ~ 15% F.G. MAFICS IN A U.F.G. FELSPATHIC MATRIX.
PERVASIVE MODERATE CARBONATE ALTERATION

SHARP IRREGULAR CONTACT 30-60° CA

BRECCIATED BASALT 188.4' - 194.5'

MEDIUM GREEN, CHLORITIC, BRECCIATED BASALT ~ 5-10%
CARBONATE VEINLETS (BRECCIA MATRIX)
FELSPAR PHYRIC (UP TO 30% - 1mm)

← 5cm M.G. GRANITE VEINLET

BASALT 194.5' - 215.7'

MEDIUM GREEN, FELSPAR PHYRIC NEAR TOP OF INTERVAL - LARGELY APHYRIC
WEAK CARBONATE/SILICIFY ALT. (HAIRLINE VEINLETS)

← 10cm QTZ/CARB VEIN BRECCIA K-SPAR

ANORTHOSITIC GABBRO PORPHYRY 215.7' - 232.4'

WHITE SPOTTED, GREEN GREY COLOUR, LARGE 0.5-0.75 SPHEROIDAL FELSPAR PHENOCRYSTS (70-80%) IN F.G. MAFIC MATRIX, FELSPAR LIGHTE - TRANSLUCENT MASSIVE ROCK GOOD INTRUSIVE CONTACTS MINOR BANDS OF VOLCANIC IN IMMEDIATE VICINITY OF LOWER CONTACT. MODERATE SILICIFICATION (REPLACEMENT OF FELSPAR PHENOS)

← SHARP CONTACT 40° CA

BASALT 232.4' - 255.4'

MEDIUM GREEN, APHYRIC, MASSIVE, FINE GRAINED
MODERATE SILICIFICATION HAIRLINE VEINLETS + PERVASIVE REPLACEMENT.

SHARP CONTACT 40° CA

Hole No. ML 19 | Project: McVICAR LAKE | Page No: 05 Of 06

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: L 2+00S N. 0+50 E. | Date Finished: | Scale: 1"=10'

Inclination: -45° Bearing: 240° | Total Depth: 329' | Logged By: RNT

SECTION | ALTERATION (Pale Green Mica, Carbonate, Silicification) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

240

250

260

270

280

290

SHARP IRREGULAR CONTACT

SHARP IRREGULAR CONTACT

QC 0.5' WIDE

ANORTHOSITIC GABBRO PORPHYRY 255.4' - 261.3'

AS IN INTERVAL 215.7' - 232.4'

NOT AS SILICIFIED, PARTIAL REPLACEMENT OF FELDSPAR PHENO'S

BASALT 261.3' - 289'

MEDIUM GREEN, APHYRIC

APHANITIC - UFG 261.3' - 263.5'

F.G. REMAINDER OF INTERVAL BECOMING COARSE GRAINED TOWARDS END OF INTERVAL (PERVASIVE CARBONATE ALTERATION)

ANORTHOSITIC GABBRO PORPHYRY 289' - 303.4'

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
	249'	100%	BQ			
	259'	100%				
	269'	100%				
	279'	100%				
	289'	100%				
	299'					

Hole No. ML 19 | Project: McVICAR LAKE | Page No: 06 Of 06

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: L 2400S N. 0+50 E. | Date Finished: | Scale: 1" = 10'

Inclination: -45°S Bearing: 240° | Total Depth: 329' | Logged By: RNT

SECTION	ALTERATION: APPLE GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
300							SHARP CONTACT 60° CA					BQ			
							BASALT 303.4' - 329.0'								
							FROM GREEN, FINE GRAINED, APHYRIC								
							V. WEAK CARBONATE / SILICA ALT AS HAIRLINE VEINLETS		TR PY						
										309'	100%				
310															
											100%				
										319'					
320															
											100%				
							329' END OF HOLE T.D. 329'			329'					
330							ACID TEST TRUE ∠ = 40°								

Hole No. ML20 | Project: 1446 | Page No: 1 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 19, 1987 | Ref. to Claim Corner:

Coordinates: NG L1400S N. 0405W E. | Date Finished: June 20, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 209' | Logged By: R.G. Bonner

COMMENTS: ALTERED ZONE INTERSECTED FROM 110.1' TO 169.0'.
VISIBLE GOLD AT 157.5'.

AVE CORE REC'Y/HOLE

ALTERATION: Apple Green Mica | Carbonate | Silicification

FRACTURING | MINERAL | GEOLOGY

SECTION: 0 | 10 | 20 | 30 | 40 | 50

DESCRIPTIVE GEOLOGY

OVERBURDEN 0' - 4.3'
CASING NOT REMOVED

GABBRO 4.3' - 63.8'
FINE TO MED GRAINED, UP TO 30% SUBHEDRAL PLAG IN DARK GREY/GREEN MAFIC MATRIX, MODERATE CARBONATE THROUGHOUT WITH INTENSE FRACTURE FILLED ZONES - OVERALL FRACTURING WEAK, WEAK SILICIFICATION FROM [illegible]' FINE LIGHT GREEN "NET" SILICIOUS VEINING, MINOR SULFIDES - <1%
WEAKLY FOLIATED BELOW 33.0'

18.2' QTZ - CARB VEIN

23.0' - 27.5' MOD SHEARING AT 60° to CA

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
			STEEL CASING			
Tr Py	9	100%	BQ			
Tr Po Cp Py	19	100%				
<1% Tr Cp Py	29	100%				
Tr Po Cp	39	100%				
Tr Po Cp	49	100%				

Hole No. ML20 | Project: 1446 | Page No: 2 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 19, 1987 | Ref. to Claim Corner:

Coordinates: L1+00S N. 0+05W E. | Date Finished: June 20, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 209' | Logged By: P.M.KENNEDY

ALTERATION: Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL | GEOLOGY | SECTION

COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
60		GABBRO 4.3' - 63.8' (as above)				BQ			
	GRADATIONAL				100%				
	SHARP - 60° to CA	BRECCIATED GABBRO 63.8' - 68.0' FINE GRAINED, GREY GREEN STRONGLY SHEARED, ANGULAR to SUBANGULAR GABBRO FRAG IN CARBONATE CEMENT, ONE NARROW (10cm) LIGHT BUFF GREY INTERMEDIATE INTRUSIVE AT 67.5-68.0		63					
70		MYLONITE 68.0' - 104.7' VERY FINE GRAINED, DARK GREY GREEN to DARK GREY, [illegible] TALCOUS, CHLORITIC MATERIAL, PRECURSOR ROCK UNIDENTIFIABLE, WELL FOLIATED, MODERATE CARBONATE, MINOR (<1%) PY			100%				
80				79					
					80%				
90	89.0' SHEARING AT 30° TO CA			87					
					90%				
100		SILICIOUS VOLCANIC MUDSTONE 104.7' - 106.5' VERY FINE GRAINED, DARK GREEN GREY, FOLIATED FRACTURE (BRECCIATED) SYSTEM (45° TO CA) QUARTZ-CARB FILLING, FEW SMALL SUBANGULAR FRAGMENTS VISIBLE, TRACE PYRITE WITHIN FILLING MATERIAL, BRECCIATION NOT AS WELL DEVELOPED AS IN UNITS ABOVE AND BELOW		99					
	SHARP AT 70° TO CA				100%				
	SHARP	BRECCIATED GABBRO 106.5' - 110.1' FINE GRAINED, BUFF GREEN, SUBANGULAR TO SUBROUND SHEARED GABBROIC FRAGMENTS WITH CARBONATE CEMENT (30% OF CORE) MINOR FE STAIN 10% [illegible]		104			106.5		
110	SHARP						110.1	3.6'	1361
	IRREGULAR - SHARP	ALTERED ZONE 110.1' - 169.0'						1.9'	1362
	← REP SAMPLE	110.1' - 113.6' FINE GRAINED, GENERALLY LIGHT BUFF GREEN SHEARED - WELL FOLIATED FEW NARROW PORPHYRITIC GABBRO - GABBRO DIKES (<50cm) (REP), SHEARED GABBRO			100%		113	6.9	1363
	SHARP	113.6' - 113.4' FINE GRAINED, LIGHT GREEN BUFF, MASSIVE, INTERMEDIATE INTRUSIVE, SHARP CONTACTS					113.4	3.4'	1364
	SHARP	113.4' - 115.8' SHEARED GABBRO AS IN 110.1' - 113.6' PY					115.8	1.2'	1365
	QTZ VEIN 118.4' - 119.4'	115.8' - 119.0' INTERMEDIATE INTRUSIVE LIGHT BUFF, <10% MAFICS, WEAKLY SHEARED, <1% PY					118.4	1.4'	1366
		119.0' - 122.3' SHEARED GABBRO AS IN 110.1' - 113.6', SEVERAL QTZ VEINS, APPLE GREEN MICA, <1% PY		114			119.8	3.4	1367

Hole No. ML-20 | Project: 1446 | Page No: 3 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 19, 1986 | Ref. to Claim Corner:

Coordinates: L 14005 N. 0+050 E. | Date Finished: June 20, 1986 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 209' | Logged By: [illegible]

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

ALTERED ZONE 110.1' - 169.0'

122.7' - 128.6' SHEARED BASALT, FINE GRAINED, LIGHT GREEN, WELL FOLIATED, FEW NARROW (<1 cm) GABBROIC INCLUSIONS, WEAK PERVASIVE CARBONATE, QTZ-CARB VEINS, VEINLETS, TRACE PYRITE, MINOR APPLE GREEN MICA

128.6' - 129.3' INTERMEDIATE INTRUSIVE AS IN 112.0' - 122.7'

129.3' - 141.6' SHEARED BASALT AS IN 122.7' - 128.6'

141.6' - 142.8' INTERMEDIATE INTRUSIVE AS IN 112.0' - 122.7' FRACTURED WITH QTZ-CARB INFILLING, 1% PYRITE

142.6' - 145.0' SHEARED BASALT AS IN 122.7' - 128.6' WEAK APPLE GREEN MICA UP TO 40% QTZ-CARB FLOODED

145.0' - 146.6' SHEARED GABBRO AS IN 112.0' - 122.7' MEDIUM GRAINED

146.0' - 158.5' QUARTZ CONTAINS 10 - 80% FINE GRAINED SHEARED BASALTIC FRAGMENTS, WEAK PERVASIVE CARBONATE, VISIBLE GOLD, QUARTZ HAS VARIABLE CARB CONTENT UP TO 35%, 1% PYRITE

158.5' - 169.0' GABBRO BRECCIATED TO SHEARED, BANDS OF 60% MAGNETITE, WITHIN HIGHLY ALTERED (SERICITIC - APPLE GREEN MICA) HOST, MODERATE PERVASIVE CARBONATE, FEW QTZ-CARB VEINS.

169.0' - 169.6' ANKERITIC BRECCIATED BASALT/ SHEARED FRAGMENTS WITH ANKERITE - CALCITE CEMENT,

BRECCIATED BASALT 169.0' - 181.6'

FINE GRAINED GREY GREEN SHEARED SUBANGULAR FRAGMENTS WITH CARBONATE CEMENT. TWO NARROW (<5 cm) FELSIC DYKES

122' QTZ VEIN
SHARP
128' QTZ VEIN
SHARP
SHARP
138' SHEARING AT 55° TO CA
139' QTZ VEIN
SHARP
SHARP
SHARP
V.G. 157.5
SHARP
162.3' - 162.6' FELSIC DYKE
GRADATIONAL
GRADATIONAL
173' FELSIC DYKE

Sample Interval	% Rec'y Samp. Int.	Estimated
122.7	3.3'	1368
126	3.3'	1369
128.6	2.6'	1370
129.3	0.7'	1371
131.2	4.2'	1372
134	4.7'	1373
138.7	0.3'	1374
139	2.6'	1375
141.6	1.2'	1376
142.8	2.2'	1377
145	1.6'	1378
146.6	2.4'	1379
149	2.0'	1380
151	3.0'	1381
154	4.6'	1382
158.6	4.4'	1383
163	4.0'	1384
167	2.0'	1385
169	5.0'	1386
174	[illegible]	[illegible]
179		

Hole No. ML 20 | Project: 1446 | Page No: 4 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 19, 1986 | Ref. to Claim Corner:

Coordinates: L14005 N. 0405W E. | Date Finished: June 20, 1986 | Scale: 1" = 10'

Inclination: −45° | Bearing: 240° | Total Depth: 209' | Logged By: R.G. Bonner

ALTERATION: Carbonate, Silicification | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180				BQ			

BRECCIATED BASALT 169.0' - 181.6' (cont...)

GRADATIONAL

BASALT 181.6' - 209.0'

186' FELSIC DYKE

FINE GRAINED, DARK GREY GREEN, FELDSPAR PHYRIC (10% - <2 mm PHENO.) MASSIVE TO WEAKLY FOLIATED FRESH FEW NARROW ZONES OF WEAK PATCHY CARBONATE ALSO MINOR LIGHT GREEN CARBONATE FRACTURE FILLINGS

190' FOLIATED AT 35° TOCA

196.3' FELSIC DYKE

190		189	100%				
200		199	100%				
210		209					

DIP TEST = 42.8° (Corr)

END OF HOLE - 209'

220

230

Hole No. M1 21 | Project: [illegible] | Page No: 1 Of [illegible]

Casing Collar Elev.: | Ground Elev.: | Date Started: June 21, [illegible] | Ref. to Claim Corner:

Coordinates: NGI [illegible] N. [illegible] E. | Date Finished: June 21, [illegible] | Scale: 1" = 2"

Inclination: -60° | Bearing: 240° | Total Depth: 279' | Logged By: [illegible]

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

SECTION | Carbonate | Silicification

DESCRIPTIVE GEOLOGY

OVERBURDEN 0'-10'

CASING REMOVED

0%

FELDSPAR PORPHYRY (BASALT PORPHYRY 10' - 60.5'

MEDIUM GREY-GREEN, 20-30% 1-2 MM (OCCASIONALLY 3-5 MM) FELDSPAR PHENOCRYSTS IN A FINE GRAINED MAFIC RICH MATRIX

ROCK IS MODERATELY HARD (INTERMEDIATE?)

MODERATE CARBONATE ALTERATION AS PERVASIVE HAIRLINE FRACTURES VERY WEAK SILICA ALTERATION AS FINE HAIRLINE VEINLETS AND CM - RARE DM SCALE LIGHT GREEN PATCHES

MINOR CHLORITIC SHEARS

TRACE PY AND PO (WEAKLY MAGNETIC IN PLACES)

10 | Tr Py Po | 100%

19 | Tr Py Po | 100%

29

39 | Tr Py

49 | Tr Py

59

Hole No. ML 21 | Project: 1446 | Page No: 2 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 21, 1987 | Ref. to Claim Corner:

Coordinates: L 4100W N. 01100 E. | Date Finished: June 21, 1987 | Scale: 1" = 20'

Inclination: -60° | Bearing: 240° | Total Depth: 271' | Logged By: RNT

ALTERATION: CARBONATE, SILICIFICATION | FRACTURING | MINERAL | GEOLOGY | SECTION

'COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
Tr PY	100% 69'		BQ			
Tr PY	100% 99'					
Tr PY	100% 89'					
Tr PY	100% 99'					
Tr PY	100% 109'					
Tr PY	100% 111'					

SHARP ~80° CA.

CONTACT GRADATIONAL

BRECCIATED VOLCANIC (BRECCIATED CHLORITIC BASALT) 60.5'-65.7'

AFOLIN GREEN-GREY, FINE GRAINED, CHLORITIC, VOLCANIC

VARIABLY SHEARED AND BRECCIATED

MODERATE CARBONATE ALTERATION AS ~5% OF ROCK COMPRISES CARBONATE AS CM SCALE VEINLETS WHICH COMPRISE BRECCIA MATRIX

TRACE SULPHIDE AS DISSEMINATED GRAINS WITHIN OR ADJACENT TO CARBONATE VEINLETS

MINOR QC (1-3cm) VEINING AT 62.5'

PORPHYRITIC BASALT 65.7'-159'

SIMILAR TO INTERVAL 10' - 60.5', HOWEVER, VARIABLY PORPHYRITIC

NOTICEABLE INCREASE IN SILICIFICATION (ALTHOUGH STILL WEAK)

PRESENCE OF MINOR 0.5' BRECCIATED / CHLORITIC ZONES (60° CA)

S, 60° CA

CM SCALE QTZ VEINS (MINOR CARB) 50° CA

Hole No. M121 | Project: 1446 | Page No: Of

Casing Collar Elev.: | Ground Elev.: | Date Started: June 21, 1984 | Ref. to Claim Corner:

Coordinates: L4100N N. 0400 E. | Date Finished: June 21, 1984 | Scale:

Inclination: -60° | Bearing: 240° | Total Depth: 279' | Logged By: KNJ

ALTERATION: FE-CARBONATE | CARBONATE | SILICIFICATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

BRECCIATED BASALT 159' - 179'

MEDIUM GREY GREEN, VUGGY, SHEARED AND SUBSEQUENTLY BRECCIATED (PORPHYRITIC WHERE SHEARING ABSENT) BASALT.

ROCK IS 5-10% CM SCALE EQUIGRANULAR VUGS (PARTLY FILLED WITH CARBONATE, LONG AXIS OF VUGS IS ≈ 90° S_1)

1-2MM FELDSPAR PHENOCRYSTS MAY COMPRISE UP TO 10-15% OF ROCK

S_1 // CA 50°

GRADATIONAL CONTACT

RUBBLY CORE

S_1 // CA 50°

S_1 // CA 60°

SHARP OBSCURE CONTACT

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR PY	129'	100%	BQ			
TR PY	149'	100%				
TR PY	159'	100%				
TR PY	164'	100%		159'		
		95%		5' 164'	100	
				5' 169'	100	
	174'	70%		5' 174'	100	
				2.6' 179'	100	

Hole No. ML 21 | Project: 1446 | Page No: 4 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: June 21, 1987 | Ref. to Claim Corner:

Coordinates: L4+00 N. 0+00 E. | Date Finished: June 21, 1987 | Scale: 1" = 10'

Inclination: -60° | Bearing: 240° | Total Depth: 279' | Logged By: RNT

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180										BQ			
					FAULT GOUGE 179' - 186.8' (APPROX.) EXTREMELY RUBBLY, INTENSELY ALTERED GREEN-TAN CLAY RICH ROCK, EXTREMELY FRIABLE PRIMARY FABRIC LARGELY DESTROYED - ODD PIECE INDICATES ROCK IS SIMILAR TO OVERLYING UNIT		Tr Pl		~50%		3.0' 196.6	1392	
				S, ∠CA ∠60°							1.5' 188.3	1393	
190					**BLACK CHERT** 186.8' - 188.3' (APPROX.) BLACK, FINELY LAMINATED, ABUNDANT BRICK RED OXIDE, LIGHTLY MAGNETIC		V	191'	~20%		2.0' 191'	1394	
					FAULT GOUGE 188.3' - 205.5' AS IN INTERVAL 179' - 186.8' LOWER CONTACT ARBITRARY, SELECTED WHERE ROCK BECOMES MORE COMPETENT			197'			2.0' 199'	1395	
200				GRADATIONAL CONTACT S, ∠50°CA					~10%		5.0' 205.5'	1396	
					ALTERED ZONE 205.5' - 230.0' TAN TO BRICK RED INTENSELY OXIDIZED ROCK ROCK IS MODERATELY FRIABLE, FINE GRAINED MOST OF PRIMARY MINERALOGY → CLAY MINERALS, HOWEVER, MM-CM SCALE QUARTZ LENTICULES // S1 PRESENT, AS IS TRACE APPLE GREEN MICA. INTENSELY FOLIATED PRIMARY FABRIC, PRESENCE OF QUARTZ LENTICULES (3-5% BY VOLUME) ABUNDANT IRON OXIDE (AFTER SULPHIDE) AND APPLE GREEN MICA ESTABLISH THIS ZONE AS AN OXIDIZED EQUIVALENT OF THE SULPHIDE RICH ALTERED ZONE.			209'			3.5' 209'	1397	
210							-		~10%		5.0' 214'	1398	
220				S, ∠60°CA			-	219'	~10%		5.0' 219'	1399	
											5.0' 224'	1400	
					SHEARED BASALT 230.0' - 259.8' INTENSELY SHEARED, EXTREMELY POOR CORE RECOVERY, RUBBLY CORE, VERY FRIABLE, PRIMARY MINERALOGY → CLAY MINERALS MEDIUM GREEN GREY, VARIABLY OXIDIZED HOWEVER LESS OXIDE STAIN AS COMPARED TO PREVIOUS ZONE FINE GRAINED LIGHTLY MAGNETIC IN [illegible] PIECES [illegible] CARBONATE ALTERATION		Tr Pl	229'	~10%		5.0' 229'	1401	
230											5.0' 234'	1402	
									~10%		3.5' 237.5'	1403	
							/	279'			241'		

Hole No. ML 21 | Project: 1446 | Page No: 5 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: June 21, 1987 | Ref. to Claim Corner:

Coordinates: L4+00 N. 0+00 E. | Date Finished: June 21, 1987 | Scale: 1" = 10'

Inclination: −60° | Bearing: 240° | Total Depth: 279' | Logged By:

ALTERATION: CARBONATE, SILICIFICATION | FRACTURING | MINERAL | GEOLOGY | SECTION

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
	249'	5%	BQ	249 ↓ 0.5' 249		
	259'	40%		6' 259		
	265'	90%				
	279'	100%				

240

$S_1 < CA = 50°$

250

$S_1 < CA = 70°$

259' DIP TEST
CONTACT 60° (CORR.)
SHARP
OBSCURE

260

GABBRO 259.8' - 279.0'

MEDIUM GRAINED, MEDIUM GREEN COLOUR, ~40% ANHEDRAL - SUBHEDRAL FELDSPAR IN A FINE GRAINED MAFIC RICH MATRIX

WEAK CARBONATE - SILICA ALTERATION AS MM SCALE VEINLETS

FIRST 10' OF INTERVAL CHLORITIC (SOFT)

270

279' END OF HOLE

280

290

Hole No. ML 22 | Project: 1446 | Page No: 1 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 23, 1987 | Ref. to Claim Corner:

Coordinates: L 2+00 N. 0+00 E. | Date Finished: June 23, 1987 | Scale: 1" = 10'

Inclination: -60° | Bearing: 240° | Total Depth: 231.5' | Logged By: RG BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
0						OVERBURDEN 0'-30' CASING REMOVED								
30						BASALT 30'-106.7' FINE GRAINED, DARK GREY., APHYRIC TO PHYRIC WITH FELDSPAR PHENO'S (<2mm SUBHEDRAL UP TO 15% OF CORE) FINE WHITE SILICIOUS VEINING MINOR CARBOTIATE ALONG FRACTURES, PATCHY WEAK SILICIFICATION FEW CHLORITIC FRACTURES, TRACE PY,PO FEW CARBONATE BRECCIA ZONES WITH CORE REMOVED, MASSIVE, WEAKLY CHLORITIC			30	100	BQ			
39									39	100				
49									49	70				
59									59					

Hole No. ML 22 | Project: 1446 | Page No: 2 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 23, 1987 | Ref. to Claim Corner:

Coordinates: 12+00 N. 0+00 E. | Date Finished: June 23, 1987 | Scale: 1" = 10'

Inclination: -60° | Bearing: 240° | Total Depth: 231.5' | Logged By: R.G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
60						BASALT cont...				80	BQ			
70									79	100				
80									89	100				
90						93.5' - 94.0' PORPHYRITIC DYKE - NARROW FINE GRAINED MED GREY WITH <5 mm FELDSPAR PHENO'S EUHEDRAL				100				
100						SHARP / SHARP 97.7' - 98.5' PORPHYRITIC DYKE AS IN 93.5'-94.0' SHARP / SHARP			91	90				
110						SHARP BRECCIATED BASALT 106.7' - 128.5' FINE GRAINED DARK GREEN APHYRIC TO PHYRIC RECOGNIZABLE AS UNIT ABOVE VUGGY APPEARANCE DUE TO REMOVAL OF CARBONATE CORE IS BROKEN INCREASINGLY SHEARED WITH DEPTH			109	90				
									119					

Hole No. ML22 | Project: 1446 | Page No: 3 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 23, 1987 | Ref. to Claim Corner:

Coordinates: L2+00 N. 0+00 E. | Date Finished: June 23, 1987 | Scale: 1"=10'

Inclination: -60° Bearing: 240° | Total Depth: 231.5' | Logged By: R.G. BOLINER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120						BRECCIATED BASALT ... cont...				40	BQ			
						128' SHEARING AT 55° TO CA GRADATIONAL			129			128.5		
130						SHEARED VOLCANIC 128.5' ± 137.5' FINE GRAINED, MED GREEN, INTENSELY SHEARED CHLORITIC RUBBLE MINOR CARBONATE, VERY POOR RECOVERY CONTACTS APPROX WEAKLY FRIABLE				20			20	1406
						SHARP - OBSCURE						137.5		
140						ALTERED ZONE (?) 137.5' - 159' FINE GRAINED, BRICK RED, INTENSELY SHEARED RUBBLE, VERY FRIABLE MINOR CARBONATE, HEAVILY OXIDIZED, CLAYEY, NO VISIBLE SULFIDES POOR RECOVERY, CONTACTS APPROX.			139					
						± 145' SHEARING AT 70° TO CA				35			35	1407
150									149			149		
										30			30	1408
160						BRECCIATED BASALT 159' - 218' FINE GRAINED, MED GREY GREEN, RUBBLY WASHED CORE, VUGY DUE TO CARBONATE REMOVAL - ONE SECTION CARB INTACT (MOD CARB BRECCIA WITH TRACE PYRITE 194.5'-199') POOR RECOVERY THROUGH SECTION PHYRIC TO APHYRIC WITH <2mm FELDSPAR PHENO'S WEAKLY DEVELOPED FOLIATION OF CARBONATE CEMENT AND SUBSEQUENT VUGS AT 45° TO CA			159				159		
										20			15	1409
170									169			169		
										35			30	1410
									179		V	179		

Hole No. ML22 | Project: 1446 | Page No: 4 of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: June 23, 1987 | Ref. to Claim Corner:

Coordinates: L2+00 N. 0+00 E. | Date Finished: June 23, 1987 | Scale: 1" = 10

Inclination: -60° | Bearing: 240° | Total Depth: 231.5' | Logged By: R.G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180						BRECCIATED BASALT cont...				35	BQ	179	35	1411
190						Tr Py			189	50		189	55	1412
200						205' FOLIATION AT 45°-50° TO CA			199	40		199		
210									209	35				
220						OBSCURE 220' FOLIATION AT 45° TO CA GABBRO 218' - 231.5' FINE TO MED GRAINED, DARK GREEN AND WHITE, EUHEDRAL TO SUBHEDRAL FELDSPAR WEAK TO MODERATELY TRACHYTIC, FEW FINE GRAINED DARK GREEN BASALTIC XENOLITHS, NO VISIBLE SULFIDES			219	70				
230						XENOLITH XENOLITH			229					
						DIP TEST 61° (CORR) END OF HOLE 231.5'								

Hole No. HL-23 | Project: HEMLO CAMP | Page No: 1 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1987 | Ref. to Claim Corner:

Coordinates: NG 11005 N. 24281 E. | Date Finished: July 16, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 369' | Logged By:

COMMENTS: Hole No. HL-23 Hemlo Camp

Mg Mineral → Magnetite ($FeO \cdot F_2O_3$)

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION: CARBONATE, SILICA | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

OVERBURDEN 0-12'

CASING REMOVED

GABBRO 12' - 117.2'

FINE TO MEDIUM GRAINED, MEDIUM GREEN, MASSIVE (AMPHIBOLE)

PRIMARY METRE SCALE LAYERING CONSIST WITH FELDSPAR-RICH INTERVALS (~60%) ALTERNATING WITH FELDSPAR POOR (~10%) INTERVALS FROM 12'-60'

PATCHY LIGHT-MEDIUM GREEN CARBONATE ALTERATION AS THE RESULT OF HIGH CO2

GREEN FRACTURES AS WELL AS RECRYSTALLIZED FRACTURES, MAGNETITE VEINLETS

ALTERATION → CONSISTENT WITH MORE MAFIC INTERVALS

OCCASIONAL CM SCALE FELSIC PEGMATITE DYKES

INDUCES HEAVILY MAGNETIC 12-60'

S1 50°

CHLORITE ALTERATION

12' 19' 29' 41' 51' 91'

50%

RQD CORE

Hole No. ML 23 | Project: 1446 | Page No: 2 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1986 | Ref. to Claim Corner:

Coordinates: NG 14005 N. 2+28 W E. | Date Finished: July 16, 1986 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 369' | Logged By: K.G. Hamilton

ALTERATION: Apple Green Mica, Carbonate, Silica | FRACTURING | MINERAL: Mg | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

ROCK IS UNIFORMLY MAFIC RICH 60'-111'
20-25% Plag, 3-5% Magnetite

Tr Py

69

Tr Py

100

79

Tr Py

100

87

Tr Py

100

99

Tr Py

100

109

Tr Py
1% Po

100

BQ

87' S1 at 30° to CA
88' 4cm Qtz-Carb Breccia, 3% Py
ORANGE INTENSE SILICIFICATION

NEAR TO MODERATE SILICIFICATION 104.5' - 113.2'
SILICA FLOODED

MODERATE ALTERATION 113.5' - 118.5'; SILICIFICATION, CLAY ALTERATION OF FELDSPARS, MINOR WISPS OF APPLE GREEN MICA, PY UP TO 1%; SIMILAR TO ALTERATION ZONE
ALTERATION DIMINISHES GRADUALLY BELOW 118.5'

113.4
113.2
119.2

3.8'
3.0'

SHARP

PORPHYRITIC ANORTHOSITIC GABBRO 117.2' - 124.5'
cont...

Hole No. ML 23 | Project: 1446 | Page No: 3 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1987 | Ref. to Claim Corner:

Coordinates: NG 1+00 S N. 2+28.80 E. | Date Finished: July 16, 1987 | Scale: 1"=10'

Inclination: -43° Bearing: 240° | Total Depth: 369' | Logged By: RG BONNER

ALTERATION: Apple Green Mica | Carbonate | Silica

FRACTURING | % MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

PORPHYRITIC ANORTHOSITIC GABBRO 117.2' - 129.5'

MEDIUM GRAINED MOTTLED GREEN AND WHITE WITH FELDSPAR [illegible] UP TO 0.5 CM SUBHEDRAL TO EUHEDRAL PHENO'S MAKE [illegible] FROM 1% TO 10% [illegible] WITH PATCHY DISTRIBUTION OF BLACK, [illegible] (30° TO CA) GIVES FOLIATED APPEARANCE, FRACTURES [illegible] WEAK CARBONATE, MINOR PYRITE, WEAK PATCHY MAGNETITE, TRACE ILMENITE (?)

BASALT 129.5' - 135.8'

COARSE GRAINED, MED GREEN, WITH SCATTERED PLAG PHENO'S UP TO 2 MM (<2% OF CORE), CARBONATE FILLED FRACTURES RANDOMLY ORIENTED. TRACE PYRITE, SILICIOUS XENOLITH(?) WITHIN CORE

GABBRO 135.8' - 307.8'

135.8'-140.0' LIGHT BROWN GREEN MODERATE PERVASIVE CARBONATE ALONG FRACTURES MAFICS ALSO PLAG ALTERATION - REPLACEMENT BY CARB AND [illegible] FOLIATED - 30/10 [illegible] SHEAR ZONES WITH GOUGE CARB FRACTURES

140.0'-143.0' CARBONATE ALTERATION GIVES WAY TO SERICITE - TALC

143.0'-211.0' FINE GRAINED, DARK GREEN TO BLACK, MASSIVE TO WEAKLY FOLIATED, UNIFORMLY STRONG MAGNETISM, MINOR CARBONATE RESTRICTED TO FRACTURES, TRACE PYRITE MINOR HEMATITE ALONG FRACTURES, MAGNETITE - CARB FRACTURE FILLING BELOW 180'

121' QTZ-CARB VEIN

123' FRACTURING AT 20° TO CA

SHARP

GRADATIONAL

138' S, AT 40° TO CA

ABRUPT

GRADATIONAL

169' DIP TEST 42.6° (Corr)

172' CHLORITIC FRACTURE ZONE MAGNETITE - CARB FRACTURE FILLING

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120	<2% Py			BQ			
		129	100				
130	Tr Py						
			100				
	Tr Py	139					
140	Tr Py						
			100				
		149					
150	Tr Py						
			100				
		159					
160	Tr Py						
			100				
		169					
170	Tr Py						
			100				
		179					

Hole No. ML 23 | Project: 1446 | Page No: 4 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1987 | Ref. to Claim Corner:

Coordinates: NG 4005 N. 2428 W E. | Date Finished: July 16, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 369' | Logged By: R. G. Bonnefr

ALTERATION: Carbonate, Silica | FRACTURING | MINERAL: Mg | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

GABBRO 135.8' - 307.8' cont...

180 | 182' QUARTZ, MAG-CARB-HEM FRACTURE FILLING

189.5' FRACTURES WITH PYRITE-CARB, MAG-CARB

190

197' 2cm BRECCIA, MAG-CARB

200

200' MAG, CHLORITE, HEM, CARB FILLING

204'-206' MAGNETITE RICH LAYERS 60° TO CA

210

211.0' - 220.0' FINE TO MED GRAINED, DARK GREEN, MODERATE CARBONATE ALTERATION - FELDSPAR REPLACEMENT, WEAK TO MODERATE MAGNETISM

213' CARBONATE VEIN, PY

220

220.0' - 230.9' FINE GRAINED MED GREEN WEAKLY MAGNETIC WEAK CARBONATE

230

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
	135.8	100	BQ			
Tr Py	187					
	199	100				
		100				
	209					
Tr Py		100				
	219					
		100				
	229					
		100				
	231					

Hole No. ML 23 | Project: 1446 | Page No: 5 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1987 | Ref. to Claim Corner:

Coordinates: N4 1400S N. 2+28 W E. | Date Finished: July 16, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 369' | Logged By: R. G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silica	FRACTURING	MINERAL: Mg	GEOLOGY
240					GABBRO 135.8' - 307.8' cont...
250					251' HIGH ANGLE FRACTURE CARB, BLUE SERICITE
260					
270					SHARP
					SILICA FLOODING
280					
290					GRAIN SIZE UP TO 1.5 cm

'COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

270.9'-301.5' MED TO COARSE GRAINED, WEAK PATCHY MAGNETISM, ZONES OF INTENSE SILICIFICATION (SILICA FLOODING), TRACE PYRITE IN SILICA, CARBONATE ALONG FRACTURE PLANES, MASSIVE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
	249	100	BQ			
	259	100				
Tr Py	269	100				
	279	100				
	289	100				
	299					

Hole No. ML23 | Project: 1446 | Page No: 6 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1987 | Ref. to Claim Corner:

Coordinates: NG 14005 N. 2428 W E. | Date Finished: July 16, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 369' | Logged By: R.G. BOWNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silica	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

DESCRIPTIVE GEOLOGY

300

SHARP @ 30° TO CA

GABBRO 135.8' - 307.8' cont ...

301.5' - 307.8' MED GRAINED, DARK GREEN, MASSIVE, WEAK PATCHY FOLIATION, MINOR CARBONATE

SHARP, SHEARED CONTACT

310

PORPHYRITIC ANORTHOSITIC GABBRO 307.8' - 322.2'

AS IN 117.2' - 129.5' PATCHY TO INTENSE SILICIFICATION, MINOR CARBONATE ALONG FRACTURES

320

SHARP

GABBRO 322.2' - 351.0'

AS IN 12.0' - 117.2' MINOR SHEARING FROM 339 - 340.5' WEAK CARBONATE BUT MOD ALONG FRACTURES

330

340

339' DIP TEST 39° (Corr)

340° SHEARING AT 50° TO CA

350

GRADATIONAL

SHEARING AT 50° TO CA

GRADATIONAL

BRECCIATED GABBRO 351.0' - 355.2'

FINE GRAINED, LIGHT GREEN, SHEARED FRAGMENTS WITH [illegible] CARBONATE AND CAVE CEMENT, NO SULFIDES VISIBLE.

GABBRO 355.2' - 369'

MED GRAINED MASSIVE TO WEAKLY FOLIATED FRACTURES WITH BLACK QUARTZ ASSOCIATED AT 50° TO CA NO VISIBLE SULFIDES

Tr Py

Tr Py

329

319

339

349

359

100

100

100

100

BQ

Hole No. ML 23 | Project: 1446 | Page No: 7 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: July 11, 1987 | Ref. to Claim Corner:

Coordinates: NG 1400 S ~~N~~. 2+28 W ~~E~~. | Date Finished: July 16, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 369' | Logged By: R. G. BONNER

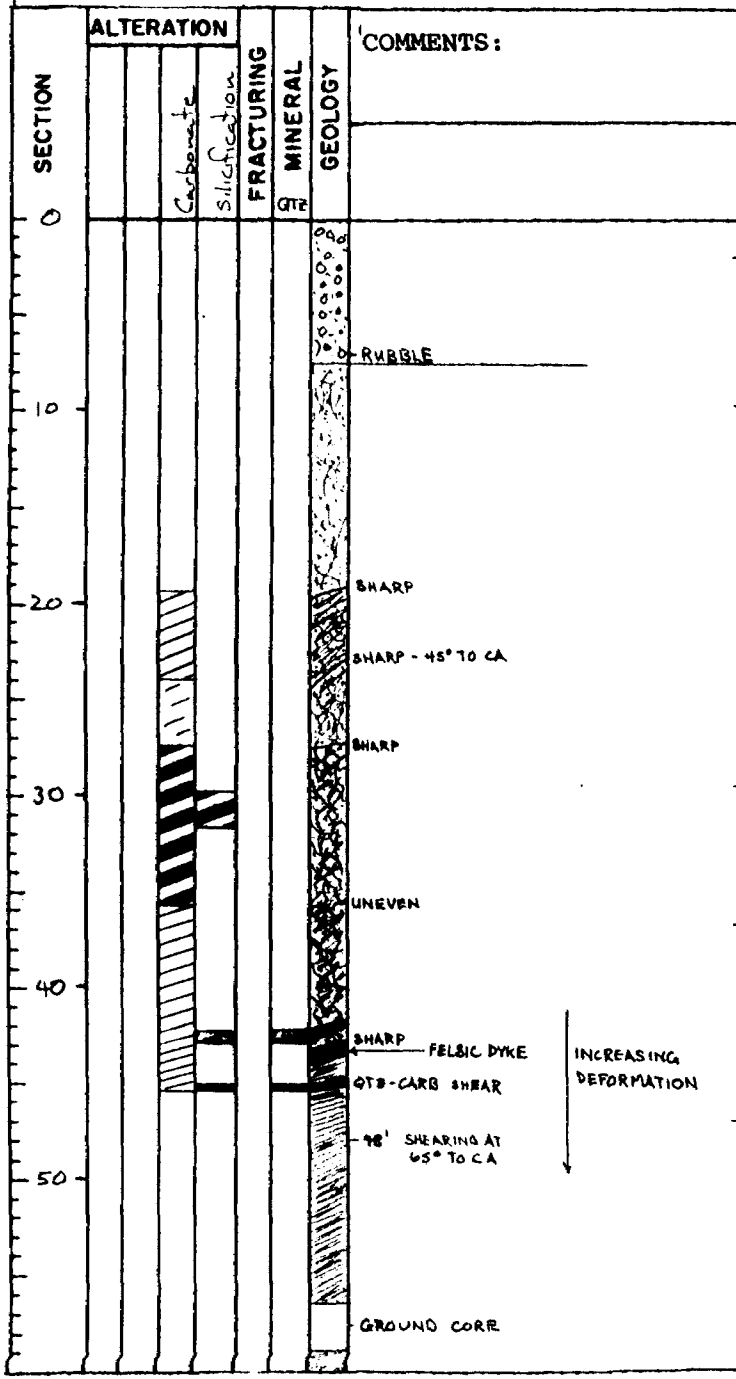
SECTION	ALTERATION: Carbonate	ALTERATION: Silica	FRACTURING	% MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
360						GABBRO 355.2' - 369'				60	BQ			
						END OF HOLE 369.0'			365					
370						HOLE INTERSECTED SEVERAL ZONES OF MAGNETITE RICH GABBRO. MAGNETITE BELIEVED TO BE SOURCE OF IP/EM/MAG ANOMALY BENEATH McVICAR LAKE. ONE NARROW ZONE OF ALTERATION SIMILAR TO MAIN ALTERED INTERSECTED AT 113.5' - 118.5'. SILICIFICATION WITH WHISPS OF APPLE GREEN MICA AND PYRITE OVER APPROXIMATELY 5 FEET.								
380						RJS								
390														
400														
410														

Hole No. ML24 | Project: 1446 | Page No: 1 Of 3

Casing Collar Elev.: | Ground Elev.: | Date Started: July 18, 1987 | Ref. to Claim Corner:

Coordinates: 06 0+68 S N. 0+00 E. | Date Finished: July 18, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 174' | Logged By: R. BONNER



'COMMENTS:

AVE CORE REC'Y/HOLE 90%

DESCRIPTIVE GEOLOGY

OVERBURDEN ..... 0 - 7.5'
CASING REMOVED

GABBRO 7.5' - 27.6'
MED GRAINED, MOTTLED DARK GREEN AND BUFF, EQUIGRANULAR (2mm), WEAK PATCHY MAGNETISM, CARBONATE WEAK AND RESTRICTED TO FRACTURE PLANES, FINE PATCHY YELLOW GREEN SILICEOUS VEINING, TRACE PYRITE AS DISSEMINATIONS AS WELL AS ALONG FEW NARROW QTZ-CARB VEINS

19.8' - 24.0' SHEARED WITH WEAK CARBONATE BRECCIATION OF GABBRO, LIGHT GREEN, FINE GRAINED, WEAKLY FOLIATED, WEAK PERVASIVE CARB, LENTICULAR QTZ BOUDINS, TRACE PYRITE

BRECCIATED GABBRO 27.6' - 36.3'
FINE GRAINED, LIGHT GREEN, RANDOMLY ORIENTED FOLIATED 5cm ANGULAR FRAGMENTS WITH CARBONATE CEMENT, PATCHY BUFF TO YELLOW GREEN SILICIFICATION AS BLEBS AND 2mm REPLACEMENTS (FELDSPAR), TRACE TO 1% PYRITE AS DISSEMINATIONS

BRECCIATED PORPHYRITIC BASALT 36.3' - 44.8'
FINE GRAINED, LIGHT TO MED GREEN, FELDSPAR PHYRIC WITH WEAKLY FOLIATED 1-2mm SUBHEDRAL FELDSPAR PHENO'S, SUBANGULAR TO SUBROUNDED WEAKLY ORIENTED FOLIATED FRAGMENTS WITH CARBONATE CEMENT, TRACE DISSEMINATED PYRITE

MYLONITE 44.8' - 65.0'
FINE GRAINED, GREY GREEN TO DARK GREEN, INTENSELY SHEARED, WELL FOLIATED, MAFIC VOL(3), GRADES TO 100% CHLORITE-SERICITE BELOW 49', TRACE CARBONATE ALONG SHEAR PLANES, NO VISIBLE SULFIDES

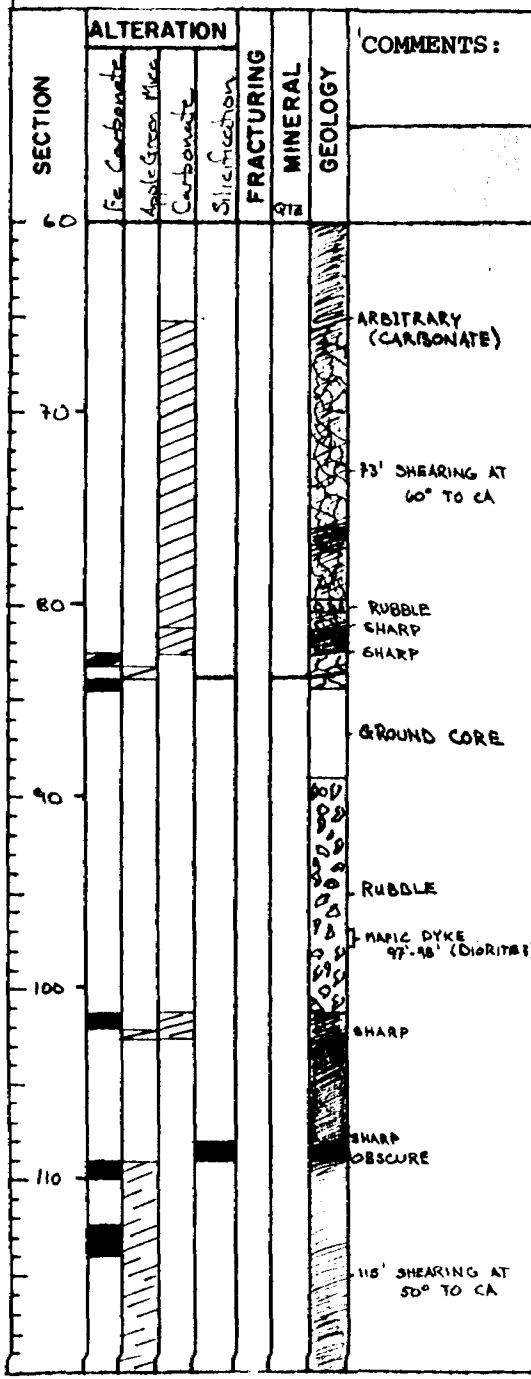
% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
	7.5'					
Tr Py	9'	100	BQ			
		100				
	19'					
Tr Py		100				
	29'					
Tr Py						
Tr 1% Py						
Tr Py		100				
	39'					
Tr Py						
		100				
	49'					
		60				
	59'					

Hole No. ML24 | Project: 1446 | Page No: 2 Of 3

Casing Collar Elev.: | Ground Elev.: | Date Started: July 18, 1987 | Ref. to Claim Corner:

Coordinates: 0+68 S N. 0+00 E. | Date Finished: July 18, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 174' | Logged By: R.G. BONNER



COMMENTS:

AVE CORE REC'Y/HOLE 90%

DESCRIPTIVE GEOLOGY

MYLONITE 44.8'-65.0' cont...

BRECCIATED BASALT 65.0'-(81.0'?)

FINE GRAINED, DARK GREEN BLACK TO MED GREEN, INTENSELY SHEARED TO WELL FOLIATED, DECREASING DEFORMATION THROUGH THE INTERVAL, WEAK CARBONATE MOSTLY WITHIN FRACTURES AND CEMENT, TRACE PYRITE ON SHEAR PLANES

73.5'-77.0' LIGHT GREEN, INTENSELY SHEARED FRAGMENTS, APPEARS TO HAVE BEEN VERY VISCOUS

ALTERED ZONE (81.0?) - 122.3'

SECTIONS HAVE VERY POOR RECOVERY

81.0? - 82.5' INTERMEDIATE INTRUSIVE FINE GRAINED, MED GREY RED GREEN, FOLIATED CARBONATE FILLED FRACTURES AT 40° TO CA, TRACE DISSEMINATED PYRITE

82.5' - 102.8' BRECCIATED BASALT FINE GRAINED, LIGHT GREEN TO ORANGE, ANKERITIC TO CALCITIC CEMENT, SERICITIC MATRIX, WEAKLY FOLIATED, FEW NARROW <1cm QTZ VEINS WITH MINOR PYRITE, WEAK APPLE GREEN MICA

102.8' - 108.3' INTERMEDIATE INTRUSIVE AS IN 81.0' - 82.5'

108.3' - 109.1' FELSIC INTRUSIVE FINE GRAINED, LIGHT BUFF, MASSIVE, TRACE DISSEMINATED PYRITE

109.1' - 122.3' SHEARED BRECCIATED BASALT AS IN 82.5' - 102.8' STRONGLY SHEARED, MINOR HEMATITE WHISPS, TRACE PYRITE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py	65	80	BQ			
Tr Py		100		36		
	79				5.0'	1417
Tr Py				81		
				82.5	1.5'	1418
		50				
	89				5.0'	1419
		20		93.3		
	99				5.0'	1420
Tr Py				102.8		
		80		106	3.3'	1421
	109			109.1	3.1'	1422
Tr Py					4.9'	1423
		95		114		
	119			119	5.0'	1424

Hole No. ML24 | Project: 1446 | Page No: 3 Of 3

Casing Collar Elev.: | Ground Elev.: | Date Started: July 18, 1987 | Ref. to Claim Corner:

Coordinates: 0+68 S N. 0+00 E. | Date Finished: July 18, 1987 | Scale: 1" = 10'

Inclination: −45° | Bearing: 240° | Total Depth: 174' | Logged By: R.G. BONNER

ALTERATION: Fe Carbonate | Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL: Qtz | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 90%

DESCRIPTIVE GEOLOGY

ALTERED ZONE (81.0'?) − 122.3' cont...

BRECCIATED BASALT 122.3' − 169.0'

FINE GRAINED, MEDIUM GREEN, MASSIVE TO FOLIATED FRAGMENTS WITH CARBONATE CEMENT, INCREASINGLY SHEARED-LESS BRECCIATED WITH DEPTH, CHLORITIC − SERICITIC WITH HINTS OF APPLE GREEN MICA

124.5' − 146.0' SHEARED, MYLONITIC, WELL FOLIATED, WEAK CARBONATE

SHARP

130.0' FELSIC DYKE

134 S1 65° CA

137'-138' ALTERED BASALT SIMILAR TO ALTERED ZONE

146.0' − 169.0' MASSIVE TO FOLIATED BRECCIATED BASALT, MOD CARBONATE, FEW NARROW (<3cm) GABBROIC INCLUSIONS

SHARP

GABBRO 169' − 174.0'

FINE GRAINED, DARK BLUE GREEN, FOLIATED, STRONGLY MAGNETIC WITH UP TO 3-5% MAGNETITE AS FINE CRYSTALS AND MASSIVE FRACTURE FILLINGS, TRACE PYRITE WITH DISTRIBUTION SIMILAR TO MAGNETITE, GRAIN SIZE INCREASING WITH DEPTH TO MEDIUM

DIP TEST = 42° (Corr)

END OF HOLE − 174'

RB

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120	1% Py			BQ	122.3	3.3'	1425
			100		125.6	3.3'	1426
130	Tr Py	129					
			100		134		
					137	3.0	1558
140	Tr Py	139			139	2.0	1427
			100				
	Tr Py	149					
150			100				
	Tr Py	159					
160			100				
	Tr Py	169					
170			100				
	Tr Py	174					

Hole No. ML 25 | Project: 1446 | Page No: 1 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 19, 1987 | Ref. to Claim Corner:

Coordinates: NG 1+50 S N. 0+05 E. | Date Finished: July 20, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 199' | Logged By: R. Ca. Bourne

'COMMENTS: To intersect altered zone between ML 19, 20.

AVE CORE REC'Y/HOLE 100%

SECTION	ALTERATION: Apple Green Mica	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL Qtz	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0							OVERBURDEN 0' - 11.0' CASING NOT REMOVED				STEEL CASING			
10							GABBRO 11.0' - 44.8' FINE GRAINED, DARK GREEN, MASSIVE TO WEAKLY FOLIATED, WEAK PATCHY MAGNETISM, WEAK FRACTURE RELATED CARBONATE BECOMING WEAK AND PERVASIVE BELOW 27.5', FINE SILICIOUS VEINING YELLOW GREEN, FEW NARROW (<1cm) QTZ VEINS	Tr Po	11		BQ			
20							13' WEAK FOLIATION AT 35° TO CA		19	100				
30									29	100				
40								Tr Po	39	100				
50							INTERMEDIATE INTRUSIVE 44.8' - 46.5' VERY FINE GRAINED, LIGHT BUFF GREEN TO WHITE, <10% FOLIATED MAFICS, <10% LITHIC INCLUSIONS, FRACTURE RELATED CARBONATE, TRACE PYRITE	Tr Py	49	100				
							BRECCIATED GABBRO 46.5' - 58.0' FINE GRAINED, LIGHT BLUE BUFF GREEN, MASSIVE FRAGMENTS WITH CARBONATE CEMENT, INCREASING DEFORMATION THROUGH THE SECTION - BECOMES INTENSELY SHEARED, CHLORITIC, MYLONITIC ROCK, WEAK CARBONATE RESTRICTED TO FRACTURE PLANES AND CEMENT	Tr Py	50	100				

SHARP

SHARP

54' SHEARING AT 50° TO CA

MYLONITE HORIZON?

OBSCURE

cont...

Hole No. ML 25 | Project: 1446 | Page No: 2 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 19, 1987 | Ref. to Claim Corner:

Coordinates: NG 1+50 S N. 0+5 E E. | Date Finished: July 20, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 199' | Logged By: R.G. BONNER

ALTERATION: Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL: Qtz | GEOLOGY

'COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

GABBRO 58.0' – 91.0'

FINE GRAINED, DARK GREEN TO BLACK, MASSIVE TO INTENSELY SHEARED AT UPPER AND LOWER CONTACTS, STRONGLY MAGNETIC, MAGNETITE PRESENT WITHIN CARBONATE FILLED FRACTURES AS FINE AGGREGATES, ALSO DISSEMINATIONS AND BANDS, CARBONATE RESTRICTED TO FRACTURES, TRACE PYRITE, MINOR QTZ-CARB VEINS, CORE VERY BLOCKY

79' QTZ-CARB VEIN PYRITE, MAGNETITE ACTINOLITE

SHARP — INTENSE SHEARING 89'-91'

ALTERED ZONE 91.0' – 161.0'

91.0'-105' SHEARED GABBRO FINE GRAINED, MED GREEN, FOLIATED FRAGMENTS, SERICITE RICH Ca CEMENT, STRONG APPLE GREEN MICA, ZONES OF 3% PYRITE

93' SHEARING AT 45° TO CA

QTZ VEIN - PYRITE

105'-106' BRECCIATED BASALT FINE GRAINED, MED GREEN, MASSIVE FRAGMENTS IN CARBONATE CEMENT

SHARP

SHARP

106'-111.0' SHEARED GABBRO AS IN 91.0'-105'

111.0'-112' INTERMEDIATE INTRUSIVE FINE GRAINED, MED TAN GREY, 1% PYRITE

SHARP

SHARP

112.0'-119' SHEARED GABBRO AS IN 91.0'-105' CHLORITIC PORPHYRITIC (UP TO 3 mm)

SHARP

114.0'-120.3' INTERMEDIATE INTRUSIVE AS IN 111'-112'

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py	69	100	BQ			
Tr Py	79	100				
Tr Py	89	100				
Tr to 3% Py	99	95		91'		
				96'	100%	1428
				99'	100%	1429
Tr Py	109	100		104'	100%	1430
				109'	100%	1431
Tr Py	119	100		111.3'	100%	1432
				113'	100%	1433
				115'	100%	1434
				117'	100%	1435
				120.3'	100%	1436

Hole No. ML 25 | Project: 1446 | Page No: 3 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 19, 1987 | Ref. to Claim Corner:

Coordinates: NG 1+50 S N. 0+05 E E. | Date Finished: July 20, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 199' | Logged By: R. G. BONNER

ALTERATION: Fe Carbonate | Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL: Qtz | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

ALTERED ZONE 91.0' - 161.0' cont...

120.7' - 121.3' **SHEARED GABBRO** AS IN 91.0' - 105' MODERATE APPLE GREEN MICA

121.3' - 122.5' **INTERMEDIATE INTRUSIVE** FINE GRAINED, LIGHT BUFF BROWN, UP TO 2% DISSEMINATED PYRITE, SLIGHTLY MORE SILICIOUS THAN PREVIOUS UNITS

122.5' - 124.1' **INTERMEDIATE INTRUSIVE** AS IN 111' - 112'

124.1' - 126.1' **SHEARED GABBRO?** SERICITE, FEW NARROW (<3cm) INTRUSIVES, MINOR Fe CARBONATE

126.1' - 136.1' **INTERMEDIATE INTRUSIVE** FINE GRAINED, LIGHT PINK TAN GREY, MASSIVE, WEAK FRACTURE RELATED CARBONATE, UP TO 1% PYRITE

136.1 - 191.6' **SHEARED GABBRO?** FINE GRAINED, LIGHT GREEN, INTENSELY SHEARED, SERICITIC, CHLORITIC, FOLIATED ELONGATED BLUE GREEN LITHIC FRAGMENTS, QTZ VEIN AT 140.2' WITH 30% LITHIC INCLUSIONS AND 5% PYRITE BLEBS, UP TO 2% PYRITE IN CLOSE PROXIMITY TO QTZ, CARB ALONG FRACTURE PLANES, WEAK APPLE GREEN MICA CLOSE TO QTZ

141.6' - 143.0' **QUARTZ** WHITE, 15% LITHIC (GABBRO) INCLUSIONS, SULFIDE AT LITHIC CONTACT

143.0' - 156.2' **SHEARED MAFIC ROCK (GABBRO?)** AS IN 136.1' - 141.6', INCLUDES SEVERAL cm SCALE QTZ VEINS, MINOR FE CARB AT 148', WEAK WHISPS OF APPLE GREEN MICA, UP TO 3% PYRITE ASSOCIATED WITH QTZ VEINS

156.2' - 159.2' **GREEN MICA** INTENSELY SHEARED, INTENSE APPLE GREEN MICA, SERICITIC, 1-2mm SULFIDE RICH SILICIOUS FRAGMENTS, TRACE PYRITE, LOCALIZED INTENSIFICATION OF ALTERATION WITHIN THE BROAD LITHIC UNIT

159.2' - 161.0' **SHEARED MAFIC ROCK** AS IN 143.0' - 156.2'

DIORITE 161.0' - 170.0'

FINE GRAINED MED GREEN GREY MASSIVE WEAK PERVASIVE CARBONATE SILICIOUS

BRECCIATED BASALT 170.0' - 172.8'

FINE GRAINED, MEDIUM GREEN, FELDSPAR PHYRIC, WITH LATH SHAPED (1mm) FELDSPAR PHENO'S, SHEARED FRAGMENTS, WITH CARBONATE CEMENT DEFORMATION DECREASING THOUGH THE SECTION, GRADES INTO MASSIVE UNIT BELOW, ONE NARROW (15cm) PORPHYRITIC GABBRO INCLUSION AT 171.6'

BASALT 172.8' - 199.0'

cont...

Sulphides	Drilling Interval	Core Recovered	Core Size	Sample Interval	Rec'y Samp. Int.	Estimated
Tr to 1% Py	129	100	BQ	120.7		
				121.3	100%	1437
				124.1	100%	1438
				126.1	100%	1439
Tr to 1% Py					100%	1440
		100		131.1		
				136.1	100%	1441
Tr Py	139				100%	1442
1% Py				141.6		
5% Py				143.0	100%	1443
2% Py						
Tr Py						
Tr Py		100			100%	1444
	149			148		
Tr Py					100%	1445
		100		153		
					100%	1446
	159			158		
Tr Py				161	100%	1447
		100			100%	1448
	169			166		
Tr Py		100				
	179					

SECTION: 120, 130, 140, 150, 160, 170

SHEARING AT 58° TO CA

SHARP

SHARP

SHARP

139' SHEARING AT 60° TO CA

SHARP

SHARP

149' SHEARING AT 45° TO CA

159' SHEARING AT 60° TO CA

SHARP

SHARP

GRADATIONAL

Hole No. ML 25 | Project: 1446 | Page No: 4 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 19, 1987 | Ref. to Claim Corner:

Coordinates: NG 1505 N. 0+05 E. | Date Finished: July 20, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 199' | Logged By: R. GIBONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
180					BASALT 172.8' - 199' cont. FINE GRAINED MEDIUM GREEN FELDSPAR PHYRIC WITH 1mm FELDSPAR PHENO'S MASSIVE MINOR FRACTURE RELATED CARBONATE CHLORITIC WEAK PATCHY MAGNETISM TRACE PYRITE		Tr Py ↓	181	100	BQ ↓			
190							Tr Py ↓		100				
199' DIP TEST 37° (Corr)					END OF HOLE - 199'			199					
200													
210													
220													
230													

Hole No. HL-26 | Project: HEVICAN LAKE AREA | Page No: 1 Of 2

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 20, 1989 | Ref. to Claim Corner:

Coordinates: NG 11505 N. 0405 E. | Date Finished: JULY 21, 1989 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 127' | Logged By: R.N. THOMAS

COMMENTS: DOWNDIP TEST OF ALTERED ZONE INTERSECTED IN HL-25

AVE CORE REC'Y/HOLE

ALTERATION: FE-CARB | ARGILLACEOUS | CARBONATE | SILICA

FRACTURING | MINERAL | GEOLOGY

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0				HQ-3			
10	TR PY			BQ			
20		11'	100%				
30		27'					
40	TR PY	37'	90%				
50		47'	80%				
		57'	75%				

OVERBURDEN 0-5' CASING REMAINS

GABBRO 5' - 40.5' (APPROX.)

MEDIUM GREY, MEDIUM GRAINED, WEAKLY FOLIATED (LOW ANGLE TO CA)
~20% FELDSPAR (ZIM) IN MAFIC MATRIX
VERY WEAK CARBONATE ALTERATION (AS MM VEINLETS) FROM 5' - 27',
BECOMING MODERATE (MM VEINLETS AND PATCHES) TO 40.5'
VERY WEAK SILICA ALT. AS MM SCALE GREENISH WHITE VEINLETS
CARBONATE VEINLETS DISSOLVED FROM ~31' TO 40.5'
YIELDING EXTREMELY RUBBLY CORE

S1 30° CA

MYLONITE 40.5' - 48' (APPROX.)

LIGHT WHITE GREEN (INTENSELY SHEARED → SCHISTIC GABBRO)
MODERATE FE-CARB ALTERATION 40.5' - 41.5'
WEAK QUARTZ-CARBONATE BRECCIA (CM SCALE)

RUBBLY CORE

SHARP CONTACT 60° CA

S1 50° CA

GABBRO 48' (APPROX.) - 68' (APPROX.)

MEDIUM GREY, FINE-MEDIUM GRAINED, MODERATELY SHEARED,
BRECCIATED RUBBLY CORE
WEAK - MODERATELY MAGNETIC, CHLORITIC
SOME FRACTURE SURFACES SLICKENSIDED
WEAK QUARTZ-CARBONATE BRECCIA (CM SCALE)

RUBBLY CORE

Hole No. HL-26 | Project: HEDLEY LAKE AREA | Page No: 02 Of 03

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 20, 1989 | Ref. to Claim Corner:

Coordinates: NG 1505 N. 0405 E. | Date Finished: JULY 21, 1989 | Scale: 1" = 10'

Inclination: -40° | Bearing: 240° | Total Depth: 172' | Logged By: AMT

ALTERATION: FE-CARB | APPLE GREEN MICA | CARBONATE | SILICA | FRACTURING | % MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

SECTION

60

RUBBLY CORE

INTENSELY SHEARED GABBRO 68' - 70'

68'-70' INTENSE SHEARING (CHLORITIC) 30° CA

SHARP CONTACT 35° CA

ALTERED ZONE 70' - 144.8'

70' - 89.5' **SHEARED - BRECCIATED GABBRO**

MED GREEN-WHITE, INTENSELY FOLIATED F.G. MM-CM FRAGMENTS OF GABBRO(?) IN A FINE GRAINED CARBONATE-QUARTZ MATRIX OCCASIONAL DM/CM SCALE BANDS OF GREEN MICA AND/OR QUARTZ VEINS, OCCASIONAL CM SCALE // S1 CARBONATE-GREEN MICA BANDS ARE SLIGHTLY MORE PY RICH (~3%)

89.5' - 94.3' **SHEARED GABBRO PORPHYRY**

50-60% MM/CM SCALE STRETCHED (YLW) FELDSPAR PHENO'S (S1 BENDS AROUND QUARTZ VEIN AT 90°)

INCREASING DEFORMATION

94.3' - 97.5' **SHEARED GABBRO (?)**

AS IN INTERVAL 70' - 89.5' HOWEVER FRAGMENTS SMALLER (< CM) IMPLYING MORE INTENSE SHEARING

S1 50° CA — OBSCURE CONTACT

97.5' - 109' **INTENSELY SHEARED ROCK (CARBONATE SERICITE SCHIST)**

LIGHT GREEN CREAM COLOURED, FINE GRAINED, INTENSELY FOLIATED ROCK

INCREASED QUARTZ VEINING, SULPHIDIZATION (PY)

MORE INTENSELY ALTERED (→ CARB, SERICITE) THAN PREVIOUS INTERVALS FINELY DISSEM PY (1%)

S1 30° CA

SHARP 50° CONTACT CA S1 50° CA

SHARP 60° CA CONTACT

BROKEN CORE

FORMATION STRIKES AND BENDS AROUND QTZ VEIN

109' - 112' **QUARTZ**

< 10% CM LITHIC FRAGS OF PREVIOUS INTERVAL

MINOR APPLE GREEN MICA FINELY DISSEM (?) IN LITHIC FRAGS

112' - 119.3' **INTENSELY SHEARED ROCK + 30% QUARTZ VEINS**

AS IN INTERVAL 99.5' - 109' WITH ~30% OVERALL CM/DM SCALE QUARTZ VEINS. FINELY DISSEM. PY QUARTZ VEINS CONFORMABLE AND X-CUT S1

116 - 116.3 TINY INT OF KSPAR METASOMATISM? AS IN NEXT INTERVAL

GRADATIONAL CONTACTS

S1 40° CA

SHARP CONTACT 15° CA

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
	68'	75%	BQ	70		
1-2% PY	71'	100%		75	100%	1449
					100%	1450
1% PY	89'	100%		89.5	100%	1451
					100%	1452
TR PY		100%		97.5	100%	1453
					100%	1454
1% PY	99'			100	100%	1455
1-2% PY		100%		104	100%	1456
3% PY	109			109	100%	1457
3% PY				112	100%	1458
10% PY				116	100%	1459
2% PY	119'			119.3	100%	1460
3% PY						

Hole No. HL-26 | Project: Hedley Lake 1986 | Page No: Of

Casing Collar Elev.: | Ground Elev.: | Date Started: June 29, 1986 | Ref. to Claim Corner:

Coordinates: NG 14505 N. 0405 E. | Date Finished: July 21, 1986 | Scale: 1"=10'

Inclination: -45° | Bearing: 240° | Total Depth: 172' | Logged By: [illegible]

ALTERATION: FE CARB | APPLE GREEN MICA | CARBONATE | SILICA | FRACTURING | % MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120					119.3		
	3% Py		100%	BQ	125.1	100%	1461
	2-3% Py				127.7	100%	1462
130	3-4% Py	129'				100%	1463
	2-3% Py		100%		134.1		
					139	100%	1464
	0.5-1% Py	131'			141.8	100%	1465
140	2-3% Py				143.2	100%	1466
	2-3% Py		100%		144.8	100%	1467
	1% Py				148.6	100%	1468
150	1% Py	149'					
		159'					
160							
		169'					
170		172'					

ALTERED ZONE (cont'd) 70' - 144.8'

119.3' - 125.1' INTENSE K-SPAR METASOMATISM OR INTERMEDIATE INTRUSIVE
Light pink (flesh colour) - tan, aphanitic, 20% lithic frags, weakly foliated 2% 1-2mm Py, moderate silica alt., as cm scale [illegible] assoc. weak carbonate alt.

125.1' - 127.7' Int. Intrusive
Light greenish tan, fine grained, weakly foliated weakly foliated 2-3% oriented fuzzy disseminated Py

127.7' - 134.1' Intensely sheared rock (carb. sericite schist)

134.1' - 139.0' Int. Intrusive
Light brown tan, fine grained, weakly foliated (oriented Py) 2-3% 1-2mm disseminated pyrite, weak silica/carb alteration as 1m-cm scale veins (tension gash infilling)

139.0' - 141.8' Sheared - brecciated gabbro
As in 70' - 89.5'
Moderate carb alt (brecciation)
Weak silica alt. Rare cm scale veinlets

141.8' - 143.2' Intensely sheared rock
Local inclusion of sheared gabbro, Bleached rock adjacent to quartz veins 2-3% disseminated pyrite

143.2' - 143.9' Gouge
143.9' - 144.8' Intensely sheared rock

DIORITE 144.8' - 148.6' Fine grained, massive, weak carb + chl, weak pervasive chl. alt., minor fine scale carbonate veinlets (1-2 per 10cm), rare cm scale qtz veinlets

GABBRO 148.6' - 152.5' (well foliated) Med green, fine-medium grained, mod. pervasive chl. carb. alteration

DIORITE 152.5' - 161' As in 144.2' - 148.6' except moderate pervasive carbonate alteration

BRECCIATED BASALT 161' - 168.8' Dark green, [illegible]
Brecciated, 5-8% carb as breccia matrix, 1-3 cm scale [illegible] deformation [illegible] increases with depth through interval, upper part of interval intensely foliated frags bottom part, fractured dark basalt

PORPHYRITIC BASALT 168.8' - 172' Dark green, 15-20% [illegible] feldspar phenos, [illegible] foliated

172' END OF HOLE

DIP TEST 169' = 69.5°

Increasing deformation

Sharp contact 55° CA, 3, 40° CA

Sharp contact 20° CA

Sharp contact

Sharp irregular contacts

Sharp contact 60° CA, 3, 45-50° CA

Sharp irregular Int. contact

Sharp contact 60° CA

3, 50° CA

Hole No. ML-27 | Project: 1446 | Page No: 1 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 23, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00 S N. 1+00 E. | Date Finished: July 24, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 219' | Logged By: R.G. BOLDUAN

COMMENTS: To intersect IP/EM Anomaly and extension of ALTERED ZONE.

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

OVERBURDEN 0' - 6'

CASING REMAINS

GABBRO 6.0' - 14.5'

FINE GRAINED, MEDIUM GREY GREEN WITH WHITE PATCHY SILICIFICATION, WEAK PERVASIVE CARBONATE, ZONES OF STRONG FRACTURE WITH CHLORITIC FILLINGS AT HIGH ANGLE TO CORE, CARBONATE FILLED VEINLETS UP TO 3mm WIDE, ONE 3cm PYRITIC INTRUSIVE(?) FRAGMENT AT 8', TRACE DISSEMINATED PYRITE

8' 3cm INTRUSIVE(?) XENOLITH

RUBBLE - APPROX.

SHARP - OBSURE

SHARP

PORPHYRITIC INTERMEDIATE DYKE 14.5' - 18.3'

APHANITIC, DARK GREEN, WITH <1% (3mm) EUHEDRAL FELDSPAR PHENO'S RANDOMLY ORIENTED, MASSIVE, STRONG SILICIFICATION, CARBONATE FRACTURE COATINGS AS WELL AS BLEBS, NO VISIBLE SULFIDES

GABBRO 18.3' - 20.7'

AS IN 6.0' - 14.5', BECOMES FINER GRAINED BELOW 19', WEAKLY BRECCIATED

DIORITE 20.7' - 58.7'

FINE GRAINED, LIGHT GREEN GREY, SPECKLED, MASSIVE. WEAK FRACTURING WITH CARBONATE COATINGS. CARB VERY WEAK AND PERVASIVE PATCHY SILICIFICATION

SHARP

CONT...

Drilling Interval	% Core Recovered	Core Size	% Sulphides
		STEEL CASING	
9	100	PQ	Tr Py
	100		Tr Py
19			
			Tr Py
	100		
29			
			Tr Py
	100		
37			
			Tr Py
	100		
49			
			Tr Py
			1% Py
	100		Tr Py
59			
			Tr Py

Hole No. ML 27 | Project: 1446 | Page No: 2 Of 4

Casing Collar Elev,: | Ground Elev.: | Date Started: July 23, 1987 | Ref. to Claim Corner:

Coordinates: NG 31005 N. 1100 E. | Date Finished: July 24, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 219' | Logged By: R. G. BONNER

ALTERATION: Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL Qtz | GEOLOGY

'COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

BRECCIATED MAFIC ROCK 58.7' - 62.7'

FINE GRAINED, MEDIUM GREEN, CHLORITIC - SERICITIC, SHEARED, WELL FOLIATED, FRAGMENTS RANDOMLY ORIENTED IN WHITE CARB. CEMENT, ORIGINAL ROCK PROBABLY A GABBRO, TRACE TO 1% PYRITE

SHARP
63.8' SHEARING AT 65° TO CA

MYLONITE 62.7' - 82.8'

VERY FINE GRAINED MED GREY GREEN INTENSELY SHEARED WELL FOLIATED SERICITE - CHLORITE WEAK CARBONATE IN NARROW VEINS NO FABRIC - COMPLETELY DESTROYED FAULT GOUGE 81'-82.5' NO VISIBLE SULFIDES

GROUND CORE
78.2'-79' INTERMEDIATE INTRUSIVE

GRADATIONAL

SHARP

BRECCIATED GABBRO 82.8' - 86.2'

AS IN 58.7' - 62.7', RECOGNIZABLE AS A GABBRO, TRACE DISSEMINATED AND FRACTURE FILLING PYRITE

BRECCIATED BASALT 86.2' - 114'

FINE GRAINED, MEDIUM GREEN TO GREY, MODERATE CARBONATE AS FRACTURE COATINGS AND BRECCIA CEMENT, WEAK PATCHY APPLE GREEN MICA ALTERATION. INTENSE SHEARING THEN BRECCIATION FROM 86' - 109'. FEW QUARTZ VEINS, UP TO 1% PATCHY PYRITE DISSEMINATIONS

SHARP
50% MAGNETITE

50% MAGNETITE

BRECCIATED GABBRO 114' - 148.5'

FINE GRAINED, LIGHT GREEN TO DARK GREEN, MODERATE TO WEAK CARB. CEMENT WITH WEAK TO STRONGLY SHEARED CHLORITIC - SERICITIC SUBROUNDED FRAGMENTS, SHEARED AND FOLIATED SECTIONS WITH FINE DISSEMINATED MAGNETITE CRYSTALS UP TO 50% OF CORE

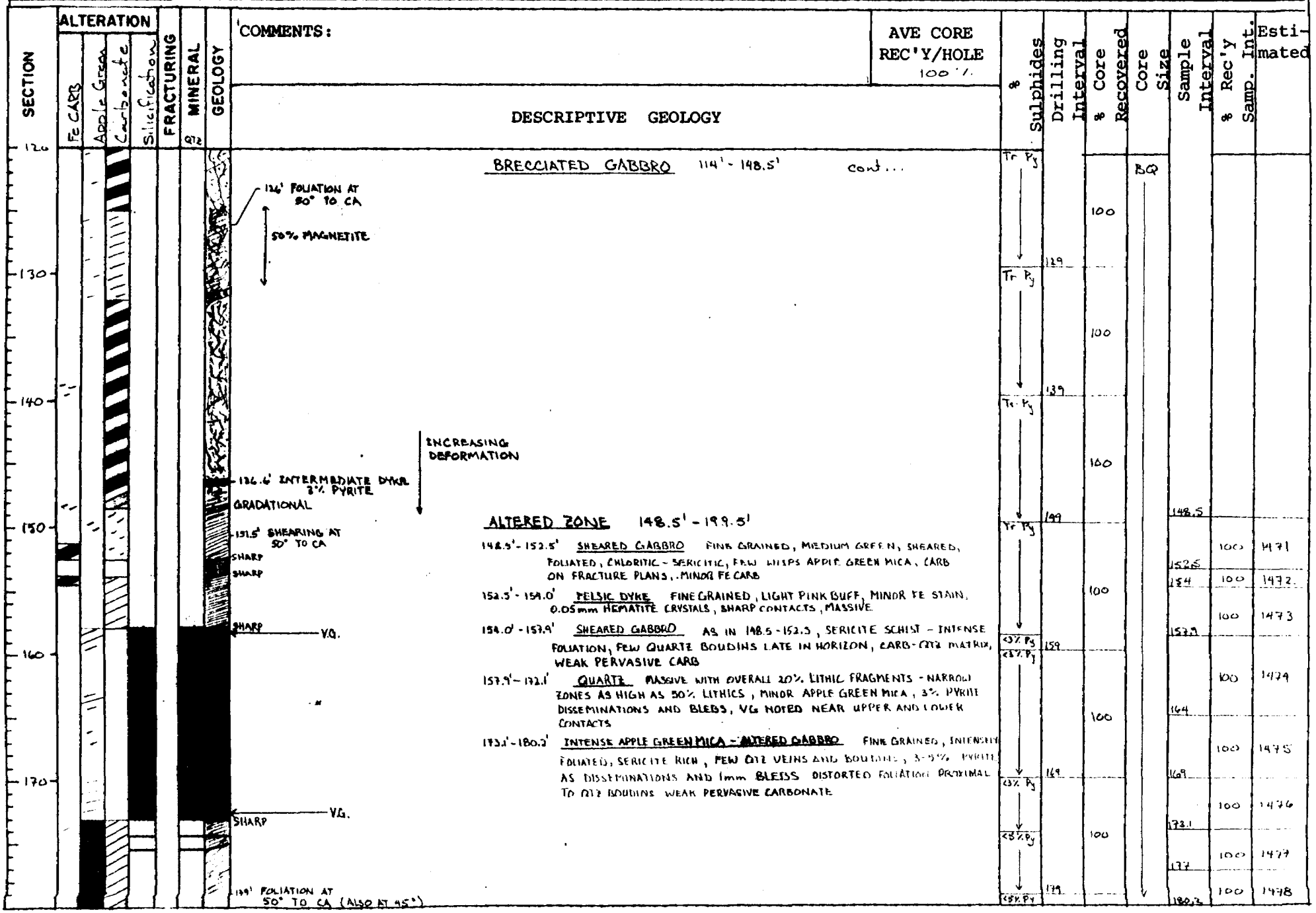
SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
60	Tr 1% Py			BQ			
			95				
70		69					
			80				
80		79					
	Tr Py		95		82.4'		
	Tr 1% Py	89			89	100	1449
90	Tr 1% Py						
			100		94	100	1490
					97		
100		99			100	100	1570
	Tr Py		•				
			100				
110		109					
	Tr Py						
			100		•		
		119		V			

Hole No. ML 27 | Project: 1446 | Page No: 3 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 23, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 1+00 E. | Date Finished: July 24, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 219' | Logged By: R. G. BONNER



Hole No. ML 27 | Project: 1446 | Page No: 4 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: July 23, 1987 | Ref. to Claim Corner:

Coordinates: NG 8400 S N. 1400 E. | Date Finished: July 24, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 219' | Logged By: R.G. BOULTER

ALTERATION: Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

ALTERED ZONE 148.5' - 199.5' cont...

180.2' - 186.8' SHEARED GABBRO AS IN 154' - 157.9' 3% PYRITE

186.8' - 191.0' **INTERMEDIATE INTRUSIVE** FINE GRAINED, LIGHT GREY GREEN TO BUFF, MASSIVE TO WEAKLY FOLIATED, WEAKLY SERICITIC, FOLIATED PYRITE BLEBS, MINOR CALCITE VEINING

191.0' - 192.0' SHEARED GABBRO AS IN 148.5' - 152.5'

192.0' - 195.0' **BRECCIATED GABBRO** FINE TO MED GRAINED, GREY GREEN, MODERATE CARBONATE AS BRECCIA CEMENT, FRAGMENTS ARE WEAKLY FOLIATED, MINOR QUARTZ - CARB VEINS (<1cm), TRACE PYRITE

195.0' - 196.4' SHEARED GABBRO AS IN 154' - 157.9', WISPS OF APPLE GREEN MICA

196.4' - 196.8' FELSIC DYKE AS IN 152.5' - 154.0'

196.8' - 199.5' INTERMEDIATE INTRUSIVE AS IN 186.8' - 191.0', SHEARED GABBRO INCLUSIONS, FEW QUARTZ VEINS

BRECCIATED GABBRO 199.5' - 209.5'

FINE GRAINED DARK BLUE GREEN SERICITE FRAGMENTS WITH WHITE CALCITE CEMENT WEAKLY FOLIATED TRACE PYRITE

GABBRO 204.5' - 219'

FINE TO MED GRAINED, MASSIVE, DARK GREEN, WEAKLY BRECCIATED ABOVE 209', WEAK TO TRACE CARB, CHLORITIC, EUHEDRAL FELDSPAR CRYSTALS - UP TO 1mm, FINE HIGH ANGLE YELLOWISH SILICIOUS VEINING, WEAK TO MOD MAGNETITE - UP TO 1-2%, TRACE PYRITE

END OF HOLE - 219'

SECTION	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180	SHARP	3% Py			BQ	180.2		
	184' FOLIATION AT 45° TO CA						100	1479
	SHARP			100		186.6		
		1% Py				186.8	100	1480
190		1% Py	189				100	1481
	SHARP					191		
	SHARP	Tr Py				192	100	1482
	SHARP			100		195	100	1483
	196' FOLIATION AT 58° TO CA	Tr Py				196.4	100	1484
	SHARP	1% Py	199			199.5	100	1485
200	SHARP	Tr Py		100				
210		Tr Py	204	100				
	219' DIP TEST - 40° Corr		219					
220								
230								

Hole No. ML28 | Project: McVICAR LAKE 1:1416 | Page No: 01 Of 05

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 27, 1987 | Ref. to Claim Corner:

Coordinates: OG 2+10S N. 3+00 E. | Date Finished: JULY 28, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 200° | Total Depth: 279' | Logged By: KATHLEEN M. THOMAS

COMMENTS: TEST HLEM (MMII) CONDUCTOR AND DOWN DIP EXTENSION OF ALTERED ZONE

AVE CORE REC'Y/HOLE

ALTERATION: FE-CARB | APPLE GREEN MICA | CARBONATE | SILICA

FRACTURING | MINERAL | GEOLOGY

SECTION

DESCRIPTIVE GEOLOGY

SECTION	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0	OVERBURDEN 0-5' CASING PENETRATES				CASING			
	GABBRO 0-18' (APPROX) MED. GREY, FINE GRAINED - MEDIUM GRAINED, VARIABLY TEXTURED - FINE GRAINED AND WEAKLY PORPHYRITIC WITH OCCASIONAL ZONES OF MEDIUM GRAINED PEGMATITIC GABBRO. TRACE DISSEMINATE ALTERATION AS MM-CM SCALE X-CUTTING VEINLETS.	TR 1% PY>> PO		65%	BQ			
10								
20	TONALITE 18'-21' GREY WHITE, FINE-MEDIUM GRAINED, HOLOCRYSTALLINE HYPIDIOMORPHIC* GRANULAR 3-5% AMPHIBOLE, TRACE PYRITE (* SOME FELDSPAR AS CLUSTERS (AMIC))	TR PY	19'					
	GABBRO/TONALITE 21'-26.5' GABBRO AS IN PREVIOUS INTERVAL, WITH CM SCALE BANDS OF TONALITE, NO OBVIOUS CHILL MARGIN OR BLEACHING OF GABBRO NEAR CONTACT	TR PY PO		100%				
30	SHARP 60° CA		29'					
	GABBRO 26.5'-27.5' FINE GRAINED. HAIRLINE CARBONATE VEINLETS 40-50° TO CA.							
	GABBRO 27.5'-29.2' MED GREY, MEDIUM GRAINED, 1-2 HAIRLINE FRACTURES/CM CHLORITE	TR PY/PO						
	TONALITE 29.2'-37.5' WHITE GREY - GREENISH GREY, HOLOCRYSTALLINE, HYPIDIOMORPHIC GRANULAR, SIMILAR TO PREVIOUS INTERVALS EXCEPT DARKER COLOUR (FELDSPAR SERICITIZATION)			100%				
40	SHARP 60° CA		39'					
	GABBRO 37.5'-57.4' MEDIUM GREY, MEDIUM GRAINED, WEAKLY FOLIATED, WEAK TO MODERATE CARBONATE ALTERATION AS MM/CM VEINLETS, WEAK CHLORITE ALTERATION AS HAIRLINE VEINLETS 50° CA PARTICULARLY NEAR BOTTOM OF INTERVAL TRACE PY>PO 20-25% ANHEDRAL - SUBHEDRAL FELDSPAR (2-3MM) IN FINER GRAINED AMPHIBOLE RICH MATRIX	TR PY>PO		100%				
50	TONALITE 57.4-58.9 AS IN INTERVAL 29.2'-37.5'		49'					
	SHARP IRREGULAR SHARP 80° CA	TR PY PO		100%				
	GABBRO 58.9-61.0	TR-1%	59'					

Hole No. MC28 | Project: McVICAR LAKE 14416 | Page No: 02 Of 05

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 27, 1987 | Ref. to Claim Corner:

Coordinates: 06 2+10S N. 31+00E E. | Date Finished: JULY 28, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 200° | Total Depth: 279' | Logged By: RODNEY M THOMAS

SECTION | ALTERATION (FE CARB, ARG & CHLORITE, CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

60

GABBRO 58.9' - 64'
AS IN INTERVAL 33.5 - 57.4'
MEDIUM GREY, MEDIUM GRAINED, MODERATE CARBONATE ALTERATION, MODERATE CHLORITE ALTERATION AS HAIRLINE VEINLETS 2-3/cm 60° CA

SHARP 30° CA CONTACT

BRECCIATED GABBRO 64' - 66.7'
MEDIUM GREY, FINE GRAINED, WEAK - MODERATELY FOLIATED, WEAK - MODERATELY BRECCIATED, MINOR FINE-MEDIUM GRAINED TONALITE AS DM SCALE VEINS AND AS BRECCIA MATRIX

80° CA

70

SHARP IRREGULAR

SHARP 20° CA

INT-FELSIC DYKE 66.7' - 69.0'
DARK GREY, APHANITIC AND FELSIC NEAR UPPER MARGIN, VERY FINE GRAINED AND OF INTERMEDIATE COMPOSITION REMAINDER OF INTERVAL, WEAKLY PORPHYRITIC

GABBRO 69.0' - 74.0'
MEDIUM GREY, MEDIUM GRAINED, 20-25% ANHEDRAL SUBHEDRAL FELDSPAR (2-3MM) IN A FINER GRAINED AMPHIBOLE RICH MATRIX
MODERATE CARBONATE ALTERATION AS MM-CM SCALE VEINLETS
WEAK SILICA ALTERATION AS OCCASIONAL VEINLET OR PATCH

80

BASALT XENOLITH 74.0' - 76.0'
MEDIUM GREY GREEN, FINE GRAINED, FELDSPAR PHYRIC, WEAKLY FOLIATED

60-70° CA

GABBRO 76.0' - 110.0'
MEDIUM GREY, FINE - MEDIUM GRAINED VARIABLY TEXTURED DUE TO VARIATIONS IN FELDSPAR CONTENT AND GRAINSIZE, WEAK TO MODERATE CARBONATE ALTERATION, VERY WEAK SILICA ALTERATION (VEINLETS AND PATCHES)
CONSIDERABLE SULPHIDES THIS INTERVAL AS VEINLETS, MASSIVE ACCUMULATIONS AND DISSEMINATIONS

90

89.1' - 89.4' INTENSELY FOLIATED 8% SULPHIDE AS Po>Py>>cp MM/CM STRINGERS, MASSIVE BRECCIA 88.7' - 89.0'

90.2' - 90.4' BAND OF SEMI-MASSIVE (50%) SULPHIDE Py>Po

94.2' - 94.3' BAND OF SEMI-MASSIVE (50%) SULPHIDE Py>>Po

100

103.5 - 104.3' INTENSELY FOLIATED 8% SULPHIDE (Po>Py>>cp) AS MM/CM STRINGERS ~50° CA, MINOR MM/CM SCALE BRECCIA

SHARP 50° CA

SHARP IRREGULAR CONTACTS

106 0.1' BAND Po>Py

106.5 0.1' BAND Po>Py

106.5 - 110.0 1-2% PATCHES OF Po>Py

110

TONALITE 110.0' - 111.0' LIGHT GREY, MEDIUMCRYSTALLINE, HYPIDIOMORPHIC, [illegible]

GABBRO 111.0 - 120.5
AS IN 76.0' - 110.0'

50% Po/Py

1-2% Po/Py cp

5% Po/Py

15% Po/Py

Hole No. ML 78 | Project: MEDICINE LAKE METALS | Page No: 02 Of 02

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 27, 1987 | Ref. to Claim Corner:

Coordinates: 06 2110S N. 3400 E. | Date Finished: JULY 28, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 200° | Total Depth: 279' | Logged By: RODNEY A. THOMAS

ALTERATION: EP. CARB. | APPLE GREEN MICA | CARBONATE | SILICA

FRACTURING | % MINERAL | GEOLOGY

'COMMENTS:

AVE CORE REC'Y/HOLE

SECTION

DESCRIPTIVE GEOLOGY

GABBRO 111.0' - 120.5 (CONT'D)

113.5'-114.0' 10-15% Po>Py
116.3'-116.2' 5-8% Po>Py>>Cp
116.2'-119.2' 5-8% Po>Py>Cp
119'-119.8' 15% Po>Py

← CM SCALE BAND OF TONALITE

GABBRO 120.5'-133.8'

MEDIUM GREY, V. FINE GRAINED, W/ CM SCALE BANDS OF MEDIUM GRAINED GABBRO W/ ASSOCIATED SULPHIDES AS IRREGULAR SHAPED MASSES AND STRINGERS

SHARP IRREGULAR CONTACTS

WEAK CARBONATE ALTERATION AS HAIRLINE VEINLETS AND PERVASIVE REPLACEMENT (RARE CM SCALE VEINLETS), WEAK SILICA ALTERATION AS PATCHES AND CM SCALE VEINLETS 60-65° CA.

TONALITE 133.8'- 135.7'

SHARP IRREGULAR CONTACT

AS IN PREVIOUS INTERVALS
TRACE PY/CP THROUGH INTERVAL

GABBRO 135.7'- 139.7'

RUBBLY CORE

AS IN 120.5'-133.8'

50% SULPHIDES 137'-139'

BRECCIATED GABBRO 139.7'- 144.0'

SI 70°-90° CA

MED GREY GREEN, FINE GRAINED, INTENSELY FOLIATED, BRECCIATED AND ROTATED FRAGS, 5% CARBONATE AS CM SCALE VEINS AS BRECCIA MATRIX
MINOR SILICA ALTERATION AS CM SCALE VEINS AND PATCHES

BRECCIATED GABBRO 144.0'- 152.0'

AS ABOVE EXCEPT MORE INTENSELY SHEARED, INTENSELY CHLORITIZED, DARK GREY COLOUR — PROBABLY STRUCTURALLY EQUIVALENT TO THE MYLONITE IN PREVIOUS HOLES

DIP TEST ← 43°

BRECCIATED GABBRO 152.0'- 184.0'

AS IN INTERVAL 139.7'-144.0' 5-10% CARBONATE
153'-156' CM SCALE CLAY ALTERATION // SI
158'-159.8' " "

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

1% Py/Po
TRACE PY/CP
Cp →
Cp → TR-1% Py/Po
TR-1% Py/Po
TR Py
TR Py

129' 139' 141' 149' 151' 161' 169' 179'

100% 100% 85% 100% 100% 100%

BQ

135.7' 139.0' 139'

100% 148'

Hole No. HL 28 | Project: Hedley Cave 1986 | Page No: 2 of 2

Casing Collar Elev.: | Ground Elev.: | Date Started: July 27, 1986 | Ref. to Claim Corner:

Coordinates: 06 2+10S N. 31+00 E. | Date Finished: July 28, 1986 | Scale: 1" = 10'

Inclination: −45° | Bearing: 200° | Total Depth: 279' | Logged By: [illegible]

SECTION | ALTERATION: FE-CARB | APPLE GREEN MICA | CARBONATE | SILICA | FRACTURING | % MINERAL | GEOLOGY

'COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

180

SHARP CONTACT 85° CA.

S, 80° CA

SHARP IRREGULAR CONTACT

SHARP CONTACT <90° CA

S, 70°-80° CA SHARP CONTACT

S, 70° CA

SHARP CONTACT

190

200

210

← S, 85°-90° CA

SHARP CONTACT 50° CA

220

SHARP IRREGULAR

230

ALTERED ZONE 184 - 211.5'

184.0' - 187.4' INTENSELY LINEATED GABBRO (BLUISH GREY, 40% 2-3mm (1% SECTION X-ED IN LENGTH) STRETCHED CHLORITE RICH GRAINS (AFTER PLAGIOCLASE) IN A FINE GRAINED MATRIX OF CHLORITE (+ SERICITE) RICH MATRIX
SOME APPLE GREEN MICA, MOSTLY NEAR BOTTOM OF INTERVAL
MINOR QUARTZ AS 2CM VEINLET AT CONTACT

189.4' - 190.7' INTERMEDIATE INTRUSIVE, LIGHT TAN COLOUR, FINE GRAINED WEAKLY FOLIATED, PYRITIC ~5% < 2MM DISSEMINATIONS

190.7' - 194.1' APPLE GREEN, FINE GRAINED, 2-3mm BLEB CARBONATE RICH LENTICULES (LIGHT GREEN COLOUR) OR FRAGMENTS COMPRISING 70-80% OF THE ROCK IN AN APPLE GREEN FINE TO MEDIUM MATRIX OF MICA, LENGTH AXIS AND APPLE GREEN MICA DEFINE S,

194.1' - 195.3' INTENSELY LINEATED GABBRO AS IN 184.0'-187.4'

195.3' - 199.6' INTENSELY FOLIATED ROCK (GABBRO) WITH PATCHY VARIABLE APPLE GREEN MICA ALTERATION

196.8' 0.1' INT INT TAN F.G.
199.2' 0.1' INT INT TAN F.G.

FIRST 1.5' INTENSE GREEN MICA ALTERATION

199.6' - 211.5' AS IN PREVIOUS INTERVAL
LIGHT SILICA ALTERATION AS CM SCALE BOUDINS THROUGH INTERVAL 203 & 211.5'
DK BANDS OF INT INT AT 205' AND 211'
2-3% PYRITE OVERALL BUT AGHICA ZONES CONTAIN MOST PYRITE
NOTE QTZ VEINING PROXIMAL TO INT INT BANDS

BRECCIATED GABBRO 211.5' - 220.2'

AS IN 139.7' - 144.0'
QTZ VEIN 218-218.3 W/ 1% DISSEM PYRITE.

DIORITE 220.2' - 228'

W/ INTERVAL OF BRECCIATED GABBRO 221.3' - 222'
LIGHT GREY, FINE GRAINED, MASSIVE, ~10% MAFICS, APHANITIC CHILL MARGINS. MODERATE CARBONATE ALTERATION AS HAIRLINE VEINLETS
1% DISSEM F.G. PYRITE.

GABBRO 228' - 271.7'

TR PY

TR PY

5% PY

2-3% PY

TR-1% PY

2-3% PY

2% PY

1% PY

10 BP/F

1% PY

10 PY

181

187.4

190.7

191.1

192.3

199

199.6

201

205

211.5

211

218

219

229

239

BQ

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

1000

1001

1002

1003

1004

1005

1006

1007

1008

1009

1010

1011

1012

1013

1014

1015

Hole No. HL 78 | Project: HEUCIAR LAKE 1986 | Page No: 01 Of 01

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 27, 1988 | Ref. to Claim Corner:

Coordinates: 06 2+10S N. 3+00 E. | Date Finished: JULY 28, 1988 | Scale: 1" = 10'

Inclination: -45° | Bearing: 200° | Total Depth: 279' | Logged By: RODNEY N THOMAS

SECTION	ALTERATION: FE-CARB	ALTERATION: APPLE GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL (Q)	GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

240

GABBRO 228'-271.7'

MEDIUM GREEN, MEDIUM GRAINED, ~70% FELDSPAR ~ 8-7% AMPHIBOLE (→CHLORITE)
MASSIVE - WEAKLY FOLIATED 40°-55° CA

250

PORPHYRITIC ANDESINOSITIC GABBRO 271.7'- 279.0'

WHITE, COARSE GRAINED, 80-90%- 0.5-0.7 cm FELDSPAR SPHEROIDAL PHENOCRYST (→ SILICA) IN A FINE GRAINED MAFIC MATRIX

260

270

DIP TEST 39° END OF HOLE 279'

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
1% PY			BQ			
To PY	241	100%				
1% PY						
To PY	251	100%				
	261	100%				
To PY	269					
	279	100%				

Hole No. ML 29 | Project: 1446 | Page No: 1 Of 3

Casing Collar Elev.: | Ground Elev.: | Date Started: July 29, 1987 | Ref. to Claim Corner:

Coordinates: NG L4+50S N. 1+25 E. | Date Finished: July 29, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 169' | Logged By: R.G. BONNER

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE 95%

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

0

OVERBURDEN 0 - 15'

CASING REMAINS

STEEL CASING

15

GABBRO 15' - 17.7'

FINE GRAINED, DARK GREEN, MASSIVE, APHYRIC, WITH SEVERAL COARSE GRAINED INCL GABBRO (BELOW) LYING UNIT) WEAK CARBONATE RELATED TO FINE FRACTURES UP TO 3% PYRITE AS BLEBS, VEINLETS AND FRACTURE COATINGS

2% Py

Tr Py

Tr Py

100

BQ

13.3

100%

SHARP

10

20

GABBRO 17.7' - 30.1'

COARSE TO MED GRAINED, LIGHT GREY GREEN, WEAKLY FOLIATED, FEW BASALTIC INCLUSIONS, WEAK PATCHY SILICIFICATION, MODERATE CARB BELOW 24' AS FRACTURE FILLING AND PERVASIVE THROUGH ROCK

100

29

30

BRECCIATED GABBRO 30.1' - 35.5'

FINE GRAINED, LIGHT GREY, INTENSELY FOLIATED FRAGMENTS IN WHITE CARBONATE CEMENT, FRAGMENT OFTEN DISPLAY REMNANT GABBRO TEXTURE, SERICITIC, TRACE PYRITE, WEAKLY FOLIATED BRECCIA

Tr Py

90

GRADATIONAL

SHARP

SHARP

36

TONALITE 35.5' - 36.0'

FINE GRAINED, LIGHT GREY GREEN, WEAKLY BRECCIATED WITH MOD CARBONATE, 30% QTZ, 10% MAFICS, NO VISIBLE SULFIDES

39

40

90° FOLIATION AT 55° TO CA

Tr Py

70

70

150%

ALTERED ZONE 36.0' - 60.7'

GROUND CORE

36.0' - 53.1' **SHEARED GABBRO** FINE GRAINED, DARK GREEN WITH WHITE STRIPES INTENSELY FOLIATED, FEW QTZ BOUDINS, MINOR WISPS APPLE GREEN MICA, WEAK CARBONATE - PATCHY MODERATE IN BRECCIATED ZONES, TRACE PYRITE AS BLEBS AND DISSEMINATIONS, SERICITIC

46

47

50

50° FOLIATION AT 55° TO CA

Tr Py

100

53.1

53.9

SHARP

SHARP

53.1' - 53.9' **INTERMEDIATE INTRUSIVE** FINE GRAINED LIGHT GREEN GREY WEAK FRACTURING WITH CARB FILLING WEAKLY ALTERED TRACE DISS PYRITE

SHARP

SHARP

53.9' - 55.5' BRECCIATED TO **SHEARED GABBRO** AS IN 36.0' - 53.1' MOD CARB AS BRECCIA CEMENT AND PERVASIVE ALTERATION TRACE APPLE GREEN MICA TRACE PYRITE

55.5

3% Py

Tr Py

56.4

SHARP

SHARP

56.9

57.4

51

Tr Py

CONT...

Hole No. ML 29 | Project: 1446 | Page No: 2 Of 3

Casing Collar Elev.: | Ground Elev.: | Date Started: July 29, 1987 | Ref. to Claim Corner:

Coordinates: NG 4+50S N. 1+25 E. | Date Finished: July 29, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 240° | Total Depth: 169' | Logged By: R.G. Bonner

ALTERATION: Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL Qtz | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 95 %

DESCRIPTIVE GEOLOGY

SECTION 60

SHARP

OBSCURE

RUBBLE + GROUND CORE

ALTERED ZONE 36.0' - 60.7' cont...

55.3' - 56.4' INTERMEDIATE INTRUSIVE LIGHT GREEN, SERICITIC, WEAKLY FOLIATED, UP TO 3% PYRITE

56.4' - 58.9' SHEARED GABBRO AS IN 36.0' - 53.1' NO APPLE GREEN MICA FEW QTZ CARB BOUDINS CHLORITIC - SERICITIC TRACE PYRITE

58.9' - 59.4' INTERMEDIATE INTRUSIVE AS IN 53.1' - 53.9'

59.4' - 60.7' SHEARED GABBRO AS IN 36.0' - 53.1, TRACE APPLE GREEN MICA

DIORITE 60.7' - 64.1'

FINE GRAINED, LIGHT YELLOW GREEN, WEAKLY BRECCIATED WITH CARBONATE FILLING, TRACE PYRITE

GABBRO 64.1' - 169'

RUBBLE APPEARS TO HAVE BEEN A CARBONATE BRECCIA FROM 64.0' - 71.0'

FINE TO MEDIUM GRAINED, DARK GREEN, MASSIVE, WEAK PATCHY SILICIFICATION, WEAK CARBONATE ALONG FRACTURES AS WELL AS PERVASIVE THROUGH THE ROCK, FINE YELLOW GREEN SILICIFIED VEINLETS, PYRITE ASSOCIATED WITH NARROW VEINLETS

84.0' - 92.0' WEAKLY BRECCIATED, CEMENT REMOVED - PROBABLY CARBONATE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py	69	50	BQ			
Tr Py	79	90				
Tr Py	89	100				
Tr Py	99	100				
Tr Py	109	100				
Tr Py	119	100				
Tr Py						

Hole No. ML29 | Project: 1446 | Page No: 3 Of 3

Casing Collar Elev.: | Ground Elev.: | Date Started: July 29, 1987 | Ref. to Claim Corner:

Coordinates: NG 4605 N. 1+25 E. | Date Finished: July 29, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 169' | Logged By: R. G. BONNER

ALTERATION: Carbonate, Silicification | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 95%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120							
GABBRO 69.1' - 169' cont...							
	Tr Py	129	100	BQ			
130	Tr Py	139	100				
137' - 169' WEAK TO MOD SILICIFICATION WITH INTENSE ZONES							
140	Tr Py	149	100				
150	Tr Py	159	100				
161.9' - 162.3' BRECCIATED GABBRO AS IN 30.1' - 35.5'							
	Tr Py	169	100				
169' DIP TEST 40° (Corr)							
170							
END OF HOLE - 169'							

Hole No. ML 30 | Project: McUICAR LAKE 1446 | Page No: 01 Of 03

Casing Collar Elev.: | Ground Elev.: | Date Started: JULY 30, 1987 | Ref. to Claim Corner:

Coordinates: NG 5+20S N. 1+63 E. | Date Finished: AUGUST 03, 1987 | Scale: 1"=10'

Inclination: -45° | Bearing: 240° | Total Depth: 169' | Logged By: RODNEY. N. THOMAS

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

OVERBURDEN 0-10'

GABBRO 10' - 22.1'

MEDIUM GREY, MASSIVE - WEAKLY FOLIATED (FELDSPAR), HOLOCRYSTALLINE XENOMORPHIC, FINE TO MEDIUM GRAINED AS 2-4 MM PATCHES OF 20-25% FELDSPAR IN A FINE GRAINED MAFIC RICH MATRIX

VERY WEAKLY CARBONATIZED AS RARE HAIRLINE VEINLETS

MODERATE DEUTERIC SILICA ALTERATION (FELDSPAR → SILICA)

VERY WEAK SECONDARY SILICA ALTERATION

Tr - 1% DISSEM. FINE GRAINED PYRITE

SI ~50° CA.

GRADATIONAL CONTACT

40° ± CA

SHARP IRREGULAR

GABBRO 22.1' - 24.0'

DARK GREEN GREY, FINE GRAINED, ~ 20% PLAG, MASSIVE

OBSCURE CONTACT

OBSCURE CONTACT

GABBRO 24.0' - 25.0'

AS IN INTERVAL 10' - 22.1'

OBSCURE CONTACT

STRONGLY FRACTURED ZONE

RUSTY RUBBLE 25.0' - 26.5' (APPROX.)

CM SCALE FRAGMENTS OF GOETHITE + CHLORITE COATINGS + GABBRO (M.G VARIETY)

OBSCURE CONTACT

GABBRO 26.5' - 27.8' (APPROX.)

AS IN 22.1' - 24.0' MODERATE PERVASIVE / HAIRLINE VEINLET CARBONATE ALTERATION

OBSCURE CONTACT

GRADED CORE

BRECCIATED GABBRO 27.8' (APPROX.) - 40.0' (APPROX.)

MUCH RUBBLE THIS INTERVAL

OBSCURE CONTACT

S_1 = 65° CA

STRONGLY FRACTURED ZONE

S_1 60° CA

UNIFORMLY SHEARED AND BRECCIATED GABBRO, BITS AND PIECES OF RUBBLE FROM UPPER PART OF INTERVAL (30'-32') INDICATE ROCK IS LARGELY BRECCIATED GABBRO WITH DISSOLUTION OF CARBONATE MATRIX, AND ABUNDANT CHLORITE. CENTRE PORTION OF INTERVAL MORE INTENSELY SHEARED AND WEAKLY BRECCIATED, LOWER PORTION OF INTERVAL (39'-40') IS SIMILAR TO UPPER PART OF INTERVAL BOTH COMPRISE FRAGMENTS OF CHLORITIC F.G. GABBRO

OBSCURE CONTACT

Tr PY 1-2% PO Tr-1% PY

Tr-1% PY

Tr-1% PY

19'

29'

39'

49'

59'

75%

75%

50%

20%

70%

28'

32'

38'

43'

49'

51'

59'

5

5'

2'

2'

2'

1'

NAB

Hole No. HC30 | Project: Hedley Lake 1446 | Page No: 02 Of 03

Casing Collar Elev.: | Ground Elev.: | Date Started: July 30, 1987 | Ref. to Claim Corner:

Coordinates: NG 5+20S N. 1+63 E. | Date Finished: August 03, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 169' | Logged By: KNT

SECTION	ALTERATION (Apple Green Mica / Silica / Carbonate)	FRACTURING	MINERAL	GEOLOGY
60				OBSCURE CONTACT.
70				GRADATIONAL CONTACT
80				SHARP INTRUSIVE CONTACT 60° CA.
90				
100				SHARP INT CONTACT ~50°CA.
110				SHARP IRREGULAR

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

ALTERED ZONE 40' (APPROX) - 60' (APPROX)

MUCH RUBBLE AND GROUND CORE THIS INTERVAL.

40'-56' LIGHT GREY-GREEN, INTENSELY FOLIATED, QUARTZ-SERICITE-CARBONATE SCHIST, WEAK-MODERATE PERVASIVE APPLE GREEN MICA ALTERATION, MODERATE PERVASIVE CARBONATE ALTERATION.

ROCK COMPRISES MM SCALE LENTICULES OF QTZ CARBONATE 40-60% IN MATRIX OF FOLIATED SERICITE, GREEN MICA. THIN CM SCALE QTZ BOUDINS, CM SCALE QTZ VEINS AND LENTICULES CONTAIN (11 S.) AND COMPRISE < 5% OF THE INTERVAL.

56'-60' MEDIUM GREY GREEN, FINE GRAINED, INTENSELY FOLIATED MAFIC (GABBRO) ROCK, TR-1% F.G. DISSEM PYRITE

DARKER COLOUR DUE TO ABUNDANT CHLORITE (VS. SERICITE ALTERATION.

BRECCIATED GABBRO 60' - 61' (APPROX.)

RUBBLY CORE

GABBRO 61' - 69.5' (APPROX)

ALTERED TALCOSE-CHLORITIC F.G. GABBRO, SIMILAR TO 56'-60' ALTHOUGH NOT INTENSELY FOLIATED - ROCK IS MASSIVE TO VERY FOLIATED NEAR THE END OF THE INTERVAL.

GABBRO 69.5' - 82.0'

MEDIUM GREEN-GREY, FINE TO MEDIUM GRAINED, MASSIVE
WEAK CARBONATE ALTERATION AS MM/CM SCALE VEINLETS
WEAK TO MODERATE DEUTERIC SILICA ALTERATION (FELDSPAR → SILICA)
MODERATE CHLORITE ALTERATION (AMP → CHL).

FELSIC INTRUSIVE 82.0' - 98.7'

MASSIVE
LIGHT GREY, UPPER AND LOWER CHILL MARGINS WEAKLY PORPHYRITIC (FELDSPAR 2-3MM, < 5%) IN APHANITIC FELSIC GROUNDMASS, REMAINDER OF ROCK AS ABOVE EXCEPT MATRIX FINE GRAINED W/ 10-15% F.G. MAFICS PROBABLY A GRANODIORITIC COMPOSITION.

MODERATE CARBONATE ALTERATION AS HAIRLINE VEINLETS AND PERVASIVE ALTERATION

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR PY	69'	90%	BQ	60' 61' 61.5' 69.5'	1' 3.5' 5'	1571 1720 1721
TR PY	79'	100%				
TR PY	89'	90%		81'		
TR PY	99'	95%		94'	5'	1522
TR PY	109'	100%				
TR PY	119'	100%		119.5'		1523

Hole No. MC 30 | Project: [illegible] | Page No: [illegible]

Casing Collar Elev.: | Ground Elev.: | Date Started: [illegible] | Ref. to Claim Corner:

Coordinates: NS 5+70S N. 1163 E. | Date Finished: [illegible] | Scale: [illegible]

Inclination: -45° | Bearing: 240° | Total Depth: 169' | Logged By: [illegible]

SECTION	ALTERATION: APLITE SERICITE	ALTERATION: SILICA	ALTERATION: CARBONATE	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
							DESCRIPTIVE GEOLOGY						119.5'		
120							GABBRO 98.7' - 119.4'		1C Py			BQ	124.8'	50%	1.2
							LIGHT GREY GREEN, MASSIVE, FINE TO MEDIUM GRAINED, OPHITIC TEXTURE				95%				
							10-25% FLAG LEAK BRECCIATION/SILICIFICATION AS SHOWN (MAY BE DEUTERIC ALTERATION PHENOMENA)		V						
							WEAK CARBONATE ALTERATION AS MM/CM SCALE VEINLETS		1C Py						
130							FELSITE DYKE 119.4' - 124.8			119'					
							LIGHT BROWN - TOFFEE COLOURED, APHANITIC CHILL MARGINS, WEAKLY PORPHYRITIC								
							10-15% F.G. FELDSPAR IN AN APHANITIC GROUND MASS.				100%				
							ROCK IS PROBABLY CRYPTOCRYSTALLINE, HAS CONCHOIDAL FRACTURE								
							WEAK TO MODERATE CARBONATE ALTERATION AS NUMEROUS HAIRLINE CARBONATE VEINLETS								
140							GABBRO 124.8' - 153.7			139'					
							MEDIUM GREY GREEN, FINE TO MEDIUM GRAINED, MASSIVE to WEAKLY FOLIATED				100%				
							WEAK CARBONATE ALTERATION AS MM/CM SCALE VEINLETS								
							V. WEAK SILICIFICATION AS PATCH DEUTERIC ALT OF FELDSPAR -> SILICA								
							MODERATE CHLORITIZATION (AMP -> CHL)								
150										149'					
							PORPHYRITIC ANORTHOSITIC GABBRO 153.7 - 166.3								
							SHARP CONTACT @ 20°CA WHITE, COARSE GRAINED FELDSPAR PHENOCRYSTS IN FINE GRAINED GREEN MAFIC MATRIX		V 1C Py		100%				
							WEAK CARBONATE ALTERATION AS MM/CM SCALE VEINLETS								
							STRONG DEUTERIC SILICA ALTERATION OF FELDSPAR -> SILICA.								
160							GABBRO 166.3' - 169'			159'					
							MEDIUM GREEN, F.G., MASSIVE.				100%				
							SHARP CONTACT @ 50°CA								
							169' END OF HOLE			169'					
							DIP TEST -41°								

Hole No. ML 4X | Project: 1446 | Page No: 1 Of

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 04, 1987 | Ref. to Claim Corner:

Coordinates: 0G0+25S N. 3+50 E. | Date Finished: Aug 06, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 225° | Total Depth: 298' to 618' | Logged By: R.G. BOTTER

COMMENTS: Extension of ML4 from 298' to 618'. To test down dip extension of altered zone

AVE CORE REC'Y/HOLE 100%

ALTERATION: Carbonate, Silicification | FRACTURING | MINERAL: QTZ | GEOLOGY

DESCRIPTIVE GEOLOGY

RE-ENTRY - CORING FROM 298'
CASING REMAINS

GABBRO 298' - 360.4'

MEDIUM TO COARSE GRAINED, MOTTLED GREY GREEN TO GREY, MASSIVE, 30% FELDSPAR, 65% MAFICS, MINOR MAGNETITE, ZONES OF WEAK TO MODERATE CARBONATE, TRACE ELSEWHERE, WEAK PATCHY SILICIFICATION, RANDOM WEAK PATCHY FRACTURING WITH CARBONATE COATING. TRACE TO RARE 1% PYRITE

308' DIP TEST 38° Corr

331' 1% Py

339.5 QTZ-CARB VEIN

RUBBLE

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
296				BQ			
298	Tr Py	298					
300			100				
308	Tr Py	308					
310			100				
318		318					
320			100				
328	Tr Py	328					
330			100				
338	Tr Py Po	338					
340			100				
348		348					

Hole No. ML 4X | Project: 1446 | Page No: 2 Of

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 04, 1987 | Ref. to Claim Corner:

Coordinates: 06 0+25 S N. 3+50 E. | Date Finished: Aug 06, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 225° | Total Depth: to 618' | Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

GABBRO 298' - 360.4' cont...

356' QTZ-CARB VEIN

SHARP

PORPHYRITIC INTERMEDIATE INTRUSIVE 360.4' - 363.6'

FINE GRAINED, APHANITIC, DARK GREY BLACK, 5% PHENOCRYSTS CARBONATE REPLACED, FRACTURE WITH CARBONATE AND MINOR CHLORITE COATING, MULTIPLE FRACTURING SEQUENCE - CARB INJECTIA RATHER THAN CROSSCUTS, PYRITE PRESENT AS MINOR FRACTURE COATING

SHARP

XENOLITH

364' WEAK FOLIATION AT 55° TO CA

GABBRO 363.6' - 445.8'

AS IN 298'-360.4', MASSIVE TO WEAKLY FOLIATED, MINOR HORNBLENDE

360.4' - 369' WEAKLY BRECCIATED WITH WHITE CARB CEMENT

409' FOLIATION AT 45° TO CA

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL: QTZ	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
350						Tr P_{y2} P_o			BQ			
								100				
							358					
360						Tr P_y						
								100				
							368					
370												
								100				
							378					
380												
								100				
							388					
390						Tr P_y P_y						
								100				
							398					
400						Tr P_y P_o						
								100				
							408					

Hole No. ML 4x | Project: 1446 | Page No: 3 Of

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 04, 1987 | Ref. to Claim Corner:

Coordinates: 0G 01255 N. 3450 E. | Date Finished: Aug 06, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 225° | Total Depth: to 618' | Logged By: R.G. BONNER

ALTERATION: Carbonate, Silicification | FRACTURING | MINERAL ore | GEOLOGY | SECTION

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py Po	418	100	BQ			
Tr Py	428	100				
Tr Py Po	438	100				
Tr Py Po	448	100				
Tr-1% Py	458	100				
Tr Py	468	100		468	100	1524
Tr Py						

410 / 420 / 430 / 440 / 450 / 460

GABBRO 363.6' - 445.8' cont ...

433' FOLIATION AT 55° TO CA

445' - 445.8' WEAKLY BRECCIATED WITH WHITE CARBONATE CEMENT

SHARP

BRECCIATED GABBRO 445.8' - 456.1'

THE ABOVE UNIT NOW INTENSELY FOLIATED FRAGMENTED WITH WHITE CARBONITE CEMENT FRAGMENTS ARE DARK GREEN FROM 452' THE BRECCIA CEMENT BECOMES INCREASINGLY FOLIATED TWO ZONES OF FINER GRAINED CHLORITIC BRECCIA (450.5' - 451.6' AND 453.5' - 456.1') POSSIBLEY DERIVIED FROM BASALT TRACE PYRITE AS DISSEMINATION AND FRACTURE COATINGS

454.8' DYKE ? - INTENSELY FOLIATED PERVASIVE CARBONATE

SHARP

MYLONITE 456.1' - 468.0'

FINE GRAINED, LIGHT GREY GREEN, INTENSELY FOLIATED, CHLORITIC, HAS A FRAGMENTAL APPEARANCE WITH LENTICULAR STRETCHED FRAGMENTS, WEAK PERVASIVE CARBONATE, TRACE PYRITE, FEW QTZ BOUDINS

463' S, AT 65° TO CA

SHARP

cont ...

Hole No. ML 4X | Project: 1446 | Page No: 4 Of

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 04, 1987 | Ref. to Claim Corner:

Coordinates: 0G 0425S N. 3+50 E. | Date Finished: Aug 06, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 225° | Total Depth: to 618' | Logged By: R. G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

BRECCIATED MAFIC ROCK 468.0' - 475.1'

FINE GRAINED, DARK GREEN WITH WHITE CARBONATE CEMENT, FOLIATED NEAR UPPER CONTACT, CHLORITIC, NARROW (<1cm) MAGNETIC BANDS, MINOR QTZ VEINING WITH PYRITE, ALSO SOME APPLE GREEN MICA WITHIN NARROW FOLIATED ZONES, TRACE TO 2% PYRITE

TONALITE DYKE 475.1' - 477.2'

FINE GRAINED, LIGHT YELLOW GREEN, MASSIVE, FRACTURES WITH CARBONATE COATINGS, NO VISIBLE SULFIDES

BRECCIATED MAFIC ROCK 477.2' - 510.8'

AS IN 468 - 475.1 GRADES TO GABBRO ZONES OF MAGNETITE RICH (UP TO 60% Fe_3O_4) FRAGMENTS

* 481.5' - 483' SHEARING - REMNANT OR OUTER EDGE OF ALTERED ZONE

GABBRO 510.8' - 570.0'

AS IN 298' - 360.4, MASSIVE, FRESH

SHARP

SHARP

478' DIP TEST 38° (Corr.)

481.5' - 483' EQUIVALENT TO ALTERED ZONE?

GROUND CORE

509 QTZ-CARB VEIN

GRADATIONAL

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
470	2% Py			BQ	471.2		
	Tr-1% Py	478	100		475.1	100	1515
					477.2	100	1526
480	Tr Py				481.3	100	1527
			85		485	100	1528
		488			GROUND CORE		
490	Tr Py					100	1529
			100		493.1		
		498			497	100	1530
500	Tr Py						
			100				
		508					
510			90				
		518					
520			100				
		528					

Hole No. ML-4X | Project: 1446 | Page No: 5 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 04, 1987 | Ref. to Claim Corner:

Coordinates: OG 0+25 S N. 3+50 E. | Date Finished: Aug 06, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 225° | Total Depth: to 618' | Logged By: R.G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	% MINERAL	GEOLOGY
530					
540					
550					
560					
570					SHARP / SHARP
580					

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

GABBRO 510.8' - 570.0' cont...

596.7' - 570' AS ABOVE. FELDSPAR CONTENT ≠15% MASSIVE FRESH MINOR FRACTURING WITH CARBONATE COATINGS ALSO LIGHT FINE SILICIOUS VEINING

ANORTHOSITIC GABBRO PORPHYRY 570.0' - 570.9'

FINE GRAINED DARK GREEN GROUNDMASS WITH 0.5 cm. WHITE FELDSPAR PHENOCRYSTS, UP TO 50% OF ROCK, MINOR SILICIFICATION, NO VISIBLE SULPHIDES

GABBRO 570.9' - 618.6'

VERY FINE GRAINED, DARK GREEN, MASSIVE, FRESH, 1-2mm PYROXENE CRYSTALS VISIBLE, MINOR FRACTURING WITH CARBONATE COATINGS, TRACE PYRITE, WEAKLY MAGNETIC

578.0' - 580.8' AS IN 298' - 360.4', WEAKLY PORPHYRITIC, 1-2% MAGNETITE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
	538	100	BQ			
	548	100				
	558	100				
	568	100				
Tr Py	578	100				
Tr Py	588	100				

Hole No. ML 4X | Project: 1446 | Page No: 6 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 04, 1987 | Ref. to Claim Corner:

Coordinates: 0G 0125 S N: 3+50 E. | Date Finished: Aug 06, 1987 | Scale: 1" = 10'

Inclination: -45° Bearing: 225° | Total Depth: to 618' | Logged By: R. G. BONNER

ALTERATION: Carbonate, Silicification | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

590

GABBRO 570.9' - 615.6' cont...

% Sulphides: Tr Py

Drilling Interval: 598

% Core Recovered: 100

Core Size: BQ

600

FRACTURING WITH CARBONATE CEMENT

Tr Py

608

100

610

ANORTHOSITIC GABBRO PORPHYRY 615.6' - 615.9'

AS IN 570' - 670.9' SMALL DYKE

GABBRO 615.9' - 618'

AS IN 670.9' - 615.6'

SHARP

SHARP

PORPHYRY BOULDER

618' DIP TEST 36° (Corr)

Tr Py

618

100

620

END OF HOLE - 618'

No Altered Zone - as in ML 16

Sample Interval | % Rec'y Samp. Int. | Esti-mated

Hole No. ML-31 | Project: 1446 | Page No: 1 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 7, 1987 | Ref. to Claim Corner:

Coordinates: NG 21003 ~~N.~~ 1+50 E. | Date Finished: Aug 8, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 384' | Logged By: R.G. BONNER

'COMMENTS: To test down dip extension of altered zone.

AVE CORE REC'Y/HOLE

SECTION | ALTERATION (Carbonate, Silicification) | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

0

OVERBURDEN 0' - 18.5'

CASING REMAINS

STEEL CASING

19

BASALT 18.5' - 54.5'

VERY FINE GRAINED TO FINE, DARK GREEN, MASSIVE, PERVASIVE CHLORITE ALTERATION MIGRATING FROM FRACTURES, FINE YELLOW/GREEN SILICA VRINLETS RANDOMLY ORIENTED, PATCHY WEAK SILICIFICATION PATCHY WEAK TO PERVASIVE WEAK CARBONATE ALTERATION, MINOR CARBONATE FILLED BRECCIA, TRACE PYRITE, PYRRHOTITE ALONG FRACTURES, FINE GRAINED GRADES INTO NARROW GABBRO ZONES, WEAK PATCHY MAGNETISM

Tr Py

100

BQ

29

Tr Py Po

100

35

Tr Py Po

100

INTERMEDIATE INTRUSIVE 54.5' - 57.0'

FINE GRAINED, DARK GREEN, MASSIVE TO FOLIATED - BECOMES GREY WITH GREEN FINE GRAINED GABBRO INCLUSIONS, WEAKLY PORPHYRITIC WITH 1mm FELDSPARS, CARBONATE FRACTURE FILLING, FRACTURING RANDOM GIVES BRITTLE APPEARANCE, NO VISIBLE SULPHIDES

49

Tr Py

100

GABBRO 57.0' - 62.8'

FINE GRAINED LIGHT GREY GREEN MASSIVE WITH FINE CHLORITIC FRACTURES AND CHLORITIC GROUNDMASS MINOR YELLOW GREEN SILICIFICATION ALL CROSSCUT BY RANDOM TO WEAKLY ORIENTED CARBONATE FILLED FRACTURES (BRECCIATED)

SHARP

SHARP

59

Tr Py

Hole No. ML 31 | Project: 1446 | Page No: 2 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 7, 1987 | Ref. to Claim Corner:

Coordinates: NG 2400 S N. 1+50 E. | Date Finished: Aug 8, 1987 | Scale: 1" = 10'

Inclination: -43° Bearing: 240° | Total Depth: 384' | Logged By: R. G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL %	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated

DESCRIPTIVE GEOLOGY

SHARP

68' PRIMARY BANDING AT 55° TO CA

72.5' PELSIC DYKE

SHARP

BRECCIATED GABBRO 62.8' - 65.5'

FINE GRAINED, LIGHT TO DARK GREEN, 3cm SUBANGULAR FRAGMENTS WEAKLY ORIENTED WITH WHITE CARBONATE CEMENT, FRAGMENTS BECOME INCREASINGLY FOLIATED WITH DEPTH, NO VISIBLE SULFIDES, MODERATE PERVASIVE CARBONATE

BRECCIATED IRON FORMATION 65.5' - 65.8'

FINE GRAINED, DARK BROWN BLACK TO GREEN, MASSIVE MAGNETITE FRACTURED FRAGMENTS WITH GRUNERITE?, INTENSE CARBONATE CEMENT

BRECCIATED GABBRO 65.8' - 66.4'

AS IN 62.8' - 65.5'

BRECCIATED IRON FORMATION 66.4' - 66.6'

AS IN 65.5' - 65.8'

BRECCIATED GABBRO 66.6' - 67.8'

AS IN 62.8' - 65.5'

BANDED IRON FORMATION 67.8' - 68.5'

AS IN 65.5' - 65.8', BANDS OF MAGNETITE WITH GREY CHERTY BANDS, MODERATE CARB CONTENT AS CEMENT, FRACTURED BUT ONLY WEAKLY DISRUPTED, TRACE PYRITE ALONG FRACTURES

BRECCIATED GABBRO 68.5' - 76.2'

AS IN 62.8' - 65.5' LAST 0.4' BRECCIA CHANGES TO FRAGMENTS OF NEXT UNIT

GABBRO 76.2' - 167.3'

MEDIUM GRAINED, MOTTLED DARK GREEN TO WHITE, MASSIVE, EQUIGRANULAR, 70% PYROXENE, 25% FELDSPAR, MINOR HORNBLENDE, TRACE DISSEMINATED PYRITE, WEAK PATCHY CARBONATE, WEAK PATCHY MAGNETISM CARBONATE FRACTURE COATINGS

Tr Py

Tr Py

69

Tr Py Po

79

Tr Py Po

89

Tr Py Po

99

Tr Py Po

109

Tr Py

119

Drilling Interval	% Core Recovered	Core Size
69	100	BQ
79	100	
89	100	
99	100	
109	100	
119	100	

Hole No. ML81 | Project: 1446 | Page No: 3 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 07, 1987 | Ref. to Claim Corner:

Coordinates: NG 24003 N. 1+50 E. | Date Finished: Aug 09, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 384' | Logged By: R. G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

120

GABBRO 76.2' - 167.3' cont...

BECOMES WEAKLY FOLIATED

Tr Py Po

125

100

130

Tr Py Po

100

135

140

Tr Py

100

145

150

Tr Po Py

100

155

160

Tr Po Py

100

165

169

170

146' WEAK FOLIATION AT 50° TO CA

SHARP

169' DIP TEST - 38°(Corr)

RUBBLE

OBSCURE CONTACT

RUBBLE

INTERMEDIATE INTRUSIVE - PORPHYRITIC DIORITE 167.3' ≈ 173'

APHANITIC, DARK BROWN GREEN, WITH 5% AUTOMORPHIC (1mm) RANDOMLY ORIENTED FELDSPARS, WEAK CARBONATE ALONG FRACTURES AS IN 54.5' - 57.0'

GABBRO ≈ 173' - 245.6'

AS IN 76.2' - 167.3', WEAKLY FOLIATED, FEW PATCHES SILICIFICATION WEAK PERVASIVE CARBONATE.

Tr Py Po

175

60

180

Hole No. ML 31 | Project: 1446 | Page No: 4 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 07, 1987 | Ref. to Claim Corner:

Coordinates: NG 2+00 S N. 1+50 E. | Date Finished: Aug 09, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 384' | Logged By: R.G. BONNER

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180				QTz		181' FOLIATION AT 45° TO CA GABBRO 173.' - 245.6' cont...		Tr Py Po		100	BQ			
190								Tr Po Py	189	100				
200						201' GABBRO DYKE - SHARP CONTACTS WELL FOLIATED, BANDED		Tr Py Po	199	100				
210						205' BRECCIA - CARB CEMENT		Tr Py Po	209	100				
220								Tr Py Po	219	100				
230						235' - 245.6' BECOMING BRECCIATED, NEW ZONES OF BRECCIATED GABBRO		Tr Py	229	100				
									239					

Hole No. ML 31 | Project: 1446 | Page No: 5 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 07, 1987 | Ref. to Claim Corner:

Coordinates: NG 2+00S N. 1+50E E. | Date Finished: Aug 09, 1987 | Scale: 1" = 10'

Inclination: -43° | Bearing: 240° | Total Depth: 384' | Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

GABBRO ≈ 173' - 245.6'

BRECCIATED GABBRO 245.6' - 259.4'

FINE GRAINED LIGHT GREY GREEN TO BUFF FOLIATED TO INTENSELY FOLIATED FRAGMENTS IN WHITE CARBONATE CEMENT BECOMING INTENSELY FOLIATED WITH DEPTH WEAK PATCHY SILICIFICATION WEAKLY CHLORITIC TRACE PYRITE - LOCAL TO 1%, ONE 2cm BAND OF 50% PYRITE GRANULAR BRECCIA AT LOWER CONTACT (1.5 cm)

MYLONITE 259.4' - 268.6'

259.4' - 264' FINE GRAINED, INTENSELY SHEARED, WELL FOLIATED, CHLORITIC, WEAKLY SERICITIC, WITH WEAK PERVASIVE CARBONATE ALONG FOLIATION PLANES, FEW QUARTZ BOUDINS, NO VISIBLE SULFIDE

264' - 268.6' AS ABOVE, INTENSITY OF DEFORMATION REDUCED, BOUDINAGE FRAGMENTS WITH SEVERAL QUARTZ ZONES, MINOR APPLE GREEN MICA, MINOR Fe CARBONATE, TRACE TO LOCAL 1% PYRITE, MAY REPRESENT AN ADVANCED DEFORMATION OF UNDERLYING BRECCIA

BRECCIATED GABBRO 268.6' - 284.3'

AS IN 245.6' - 259.4', DECREASING DEFORMATION WITH DEPTH CHLORITIC - SERICITIC, TRACE PYRITE, HINTS OF APPLE GREEN MICA, HEMATITE ALONG QTZ-CARB VEINS, TWO NARROW FELSIC DYKES NEAR THE UPPER CONTACT, ONE AT THE LOWER

GABBRO 284.3' - 334.0'

FINE GRAINED, LIGHT GREY GREEN, EQUIGRANULAR, MASSIVE, WEAK TO MODERATELY BRECCIATED WITH WHITE CARBONATE CEMENT, 30% FELDSPAR UP TO 1mm NARROW ZONES OF PORPHYRY, TRACE PYRITE

SECTION	ALTERATION: Apple Green Mica	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL: Qtz	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240							Tr Py		100	BQ			
						SHARP							
							Tr Py	249					
250							Tr Py		100		259.4		
						MASSIVE PYRITE (2 cm) SHARP		259				100	153.1
260									100		264		
						SHARP FELSIC DYKE	Tr Py	269			268.6	100	153.2
270							Tr Py		100		273.6	100	153.3
						FELSIC DYKE		279					
280						SHARP	Tr Py		100				
290								289					
							Tr Py	299	100				

Hole No. ML 31 | Project: 1446 | Page No: 6 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 07, 1987 | Ref. to Claim Corner:

Coordinates: NG 2400 S ~~N~~ 1150 E. | Date Finished: Aug 08, 1987 | Scale: 1"=10'

Inclination: -43° | Bearing: 240° | Total Depth: 384' | Logged By: R.G. Benner

SECTION	ALTERATION: Apple Green Mica	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY
300					Qtz	
310						
320						
330						SHARP
340						
350						SHARP

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

GABBRO 284.3' - 334.0' cont...

330' - 334' PORPHYRITIC WITH 3 mm FELDSPARS

BRECCIATED GABBRO 334.0' - 348.8'

FINE GRAINED, DARK TO MEDIUM GREEN, WEAK TO INTENSELY FOLIATED WITH WEAK TO MODERATE WHITE CARBONATE CEMENT, RANDOMLY TO STRONGLY ORIENTED FRAGMENTS, TRACE PYRITE AS DISSEMINATIONS AND FRACTURE COATINGS

ALTERED ZONE 348.8' - 359.6'

348.8' - 350.7' SHEARED GABBRO, FINE GRAINED, DARK GREEN, WEAKLY FOLIATED, CHLORITIC, HINTS OF APPLE GREEN, VERY WEAK PERVASIVE CARBONATE, TRACE PYRITE

350.7' - 353' APPLE GREEN MICA ZONE FINE GRAINED, LIGHT WHITE TO INTENSE GREEN, INTENSELY FOLIATED, SERICITIC, 1% PYRITE, MAGNETIC PATCHES, RECOGNIZABLE AS PORPHYRITIC GABBRO BEFORE ALTERATION, SHARP UPPER AND LOWER CONTACTS, ZONES UP TO 50% QTZ

353' - 353.6' SHEARED GABBRO AS IN 348.8' - 350.7' WEAK PERVASIVE CARBONATE

351' FOLIATION AT 60° TO CA

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py	301	100	BQ			
Tr Py	319	100				
Tr Py	329	100				
Tr Py	339	100				
Tr Py	349	100		348.8		
				350.7	100	1534
				353	100	1535
	359			353.6	100	1536

Hole No. ML31 | Project: 1446 | Page No: 7 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 07, 1987 | Ref. to Claim Corner:

Coordinates: NG 2+00S N. 1+50 E. | Date Finished: Aug 09, 1987 | Scale: 1" = 10'

Inclination: -43° Bearing: 240° | Total Depth: 384' | Logged By: R.G. BONNER

ALTERATION: Mod. Green Mica | Carbonate | Silicification | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

SECTION: 360 | 370 | 380 | 390 | 400 | 410

DESCRIPTIVE GEOLOGY

BRECCIATED GABBRO 357.6' - 366.4'

AS IN 334 - 348.8

SHARP

ANORTHOSITIC GABBRO PORPHYRY 366.4' - 379.7'

DARK GREEN TO WHITE 0.5cm. PLAGIOCLASE PORPHYROBLASTS VARYING FROM 30% TO 50% OF CORE. MINOR APPLE GREEN MICA ASSOCIATED WITH FRACTURING. MODERATE SILICIFICATION BY PLAG. REPLACEMENT - PSEUDOMORPHIC TEXTURE. WEAK MINOR CARBONATE AS FRACTURE COATINGS. TRACE PYRITE. MASSES OF MAGNETITE WITH GARNET ALTERATION.

SHARP

GABBRO 379.7' - 383'

AS IN 32.2' - 163.3'

GABBRO 383' - 384'

FINE GRAINED, DARK GREEN, FEW 1mm PYROXENE CRYSTALS, MINOR CARBONATE

384' DIP TEST
85.5° (Corr)

END OF HOLE - 384'

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py	369	100	BQ			
Tr Py	379	100				
	384	100				

Hole No. ML 32 | Project: 1446 | Page No: 1 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 10, 1987 | Ref. to Claim Corner:

Coordinates: NG 31005 ~~N.~~ 1150 E. | Date Finished: Aug 11, 1987 | Scale: 1"=10'

Inclination: -70° | Bearing: 240° | Total Depth: 299' | Logged By: R. G. Bonner

COMMENTS: To test down dip extension of altered zone

AVE CORE REC'Y/HOLE 100%

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0						OVERBURDEN 0' - 7' CASING REMAINS				STEEL CASING			
10						IONALITE 7' - 37' FINE GRAINED, MED GREY, MASSIVE, EQUIGRANULAR, CARBONATE ALONG FRACTURE PLANES, TRACE PYRITE	Tr Py	23 19	100	BQ			
20									100				
30								29	100				
40						XENOLITH - BASALTIC SHARP GABBRO 37' - 53.5' FINE GRAINED DARK GREEN MASSIVE ZONES HAVE 1mm FELDSPAR PHENOCRYSTS - PHYRIC WEAK YELLOW GREEN SILICIOUS VEINLETS RANDOMLY ORIENTED TRACE PYRITE - LOCAL TO 3% IN 1cm WIDE COARSE GRAINED BANDS UPPER CONTACT ZONE 37' - 39' HAS CARBONATE BLEBS - PERVASIVE WEAK ALTERATION - WEAKLY BRECCIATED CARB PRESENT AS FRACTURE COATINGS	Tr Py Tr Py	39 49	100				
50						53' DIORITE DYKE - AS IN 7'-37' SHARP SHARP INTERMEDIATE INTRUSIVE 53.5' - 56.7' FINE GRAINED DARK GREEN GREY WEAKLY PORPHYRITIC WITH LATH SHAPED AUTOMORPHIC FELDSPARS WEAK PERVASIVE CARBONATE PYRITE ALONG FRACTURE PLANES cont..	Tr Py	59	100				

Hole No. ML 32 | Project: 1446 | Page No: 2 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 10, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 1+50 E. | Date Finished: Aug 11, 1987 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 299' | Logged By: R.G. BONNER

SECTION	ALTERATION (Carbonate, Silicification)	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated

DESCRIPTIVE GEOLOGY

SHARP

BRECCIATED BASALT 56.7' - 59'

FINE GRAINED DARK GREEN MASSIVE TO WEAKLY FOLIATED FRAGMENTS IN WHITE CARBONATE CEMENT TRACE PYRITE BASALT IS FELDSPAR PHYRIC AS IN 37'-53.5'

TONALITE 59' - 60.7'

AS IN 9'-37', WEAKLY FOLIATED, UP TO 1% PYRITE LOCALLY

GABBRO 60.7' - 131.5'

FINE TO MEDIUM GRAINED, DARK GREY GREEN, MASSIVE TO VERY WEAKLY FOLIATED, 20-30% FELDSPARS, EQUIGRANULAR, BRECCIATED TO 64' WITH WHITE CARBONATE CEMENT TRACE Po ASSOCIATED WITH EARLY(?) FRACTURES, WEAK PATCHY SILICIFICATION

96'-105' INTENSE SILICIFICATION, 5-10% REMNANT MINERAL GRAINS AS GHOSTS

Tr Po

49

Tr Po

79

89

99

109

Tr Po

114

100

100

100

100

100

BQ

SHARP

cont...

Hole No. ML 32 | Project: 1446 | Page No: 3 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 10, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 1+50 E. | Date Finished: Aug 11, 1987 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 299' | Logged By: R.G. BONNER

ALTERATION: Fe Carbonate | Amphibole-Green Mica | Carbonate | Silicification | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

GABBRO 60.7' - 131.5' cont...

119.2'-121.3' FINE GRAINED, DARK GREEN, MASSIVE, WEAKLY PORPHYRITIC WITH 1% 1-2 mm FELDSPAR PHENO'S RANDOMLY ORIENTED, MINOR FINE [illegible] SILICA VEINING, SHARP CONTACTS - DYKE - BASALTIC ?

125' - 126.6' AS ABOVE SUBUNIT, GRADATIONAL CONTACTS, WEAKLY BRECCIATED AT UPPER CONTACT WITH WHITE CARBONATE CEMENT, NO PHENO'S

BRECCIATED GABBRO 131.5' - 142.9'

FINE GRAINED, DARK GREY GREEN, WEAK TO INTENSELY FOLIATED, FRAGS IN WHITE CARBONATE CEMENT, INTERCALATING IRONSTONE AND CHLORITIC MUDSTONE FROM 134.5'-139'-POSSIBLY INCLUDES TUFFS, MINOR SILICIFICATION BUT MAGNETITE CRYSTALS REMAIN IN CONTACT WITH DISS. - PYRITE - CHALCOPYRITE MINERALIZATION - LOCALLY TO 20%, MINOR FRACTURE QTZ VEINING, CHLORITIC BRECCIATION WEAKLY FOLIATED, IRONSTONE HAS GARNET?PEROUS PHASES

BRECCIATED INTERMEDIATE(?) INTRUSIVE 142.9' - 144.4'

FINE GRAINED, MEDIUM GREY, FRACTURED WITH INFILLING WHITE CARBONATE CEMENT, CHLORITIC, NO VISIBLE SULFIDES

MYLONITE - CHLORITE SCHIST 144.4' - 155.7'

FINE GRAINED, DARK GREEN, WELL FOLIATED, INTENSELY SHEARED, 80% CHLORITE - SERICITE, 1% CARBONATE, 5% HOST REMNANTS - GABBRO, TRACE PYRITE

BRECCIATED GABBRO 155.7' - 191.7'

FINE GRAINED, MEDIUM TO LIGHT GREY GREEN, WEAK TO INTENSE BRECCIATION, MASSIVE TO INTENSELY FOLIATED FRAGMENTS, WHITE CARBONATE CEMENT, MINOR ORANGE-RED FE CARBONATE CEMENT, BRECCIATION IS WEAK TO STRONGLY FOLIATED, WEAKLY CHLORITIC, HINTS OF APPLE GREEN MICA - SERICITE, MINOR QTZ VEINS UP TO 10CM, TRACE PYRITE AS DISSEMINATIONS AND BLEBS, WEAK PATCHY MAGNETITE

165'-173' FOLIATED BRECCIA

173'-186.2' MASSIVE FRAGMENTS - CHLORITIC

SHARP | SHARP | SHARP | SHARP | 182' SHEARING AT 50° TO CA | SHARP | KA' DIP TEST 70° (Corr)

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120				BQ			
		129	100				
130	Tr Py				131		
	20% Py, Cp 1% Py		100			100	1537
	10% Py, Cp	139			139		
140	Tr Py					100	1538
			95		142.9		
		149					
	Tr Py						
			100				
	Tr Py	159					
	Tr Py						
			100		165		
	Tr Py	169				100	1539
170					170		
			100			100	1540
					175		
		179					

Hole No. ML 82 | Project: 1446 | Page No: 4 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 10, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 1+50 E. | Date Finished: Aug 11, 1987 | Scale: 1" = 10'

Inclination: -70° Bearing: 240° | Total Depth: 299' | Logged By: R. G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

BRECCIATED GABBRO 155.7' - 191.7' cont...

186.2' - 187.4' BRECCIATED BRECCIA ZONE - S, EVENT GRANULATED MATRIX SAME AS FRAGMENTS SUPERIMPOSED S_2 CARB - BRECCIA

ALTERED ZONE 191.7' - 255.5'

191.9' - 193.4' SHEARED GABBRO FINE GRAINED, DARK GREEN TO BUFF, WELL FOLIATED, WEAK PERVASIVE CARBONATE, LAMINATED QUARTZ WITH 2% PYRITE

193.4' - 195.4' ENT. INTRUSIVE F.GR., LIGHT YELLOW TO BUFF, MASSIVE, FELDSPAR AND QUARTZ DOMINATE, MINOR SERICITE ALONG FRACTURE PLANES, TRACE PYRITE, 5 cm WIDE QUARTZ VEINLETS

195.4' - 197.3' QUARTZ FINE WHITE TO SLIGHT GREY, MASSIVE AT 197.3' WITH 60% DIORITIC LITHICS AT 195.4' - GRADES THROUGH THE SECTION, 1% DISS PYRITE WEAK FRACTURING WITH WHITE CARBONATE COATINGS

197.3' - 204.0' SHEARED GABBRO FINE GRAINED, LIGHT YELLOW BUFF TO GREEN, SERICITIC, FRAGMENTAL APPEARANCE - ROTATION OF LENSOIDAL SERICITIC REMNANTS, WEAK PERVASIVE CARBONATE CEMENT, WELL FOLIATED BRECCIA, APPLE GREEN MICA WISPS BECOMING PROMINENT BELOW 201.2', 1% PYRITE AS BLEBS AND DISS.

204' - 214' DIORITE FINE GRAINED, DARK GREY, MASSIVE, WEAKLY BRECCIATED WITH WHITE CARBONATE COATING AND FILLING, 2% PYRITE AS BLEBS AND DISSEMINATIONS, FINE SILICOUS YELLOW GREEN ALTERATION ALONG EARLIER FRACTURE SET, UPPER CONTACT INTENSELY ALTERED - MINOR APPLE GREEN, STRONGLY SILICIFIED AT UPPER AND LOWER

214' - 220.1' SHEARED GABBRO As IN 197.3 - 204', TRACE PYRITE

220.1' - 234.0' APPLE GREEN MICA ZONE GENERALLY FINE GRAINED, EMERALD TO APPLE GREEN TO YELLOWISH, INTENSELY FOLIATED, SERICITIC, NUMEROUS QUARTZ BOUDINS, 3-5% DISSEMINATED PYRITE, WEAK PERVASIVE CARBONATE, FEW FOLIATED DIORITE DYKES (UNALTERED W/R. SERICITE) WEAK PATCHY MAGNETITE, FEW CROSS-CUTTING QTE VEINS, ROCK APPEARS TO HAVE BEEN GABBRO BUT SEVERAL SECTIONS ARE SUSPECTED OF BEING INTERMEDIATE INTRUSIVES

234' - 236.4' SHEARED GABBRO As IN 191.7' - 193.4', TRACE PYRITE

236.4' - 237.6' APPLE GREEN MICA As IN 220.1' - 234.0'

cont...

SECTION	ALTERATION: Apple Green Mica	Carbonate	Silicification	FRACTURING	% MINERAL	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180							Tr Py		100	BQ			
						SHARP		189			191.7		
190						SHARP	Tr Py				193.4	100	1541
						SHARP	1% Py		100		195.4	100	1542
						SHARP	Tr Py				197.3	100	1543
						200' FOLIATION AT 85° TO CA	1% Py	199			201.2	100	1544
200						QTE VEIN SHARP	1% Py				204	100	1545
							2% Py	209	100		209	100	1546
210						SHARP	2% Py				214	100	1547
							Tr Py		100		217	100	1548
						219' FOLIATION AT 45° TO CA SHARP		219			220.1	100	1549
220						222' FOLIATED AT 55° TO CA	Tr Py				225	100	1550
						228' DIORITE DYKE FOLIATED, FRACTURED	3% Py	229	100		230	100	1551
230						231' DIORITE DYKE 232.5' DIORITE DYKE 233' FOLIATION AT 85° TO CA SHARP	3% Py				234	100	1552
						SHARP SHARP	Tr Py	239	100		236.4	100	1553
							Tr Py				237.6	100	1554
												100	1555

Hole No. ML 32 | Project: 1446 | Page No: 5 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 10, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 1+50 E. | Date Finished: Aug 11, 1987 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 299' | Logged By: R. G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

ALTERED ZONE 191.7' - 255.5'

237.6 - 255.5 **TONALITE** FINE GRAINED, DARK GREY TO YELLOW GREEN, VARIABLE WITH ALTERATION, PROMINANT ALTERATION AT CONTACTS AND PROGRESIVE MIGRATION OUTWARD FROM FRACTURES, MOD SERICITIZATION, CARB AS FRACTURE COATINGS AND FILLINGS AND IN WEAK BRECCIATION LOWER IN THE SECTION, MASSIVE TO FOLIATED, TRACE TO 1% PYRITE AS DISSEMINATIONS AND BLEBS

SHARP

BRECCIATED GABBRO 255.5' - 272.0'

FINE TO MED GRAINED, DARK GREEN, CHLORITIC - SERICITIC, MODERATE PERVASIVE CARBONATE ALSO AS BRECCIA CEMENT AND FRACTURE FILLING, MASSIVE TO FOLIATED, FRESHER THAN EXPECTED, TRACE PYRITE

GRADATIONAL

GABBRO 272.0' - 299'

AS IN 60.7' - 131.6'

299' DIP TEST (S) ILLEGIBLE

END OF HOLE = 299'

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
240	Ank Green Mica Carbonate Sil Section		Qtz		Tr - 1% Py			BQ	242.6'		
						249	100				
250					Tr - 1% Py						
							100				
					Tr Py	259					
260					Tr Py		100				
						269					
270					Tr Py		100				
						279					
					Tr Py		100				
						289					
290					Tr Py		100				
						299					

Hole No. ML 33 | Project: McVicar Lake 1446 | Page No: 01 Of 05

Casing Collar Elev.: | Ground Elev.: | Date Started: August 12, 1987 | Ref. to Claim Corner:

Coordinates: N6L 3+00S N. 1+50 E. | Date Finished: August 14, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 289' | Logged By: PHT

COMMENTS: TESTS ALTERED ZONE ON LINE 3+00S, 0-100 DIP FROM ML-29

AVE CORE REC'Y/HOLE

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0						OVERBURDEN 0-10'							
10						TONALITE (QUARTZ DIORITE) 10'-31.6'							
						LIGHT GREY, FINE GRAINED, MASSIVE, HOLOCRYSTALLINE, MINERAL-SUBHEDRAL, EQUIGRANULAR, 15% MAFICS (AMPHIBOLE->CHLORITE?), 10-15% QUARTZ. WEAK FRACTURE CONTROLLED CARBONATE ALTERATION.	Tr Py		90%	BQ			
20								19'	100%				
30						SHARP IRREGULAR INTRUSIVE CONTACT	Tr Py	29'					
						GABBRO XENOLITH 30.8'-31.6'							
						MEDIUM GREY-GREEN, MEDIUM GRAINED, WEAKLY MAGNETIC							
						SHARP IRREGULAR INTRUSIVE CONTACT							
						TONALITE 31.6'-33.5'							
						AS IN INTERVAL 10'-31.6'							
						SHARP IRREGULAR INTRUSIVE CONTACT							
40						GABBRO XENOLITH 33.5'-38.0'							
						MEDIUM GREY, FINE GRAINED, WEAK CARBONATE ALTERATION AS MM SCALE CARBONATE FILLED TENSION GASHES							
						ROCK IS FINE GRAINED ENOUGH (<0.5MM) TO BE A HORNFELS?							
						TONALITE 38.0'-45.1'	Tr Py (disp)	39'					
						AS IN INTERVAL 10'-31.6'							
50						GRANODIORITE DYKE (?) 1 CM WIDE, CARBONATE FILLED FRACTURE - Tr. Cp	Tr Cp	49'					
						GABBRO 45.1'-54.0'							
						MASSIVE							
						MEDIUM GREY-GREEN, FINE GRAINED, WEAK TO MODERATE MM SCALE FRACTURE AND ENVELOPING PERVASIVE CARBONATE ALTERATION, VERY WEAK SILICA ALTERATION AS MM SCALE LIGHT GREEN (K/EPIDOTE?) VEINLETS AND AS RARE DISCRETE QUARTZ VEINLETS							
						SHARP INTRUSIVE CONTACT 60° CA.							
						F.G. TONALITE DYKE SHARP N 40° CA	1% Py	54'					

Hole No. ML 33 | Project: McVICAR LAKE 1986 | Page No: 02 Of 05

Casing Collar Elev.: | Ground Elev.: | Date Started: AUGUST 17, 1987 | Ref. to Claim Corner:

Coordinates: L 31005 N. 1450E E. | Date Finished: AUGUST 19, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 289' | Logged By: PHH

ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION

DESCRIPTIVE GEOLOGY

INTERMEDIATE - FELSIC INTRUSIVE 54.0' - 58.0'

VERY FINE GRAINED, MED-DARK GREY, WEAKLY PORPHYRITIC LITH ~ 5% SUBHEDRAL - EUHEDRAL LIGHT GREEN PLAGIOCLASE, NON FOLIATED, INTENSELY FRACTURED, MODERATE FRACTURE AND ENVELOPING PERVASIVE CARBONATE ALTERATION. ~1% FINE GRAINED PY IN CARBONATE FILLED FRACTURES.

So 50° CA.

SHARP INTRUSIVE CONTACT 40° CA.

GABBRO 58.0' - 69.2'

MEDIUM GREEN, AS IN 45.1' - 54.0' EXCEPT UNIT CONTAINS ~10% CM-DM SCALE BANDS OF MEDIUM GRAINED ANORTHOSITIC GABBRO (~40% PLAGIOCLASE) PROMINENT LAYERING (?) 50° CA.

60.5' - 61.5' MODERATE CARBONATE BRECCIA

TONALITE 69.2' - 79.0'

FINE GRAINED, YELLOWISH GREY, LEUCOCRATIC

SHARP INTRUSIVE CONTACT 50° CA

ROCK IS ATYPICAL COLOUR FOR TONALITE, HOWEVER, ABUNDANT WHITE TO PINK FELDSPAR USED TO CLASSIFY.

Si 60° CA.

NO OBVIOUS MAFIC MINERALS, HOWEVER ROCK IS SERICITIZED AND WEAK TO MODERATE FRACTURE AND PERVASIVE CARBONATE ALTERATION

ROCK CONTAINS 2-3% DISSEMINATED F.G. PYRITE

WEAK SILICA ALTERATION AS CM SCALE VEINLETS

GABBRO 79.0' - 133.5'

MEDIUM GREY, SPECKLED WHITE, PREDOMINANTLY FINE GRAINED FELDSPAR PORPHYRITIC W/ DM SCALE INTERVALS OF F.G. GABBRO, WEAK-MODERATELY FOLIATED

20%-30% 2-3 MM FELDSPAR (SILICIFIED DEUTERIC ALTERATION)

WEAK-MODERATE FRACTURE & PERVASIVE CARBONATE ALTERATION

WEAK SECONDARY SILICA ALTERATION AS HAIRLINE VEINLETS AND UNCOMMON CM SCALE VEINLETS

1CM BASIC Po

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR PY	61'	100%	BQ	69.2		
TR Po PY	79'	100%		79	158	
TR Po PY	89'	100%		89	158	
TR Po Py	101'	100%		99		
TR Py	119'	100%				

Hole No.

Project: MCUKAR LAKE AREA

Page No: 03 Of 05

Casing Collar Elev.: Ground Elev.:

Date Started: AUGUST 12, 1987

Ref. to Claim Corner:

Coordinates: L 3+00S N. 1+50 E.

Date Finished: AUGUST 14, 1987

Scale: 1" = 10'

Inclination: -45° Bearing: 240°

Total Depth: 289'

Logged By: KHH

ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120	TR Py Pl		100%	BQ			
		129'					
130	TR Py Pl		100%				
		139'					
	TR-1% Pl		100%		141		
					5.0'	158%	
140		149'			149		
	TR Pl		30%				
		159'			159		
			95%		5.0'	158%	
		164'			164		
170			100%		174.3		
	TR-1% Py				4.7	158%	
		179'			179.0		

TONALITE 133.5'-140.9'

LIGHT GREY, FINE GRAINED, MASSIVE, HOLOCRYSTALLINE, EQUIGRANULAR, 1% MAFICS (HORNBLENDE)

WITH WEAK CARBONATE ALTERATION AS HAIRLINE FRACTURES

BRECCIATED GABBRO 140.9' – 149.0' (APPROX.)

LIGHT GREEN GREY TO DARK GREY NEAR BOTTOM OF INTERVAL, WEAK TO INTENSELY FOLIATED AND SUBSEQUENTLY BRECCIATED, FINE GRAINED

MODERATE CARBONATE ALTERATION COMPRISING BRECCIA MATRIX ~ 5% - 8% OF ROCK BY VOLUME. BRECCIA FRAGMENTS DM/CM SCALE SEPARATED BY < 1CM' VEINLETS' OF CARBONATE

COLOUR CHANGE TO DARK GREY 147.5 - 149.0 EVIDENCE OF ROCK BECOMING MORE CHLORITIC / TALCOSE

SHARP INTRUSIVE CONTACT 40° CA

BRECCIATED GABBRO XENOLITH

SHARP INTRUSIVE CONTACT 60° CA

INCREASING DEFORMATION

MYLONITE 149.0' (APPROX.) — 174.3' (APPROX.)

DARK GREY GREEN, VERY FINE GRAINED, INTENSELY FOLIATED, COMPLETELY ALTERED (CHLORITE / TALC) ROCK

MODERATE CARBONATE ALTERATION AS FOLIATION // CM SCALE VEINLETS AND LESS COMMON FOLIATION OBLIQUE VEINLETS

VERY WEAK SILICA ALTERATION AS UNCOMMON CM SCALE Q-C VEINLETS

OBSCURE CONTACT

Sl 50°CA

GROUND CORE.

BRECCIATED GABBRO 174.3' (APPROX.) - 220' (APPROX.)

MEDIUM GREEN GREY, FINE GRAINED, UPPER PART OF INTERVAL TO ~ 179' IS SIMILAR TO INTERVAL 140.9 - 149' BELOW THAT ROCK IS LESS ALTERED AND ONLY WEAKLY BRECCIATED. FROM ~ 195' - 209.5' ROCK IS NON FOLIATED AND RECOGNIZABLE AS FINE - MEDIUM GRAINED GABBRO.

MODERATE CARBONATE ALTERATION AS 2-5% FRACTURE FILLINGS (< 1CM) AND BRECCIA MATRIX

MINOR TONALITE (AS IN 133.5 - 140.9)

RARE CM/DM QUARTZ VEINS

Sl 50°CA DIP TEST 169' = 39.5'

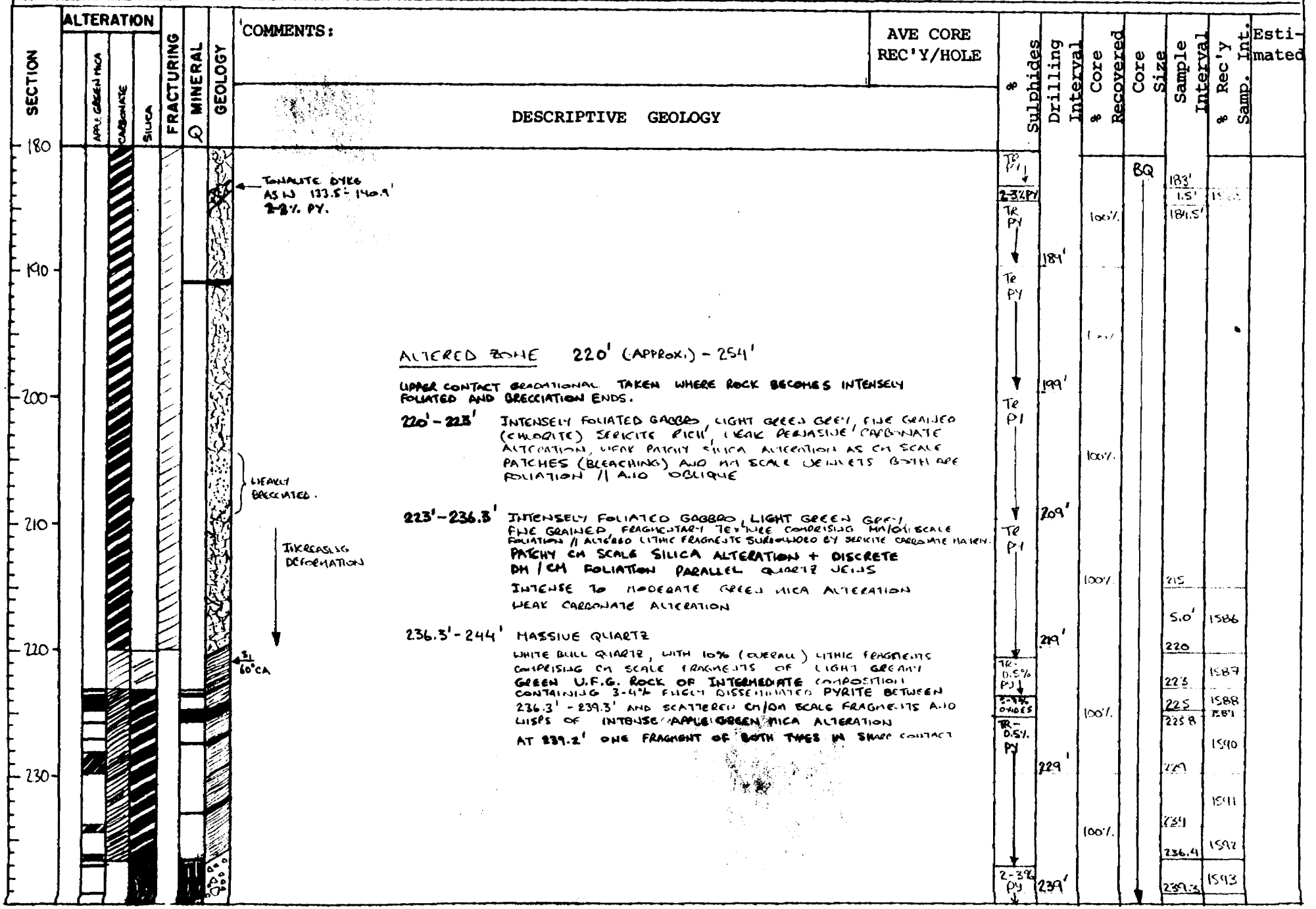
INCREASING DEFORMATION

Hole No. MC33 | Project: MCVICAR LAKE 1946 | Page No: 001 Of 001

Casing Collar Elev.: | Ground Elev.: | Date Started: AUGUST 12, 1987 | Ref. to Claim Corner:

Coordinates: L 3400S N. 1450 E. | Date Finished: AUGUST 14, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 287' | Logged By: [illegible]



Hole No. HL33 | Project: HEDICAR LAKE 1986 | Page No: 01 Of 05

Casing Collar Elev.: | Ground Elev.: | Date Started: AUGUST 12, 1987 | Ref. to Claim Corner:

Coordinates: L 34005 N. 1+50 E. | Date Finished: AUGUST 14, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 240° | Total Depth: 289' | Logged By: RNT

SECTION	ALTERATION: APPLE GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240									2%-3% PY			BQ	244'	1599	1595
							SHARP CONTACT So= CA.						244.5'		
							244' - 244.5' INTENSELY FOLIATED ROCK, O.F. COMPOSITION, LIGHT GREY QUARTZ - CARBONATE - SERICITE SCHIST, 2-3% FINELY DISSEMINATED PYRITE. ROCK IS IDENTICAL TO LITHIC FRAGS IN THE MASSIVE QUARTZ INTERVAL ABOVE WITH THE SOLE EXCEPTION OF ITS INTENSELY FOLIATED CHARACTER.		8% PY						
250							244.5' - 247.8' CARBONATE - QUARTZ - SERICITE SCHIST. MEDIUM GRAINED, INTENSELY FOLIATED, LIGHT GREY COLOUR, FRAGMENTARY TEXTURE COMPRISING 1-3 MM SCALE LENTICULES OF GREY LITHIC FRAGS (?) IN QUARTZ - CARBONATE MATRIX. UPPER PORTION OF INTERVAL 247.8 - 248.6 ALMOST COMPLETELY REPLACED BY QUARTZ		2-3% PY	249'	100%		247.8	1597	
							S1 60°CA.						250'		
													254'	1598	
260							LOWER PART OF INTERVAL BETWEEN 247.0 - 247.5' ALMOST IDENTICAL TO LIGHT GREEN LITHIC FRAGMENTS, HOWEVER, FOLIATION STILL EVIDENT -> ROCK IS PROBABLY METASOMATIZED RELATED TO INTRUSIVE INTERVAL BELOW.		TR - 1% PY	259'	100%			1599	
							247.8' - 254.0' TONALITE (INTERMEDIATE - FELSIC INTRUSIVE) AS IN INTERVAL 69.1' - 99.0'				97%		260.3'		
							BRECCIATED GABBRO 254.0' - 260.3' MEDIUM GREEN, FINE GRAINED, CHLORITIC, BRECCIATED CM SCALE ORIENTED FRAGMENTS IN ~5% CARBONATE MATRIX. SMALL TONALITE DYKE AT 258.9'-259.1'		TR PY	269'					
270							GABBRO 260.3' - 293.5' MEDIUM GREEN, FINE - MEDIUM GRAINED, MASSIVE - WEAKLY FOLIATED, WEAK TO MODERATE HAIRLINE FRACTURE CONTROLLED CARBONATE ALTERATION				100%				
							ANORTHOSITIC GABBRO PORPHYRY 273.5' - 282.3' MEDIUM - COARSE GRAINED, ~80-90% SILICIFIED 3-8 MM FELDSPAR PHENO'S IN A FINE GRAINED MAFIC MATRIX 1% FINELY DISSEM. MAGNETIC			279'					
280							GABBRO 282.3' - 289.0' AS IN 260.3' MODERATE CARBONATE ALTERATION,		TR PY		97%				
							DIP TEST 289' = 38° END OF HOLE 289'			289'					

Hole No. ML 34 | Project: 1946 | Page No: 1 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 16, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 2+50 E. | Date Finished: Aug 17, 1987 | Scale: 1" = 10'

Inclination: -75° | Bearing: 240° | Total Depth: 359' | Logged By: R.G. Kennedy

ALTERATION: Carbonate, Silicification | FRACTURING | MINERAL | GEOLOGY | SECTION

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

OVERBURDEN 0' - 14'

CASING REMAINS

STEEL CASING

BRECCIATED GABBRO 14' - 34.4'

MED TO FINE GRAINED, DARK GREEN, MASSIVE TO WEAKLY FOLIATED FRAGMENTS IN WHITE CARBONATE CEMENT, BRECCIATION IS WEAK TO STRONG, WEAK PATCHY SILICIFICATION, TRACE TO 1% PYRITE FELSIC DYKE VEINS

Tr Py — 14 — 100

Tr - 1% Py — 19 — 100

17.2' - 20.0' VERY FINE GRAINED, PERVASIVE CARBONATE

23.5 — 100 — 1600

30.1' - 32.5' BRECCIATED MED GRAINED XENOLITH (UNDERLYING UNIT)

Tr Py — 29 — 100

BQ

GABBRO 34.4' - 55.3'

MEDIUM GRAINED, DARK GREEN WITH WHITE, MASSIVE TO FOLIATED, WEAK PERVASIVE CARBONATE WHICH DECLINES IN INTENSITY AWAY FROM UPPER CONTACT - PRESENT ON FRACTURE PLANES ONLY BELOW 44', WEAK SILICIFIED VEINING, TRACE PY, Po, Cp

Tr Py Cp — 39 — 100

Tr Po Py — 49 — 100

FELSIC INTRUSIVE 55.3' - 60.1'

VERY FINE GRAINED, DARK GREY, WITH UP TO 3-5% 1mm WEAKLY TRACHYTIC, LATH SHAPED, AUTOMORPHIC, FELDSPAR PHENOCRYSTS, VERY SILICIOUS, MINOR CARBONATE AS FRACTURE COATINGS, FINE SILICA VEINING, TRACE Po WITH LATTER FRACTURING

Tr Py — 54 — 100

Tr Po — 59

SHARP 35' FOLIATION AT 50° TO CA

SHARP? 56' SILICA VEINLETS AT 35° TO CA

Hole No. ML 34 | Project: 1446 | Page No: 2 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 16, 1987 | Ref. to Claim Corner:

Coordinates: NG 3100S N. 2+50 E. | Date Finished: Aug 17, 1987 | Scale: 1"=10'

Inclination: -75° | Bearing: 240° | Total Depth: 359' | Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

GABBRO 60.1' - 74.9'

AS IN 34.4' - 55.3' MED TO COARSE GRAINED, MASSIVE TO INTENSELY FOLIATED-WELL SHEARED, CHLORITIC SHEARS, WEAK PERVASIVE CARBONATE, PATCHY SILICIFICATION, TRACE PY.

67' SHEARING AT 60° TO CA

GRADATIONAL

BRECCIATED GABBRO 74.9' - 89.1'

FINE GRAINED, DARK GREEN, WEAK TO INTENSELY FOLIATED FRAGS, MODERATE TO STRONG CARBONATE CEMENT, CHLORITIC - WEAKLY SERICITIC, TRACE PY

SHARP

GABBRO 89.1' - 106.5'

FINE TO MEDIUM GRAINED, DARK GREEN WITH WHITE, MASSIVE TO WEAKLY FOLIATED, WEAK PATCHY SILICIFICATION, WEAK PERVASIVE CARBONATE, TRACE PY.

SHARP

TONALITE 106.5' - 131.7'

FINE GRAINED, LIGHT GREY, EQUIGRANULAR, MASSIVE, [illegible] WEAK CARBONATE ALONG FRACTURES, TRACE PY ALONG FRACTURES

Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
69	100	BQ			
79	100				
89	100				
99	100				
109	100				
119	100				

Hole No. ML 34 | Project: 1446 | Page No: 3 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 16, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N; 2+50 E. | Date Finished: Aug 17, 1987 | Scale: 1"=10'

Inclination: -75 | Bearing: 240° | Total Depth: 359' | Logged By: R.G. BONNER

ALTERATION: Carbonate, Silicification | FRACTURING | % MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
120	Tr Py		100	BQ			
		129					
130	Tr Py						
	Tr Po Py		100				
		139					
140	Tr Py Po						
			100				
	Tr Py	149					
150	Tr Py		100				
		159					
160	Tr Py		100				
	Tr Py						
	Tr Py	169					
170	Tr Py		100				
	Tr Py	179					

SHARP
SHARP
SHARP

TONALITE 106.5' - 131.7' cont...

SHARP

GABBRO 131.7' - 132.6'

MED TO COARSE GRAINED, MASSIVE, WEAK CARBONATE ALTERATION FRACTURES, DARK GREEN, SHARP CONTACTS

FELSITE DYKE 132.6' - 133.3'

FINE GRAINED WHITE TO GREY WHITE MASSIVE QUARTZ - PLAGIOCLASE & 80% MINOR MAFIC MINERALS MINOR PY Po ALONG FRACTURES UP TO 1% FINE OXIDE MINERAL - MAGNETITE?

GABBRO 133.3' - 146.0'

AS IN 89.1' - 106.5' MODERATE PATCHY SILICIFICATION

SHARP

TONALITE 146.0' - 164.7'

AS IN 106.5' - 131.7'

SHARP
SHARP
SHARP
DIP TEST 169' 73°
SHARP

INTERMEDIATE INTRUSIVE 164.7' - 166.7'

FINE GRAINED DARK GREEN GREY MASSIVE WITH 5% 1mm AUTOMORPHIC FELDSPAR PHENOCRYSTS WEAK TO MODERATE PERVASIVE CARBONATE ALSO CARB ALONG FRACTURE PLANES TRACE PY ALONG FRACTURE PLANES

TONALITE 166.7' - 168.3'

AS IN 106.5' - 131.7'

INTERMEDIATE INTRUSIVE 168.3' - 170.2'

AS IN 164.7' - 166.7'

TONALITE 170.2' - 184.7'

AS IN 106.5 - 131.7

Hole No. ML 34 | Project: 1446 | Page No: 4 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 16, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00S N. 2+50 E. | Date Finished: Aug 17, 1987 | Scale: 1"=10'

Inclination: -75° Bearing: 240° | Total Depth: 359' | Logged By: R. G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%.

SECTION	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	% MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180						TONALITE 170.2' - 184.7' cont...	Tr Py			BQ			
					SHARP	GABBRO 184.7' - 185.7' AS IN 89.1' - 106.5' INCLUDES 0.4' INTERVAL OF BRECCIATED GABBRO WITH WHITE CARBONATE CEMENT			100				
					SHARP	INTERMEDIATE - FELSIC INTRUSIVE 185.7' - 190' AS IN 169.7' - 186.7' SILICEOUS, WEAK CARBONATE ALONG FRACTURES		189					
190					SHARP	BRECCIATED GABBRO 190' - 193.6' AS IN 74.9' - 89.1'	Tr Py		100				
					192.9' TONALITE DYKE								
					SHARP	INTERMEDIATE - FELSIC INTRUSIVE 193.6' - 197.7 AS IN 185.7' - 190'							
					SHARP	GABBRO 197.7' - 218.4' AS IN 89.1' - 106.5' WEAKLY BRECCIATED AT 208' - 210'		199					
200							Tr Py Po Cp		100				
								209					
210							Tr Py		100				
								219					
					SHARP	TONALITE 218.4' - 227.0' AS IN 106.5' - 131.7', WEAK SERICITIC ALTERATION ASSOCIATED WITH SMALL QTZ-CARB VEINS, TRACE PY	Tr Py		100				
								229					
220					SHARP	CHLORITIZED GABBRO 227.0' - 284.0' VERY FINE GRAINED DUSTY GREEN MASSIVE FRACTURED TO WEAKLY BRECCIATED WITH WHITE CARBONATE CEMENT - GRADES TO UNDERLYING BRECCIA PATCHY SILICIFICATION FINE GREENISH SILICEOUS VEINING FEW FINE TO MEDIUM GABBRO XENOLITHS	Tr Py		100				
								239					
230							Tr Py		100				
								237					
							Tr Py						

Hole No. ML 34 | Project: 1446 | Page No: 5 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 16, 1987 | Ref. to Claim Corner:

Coordinates: NG 3400S N. 250 E. | Date Finished: Aug 17, 1987 | Scale: 1"=10'

Inclination: -75° | Bearing: 240° | Total Depth: 359' | Logged By: R.G. BONNER

SECTION | ALTERATION (Fe Carbonate, Dark Green Mica, Carbonate, Silicification) | FRACTURING | % MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

240

CHLORITIZED GABBRO 227.0'-244.0' cont...

GRADATIONAL

BRECCIATED GABBRO 244.0' - 264.0'

FINE GRAINED, LIGHT GREEN TO WHITE, WEAK TO INTENSELY FOLIATED FRAGMENTS WHITE CARBONATE CEMENT, FEW 5cm DYKES, CHLORITIC, FEW 10cm QTZ VEINS, TRACE PYRITE - SOME 10cm MASSIVE PYRITE BANDS - SILICIFIED REPLACEMENT OF CARBONATE CEMENT - UPPER CONTACT SHARP WITH 95% PY GRADING TO 50% THAN 0% 15cm BELOW THE CONTACT, CONTACT [illegible] CARBONATE [illegible] WITH ORIENTED CRYSTAL GROWTH

250

MASSIVE SULPHIDE

260

OBSCURE

MYLONITE - BRECCIATED GABBRO 264.0' - 274.0'

FINE GRAINED, LIGHT GREY GREEN, WELL FOLIATED, WEAKLY BRECCIATED, SEVERAL 10cm QTZ VEINS, WEAK PERVASIVE CARBONATE, CHLORITIC - WEAKLY SERICITIC, TRACE PYRITE, NOT AS INTENSELY MYLONITIZED AS IN MOST OTHER UNITS

270

SHARP

SHARP

INTERMEDIATE INTRUSIVE 274.0' - 275.3'

FINE GRAINED, LIGHT GREENISH PINK, FOLIATED, WEAK CARBONATE ALONG FRACTURES, MODERATE POTASSIC ALTERATION (K-SPAR METASOMATISM) TRACE TO 1% DISS PY

SHARP

BRECCIATED GABBRO 275.3' - 280.0'

FINE GRAINED, DARK GREEN, CHLORITIC, MINOR FE CARBONATE, FEW QTZ VEINS, WEAK TO MODERATE CARBONATE CEMENT, MASSIVE TO WEAKLY FOLIATED FRAGMENTS, TRACE PYRITE

280

ALTERED ZONE 280.0' - 314.5'

DYKE

280.0' - 289.7' **SHEARED - BRECCIATED GABBRO** FINE GRAINED, LIGHT GREEN, FOLIATED, 5-7% PY, CHLORITIC, WEAKLY SERICITIC - MINOR FE CARBONATE - MICA, FEW QTZ BOUDINS + FEW TONALITIC(?) INTRUSIVES WITH PYRITE

SHARP

289.7' - 294.0' **INTERMEDIATE INTRUSIVE** FINE GRAINED LIGHT BUFF BROWN, WEAK SERICITIC ALTERATION FRACTURED QTZ SPLASHED WITH LOCAL 3-5% PYRITE

290

294.0' - 296.5' **SHEARED GABBRO** FINE GRAINED, DARK GREEN, WELL FOLIATED, QTZ VEINS AND SMALL BOUDINS, 1-2% PYRITE, WEAK CARBONATE

295' FOLIATION AT 65° TO CA

SHARP

296.5' - 306.2' **INTERMEDIATE INTRUSIVE** AS IN 289.7' - 294.0' INCLUDES SEMI-MASSIVE QTZ FROM 299-302' + 30% LITHICS 1-2% PY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py			BQ			
Tr Py		100				
	249					
Tr Py						
		100		254		
60% Py					100	1601
Tr-1% Py	259			259		
Tr Py					100	1602
		95		264		
					100	1603
	269			269		
Tr Py					100	1604
		100		274		
Tr-1% Py				275	100	1605
Tr Py					100	1606
	279					
Tr Py				280		
1-7% Py		100			100	1607
	289			285		
3-5% Py					100	1608
		100		289.7		
1-2% Py				294	100	1609
1-2% Py				296.5	100	1610
1% Py	299			299	100	1611

Hole No. ML 34 | Project: 1446 | Page No: 4 Of 5

Casing Collar Elev.: | Ground Elev.: | Date Started: Aug 16, 1987 | Ref. to Claim Corner:

Coordinates: NG 3+00 S N. 2+50 E. | Date Finished: Aug 17, 1987 | Scale: 1" = 10'

Inclination: -75° | Bearing: 240° | Total Depth: 359' | Logged By: R.G. BONNER

ALTERATION: Fe Carbonate | Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

ALTERED ZONE 280.0' - 314.5' cont...

306.2' - 308.8' **APPLE GREEN MICA ZONE** FINE GRAINED, WHITE TO APPLE GREEN, SERICITIC, WEAKLY CHLORITIC, LAMINATED (?), TRACE PYRITE, 5% MAGNETITE AT UPPER CONTACT, ALSO 3cm BANDS INTENSE FE CARB, WELL FOLIATED

SHARP
307' FOLIATION AT 80° TO CA
GRADATIONAL
310' FOLIATION AT 60° TO CA

308.8' - 314.5' **SHEARED GABBRO** AS IN 294 - 296.6', LENSOIDAL - FRACTIONAL APPEARANCE, WEAKLY BRECCIATED, TRACE PYRITE, FEW WISPS APPLE GREEN

GRADATIONAL

BRECCIATED GABBRO 314.5' - 321.0'

AS IN 275.3' - 280', FEW XENOLITHS OF UNDERLYING UNIT NEAR THE LOWER CONTACT

GRADATIONAL

ANORTHOSITIC GABBRO PORPHYRY 321' - 356'

MED GRAINED, WHITE TO GREY GREEN, PATCHY WEAK CARBONATE, PATCHY MODERATE SILICIFICATION FROM 351' TO 356', MINOR APPLE GREEN MICA IN NARROW CHLORITIC - SERICITIC ALTERATION ZONES, MAGNETIC WITH ZONES OF 20% MAGNETITE

GABBRO 356' - 359'

FINE GRAINED, DARK GREEN, MASSIVE, WEAK CARB ALONG FRACTURES

SHARP

DIP TEST 369' 76°

END OF HOLE - 359'

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py	309	100	BQ	294'		
				304'	100	1612
				306.1	100	1613
				308.8	100	1614
Tr Py					100	1615
Tr Py	319	60		314.5		
Tr Py				319	100	1616
Tr Py	329	100				
Tr Py	339	100				
Tr Py	349	100				
Tr Py	359	100				

McVicar Lake 1987
Diamond Drilling

APPENDIX II

Certificates of Analysis

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TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2372

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

	Gold Au ppb	Gold Au oz/T	
1334	<5		
1335	15		
1336	<5		
1337	5		
1338	5		
1339	320		
1340	<5		
1341	<5		
1342	15		
1343	<5		
1344	<5		
1345	<5		
1346	120		
1347	10		
1348	270		
1349	70		
1350	205		
1351	580		
1352	>1000	0.053	1.8
1353	>1000	0.035	1.2

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TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2372

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

	Gold Au ppb	Gold Au oz/T
1354	495	
1355	135	
1356	430	
1357	520	
1358	365	
1359	80	
1360	10	

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TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M2373

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

	Gold Au ppb	Gold Au oz/T
1361	15	
1362	5	
1363	<5	
1364	5	
1365	40	
1366	200	
1367	80	
1368	420	
1369	560	
1370	175	
1371	315	
1372	125	
1373	40	
1374	95	
1375	85	
1376	95	
1377	510	
1378	105	
1379	180	
1380	220	

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TELEPHONE: (416) 625-1544
TELEX 06-960215

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SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2373

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

	Gold Au ppb	Gold Au oz/T	
1381	230		
~~1382~~	~~50~~		LAB ERROR SEE
~~1383~~	~~>1000~~	~~0.30~~	FREE GOLD ANALYSIS
1384	250		RESULTS:
1385	120		1382 0.25
1386	65		1383 0.007
1387	15		RWT.

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SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
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RECEIVED JUL -9 1987

REPORT No. M2375

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

REMARKS: Drill Core Samples

	Gold Au ppb
1388	10
1389	<5
1390	<5
1391	205
1392	10
1393	500
1394	5
1395	5
1396	45
1397	15
1398	<5
1399	<5
1400	<5
1401	5
1402	375
1403	415
1404	40
1405	<5
1406	10
1407	25

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
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25 Adelaide St. East
Toronto Ontario
M5C 1Y2

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REPORT No.
M2375

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

REMARKS: Drill Core Samples

	Gold Au ppb
1408	15
1409	200
1410	35
1411	15
1412	45

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2619

SAMPLE(S) OF: Rock

INVOICE #:
P.O.:

R. Thomas
Project 1446

	Gold Au ppb	Gold Au oz/T
1413	25	
1414	235	
1415	10	
1416	10	
1417	30	
1418	10	
1419	10	
1420	10	
1421	740	
1422	220	
1423	>1000	0.057
1424	80	
1425	>1000	0.29
1426	135	
1427	330	
1428	95	
1429	70	
1430	15	
1431	15	
1432	45	

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M2619

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R. Thomas
Project 1446

	Gold Au ppb	Gold Au oz/T
1433	35	
1434	5	
1435	40	
1436	320	
1437	140	
1438	135	
1439	10	
1440	345	
1441	65	
1442	135	
1443	10	
1444	35	
1445	>1000	0.033
1446	555	
1447	540	
1448	10	

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M2618

INVOICE #:
P.O.:

SAMPLE(S) OF Rock

R. Thomas
Project 1446

REMARKS: Drill Core Samples

	Gold Au ppb	Gold Au oz/T
1449	240	
1450	400	
1451	530	
1452	90	
1453	45	
1454	90	
1455	85	
1456	35	
1457	675	
1458	265	
1459	210	
1460	65	
1461	315	
1462	>1000	0.028
1463	>1000	0.035
1464	>1000	0.034
1465	175	
1466	>1000	0.038
1467	235	
1468	400	

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TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2649

SAMPLE(S) OF: Drill core

INVOICE #:
P.O.:

RNT
1446

	Gold Au ppb	Gold Au oz/T
1469	655	
1470	110	
1471	15	
1472	15	
1473	5	
1474	>1000	0.96
1475	>1000	0.057
1476	>1000	0.041
1477	95	
1478	55	
1479	825	
1480	455	
1481	>1000	0.10
1482	175	
1483	35	
1484	25	
1485	35	

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2627

SAMPLE(S) OF: Drill core

INVOICE #:
P.O.:

1446

	Au ppb	Cu ppm	Zn ppm	Ni ppm	Pt ppm	Pd ppm
1486	10	515	48	400	0.05	0.03
1487	5	230	37	250	0.05	0.02
1488	5	590	33	1020	<0.02	0.09
1489	85	4500	70	3700	0.05	0.20
1490	220					
1491	195					
1492	370					
1493	400					
1494	25					
1495	35					
1496	35					
1497	80					
1498	170					
1499	5					
1500	10					
1501	400					
1502	20					
1503	20					
1504	100					
1505	150					

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2627

SAMPLE(S) OF Drill core

INVOICE #:
P.O.:

1446

	Au ppb	Cu ppm	Zn ppm	Ni ppm	Pt ppm	Pd ppm
1506	110					
1507	10					
1508	30					
1509	35					
1510	75					
1511	25					

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TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

RECEIVED SEP 4 1987

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2720

SAMPLE(S) OF: Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

REMARKS: Drill Core Samples

	Gold Au ppb
1512	<5
1513	15
1514	5
1515	40
1516	50
1517	155
1518	20
1519	<5
1520	<5
1521	<5
1522	<5
1523	30

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DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2721

SAMPLE(S) OF: Rock

INVOICE #:
P.O.:

R. Thomas
Project #1446

REMARKS: Drill Core Samples

	Gold Au ppb	Gold Au oz/T
1524	995	0.035
1525	40	
1526	15	
1527	10	
1528	20	
1529	10	
1530	<5	

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DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2786

SAMPLE(S) OF: Rock

INVOICE #:
P.O.:

R.N. Thomas
Project 1446

	Gold Au ppb
1531	10
1532	110
1533	35
1534	5
1535	220
1536	30

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TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2788

SAMPLE(S) OF: Rock

INVOICE #:
P.O.:

R.N. Thomas
Project 1446

	Gold Au ppb	Gold Au oz/T
1537	35	
1538	10	
1539	105	
1540	90	
1541	50	
1542	50	
1543	>1000	0.089
1544	310	
1545	95	
1546	190	
1547	270	
1548	10	
1549	10	
1550	280	
1551	70	
1552	35	
1553	10	
1554	10	
1555	160	

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
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Toronto Ontario
M5C 1Y2

REPORT No.
M2796

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R.N. Thomas
Project 1446

	Gold Au ppb
1556	5
1557	25
1558	125
1559	90
1560	10
1561	15
1562	10
1563	10
1564	15
1565	50
1566	25
1567	10
1568	15
1569	15
1570	420
1571	60
1572	35
1573	20
1574	15
1575	70

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SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M2796

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

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	Gold Au ppb
1576	35
1577	10

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2789

SAMPLE(S) OF Rock

INVOICE #:
P.O.:

R.N. Thomas
Project 1446

	Gold Au ppb
1578	<5
1579	5
1580	<5
1581	<5
1582	5
1583	5
1584	40
1585	25
1586	5
1587	120
1588	5
1589	20
1590	10
1591	5
1592	20
1593	35
1594	440
1595	190
1596	370
1597	55

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M2789

SAMPLE(S) OF Rock

INVOICE #:
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Project 1446

	Gold Au ppb
1598	40
1599	15

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M2787

SAMPLE(S) OF: Rock

INVOICE #:
P.O.:

R.N. Thomas
Project 1446

	Gold Au ppb	Gold Au oz/T
1600	<5	
1601	5	
1602	10	
1603	45	
1604	215	
1605	695	
1606	155	
1607	855	
1608	335	
1609	155	
1610	180	
1611	275	
1612	400	
1613	545	
1614	>1000	0.22 (0.17, 0.26)
1615	165	
1616	285	

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TELEPHONE: (416) 625-1544
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CERTIFICATE OF ANALYSIS

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SAMPLE(S) FROM Utah Mines Ltd.
Ste. 900 - 25 Adelaide St. E.
Toronto, Ont.
M5C 1Y2

REPORT No. M-2373

SAMPLE(S) OF ROCK

FREE GOLD ANALYSIS

	-100 Mesh			+100 Mesh			Total Sample	
Sample #	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) oz/T Weighted Avg.
1383	20.0	<0.005	<0.005	20.0	<0.005	<0.005	1432.87	0.007
	20.0	0.006	0.009	20.0	<0.005	<0.005		
	20.0	0.008	0.012	20.0	0.006	0.009		
		Avg.	0.007	20.0	0.006	0.009		
				20.0	0.008	0.012		
				12.5	<0.005	<0.005		
					Avg.	0.005		

July 7/87

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RECEIVED AUG - 4 1987

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Ste. 900 - 25 Adelaide St. E.
Toronto, Ont.
M5C 1Y2

REPORT No. M-2373

SAMPLE(S) OF: ROCK

PO# Proj.1446

FREE GOLD ANALYSIS

	-100 Mesh			+100 Mesh			Total Sample	
Sample #	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) oz/T Weighted Avg.
1382	20.0	0.179	0.26	20.0	0.088	0.13	1274.43	0.25
	20.0	0.186	0.27	20.0	0.126	0.18		
	20.0	0.176	0.26	20.0	0.107	0.16		
		Avg.	0.26	20.0	0.110	0.16		
				20.0	0.097	0.14		
				20.0	0.105	0.15		
				20.0	0.104	0.15		
				20.0	0.484	0.71		
				20.0	0.106	0.15		
				20.0	0.100	0.15		
				20.0	0.092	0.13		
				20.0	0.115	0.17		
				20.0	0.104	0.15		
					Avg.	0.19		

July 30/87

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Ste. 900 - 25 Adelaide St. E.
Toronto, Ont.
M5C 1Y2

REPORT No. M-2730-1

SAMPLE(S) OF: ROCK

FREE GOLD ANALYSIS

	-100 Mesh			+100 Mesh			Total Sample	
Sample #	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) oz/T Weighted Avg.
1423	20.0	0.043	0.063	20.0	0.014	0.020	1140	0.073
	20.0	0.058	0.085	20.0	0.039	0.057		
		Avg.	0.074	4.0	0.011	0.080		
					Avg.	0.052		
1425	20.0	0.233	0.34	20.0	0.170	0.25	1070	0.34
	20.0	0.229	0.33	20.0	0.198	0.29		
		Avg.	0.34		Avg.	0.27		
1445	20.0	0.018	0.026	5.50	<0.005	<0.005	665	<0.005
	20.0	0.022	0.032					
		Avg.	0.029					
1462	20.0	0.035	0.051	20.0	0.011	0.016	850	0.040
	20.0	0.025	0.036	20.0	0.013	0.019		
		Avg.	0.044	20.0	<0.005	<0.005		
				20.0	0.014	0.020		
				20.0	0.018	0.026		
				4.5	<0.005	<0.005		
					Avg.	0.014		

August 14/87

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TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Ste. 900 - 25 Adelaide St. E.
Toronto, Ont.
M5C 1Y2

REPORT No. M-2730-2

SAMPLE(S) OF: ROCK

FREE GOLD ANALYSIS

	-100 Mesh			+100 Mesh			Total Sample	
Sample #	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) oz/T Weighted Avg.
1463	20.0	0.063	0.092	20.0	0.032	0.047	480	0.092
	20.0	0.065	0.095					
		Avg.	0.094					
1464	20.0	0.029	0.042	20.0	0.010	0.015	730	0.036
	20.0	0.022	0.032	20.0	0.015	0.022		
		Avg.	0.037		Avg.	0.019		
1466	Not enough sample to run							
1474	20.0	0.694	1.01	20.0	0.529	0.77	1010	0.95
	20.0	0.693	1.01	20.0	0.474	0.69		
		Avg.	1.01	20.0	0.501	0.73		
				20.0	0.418	0.61		
				20.0	0.416	0.61		
				20.0	0.450	0.66		
				20.0	0.400	0.58		
				20.0	0.372	0.54		
					Avg.	0.65		

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Ste. 900 - 25 Adelaide St. E.
Toronto, Ont.
M5C 1Y2

REPORT No. M-2730-3

SAMPLE(S) OF: ROCK

FREE GOLD ANALYSIS

	-100 Mesh			+100 Mesh			Total Sample	
Sample #	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) mg	oz/T	Weight g	Gold (Au) oz/T Weighted Avg.
1475	20.0	0.023	0.034	20.0	0.022	0.032	950	0.047
	20.0	0.041	0.060	20.0	0.017	0.025		
		Avg.	0.047	20.0	0.013	0.019		
				4.5	0.017	0.11		
					Avg.	0.047		
1476	20.0	0.014	0.020	20.0	<0.005	<0.005	270	0.015
	20.0	0.013	0.019	20.0	<0.005	<0.005		
		Avg.	0.020	20.0	<0.005	<0.005		
				20.0	0.009	0.013		
				20.0	0.012	0.017		
					Avg.	0.006		
1481	20.0	0.049	0.071	20.0	0.282	0.41	910	0.076
	20.0	0.046	0.067	20.0	0.073	0.11		
		Avg.	0.069	10.5	0.014	0.039		
					Avg.	0.19		

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TELEPHONE : (416) 625 - 1544

CERTIFICATE OF ANALYSIS

UTAH MINES LTD.
Suite 900
25 Adelaide St. E.
Toronto M5C 1Y2
YOUR REFERENCE- ATTN: R. Thomas

T.S.L. REPORT No. : M - 2720
T.S.L. File No. : 24AUG
T.S.L. Invoice No. :

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	Ba ppm	Sr ppm	Zr ppm	LOI	TOTAL
1522	67.60	14.21	4.01	3.26	1.32	4.38	1.64	.46	.05	.15	302	166	172	2.81	99.96
1523	73.67	14.20	1.07	1.35	.75	5.10	2.76	.02	.04	.03	125	46	46	1.41	100.43

DATE : 24-AUG-87

SIGNED : A.H. Debnam

Adrian H. Debnam Ph.D.

APPENDIX III

Section 4.0 Results

1986 McVicar Lake

Drill Report

Although Max-Min II profiles indicated a northerly dip the hole was collared close to the conductor axis to minimize drilling costs should the conductive horizon prove to be an elusive target. The conductive interval dips to the north and comprises a section of sulphidized iron formation from 168' - 218'. The unit consists of alternating bands (cm scale) of chert, magnetite and volcanic mudstone containing up to 5% sulphides (Py, Po, Cp). Despite evidence for sulphidization of the iron formation, assay results indicate the iron formation contains only background Au concentrations.

4.0 RESULTS

4.1 ANATOMY OF THE ALTERED ZONE

The altered zone, intersected initially in ML.01 - ML.03 inclusive and subsequently in ML.10 - ML.18 with the exclusion of ML.16 is an interval of intense shearing, alteration and mineralization which constituted the target of interest throughout much of the drill program. The altered zone is likely the altered equivalent of the mylonite which structurally overlies the altered zone and is parallel to it.

Although surveyed elevations for the drill holes are not available the ground in the immediate vicinity of ML.01 is flat lying, therefore, it was possible to calculate the approximate attitude of the altered zone using the graphical solution of the three point problem as described in Berkman (1976). Two calculations were made using two different sets of elevation data. Data from holes ML.01 - ML.03, inclusive indicate the attitude of the zone is 320°/30° NE whereas data from holes ML.10 - ML.13 indicate the zone strikes 332° and dips 35° to the NE. Both deformation zones appear to transect stratigraphy, which can be inferred from magnetic surveys as trending east-northeast, as well as the predominant foliation direction which is primarily east trending with steep northerly dips. The 320° to 332° orientation is, however, consistent with an inferred NNW trending

fault set apparent on shadow graph plots of enhanced aeromagnetic data for this part of the property.

Enveloping the mylonite and the alteration zone are intervals of brecciated basalt which comprise cm scale fragments of basalt in a carbonate rich matrix. Brecciated basalt immediately adjacent to altered zone or mylonite may be comprised of fragments of intensely foliated and crenulated mylonite (basalt). Brecciation intensity decreases away from the mylonite and altered zone. Usually the contact between brecciated basalt and basalt is reasonably sharp, however, there is usually some minor shearing or brecciation in the basalt close to the breccia contact.

The altered zone itself is comprised of essentially four lithogical elements.

1. Intensely sheared mafic volcanic which is usually completely altered to a pervasively carbonatized soft micaceous assemblage of sericite and talc.

2. An intensely foliated micaceous rich rock dominated by a bright apple green mica, commonly the rock contains cm scale quartz boudins and cross cutting carbonate veins (+/ - fe-carbonate).

3. Intermediate intrusive, what is logged as bleached volcanic in some holes is probably intermediate intrusive. The rock is intermediate in composition (see Section 4.3), massive to weakly foliated with minor disseminated pyrite.

4. Massive to semi-massive quartz.

Mineralization in the altered zone comprises 1-2% fine grained disseminated pyrite and trace very fine grained arsenopyrite. Trace visible gold was observed in one sample of quartz from hole ML.02.

4.2 TRACE ELEMENT ANALYSIS

All of the 301 samples of split core were assayed for gold. A number of samples were assayed for Ag, As, Cu, Zn, Ni and Pt. Certificates of analysis are included in Appendix II.

Trace chalcopyrite was observed as mm to cm scale sulphide segregations in coarse grained gabbro, as fine grained specks in quartz carbonate veins and as constituents of polysulphide blebs (Py, Po, Cp) in iron formation. Where chalcopyrite was observed or where copper mineralization was suspected a Cu assay was performed. The best copper assays were obtained from samples of gabbro where copper values of selected samples range 710-1520 ppm (samples 1034-1038). Elsewhere copper assays do not exceed several hundred ppm.

Gabbro samples assayed for copper were also assayed for Ni and Pt; Ni values range from 300 to 540 ppm and Pt from <0.4 to 0.09 ppm.

Samples containing anomalous gold values are summarized in Table XIII. Samples of bleached metavolcanic in ML.01, ML.02, ML.03 and ML.10 are similar if not identical to rocks referred to as intermediate or intermediate to felsic intrusive in subsequent holes in the Table. Average gold concentrations of each of the major units listed in Table XIII are computed below:

Intrusive (incl. bleached metavolcanic)	557 ppb	(n = 21)
Green Mica Zone	1352 ppb	(n = 11)
Quartz	2272 ppb	(n = 13)
Sheared Metavolcanic (incl. metavol.)	758 ppb	(n = 16)

ML.02 and ML.18 were the only holes which intersected economic grade gold mineralization. ML.02 intersected 2.7' of quartz assaying 12000 ppb Au (0.35 oz/T Au) and ML.18 intersected 3.4' of the green mica zone assaying 7335 ppb Au (0.213 oz/T Au).

Samples from hole ML.01 were also assayed for Ag. Table XIV indicates a marginal increase in Ag associated with elevated gold values in the altered zone. Similarly, samples from hole ML.02 were

TABLE XIII

SAMPLES OF DDH CORE CONTAINING >100 ppb Au

SAMPLE NO.	HOLE NO.	AU(ppb)		LITHOLOGY	INTERVAL(FT)
1005	ML.01	155/185	(AZ)	Bleached MV	196.3-197.8
1006	ML.01	255/340	(AZ)	Green Mica	197.8-201.8
1007	ML.01	795/1330	(AZ)	Green Mica	201.8-205.8
1008	ML.01	775/650	(AZ)	Massive Qtz.	205.8-208.0
1009	ML.01	355/320	(AZ)	MV	208.0-210.0
1010	ML.01	260/345	(AZ)	Massive Qtz.	210.0-210.5
1012	ML.01	1630	(AZ)	Bleached MV	212.8-216.0
1013	ML.01	635/885	(AZ)	Green Mica	216.0-218.0
1014	ML.01	2130/2360	(AZ)	Massive Qtz.	218.0-218.7
1015	ML.01	385/445	(AZ)	Green Mica	218.7-221.0
1016	ML.01	545/910	(AZ)	Green Mica	221.0-225.3
1017	ML.01	160/200		MV	230.0-235.0
1048	ML.02	2600	(AZ)	Green Mica	174.0-175.1
1049	ML.02	1760	(AZ)	Massive Qtz.	175.1-178.5
1050	ML.02	760	(AZ)	Semi-Mass Qtz.	178.5-180.3
1051	ML.02	325	(AZ)	Bleached MV	180.3-183.2
1052	ML.02	150	(AZ)	Green Mica	183.2-184.2
1053	ML.02	525	(AZ)	Bleached MV	184.2-187.0
1054	ML.02	1060	(AZ)	Green Mica	187.0-188.3
1055	ML.02	12000	(AZ)	Semi-mass Qtz.	188.3-191.0
1056	ML.02	2260	(AZ)	Sheared MV	191.0-196.0
1057	ML.02	685	(AZ)	Sheared MV	196.0-201.0
1058	ML.02	460		Sheared MV	202.1-203.6
1060	ML.03	440		Py Seam in MV	72.5-73.1
1065	ML.03	110		Bleached MV	259.2-259.8
1066	ML.03	115		Sil/Brec.MV	259.8-264.0
1070	ML.03	610		Ank.Sheared MV	273.9-274.8
1071	ML.03	325		Sil/Brec MV	274.8-279.6
1087	ML.05	315		Sheared Int Intru	146.3-149.3
1145	ML.10	160		Brec. MV	176.0-179.0
1148	ML.10	820/890	(AZ)	Bleached MV	194.0-195.0
1149	ML.10	620	(AZ)	Bleached MV	195.0-199.0
1151	ML.10	630	(AZ)	Massive Qtz.	201.5-202.3
1152	ML.10	260	(AZ)	Sheared MV	202.3-204.1
1153	ML.10	250	(AZ)	Massive Qtz.	204.1-209.0
1154	ML.10	950/890	(AZ)	Massive Qtz.	209.0-212.2
1155	ML.10	160	(AZ)	Sheared MV	212.2-214.7
1156	ML.10	540	(AZ)	Sheared MV	214.7-218.5
1168	ML.11	310		Mylonitic Brec MV	202.0-204.5
1170	ML.11	170	(AZ)	Green Mica	206.0-209.0
1171	ML.11	300	(AZ)	Green Mica	209.0-214.0
1173	ML.11	620/820	(AZ)	Sheared MV	219.0-223.0
1174	ML.11	100		Felsic Intru(?)	223.0-223.7
1175	ML.11	240		Felsic Intru(?)	223.7-225.5
1178	ML.11	2880/2810		Sheared MV	233.8-234.5
1179	ML.11	1230		Sheared MV	~~225.0-227.0~~ 234.5 - 236.0

TABLE XIII (Continued)

SAMPLE NO.	HOLE NO.	AU(ppb)		LITHOLOGY	INTERVAL(FT)
1189	ML.12	100	(AZ)	Sheared MV	207.8-213.1
1190	ML.12	300	(AZ)	Massive Qtz.	213.1-215.9
1191	ML.12	520	(AZ)	Int Intrusive	215.9-220.0
1192	ML.12	1010/960	(AZ)	Int Intrusive	220.0-225.0
1193	ML.12	380	(AZ)	Sheared MV	225.0-227.0
1206	ML.13	1510/1650		Felsic Intrusive	214.5-215.5
1207	ML.13	280		Brec. MV	215.5-217.0
1208	ML.13	270		Felsic Intrusive	217.0-221.0
1210	ML.13	130	(AZ)	Sheared MV	226.6-228.3
1211	ML.13	1030	(AZ)	Massive Qtz.	228.3-229.8
1212	ML.13	470	(AZ)	Sheared MV	229.8-231.0
1213	ML.13	370	(AZ)	Massive Qtz.	231.0-236.4
1214	ML.13	1120/960	(AZ)	Sheared Gab	236.4-238.8
1215	ML.13	450		Int Intrusive	238.8-243.0
1216	ML.13	760		Int Intrusive	243.0-248.0
1217	ML.13	800		Int Intrusive	248.0-251.5
1230	ML.14	620		Brec. MV	264.0-269.0
1234	ML.14	1580/1650	(AZ)	Sheared MV	282.7-286.2
1235	ML.14	340	(AZ)	Mylonitic MV	286.2-289.4
1236	ML.14	590	(AZ)	Int Intrusive	289.4-291.5
1237	ML.14	1710/1580		Mylonitic MV	291.5-292.7
1238	ML.14	320		Brec. MV	292.7-296.0
1243	ML.15	290/270		Vol. Ironstone	129.0-134.0
1247	ML.15	210		Mylonite	199.0-201.0
1258	ML.15	400	(AZ)	Massive Qtz.	238.9-239.5
1259	ML.15	310/270		Int-Felsic Intru	239.5-244.0
1260	ML.15	480/440		Int-Felsic Intru	244.0-246.8
1274	ML.16	110/60		Brec. MV	308.8-314.0
1325	ML.18	110	(AZ)	Int-Fel Intru	153.0-155.8
1328	ML.18	100	(AZ)	Sheared MV	159.0-164.2
1329	ML.18	8570/7950	(AZ)	Massive Qtz.	164.2-164.6
1331	ML.18	6990/7680	(AZ)	Green Mica	166.3-169.7
1333	ML.18	1920		Qtz Vein in MV	187.5-187.8

LEGEND FOR ABBREVIATIONS

AZ = altered zone
MV = mafic metavolcanic
Qtz = quartz
Mass = massive
Sil = silicified
Brec = brecciated
Ank = ankeritic
Int = Intermediate
Vol = Volcanic
Fel = Felsic

TABLE XIV

Au and Ag Assays, DDH ML.01

	Gold oz/T 1st Cut	Gold oz/T 2nd Cut	Gold ppb 1st Cut	Gold ppb 2nd Cut	Silver ppm
1001			<5		<0.2
1002			<5		0.2
1003			70		0.6
1004			35		2.4
1005			155	185	1.6
1006	0.01		255	340	3.5
1007	0.039	0.039	795	>1000	2.8
1008	0.034	0.026	775	650	3.1
1009			355	320	0.2
1010			260	345	0.2
1011			85		0.6
1012	0.048	0.048	>1000	>1000	0.5
1013	0.034	0.031	635	885	0.8
1014	0.069	0.062	>1000	>1000	1.6
1015			385	445	2.1
1016	0.023		545	910	1.7
1017			70		<0.2
1018			160	200	0.2

assayed for As, Table XV indicates As and Au are positively correlated, background As concentration is <10 ppm increasing over 10 fold in rocks containing anomalous gold values.

4.3 MAJOR OXIDE ANALYSIS

One continuous section of samples through the altered zone in ML.01 was analyzed for major oxides and loss on ignition (LOI). Analytical results are listed in Table XVI.

Results are compiled graphically in (Figure 20). The graph plots sample number versus the relative proportion of oxide or element. The position of the concentration value on the graph is determined by the concentration range and the amount of space available on the graph to be plotted. Therefore, the graph is for comparative purposes only, refer to Table XIV for absolute values.

The results show a symmetrical pattern of enrichment and depletion of major constituents centered about sample 1009 which is a section of relatively unaltered basalt within the core of the altered zone, flanking 1009 are two samples of massive quartz (1008, 1010) which are in turn flanked by samples of green mica alteration (1004, 1006, 1007, 1011, 1013, 1015, 1016) and bleached volcanic/intrusive (1003, 1005, 1012).

The altered zone is characterized by the addition of SiO_2 (quartz), Al_2O_3 and K_2O (white-green mica), Bao, S as well as the depletion of Fe_2O_3 (includes FeO), CaO, MgO, Na2O, MnO, P_2O_5 and SrO. Much of the depletion is related to amphibole and feldspar destructive alteration.

TABLE XV

Au and As Assays, DDH ML.02

Pro. 1446	Gold ppb FA/AA		Arsenic (As)ppm
1039	55		15
1040	30		4
1041	5		8
1042	25		3
1043	205		3
1044	45		2
1045	80		25
1046	35		100
1047	55		70
1048	>1000	0.076 oz/T	75
1049	>1000	0.052 oz/T	50
1050	>1000	0.022 oz/T	180
1051	325		30
1052	150		70
1053	525	0.016 oz/T	25
1054	>1000	0.031 oz/T	90
1055	>1000	0.35 oz/T	95
1056	>1000	0.066 oz/T	110
1057	685	0.015 oz/T	20
1058	460		10
1059	25		1

TABLE XIV

WHOLE ROCK ANALYSIS OF A CONTINUOUS SECTION THROUGH THE ALTERED ZONE IN DIAMOND DRILL HOLE ML.01

SAMPLE NUMBER	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	TiO2	MnO	P2O5	BaO	SrO	ZrO2	Au	LOI	TOTAL
ML1446DDH0011302	49.36	14.11	7.47	8.05	7.78	2.16	0.60	0.49	0.11	0.21	60.00	164.00	90.00	10	8.32	98.70
ML1446DDH0011303	46.15	17.47	6.49	12.24	8.75	0.94	0.10	0.19	0.13	0.09	0.10	184.00	21.00	5	8.29	100.77
ML1446DDH0011304	44.50	16.09	6.17	11.87	8.39	1.38	0.69	0.17	0.12	0.08	24.00	126.00	22.00	5	11.07	100.54
ML1446DDH0011001	43.63	14.33	6.38	11.20	7.47	1.25	0.58	0.20	0.13	0.02	40.00	139.00	29.00	5	15.10	100.31
ML1446DDH0011002	41.69	12.51	6.82	10.64	7.90	0.91	0.90	0.24	0.14	0.03	53.00	116.00	27.00	5	16.52	98.32
ML1446DDH0011003	56.48	9.95	3.42	10.19	3.25	0.63	1.97	0.14	0.10	0.02	162.00	123.00	94.00	70	11.69	97.88
ML1446DDH0011004	39.23	21.58	3.23	10.24	3.82	1.00	4.94	0.12	0.08	0.04	241.00	123.00	30.00	35	14.48	98.80
ML1446DDH0011005	51.81	18.34	5.04	7.42	1.62	0.55	4.85	0.38	0.06	0.13	303.00	72.00	153.00	155	8.26	98.52
ML1446DDH0011006	42.21	20.72	4.83	9.49	2.86	0.57	5.50	0.19	0.11	0.05	254.00	86.00	45.00	255	11.39	97.97
ML1446DDH0011007	40.75	20.54	4.45	8.47	3.79	0.55	5.45	0.16	0.10	0.02	250.00	95.00	32.00	900	13.47	97.79
ML1446DDH0011008	76.52	4.30	2.72	4.71	2.69	0.12	1.13	0.05	0.06	0.02	56.00	38.00	17.00	712	6.56	98.89
ML1446DDH0011009	37.87	12.64	5.95	11.85	7.58	0.27	3.42	0.16	0.13	0.01	129.00	98.00	24.00	337	18.35	98.24
ML1446DDH0011010	81.88	3.63	2.20	3.26	1.82	0.10	0.88	0.04	0.04	0.03	48.00	32.00	16.00	302	4.79	98.68
ML1446DDH0011011	40.44	22.28	3.49	8.40	3.47	0.52	6.09	0.16	0.10	0.04	317.00	95.00	24.00	85	13.51	98.55
ML1446DDH0011012	66.99	14.21	4.27	2.86	0.89	0.32	4.03	0.41	0.05	0.12	299.00	37.00	170.00	1630	4.73	98.93
ML1446DDH0011013	46.43	19.71	4.30	8.77	1.97	0.47	5.50	0.22	0.13	0.04	284.00	74.00	47.00	760	11.50	99.09
ML1446DDH0011015	47.03	23.93	4.56	4.98	2.01	0.55	5.79	0.20	0.07	0.02	376.00	79.00	28.00	415	8.37	97.56
ML1446DDH0011016	43.05	15.30	5.92	9.28	4.83	0.37	3.80	0.39	0.13	0.01	199.00	83.00	34.00	727	14.91	98.01
ML1446DDH0011017	39.00	12.95	11.07	9.57	6.94	0.21	2.09	0.63	0.18	0.01	115.00	80.00	27.00	70	15.55	98.21
ML1446DDH0011018	40.90	13.16	11.74	8.95	5.48	0.56	2.22	0.92	0.19	0.11	136.00	89.00	34.00	180	13.91	98.17
ML1446DDH0011305	42.27	13.62	9.74	9.31	7.46	1.06	1.95	0.57	0.16	0.09	56.00	132.00	27.00	5	13.78	100.04
ML1446DDH0011306	42.53	13.57	10.09	8.01	9.10	1.54	1.15	0.50	0.13	0.13	56.00	92.00	20.00	15	11.29	98.06
ML1446DDH0011307	36.95	7.87	10.32	9.36	14.97	0.10	0.42	0.22	0.18	0.11	10.00	62.00	20.00	15	17.86	98.37
ML1446DDH0011308	34.47	8.62	11.19	7.73	19.19	0.06	0.68	0.16	0.17	0.09	10.00	48.00	16.00	5	15.93	98.30

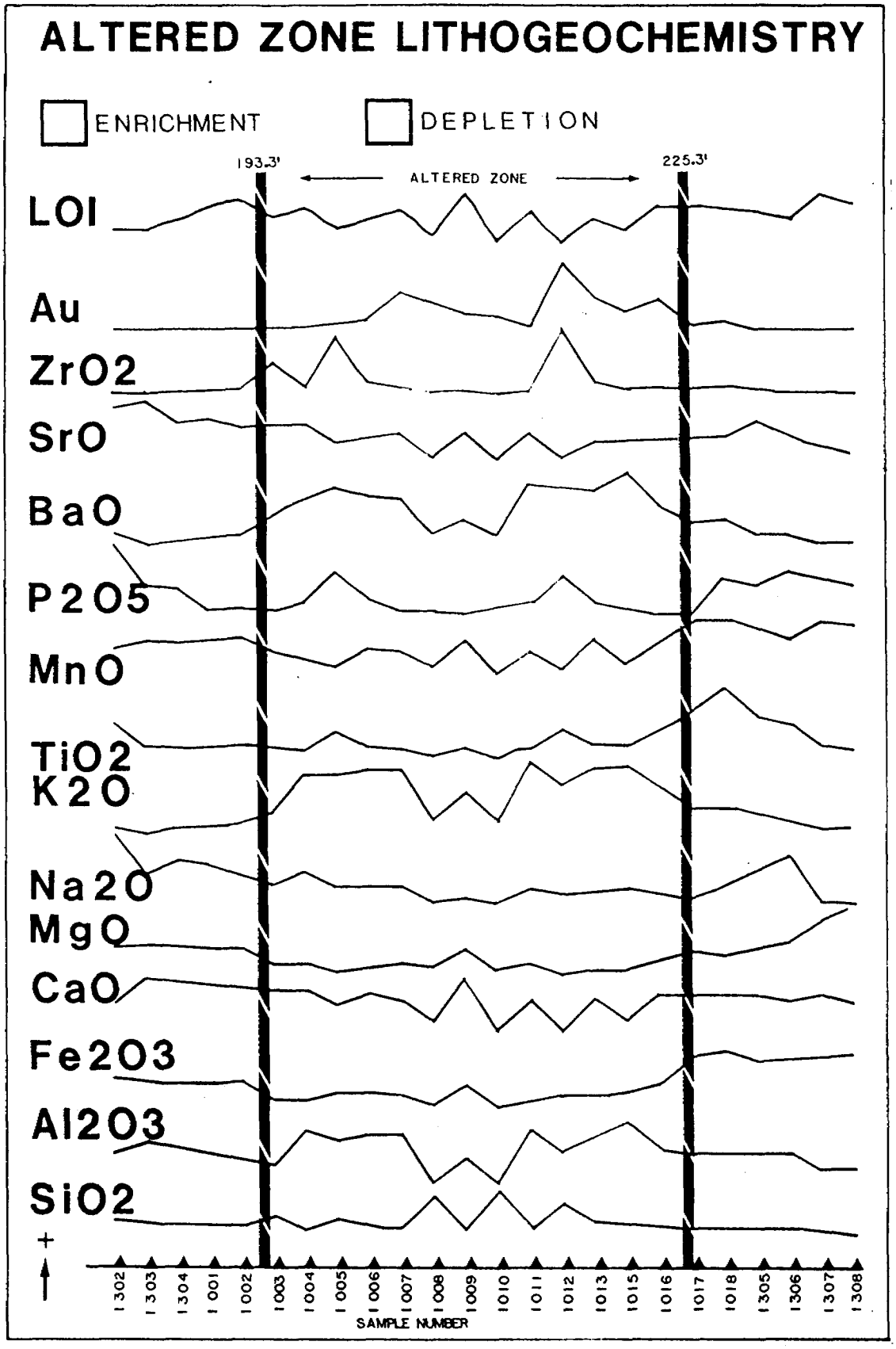


FIGURE 20

MAJOR OXIDE AND AU VARIATION THROUGH THE ALTERED ZONE DDH ML.01 (SEE TEXT FOR EXPLANATION) ANALYTICAL RESULTS ARE LISTED ON TABLE XIV

Although pyrite (and arsenopyrite) is more abundant in altered zone rocks than metabasalt, total iron content is roughly 50% of that in metabasalt. Much of the iron in the altered zone is present in pyrite, arsenopyrite and iron carbonate.

Peaks in plots of ZrO2, P2O5, TiO2 and peaks (other than those associated with quartz vein material) in plots of SiO2 correlate with samples of bleached volcanic. This lithology observed in subsequent holes was tentatively identified as an intermediate-felsic intrusive and is charaterized by elevated SiO2 and K2O values and a distinctly different trace element signature.

Gold mineralization is associated with pyrite and arsenopyrite mineralization. Visible gold was not observed in ML.01 although it is present in quartz veins in ML.02.

4.4 DISCUSSION

In mafic lithologies alteration associated with epigenetic gold mineralization typically involves extensive or complete replacement of the rock matrix by hydrothermal fluids reacting with a highly unstable and reactive constituent mineralogy. In the case of mafic lithologies mineralogical precursors include actinolite, plagioclase (often albite), chlorite, epidote, calcite and quartz. The most typical alteration assemblage includes ferroan carbonates, calcite, white mica, albite, chlorite, quartz and sulphide. These mineralogical transformations involve substantial input of CO2, K, Si and S and significant loss of Mg, Ca and Na. Fe, Mg and Ca necessary for the generation of Fe-carbonates, silicate and sulphide phases are most probably derived from precursor ferromagnesian minerals (Colvine, 1984).

The alteration assemblage which constitutes the altered zone at McVicar Lake is a typical example of alteration zonations observed around gold deposits hosted in mafic lithologies (Figure 21). In most of these deposits gold concentrations occur in direct association with quartz and sulphides either as vein constituents or replacement zones;

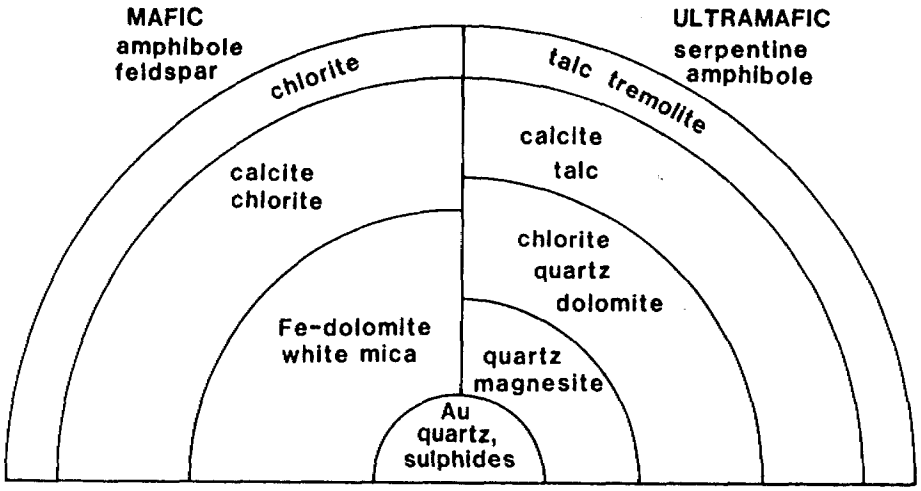


Figure 21: Diagrammatic illustration of the consistent alteration zonations observed around gold deposits hosted in mafic and ultramafic lithologies. This zonation is applicable from the camp scale down to that of an individual, mineralized zone. Relative abundances of mineral phases are not indicated and only diagnostic ones have been included.

(From Colvine et al, 1984)

carbonate veins and carbonate, white mica bearing rocks are not ore grade.

At McVicar Lake there is ample evidence of an intense alteration assemblage typical of that associated with Archean lode gold mineralization.

Much of the alteration assemblage is confined to intensely sheared rocks which provided increased permeability and provided a conduit for hydrothermal fluids. Enveloping the alteration zone is a brecciated volcanic with a carbonate rich breccia matrix. Brecciation and cementation of fragments with carbonate implies that the hydrothermal fluid was highly charged with CO2 and fluid pressure exceeded confining pressure. Rotated fragments of mylonitized basalt and boudinaged quartz veins imply that hydrothermal activity was syn to post kinematic.

Gold deposits comprise, in part, intergrowths of free gold with quartz, however, much of the gold is actually contained in sulphides. Sulphidation, therefore, is an essential component in the deposition and distribution of gold. At McVicar Lake overall sulphide content of the altered zone is quite low, therefore, it is not surprising that anomalous gold values although widespread are largely subeconomic.

Intense alteration does not make ore. It is, however, an indication of the volume and reactiveness of the mineralizing fluid. Precipitation of gold is due to changes in the physical or chemical state of the fluid influenced by mineralizing species, wallrock chemistry and P-T conditions. Pressure and temperature decrease in the fluid may significantly affect gold solubility as indicated by the apparent decrease in gold content in the deeper levels of the Hollinger and Sigma Mines (Colvine, 1984).

Diamond drilling at the McVicar Lake property has been focussed in a relatively small area. Diamond drilling has revealed the presence of intensely altered rocks which contain anomalous, yet

largely subeconomic Au mineralization. Evidence for an extremely reactive mineralizing fluid and the presence of structures which provide a conduit and focus alteration and mineralization is considered to be extremely encouraging.

Rodney N. Thomas
RNT/ca

Rodney N. Thomas M.Sc.
Toronto, February 4, 1987

RNT/ca

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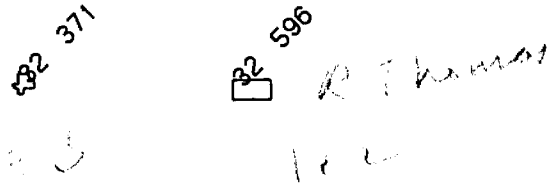
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McVICAR LAKE PROJECT

(1446)

SUPPLEMENTARY DRILL REPORT

Mc Vicar Lake Area
Patricia Mining Division
NTS 52 011 and 52 012

October 3, 1988

Submitted by:

Rodney N. Thomas

OM86-2-C-293

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4.	DDH SECTION NG 4+00 S	1:500
5.	DDH SECTION NG 4+50 S	1:500
6.	DDH SECTION NG 5+00 S	1:500
7.	MCVICAR LAKE ALTERED ZONE VERTICAL LONGITUDINAL SECTION FACING SOUTHWEST	1:1,000

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Diamond drilling work completed on the McVicar Lake property during the period April 13, 1988 utilized a hydraulic JKS 300 drill to drill 11 holes for a total aggregate footage of 5439' (1657.8 metres).

The principal target of interest was the McVicar Lake Altered Zone (AZ) which comprises an intensely altered and mineralized northwest trending shear zone.

Previous diamond drilling by BHP-UTAH had concentrated on delineating the near surface extent of the AZ. In the course of that work it was apparent that the grade of mineralization within the zone is low overall and averages <1 gram/tonne. However, the grade of mineralized intersections is extremely variable and ranges from trace to 14 grams/tonne over 4.63 metres. Grade continuity between holes is poor, however, analytical data suggests that continuity in grade may exist down plunge.

The principle objectives of this drill program were to verify the persistence of the structure at depth and to determine if the tenor of gold mineralization improved with depth.

The drill program tested the down plunge extension of the zone on lines NG 3+50 S, NG 4+00 S, NG 4+50 S and NG 5+00 S to a maximum vertical depth of 135 metres (DDH ML.44). It is apparent from drill core and analysis of drill core samples that strain intensity and the tenor of gold minerlization attenuate with depth.

The AZ structure is a pervasive feature. It is open along strike and at depth. It is possible that there may be additional zones of dilation along strike or at depth. This particular zone, however, has

...2.

been adequately drill tested. Gold mineralization within the zone is extremely variable and although some intersections returned economic grades over mineable widths the overall grade is extremely low (<1 gram/tonne) and discontinuous.

No further work is recommended.

...3.

1.0 GENERAL INFORMATION

1.1 Introduction

This report discusses the results of a follow-up drill program completed on the property during the period April 13, 1988 to May 11, 1988. This report is supplemental to the writer's report of February 17, 1988 and accordingly, background information contained in the main report is not included in this report.

The McVicar Lake property comprises 767 contiguous claims (Table I). Diamond drilling was completed on three claims within the property. They are as follows:

KRL 846028, KRL 846033 and KRL 846036.

1.2 Location and Access

The project area is situated approximately 80 km due west of the town of Pickle Lake and 120 km northeast of Sioux Lookout in the Patricia Mining Division of northwestern Ontario (Figure 1) within NTS areas 52 O/11 and 52 O/12. The pertinent claim maps are Cannon Creek; Stoughton, McVicar and Saddle lakes. Drilling activities were confined to the area immediately east of McVicar Lake (Figure 2).

There are no roads to the property. Access is by aircraft only. The closest charter aircraft are available in Pickle Lake. In 1988 BHP-UTAH utilized the services of both KELNER AIRWAYS LIMITED and GOLD BELT AIR TRANSPORT.

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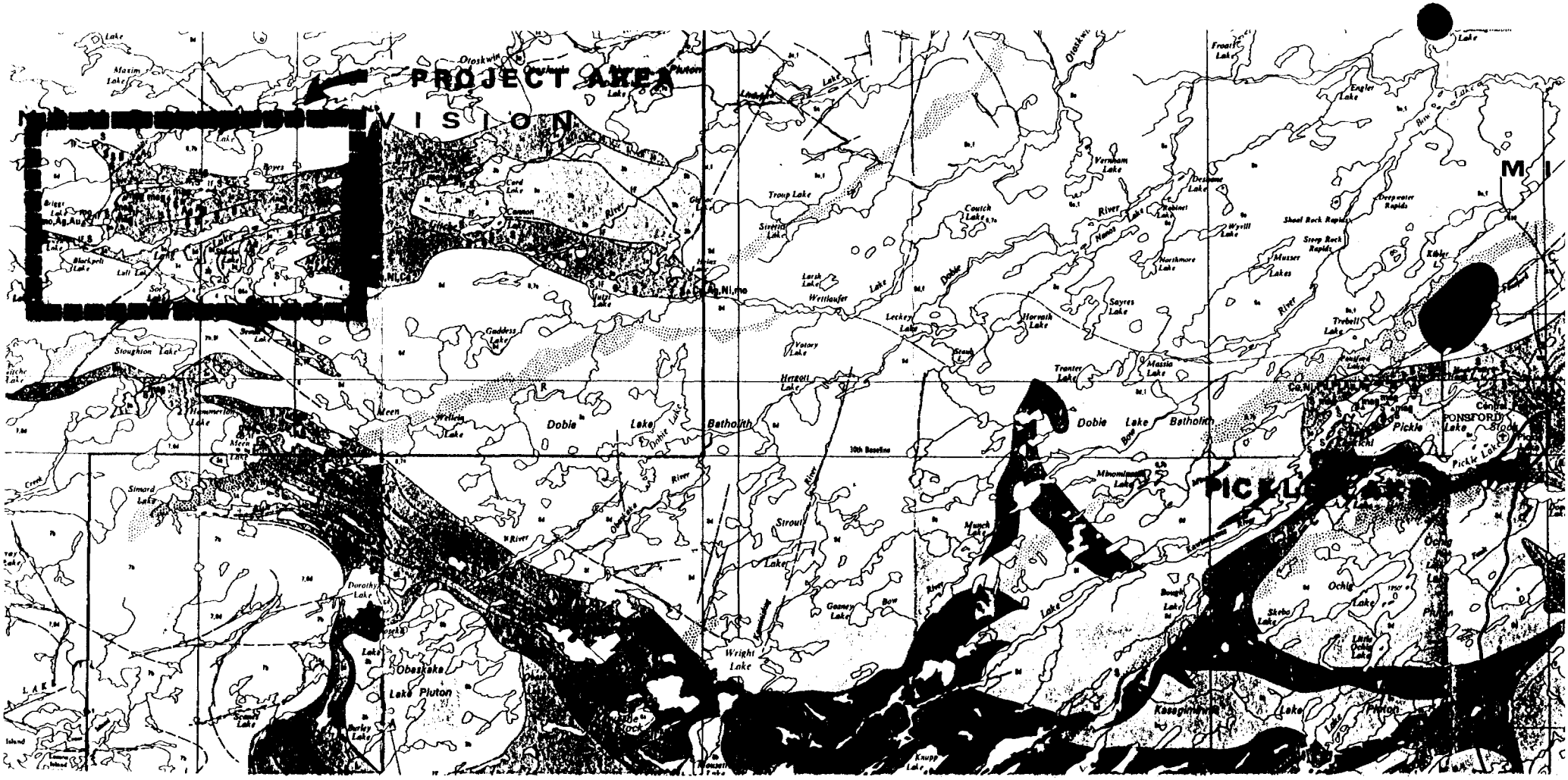
MCVICAR LAKE PROJECT

TABLE I

LIST OF CLAIMS

KRL	57866 - 57867	KRL	868874 - 868885
	57873 - 57875		886050 - 886101
	57877 - 57878		890520 - 890546
	856023 - 846037		890555 - 890578
	856053 - 846065		902929 - 902938
	852117		902949 - 902958
	852119		902983 - 903000
	852895 - 853034		903101 - 903160
	853036 - 853040		903201 - 903275
	853044		903401 - 903408
	853048 - 853073		903439
	853075 - 853118		910818 - 910832
	868683 - 868696		910888 - 910892
	868719 - 868735		911381 - 911385
	868756 - 868776		926183 - 926189
	868805 - 868835		938033 - 928037
			929206 - 929210
PA	914865 - 914879	PA	1006956 - 1006986
	985755 - 985780		914978 - 914993
	1006251 - 1006252		1006492

Total is 767 Claims



Map 2218

CAT LAKE–PICKLE LAKE

Geological Compilation Series

KENORA AND THUNDER BAY DISTRICTS

Miles 2 1 0 2 4 6 8 10 12 14 16 18 20 Miles

Metres 5000 0 10 20 30 Kilometres

FIGURE 1
LOCATION MAP OF THE PROJECT AREA, 80 KM WEST OF PICKLE LAKE

DARK GREY AREAS ARE GREENSTONE BELTS

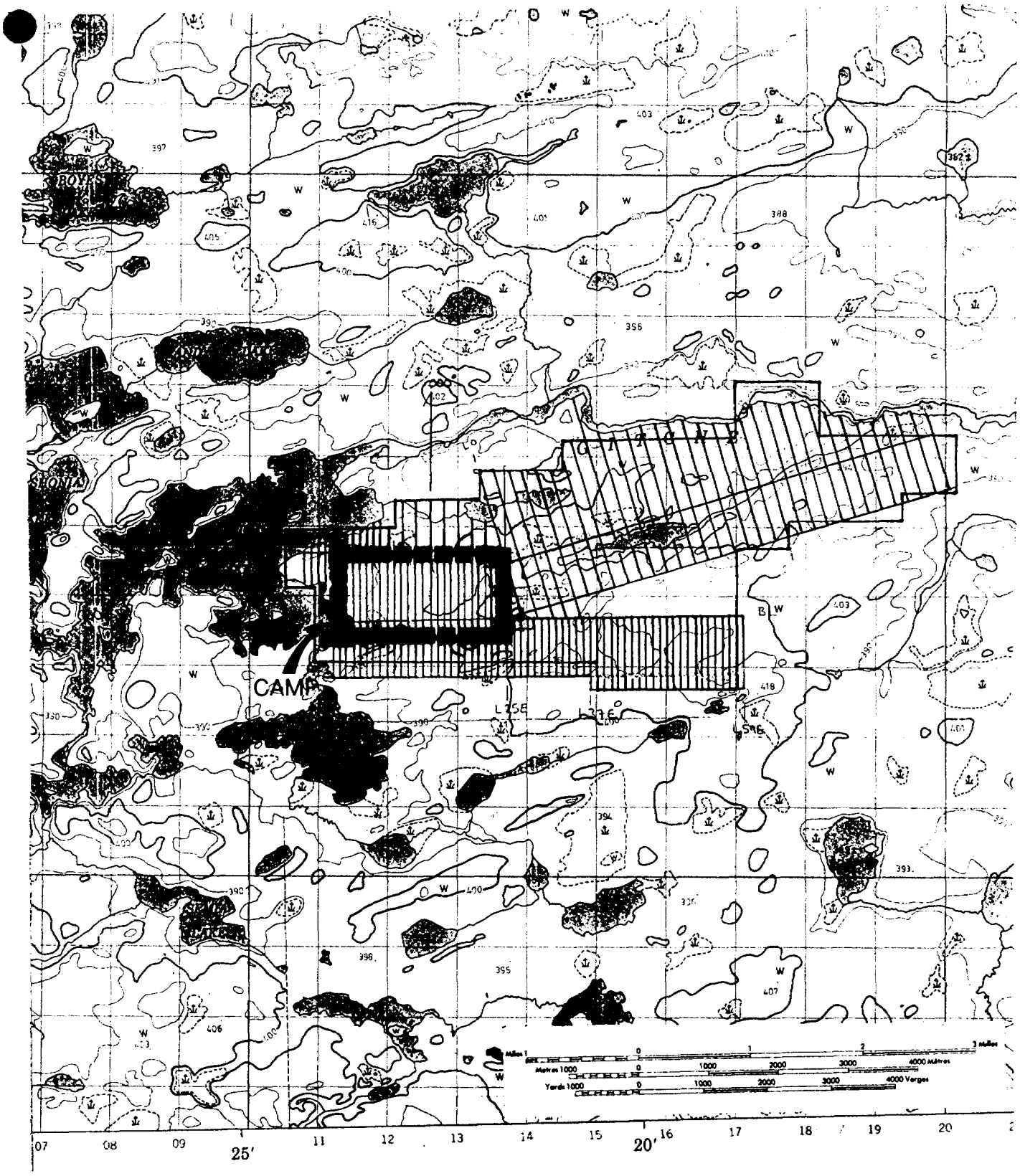


FIGURE 2
LOCATION MAP (52 0/11)
DRILLING ACTIVITIES
CONFINED TO AREA
(OUTLINED) IMMEDIATELY
EAST OF MCVICAR LAKE

1.3 Previous Diamond Drilling

Previous diamond drilling work by BHP-UTAH in the area immediately east of McVicar Lake comprised the emplacement of 34 drill holes for a total cumulative footage of 10,467.5' (3,190.5 m).

The principle target of interest was the McVicar Lake Altered Zone (AZ) which consists of an intensely altered and mineralized northwest trending ductile shear zone.

The bulk of the mineralization within the AZ is localized within the most dilated portion of the structure which, is some 300 m in length and up to 20 m in true thickness. The main zone of dilation and, hence, the zone of principal economic interest does not dip normal to the strike of the structure. It plunges east-southeast and is proximal to and localized by the gabbro/metavolcanic contact.

Previous diamond drilling had concentrated on delineating the near surface extent of the AZ. In the course of that work it was apparent that the grade of mineralization within the zone is low overall and averages <1 g/tonne. However, the grade of mineralized intersections is extremely variable and ranges from trace to 14 g/tonne over 4.63 m. Grade continuity between holes is poor, however, analytical data suggests that continuity in grade may exist down plunge.

1.4 Objectives

The principle objectives of this diamond drilling program were to verify the persistence of the structure at depth and to determine if the tenor of gold mineralization improved with depth.

2.0 DIAMOND DRILLING

2.1 Introduction

Diamond drilling services were provided by Langley Drilling of Brampton, Ontario. A hydraulic JKS 300 drill was used to drill 11 holes (Table II) for a total aggregate footage of 5439' (1657.8 m). All core is BQ and is stored at the McVicar Lake campsite.

All mineralized or otherwise interesting intervals were routinely split and forwarded to TECHNICAL SERVICES LABORATORIES in Mississauga, Ontario for assay. All samples were assayed for Au via fire assay preconcentration (30 g sample) with an AA finish for samples with gold concentrations of <1000 ppb and a subsequent gravimetric finish for samples with >1000 ppb Au.

Drill logs are included in Appendix I and Certificates of Analysis in Appendix II.

Drill hole locations are shown in PLAN 01. PLAN 02 is a plan view of the surface projection of the AZ. Transverse sections are included in PLANS 03-06 and PLAN 07 is a longitudinal section of the AZ.

To facilitate data presentation and discussion drill hole results are discussed by section from north to south.

Diamond drilling equipment employed by the contractor was sized in imperial units. To minimize error downshole intervals on core markers and downhole intervals on diamond drill logs are quoted in imperial units. All plans, sections and observations are in metric measure. There are two grids over the area of interest. The old grid (baseline azimuth 090 degrees) coordinates are prefixed by OG and the new grid coordinates (baseline azimuth 330 degrees) are prefixed by NG. All thicknesses and dips of

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TABLE II

LIST OF DRILL HOLES

Hole Number	Azimuth	Inlination	Total Depth
ML 35	240°	-70°	309'
36	240°	-70°	369'
37	240°	-70°	429'
38	240°	-70°	509'
39	240°	-70°	399'
40	240°	-70°	489'
41	240°	-70°	509'
42	240°	-70°	629'
43	240°	-70°	649'
44	240°	-70°	669'
45	240°	-70°	479'
		Total	5439'
			(1657.8 m)

geological units noted in section descriptions are true thicknesses as measured in section.

2.2 Section NG 3+50 S - DDH ML 35, ML 36, ML 37 and ML 38

Collar locations of the four holes in this section are as follows:

ML 35 NG 3+50 S/2+50 E
ML 36 NG 3+50 S/3+00 E
ML 37 NG 3+50 S/3+50 E
ML 38 NG 3+56 S/4+53 E

All holes were drilled grid west (240 degrees) at an inclination of -70 degrees.

Lithological summaries of the four holes are shown in Tables III to VI inclusive.

The drill target in this section as in all subsequent sections was the down-plunge extension of the AZ.

The holes were established with the intention of providing a relatively broad section of the zone. Of particular interest was the nature of the AZ's eastern margin as on some sections to the north it is apparent that the zone pinches out to the east.

With reference to PLAN 03 the zone of intense strain (brecciated to sheared rocks) which envelopes the AZ was intersected in all four holes. In section its thickness ranges from 20 to 25 metres and dips 15 degrees grid east. The thickness of the AZ within the strain envelope is much more variable and ranges from 22 to 7.5 m. The AZ is thinnest in hole ML 38 where it appears to bifurcate and exists as two zones of 3.5 and 4.0 m thickness separated by 6 m of highly strained rocks.

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TABLE III

LITHOLOGICAL SUMMARY DDH ML.35

FOOTAGE	LITHOLOGY
0.0 - 41.2'	Overburden
41.2 - 49.5'	Gabbro
49.5 - 56.0'	Tonalite
56.0 - 103.5'	Gabbro
103.5 - 143.2'	Tonalite
143.2 - 158.3'	Brecciated gabbro/gabbro
158.3 - 174.5'	Gabbro
174.5 - 179.0'	Porphyritic basalt
179.0 - 188.6'	Gabbro
188.6 - 201.6'	Porphyritic gabbro
201.6 - 223.9'	Gabbro
223.9 - 244.8'	Brecciated gabbro
244.8 - 281.9'	ALTERED ZONE
281.9 - 289.0'	Brecciated gabbro
289.0 - 309.0'	Gabbro
309.0'	END OF HOLE

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TABLE IV

LITHOLOGICAL SUMMARY DDH ML.36

FOOTAGE	LITHOLOGY
0.0 - 33.8'	Overburden
33.8 - 77.0'	Gabbro
77.0 - 89.0'	Brecciated basalt
89.0 - 91.0'	Porphyritic basalt
91.0 - 103.0'	Gabbro porphyry
103.0 - 120.7'	Gabbro
120.7 - 143.0'	Gabbro/porphyritic gabbro
143.0 - 151.7'	Gabbro
151.7 - 157.1'	Tonalite
157.1 - 165.6'	Gabbro
165.6 - 172.2'	Tonalite
172.2 - 176.2'	Gabbro
176.2 - 181.0'	Porphyritic basalt
181.0 - 205.0'	Gabbro
205.0 - 208.5'	Tonalite dyke
208.5 - 216.9'	Gabbro
216.9 - 224.2'	Tonalite
224.2 - 270.0'	Gabbro
270.0 - 273.5'	Brecciated gabbro
273.5 - 345.3'	ALTERED ZONE
345.3 - 356.3'	Brecciated gabbro
356.3 - 369.0'	Gabbro
369.0'	END OF HOLE

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TABLE V

LITHOLOGICAL SUMMARY DDH ML.37

FOOTAGE	LITHOLOGY
0.0 - 57.0'	Overburden
57.0 - 69.0'	Tonalite
69.0 - 114.6'	Gabbro
114.6 - 123.6'	Brecciated gabbro
123.6 - 134.5'	Porphyritic gabbro
134.5 - 140.0'	Tonalite
140.0 - 156.2'	Gabbro
156.2 - 158.6'	Tonalite
158.6 - 234.8'	Gabbro
234.8 - 236.0'	Tonalite
236.0 - 238.5'	Porphyritic felsic intrusive
238.5 - 241.6'	Tonalite
241.6 - 242.7'	Porphyritic felsic intrusive
242.7 - 245.5'	Tonalite
245.5 - 266.6'	Gabbro
266.6 - 269.2'	Tonalite
269.2 - 272.8'	Gabbro
272.8 - 281.0'	Tonalite
281.0 - 287.2'	Gabbro
287.2 - 289.9'	Tonalite
289.9 - 294.4'	Gabbro
294.4 - 301.9'	Tonalite
301.9 - 308.5'	Gabbro
308.5 - 317.2'	Brecciated gabbro
317.2 - 328.0'	Brecciated sheared gabbro
328.0 - 381.8'	ALTERED ZONE
381.8 - 389.7'	Porphyritic felsic intrusive
389.7 - 392.6'	Brecciated gabbro
392.6 - 429.0'	Gabbro
429.0'	END OF HOLE

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TABLE VI

LITHOLOGICAL SUMMARY DDH ML.38

FOOTAGE	LITHOLOGY
0.0 - 27.7'	Overburden
27.7 - 49.9'	Basalt
49.0 - 53.2'	Porphyritic felsic intrusive
53.2 - 57.1'	Basalt
57.1 - 58.9'	Felsic intrusive
58.9 - 66.8'	Brecciated basalt
66.8 - 74.6'	Sheared basalt
74.6 - 83.3'	Brecciated basalt
83.3 - 89.0'	Sheared basalt
89.0 - 90.1'	Intermediate intrusive
90.1 - 106.8'	Brecciated basalt
106.8 - 136.8'	Gabbro
136.8 - 142.9'	Brecciated gabbro
142.9 - 145.2'	Intermediate intrusive
145.2 - 160.4'	Gabbro
160.4 - 181.3'	Porphyritic gabbro
181.3 - 183.1'	Intermediate intrusive
183.1 - 185.6'	Gabbro
185.6 - 187.6'	Felsic intrusive
187.6 - 254.0'	Gabbro
254.0 - 255.5'	Intermediate intrusive
255.5 - 256.2'	Tonalite
256.2 - 283.2'	Porphyritic gabbro
283.2 - 287.6'	Porphyritic felsic intrusive
287.6 - 296.2'	Gabbro
296.2 - 304.5'	Brecciated gabbro
304.5 - 314.4'	Intermediate intrusive
314.4 - 318.6'	Tonalite

TABLE VI (cont'd)

FOOTAGE	LITHOLOGY
318.6 - 371.8'	Gabbro
371.8 - 383.6'	Porphyritic gabbro
383.6 - 385.8'	Tonalite dyke
385.8 - 395.4'	Gabbro
395.4 - 399.6'	Brecciated gabbro
399.6 - 411.5'	Sheared gabbro
411.5 - 418.5'	Brecciated gabbro
418.5 - 421.5'	Gabbro
421.5 - 431.7'	Brecciated gabbro
431.7 - 444.2'	ALTERED ZONE
444.2 - 459.0'	Brecciated gabbro
459.0 - 464.0'	Sheared/Brecciated gabbro
464.0 - 499.6'	Gabbro
499.6 - 509.0'	Anorthositic gabbro porphyry
509.0'	END OF HOLE

Analytical results indicate that the AZ, as in previous holes, contains anomalous gold values. The best results were obtained from ML 35 which yielded 1.1 g/tonne over 12.9' from an interval of intermediate intrusive adjacent to an interval of quartz which contains up to 40% green mica. A 4.0' sample of the latter interval assayed 1.0 g/tonne Au.

ML 36 intersected the thickest interval of AZ in the section. Despite 13.2' interval of massive quartz gold values are low with the best assay from this interval yielding 700 ppb Au.

ML 37 retruned two intervals of greater than 1 g/tonne Au. Sample 1828 assayed 2.6 g/tonne Au from a 5.0' interval of sheared gabbro. Sample 1831 yielded 1.8 g/tonne Au from a 2.2' interval of intermediate intrusive.

ML 38 returned only one sample containing anomalous gold. Sample 1850 comprising a 4.9' interval of sheared gabbro which comprises all of the poorly developed AZ in this hole.

2.3 Section NG 4+00 S - DDH ML 39, ML 40 and ML 41

Collar locations of the three holes in this section are as follows:

ML 39 NG 4+00 S/3+50 E
ML 40 NG 4+00 S/4+25 E
ML 41 NG 4+00 S/4+75 E

All holes were drilled grid west (240 degrees) at an inclination of -70 degrees.

Lithological summaries of the three holes are shown in Tables VII to IX, inclusive.

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TABLE VII

LITHOLOGICAL SUMMARY DDH ML.39

FOOTAGE	LITHOLOGY
0.0 - 50.0'	Overburden
50.0 - 59.8'	Gabbro
59.8 - 73.8'	Brecciated gabbro
73.8 - 77.0'	Gabbro
77.0 - 93.6'	Tonalite
93.6 - 106.6'	Basalt
106.6 - 119.3'	Tonalite
119.3 - 125.0'	Gabbro
125.0 - 127.3'	Tonalite
127.3 - 136.9'	Gabbro
136.9 - 143.8'	Tonalite
143.8 - 145.2'	Brecciated gabbro
145.2 - 200.3'	Gabbro
200.3 - 205.1'	Porphyritic felsic intrusive
205.1 - 206.5'	Gabbro
206.5 - 209.5'	Tonalite
209.5 - 269.8'	Gabbro
269.8 - 283.3'	Brecciated gabbro
283.3 - 292.7'	Sheared gabbro
292.7 - 301.3'	Brecciated/sheared gabbro
301.3 - 334.1'	ALTERED ZONE
334.1 - 342.7'	Brecciated Gabbro
342.7 - 359.8'	Anorthositic gabbro prophyry
359.8 - 365.3'	Intermediate intrusive
365.3 - 399.0'	Gabbro
399.0'	END OF HOLE

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TABLE VIII

LITHOLOGICAL SUMMARY DDH ML.40

FOOTAGE	LITHOLOGY
0.0 - 20.2'	Overburden
20.2 - 36.2'	Gabbro
36.2 - 40.2'	Tonalite
40.2 - 44.0'	Gabbro
44.0 - 49.0'	Silicified gabbro
49.0 - 55.1'	Gabbro
55.1 - 66.3'	Tonalite
66.3 - 76.8'	Silicified gabbro
76.8 - 96.1'	Gabbro
96.1 - 98.4'	Tonalite
98.4 - 108.5'	Anorthositic gabbro
108.5 - 109.5'	Porphyritic felsic intrusive
109.5 - 116.8'	Gabbro
116.8 - 128.5'	Porphyritic felsic intrusive
128.5 - 136.7'	Brecciated gabbro
136.7 - 189.2'	Tonalite
189.2 - 195.3'	Basalt
195.3 - 212.5'	Tonalite
212.5 - 255.8'	Gabbro
255.8 - 261.4'	Porphyritic felsic intrusive
261.4 - 271.4'	Gabbro
271.4 - 279.0'	Sheared/brecciated gabbro
279.0 - 329.2'	Gabbro
329.2 - 334.0'	Porphyritic gabbro
334.0 - 343.1'	Gabbro
343.1 - 352.6'	Brecciated/sheared gabbro
352.6 - 416.6'	ALTERED ZONE
416.6 - 474.3'	Tonalite
474.3 - 489.0'	Porphyritic anorthositic gabbro
489.0'	END OF HOLE

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TABLE IX

LITHOLOGICAL SUMMARY DDH ML.41

FOOTAGE	LITHOLOGY
0.0 - 41.8'	Overburden
41.8 - 44.3'	Brecciated basalt
44.3 - 47.7'	Porphyritic basalt
47.7 - 53.2'	Brecciated basalt
53.2 - 59.7'	Prophyritic basalt
59.7 - 61.2'	Basalt
61.2 - 73.6'	Gabbro
73.6 - 90.6'	Silicified gabbro
90.6 - 95.9'	Gabbro
95.9 - 100.8'	Silicified gabbro
100.8 - 106.6'	Felsic intrusive
106.6 - 130.8'	Silicified gabbro
130.8 - 134.8'	Porphyritic felsic intrusive
134.8 - 144.7'	Brecciated/sheared gabbro
144.7 - 240.5'	Gabbro
240.5 - 250.2'	Intermediate intrusive
250.2 - 258.0'	Tonalite/diorite
258.0 - 272.2'	Tonalite
272.2 - 277.3'	Brecciated gabbro
277.3 - 287.1'	Gabbro
287.1 - 292.1'	Tonalite
292.1 - 388.0'	Gabbro
388.0 - 412.2'	Brecciated gabbro
412.2 - 466.1'	ALTERED ZONE
466.1 - 482.2'	Gabbro
482.2 - 484.6'	Tonalite
484.6 - 502.5'	Gabbro
502.5 - 509.0'	Tonalite
509.0'	END OF HOLE

With reference to PLAN 04 the zone of intense strain (brecciated to sheared rocks) which envelopes the AZ was intersected in all three holes. In section its thickness ranges from 22.0 to 23.5 m and dips 17 degrees grid east. The thickness of the altered zone within the strain envelope is more variable ranging from 10.0 to 19.5 m. The AZ is thickest in the centre of the section and thins slightly at its extremities.

The AZ is, much thicker in this section than section NG 3+50 S. Analytical results are noticeably poorer. Sample 1856 from brecciated gabbro marginal to the AZ in DDH ML 39 returned 1.0 g/tonne over 4.5'. All other samples of the AZ in this section returned values of <785 ppb Au.

2.4 Section NG 4+50 S - DDH ML 45

DDH ML 45 was collared at 4+49 S/4+79 E and was drilled grid west at an inclination of -70 degrees.

Table X is a lithological summary of ML 45.

As shown on PLAN 05 the drill hole intersected approximately 25 m of intensely strained rocks of which 22-23 m comprised the AZ.

Analysis of core from the AZ and enveloping highly strained rocks did not yield any samples containing >100 ppb Au.

2.5 Section NG5+00 S - DDH ML 42, ML 43 and ML 44

Collar locations of the three holes in this section are as follows:

ML 42 NG 5+00 S/6+63 E
ML 43 NG 5+00 S/7+25 E
ML 44 NG 5+01 S/7+75 E

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TABLE X

LITHOLOGICAL SUMMARY DDH ML.45

FOOTAGE	LITHOLOGY
0.0 - 4.0'	Overburden
4.0 - 22.4'	Gabbro
22.4 - 29.0'	Mafic volcanic
29.0 - 36.2'	Gabbro
36.2 - 55.2'	Mafic volcanic
55.2 - 74.0'	Gabbro
74.0 - 75.9'	Felsic intrusive
75.9 - 103.3'	Gabbro
103.3 - 107.0'	Mafic volcanic
107.0 - 121.5'	Gabbro
121.5 - 127.4'	Felsic intrusive
127.4 - 134.0'	Brecciated gabbro/basalt
134.0 - 165.4'	Altered gabbro
165.4 - 202.3'	Intensely silicified gabbro
202.3 - 224.7'	Silicified gabbro
224.7 - 239.0'	Intensely silicified gabbro
239.0 - 275.5'	Silicified gabbro
275.5 - 284.2'	Felsic intrusive
284.2 - 342.7'	Gabbro
342.7 - 349.5'	Highly silicified gabbro
349.5 - 355.0'	Brecciated gabbro
355.0 - 432.3'	ALTERED ZONE
432.3 - 439.4'	Gabbro
439.4 - 447.4'	Brecciated gabbro
447.4 - 460.5'	Anorthosite porphyry
460.5 - 473.7'	Tonalite
473.7 - 478.0'	Anorthosite porphyry
478.0 - 479.0'	Gabbro
479.0'	END OF HOLE

All holes were drilled grid west (240 degrees) at an inclination of -70 degrees.

Lithological summaries of the three holes are included as Tables XI-XIII, inclusive.

Section 5+00 S is the most southerly transverse section. With reference to PLAN 06 the zone of high strain varies from 10 to over 30 m in thickness. It is thinnest at its western end and dips shallowly east at 7 degrees. Although the zone thickens to the east intensely sheared and altered rocks characteristic of the AZ are absent in this section. Portions of the high strain zone probably comprise a transitional structural assemblage analogous to and correlative with the AZ in previous sections. This transitional assemblage was intersected in ML 43 and ML 44, in section it pinches out to the west and thins to the east.

Analytical results substantiate the observed decrease in strain intensity, alteration and mineralization. The best assay from all three holes is 750 ppb Au from a 1.0' interval of sheared gabbro in ML 42.

3.0 RESULTS

With reference to drill logs and section plans it is apparent that the intensity of strain and attendant alteration and mineralization of the AZ structure diminishes with depth.

Table XIV lists all samples, from this phase of drilling, which contain >100 ppb Au. Analytical data provides the most quantitative and substantive evidence of the down dip attentuation of the structure.

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TABLE XI

LITHOLOGICAL SUMMARY DDH ML.43

FOOTAGE	LITHOLOGY
0.0 - 20.0'	Overburden
20.0 - 23.6'	Gabbro
23.6 - 45.6'	Basalt
45.6 - 47.6'	Intermediate intrusive
47.6 - 49.0'	Basalt
49.0 - 55.0'	Brecciated basalt
55.0 - 90.1'	Basalt
90.1 - 100.4'	Brecciated basalt
100.4 - 253.7'	Gabbro
253.7 - 261.6'	Altered gabbro
261.6 - 344.1'	Gabbro
344.1 - 353.1'	Altered gabbro
353.1 - 365.7'	Gabbro
365.7 - 376.1'	Altered gabbro
376.1 - 385.4'	Tonalite/intermediate intrusive
385.4 - 393.2'	Gabbro
393.2 - 408.7'	Tonalite
408.7 - 445.4'	Gabbro
445.4 - 474.0'	Brecciated gabbro
474.0 - 474.8'	Sheared gabbro
474.8 - 482.0'	Brecciated gabbro
482.0 - 494.3'	Intermediate intrusive
494.3 - 516.8'	Felsic intrusive
516.8 - 545.4'	Gabbro
545.4 - 549.0'	Tonalite
549.0 - 629.0'	Gabbro
629.0'	END OF HOLE

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TABLE XII

LITHOLOGICAL SUMMARY DDH ML.43

FOOTAGE	LITHOLOGY
0.0 - 4.0'	Overburden
4.0 - 41.1'	Mafic volcanic
41.1 - 44.4'	Ironstone
44.4 - 69.7'	Mafic volcanic
69.7 - 77.0'	Altered basalt
77. 0 - 119.2'	Mafic volcanic
119.2 - 126.0'	Weakly sheared basalt
126.0 - 129.4'	Sheared basalt
129.4 - 130.3'	Intermediate intrusive
130.3 - 132.1'	Sheared felsic intrusive
132.1 - 133.8'	Brecciated basalt
133.8 - 136.2'	Altered felsic intrusive
136.2 - 169.5'	Brecciated basalt/gabbro
169.5 - 189.3'	Gabbro/basalt
189.3 - 209.3'	Silicified gabbro
209.3 - 211.4'	Toliated gabbro
211.4 - 356.3'	Gabbro
356.3 - 357.5'	Porphyritic felsic intrusive
357.5 - 363.0'	Gabbro
363.0 - 364.9'	Porphyritic felsic intrusive
364.8 - 390.6'	Gabbro
390.6 - 393.4'	Intermediate intrusive
393.4 - 401.0'	Gabbro
401.0 - 403.7'	Tonalite
403.7 - 462.5'	Gabbro
462.5 - 490.0'	Weakly sheared/brecciated basalt
490.0 - 511.0'	Brecciated gabbro
511.0 - 533.4'	Sheared gabbro

TABLE XII (cont'd)

FOOTAGE	LITHOLOGY
533.4 - 534.3'	Felsic intrusive
534.3 - 545.7'	Sheared gabbro
545.7 - 547.8'	Quartz sericite schist
547.8 - 556.8'	Weakly sheared gabbro
556.8 - 557.9'	Quartz sericite schist
557.9 - 618.0'	Gabbro
618.0 - 629.3'	Felsic intrusive
629.3 - 649.0'	Silicified gabbro
649.0'	END OF HOLE

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TABLE XIII

LITHOLOGICAL SUMMARY DDH ML.44

FOOTAGE	LITHOLOGY
0.0 - 35.9'	Overburden
35.9 - 39.0'	Felsic intrusive
39.0 - 61.9'	Mafic volcanics
61.9 - 63.8'	Iron formation
63.8 - 182.7'	Mafic volcanics
182.7 - 187.4'	Brecciated basalt
187.4 - 188.5'	Felsic intrusive
188.5 - 253.0'	Brecciated gabbro
253.0 - 301.1'	Gabbro
301.1 - 320.0'	Porphyritic gabbro
320.0 - 342.8'	Gabbro
342.8 - 358.5'	Brecciated gabbro
358.5 - 361.0'	Porphyritic felsic intrusive
361.0 - 392.7'	Gabbro
392.7 - 401.7'	Brecciated gabbro
401.7 - 462.9'	Gabbro
462.9 - 477.5'	Porphyritic gabbro
477.5 - 510.9'	Brecciated gabbro
510.9 - 525.1'	Gabbro
525.1 - 529.7'	Intermediate intrusive
529.7 - 542.2'	Gabbro
542.2 - 553.0'	Brecciated gabbro
553.0 - 576.9'	Sheared gabbro
576.9 - 584.1'	Brecciated gabbro
584.1 - 649.6'	Gabbro
649.6 - 657.0'	Porphyritic felsic intrusive
657.0 - 659.6'	Brecciated gabbro
659.6 - 662.3'	Porphyritic felsic intrusive
662.3 - 669.0'	Brecciated gabbro
669.0'	END OF HOLE

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TABLE XIV

Split Core Samples with 100 ppb Au

Sample #	Hole #	Au (ppb)	Au (oz/t)	Au (g/T)	Lithology	Sample Interval	Length
1793	ML 35	270			brec. gabbro	240.0-244.8'	4.8'
1794		1000	0.032	1.1	int. intrusive	244.8-250.0'	5.2'
1795		1000	0.034	1.2	int. intrusive	250.0-255.6'	5.6'
1796		900	0.029	1.0	int. intrusive	255.6-257.7'	2.1'
1797		100			quartz	257.7-261.0'	3.3'
1798		890	0.032	1.1	quartz	261.0-264.0'	3.0'
1799		770	0.025	0.9	gr. mica schist	264.0-265.0'	1.0'
1806	ML 36	650			int. intrusive	278.0-282.5'	4.5'
1811		180			sh. gabbro	301.5-306.5'	5.0'
1813		500			sh. gabbro	309.5-313.7'	4.2'
1814		160			quartz	313.7-318.7'	5.0'
1815		700			quartz	318.7-321.9'	3.2'
1816		400			quartz	321.9-326.9'	5.0'
1817		420			quartz	326.9-331.6'	4.7'
1818		280			tonalite	331.6-334.2'	2.6'
1820		240			gabbro	336.5-341.0'	4.5'
1826	ML 37	200			sh. gabbro	328.0-333.0'	5.0'
1827		365			sh. gabbro	333.0-338.0'	5.0'
1828		1000	0.074	2.6	sh. gabbro	338.0-343.0'	5.0'
1829		590			gr. mica schist	343.0-348.4'	5.4'
1830		250			sh. gabbro	348.4-350.0'	1.6'
1831		870	0.053	1.8	int. intrusive	350.0-352.2'	2.2'
1832		170			sh. gabbro	352.2-357.2'	5.0'
1833		840			sh. gabbro	357.2-362.2'	5.0'
1834		120			gr. mica schist	362.2-364.9'	2.7'
1835		490			sh. felsic int.	364.9-365.3'	0.4'
1836		280			int. intrusive	365.3-371.2'	5.9'
1837		350			int. intrusive	371.2-377.2'	6.0'
1839		200			int. intrusive	381.8-386.8'	5.0'

TABLE XIV (cont'd)

Sample #	Hole #	Au (ppb)	Au (oz/t)	Au (g/T)	Lithology	Sample Interval	Length
1850	ML 38	195			sh. gabbro	434.3-439.2'	4.9'
1856	ML 39	965	0.029	1.0	sh. gabbro	296.0-301.5'	4.5'
1857		240			sh. gabbro	301.5-304.0'	3.5'
1858		250			sh. gabbro	304.0-309.0'	5.0'
1859		600			sh. gabbro	309.0-314.0'	5.0'
1860		490			sh. gabbro	314.0-319.0'	5.0'
1861		420			sh. gabbro	319.0-324.0'	5.0'
1871	ML 40	105			sh. gabbro	356.2-359.2'	3.0'
1874		400			sh. gabbro	365.7-366.5'	0.8'
1875		265			sh. gabbro	366.5-367.3'	0.8'
1878		180			sh. gabbro	371.9-375.4'	3.5'
1879		190			sh. gabbro	375.4-379.3'	3.9'
1881		320			int. intrusive	382.2-385.8'	3.6'
1884		470			quartz	390.2-392.1'	1.9'
1886		320			quartz	395.3-396.8'	1.5'
1893		310			sh. gabbro	407.9-410.5'	2.6'
1895		140			quartz	415.5-416.9'	1.4'
1898	ML 41	785			sh. gabbro	412.2-414.0'	1.8'
1899		120			sh. gabbro	414.0-415.3'	1.3'
1900		140			sh. gabbro	415.3-419.7'	4.4'
1901		115			quartz ser. schist	419.7-422.7'	3.0'
1903		120			quartz	425.7-427.8'	2.1'
1904		165			quartz ser. schist	427.7-431.0'	3.3'
1906		275			quartz ser. schist	433.9-434.9'	1.0'
1908		110			quartz ser. schist	438.7-444.0'	5.3'
1909		300			quartz ser. schist	444.0-450.1'	6.1'
1924	ML 42	750			sh. gabbro	473.7-474.7'	1.0'
1943	ML 43	340			sh. gabbro	543.3-545.7'	2.4'
1944		450			quartz ser. schist	545.7-547.8'	2.1'
1946		400			quartz ser. schist	556.6-557.9'	1.3'

In section NG 5+00 S the transitional structural assemblage correlative with the AZ in sections to the north comprises only sheared gabbro with minor quartz-carbonate-sericite schist. The structure in this section contains no significant Au mineralization. Also in this section is the best example of the relationship between the volcanic/gabbro contact and the AZ structure. They are subparallel and some 100 m apart. This spatial relationship is observed on sections further to the north. Therefore, the contact area probably provided a locus for dilation of the structure due to rheologic contrast between the gabbro and metavolcanics.

Rodney D Thomas.

R.N. Thomas
Toronto, Ontario
October 3, 1988

RNT/vr

APPENDIX I

DIAMOND DRILL LOGS

ML. 35 - ML. 45, INCLUSIVE

Hole No. ML 35 | Project: 1446 | Page No: 1 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: 13/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 2+50 E. | Date Finished: 14/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 309' | Logged By: K. HOULE

SECTION	ALTERATION: APPLE GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
0					Qtz		OVERBURDEN 0' - 41.2' CASING REMAINS			9'		STEEL CASING			
10										19'					
20															
30										29'					
40										39'					
50							GABBRO 41.2' - 49.5' FINE TO MED GRAINED, LIGHT GREEN TO LIGHT GREY, MASSIVE TO VERY LIGHTLY FOLIATED, HIGH CARBONATE RXN WITH ~20% CARB IN MATRIX, WISPY CARB FRACTURES ALSO PERVADE, WEAK SILICIFICATION, VERY FINELY DISSEMINATED Py, TR-1% SHARP TONALITE 44.5' - 56.0' FINE TO MED GRAINED, LIGHT GREY WITH A SPECKLED SALT AND PEPPER APPEARANCE, SUBHEDRAL TO ANHEDRAL PLAGIOCLASE WITH ANHEDRAL QTZ, < 5% FINE GRAINED HORNBLENDE. LOW CARB REACTION EXCEPT ON FRACTURE, FRACTURES SHOW PATCHY SILICIFICATION. TRACE Py, Po SHARP 1-2% Py Po ON CONTACT		TR-1% Py TR Py, Po TR Py Po	49' 59'	100% 100%	BQ			

Hole No. ML 35 | Project: 1446 | Page No: 2 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: 13/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 2+50 E. | Date Finished: 14/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 309' | Logged By: K. HOULE

ALTERATION: APPLE GREEN MICA | CARBONATE | SILICA

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

SECTION 60 70 80 90 100 110

GABBRO 56.0' - 103.5'

FINE TO MEDIUM GRAINED, [illegible] / GREY, MASSIVE TO SLIGHTLY FOLIATED. SAME AS IN 41.2' - 49.5'

TR Py, Po

TONALITE / GRANITOID DYKE

- FINE TO MED GRAINED, WHITISH GREY / GREEN TO ORANGE SUBHEDRAL TO ANHEDRAL PLAG, ALKALI FELDSPAR X CUT BY SILICA FRACTURES 1-2 MM VENOLITHS OF GABBRO PRESENT, LOW TO NIL CARB RXN. UPPER CONTACT SHOWS SLIGHT ALTERATION ZONE. LOWER CONTACT SHARP

- FE CARB PATCHES

- PYKE IS HIGHLY SILICIFIED

FELSIC DYKE 2 CM

TONALITE / GRANITOID DYKE

INCLUDES LARGE GABBROIC FRAGMENTS

TONALITE 96.0' - 99'

SAME AS 49.5' - 56.0'

TONALITE 103.5' - 143.2'

SAME AS 49.5' - 56.0' WEAK CARBONITIZATION TO STRONG ALONG CARB FRACTURES. TR - 1% Po Py EXCEPT ALONG A FEW FRACTURE PLANES 5-7% OCCASIONAL PATCHES OF PINKISH RED ALKALI FELD THROUGHOUT ZONE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR Py Po	69'	100%	BQ			
TR Py Po	79'	100%				
TR Py Po	89'	100%				
TR, Py Po	99'	100%				
TR Py Po	109'	100%				
TR Po Py	119'	100%				

Hole No. ML 35 | Project: 1446 | Page No: 3 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: 13/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+505 N. 2+50 E. | Date Finished: 14/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 309' | Logged By: K. HOULE

SECTION	ALTERATION: APPLE GREENING	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
120							TONALITE 103.5' - 143.2' CONT'D		TR Po-Py	129'	100%	BQ			
130									TR Po, Py	139'	95%				
140							BRECCIATED GABBRO / GABBRO 143.2' - 158.3' FINE GRAIN APHANITIC, DARK TO MED DARK GREEN MASSIVE TO SLIGHTLY FOLIATED AT MARGINS. MODERATELY BRECCIATED AT MARGINS AND BECOMING MASSIVE TOWARDS CENTER. OCCASIONAL FELDSPAR GRAINS > 1 MM. TRACE TO 1% Py Po WITH GREATER CONCENTRATIONS ALONG FRACTURES. BRECCIATED GABBRO IS SUPPORTED BY CARB MATRIX > 20%		TR-1% Py Po	149'	100%				
150									TR-1% Py-Po	159'	108%				
160							GABBRO 158.3' - 174.5' MED GRAINED, LIGHT TO DARK GREEN GREY MASSIVE WITH SUBHEDRAL TO EUHEDRAL CRYSTALS OF PLAG. PLAG IS COMPLETELY OR PARTIALLY SURROUND BY PYROXENE IMPARTING AN OPHITIC TEXTURE GABBRO COMPOSED OF > 40% PLAG 1-2 MM. TR-1% Py-Po WITH BOTH Py Po LINING FRACTURES		TR-1% Po-Py	169'	100%				
170							DIP TEST 165' CORR 67.7°		TR-1% Po FRACT	179'	90%				
							PORPHYRITIC BASALT 174.5' - 179.0' VERY FILE GRAINED APHANITIC, DARK GRY TO BLACK SUBHEDRAL TO EUHEDRAL PHENOCRYSTS OF PLAG 1-3 MM 1-2% HARD INDICATES POSSIBLE SILICIFICATION. FINE CARB FILLED FRACTURES. TR-1% Po ALONG FRACTURES								

Hole No. ML 35 | Project: 1446 | Page No: 4 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: 13/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+505 N. 2+50 E. | Date Finished: 14/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 309' | Logged By: K. HOULE

ALTERATION: APPLE GREEN MICA | CARBONATE | SILICA | FRACTURING | MINERAL | GEOLOGY

COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION: 180, 190, 200, 210, 220, 230

SILICIFIED ZONE.

SILICIFIED ZONE SHARP CONT.

ELOUGATE DISSEMINATED Po TR Py ≥ 5%

PORPHYRY GABBRO ≥ 5" GRADATIONAL CONTACTS

PORPHYRY GABBRO ≥ 1'

INCREASE IN SHEARING INTENSITY

GABBRO 179.0' - 188.6'

MED GRAINED, LIGHT TO DARK GRAY, HIGHLY FRACTURED WITH CHLORITIC ALTERATIONS ALONG FRACTURES, ZONES OF HIGH SILICIFICATION WT DISCERNABLE SHARP CONTACTS, NUMEROUS SILICIFIED VEINS RUN THROUGH SECTION, TR - 1% Po Py. Po Py COATING ON SOME FRACTURE PLANES

PORPHYRITIC GABBRO 188.6' - 201.6'

FINE GRAINED APHANITIC, DARK GREEN TO MED GREY 1-2% FELDSPAR PORPHYRIES ≥ 2-4MM IN SIZE. NUMEROUS SILICIFIED VEINS AND FINE FRACTURES. SOME SILICIFIED ZONES CONTAIN CHLORITIC YOKELITES Po + TR Py FOUND ON CONTACTS BETWEEN SILICIFIED AND PORPHYRITIC ZONES. 1-2% Po, TR Py. NOTED SHARP CONTACTS BETWEEN SOME SIMILAR ROCKS.

GABBRO 201'6 - 223.9'

SAME AS 158.3' - 174.5' GREATER DEGREE OF SILICIFICATION THROUGHOUT. CONTAINS OCCASIONAL PORPHYRY GABBRO ZONES 2-5". PARTIALLY SILICIFIED CARBONATE VEINS 1-3CM. TR-1% Po, TR Py.

PORPHYRY, 5 - 1.5 CM.

BRECCIATED GABBRO 223.9' - 244.8'

FINE GRAINED, LIGHT GREY TO GREY GREEN, ANGULAR TO SUBANGULAR SHEARED GABBRO IN A 20% CARB MATRIX WITH RANDOM ORIENTATION. MULTIPLE CARB EVENTS WITH Y-CUTTING SiO_2 / CARB VEINS. CHLORITIC AND SERICITIC ALTERATION OF FRAGMENTS. TR-2% Py

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR-1% Po Py	189'	90%	BQ			
1-2% Po TR Py	199'	100%				
TR-1% Po TR Py	209'	100%				
TR-1% Po TR Py	219'	100%				
TR-1% Po TR Py	229'	100%				
TR-2% Py	239'	100%				

Hole No. ML 35 | Project: 1446 | Page No: 5 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: 13/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 2+50 E. | Date Finished: 14/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 309' | Logged By: K. HOULE

ALTERATION: APPLE GREEN MICA | CARBONATE | SILICA

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240	TR-3%			BQ	1793		
			100%		1794		
250	TR 3%	249'			1795		
			100%		1796		
		259'			1797		
260	TR Py				1798		
	TR 3% Py		100%		1799		
		269'			1800		
270	TR 1% Py				1801		
			100%				
		279'			1802		
	TR 3% Py 1%						
			100%		1803		
290		289'					
	TR 1% Py 1%						
			100%				
		299'					

BRECCIATED GABBRO 223.9' - 344.8' CONT'D

ALTERED ZONE BEGINS

SAME AS ABOVE EXCEPT, MORE INTENSELY SHEARED, INCREASE IN SERICITE AND CHLORITIC ALTERATION

INTERMEDIATE INTRUSIVE 244.8' - 257.7'

FINE GRAINED, BUFF MUDDY GREEN. HIGHLY FRACTURED WITH CARB. SEPARATE QTZ FILLED FRACTURES. TR - 3% Py; DISSEMINATED WITH SMALL BLEB ALONG FRACTURE CONTACTS.

WIDE GRADATIONAL AREA WITH MARKED INCREASE IN QTZ

QUARTZ 257.7' - 264.0'

MASSIVE QTZ WITH NARROW ZONES OF APPROX. 40% APPLE GREEN MICA, FINE X'LS OF Py AND SMALL BLEBS FOUND IN THESE AREAS. TR Py FOUND IN THE MASSIVE QTZ

APPLE GREEN MICA

SHARP CONTACT

GRADATIONAL CONTACT

CA' MEASURED 65°

INTERMEDIATE INTRUSIVE

APPLE GREEN MICA

APPLE GREEN MICA 264.0 - 265.0'

FINE GRAINED, CHARACTERISTIC APPLE GREEN COLOUR HIGHLY SHEARED, FINELY DISSEMINATED Py AND SMALL Py AGGREGATES FOUND IN THIS ZONE. PRESENCE OF SERICITE SMEARINGS BETWEEN APPLE GREEN MICA LAYERS. FINE CARB PRESENT WITH LOW REACTION. Py 1-3%

SHEARED GABBRO 265.0' - 270.9'

FINE TO MED GRAINED, LIGHT GREEN TO GREEN/GREY. SOME ZONES APPEAR MYLONITIC WITH STRETCHED QTZ. HIGHLY SHEARED, VERY LOW TO NIL CARB. FEW SMALL ZONES OF INTERMEDIATE INTRUSIVE. GRADES INTO SHEARED PORPHYRY GABBRO. TR - 1% Py

SHEARED PORPHYRITIC GABBRO 270.9' - 281.9'

FINE - MED GRAINED, LIGHT GREEN TO GREY/GREEN. SHEARED, ZONES OF FELSIC? PORPHYRIES 5 - 20 mm. 2% ZONES OF APPLE GREEN MICA HIGHLY INTERMIX WITH 1-2% DISSEMINATED Py. OVERALL TR - 1% Py. GRADES INTO "BRECCIATED GABBRO

ALTERED ZONE ENDS

BRECCIATED GABBRO 281.9' 289.0'

SAME AS 223.9' - 243.3'

GABBRO 289.0' - 309.0'

SAME AS 158.3' - 174.5'

Hole No. ML 35 | Project: 1446 | Page No: 6 Of 6

Casing Collar Elev.: | Ground Elev.: | Date Started: 13/04/88 | Ref. to Claim Corner:

Coordinates: N0 31505 ~~N.~~ 2750 E. | Date Finished: 14/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 309' | Logged By: K. Houle

SECTION	ALTERATION: APPLE GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
300							GABBRO 289.0' - 309.0' CONT'D		TR-1% Py			BQ			
											100%				
310							DIP TEST CORR. < 63.5° END OF HOLE			309'					
320															

Hole No. ML 36 | Project: 1446 | Page No: 1 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1" = 10'

Inclination: -70° Bearing: 240° | Total Depth: 369' | Logged By: K. Hoult

SECTION	ALTERATION: Apple Green Mica	ALTERATION: Carbonate	ALTERATION: Silica	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
0							OVERBURDEN 0 - 33.8' CASING REMAINS			9'	100%	STEEL CASING			
10										19'	100%				
20										29'	100%				
30									TR·Py	39'	100%	BQ			
40									TR·Py	49'	100%				
50									TR Py	59'	100%				

GABBRO 33.8' - 54.1'

MED GRAINED, LIGHT GREEN TO GREEN GREY. FEW AREAS 2CM WIDE FELDSPAR PORPHYRIES. OCCASIONAL SILICA/CARB FILLED FRACTURES. OVERALL LOW CARB RXN. SOME SERICITE ALTERATION ALONG FRACTURE ZONES. TR Py.

SHARP CONTACT

FINER GRAINED GABBRO

SHARP CONTACT

GABBRO 54.1' - 59.8'

FINE TO MED GRAINED, LIGHT TO MED GREY. SHARP CONTACT OF FINER GRAINED GABBRO AT 57.5' WITH EVIDENCE OF WISPY SILICIFICATION AND INCLUDING AN ANGULAR AUTOLITH 2 2CM. POOR CARB RXN EXCEPT ALONG MINUTE FILLED FRACTURES. TR Py.

Hole No. ML 36 | Project: 1446 | Page No: 2 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50 S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 369' | Logged By: K. Houle

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | APPLE GREEN MICA | CARBONATE | SILICA

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
TR Py	69'	100%	BQ			
TR-Py	79'	100%				
TR-1% Py	89'	100%		1823		
TR-1% Py						
TR-1% Py Po	99'	100%				
TR-1% Py Po	109'	100%				
TR-1% Py Po	119'	100%				

60

70

80

90

100

110

MATRIX BECOMES FINER

BECOMES PORPHYRY CUT BY CARB VEINS

QTZ VEIN 2"

FELS FOLIATED AND SHEARED

APPEAR TUFFACEOUS GRADATIONAL CONTACT.

HIGHLY SHEARED NO LONGER PORPHYRITIC

SHARP

GABBRO 59.2' - 77.0'

SAME AS 33.8' - 54.1'. MATRIX BECOMES FINER AT 73.5'. ALSO BECOMES LIGHTER GREY.

BRECCIATED BASALT 77.0' - 89.0'

FINE GRAINED, MED GREEN/GREY, HIGHLY SHEARED ANGULAR TO SUBANGULAR BASALT FRAGMENTS SUPPORTED IN A 10-15% CARBONATE MATRIX. ZONES OF VOLCANIC TUFF 1-2 MM ANGULAR FRAGMENTS WELL FOLIATED AND SHOWING CHLORITIC ALTERATION TR - 1% FINELY DISSEMINATED Py

PORPHYRITIC BASALT 89.0' - 91.0'

FINE GRAINED, DARK GREEN/BLACK. EUHEDRAL TO SUBHEDRAL PORPHYRITIC PLAG > 1MM. CUT BY FINE CARB FILLED FRACTURES. HAS SHARP CONTACT WITH HIGHLY SHEARED ZONE WITH ANGULAR FRAGMENTS 1-2 MM (TUFFACEOUS?) TR-1% Py

GABBRO PORPHYRY 91.0' - 103.0'

LIGHT GREY - FINE TO MED GRAINED, 20-30% FELDSPAR PORPHYRIES IN A FINER MAFIC MATRIX. PORPHYRIES RUN 3 - 15 mm. FINE TO MED CARB AND CARB/SILICA FRACTURES. CONTAINS A FEW ZONES OF SLIGHTLY SHEARED ROCK LACKING FELDSPAR PORPHYRIES TR -1% Py Po

GABBRO 103.0' - 120.7'

FINE GRAINED, DARK GREEN, MASSIVE TO SLIGHTLY SHEARED GABBRO WITH SMALL BRECCIATED AREAS. OCCASIONAL AREAS 2-10 CM WIDE OF PORPHYRITIC GABBRO WITH FELD 2-12 mm. HAIR LINE CARB FRACTURES PERVADE WITH OCCASSIONAL CARB/SILICA FRACTURES TR-1% Py Po

BRECCIATED 109.6' - 111.3' 5-10% CARB

PORPHYRITIC 117.4' - 118.4'

Hole No. ML 36 | Project: 1446 | Page No: 3 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1" = 10'

Inclination: -70° Bearing: 230° | Total Depth: 369' | Logged By: K HOULE

SECTION	ALTERATION (APPLE GREEN MICA / CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
120				.2' QTZ VEIN MARKS BOUNDARY; DIORITIC XENOLITH.	GABBRO / PORPHYRITIC GABBRO 120.7' - 143.0' SAME AS 103.0' - 120.7' WITH OCCAISSIONAL ZONES GRADING INTO PORPHYRITIC GABBRO TR - 1% Py Po		TR-1% Py Po	129'	100%	BQ			
130				SHEARED AND SLIGHTLY BRECCIATED; PORPHYRITIC			TR-1% Py Po	139'	100%				
140				PORPHYRITIC; GRADATIONAL	GABBRO 143.0' - 151.7' SAME AS 103'0 - 120.7'		TR-1% Py	149'	100%				
				HIGHLY SILICIFIED CARBONATE ZONE	HARD WEAK TO MED CARB RXN								
150				SHARP GRANITOID IN APPEARANCE	TONALITE 151.7' - 157.1' FINE TO MED GRAINED - LIGHT GREY TO BUFF BROWN. SUBHEDRAL TO ANHEDRAL FELDSPAR WITH ANHEDRAL QTZ WEAK SECONDARY SILICIFICATION. VERY FINELY DISSEMINATED TR Py, Po		TR Py Po	159'	100%				
160				2" WHITE QTZ VEIN	GABBRO 157.1' - 165.6' SAME AS 103'0 - 120.7' HAS ZONES OF MED CARB RXN WITH AREAS OF LOW RXN. CARB FILLED FRACTURES PERVADE TR - 1% Py		TR-1% Py	169'	100%				
170				DIP TEST 169' CORR. ∠ = 66.5°; SHARP	TONALITE 165.6' - 172.2' SIMILAR TO 151.7' - 157.1'. MORE BROWN IN COLOUR. ZONES OF SILICIFIED CARBONATE WITH LOW RXN. GABBRO 172.2' - 176.3' SAME AS 103.0 - 120.7'. MED CARB IMPRINT OVER ENTIRE SECTION. TR-1% Py PORPHYRITIC BASALT 176.2' - 181.0' SAME AS 89.0' - 91.8'		TR-1% Py	179'	100%				

Hole No. ML 36 | Project: 1446 | Page No: 4 of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50 S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 369' | Logged By: K. HOULE

ALTERATION: APPLE GREEN MICA | CARBONATE | SILICA

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

180

SHARP SLIGHTLY BRECCIATED AND FOLIATED

GABBRO 181.0' - 205.0'

FINE TO MED GRAINED, LT GREY/GREEN & DK GREY/GREEN SUBHEDRAL TO EUHEDRAL FELDSPAR [illegible] MED UNITERAL CARB 181.0' - 185.5' LOW CARB THROUGHOUT REMAINDER. CARB FRACTURES THROUGHOUT, OCCASIONALLY SLIGHTLY SHEARED. TR - 1% Py Po

TR-1% Py, Po

189'

100%

BQ

190

199'

100%

200

TR-1% Py, Po

209'

100%

CONTACT ZONE

SHARP CONTACT

TONALITE DYKE

TONALITE DYKE 205.0' - 208.5'

SAME AS 49.5' - 56.0', WITH ANGULAR GABBRO XENOLITHS ENCLOSED BY DYKE. THE FIRST 1.5' APPEARS TO BE A CONTACT ZONE; SHOWING SHEARING, BRECCIATION AND CARBONATE INFILLING ALONG CONTACT ZONE. TR - 1% Py Po

TR-Py

210

219'

100%

GABBRO 208.5' - 216.9'

SAME AS 281.0' - 205.0'

TONALITE DYKE

TONALITE 216.9' - 224.2'

SAME AS 151.7' TO 157.1'

TR-1% Po Py

TR Po Py

229'

100%

220

TONALITE DYKE INTERSECTING AT > 80°

APHYRITIC GABBRO [illegible] 80% MAFIC

TR Po Py

TR Py

239'

100%

230

GABBRO 224.2' - 227.1'

FINE GRAINED DARK GREY/GREEN

GRADATIONAL

INTERMEDIATE INTRUSIVE DYKES 5 - 6 cm

GABBRO 227.1' - 233.9'

FINE TO MED GRAINED SPECKLED LT GY TO DK GY/GRN SMALL ZONE OF APHYRITIC PORPHYRY GABBRO

TR-3% Po

TR Py

239'

Hole No. ML 36 | Project: 1446 | Page No: 5 of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1 = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 364' | Logged By: K. Hoult

ALTERATION: AMLE GREEN MIC | CARBONATE | SILICA | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240	TR-1% Py	249'	100%	BQ			
250	TR-1% Py	259'	100%				
260	TR-1% Py	269'	100%				
270	TR-1% Py	279'	100%		1804	270.9 / 273.5	2.6'
	TR-2% Py				1805	278.0	4.5'
	TR-5% Py				1806	282.5	4.5'
	TR-4% Py	289'	100%		1807	287.5	5.0'
	TR-4% Py				1808	292.5	5.0'
		299'			1809	297.7	5.2'

GABBRO 227.1' - 233.9' CONT'D

- WITH FELDSPARS <90% LOW -> MED CARB RYN IN LOWER SECTION TR - Py

233.9 -> 237.0' FINE GRAINED LOW -> NIL CARB EXCEPT ON FRACTURES TR - 2% Po

GABBRO 237.0' - 270.0'

FINE GRAINED -> APHANITIC, DARK GREEN TO BLACK, HIGHLY FRACTURED, MANY CUST SHAPED AND FILLED BY CARBONATE. OCCASIONAL XENOLITHS OF MED GRAINED GABBRO TR-1% Py

GRADATIONAL CONTACT

3-6% Py ON FOLIATION

BRECCIATED GABBRO 270.0' - 273.5'

FINE GRAINED, LIGHT GREY TO GREEN GREY TO BUFF, ANGULAR TO SUBANGULAR SHEARED GABBRO IN A 15% CARB MATRIX TR - 1% Py

ALTERED ZONE

SHEARED

QTZ VEIN

SILICIFIED INTRUSIVE

SHEARED AND SLIGHTLY BRECCIATED INTERMEDIATE INTRUSIVE DYKE CONTAINS ROUNDED QTZ FRAGS.

INTERMEDIATE INTRUSIVE 273.5' - 282.5'

FINE GRAINED, BUFF BROWN TO LIGHT GREY HIGHLY SHEARED ALTERATION WITH HIGHLY SILICIFIED ALTERED MAFIC, CENTER IS LIGHTLY SHEARED TO MASSIVE BECOMING MORE HIGHLY SHEARED TO END CARB RYN IN SHEARED AREAS TR - 2% Py

SHEARED GABBRO 282.5' - 299.7'

FINE GRAINED LIGHT GREEN/GREY TO DARK GREEN, HIGHLY SHEARED AND AT TIMES SLIGHTLY BRECCIATED. CONTAINS 5-15% CARB THROUGHOUT. OCCASSIONAL SMALL CARB / SILICA VEINS TR - 4% Py.

QTZ VEIN

Hole No. ML 36 | Project: 1446 | Page No: 6 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 369' | Logged By: K. HOULE

ALTERATION (APPLE GREEN MICA, CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION

DESCRIPTIVE GEOLOGY

MASSIVE QTZ VEIN 279.7' - 301.5'
INCLUDES SMALL SECTION OF SHEARED MAFIC @ 3CM CONTAINING ~4% PY. QTZ CONTAINS 1-3% PY

SHEARED GABBRO 301.5' - 312.7'
FINE GRAINED DARK GREEN TO LIGHT GREY GREEN. SLIGHTLY SHEARED OVER SECTION LOW - MOD CARB. BECOMING ↑ SILICIFIED TO QTZ CONTACT. TR-1% PY

MASSIVE QTZ 313.7' - 326.9'
CONTAINS ANGULAR TO ROUNDED SILICIFIED XENOLITHS OF INTERMEDIATE INTRUSIVE ALONG WITH ANGULAR TO SUBANGULAR FRAGMENTS OF APPLE GREEN MICA/SERICITE. ZONES OF WELL DEVELOPED EUHEDRAL QTZ V'LS IN A FINE GRANULAR QTZ MATRIX OCCUR OCCAISIONALLY. POOR CARB RXN. APPLE GREEN MICA/SERICITE APPEARS SHEARED AND ALSO OCCURS IN SMALL VEINS RANDOMLY ORIENTED. TR-4% PY

SEMI MASSIVE QTZ/APPLE GREEN MICA 326.9' - 331.6'
50,-60% SEMI MASSIVE QTZ WITH FINE TO MED SHEARED APPLE GREEN MICA/SERICITE. MICA/SERICITE SLIGHTLY BRECCIATED AT TIMES LITTLE TO NO CARB RXN. 2-5% PY

FRACTURED

HIGHLY ALTERED ZONE

TONALITE-FELSIC INTRUSIVE 331.6' - 334.2'
FINE TO MED GRAINED LT GREY, SILICIFIED SLIGHTLY ISOLATED MINOR CARB. 2-5% PY

GABBRO 334.2' - 345.3'
FINE GRAINED - APHANITIC DARK GREEN TO BUFF ALTERATION EFFECT OF OVERLYING INTRUSIVE GIVING APPEARANCE OF "INTERMEDIATE" INTRUSIVE GRADING FROM BEIGE TO MOTTLED BUFF/GREEN, GREEN/BUFF TO GREEN. TR-1% PY.

GRADATIONAL

ALTERED ZONE ENDS

BRECCIATED GABBRO 345.3' → 356.3'
SAME AS 270.0' - 272.9' CARB MATRIX ~20%

GABBRO 356.3' - 369'
MED GRAINED DARK GREEN. 20% ANHEDRAL TO SUBHEDRAL FELDSPAR. CARB RXN ALONG

Sample Interval	% Rec'y Samp. Int.	Estimated
1810	301.5'	1.8'
1811	311.5'	5.0'
1812	309.2'	3.0'
1813	313.7'	5.2'
1814	318.7'	5.0'
1815	321.9'	3.2'
1816	326.9'	5.0'
1817	331.6'	4.7'
1818	334.2'	2.6'
1819	336.5'	1.5'
1820	341.0'	4.5'
1821	345.4'	4.4'
1822	356.3'	11.4'

% Sulphides	Drilling Interval	% Core Recovered	Core Size
1-3% PY, TR-1% PY	309'	100%	BQ
TR-1% PY, TR-4% PY	319'	100%	
TR-4% PY, 2-5% PY	329'	100%	
3-6% PY, TR-PY, TR-1% PY	339'	100%	
TR-1% PY	349'	100%	
	359'		

Hole No. ML 36 | Project: 1946 | Page No: 7 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 15/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 3+00 E. | Date Finished: 16/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 369' | Logged By: K. HOULE

SECTION	ALTERATION: APPLE GREEN MG	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
360							GABBRO 356.2'-369'		10-1% Py			BQ			
							= SMALL VEINS. TR-1% Py				100%				
							DIP TEST 369' CORR < 67° END OF HOLE 369'			369'					
370															

Hole No. ML 37 | Project: 1446 | Page No: 1 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+505 N. 3+50E E. | Date Finished: 18/04/88 | Scale: 1" = 10'

Inclination: -70° Bearing: 240° | Total Depth: 429' (130.7 M) | Logged By: R. G. BONNER

COMMENTS: To cut down dip extension of Altered Zone. Casing Remains

AVE CORE REC'Y/HOLE

SECTION	ALTERATION: Argillic	ALTERATION: Green Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL: Qtz	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0							0.0' - 57.0' OVERBURDEN				NQ CASING REMAINS			
10														
20														
30														
40														
50														
									57'					
							57.0' - 69.0' TONALITE	Tr Py	59'	100	BQ			

SEE OVER

Hole No. ML 37 | Project: 1446 | Page No: 2 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: 3+50S N. 3+50E E. | Date Finished: 18/04/88 | Scale: 1"=10'

Inclination: -70° | Bearing: 230° | Total Depth: 429' (130.7M) | Logged By: R.G.B.

ALTERATION: Apple Green | Carbonate | Silicification | FRACTURING | QTZ MINERAL | GEOLOGY

'COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
60	Tr Py		100	BQ			
70	Tr Py	69'	100				
80	Tr Py	79'	100				
90	Tr Py	89½'	100				
100	Tr Py	99'	100				
110	Tr Py	109'	100				
	Tr Py	119'			119'		

66' - GABBRO XENOLITH

SHARP

72.5' QTZ-CARB VEIN (3 cm)

74' SHEARING AT 45° TO CA

94' WEAK SILICIFICATION

SHARP

SHARP, QTZ VEIN (2cm), SILICIFICATION

107' FOLIATION AT 40° TO CA

111.2' QTZ VEIN (5cm)

SHARP

118.6' QTZ VEIN (3 cm)

57.0' - 69.0' TONALITE cont...

VERY FINE GRAINED TO FINE GRAINED, LIGHT GREENISH WHITE TO YELLOWISH, 15% FINE MAFIC GRAINS, ZONES OF SILICA FLOODING, WEAK CARBONATE ALONG FRACTURES, FEW XENOLITHS OF UNDERLYING GABBRO - WEAK PERVASIVE CARBONATE, SHARP INTRUSIVE CONTACTS, TRACE DISSEMINATED PYRITE - EUHEDRAL TO SUBHEDRAL, ALSO PYRITE ALONG FRACTURES

69.0' - 100.5' GABBRO

MEDIUM GRAINED, DARK GREEN TO WHITE SPECKLED, 40% PLAG, OPHITIC, POOR TO TO WEAKLY FOLIATED, ZONE OF MODERATE CARBONATE BRECCIATION - FRAGMENTS ARE WEAKLY TO INTENSELY SHEARED, NARROW QTZ-CARB VEIN WITHIN THIS ZONE, FEW NARROW ZONES OF WEAK PERVASIVE CARBONATE - OVERALL CARBONATE IS WEAK AND FRACTURE RELATED, PATCHY SILICIFICATION - DEUTERIC AND SECONDARY RELATED TO SHEARING, TRACE DISSEMINATED PYRITE - CRYSTALS AND BLEBS, OFTEN FRACTURE RELATED AS WELL.

100.5' - 104.9' GABBRO

FINE GRAINED, DARK GREEN, CHLORITIC, WEAKLY FRACTURED WITH CARBONATE FILLED FRACTURES UP TO 5 mm WIDE - WEAK PERVASIVE CARBONATE THROUGHOUT UNIT, WEAKLY FOLIATED TO MASSIVE, FRACTURES APPEAR RANDOM, TRACE PYRITE ALONG FRACTURE PLANES, APPROACHING BRECCIA IN ZONES

104.9' - 114.6' GABBRO

MEDIUM TO COARSE GRAINED, DARK GREEN TO WHITE, 50% SILICIFIED (DEUTERIC REPLACEMENT) EUHEDRAL TO SUBHEDRAL (2-5 mm) PLAG, WEAK TO MODERATELY FOLIATED, ZONES OF INTENSE LATE SILICIFICATION, FEW WHISPS APPLE GREEN MICA ASSOCIATED WITH LATE SILICIFICATION, WEAK CARBONATE RELATED TO FRACTURING, MINOR QTZ VEIN, TRACE PYRITE - DISSEMINATED

114.6' - 123.6' BRECCIATED GABBRO

FINE GRAINED, DARK GREEN, INTENSELY FOLIATED, ROTATED FRAGMENTS WITH CARBONATE MATRIX (WHITE), FRAGMENT SUPPORTED, WEAKLY CHLORITIC AND SERICITIC, FRAGMENTS ARE VERY WEAKLY CARBONATED UNIT IS INTENSELY CARBONATED cont...

Hole No. ML 37 | Project: 1446 | Page No: 3 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: 3+50 S N. 3+50 E. | Date Finished: 18/04/88 | Scale: 1" = 10'

Inclination: -70° Bearing: 230° | Total Depth: 429' (130.7m) | Logged By: R.G.B.

ALTERATION: Amph Green Mica | Carbonate | Silicification | FRACTURING | MINERAL: Qtz | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

120.7' PORPHYRITIC FELSIC INTRUSIVE

122.4' PORPHYRITIC FELSIC INTRUSIVE GRADATIONAL

129.3' QTZ VEIN (8cm) SILICA BANDS

SHARP

SHARP

198' WEAK FOLIATION 20° TO CA

SHARP

SHARP

168.2' QTZ VEIN (2cm)

169' DIP TEST 70°

172' SILICA VEIN (2.5cm)

114.6' - 123.6' BRECCIATED GABBRO cont...

TWO INTERVALS OF FINE GRAINED DARK GREY WEAKLY PORPHYRITIC FELSIC INTRUSIVE SHARP CONTACTS, NOT BRECCIATED - WEAKLY FRACTURED, COMPETENCY CONTRAST, THESE NARROW UNITS CONTAIN UP TOO 3% DISSEMINATED PYRITE BLEBS, BRECCIATED UNIT HAS TRACE DISSEMINATED PYRITE

123.6' - 134.5' PORPHYRITIC GABBRO

FINE GRAINED, DARK GREEN, WITH UP TO 5% EUHEDRAL TO SUBHEDRAL (2-4mm) REPLACED PLAG PHENOCRYSTS, DEUTERIC SILICA REPLACEMENT AND SECONDARY CARBONATE REPLACEMENT IN NARROW ZONES, ZONES OF SILICA BANDING PARALLEL TO A WEAK FOLIATION, WEAK FRACTURING WITH CARBONATE COATINGS, TRACE DISSEMINATED PYRITE WITH RARE PYRRHOTITE

134.5' - 140.0' TONALITE

AS IN 57.0' - 69.0'; SOMEWHAT DARKER WITH 5-7% FINE MAFIC GRAINS, FEW SMALL GABBRO XENOLITHS, SHARP CONTACTS, MINOR FRACTURE RELATED CARBONATE, TRACE DISSEMINATED PYRITE, MINOR FRACTURE RELATED PYRRHOTITE WITH SUBORDINATE CHALCOPYRITE

140.0' - 156.3' GABBRO

AS IN 69.0' - 100.5'; WEAKLY FOLIATED, MINOR CHLORITIC FRACTURE COATINGS TRACE PYRITE PYRRHOTITE

156.2' - 158.6' TONALITE

AS IN 134.5' - 140.0'

158.6' - 234.8' GABBRO

AS IN 69.0' - 100.5'; WEAKLY SILICIFIED, TRACE DISSEMINATED PYRITE. ZONES OF WEAK PERVASIVE CARBONATE

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
120	Tr Py			BQ	119'		
			100		133.4'	4.6'	1824
130	Tr Py Po	129'					
			100				
140	Tr Py Po Cp	139'					
			100				
150	Tr Py Po	149'					
			100				
160	Tr Py	159'					
			100				
170	Tr Py	169'					
			100				
		179'					

Hole No. ML 37 | Project: 1446 | Page No: 4 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50 S N. 3+50 E. | Date Finished: 18/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 429' (130.7 m) | Logged By: R. G. B.

SECTION	ALTERATION: Apple Green Mica	ALTERATION: Carbonate	ALTERATION: Silicification	FRACTURING	MINERAL: QTZ	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
180							158.6' - 234.8' GABBRO cont...		Tr Py		100	BQ			
190									Tr Py	189'	100				
200									Tr Py	199'	100				
210									Tr Py	209'	100				
220									Tr Py	219'	100				
230									Tr Py	229'	100				
						SHARP / SHARP / SHARP			Tr Py	239'					

234.8' - 236.0' TONALITE

AS IN 139.5' - 190.0'

236.0' - 238.5' PORPHYRITIC FELDSPAR FELSIC INTRUSIVE

TWO NARROW ZONES OBSERVED AT 120.9' AND 122.9' APHANITIC DARK GREY TO BLACK UP TO 5% EUHEDRAL PLAG PHENOCRYSTS RANDOMLY ORIENTED PHENO'S APPEAR UNALTERED MATRIX EXTREMLY HARD CONTACTS SHARP WAS LOGGED IN ML 4X AS AN INTRUSIVE CARBONATE ALONG FRACTURES NO VISIBLE SULPHIDE

238.5' - 241.6' TONALITE

AS IN 139.5' - 190.0' XENOLITH OF SHEARED GABBRO WITH WEAK PERVASIVE CARB.

Hole No. ML 37 | Project: 1446 | Page No: 5 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+50S N. 3+50 E. | Date Finished: 18/04/88 | Scale: 1"=10'

Inclination: -70° | Bearing: 230° | Total Depth: 429' (130.7m) | Logged By: R.G.B.

ALTERATION: Albite, Green Mica, Carbonate, Silicification | FRACTURING | MINERAL: Qtz | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240				BQ			
241.8' GABBRO XENOLITH; SHARP; SHARP							
238.6'-241.6' TONALITE ... cont...							
241.6'-242.7' PORPHYRITIC FELDSPAR FELSIC INTRUSIVE; AS IN 236.0'-238.5'			100				
SHARP							
242.7'-245.5' TONALITE; AS IN 134.5'-140.0'		249'					
250							
245.5'-266.6' GABBRO; AS IN 69.0'-100.5'; ZONES OF FINER GRAINED GABBRO WITH WEAK PERVASIVE CARBONATE			100				
	Tr Py	259'					
260	Tr Py		100				
SHARP							
266.6'-269.2' TONALITE; AS IN 134.5'-140.0'		269'					
SHARP	Tr Py						
269.2'-272.8' GABBRO; AS IN 100.5'-104.9'; PLAG REPLACED BY CARBONATE			100				
SHARP							
272.8'-281.0' TONALITE; AS IN 134.5'-140.0'; FEW GABBRO XENOLITHS, MINOR PATCHES YELLOWISH CARB.		279'					
280							
280' GABBRO XENOLITH; SHARP							
281.0'-287.2' GABBRO; AS IN 100.5'-104.9'; ZONES OF MEDIUM GRAIN, BECOMING SHEARED LATE IN SECTION			100				
287' WEAKLY FOLIATED 45° TO CA							
287.2'-289.9' TONALITE; AS IN 134.5'-140.0'		289'					
290 SHARP							
289.9'-294.4' GABBRO; AS IN 109.9'-119.6'; WEAKLY BRECCIATED, WEAK CARB FOR UNIT			100				
SHARP							
294.4'-301.9' TONALITE; AS IN 272.8'-281.0'		299'					

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Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: 3+50S N. 3+50 E. | Date Finished: 18/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 230° | Total Depth: 429' (130.7 m) | Logged By: RGB

ALTERATION: Apple Green Mica | Carbonate | Silicification | FRACTURING | MINERAL: Qtz | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

294.4' - 301.9' TONALITE cont...

301.9' - 308.5' GABBRO

AS IN 104.9' - 119.6'; WEAK FRACTURE RELATED CARBONATE

308.5' - 317.2' BRECCIATED GABBRO

FINE GRAINED, DARK BLUE GREEN TO GREEN, SUBROUNDED, CLAST SUPPORTED, MASSIVE TO WEAKLY FOLIATED - SHEARED FRAGMENTS WITH FINE WHITE CALCITE CEMENT, FRAGMENTS ARE RANDOMLY ORIENTED, CHLORITIC TO WEAKLY SERICITIC, FEW HINTS OF APPLE GREEN CARBONATE RESTRICTED TO CEMENT, INCREASING DEFORMATION WITH DEPTH, TRACE TO 2% DISSEMINATED PYRITE WITHIN FRAGMENTS, ONE NARROW BRECCIATED TONALITE DYKE AT 314.9'

317.2' - 328.0' BRECCIATED SHEARED GABBRO

AS ABOVE BUT FRAGMENTS ARE INTENSELY SHEARED OFTEN CRENULATED, FEW ZONES ARE MORE SHEARED THAN BRECCIATED SOME FRAGMENTS ARE STILL RECOGNIZABLE AS MEDIUM GRAINED GABBRO

ALTERED ZONE 328.0' - 381.8' (53.8')

328.0' - 343.0' SHEARED GABBRO

FINE GRAINED, GREY GREEN, INTENSELY SHEARED, WELL FOLIATED, NUMEROUS SMALL BOUDINS OF QTZ, FEW HINTS OF APPLE GREEN, MINOR CARBONATE ON FRACTURE AND SHEAR PLANES, CHLORITIC TO TO WEAKLY SERICITIC, 1-2% FINE DISSEMINATED PYRITE BLEBS ALONG SHEAR PLANES, SULPHIDE CONTENT GREATEST IN QTZ RICH ZONES FEW BRECCIATED ZONES

343.0' - 346.9' APPLE GREEN MICA SCHIST

FINE GRAINED, BRIGHT APPLE GREEN TO WHITE, INTENSELY SHEARED, WELL FOLIATED, SERICITE, FEW NARROW QTZ VEINS WITH TRACE DISSEMINATED PYRITE

346.9' - 348.4' QUARTZ

FINE WHITE BULL QUARTZ, 10% OF UNIT LITHIC FRAGMENTS, WHISPS OF APPLE GREEN, ONE INT. INTRUSIVE LITHON, FINE DISSEMINATED PYRITE

348.4' - [illegible] SHEARED GABBRO

AS IN 328.0' - 343.0'; WEAK PERVASIVE CARBONATE

350.0' - 352.2' INTERMEDIATE INTRUSIVE

FINE GRAINED, MASSIVE TO VERY WEAKLY FOLIATED, WEAK SERICITIC ALT., LIGHT YELLOW GREEN, WITH 1-2% DISSEMINATED PYRITE BLEBS MINOR WEAK CARBONATE ALONG FRACTURES

SHARP
INCREASING DEFORMATION
314.9 TONALITE BR.
GRADATIONAL
321' SHEARING AT 60° TO CA
GRADATIONAL
329' DIP TEST - 68°
337' SHEARING AT 35° TO CA
SHARP
SHARP
SHARP
SHARP
SHARP

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Py		100	BQ			
Tr - 2% Py	309	100				
Tr - 2% Py	319	100		323'	5'	1825
Tr - 2% Py	329	100		328' 333'	5'	1826
1-2% Py	339			338'	5'	1827
Tr Py	349	95		343' 348.4'	5' 5.4'	1828 1829
1-2% Py				350'	1.6'	1830
Tr - 1% Py	359	100		352.2' 357.2'	2.2' 5'	1831 1832
Tr Py						

Hole No. ML 37 | Project: 1446 | Page No: 7 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: 3+505 N. 3+50 E. | Date Finished: 18/04/88 | Scale: 1"=10'

Inclination: -70° | Bearing: 230° | Total Depth: 429' (130.7m) | Logged By: RGB

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

352.2' - 362.2' SHEARED GABBRO
AS IN 348.4' - 350.0'

362.2' - 364.9' APPLE GREEN SHEARED GABBRO
AS ABOVE WITH ADDITION OF MODERATE APPLE GREEN MICA ALTERATION FEW NARROW (<1cm) QTZ VEINS, SERICITIC TO CHLORITIC, WEAK PATCHY SILICIFICATION, TRACE DISSEMINATED PYRITE, NARROW ZONE OF 3% MAGNET

364.9' - 365.3' SHEARED FELSIC INTRUSIVE
FINE GRAINED, LIGHT GREY, SHEARED, WELL FOLIATED, SILICIOUS, SHARP CONTACTS, 2% FINE DISSEMINATED PYRITE

365.3' - 377.2' INTERMEDIATE INTRUSIVE
AS IN 350.0' - 353.2'; SHEARED GABBRO XENOLITH AT 364.5' - 365.6', XENOLITH SHOWS WEAK PERVASIVE CARBONATE AS PLAG ALTERATION

377.2' - 381.8' SHEARED GABBRO
FIRST 1' INTENSELY SHEARED, DEFORMATION DECREASING RAPIDLY THROUGH SECTION TO WELL FOLIATED, CHLORITIC, MED TO COARSE GRAINED GABBRO PERCUSOR

381.8' - 389.7' PORPHYRITIC INT - FELSIC INTRUSIVE
FINE GRAINED, DARK ORANGE GREY, 5% EUHEDRAL RANDOMLY ORIENTED (2-4mm) LIGHT GREENISH (SERICITIC) FELDSPAR PHENOCRYSTS, CARBONATE ALONG FRACTURES AND WEAK PATCHES, MINOR POTASSIC (?) ALT ASSOCIATED WITH NARROW SHEARS, TRACE PYRITE ALONG FRACTURS, ROCK AS A WHOLE VERY HARD

389.7' - 392.6' BRECCIATED GABBRO
AS IN 308.5' - 317.2' DECREASING DEFORMATION THROUGH THIS INTERVAL

392.6' - 429.0' GABBRO
AS IN 104.9' - 114.6'; MINOR FINE GREEN-YELLOW SILICIOUS VEINING

INCREASING DEFORMATION

361' SHEARING AT 68° TO CA
SHARP
QTZ VEIN (1cm)
364.6' 2% FINE MAGNETITE
SHARP
SHARP
SHARP
GRADATIONAL

Sample Interval	Rec'y	Estimated
352.2'	5'	1833
362.2'	2.7'	1834
364.9'	0.4	1835
	5.9'	1836
371.2'		
	6.0'	1837
377.2'		
	4.6'	1838
381.8'		
	5'	1839
386.8'		

Core Size: BQ

Hole No. ML 37 | Project: 1446 | Page No: 8 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: 17/04/88 | Ref. to Claim Corner:

Coordinates: 31505 N. 3150 E. | Date Finished: 18/04/88 | Scale: 1"=10'

Inclination: -70° | Bearing: 230° | Total Depth: 429' (130.7 M) | Logged By: R.G.B.

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
420					392.6' - 429.0' GABBRO cont...		Tr Py		BQ				
					DIP TEST -68° END OF HOLE			429					
430													

Hole No. ML 38 | Project: 1446 | Page No: 1 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: NG 3+565 N. 4+53 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240 | Total Depth: 509' | Logged By: K. Hoult

COMMENTS: SEE NOTE AT END OF LOG *

AVE CORE REC'Y/HOLE

SECTION	ALTERATION: APPLE GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
0							OVERBURDEN 0.0' - 27.7' (CASING REMAINS)				STEEL CASING			
10									9'					
20									19'					
30							BASALT 27.7' - 49.0' FINE GRAINED, DARK TO LIGHT GREY/GREEN, FELDSPAR PHYRIC, SUBHEDRAL TO EUHEDRAL LATH < 1mm (± 15-20%) PERVASIVE HAIRLINE AND ROPEY SILICA FRACTURES AS ... AS OCCASSIONAL CARB AND CARB/SILICA FRACTURES. TR-1% py FINELY DISSEMINATED AND AS FINE FRACTURE FILLED AGGREGATES.	TR-1% Py	29'	100%	BQ			
40							SMALL SHEARED ZONE WITH FG-CARB AND DISSEMINATED MAGNETITE. CARB INCREASE ↓ SHARP CONTACT	TR-1% Py	39'	100%			
50							PORPHYRITIC FELDSPAR FELSIC INTRUSIVE 49.0' - 53.2' FINE GRAINED TO APHANITIC, DARK GREY TO BLACK ... MATRIX, SILICIFIED BASALT XENOLITHS. ANHEDRAL TO SUBHEDRAL PORPHYRITIC FELDSPAR 2-5%. SHARP CONTACTS ... AT FRACTURES TR-2% py DISSEMINATED.	TR-1% Py	49'	100%			
							BASALT 53.2' - 57.1' SAME AS 27.7' - 49.0'	TR-1% Py	59'	100%			
							FELSIC INTRUSIVE 57.1' - 58.9' SIMILAR TO 49.0' - 53.2' NON PORPHYRITIC, NO FEAR LITHS						

SHARP

SHARP

Hole No. ML 38 | Project: 1446 | Page No: 2 of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3456 S N. 4753 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 242° | Total Depth: 509' | Logged By: K. Houle

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

60

QTZ VEIN 2" GRADATIONAL.

70

HIGHLY SERICITIC QTZ VEIN 1-2 cm

CA 50° GRADATIONAL

80

GRADATIONAL

90

SHARP

100

QTZ VEIN WITH HIGHLY SHEARED (FOLDED) CHLORITIC BASALT FRAGMENTS.

APPEARS TUFFACEOUS, ANGULAR QTZ FRAGMENTS 2-4 mm IN FINE MATRIX

110

MED GRAINED

BRECCIATED BASALT 58.9' - 66.8'

FINE GRAINED LIGHT TO MED GREEN/GREY SLIGHTLY FOLIATED FRAGMENTS OF BASALT IN 20 % CARB MATRIX. PROGRESSIVELY BECOMES MORE SHEARED TR-1% DISSEMINATED Py

TR-1% Py

SHEARED BASALT 66.8' - 74.6'

FINE GRAINED, DARK GREEN/GREY, HIGHLY SHEARED WITH LAYERS OF SERICITE AND THIN QUARTZ, CARB AND CARB/SILICA FILLED FRACTURES // TO CA (50°) TR-2% Py BETWEEN BASALT/SERICITE LAYERS

TR-2% Py

69'

100%

BRECCIATED BASALT 74.6' - 83.3'

SAME AS 58.9' - 66.8'

TR-1% Py

79'

100%

SHEARED BASALT 83.3' - 89.0'

SAME AS 66.8' - 74.6' BECOMING BRECCIATED AT ~88'

TR-1% Py

INTERMEDIATE INTRUSIVE/BASALT 89.0' - 90.1'

FINE GRAINED, DARK GREY/GREEN TO BLACK SOFT ALTERNATING 2" HARD INTRUSIVE WITH BASALT SHARP CONTACTS. TR-1% Py

89'

100%

BRECCIATED BASALT 90.1' - 106.8'

SAME AS 58.9' - 66.8'

TR-1% Py

99'

100%

GABBRO 106.8' - 136.8'

FINE MED GRAINED, MED. GREY TO MED GREY/GREEN SLIGHTLY SHEARED OVER FIRST FOOT MED GREY REACTION THROUGH OUT SILICIFIED THROUGH HAIRLINE FRACTURES. CARB FRACTURES THROUGHOUT TR-1% Py

114.0 - 136.8' MED GRAINED

TR-1% Py

109'

100%

119'

BQ

Hole No. ML 38 | Project: 1446 | Page No: 3 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3456 S N. 4453 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 245° | Total Depth: 509' | Logged By: K. HOULE

'COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION (ABBLE GREEN MICA, CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

120

GABBRO 106.8' - 136.8'
CONT'D

TR 1% Py

100%

BQ

129'

130

TR 1% Py

100%

GRADATIONAL

BRECCIATED GABBRO 136.8' - 142.9'

FINE TO MED GRAINED, LIGHT TO DARK GREEN GREY, SLIGHTLY FOLIATED FRAGMENTS GABBRO IN 5 TO 20% CARB. MATRIX. ANGULAR TO SUBANGULAR CLASTS. CLAST SUPPORTED IN FINE MATRIX. GABBRO BECOMING SLIGHTLY CHLORITIC WITH A PERVASIVE FINE SERICITIC ALTERATION. TR - 1% Py

139'

140

TR-1% Py

TR-1% Py

TR 1% Py

100%

INTERMEDIATE INTRUSIVE 142.9' - 145.2'

FINE GRAINED APHANITIC, DARK GREY MASSIVE WITH RELATIVELY SHARP UPPER AND LOWER CONTACTS, CARB FILLED FRACTURE OBVIOUS. TR - 1% Py Po

149' LOW CARB AND SILICIFICATION

149'

150

GABBRO 145.2' - 160.4'

COARSE GRAINED, MOTTLED DARK GREY/GREEN - WHITE 60% SUBHEDRAL TO ANHEDRAL FELDSPAR. MINOR CARB ON HAIRLINE FRACTURES, SMALL ZONES GRADING ANORTHOSITIC GABBRO PORPHYRY. TR - 1% Py

TR-1% Py

100%

155.6
18 1/2" 157.2 1.6'

159'

PRECCIATED GABBRO W/ 2 CM WIDE

160

SHARP

PORPHYRITIC GABBRO 160.4' - 181.3'

FINE GRAINED, MED GREY, MASSIVE, 1-5% EUHEDRAL TO SUBHEDRAL PLAG. 1-3 MM. LOW PERVASIVE CARBONATE KXN THROUGHOUT OCCAISSIONAL CARB, SiO_2 AND CARB/SiO_2 VEINS. TR - 1% DISSEMINATED FINE EUHEDRAL Py

TR 1% Py

100%

166.6
18 1/2" 168.1 1.5'

169'

QTZ VEIN 6 CM

DIP TEST 169' CORE = 66.5°

170

TR-1% Py

100%

179'

Hole No. ML 38 | Project: 1446 | Page No: 1 of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3456 S N. 4753 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 504' | Logged By: K. Hoult

SECTION	ALTERATION (APPLE GREEN, CHLORITE, SERICITE)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180				SHARP	INTERMEDIATE INTRUSIVE 181.2' - 183.1'		TR 1% Py			BQ			
				SHARP	ZONE OF FINE GRAINED GREY BROWN ... ZONE OF MED GRAINED SHEARED OLIVE GREEN ... OLIVE GREEN/BROWN ... GOME AN INTERMEDIATE ... SHARP PERVASIVE LOW CARB. TR Py EXCEPT ON FRACTURE				100%				
190					GABBRO 183.1' - 185.6'		TR-1% Py	189'					
					FINE GRAINED, MED GRAINED, ... NEAR UPPER INTRUSIVE CONTACT, LOW PERVASIVE CARB PRESENCE OF Py ON FRACTURE ... TR-1% FINELY DISSEMINATED.				100%				
				60% FELDSPARS CA 30°	FELSIC INTRUSIVE 185.6' - 187.6			197'					
200				ANORTHOSITIC GABBRO	SAME AS 49.0' - 53.2' EXCEPT < 1% ...		TR-1% Py						
					GABBRO 187.6' - 254.0'				100%				
					SAME AS 106.8' - 136.8' MED GRAINED LOW CARB REM			209'					
210					196.7' - 147.2' 60% FELDSPAR OBVIOUS CONTACTS CA 30°		TR-1% Py						
					200.5 - 200.8' ANORTHOSITIC GABBRO ... Py				100%				
								219'					
220							TR-1% Py						
									10%				
								229'					
230							TR-1% Py						
								239'					

Hole No. M1 38 | Project: 1446 | Page No: 5 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3+66 S N. 44 53 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoult

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

240

GABBRO 187.6' - 254.0' CONT'D

TR-1% Py

249

100%

BQ

250

INTERMEDIATE INTRUSIVE 254.0' - 255.5'
SAME AS 181.3' - 183.1'

TR-1% Py

100%

TONALITE 255.5' - 256.2'
FINE TO MED GRAINED, LIGHT SPECKLED GREY/WHITE, <15% FINE MAFICS, SUBHEDRAL TO EUHEDRAL QUARTZ & FELDSPAR. NO CARBONATE. PATCHY SILICIFICATION & LOWER MARGIN SHARP CONTACTS TR-1% Py AS VEINS AS FRACTURE COATINGS.

TR-1% Py

259

260

PORPHYRITIC GABBRO 256.2' - 283.2'
FINE GRAINED, MED BLUE GREY, [illegible] EUHEDRAL TO SUBHEDRAL FELDSPAR [illegible] LOW PERVASIVE CARB RXN. CARBONATE IS CONCENTRATED IN MOST SMALL VEINS AND FRACTURES TR-1% Py

TR-1% Py

269

100%

270

270.0' - 283.2' PROGRESSIVELY MORE [illegible] CARB FRACTURE AND PATCHY WEAK FINE SILICIFICATION

TR-1% Py

279

100%

280

PORPHYRITIC FELDSPAR, FELSIC INTRUSIVE 283.2' - 287.6'
SAME AS 49.0 - 53.2' NO XENOLITHS [illegible] CARB. TR-2% Py

SHARP

TR-1% Py

289

100%

GABBRO 287.6 - 296.2'
COARSE GRAINED BECOMING PROGRESSIVELY [illegible] GREEN/GREY TO BLUE GREY. MASSIVE BECOMING [illegible] FOLIATED AND BRECCIATED. LOW TO MOD CARB [illegible] PERVASIVE FRACTURES VEINS. TR-1% Py

290

TR-1% Py

GRADATIONAL

BRECCIATED GABBRO 296.2' - 304.5'
(OVER)

299

100%

1842

.8'

Hole No. ML 38 | Project: 1446 | Page No: 6 of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3456 S N. 4453 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. HOULE

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

300

BRECCIATED GABBRO 296.7' - 304.5'

SAME AS 136.8' - 142.9'

SHARP

INTERMEDIATE TO FELSIC INTRUSIVE 304.5' - 314.4'

FINE TO MED GRAINED, GREY TO [illegible] MASSIVE TO [illegible] ALTERED GABBRO HARD, [illegible] QTZ FRACTURE WITH [illegible] DISSEMINATED [illegible]

RUBBLEY

310

309'

95%

309.6' - 314.4' SEVERAL INTERMEDIATE DYKE WITH ZONES OF ALTERED GABBRO. THIN OVERPRINT IS NOTICED IN GABBRO, IE REPLACEMENT OF FELSPAR BY CALCITE

TONALITE 314.4' - 318.6'

SAME AS 255.5' - 256.2' WITH LARGE ALTERED GABBRO XENOLITHS. FELSPAR TO CALCITE

319'

100%

320

PERVASIVE CARB REPLACEMENT

GABBRO 318.6' - 371.8

MED GRAINED, MED BLUE GREY [illegible] 318.6' - 331'9' FELDSPAR REPLACED BY CARB, SLIGHT LINEATED ORIENTATION OF M.S. PERVASIVE CARB GRADUALLY BECOMING REPLACED BY CARB FILLED FRACTURES, TR-1% PY

329'

100%

330

QTZ VEIN WITH EUHEDRAL M.S. FELDSPAR ALONG EDGES

DIP TEST 329' CORR < 64.5'

FELDSPAR PATCHES 2 2CM

334'

100%

340

1CM QTZ VEIN WITH CHLORITIC ALTERATION ALONG CONTACT

1CM QTZ VEIN

[illegible] CARB VEIN SYS

344'

100%

350

354'

BQ

Hole No. ML 38 | Project: 1446 | Page No: 7 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 14/04/88 | Ref. to Claim Corner:

Coordinates: 3+56 S N. 4+53 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoult

SECTION	ALTERATION (APPLE GREEN FACIES / CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
360					GABBRO 318.6' - 371.8' CONT'D		TR-1% Py	369'	100%	BQ			
370				SHARP	PORPHYRITIC GABBRO 371.8' - 383.6' SAME AS 256.2' - 283.2'		TR 1% Py	379'	100%				
380				SHARP	TONALITE DYKE 383.6' - 385.8' SAME AS 255.5' - 256.2' WITH MED GRAINED ANGULAR GABBROIC AUTOLITHS. TR-1% PY		TR-1% Py	389'	100%				
390				GRADATIONAL	GABBRO 385.8' - 395.4' FINE TO MED GRAINED, LIGHT GREY TO GREY/GREEN MASSIVE BECOMING SLIGHTLY FOLIATED. OCCASIONAL FELDSPAR PATCHES THROUGHOUT UNIT OF GABBRO, BECOMING BRECCIATED WITH INCREASE IN CARB + QTZ FELDSPAR MINERAL TO SUBHEDRAL AND GRADUALLY DIMINISHES IN CONCENTRATIONS 30→10%. TR-1% PY		TR-1% Py	399'	100%				
400				GRADATIONAL	ALTERED ZONE "A" 399.6' - 411.5 BRECCIATED GABBRO 395.4' - 399.6' SAME AS 136.8' - 142.9'		TR-2% Py	409'	100%		1843	398.5 / 401.6	3.0'
410				C.A 70° 5 CM QTZ VEIN	SHEARED GABBRO 399.6' - 411.5' FINE GRAINED DARK TO LIGHT GREEN - WHITE, HIGHLY SHEARED, SOFT, EASILY BROKEN INTO [illegible], HIGHLY SERICITIC, RARE CARB REPL. TR-2% PY [illegible] AS DISSEMINATES OR AGGREGATES BETWEEN [illegible]						1844	401.6 / 406.5	5.0'
					ALTERED ZONE ENDS						1845	406.5 / 411.5	5.0'
					BRECCIATED GABBRO 411.5' - 418.5 SAME AS 136.8' - 142.9'		TR-1% Py	419'	100%		1846	411.5 / 416.5	5.0'
					GABBRO 418.5 - 421.5 MED GRAINED, LIGHT GREEN, SOFT, CHLORITIC, INTERMIX [illegible] CARB. VEINLETS 2-5% PY		2-5% Py						

* SHEARED GABBRO IS NOT IN TYPICAL "ALTERED ZONE" PACKAGE AND THIS SEEMS TO INDICATE [illegible] MAY HAVE BLEACHED THE FRINGE OF THIS ZONE

Hole No. ML 38 | Project: 1446 | Page No: 2 Of 4

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3+56 S N. 4453 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: A HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
430					DESCRIPTIVE GEOLOGY								
440													
450													
460													

- ZONE OF Py 30% >5CM.
- GRADATIONAL 10-12 CM
- ALTERED ZONE "B" 431.7 - 444.2
- ALTERED ZONE ENDS
- CARB° SHEARED ZONES

+MORE COMPETANT THEN SURRONDING ROCK.

BRECCIATED GABBRO 421.5' - 431.7'

FINE TO MED GRAINED, LIGHT GREY TO GREY GREEN, FRAGMENTS ARE SHEARED AND AT TIMES HIGHLY CONVOLVED, 5-10% CARB MATRIX TR - 3% Py

SHEARED GABBRO 431.7' - 444.2

FINE TO MED GRAINED, LIGHT TO MED GREY [illegible] MODERATELY SHEARED, MAFIC RICH [illegible] WITH CARB / SILICA [illegible] OCCURRING AS FINE ANGULAR CLASTS.

BRECCIATED GABBRO 444.2 - 459.0'

SAME AS 136.8' - 142.9' EXCEPT FOR ZONES OF HIGHLY CHLORITIC SHEARED GABBRO. TR - 2% Py Cp

SHEARED / BRECCIATED GABBRO 459.0' - 464.0'

FINE TO MED GRAINED, DARK GREEN GREY SLIGHTLY SHEARED AND AT TIMES BRECCIATED [illegible] AT LARGE ASSORTMENT OF MED TO COARSE GRAINED XENOLITHS. LOW TO MOD CARB TR - 1% Py ≤5% FINE TO MOD DISSEMINATED MAGNETITE.

GABBRO 464.0' - 499.6'

FINE TO MED TO COARSE GRAINED, GREY TO GREEN GREY TO GREEN/YELLOW TO [illegible] LOCAL SHEARED GRAINED GABBRO [illegible] INTERMITTENT CARB [illegible] FINE TO MOD DISSEMINATED MAGNETITE [illegible] GREEN MICA [illegible]

479.0' - [illegible] MED GRAINED, [illegible] FELDSPAR PHENOCRYSTS [illegible]

Sample Interval	% Rec'y Samp. Int.
1847	429
1848	429.2
1849	439.0
1850	439.2
1851	449.0
1852	449.2
1853	459.0
1854	459.4
1855	459.6

Hole No. ML 38 | Project: 1446 | Page No: 9 of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/04/88 | Ref. to Claim Corner:

Coordinates: 3456 S N. 4453 E. | Date Finished: 21/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. HOULE

SECTION	ALTERATION (APP. GREEN MICA / CARBONATE / SILICIFICATION)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
480					GABBRO 464.0' - 499.6' CONT'D				100	BQ			
490								489'	100				
500					ANORTHOSITIC GABBRO PORPHYRY 499.6' - 509.0' COARSE GRAINED, MOTTLED WHITE GREEN. 2-10% PORPHYROBLASTIC FELDSPAR .5 - 1.5 cm IN A MEG MATRIX. FELDSPAR SUBANGULAR TO 15%. OCCASIONAL PINK TONED GABBRO SECTIONS CHAR FRACTURES.			499'	100%				
510					DIP TEST 509' CORR < 64° — END OF HOLE 509'			509'					

* THE TWO ZONES OF SHEARED GABBRO; ONE AT 399.6' - 411.5' (A), THE OTHER AT 431.2 - 444.2 (B) ARE NOT THE TYPICAL ALTERED ZONE DEVELOPMENT. THE FIRST ZONE IS HIGHLY SERICITIZED AND SHEARED, WHEREAS, THE SECOND ZONE IS ONLY MODERATELY SHEARED WITH LOW TO MODERATE SERICITIZATION. THESE TWO UNITS SEEM TO INDICATE THAT WE HAVE REACHED A BIFURCATING FRINGE OF THE MUCH LARGER ALTERED ZONE DEVELOPMENT AS SEEN IN PREVIOUS HOLES.

Hole No. ML 39 | Project: 1446 | Page No: 1 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 21/04/88 | Ref. to Claim Corner:

Coordinates: N 39985 N. 3451 E. | Date Finished: 22/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 399' | Logged By: K HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

0

OVERBURDEN 0.0' - 50.0'
(CASING REMAINS)

STEEL CASING NQ

10

20

30

40

50

RUBBLY

GABBRO 50.0' - 59.8'

MED GRAINED, LIGHT GREEN/GREY TO GREY, MASSIVE, HIGHLY FRACTURED WT CHLORITIC AND SERICITIC ALTERATION, REPLACEMENT OF FELDSPARS BY CARB OVERPRINT, PERVASIVE CARB RXN. FELDSPAR IS SUBHEDRAL TO EUHEDRAL X'LS TR 1% PY

TR 1% Py

59'

95%

BQ

Hole No. ML 39 | Project: 1446 | Page No: 2 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 21/04/88 | Ref. to Claim Corner:

Coordinates: 3498 S N. 3451 E. | Date Finished: 22/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 399' | Logged By: K HOUSE

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

SECTION | APP-E GREEN MICA | CARBONATE | SILICA

DESCRIPTIVE GEOLOGY

60

OBSCURED CONTACT

BRECCIATED GABBRO 59.8' - 73.8'

FINE TO MED GRAINED, LIGHT TO MED GREEN/GREY BLUE/GREY. MASSIVE TO WEAKLY FOLIATED CRYSTALLITE. 10-15% SILICA SUPPORTED MATRIX. LOW CHLORITIC AND SERICITIC ALTERATION TR-1% PY

RUBBLY

RUBBLY

QTZ VEINS (2 x 1 CM) WITH SMALL FELSIC INT

70

SHARP

GABBRO 73.8' - 77.0'

SAME AS 50.0' - 59.8'

SHARP

TONALITE 77.0' - 93.6

FINE TO MED GRAINED, LIGHT GREY/BLUE, MASSIVE, SUB- TO ANHEDRAL QTZ/FELD WITH ≤ 5% FINE MAFICS OCCASIONAL DYKES OF INTERMEDIATE COMP. NO CARB RXN EXCEPT ON SMALL CARB/SILICA FRACTURES. INTERMEDIATES APPEAR TO BE TRANSECTED BY CARB VEINS TR-1% FINELY DISSEMINATED PY

80

INTERMEDIATE DYKES

GABBRO XENOLITH

90

SHARP

BASALT 93.6' - 106.6'

FINE GRAINED, DARK TO LIGHT GREY/GREEN, FELDSPAR PHYRIC, SUBHEDRAL TO EUHEDRAL LATH < 1MM PERVASIVE LOW CARB RXN AND PATCHY MED GREY SILICIFICATION. HIGHLY FRACTURED AREAS WITH CHLORITIC ALTERATION TR-1% DISSEMINATED PY.

100

SHARP

TONALITE 106.6' - 119.3'

SAME AS 77.0' - 93.6' WT CARB REPLACING FELDSPAR 93.6' - 119.0' TR-1% py

110

CARB REPLACEMENT OF FELDSPAR

QTZ [illegible] SUPERIMPOSED BY CHLORITIC [illegible]

% Sulphides	Drilling Interval	% Core Recovered	Core Size
TR-1% Py	69'	95%	BQ
TR-1% Py	79'	100%	
TR-1% Py	89'	100%	
TR-1% Py	97'	100%	
TR-1% Py	109'	100%	
TR-1% Py	119'	100%	
3% Py			

Hole No. ML 39 | Project: 1446 | Page No: 3 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 21/04/88 | Ref. to Claim Corner:

Coordinates: 3+98 S N. 3+51 E. | Date Finished: 22/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 399' | Logged By: K. HOULE

SECTION | ALTERATION (ABBR. GREEN. FEL. | CHLORITE | SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

120

SHARP

SHARP

SHARP

130

GABBRO 119.3' - 125.0'

FINE GRAINED, MED GREY/GREEN, MASSIVE CARB ALT'N FRACTURES ALL VEIN & VEIN PERVASIVE CARB ALT'N TR-1% Py. 121'9 - 125.0' MED - COARSE GRAINED SLIGHTLY FOLIATED ON GRAIN SCALE LOW PERVASIVE CARB / TR. Py

TONALITE 125.0' - 127.3'

MED GRAINED, LIGHT GREY, SUBHEDRAL TO EUHEDRAL X'L STRUCTURES, ≤5% FINE MAFICS CARB RXN ON HAIRLINE FRACTURES ONLY. TR-1% Py Po

GABBRO 127.3' - 136.9'

MED GRAINED, MED GREEN/GREY → BLUE/GREY, SUBHEDRAL ⇒ EUHEDRAL X'L STRUCTURES MASSIVE, TRACE CHLORITIC ALTERATION LOW PERVASIVE CARB RXN. HAIRLINE FRACTURES COMMON. TR-1% Py Po

SHARP

SHARP

TONALITE DYKE

140

TONALITE 136.9' - 143.8'

SAME AS 77.0' - 93.6' TR-1% Py Po Cp

BRECCIATED GABBRO 143.8 - 145.2'

SAME AS 59.8' - 73.8'

GABBRO 145.2' - 200.3'

SAME AS 127.3' - 136.9'

150

160

SUB ROUNDED FELDSPAR PORPHYRY

SMALL SHEARS/FRACTURES WITH SERICITIC ALT'N & CHLORITIC ALT'N

DIP TEST 169' CORR 67°

170

TONALITE DYKE

TR-1% Py

129'

TR-1% Py Po

139'

TR-1% Py Po Cp

149'

TR-1% Py Po

159'

TR-1% Py Po

169'

TR-1% Py Po

179'

100%

100%

100%

100%

100%

BQ

Hole No. ML 39 | Project: 1446 | Page No: 4 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 21/04/88 | Ref. to Claim Corner:

Coordinates: 3+98 S ~~N.~~ 3+51 E. | Date Finished: 22/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 399' | Logged By: K. HOULE

ALTERATION: DEEP GREEN RXN | CARBONATE | SILICA

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

GABBRO 145.2' - 200.3' CONT'D

185.0' - 194.6'

FINE GRAINED, MASSIVE VERY HARD. APPEARANCE OF SILICIFICATION THROUGH RUBBY SILICA VEINS. SILICA IS BEING REPLACED BY CARB IN SOME VEINS. LOW CARB RXN EXCEPT ON VEINS AND HAIRLINE FRACTURES

SHARP

10 CM MASSIVE Po ~30% Cp ~5%

SHARP

PORPHYRITIC FELDSPAR - FELSIC INTRUSIVE 200.3' - 205.1'

FINE GRAINED TO APHANITIC, DARK GREY TO BLACK, HARD MATRIX. EUHEDRAL TO SUBHEDRAL PLAGIOCLASE PHENOCRYSTS 2-5%. SHARP CONTACTS. MOD CARB RXN ON FRACTURES. TR-1% PY

SHARP

GABBRO 205.1' - 206.5'

SAME AS 127.3 - 136.9'

TONALITE 206.5 - 209.5

SAME AS 77.0 - 93.6' WITH XENOLITHS OF SURROUNDING GABBRO

SLIGHTLY BRECCIATED GABBRO IN CHLR MATRIX

GABBRO 209.5' - 264.8'

SAME AS 127.3 - 136.9' TR-1% PY Po

~ZONE MASSIVE Po >50% OVER 3CM.

HIGHLY CONVOLUTED ZONE OF GABBRO REPEATED BRECCIATION IN A PENECONTEMPORANEOUS SILICA VEIN

TOPS OF SILICIFIED FELDSPAR PHYRIC

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR-1% Py Po			BQ			
TR-1% Py Po	189'	100%				
TR 1% Py Po	199'	100%				
TR-1% Py	209'	100%				
TR-1% Py Po	219'	100%				
TR 1% Py Po	229'	100%				
TR 1% Py Po	239'	100%				

Hole No. ML 39 | Project: 1446 | Page No: 5 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 21/04/88 | Ref. to Claim Corner:

Coordinates: 3+98 S N. 3+51 E. | Date Finished: 22/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 399' | Logged By: K. HOULE

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

240

139.8' - 149.3' FINE GRAINED MED BLUE/GREY GABBRO HAS APPEARANCE OF BEING SHATTERED & INGRUDED BY GABBRO FRAGMENTS IN A DARKER MATRIX. EVIDENCE OF MED LIKE SILICIFICATION IN SOME AREAS. VERY HARD Po 2-5% HAIRLINE CARB FRACTURES.

250

254.7 - 256.4' SAME AS 139.8' - 149.3'

260

ANORTHOSITIC GABBRO

GRADATIONAL

270

INCREASE IN SHEARING

BRECCIATED GABBRO 264.8'-283.3'

MED → FINE GRAINED, DARK GREY GREEN, GABBRO FRAGMENTS BECOMES FINER GRAINED AND PROGRESSIVELY MORE SHEARED, CLAST SUPPORTED IN A 10-20% CARB MATRIX. TR-1% Po Py

280

GRADATIONAL

CA 50°

SHEARED GABBRO 283.3' - 292.7'

FINE GRAINED, DARK GREY TO GREY GREEN, MODERATELY SHEARED AND AT TIMES SLIGHTLY BRECCIATED, WITH PERVASIVE CARB, CHL CHLORITIC AND SERICITIC ALTERATION 2-3% FINELY DISSEMINATED Py

290

GRADATIONAL

BRECCIATED / SHEARED GABBRO 292.7'-301.3'

FINE GRAINED, DARK GREY TO GREY GREEN SHEARED GABBRO FRAGMENTS IN A 20% CARB MATRIX. SOME ZONES LOSING BRECCIATION BUT HIGHLY SHEARED INCREASE IN DEGREE OF SERICITIZATION AND CHLORITIC ALTERATION 2-3% Py.

300

2-5% Po

249'

TR-2% Po TR-Py

259'

TR-1% Po Py

269'

TR-1% Po Py

219'

2-3% Py

289'

2-3% Py

100%

100%

100%

100%

100%

BQ

1856 5.5'

299.0

299'

Hole No. ML 39 | Project: 1446 | Page No: 6 Of 7

Casing Collar Elev.: | Ground Elev.: | Date Started: 21/04/88 | Ref. to Claim Corner:

Coordinates: 3+98 S N. 3+51 E. | Date Finished: 22/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 399' | Logged By: K. Houle

SECTION	ALTERATION (SERICITE, CHLORITE, CARBONATE, SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

300

ALTERED ZONE 301.5'-334.1'

SHEARED GABBRO 301.5' - 334.1'

FINE GRAINED, MEDIUM GREY TO LIGHT GREY/GREEN
HIGHLY SHEARED, HIGH DEGREE OF SERICITIC ALTERATION
BECOMMING LESS SERICITIC AND MORE CHLORITIC
DOWN HOLE. FINE HAIRLINE CARB FRACTURES W/T
OCCAISSIONAL SMALL CARB/SILICA VEINS
TR-5% PY DISSEMINATED AND SMALL BLEBS

DECREASE SERICITE INCREASE CHLORITE

SHEAR INTENSITY DECREASING

CA 63°

ALTERED ZONE ENDS

SMALL QTZ VEIN 2.5cm

BRECCIATED GABBRO 334.1' - 342.7'

FINE GRAINED, LIGHT GREEN/GREY TO DK/GREY,
SLIGHTLY SHEARED GABBRO IN A 15-20% CARB
MATRIX. ANGULAR TO SUBANGULAR CLASTS INTENSELY
OCCAISIONAL CARB/SILICA FRACTURES TR-1% PY

GRADATIONAL

ANORTHOSITIC GABBRO PORPHYRY 342.7 - 359.8'

MED-COARSE GRAINED, WHITE TO GREENISH WHITE,
EUHEDRAL TO SUBHEDRAL FELDSPAR XLS > 70%
<1 - <5% FINE GRAINED MAFICS, OCCAISIONAL
SMALL SHEAR ZONES + PERVASIVE APPLE GREEN
ALTERATION ON FRACTURE PLANES AND
LARGE FELDSPAR GRAINS, CARB RXN
SMALL HAIRLINE FRACTURES TR-1% PY

SHEARED CHLORITE + SERICITE ALT.

Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.
TR 5% PY	309'	95%	BQ	1857 2.5'	301.5
				1858 5.0'	304.0'
TR 5% PY	319'	100%		1859 5.0'	309.0'
				1860 5.0'	314.0'
TR 5% PY	329'	100%		1861 5.0'	319.0'
				1862 5.0'	324.0'
TR 5% PY	339'	100%		1863 5.0'	329.0'
				1864 5.0'	334.0'
TR 1% PY	349'	100%			339.0'
TR 1% PY	359'	100%		1865 5.0'	344.0'
					349.0'
					354.0'

Hole No. ML 39	Project: 1446	Page No: 7 Of 7
Casing Collar Elev.: Ground Elev.:	Date Started: 21/04/88	Ref. to Claim Corner:
Coordinates: 3+98 S ~~N~~ 3+51 E.	Date Finished: 22/04/88	Scale: 1" = 10'
Inclination: -70° Bearing: 240°	Total Depth: 399'	Logged By: K. HOULE

SECTION | ALTERATION (APPLE GREEN CLAY, CARBONATE, SILICIFIED) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

360

INTERMEDIATE INTRUSIVE 359.8' - 365.3'

FINE GRAINED, DARK GREY [illegible], MASSIVE LOOK PERVASIVE CARB ALTERATION UPPER CONTACT SHEARED LOWER CONTACT SHARP BUT IRREGULAR TR-1% PY

GABBRO 365.3' - 399.0'

FINE TO MED GRAINED, LIGHT GREEN/GREY TO MED GREY, FREQUENT HAIRLINE CARB FRACTURES GENERAL DECREASE IN GRAIN SIZE FROM HOLE TR-1% PY

370

380

390

400

TR-1% PY | 369' | 100% | BQ

TR-1% PY | 379' | 100%

TR-1% PY | 389' | 100%

TR-1% PY | 399' | 100%

DIP TEST 394' — END OF HOLE 399.0'

COER 67°

Hole No. ML 40 | Project: 1446 McVICAR L. | Page No: 1 of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: 5/100 S. N. 4105 E. | Date Finished: APRIL 25/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 489' | Logged By: I AA

SECTION	ALTERATION (APPLE GREEN, CARBONATE, SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
0					OVERBURDEN 0.0' - 20.2' (CASING REMAINS)					NQ CORE			
10													
20				TONALITE?	GABBRO 20.2 - 36.2 MEDIUM GRAINED, LIGHT TO MEDIUM GREEN-GREY, MASSIVE TO WKLY FOLIATED, MODERATELY FRACTURED, PHENOCRYST BOUNDARIES DIFFUSE - CARBONATE ALTERATION, OCCASIONAL 3-7mm SUBHEDRAL FELDSPAR PHENOS.		TR-MINOR Py, Po		100%	BQ			
				CA: 45° - FOLIATION FRACTURES									
30				BRECCIATION				39'					
				CHARP, QV	TONALITE 36.2' - 40.2' FINE GRAINED, MEDIUM GREEN-GRAY, MASSIVE. 3-5mm QUARTZ VEIN @ UPPER AND LOWER CONTACTS WITH GABBRO. VERY DISTORTED AND ALTERED AT UPPER CONTACT.				99%				
40				CHARP, QV	GABBRO 40.2' - 44' SIMILAR TO 20.2 - 36.2 BUT MORE SERICITE, CHLORITE ALTERATION		TR-MINOR Py, Po	39'					
					SILICIFIED GABBRO? 44.0 - 49.0 PALE YELLOW COLOUR, MAY BE FELSIC INTRUSIVE WITH HALO OF SILICIFICATION. GABBRO REMNANTS IN PARTS, THEY DISAPPEAR FINE GRAINED, MODERATE - INTENSE CARB.		TR-MINOR Py, Po		100%				
50				TONALITE CONTACT 44° CA	GABBRO 49.0 - 55.1 SAME AS 40.2' - 44'		TR-1% Py, Po	49'					
					TONALITE 55.1' - 66.3' SAME AS 36.2-40.2 BUT HAS ZONE OF MOD-INTENSE FRACTURING/BRECCIATION AT CONTACTS, AGAIN HV QZ-CARB VEIN DEVELOPMENT. LOWER CONTACT GRADATIONAL TO FINER GABBRO		TR-1% Py, Po	59'	100%				

Hole No. ML 40 | Project: | Page No: 2 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: IAA

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated

60

70

80

90

100

110

GRADATIONAL

SHARP

PATCHY SILICIFICATION

SHARP 68°CA

SHARP 82°CA

SHARP 70°CA
PORPH FELSIC INT

SILICIFIED GABBRO 66.3' - 76.8'

FIRST 3' MED. YELLOW-GREEN, THEN LIGHT GREYISH WHITE. YELLOW COLOUR DUE TO MOD TO INT CARB ALT. AS 44.0-49.0'. FINE GRAINED, MASSIVE, WITH 20-30% RELICT GABBRO. LOWER CONTACT SHARP. UNIT VERY HARD. SCATTERED [illegible] HEALED FRACTURES

GABBRO 76.8 - 96.1

SIMILAR TO 20.2 - 36.2'. FINE TO MEDIUM GRAINED, MASSIVE. PATCHY WEAK SILICIFICATION, MODERATE CARB ALTERATION. LOCALLY INTENSE.

TONALITE 96.1 - 98.4

SAME AS 36.2 - 40.2

ANORTHOSITIC GABBRO 98.4 - 108.5

MOTTLED GREEN AND WHITE, MEDIUM GRAINED, [illegible]. 2-3% ANORTHOSITE LOCALLY 60-70%. WEAKLY CARB. SHARP CONTACTS WITH UPPER AND LOWER UNITS

PORPHYRITIC FELSIC INTRUSIVE 108.5-109.5

SEE BELOW (116.8 - 128.5')

GABBRO 109.5 - 116.8

SAME AS 20.2 - 36.2

% Sulphides: TR-1% Py, Po | TR-1% Py, Po | TR-1% Py, Po | TR-1% Py, Po | TR-1% Py, Po | TR-1% Py, Po

Drilling Interval: 69' | 79' | 89' | 99' | 109' | 114'

% Core Recovered: 99% | 100% | 98% | 99% | 98% | 100%

Core Size: BQ

Hole No. ML 40 | Project: | Page No: 3 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: IAA

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

120

BRECCIATED GABBRO

SHARP CA: 70°

130

SHARP CA: 60°

140

GRADATIONAL

BASALT

GRADATIONAL

150

160

DIP TEST CORRECTED 65°

170

FELDSPAR PORPHYRITIC FELSIC INTRUSIVE 116.8± 128.5'

VERY FINE GRAINED MATRIX WITH 10-15% 2-4 mm EUHEDRAL TO SUBHEDRAL FELDSPAR PHENOCRYSTS. DARK GREY-GREEN, MASSIVE, WEAK, PERVASIVE CARB ALT'N. MINOR - 2% PY AS SCATTERED BLEBS, DISCONTINUOUS STRINGERS. 122-124.7 BRECCIATED GABBRO - SEE BELOW. THIS PORPHYRY SAME AS SEEN NEAR HI-GRADE QUARTZ VEIN OF TRENCH AREA 2.

BRECCIATED GABBRO 128.5'- 136.7'

MEDIUM GRAY-GREEN UNIT. BRECCIATED BY 5-15 mm CARB-QZ VEINS. MANY OF FRAGMENTS APPEAR STRONGLY SHEARED TO MYLONITIC. SCATTERED, IRREGULAR 5-20 cm BLEBS QZ. AVG. 1-2% PY BUT SCATTERED VERY FINE GRAINED ZONES HAVE 4-6% VFG PY.

TONALITE 136.7'- 189.2'

MEDIUM GRAY, MASSIVE, FINE GRAINED UNIT. THIS UNIT HAS A DISTINCTIVE SALT AND PEPPER TEXTURE NOT SEEN IN THE PREVIOUS TONALITES (THEY MAY BE BASALT). THE UNIT IS WEAKLY TO MODERATELY CARBONATIZED AND HAS PATCHY YELLOW-GREEN SERICITE ALT'N. QZ-CARB STRINGERS ARE COMMON, RANGING FROM 1 TO 5 mm.

151'-158.1' IS A BASALTIC INTERVAL - A MASSIVE FINE GRAINED, MEDIUM GREEN UNIT. THE LOWER CONTACT IS GRADATIONAL AND IS MARKED BY ABUNDANT RED (HEMATITE?) STAINING. THIS UNIT IS COARSELY BRECCIATED BY 1-3 mm QZ-CARB STRINGERS.

166-169' - GABBROIC

% Sulphides	Drilling Interval	% Core Recovered
MINOR TO 2%	129'	100%
MINOR TO 3% Py	139'	100%
TR-1% Py, Po	149'	100%
TR-1% Py, Po	159'	99%
TR-1% Py, Po	169'	100%
TR-1% Py, Po	179'	100%

Hole No. mc 40 | Project: | Page No: 4 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: IAA

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

180

TONALITE 136.7' - 189.2'

TR-1% Py, Po

98%

SHARP - CA = 30°

189'

190

BASALT 189.2' - 195.3'

AS DESCRIBED PREVIOUSLY, HAS SCATTERED GABBROIC AND TONALITIC INCLUSIONS. 2-3% FINELY DISSEMINATED PY

2-3% Py, Po

100%

FELDSPAR PORPHYRITIC INTRUSIVE

TONALITE 195.3' - 212.5'

SAME AS 136.7 - 189.2' BUT HAS 10-15% GABBRO + BASALT AUTOLITHS.

TR-1% Py, Po

199'

200

GABBRO

95%

BASALT

209'

210

SHARP CA = 75°

GABBRO 212.5 - 233.6'

MEDIUM GREEN-GRAY, MASSIVE, VARIABLY TEXTURED GABBRO. VARIES FROM VERY FINE GRAINED TO QUITE COARSE. SCATTERED TONALITIC AREAS, IN COARSE-GRAINED ZONES FELDSPAR COMPRISES UP TO 40% OF THE ROCK. MODERATE TO STRONG CARBONATE ALTERATION THROUGHOUT THIS UNIT.

SHARP CA = 52°

TONALITE

SHARP

TR-1% Py, Po

97%

214'

220

COARSE GABBRO

95%

COARSE GABBRO

TONALITE

219'

GRADATIONAL

100%

COARSE GRAINED GABBRO 233.6 - 240'

MEDIUM TO DARK GREEN, MASSIVE, COARSE GRAINED UNIT. AV. GRAIN SIZE IS 7mm IN A RANGE OF 5 TO 12 mm. THE ROCK IS 20-30% COARSE

239'

GRADATIONAL

Hole No. ML 40 | Project: | Page No: 5 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: JAA

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
240					GRADATIONAL	DESCRIPTIVE GEOLOGY		TR-1% Py, Po						
						COARSE GRAINED GABBRO 233.6-240.0'				100%				
						FELDSPARS, 30-40% COARSE CLOTS OF MAFIC MINERALS, PROBABLY AMPHIBOLES, AND 30-40% FINE GRAINED MAFIC MATRIX. CALCITE STRINGERS UP TO 3 mm WIDE ARE PRESENT AS IT PATCHY WEAK CARB ALT'N.			249				
250						GABBRO 240.0-255.8'				100%				
						MEDIUM GREEN, FINE TO MEDIUM GRAINED, MASSIVE GABBRO. FELDSPAR INITIALLY COMPRISES 10-15% OF THE UNIT, INCREASING TO 50-60% BY THE MIDDLE, THEN DECREASING TO 15-20% BY THE END. CARBONATE ALT'N PATCHY AND WEAK. SCATTERED FINE QZ-CARB STRINGERS HEALING FRACTURES							
					SHARP, IRREGULAR	FELDSPAR PORPHYRITIC FELSIC INTRUSIVE 255.8-261.4'		TR-MINOR Py, Po	259					
260						SAME AS 116.8-128.5' HAS 1-2 mm CHILLED MARGIN @ LOWER CONTACT.				100%				
					SHARP, CA=63°	GABBRO 261.4-271.4'		TR-MINOR Py, Po						
						MEDIUM GRAY GREEN, GENERALLY FINE GRAINED MASSIVE GBBR. TONALITE INCLUSIONS PRESENT. MODERATE TO INTENSE, PERVASIVE CARB. ALT'N. SCATTERED 1-5 mm QV, OFTEN ASSOC. WITH TONALITE INCL.			269				
270					GRADATIONAL	SHEARED, BRECCIATED GABBRO(?) 271.4-279'		2-3% Py		100%				
						COARSELY BRECCIATED BY 3-10 mm CB-QZ VNG. CARB CONFINED TO VEINS. VERY FINE GRAINED UNIT. MEDIUM BLUE GREEN TO LIGHT GREY. 2-3% Py, LOCALLY 4-6%. 2-3% MILKY TO GLASSY QV. SHEARING VARIES FROM INTENSE TO APPARENTLY ABSENT. SHEARED AREAS RICH IN CHLORITE			279				
					GRADATIONAL	GABBRO 279'-329.2'		TR-MINOR Py, Po						
						FINE TO MEDIUM GRAINED, MEDIUM GRAY-GREEN, MASSIVE UNIT. FELDSPAR COMPRISES UP TO 40% OF THE ROCK LOCALLY, OCCURS AS POIKS UP TO 3 cm. SCATTERED NARROW FINE GRAINED ZONES THROUGH THE UNIT. WEAK, PATCHY CARB ALT'N. 1-2% FELDSPAR VEINLETS THROUGHOUT.			329				
290										100%				
									329					

Hole No. ML 40 | Project: | Page No: 6 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: I A A

COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION (GREEN MICA, CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

300

GABBRO 279' - 329.2'

309' SHARP CA: 50°
FELDSPAR PORPHYRITIC FELSIC INTRUSIVE
305.5' SHARP CA: 45°

TR-minor Py, Po

309'

100%

310

100%

319'

320

100%

329'

SHARP CA: 30°

330

PORPHYRITIC GABBRO 329.2 - 334

MEDIUM TO DARK GREEN, FINE GRAINED, MASSIVE UNIT WITH 5% 1-3 mm FELDSPAR PHENOS. 10-15% 0.1-4 mm QZ-CB AND FS STRINGERS @ 65° TO CA. CARB CONFINED TO STRINGERS

GRADATIONAL

TR-minor Py, Po

99%

339'

GABBRO 334.0 - 343.1

MASSIVE, MEDIUM GREY-GREEN, VARIABLY TEXTURED GABBRO. RANGES FROM VERY FINE GRAINED TO MEDIUM GRAINED TO LOCALLY PORPHYRITIC. FINE GRAINED EGNEI WEAKLY BRECCIATED BY QZ-CB STRINGERS.

2-3% SULPHIDES

340

GRADATIONAL

SHEARING INCR. CA: 56°

3-10% Po, Py

TR-1% Py, Po

100%

343.3

344.3

100

1866

348.3

100

1867

349'

BRECCIATED, SHEARED GABBRO 343.1 - 352.6

IRREGULAR CARB STRINGERS BRECCIATE A MODERATELY TO INTENSELY FOLIATED GABBRO - LOCAL CHLORITE SCHIST. 343.8 - 344.3 HAS 30-40% MINOR Po W/LESSER Py. SLIGHT INCREASE IN SERICITE TOWARDS LOWER CONTACT.

350

GRADATIONAL

CA: 61°

2cm QV

DIP/BIT CORRECTION 6°

HARD DUL KICK BUBBLY PLEASE

5-10% Py, Po

3-4% Po, Py

3-5% Po, Py

95%

352.6

100

1868

354.6

100

1869

356.6

100

1870

359'

359.1

95

1871

ALTERED ZONE 352.6 - 416.6

CONTACT GRADATIONAL - TAKEN WHERE FOLIATION BECOMES INTENSE AND SERICITE BEGINS TO INCREASE.

352.6 - 359.1 SHEARED GABBRO

Hole No. ML 40 | Project: | Page No: 7 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: IAA

ALTERATION: GREEN MICA, CARBONATE, SILICA | FRACTURING | MINERAL | GEOLOGY | SECTION

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

ALTERED ZONE 352.6 – 416.6 (CONT'D)

352.6 – 359.1 SHEARED GABBRO

INTENSELY SHEARED CARBO-CHLORITE SCHIST. HAS SCATT. WISPS APPLE GREEN 3-7% Py, Po MAINLY AS 1-3 mm STRINGERS. LOCALLY BRECCIATED. CARB CONFINED TO QZ-CB STRINGERS. 2 cm QV @ 356.4'.

359.1 – 362.1 QUARTZ

MASSIVE BULL QV W/10% LITHIC FRAGS INCL 1-3% WISPS YELLOW TO PALE GREEN MICA. MINOR Py, Po IN QZ. 8-12% IN LITHIC FRAGS. THIS ZONE VERY BROKEN UP. APPROX 1 FOOT OF CORE LOST.

362.1 – 382 SHEARED GABBRO

STRONGLY SHEARED GABBRO – LESS INTENSE THAN 352.6 – 359.1. 80% QZ FROM 365.2 – 366.2'. APPROX 1' OF CORE LOST BETWEEN 362.1 AND 365.2. 2-5% Py, Po IN WALLROCK TO BOUDINS. CARB. MAINLY IN FINE STRINGERS. 366.2 – 369.2 HAS 7-10% Po, Py. 369.2 – 371.8 – 5-8% Py, Po, 10-15% QZ BOUDINS/VEINS. 371.8 – 375.4 HAS 5-8% Po, Py, 2-5% QZ BOUDINS/VEINS. 375.4 – 379.3 HAS 5-8% Py, Po, 10-15% QZ BOUDINS/VEINS. 379.3 – 382 INCLUDES 2' OF INTRUSIVE – SEE BELOW

382 – 385.5' INTERMEDIATE INTRUSIVE

MASSIVE, FINE GRAINED, MEDIUM GRAY-GREEN TO YELLOW-GREEN. SCATTERED PATCHY LEAK SERICITE. 2-7% Py AS SCATTERED CUBES.

385.5 – 388.2 FOLIATED INTRUSIVE

FOLIATED, DARK GREY INTERMEDIATE TO MAFIC INTRUSIVE. FEATURELESS UNIT WITH TR-1% Py. WEAK PERVASIVE CARBONATIZATION.

388.2 – 416.8' SHEARED GABBRO

SAME AS 362.1 – 382 BUT HAS MORE QUARTZ BOUDINS/VEINS AND MORE GREEN MICA.

388.2 – 390.2 – AS 362.1 – 382

390.2 – 392.1 – 75% QZ, 25% LITHIC FRAGS, QZ BOUDINS BRECCIATED BY LATER STRINGERS MODERATE PATCHY CARB., 5-7% Py, Po MINOR LOCAL APPLE GREEN

392.1 – 395.4' – SHEARED GABBRO W/ 5-8% APPLE GREEN, SERICITE, MODERATE PATCHY CARB ALT'N. TR-1% Py, Po

395.4 – 396.8 – AS 390.2 – 392.1

396.8 – 399.7 – AS 392.1 – 395.4, 1-2% Py, Po, 8-10% APPLE GREEN, 5% QZ

399.7 – 401.8 – SHEARED GABBRO W/ 20-25% APPLE GREEN

401.8 – 402.8 – AS 392.1 – 395.4

402.8 – 403.8 – AS 390.2 – 392.1, MORE APPLE GREEN, LOTS LITHIC FRAGS

403.8 – 405.6 – AS 392.1 – 395.4

405.6 – 408 – AS 392.1 – 395.4

408 – 410.5 – SHEARED GABBRO AS 362.1 – 382.

410.5 – 415.2 – SHEARED GABBRO

415.2 – 416.6 – 90% QZ VEIN WITH 10% LITHIC FRAGS, 3-4% Py, Po

TONALITE 416.6 – 474.3

FINE GRAINED, MASSIVE, GREY-GREEN TO YELLOW-GREEN UNIT. SIMILAR TO PREVIOUS TONALITE. FIRST 4-5' SOMEWHAT ALTERED – CARB, SERICITE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
1-2% Py, Po		80%	BQ	362.1	70	1872
2-3% Py, Po				365.2	70	1873
2-10% Py, Po	369			366.2	95	1874
1-2% Py, Po				367.2	100	1875
5-8% Py, Po				369.2	100	1876
5-8% Py, Po		99%		371.8	100	1877
5-8% Py, Po				375.4	100	1878
5-8% Py, Po	379			379.3	100	1879
3-4% Py, Po				382	100	1880
3-7% Py		99%		385.5'	100	1881
TR-1% Py	389			388.2	100	1882
2-3% Py, Py				390.2	100	1883
5-7% Py, Po				392.1	100	1884
TR-1% Py, Po		99%		395.4	100	1885
5-7% Po, Py				396.8	100	1886
1-2% Py, Po	399			399.7	100	1887
TR-1% Py, Po				401.8	100	1888
TR-1%				402.8	100	1889
5-7%				403.8	100	1890
TR-1% Py, Po		95%		405.6	100	1891
2-3% Py, Po				408	100	1892
1-2% Py, Po	409			410.5	100	1893
TR-1% Py, Po		99%		415.2	100	1894
				416.6	100	1895
3-4% TR-1% Py, Po	419			420	100	1896

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Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: JAA

SECTION	ALTERATION: GREEN MICA	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
420							DESCRIPTIVE GEOLOGY								

TONALITE 416.6 – 474.3

ALTERNATE MEDIUM GREY-GREEN AND YELLOW GREEN, OCCASIONAL COARSER TEXT. MODERATE, PERVASIVE CARBONATE ALT'N.

TR-1% P, Pe

429

439

449

459

469

479

BQ

SHARP CA = 35°

TR-1% P, Pe

PORPHYRITIC, ANORTHOSITIC GABBRO 474.3 – 489

MASSIVE, COARSE GRAINED, GREEN-WHITE UNIT. MAGNETITE-RICH AGGREGATES 0.1 – 1.5 mm CLOTS AND CRYSTALS INTERSTITIAL TO THE FELDSPAR GRAINS. FELDSPARS RANGE FROM 2-7 mm. WEAK, PERVASIVE CARB ALT'N

Hole No. MC 40 | Project: | Page No: 9 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: | Scale:

Inclination: | Bearing: | Total Depth: | Logged By: IAA

SECTION	ALTERATION (CARBONATE)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
					SHARP CONTACT MAFIC DYKE SHARP SHARP MAFIC DYKE SHARP CA=60° TD= 489' DIP TEST CORRECTED 65°		TR PY, P.,P.	489	100%				

Hole No. ML 41 | Project: 1446 | Page No: 1 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: NG 1100 S N. 1115 E. | Date Finished: 27/04/88 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. HOULE

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
0					OVERBURDEN 0.0' - 41.8' (CASING REMAINS)					STEEL CASING			
10													
20													
30													
40													
50				CARBONATIC	BRECCIATED BASALT 41.8' - 44.3' FINE TO MEDIUM GRAINED, MED GREEN GREY, CLAST SUPPORTED BASALT IN 10-15% CARB MATRIC, SIL[illegible] DEGREE, CLASTS SUBANGULAR TO SUBROUNDED, TR-1% FINELY DISSEMINATED Py		TR-1% Py	49'	100%	BQ			
					PORPHYRITIC BASALT 44.3' - 47.7' FINE TO MED GRAINED, LIGHT GREEN GREY, ANHEDRAL TO SUBHEDRAL FELDSPAR GRAINS IN A FINER MATRIX, 10-15% FELDSPARS, RANGING GENERALLY FROM 2-5 MM TR-1% FINELY DISSEMINATED Py.		TR-1% Py	54'	100%				
					BRECCIATED BASALT 47.7' - 53.2' SAME AS 41.8' - 44.3', MORE HIGHLY FOLIATED, SHOWS CARBONATIC ALTERATION, TR-1% Py								

Hole No. ML 41 | Project: 1446 | Page No: 2 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 400 S N. 4475 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoult

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

60

SHARP

PORPHYRITIC BASALT 53.2' - 59.7'
SAME AS 44.3' - 47.7'

BASALT 59.7' - 61.2'
FINE GRAINED, DARK GREY GREEN, MASSIVE BUT AT TIMES VERY SLIGHTLY FOLIATED. CONTACT SHARP BUT IRREGULAR. CARB FILLED FRACTURES. FELDSPAR APHYRIC TR-1% PY

70

FELSIC INTRUSIVE

GABBRO 61.2' - 73.6'
MED GRAINED, LIGHT TO MED GREEN/GREY, MASSIVE TO WEAKLY FOLIATED, MILD CHLORITIC ALTERATION. SMALL TO LARGE CARBONATE FILLED FRACTURES. MOST GRAIN BOUNDARIES ARE DIFFUSE. TR-1% PY FINELY DISSEMINATED

SHARP, INTENSE SILICIFICATION

80

SILICIFIED GABBRO 73.6' - 90.6'
MED GRAINED, LIGHT GREY, MASSIVE WITH FINE HAIRLINE FRACTURE VEINS THROUGHOUT. VERY HARD. UPPER CONTACT SLIGHTLY FOLIATED. FIRST FOOT 50-100% SILICIFIED, WHITE W/ REMNANT TEXTURES, FRACTURED LOW LOW CARB RXN ON HAIRLINE FRACTURES. TR-1% PY

90

GABBRO 90.6' - 95.9'
MEDIUM GRAINED, MED GREY GREEN. MASSIVE. HARD. SLIGHTLY SILICIFIED. FINE CROSS CUTTING QTZ VEIN. LOW CARB EXCEPT ON HAIRLINE FRACTURES TR-1% PY

SILICIFIED GABBRO 95.9' - 100.8'
FINE TO MED GRAINED, LIGHT GREY, MASSIVE VERY HARD. WEAK TO MODERATELY SILICIFIED, VARIABLE TEXTURE AT TIMES "GHOST" GABBROIC. NETWORK OF SILICA FRACTURING TR-1% FINELY DISSEMINATED PY

100

SHARP

SILICIFIED GABBRO SECTION

SHARP

FELSIC INTRUSIVE 100.8' - 106.6'
FINE GRAINED - APHANITIC. DARK GREY/BLACK. SHARP CONTACTS HARD. TR-1% ~~PO~~ PY. INCLUDES SECTION OF SILICIFIED GABBRO. CARB FILLED FRACTURES.

110

SILICIFIED GABBRO 106.6' - 130.8'
FINE TO MED, LIGHT GREY. SAME AS 95.9' - 100.8' WITH WEAK TO INTENSIVE SILICIFICATION TR-1% PY

Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
TR-1% PY 64'	100%	BQ			
TR-1% PY 79'	100%				
TR-1% PY 89'	100%				
TR-1% PY 99'	100%				
TR-1% PY 109'	100%				
TR-1% PY 119'	100%				

Hole No. ML 41 | Project: 1446 | Page No: 3 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4400 S N. 4475 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoole

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated

120

SILICIFIED GABBRO 106.6' - 130.8'
CONT'D

TR-1% Py

129'

100%

130

PORPHYRITIC FELDSPAR FELSIC INTRUSIVE 130.8' - 134.8'
FINE GRAINED APHANITIC, DARK GREY/BLACK, 2-5% SUBHEDRAL TO EUHEDRAL FELDSPAR ± HBL. SILICA CARB FILLED FRACTURES, SHARP CONTACT. FINE TO VERY FINE DISSEMINATED TR-1% Py

- SLIGHTLY SILICIFIED GABBRO

BRECCIATED/SHEARED GABBRO 134.8' - 144.7'
FINE GRAINED, LIGHT GREEN TO MED GREY, SLIGHTLY FOLIATED ANGULAR TO SUBANGULAR CLASTS OF 5-10% CARB MATRIX. GRADUALLY GRADING INTO A MORE SHEARED GABBRO. MEDIUM TO LOW PERVASIVE CARB, TR-1% Py

- INTERMEDIATE INTRUSIVE

TR-1% Py

139'

100%

140

TR-1% Py

149'

100%

150

GABBRO 144.7' - 240.5'
FINE TO MED GRAINED, MED GREEN/GREY, 10-20% SUBHEDRAL TO ANHEDRAL PLAG, OCCASIONAL WISPY LIKE SILICA VEINING AND SMALL HAIRLINE CARB FRACTURES TR-1% DISSEMINATED Py

- SUBPARALLEL FELSITIC DYKE
- LOW SILICIFICATION

TR-1% Py

159'

100%

160

TR-1% Py

169'

100%

- SILICIFIED
- DIP TEST CORE < 69° 169'

170

- INTENSE SILICIFICATION PORPHYRITIC GABBRO
- CARB/SILICA VEINING

TR-1% Py

179'

100%

BQ

Hole No. ML 41 | Project: 1446 | Page No: 4 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4100 S N. 4+75 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K Houle

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
180					GABBRO 141.7' - 240.5' CONT'D		TR-1% Py		100%	BQ			
					DENSE SILICA VEINING AND CARBOSILICA			189					
					185.0' - 240.5' OCCASIONAL PATCHY FELDSPAR SECTIONS OF 40-60% REPLACEMENT GRADES		TR-1% Py		100%				
200								199					
							TR-1% Py		100%				
					RARE CARB SILICA VEINLETS CHLORITE ALTERATION								
210					212' - 216.2' SMALL ALTERATIVE SECTIONS OF GRAINED GABBRO, RELICT FELDSPARS, NO CARB REPLACED FELDSPARS IN SOME INSTANCES. CONTAINS TWO SMALL 1-3cm ALTERATION INTERVALS OF SMALL		TR-1% Py		100%				
					FINER GRAINED NO ALTERATION			221					
220							TR-1% Py		100%				
					INTENSE, SMALL SCALE CARB SILICA VEINLETS, SOME CHLORITE, NO SULPHIDES			229					
230							TR-1% Py		100%				
					235.0' - 240.5' FELDSPAR BEING REPLACED BY CARB, LESS TO NONE PERVASIVE CARB.								

Hole No. ML 4/1 | Project: 1446 | Page No: 5 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4/100 S N. 4/175 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoods

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE
					DESCRIPTIVE GEOLOGY	

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
TR-1% Py	249'	100%	BQ			
TR-1% Py	259'	100%				
TR-1% Py	269'	100%				
TR-1% Py	279'	100%				
TR-1% Py	289'	100%				
TR-1% Py	299'	100%				

240

250

260

270

280

290

HIGHLY FRACTURE FE STAINING.

GRADATIONAL.

FELSIC INTRUSIVE SAME AS 103.3 - 134.3. WT ONLY RELICT PEGMATITIC ASPECT

SHARP

SHARP

INTERMEDIATE INTRUSIVE / TONALITE 250.2' - 250.2'

FINE TO MEDIUM GRAINED, MEDIUM GREY, [illegible] BUFF TO REDDISH. ALTERATION [illegible] TONALITE. INTERMEDIATE [illegible] VARYING DEGREES OF CARB REPLACEMENT. PERVASIVE STAINING OVER SOME HIGHLY FRACTURED [illegible] TR-1% DISSEMINATED Py

TONALITE / DIORITE 250.2' - 258.0'

FINE TO MED GRAINED, LIGHT GREY TO WHITE/GREY AREAS WITH REDDISH STAINING USUALLY COINCIDENT WITH INCREASED FRACTURING. TONALITE CONTAINS ≤ 5% FINE MAFICS. SOME DIORITIC SECTIONS. MOST BOUNDARIES OBSCURED BY FRACTURING. TR-1% FINE DISSEMINATED Py

TONALITE 258.0' - 272.2'

FINE TO MED GRAINED, LIGHT TO MED GREY, MASSIVE HARD ≤ 5% FINE MAFICS. X-CUT BY QV [illegible] SMALL > 2-4cm INTERMEDIATE DYKES. COV TO [illegible] CARB RYN. TR-1% Py

BRECCIATED GABBRO 272.2' - 277.3'

FINE GRAINED, MEDIUM GREEN/GREY. SLIGHTLY FOL [illegible] CLASTS [illegible] 10-15% CARB MATRIX. BRECCIA IS CLAST SUPPORTED. CLASTS [illegible] MODERATE DEGREE OF SERICITIZATION. TR-1% Py

GABBRO 277.3' - 287.1'

FINE TO MED GRAINED, MED TO DARK GREY/GREEN. 10-25% SUBHEDRAL TO ANHEDRAL PLAGIOCLASE PHENOCRYSTS. CARB RYN LOC LYSEAT ON HAIRLINE FRACTURES. TR-1% FINELY DISSEMINATED Py

TONALITE 287.1' - 292.1'

FINE TO MED GRAINED, LIGHT TO MED GREY, SALT & PEPPER APPEARANCE. ≤ 5% FINE MAFICS. SUBHEDRAL TO ANHEDRAL X'L STRUCTURES. SOME SILICA VEINING AND SMALL CARB HAIRLINE FRACTURES. Py TR-1% AND AS FRACTURE COATINGS.

GABBRO 292.1' - 388.0'

SAME AS 277.3' - 287.1'

Hole No. ML 41 | Project: 1446 | Page No: 6 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4+00 S ~~N.~~ 4+75 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. HOULE

SECTION	ALTERATION (APPLE GREEN CHL. / CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
300					GABBRO 292.1' - 388.0' CONT'D. MORE FREQUENT SIGNS OF SILICIFICATION VEINING		TR-1% Py	309	100%	BQ			
310					2cm QTZ VEIN		TR-1% Py	319	100%				
320					INTENSE SILICIFICATION NETWORK.		TR-1% Py	329	100%				
330					DIP TEST CORE @ 329' 48°		TR-1% Py	339	100%				
340							TR-1% Py	349	100%				
350					APPLE GREEN MICA CHL. ALTERATION PATCH		TR-1% Py	359	100%				

Hole No. ML 411 | Project: 1446 | Page No: 7 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4100 S N. 4175 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 509' | Logged By: A. Hoult

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

GABBRO 292.1' - 388.0'
CONT'D

SILICIFIED ZONE

373.5 - 374.3 SHEARED ZONE WITH SILICIFIED GABBRO AND MOD FOLIATION 5% CARB

FINE GRAINED GABBRO XL PHOTOS / ALTERATION?

GRADATIONAL

BRECCIATED GABBRO 388.0' - 412.2'

MED TO FINE GRAINED, LIGHT GREEN GREY TO BROWN BEIGE, WELL FOLIATED TO SLIGHTLY FOLIATED, CLAST SUPPORTED IN A FINE CARB MATRIX (10-20%). BECOMING MORE SHEARED DOWNHOLE. TR-3% PY AS FINE GRAINED DISSEMINATES AND FINE TO MED AGGREGATES.

SHEARING INCREASE

BROKEN CORE RUBBLY

ALTERED ZONE 412.2' - 466.1'

SHEARED GABBRO 412.2' - 419.7'

FINE TO MED GRAINED MEDIUM GREEN GREY, WELL SHEARED AND FOLIATED, STRONGLY SERICITIZED (ALTERED) 412.2' - 415.3' MASSIVE GTZ VEIN WITH MINOR GREY SILICIFIED SECTIONS. 2-5% PY ...

Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.
369'	100%	BQ		
379'	100%			
389'	100%			
399'	100%			
409'	95%		1897 5.2'	407.0
			1898 1.8'	412.2 414.0
419'	100%		1899 1900 414'	415.3 419.7

Hole No. MC 41 | Project: 1446 | Page No: 8 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4400 S ~~N~~. 4475 E. | Date Finished: 27/04/88 | Scale: 1"=10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoult

SECTION | ALTERATION (APPLE GREEN MICA, CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

420

CA 70°

SHARP

QUARTZ SERICITE SCHIST 419.7' - 425.7'

FINE GRAINED, LIGHT GREY TO [illegible]
40% FINE EUHEDRAL QUARTZ EYES IN A LIGHTER
SERICITE AND SOME CHLORITE MATRIX. 1-2%
DISSEMINATED AND BLEBS OF Py

MASSIVE QUARTZ 425.7' - 427.8

MASSIVE QTZ WITH XENOLITHS OF ALTERED GABBRO
5-10%. Py ALONG SAMPLE FRACTURES IN [illegible]

ALTERNATING QTZ VEINS

QUARTZ SERICITE SCHIST 427.8' - 434.9'

SAME AS 419.7' - 425.7' WITH ALTERNATING SECTIONS OF QTZ BEGINNING AT 434.1'

BRECCIATED/SHEARED GABBRO 434.9' - 438.7

FINE GRAINED, LIGHT GREY TO PALE GREEN/GREY
BRECCIATED WITH 5-10% CARB MATRIX GRADUALLY
BECOMING SHEARED. MODERATE SERICITIC ALTERATION.
LAST 2" IS FINE INTERMEDIATE DYKE. TR-1% Py.

QUARTZ SERICITE SCHIST 438.7' - 450.1'

SAME AS 419.7' - 425.7'

UP TO 60% QTZ OVER 1' SECTION OF INTRUSIVE.

INTERMEDIATE INTRUSIVE 450.1 - 463.1

FINE GRAINED, LIGHT TAN TO BUFF TO GREENISH BUFF
MASSIVE WITH WEAK QTZ VEINING & TEXT APPROACHING
LOWER CONTACT THE ROCK APPEARS CASS SENSITIVE WITH
DARK FRACTURES. APPARENT ALTERED GABBRO [illegible]
CARB FILL ON SMALL HAIRLINE FRACTURES TR-1% Py

SHEARED CONTACT

SHEARED GABBRO 463.1' - 466.1'

SAME AS 412.7' - 419.7'

ALTERED ZONE END 466.1'

GABBRO 466.1' - 483.2'

FINE GRAINED DARK GREEN MASSIVE AT
SLIGHTLY BRECCIATED AT TIMES WITH DARKER
FRAGMENTS 1-2% CARB. TR-1% Py

Sulphides	Drilling Interval	Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.
4-6% Py		100%	BQ	1901 3.0'	423.7
				1902 3.0'	426.1
TR-5% Py	439'			1903 2.1'	427.8
4-6% Py		100%		1904 3.3'	431.2
				1905 2.9'	434.9
TR-1% Py	439'			1906 3.8'	438.7
4-6% Py		100%		1907 3.8'	442.5
	449'			1908 5.3'	447.8
TR-1% Py		100%		1909 6.1'	453.9
	459'			1910	454.1
TR-1% Py		100%		1911 3.9'	458.0
	469'				
TR-1% Py		100%			
	479'				

Hole No. ML 41 | Project: 1446 | Page No: 9 Of 9

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/04/88 | Ref. to Claim Corner:

Coordinates: 4100 S N. 4175 E. | Date Finished: 27/04/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 509' | Logged By: K. Hoult

SECTION	ALTERATION (Apple Green Fld / Carbonate / Silica)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
480					REACTIVE INTRUSIVE W/ GABBRO XENOLITHS.								
					TONALITE 482.2' - 484.6'								
					MEDIUM GRAINED, LIGHT GREY [illegible]								
					A DARKER APPEARANCE AT TIMES DUE TO [illegible]								
					MA FELD PREVALENT AT TIMES, IN 15% [illegible]								
					INCLUDES LARGE FINE GRAINED GABBRO XENOLITHS								
490					GABBRO 484.6' - 502.5'		TR-1%	489	100%	BQ			
					SAME AS 466.1' - 479.7' W/ OCCASIONAL								
					SMALL INTRUSIVE PATCHES OR VEINS		TR-1%	499	100%				
500					TONALITE 502.5' - 509'								
					SAME AS 482.5 - 484.6' W/ ONLY OCCASIONAL		TR-1%		100%				
					SMALL XENOLITHS								
					DIP TEST CORE @ 64°		END OF HOLE 509'	509'					
510													

Hole No. ML 42 | Project: 1446 | Page No: 1 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5+01 S N. 6163 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240 | Total Depth: 629' | Logged By: K. Hoult

ALTERATION | CARBONATE | SILICA | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

0

OVERBURDEN 0.0' - 20.0'
CASING REMAINS

STEEL CASING

9'

10

19'

20

GABBRO 20.0' - 23.6'
FINE TO MED GRAINED, LIGHT TO MED GREEN [illegible]
QUARTZ TO SUBEQUAL FELDSPAR, [illegible] CHLORITIZED
X-CUT BY FINE CARB FILLED FRACTURES, TR-1% [illegible]

TR-1% Py

BASALT 23.6' - 45.6'
FINE GRAINED TO APHANITIC, DARK GREEN/BLACK, MODERATELY HARD MASSIVE SLIGHTLY CHLORITIZED ON FRACTURES
FINE HAIRLINE CARB FRACTURES, TR-1% PY MOSTLY OCCURING AS FRACTURE COATINGS. HIGHLY FRACTURED AND BROKEN

70%

29'

30

TR-1% Py

36.1' - 45.6'
FINE GRAINED, LIGHT TO MED GREEN, MASSIVE BECOMING SLIGHTLY SHEARED NEAR LOWER CONTACT, FELDSPAR PHYRIC BECOMING APHYRIC (2-3MM), GRADUALLY BECOMES MORE CHLORITIZED, TR-1% FINELY DISSEMINATED Py

70%

39'

40

TR-1% Py

INTERMEDIATE INTRUSIVE 45.6' - 47.6'
FINE GRAINED, MED BROWN/RED → BUFF, CONTACTS VERY SHARP BUT ARE SLIGHTLY OBSCURED, MODERATELY [illegible]
UPPER AND LOWER CONTACTS CREATE SLIGHT [illegible] OF ADJOINING ROCKS, NO APPARENT XENOLITHS.

95%

49'

50

TR-1%

BASALT 47.6' - 49.2'
SAME AS 36.1' - 45.6'

BRECCIATED BASALT 49.0' - 55.0'
FINE GRAINED, LIGHT GREEN, SLIGHTLY [illegible]
BRECCIATED & [illegible] MAINLY TR-1% Py

100%

54'

BQ

↑ BUBBLY & BROKEN CORE W/ VARIOUS [illegible] GRAINED SIZ[illegible]

HIGHLY FRACTURED AND BROKEN CORE

BOUNDARY OBSCURED

5MM QTZ VEIN WITH TR-1% Py

[illegible]

Hole No. ML 412 | Project: 1416 | Page No: 2 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5101 S N. 6763 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K Houle

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

60

BASALT 55.0' 90.1'

FINE GRAINED MED GREY/GRN [illegible] FELDSPAR [illegible] LMM. 5-7% CARB FILLED FRACTURES [illegible] ALTERATION TR-1% Py

TR-1% Py — 69' — 100%

70

75.2' - 82.4' ALTERED AND RUBBLY CORE. CORE HAS VUG LIKE APPEARANCE DUE TO DISSOLUTION OF CARB IN THIS ZONE.

TR-1% Py — 79' — 90%

80

"VUGGY" QTZ VEINS W/ CARB REMOVED

TR-1% Py — 89' — 100%

90

GRADATIONAL

BRECCIATED BASALT 90.1' - 100.4'

FINE GRAINED, MED GREEN/GREY, LIGHT TO MODERATE BRECCIATION W/ 3-5% CARB MATRIX INCREASE IN DEGREE OF FOLIATION DOWNHOLE. TR-1% FINE DISSEMINATED Py

TR-1% Py — 99' — 95%

100

OBSCURE CONTACT

GABBRO 100.4' - 253.7'

MED TO FINE GRAINED, MED GREY TO BLUE GREY, 10-30% ANHEDRAL TO SUBHEDRAL FELDSPAR. X-CUT BY NUMEROUS SILICIFICATION VEINS 1-2.1cm. MINOR CARB ALONG FRACTURE PLANES. TR-1% FINE Py AND Po

TR-1% Py — 109' — 100%

ANORTHOSITIC GABBRO

104.5 - 105.6' ANORTHOSITIC GABBRO PORPHYRY 95% FELDSPAR W/ < 5% MAFIC [illegible]

110

111.1' - 114.7' FINER GRAINED W/ MORE [illegible] WEATHERING, SLIGHTLY SHEARED WITH CARB FILLED FRACTURES TR-1% Py Po

TR-1% Py Po — 119' — 100%

FINE

BQ

1

Hole No. ML 1/2 | Project: 1446 | Page No: 3 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5+01 S N. 6+63 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K. HOULE

SECTION	ALTERATION (CARBONATE, SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated

120

GABBRO 100.4 - 253.7'
CONT'D

TR-1% Po Py — 129' — 100% — BQ

130

FRACTURED.

TR-1% Po Py — 139' — 100%

FINER

140

TR-1% Po Py — 149' — 100%

150

TR-1% Po Py — 159' — 100%

160

161.6 - 174.2 FINER GRAINED GABBRO WITH PROGRESSIONAL REPLACEMENT OF PLAGIOCLASE BY CARB. MORE FREQUENT CARB VEINS

TR-1% Po Py — 169' — 100%

FINER

DIP TEST 169°
CORR ∠ = 86°

170

8cm QTZ VEIN

174'

Hole No. ML 4/2 | Project: 1446 | Page No: 4/ Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5101 S N. 6163 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 629' | Logged By: K. Hoole

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
180						6CM QTZ VEIN.		TR-1% Po Py	189'	100%	BQ			
						8CM QTZ VEIN.								
						GRADUAL INCREASE IN SILICIFICATION TOWARDS								
190						GABBRO 100.4 - 252.7' CONT'D. W/ INCREASE IN SILICIFICATION AFTER 180'		TR Po Py	199'	100%				
200								TR-1% Py Po	209'	100%				
210								TR-1% Py	219'	100%				
220								TR Py	229'	100%				
230						229.0' 12CM QTZ/CARB VEIN WITH FELDSPAR REPLACEMENT BY CARB IN THE PCT IMMEDIATELY ABOUT QTZ.		TR Po Py	239'	100%				

Hole No. ML 42 | Project: 1446 | Page No: 5 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K. HOULE

SECTION	ALTERATION (CARBONATE, SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240					**GABBRO 100.4' - 253.7'** CONT'D		TR Po Py		100%	BQ			
250					**ALTERED GABBRO 253.7' - 261.6** FINE TO MED GRAINED, LIGHT GREY/GREEN TO PINK BROWN, ZONES OF FINE AND MED GRAINED FELDSPAR BLEBS REPLACED BY CARBONATE ± SILICA. MED PERVASIVE CARB THROUGHOUT, SOME ZONES SLIGHTLY SILICIFIED AROUND X-CUT BY 1 CM WIDE VEIN OF CARB.		TR Po Py	249'	100%				
260	ALTERATION GRADATIONAL						TR Po Py	259'	100%				
270					**GABBRO 261.6 - 344.1'** MED GRAINED, MED BLUE/GREY, 20-50% SUBHEDRAL TO ANHEDRAL FELDSPAR OCCASIONAL 1% AMYGDULES 2 ZONES BETWEEN 2-5 CM, LOW TO MOD SILICIFIED VEINING LOW CARB EXCEPT ON SMALL HAIRLINE FRACTURES. TR Po Py		TR Po Py	269'	100%				
280					6" ANORTHOSITIC		TR Po Py	279'	100%				
290							TR Po Py	289'	100%				
								299'					

Hole No. ML 4/2 | Project: 1446 | Page No: 6 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5+01 S N. 6+63 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K. HOULE

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
300						GABBRO 261.6' - 344.1' CONT'D		TR-1% Py	309	100%	BQ			
310						10cm FINE GRAINED SECTION		TR-1% Py	319	100%				
320						HIGHER DEGREE OF SILICIFICATION		TR-1% Py	329	100%				
330						331.8' - 332.2' FELDSPAR PORPHYRITIC FELSIC INTRUSIVE. APHANITIC, BLACK. ≤ 5% PORPHYRITIC FELDSPAR > 1 mm. ROCK IMMEDIATELY ABOVE SHOWS HIGH SILICIFICATION THROUGH ROCK MINING. TR-1% Py		TR Po 1% Py	339	100%				
340						DIP TEST 339' CORR. ∠ = 66.5°		TR-1% Po Py	349	100%				
350						DIFFUSE ALTERED GABBRO 344.1' - 353.1' SAME AS 253.7' - 261.6'		TR-1% Po Py	359	100%				
						DIFFUSE GABBRO 253.1' - 365.7' SAME AS 261.6' - 344.1'								

Hole No. ML 42 | Project: 1446 | Page No: 7 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5+01S N. 6+63 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 629' | Logged By: K. Hoole

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

DESCRIPTIVE GEOLOGY

360

GABBRO 353.1' - 365.7'
CONT'D

ALTERED GABBRO 365.7' - 376.1'
SAME AS 253.7' - 261.6'

370

SHARP

TONALITE / INTERMEDIATE INTRUSIVE 376.1' - 385.4'
- FINE GRAINED, MED BLUE/GREY TO BUFF, SOFT, SEEMS TO GRADE INTO INTERMEDIATE BETWEEN 378.5' - 380.5' INTERMEDIATE IS FRACTURED CLAY
- CONTAINS SOME GABBRO XENOLITHS, TR-1% FINELY DISSEMINATED Py Po

380

SHARP

GABBRO 385.4' - 393.2'
SAME AS 261.6' - 344.1'

390

SHARP

TONALITE 393.2' - 408.7'
FINE GRAINED, MED BLUE GREY < 5% VERY FINELY DISSEMINATED MAFICS, FEW HAIRLINE CARB FRACTURES Po ON CONTACT OF SMALL CARB FILLED FRACTURES TR.-2% Po

400

SHARP

GABBRO 408.7' - 445.4'
MED GRAINED, LEUCOCRACTIC LIGHT GREY/GREEN 50-60% FELDSPAR. SLIGHTLY CHLORITIC. SOME SECTIONS BOUDINAGE, FEW BEING ANORTHOSITIC. MINOR CARB ON FRACTURES TR-1% Po Py

410

% Sulphides: TR-1% Py Po | TR-2% Py Po | TR-2% Po | TR-1% Po Py

Drilling Interval: 349' | 379' | 389' | 399' | 409' | 419'

% Core Recovered: 100% | 100% | 100% | 100% | 100%

Core Size: BQ

Sample Interval:

% Rec'y Samp. Int.:

Estimated:

Hole No. ML 42 | Project: 1446 | Page No: 8 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5+01 S N. 6+63 E. | Date Finished: 04/05/88 | Scale: 1"=10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K. Hoult

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

GABBRO 408.7' - 445.4'

CONT'D.

420.0'+ BEGINNING OF LOW PERVASIVE CARB RXN.

430.5' - 445.4' INCREASE FROM LOW TO MOD PERVASIVE CARB AS MARKED INCREASE IN FELDSPAR REPLACEMENT BY CARB.

FINE GRAIN GABBRO

INCREASE IN DEGREE OF PERVASIVE CARB

12CM ALTERED FELSALITE DYKE OR FRAG OF SHEARED GABBRO

6CM QTZ VEIN

BRECCIATED GABBRO 445.4' - 474.0'

FINE GRAINED, LIGHT BLUE/GREY TO LIGHT GREEN, SLIGHTLY SHEARED AND FOLIATED, CLASTS SUPPORTED IN A 15% CARB MATRIX, OCCASIONAL SMALL 2-3CM QTZ LEASES SHOWING VARIOUS DEGREES OF CARB REPLACEMENT, SLIGHTLY SERICITIC WITH INCREASING DEGREE OF CHLORITIC ALTERATION.

TR-2% PY

SHEARED GABBRO 474.0' - 474.8'

FINE GRAINED, LIGHT TO MED BLUE/GREY GREEN, SLIGHTLY SHEARED, MODERATELY SERICITIZED, ELONGATED QTZ BLEBS ≤ 2MM, 1-3% PY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR-1% PO, PY	429	100%	BQ			
TR-1% PO, PY	431	100%				
TR-1% PO, PY	449	100%		1915	445.7 / 449.0	3.3'
TR-1% PY	459	100%		1916 / 1917 / 1918 / 1919 / 1920	451.8 / 452.5 / 455.5 / 458.1 / 459.0	2.6' .9' 3.0' 2.6' .9'
TR-2% PY	469	100%		1921 / 1922	464.0 / 469.0	5.0' 5.0'
TR-2% PY	479	100%		1923 / 1924 / 1925	473.7 / 474.7 / 478.7	4.7' 1.0' 4.0'

Hole No. ML 42 | Project: 1446 | Page No: 9 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5401 S ~~N~~ 6463 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K. Houle

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
480				SHARP	BRECCIATED GABBRO 474.3' - 482.0 SAME AS 445.4' - 474.0'		TR-1%			BQ			
490				BRECCIATED GABBRO 489.7' - 490.2'	INTERMEDIATE INTRUSIVE 482.0' - 494.3' FINE GRAINED, LIGHT GREY TO LIGHT BEIGE MATRIX CONTAINS VEALETTES OF WHAT APPEAR TO BE ALTERED TONALITE. OCCASIONAL SMALL QTZ VEINS 1 SET VERY LOW PERVASIVE CARB ON MINUTE FRACTURES, TR-1% FINELY DISSEMINATED PY		TR-1%	489'	100%				
				SHARP			TR-1%	499'	100%				
500				DIP TEST 499' CORE < -62°	FELSIC INTRUSIVE 494.3' - 516.8' FINE GRAINED APHANITIC, DARK GREY TO BLACK, MED. HARD W/ SHARP CONTACTS. RELICT PORPHYRITIC FELSPHYRIC FABRIC. VERY LOW PERVASIVE CARB AS X-CUT BY HAIRLINE CARB FRACTURES. TR 2% FINELY DISSEMINATED PY		TR-2%	509'	100%				
510													
				SHARP				519'					
520					GABBRO 516.8' - 545.4' FINE GRAINED MEDIUM TO DARK GREEN/GREY MOTTLED BY FINE CARB VEINS AND OCCASSIONAL CARB FILLED FRACTURES. GRADING INTO 2-3% MEDIUM GRAINED PORPHYRITIC FELDSPAR, TR-1% DISSEMINATED PY AND AS FRACTURE COATINGS			529'	100%				
530								539'	100%				

Hole No. ML 43 | Project: 1446 | Page No: 1 Of 1

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/04/88 | Ref. to Claim Corner:

Coordinates: 5401 S N. 6463 E. | Date Finished: 04/04/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240 | Total Depth: 629' | Logged By: K. Mercer

SECTION	ALTERATION (Kerrogate, Silica)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
540					GABBRO 516.8' - 545.4' CONT'D		TR Py			BQ			
				SHARP	TONALITE 545.4' - 549.0' FINE TO MED GRAINED, LIGHT GREY WT SMALL SALT & PEPPER APPEARANCE, 3-5% [illegible] MINERALS. SHARP CONTACTS. TR Po WITH TR 2" X-CUTTING QTZ VEIN		TR Py	544'	100%				
550				SHARP			TR Py		100%				
				QTZ VEIN WT CARB ALTERATION 10% PY	GABBRO 549.0' - 629.0' FINE GRAINED, TIED TO DARK GREEN, SLIGHT CHLORITIC ALTERATION ALONG MICRO FRACTURES. MINOR CARB EXCEPT ON OCCASIONAL FRACTURES. TR-1% Py		TR-1% Py	559'	100%				
560							TR-1% Py	569'	100%				
570							TR-1% Py	579'	100%				
580							TR-1% Py	589'	100%				
590							TR-1% Py	599'	100%				

Hole No. ML 412 | Project: 1446 | Page No: 11 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: 02/05/88 | Ref. to Claim Corner:

Coordinates: 5101 S N. 6163 E. | Date Finished: 04/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 629' | Logged By: K. Hoole

SECTION	ALTERATION: CHLORITE	ALTERATION: CARBONATE	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
600						GABBRO 549.0' - 629.0' CONT'D		TR-1%	609'	100%	BQ			
610								TR-1%	619'	100%				
620								TR-1%	629'	100%				
630						DIP TEST 629' CORR < : 65° — END OF HOLE 629'									

Hole No. ML-43 | Project: McVICAR L. 1446 | Page No: 1 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: NG 5+00 S ~~N~~ 7+25 E. | Date Finished: MAY 6, 1988 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

0 - 4' OVERBURDEN (CASING REMAINS)

4' - 41.1' MAFIC VOLCANIC (BASALT)
FINE GRAINED, MEDIUM TO DARK GREEN, MASSIVE WITH NO FLOW TEXTURES NOTED, MODERATELY FRACTURED WITH HAIR-LINE TO 3mm RANDOMLY ORIENTED FRACTURES WHICH FOR THE MOST PART ARE WEAKLY CHLORITIC AND CALCAREOUS, UNIT IS MODERATELY SILICIOUS AND CONTAINS OCCASSIONAL PATCHY CLORITIZATION, NIL TO TRACE PYRITE
13.2'-14.6' - MODERATELY TO HIGHLY CLORITIZED WITH SMALL MM SCALE RANDOMLY ORIENTATED STRINGERS OF PYRITE + OR - CALLITE (WEATHERED OUT)
- RARELY A VERY WEAK FOLIATION CAN BE NOTED, PYRITE INCREASES AFTER 14.6' TO TRACE OCCURRING AS DISSEMINATED VERY FINE GRAINS
24.2-25.1 - HIGHLY TO INTENSLY SILICIFIED TURNING TO HIGHLY CALCAREOUS AT 25.1'

38' 3-6mm BOUDIN QZ-CARB VEIN SUB-PARALLEL TO C.A.

41.1' SHARP CONTACT @ 45° TO C.A.

41.1'- 44.4' IRON STONE
- THIN MM SCALE BEDS OF MAGNETITE WHERE DISTINGUISHABLE, UNIT IS VERY CHLORITIC WITH CHLORITE BANDS AND FRACTURE FILLINGS MAKING UP 15-20% OF UNIT
- UNIT IS HIGHLY MAGNETIC DUE TO VERY FINE GRAINED MAGNETITE
- UNIT CONTAINS 2-4% VERY FINE GRAINED WISPY (UNRESOLVABLE TO MT BANDS) Po WITH TRACE CP
- UNIT BECOMES BRECCIATED WITH A CHLORITIC MATRIX AT LOWER CONTACT

44.4' SHARP CONTACT @ 35° TO C.A.

44.4'- 69.7' MAFIC VOLCANIC (BASALT)
- UNIT IS MUCH THE SAME AS 4'-41.1' EXCEPT FRACTURING IS NOT QUITE AS INTENSE AND CARBONATE FRACTURE FILLINGS INCREASE TO 4 mm OCCASSIONALLY
- UNIT OCCASSIONALLY BECOMES FELDSPAR PHYRIC MAKING UP 60% OF ROCK

Sample #	Sample Interval	% Rec'y Samp. Int.	% Sulphides	Drilling Interval	% Core Recovered	Core Size
			NIL TO TRACE Py	9	100	CAS_2'6
			3 Py		100	BQ
			TRACE Py	19		
			TRACE Py		100	
				29		
					100	
			TRACE Py	39		
1926	41.1	100	2-4% Po/Cp		100	
	41.4		TRACE	49		
					100	
				59	100	

Hole No. ML-48 | Project: McVICAR L. 1446 | Page No: 2 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

61' CONTACT OF QZ-CARB VEIN

62.7' - 2" WEAKLY MAGNETIC IRON STONE @ ∠ 35° TO C.A. IRREGULAR CONTACT

IRREGULAR CONTACT

IRREGULAR CONTACT

99' DARK PATCH OF SILICIFICATION

44.4'-69.7' MAFIC VOLCANIC (CONTINUED)

- SILICIFICATION IS VARIABLE FROM WEAK TO MODERATE

69.7'-77' ALTERED BASALT

- UNIT IS DARK GREEN AND VERY FINE GRAINED
- HIGHLY CHLORITIZED WITH SHEARING PARALLEL TO SUBPARALLEL TO C.A.
- MODERATELY FRACTURED WITH QUARTZ-CARBONATE FLOODING
- NIL TO TRACE PYRITE, CONTACTS ARE IRREGULAR

77'-119.2' MAFIC VOLCANIC (BASALT)

- MUCH THE SAME AS 4'-41.1'
- FINE GRAINED, MEDIUM TO DARK GREEN, MASSIVE
- MODERATELY FRACTURED WITH TWO SETS OF FRACTURES AT RANDOM ORIENTATIONS, ONE SET OF FRACTURES IS CHLORITIZED, THESE ARE CROSS-CUT BY QUARTZ-CARBONATE FILLED FRACTURES, BOTH SETS ARE MM SCALE
- NON-SILICIFIED, WEAKLY CHLORITIZED IN FORM OF FRACTURE FILLING GENERALLY

93'-109' - UNIT BECOMES DARKER GREEN, AS WELL AS BECOMING WEAKLY SILICIFIED AND CARBONITIZATION DECREASES

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
60	TRACE			BQ			
			100				
70	NIL TO TRACE PY	69					
			100				
80	NIL TO TRACE	79					
			100				
90		89					
			100				
100		99					
			100				
110		109					
			100				
120		119	100				

Hole No. ML-43 | Project: McVICAR L. 1446 | Page No: 3 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONATIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
120				BQ			
	NIL TO TRACE PY		100		126	100	1927
	TRACE PY	129			129.4		
130	TRACE PY, CP				130.3	100	1928
	TRACE PY				132.1		
	TRACE PY		100		133.8	100	1929
	TRACE PY				136.2	100	1930
	TRACE PY	139				100	1931
140					141		
	1% PY		100		143	100	1932
		149			147		
150	TRACE PY				149	100	1933
			100		154	100	1934
	1-2% PY				157	100	1935
	TRACE PY	159			159.9	100	1936
160	1-2% PY				161.9		
	TRACE PY		100		167	100	1937
		169					
170			100				
180		179					

25' WEAK SHEARING @ 40° TO C.A.

SHARP
SHARP
SHEARING @ 50° TO C.A.
SHARP
SHARP
SHARP

44.4' 1½" SILICIOUS ZONE

169' ACID TEST CORRECTED ∠ = 66°
169.5'

132.8 - 133.1 ANDESITE

119.2' - 126' WEAKLY SHEARED BASALT

- UNIT IS MEDIUM TO DARK GREEN, VERY FINE GRAINED, WEAKLY SHEARED @ 40° TO C.A. AND/OR BRECCIATED
- MINOR QUARTZ-CARBONATE FRACTURING IN CONJUNCTION WITH BRECCIATION
- WEAKLY CHLORITIZED PARALLEL TO SHEARING
- RED (HEMATITE?) COATING ON SOME FRACTURE SURFACES
- NIL TO TRACE PYRITE

126' - 129.4' SHEARED BASALT

- BUFF GREY GREEN WITH A PRONOUNCED SHEARING @ 35-40° TO C.A.
- UPPER CONTACT IS GRADATIONAL WHILE LOWER CONTACT IS SHARP
- WEAK TO NIL FRACTURING AND TRACE VERY FINE GRAINED DISSEMINATED PYRITE
- 127.8' - 128.2' - HIGHLY SILICIFIED SECTION, BUFF IN COLOUR
- VERY WEAKLY SERICITIZED

129.4 - 130.3' FELSIC TO INTERMEDIATE INTRUSIVE

- DARK GREY-GREEN, FINE TO VERY FINE GRAINED
- SHARP, IRREGULAR UPPER AND LOWER CONTACTS
- BASICALLY FRESH IN APPEARANCE, 2-3% FELDSPAR PHENOCRYSTS UP TO 2 mm IN DIAMETER, VERY WEAK CARBONATE FILLED FRACTURES CONTAINING TRACE PY, CP

130.3' - 132.1' SHEARED FELSIC INTRUSIVE

- BUFF GREY-GREEN IN COLOUR, FINE GRAINED
- ORIGINAL TEXTURES AND STRUCTURES MOSTLY OBSCURED
- SHEARING IS HIGH TO MODERATE @ ≃ 50° TO C.A.
- WEAKLY SERICITIZED, TRACE PY AS FRACTURE COATING
- SHARP CONTACTS

132.1' - 133.8' BRECCIATED BASALT

- MEDIUM GREEN IN COLOUR, FINE GRAINED
- MODERATELY FRACTURED WITH QUARTZ-CARBONATE FLOODING GIVING UNIT A BRECCIATED APPEARANCE
- TRACE VERY FINE GRAINED PYRITE ASSOCIATED WITH QUARTZ-CARBONATE STRINGERS
- SHARP UPPER AND LOWER CONTACTS

133.8 - 136.2' ALTERED FELSIC INTRUSIVE

- BUFF GREEN IN COLOUR, VERY SILICIOUS
- WEAKLY SHEARED @ ≃ 50° TO C.A., WEAKLY TO MODERATELY SERICITIZED, MINOR BRIGHT GREEN MICA, TRACE PYRITE
- ORIGINAL TEXTURE OBSCURE
- SHARP CONTACTS

136.2' - 169.5' BRECCIATED BASALT/GABBRO

- MEDIUM GREEN IN COLOUR, FINE GRAINED WITH A WEAK FOLIATION VISABLE, INDIVIDUAL BRECCIA BLOCKS ARE OCCASSIONALY SOMEWHAT ROTATED AS CAN BE NOTED BY MISS ALIGNED FOLIATION
- FRAGMENTS OF BASALT/GABBRO ARE SUPPORTED IN A

Hole No. ML-43 | Project: McVICAR L. 1446 | Page No: 4 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONATIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
180	NIL TO TRACE PY		100	BQ			
189.3		189					
190	NIL TO TRACE PY		100				
199							
200			100				
209	NIL TO TRACE PY						
210	TRACE PY		100				
219							
220			100				
229							
230			100				
239							
240							

136.2'-169.5' BRECCIATED BASALT/GABBRO (CONTINUED)

- MATRIX OF QUARTZ-CARBONATE, MINOR ANKERITE ASSOCIATED WITH CARBONATE
- VERY WEAKLY SERICITIZED, TRACE TO 2% (LOCALLY) PYRITE OCCURRING AS FINE TO VERY FINE GRAINED DISSEMINATED CLUSTERS OF GRAINS
- UPPER CONTACT IS SHARP WHILE LOWER CONTACT IS GRADATIONAL INTO BASALT/GABBRO

159.9-161.9 - QUARTZ VEIN, MASSIVE, GREY IN COLOUR WITH GREEN TINGE DUE TO TRACE PRESENCE OF BRIGHT GREEN MICA AND MINOR SERICITE
- CONTAINS 1-2% PYRITE AS CLOTTS AND WISPS OF MASSIVE TO SEMI-MASSIVE FINE GRAINED PYRITE CONCENTRATED NEAR FRACTURES AND MARGINS
- SHARP IRREGULAR CONTACTS

169.5'-189.3' GABBRO/BASALT

- UNIT IS GENERALLY DARK GREEN-GREY FINE TO MEDIUM GRAINED
- OFTEN SECTIONS OF WHITE ANORTHOSITIC GABBRO OCCURR (POSSIBLY AS CRYSTAL SEGREGATION) IN CONTACT WITH FINER GRAINED GABBRO (COULD BE XENOLITHS)
- WEAKLY TO MODERATELY SILICIFIED AND MODERATELY FRACTURED WITH RANDOMLY ORIENTATED HAIRLINE QZ-CARBONATE FILLED FRACTURES, NIL TO TRACE PY
- LOWER CONTACT IS RELATIVELY SHARP OVER 6cm

172.2'-173.1' - ANORTHOSITIC SECTION WITH 90% PLAG., TRACE APPLE GREEN MICA + POSS. TRA TOURMALINE

189.3 - 209.3 SILICIFIED GABBRO

- BUFF GREEN-GREY, 30% MAFIC MINERALS ON AVERAGE,
- COARSE GRAINED AND MASSIVE
- SILICA IS MOSTLY IN FORM OF REPLACEMENT OF FELDSPAR (MODERATE TO HIGHLY SILICIFIED)
- SILICIFICATION IS OFTEN PATCHY
- WEAK HAIR-LINE RANDOMLY ORIENTATED FRACTURES, NIL TO TRACE PYRITE

209.3 - 211.4 FOLIATED GABBRO ?

- VERY FINE GRAINED AS COMPARED TO OTHER GABBRO
- WEAK FOLIATION @ ∠ 70° TO C.A. (IRREGULAR)
- SHARP CONTACTS, NIL TO TRACE PY

211.4'-356.3' GABBRO

- DARK TO MEDIUM GREEN, MASSIVE, COARSE GRAINED, OCCASSIONALLY PLAGIOCLASE APPEARS PORPHYRITIC,
- GENERALLY 40-45% MAFIC MINERALS
- VERY SPECKLED AND FRESH IN APPEARANCE
- VERY WEAK PERVASSIVE CARBONITIZATION
- VERY WEAKLY FRACTURED WITH RANDOMLY ORIENTATED HAIRLINE QUARTZ-CARBONATE FILLED FRACTURES
- VERY WEAKLY MAGNETIC, TRACE VERY FINE GRAINED DISSEMINATED PYRITE

Hole No. ML-43 | Project: McVICAR L. 1446 | Page No: 5 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY, 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: | Logged By: B. HILL

SECTION	ALTERATION: SERICITIZATION	ALTERATION: CHLORITIZATION	ALTERATION: CARBONITIZATION	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
240							X	AVE CORE REC'Y/HOLE 100%	TRACE PY			BQ			
							X	211.4' - 356.3' GABBRO (CONTINUED)			100				
							X	219.5' - 222.6' - FINE GRAINED SECTION, DARK GREEN, SHARP CONTACTS, OCCASIONAL SMALL ZONE OF COARSE GRAINED PLAGIOCLASE CRYSTALS - UNIT IS POSSIBLY A LATE INJECTION OF GABBRO		249					
250							X				100				
							X								
							X			259					
260							X				100				
							X								
							X			269					
270							X				100				
							X	276.6' - 277.7' - GABBRO BECOMES FOLIATED (WEAKLY SHEARED?), FINE GRAINED WITH TRACE AMOUNTS OF SERICITE - SHARP CONTACTS, ORIGINAL TEXTURE STILL USABLE - FOLIATION @ 40° TO C.A., WEAKLY CARBONITIZED & SILICIFIED		279					
							X				100				
280							X								
							X			289					
							X				100				
							X								
290							Y			299					
							X				100				
							X								
300							X								

Hole No. ML-43 | Project: MCVICAR L 1446 | Page No: 6 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 270° | Total Depth: 649' | Logged By: B. HILL

SECTION	ALTERATION: SERICITIZATION	ALTERATION: CHLORITIZATION	ALTERATION: CARBONITIZATION	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
300								AVE CORE REC'Y/HOLE 100%	TRACE PY			BQ			
								211.4'-356.3' GABBRO (CONTINUED)			100				
310										309					
											100				
320										319					
											100				
330								329' ACID TEST CORRECTED ∠ = 67°		329					
								QZ VEIN							
								332.3'-332.5' - QUARTZ VEIN @ ≃55° TO C.A. - BARREN WITH CARBONITIZED AND VERY WEAKLY SERICITIZED MARGINS			100				
340										339					
											100				
350								350.1'-350.5' - QUARTZ-CARBONATE VEINING CAUSING MINOR SILICIFICATION OF WALL ROCK AS WELL AS A DECREASE IN GRAIN SIZE		349					
											100				
							+4	356.3', 357.5'							
								356.3'-357.5' PORPHORITIC FELSIC INTRUSIVE - DARK GREY IN COLOUR, VERY SILICIOUS, 85% QUARTZ - 3-4% PLAGIOCLASE PHENOCRYSTS UP TO 3mm EVENLY	TRACE PY TRACE PY	359	100				
360															

Hole No. ML-43 | Project: McVICAR L. 1446 | Page No: 4 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

SECTION	ALTERATION: SERICITIZATION	ALTERATION: CHLORITIZATION	ALTERATION: CARBONITIZATION	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
360								FOLIATION @ ≥60° TO C.A.	356.3'-357.5' PORPHORITIC FELSIC INTRUSIVE (CONTINUED) DISPERSED THROUGH UNIT, SEMI-CONCHOIDAL FRACTURE - TRACE TO 0.5% VERY FINE GRAINED DISSEMINATED PYRITE - VERY WEAKLY HAIRLINE FRACTURED, SHARP UPPER AND LOWER CONTACTS @ 40° & 60° RESPECTIVELY	TRACE PY			BQ			
										TRACE PY		100				
										TRACE PY						
370									357.5'-363' GABBRO - MUCH THE SAME AS 211.4'-356.3', CONTAINS SLIGHTLY FINER GRAINED SECTIONS, MODERATE DEGREE OF QUARTZ-CARB FRACTURES - UNIT BECOMES MODERATELY SILICIFIED AND WEAKLY FOLIATED NEAR LOWER CONTACT.		369					
									363-364.8 PORPHYRITIC FELSIC INTRUSIVE - AS 356.3'-357.5', GRADATIONAL UPPER CONTACT AS WALL ROCK HAS BEEN SILICIFIED WHILE LOWER CONTACT IS SHARP @ ≈ 85° TO C.A.			100				
380									364.8'-390.6' GABBRO - MUCH AS 211.4'-356.3' - GRAIN SIZE VARIES FROM COARSE TO FINE GRAINED BUT IS GENERALLY MEDIUM - DARK GREEN IN COLOUR 371.8-372.6' - SILICIFIED ZONE WITH MAFIC CRYSTALS GROWING UP TO 5mm IN SIZE		379					
												100				
390									390.6'-393.4' INTERMEDIATE INTRUSIVE(?) - DARK GREEN, FINE GRAINED WITH PARTIALLY ASSIMILATED GABBRO AT UPPER CONTACT WHILE LOWER CONTACT IS SHARP @ ≈ 50° TO C.A. - WEAKLY FRATURED WITH HAIRLINE QUARTZ-CARBONATE FRACTURES, TRACE PYRITE, UN-ALTERED (COULD BE BASALT DYKE)	TRACE PY	389					
										TRACE PY PO		100				
400									393.4'-401' GABBRO - AS 211.4-356.3' - SLIGHTLY FELDSPAR PHYRIC, COARSE TO MEDIUM GRAINED DARK GREEN IN COLOUR		399					
										TRACE PY						
									401'-403.7' TONALITE - BUFF GREY IN COLOUR, FINE GRAINED, VERY SILICIOUS - SPECKLED APPEARANCE CAUSED BY DISSEMINATED MAFIC MINERALS - SHARP UPPER & LOWER CONTACTS @ ≈ 45° TO C.A., SOME ASSIMILATION OF WALL ROCK IS NOTED AT MARGINS, TRACE PY	TRACE TO 1% Po Py		100				
410								WEAK FOLIATION @ 45° TO C.A.	403.7'-462.6' GABBRO/BASALT - MEDIUM GREEN IN COLOUR, GENERALLY FINE GRAINED BUT GRAIN SIZE IS VARIABLE - OCCASSIONAL SECTIONS HAVE MEDIUM TO COARSE GRAIN SIZE, THESE FEATURES COULD POSSIBLY BE PARTIALLY ASSIMILATED XENOLITHS OF PRE-EXISTING ROCK AS THEY HAVE SEMI-SHARP IRREGULAR CONTACTS - UNIT HAS WEAK TO MODERATE PERVASIVE CARBONITIZATION, WEAK TO MODERATE HAIR-LINE TO 5mm QUARTZ-CARBONATE FRACTURE FILLINGS, MINOR SERICITIZATION ON SOME FRACTURES		409					
												100				
420											419	100				

AVE CORE REC'Y/HOLE 100%

Hole No. ML-43 | Project: McVICAR L. 14446 | Page No: 8 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

SECTION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated Sample #

420

403.7'-462.5' GABBRO/BASALT (CONTINUED)
- TRACE TO 1% Po, Py OCCURRING AS FINE GRAINED DISSEMINATED GRAINS & CLUSTERS OF GRAINS WITH RARE 1-2mm SEAMS
- OCCASSIONALLY UNIT BECOMES FELDSPAR PHYRIC.
405.3'-408' - FINE GRAINED FELDSPAR PHYRIC SECTION WITH 3-4% 1-2mm FELDSPAR PHENOCRYSTS

TRACE TO 1% Po Py

BQ

100

429

430

100

439

440

100

449

450

100

459

460

462.5'-490' WEAKLY SHEARED/BRECIATED GABBRO
- MEDIUM TO DARK GREY-GREEN IN COLOUR, GENERALLY FINE GRAINED WITH A WEAK SHEARING DEVELOPED AS WELL AS MINOR BRECCIATION DUE TO HIGH DEGREES OF QUARTZ-CARBONATE FRACTURE FLOODING
- RELIC GABBROIC TEXTURES CAN BE NOTED OCCASSIONALLY
- SOME SECTIONS RECRYS. MODERATELY SILICIFIED TURNING ROCK DARK GREY-BLACK
- 1% PYRITE/PYRRHOTITE AS DISSEMINATED FINE GRAINED CLUSTERS AND VEINS
- UPPER CONTACT HAS AMBER COLOURED 1.5cm Qz VEIN, LOWER CONTACT IS GRADATIONAL

1% Py Po

100

469

470

100

479

480

479' 4" QZ VEIN WITH TRACE GREEN MICA, 2% PY, IRREGULAR CONTACTS

100

Hole No. ML-43 | Project: McVicar L. 1446 | Page No: 9 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 619' | Logged By: B. HILL

SECTION	ALTERATION: SERICITIZATION	ALTERATION: CHLORITIZATION	ALTERATION: CARBONITIZATION	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated $ Amount
480								AVE CORE REC'Y/HOLE 100%							
								462.5'-490' WEAKLY SHEARED/BRECCIATED GABBRO (CONTINUED)	1% Py Po		100	BQ			
								SHEARING @ 50° TO C.A.							
490								490'		481					
								490'-511' BRECCIATED GABBRO - DARK GREY-GREEN WITH NUMEROUS QUARTZ-CARBONATE PATCHES BRECCIATING GABBRO - GABBRO IS MODERATELY TO HIGHLY SHEARED & SOMEWHAT CRENULATED DURING BRECCIATION - SOME GABBROIC TEXTURES ARE PRESERVED - 1% PYRITE (UP TO 2% LOCALLY) OCCURRING AS FINE GRAINED DISSEMINATED CLUSTERS AND OCCASSIONAL WISP	1% Py (2% locally)		100				
								499' ACID TEST CORRECTED ∠ = 67.5°		499			499		
500								511'-533.4' SHEARED GABBRO - INTENSELY SHEARED @ ≈ 50° TO C.A. - MEDIUM TO DARK GREEN WITH A STRIPED APPEARANCE DUE TO HIGH DEGREE OF QUARTZ-CARBONATE FLOODING PARALLEL TO SHEARING - MINOR SERICITIZATION PARALLEL TO SHEARING - USUALLY ASSOCIATED WITH QUARTZ - 1-2% PYRITE OCCURRING AS FINE GRAINED DISSEMINATED GRAINS OCCASSIONALLY CONCENTRATED IN QUARTZ-CARBONATE 522' - 2" ZONE OF MYLONIZED ROCK, MEDIUM GREEN, PUNDERY & BREAKS INTO SMALL CHIPS			100		504	100	1938
											100				
													509	100	1939
510								511'	1-2% Py	507					
											100		514		
														100	1940
								SHEARING @ ≈ 50° TO C.A.		519			519		
520								522' MYLONITE 2"						100	1941
											100		524		
530										529			529		
														100	1942
								533.4', 50-55° TO 584.3' C.A.					533.4		
								533.4'-534.3' FELSIC INTRUSIVE - BUFF GREY BROWN, FINE GRAINED, OCCASSIONAL MM SCALE FELDSPAR PHENOCRYST, VERY SILICIOUS - 80% QZ, VERY WEAKLY SERICITIZED, TRACE PY - UPPER CONTACT IS SHARP, LOWER CONTACT HAS 1½" QZ VEIN WITH PORPHYRITIC FELDSPAR ON MARGIN PARALLEL TO CONTACT	TRA PY 2-4% Py		100				
540								538.5 BUFF GREY QZ VEIN 1½" WIDE		539	100				

Hole No. ML-43 | Project: McVICAR L 1446 | Page No: 10 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

534.3'-545.7' SHEARED GABBRO
- MUCH THE SAME AS 511-533.4'
- PRONOUNCED SHEARING @ ≃ 55° TO C.A. STRIPED APPEARANCE DUE TO QUARTZ-CARBONATE FLOODING PARALLEL TO SHEARING, 2-4% PYRITE AS FINE DISSEMINATED GRAINS

545.7-547.8' QUARTZ-SERICITE SCHIST
- VERY SILICIOUS (RANGING FROM 60-85%)
- MODERATELY SERICITIZED IN DIRECTION OF SHEARING, TRACE BRIGHT GREEN MICA, 5-7% FINE GRAINED DISS. PYRITE, WEAKLY CARBONITIZED
- 547.9'-546.3' - QUARTZ-SERICITE VEIN, MASSIVE QUARTZ WITH DISSEMINATED SERICITE

547.8'-556.5' WEAKLY SHEARED GABBRO
- A LESS SHEARED VERSION OF 511'-533.4', WEAK SHEARING @ ≃ 75° TO C.A.
- 1-2% PYRITE DISSEMINATED THROUGH UNIT

556.5'-557.9' QUARTZ-SERICITE SCHIST
- MUCH AS 545.7'-547.8'
- CONTAINS 80% FRAGMENTS OF GABBRO (FOLIATED/SHEARED)
- TRACE TO 1% BRIGHT GREEN MICA, 3-4% PYRITE AS DISSEMINATED GRAINS + BLEBS

557.9'-618' GABBRO/BASALT
- ALTERED AT UPPER CONTACT WITH QUARTZ-CARBONATE FLOODING ± MINOR BRECCIATION, ALTERATION SUBSTANCIALLY DECREASES DOWN HOLE
- REMAINDER OF UNIT IS BASICALLY FINE GRAINED, FELDSPAR PHYRIC, DARK GREEN IN COLOUR, TRACE TO 1% PYRITE AS FINE DISSEMINATED GRAINS
- GRAIN SIZE CAN BE VARIABLE
- MODERATELY HARD, WEAK HAIR-LINE FRACTURING AT RANDOM ORIENTATIONS

559.9'-559.3' - WEAK TO MODERATE SHEARING, QUARTZ-CARBONATE FLOODING, 2-4% PYRITE
559.3'-559.6' - SERICITIZED QUARTZ VEIN, 1% PYRITE, SHARP CONTACTS @ 60° TO C.A.
560.1-560.6' - AS 559.3-559.6'
564.9'-565.5' - AS 559.3-559.6'
565.5-566.6' - QUARTZ VEIN WITH SILICIFIED WALL ROCK, QZ IS MEDIUM GREY WITH 2% PY, WHILE WALL ROCK HAS 5% PY

SECTION	COMMENTS	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
540	543.3 - SILICIOUS SOMEWHAT BRECCIATED, MINOR SERICITE, 5% DISS Py	2-4% PY			BQ			
	545.7'	5% PY		100		543.3	100	1943
	547.8'	5-7% PY				545.7		
550	SHEARING @ 55° TO C.A.	1-2% PY	549			547.8	100	1944
	556.5'			100		551.6	100	1945
560		3-4% PY	559			556.5	100	1946
		TRACE TO 1% PY				557.9	100	1947
				100		559.3		
		2-5% PY				561.9	100	1948
570		TRACE PY	569			566.5		
				100				
580			579					
				100				
590			589					
				100				
600			599	100				

Hole No. ML-43 | Project: McVICAR L 1446 | Page No: 11 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 4, 1988 | Ref. to Claim Corner:

Coordinates: N. E. | Date Finished: MAY 6, 1988 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 649' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
600	TRACE PY			BQ			
			100				
610		609					
			100				
620	TRACE TO 1% PY	619					
			100				
630	TRACE PY	629					
			100				
640		639					
			100				
649		649					

557.7 - 618' GABBRO/BASALT (CONTINUED)

618-629.3' FELSIC INTRUSIVE
- DARK GREY-BLACK IN COLOUR, VERY HARD AND SILICIOUS
- APHANITIC WITH OCCASSIONAL 1mm FELDSPAR PHENOCRYST
- TRACE TO 1% VERY FINE GRAINED PYRITE, WEAKLY HAIRLINE FRACTURED, SHARP CONTACTS @ ∠ 70° TO C.A.

629.3'-649' SILICIFIED GABBRO/BASALT
MEDIUM TO DARK GREEN, GRAIN SIZE VARIES WITH DEGREE OF SILICIFICATION, GENERALLY FINE GRAINED, TRACE FINE GRAINED DISSEMINATED PYRITE, WEAK TO NIL FRACTURING
- MODERATLY TO HIGHLY SILICIFIED

649' ACID TEST CORRECTED ∠ : 62.5°

649' END OF HOLE

Hole No. ML 44 | Project: 1446 | Page No: 1 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S N. 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 669' | Logged By: K. HOULE

ALTERATION: CARBONATE, SILICA | FRACTURING | MINERAL | GEOLOGY | SECTION | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

MAFIC VOLCANIC (BASALT) 0.0' - 35.9'

FINE GRAINED TO APHANITIC, MED TO DARK GREEN, HARD, PARTIALLY SILICIFIED W/ X-CUTTING SILICA VEINING. FELDSPAR PHYRIC TO APHYRIC < .5MM, MINOR CARB ALONG HAIRLINE FRACTURES. BROWN IRON STAINING ALONG MOST FRACTURE SURFACES. TR-1% FINELY DISSEMINATED P_y P_o

RECOVERY

FELSIC INTRUSIVE 35.9' - 39.0'

APHANITIC TO FINE GRAINED, BLACK, VERY HARD, MINOR CARB ALONG FINE HAIRLINE FRACTURES. CONTACTS OBSCURE TR P_y

SILICIFIED CONTACT ZONE

3CM SILICIFIED

MAFIC VOLCANIC (BASALT) 39.0' - 61.9'

SAME AS 0.0' - 35.9'...

39.0' - 39.9' CHLORITIC BASALTIC FRAGMENTS HAVE UNDERGONE SILICIFICATION, VERY HARD TO MED GREEN SLIGHTLY SHEARED W/ CARB ON FRACTURE PLANES. TR -1% P_y

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR-1% P_y P_o	9'	80%	CASING REMAINS BQ			
TR-1% P_y P_o	19'	100%				
TR-1% P_y P_o	29'	100%				
TR- P_y	39'	100%				
TR-1% P_y P_o	49'	100%				
TR-1% P_y P_o	59'	100%				

Hole No. ML 44/ | Project: 1446 | Page No: 2 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5400S ~~N.~~ 7475 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: -240° | Total Depth: 669' | Logged By: K. HOULE

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated

60

SHARP OBSCURE

IRON FORMATION 61.9' - 63.8'

- FINE GRAINED, DARK GREEN TO BLACK, FINE TO MED WISPY LAYERS MAGNETITE ALTERATION IN GREEN MAFIC VOLCANIC, 3-4 CM MAGNETITE SILICA ZONES. MAGNETITE LAYERED JASPER AND JASPER DERIVATIVES (IE. ORANGE/RED SILICIFIED MAFIC) 1-2% Py AS BLEBS AND FINE DISSEMINATIONS

MAFIC VOLCANIC (BASALT) 63.8' - 182.7'

SAME AS 0.0' - 35.9'

70

80

3CM CARB/QTZ VEIN WI MAFIC VOLC. INCLUSIONS

90

QTZ VEIN (PATCHY) WI TREMOLITE ALTERED MAFIC SILICIFIED. ~ 4 CM

100

QTZ/CARB VEIN ~ 3 CM

110

TR-1% Py, Po

69'

100%

TR-1% Py, Po

79'

100%

TR-1% Py, Po

89'

100%

TR-1% Py, Po

99'

100%

TR-1% Py, Po

109'

100%

TR-1% Py, Po

119'

100%

BQ

Hole No. ML 414 | Project: 1414/6 | Page No: 3 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S N. 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 669' | Logged By: K. HOULE

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICA	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
120						MAFIC VOLCANIC (BASALT) 63.8' - 182.7' CONT'D.		TR-1% PY TR PO		100%	BQ			
130						129' + INCREASED CONCENTRATION OF "NETTING"		TR-1% PY TR PO	139'	100%				
140								TR-1% PY TR PO	149'	100%				
150								TR-1% PY	159'	100%				
160						QTZ CARB VEIN @ 3CM		TR-1% PY	169'	100%				
170						169' DIP TEST* CORR ∠ 67°		TR-1% PY TR PO	179'	100%				

Hole No. ML 44 | Project: 1446 | Page No: 4 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S N. 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 669' | Logged By: K. HOULE

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

180

GRADATIONAL.

QTZ 3 cm

190

QTZ / SERICITE 4 cm

200

HIGHLY SHEARED ZONE WI IRON STAINING ON FRACTURE SURFACES

210

4 cm QTZ / CARB VEIN.

220

- SHEARED ZONE WI 1-3 cm QTZ VEINS

230

DESCRIPTIVE GEOLOGY

BRECCIATED BASALT 182.7' - 187.4'

FINE GRAINED, LIGHT TO MED GREEN ANGULAR TO SUBANGULAR BASALT IN A 15% CARB MATRIX. MODERATE CHLORITIC ALTERATION. TR-1% Py, TR - Po

FELSIC INTRUSIVE 187.4 - 188.5'

SAME AS 35.9' - 39.0' SLIGHTLY BRECCIATED WI ± 5% CARB MATRIX TR-1% Py, 2-3% Po TR Cp

BRECCIATED GABBRO 188.5' - 253.0'

FINE GRAINED, LIGHT TO MED GREEN / GREY OCCASIONALLY SLIGHTLY SHEARED. 15% CARB MATRIX SMALL 1-3 cm QTZ / CARB VEINS COMMON. SOME CLASTS SLIGHTLY PORPHYRITIC WHILE OTHERS SHOW REMNANT FELDSPAR OUTLINES. TR-3% Py TR-1% Po

204.0' FRACTURE SURFACES BEGIN TO SHOW IRON STAINING

227.6' - 231.7' HIGHLY SHEARED AREA. SHEARED GABBRO INTERCALATED WI LAYERS OF QTZ / CARB / SERICITE. NUMEROUS SMALL QTZ VEINS TR-1% Py

TR-1% Py 189' 100%

TR-3% Py TR-1% 199' 100%

TR 2% Py TR-1% 209' 100%

TR 1% Py 219' 100%

TR 2% Py 229' 100%

TR 1% Py 239' 100%

BQ

Hole No. ML 44 | Project: 1446 | Page No: 5 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S ~~N.~~ 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 669' | Logged By: K. HOULE

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Esti-mated
240					DESCRIPTIVE GEOLOGY								
250					BRECCIATED GABBRO 188.5'-253.0' CONT'D		TR-1% Py	249	100%	BQ			
260					LOSS OF BRECCIATION BUT MODERATE PERVASIVE CARB REMAINS		TR-1% Py	259	100%				
270					GABBRO 253.0' - 301.1' FINE TO MED GRAINED, LIGHT TO MED GREEN/GREY SUBHEDRAL TO ANHEDRAL FELDSPAR. LOCALLY MOD PERVASIVE CARB. SMALL CARB [illegible] AND OCCASSIONAL SMALL QTZ VEINS < 1 CM TR-1% FINELY DISSEMINATED Py		TR-1% Py	269	100%				
280					SLIGHTLY BRECCIATED		TR-1% Py	279	100%				
290					268.0' ± GRAIN SIZE IS PREDOMINATELY MEDIUM.		TR-1% Py	289	100%				
					5 CM FELSIC INTRUSIVE DYKE		TR-1% Py	299	100%				
					INTENSE QTZ-CARB REPLACEMENT OF [illegible]								
					[illegible] WITH GABBRO								

Hole No. ML 44 | Project: 1446 | Page No: 6 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S ~~N.~~ 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 669' | Logged By: K HOOLE

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

300

PORPHYRITIC GABBRO 301.1' - 320.0'

FINE GRAINED, MED BLUE/GREEN GREY, ± 5% SUBHEDRAL TO ANHEDRAL PORPHYRITIC [illegible] SMALL MM SCALE CARB AND [illegible] FILLED FRACTURES MAKE UP OCCASIONAL [illegible] RANGE FROM 1-5 MM TR-1% [illegible] Py

TR-1% Py

100%

BQ

310

320

329' DIP TEST CORE 71° DISTINCT BOUNDARY

GABBRO 320.0' - 342.8'

MED GRAINED, MED GREY/GREEN TO DARK GREEN, 20%-30% ANHEDRAL FELDSPAR, LOW [illegible] VEINING, LOW TO MINOR CARB AS FRACTURE FILLINGS UPPER CONTACT IS SLIGHTLY SHEARED AT A BRECCIATED LOWER PERVASIVE CARB DEVELOPES AFTER 330.5', TR-1% Py, TR Po

TR-1% Py

TR Po

100%

329

330

339

340

GRADATIONAL

5 CM QTZ [illegible]

3CM QTZ CARB [illegible] 10% QTZ/CARB VEIN WITH 10% DISSEMINATED Py

BRECCIATED GABBRO 342.8'- 358.5'

FINE GRAINED, MOD GREY/GREEN, SLIGHTLY [illegible] GABBRO IN A 10-15% CARB MATRIX [illegible] SEVERAL SMALL CARB REPLACEMENT OF FELDSPAR. TR-1% Py

TR-1% Py

100%

349

350

TR 1% Py

100%

359

Hole No. ML 44 | Project: 1446 | Page No: 1 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5100 S N. 7175 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 669' | Logged By: K Hoult

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

360

GABBRO PORPHYRY

ANORTHOSITIC GABBRO PORPHYRY 70-90% FELDSPAR.

FELDSPAR PORPHYRITIC FELSIC INTRUSIVE 358.5' - 361.0'

APHANITIC, DARK GREY TO BLACK. 2-3% PORPHYRITIC FELDSPAR, EUHEDRAL TO SUBHEDRAL [illegible]. HIGHLY FRACTURED, SMALL HAIRLINE CARB FRACTURES. TR Py

TR-1% Py

369'

100%

370

GABBRO 361.0' - 392.7'

MED TO FINE GRAINED, MED TO DARK GREY/GREEN. GENERALLY MASSIVE, SLIGHT SILICIFIED [illegible]. MINOR CARB ALONG HAIRLINE FRACTURES. TR-1% Py.

TR-1% Py

379'

100%

380

TR-1% Py

389'

100%

390

SLIGHTLY FOLIATED LOW PERVASIVE CARB.

BRECCIATED GABBRO 392.7' - 401.7'

FINE GRAINED, MED GREEN/GREY. SLIGHTLY FOLIATED. AGULAR TO SUBANGULAR CLASTS IN A [illegible]% CARB MATRIX. TR-1% Py

TR-1% Py

399'

100%

400

GRADATIONAL

GABBRO 401.7' - 462.9'

MED TO FINE GRAINED, MED BLUE/GREEN GREY, MASSIVE SLIGHTLY CHLORITIC, EQUI. FINE [illegible] CARB FRACTURES. TR-1% Py. TR Po

TR-1% Py TR Po

409'

100%

410

TR Po Py

419'

100%

BQ

Hole No. ML 44 | Project: 1446 | Page No: 8 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S N. 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240° | Total Depth: 669' | Logged By: K. Houle

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Esti-mated

DESCRIPTIVE GEOLOGY

4120
4130
4140
4150
4160
4170

FINER GRAINED SLIGHTLY MORE SILICIFIED

SLIGHTLY BRECCIATED

GRADATIONAL

GABBRO 401.7' - 462.9'
CONT'D

<1% TR-1% Py — 429'

434.4' - 435.8' MED TO COARSE GRAINED. CONSISTENT VARIATION FROM 40-75% FELDSPAR SPECKLES ANORTHOSITIC 2-3% Po 1-2% Py

TR-1% Po TR Py — 484'

435.8' - 447.4' FINER GRAINED. INCREASE IN DEGREE OF SILICIFICATION THROUGH TESTING. TR-1% Po TR Py

TR-1% Po Py — 449'

447.9' - 462.9' SLIGHTLY BRECCIATED WITH CARB FILLED FRACTURES 1-2%

TR-1% Py — 459'

PORPHYRITIC GABBRO 462.9' - 477.5'
FINE GRAINED MED BLUE/GREEN GREY = 1-2% SUBHEDRAL TO ANHEDRAL PORPHYRITIC FELDSPAR SII HAIRLINE CARB AND SILICA FRACTURES TR Py W/ TR-1% Po ON FRACTURE PLANES

TR-1% Py — 469'

TR-1% — 479'

BRECCIATED GABBRO 477.5' - 510.9'

100% | 100% | 100% | 100% | 100% | BQ

(OVER)

Hole No. ML 44 | Project: 1446 | Page No: 9 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/83 | Ref. to Claim Corner:

Coordinates: 5+00 S N. 7+75 E. | Date Finished: 09/05/83 | Scale: 1" = 10'

Inclination: -70° | Bearing: 240' | Total Depth: 669' | Logged By: K HOOLE

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

480

490

500

510

520

530

HIGHLY BRECCIATED WITH CARB/SILICA VEINS > 10%

DIP TEST 499' CORR ∠ 67.5°

FINE, BRECCIATED W/ CARB/SILICA VEINS.

3-5 CM QTZ VEIN

SHARP

SHARP

6CM TONALITE DYKE
5CM QTZ VEIN

HIGHLY SILICIFIED GABBRO

BRECCIATED GABBRO 477.5' - 510.9'

FINE GRAINED, LIGHT TO MED GREY/GREEN. MILDLY CHLORITIC, 5-10% FINE MAFICS. SOME SECTIONS ONLY VERY SLIGHTLY PERVASIVE. ∠ 5% CARB. SOME FRACTURES CARB FILLED.
TR - 1% Po, TR Py

GABBRO 510.9' - 525.1'

FINE TO MEDIUM GRAINED, LIGHT TO DARK GREY GREEN. ALTERNATING SECTIONS OF MEDIUM AND FINE GRAINED GABBRO, VARYING DEGREES OF SILICIFICATION VEINING WITHIN SECTIONS. OCCASIONAL CARB FILLED FRACTURING BUT GENERALLY LOW CARB.
TR - Po, Py

INTERMEDIATE INTRUSIVE 525.1' - 529.7'

FINE GRAINED MED BLUE GREY. HARD MASSIVE GRADES INTO TONALITE AT TIMES, TR 1% Po TR Cp Py MINOR CARB

GABBRO 529.7' - 542.2'

MED GRAINED, MED TO DARK GREEN/GREY SUBHEDRAL TO ANHEDRAL FELDSPAR. VARIOUS DEGREES OF WEAK FINE SILICIFICATION. LOW TO MINOR CARB AS FRACTURE FILLINGS. TR-1% Po Py

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
TR-1% Py	489	100%	BQ			
TR-1% Py	499	100%		19.9	491.1 493.6	2.5'
TR-1% Py	509	100%		19.50	507.4 508.2	.8'
TR Py Po	519	100%				
TR Py Po TR-1% Cp TR Py	529	100%				
TR-1% Cp TR Py	539	100%				

Hole No. ML 44 | Project: 1446 | Page No: 10 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S N. 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° Bearing: 240° | Total Depth: 669' | Logged By: K HOULE

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

DESCRIPTIVE GEOLOGY

5410

DISTINCT

BRECCIATED GABBRO 542.2' - 553.0'

FINE GRAINED, MED GREEN/GREY BROWN TO DARK GREEN. COMMONLY FOLIATED, SOMETIMES ... SHEARED SECTIONS. 10-15% CARB VEINS/VEINLETS COMMON 1CM QTZ BLEBS AND STRINGERS IN 2% PY

1P 2% Py

549'

100%

1951 | 542.2 | 3.8'

1952 | 546.0 | 3.0'

549.0

550

GRADATIONAL

SHEARED GABBRO 553.0' - 576.9'

FINE GRAINED, LIGHT GREEN GREY TO MED GREEN GREY, MODERATELY SERICITIC AND OCCASIONALLY CHLORITIC. SULPHIDE RANGE FROM ... LOCALIZED CONCENTRATIONS OF BLEBS AND FINE DISSEMINATES.

1-2% Py

559'

100%

1953 | 552.0 | 4.0'

1954 | 556.0 | 5.0'

560

QTZ SHEAR ZONE

QTZ VEIN 30% WT CARB ALTERATION

1955 | 561.0 | 5.0'

1956 | 564.0 | 5.0'

569'

100%

570

QTZ SHEAR WT INTERMEDIATE INTRUSIVE.

QTZ SHEAR 4CM.

CA 75°

1957 | 573.0 | 4.0'

1958 | 576.9 | 3.9'

579'

100%

BRECCIATED GABBRO 576.9' - 584.1

SAME AS 392.7 - 401.7'

580

1959 | 580.0 | 3.1

1960 | 583.1 | 3.1

GABBRO 584.1' - 649.6

FINE GRAINED, DARK BLUE GREY TO BLACK, OCCASIONALLY SLIGHTLY PORPHYRITIC ... ZONES OF ... CONCENTRATIONS ... DISSEMINATED ... COMMON CARB FILLED ... FOLIATION ... GIVE PERVASIVE ... PRESENCE OF Po. TR-1% ...

589'

100%

590

1961 | 586.0 | 3.1

1962 | 589.1 | 3.1

598.0

599.0

1963 | 592.1 | 1.0'

ZONES OF QTZ-CA DISSEMINATED PY IN CONTACT W/ GRAINS OF MARBLE ...

Hole No. ML 4/4 | Project: 1446 | Page No: 11 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5+00 S ~~N.~~ 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70 | Bearing: 240° | Total Depth: 669' | Logged By: F. Hoult

SECTION | ALTERATION (CARBONATE, SILICA) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

% Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated

600

GABBRO 584.1' - 649.6'

CONT'D. PERVASIVE MAGNETISM DISAPPEARS

TR Py Po

609'

100%

610

BANDS OF MASSIVE Py WI FINE MAGNETITE LAYERS, Py 40-60%

40-60 Py TR-1% Py Po

1962 609.4 612.5 1.0'

QTZ VEIN 2'

100%

1963 613.6 614.5 .9'

619'

620

TR-1% Py Po

100%

629'

630

TR-1% Po Py

100%

639'

640

TR-1%

100%

649'

650

SHARP

PORPHYRITIC FELDSPAR FELSIC INTRUSIVE 649.6' - 657.0'

SAME AS 358.5 - 361.0 TR-2% Py AS BLEBS AND ALONG FRACTURES

TR-2% Py

100%

SHARP

BRECCIATED GABBRO 657.0' - 659.6'

SAME AS 342.7 - 406.7' WI > CHLORITIC ALTERATION

TR 1% Py

659'

BQ

Hole No. ML 14/4 | Project: 1446 | Page No: 12 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 07/05/88 | Ref. to Claim Corner:

Coordinates: 5100 S N. 7+75 E. | Date Finished: 09/05/88 | Scale: 1" = 10'

Inclination: -70° Bearing: 240° | Total Depth: 669' | Logged By: K. HOULE

SECTION	ALTERATION (CARBONATE)	ALTERATION (SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
660						PORPHYRITIC FELDSPAR FELSIC INT. 659.6 - 662.3'		TR-1% Py			BQ			
						SAME AS 649.6 - 657.0				100%				
						BRECCIATED GABBRO 662.3' - 669.0'								
						SAME AS 657.0' - 659.6'								
						INTRUSIVE WT INCORPORATED SILICIFIED INTRUSIVES								
						END OF HOLE 669'			669'					
						RIP TEST 669' CORE ∠ 63°								
670														

Hole No. ML-45 | Project: McVicar L. 1446 | Page No: 1 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9, 1988 | Ref. to Claim Corner:

Coordinates: NG 4+495 ~~N~~. 4+79 E. | Date Finished: MAY 11, 1988 | Scale: 1"-10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HILL

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

0'-4' OVERBURDEN (CASING REMAINS)

4-22.4' GABBRO
- MEDIUM GREEN IN COLOUR, MEDIUM GRAINED, 35% MAFIC MINERALS (PYROXENE) 55% PLAGIOCLASE
- WEAKLY FRACTURED WITH HAIR-LINE RANDOMLY ORIENTATED QUARTZ-CARBONATE FRACTURES, TRACE PYRITE
- 4-9' - WEAKLY TO MODERATELY WEATHERED FROM SURFACE

22.4'-29' MAFIC VOLCANIC (BASALT)
- MEDIUM TO DARK GREEN, FINE GRAINED, MODERATELY FRACTURED WITH 1-5 mm QUARTZ-CARBONATE FRACTURE FILLINGS
- TRACE PYRITE, SMALL ZONE OF SERICITIZATION/SHEARING OVER 3" IN CENTRE OF UNIT @ ≈ 65° TO C.A.
- THIS UNIT IS LIKLY A XENOLITH TRAPPED IN THE GABBRO INTRUSIVE

29'-36.2' GABBRO
- MUCH AS 4'-22'
- 1½" ANGULAR XENOLITHS OF MAFIC VALCANIC NOTED AT LOWER CONTACT (60° TO C.A.)

36.2'-55.2' MAFIC VOLCANIC (BASALT)
- AS 22.4'-29'
- 1-2% PYRITE OCCURING AS FINE TO MEDIUM GRAINED DISSEMINATED ANHEDRAL TO SUBHEDRAL CUBES
- UNIT IS FELDSPAR PHYRIC IN SOME PLACES
- THIS UNIT IS BELIEVED TO BE AN XENOLITH CONTAINED WITH IN THE GABBRO (SMALLER XENO'S NOTED IN GABBRO, FRACTURING OF UNIT IS INTERUPTED AT CONTACT WITH GABBRO)
- LOWER CONTACT IS SHARP @ 70° TO C.A.

55.2'-74' GABBRO
- AS 4'-22.4'
- TRACE PYRITE
- SLIGHT INCREASE IN SILICIFICATION NEAR LOWER CONTACT

SECTION	ALTERATION: SERICITIZATION	ALTERATION: CHLORITIZATION	ALTERATION: CARBONITIZATION	ALTERATION: SILICIFICATION	FRACTURING	MINERAL	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
0								TRACE Py		90%	BQ			
10									9	100				
20									19					
30								TRACE Py	29	100				
40								1-2% Py	39	100				
50									49	100				
60								TRACE Py	59	100				

SHARP 22.4'

29' SHARP

34.9 1" IRREGULAR QTZ VEIN 36.2'

55.2

Hole No. ML-45 | Project: McVICAR L 1446 | Page No: 2 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9, 1988 | Ref. to Claim Corner:

Coordinates: 4+49S ~~N~~ 4+79 E. | Date Finished: MAY 11, 1988 | Scale: 1":10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
60	TRACE Py		100	BQ			
		69					
70			100				
	TRACE Py Po						
	TRACE Py CP	79					
80			100				
90		89					
			100				
		99					
100							
	TRACE Py Po		100				
	TRACE Py Po	109					
110							
	TRACE CP		100				
	TRACE Py Po	119					
120			100				

55.2' - 74' GABBRO (CONTINUED)

74' SHARP @ 35° TO C.A.

74' - 75.9' FELSIC INTRUSIVE
- APHANITIC WITH 2-3% 1-2 mm FELDSPAR PHENOCRYSTS THROUGHOUT
- MEDIUM TO DARK GREY, VERY SILICIOUS
- 1" QUARTZ VEIN PARALLEL TO CONTACTS RUNNING THROUGH CENTRE OF UNIT
- UPPER AND LOWER CONTACTS ARE SHARP @ 35° TO C.A.
- TRACE Py Po

75' SHARP

75.9' - 103.3' GABBRO
- AS 4-22.4'
- MEDIUM GREEN, MEDIUM GRAINED, MASSIVE
- WEAKLY FRACTURED WITH HAIR-LINE FRACTURES AND RARE 1 cm QUARTZ-CARBONATE FRACTURES
- TRACE PYRITE, TRACE CP AS FINE VEINLET
- 85 - 85.8' - MAFIC VOLCANIC (BASALT) AS 36.2' - 55.2', UPPER AND LOWER CONTACTS SHARP @ 60° & 50° RESPECTIVELY POSSIBLY XENOLITH ?

85 85.8 MAFIC VOLCANIC

103.3' - 107' MAFIC VOLCANIC (BASALT)
- AS 36.2' - 55.2'
- XENOLITH WITHIN GABBRO, (SHARP IRREGULAR CONTACTS & TERMINATED FRACTURES WITHIN BASALT AT CONTACT)
- BASALT IS MODERATELY FRACTURED WITH HAIR-LINE QUARTZ - CARBONATE FILLED FRACTURES
- ONE 1 cm IRREGULAR QUARTZ VEIN NOTED WITH TRACE Po

103.3

107 - 121.5' GABBRO
- AS 4'-22.4'
- SILICIFICATION INCREASES TOWARD 121.5' DUE TO FELSIC INTRUSIVE
- 114.8 - 115.5' - 5-7% Po WITH <1% CP AS WISPS AND SEMI-MASSIVE CLOTS

107

Hole No. ML-45 | Project: McVICAR L. | Page No: 3 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9, 1988 | Ref. to Claim Corner:

Coordinates: 4+49 S ~~N.~~ 4+79 E. | Date Finished: MAY 11, 1988 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

121.5' - 127.4' FELSIC INTRUSIVE
- DARK GREY, BLACK - APHANITIC WITH 3-5% 1-2mm FELDSPAR PHENOCRYSTS, SHARP CONTACTS (ANGLES NOT DETECTABLE BECAUSE OF BROKEN CORE) MASSIVE
- UP TO 4% DISSEMINATED FINE GRAINED PYRITE CLUSTERS
- WEAK TO NIL FRACTURING

127.4' - 134' BRECCIATED GABBRO/BASALT
- MEDIUM TO DARK GREEN IN COLOUR, GRAIN SIZE IS VARIABLE FROM APHANITIC TO MEDIUM
- HIGHLY SILICIFIED/CALCARIOUS CAUSING BRECCIATION
- HAS ZONES OF MAFIC VOLCANIC WHICH MIGHT HAVE BEEN XENOLITHS
- BRECCIATED UNIT CAUSED BY FELSIC INTRUSIVE 121.5'-127.4'
- WEAKLY SERICITIZED IN PLACES, 1% PY AS WISPS AND FINE DISSEMINATED GRAINS
- LOWER CONTACT GRADATIONAL

134' - 165.4' ALTERED GABBRO
- UNIT IS WEAKLY TO MODERATELY SILICIFIED, MODERATELY TO HIGHLY FRACTURED (QUARTZ-CARBONATE FILLED)
- CONTAINS XENOLITHS OF BASALT, UNIT APPEARS MIXED
- ALTERATION IS EXTREMELY VARIABLE THROUGH UNIT

134 - 134.5 - ALTERED GABBRO
134.5 - 135.4 - BRECCIATED BASALT
136.4 - 136.1 - ALTERED GABBRO
136.1 - 136.6 - MAFIC VOLCANIC
136.6 - 137.2 - ALTERED GABBRO
137.2 - 137.7 - MAFIC VOLCANIC
137.7 - 138.7 - GABBRO
138.7 - 142 - MAFIC VOLCANIC/BRECCIA
142 - 147 - ALTERED GABBRO
146 - 147 - FELSIC INTRUSIVE ? 5% PY
147 - 152 - ALTERED GABBRO
152 - 165.4 - GABBRO (SILICIFICATION INCREASES TOWARD 165.4)

165.4' - 202.3' INTENSLY SILICIFIED GABBRO
- MEDIUM BLUE-GREEN-GREY IN COLOUR, APHANITIC FOR THE MOST PART
- OCCASSIONALLY RELICT GABBROIC TEXTURE CAN BE NOTED BUT OFTEN NOT PRESERVED
- EXTREMLY SILICIFIED, OCCASSIONALLY TAKES ON A BANDED APPEARANCE (POSSIBLY RELICT FOLIATION/SHEARING)
- 70-90% SILICA
- TRACE VERY FINE GRAINED PYRITE (1% LOCALLY)
- APPEARS INTRUSIVE IN PLACES
- VERY WEAKLY FRACTURED WITH HAIR-LINE FRACTURES
- TRACE SERICITE

121.5
127.4
134
165.4
169' ACID TEST CORRECTED ∠ = 66.5°
179 "BANDING" @ 50° TO C.A.

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
TRACE Py Po			BQ			
1-4% Py		100		127.4		
	129				100	1964
1% Py		100		133.4		
TRACE TO 1% Py						
	139					
		100		146	100	1965
5% Py				151.7		
TRACE TO 1% Py						
	149					
		100				
	159					
		100				
TRACE TO 1% Py				169		
	169				100	1966
		100		174		
	179	100		179	185	1967

Hole No. ML-45 | Project: McVICAR L 1446 | Page No: 4 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9, 1988 | Ref. to Claim Corner:

Coordinates: 4+49 S ~~N.~~ 4+79 E. | Date Finished: MAY 11, 1988 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
180	TRACE TO 1% Py			BQ			
			100		184	100	1967
190		189					
			100		194		
						100	1968
200		199			199		
	TRACE TO 1% Py Po		100				
		209					
			100				
210							
220		219					
			100		224.7		
	NIL TO TRACE Py					100	1969
230		229			229.7		
			100		234		
						100	1970
240		239	100		239		

202.3'

WEAK FOLIATION @ 40-45° TO C.A.

239

165.4'-202.3' INTENSLY SILICIFIED GABBRO (CONTINUED)

202.3'-224.7' SILICIFIED GABBRO
- FINE TO MEDIUM GRAINED (VARIABLE THRUGH UNIT)
- MEDIUM GREY-GREEN IN COLOUR
- MODERATELY TO HIGHLY SILICIFIED
- GABBROIC TEXTURE EVIDENT
- WEAKLY TO MODERATELY FRACTURED - HAIR-LINE TO 6 MM QZ-CARBONATE FRACTURES
- WEAK FOLIATION @ ± 40-45° TO C.A.
- TRACE Py Po AS DISSEMINATED FINE GRAINS AND WISPY STRINGERS 1% LOCALLY

205.8-207.1 - INTENSLY SILICIFIED AS 165.4'-202.3'

224.7-239' INTENSLY SILICIFIED GABBRO
- AS 165.4-202.3'
- TAKES ON PRONOUNCED BLUEISH TINGE, AS WELL AS PRONOUNCED BANDING @ 45° TO C.A.
- IN BANDED SECTIONS SILICA APPEARS VERY MUCH AS CHERT
- OCCASSIONAL MAFIC CLOTS
- RARELY GABBROIC TEXTURES ARE UISABLE
- GRADATIONAL CONTACTS

Hole No. ML-45 | Project: McVICAR L. | Page No: 5 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9, 1988 | Ref. to Claim Corner:

Coordinates: 4+49 S ~~N.~~ 4+79 E. | Date Finished: MAY 11, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
240	TRACE TO 10% Py			BQ			
			100				
249							
			100				
259							
			100				
269							
			100				
279							
			100				
289							
			100				
300			100				

239 - 275.5 SILICIFIED GABBRO
- MEDIUM GRAINED WITH OCCASSIONAL FINE GRAINED SECTION
- MEDIUM TO DARK GREEN
- MODERATELY TO HIGHLY SILICIFIED
- MUCH AS 202.3 - 224.7 EXCEPT GRAN SIZE ON AVERAGE IS LARGER
- TRACE TO 1% PYRITE AS FINE DISSEMINATED GRAINS
- FINE GRAINED SECTIONS OCCUR WITH "CLOTS" OF COARSER GRAINED MATERIAL
- WEAK TO MODERATE QUARTZ - CARBONATE FRACTURING
260' - 275.5' - FINE GRAINED WITH NUMEROUS MEDIUM GRAINED "CLOTS"

259 - 259.6 SILICIFIED W/ 3" QUARTZ VEIN IRREGULAR

275.5 SHARP

275.6' - 284.2' FELSIC INTRUSIVE
- AS 121.5' - 127.4' EXCEPT ONLY TRACE VERY FINE GRAINED PYRITE
- SHARP IRREGULAR CONTACTS

TRACE Py

284.2' SHARP

284.2 - 342.7' GABBRO
- MEDIUM TO DARK GREEN IN COLOUR
- MEDIUM GRAINED GENERALLY WITH FINE GRAINED SECTIONS CONTAINING "CLOTS" OF MEDIUM GRAINED GABBRO AS 239-275.5
- MODERATELY SILICIFIED
- WEAK TO MODERATE HAIR-LINE TO 6mm QUARTZ - CARBONATE FILLED FRACTURES
- TRACE Py
- 299.6' - 315.4 - FINE GRAINED WITH MEDIUM GRAINED "CLOTS"
- GENERALLY MASSIVE
- SILICIFICATION INCREASES TOWARD LOWER CONTACT

TRACE Py

Hole No. ML-45 | Project: McVICAR L. 1446 | Page No: 6 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 09, 1988 | Ref. to Claim Corner:

Coordinates: 4+49 S ~~N~~ 4+79 E. | Date Finished: MAY 11, 1988 | Scale: 1" : 10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HICE

SECTION	ALTERATION: SERICITIZATION	ALTERATION: CHLORITIZATION	ALTERATION: CARBONITIZATION	ALTERATION: SILICIFICATION	FRACTURING	MINERAL: SULPHIDES	MINERAL: MICA	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
300								X	284.2-342.7' GABBRO (CONTINUED)		TRACE Py		100	BQ			
310								X				309	100				
320								X				319	100				
330								X	329' ACID TEST CORRECTED ∠ = 68.5°			329	100				
340								X				339	100				
								X	342.7' GRADATIONAL	342.7'-349.5' HIGHLY SILICIFIED GABBRO - DUFF GREEN IN COLOUR, FINE TO MEDIUM GRAINED, HIGHLY SILICIFIED - TRACE PYRITE - MODERATELY FRACTURED WITH QUARTZ-CARBONATE HAIR-LINE FRACTURES - GABBROIC TEXTURES ARE USABLE FOR THE MOST PART	TRACE Py	349	100			
350								X	349.5 GRADATIONAL	349.5-355' BRECCIATED GABBRO - MEDIUM GREEN IN COLOUR, HIGHLY SHEARED MAFIC ROCK IS BRECCIATED IN A QUARTZ-CARBONATE MATRIX, SOME ROTATION OF CLASTS CAN BE NOTED - TRACE TO 1% PYRITE USUALLY ASSOCIATED WITH QUARTZ-CARBONATE	TRACE TO 1% Py		100		349.5	100	1971
								X	355 GRADATIONAL		2-3% Py				355		
360								X	ALTERED ZONE 355'-432.3' 358.5 2° BEDDING	355'-372.7' INTENSLY SHEARED ROCK (GABBRO?) - (CONTINUED ON NEXT PAGE)		359	100		359.5	100	1972

Hole No. ML-45 | Project: McVICAR L. 1446 | Page No: 7 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9, 1988 | Ref. to Claim Corner:

Coordinates: 4+49 S N. 4+79E E. | Date Finished: MAY 11, 1988 | Scale: 1": 10'

Inclination: -70° | Bearing: 240° | Total Depth: 479 | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONATIZATION | SILICIFICATION

FRACTURING | MINERAL: GARNET | MICA | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated SAMPLE #
360	2-3% Py	369	100	BQ	362	100	1973
					363.8	100	1974
						100	1975
					369.4		
370						100	1976
					371.4		
	1% Py		100				
380		379			379		
						100	1977
			100		384		
390		389					
	2-3% Py				391.8	100	1978
			100		393.7	100	1979
					397		
		399				100	1980
400					400.7		
	4-6% Py					100	1981
			100		405.7		
		409				100	1982
410					410.7		
			100			100	1983
					415.7		
420		419	100			100	1984

362.8 - SEMI-MASSIVE Py SHEARING @ 75° TO C.A.

355 - 372.7' INTENSLY SHEARED ROCK (GABBRO? CONTINUED)

- LIGHT TO MEDIUM GREEN, TAKES ON STRIPPED APPEARANCE DUE TO QUARTZ-CARBONATE PARALLEL TO SHEARING
- WEAKLY TO MODERATELY SERICITIZED, OCCASSIONAL 1-2 MM BAND OF APPLE GREEN MICA
- NUMEROUS QUARTZ BOUDINS UP TO 6CM BUT GENERALLY < 2 CM
- PYRITE CONTENT IS VARIABLE BUT 2-3% ON AVERAGE AS FINE TO MEDIUM DISSEMINATED GRAINS AND WISPS
- 359.5 - 362 - MODERATELY SERICITIZED TRACE APPLE GREEN MICA
- 363.8 - 367.5 - MODERATELY SILICIOUS WITH TRACE APPLE GREEN MICA

372.7

FOLIATION @ 70° TO C.A.

372.7' - 391.8' SHEARED/FOLIATED GABBRO

- MEDIUM TO DARK GREEN IN COLOUR, FINE GRAINED MODERATELY TO WELL FOLIATED AND VERY WEAKLY SHEARED
- GRADATIONAL CONTACTS
- 1% FINE GRAINED DISSEMINATED PYRITE
- MINOR QUARTZ-CARBONATE PARALLEL TO FOLIATION

GRADATIONAL 391.8

SHEARING @ 65° TO C.A.

391.8' - 400.7 INTENSLY SHEARED ROCK (GABBRO?)

- AS 355 - 372.7'
- GRADATIONAL UPPER CONTACT, LOWER CONTACT IS SHARP @ 70° TO C.A.
- 393.7' - 397 - 2-3% APPLE GREEN MICA, 2-3% PYRITE

400.7 SHARP

400.7 - 426.5' ALTERED FELSIC INTRUSIVE

- TAN GREEN - BROWN IN COLOUR, GENERALLY APHANITIC, WEAK SHEARING (FOLIATION?) IS PRESENT THROUGH OUT UNIT @ 55° TO C.A.
- WEAKLY SERICITIZED, VERY SILICIOUS, 4-6% PYRITE AS FINE TO MEDIUM GRAINED STRINGERS BUT MORE OFTEN DISSEMINATED
- WEAKLY FRACTURED WITH QUARTZ-CARBONATE FLOODING - RARE QUARTZ BOUDIN
- 420.3 - 420.9 - QUARTZ VEIN WITH INCLUSIONS OF FELSIC INTRUSIVE

FOLIATION/SHEARING? @ 65° TO C.A.

WEAKLY WEATHERED BY GROUND WATER

Hole No. ML-45 | Project: McVICAR L. 1446 | Page No: 8 Of 8

Casing Collar Elev.: | Ground Elev.: | Date Started: MAY 9 1988 | Ref. to Claim Corner:

Coordinates: 4+49 S ~~N.~~ 4+79 E E. | Date Finished: MAY 11, 1988 | Scale: 1":10'

Inclination: -70° | Bearing: 240° | Total Depth: 479' | Logged By: B. HILL

ALTERATION: SERICITIZATION | CHLORITIZATION | CARBONITIZATION | SILICIFICATION

FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

			% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Sample #
420						BQ	420.7	100	1984
	420.7	92 VEIN							
		400.7'-426.5' ALTERED FELSIC INTRUSIVE (CONTINUED)	4-6% Py					100	1985
	426.5 SHARP	426.5'-432.3' BRECCIATED/SHEARED GABBRO - MUCH AS 349.5-355 EXCEPT INTENSITY IS SLIGHTLY LOWER - UPPER CONTACT IS SHARP, LOWER CONTACT IS GRADATIONAL	TRACE Py	429	100		426.5	100	1986
430							431		
	432.3'	432.3'-439.4' GABBRO - MEDIUM TO DARK GREEN - MEDIUM GRAINED, MINOR CM SCALE QUARTZ-CARBONATE VEINING, 30% MAFICS (PYROXENE) 50% PLAGIOCLASE - TRACE FINE GRAINED DISSEMINATED PYRITE - LOWER CONTACT IS SOMEWHAT GRADATIONAL	TRACE Py		100				
440	439.4 GRADATIONAL	439.4-447.4 BRECCIATED GABBRO - WEAKLY BRECCIATED 15-20% QUARTZ-CARBONATE MATRIX - SOME CLASTS ARE RECOGNIZABLE AS GABBRO WHILE IN OTHERS ORIGINAL TEXTURES ARE OBSCURED - TRACE FINE GRAINED DISSEMINATED PYRITE 445.4'-446.4' - ALTERED FELSIC INTRUSIVE MUCH AS 400.7' TO 426.5', ONLY TRACE TO 1% PYRITE, SHARP CONTACTS	TRACE PYRITE	439	100		441	100	1987
	447.4' SHARP	447.4-460.5' ANORTHOSITE PORPHRY - LARGE 1cm PLAGIOCLASE PHENOCRYSTS, ROUNDED PHENOCRYSTS GIVES UNIT A POP-CORN TEXTURE, UP TO 85% PHENOCRYSTS - WEAKLY SILICIFIED, NIL TO TRACE PYRITE, VERY WEAKLY FRACTURED	NIL TO TRACE Py	449	100		444		
450									
460	460.5' SHARP	460.5'-473.7' TONALITE - FINE TO MEDIUM GRAINED, MEDIUM GREY GREEN, HAS 'SALT + PEPPER' APPEARANCE - GENERALLY MASSIVE GRANULAR - VERY WEAKLY SERICITIZED IN PLACES, TRACE PYRITE - WEAK TO NIL FRACTURING 469.3-470.1 - XENOLITH OF ANORTHOSITE PORPHRY	TRACE Py	459	100				
470		473.7'-478' ANORTHOSITE PORPHRY - AS 447.4-460.5'		469					
	473.7' SHARP IRREGULAR	478'-479' GABBRO - DARK GREEN, FINE GRAINED, WEAKLY SILICIFIED - TRACE PYRITE - WEAKLY FRACTURED WITH HAIR-LINE QUARTZ-CARBONATE FLOODED FRACTURES, SHARP CONTACT	NIL TO TRACE Py		100				
479	479' ACID TEST CORRECTED ∠ = 68.5°	479' END OF HOLE		479					

APPENDIX II

CERTIFICATES OF ANALYSIS

TECHNICAL SERVICE LABORATORIES

DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED

1301 FEWSTER DRIVE
MISSISSAUGA, ONTARIO
L4W 1A2
(416) 625-1544 FAX: (416) 625-8368

RECEIVED MAY 4 1988

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: BHP-Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M3990

SAMPLE(S) OF: Drill Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project 1446

	Gold Au ppb		Gold Au oz/t	
1793	270			
1794	>1000	1.1g	0.032	244.8' - 250'
1795	1000	1.2g	0.034	250.0' - 225.6'
1796	900	1.0g	0.029	255.6 - 257.7'
1797	100			257.7 - 261.0'
1798	890		0.032	261.0' - 264'
1799	770		0.025	264 - 265'
1800	160			
1801	5			
1802	10			
1803	<5			

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1301 FEWSTER DRIVE
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L4W 1A2
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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM BHP-Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M4021

SAMPLE(S) OF Drill Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project 1446

	Gold Au ppb
1804	5
1805	60
1806	650
1807	60
1808	40
1809	65
1810	30
1811	180
1812	35
1813	500
1814	160
1815	700
1816	400
1817	420
1818	280
1819	85
1820	240
1821	60
1822	40
1823	10

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M4037

INVOICE #:
P.O.:

SAMPLE(S) OF Drill Core

Rodney N. Thomas
Project: 1446

	Gold Au ppb	Gold Au oz/t
1824	5	
1825	5	
1826	200	
1827	365	
1828	>1000	0.074
1829	590	
1830	250	
1831	870	0.053
1832	170	
1833	840	
1834	120	
1835	490	
1836	280	
1837	350	
1838	20	
1839	200	

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SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M4053

SAMPLE(S) OF Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project 1446

	Gold Au ppb
1840	40
1841	45
1842	5
1843	5
1844	5
1845	5
1846	5
1847	10
1848	15
1849	15
1850	195
1851	25
1852	55
1853	10
1854	15
1855	65

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L4W 1A2
(416) 625-1544 FAX: (416) 625-8368

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: BHP-Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M4093

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project:1446

	Gold Au ppb	Gold Au oz/t
1856	965	0.029
1857	240	
1858	250	
1859	600	
1860	490	
1861	420	
1862	25	
1863	<5	
1864	25	
1865	5	

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Toronto Ontario
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REPORT No. M4092

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project: 1446

	Gold Au ppb
1866	<5
1867	<5
1868	5
1869	10
1870	40
1871	105
1872	60
1873	45
1874	400
1875	265
1876	15
1877	65
1878	180
1879	190
1880	55
1881	320
1882	50
1883	45
1884	470
1885	35

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: BHP-Utah Mines Ltd.
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25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M4092

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project: 1446

	Gold Au ppb
1886	320
1887	10
1888	10
1889	15
1890	25
1891	30
1892	50
1893	310
1894	60
1895	140
1896	20

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Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M4094

SAMPLE(S) OF Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project:1446

	Gold Au ppb
1897	85
1898	785
1899	120
1900	140
1901	115
1902	80
1903	120
1904	165
1905	90
1906	275
1907	10
1908	110
1909	300
1910	90
1911	40

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SAMPLE(S) FROM: BHP-Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M4111

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project-1446

	Gold Au ppb
1912	250
1913	20
1914	10

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SAMPLE(S) FROM: BHP-Utah Mines Ltd.
Suite 900
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Toronto Ontario
M5C 1Y2

REPORT No. M4112

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project-1446

	Gold Au ppb
1915	5
1916	40
1917	5
1918	15
1919	10
1920	30
1921	40
1922	10
1923	55
1924	750
1925	10
1926	20
1927	<5
1928	<5
1929	10
1930	<5
1931	5
1932	10
1933	10
1934	15

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Suite 900
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Toronto Ontario
M5C 1Y2

REPORT No. M4112

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project-1446

	Gold Au ppb
1935	35
1936	10
1937	<5
1938	<5
1939	<5
1940	25
1941	5
1942	10
1943	340
1944	450
1945	15
1946	400
1947	20
1948	35
1949	10
1950	65
1951	30
1952	60
1953	60
1954	25

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REPORT No. M4112

SAMPLE(S) OF: Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project-1446

	Gold Au ppb
1955	20
1956	30
1957	85
1958	60
1959	10
1960	<5
1961	10
1962	10
1963	<5

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Toronto Ontario
M5C 1Y2

REPORT No.
M4113

SAMPLE(S) OF Split Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project-1446

	Gold Au ppb
1964	10
1965	10
1966	<5
1967	<5
1968	10
1969	65
1970	<5
1971	<5
1972	20
1973	80
1974	70
1975	55
1976	90
1977	20
1978	20
1979	30
1980	55
1981	70
1982	50
1983	30

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L4W 1A2
(416) 625-1544 FAX: (416) 625-8368

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

BHP-Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M4113

SAMPLE(S) OF Split Core

INVOICE #:
P.O.:

Rodney N. Thomas
Project-1446

	Gold Au ppb
1984	65
1985	50
1986	<5
1987	<5

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63.5247
(pt. 3)



030

REPORT ON DRILLING ACTIVITIES

LANG LAKE AREA

MCVICAR LAKE PROJECT

1987

NTS: 52 O/12

GRID "B"

Submitted by:

R.G. Bonner
February 24, 1988

OM 86-2-C-293

52011SE0080 63.5247 MCVICAR LAKE

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MAP 04	DDH SECTION 10+00N (LL03)
MAP 05	DDH SECTION 11+00N (LL04)
MAP 06	DDH SECTION 9+00N (LL05, LL06)

SUMMARY AND CONCLUSIONS

The Diamond Drill program at B grid within the McVicar Lake Property focussed on a number of horizontal loop electromagnetic (HLEM) and ground fluxgate magnetometer (FGMAG) targets delineated by geophysical crews during the summer of 1987.

The objective of the geophysical surveys was to define targets consistent with a Dona Lake type (sulphidized ironstone) model. The HLEM survey outlined a number of conductive horizons which are coincident with or marginal to ironstone. The FGMAG survey was utilized to overcome problems associated with the area's intense magnetic gradient. It outlined the distribution and gross structural characteristics of the ironstones.

Conductance and the association of ironstone horizons were considerations in drill target selection. A conductive horizon within or marginal to tectonically thickened ironstone displaying a decrease or apparent decrease in the magnetic susceptibility is considered to be a prime drill target. Both weak and strong bedrock conductors are considered to be valid targets. Weak but discernable HELM responses over the Dona Lake ore zone, despite sulphide concentrations of 15%, are a recognized characteristic of this model.

The HLEM survey delineated four main conductive horizons and a six hole 4000 foot program was implemented as a minimum appraisal of these four main targets.

The first target was tested with one diamond drill hole (LL-01). A HLEM conductor marginal to an ironstone horizon and in close proximity to an intrusive body was selected for testing. A thirty foot (30') zone of 3% fine disseminated pyrrhotite and weak stringer pyrrhotite-pyrite is responsible for the HLEM response. The effect of the intrusive body is a slight increase in the metamorphic grade. The best assay value reported for this hole is 30 ppb Au (gold).

A second conductive horizon, approximately 2 kilometres long, was tested at its southern flank on Grid B where it is associated with an ironstone unit. One drill hole (LL-02) related the conductive horizon to weak disseminated formational sulphide mineralization ranging up to 3%. The best gold assay obtained in the hole is 30 ppb.

The third target was also tested with one drill hole (LL-03). A thin conductive horizon marginal to the southern edge of a tectonically thickened ironstone (Target IV) was tested. The HLEM response is related to a weakly mineralized ironstone. The sulphide content ranged from 3% to 5%. The highest gold assay from this target is 115 ppb.

The forth target is a broad zone of multiple conductors. The multiplicity and the apparent width of the target are interpreted to represent a tectonically thickened ironstone horizon.

Three holes (LL-04, 05, and 06) were used to test this target at its thickest points on two sections. Weak formational sulphide mineralization is observed throughout each of the drill holes. Within these weakly mineralized zones are a few narrow(<1 m) zones of sulphidized ironstone. In these sulphidized zones sulphide content ranged up to 15% but averaged 5%. The highest gold assay of the program is 350 ppb in drill hole LL-05. The anomalous value is from a narrow sulphidized zone.

In each of the three holes in target IV recrystallized quartz-sulphide veins are observed. These cross-cutting veins utilized fractures in the relatively competent ironstone. Although sulphide content reached 80%, gold assay values remained at/or near background levels.

Overall the HLEM proved to be responding to formational sulphide mineralization within clastic metasediments and ironstones. The mineralized zones consistently assayed at/or near background levels for gold. The HLEM and FGMAG surveys succeeded in identifying weak disseminated sulphide conductors and ironstones. Both of these features are associated with the Dona Lake deposit.

Throughout the six hole program minor spotty evidence of sulphidization was discovered. In several narrow zones the sulphide replacement reached 15% of the core. This is within the range of sulphide content at Dona Lake. However, at Grid B the gold content of these zones was only slightly above background.

Drilling a range of geophysical targets in varied structural settings has significantly reduced the potential of any other Grid B targets.

RECOMMENDATIONS

The extensive ground work completed prior to the diamond drilling was used to select the drill targets. This work coupled with the six drill holes is considered to be sufficient for the grid 'B' (fold nose) area of this property. No additional work is recommended at this time.

1.0 GENERAL INFORMATION

1.1 INTRODUCTION

This report reviews a program of diamond drilling carried out during September to November, 1987 in the Lang Lake Area of the McVicar Lake project. Drilling commenced on September 19, 1987 and concluded November 13, 1987. A ten day break occurred at the mid-point during October.

The McVicar Lake property is a contiguous 702 claim block in the Lang Lake Belt (Figure 1.1a, Table 1.1b). Drilling took place on the following claims; KRL852975, KRL852982, KRL868688.

TABLE 1.1b
CLAIM LIST
MCVICAR LAKE PROPERTY

KRL 846023 - 846037	KRL 852895 - 853118	KRL 868719 - 868735
868805 - 868835	886050 - 866101	890555 - 890578
902949 - 903958	903101 - 903160	903401 - 903439
910888 - 910892	926183 - 926189	929206 - 929210
852117	852119	846053 - 846065
868683 - 868696	868756 - 868776	868874 - 868885
890520 - 890546	902929 - 902938	902983 - 903000
903201 - 903275	910818 - 910832	911381 - 911385
928033 - 928037	PA 914865 - 914993	PA 1006251
PA 1006252	PA 1006492	

TOTAL CLAIMS: 702 CLAIMS

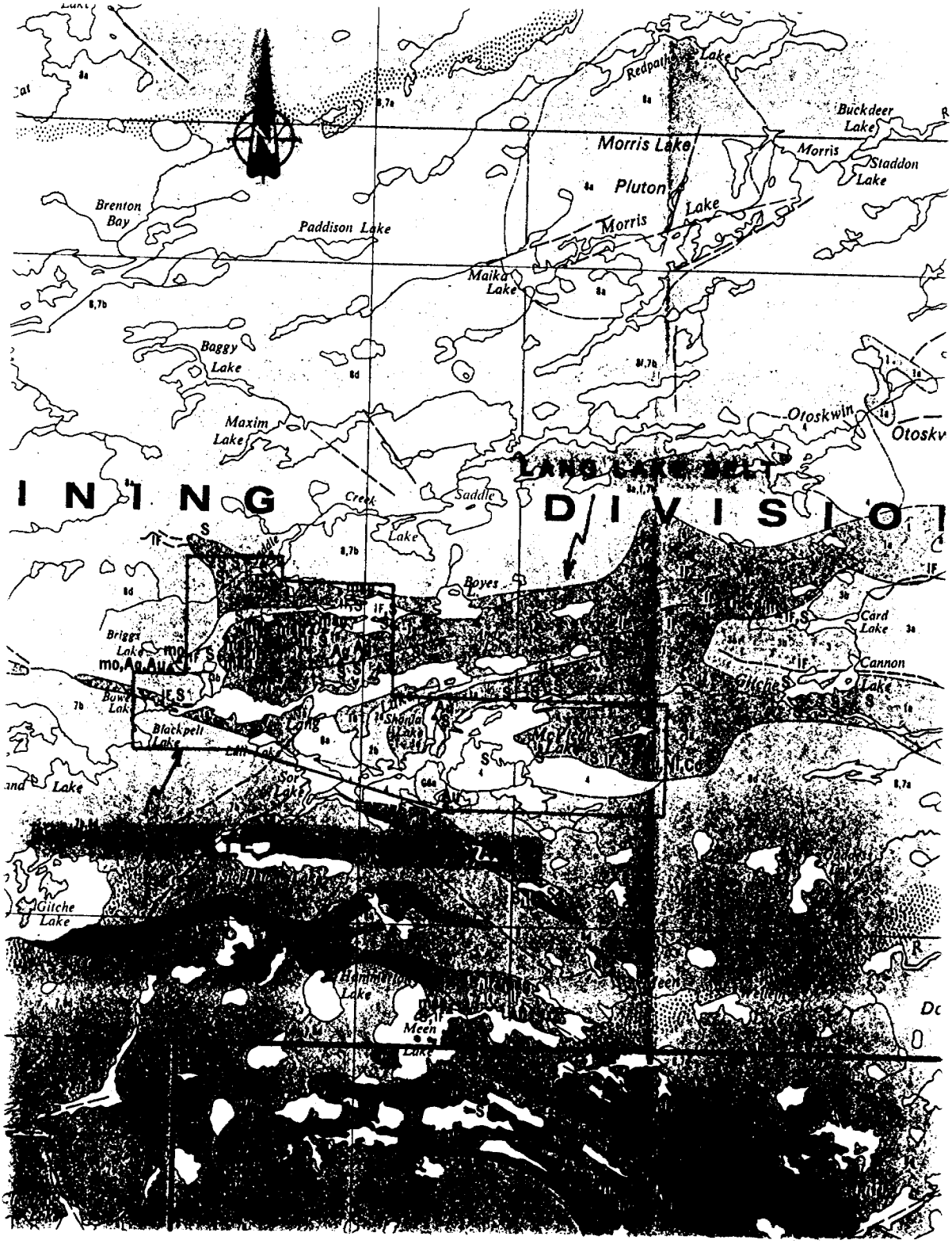


FIGURE 1.1a: PROPERTY LOCATION MAP

(From: Map 2218, Cat Lake - Pickle Lake) 2..

1:253,440

1.2 LOCATION AND ACCESS

The McVicar Lake property dominates the western half of the Lang Lake Belt, NTS: 52 0/11, (Figure 1.2). This belt lies approximately 80 km west of Pickle Lake, Ontario. Drilling was carried out approximately 2 km north of the western end of Lang Lake.

The property is accessible by float or ski fixed-wing aircraft or helicopter from Pickle Lake.

1.3 TOPOGRAPHY AND VEGETATION

The area is characterized by a gently undulating plain with relief rarely exceeding 25m. Generally flat sandy ridges less than 10m high interrupt the low flat swampy area. There are a few small lakes within the grid area. Overburden is generally less than 15m. The outcrop density ranges from less than 5% in the western areas to 75% in the eastern areas of the property.

The outcrop and sandy areas are generally dominated by short Jackpine with subordinate Poplar and Birch. The swampy areas are muskeg with interspersed Black Spruce forest. Alder and Willow are common along the few streams that flow through the property. Particularly thick growth occurs in areas that are recovering from forest fires.

1.4 PREVIOUS WORK

Initial mapping in the Lang Lake Belt was performed by H.C. Laird (1929). This work resulted in the publication of O.D.M. Map 39D. Mapping programs by K.G. Fenwick (1969, 1970) and K.G. Fenwick and P. Srivastava (1971) led to the publishing of O.G.S. Maps P581 and P665. A brief discussion on the Lang Lake Belt was included in O.G.S. Report 207, by R.P. Sage and F.W. Breaks (1982) but was not regionally mapped by them.

Intermittent exploration has been carried out since 1960 when limited diamond drilling took place on small silver showings held by Castlebar Silver and Cobalt Mines Ltd.. During the late 1960's Algoma Steel Corp. Ltd., Bachawna Copper Mines Ltd., Belore Mines Ltd., Hanna Mining Co. and Mextor Minerals Ltd. explored for iron and base metals. Ground surveys and several phases of diamond drilling were reported.

During the early 1970's Bachawna Copper Mines Ltd. and Initiative Exploration Ltd. performed ground surveys and diamond drilling. Bachawna still holds patent claims immediately to the west of the McVicar Lake property. These patent claims are currently under option to BHP-UTAH MINES LTD.

An airborne magnetometer survey was completed during 1977 by Cominco Ltd.. There was no reported follow-up work. However, Cominco currently holds a large claim block in the eastern half of the Lang Lake belt.

1.5 PREVIOUS WORK BY BHP-UTAH MINES LTD.

Staking within the Lang Lake Belt by BHP-UTAH MINES LTD. began in 1985. Several phases of staking since have resulted in the large contiguous block now held.

Initial work during the 1985 field season included limited airborne EM and magnetometer surveys and regional geological mapping. In the following year detailed grid mapping, ground horizontal loop electro-magnetics (HLEM) and magnetometer surveys were completed.

Several subeconomic auriferous grab samples of sulphidized ironstone were discovered in the 'Fold Nose' area. The HLEM, although poorly coupled, outlined several conductive horizons proximal to these anomalous sample sites. These results were sufficiently encouraging to warrant the establishment of a new

grid to provide better EM coupling and ground control. This work was performed during the 1987 summer field season.

1.6 CURRENT OBJECTIVES

The identification of a large fold nose at the western end of the Lang Lake Belt is postulated to be a potential host of a 'Dona Lake Type' sulphidized gold deposit. Diamond drilling was designed primarily to evaluate this concept.

The identification of various HLEM conductors within and proximal to the ironstone units was of prime concern. A broad range of geophysical signatures were tested to determine if the sulphidization model has merit in this area.

2.0 GEOLOGY

2.1 REGIONAL GEOLOGY

The Lang Lake Belt is a small (10 X 40 km) Archean Greenstone Belt within the Uchi Subprovince of the Canadian Shield. R.P. Sage and F.W. Breaks (1982) have suggested that the Lang Lake belt is related to the Meen-Dempster lakes belt, the Lang having been rafted away.

The belt is dominated by an isoclinally folded syncline that strikes N70°E with a 40-60°E, plunge (Sage and Breaks, 1982). Evidence suggests the axis lies between Boyes Lake and Lang Lake. Detailed in-house mapping determined that the west-central area of the belt is a complex series of isoclinally folded metasediments and mafic to intermediate volcanics (Weidner, 1986). The foliation is roughly east-west with a secondary foliation trending approximately 320°

Dominant lithologies are mafic to intermediate metavolcanics with intercalating metasediments. In several areas narrow widths of mafic to felsic tuffs have been outlined. Several varieties of mafic to felsic late intrusives have also been mapped on the property. A regional litholigical column is included in Table 2.1.

2.2 LOCAL GEOLOGY

The geological plan of the "Grid B" area is appended (see Map 01). The compilation was completed utilizing the diamond drill logs, surface grid mapping (Dyre, 1987 and Weidner, 1986) and airborne compilation maps.

An intrusive feldspar porphyry contact transects the grid B area trending roughly northeast-southwest. The southwest corner of the grid contains the fold nose closure in continuous contact with the intrusive. A megaxenolith of sediments was rafted away from the fold nose area. The Bachawna patent claims cover the area of the megaxenolith. The southeast half of the grid is composed of the isoclinally folded metasediments. The metasediments comprise a complex series of intercalating ironstone and clastic lithologies which range from medium grained conglomerates to very fine grained argillites. Detailed descriptions of each lithological unit can be found in the lithological classifications (3.0).

The region has undergone metamorphism to the upper greenschist - lower amphibolite facies. Several lithologies within the property are characteristic of the two facies. For example a few amphibolites are observed along the northern claim boundaries.

3.0 LITHOLOGICAL CLASSIFICATIONS

Consistent similarities throughout each of the six holes have resulted in the following generic descriptions.

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

Till, sand, gravel, boulders, clay

Unconformity

CAMBRIAN

LATE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

Diabase dikes (Keweenawan?)

Intrusive contact

EARLY PRECAMBRIAN (ARCHEAN)

MAFIC INTRUSIVE ROCKS

Diorite, gabbro, anorthosite, gabbroic anorthosite

Intrusive contact

FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

LATE TECTONIC GRANITIC PLUTONS

Monzonite, quartz monzonite, granodiorite, syenodiorite, quartz diorite, trondhjemite, pegmatite, aplite

Intrusive contact

SYNTECTONIC GRANITIC PLUTONS

Migmatite, orthogneiss, trondhjemite, granodiorite, diorite, quartz diorite

Intrusive contact

PRETECTONIC GRANITIC PLUTONS

Quartz and/or quartz-feldspar porphyry, trondhjemite to granodiorite (Bamaji Lake complex)

Intrusive contact and gradational contacts

MIGMATITE

Metasedimentary and metavolcanic migmatites

Intrusive contact

MAFIC TO INTERMEDIATE INTRUSIVE ROCKS

Gabbro, diorite, anorthosite, anorthositic gabbro

Intrusive contact

METAVOLCANICS AND METASEDIMENTS

METASEDIMENTS[1]

Conglomerate, greywacke, quartzite, siltstone, argillite, slate, biotite-quartz-plagioclase schist

Gradational contact

FELSIC TO INTERMEDIATE METAVOLCANICS[1]

Flows, pyroclastic breccia, agglomerate and tuff, porphyritic flows; rhyolite, dacite

Gradational contact

MAFIC TO INTERMEDIATE METAVOLCANICS[1]

Flows, pillowed flows, tuff; basalt, andesite

[1] relations between metasediments, mafic metavolcanics, and felsic metavolcanics are variable.

TABLE 2.1: Table of Lithologic Units for the Cat Lake - Pickle Lake Area

(From Sage and Breaks, 1982)

3.1 INTRUSIVE LITHOLOGIES

3.11 MAFIC INTRUSIVE - BIOTITE LAMPROPHYRE

Several isolated narrow (<10 cm) lamprophyre dykes were observed in holes LL-02, 03, 06. They are brownish grey to black with up to 20% prominent (2-3mm) biotite phenocrysts. A weak pervasive carbonate, possibly resulting from late stage hydrothermal activity, was noted. The rock is weak to moderately foliated with sharp baked contacts.

3.12 FELSIC INTRUSIVE - FELDSPAR PORPHYRY

Drilling through the metasediment-intrusive contact occurred in the last few feet of hole LL-06. This greyish to pinkish, fine to medium grained rock contained up to 30% (2-3mm) feldspar phenocrysts. A weakly developed foliation was observed but it may be a localized contact related feature. A poorly developed "genissic" fabric is probably the result of the feldspar zonation and the contact foliation. Sulphide mineralization is limited to <1% disseminated pyrite.

3.2 METASEDIMENTS

The criteria used to distinguish between the metasedimentary lithologies at the Lang Lake drill project was grain size, composition and mineralogy. Individual units on the drill logs (Appendix I) were named according to Blackburn et al (1978) (Appendix III).

3.21 CONGLOMERATES

Several conglomerates were discovered in holes LL-02 and LL-03. They are light greenish grey, matrix-supported polymictic rock with up to 30% pebble sized grains. The poorly sorted, contorted beds display a weak to moderately developed foliation. Mineralization is restricted to disseminated pyrite up to 3% locally.

The stratigraphic positioning of these units, with surrounding lithologies often associated with a much more quiescent environment, suggests a rapid introduced mode of formation. This in association with poor sorting and disrupted bedding suggests a debris slide units, possibly a "Type A" division of a Bouma cycle.

3.22 WACKES

Highly variable wackes were observed in every drill hole in the Lang Lake area. Their volume was much more pronounced in holes LL-04, 05 and 06. Although they are poorly sorted there appears to be an overall local grading from the north to the south, coarser grained rocks are better represented in the north than the south.

Described as light grey to grey brown, thinly laminated to thickly bedded, fine to medium grained rock, often containing up to 30% fine (2mm) idiomorphic poikiloblastic almandine(?) garnets. A weak to moderately foliated matrix is composed of biotite, feldspar, amphiboles, "blue eyed" quartz, minor chlorite and labiles. The percentages of each component are highly variable. There were weak intermittent carbonate filled fractures observed and weak disseminated sulphide mineralization (Py, Po, Cp) that rarely exceeds 1%.

3.23 SILTSTONE

This rock was present in each of the six holes. They are fine grained, light grey brown, thinly laminated to thickly bedded. Their composition is relatively homogeneous. They contain on the average <1% weakly disseminated sulphides (Py, Po).

3.24 MUDSTONE

This lithology represented the bulk of rock observed in the program. Relatively thick sequences were often intercalated with various ironstones and a few wackes.

A dark green to grey, thinly laminated to thickly bedded rock often displayed convoluted bedding and graded bedding. A weak to well developed foliation was apparent in the variable chloritic to amphibole rich matrix. Chemically attractive beds were often rich, up to 75% with fine (2mm) pinkish idiomorphic poikiloblastic almandine(?) garnets. The predominantly chloritic composition of the mudstones suggests they were derived from a volcanic source. Occasionally a weak to moderate H_2S odour was noted when the rock was treated with cold dilute HCL. This has been attributed to the presence of zinc which appears to be slightly elevated in this area. This observation and the assay results demonstrate a qualitative relationship as opposed to a quantitative relationship. Other finely disseminated sulphides (Po, Py, Cp) rarely exceed 3%.

3.25 ARGILLITE

This rock was present in significant volumes in holes LL-02, and 03. They are fine grained dark brown to grey black often displaying a foliation of the platy minerals which gives the rock a characteristic silky sheen when properly oriented. The rock is weakly chloritic and often contains an appreciable amphibole rich silty component, as well as up to 20% fine (2mm) pinkish idiomorphic poikiloblastic almandine(?) garnets. The rock is weakly magnetic and upon HCL application, occurrences of H_2S odour are noted. Disseminated fine sulphides (Po, Py) rarely exceed 2%.

3.26 BIOTITE-CARBONATE SCHIST

Minor thicknesses of this unit were observed throughout the program. It rarely exceeds 50 cm in thickness and is intercalated with ironstones. It is a fine to medium grained grey brown, thickly laminated moderately to intensely foliated rock. The composition is generally 65% biotite, 25% calcite with 10% chlorite and amphiboles. The rock may represent a lower amphibolite metamorphic derivative of a silty, carbonate rich sedimentary rock.

3.27 CHERT

Although chert is common throughout the area as a large component of the ironstones only the massive units are considered here. Massive units were intersected in holes LL-03 and 05.

It is a very fine grained, greyish white, massive to thickly bedded rock and is weakly fractured with weak carbonate coatings and contains up to 30% narrow intercalating schists and wackes. The chert does not contain visible sulphides.

3.28 IRONSTONES

Two types of ironstone were observed during the drilling at Lang Lake. The distribution and form of the magnetite was the criteria on which the distinction is based.

Type "A" is characterized by dark grey to black, thinly laminated massive magnetite and magnetite rich chert. They display intense folding and are intensely magnetic with the magnetic susceptibility readings often exceeding the instrument's limits. Sulphide content is very low. This type is classified as oxide facies ironstone.

Type "B" is characterized by a much more disseminated nature of the magnetite. Massive magnetite bands rarely

exceed 15% of any total unit. This lithology generally contains up to 50% chert, 45% ferruginous siltstone, 5% massive magnetite bands. The intensely folded nature of the chert is highlighted by well developed foliation in the siltstone. This foliation was often described as lepidoblastic or nematoblastic depending on the dominate minerals. The chert is non-magnetic, while magnetite crystals are readily visible in the light greenish brown siltstone. The crystalline magnetite is associated with varying percentages of chlorite, amphiboles - blue-green hornblende(?), gruneriite(?), hornblende, sillimanite(?) and biotite. Fine disseminated sulphides (Py, Po) rarely exceeded 2%. This type is classified as silicate facies ironstone.

4.0 DIAMOND DRILLING

4.1 INTRODUCTION

A six hole program of diamond drilling was completed during September, October and November, 1987 at the Lang Lake area of the McVicar Lake project. Langley Drilling Ltd. (Toronto, Ontario) completed 4,162 feet (1268m) of B.Q. coring using a JKS 300 diamond drill. Crew and drill movements were completed utilizing a Bell 206 helicopter, stationed at the main campsite on Lang Lake. The camp was approximately 2 km south of "Grid B". The core has been stored at the campsite. See Figure 1.2a for the camp location.

The selection of diamond drill targets was based on the results of the HLEM and Fluxgate magnetometer surveys over "Grid B". Targets were then selected to provide a range of possible ore horizons and to test a range of geophysical signatures.

4.2 SECTION 3+00N

One hole LL-01 totalling 699' (213m) was completed on this section. The geophysical target was a short strike length (300m) HLEM conductor marginal to a magnetic feature, an inferred ironstone horizon. The rafting away of the megaxenolith, the Bachawna property, allows the inference of a felsic intrusive proximal to the conductive horizon. Few outcrops were found in the area.

TABLE 4.2a

HOLE LL-01

Coordinates: L3+00N 1+375E
Inclination: -46.5°
Bearing: 135°
Total Depth: 699' (213m)

DEPTH IN FEET	DIAMOND DRILL LOG SUMMARY
0.0' - 12.0'	Overburden
12.0' - 524.7'	Mudstone
	- Volcanic mudstone (12.0' - 314.8') 75% garnetiferous mudstone 25% thinly laminated mudstone - Volcanic mudstone (314.8' - 366') 80% thinly laminated mudstone 20% recrystallized chart - Volcanic mudstone (366' - 510') 60% garnetiferous mudstone 40% thinly laminated mudstone - Volcanic mudstone (510' - 524.7') 85% thinly laminated mudstone 15% recrystallized chert
524.7' - 691.0'	Thickly laminated ironstone
691.0' - 699.0'	Volcanic mudstone

Sulphide mineralization was consistent throughout the hole and comprises a fine disseminated pyrrhotite with subordinate pyrite, it rarely exceeds 1%. One narrow zone (30') of chloritic volcanic mudstone at 389' contains 1-3% fine disseminated pyrrhotite and weak stringer pyrrhotite-pyrite. This section is believed to be responsible for the observed HLEM geophysical signature.

4.3 SECTION 12+00N

Diamond drill hole LL-02 was completed on this section. Two separate magnetic highs and a short strike length (300m) HLEM conductive horizon were individual features recognized within a broad zone of metasediment. The magnetic features have been attributed to ironstones and ferruginous metasediments which are exposed sixty metres grid southwest of the collar.

TABLE 4.3a

HOLE LL-02

coordinates: L12+00N 2+375E
Inclination: -45°
Bearing: 135°
Total Depth: 837' (254m)

DEPTH IN FEET	DIAMOND DRILL LOG SUMMARY
0.0' - 25.0'	Overburden
25.0' - 63.0'	Thinly laminated ironstone
63.0' - 65.7'	Biotite-carbonate schist
65.7' - 107.0'	Thinly laminated cherty ironstone
107.0' - 110.5'	Ferruginous chloritic volcanic mudstone
110.5' - 126.6'	Argillite
126.6' - 136.3'	Thickly laminated ironstone
136.3' - 142.3'	Thickly laminated ferruginous silty argillite
142.3' - 147.6'	Pebbly ferruginous volcanic mudstone and chert
147.6' - 155.1'	Garnetiferous silty argillite
155.1' - 170.6'	Volcanic mudstone/ironstone
170.6' - 184.9'	Garnetiferous silty argillite
184.9' - 194.8'	Volcanic mudstone/ironstone
194.8' - 217.8'	Garnetiferous argillite
217.8' - 218.9'	Lithwacke
218.9' - 229.7'	Garnetiferous argillite
229.7' - 231.8'	Lithwacke
231.8' - 254.7'	Garnetiferous silty argillite
254.7' - 265.6'	Lithwacke
265.6' - 268.7'	Pebbly volcanic mudstone
268.7' - 269.5'	Garnetiferous chloritic argillite
269.5' - 312.5'	Polymictic matrix-supported granule conglomerate
312.5' - 315.9'	Pebbly chloritic volcanic mudstone
315.9' - 321.0'	Garnetiferous silty argillite
321.0' - 327.2'	Polymictic matrix-supported granule conglomerate
327.2' - 332.6'	Chloritic volcanic mudstone/ironstone
332.6' - 390.7'	Garnetiferous argillite
390.7' - 437.7'	Thinly laminated ironstone
437.7' - 439.3'	Mudstone
439.3' - 444.5'	Chloritic volcanic mudstone/ironstone
444.5' - 451.5'	Lithwacke/mudstone
451.5' - 453.2'	Biotite lamprophyre dyke
453.2' - 470.8'	Mudstone
470.8' - 477.1'	Ferruginous chloritic volcanic mudstone

TABLE 4.3a

HOLE LL-02

Continued from previous page

477.1' - 479.7'	Biotite lamprophyre dyke
479.7' - 667.8'	Mudstone
667.8' - 670.6'	Biotite lamprophyre dyke
670.6' - 681.8'	Mudstone
681.8' - 686.9'	Lithwacke
686.9' - 759.0'	Mudstone
759.0' - 783.5'	Mudstone/lithwacke
783.5' - 813.3'	Mudstone
813.3' - 828.0'	Biotite-carbonate schist
828.0' - 837.0'	Mudstone

Mineralization is consistently weak throughout the hole. The HLEM feature has been related to a lithwacke unit at 254.7' containing up to 3% fine disseminated pyrrhotite. The magnetic highs, as expected, were directly related to oxide facies ironstone. The intersection of only one ironstone horizon instead of the expected two horizons, demonstrates the structural complexity of the area. Folding has been attributed to the disappearance of the second magnetic feature.

4.4 SECTION 10+00N

Diamond drill hole LL-03 was completed on this section. The target was a weak HLEM conductor originally thought to be related to the conductor on section 12+00N. No outcroppings were found in the swampy area surrounding the collar.

TABLE 4.4a

HOLE LL-03

Coordinates: L10+00N 0+50E
Inclination: -45°
Bearing: 315°
Total Depth: 549' (167m)

DEPTH IN FEET	DIAMOND DRILL LOG SUMMARY
0.0' - 30.0'	Overburden
30.0' - 33.8'	Silicified thinly laminated mudstone
33.8' - 47.4'	- Volcanic mudstone 90% thinly lamianted mudstone 10% thickly laminated siltsone
47.4' - 63.2'	- Volcanic mudstone 55% recrystallized chert 45% thinly laminated mudstone
63.2' - 74.0'	Argillite
74.0' - 75.1'	Greywacke
75.1' - 83.3'	Siltstone
83.3' - 103.0'	- Volcanic mudstone 60% argillite 40% recrystallized
103.0' - 128.3'	- Volcanic mudstone 50% thinly laminated mudstone 50% recrystallized chert
128.3' - 149.0'	Thinly laminated siltstone
149.0' - 207.8'	- Volcanic mudstone 70% thinly laminated mudstone 25% recrystallized chert 5% magnetite bands
207.8' - 233.3'	Thinly bedded siltstone
233.3' - 234.6'	Lithwacke
234.6' - 297.3'	Pebbly thinly bedded siltstone
297.3' - 303.1'	Polymictic conglomerate
303.1' - 344.5'	Thickly laminated siltstone
344.5' - 379.6'	Pebbly thinly bedded siltstone
397.6' - 395.5'	Thinly bedded volcanic mudstone
395.5' - 402.0'	Ferruginous volcanic mudstone
402.0' - 404.0'	Thinly bedded mudstone
404.0' - 406.4'	Ferruginous volcanic mudstone
406.4' - 417.2'	Thinly bedded mudstone
417.2' - 418.7'	Ferruginous volcanic mudstone
418.7' - 439.5'	Thinly bedded mudstone/siltstone
439.5' - 463.0'	Ferruginous volcanic mudstone

TABLE 4.4a

HOLE LL-03

Continued from previous page

463.0'- 482.0'	Ironstone
482.0'- 512.0'	Lithwacke
512.0'- 514.4'	Biotite lamprophyre dyke
514.4'- 517.5'	Lithwacke
517.5'- 518.4'	Ironstone
518.4'- 519.4'	Lithwacke
519.4'- 525.5'	Ironstone
525.5'- 549.0'	Chert

Mineralization was observed throughout the section. Fine disseminated pyrrhotite-pyrite ranged up to 1%. One twenty foot interval of weak sulphide bearing ironstone was intersected at 463 feet. Mineralization ranged from 3-5% and was associated with chlorite. This unit was responsible for the weak HLEM signature. The section ended in a massive chert horizon.

4.5 SECTION 11+00N

A single hole LL-04 was completed on this section. However, this was the first of a three hole test of a relatively thick inferred ironstone unit. The geophysics outlined several zones of conductivity which suggests a tectonic thickening in the area.

The collar was located in a swamp and no nearby outcroppings were noted. Correlation with an Algoma hole LL-21-71 and holes LL-05, and 06 on Section 9+00N (see section 4.6) adequately test this structure.

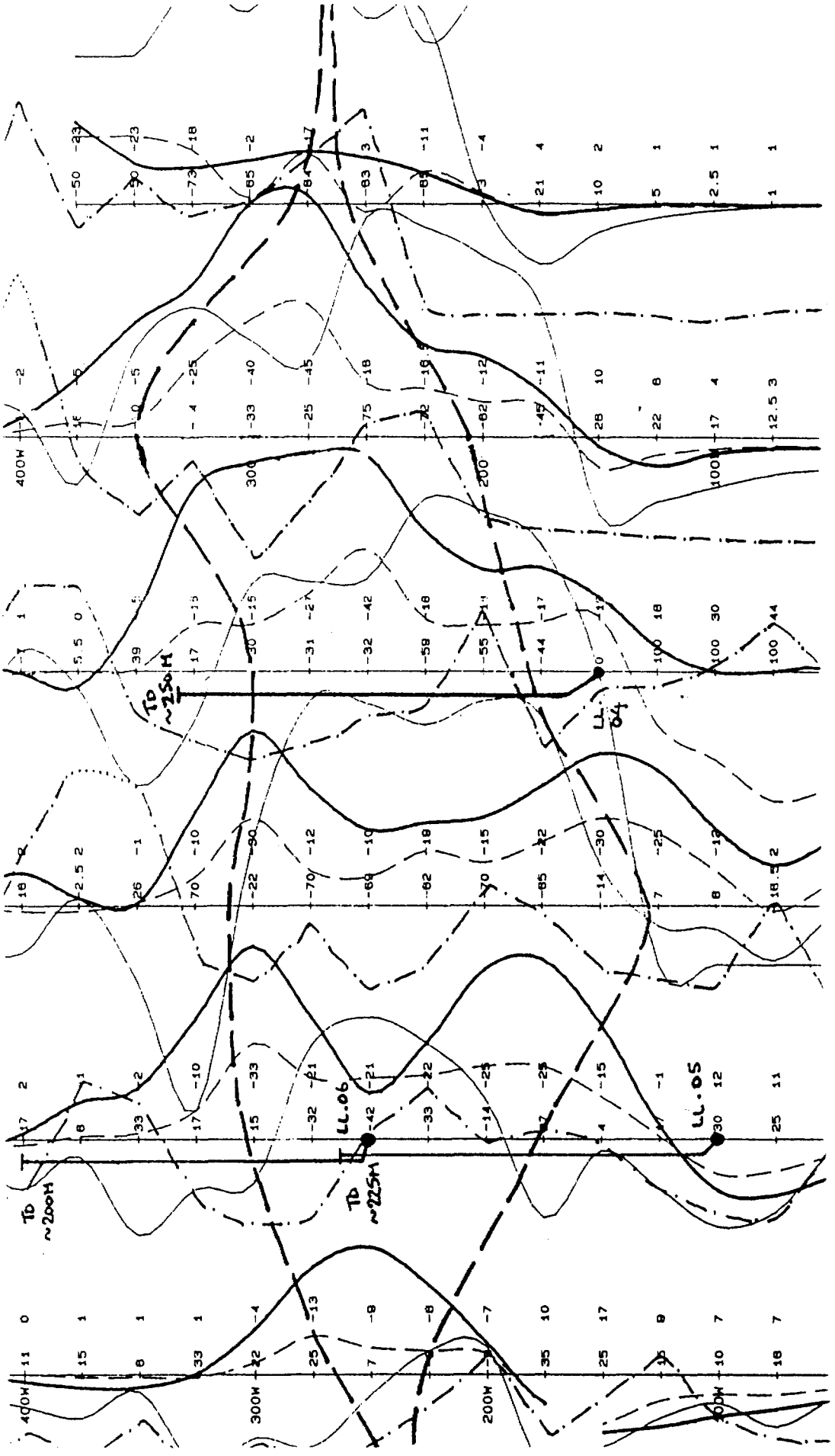


FIGURE 4.5a: Geophysical Compilation TARGET IV

TABLE 4.5b

HOLE LL-04

Coordinates: L11+00N 1+50E
Inclination: -45°
Bearing: 315°
Total Depth: 679' (204m)

DEPTH IN FEET	DIAMOND DRILL LOG SUMMARY
0.0' - 35.0'	Overburden
35.0' - 54.5'	Ferruginous argillaceous siltstone/cherty ironstone
54.5' - 55.7'	Biotite-carbonate schist
55.7' - 84.6'	Cherty ironstone
84.6' - 85.3'	Biotite-carbonate schist
85.3' - 147.0'	Cherty ironstone
147.0' - 148.0'	Biotite-carbonate schist
148.0' - 213.5'	Cherty ironstone
213.5' - 229.3'	Thinly laminated chloritic cherty ironstone
229.3' - 231.2'	Lithwacke/mudstone
231.2' - 233.5'	Chloritic cherty ironstone
233.5' - 235.0'	Lithwacke
235.0' - 236.5'	Chloritic ironstone
236.5' - 253.4'	Siltstone/mudstone
253.4' - 255.7'	Thinly laminated volcanic mudstone
255.7' - 267.3'	Ferruginous volcanic mudstone and chert
267.3' - 270.3'	Mudstone
270.3' - 274.4'	Ferruginous volcanic mudstone
274.4' - 279.0'	Mudstone
279.0' - 289.8'	Thickly laminated siltstone/mudstone
289.8' - 292.4'	Garnetiferous chloritic mudstone
292.4' - 300.0'	Thinly laminated lithwacke
300.0' - 316.5'	Thinly laminated silty mudstone
316.5' - 318.5'	Ferruginous chloritic volcanic mudstone/ironstone
318.5' - 331.5'	Thinly laminated feldspathic lithwacke
331.5' - 366.0'	Ferruginous chloritic volcanic mudstone/ironstone
366.0' - 369.7'	Thickly laminated pebbly sublithicwacke/siltstone
369.7' - 378.1'	Thickly bedded siltstone
378.1' - 382.1'	Thickly laminated chloritic volcanic mudstone/ ironstone
382.1' - 387.3'	Very thinly bedded siltstone
387.3' - 395.1'	Polymictic unit
395.1' - 539.3'	Thickly laminated chloritic vol. mudstone/chert/ ironstone
539.3' - 679.0'	Very thinly bedded garnetiferous sandy siltstone

As expected sulphide mineralization was found throughout the section. The dominate sulphides are pyrrhotite-pyrite but late in the hole (>600') chalcopyrite was observed. Within the ironstones several narrow (<20 cm) quartz-sulphide rich veins were noted. Often associated with deformed stratigraphy, the mineralizing fluids appear to have utilized weak fracture systems. These fracture systems may be better developed on a micro scale. Sulphide content ranged up to 80% but decreases rapidly from the narrow massive horizons.

4.6 SECTION 9+00N

Two diamond drill holes were completed on this section. holes LL-05 and LL-06 were to test zones of multiple conductivity and magnetics. Section 9+00N is the west extension of the broad ironstone horizon drilled on section 11+00N (see Figure 4.5a). There are no outcroppings near the collars.

TABLE 4.6a

HOLE LL-05

Coordinates: L9+00N 1+00W
Inclination: -50°
Bearing: 315°
Total Depth: 759' (231m)

DEPTH IN FEET	DIAMOND DRILL LOG SUMMARY
0.0' - 9.6'	Overburden
9.6' - 61.5'	Chert
61.5' - 73.0'	Thickly laminated chloritic mudstone
73.0' - 150.9'	Thickly laminated cherty ironstone/chloritic volcanic mudstone/chert
150.9' - 162.4'	Thinly laminated ironstone
162.4' - 489.8'	Thickly laminated lepidoblastic cherty ironstone
489.8' - 497.0'	Chloritic volcanic mudstone
497.0' - 499.0'	Thickly laminated feldspathic lithwacke
499.0' - 506.8'	Ferruginous chloritic volcanic mudstone
506.8' - 539.5'	Thinly laminated magnetic chert/ironstone
539.5' - 546.8'	Ferruginous chloritic volcanic mudstone
546.8' - 680.5'	Garnetiferous mudstone
680.5' - 689.0'	Thinly bedded quartzose wacke
689.0' - 698.0'	Thickly laminated mudstone
698.0' - 738.4'	Thinly bedded quartzose wacke
738.4' - 759.0'	Chloritic volcanic mudstone/ironstone

Hole LL-05 was collared into a subcrop of massive chert. Mineralization was found throughout the section. Ironstone intersected at 130' was weakly sulphidizied, up to 15% pyrrhotite, with a chloritic association. The sulphide content of the unit decreased rapidly away from the upper contact. Overall, the sulphide content is low. Numerous recrystallized quartz-sulphide veins which contain up to 80% sulphides which comprise pyrrhotite with minor chalcopyrite (Po: Cp, 8:1) or pyrite. These veins transect the folded stratigraphy.

LL-06 was collared to intersect the last unit of LL-05. The thickness of the ironstone in this area required two holes on the section to cut through its entire breadth.

TABLE 4.6b

HOLE LL-06

Coordinates: L9+00N 2+50W
Inclination: -46°
Bearing: 315°
Total Depth: 639' (195m)

DEPTH IN FEET	DIAMOND DRILL LOG SUMMARY
0.0' - 15.6'	Overburden
15.6' - 70.7'	Thickly laminated cherty ironstone/chloritic volcanic mudstone
70.7' - 169.7'	Garnetiferous choritic mudstone/magnetite ironstone
269.7' - 292.0'	Garnetiferous mudstone/siltstone/quartzose wacke
292.0' - 380.1'	Chloritic volcanic mudstone/cherty magnetite ironstone
380.1' - 497.3'	Cherty magnetite ironstone
497.3' - 624.2'	Chloritic mudstone/siltstone
624.2' - 639.0'	Feldspar porphyry/granodiorite

The continuing appearance of the quartz-sulphide veins were noted. Sulphidization of ironstone occurred in narrow intense zones of less than a metre. These sulphidized zones and the quartz-sulphide veins appear to be related to weak fracturing zones in the folded strati- graphy. The conductors that were targeted have been related to the ironstone intersections and the weak sulphide mineralization throughout the section.

5.0 RESULTS

Although the resulting gold (Au) values from this program were discouraging, several interesting aspects do arise with regard to the model, the geophysics and the geology.

The best assay value obtained was 350 ppb Au, from a weak patchy sulphidized ironstone in hole LL-05. This alteration zone contained up to 15% pyrrhotite with minor pyrite. The sulphides appeared to be replacing magnetite and there is a weak association with chlorite. Stratabound sulphide (Po, Py, Cp) mineralization, ranging from 1% up to 3%, is generally responsible for the EM conductors. The finely disseminated stratabound nature of the mineralization and the lack of any associated alteration shows that these conductors are a formational feature. Extensive analysis of this type of mineralization shows that it is not auriferous. The intercalated ironstone units are responsible for the magnetic features and the very high positive EM values obtained during the surveys. These ironstones were also barren of gold.

Geologically the program has given further insight into the depositional environment and structural history of the fold nose area. Observations of individual graded beds, the overall grading of the metasedimentary package, the predominance of "mud-sized" clastic material and the logging of several debris flows have all been interrupted together as "A" and "E" cycle components of the Bouma model for turbidites in a eugeosynclinal basin. The graded beds in several drill holes indicate the progressive younging of the package away from the intrusive contact. In hole LL-02 the indicated tops establish that the rock has been isoclinally folded. Contradictory graded bedding is positioned to demonstrate this folding.

The structural history of the fold nose area has been described as complex by previous workers. The major fold closure is complimented by parasitic folding as observed on the airborne maps. This folding is probably tectonic as well as atectonic. Target IV, tested with three drill holes (LL-04, 05, 06) is interpreted to be a tight

isoclinal parasitic "Z" fold on the north limb of a large isoclinal fold closing to the northeast of the target area. This structure lies on the north limb of the Grid B fold nose. Brittle deformation of ironstone units in this fold area appear to have acted as traps for the mineralized quartz veins discussed earlier. The quartz veins are found in the nose and limb areas of these parasitic folds. The host sedimentary rocks show very little disruption of their primary fabric.

During the core logging process a magnetic susceptibility measurement was taken every five feet. These readings proved to be useful only in determining the extent of the ironstone units and in distinguishing between the two identified facies of ironstone. The silicate ironstone units were consistently lower in percentage of magnetite than the oxide facies.

R.G. Bonner
Toronto, Ontario
February 24, 1988

RGB/ca

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APPENDIX I

DIAMOND DRILL LOGS

LL-01 TO LL-06

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 1 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+37.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° (GRID EAST) | Total Depth: 699 feet (213m) | Logged By: [illegible]

COMMENTS: Angle at surface was 46.5°
Dip tests at 169' => 31°, 339' => 34.5°, 509' => 41.5°, 669' => 44°

AVE CORE REC'Y/HOLE 100 %

SECTION | ALTERATION (CHLORITE) | FRACTURING | MINERAL | GEOLOGY

DESCRIPTIVE GEOLOGY

0'-12' OVERBURDEN

CASING REMAINS

12'

12'-524.7' MUDSTONE

12'-314.8' VOLCANIC MUDSTONE

- comprised of 75% Garnetiferous Mudstone and 25% Thinly Laminated Mudstone with bands of c.3 cm

Garnetiferous Mudstone

- dark green, weakly chloritic matrix containing anywhere from 5% to 75% subhedral to euhedral (.5mm to 1mm) porkilo blastic garnets (Grossular?)
- garnets are whitish/pink with brownish rims
- appears massive with no internal bedding with sections having a thickness of 3cm to 3meters.
- alteration is limited to weak pervasive chlorite in the matrix
- fracturing rare and if present is quartz/carb filled.
- mineralization dominated by pyrrhotite in very fine grained disseminated form in amounts varying between .5% - 3% throughout the core
- fine mineralization indicated by strong H_2S smell when core subjected to 10% HCl.
- bedding contacts with Thinly Laminated Mudstone generally sharp; regular at 35° to 45°

50' - bedding at 42° to c.a.

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC
1% $P^o_{(py)}$ v.fgr. blebs	12	100	CASING			.08
	19					.15
		100				.21
						.12
.5-1% $P^o_{(py)}$ v.fgr. blebs	29		7Q			.06
		100				.39
1-2% $P^o_{(py)}$ v.fgr. blebs	39			37		.36
				5'	16.7	
		100		41		.27
				5'		
1% $P^o_{(py)}$ v.fgr. blebs	49			49		.61
				5'	1.19	
		110		54		
				5	16.7	.39
	59			59		.24

Hole No. LL-01-87 | Project: McVicar Lake (Lara Lake) | Page No: 2 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3400 N. 1+37.5 E. | Date Finished: 22/09/87 | Scale: 1" = 50'

Inclination: -45° | Bearing: 125°(GRID EAST) | Total Depth: 699 feet (213m) | Logged By: [illegible]

SECTION | ALTERATION: CHLORITE | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

68'-75' - Thinly laminated Mudstone w gradational upper/lower contacts

75.2'-75.4' - small irregular quartz/carb stringers (? frac. fill)

77.1'-77.2' - stringers (? frac. fill)

96.5'-97.5' - Thinly laminated Mudstone w sharp/regular contacts at 73° to c.a.

Garnetiferous Mudstone continues

- subhedral magnetite crystals (< 1mm) comprise locally up to 1% of core.
- Trace chalcopyrite 269'-279'
- magnetic susceptibility readings generally uniform throughout except in zones of increased po & mag. content

Thinly laminated Mudstone

- comprises approx. 25% of Volcanic Mudstone
- medium to dark green, weakly to moderately chloritic
- thinly laminated (< 3cm)
- seen at angles of 35° to 45° to c.a., occasionally disrupted and "floating" in Garnetiferous Mudstone (249'-279')
- slightly more chloritic than Garnetiferous counterpart
- fracturing rare to nil.
- mineralization restricted to .5%-1%, diam. pyrrhotite is very fine grained, disseminated foam with stringers along foliation planes
- prominent "banding" with Garnetiferous Mudstone at 279'-297'
- chlorite alteration weak to moderate, pervasive

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG Susc.
1-2% po(py) v.fgr. diss	59			59		
				5'	1.21	
		100		64		.22
				5'	100	
.5-1% po(py) v.fgr. diss	69			69		.12
		100				.27
1-2% po(py) v.fgr. diss	79					.24
		100	BQ			.12
1% po(py) v.fgr. diss	89					.29
		100				.29
1% po(py) v.fgr. diss	99					.57
		100				.70
tr. po(py) diss.	109					.23
		100				.22
	119					.240

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 3 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+37.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135°(GRID EAST) | Total Depth: 699 feet (213 m.) | Logged By: S.D. [illegible]

SECTION	ALTERATION: CHLORITE	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG
120					12'-524.7' MUDSTONE		1-2% po (py) v.fgr. diss						
					125' - bedding at 67° to c.a.				100				.33
130					12'-314.8' VOLCANIC MUDSTONE			129			129		
							1-2% po (py) v.fgr diss						.34
									100		134		.98
140								139			139		
							1-2% po (py) v.fgr. diss.						.38
									100	BQ	144		.66
150								149			149		
							1-2% po (py) v.fgr. diss						.68
									100		154		.70
160								159			159		
							1-2% po (py) v.fgr. diss						.33
					166.3' - stringers (beds?) of massive pyrrhotite				100		164		.37
170					169' - dip test = 31° (cor.)			169			169		
							1-2% po (py) v.fgr. diss						.97
									100				1.2
180								179					.14

Hole No. LL-01-87 | Project: McVicar Lake (Lacy Lake) | Page No: 4 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: 23+00 W N. 1437.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° (GRID EAST) | Total Depth: 699 feet (213 m.) | Logged By: S. O. LEVEILLEE

ALTERATION | CHLORITE | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated MAG SUSC.

180

180.2' - 184.1' - Thinly laminated Mudstone w irregular & gradational upper/lower contacts

12' - 524.7' MUDSTONE

12' - 314.8' VOLCANIC MUDSTONE - comprised of 75% GARNETIFEROUS MUDSTONE & 25% of Thinly Laminated Mudstone

.5-1% $po_{(py)}$ v fgr. diss.

190

194.1' - 194.6' - smokey qtz. vein & sharp, irregular upper/lower contacts, approx. 5% py

1-2% $po_{(py)}$ v fgr. diss

189

189

191

198

199

199

198' - 199' - smokey qtz. vein & sharp, irregular upper/lower contacts, 5% py => 1% near 199'

1-2% $po_{(py)}$ v fgr. diss

200

204

209

209

1% $po_{(py)}$ v fgr. diss

210

219

219

1-2% $po_{(py)}$ v fgr. diss

220

227' - 228' - Thinly Laminated Mudstone & bedding subparallel to c.a.

229

229

1% $po_{(py)}$ v fgr. diss strg

230

233' - 234' - microfract. subparallel to c.a.

239

239'

240

100 | 100 | 100 | 100 | 100 | BQ

1.21 | 16.34 | 16.35

.50 | .39 | .15 | .40 | .14 | .11 | .91 | .26 | .39 | .29 | .12

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 5 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3.00 N. 1437.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135°(GRID EAST) | Total Depth: 699 feet (213m) | Logged By: S.D. WHITAKER

ALTERATION | CHLORITE | FRACTURING | MINERAL | GEOLOGY | SECTION

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG Susc'y
trace po (py) diss v.fgr	239 → 249	100	BQ			.03 .08
2% po (py) diss sdg	249 – 259	100				.47 .59
1-2% po (py) diss	259 – 269	100				.40 .29
1-2% po (py) trace cpy diss	269 – 279	100				.88 .31
1-2% po (py) diss v.fgr	279 – 289	100				.37 .81
.5-1% po (py) diss sdg v.fgr	289 – 299	100				.49 .53 .29

239'-249' - numerous qtz/carb. fract fillings (< 1% of core)

249'

12'-524.7' MUDSTONE

12'-314.8' VOLCANIC MUDSTONE

i) Thinly laminated Mudstone

ii) Garnetiferous Mudstone

314.8'-366' VOLCANIC MUDSTONE

i) Thinly laminated Mudstone

ii) Recrystallized Chert

- see description next page

279'-297' - prominent bedding (1 to 3cm) between Garnetiferous Mudstone & Thinly laminated Mudstone

- sharp bedding contacts
- bedding at 53° to c.a.

297.6' - sharp decrease to < 5% of core of Garnetiferous Mudstone

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 6 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+37.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135°(GRID EAST) | Total Depth: 699 feet (213m.) | Logged By: S. O. SUEFFLE

SECTION | ALTERATION (CHLORITE) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

300

310

320

330

340

350

360

304.6'-304.7' - layer (bed) of massive pyrrhotite

315' - bedding at 43° to c.a.

339' - dip test = 34.5° (cor)

355' - bedding at 50° to c.a.

351'-366' - < 1% beds of Garnetiferous Mudstone

314.8'-366' VOLCANIC MUDSTONE

- comprised of Thinly Laminated Mudstone MS as previously described in amounts of 80-85% and 20%-15% Recrystallized Chert
- prominent (5%) magnetite rich beds between 315'-350' => see MAG SUSCEPTIBILITY
- occasional beds < 1% of GARNETIFEROUS MUDSTONE
- Recrystallized Chert
  - medium to light grey in colour
  - fine to medium grained
  - well foliated with Thinly laminated Mudstone
  - originally likely homogeneous chert layers (gel) now recrystallized due to metamorphism
  - "banding" -> bedding contacts are sharp & regular varying from 43° to 50° to c.a.
  - bands vary in thickness between 1cm & 10cm
  - folding of unit gives crenulating appearance
  - mineralization generally restricted to pyrrhotite in these recrystallized chert layers in amounts of up to 1% is disseminated form
    => possibly replacement of magnetite in above mentioned bands
- chlorite alteration restricted to Thinly Laminated Mudstone (weak & pervasive)

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC.
trace Py (po) diss						
trace Py (po) diss	309	100				1.2
.5% Py (po) diss & stgr				310		1.2
		100		315	16.3	7.6
1% Po (py) diss. stgr. replac.	319			320	16.34	10.0
		100	BQ	325	16.36	16.0
1% Po (py) stgr. diss & fgr.	329			330	16.1	26.0
		100		335	16.41	11.0
trace Po (pl) diss stgr.	339			340	16.41	5.1
		100				.91
trace Py diss stgr.	349					20.0
		100				1.6
	359					.96

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 7 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1437.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° (GRID EAST) | Total Depth: 699 feet (213m) | Logged By: S.O. WHITENEAR

SECTION	ALTERATION: CHLORITE	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC
360					351'-366' - <1% beds of Garnetiferous Mudstone		trace po	359					
					gradational contact				100				69
370					370'		1-3% $po_{(py)}$ v.f.gr. diss. stg	369					.40
					366'-510' VOLCANIC MUDSTONE				100				.34
					i) Thinly Laminated Mudstone								
380					ii) Garnetiferous Mudstone			379					.25
					- as described above		1-3% $po_{(py)}$ v.f.gr diss		100	BQ			.52
390								389			389		.07
							1-3% $po_{(py)}$ diss stg		100		394	16413	.53
400								399			399		.58
							2% $po_{(py)}$ diss stg		100		404	16444	.96
410					409' - bedding at 42° to c.a.			409			409	16445	
					414' - quartz/carb stringers at 42° to c.a.		1-3% $po_{(py)}$ diss stg.		100			16446	.30
420								419			419	16447	.25 .62

Hole No. LL-01-87 | Project: McVicar Lake (Larry Lake) | Page No: 8 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+37.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° (GRID EAST) | Total Depth: 699 feet (213m) | Logged By: S.D. LOVELACE

SECTION	ALTERATION: CHLORITE	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE 100 %	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC

DESCRIPTIVE GEOLOGY

366'-510' VOLCANIC MUDSTONE

i) Thinly laminated Mudstone

ii) Garnetiferous Mudstone

- proportions of above change to approx. 60% Garnetiferous Mudstone : 40% Thinly Laminated Mudstone

426.6'-427' - quartz (20%)/carb (80%) vein w/ "brecciated" Mudstone within

430'-432' - fract. w quartz/carb infilling containing trace po at 430.5'

439.9'-440.2' - quartz/carb fract. filling w mudstone fragments

449'-450' - microfract. w po-py up to 1%

474' - quartz/rock fract. fill.

472'-510' - 90% Garnetiferous Mudstone

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC
1% $po_{(py)}$ diss stg.	429	100	BQ			.51
<1% $po_{(py)}$ diss stg.	439	100				.11 .18
1-2% $po_{(py)}$ v fgr diss.	449	100				.35 .61
1% $po_{(py)}$ v fgr diss stg.	459	100				.07 .01
1-3% $po_{(py)}$ diss stg. v fgr.	469	100				.11 .33
trace $po_{(py)}$ diss.	479	100				.08 .19

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 9 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 9/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+37.5 E. | Date Finished: 11/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° (GRID EAST) | Total Depth: 699 feet (213m) | Logged By: [illegible]

SECTION	ALTERATION: CHLORITE	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG
480					AVE CORE REC'Y/HOLE 100%							
					366'-510' VOLCANIC MUDSTONE	.5% po (pl) trace py diss		100				10
490					i) Thinly laminated Mudstone 10%		489					.40
					ii) Garnetiferous Mudstone 90%	.5-1% po (pl) diss v.fgr. stg.		100				.38
500					490' - bedding at 54° to c.a.		499					.71
						.5-1% py (pl) v.fgr. diss. stng.		100	BQ			.44
510					509' - clip test = 41.5° (cor)		509					.77
					510' 510'-524.7' VOLCANIC MUDSTONE							
					i) Thinly laminated Mudstone 85%							
					ii) Recrystallized Chert 15%	trace py diss stng.		100				2.1
520					512' - bedding at 60° to c.a.		519					1.40
					524.7'			100				2.00
					524.7'-691' THICKLY LAMINATED IRONSTONE							
530					- medium to dark grey	trace py stng cub	529	100				95.0
					- aphinitic to fine grained							
					- thickly laminated (0.3cm to 1cm)							
					530' - bedding at 58° to c.a.							
					- bedding at 41°-72° to c.a. (folded)							
					- rare secondary quartz/carbonate [50%/50%] < 5% of core between 626.4'-653.2' & 673.4'-687'		539					90.0
540					- continued next page							

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 10 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+27.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 125° (GRID NTH) | Total Depth: 599 feet (213m) | Logged By: S D [illegible]

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

524.7' - 691' THICKLY LAMINATED IRONSTONE

- continued from previous page
- isolated chlorite (<2%) on bedding planes
- minor amphibole series (alteration => enrichment) in above mentioned secondary quartz / carb (2%) seen as light green almost crystalline zones
- magnetite rich (magnetic susceptibility not registered (off scale)
- mineralization restricted to primary isolated stringers ; cubes of pyrite (trace) in barren ironstone with increase to 1% po-py, possibly replacement (sulfidization) in zones of quartz / carb. enrichment (secondary)

565' - bedding at 57° to c.a.

597' - bedding at 72° to c.a.

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
540	NV	539	100	BQ	569		
550	NV	549	100				
560	NV	559	100				
570	trace py diss cube	569	100		569	100	
580	trace py diss cube	579	100		579	100	
590	trace py diss stig	589	100		589	100	
600		599			599		

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 11 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1437.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° (GRID FEET) | Total Depth: 699 feet (213m) | Logged By: S. O. HOFFMANN

SECTION	ALTERATION (CARBONATE / SILICA)	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
600							trace py disseminated	599	100	BQ	599 5' 604 5' 609	165+1 1.5c	
610					524.7' - 691' THICKLY LAMINATED IRONSTONE		trace py disseminated	609	100				
620					624' - bedding at 41° to c.a.		trace py disseminated	619	100		625		
630					626.4' - 653.2' - secondary quartz/carbonate ☐		1-2% $P^{o}_{(py)}$ disseminated replacement	629	100		630 1' 635 5'	1.5F 1.5B	
640							trace $P^{o}_{(py)}$ disseminated	639	100		640 5' 645 5'	1.5 1.0	
650					653.2' - 664' - ironstone appears more massive pass. due to minor component of Volcanic Mud.		5-1% $(P^{o}_{(py)})$	649	100		650 5' 655	1.0 1.5	
660							trace $P^{o}_{(py)}$	659					

Hole No. LL-01-87 | Project: McVicar Lake (Long Lake) | Page No: 12 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: 19/09/87 | Ref. to Claim Corner:

Coordinates: L 3+00 N. 1+37.5 E. | Date Finished: 22/09/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135°(GRID EAST) | Total Depth: 699 feet (213m) | Logged By: S. D. WEISBROD

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICA	ALTERATION: CHLORITE	FRACTURING	MINERAL	GEOLOGY
660						
670						
680						
690						
699						

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

653.2'- 664' - more massive appearance due to VOLCANIC MUDSTONE component

524.7'- 691' THICKLY LAMINATED IRONSTONE

667'- 668' - secondary quartz / carbonate ± amphibole series mineralization

673.4'- 687' - secondary quartz / carbonate ± amphibole series mineralization

691' - sharp contact at 56° to c.a.

691'- 699' VOLCANIC MUD
- thickly bedded (appears massive)
- MUDSTONE

694'- 696.8' - small lense of laminated IRONSTONE

699' - dip test = 41° (corr)

END OF HOLE

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
trace py diss. sub	669	100	BQ	670		
.5-1% po (py) diss. v. fgr. sub	679	100		675		
.5% po (py) diss. cryst.	689	100		680		
trace py diss. cryst.	699	100		685		
				690		7.0
						25
						39

Hole No. LL02 | Project: 1446 | Page No: 1 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L 12+00 N. 21+375 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNEK

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. SUS.
0					0' - 25' OVERBURDEN					STEEL CASING			
10													
20													
30					25' - 63' THINLY LAMINATED IRONSTONE VERY FINE GRAINED, DARK GREY TO BLACK, MAGNETITE IRONSTONE - 50% ALTERNATING CHERTY IRONSTONE (WHITE) GREY TO WHITE AND FINE CHLORITIC MUD (10%) DARK GREEN NEW 10cm SILTSTONE HORIZONS - BROWISH GREY GREEN FEW NARROW ZONES WITH WEAK PERVASIVE CARBONATE AND REDUCED MAGNETITE CONTENT WEAK FRACTURING ALONG BEDDING PLANES AND CROSS-CUTTING BEDDING - CARBONATE AND CHLORITE COATED AND FILLED MINOR DRAG FOLDING TRACE PYRITE ALONG BEDDING PLANES AND FEW FRACTURE FILLINGS - ALSO WEAK SULFIDIZED HORIZONS LATE IN THE UNIT (POSSIBLY WITH P_{po})		Tr Py	29	100	BQ			38
40					BEDDING AT 35° TO CA		Tr Py	38	100				43
50							Tr Py	49	100				23
							Tr Py	57			57'		48
													49
													28
													78
													41

Hole No. LL 02 | Project: 1446 | Page No: 2 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION | ALTERATION (Carbonate) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated MAG. sus.

DESCRIPTIVE GEOLOGY

60

SHARP - OBSCURE

25'-63' THINLY LAMINATED IRONSTONE cont ...

63'-65.7' BIOTITE-CARBONATE SCHIST

VERY FINE GRAINED, LIGHT BROWN, THICKLY LAMINATED TO VERY THINLY BEDDED, 65% BIOTITE, 25% CARBONATE, 6% CHLORITE ?, 5% AMPHIBOLE? HIGHER GRADE META OF CARBONATE RICH ROCK - SILT RICH ROCK, REMNENT BEDDING, NO VISIBLE SULFIDES, FOLIATED

SHARP

65.7'-107' THINLY LAMINATED CHERTY IRONSTONE

VERY FINE GRAINED, LIGHT GREY TO BLACK, THINLY LAMINATED TO THICKLY LAM., 25% MAGNETITE, 45% CHERT, 5% CHLORITIC MUD AND CALCITE FRACTURE FILLINGS, 25% BIOTITE-AMPHIBOLITE ?, PYRITE PRESENT AS FRACTURE AND BEDDING PLANES, FOLIATED, GRUNERITE AT 98'? UP TO 20% Po IN BIOTITE - SULPHIDIZED

70

78' - BEDDING AT 45° TO CA

80

20% Po FROM BIOTITE SULPHIDIZATION (<20cm)

90

100

RECRYSTALLED CHERT

INCREASING CHERT CONTENT TO 80%

108' BEDDING AT 35° TO CA

SHARP

107'-110.5' FERRUGINOUS CHLORITIC VOLCANIC MUDSTONE

FINE GRAINED, THICKLY LAMINATED, CHLORITIC, WELL FOLIATED, WEAK TO MODERATELY MAGNETIC, DARK GREEN TO GREY BLACK, 5% ELONGATED CHERT BLOBS - FEW RECRYSTALLIZED QUARTZ VEINS, PYRITE (POSSIBLE PYRRHOTITE) ALONG FOLIATION PLANES

110

GRADATIONAL

110.5'-126.6' ARGILLITE

FINE GRAINED, THICKLY TO THINLY LAMINATED, WELL FOLIATED, WEAKLY MAGNETIC, GREY BLACK TO DARK BROWN, SILKY (POSSIBLY GRAPHITIC) SULPHIDIZED? BELOW 126.6' - SHARP COLOUR CHANGE TO BROWN PUR. INCREASED PYRITE-PYRRHOTITE CONTENT AS RIBS AND VEINLETS, STRONG

Tr-1% Py, Po	63	100	BQ	4' 63'	1708.	31
Tr Py	79	100				43
Tr Py	89	100				27
Tr Py	99	100				53
Tr Py	109	100				58
Tr Py Po	119	100	V	116' 5'	1709	38
						32
						9.9
						2.7
						14
						19
						0.95
						0.25
						0.37

Hole No. LL02 | Project: 1446 | Page No: 3 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 136° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. SUS.
120												
					110.5'-126.1' ARGILLITE cont... STRONG H2S ODOUR - ALTERATION BEGINS BELOW NARROW DISCORD, ANT RECRYSTALLIZED QUARTZ VEIN, GRADATIONAL LOWER CONTACT	1% Py Po			BQ	121'		
				SHARP				100		5.5'	1710	1.2
130				132' - BIOTITE-CARB SCHIST	126.1'-136.8' THICKLY LAMINATED IRONSTONE AS IN 65.7'-103', 40% MAGNETIC BEDS, 30% CHERT (RECRYSTALLIZED), 20% CHLORITIC VOLCANIC MUD, FEW BEDS (<15cm) BIOTITE-CARB SCHIST, PYRITE ON BEDDING-FOLIATION PLANES, FINE FRACTURES QTZ-CARB FILLED-RANDOMLY ORIENTED, FOLIATED	Tr-1% Py	129			126.1'		
				134' "								36
				SHARP				100				8.5
140					136.8'-143.3' THICKLY LAMINATED FERRUGINOUS SILTY ARGILLITE VERY FINE TO FINE GRAINED, DARK BROWN BLACK TO DARK GREEN, WEAKLY MAGNETIC WITH MINOR INTERCALATING IRONSTONE WITH CHERT BEDS, CARB ALONG FRACTURE AND FOLIATION PLANES, PYRITE ALONG PLANES AND AS MASSIVE BEDS ASSOCIATED WITH RECRYSTALLIZED QTZ-VEINS (DISSRUPTED), FEW PREFERED BEDS WITH IDIOMORPHIC POIKIOBLASTIC GARNET	Tr Py	139					
				SHARP				100				0.92
				146' BEDDING AT 35° TO CA	143.3'-147.6' PEBBLY FERRUGINOUS VOLCANIC MUDSTONE AND CHERT VERY THINLY BEDDED CHERT WITH THICKLY LAMINATED CHLORITIC MUDSTONE WITH ELONGATED ROUNDED CHERT PEBBLES - MAY REPRESENT BOUDINAGE - NECKING AND OTHER FEATURES SUGGEST SOME MAY NOT BE PEBBLES, MODERATE FRACTURE ZONES APPARENT WITH QTZ-CARB FILLING IN CHERT - NOT AS WELL DEVELOPED IN MUDSTONE, 50% MUDSTONE, 30% CHERT, TRACE PYRITE-PYRRHOTITE ALONG FRACTURE PLANES, FEW SILTY HORIZONS							
				SHARP								13
150					147.6'-155.1' GARNETIFEROUS SILTY ARGILLITE VERY FINE GRAINED TO FINE GRAINED, DARK GREY BROWN, THIN TO THICKLY LAMINATED 10% SILTSTONE LAMINATIONS, 2% IDIOMORPHIC POIKIOBLASTIC GARNETS (<2mm) RANDOMLY DISTRIBUTED THROUGHOUT THE UNIT, 1% LABILE FRAGMENTS IN MICACEOUS SILTY BEDS, 2% RANDOMLY DISTRIBUTED CHERT PEBBLES-STRETCHED ALONG BEDDING-FOLIATION PLANES, WEAKLY MAGNETIC, DISS PYRITE AND FRACTURE FILLING PYRITE PRESENT, MINOR H2S ODOUR, MINOR CARB FRACTURE FILLING FOLIATED	Tr Py Po	149					1.0
				SHARP				100				0.48
160					155.1'-170.6' VOLCANIC MUDSTONE / IRONSTONE FINE GRAINED, THICKLY LAMINATED TO VERY THINLY LAMINATED, 30% FINE MAGNETITE IN GREEN CHLORITIC MUDSTONE, WELL FOLIATED, DISRUPTED BEDS, 5% CHERT BEDS AND DISTORTED CHERT PEBBLES, MINOR CARB FILLING ALONG FRACTURES, LAMINATIONS OF 90% MAGNETITE, FEW SILTY HORIZONS, TRACE PYRITE-PYRRHOTITE ASSOCIATED WITH RECRYSTALLIZED QTZ VEINING	Tr Py Po	159					3.6
				165' BEDDING AT 45° TO CA				100				30
				169' DIPTEST - 40° Corr GRADATIONAL								
170					170.6'-184.9' GARNETIFEROUS SILTY ARGILLITE AS IN 147.6'-155.1', CONSTANT 1-2% PYRITE ALONG BEDDING PLANES AS FINE NEEDLE DISS AND AS FRACTURE FILLINGS, MINOR H2S ODOUR AMPHIBOLE MATRIX	Tr Py 1-2% Py	169			170.6'		2.0
								95		4.8'	1711	
										175.4'		0.28
										4.8'	1712	
							179			180.2'		0.29

Hole No. LL02 | Project: 1446 | Page No: 4 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L 12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION: Silicification	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. SUS.
180					170.6'-184.9' GARNETIFEROUS SILTY ARGILLITE cont...		1-2% Py			BQ	180.2'		
				GRADATIONAL							41.6'	1713	
					184.9'-199.8' VOLCANIC MUDSTONE/IRONSTONE		1-2% Po, Cp?		100		184.8'		0.80
					AS IN 155.1'-170.6', ZONES OF SILICIFICATION - PYRRHOTITE, CHERT DISPLAYS MODERATE FRACTURING WITH QTZ-CARB FILLING, SULPHIDE IN CHERT INTIMATELY ASSOCIATED WITH FRACTURE FILLINGS, TRACE CHALCOPYRITE, MOVEMENT SUBSEQUENT TO FRACTURING			189			5.1'	1714	
190							1-2% Po, Cp?				189'		14
											4.8'	1715	
					194.8'-217.8' GARNETIFEROUS ARGILLITE						194.8'		0.53
					AS IN 170.6'-184.8', 1% DISS PYRITE, WEAKLY MAGNETIC CHERT BLOBS WITH ASSOCIATED PYRITE-PYRRHOTITE MINERALIZATION AND CHLORITIC MUD		1% Py		100		4.7'	1716	
								199			199'		
200							1% Py				5.4'	1717	0.35
											204.4'		
					204' - BEDDING AT 45° TO CA				100		4.6'	1718	0.27
					208' - CHERT, CHLORITIC MUD, SULPHIDE		3% Po Py	209			209'		
210							Tr-1% Py				4.8'	1719	0.33
									100		213.8'		
				SHARP	217.8'-218.9' LITHWACKE						4'	1720	0.51
				SHARP	FINE GRAINED, GREY BROWN, THINLY LAMINATED, WEAKLY MAGNETIC, AMPHIBOLE RICH WITH SAND SIZE QTZ GRAINS (<2%) SUBIDIOMORPHIC GARNETS						217.8'		
220							Tr Py	219					0.10
					218.9'-229.7' GARNETIFEROUS ARGILLITE								0.08
					AS IN 147.6'-155.1', VERY FINE GRAINED, GREY BLACK, CHERTY PEBBLE ZONE 226'-228' - ELONGATED, STRETCHED, ORIENTED, TR TO 1% PYRITE				100				
				SHARP	229.7'-231.8' LITHWACKE			229					
230					AS IN 217.8'-218.9'		Tr Py						0.18
				SHARP	231.8'-254.9' GARNETIFEROUS SILTY ARGILLITE		1% Po Py Cp						0.48
					AS IN 147.6'-155.1', FEW RECRYSTALLIZED QTZ VEINS WITH PY-Po, 1% Po, Tr Cp, GARNET UP TO 2mm				100				
								239					0.29

Hole No. LL02 | Project: 1446 | Page No: 5 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1"=10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

331.8'-254.7' GARNETIFEROUS SILTY ARGILLITE cont ...

247' BEDDING AT 40° TO CA

256' P_o - 5%

254.7'-265.6' LITHWACKE

AS IN 217.8'-218.4', 3% PYRRHOTITE, BLUE-EYED QTZ GRAINS, CHLORITIC CHLORITIC-GARNETIFEROUS ZONE AT 256'

SHARP

SHARP

SHARP

265.6'-268.7' PEBBLY VOLCANIC MUDSTONE

AS IN 142.5'-147.6', WEAK PATCHY MAGNETITE, TRACE PYRITE, MINOR GARNETIFEROUS ARGILLITIC BEDS

268.7'-269.5' GARNETIFEROUS CHLORITIC ARGILLITE

VERY FINE GRAINED, DARK GREY GREEN, THINLY LAMINATED, CHLORITIC, 1-2% FINE <2mm IDIOMORPHIC POIKIOBLASTIC GARNETS ALONG PREFERRED BEDS, TRACE PYRITE

269.5'-312.5' POLYMICTIC MATRIX-SUPPORTED GRANULE CONGLOMERATE

VERY FINE GRAINED TO PEBBLY, LIGHT GREY TO GREENISH GREY, 20% GRANULE TO PEBBLE SIZED CLASTS, FEW PYRRHOTITE RICH BEDS, PYRITE AS FRACTURE COATINGS, SILTY HORIZONS, CLAST ARE WEAKLY TO MODERATELY ORIENTED, CONTORTED BEDDING; PROBABLY A DEBRIS FLOW, FEW RECRYSTALLIZED QTZ VEINS, MODERATE PERVASIVE CARB IN PEBBLES OF THIS LITHOLOGY - MULTIPLE MOVEMENTS? MINOR LATE STAGE QTZ-CARB FRACTURE FILLING H2S ODOUR

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. SUS.
240	1% P_o P_y C_p		100	BQ			0.58
		249					
250	1% P_o P_y C_p		100		254.6'		0.29
	3% P_o	259			5.3'	192.1	0.18
260	3% P_o		100		259.9'		0.54
	Tr P_y P_o	269			5.8'	172.2	0.23
	Tr P_o P_y		100		265.7'		0.11
270		279					0.02
	Tr P_o P_y		100				0.03
280		289					0.0
	Tr P_o P_y		100				0.13
290		299		Y			0.12
							0.41

Hole No. LL 02 | Project: 1446 | Page No: 6 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R. G. BONNER

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | DESCRIPTIVE GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated MAG. Sus.

300

2691.5'-312.5' POLYMITIC MATRIX-SUPPORTED GRANULE CONGLOMERATE
cont...

Tr Py Po

100

BQ

0.02

310

GRADATIONAL

SHARP

319' BEDDING AT 45° TO CA

GRADATIONAL

312.5'-315.9' PEBBLY CHLORITIC VOLCANIC MUDSTONE
FINE GRAINED, DARK GREEN TO WHITE, RECRYSTALLIZED QTZ VEIN PEBBLES-CARB RICH SANDY-SILTY PEBBLES (OVERLYING UNIT?) IN CHLORITE-AMPHIBOLITE THINLY LAMINATED MATRIX, PYRITE-PYRRHOTITE FRACTURE FILLING AND SULPHIDIZATION - MINOR

Tr Py Po

309

100

315.9'
3.8'
1723

0.14

315.9'-321.0' GARNETIFEROUS SILTY ARGILLITE
AS IN 147.6'-155.1', ZONES OF SANDY-SILTY MATERIAL WITH FEW PEBBLES, PYRITE-PYRRHOTITE ALONG FRACTURES AND BEDDING PLANES - MASSIVE 1-2 mm BANDS, 1% IDIOMORPHIC POIKILOBLASTIC GARNETS ZONES OF SULPHIDIZATION - 20% PYRRHOTITE - ASSOCIATED WITH CHLORITE

Tr - 1% Po Py

319

10% Py Po

2% Py Po

100

319'
2'
321'
4.3'
1725

1.3

1.8

321.0'-323.3' POLYMICRO MATRIX-SUPPORTED GRANULE CONGLOMERATE
AS IN 269.5'-312.5' BLUE-EYED QTZ <1%, CHLORITE-SULPHIDE ASSOCIATION UP TO 2% PYRITE-PYRRHOTITE-DISS AND VEINLETS - SULPHIDIZATION, RECRYSTALLIZED QTZ VEINS WITH MINOR SULPHIDES, COARSE LITHWACKE

323.3'
1.9'
325.2'
1726

0.07

SHARP

Tr Py Po

329

325.2'-332.6' CHLORITIC VOLCANIC MUDSTONE / IRONSTONE
AS IN 155.1'-170.6' FEW SCATTERED PEBBLES RECRYSTALLIZED CHERT WEAK MINERALIZATION - Py, Po; SULPHIDIZATION

Tr Py Po

100

6.0'
1727
332.8

15.0

332.6'-340.7' GARNETIFEROUS ARGILLITE
AS IN 194.8'-217.8', GRADED BEDS AND ONE SOFT SEDIMENT LOADING FEATURE SUGGESTING WAY UP IS DOWN THE HOLE, MINOR RECRYSTALLIZED QTZ VEINING WITH Py, FRACTURES (LATE STAGE) WITH Py COATINGS, THINLY LAMINATED TO THINLY BEDDED, FEW SILTY-SANDY BEDS, PEBBLY AND CHLORITIC ZONES NARROW BEDS <4cm MASSIVE Po SIGNIFICANT Po SULPHIDIZED ZONES

339' DIP TEST 36° Corr
340' BEDDING AT 50° TO CA
FRACTURING AT 25° TO CA

340

Tr Py Po

337

0.17

0.29

Tr Py Po

100

349

0.32

350

Tr Py Po

100

0.22

0.07

359

0.06

Hole No. LL 02 | Project: 1446 | Page No: 7 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Mag. Sus.

360

362' } GRADED BEDS
363'

370

376' 80% PYRRHOTITE, Cp TRACE SULPHIDIZATION

377' GRADED BED

380

381 20% PYRRHOTITE SULPHIDIZATION

390

GRADATIONAL

400

400' BEDDING AT 60° TO CA
FRACTURING (S1) AT 35° TO CA - CONJUGATE SET

410

409' - 414' FRACTURING - SILICIOUS FILLING (RECRYSTALLIZED)

332.6'-390.2' GARNETIFEROUS ARGILLITE cont...

390.2'-437.7' THINLY LAMINATED IRONSTONE

VERY FINE GRAINED, DARK GREY BLACK, WELL FOLIATED, FEW TIGHT FOLDS, 80% MAGNETITE BEDS, 20% SILICIOUS-CHLORITIC BEDS, FINE SILICIOUS FRACTURING - SLIP PLANES, MINOR GRUNERITE ?, TR SULPHIDE ALONG BEDDING PLANES, FRACTURES AND FEW SULPHIDIZED ZONES

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated Mag. Sus.
Tr - 1% Po Py Cp	369	100	BQ	369' 5'	1728	0.51
Tr - 1% Po Py Cp				374'		1.10
30% Po		100		5'	1729	0.24
2% Po	379			379'		
Tr Po				5'	1730	0.41
20% Po				384'		
2% Po				5'	1731	0.07
Tr Py	389	100		389'		
Tr Py				394'	1732	1.80
	399	100				12.0
Tr Py						65.0
	409	100				>100
Tr Py Po						>100
	419					>100
Tr Py						

Hole No. LL02 | Project: 1446 | Page No: 8 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2437.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
420					390.7'-437.7' THINLY LAMINATED IRONSTONE ... cont.	Tr Py Po			BQ	421'		
				425'	MASSIVE Po, Py - SULPHIDIZATION IN GRANULE CONGLOMERATE BED - QTZ, MUDSTONE, IF? GRAINS - POROSITY CONTRAST?	5% Po Py		100		426.2'	173%	>100
				429'	LITHWACKE BEDS	Tr Py Po	429					
430						Tr Py 80%						94.0
				GRADATIONAL				100				>100
				SHARP	437.7'-439.3' MUDSTONE — NO GARNETS		439					
440					FINE GRAINED, THINLY BEDDED, MEDIUM GREY, MINOR RECRYSTALLIZED QTZ VEINS, FOLIATED, FEW (<1cm) MAGNETIC LEDS, WEAKLY CHLORITIC	Tr Py Po Cp						11.0
				444' SHARP	BEDDING AT 65° TO CA			100				0.25
					439.3'-444.5' CHLORITIC VOLCANIC MUDSTONE/IRONSTONE — FINE GRAINED, DARK GREEN WITH ALTERNATING GREY BLACK MAGNETITE BEDS, THICKLY LAMINATED, WELL FOLIATED, MINOR SOFT SED DEFORMATION, FEW RECRYSTALLIZED QTZ VEINS WITH Po, Py, Cp MINERALIZATION ALSO MINOR SULPHIDE ALONG BEDDING PLANES,		444					
					444.5'-451.6' LITHWACKE / MUDSTONE — FINE TO MED GRAINED, AS IN 437.7'-439.3', CONTAINS BEDS OF SUBLITHIC WACKE (5-10% QTZ GRAINS), ONE GRADED BED WITH UP-UP THE HOLE, TRACE PY ALONG FRACTURES	Tr Py Po						0.07
450				SHARP			449					
				SHARP	451.5'-453.2' BIOTITE LAMPROPHYRE DYKE — FINE GRAINED, WEAK CARBONATE, BIOTITE 80%, QTZ VEINS (RECRYSTALLIZED) AT CONTACTS, CONTACTS BAKED	Tr Py		100				0.08
					453.2'-470.8' MUDSTONE — AS IN 437.7'-439.3' INCLUDES SECTION OF GROUND CORE - POOR RECOVERY		459					
460						Tr Py						0.04
				GROUND CORE				30				40 CORE
							469					
470				SHARP	470.8'-477.1' FERRUGINOUS CHLORITIC VOLCANIC MUDSTONE — AS IN 107'-130.6', MINOR RECRYSTALLIZED CHERT, FEW NARROW BANDS IRONSTONE. SOFT SED DEFORMATION - CONVOLUTED BEDDING	Tr Py		90				0.53
				SHARP	477.1'-479.7' BIOTITE LAMPROPHYRE DYKE — AS IN 451.5'-453.2'							0.03
				SHARP			479					0.38

Hole No. LL02 | Project: 1446 | Page No: 9 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

DESCRIPTIVE GEOLOGY

479.7'-607.8' MUDSTONE ——— Cont...

AS IN 457.7'-479.3', SEVERAL ZONES OF CONVOLUTED BEDS, DIKELET BEDS, RECRYSTALLIZED QTZ VEINS, TRACE SULPHIDIZATION WITH QTZ, H2S ODOUR IN FINER FRACTIONS, THINLY LAMINATED TO THINLY BEDDED

488' GRADED BED ↓

492' BEDDING AT 55° TO CA
GRADED BED ↓

509' DIP TEST 33.5° Corr

512' QTZ VEIN, Po

532' BEDDING AT 70° TO CA

Tr Py Po

489 | 499 | 509 | 519 | 529 | 539

100 | 100 | 100 | 100 | 100

BQ

0.04 | 0.07 | 0.05 | 0.29 | 0.06 | 0.07 | 0.04 | 0.06 | 0.0 | 0.07 | 0.04 | 0.0

Hole No. L102-
Project: 1446
Page No: 10 Of 14
Casing Collar Elev.: Ground Elev.:
Date Started: 05-10-87
Ref. to Claim Corner:
Coordinates: L12100 N. 2137.5 E.
Date Finished: 16-10-87
Scale: 1" = 10'
Inclination: -45° Bearing: 135°
Total Depth: 837'
Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

401.7 - 661.8' MUDSTONE ..... cont'd ...

544' PEBBLE ORIENTED PEBBLE

553' QTZ VEIN (RECRYSTALLIZED)

555' GRADED BED

559' CONVOLUTED BEDS

561' LITHWACKE BED

583' BEDDING AT 50° TO CA

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
540					Tr Py Po			BQ			
						544	100				0.09
560					Tr Py						0.03
						559	100				0.07
					Tr Py						0.04
560						569	100				0.04
					Tr Py						0.04
						579	100				0.04
580					Tr Py Po Cp						0.04
						589	100		581'		0.04
					Tr - 1% Py Po				5'	1734	0.08
						599	100		594'		1.2
									5'	1734	
									599'		0.06

Hole No. LL02 | Project: 1446 | Page No: 11 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1"=10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNIER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
600					578.7' - 667.8' MUDSTONE cont...					BQ			
					605' GRADED BED ↓				100				0.09
610					610' MAGNETIC BED IRONSTONE			609					
									100				1.0
								619					0.11
620					623' LITHWACKE BED				100				0.09
								629					0.07
630									100				0.04
					636' LITHWACKE BED			639					0.03
					639' LITHWACKE BED								
640					641' GRADED BED ↑				100				0.09
								649					0.08
									100				0.17
650					653' LITHWACKE BED								
					654.5' GRADED BED ↑ ↑			659	100				0.09
					659'-664' IRONSTONE BANDS - 30% CORE								0.18

Hole No. LL02 | Project: 1446 | Page No: 12 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1"=10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated

660

666' BEDDING AT 65° TO CA
SHARP

670

678' LITHWACKE BED AT 80° TO CA
679' DIP TEST 22.5° Corr
SHARP
684' BEDDING AT 65° TO CA
SHARP

690

694' GRADED BED ↓
QTZ VEIN (RECRYSTALLIZED)

700

LITHWACKE
700' MAGNETIC CHLORITIC MUDSTONE BED
701' GRADED BED ↓

710

QTZ, CHLORITE, MINOR MAGNETITE BEDS

LITHWACKE

479.7'-667.8' MUDSTONE cont...

667.8'-670.6' BIOTITE LAMPROPHYRE DYKE
AS IN 451.5'-463.2' BROWNISH SHARP DISCORDANT CONTACTS CONTACT META - HORNBLENDE PORPHYROBLASTS IN MUDSTONES

670.6'-681.8' MUDSTONE
AS IN 479.7'-667.8'

681.8'-686.9' LITHWACKE
COARSE GRAINED, MEDIUM BEDDED, LIGHT SMOKEY GREY, 3-5% FINE MUDDY LABILE FRAGMENTS, AMPHIBOLE MINERALOGY, TRACE TO 1% Py, FEW PEBBLES

686.9'-759' MUDSTONE
AS IN 479.7'-667.8', FEW NARROW LITHWACKE BEDS UP TO 30% CORE BECOMING CHLORITIC

Drilling Interval	% Core Recovered	Estimated
669	100	0.06
679	100	0.03
681	100	0.11
699	100	0.11
709	100	0.02
719	100	0.05
		0.02
		0.00
		0.29
		0.03
		0.03
		0.11

Hole No. LL02 | Project: 1446 | Page No: 13 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2437.6 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. SUS.
720					686.9 - 759' MUDSTONE ..... cont.		Tr Py Po Cp			BQ			
					724' LITHWACKE				100				0.05
730								729					
					728' BEDDING AT 55° TO CA		Tr Py Cp						0.07
					734' LITHWACKE				90				0.02
								737					
740					742' CHLORITIC FERRUGINOUS MUDSTONE		Tr Py Cp						0.09
									100				0.03
								747					
750							Tr Py Po						0.14
									100				0.14
								759					
					ARBITARY								
760					759' - 783.5' MUDSTONE / LITHWACKE		Tr Py Po						0.05
					60% LITHWACKE WITH INTERCALATING MUDSTONE., PLENTY OF SOFT SED. DEFORMATION, MINOR INCREASE IN CHLORITE CONTENT, SULPHIDES ALONG BEDDING AND FOLIATION CONTACTS, MUDSTONE OFTEN ARGILLITIC.				100				0.09
								769					
770							Tr Py Po						0.04
									100				0.04
								779					0.01

Hole No. LL02 | Project: 1446 | Page No: 14 Of 14

Casing Collar Elev.: | Ground Elev.: | Date Started: 05-10-87 | Ref. to Claim Corner:

Coordinates: L12+00 N. 2+37.5 E. | Date Finished: 16-10-87 | Scale: 1" = 10'

Inclination: -45 | Bearing: 135° | Total Depth: 837' | Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

780' - RECRYSTALLIZED QTZ VEIN

SHARP

759' - 781.6' MUDSTONE / LITHWACKE cont...

783.5' - 813.3' MUDSTONE

AS IN 686.9' - 759.0', 10% LITHWACKE BEDS, TRACE TO 1% Po,Py
THINLY BEDDED TO THICKLY BEDDED, WEAK H2S ODOUR

812' BEDDING AT 35° TO CA

SHARP

813.3' - 828.0' BIOTITE - CARBONATE SCHIST

MEDIUM TO COARSE GRAINED, MASSIVE BED, WITH 20% LABILES, 5% QTZ EYES AND 5% PEBBLES, LOWER AMPHIBOLITE FACIES - BIOTITE-AMPHIBOLE CALCITE-CHLORITE MINERALOGY, WEAKLY FOLIATED, WAS PEBBLY LITHWACKE, TR-Po,Py, GREY BROWN, NEMATOBLASTIC.

SHARP

828.0' - 837.0' MUDSTONE

AS IN 783.5' - 813.3', CHLORITIC, FINE CHLORITIC LAMINATIONS, TR Po,Py
FEW LITHWACKE BEDS

835' BEDDING AT 35° TO CA
836' GRADED BED ↓
DIP TEST 20.0° Corr

END OF HOLE - 837'

SECTION	ALTERATION	FRACTURING	Ca MINERAL	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. Sus.
780					Tr Po Py	759	100	BQ			0.05
790					Tr Po Py	789	100				0.09
800					Tr Po Py	799	100		791' 5' 804' 5' 809'	1736 1737	0.07 0.12
810					Tr-1% Po Py	809	100				0.07
820					Tr-1% Po Py	819	100				0.03
830					Tr Po Py	829	100				0.03
					Tr Po Py	837	100				0.01 0.07

Hole No. LL-03-87 | Project: McVicar Lake (Long Lake) | Page No: 1 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00N N. 0+50E E. | Date Finished: 04/10/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° (GRID WEST) | Total Depth: 549' (167m) | Logged By: S.O. WEIDNER

SECTION	ALTERATION: CARBONATE	ALTERATION: SILICIFICAT.	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSCEP
0						0'-30' OVERBURDEN CASING REMAINS					CASING			
30						30'- MUDSTONE 30'- 33.8' - SILICIFIED THINLY LAMINATED MUDSTONE - medium grey brown, aphanitic thinly laminated mudstone w laminae disrupted; deviated due to strong silicification - weakly foliated - weak to moderate carbonatization (pervasive - primary) - mudstone contains rare (< 1%) subhedral poikiloblastic <1mm in diameter garnets (Grossular?) - mudstone occasional brownish tint (biotite/muscovite!) 33.8'- 47.4' VOLCANIC MUDSTONE - consist of THINLY LAMINATED MUDSTONE (90%) with approx. 10% of THICKLY LAMINATED SILTSTONE → description following page		trace po-py diss. trace po-py diss blebs str.g 1% po-py str.g trace po-py diss str.g	30 39 49 59	100 100 100	BQ	30 35 40 45 50	166% 166% 166%	.34 .24 .23 .11 .40 .105 .15

→ sharp, irregular contact (33.8')

114' - bedding at 50° to c.a.
→ 44.8'-45' → quartz vein
→ 46'-46.8' - quartz vein
→ sharp, irregular contact (47.4')

Hole No. LL-03-87 | Project: Helicar Lake (Long Lake) | Page No: 2 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00 N N. 0+50 E E. | Date Finished: 04/10/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° (GRID WEST) | Total Depth: 549' (167m) | Logged By: S.D. WEISNER

ALTERATION: Fe-CARBONATE | CARBONATE | SILICIFICATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

SECTION

DESCRIPTIVE GEOLOGY

60

- gradational contact (63.2')
- 65.4'-65.7' - "Wacke" interbedded

THINLY LAMINATED MUDSTONE
- comprises 90% of section, dark to medium green to gray/black chert
- thinly laminated (<.3 cm)
- aphanitic to very fine grained w poss. compositional banding due to varying quartz content
- contacts w siltstone sharp & regular along bedding planes
- v. weak primary interstitial calcite increasing in siltstone beds

70

- sharp, regular contact at 35° to c.a. (74')
- sharp, regular contact at 56° to c.a. (75.1')
- quartz/carb veinlet at contact w 3% py-po

THICKLY LAMINATED SILTSTONE
- medium to dark gray, thickly laminated and fine grained
- grains are rounded to subrounded
- weak chlorite along bedding planes and contacts w mudstone
- weak to moderate pervasive interstitial calcite

80

- gradational contact (83.3')

47.4'-63.2' **VOLCANIC MUDSTONE**
- consists of THINLY LAMINATED MUDSTONE (45%) and RECRYSTALLIZED CHERT (55%)

- gradational contact (86.6')

THINLY LAMINATED MUDSTONE
- laminations <.3 cm with compositional banding due to varying silica content and chlorite content
- aphanitic to very fine grained
- rare (<1%) garnetiferous mudstone beds w 10-20% subhedral poikiloblastic, whitish pink up to 1mm garnets (granular)

90

- 90.6'-92' - wacke bed
- 92.8'-94' - wacke bed
- 95' - bedding at 51° to c.a.

RECRYSTALLIZED CHERT
- very thinly bedded, medium gray, very fine grained recrystallized chert
- contacts w above are sharp and irregular (folding & crenulation)

100

- gradational contact (103')

63.2'-74' **ARGILLITE**
- black (possibly slightly graphitic), aphanitic, thinly laminated w approx. 10% white quartz/carbonate stringers parallel to bedding plane
- contains bed of "wacke" at 65.4'-65.7'
- Fe-carbonate associated w stringers of pyrite

- 105.8' - quartz/carb vein (cm)
- 107.3' } "MASSIVE VOLCANIC MUDSTONE"

110

- 113' - quartz/carb vein (cm)

74'-75.1' **GREYWACKE**
- medium gray, massive, fine grained
- moderate pervasive interstitial calcite
- rare (<.5%) mica (biotite?)

120

- 118.1' - quartz/carb. vein (cm)
- 118.8' - quartz/carb vein (cm)

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSCE
trace po-py diss.	59			60		
2% py-po diss. str. syn	69	100		65'	1661	.13
				70'	1671	.63
NV		100		75'	1671	.11
trace py-po diss vfgr.	79					.78
.5% py-po diss		100	BQ	85'		.09
1% py-po vfgr. diss. str.	89	100		90'	1673	.04
				95'	1674	.31
.5-1% py-po diss cubes str. vfgr.	99	100		100'		.45
	109	100		109'		1.0
				115'		.37
	119			119'		2.1 .72

Hole No. LL-03-87 | Project: McVicar Lake (Long Lake) | Page No: 3 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00 N. 0+50 E. | Date Finished: 04/10/87 | Scale: 1"=10'

Inclination: -45° | Bearing: 315°(GRID WEST) | Total Depth: 549' (167m) | Logged By: S.O. WEIDNER

ALTERATION: Fe-CARBONATE | CARBONATE | SILICIFIC. | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

75.1' - 83.3' SILTSTONE

- medium gray brown, massive to weakly foliated & isolated (< 5%) beds of coarser grained 'fine grained wacke => sandstone'
- occasional beds of RECRYSTALLIZED CHERT => "SILICIFICATION!"
- rare fracturing

83.3' - 86.5' VOLCANIC MUDSTONE

- consisting as above of 1) THINLY LAMINATED MUDSTONE
  2) RECRYSTALLIZED CHERT
- mudstone contains occasional beds (< 1%) of GARNETIFEROUS MUDSTONE AS IN LL-01-87

86.5' - 103' VOLCANIC MUDSTONE

- comprised of 60% 1) ARGILLITE
  and 40% 2) RECRYSTALLIZED CHERT

ARGILLITE: - seen as above as thinly laminated mudstone w minor (<1%) graphite and occasional beds of "wacke" => siltstone

RECRYSTALLIZED CHERT: - seen as medium grey, v. fine grained bands parallel to bedding w occasional calcite fract. fillings

103' - 128.3' VOLCANIC MUDSTONE

- comprised of 1) THINLY LAMINATED MUDSTONE (50%)
  2) RECRYSTALLIZED CHERT (50%)

=> both as described above except

1. - several quartz/carb veinlets containing up to 3% pyrite in calcs and stg.
2. - laminated mudstone may locally contain up to 1% graphite
3. - sulphide content increased to locally 2%
4. - magnetite bands 126.5' - 127.2' (see MAG. SUSCEPT)
5. - microfolds at 123', 125' show slight increase in grainsize consisting of RECRYSTALLIZED CHERT

SECTION	Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	Rec'y % Samp. Int.	Estimated MAG SUSCEP
120	1% po-py diss				119		
					5'	167?	
					124		4.7
	5% po clus, rep		100		5'	167A	
130		129			129		.89
	trace po-py						
	very fgr diss stgs.		100				.07
		139					
140	trace py-po diss						.12
			100	BQ			.44
	1% py-po stgs.	149			149		
					5'	167?	1.4
	2% po-py				154		
150	fract fill. diss		100		5'	168?	.72
		159			159		
	trace po-py				5'	169?	.22
160	v/fgr diss		100		164		
					5'	165?	3.7
		169			169		
170	trace py-po diss		100				5.8
							11
180		179					

- 120.2' - quartz/carb vein (cm)
- 123' - microfold
- 125' - microfold
- 127' - bedding (foliation) at 65° to c.a.
- gradational contact (128.3')
- 131.8' - 132.2' - quartz vein/40% carbonate in fract.
- bedding at 65° to c.a.
- gradational contact (149')
- 150' - 150.3' - quartz/carb vein (cm)
- 154.8' - 154.9' > quartz/carb vein (cm)
- 155.4' - 155.8' >
- 160.5' - 160.7' - quartz/carb vein (cm)
- 165' - 166.1' - quartz/carb vein (cm)
- 169' - dip test = 32.5° (cor.)
- 170.9' - 171' - quartz/carb vein (cm)
- bedding at 59° to c.a.

Hole No. LL-03-87 | Project: McVicar Lake (Long Lake) | Page No: 4 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L10100N N. 0+50E E. | Date Finished: 04/10/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315°(GRID WEST) | Total Depth: 549' (167m) | Logged By: S.D. WEIDNER

SECTION	ALTERATION: CARBONATE	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSCEP
180													
EXPANDED INTERVAL TO ACCOMODATE CORE TAG ERROR					NOTE: CORE TAGS ORIGINALLY MARKED INTERVAL 179-187 AS 179-199, CORE TAGS WERE CORRECTED AND LOG ADJUSTED RMT								
					128.3'-149' THINLY LAMINATED SILTSTONE - medium gray/green/brown, thinly laminated - grain size variable from very fine grained to fine grained - weak to moderate foliation (bedding) somewhat subparallel to c.a. - fine grained section contain micaceous looking mineral (biotite?) but <5% - occasional zones of calcite filled vugs are pore spaces - very weak carbonatization (prob. primary - interstitial)		trace py-po sl/g. disc		100				13
190					149'-197.8' VOLCANIC MUDSTONE - comprised of 1) 70% THINLY LAMINATED MUDSTONE 2) 25% RECRYSTALLIZED CHERT 3) 5% MAGNETITE BANDS (SEE MAG SUSC. >/60') - all very strongly foliated in bands not exceeding 3cm - very thinly bedded - several quartz/carb veins (cm) with pyrrhotite infilled fract. fillings		trace py-po @ 5% near qtz/carb fract.	189	100				4.2
			qtz/cb		195.7'-195.9' - quartz/carb vein (cm) 196.5'-196.8' - quartz/carb vein (cm) gradational contact (197.8')					BQ			0.68
200					- GARNETIFEROUS MUDSTONE as in LL-01-87 in rare beds <2% to 180' then decreasing in abundance. - several quartz/carb veins (cm) with up to locally 10% po-py in fractures (min. restricted to quartz/cb veins) - carbonatization restricted to RECRYSTALLIZED CHERT and lbs		NV	199	100				0.03 0.40
210					197.8-223.3 THINLY BEDDED SILTSTONE - medium to light gray, fine grained and thinly to medium bedded - bedding thickness varies from 1cm to 10cm - very fine grained to fine grained - rock appears rather homogeneous - rare quartz/carb fracture fillings - appears unaltered		trace py except in fract fill here 2% po-py 228'	209	100				0.01 0.19
220			qtz/cb		218-218.1' - quartz/carb fract. fill @ 2% po-py			219					0.28
					sharp, regular contact (223.3') at 63.5° to c.a. sharp, regular contact (224.6') at 223.3-224.6 LITHIC WACKE - medium gray, fine grained to medium grained - contains angular to subangular fragments of SILTSTONE, MUDSTONE and ARGILLITE in mudmatrix, matrix - moderate interstitial calcite - possibly micaceous material (<1%)		5% py/fract		100				0.40
230								229					0.02

Hole No. LL-03-87 | Project: McVicar Lake (Long Lake) | Page No: 5 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00 N N. 0+50 E E. | Date Finished: 04/10/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° (GRID WEST) | Total Depth: 549' (167m) | Logged By: S.O. WEIDNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC.
230					**224.6'-287.3' PEBBLY THINLY BEDDED SILTSTONE**		trace py-po diss fract fill	229					
					- consist of beds varying in grain size from very fine grained approaching almost fine grained sandstone size particles				100				0.13
					- bedding varies from 3cm to 30cm								
240					- rather uniform in colour from medium to light grey occasional greenish tint		trace py-po diss. strg. fract fill.	239					3.0
					240.4'-241.2' - "WACKE"				100				0.34
					- quartz/carbonate filled fracture fillings (< 5%) at cross cutting angles to bedding								
					- contains occasional beds of fine grained "wacke" with rare < 5% blue quartz grains (eyes)								
					- rock relatively unaltered								
250					- NOTE: POSSIBLY THE UNIT IS A MATRIX SUPPORTED CONGLOMERATE FROM 233.3'-303.1' AS RARE (< 5%) OCCURENCES OF SUBROUNDED PEBBLE SIZE QUARTZ FRAGMENTS ARE VISIBLE.		trace py-po fract fill < 2% locally	249					0.28
					250.6' - bedding contact at 54° > "Wacke" interbed 261.6'				100				
					- pyrite/pyrrhotite mineralization rare (generally trace) in isolated zones in quartz/carb. fract. fillings where it may reach 1-2% locally.					BQ			0.13
260								259					
					287.3'-293.1' POLYMICTIC CONGLOMERATE		trace py-po diss. fract fill		100				0.52
					- immature, consisting of 15% sand size to pebble size angular to subangular clasts in a fine grained siltstone size matrix								0.07
					- clasts consists of chert (40%), mudstone (5%) and blue quartz (10%)								
270					- matrix supported in randomly oriented clasts in no size gradation			269					0.04
					- minor carbonate in fract. zones		.5% py-po fract planes strg.		100				
					- mineralized in trace to 1% diss. pyrite/pyrrhotite								0.22
					- matrix mainly quartz rich, siltsize with rare carbonate								
					273 / 276.1 "Wacke"								
					- unaltered								
280							trace to 1% py-po diss blebs strg.	279	100		285		0.44
					287.3' ——— sharp irregular contact						5'	1683	
290								289			290		0.14

Hole No. LL-03-87 | Project: McVicar Lake (Long Lake) | Page No: 6 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00 N N. 0+50 E E. | Date Finished: 04/10/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° (GRID WEST) | Total Depth: 549' (167m) | Logged By: S.O WEIDNER

SECTION	ALTERATION: CARBONATE	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SCEP
290											290		
					293.1' - 334.5' THICKLY LAMINATED SILTSTONE - thickly laminated (0.3m to 1m) - medium gray - appears homogeneous and rather unaltered - occasional but rare quartz/carb. fractures - mineralized in very fine grained po in disseminated form		trace to 1% py-po				5' 295	1684	
					gradational contact (293.1')		trace po-py v.fgr. stg.		100				0.03
300								299			299	NS	
			qtz		>303.2'-308.8' - quartz vein w carb. filled frct & trace pyrite near frct.		1% po-py v.fgr. diss. frct.		100		5' 304	1685	0.46
													0.45
								309			309	1686	
310							1-2% po-py v.fgr diss. frct.		100		314	1687	0.44
								319		BQ	319	1688	0.31
320							1% po-py v.fgr. diss stg. frct.		100		324	1689	0.18
					324 - bedding subparallel to c.a.								0.12
					334.5' - 369.6' PEBBLY THINLY BEDDED SILTSTONE - as above except 1) no fine grained beds of "wackes" but appears rather uniform 2) pebbles rounded to subangular. < 1% of core consist of mainly quartz 3) rather unaltered						329	1690	
330					329' - dip test = 32.5° (cor)		.5% po-py v.fgr. diss negr. pebble blebs	329	100				0.09
					334.5' - gradational contact								0
340								339			337.5		
							1-2% po-py v.fgr. diss. stg.		100		4.5' 341'	1694	0.11
350								349					0.04

Hole No. LL-03-87 | Project: McVitar Lake (Long Lake) | Page No: 7 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00N N. 0+50E | Date Finished: 04/10/87 | Scale: 1" = 10'

Inclination: -40° | Bearing: 315° (GRID WEST) | Total Depth: 549' (167m) | Logged By: S.O. WEIDNER

ALTERATION: CHLORITE | CARBONATE | FRACTURING | MINERAL | GEOLOGY

'COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

SECTION | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated MAG SUSC.

350

>350.1'-350.6' - small bed of GRANULE CONGLOMERATE ? 10 granules of quartz (60%) & mudstone (40%), angular to subangular set in a light green slightly chloritic, aphanitic matrix, upper contact at 47° to c.a.

58.1 v/fgr. clast. sig. calc.

334.5'-369.6' PEBBLY THINLY BEDDED SILTSTONE

349

100

0.05

360

trace py disc. v/fgr blebs

359

100

0.09

0.34

370

369.6' - gradational contact

369.6'-385.5' THINLY BEDDED VOLCANIC MUDSTONE

- medium green to dark green, aphanitic to v/fine grained
- appears massive with occasional beds varying in thickness between 3cm to 10cm
- < 1% quartz/carb fractures

369

NV

100

BQ

0.09

0.06

>385.5'-386.2' - quartz/carbonate

380

379

385.5'-392' VOLCANIC MUDSTONE

- comprised of 1) 45% THINLY LAMINATED MUDSTONE
2) 45% RECRYSTALLIZED CHERT
3) 10% MAGNETITE BANDS
- as in section from 47.4'-63.2'

NV

100

385

0.12

1.1

385.5' - sharp, irregular contact approx. at 85° to c.a.

.5-1% py-po resl. to chert

389

1691

390 - bedding at 36° to c.a.

390

2.1

392 - sharp, irregular contact roughly at 60° to c.a.

392'-394' THINLY BEDDED MUDSTONE

- as above

NV

394' - sharp, irregular contact

.5% po-py fract.

100

1692

395

1.5

396.4' - sharp, irregular contact

394'-406.4' VOLCANIC MUDSTONE

- comprised as above 1) 45% THINLY LAMINATED MUDSTONE
2) 45% RECRYSTALLIZED CHERT
3) 10% MAGNETITE BANDS

399

1693

400

1.0

NV.

396.4'-407.2' THINLY BEDDED MUDSTONE

- as above except: 1) increase in siltstone component makes rock appear light green/brown
- appears homogeneous

100

0.10

Tr. Py

409

407.2' - sharp, irregular contact

408.7' - sharp, irregular contact

410

Hole No. LL-03-87 | Project: McVicar Lake (Long Lake) | Page No: 8 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10+00N N. 0+50E E. | Date Finished: 04/10/87 | Scale: 1"=10'

Inclination: -45° | Bearing: 315° (GRID WEST) | Total Depth: 549' (167 m) | Logged By: S.O. WEILNER / 439.5'

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC
410					**409.2' - 408.7' VOLCANIC MUDSTONE** - comprised of 1) 45% THINLY LAMINATED MUDSTONE 2) 45% RECRYSTALLIZED CHERT 3) 10% MAGNETITE BANDS		trace Py-Po in cherty zones as fill/lings	409	100				0.55
420					420' - bedding at 75° to c.a.			419					1.2
430	20'				**408.7' - 439.5' THINLY BEDDED MUDSTONE/SILTSTONE** - as above w occasional < 5% increase to silt size particles - appears thinly to thickly bedded - approx. 5% disrupted quartz (chert) blebs within		trace to 1% in cherty zones disrupt chert	429	100	20'			0.18
440			3%		437.5' - quartz/carb. fractures w light brownish inclusions (crystals) of possible Fe-carbonate; SHARP 50° CA			439	100			437.5'	0.13
					FERRUGINOUS VOLCANIC MUDSTONE 439.5' 463.0' medium GREEN, U.F.G., THINLY BEDDED TO THINLY LAMINATED MUDSTONE INTERBEDDED WITH 40% LEAN IRONSTONE. IRONSTONE BANDS ARE WHITE + GREY, 1CM - 0.3M BANDS OF RECRYSTALLIZED CHERT AND 10-15% THIN LAMINATIONS OF MAGNETITE. Po > Py AS FRACTURE FILLINGS IN IRONSTONE, SULPHIDE MINERALIZATION IS ASSOCIATED WITH CHLORITE ALTERATION (?) COMPRISING MM SCALE FRACTURES X-CUTTING S_0 AND AS MM SCALE LAMINATIONS // S_0. MUDSTONE INTERVALS LARGELY COMPRISED OF U.F.G AMPHIBOLE. NO CARB ALT THIS INTERVAL.		trace to 1% po > py		100	BQ	442.5' 4.5' 444' 5' 449'	1695 1696	5.7 1.0
450								449	100		449' 5' 454'	1697	46
							trace to 1% po > py				454' 6' 459'	1698	0.95
460				SHARP CONTACT / S_1 55° CA				459	100		459' 4' 463'	1699	13
					IRONSTONE 463.0' - 482' WHITE-GREY, U.F.G, VERY THINLY BEDDED - THINLY LAMINATED, APPROXIMATELY 15-20% MT OVERALL. INTENSELY CONTORTED AND WEAKLY FRACTURED, CM SCALE TENSION GASHES NORMAL TO S_0 PARTICULARLY IN CHERT BANDS. TENSION GASHES FILLED WITH LIME GREEN F.G. CHLORITE (?) CHLORITE ALSO PARTIALLY REPLACES MT RICH LAMELLAE (MM-CM SCALE REPLACEMENT BANDS AND PATCHES). Po AND Py DIRECTLY ASSOCIATED WITH CHLORITE ALT, CONSTITUTES WEAK SULPHIDIZATION PARTICULARLY THROUGH THE LOWER PART OF THE INTERVAL 479' - 482'.		1-2% po > py		100		463' 6' 469'	1700	56
470				S_0 60° CA			2% po > py	469	100		469' 5' 474'	1701	53
											474' 5' 479'	1702	22
480								479			479'		3.0

Hole No. LL-03-87 | Project: McLEAR LAKE | Page No: 9 Of 10

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L 10400 N. 0450 E. | Date Finished: 04/10/87 | Scale: 1"=10'

Inclination: -45° | Bearing: 315° (GRID N) | Total Depth: 549' | Logged By: [illegible]

SECTION | ALTERATION (CHLORITE) | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

480

SHARP IRREGULAR CONTACT

PO AS FG DISSEMINATIONS AND PATCHES, PY XENOMORPHIC 1-3mm ON LATE FRACTURE SURFACES AND REPLACING PY(?)

LITHIC WACKE 482'-512.0'

LIGHT-MEDIUM GREY, U.F.G., THICKLY BEDDED ALTHOUGH IN PLACES THINLY LAMINATED ROCK.
WELL FOLIATED @ 50° CA
RARE DM SCALE QTZ-CHL (PY-CHL?) VEINS
U. LEAK MM SCALE QTZ VEINS // S1
RARE MM SCALE CARB VEINLETS

ROCK IS LOCALLY COMPOSED OF U.F.G. BIOTITE ± FELDSPAR
RARE MM SCALE AMPHIBOLE ALTERATION?

490

MAFIC DYKE 512.0'-514.4' (BIOTITE LAMPROPHYRE)
LIGHT BROWN-GREY, MOD. FOLIATED DYKE
GOOD INTRUSIVE CONTACTS, MM SCALE CHILL MARGINS

499' DIP TEST 38.5°

500

LITHIC WACKE 514.4-516.5
AS IN 482'-512'

IRONSTONE 516.5'-518.4'
SEE DESCRIPTION BELOW

LITHIC WACKE 518.4-519.4'
AS IN 482'-512'

IRONSTONE 519.4'-525.5'
WHITE GREY, U.F.G., VERY THINLY BEDDED TO THINLEY LAMINATED
AS IN INTERVAL 463-482'

522'-523.3' INTENSELY CHLORITIZED

510

520

SHARP INT CONTACT 50° CA

CHERT 525.5'-549'

WHITE GREY CHERT INTERBEDDED WITH 15% CM-0.5M SCALE BEDS OF LITHIC WACKE

CHERT IS MASSIVE TO WEAKLY LAMINATED FRACTURED, RARE MM SCALE CARB VEINLETS

LITHIC WACKE BEDS AS IN 482'-512'

530

SHARP IRREGULAR

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
2-5% po>py			BQ	479' ↑ 3' 482'	1703	
TR po/py	489	100				0.44
	499	100				0.02
	509	100				0.05
	519	100		518.4' 520.5'	1704	0.01
1-2% po>py	529	100		2.4' 523' 3.5' 525.5'	1705 1706	0.03
TR po/py	539	100		3.5' 529'	1707	0.09
						0.12
						2.1
						0.02
						0
						0.03

Hole No. LL.02.89 | Project: McLEAR LAKE | Page No: 1 Of 1

Casing Collar Elev.: | Ground Elev.: | Date Started: 25/09/87 | Ref. to Claim Corner:

Coordinates: L10+00 N. 0+50 E. | Date Finished: 09/10/87 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° (GRID N) | Total Depth: 549' | Logged By: RODNEY N THOMAS FROM 439.5

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
540							TR PYP			BQ			
									100				0.08
549					549' END OF HOLE NO DIP TEST			549					

REMARKS: RODS STUCK IN HOLE FROM 29/09/87 - 01/10/87

Hole No. LL04 | Project: 1446 | Page No: 1 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: L11+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° (-44° casing) Bearing: 315° | Total Depth: 679' (207m) | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	CO_3 MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. SUS.
0					0'-35' OVERBURDEN CASING REMAINS					STEEL CASING			
35'		XF-F			35'-54.5' FERRUGINOUS ARGILLACEOUS SILTSTONE/CHERTY IRONSTONE FINE GRAINED, THICKLY LAMINATED, GREY BROWN TO WHITE, CONVOLUTED CHERT INTERCALATED NEMATOBLASTIC SILTSTONE; 30% RECRYSTALLIZED FERRUGINOUS CHERT, 25% FERRUGINOUS SILTSTONE, 5% SEMI-MASSIVE MAGNETITE BEDS, SILTSTONE HAS- 50% HORNBLENDE, 30% BRUNERITE ?, 10% CHLORITE ?, 10% MAG, ALL LITHOLOGIES DISPLAY CONVOLUTED BEDDING - PENECONTEMPORANEOUS DEFORMATION, WEAK FRACTURING WITH CARBONATE FILLING, RARE DISPLAYS OF CRENULATED LAMINAE, GOOD CONDUCTIVITY IN MAGNETITE BEDS, MINOR INTERCALATED BEDS OF UNDERLYING UNIT; TRACE PYRITE ALONG FRACTURES AND BEDDING PLANES, TRACE Cp		Tr Py	35	100	BQ			10
39							Tr Py Cp	39	100				3.1
49							Tr Py	49	100				13
54.5					54.5'-55.7' BIOTITE - CARBONATE SCHIST FINE TO MEDIUM GRAINED, MASSIVE TO WEAKLY FOLIATED, GREY BROWN TO GREY, MM SIZE GRAINS, 80% BIOTITE 15% CALCITE 5% LABILES, SIMILAR TO BIOTITE - CARB SCHIST IN LL02, NO VISIBLE SULPHIDES								30
55.7					55.7'-84.2' CHERTY IRONSTONE AS IN 35'-54.5', 80% FERRUGINOUS RECRYSTALLIZED CHERT, 15% SEMI MASSIVE TO MASSIVE MAGNETITE, 5% FERRUGINOUS SILTSTONE, TRACE TO 1% PYRITE, NO EVIDENSE FOR WEAK SULPHIDATION ASSOCIATED WITH MASSIVE BIOTITE BEDS		Tr - 1% Py	59			55.7		7.1
59											3.3'	1738	
59'													9.7

SHARP

SHARP

60' BEDDING AT 55° TO CA

Hole No. LL04 | Project: 1446 | Page No: 2 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: L11+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONIFER

ALTERATION | FRACTURING | MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

55.7'-84.5' CHERTY IRONSTONE cont

84.5'-85.3' BIOTITE-CARBONATE SCHIST
AS IN 54.6'-55.7'

85.3'-147.0' CHERTY IRONSTONE
AS IN 55.7'-84.5', 60% RECRYSTALLIZED CHERT, 40% SILTY TO MASSIVE MAGNETITE BEDS, WEAK FRACTURING WITH CARBONATE FILLING, ONE 20cm ZONE OF 80% Py, Po, 20% CHERT - REPLACEMENT BY SULPHIDIZATION

SHARP
SHARP
WEAKLY CHLORITIC
93.5'-98'
AS IN 84.5'-85.3'
103' BEDDING AT 55° TO CA

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
60	Tr Py 1%		100	BQ			54
70	Tr Py Po	69			72.4'		32
	Tr 5% Py Po		100		5'	1739	5.0
80	Tr Py Po	79			77.4'		36
			100				25
90	Tr Py Po	89					41
			100		92'		36
	Tr Po Py	99			5'	1740	18
			100		104'		
	80% Py Tr Po Py Cp	109			5'	1741	29
	Tr Py Po Cp		100		109'		15
	20% Py Tr Py Po	119			5'	1742	38
					114'		
					5'	1742	30
					119'		

Hole No. LL 04 | Project: 1446 | Page No: 3 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: L 11+00 N. 1450 W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679 | Logged By: R.G. BONNEK

SECTION	ALTERATION	FRACTURING	CO_3 MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

120

121' PASSIVE CHLORITE BED MINOR PYRITE - VOLCANIC MUDSTONE

85.3' - 147.0' CHERTY IRONSTONE cont...

DEGINING TO OBSERVE NARROW CHLORITIC VOLCANIC MUDSTONE INTERBEDS

130

140

147.0' - 148.0' BIOTITE-CARBONATE SCHIST

AS 54.5' - 55.3', WELL FOLIATED, FEW CHERT PEBBLE - ORIENTED AND ELONGATED, NO VISIBLE SULPHIDES

SHARP

SHARP

148.0' - 213.5' CHERTY IRONSTONE

AS IN 85.3' - 147.0' INCREASING CHLORITIC MATERIAL, NARROW PURE TO IMPURE BEDS - VOLCANIC MATERIAL, OFTEN ASSOCIATED WITH Po, Py MINERALIZATION (SULPHIDIZATION), CARB FILLED FRACTURES, SEVERAL MICRO-FAULTS WITH BRECCIA, WEAK H_2S ODOUR AT 173'

149.5' Po - 50%

150

160

170

168' DIP TEST - 40° CORR.

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG Sus
Tr Py	129	100	BQ			40
Tr Py	139	100				69
Tr Py	149	100				33
Tr - 1% Po Py	159	100				43
Tr - 4% Po Py	169	100		160'		36
3% - 10% Po Py		100		5'	1744	26
Tr - 10% Po Py	179			165' 5' 170'	1745	50 49 49 9.1

Hole No. LL04 | Project: 1446 | Page No: 4 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: L11400 N. 1150W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNER

ALTERATION | FRACTURING | CO_3 MINERAL | GEOLOGY | COMMENTS: | AVE CORE REC'Y/HOLE

SECTION | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated MAG Sus

DESCRIPTIVE GEOLOGY

180

183' FAULT BRECCIA AT 80° TO CA
BEDDING AT 48° TO CA

190

200

210

GRADATIONAL

220

224' BEDDING AT 55° TO CA

230

SHARP
SHARP
SHARP
SHARP
SHARP

148.0' - 213.5' CHERTY IRONSTONE cont

Tr - 10% Po Py
Tr - 1% Po Py
60% Po
Tr - 2% Po Py
Tr - 3% Po Py
Tr - 2% Po Py Cp
Tr - 2% Py Cp
Tr Po Py

189
199
209
219
229
239

100 | BQ

179'
5' 1746
184'
5' 1747
189'
5' 1748
194'
5' 1749
199'
204
3' 1750
209
225.3'
4.4' 1751
229.3'

17
43
46
58
53
19
43
41.4
1.8
0.27
0.81
5.7

213.5' - 229.3' THINLY LAMINATED CHLORITIC CHERTY IRONSTONE

AS ABOVE BUT MARKED INCREASE IN CHLORITE - VOLCANIC MUDSTONE COMPONENT, WEAK TO INTENSE PENECONTEMPORANEOUS DEFORMATION, 60% VOLCANIC MUDSTONE/MAGNETITE, 40% RECRYSTALLIZED CHERT, FEW BEDS WITH POIKILOBLASTIC GARNETS - MAGNETITE CENTRES?, FEW BEDS OF BIOTITE-CARBONATE AND FINE MUDSTONE, ZONES OF INTENSE DEFORMATION OFTEN FLOODED WITH Po, Cp MINERALISATION - UP TO 80% LOCALLY AS CHLORITE REPLACEMENT, WEAK TO MOD H_2S ODOUR, WEAK FRACTURING WITH CARB FILLING, MINOR RECRYSTALLIZED QTZ VEINLETS

229.3' - 231.2' LITHWACKE / MUDSTONE

FINE TO COARSE GRAINED, THICKLY BEDDED TO THICKLY LAMINATED, WELL FOLIATED, FEW ROUND QTZ EYES, COARSE ZONE SHOWS ELONGATED ORIENTED CHERT FRAGMENTS, MINERALOGY PREDOMINANTLY BIOTITE WITH CHERT AND CHLORITE, MINOR MAGNETITE IN COARSE ZONE, TRACE TO 5% LOCAL Po

231.2' - 233.5' CHLORITIC CHERTY IRONSTONE

AS IN 213.5' - 229.3' FEW ALMANDINE GARNET

233.5' - 235' LITHWACKE

AS IN 229.3' - 231.2' FINE TO MED GRAINED

Hole No. LL04 | Project: 1446 | Page No: 5 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: LL+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	% MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
240													
					235'-236.5' CHLORITIC IRONSTONE AS IN 213.5'-229.3' ONLY 5% CHERT		Tr Po Py		100	BQ			0.15
250					236.5'-253.4' SILTSTONE / MUDSTONE FINE GRAINED, THINLY LAMINATED TO THICKLY BED, LIGHT TO DARK GREY, RELATIVELY NON-DISCRIPT, RECRYSTALLIZED, QTZ VEINS, MINOR Po Py ASSOCIATED WITH FRACTURING			249					0.11
					253' BEDDING AT 56° TO CA								
				SHARP									
					253.4'-255.7' THINLY LAMINATED VOLCANIC MUDSTONE FINE GRAINED, DARK GREEN BROWN, WELL FOLIATED, FEW POIKILOBLASTIC GARNETS IN MASSIVE CHLORITE INTERBEDS - POSSIBLY THROUGHOUT THE UNIT - MINUTE, MASSIVE Po WISPS INTERCALATING, H2S ODOUR				100				0.47
260								259					
					255.7'-267.3' FERRUGINOUS VOLCANIC MUDSTONE AND CHERT FINE GRAINED, THICKLY LAMINATED, DARK GREEN TO WHITE, RECRYSTALLIZED CHERT - 50%, PENECONTEMPORANEOUS DEFORMATION, NUMEROUS GARNETIFEROUS INTERBEDS, WEAKLY MAGNETIC, TRACE PYRITE THROUGHOUT LOCAL Po AS SULPHIDIZED PRODUCT OF CHLORITE - UP TO 50%, CARB IN FRACTURES		Tr Po Py		100				0.26
				SHARP									6.3
					267.3'-270.3' MUDSTONE VERY FINE GRAINED, THINLY LAMINATED, DARK GREY, TRACE TO 1% PYRITE, Ps THROUGHOUT, WEAKLY MAGNETIC, WEAKLY CHLORITIC, ARGILLACEOUS, WEAK H2S ODOUR, MINOR FRACTURE RELATED CARBONATE			269			267.3'		
270				SHARP			Tr Po Py				3'	1752	0.93
					270.3'-279.4' FERRUGINOUS VOLCANIC MUDSTONE AND CHERT AS IN 255.7'-267.3'				100		270.3'		
				SHARP							279.4'		0.35
					279.4'-279.0' MUDSTONE AS IN 267.3'-270.3'						4.4'	1753	
280				SHARP				279			279.0		
					279.0'-289.8' THICKLY LAMINATED SILTSTONE / MUDSTONE FINE GRAINED, THICKLY LAMINATED, GREY, AS IN 236.5'-253.4', FEW IDIOMORPHIC POIKILOBLASTIC GARNET RICH INTERBEDS		Tr Po Py		100				1.0
													0.48
					289.8'-292.4' GARNETIFEROUS CHLORITIC MUDSTONE FINE GRAINED, THINLY LAMINATED, DARK GREEN GREY, WELL FOLIATED, 5% IDIOMORPHIC POIKILOBLASTIC ALMANDINE GARNETS, <1mm, FEW RECRYSTALLIZED ELONGATED QTZ VEINS, TRACE TO 1% PYRITE ALONG FOLIATION - RELICTIC PLANES, WEAK CARB ASSOCIATED WITH LATE FRACTURES			284					
290				SHARP			Tr - 1% Po Py				289.8		0.07
				SHARP							26'	1754	
					292.4'-300' THINLY LAMINATED LAMPROPHYRE FINE GRAINED, THINLY TO THICKLY LAMINATED, BROWNISH GREY TO LIGHT GREY, CHERTY HORIZONS, UP TO 8% MUDDY LABILE FRAGS, MUDDY HORIZONS, FEW BLUE EYED QTZ GRAINS, TRACE Py ALONG BEDDING PLANES, FEW FRACTURES WITH CARB FILLING - ALSO REMOVED - VUGGY BREAKS			299	100		292.4'		0.05
													0.01

Hole No. LL04 | Project: 1446 | Page No: 6 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: L11+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
300					300' - 316.5' THINLY LAMINATED SILTY MUDSTONE VERY FINE TO FINE GRAINED, THINLY LAMINATED - SILTY HORIZONS THICKLY LAMINATED TO VERY THINLY BEDDED, LIGHT TO MED. GREY, FEW RECRYSTALLIZED BOUDINED QTZ VEINS, CARBONATE FILLED FRACTURES, TRACE PYRITE ALONG BEDDING PLANES AND WITH QTZ VEINS	Tr Py	329	100	BQ			0.0
310					311' BEDDING AT 60° TO CA	Tr Py		100				0.11
					SHARP							0.22
					GRADATIONAL 316.5' - 318.5' FERRUGINOUS CHLORITIC VOLCANIC MUDSTONE / IRONSTONE FINE GRAINED, THICKLY LAMINATED, DARK GREEN TO GREY WHITE, 50% RECRYSTALLIZED FERRUGINOUS CHERT, 40% CHLORITIC VOLCANIC MUDSTONE, 5% SILTY MUDSTONE, 6% MAGNETITE BANDS, PENECONTEMPORANEOUS DEFORMATION, WELL FOLIATED, TRACE TO 1% Po Py ASSOCIATED WITH CHLORITIC HORIZONS	Tr - 1% Py Po	339					
320					318.5' - 331.5' THINLY LAMINATED FELDSPATHIC LITHWACKE FINE GRAINED LIGHT GREY, 70% FINE MATRIX, 15% FELDSPATHIC FRAGMENTS, 10% LADILES, 5% BLUEISH QTZ GRAINS, FEW WEAK CARB RICH BEDS - OFTEN FRACTURE ASSOCIATED, FEW RECRYSTALLIZED QTZ VEINS, TRACE PYRITE, Py, Po ASSOCIATED WITH QTZ VEINS AND BEDDING PLANES	Tr Po Py		100				0.22
												0.17
330					SHARP 331.5' - 346' FERRUGINOUS CHLORITIC VOLCANIC MUDSTONE/IRONSTONE AS IN 316.5' - 318.5'; 60% CHLORITIC VOLCANIC MUDSTONE, 30% FERRUGINOUS RECRYSTALLIZED CHERT, 10% MAGNETITE	Tr Po Py	339	100				0.45
												1.5
340					339' DIP TEST - 35° Corr	Tr - 1% Po Py	349	100				42
												32
350						Tr Po Py	359	100				31
												29
												54

Hole No. LL04 | Project: 1446 | Page No: 7 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: LL1+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679 | Logged By: R. G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

331.5' - 366.0' FERRUGINOUS CHLORITIC VOLCANIC MUDSTONE/IRONSTONE
cont...

GRADATIONAL

366.0' - 369.7' THICKLY LAMINATED PEBBLY SUBLITHICWACKE/SILTSTONE
FINE GRAINED, LIGHT GREY, 60% FINE MATRIX, 30% RECRYSTALLIZED CHERT PEBBLES - < 1 cm, ELONGATED, FOLIATED, 10% LABILES CARB ON FRACTURES, COARSE BEDS WITH BIOTITE AND WEAK CHLORITE, UP TO 20% Po IN COARSE BEDS - CHLORITE REPLACEMENT

GRADATIONAL

369.7' - 378.1' THICKLY BEDDED SILTSTONE
FINE GRAINED, LIGHT GREY, NON-DISCRIPT, FEW ZONES WITH 5% SAND SIZED ROUND QTZ GRAINS, TRACE TO 1% Po THROUGHOUT UNIT, FEW CHERTY HORIZONS, ONE 10cm BED OF OVERLYING UNIT RECRYSTALLIZED QTZ VEINLETS WITH CARB

SHARP

381' BEDDING AT 35° TO CA

378.1' - 382.1' THICKLY LAMINATED CHLORITIC VOLCANIC MUDSTONE/IRONSTONE
AS IN 316.5' - 318.5'; 80% CHLORITIC MUDSTONE - MAGNETITE, 15% RECRYSTALLIZED CHERT, 5% CHLORITIC MUDSTONE, TRACE Po

SHARP

382.1' - 387.3' VERY THINLY BEDDED SILTSTONE
FINE GRAINED, LIGHT TO MED GREY, FEW BEDS OF SUBLITHICWACKE, FEW SMALL CHERT PEBBLES, TRACE PYRITE

387.3' - 395.1' POLYMICTIC UNIT
COMPLEX UNIT OF SILTSTONE, PEBBLY SUBLITICWACKE, CHLORITIC VOLCANIC MUDSTONE, IRONSTONE, MUDSTONE, MASSIVE TO THICKLY LAMINATED, NO UNIT GREATER THAN 1 FOOT, TRACE TO LOCAL 1% Po, Py

SHARP

395.1' - 639.3' THICKLY LAMINATED CHLORITIC VOLCANIC MUDSTONE/CHERT/IRONSTONE
AS IN 316.5' - 318.5'; 45% MUDSTONE, 40% CHERT, 15% MAGNETITE, 10% CHERTY SILTSTONE; WEAK CARB ASSOCIATED WITH FRACTURES, FEW NARROW (1cm) SEDS WITH 20% IDIOMORPHIC POIKILOBLASTIC GARNETS, TRACE TO 1% Po Py WITH NARROW MASSIVE Po ZONES (SULPHIDIZED)

412.5' MASSIVE Po WITH CHLORITE ASSOCIATION

420' BEDDING AT 30° TO CA

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
Tr Po Py		100	BQ	366'		30
Tr - 20% Po Cp	369			367'	1105	
Tr - 1% Po		100		369.7'		3.9
	379					0.93
Tr Py		100				48
	389					1.6
Tr - 1% Po Py		100				0.16
	399					15
Tr Po Py		100				0.40
	409					1.0
Tr Po Py		100				60
	419					3.5
						38

Hole No. LL04 | Project: 1446 | Page No: 6 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: LL1+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNAR

COMMENTS:

AVE CORE REC'Y/HOLE

DESCRIPTIVE GEOLOGY

5951' - 5973' THICKLY LAMINATED CHLORITIC VOLCANIC MUDSTONE/CHERT/IRONSTONE

cont...

CHERTY SILTSTONE

440' 3cm MASSIVE Po,Py

CHERTY SILTSTONE

CHERTY SILTSTONE

473' BEDDING AT 70° TO CA

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
420	Tr - 1% Py Po	429	100	BQ	423.4' 3.2' 426.6'	1736	3.3
430	Tr - 1% Py Po	439	100				79
							54
440	Tr - 1% Py Po				444'		5.4
	1-2% Py Po	449	100		5' 449'	1757	0.24
450	1-2% Py Po				5' 454'	1758	0.21
		459	100		5' 459'	1759	0.19
460	Tr Po Py				5' 464'	1760	0.15
	1% Po	469	100		5' 466'	1761	0.90
470	Tr Py 1% Py Po Tr Po Py 1% Po Py	479	100		5' 474' 5' 479'	1762 1763	0.42 0.78
	1% Py Po						0.33

Hole No. LL04 | Project: 1446 | Page No: 9 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: L11+00 N. 11+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R. G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUSC.
480					DESCRIPTIVE GEOLOGY						479'		
					396.1' - 537.3' THICKLY LAMINATED CHLORITIC VOLCANIC MUDSTONE/CHERT/IRONSTONE cont...		Tr-1% Po Py			BQ	5'	1769	
									100		484'		1.7
					481.8' 1cm MASSIVE Py, Cp SULPHIDIZED BED						5'	1765	
490					SULPHIDIZED ZONES APPEAR TO BE A PROGRESSIVE MIGRATION INTO THE HOST - FLUIDS MOBILIZED ALONG A FRACTURE? - LITHIC FRAGMENTS ARE HYDRAULICLY FRACTURED AND MATTED INTO FLUIDS - SUBSEQUENTLY DIGESTED REMNANT QTZ GRAINS WITH IN THE ZONE; DOMINANTLY Py, TRACE Cp			489			489'		1.4
					491' 6cm SEMI-MASSIVE Py SULPHIDIZED BEDS		Tr Py		100				
													1.1
					499' DIPTEST - 30° Corr			499					
500							Tr Py Po						1.8
									100				6.4
					BECOMING SILTY BELOW 509' - INCREASED GRAIN SIZE			509					
510							Tr Py Po						2.1
									100				31
520								519					61
							Tr Py Po		100				33
								527					
530							Tr Py						24
					535.5' GRADES TO YELLOW GREEN VOLCANIC MUDSTONE FEW CHERT BEDDLES				100				18
					GRADATIONAL			537		V			1.5

Hole No. LL04 | Project: 1446 | Page No: 10 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: LL1+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
540					539.3' - 679' VERY THINLY BEDDED, GARNETIFEROUS SANDY SILTSTONE VERY FINE GRAINED TO FINE GRAINED, LIGHT GREENISH GREY TO LIGHT GREEN, FEW CHLORITIC VOLCANIC MUDSTONE BEDS 45% CORE, WEAK TO MODERATELY FOLIATED, MATRIX WEAKLY CHLORITIC - MICACEOUS - DOMINANTLY BIOTITE, HORNBLENDE, RECRYSTALLIZED QTZ VEINS <8cm WIDE PARALLEL TO SI, MINOR CALCITE FRACTURE ASSOCIATED, UNIT CHARACTERIZED BY BEDS WITH UP TO 20% EUHEDRAL TO POIKILOBLASTIC PINKY-BROWN ALMANDINE? GARNETS RESTRICTED TO CHEMICALLY FAVOURABLE BEDS - CALCAREOUS BEDS?, P_o, P_y FINELY DISSEMINATED THROUGHOUT THE UNIT - UP TO 1%, WEAKLY MAGNETIC, WEAK LOCALIZED H_2S ODOUR		1% P_o P_y	539	100	BQ			0.37
550					554' BEDDING AT 70° TO CA		1% P_o P_y	559	100		559'		0.04
560					564' MICRO FAULT AT 85° TO CA		1% P_o P_y	569	100		5' 584'	1766	0.47
570					570' LOAD CASTS VOLCANIC MUDSTONE BED (UP)		1% P_o P_y	579	100		562' 5' 567'	1767	0.61
580					572.5' 4cm RECRYSTALLIZED QTZ VEIN; P_y, P_o		Tr - 1% P_o P_y	589	100				1.5
590							Tr - 1% P_o P_y	599	100				0.48
													1.6
													1.6
													1.8
													1.6

Hole No. LL04 | Project: 1446 | Page No: 11 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: LL1+00 N. 1+50 W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
600					539'- 679' VERY THINLY BEDDED GARNETIFEROUS SANDY SILTSTONE cont...		Tr Py,Po			BQ	601.8		
					601.8 - 603.8 THINLY LAMINATED MUDSTONE 5% Po, Py		3% Po Py				2' 603.8	1768	
					LINEATION OF QTZ, FELDSPAR IN VOLCANIC SUBLITHIWACKE		2% Py Po		100		52' 609'	1769	0.49
610					608' BEDDING AT 75° TO CA		Tr - 1% Py Po Cp?	609					0.29
									100				0.54
620					BELOW 620' VOLCANIC MUDSTONE UP TO 40-50% OF CORE TO 646'		Tr - 1% Py Po Cp?	619					2.0
									100				1.5
630					630' POSITIVE Cp IDENTIFICATION SUSPECTED AFTER 605'		Tr - 1% Po Py Cp	629			629' 5' 634'	1770	1.1
									100				0.38
690							Tr - 1% Py Po Cp	639					0.20
									100		644' 5' 649'	1771	0.58
650					659' BEDDING PLANE Po, Cp, H2S ODOUR		Tr - 1% Py Po Cp	649					1.3
					656' BEDDING AT 80° TO CA				100		654' 5' 659'	1772	
								659					0.79
								679					0.81

Hole No. LL04 | Project: 1446 | Page No: 12 Of 12

Casing Collar Elev.: | Ground Elev.: | Date Started: Oct 29, 1987 | Ref. to Claim Corner:

Coordinates: LL1+00 N. 1+50W E. | Date Finished: Nov 3, 1987 | Scale: 1" = 10'

Inclination: -45° | Bearing: 315° | Total Depth: 679' | Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG Sus
660					539.5'-679' VERY THINLY BEDDED GARNETIFEROUS SANDY SILTSTONE cont...		Tr-1% Po Cp Py			BQ			
					669' ALMANDINE GARNETS 670' BEDDING AT 35° TO CA 672' GRADED BEDDING ↑				100				0.63
670							Tr-1% Po Cp Py	669					0.19
									100				0.22
					QTZ VEIN (RECRYSTALLIZED) Py 679' DIP TEST 26.5° CORR								
680					END OF HOLE - 679'			679					0.63

[redacted] Hol[redacted]. [redacted] [redacted] [redacted] [redacted] [redacted] [redacted] Project: 144[redacted] [redacted] [redacted] [redacted] [redacted] [redacted] Page No: [redacted] 01 13

Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: L9+00S N. 14000 ~~E.~~ Date Finished: Nov 8, 1987 Scale: 1" = 10'

Inclination: -50° Bearing: 315° Total Depth: 759' (231m) Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
0					DESCRIPTIVE GEOLOGY								
10					0'-9.6' OVERBURDEN CASING REMAINS					STEEL CASING			0.0
20					9.6'-61.5' CHERT VERY FINE GRAINED, LIGHT GREYISH WHITE TO BROWNISH, THICKLY LAMINATED TO THINLY BEDDED, FRACTURED, INTERCALATED WITH BIOTITE HORNBLENDE SCHIST - LOWER AMPH META OF SEDIMENTS, LAMINATIONS DEFINED BY FINE COATINGS OF CHLORITIC BIOTITE RICH SEDS., OFTEN WITH Py Po WEAK MIN, SULPHIDES INTIMATE WITH BIOTITE - SULPHIDIZATION, FEW RECRYSTALLIZED QTZ VEINS <2cm WIDE, MINOR LATE CARBONATE. 30% INTERCALATED BIOTITE HORNBLENDE SCHIST - LEPIDOBLASTIC		Tr-1% Py Po	19	100	BQ			0.0
30							Tr-1% Py Po	29	100				0.0
40					30° BEDDING AT 45° TO CA		Tr-1% Py Po	39	100				0.01
50							Py	49	100				0.02
							Tr-1% Py Po	59	100				0.04
													0.01
													0.08
													0.01
													0.0
													0.0

Hole No. [redacted] S — Project [redacted] 1446 — Page No. [redacted] 2 of 13

Casing Collar Elev.: — Ground Elev.: — Date Started: Nov 3, 1987 — Ref. to Claim Corner:

Coordinates: L9+00 N. 1400 W E. — Date Finished: Nov 8, 1987 — Scale: 1" = 10'

Inclination: -50° — Bearing: 315° — Total Depth: 759' — Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100 %

DESCRIPTIVE GEOLOGY

92'-41.5' CHERT (CONT...)

41.5'-73.0' THICKLY LAMINATED CHLORITIC MUDSTONE

FINE GRAINED, DARK GREY GREEN, LEPIDOBLASTIC, WEAK TO MODERATELY CHLORITIC, WITH 5% CHLORITIC AND CHERTY LABILE FRAGMENTS < 0.5 mm, FEW CHERTY HORIZONS, FEW COARSER HORIZONS, TRACE Po, TRACE Py ALONG FRACTURES WITH CARBONATE.

73.0'-150.9' THICKLY LAMINATED CHERTY IRONSTONE/CHLORITIC VOLCANIC MUDSTONE/CHERT

FINE GRAINED, WHITE TO DARK GREEN TO BLACK, 45% CHERTY IRONSTONE, 45% CHLORITIC VOLCANIC MUDSTONE, 10% CHERT, PENECONTEMPORANEOUS DEFORMATION, FRACTURING PARALLEL TO SUB-PARALLEL TO CA, MUDSTONE INCLUDES FEW SILTY HORIZONS, CHERT IS SILTY AS WELL, MULTIPLE FRACTURE EVENTS - CHLORITE OR CARBONATE COATINGS, Po ASSOCIATED WITH ES AND FRACTURING; SULPHIDIZED MAGNETITE?, Py WITH CARB FRACTURING AND REPLACEMENT OR CHLORITE - MAGNETITE, TRACE Cp, H2S ODOUR - MUDSTONE

GRADATIONAL

43' SCHISTOSITY AT 55° TO CA

69'-71' CHERTY MUDSTONE

SHARP

MUDSTONE

CHERT

IRONSTONE

114' SCHISTOSITY AT 65° TO CA

Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
69	100	BQ			0.03
71	100		24'		0.10
89	100		6' 81'	1773	0.02
99	100		5' 86'	1774	42
109	100				0.62
119	100				0.29
					1.8
					34
					4.8
					0.49
					1.70
					27

Hole No. [redacted]5 [redacted] Project [redacted] 14[redacted] Page No. [redacted]5 of [redacted]15

Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: L9+00 N. 1400W E. Date Finished: Nov 8, 1987 Scale: 1"=10'

Inclination: -50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100 %	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG & us
120					FELDSPATHIC LITHARENITE	93.0'-150.9' THICKLY LAMINATED CHERTY IRONSTONE / CHLORITIC VOLCANIC MUDSTONE/CHERT cont...			100	BQ	125.5'		4.4
					5% P_o, P_y		5%				5'	1775	
130					15% $P_o P_y$ - SULPHIDIZED CHLORITE, MAGNETITE?		15% $P_o P_y$	129			130.3' 3.2' 133.5'	1736	0.14
					CHERTY MUDSTONE				100				0.13
140					FEW FLOW-BRECCIATED CHERT PEBBLES			139					0.27
					FELDSPATHIC LITHARENITE				100				3.3
					CHERT - CHERTY MUDSTONE								
150					SHARP	150.9'-162.4' THINLY LAMINATED IRONSTONE		149					2.0
						FINE GRAINED, GREY BLACK TO BLACK, 80% MAGNETITE RICH BEDS; 20% FERRUGINOUS CHERT, PENECONTEMPORANEOUS DEFORMATION - CONCURRENT BEDDING, CHLORITIC - BLUE GREEN - RICH ZONES, TRACE P_y			100			39
160					GRADATIONAL	162.4'-489.8' THICKLY LAMINATED LEPIDOBLASTIC CHERTY IRONSTONE		159					52
						FINE GRAINED, WHITE TO GREY BROWN, 50% CHERT (RECRYSTALLIZED), 50% LEPIDOBLASTIC IRONSTONE - MAGNETITE, CHLORITE, PLAGIOCLASE, BIOTITE, HORNBLENDE MINERALOGY, OFTEN DISPLAYING NEMATOBLASTIC TEXTURE, PENECONTEMPORANEOUS DEFORMATION, TRACE P_y, P_o			100			38
					169' DIP TEST 93.5° CORE BEDDING AT 55° TO CA			169					32
170							T_r P_o P_y		100				27
					174' RMF SAMPLE			179					6.8

[redacted] Ho[redacted]o. [redacted]5 [redacted] [redacted] [redacted] [redacted] [redacted] [redacted]roj[redacted] 14[redacted] [redacted] [redacted] [redacted] [redacted] [redacted] No[redacted] [redacted] 13 [redacted] [redacted] [redacted]

Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: L9+00 N. 1+00W E. Date Finished: Nov 8, 1987 Scale: 1" = 10'

Inclination: -50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
180					162.4'-189.8' THICKLY LAMINATED LAPILLOCLASTIC CHERTY IRONSTONE cont...				100	BQ			23
190								189					34
							Tr Py Po		100				26
								199					
200							Tr Py		100				16
								209					11
210							Tr Py		100				6.1
								219					3.2
220					223' BEDDING AT 55° TO CA		Tr Py		100				71
								229					66
230					235' - 8cm WIDE MASSIVE Po, Py? BED CONTAINS 20% LITHIC FRAGMENTS		Tr Po Py		100		234.5 3.2' 237.7'	1777	75
								239					25
													23

Ho[redacted]o. [redacted]5 [redacted] roj[redacted] No[redacted]5 [redacted]13 [redacted]

Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: L9+00 N. 1400W E. Date Finished: Nov 8, 1987 Scale: 1" = 10'

Inclination: -50 Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
240					162.4'-489.8' THICKLY LAMINATED LEUCOCRATIC CHERTY IRONSTONE cont.		Tr P_y			BQ			
					243.1' BIOTITE CARBONATE SCHIST				100				33
250								249					
							Tr P_y P_o						28
									100				32
								259					
260					259' 3cm BIOTITE CARBONATE SCHIST		Tr P_y P_o						11
									100				57
								269					
270							Tr P_y						25
									100				28
								279					
280					280.5' BIOTITE CARBONATE SCHIST								31
									100				29
								289					
290							Tr P_y P_o						30
					295' BEDDING AT 65° TO CA				100				38
								299		V			53

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Casing Collar Elev.: Ground Elev.: **Date Started:** Nov 3, 1987 **Ref. to Claim Corner:**

Coordinates: L9+00 N. 1+00 W E. **Date Finished:** Nov 8, 1987 **Scale:** 1" = 10'

Inclination: -50° Bearing: 315° **Total Depth:** 759' **Logged By:** R. G. BONNER

SECTION | ALTERATION | FRACTURING | MINERAL | GEOLOGY

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

300

162.4'-489.8' THICKLY LAMINATED LEPIDOBLASTIC CHERTY IRONSTONE cont...

303' MUDSTONE - 10% Po, 1% Cp
BIOTITE SULPHIDIZATION

310

314' 2cm WIDE MASSIVE Po, 1% Cp
AS AT 235' - LITHIC FRAGMENTS (20%)
DISCORDANT TO BEDDING

320

MASSIVE SULPHIDE VEINS IN THE IRONSTONE - COMPETENCY CONTRAST ?

323.5' 3cm WIDE MASSIVE Po, 5% Cp
AS AT 314', SULPHIDE VEIN, POSSIBLE
USE OF PREVIOUSLY EXISTING QTZ VEIN

330

335.6' BIOTITE CARBONATE SCHIST

337' 2cm WIDE MASSIVE Po, 1% Cp
AS AT 323.5', CROSS-CUTS BEDDING
SULPHIDIZATION OF CHLORITE PROXIMAL
TO SULPHIDE VEIN - BEDDING LOCALLY
PARALLEL TO CA

340

339' DIP TEST 38.5° CORR.
BEDDING AT 60° TO CA

350

% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG Sus
Tr-10% Po Tr-1% Cp Tr	309	100	BQ	301' 5' 306'	1778	2.7
Tr-1% Cp Po	318	100				13 32
Tr-1% Po Cp	329	100		323' 20' 329'	1779	75 47
Tr-1% Po Cp	339	100		334' 3' 337'	1780	35 31
Tr-1% Po Cp	349	100				34 13
Tr Po Cp	359	100	V			44 61 53

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Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1989 Ref. to Claim Corner:

Coordinates: L 9+00 N. 1+00 W E. Date Finished: Nov 8, 1987 Scale: 1" = 10'

Inclination: -50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG. Sus.
360					362.4'-489.8' THICKLY LAMINATED LEPIDOBLASTIC PHYRTY IRONSTONE cont...		Tr Po Cp			BQ			
					363.5' 1cm WIDE MASSIVE Po VEIN				100				33
370								369					
							Tr Po Cp						23
									100				
					378.6' 3cm WIDE MASSIVE Po, 1% Cp VEIN								24
380					380' 5cm "			379					
							Tr Po Cp						43
									100				
													45
390								389					15
					393.4' 2cm WIDE MASSIVE Po VEIN, Tr Cp WITH QTZ (META) 40% FRAGMENTS		Tr						
					BECOMING MORE CHLORITIC → CHLORITIC SCHIST REPLACING BIOTITE ?				100				25
								399					
400							Tr						31
									100				
													47
410								409					
							Tr 1% Po Cp						32
					412.5' 8cm WIDE VEIN SYSTEM → 1-2cm Po, 10% Cp ON CONTACTS - META QTZ VEIN INTERIOR DISCORDANT TO BEDDING, LITHIC FRAGMENTS				100				
								419					12
													23

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Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: L9+00E N. 1100W E. Date Finished: Nov 8, 1987 Scale: 1"=10'

Inclination: -50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated M&G sus
420					Tr Po Py		100	BQ			2.5
430					Tr Po Py Cp	429	100				2.8
440					Tr Po	439	100				3.3
450					Tr Po Cp	449	100				49
460					Tr Po	459	100				71
470					Tr Po Py	469	100				43
						479					33
											60
											37
											49
											41
											35

162.4'-489.8' THICKLY LAMINATED RHYTHMITIC CHERTY IRONSTONE cont...

429' BEDDING AT 55° TO CA

434' BIOTITE CARB SCHIST

460' BIOTITE CARBONATE SCHIST

471' 0.5cm Po, Cp VEIN

Hole No. [redacted] Project: 1446 Page No: 1 of 3

Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: 4900 N. 1400 W E. Date Finished: Nov 8, 1987 Scale: 1"=10'

Inclination: -50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

482' BEDDING AT 65° TO CA FELDSPAR MICROLITES IN CHLORITIC BED - RANDOM ORIENTATION AT BEST SUBPARALLEL

SHARP

491' IRONSTONE

SHARP

SHARP

GRADATIONAL

508' BEDDING AT 55° TO CA

509' 6cm WIDE Po, Cp VEIN 90° TO CA DIP TEST 31.5° CORR ← POOR TEST (POSSIBILITY OF ERROR)

514' 2cm WIDE Po, QTZ VEIN

515' "

518' 3cm WIDE Po, Cp VEIN

531.1'-531.6' QUARTZOSE CARBONATE RICH WACKE

531' 5cm WIDE Po, QTZ, Cp VEIN

SHARP SULPHIDES AT CONTACTS

160.4'-481.8' THICKLY LAMINATED LEPIDOBLASTIC CHERTY IRONSTONE

481.8'-492' CHLORITIC VOLCANIC MUDSTONE

FINE GRAINED, THINLY LAMINATED, DARK GREEN, MODERATE CHLORITE CONTENT, AS IN 61.5'-73.0', ONE ZONE IRONSTONE AS ABOVE

492'-499' THICKLY LAMINATED FELDSPATHIC WTHWACKE

FINE GRAINED, LIGHT PINKY GREY, FEW COARSER BEDS, TRACE PYRITE, Po ON BEDDING PLANES CHERTY AT THE LOWER CONTACT—SULPHIDE FRACTURE FILLING

499'-506.8' FERRUGINOUS CHLORITIC VOLCANIC MUDSTONE

FINE GRAINED THICKLY LAMINATED TO VERY THINLY BEDDED DARK BROWN GREEN CHERTY HORIZONS FEW BEDS WITH 10% IDIOMORPHIC POIKILOBLASTIC GREYISH GARNETS 2% MAGNETITE PENECONTEMPORANEOUS DEFORMATION Py Po ALONG BEDDING PLANES ASSOCIATED WITH CHLORITE

506.8'-539.5' THINLY LAMINATED MAGNETITIC CHERTY IRONSTONE

FINE GRAINED, DARK GREY TO BLACK, ALTERNATING MAGNETITIC CHERT AND MAGNETITE WITH <10% CHLORITIC VOLCANIC MUDSTONE INTERBEDS, STRONG TO WEAK PENECONTEMPORANEOUS DEFORMATION, FEW MASSIVE Po Cp VEINS DISCORDANT TO BEDDING - OFTEN WITH QTZ

SECTION	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG Sus
480	Tr Po Py			BQ			
			100				62
490	Tr Po Py Cp	489					16
			100				0.89
500	Tr Py Po	499					0.61
			100				1.7
510	Tr Py Cp	509					39
			100				55
520	Tr Py Cp	519					67
			100				68
530	Tr Po Cp	529					68
			100				69
		539					71

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Casing Collar Elev.: Ground Elev.: Date Started: NOV 3, 1987 Ref. to Claim Corner:

Coordinates: L 9+00 N. 1+00 W E. Date Finished: NOV 8, 1987 Scale: 1" = 10'

Inclination: 50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE 100%	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
600'					568'-680.5' GARNETIFEROUS MUDSTONE ... cont...		Tr Po			BQ			
					606.5' Po, IN FRACTURES				100				0.26
								609					
610							Tr Po						0.26
					614' BEDDING AT 65° TO CA				100				0.07
								619					
620							Tr Po Cp						0.12
									100				0.10
								629					
630					632.2' 1cm QTZ, Po VEIN 632.5' 3cm FERRUGINOUS MUDSTONE		Tr Po Cp						0.22
					633' SUBLITHWACKE - 1-2mm QTZ GRAINS				100				0.07
					SUBLITHWACKE			639					
640					640' QTZ Tr		Tr Po Cp						0.35
					SUBLITHWACKE				100				0.42
								649					
650							Tr Po Cp						0.8
									100				0.26
								659					0.19

Hole No. [redacted]S Project [redacted]14 Page No. [redacted] of [redacted]13

Casing Collar Elev.: | Ground Elev.: | Date Started: Nov 3, 1987 | Ref. to Claim Corner:

Coordinates: L9+00S N. 1+00W E. | Date Finished: Nov 8, 1987 | Scale: 1" = 10'

Inclination: -50° | Bearing: 315° | Total Depth: 759' | Logged By: R.G. BONNER

COMMENTS:

AVE CORE REC'Y/HOLE 100%

DESCRIPTIVE GEOLOGY

SECTION | ALTERATION | FRACTURING | CO_2 MINERAL | GEOLOGY | % Sulphides | Drilling Interval | % Core Recovered | Core Size | Sample Interval | % Rec'y Samp. Int. | Estimated MAG sus

546.8'-680.5' GARNETIFEROUS MUDSTONE — cont..

INCREASING SAND CONTENT

669' DIP TEST 32.5° CORR

680' QTZ VEIN, Po, Cp SHARP

LINEATION AT 70° TO CA
BEDDING AT 55° TO CA
-20° TO LINEATION

SHARP

680.5'-688.0' THINLY BEDDED QUARTZOSE WACKE

FINE TO COARSE GRAINED, LIGHT GREEN TO PINKY BROWN, 50-80% FINE MATRIX, 50-20% METACHERT FRAGMENTS < 5mm., ANGULAR TO ELONGATED ROUND, WELL FOLIATED, TRACE Py Po THROUGHOUT, FEW GARNETIFEROUS BEDS - AS ABOVE

688.0'-698' THICKLY LAMINATED MUDSTONE

AS IN 546.8'-680.5', GARNET SIZE AND % FALL OFF - <1mm SUBIDIOMORPHIC POIKILOBLASTIC? GARNETS <3% - REDUCES TO <0.5% THROUGH UNIT, LATE CARB FRACTURES BEGIN WHERE GARNET FALLS OFF -

698.0'-738.4' THINLY BEDDED QUARTZOSE WACKE

AS IN 680.5'-688.0', OVERALL REDUCTION IN GRAIN SIZE TO FINE-MED, FEW COARSE BEDS, TRACE Py Po - FRACTURES, DISS.

Drilling Interval	% Core Recovered	Core Size	Estimated MAG sus
669	100	BQ	0.29
			0.32
679	100		0.27
			0.71
689	100		0.14
			0.44
699	100		0.11
			0.25
709	100		0.15
			0.30
719	100		0.35
			0.30

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Casing Collar Elev.: Ground Elev.: Date Started: Nov 3, 1987 Ref. to Claim Corner:

Coordinates: L9+00 N. 1+00W E. Date Finished: Nov 8, 1987 Scale: 1"=10'

Inclination: -50° Bearing: 315° Total Depth: 759' Logged By: R.G. BONNER

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE 100 %	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
720					DESCRIPTIVE GEOLOGY								
					698.0'-738.4' THINLY BEDDED QUARTZOSE WACKE cont...		Tr Po Py			BQ			
730									100				0.10
							Tr Po Py	729					0.12
									100				8.1
					SHARP			739					
740					738.4'-759' CHLORITIC VOLCANIC MUDSTONE / IRONSTONE								4.5
					AS IN 73'-150.9', DARK GREEN TO BLACK, FEW WACKE BEDS, THICKLY LAMINATED TO VERY THINLY BEDDED, 1.5' QTZ Po VEIN, FEW GARNET RICH BEDS (ALMANDINE)		Tr Po Py						
									100				55
								749					
750							Tr Po Py Cp						53
					754' 45cm QTZ Py Cp VEIN				100		754' 1.5' 755.5'	1382	22
					759' BEDDING AT 55° TO CA DIP TEST 30.5° CORR END OF HOLE - 759'			759					51
760													
770													

Hole No. LL06 | Project: 1446 | Page No: 1 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L9+00 N. 2+50W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45° (-46 collar) Bearing: 315° | Total Depth: 639' | Logged By: K. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS.

0'-15.6' OVERBURDEN

CASING REMAINS

STEEL CASING

BQ

15.6'-70.7' LAMPROPHYRE DYKE WITH LEPIDOBLASTIC SUBPARALLEL BIOTITE

- CHERTY LAYER 1" WITH 30% Po, Py CORROSIVE CONTACT WITH FE-CARB AND FE STAINING
- 3-4mm 60% Po, Py
- CA AT 60°
- 15% Po, Py WITH INCLUSIONS OF CHLORITE AND CHERT (SULPHIDIZATIONS)
- MASSIVE Po, Py 95% GRADING INTO HIGH CONCENTRATION OF DISSEMINATED Po, Py BETWEEN THINLY LAMINATE IRONSTONE
- QTZ VEIN 45% Po, 1% Py
- QTZ VEIN 20% Po, 1%-TRACE Py, cp
- QTZ VEINS WITH 45-75% MASSIVE Po, Py

THICKLY TO THINLY LAMINATED CHERTY IRONSTONE/CHLORITIC VOLC. MUDSTONE

FINE GRAINED, GREY TO DARK GREEN TO BLACK, 75% CHERTY IRONSTONE, 20% CHLORITIC VOLCANIC MUDSTONES, 5% SULPHIDE RICH QTZ VEINS. FOLD INTERFORMATIONAL DEFORMATION OF SOME LAMINATED ZONES, FRACTURING IS SUBPARALLEL TO SUBPARALLEL TO CA, MAGNETITE RICH IRONSTONES ARE INTERCALATED WITH CHLORITIC LAMELLAE, PRESENCE OF QTZ VEINS WITH MASSIVE SULPHIDES X CUTTING BEDDING, LATE CARB FRACTURING WITH FE OXIDES, Po IS ASSOCIATED WITH PENECONTEMPORANEOUS QTZ VEINS AS TO Py, Py AND Po ARE ALSO ASSOCIATED WITH FRACTURING AND SOME SULPHIDIZATION OF MAGNETITE.

ZONE OF DISSEMINATED Po, Py 40% OCCURING BETWEEN TWO QTZ VEINS ALONG THINLY LAMINATED HORIZON.

PENECONTEMPORANEOUS QTZ VEIN WITH SULPHIDES, CONCORDANT TO BEDDING. INCLUDES ROUNDED CHERT FRAGMENTS

Drilling Interval	% Core Recovered	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS.
19	100			
	100			600
39	100	37.2' 2.1 39.3	1783	1400
49	100	45.5' 2.7' 48.2	1784	600
59	100	52' 2.4' 54.4 4.9' 59.3'	1786	330 1.3

Hole No. LL06 | Project: 1986 | Page No: 2 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L 9+00 N. 2+50W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 50'

Inclination: -45 (-46 collar) Bearing: 315° | Total Depth: 639' | Logged By: [illegible]

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
60					15.6'-70.7' THICKLY TO THINLY LAMINATED CHERTY IRONSTONE / CHLORITIC VOLC. MUDSTONE CONT'D		TR Py		100	BQ			.10
				MUDSTONE WITH PORPHYROBLASTIC MAGNETITE									
70				GRADATIONAL CONTACT.	70.7'-169.7' GARNETIFEROUS CHLORITIC MUDSTONE / MAGNETITE IRONSTONE		TR-1% Po Py	71	100				.11
					FINE GRAINED, PINKISH BROWN TO LIGHT GREEN TO BLACK, THICKLY LAMINATED TO VERY THINLY BEDDED, UP TO 5% EUHEDRAL TO SUBHEDRAL POIKILOBLASTIC ALMANDINE GARNETS < 1MM, INTERLAYERED CHLORITIC MUDSTONE AND MAGNETITE IRONSTONE, OCCAISIONAL SMALL QTZ VEINS CONCORDANT AND DISCORDANT TO CA WITH SMALL AMOUNTS OF ASSOCIATED SULPHIDE, 10% MAGNETITE IRONSTONE AND 90% ALTERNATING CHLORITIC AND NON CHLORITIC GARNETIFEROUS MUDSTONE, MINOR FRACTURE RELATED CARBONATE, 1-2% Py, Po, Cy ALONG FRACTURES WITH 3-5% Po, Py ASSOCIATED WITH SMALL QTZ VEINS 5-10MM.								
80							TR-1% Po Py	89	100				.04
90							TR-1% Po Py	99	100				.29
				QTZ VEIN, CONCORDANT, 4-5 CM 1% Po, TR Py									.32
100							TR-1% Po Py	109	100				.46
110							TR-1% Po Py	119	100		103.6' 49'	178%	.43 .79 3.5
				QTZ VEIN ALONG FRACTURE, 2-3 CM CONTAINS 20% Po, Py									

Hole No. LL 06 | Project: 1446 | Page No: 3 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L 9+00 N. 2+50W ~~E.~~ | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MMG SGS
120					QTZ VEIN PARALLEL TO THE CA, ≈ 2', 18-20% Po, Py TR-1% Cp.		15% Po Py TR-1% Cp			BQ			
					70.7' - 169.7' GARNETIFEROUS CHLORITIC MUDSTONE / MAGNETITE IRONSTONE		TR-1% Po Py		100				.76
130					DECLINE OF MAGNETITE IRONSTONE AFTER ≈ 120'		TR-1% Po Py	129	100				.48 .41
140							TR-1% Po Py	139	100				.31 .05
150					SULPHIDES FILL SECONDARY FRACTURES OF QTZ VEIN, 10% Py TR-2% Po, Cp, VEIN ALSO APPEARS TO CONTAIN FRAGMENTS OF MV GLASS, BLACK, CONCHOIDAL FRACTURE, ALTERING GREEN.		10% Py TR-1% Po Py Cp	149	100		141' 2.5' 151.5'	17AA	.41 .17
160					CORE ANGLE = 60°		TR-1% Po Py	159	100				.03 .11
170					169' DIPTEST 40° CORE - SHARP CONTACT		TR-1% Py	169	100				.21 .09
					167.7' - 292.0 GARNETIFEROUS MUDSTONE - SILTSTONE / [illegible] FINE GRAINED, VERY THINLY BEDDED TO THINLY LAMINATED MUDSTONE - SILTSTONE IS LIGHT PINK GREY TO DARK GREY, UP TO 5% POIKILOBLASTIC SUBHEDRAL TO EUHEDRAL NONBANDING GARNETS < 1mm, 60-70% OF SECTION IS GARNETIFEROUS, QUARTZOSE WACKE IS FINE TO COARSE GRAINED, LIGHT GREEN TO PINKISH BROWN, 30-40% METACHERT FRAGMENTS < 12mm, ANGULAR TO ELONGATE SUBROUND, 30-80% FINE GRAINED [illegible]			179					.27
					LENTICULAR MAFIC BODY?								

Hole No. LL06 | Project: 1446 | Page No: 4 of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L9+00 N. 2+50W ~~E.~~ | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: R. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
					DESCRIPTIVE GEOLOGY								
180					167.7' - 292.0' GARNETIFEROUS MUDSTONE - SILTSTONE / QUARTZOSE WACKE CONT'D OFTEN WELL FOLIATED AND/OR LINEATED. MINOR NIL CARBONATE REACTION, FEW QTZ VEINS THROUGH SECTION (< 6 CM), SULPHIDES TO 5% CO RARELY EXCEED TRACE - 1%, 30% QUARTZOSE WACKE, 20% GARNETIFEROUS M. SILTSTONE - SEE LOG				100	BQ			.25
190					5 CM SECTION OF CHOKI Po, Cp, Py TR - 1%		TR 1% Po Py Cp	189	100				.10
								199	100				.15
200					GARNETS DECREASE						204 234	173.1	.21
					4CM QTZ VEIN 15% Po, TR-1% Cp Rounded blebs of Po 5-10% are sporadic surrounding sulphide ~2 cm QTZ VEIN IS CONCORDANT		10-12% TR - 1% Po Cp	209	100				2.0
210							TR 1% Po Py	219	100				.17
													.22
220							TR-1% Po Py	229	100				.25
													.14
230					HIGHLY CHLORITIC COLOURING LG META CLASTS, GARNETS, Po 1-3% ~ 6"								.05
					GARNETS INCREASE 232.5'		TR-1% Po Py	239	100				.50
													.16

Hole No. LL 06 | Project: 1446 | Page No: 5 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L 9+00 N. 2+50 W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
240					167.7' - 292.0' GARNETIFEROUS MUDSTONE SILTSTONE / QUARTZOSE WACKE CONT'D CHLORITIC BANDS BECOME MORE PREVALENT BETWEEN 240' - 290'		TR 1% Po, Py	249	100	BQ			.78
250							TR 2% Po, Py	259	100				.64
260							TR 2% Py, TR 1% Po	269	100				1.4
270					QTZ VEIN, TR-1% Po, TR cp, CONCORDANT, 2cm QTZ VEIN, 5% Po, Py CONCORDANT, 2-3cm PREDOMINANTLY QUARTZOSE WACKE UP TO 292'		TR 1% Po, Py, cp	279	100				.38
280							TR 1% Po, Py	289	100				.16
290					292.0' 380.1' CHLORITIC VOLCANIC MUDSTONE / MAGNETITE CHERTY IRONSTONE FINE GRAINED, DARK GREEN TO GREY BLACK, THICKLY LAMINATED TO VERY THINLY BEDDED, 50% CHLORITIC VOLCANIC MUDSTONE INTERLAYERED WITH 50% MAGNETITE CHERTY IRONSTONE STRONG TO WEAK PENECONTEMPORANEOUS DEFORMATION, LOW TO MODERATE CARBONATE REAC-		TR 1% Po, Py	299	100				.80	
													4.1
													7.1

Hole No. LL 06 | Project: 1446 | Page No: 6 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L 9+00 N. 2+50 W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
300					292.1'-329.1' CHLORITIC VOLCANIC MUDSTONE/MAGNETITE CHERTY IRONSTONE CONT'D - TIO ALONG FRACTURES AND VEINS ASSOCIATED WITH QUARTZ AND SULPHIDES, Py, Po ALONG BEDDING PLANES ASSOCIATED WITH CHLORITE, FEW MASSIVE Po, Py VEINS DISCORDANT WITH BEDDING - MOST ORIEN WITH QTZ. OCCAISSIONAL GARNETIFEROUS LAYERS THROUGHOUT CHLORITIC ZONES, SIZE 1-3 MM.		TR-1% Po Py		100	BQ			4.7
								309					
310					CORE ANGLE 42° Po Py 30% IN QTZ VEINS DISCORDANT WITH BEDDING (1-3cm)		TR-1% Py Po		100				42.0
								319					32.0
320							TR-1% Py Po Cp		100				56.0
					Q7Z VEIN INFILLING FRACTUR 1-3cm 40% Po Tr-1% Py Cp			329					23.0
330					329' DIPTEST 39° CORR GARNETIFEROUS SILTSTONE/MUDSTONE <1mm-2mm POIKILOBLASTIC PINK ALMANDINE GARNETS, RELATIVELY SHARP CONTACT.		TR-1% Po Py		100				.22
					10-15% Po, Py IN QTZ RELATED FRACTURE WITH MOD CARBONATE WIDTH 5 cm.			339					.76
340							TR-1% Py Po		100				5.2
								349					44.0
350							TR-1% Po Py		100				35.0
								359					63.0
					5 mm FRACTURE WITH Po, Py								48.0

Hole No. 06 | Project: 1446 | Page No: 7 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L9+00 N. 2+50 W ~~E.~~ | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: L. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
360					292.1'-380.1' CHLORITIC VOLCANIC MUDSTONE / MAGNETITE CHERTY IRONSTONE CONT'D		TR-1% Po Py		100	BQ			76.0
370							TR-1% Po Py	369	100				70.0 / 78.0
380					GRADUAL CONTACT 380.1'-399.3' MAGNETITE CHERTY IRONSTONE FINE GRAINED, DARK GREY TO BLACK ALTERNATING MAGNETITE AND MAGNETIC CHERT, THICKLY LAMINATED TO VERY THINLY BEDDED, < 5% CHLORITIC VOLCANIC MUDSTONE INTERBEDS, STRONG TO WEAK PENECONTEMPORANEOUS DEFORMATION, FEW MASSIVE Py BEDS DISCORDANT TO BEDDING - OFTEN WITH QTZ, WEAK CO_3 REACTION ALONG SOME FRACTURES		TR-1% Py	379	100				97.0 / 99.7
390							TR-1% Py	389	100				99+ / 76.0
400					QTZ VEIN, DISCORDANT 1-2cm 5-10% Py		TR-1% Py	399	100				99+ / 99.7
410							TR-1% Py	409	100				97.0 / 99.7
								419					31.0

Hole No. LL 06 | Project: 1446 | Page No: 8 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L 9+00 N. 2+50W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
420					380.1'-497.3' MAGNETITE CHERTY IRONSTONE CONT'D		TR-1% Py		100	BQ			99+
430							TR-1% Py	429	100				85.0
							TR-1% Py	439	100				97.0
440							TR-1% Py	449	100				97.0
450					QTZ VEIN, 10CM, DISCORDANT WITH 10-15% MASSIVE Py		TR-2% Py	469	100				99+
460					TWO VEINS MASSIVE Py 6" APART 1-3 cm WIDE, 10-50% QTZ		TR-2% Py	469	100				99+
					QTZ VEIN 7-9CM WITH 15% MASSIVE Py AT CONTACT MARGINS.		TR-2% Py	479	100				91.0
470					QTZ VEIN 7-8CM WITH 15-20% MASSIVE Py AT MARGINS, CORROSIVE CONTACT AND MAGNETITE INCLUSIONS SUGGEST SULPHIDIZATION.		TR-2% Py	479	100				99+
					QTZ VEIN 7-9CM, 15% MASSIVE Py AT MARGINS								64.0
													42.0

Hole No. LL 06 | Project: 1446 | Page No: 9 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L9+00 N. 2+50W E. | Date Finished: NOV 13, 1987 | Scale: 1"=10'

Inclination: -45(-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
480				QUARTZOSE WACK WITH ALTERED DARK GREEN CLAY MATRIX	380.1'-497.3' MAGNETITE CHERTY IRONSTONE CONT'D		TR-1% Py	489	100	BQ			99+
490				MASSIVE Py 20% IN DISCORDANT QTZ VEIN AND ALONG MARGIN (≈20CM)			TR-1% Py; 20% Py; TR-1% Py	499	100		4784 4792	1/95	82.0
500				MASSIVE Py FRACTRE 2-3CM MARKS LITHOLOGIC CHANGE	497.3'-624.2' CHLORITIC MUDSTONE / SILTSTONE FINE GRAINED, LIGHT TO DARK GREEN TO GREY, THICKLY LAMINATED TO VERY THINLY BEDDED OCCAISIONALLY INTERLAYERED THICKLY LAMINATED CHERTY MAGNETITE IRONSTONE, A FEW GARNETIFEROUS ZONES SEVERAL FEET IN WIDTH ARE FOUND THROUGHOUT SECTION, POIKILOBLASTIC ALMANDINE <1mm - 2mm, FEW THIN CARBONATE FILLED FRACTURES, OCAISSIONAL DISCORDANT QTZ VEINS CONTAIN DOMINANANTLY MASSIVE Py TR Cp		TR-1% Py Cp; REF; TR-1% Py	509	100				3.0
510				REF 503.5' MASSIVE Py IN QTZ									93.0
				MASSIVE Py IN QTZ, TR Cp 4" WIDTH			TR-3% Py Cp; MASS Py TR-2% Py Cp	519	100		5103 5113	1/91	1.7
520				GARNETIFEROUS									3.6
				514' DIP TEST 36° CORR			TR-1% Py TR Cp	529	100				4.7
530				WACKE									.63
							TR-1% Py TR Cp	539	100				.05
													.05
													.20

Hole No. LL 06 | Project: 1446 | Page No: 10 Of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L9+00 N. 2+50W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K Houle

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated MAG SUS
540					497.3 - 624.2' CHLORITIC MUDSTONE / SILTSTONE CONT'D		TR 1% Py	549	100	BQ			.06
					.5-2 CM FRACTURE WITH MASSIVE Po Py AND QTZ		TR 1% Py	559	100				1.6
550													1.8
					GARNETIFEROUS ZONE		TR 1% Py Cp	669	100				.64
560													.16
					BIOTITE CHLORITE SCHIST		TR 1% Py Cp	579	100				.11
570													1.4
							TR 1% Py Cp	589	100		5843 5853		.02
580					QTZ RICH 7CM FOLIC DIKE WITH 3% Py AND Mo ALONG LOWER CONTACT								.01
							TR 1% Py Cp	599	100				.03
590													.11
													.12

Hole No. LL 06 | Project: 1446 | Page No: 11 of 11

Casing Collar Elev.: | Ground Elev.: | Date Started: NOV 11, 1987 | Ref. to Claim Corner:

Coordinates: L 9+00 N. 2+50 W E. | Date Finished: NOV 13, 1987 | Scale: 1" = 10'

Inclination: -45 (-46 COLLAR) Bearing: 315° | Total Depth: 639' | Logged By: K. HOULE

SECTION	ALTERATION	FRACTURING	MINERAL	GEOLOGY	COMMENTS: / DESCRIPTIVE GEOLOGY	AVE CORE REC'Y/HOLE	% Sulphides	Drilling Interval	% Core Recovered	Core Size	Sample Interval	% Rec'y Samp. Int.	Estimated
600					497.3'-624.2' CHLORITIC MUDSTONE / SILTSTONE CONT'D GARNETIFEROUS ZONE.		TR-1% Py	604	100	BQ			.11
610							TR-1% Py	619	100				.07 .13
620					INTRUSIVE GRANITE DYKE INTRUSIVE GRANITE / GRANODIORITE FINE TO MED GRAINED, SPECKLED GREY WHITE TO PINK. SLIGHT GNEISSIC FABRIC MAY BE DUE TO CONTACT EFFECT. GRANITE CONTAINS APROX 30% QTZ, 40 FELDSPAR, 10% PLAG. GRANODIORITE CONTAINS < 20% FELDSPAR. UNIT IS X-CUT BY SMALL 1-3cm ALKALI FELDSPAR GRANITE DYKES OCCAISIONAL Py VEINS WITHIN UNIT.		TR-1% Py	629	100				.01 .01
630					REF 628'		TR-1% Py	639	100				.00
640					639' DIP TEST 34.5° CORR — END OF HOLE —								.00

APPENDIX II

CERTIFICATE OF ANALYSIS

TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

RECEIVED NOV -9 1987

REPORT No.
M3117

INVOICE #:
P.O.:

SAMPLE(S) OF Split Core

S. Weidner
Project #1446

	Gold Au ppb	Zinc Zn ppm
1617	<5	92
1618	30	40
1619	15	48
1620	20	65
1621	15	100
1622	5	100
1623	5	105
1624	5	98
1625	5	104
1626	5	115
1627	10	115
1628	5	109
1629	10	100
1630	5	98
1631	15	120
1632	5	108
1633	5	38
1634	<5	120
1635	5	110
1636	5	

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Nov 03/87

SIGNED Maurice J. Bikerk

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DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3117

INVOICE #:
P.O.:

SAMPLE(S) OF Split Core

S. Weidner
Project #1446

	Gold Au ppb	Zinc Zn ppm
1637	5	
1638	15	
1639	5	
1640	5	
1641	5	
1642	<5	
1643	5	
1644	<5	
1645	5	
1646	5	
1647	5	
1648	<5	
1649	<5	
1650	<5	
1651	<5	
1652	<5	
1653	<5	
1654	<5	
1655	5	
1656	<5	

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SIGNED David J. Burbach

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
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SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3117

INVOICE #:
P.O.:

SAMPLE(S) OF Split Core

S. Weidner
Project #1446

	Gold Au ppb	Zinc Zn ppm
1657	<5	
1658	<5	
1659	<5	
1660	<5	
1661	<5	
1662	<5	
1663	5	
1664	<5	
1665	<5	

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SIGNED Daniel J. Bilinski

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3237

INVOICE #:
P.O.:

SAMPLE(S) OF Core

R. G. B.
Project #1446

	Gold Au ppb
1666	<5
1667	<5
1668	<5
1669	<5
1670	<5
1671	<5
1672	<5
1673	<5
1674	<5
1675	20
1676	<5
1677	<5
1678	<5
1679	<5
1680	<5
1681	5
1682	<5
1683	<5
1684	<5
1692	5

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE (416) 625-1544

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3458

INVOICE #:
P.O.:

SAMPLE(S) OF Split Core

R.N. Thomas
Project #1446

	Gold Au ppb
1685	<5
1686	<5
1687	<5
1688	<5
1689	5
1690	<5
1691	10
1703	70
1704	10

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TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3237

INVOICE #:
P.O.:

SAMPLE(S) OF Core

R. G. B.
Project #1446

	Gold Au ppb
1693	<5
1694	<5
1695	<5
1696	15
1697	70
1698	<5
1699	<5
1700	5
1701	10
1702	25
1705	50
1706	115
1707	40

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Nov 06/87

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TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM: Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No. M3253

INVOICE #:
P.O.:

SAMPLE(S) OF: Core

R. N. T.
Project #1446

	Gold Au ppb
1708	<5
1709	<5
1710	<5
1711	5
1712	<5
1713	<5
1714	10
1715	<5
1716	5
1717	5
1718	5
1719	<5
1720	5
1721	5
1722	10
1723	5
1724	10
1725	<5
1726	5
1727	30

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Nov 06/87

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CTA

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RECEIVED NOV 16 1987

TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3253

INVOICE #:
P.O.:

SAMPLE(S) OF Core

R. N. T.
Project #1446

	Gold Au ppb
1728	<5
1729	5
1730	5
1731	<5
1732	15
1733	<5
1734	5
1735	<5
1736	5
1737	5

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TELEPHONE: (416) 625-1544
TELEX 06-960215

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CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3423

SAMPLE(S) OF Core

INVOICE #:
P.O.:

R.N. Thomas
Project #1446

	Gold Au ppb
1757	5
1758	<5
1759	5
1760	5
1761	45
1762	5
1763	<5
1764	25
1765	10
1749	<5
1750	160
1751	95
1752	10
1753	10
1754	200
1755	5
1756	<5
1742	5
1743	5
1744	160

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TECHNICAL SERVICE LABORATORIES
DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3423

INVOICE #:
P.O.:

SAMPLE(S) OF Core

R.N. Thomas
Project #1446

	Gold Au ppb
1745	25
1746	55
1747	65
1748	40

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DIVISION OF BURGENER TECHNICAL ENTERPRISES LIMITED
1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3422

INVOICE #:
P.O.:

SAMPLE(S) OF Core

R.N. Thomas
Project #1446

	Gold Au ppb
1738	<5
1739	<5
1740	<5
1741	<5
1766	<5
1767	<5
1768	<5
1769	<5
1770	<5
1771	<5
1772	<5

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1301 FEWSTER DRIVE, MISSISSAUGA, ONT. L4W 1A2
TELEPHONE: (416) 625-1544
TELEX 06-960215

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM Utah Mines Ltd.
Suite 900
25 Adelaide St. East
Toronto Ontario
M5C 1Y2

REPORT No.
M3424

INVOICE #:
P.O.:

SAMPLE(S) OF Core

R.N. Thomas
Project #1446

	Gold Au ppb
1773	<5
1774	5
1775	45
1776	350
1777	60
1778	<5
1779	130
1780	5

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Nov 26/87

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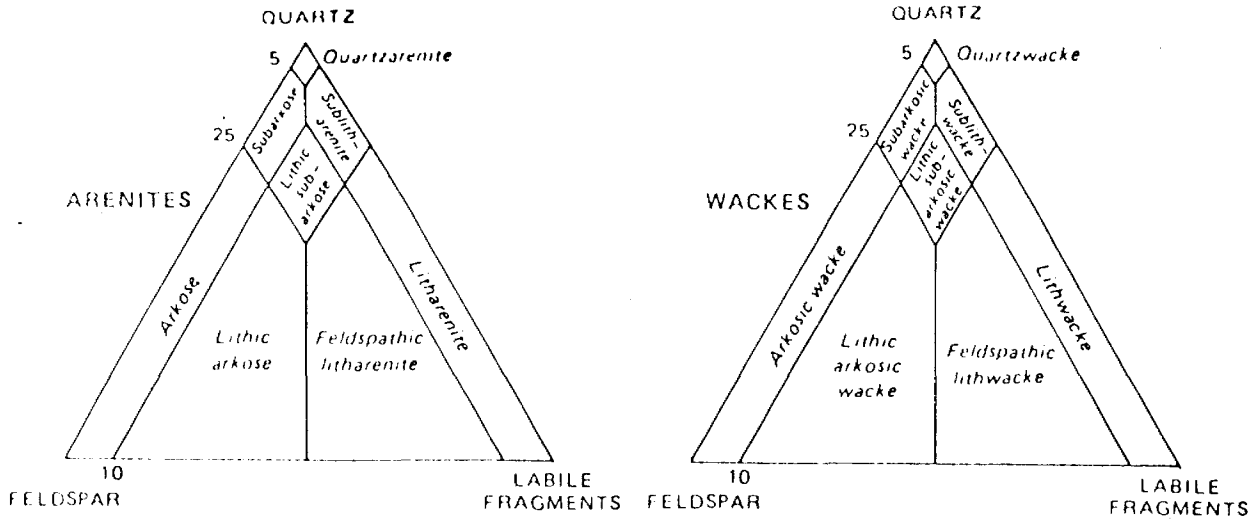
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APPENDIX III

SEDIMENTARY ROCK CLASSIFICATIONS

(FROM: BLACKBURN, C.E. (1978))



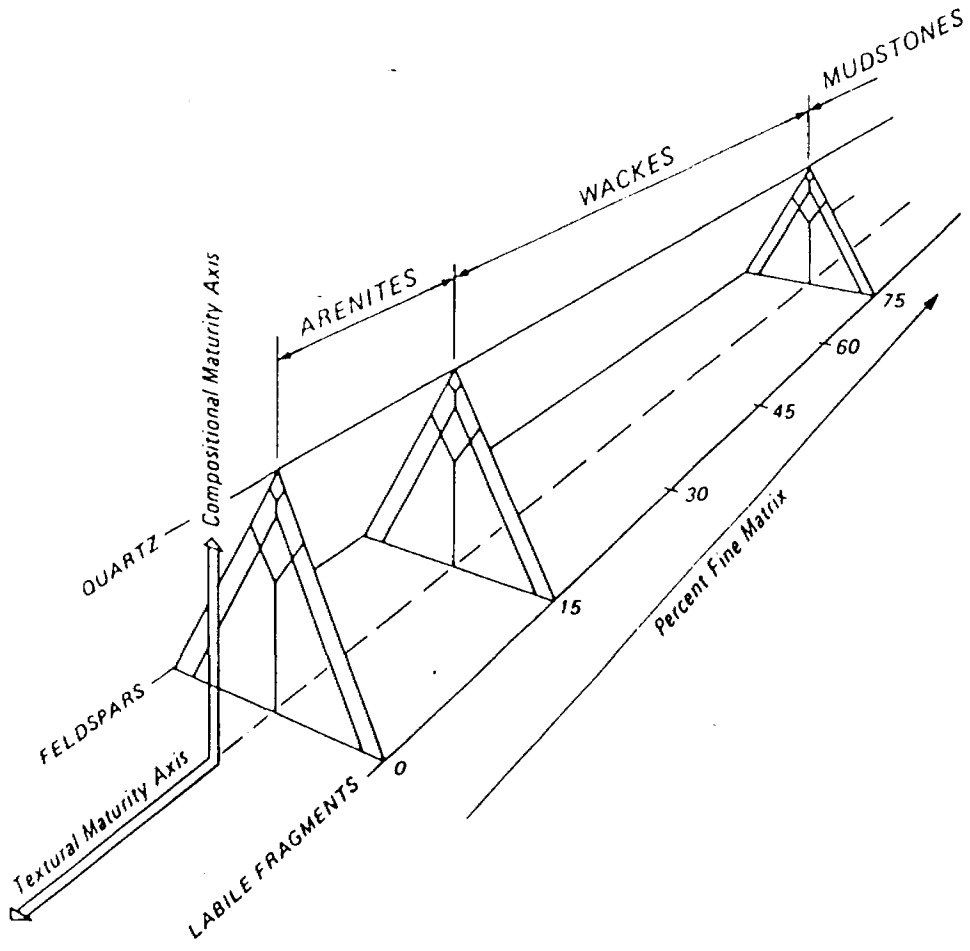


Figure 1–Classification of sandstones after Young (1967). See Casshyap (1971), Chandler (1973), and Wood (1975) for published usage.

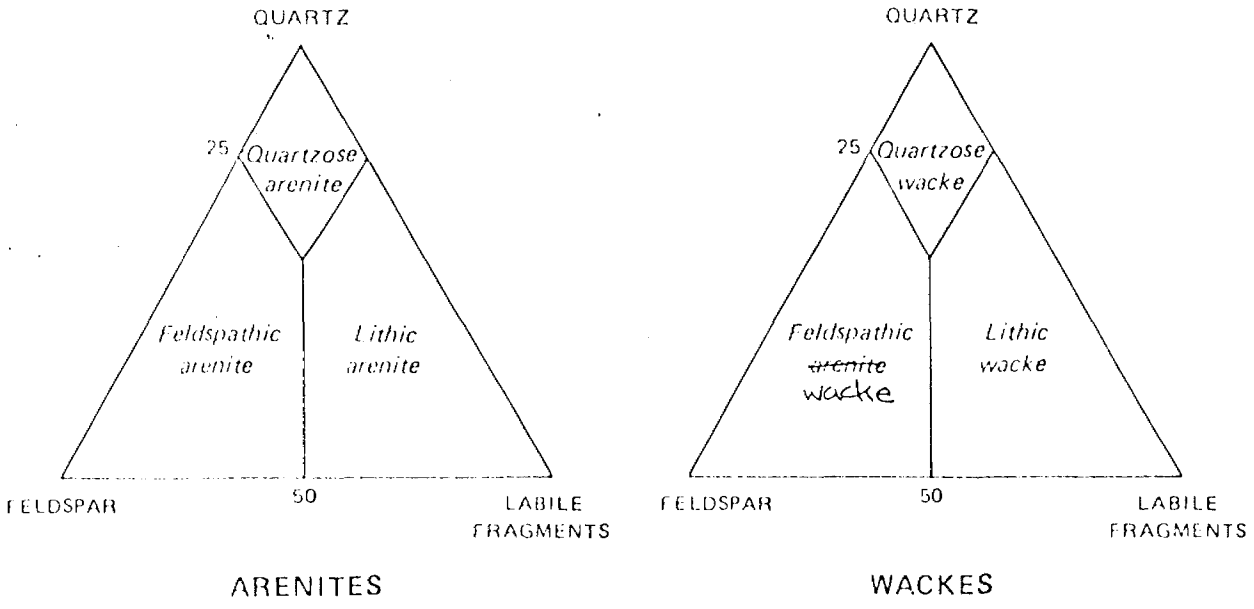


Figure 2–Simplified sandstone classification for field usage. Arenites and wackes are defined as in Figure 1.

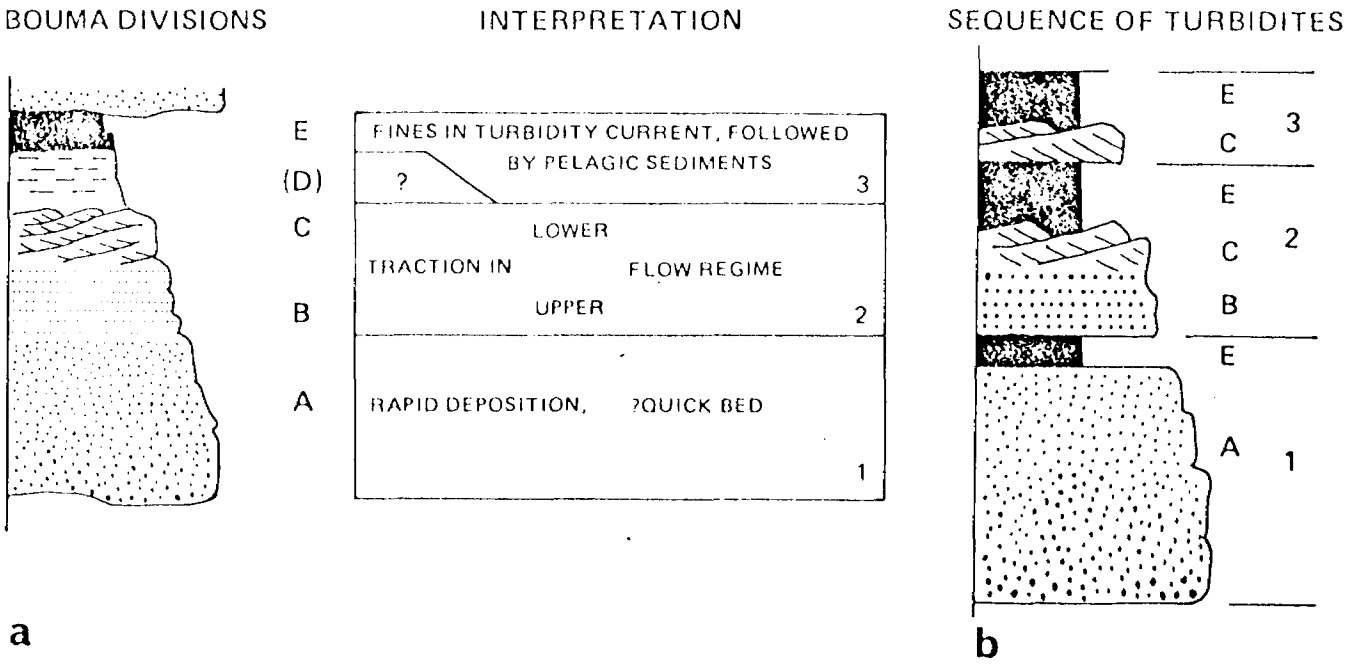


Figure 3–The Bouma cycle (from Walker 1976).

a. Five divisions of the Bouma model for turbidites: A -- graded or massive sandstone; B — parallel laminated sandstone; C — ripple cross-laminated fine sandstone; (D) — faint parallel laminations of silt and mud, bracketed to emphasize that in weathered or tectonized outcrops it cannot be separated from E—pelitic division, partly deposited by the turbidity current, partly hemipelagic. Interpretations of depositional process are grouped into three main phases.

b. Hypothetical sequence of three turbidites, described as AE, BCE, and CE in the Bouma model.

#63.5247

OM 86-2-C-293

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

① Report on Field Activities, Summer 1987, → See File #2.11009, Report of McVicar Lake Project, BHP-Utah Mines Ltd., R. Dyer, Nov. 25/87. Work # W8803.232

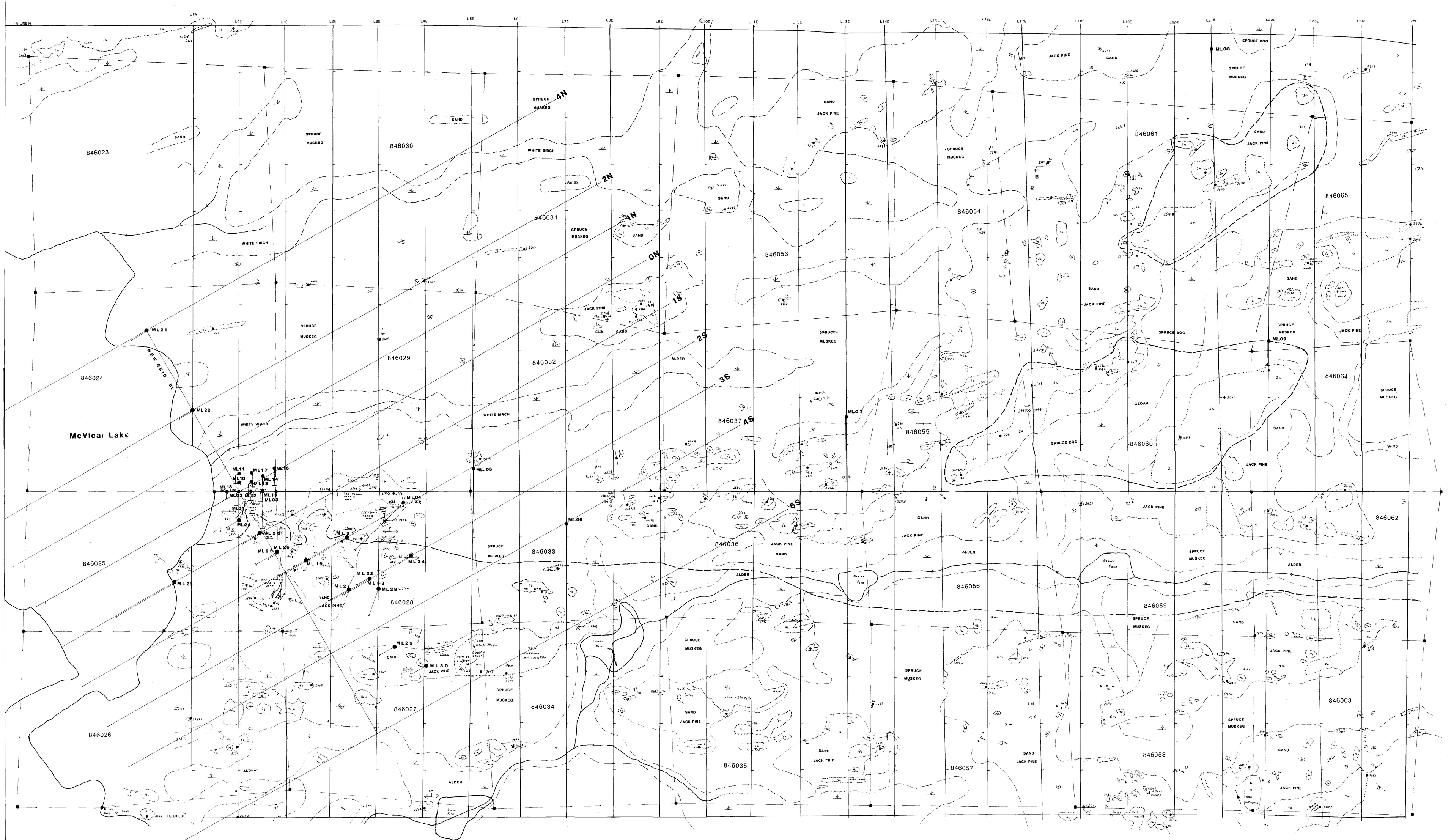
THE FOLLOWING HOLES WERE FILED FOR ASSESSMENT BUT WERE NOT CULLED BECAUSE OF MINOR DIFFERENCES.

a) ML 19 to ML 22, June/87 → 52Ø/11SW-0046, McVicar Lake DDR #32, R. of W. # 126 for 1987.

b) ML 31 to ML 34, Aug./87 → McVicar Lake DDR #34, Report of Work #W8803.094

c) ML 35 to ML 45, April-May/88 → McVicar Lake DDR #36, Report of Work # W8803.193

d) LL-01-87 to LL-06-87, Sept.-Nov./87 → Stoughton Lake DDR #18, Report of Work #W8803.117



PLAN 01

LEGEND

PRECAMBRIAN

PROTEROZOIC

LATE MAFIC INTRUSIVE ROCKS

6 — 6a Porphyritic mafic dike
6b Altered mafic intrusive

INTRUSIVE CONTACT

ARCHEAN

FELSIC INTRUSIVE ROCKS

5 — 5a Felsic dike

INTRUSIVE CONTACT

MAFIC INTRUSIVE ROCKS

4 — 4a Gabbro
4b Anorthositic gabbro
4c Anorthosite

INTRUSIVE CONTACT

CHEMICAL SEDIMENTS

3 — 3a Massive magnetite ironstone
3b Banded magnetite ironstone
3c Cherty magnetite ironstone
3d Hematite ironstone

INTERMEDIATE METAVOLCANICS

2 — 2a Silicified lava

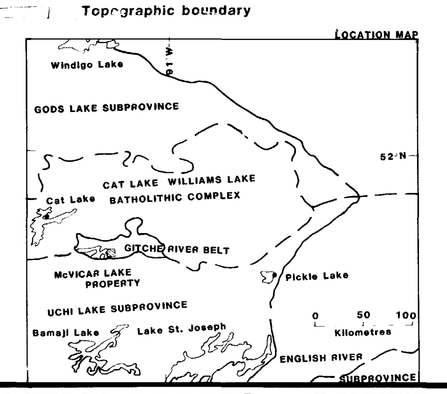
MAFIC METAVOLCANICS

1 — 1a Massive and foliated lava
1b Coarse-grained volcanic or mafic intrusive rocks
1c Amphibolite
1d Chlorite, chlorite-carbonate schist

SYMBOLS

- Geological boundary
- Outcrop
- Trench
- Claim line, post
- Drill hole (Kenlew Mines Ltd., 1959)
- Shearing (inclined)
- Foliation (inclined)
- Bedding (inclined)
- Drag fold with plunge
- Joint (inclined, vertical)
- Rock sample location — whole rock and trace element analysis
- Rock sample location — trace element analysis only
- Outcrop description only
- Topographic boundary
- Trail
- Swamp
- Beaver dam

LOCATION MAP



UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

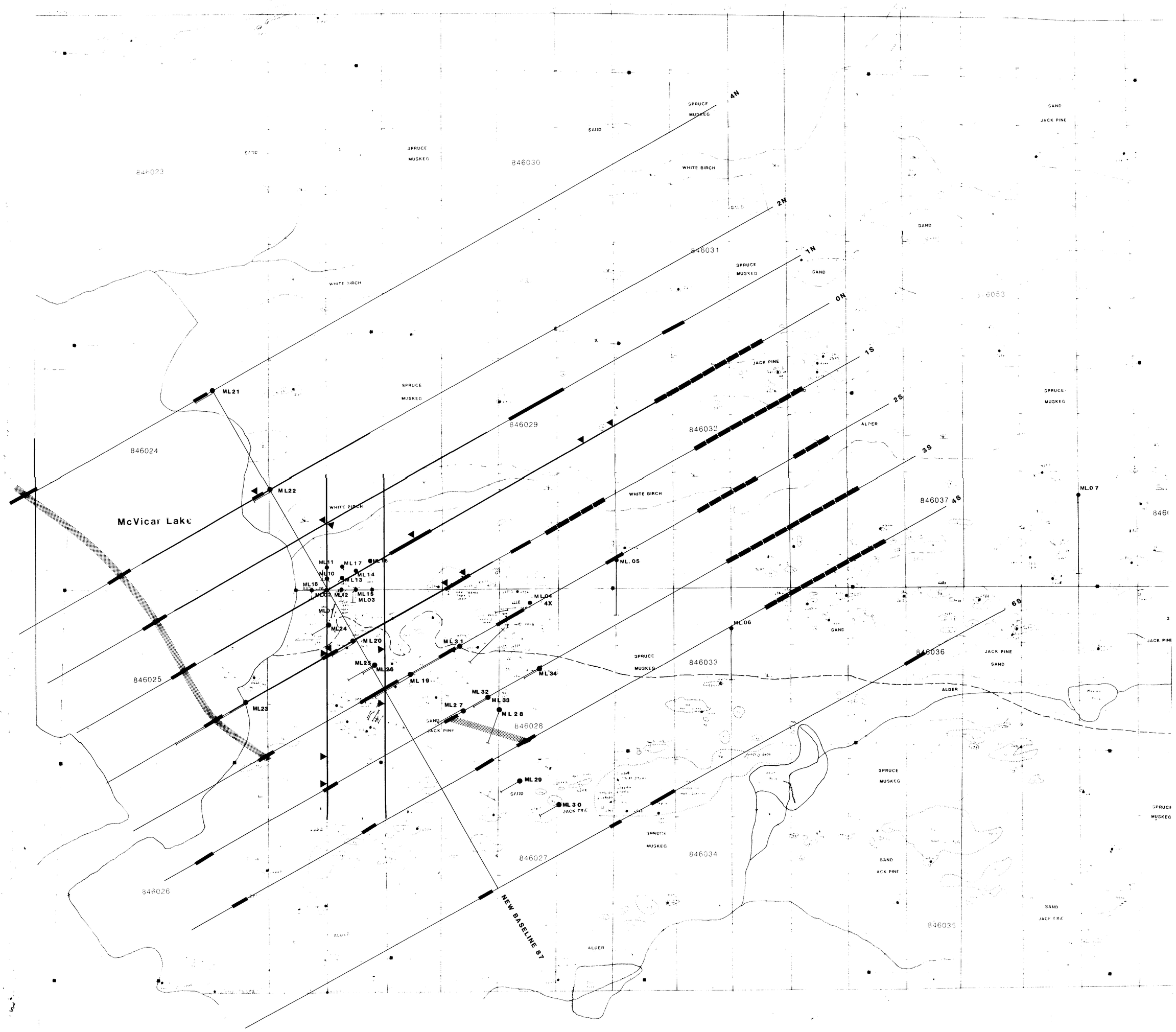
McVICAR LAKE PROPERTY

GEOLOGY

63.5242 (pt 1) ON86-293

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
21/10/85	IAA			52011		OF

SCALE
0 100 200 300
METRES



LEGEND

- IP Anomaly From 50M P-Dp Survey
- IP Anomaly From 25M Dp-Dp Survey
- Broad Anomalous Zone
- Anomaly Axis (direction confirmed by EM)
- Survey Lines Covered By 25M Dp-Dp

UTAH MINES LTD
Exploration Dept.
Toronto : CANADA.

McVICAR LAKE PROPERTY
IP ORIENTATION SURVEY
COMPILATION MAP
DRILL HOLE LOCATIONS

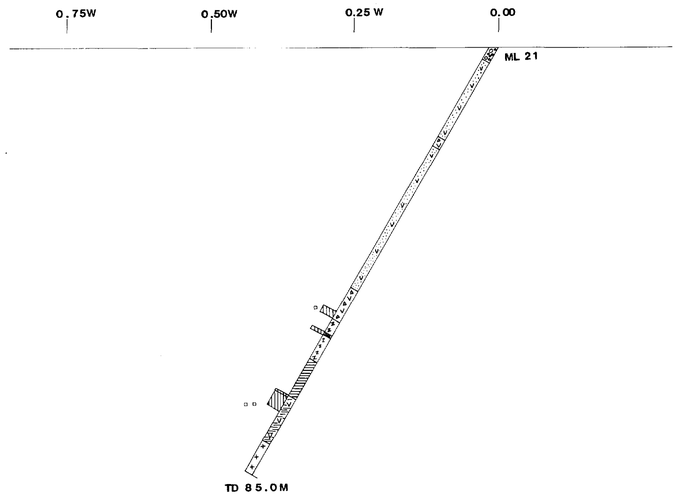
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Apr. 87	MP/SBS	–	–	–	–	–

PLAN 02

0M86-293

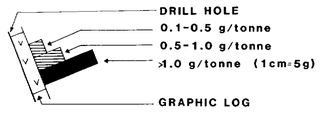
63.5247 (pt.1)

520115E8868 63.5247 MCVICAR LAKE



ML 21

SAMPLE NO.	INTERVAL	AU(ppb)
1391	174.0'-179.0'	205
1393	186.8'-188.3'	500
1402	229.0'-230.0'	375
1403	230.0'-239.0'	415



▫ 50% RECOVERY

▫▫ 40% RECOVERY

LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM 86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

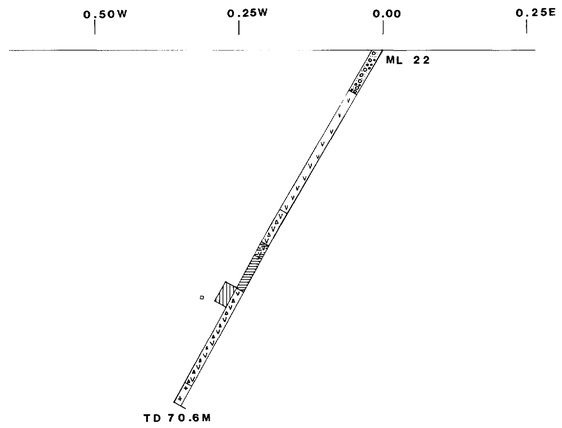
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 4.00 N

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SCALE 1:500

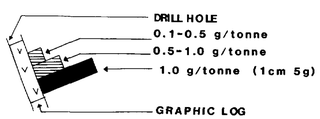
PLAN 03

52011SE0008 63.5247 MCVICAR LAKE



ML 22

SAMPLE NO.	INTERVAL	AU (ppb)
1409	159.0'-169.0'	200



o 15% RECOVERY

LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

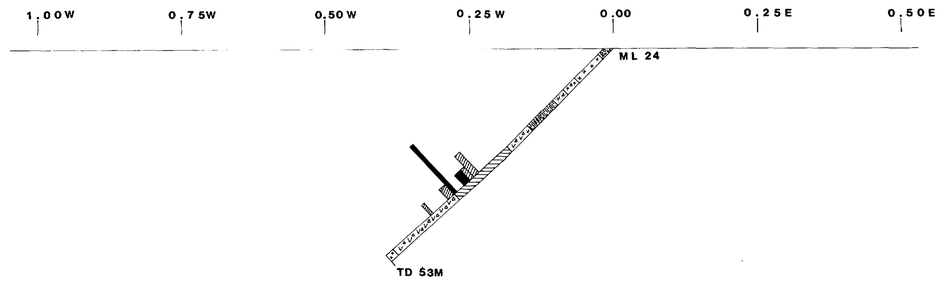
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 2.00 N

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

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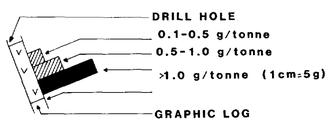
PLAN 04

52011SE0008 63.5247 MCVICAR LAKE



ML 24

SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
1421	102.8'-106.0'	740	
1422	106.0'-109.1	220	
1423	109.1'-114.0'	>1000	2.5
1425	119.0'-122.3'	>1000	11.6
1426	122.3'-125.6'	135	
1427	137.0'-139.0'	330	



LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM86-293 63.5247(pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

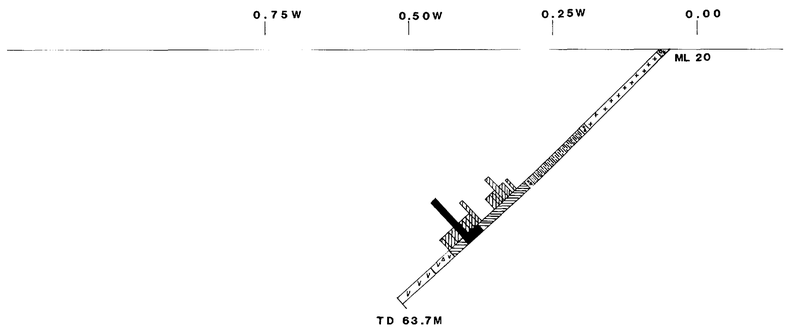
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McVICAR LAKE AREA
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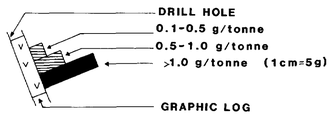
PLAN 05

52011SE0000 63.5247 MCVICAR LAKE



ML 20

SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
1366	117.0'-118.4'	200	
1368	119.4'-122.7'	420	
1369	122.7'-126.0'	560	
1370	126.0'-128.6'	175	
1371	128.6'-129.3'	315	
1372	129.3'-134.0'	125	
1377	142.8'-145.0'	510	
1378	145.0'-146.6'	105	
1379	146.6'-149.0'	180	
1380	149.0'-151.0'	220	
1381	151.0'-154.0'	230	
1382	154.0'-158.6'	>1000	8.6
1383	158.6'-163.0'	230	
1384	163.0'-167.0'	250	
1385	167.0'-169.0'	120	



LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

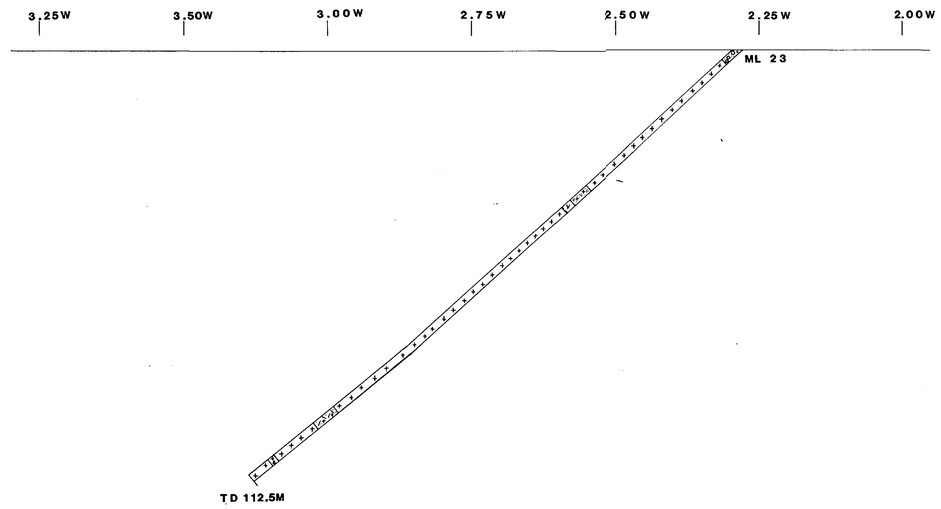
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McVICAR LAKE AREA
DDH SECTION NG 1.00 S

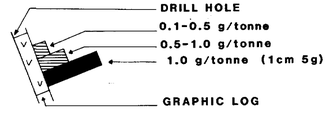
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SCALE 1:500

PLAN 06

52011SE0008 63.5247 MCVICAR LAKE





LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

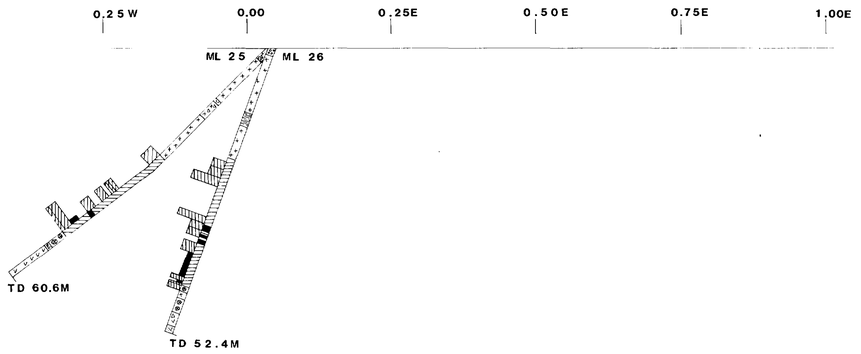
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 1.00 S

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PLAN 07

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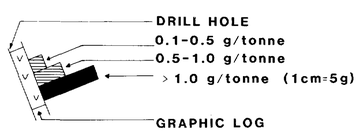


ML 25

SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
1428	91.0'-96.0'	95	
1436	119.0'-120.7'	320	
1437	120.7'-121.3'	140	
1438	121.3'-124.1'	135	
1440	126.1'-130.1'	345	
1442	136.1'-141.6'	135	
1445	148.0'-153.0'	>1000	1.0
1446	153.0'-158.0'	555	
1447	158.0'-161.0'	540	

ML 26

1449	70.0'-75.0'	240	
1450	75.0'-80.0'	400	
1451	80.0'-85.0'	530	
1457	104.0'-109.0'	675	
1458	109.0'-112.0'	265	
1459	112.0'-116.0'	210	
1461	119.3'-125.1'	315	
1462	125.1'-127.7'	>1000	1.4
1463	127.7'-134.1'	>1000	3.1
1464	134.1'-139.0'	>1000	1.2
1465	139.0'-141.8'	175	
1466	141.8'-143.2	>1000	1.3
1467	143.2'-144.8'	235	
1468	144.8'-148.6'	400	



LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

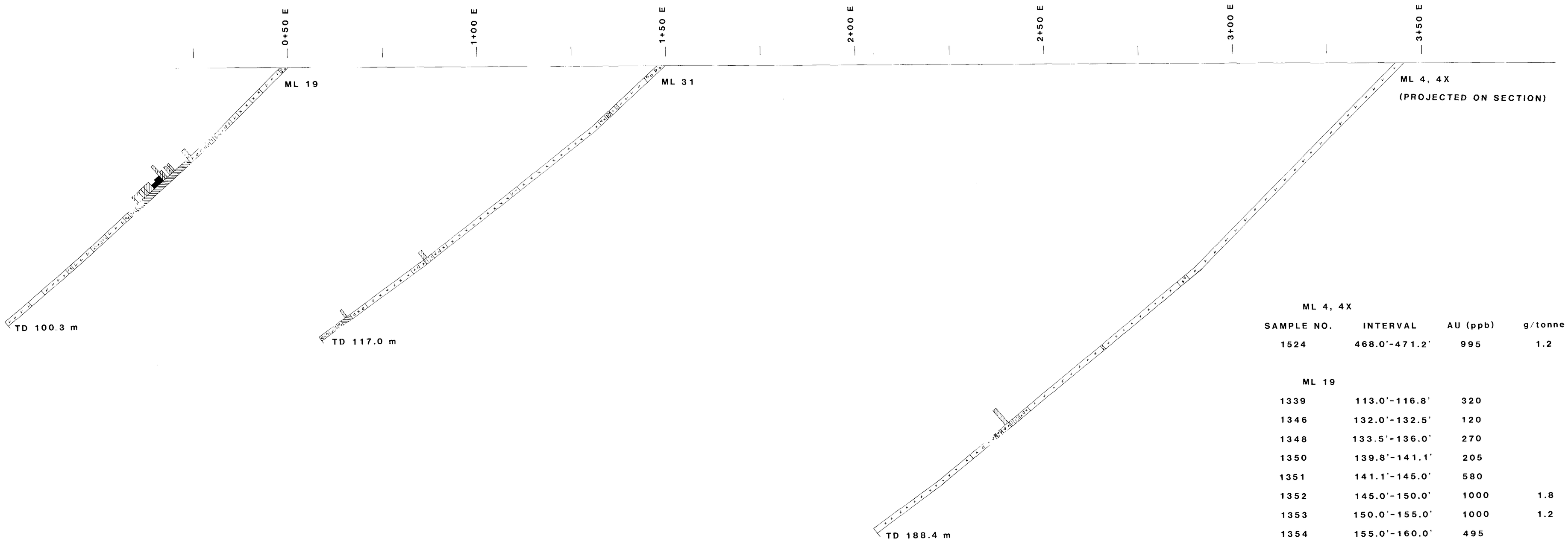
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 1.50S

DATE	DRAWN	CHECKED	REVISED	NTS	FILE	MAP

SCALE 1:500

PLAN 08

52011SE0008 63.5247 MCVICAR LAKE



ML 4, 4X

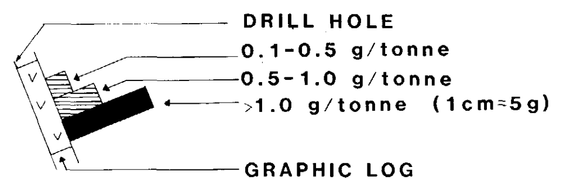
SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
1524	468.0'-471.2'	995	1.2

ML 19

1339	113.0'-116.8'	320	
1346	132.0'-132.5'	120	
1348	133.5'-136.0'	270	
1350	139.8'-141.1'	205	
1351	141.1'-145.0'	580	
1352	145.0'-150.0'	1000	1.8
1353	150.0'-155.0'	1000	1.2
1354	155.0'-160.0'	495	
1355	160.0'-164.0'	135	
1356	164.0'-168.0'	430	
1357	168.0'-172.0'	520	
1358	172.0'-174.5'	365	

ML 31

1532	264.0'-268.6'	110	
1535	350.7'-353.0'	220	



LEGEND

overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

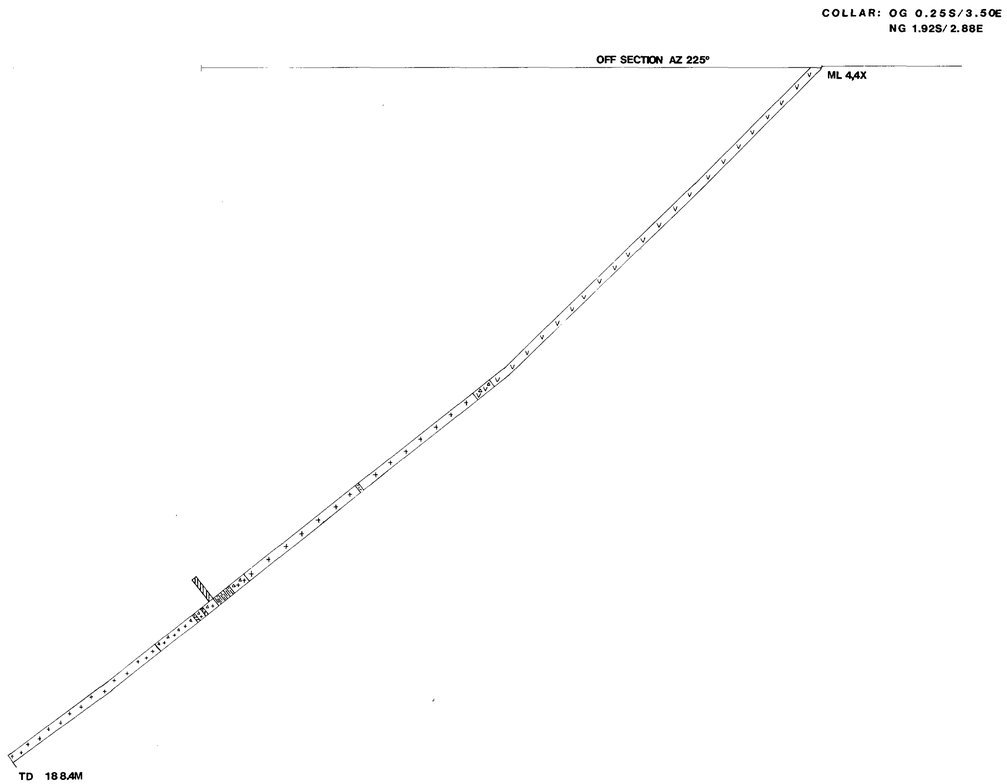
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 2+00S

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

SCALE 1:500

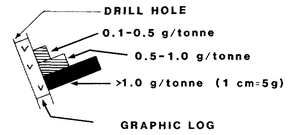
PLAN 09

63.5247 MCVICAR LAKE



ML 4X

SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
1524	468.0'-471.2'	995	1.2
1525	471.2'-475.1'	40	
1526	475.1'-477.2'	15	
1527	477.2'-481.3'	10	
1528	481.3'-485.0'	20	
1529	487.0'-492.0'	10	
1530	492.0'-497.0'	<5	



LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT
McVICAR LAKE AREA
OFF SECTION

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

SCALE 1:500

PLAN 10

52011SE0008 63.5247 MCVICAR LAKE

ML 27

SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
1469	86.4'- 89.0'	665	
1470	89.0'- 94.0'	110	
1474	157.9'-164.0'	>1000	32.5
1475	164.0'-169.0'	>1000	1.6
1476	169.0'-173.1'	>1000	1.4
1477	173.1'-177.0'	95	
1479	180.2'-183.6'	825	
1480	183.6'-186.8'	455	
1481	186.8'-191.0'	>1000	3.2
1482	191.0'-192.0'	175	

ML 32

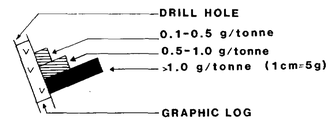
1539	165.0'-170.0'	105	
1540	170.0'-175.0'	90	
1543	195.4'-197.3'	>1000	3.0
1544	197.3'-201.3'	310	
1545	201.2'-204.0'	95	
1546	204.0'-209.0'	190	
1547	209.0'-214.0'	270	
1550	220.1'-225.0'	280	
1555	237.6'-242.6'	160	

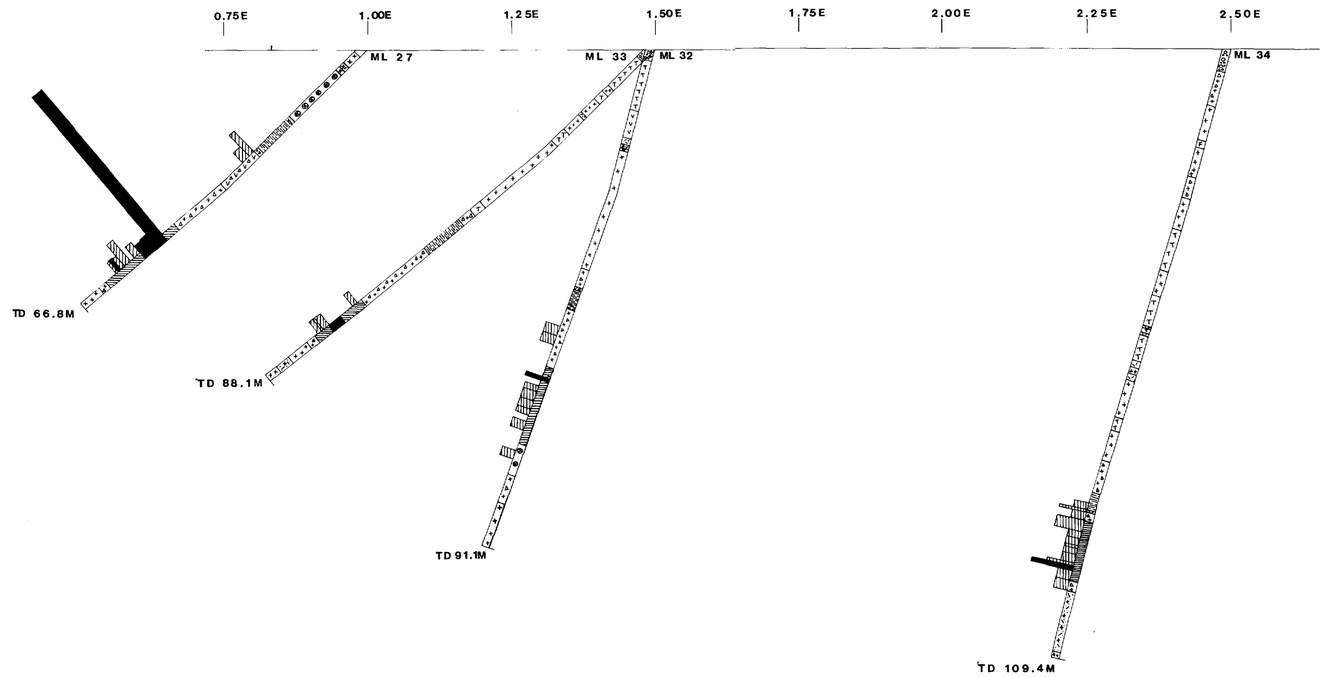
ML 33

1587	220.0'-223.0'	120	
1594	239.3'-244.0'	440	
1595	244.0'-244.5'	190	
1596	244.5'-247.8'	370	

ML 34

1604	269.0'-274.0'	215	
1605	274.0'-275.0'	695	
1606	275.0'-280.0'	155	
1607	280.0'-285.0'	855	
1608	285.0'-289.7'	335	
1609	289.7'-294.0'	155	
1610	294.0'-296.5'	180	
1611	296.5'-299.0'	275	
1612	299.0'-304.0'	400	
1613	304.0'-306.1'	545	
1614	306.1'-308.8'	>1000	7.5
1615	308.8'-314.5'	165	
1616	314.5'-319.0'	285	





LEGEND

- overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

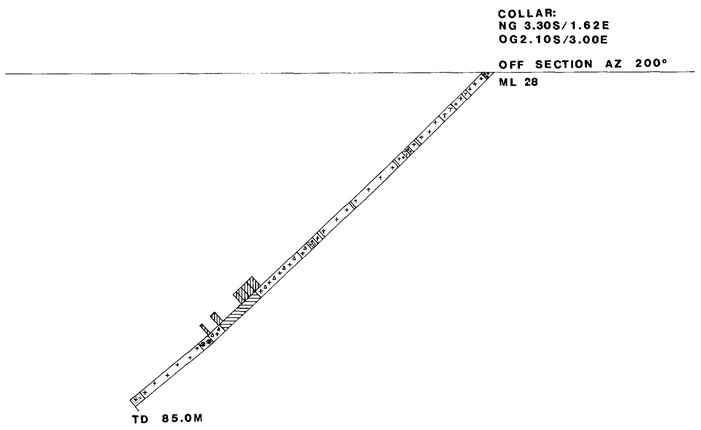
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 3.00 S

DATE	DRAWN	CHECKED	REVISED	M.T.S.	FILE	MAP

SCALE 1:500

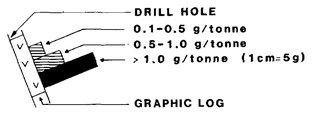
PLAN 11

52011SE0008 63.5247 MCVICAR LAKE



ML 28

SAMPLE NO.	INTERVAL	AU (ppb)
1490	179.0'-184.0'	220
1491	184.0'-187.4	195
1492	187.4'-190.7'	370
1493	190.7'-194.1'	400
1498	209.0'-211.5'	170
1501	218.0'-219.0'	400



LEGEND

- overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

OM86-293 63.5247(pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

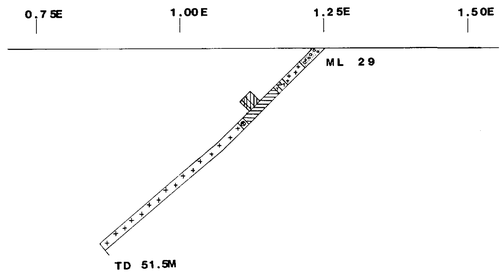
McVICAR LAKE PROJECT
McVICAR LAKE AREA
OFF SECTION

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						UP

SCALE 1:500

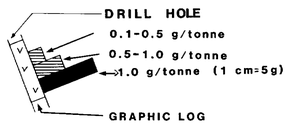
PLAN 12

52011SE0088 63.5247 McVICAR LAKE



ML 29

SAMPLE NO.	INTERVAL	AU (ppb)
1504	46.0'-50.0'	100
1505	50.0'-53.1'	150
1506	53.1'-53.9'	110



LEGEND

overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

OM86-293

63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

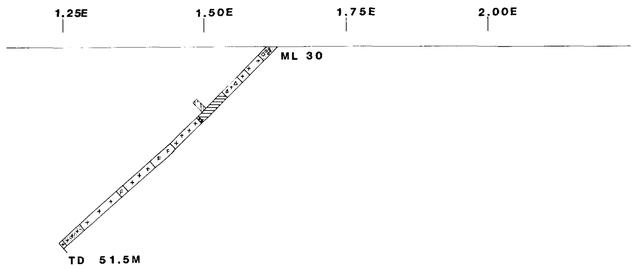
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 4.50S

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

SCALE 1:500

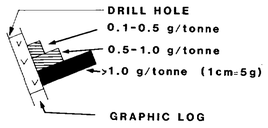
PLAN 13

52013SE0088 63.5247 MCVICAR LAKE



ML 30

SAMPLE NO.	INTERVAL	AU (ppb)
1517	54.0'-56.0'	155



LEGEND

overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

OM86-293 63.5247 (pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

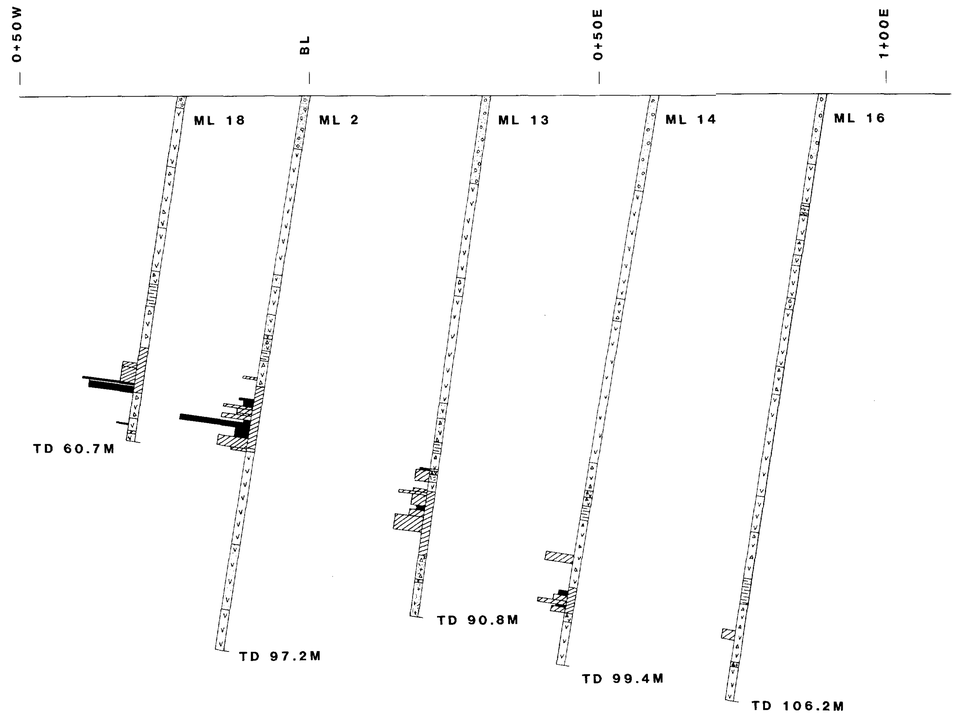
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 5.20S

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

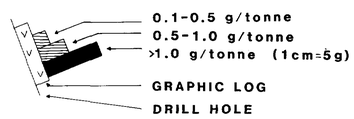
SCALE 1:500

PLAN 14

52011SE0008 63.5247 MCVICAR LAKE



SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
ML 18			
1325	153.0'-155.8'	110	
1328	159.0'-164.2'	100	
1329	164.2'-164.6'	8570	9.2
1331	166.3'-169.7'	7060	7.9
1332	169.7'-174.0'	90	
1333	187.5'-187.8'	1920	2.1
ML 02			
1043	162.0'-162.9'	205	
1048	174.0'-175.1'	>1000	2.6
1049	175.1'-178.5'	>1000	1.8
1050	178.5'-180.3'	>1000	0.8
1051	180.3'-183.2'	325	
1052	183.2'-184.2'	150	
1053	184.2'-187.0'	525	0.5
1054	187.0'-188.3'	>1000	1.1
1055	188.3'-191.0'	>1000	12.0
1056	191.0'-196.0'	>1000	2.3
1057	196.0'-202.1'	685	0.5
1058	202.1'-203.6'	460	
ML 13			
1206	214.5'-215.5'	1650	1.7
1207	215.5'-217.0'	280	
1208	217.0'-221.0'	270	
1210	226.6'-228.3'	130	
1211	228.3'-229.8'	1030	1.0
1212	229.8'-231.0'	470	
1213	231.0'-236.4'	370	
1214	236.4'-238.8'	1120	1.4
1215	238.8'-243.0'	450	
1216	243.0'-248.0'	760	
1217	248.0'-251.5'	800	
ML 14			
1230	264.0'-269.0'	620	
1234	283.7'-286.2'	1650	1.7
1235	286.2'-289.4'	340	
1236	289.4'-291.5'	590	
1237	291.5'-292.7'	1710	1.7
1238	292.7'-296.0'	320	
ML 16			
1274	308.8'-314.0'	110	



LEGEND

- overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

OM86-293 63.5247(pt.1)

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

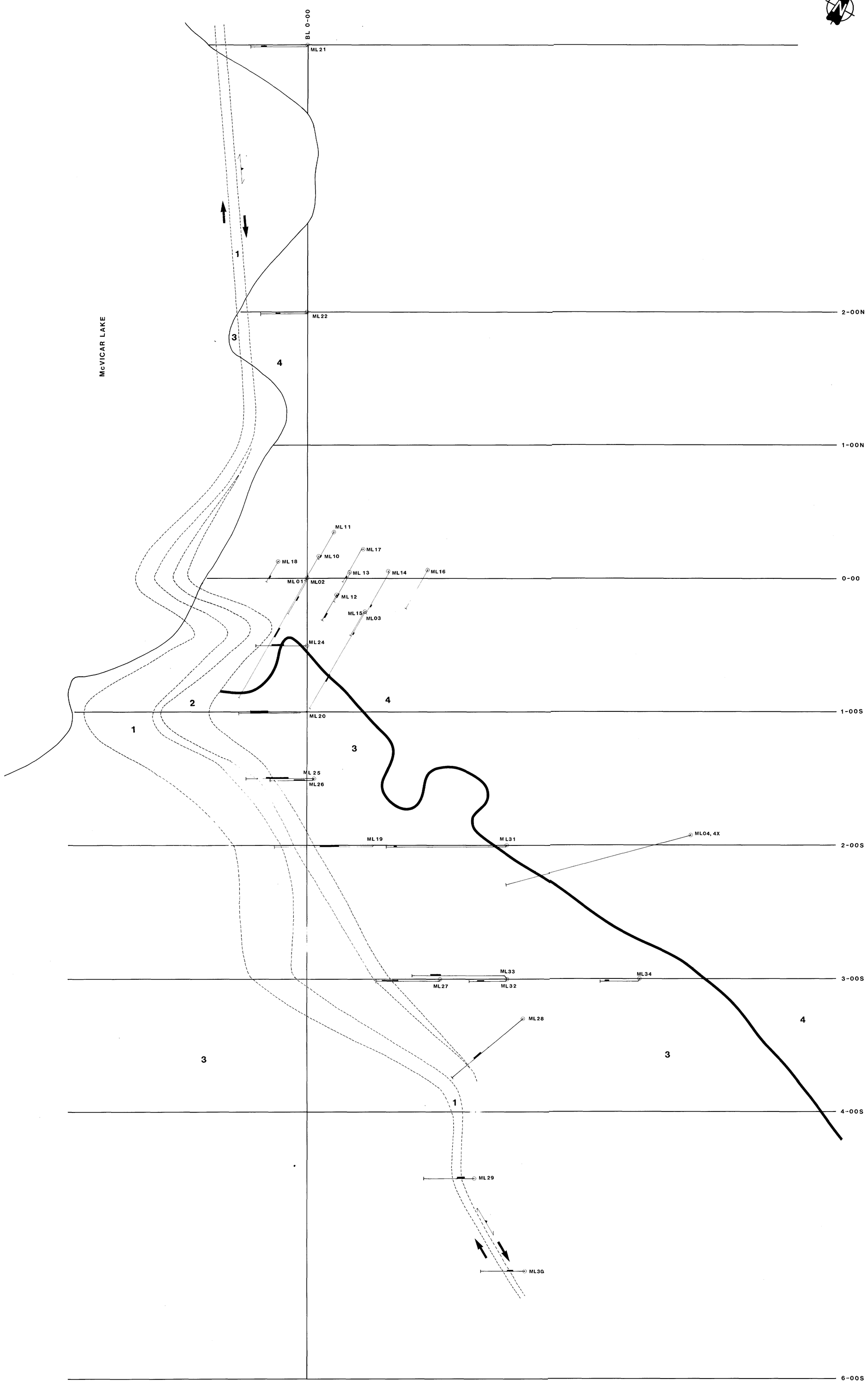
McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 0+00 (COMPOSITE)

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

SCALE 1:500

PLAN 15

52011SE0032 63.5247 MCVICAR LAKE



LEGEND

DIAMOND DRILL HOLE - PLAN VIEW
SOLID BAR IS ALTERED ZONE INTERSECTION

1 ALTERED ZONE

2 MYLONITE

3 GABBRO

4 VOLCANICS

FOLIATION

GEOLOGICAL CONTACT:
OBSERVED OR INFERRED
APPROXIMATE

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE ALTERED ZONE

PLAN VIEW

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
02.1988		RNT				OF

SCALE 1:1000 FEET

PLAN 16

520115E0050 63.5247 MCVICAR LAKE
350
OM 86-293
63.5247 (pt.1)

SOUTH

NORTH

11S 10S 9S 8S 7S 6S 5S 4S 3S 2S 1S 0N 2N

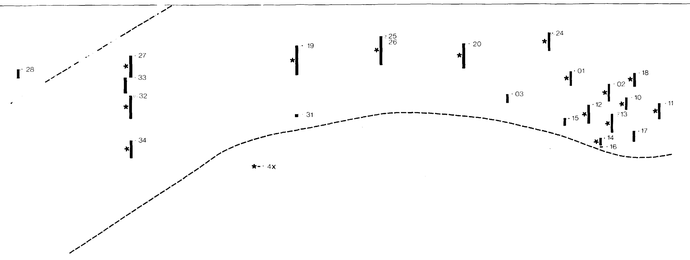
SURFACE AZ 330

100 M

200 M

300 M

400 M



LEGEND

PIERCE POINT

01 HOLE NO.

ALTERED ZONE (TRUE THICKNESS)

CONTAINS INTERVAL(S) >1 g/TONNE AU

DILATED PORTION OF ALTERED ZONE

OM82-293 63.5247 (pt.1)

BHP-UTAH MINES LTD.
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE ALTERED ZONE

VERTICAL LONGITUDINAL SECTION

FACING SOUTHWEST

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						OF

SCALE 1:1,000 PLAN 17

TOPO ORDNANCE SURVEY MCVICAR LAKE

3480

886072 886071 886070 886069 886068 886067 886066

TL 10N

846023 846030 846031 846053 846054 846061 846065

846024 846029 846032 846037 846055 846060 846064

MCVICAR LAKE

846025 846028 846033 846036 846056 846059 846062

846026 846027 846034 846035 846057 846058 846063

TL 7S

L 1W L0E L1E L2E L3E L4E L5E L6E L7E L8E L9E L 10E L11E L12E L13E L14E L15E L16E L17E L18E L19E L20E L21E L22E L23E L24E L25E

10N 9N 8N 7N 6N 5N 4N 3N 2N 1N 0L 1S 2S 3S 4S 5S 6S 7S

4N 2N 1N 0N 1S 2S 3S 4S 5S 6S

NEW GRID LINE

ML 21 ML 22 ML 20 ML 19 ML 23 ML 24 ML 25 ML 26

ML11 ML17 ML16 ML10 ML14 ML18 ML13 ML09 ML12 ML15 ML03 ML01

ML31 ML4X ML04 ML05 ML06 ML07 ML08 ML09

ML38 ML41 ML40 ML45 ML43 ML44 ML42

ML32 ML33 ML27 ML28 ML34 ML35 ML36 ML39 ML37

ML29 ML30

LOCATION PLAN 1:50,000

0 50 100 150 200 250 300 350 400 450

METRES

SCALE 1:2,500

UTAH MINES LIMITED

EXPLORATION DEPARTMENT

TORONTO ONTARIO CANADA

MCVICAR LAKE PROPERTY

DDH LOCATIONS

OM86-293 63.5247(pt.2)

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
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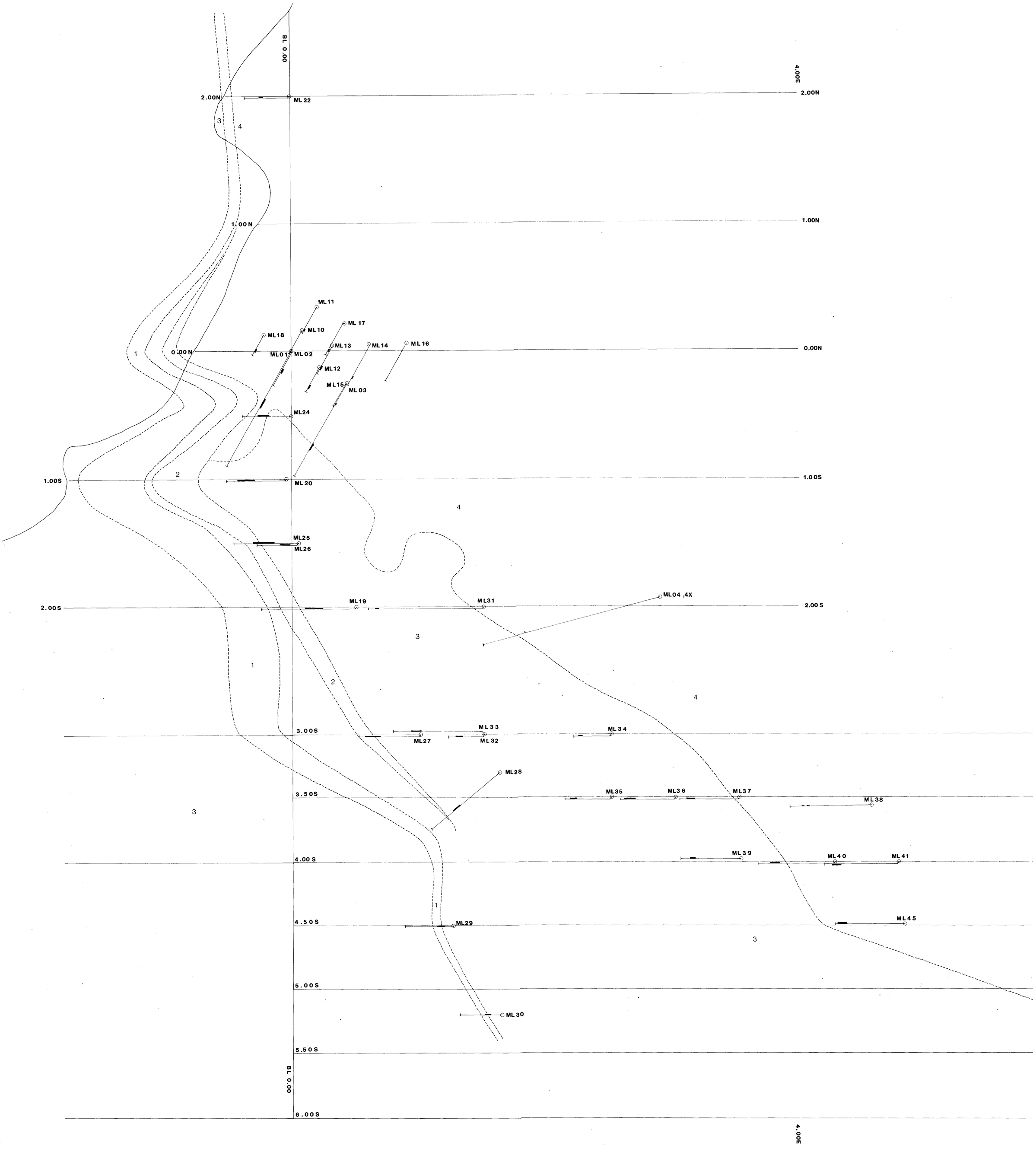
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FEET

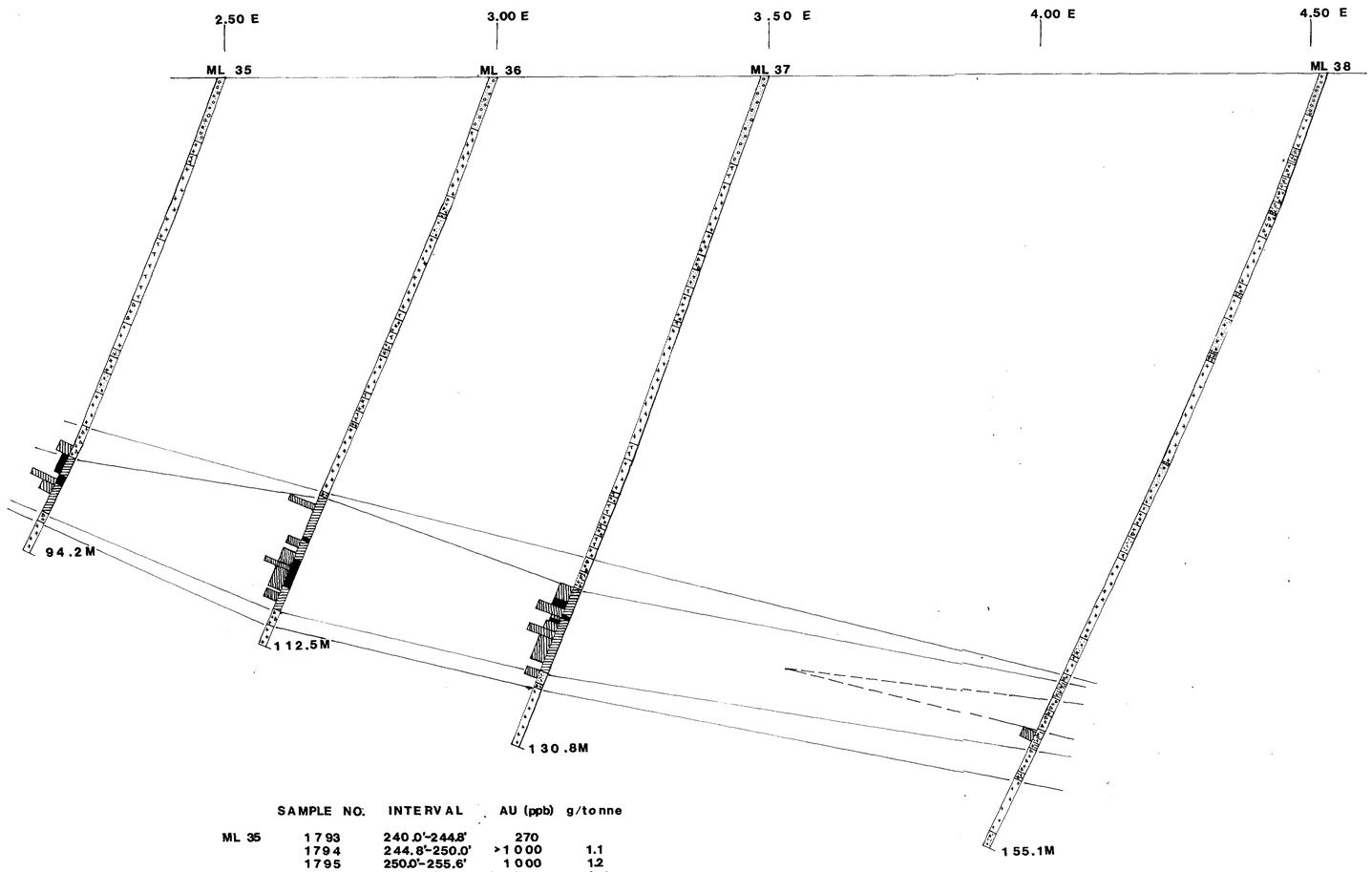
PLAN 01

5201102-9868 63.5247 MCVICAR LAKE

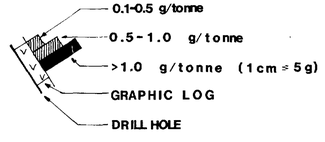
370



52011SE0008 63.5247 MCVICAR LAKE



	SAMPLE NO.	INTERVAL	AU (ppb)	g/tonne
ML 35	1793	240.0'-244.8'	270	
	1794	244.8'-250.0'	>1000	1.1
	1795	250.0'-255.6'	1000	1.2
	1796	255.6'-257.7'	900	1.0
	1797	257.7'-261.0'	100	
	1798	261.0'-264.0'	890	1.1
	1799	264.0'-265.0'	770	0.9
ML 36	1806	278.0'-282.5'	650	
	1811	301.5'-306.5'	180	
	1813	309.5'-313.7'	500	
	1814	313.7'-318.7'	160	
	1815	318.7'-321.9'	700	
	1816	321.9'-326.9'	400	
	1817	326.9'-331.6'	420	
	1818	331.6'-334.2'	280	
	1820	336.4'-341.0'	240	
ML 37	1826	328.0'-333.0'	200	
	1827	333.0'-338.0'	365	
	1828	338.0'-343.0'	>1000	2.6
	1829	343.0'-348.4'	590	
	1830	348.4'-350.0'	250	
	1831	350.0'-352.2'	870	1.8
	1832	352.2'-357.2'	170	
	1833	357.2'-362.2'	840	
	1834	362.2'-364.9'	120	
	1835	364.9'-365.3'	490	
	1836	365.3'-371.2'	280	
	1837	371.2'-377.2'	350	
	1839	381.8'-386.8'	200	
ML 38	1850	434.3'-439.2'	195	



LEGEND

overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 3.50 S

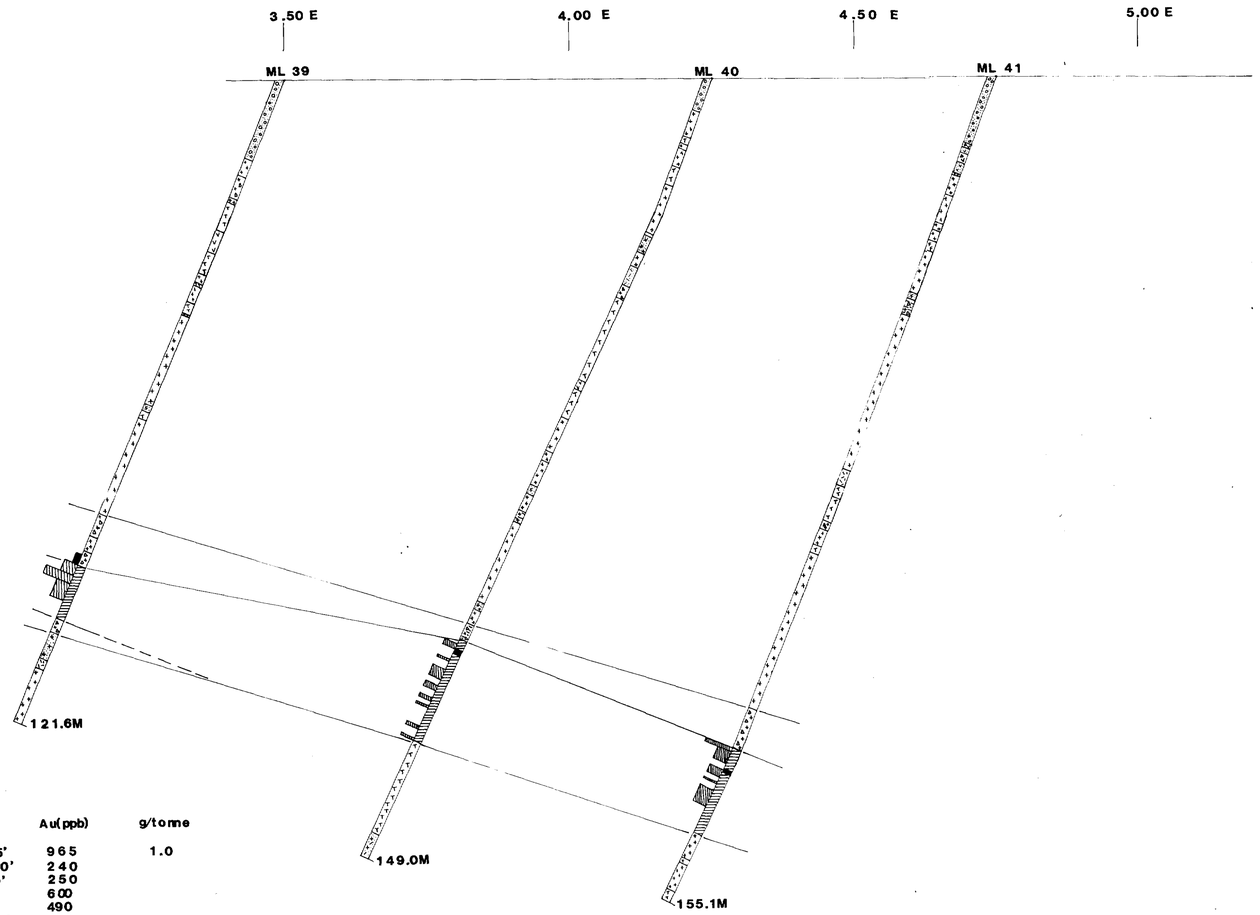
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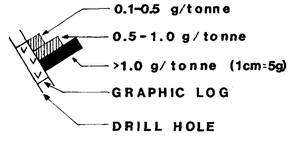
PLAN 03

OM86-293 63.5247(pt.2)

520115E8888 63.5247 MCVICAR LAKE



	SAMPLE NO.	INTERVAL	Au(ppb)	g/tonne
ML 38	1856	296.0'-301.5'	965	1.0
	1857	301.5'-304.0'	240	
	1858	304.0'-309.0'	250	
	1859	309.0'-314.0'	600	
	1860	314.0'-319.0'	490	
	1861	319.0'-324.0'	420	
ML 40	1871	356.2'-359.2'	105	
	1874	365.7'-366.5'	400	
	1875	366.5'-367.3'	265	
	1878	371.9'-375.4'	180	
	1879	375.4'-379.3'	190	
	1881	382.2'-385.8'	320	
	1884	390.2'-392.1'	470	
	1886	395.3'-396.8'	320	
	1893	407.9'-410.5'	310	
	1895	415.5'-416.9'	140	
ML 41	1898	412.2'-414.0'	785	
	1899	414.0'-415.3'	120	
	1900	415.3'-419.7'	140	
	1901	419.7'-422.7'	115	
	1903	425.7'-427.8'	120	
	1904	427.7'-431.0'	165	
	1906	433.9'-434.9'	275	
	1908	438.7'-444.0'	110	
	1909	444.0'-450.1'	300	



LEGEND

- overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 4.00S

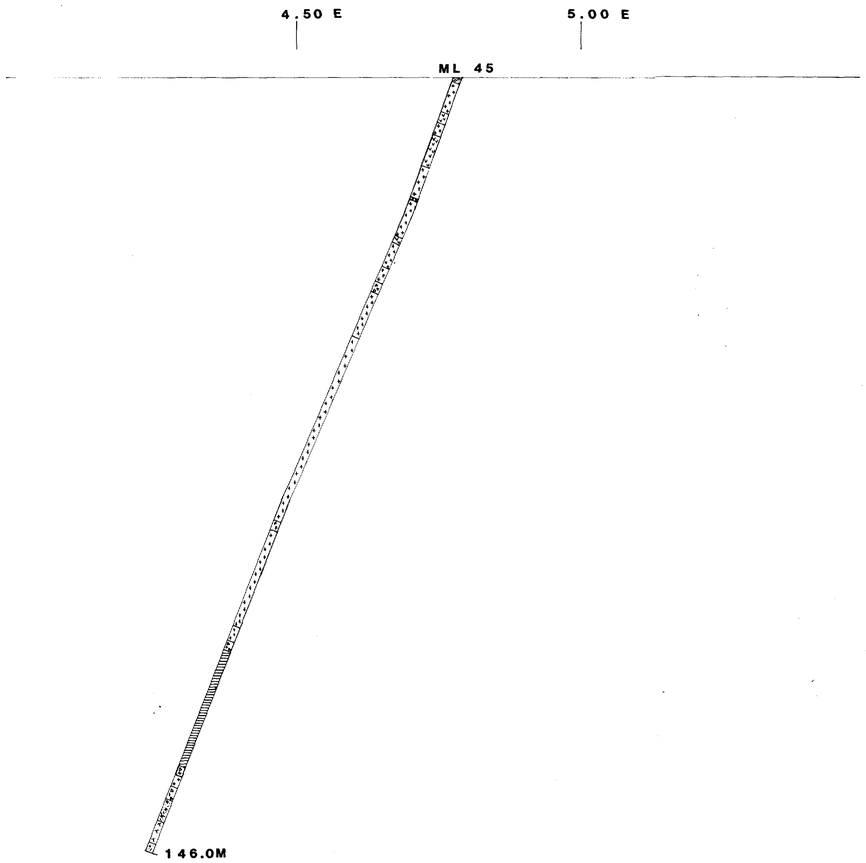
DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						OF

SCALE 1:500

PLAN 04

52011SE0008 63.5247 MCVICAR LAKE

400



LEGEND

overburden

LATE INTRUSIVE ROCKS

felsic intrusive

tonalite

diorite

intermediate intrusive

porphyritic intermediate intrusive

TECTONITES

altered zone

mylonite

brecciated basalt

brecciated porphyritic basalt

brecciated porphyritic anorthositic gabbro

brecciated anorthositic gabbro

brecciated gabbro

fault gouge

sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

porphyritic anorthositic gabbro

anorthositic gabbro

gabbro

SEDIMENTARY ROCKS

volcanic mudstone

ironstone

banded ironstone (BIF)

chert

VOLCANIC ROCKS

porphyritic basalt

basalt

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 4.50 S

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP

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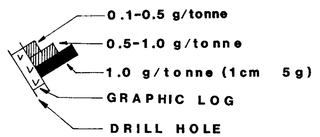
PLAN 05

52011S20888 83.5247 MCVICAR LAKE

410

OM86-293 63.5247 (pt.2)

	SAMPLE NO.	INTERVAL	Au(ppb)
ML 42	1924	473.7'-474.7'	750
ML 43	1943	543.3'-545.7'	340
	1944	545.7'-547.8'	450
	1946	556.6'-557.9'	400



LEGEND

overburden

LATE INTRUSIVE ROCKS

- felsic intrusive
- tonalite
- diorite
- intermediate intrusive
- porphyritic intermediate intrusive

TECTONITES

- altered zone
- mylonite
- brecciated basalt
- brecciated porphyritic basalt
- brecciated porphyritic anorthositic gabbro
- brecciated anorthositic gabbro
- brecciated gabbro
- fault gouge
- sheared rock (eg. basalt)

EARLY INTRUSIVE ROCKS

- porphyritic anorthositic gabbro
- anorthositic gabbro
- gabbro

SEDIMENTARY ROCKS

- volcanic mudstone
- ironstone
- banded ironstone (BIF)
- chert

VOLCANIC ROCKS

- porphyritic basalt
- basalt

UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT
McVICAR LAKE AREA
DDH SECTION NG 5.00 S

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
						0M

SCALE 1:500

PLAN 06

52011SE0008 63.5247 MCVICAR LAKE

0M86-293 63.5247 (pt.2)

SOUTH

NORTH

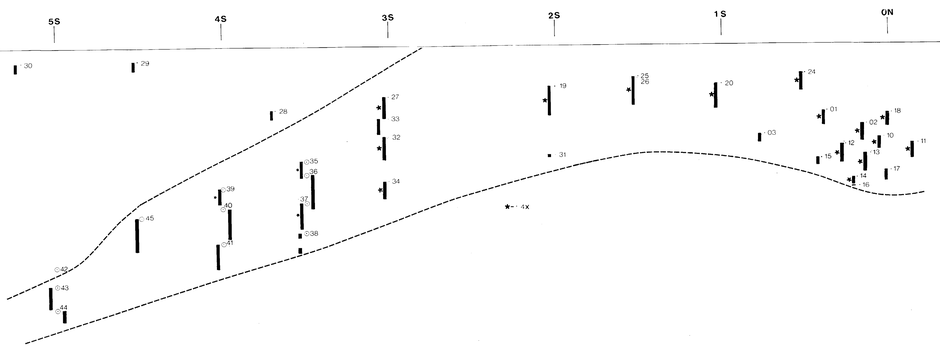
11S 10S 9S 8S 7S 6S 5S 4S 3S 2S 1S 0N SURFACE AZ 330 2N

100 M

200 M

300 M

400 M



LEGEND

PIERCE POINT
21—HOLE NO.
ALTERED ZONE (TRUE THICKNESS)
CONTAINS INTERVAL(S) >1 g/TONNE AU

DILATED PORTION OF ALTERED ZONE

100 M

200 M

300 M

400 M

BHP-UTAH MINES LTD.
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE ALTERED ZONE

VERTICAL LONGITUDINAL SECTION

FACING SOUTHWEST

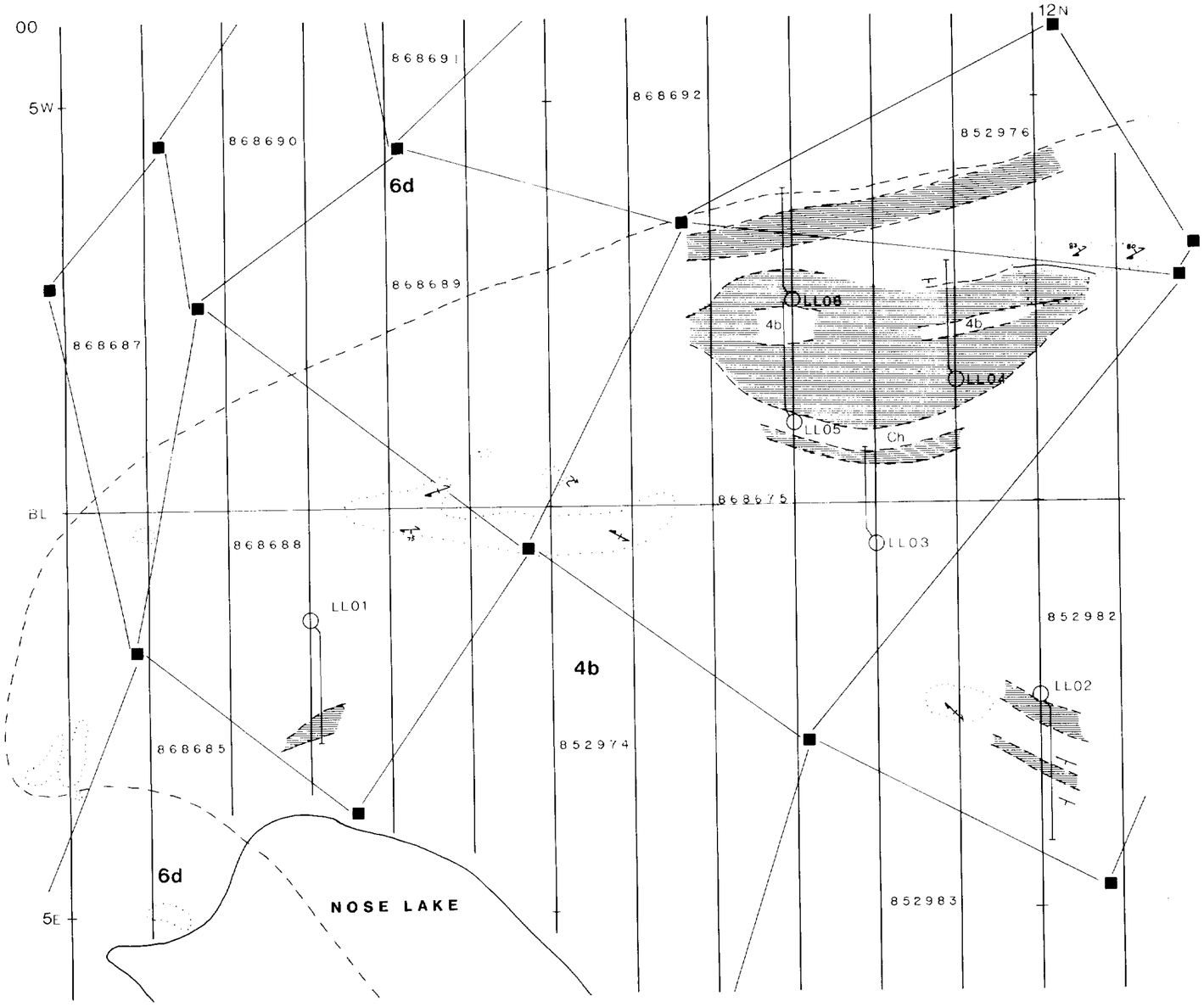
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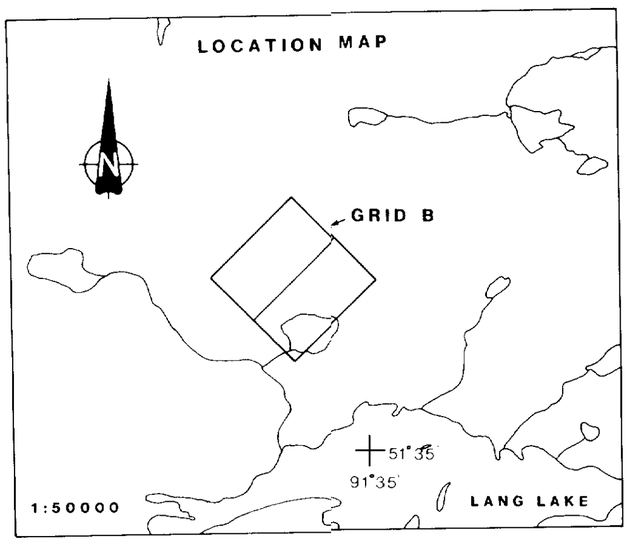
SCALE 1:1,000 PLAN 07

020110C8AM 63.5247 MCVICAR LAKE

430

OM 86-293 63.5247 (pt 2)





LEGEND

- GEOLOGICAL CONTACT: INFERRED, KNOWN
- FOLIATION: VERTICAL, DIPPING
- DRAG FOLD: PLUNGING
- BEDDING: TOPS KNOWN
- OUTCROP
- DIAMOND DRILL HOLE
- CLAIM POST (868686-interior claim no.)

- 6d — LATE INTRUSIVES: FELDSPAR PORPHYRY
- METASEDIMENTS
- 4b — CONGLOMERATE, LITHWACKE, MUDSTONE, ARGILLITE
- IRONSTONE: SILICATE AND OXIDE FACIES
- Ch — CHERT

BHP-UTAH MINES LTD.
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT

LANG LAKE AREA

GEOLOGICAL PLAN

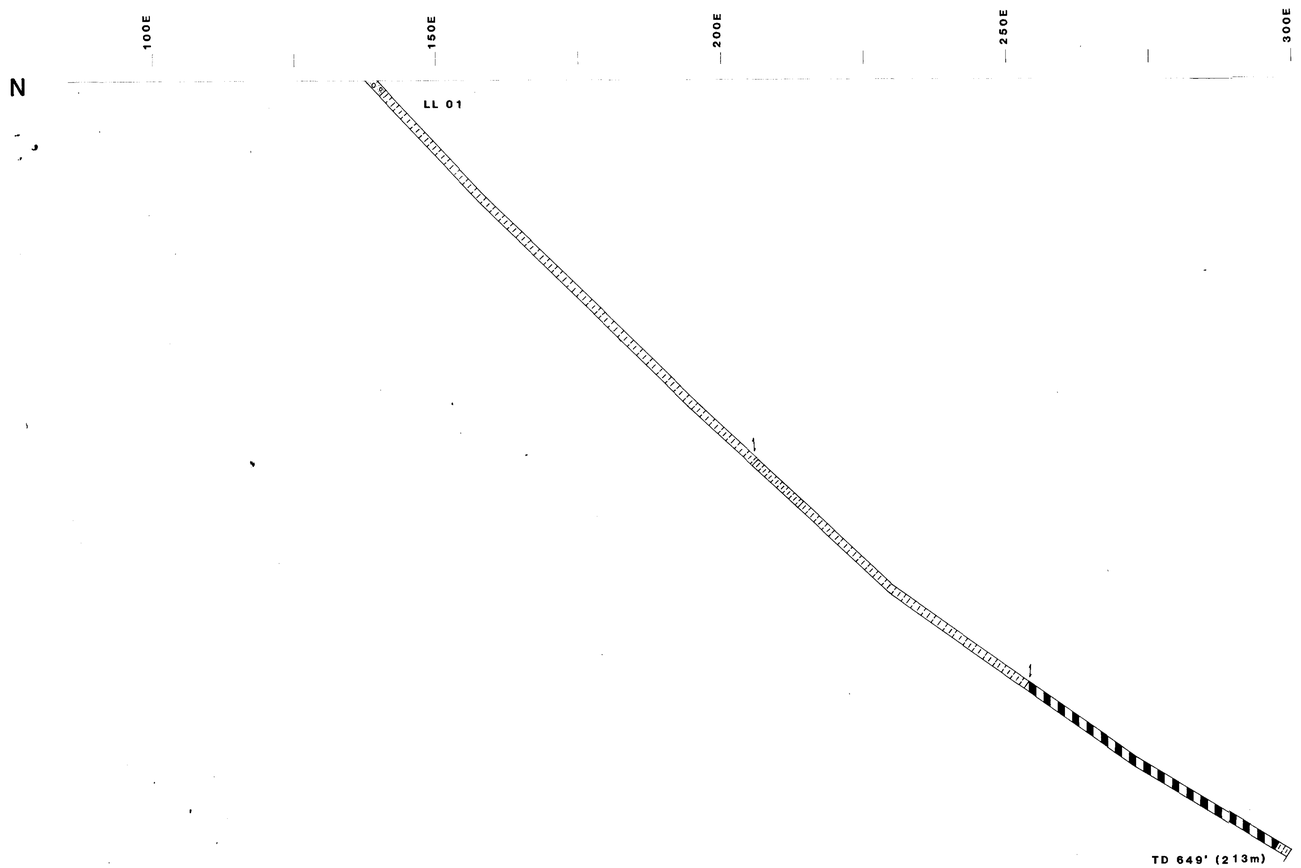
GRID B

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
FEB 88	RCB			52O/12		1 OF 6

SCALE 0 100 200
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52011SE0080 63.5247 MCVICAR LAKE

OM86-293 63.5247 (pt.3)



LEGEND

- OVERBURDEN

LATE INTRUSIVE ROCKS

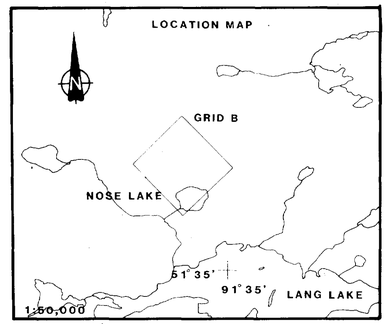
- BIOTITE LAMPROPHYRE
- FELDSPAR PORPHYRY

SEDIMENTARY ROCKS

- SCHIST
- ARGILLITE
- CHERT
- IRONSTONE
- MUDSTONE
- SILTSTONE
- WACKE
- CONGLOMERATE
- F FERRUGINOUS

BEDDING

AU (ppb)



UTAH MINES LIMITED

EXPLORATION DEPARTMENT

TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT

LANG LAKE AREA

DDH SECTION 3+00 N

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
DEC 87	RGB	RGB		52 O/12		2 OF 6

SCALE

1:500

52011SE0060 63.5247 MCVICAR LAKE

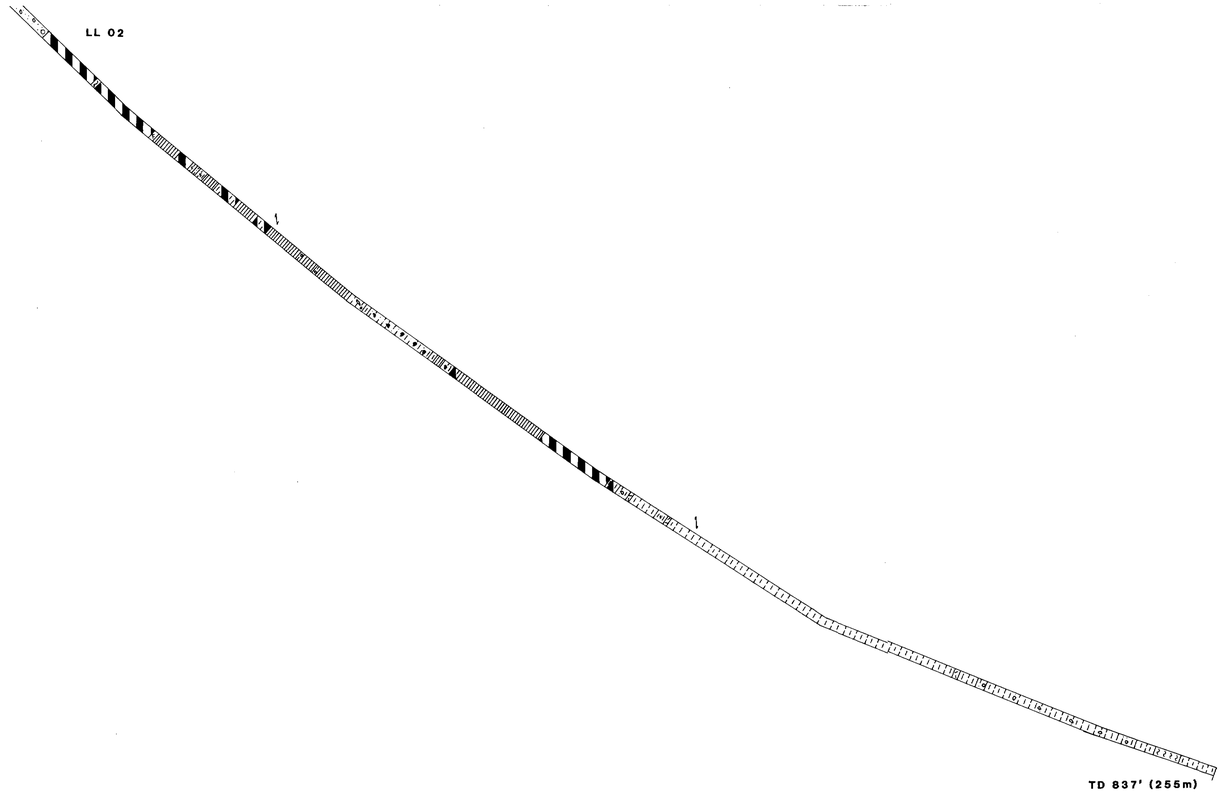
450

OM86-293

63.5247 (pt 3)

200E 250E 300E 350E 400E 450E 500E

N S



LEGEND

OVERBURDEN

LATE INTRUSIVE ROCKS

BIOTITE LAMPROPHYRE

FELDSPAR PORPHYRY

SEDIMENTARY ROCKS

SCHIST

ARGILLITE

CHERT

IRONSTONE

MUDSTONE

SILTSTONE

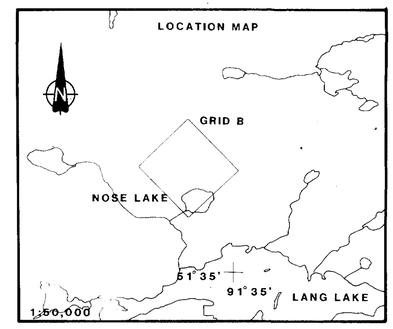
WACKE

CONGLOMERATE

F FERRUGINOUS

BEDDING

AU (ppb)



UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT

LANG LAKE AREA

DDH SECTION 12+00 N

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
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SCALE

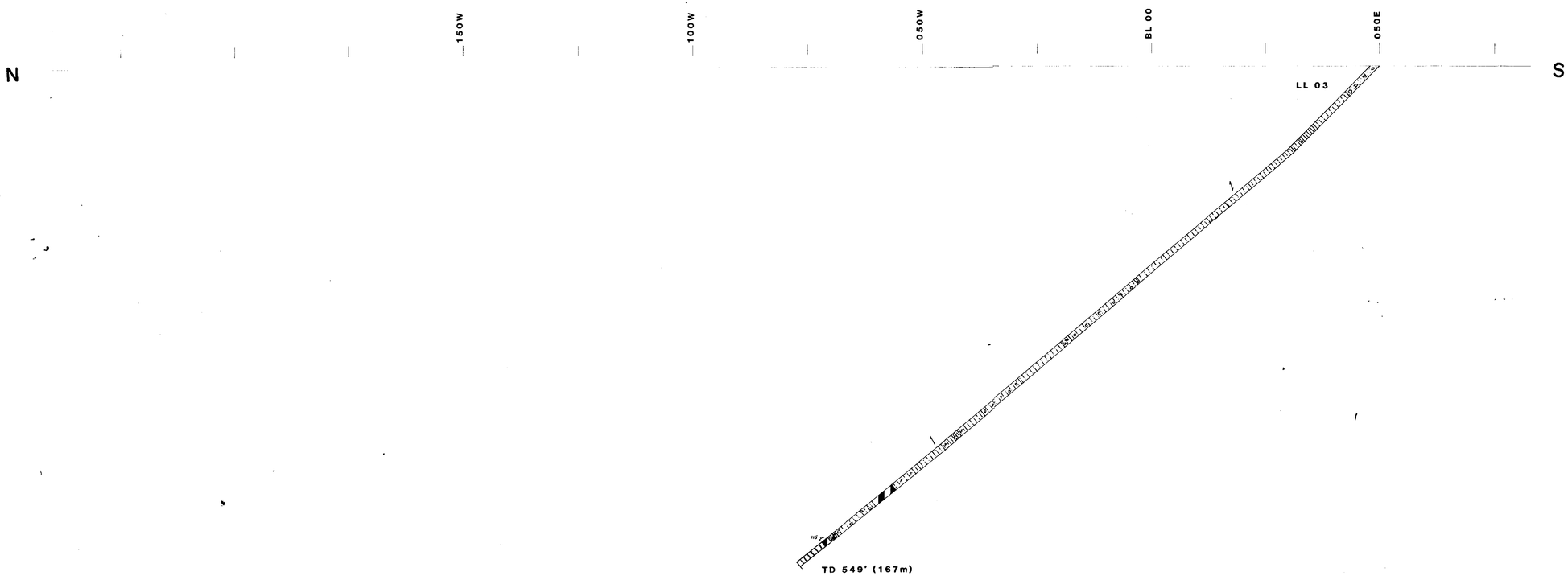
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520110E0058 63.5247 MCVICAR LAKE

460

OM 86-293

63.5247 (pt.3)



LEGEND

OVERBURDEN

LATE INTRUSIVE ROCKS

BIOTITE LAMPROPHYRE

FELDSPAR PORPHYRY

SEDIMENTARY ROCKS

SCHIST

ARGILLITE

CHERT

IRONSTONE

MUDSTONE

SILTSTONE

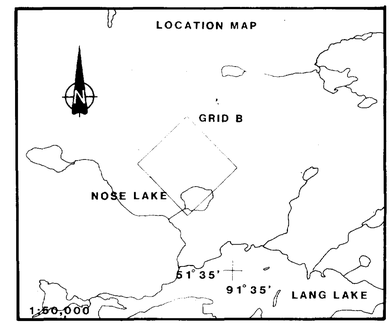
WACKE

CONGLOMERATE

F FERRUGINOUS

BEDDING

AU (ppb)



UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT

LANG LAKE AREA

DDH SECTION 10+00 N

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
DEC87	RGB	RGB		52 O/12		4 OF 6

SCALE

0 10 40 ft

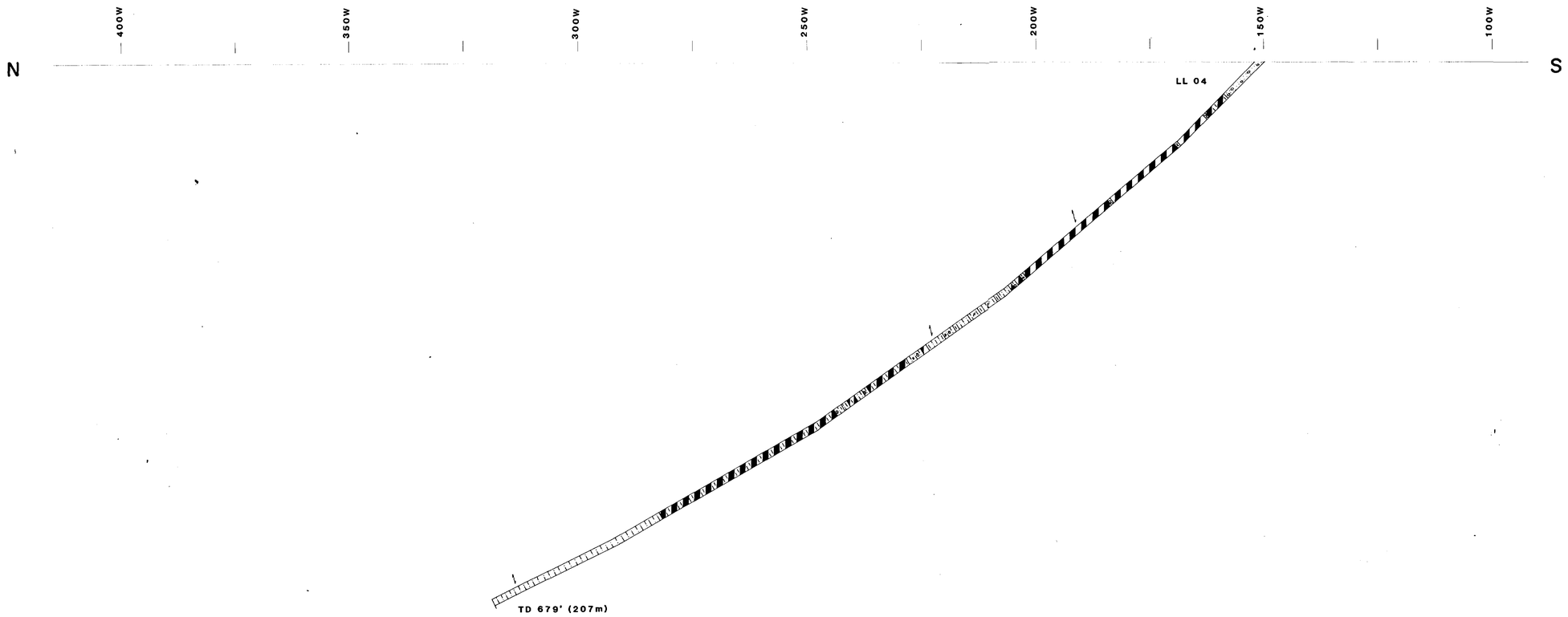
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52011SE0008 63.5247 MCVICAR LAKE

470

OM86-293

63.5247(pt.3)



LEGEND

OVERBURDEN

LATE INTRUSIVE ROCKS

BIOTITE LAMPROPHYRE

FELDSPAR PORPHYRY

SEDIMENTARY ROCKS

SCHIST

ARGILLITE

CHERT

IRONSTONE

MUDSTONE

SILTSTONE

WACKE

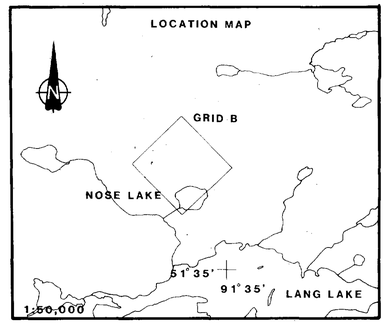
CONGLOMERATE

F FERRUGINOUS

bedding

AU (ppb)

LOCATION MAP



UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT

LANG LAKE AREA

DDH SECTION 11+00 N

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
DEC87	RGB	RGB		52 O/12		5 OF 6

SCALE

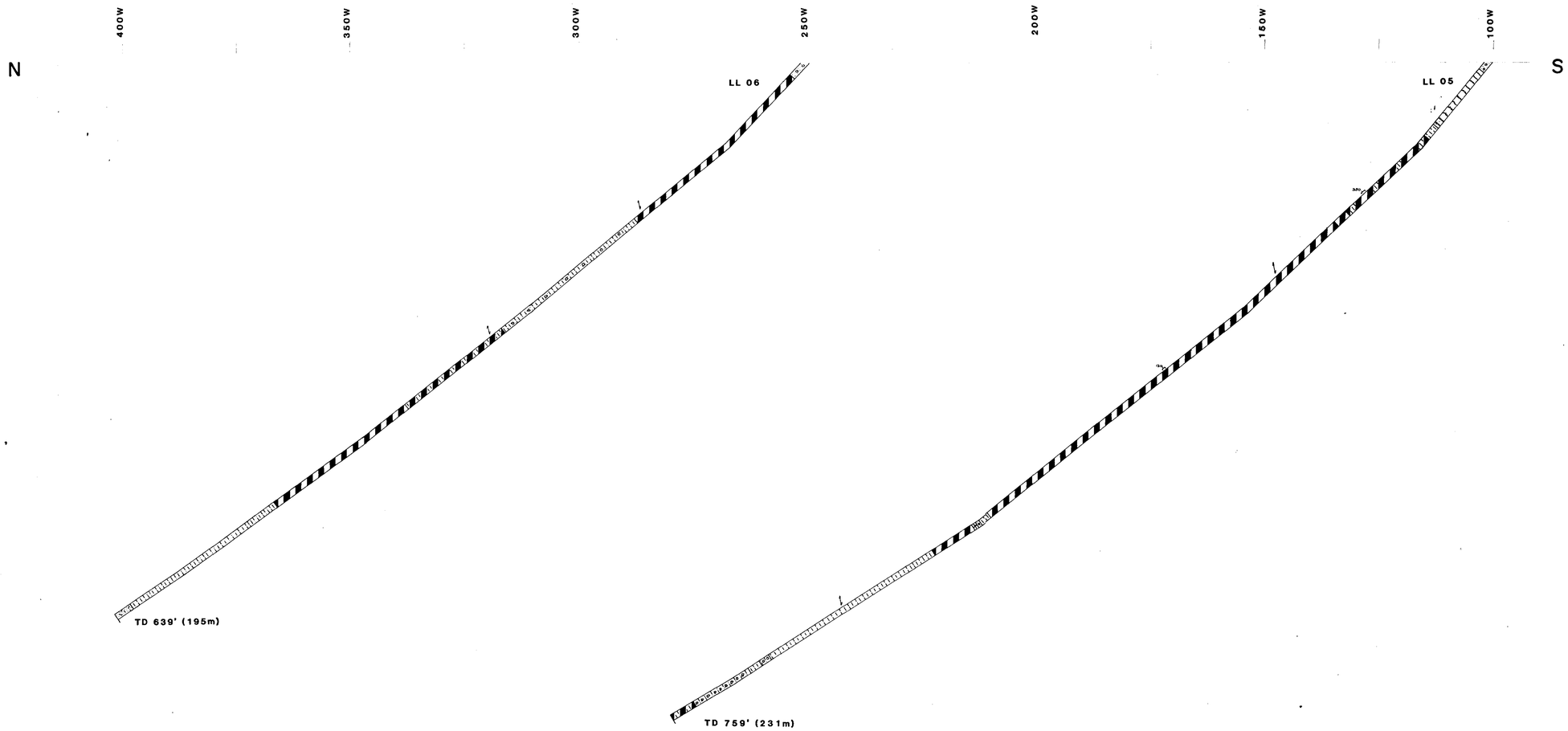
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52011SE0068 63.5247 MCVICAR LAKE

480

OMB6-293

63.5247 (pt.3)



LEGEND

OVERBURDEN

LATE INTRUSIVE ROCKS

BIOTITE LAMPROPHYRE

FELDSPAR PORPHYRY

SEDIMENTARY ROCKS

SCHIST

ARGILLITE

CHERT

IRONSTONE

MUDSTONE

SILTSTONE

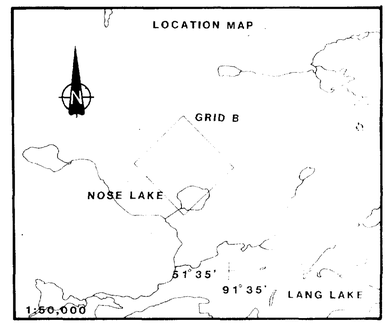
WACKE

CONGLOMERATE

F FERRUGINOUS

BEDDING

100 AU (ppb)



UTAH MINES LIMITED
EXPLORATION DEPARTMENT
TORONTO ONTARIO CANADA

McVICAR LAKE PROJECT

LANG LAKE AREA

DDH SECTION 9+00 N

DATE	DRAWN	CHECKED	REVISED	N.T.S.	FILE	MAP
DEC 87	RGB	RGB		52 O/12		6 OF 6

SCALE

1:500

52011SE0868 63.5247 MCVICAR LAKE

490

OM86-293

63.5247 (pt.3)