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GEOLOGY, GEOCHEMISTRY & PROSPECTING OF THE MULDREW LAKE PROPERTY

DUBLIN TOWNSHIP

SUDBURY MINING DIVISION, ONTARIO

41 P4/SW
1:5000

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(GEOLOGY AND GEOCHEMISTRY MAP INCLUDED IN BACK POCKET)

1 . INTRODUCTION

The Muldrew Lake property consists of 46 contiguous, unpatented, mining claims within Dublin Township. The claims are situated in the Sudbury Mining Division and cover an area of approximately 735 hectares. Claim numbers for the block are 1126104-1126149 inclusive.

The property is centered at 47 06'N latitude and 81 50'W longitude and is located approximately 120 kilometers northwest of Sudbury along highway 144 with the highway bisecting the southcentral corner of the claim block (figure 1).

The claim block was staked over a zone of known Cu-Pb-Zn mineralization initially discovered by Bert Jerome in 1970. The discovery showing occurs along the west side of the highway directly north of Muldrew Lake. Additional claims encompass areas of favourable geology for additional base metal mineralization.

A programme of line cutting, geological mapping, sampling and prospecting was initiated by the co-writers from June-September 1991. The results of this programme form the basis of this report.

2. PROPERTY DESCRIPTION

2.1 CLAIM DESCRIPTION

The Muldrew Lake Property encompasses forty-six (46) contiguous, unpatented, mining claims (S.1126104 to S. 1126149 inclusive) totalling approximately 735 hectares. The block is

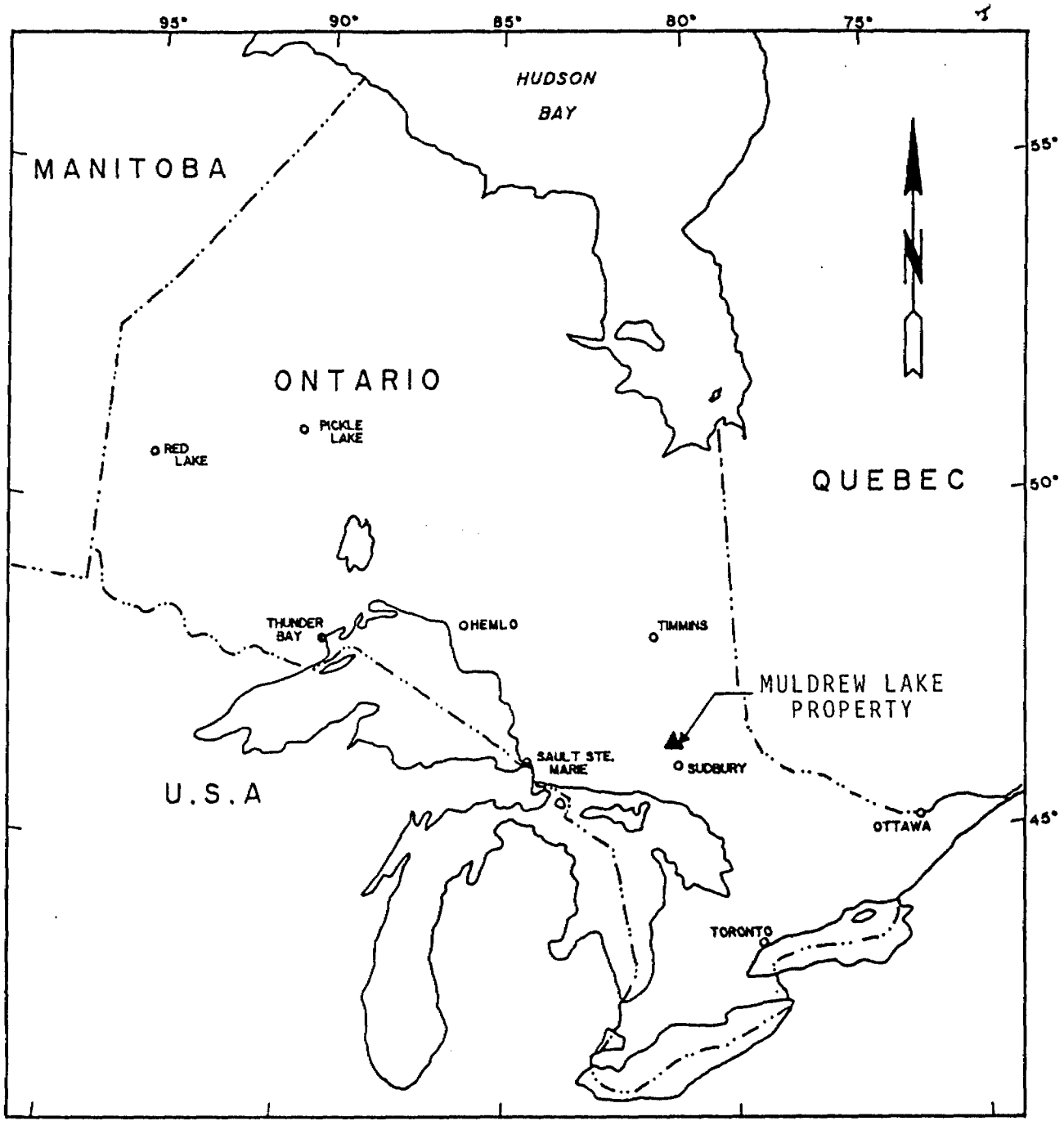


FIGURE 1

GENERAL LOCATION MAP

located in the west-central part of Dublin Township within the Sudbury Mining Division. The Muldrew Lake Property held jointly by the co-authors was aquired in January 1991. Physiographic features and infrastructures with respect to the claim block are illustrated in (figure 2).

2.2 LOCATION AND ACCESS

The Muldrew Lake Property is centered at 47 06'N latitude, 81 50'W longitude, approximately 120 kilometers northwest of Sudbury, Ontario (figure 1).

The property is readily accessible via paved highway (144) which passes through the south-central portion of the claim block. Recent logging activity has increased access to the north-central portion of the block via gravel timber roads (see geology map in back pocket). The most easterly end of the claim block is accessible by small boat or canoe along Dublin Lake.

2.3 TOPOGRAPHY AND VEGETATION

Property topography is characterized by hilly terrain with the maximum relief of 60 meters. For the most part fault controlled lakes and ravines separate hilly areas. Approximately 15% of the property is covered by lakes and swamps.

The hills are mantled with thin to moderate thicknesses of sand covered largely by spruce, poplar and birch. Sandy areas of low relief are characterized by jackpine with spruce, tamarack and alders bordering water courses.

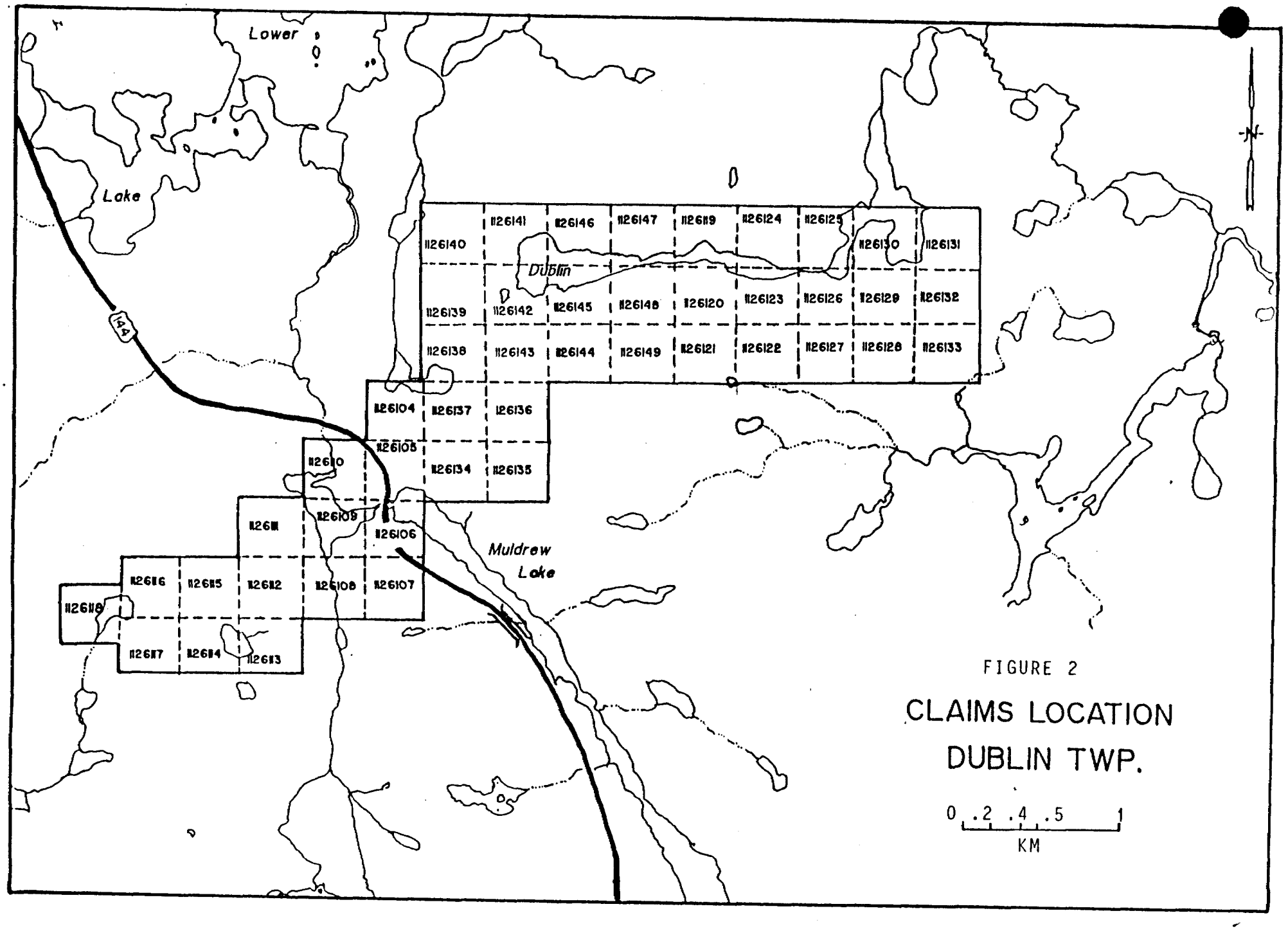


FIGURE 2

CLAIMS LOCATION
DUBLIN TWP.

0 .2 .4 .5 1
KM

2.4 SERVICES

The closest services to the area occur at Cartier and Gogama along highway 144. Cartier occurs approximately 40 kilometers south, with Gogama being about 60 kilometers north of the claim block. The property lies roughly halfway between Sudbury and Timmins.

3. PREVIOUS WORK

A detailed history of the area up to 1970 has been described in a report by A.S. Bayne dated February 7, 1972.

There is no field or recorded evidence of any exploration on the property prior to prospector Bert Jerome's discovery of a Cu-Pb-Zn occurrence in a road cut along highway 144, just north of the Muldrew Lake narrows. No published, detailed, government geology maps cover the area. All government publications consist of regional geological compilation maps and airborne geophysical maps. A list of these maps is included in the reference section of this report. Figures 3a and 3b illustrate area of previous work and exploration data obtained during past programmes.

In 1972 Jerome Exploration Limited carried out 28 line miles of linecutting and 20 miles of VLF-EM and magnetic surveys. Channel sampling of the highway 144 showing and prospecting of the surrounding area was also performed during this programme. The electromagnetic survey revealed the existence of two long, intermittent, parallel conductive zones approximately coincident with the main shear zone observed in

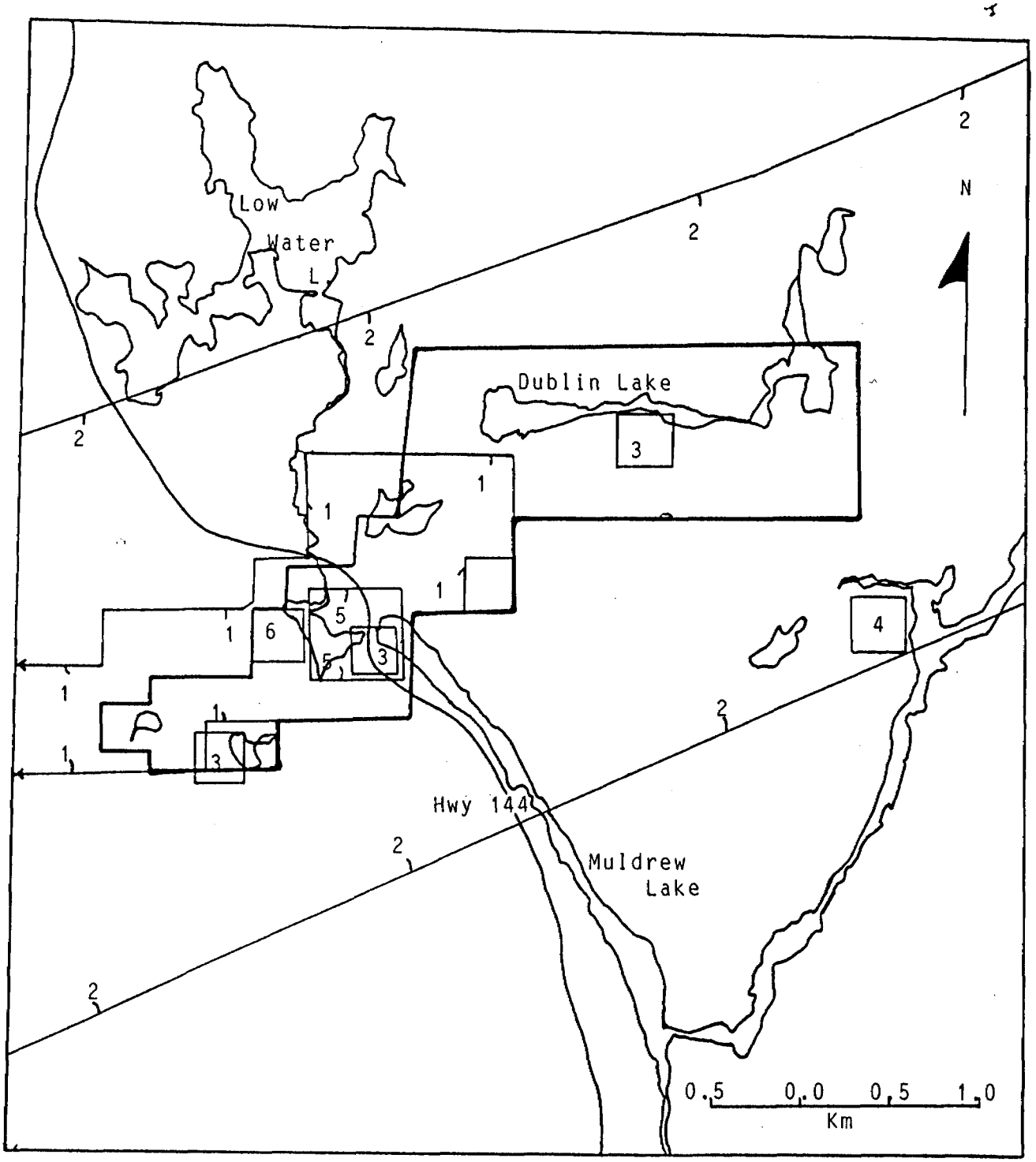


FIGURE 3a

PREVIOUS WORK

1) 1972;Jerome Exploration Ltd.

2) 1979;Rio Tinto Canadian Exploration Ltd.

3) 1980;Rio Tinto Canadian Exploration Ltd.

4) 1982-1985;J.R. Young

5) 1986;Queont Exploration Services

6) 1986;J. Brady

— 1991;Muldrew Lake Property

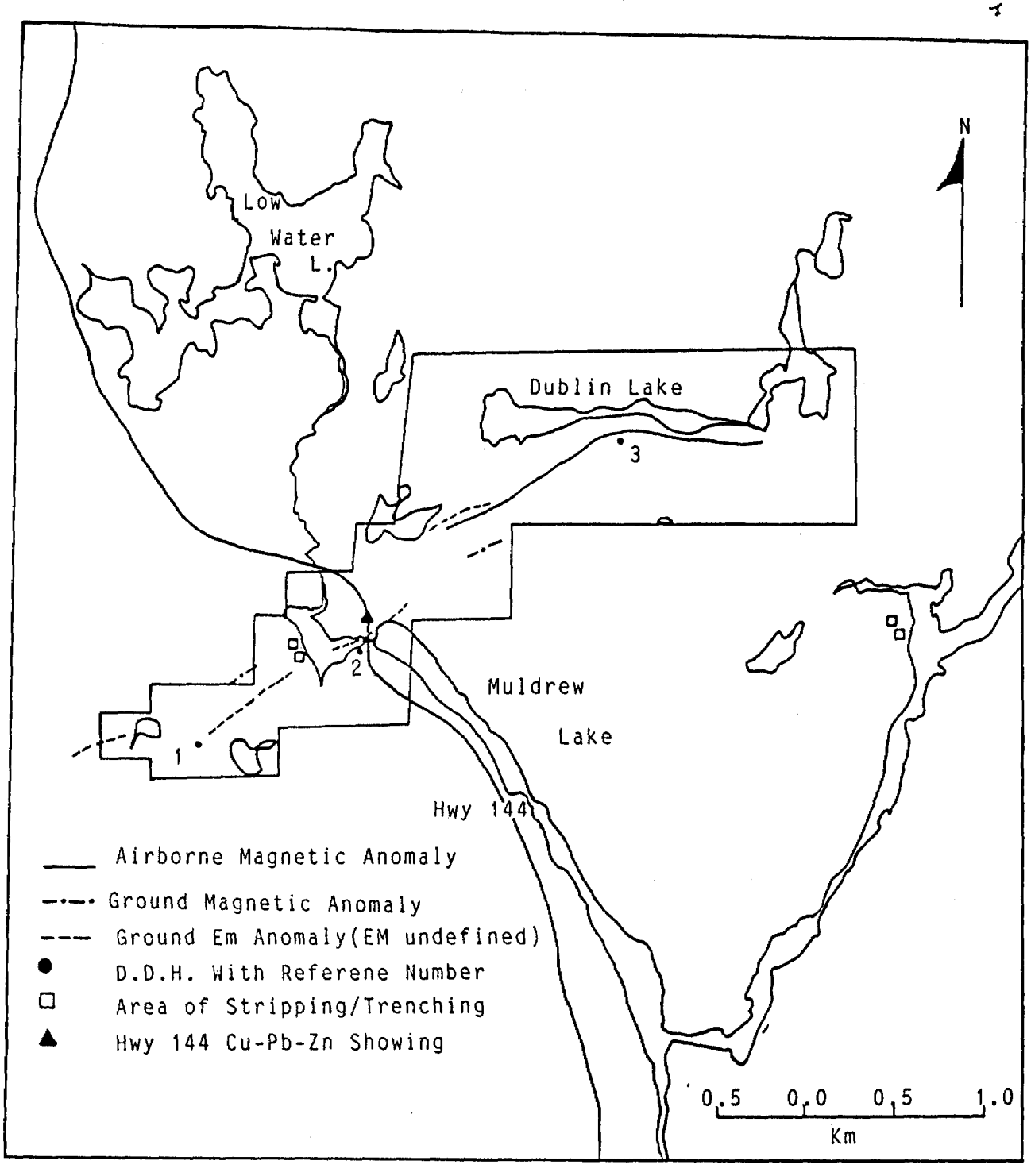


Figure 3b

EXPLORATION DATA MAP

field mapping. Channel sampling of the roadcut showing produced values up to 1.71% Cu, 2.20% Pb, 1.90% Zn and 0.81oz/ton Ag over an interval of 9.0 feet (2.74 m).

In January 1979 Aerodat Limited under contract by Rio Tinto Canadian Explorations Limited conducted an airborne magnetic survey over the property as part of an exploration programme covering the entire Onaping Lake Volcanic Belt. From this magnetic data a strong magnetic anomaly is observed along the south side of Dublin Lake extending easterly into Onaping Township.

In January 1980 Rio Tinto Canadian Explorations Limited, as part of a larger drilling programme, completed three(3) diamond drill holes on the ground covered by the present Muldrew Lake Property. D.D.H.-01 and D.D.H.-03 were drilled to test the significance of coincident VLF, Max-Min and Magnetic anomalies with D.D.H.-02 drilled to evaluate the mineralization beneath the highway 144 showing and its' coincident flanking VLF anomaly. D.D.H.-02 intersected predominantly quartz muscovite and biotite schists that returned values of 0.33% Zn and 0.11% Pb over 4.95 feet (1.5 m).

Between 1982 and 1985 J.R. Young conducted intermittent stripping/trenching programmes on a single claim located appromimately 500 meters south of the southeastern corner of the co-writers claim block. None of these trenches were observed during the summer mapping and sampling programmes.

In June 1986 Queont Explorations Services conducted a geological mapping programme on four(4) claims straddling the highway 144 Cu-Pb-Zn occurrence. The mapping traced a sulphide rich felsic schist unit to the west shore of the Westarm of

Muldrew Lake.

During that same year J. Brady carried out a stripping and trenching programme within the same area.

The acquisition of the 46 claims which now comprise the Muldrew Lake Property was completed in January 1991 with subsequent mapping, sampling, line cutting and prospecting programmes by the co-authors during the summer of 1991 forming the basis for this report.

4. GEOLOGY

4.1 REGIONAL GEOLOGY

Regional geology map P.300 (figure 4) indicates that the Muldrew Lake Property is underlain entirely by Archean (Algoman) silicic intrusive rocks of the Superior Province of the Canadian Shield. This map indicates numerous "detached" greenstone segments (Keewatin Volcanics) within the township immediately to the east of Dublin Township. Within one of the above greenstone segments is a patented Pb-Zn-Ag occurrence (Zinc Lake Mines Ltd.) located along the common boundary of Marshay and Shelley townships.

A similiar band of intercalated mafic volcanics, felsic volcanics and interflow sediments was found in central Dublin Township through geological mapping (detailed and reconnaissance) and assessment work evaluation.

Lithologies have undergone repeated folding, shearing and faulting during, prior to and after periods of igneous and metamorphic activity. Units within the Muldrew Lake Property

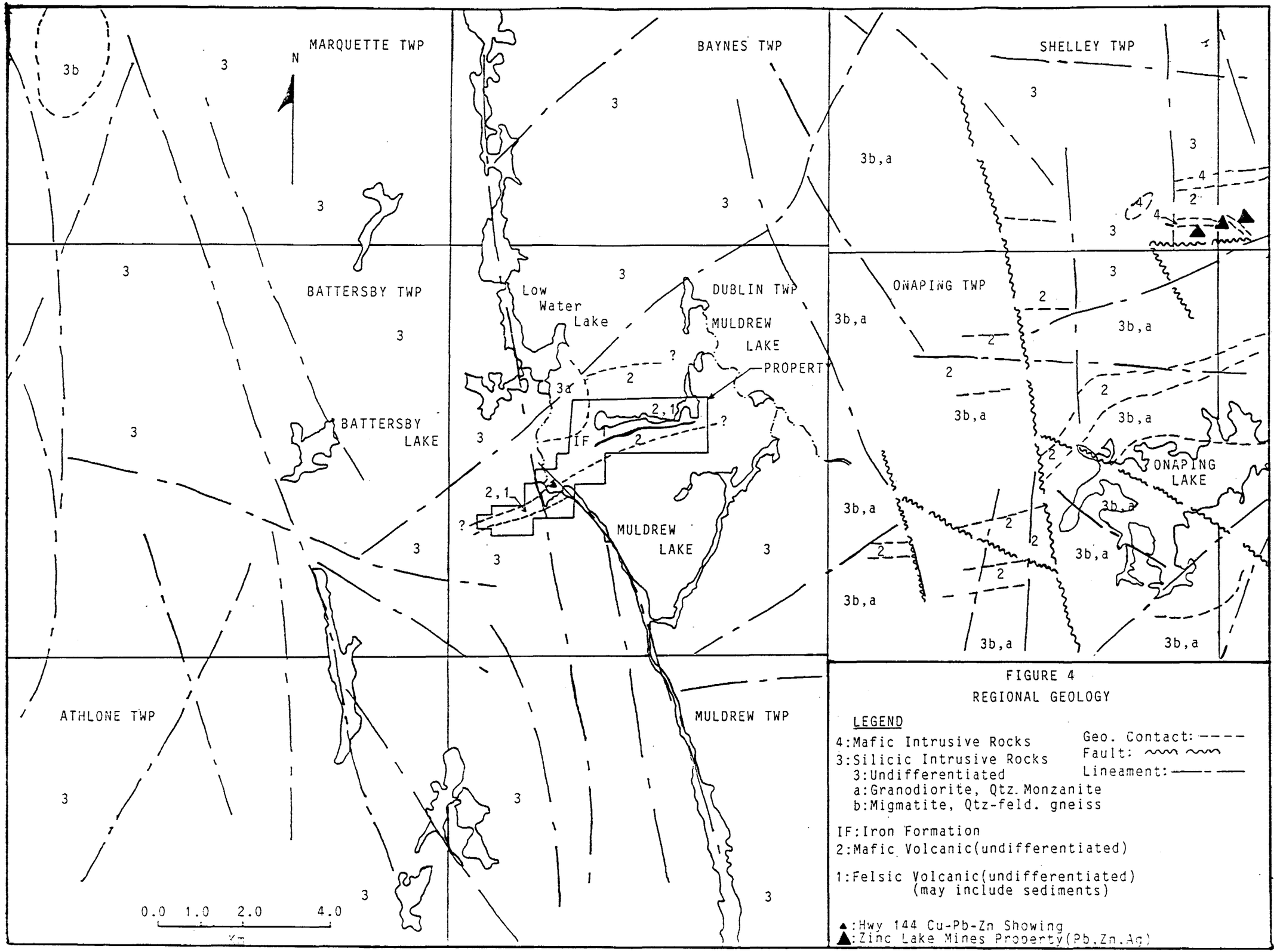


FIGURE 4
REGIONAL GEOLOGY

LEGEND

4:Mafic Intrusive Rocks
3:Silicic Intrusive Rocks
3:Undifferentiated
a:Granodiorite, Qtz. Monzanite
b:Migmatite, Qtz-feld. gneiss

IF:Iron Formation
2:Mafic Volcanic(undifferentiated)

1:Felsic Volcanic(undifferentiated)
(may include sediments)

▲:Hwy 144 Cu-Pb-Zn Showing
▲:Zinc Lake Mines Property(Pb,Zn,Ag)

Geo. Contact:
Fault:
Lineament:

have undergone metamorphism of lower to middle amphibolite facies. Two prominent fault directions are observed in the Muldrew Lake area. The first trends roughly northeasterly crossing the property along the northern end of Muldrew Lake. Geological mapping suggests right lateral offsets along this structure of several hundred feet. The second trends approximately 350 degrees and runs roughly parallel to the west side of the western most arm of Muldrew Lake. This feature is marked by steep faced outcrop ridges on both sides of the fault.

All lithologies are cross-cut by Proterozoic gabbroic (diabasic) dyke sets trending northeasterly to northwesterly.

4.2 PROPERTY GEOLOGY

Limited geological data was available for the Muldrew Lake Property prior to this programme. Early regional geologic maps included the property within a unit of silicic intrusive rock of Archean (Algoman) age.

Recent geological mapping and whole rock geochemistry have delineated a zone of metavolcanic rocks trending 060 degrees and having an average width of 900 meters (see geology map in back pocket). The zone consists of a mixture of felsic metavolcanic rocks of rhyolite-dacite composition and mafic metavolcanic rocks of basaltic-andesitic composition. The felsic zone varies from 300-500 meters in width and extends southwesterly through the claim block from Dublin Lake. These rocks vary from massive to banded with a unit of felsic tuff present toward northern edge of the felsic volcanic pile. Mafic volcanic rocks are present on both sides of the felsic band in thickness of up to

400 meters. Thickest accumulations occur to the south of the felsic rocks with the mafics typically exhibiting a weak to moderately well developed slatey cleavage. Poorly developed pillows are encountered within the mafic volcanic rocks to the north. Basalts north and northwest of Dublin Lake occur as restricted, narrow fingers, possible xenoliths, within predominantly intrusive rocks. A concordant band of cherty, magnetite iron formation was mapped within the southern basalts and traced over a strike length of 1500 meters. The southern end of the iron formation unit is characterized by an increase in sulphide mineralization and may represent a change from an oxide to sulphide facies.

Silicic intrusive rocks border the volcanic stratigraphy to the north, south and west. Western portions occur as a mixture of metavolcanic rocks and intrusive rocks. Whole rock geochemistry suggests the intrusive rocks are granitic in composition south and west of the volcanic units and granodioritic to the north of the volcanic pile. Granitic intrusives are typically foliated to gneissic in character while the granodiorites are less foliated and often quartz or quartz-feldspar porphyritic.

The youngest rocks on the property are mafic dykes that vary from diabasic-gabbroic in character. Locally narrow, coarse grained, mafic dykes are observed cross-cutting the stratigraphy. These dykes are texturally more typical of lamprophyres. Diabase dykes trend north-northwesterly to north-northeasterly. Lamprophyres have an east-west attitude.

Sulphide mineralization consists of scattered pyrite and pyrrhotite with local sphalerite, galena and chalcopyrite. The

showings most commonly lie along a 060 degree trend within the felsic volcanics and to a lesser degree in the gneissic granites west of highway 144. Minor pyrite occurs in the basalts near the diabase dyke contacts.

The Muldrew Lake Property is bisected by two main faults, both of which occur in the western portion of the claim block adjacent to Muldrew Lake. The first trends approximately 315 degrees along the eastern side of Muldrew Lake. The fault appears to have a right-lateral (dextral) sense of displacement indicated by an abrupt termination of the volcanic stratigraphy east of highway 144 and slightly north of the original Cu-Pb-Zn occurrence. A second fault trending 345 degrees is interpreted along the western side of the most westerly arm of Muldrew Lake. A third structure occurs as a zone of strong to intense deformation trending subparallel to stratigraphy through the central portion of the felsic volcanics. In this zone the volcanics and possibly minor granodiorite have undergone intense shearing producing quartzo-feldspathic sericite schists and local zones of brecciation.

5. GEOLOGICAL PROGRAMME (1991)

5.1 PROGRAMME DESCRIPTION

A programme of line cutting, geological mapping, sampling and prospecting was initiated by the co-writers on the Muldrew Lake Property in June 1991. Initial phases included the cutting of a 3.8 kilometer baseline along the northeastern portion of the Muldrew Lake claim block, just south of Dublin Lake. An additional three lines were established from this baseline to provide control through the western and central portions of the claim block. In total, including the baseline, 6.1 kilometers of cut line were established on the Muldrew Lake claim block.

The next phase involved the establishment of compass and hip chain crosslines at 200 meter interval along the 090 trending baseline and control lines. Crosslines were extended to physiographic boundaries or to the outer edge of the claim block with stations located at 25 meter intervals along the lines. A total of 43 line kilometers of crosslines was established on the Muldrew Lake claim block. West of highway 144 compass and hip chain lines follow east-west trending claim lines. These lines were tied into the control lines east of the highway and were used for control on these claims.

Geological mapping and prospecting was then completed on the flagged lines in an attempt to delineate the lithologic units on the property and to define areas of sulphide mineralization that may be related to the highway 144 Cu-Pb-Zn occurrence. Additional man days were spent prospecting outside the main claim block, sampling and mapping the highway 144

showing and sampling lithologies for whole rock geochemistry. The results of the geological programme are presented in the remainder of this report.

5.2 LITHOLOGICAL DESCRIPTIONS

METAVOLCANIC & METASEDIMENTARY ROCKS

FELSIC METAVOLCANICS

Felsic volcanic rocks vary from fine grained to aphanitic in character weathering light brown and having fresh surfaces of white to greenish yellow. The unit is non-foliated to weakly foliated and weak to moderately banded. Banding in the zone is highlighted by subtle colour changes that reflect changes in composition from primarily quartz to a combination of quartz and feldspar. Bands occur up to 1 cm in width but are most commonly from 1-3 mm wide. Minor biotite is encountered in the unit. The felsic volcanic locally display a sugary, granular texture.

Alteration consists of spotty zones of pervasive sericitization with areas of strongly developed foliation approaching quartzo-feldspathic sericite schist. Local fracture controlled hematite, spotty saussurite and blebby quartz lenses are found within the felsic volcanics. The unit contains rare, finely disseminated pyrite.

FELSIC TUFFS & METASEDIMENTS

The tuffaceous to metasedimentary unit consists of fine to very fine grained, moderately banded felsic rock. The unit weathers brown to white with fresh surfaces being greenish white

to grey. Banding in the unit varies from a few millimeters to several centimeters in width with wider bands having finer laminations. The rock consists primarily of anhedral quartz and feldspar grains with 5-7% narrow biotite rich layers. The unit locally appears fragmental with 1-2% subangular feldspar clasts up to 5 mm in diameter. The rock has a very granular appearance.

Alteration within the unit consists of spotty saussuritization and very weak fracture controlled hematite. The unit locally contains 1-2%, subhedral reddish brown garnets up to 1 cm in diameter. The garnets occur as narrow layers within the unit.

QUARTZO-FELDSPATHIC SERICITE SCHIST

The quartzo-feldspathic sericite schist unit is fine to very fine grained, greyish white in colour and exhibits a strong to locally intensely developed foliation. The rock consists essentially of very fine to fine sericite with subordinate quartz and feldspar. The high sericite content imparts a characteristic sheen to the rock. Quartz and feldspar occur as fine grained, discontinuous, foliation controlled bands and lenses generally less than 2 mm in width. Local quartz eyes are also present in the unit with eyes ranging from 1-3 mm in diameter and comprising 2-3% of the rock. Garnets occur erratically within the unit as reddish brown subhedral metacrysts up to 3 mm in diameter. Garnets are foliation controlled and comprise 3-5% of unit. Weathered surfaces locally exhibit a rusty brown (oxidization) colour when the schist contains minor (2-3%) fine grained pyrite. Typically the

unit is weak to moderately folded with zones of strong crenulation cleavage commonly encountered. Schists develope locally within the felsic tuff, metasediments and portions of the porphyritic granodiorite.

MAFIC METAVOLCANICS

Whole rock geochemistry suggests that the mafic volcanic rocks vary from basaltic to andesitic in character. The unit is typically fine to medium grained with fresh surfaces attaining colours of dark green to black. Weathered surfaces vary from yellowish green to grey. Rocks are very weak to moderately foliated. Foliations are best observed in the southern portion of the map area where the mafic rocks have a well developed slatey cleavage. Poorly developed pillows were mapped in two locations within the northern portions of the mafic volcanic unit. Zones of migmatitic basalts are encountered throughout the mafic stratigraphy with the development of segregated amphibole and quartz-feldspar rich bands. Gneissic bands are up to 2 cm in width. Locally these areas are marked by an increase in grain size giving the unit a gabbroic appearance.

Alteration in the unit consists of weak to moderate pervasive chloritization, spotty carbonatization and epidotization. Epidotization is intense adjacent to diabase dykes.

Trace amounts of finely disseminated pyrite are locally encountered in the mafic volcanic rocks near contacts with diabase dykes.

IRON FORMATION

Iron formation occurs as a narrow unit within the mafic volcanic rocks slightly south of the mafic-felsic volcanic contact. The unit consists of fine grained, moderate to strongly banded cherty rock with narrow layers of black magnetite. Magnetite bands are up to 1 cm wide and locally comprise 30% of the unit but are not always present. Pyrite becomes the dominant iron phase toward the western end of the iron formation. In this area pyrite forms 5-7% of the unit and occurs in narrow bands parallel to original layering. The iron formation is typically moderate to strongly folded along its' entire length.

INTRUSIVE ROCKS

PORPHYRITIC GRANODIORITE

The porphyritic granodiorite unit occurs in the northern portion of the property, north of the metavolcanic rocks, extending southwards towards the western edge of the map area. The unit is fine to medium grained weathering pink to white. Rocks are weak to strongly porphyritic. Fresh surfaces are dark grey to greenish grey. The most pronounced green colouration occurs along the contact with the mafic volcanic rocks.

The unit contains 10-30%, evenly distributed, subhedral-anhedral quartz and feldspar phenocrysts. Rocks may consist of predominantly quartz or feldspar phenocrysts. Feldspar pheoncrysts vary from white to orange and are up to 2 mm in diameter while quartz phenocrysts are glassy grey and vary from 2-6 mm in diameter. The groundmass consists of a fine to

medium grained mixture of quartz, feldspar, biotite +/-muscovite. Alteration consists of spotty sericite, saussurite and local weak, fracture-controlled epidote and hematite. Sericitization is strongest in zones where foliation is well developed with porphyry appearing to grade locally in to sericite schist. Narrow mafic bands upto 30 meters in length are common within the unit near the mafic contact. These bands possibly represent stretched xenoliths.

GRANITE

Through whole rock geochemistry it was determined that the intrusive rocks found in the southern portion of the map area have a granitic composition. The unit varies from medium to coarse grained and has fresh surfaces of pink to white. The rock consists of up to 25% quartz and 3-7% biotite and chloritic mafic minerals. The unit is locally porphyritic but is more typically banded and migmatitic in appearance. As with the granodiorite to the north the granites are greenish in colour adjacent to the contact with the mafic volcanic unit. The unit appears to be non-foliated to locally very weakly foliated.

Several (0.3-1.5 meter) wide granitic dykes and sills are present throughout the metavolcanic pile. These intrusive rocks are both discordant and concordant with layering in the volcanic rocks. Dykes and sills of granitic composition are finer grained than the larger body to the south.

Alteration in the units consist of weak fracture controlled epidote and hematite. Local zones of brecciated mafic volcanic are present within the granites along the contact. Fragments are rounded, varying from 0.1-2 meters in length and form

10-50% of the breccia zone.

The margins of the granitic intrusive bodies are locally pegmatitic in character with subhedral feldspar grains to 3 cm in length and subhedral-euhedral hornblende grains up to 1.5 cm in length. Fine to medium grained magnetite is commonly present within this unit.

DIABASE & MAFIC DYKES

Diabase dykes are predominantly fine-medium grained but local coarse grained sections were encountered. The unit weathers orangy-brown and has fresh surfaces of medium grey to black. The unit tends to be weak to moderately magnetic rock consisting of amphibole and feldspar with a salt and pepper texture. Weathered surface is locally weakly pitted with narrow chill margins observed along the dyke contacts. Trace amounts of finely disseminated pyrite are present in the diabase dykes.

A second, mafic dyke phase was observed in the map area. These dykes are fine grained, porphyritic in character with fresh surface colours of greenish black to dark greenish grey. The unit contains 30-40% hornblende phenocrysts up to 1.5 cm in length that tend to be aligned parallel to the contacts of the dyke. Chemically these rocks fall within the high magnesium tholeiite field on Cox (1979) basalt-andesite discrimination plot. The unit also appears to have a high alkali content typical of "lamprophyres". These dykes tend to have relatively narrow (20cm-3m) widths with sharp regular contacts. The unit typically contains subrounded host rock fragments. Alteration consists of moderate to strong chloritization. Weathered surfaces are soft and friable.

5.3 FIELD RELATIONSHIPS

The dominant rock types on the property consist of metavolcanic rocks of basaltic to rhyolitic composition, felsic pyroclastic or metasedimentary rocks, intrusive rocks of granitic and granodioritic composition and younger mafic dykes (see geology map in back pocket).

The oldest rocks are contained within the metavolcanic package that has an average width of 900 meters. The lower basalt-rhyolite contact is located south of Dublin Lake and trends 060 degrees. The contact is marked by a gradual decrease in mafic metavolcanic rocks and increased felsic metavolcanic rocks as you progress through the stratigraphy toward Dublin Lake. Contacts between bands of mafic and felsic compositions are sharp.

The non-banded to weakly banded felsic volcanic rocks appear to grade into a unit of banded felsic pyroclastic or metasedimentary rocks along Dublin Lake. This unit has an average width of 100-150 meters and is truncated along its' western edge by the porphyritic granodioritic body. The north contact between the felsic pyroclastic and mafic volcanic rocks was not observed.

Field evidence suggests that both intrusive bodies are younger than the metavolcanic units. Both exhibit brecciation of the mafic volcanics adjacent to the contact as well as narrow dykelets and sills of granitic and granodioritic composition within the mafic stratigraphy. The felsic pyroclastic unit appears to be truncated by the porphyritic granodiorite body along line 0+00 at 4+00N. The relationship between the two

intrusive bodies is uncertain. The attitude of the southern granite contact is roughly concordant with the volcanic stratigraphy up to Muldrew Lake. At this point faulting has shifted the granites to the north terminating the westerly trending volcanic stratigraphy. Minor discontinuous mafic and felsic volcanic lenses are encountered west of this fault within predominantly granitic rocks. The granodiorite contact in the north is sinuous (s-shaped). The contact subparallels stratigraphy then swings to the north as it progresses further east.

Mafic and diabase dykes crosscut all lithologies. Diabase dykes are up to 50 meters in width with orientations from 325-010 degrees. "Lamprophyres" tend to be much narrower in character with average widths of 2-3 meters and attitudes of 075-090 degrees. No relationships were observed between the two types of mafic dykes.

5.4 STRUCTURE

The map area is highlighted by several structural features. The main feature is a zone of intense shearing that bisects the claim block along a 060 degree trend. The shear is characterized by zones of strongly folded quartzo-feldspathic sericite schist which appears to have formed at the expense of the pyroclastic (metasedimentary?) rocks and possibly portions of the porphyritic granodiorite and felsic metavolcanics. The shear is traceable over a strike length of 1.2 kilometers and appears to be faulted off to the west, just north of Muldrew Lake. The eastern end of the shear appears to coincide with

Dublin Lake.

The second feature is a prominent 315 degree fault which follows the eastern edge of Muldrew Lake. The fault is highlighted by the termination of the volcanic stratigraphy east of highway 144. A second fault is interpreted along the western side of Muldrew Lake. This fault has a strike direction of 345 degrees and is indicated by parallel, steep sided ridges along both sides of the fault. Minor shearing and folding were encountered along this feature although no displacement of the lithologies was encountered.

Minor poorly developed pillows are observed in the mafic volcanics within the northern portion of the map area. A top direction to the southwest was determined but the accuracy of this direction is questionable since the mafic volcanics appear to occur as large slivers or xenoliths within the porphyritic granodioritic body.

Small breccia zones are common within the map area. They occur primarily along the contacts between the intrusive and volcanic rocks as well as within the shear along Dublin Lake adjacent to the diabase dykes. Breccias along the intrusive contact appear to form from the injection of intrusive material into the volcanics as well as the "addition" of mafic xenoliths to the intrusive bodies. These breccias are matrix-supported containing 10-45% subangular to subrounded fragments which vary from a few millimeters to 2 meters in length. Fragments exhibit moderate pervasive chloritization and spotty epidote alteration. Breccias within the shears are associated with the diabase dykes and contain up to 70% subangular to subrounded fragments. Fragments consist of fine grained felsic volcanic-metasediments

in a matrix of similiar composition. Minor mafic volcanic fragments are also encountered.

Foliations are very weak to moderately developed throughout most of the rock types in the map area except for the diabase dykes. Zones of intense foliation and folding have produced the quartzo-feldspathic sericite schist units west of Dublin Lake. Foliations are typically oriented from 050-110 degrees with dips varying from steeply north to moderately south. Southerly dipping foliations are most common throughout the metavolcanic package.

Gneissosity is sporadically developed in the mafic metavolcanic and granitic rocks. Both rock types also locally appear migmatitic in character. The porphyritic granodiorite unit to the north locally displays a moderately well developed foliation but does not appear to have developed a gneissic texture.

5.5 ALTERATION

Alteration appears to be dependant upon rock type, proximity to intrusive bodies and intensity of deformation.

The most intense alteration occurs within the mafic metavolcanic rocks adjacent to diabase dykes. In these area the rocks exhibit strong pervasive epidotization and saussuritization with spotty zones of moderate to intense pervasive chloritization. Locally the unit may also exhibit weak fracture-controlled hematite and calcite. In mafic volcanic rocks further removed from the influence of the diabase dykes alteration consists of very weak pervasive chloritization. A diagram of MgO vs. Cao+Na2O for all mafic whole rock samples is presented in figure 13. Samples 14, 15 and 30-32 were taken close to the contacts with granitic and granodioritic intrusive rocks. These rocks may be more chloritic in character as indicated by higher MgO and lower Cao+Na2O values.

Felsic metavolcanics, granodiorites and granitic rocks tend to exhibit spotty alteration in the form of very weak pervasive sericite and local fracture controlled hematite. Patchy epidote and saussurite are observed in sections of the intrusive bodies along the contacts with mafic volcanic rocks and diabase dykes. Zones of well developed shearing in the felsic volcanics and portions of the intrusive rocks are characterized by moderate to intense, pervasive, foliation-controlled sericite alteration. These zones typically contain irregular quartz lenses and blebs as well as weak fracture-controlled hematite.

5.6 MINERALIZATION

A total of 97 lithogeochemical samples were collected during the summer field programme from outcrop and mineralized boulders. Sample selection was based on sulphide content and alteration. Alteration consists of silicification, quartz veining or sericitization and was often accompanied by minor amounts of finely disseminated sulphide.

Samples were sent to XRAY Laboratories in Don Mills, Ontario for analysis. Samples were analyzed for Cu, Pb and Zn using a Direct-Current Plasma Emission Spectrometer (DCP). An additional 5 elements were included in the package but will not be discussed in the following section. Analytical results and procedures are included in appendix 1 and 3 at the back of this report.

The geochemical results for Cu, Pb and Zn are presented in the back of this report (Geochemistry map). Values for copper and zinc have been rounded to the next whole number for simplicity of plotting.

Two zones of moderate-strong mineralization were encountered. The original highway 144 showing was discovered by Bert Jerome in 1970. The mineralization occurs in a long linear outcrop on the western side of the highway, slightly north of Muldrew Lake. Detailed mapping and sampling of this showing was completed during the summer programme at a scale of 1:500. A total of 13 chip and 1 grab sample was taken of the areas with strongest mineralization. Sample widths, descriptions and analytical results are presented in appendix 2 and 3.

The geology of the showing is dominated by two (2) main

rock types as illustrated in figure (5a & 5b). The majority of the outcrop consists of a unit of weak to moderately well banded gneissic granite with local felsic volcanic slivers toward the southern edge of the showing. The unit is fine to medium grained with fresh surfaces of light grey to yellowish grey. The rocks typically consist of alternating bands of quartz-feldspar with narrow biotite interbands. Gneissosity is consistant throughout the showing with a trend of 060/65SE. Rare amphibole is locally encountered as well as irregular and discontinuous quartz boudins and veinlets.

A narrow biotite-chlorite schist zone crosscuts the southern end of the outcrop within the granitic gneisses. The schist trends 220/50SE and exhibits moderate to strong pervasive chloritization. Alteration in the felsic rocks consists of spotty to weak, pervasive sericitization, weak fracture-controlled epidote and rare fracture-controlled hematite.

The entire zone contains finely disseminated to foliation -controlled pyrite. The granitic gneisses contain on average tr-2% finely disseminated pyrite with local accumulations to 10%. Highest accumulations occur in zones of moderately foliated, gossaneous gneiss over widths of 60 centimeters. Local sphalerite and fracture-controlled galena were observed in these zones.

The northern 7.0 meters of the outcrop consists of medium to coarse grained, banded to weakly foliated amphibolite (mafic volcanic). The unit consists of 30-60% hornblende and subhedral feldspar. Minor foliation parallel granitic bands and lenses produce a gneissic appearance within mafic rocks. These lenses are often weakly mineralized with finely disseminated pyrite.

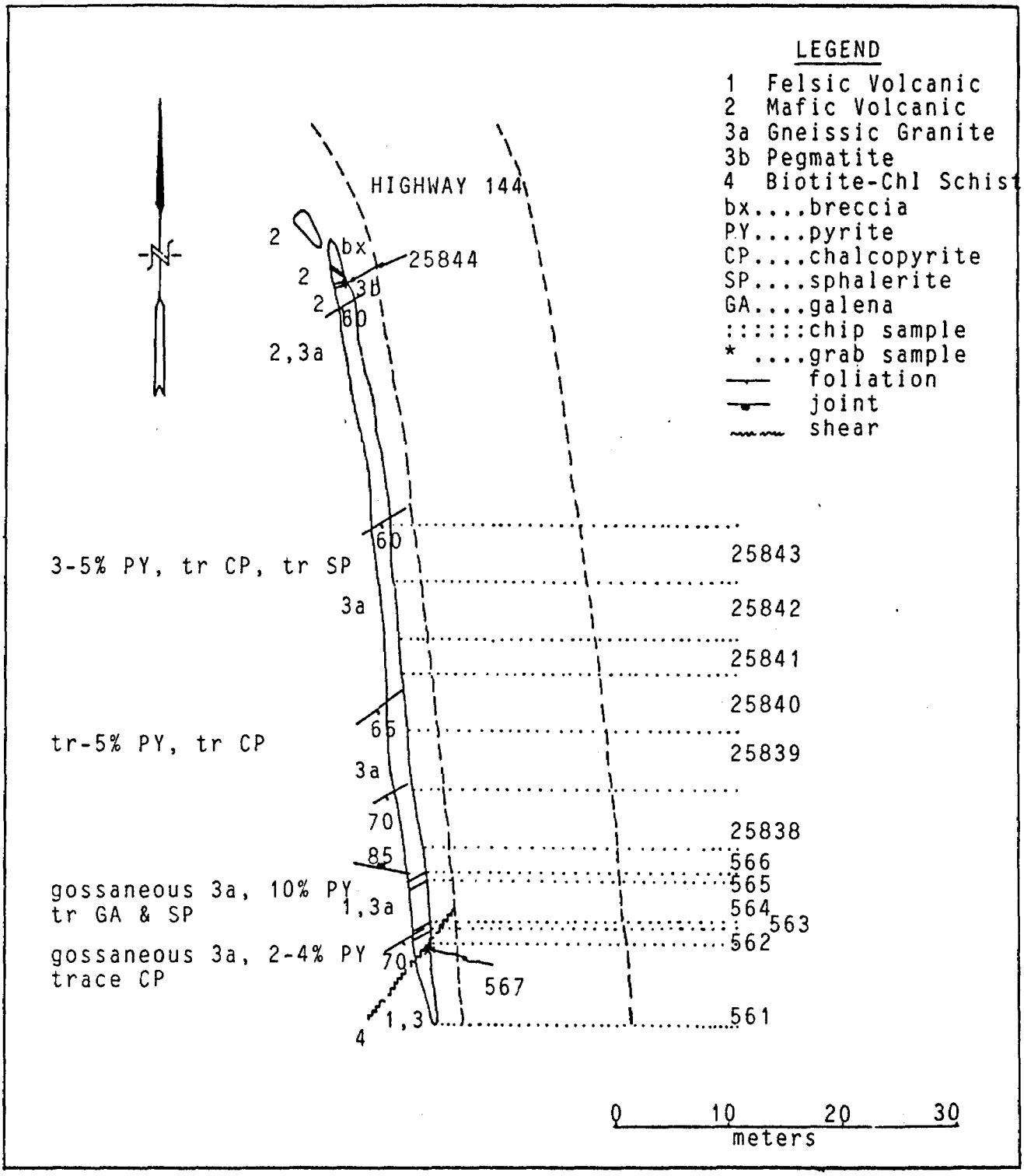


FIGURE 5a

Geology and Sample Location Map for the Muldrew Lake Property, Sudbury Mining District

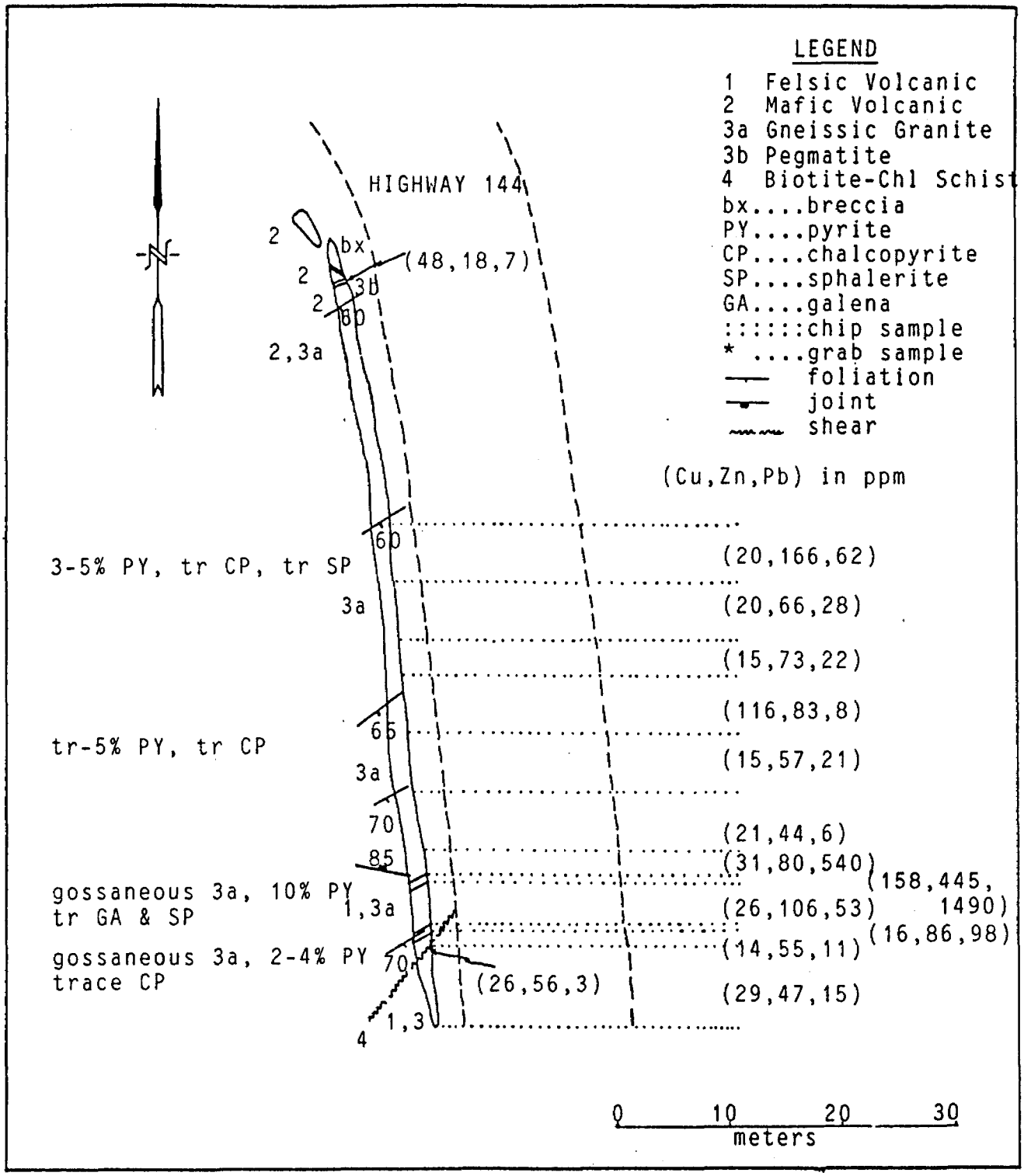


FIGURE 5b

Geology and Analytical Results Map for the
Muldrew Lake Property, Sudbury Mining District

Alteration within the unit consists of epidotization along contacts with intrusive rocks and weak pervasive chloritization of mafic minerals. Small breccia zones are encountered within the mafic rocks along the contact with the granitic "fingers". Lithologies also exhibit small displacements along fractures trending 095 degrees. The main contact between the gneissic granites to the south and amphibolites to the north is marked by a zone of transitional rock containing portions of both rock type intermixed. Minor narrow, coarse grained feldspar, quartz +/- muscovite pegmatite dykes crosscut the gneissic granites.

The highest values obtained from this outcrop were 158 ppm Cu, 445 ppm Zn and 1490 ppm Pb. These values correspond to zones of strongest galena mineralization within the gneissic granites.

A second showing occurs along line 7+75W/3+00-4+00S within rocks of mafic to felsic composition. Felsic rocks in this area varied from rhyolite to quartzo-feldspathic sericite schist with minor intrusive and possible metasediment. Sphalerite and galena were both detected consisting of small blebs and lenses disseminated within the felsic metavolcanic rocks. A total of six (6) samples were taken from the area numbered 25846-25851. Values for the three metals include 9.7-80.1 ppm Cu, 13-1170 ppm Pb and 17.8-1560 ppm Zn. Highest values for Pb and Zn appear to occur toward the northern portion of the volcanics approaching the porphyritic granodioritic body.

Copper values over the entire property range from 2.7-1380 ppm with the highest tenors corresponding to areas of mafic metavolcanic rocks. Anomalous copper values occur in the mafic volcanic rocks adjacent to the contacts with both the granite

and granodioritic intrusive rocks. Copper values are also anomalous along the trend of the iron formation. An interpreted fault also occurs east of this zone.

Zinc values range from 1.5-1560 ppm with elevated values present within both of the sulphide showings mentioned above. Other anomalous zinc values are present in the mafic volcanic rocks along the contact with the granites to the south and along the mineralized portion of the iron formation.

Lead values tend to be low over the majority of the map area. Highest anomalies occur where galena was observed.

5.7 GEOLOGICAL-GEOPHYSICAL CORRELATION

The following section is a correlation of the geophysical data acquired in previous exploration plays with the geological data obtained during the recent mapping programme. Figure 3b taken from Geological Data Inventory Folio (#523) depicts the geophysical anomalies present on the Muldrew Lake Property.

An arcuate shaped, linear airborne magnetic anomaly is present along the south side of Dublin Lake. This anomaly appears to reflect a concordant band(s) of cherty, magnetite iron formation within the mafic volcanics. The western termination/truncation of the anomaly correlates reasonably well with field observations of a possible change from oxide facies to sulphide facies iron formation. Further support for this change is present in the form of a coincident EM conductor along the western extremity of the magnetic anomaly.

No field evidence was noted for the short ground magnetic anomaly located south of the western extremity of the above

mention magnetic anomaly. This anomaly may be due to a narrow, discontinuous sliver of iron formation within the mafic stratigraphy or a compositional change in the mafic volcanics.

The ground electromagnetic anomaly trending 060 degrees across the Muldrew Lake narrows reflects weakly mineralized quartzo-feldspathic muscovite and biotite schists which were intersected in Rio Tinto's D.D.H. #2. Although no outcrops were located along the conductor axis, several weakly mineralized schistose felsic boulders were found just south of Muldrew Lake.

The two EM conductors trending 060 degrees and 075 degrees respectively in the western part of the Muldrew Lake Property correlate with a relatively continuous, weakly mineralized, quartzo-feldspathic sericite schist and felsic tuff/metasediment horizon.

6. WHOLE ROCK GEOCHEMISTRY

A total of fifty-one (51) samples were selected during the Muldrew Lake sampling programme for the purpose of obtaining whole rock data. This data was then used in defining lithologic units as well as possible alteration zones indicative of base metal mineralization. Samples were analyzed by XRAY Laboratories of Don Mills using x-ray fluorescence spectrometry on a fused disc. Analytical procedures are provided in appendix

1. The analytical package included eleven (11) major oxides and six (6) trace elements which included (Ba,Nb,Rb,Sr,Y and Zr). Detections limits for (Y,Zr,Nb) were lowered using a pressed pellet method to 2, 3 and 2 ppm respectively. This provided greater confidence in the trace element data for use in some of the plots. Whole rock sample locations are presented on the geochemistry map included in the back of this report with coordinates and descriptions given in appendix 2. All lithogeochemical samples were representative of their respective lithologies with minimal alteration and mineralization present. The chart below characterizes these samples into four major rock types observed in the field.

Chart 1: SAMPLE DISTRIBUTION FOR WHOLE ROCK

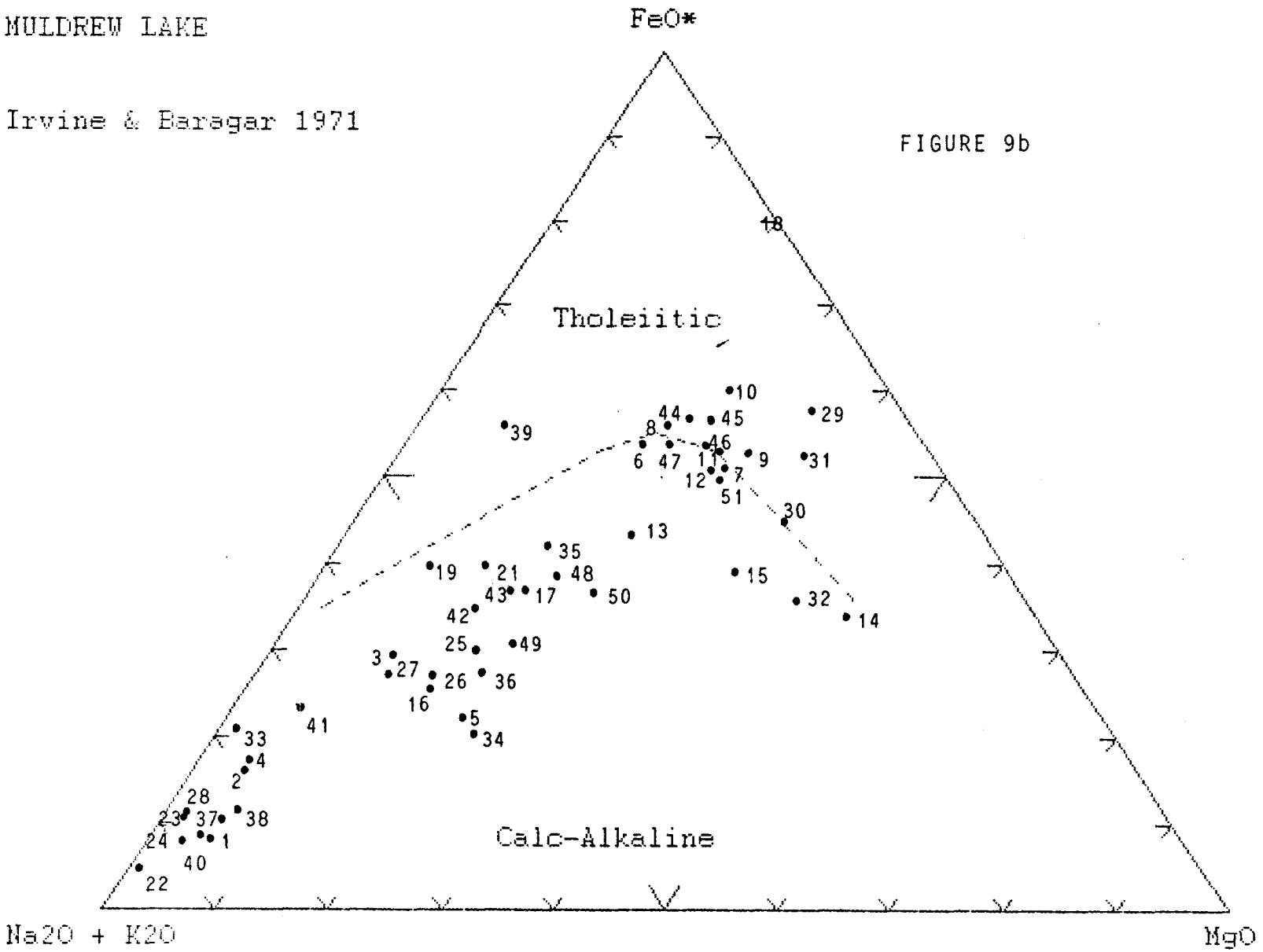
Field Name	No. of Samples
Mafic Volcanics	16
Felsic Volcanics (metaseds)	21
Granitoid Rocks	13
Mafic Dykes	1
	51

Initially four lithologies were recognized during the field mapping; these included mafic metavolcanics, felsic metavolcanics/metasediments, granitoid rocks and younger mafic dykes. The main purpose of the whole rock data was to determine primary rock compositions. Figures 7, 8 and 9 have duplicate plots showing rock types in figures a and individual sample position in figures b.

MULDREW LAKE

Irvine & Baragar 1971

FIGURE 9b



Figures 7a and 7b exhibit a plot of Na2O+K2O vs SiO2 after Cox et al (1979). Using this classification the mafic volcanic rocks plot in the basalt and basalt-andesite compositional fields with felsic volcanics plotting in the dacite to rhyolite fields. Granitoid rocks appear to consist of two compositions ranging from granite to granodiorite. A few of the whole rock samples contain >76% SiO2 and do not plot on the Cox diagram. The single mafic dyke sample appears to have a similiar composition as the mafic volcanics but has one of the highest alkali contents of any of the mafic samples.

Figures 8a and 8b show Jensen cation plots after Jensen (1976) for the 51 whole rock samples collected on the Muldrew Lake Property. The diagram suggests that the felsic volcanic/metasediments and granitoid rocks lie within the calc-alkalic field and the mafic volcanic rocks and mafic dykes lie predominantly in the tholeiitic field. There is some scattering of the mafic volcanics from the calc-alkaline field into the komatiitic field. A similiar trend is observed in an AFM diagram after Irvine & Baragar (1971). Figures 9a and 9b suggest that the mafics are mostly tholeiitic in character and the felsic rocks are mostly calc-alkaline.

Figure 10 plots Na2O+K2O vs SiO2 (after Middlemost, 1985) in an attempt to separate the two granitoid rocks found on the property. Geological mapping showed numerous differences between the two bodies. The latter diagram suggests that the intrusive rocks to the north of the volcanics are granodioritic in composition while those to the south are granitic in composition. A single sample (#50) falls below both fields and may represent a rock of more quartz dioritic composition or

possibly an altered version of the granite.

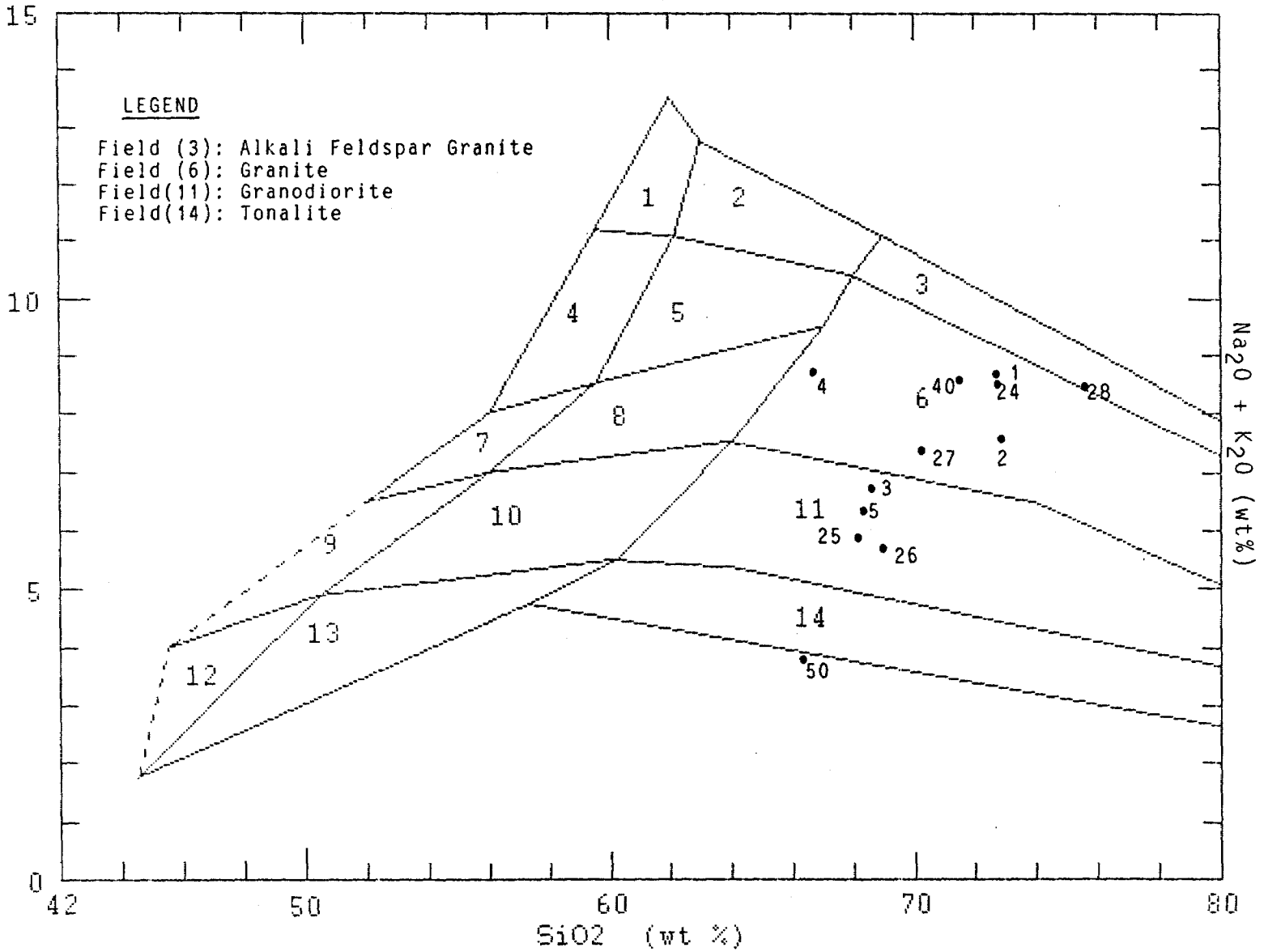
Some of the felsic volcanic rocks in the area appeared to have tuffaceous or sedimentary characteristics. Figure 11 is a plot of SiO2/Al2O3 vs K2O (after Lickley et al, 1987). The diagram plots a negative trend for unaltered greywackes and argillite samples suggesting that as a sediment matures its' SiO2/Al2O3 ratio increases with a decrease in K2O%. Volcanics on the other hand have a positive slope. Many of the samples from the Muldrew Lake Property correspond to the area around the intersection of the sedimentary and volcanic trends. The samples do, however, have a pronounced positive slope suggesting a volcanic origin for most of the felsic rocks.

Figure 12 is an alkali ratio diagram (after Hughes, 1973) and is used to distinguish altered (spilitized) and unaltered rocks. The alteration field occurs to the right of the igneous spectrum field. A total of 12 samples occur within the altered field and an additional 8 samples lie along the boundary between the two fields. Samples of strongest alteration appear to be from the rocks of felsic volcanic composition. This may correspond to sericitization noted in this unit during field mapping.

Figure 13 is a plot of MgO vs Na2O+CaO for all mafic samples collected. The plot shows an increase in MgO in samples adjacent to intrusive contacts possibly suggesting increased chloritization of these rocks.

Figure 14 plots (Zr/10), (Ti/100) and Y, (after Lesher et al, 1985), for all felsic volcanic samples. Lesher's classification places felsic volcanics into three groups as listed below:

MULDREW LAKE Middlemost 1985 FIGURE 10



MULDREW LAKE PROPERTY

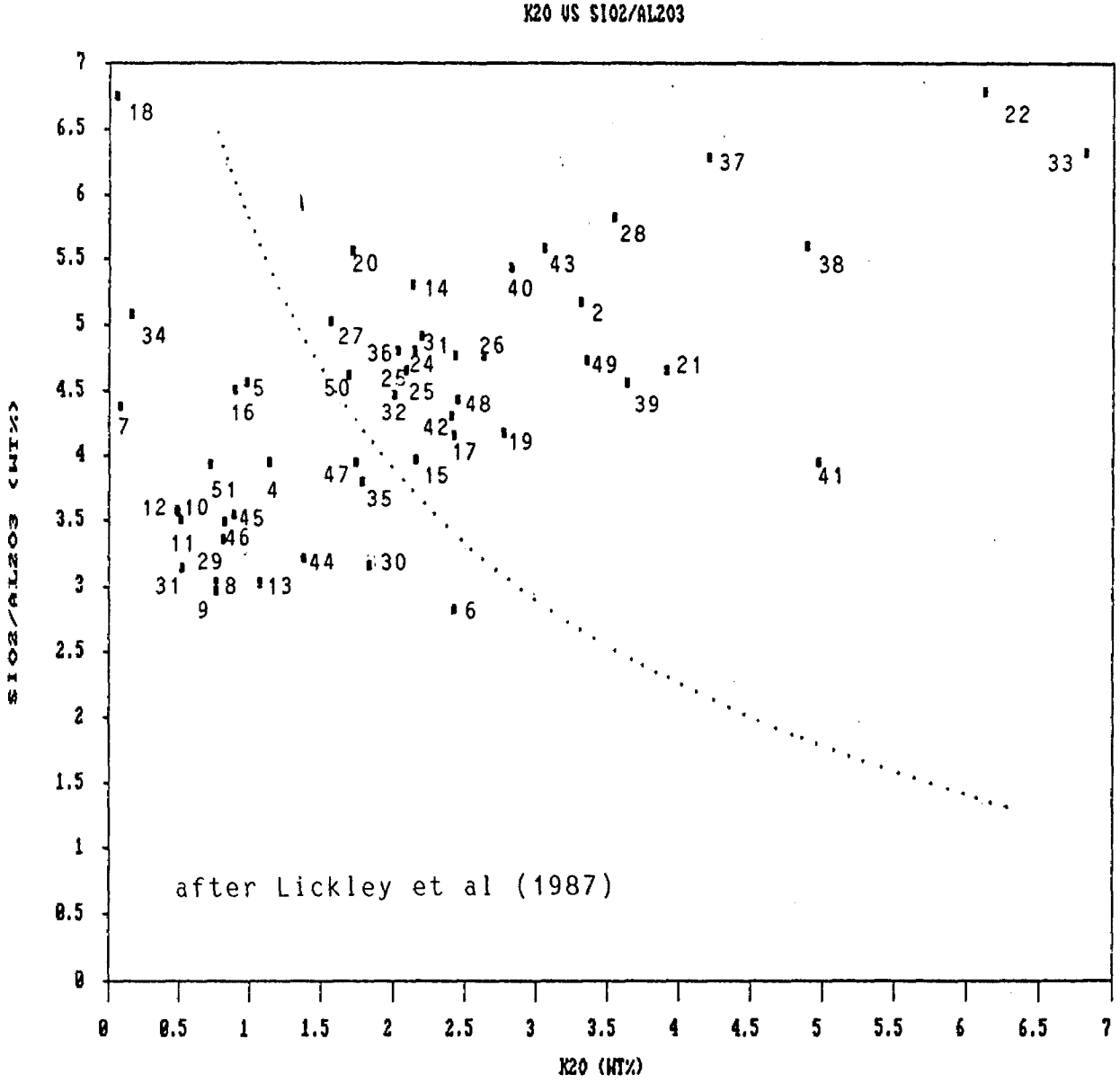
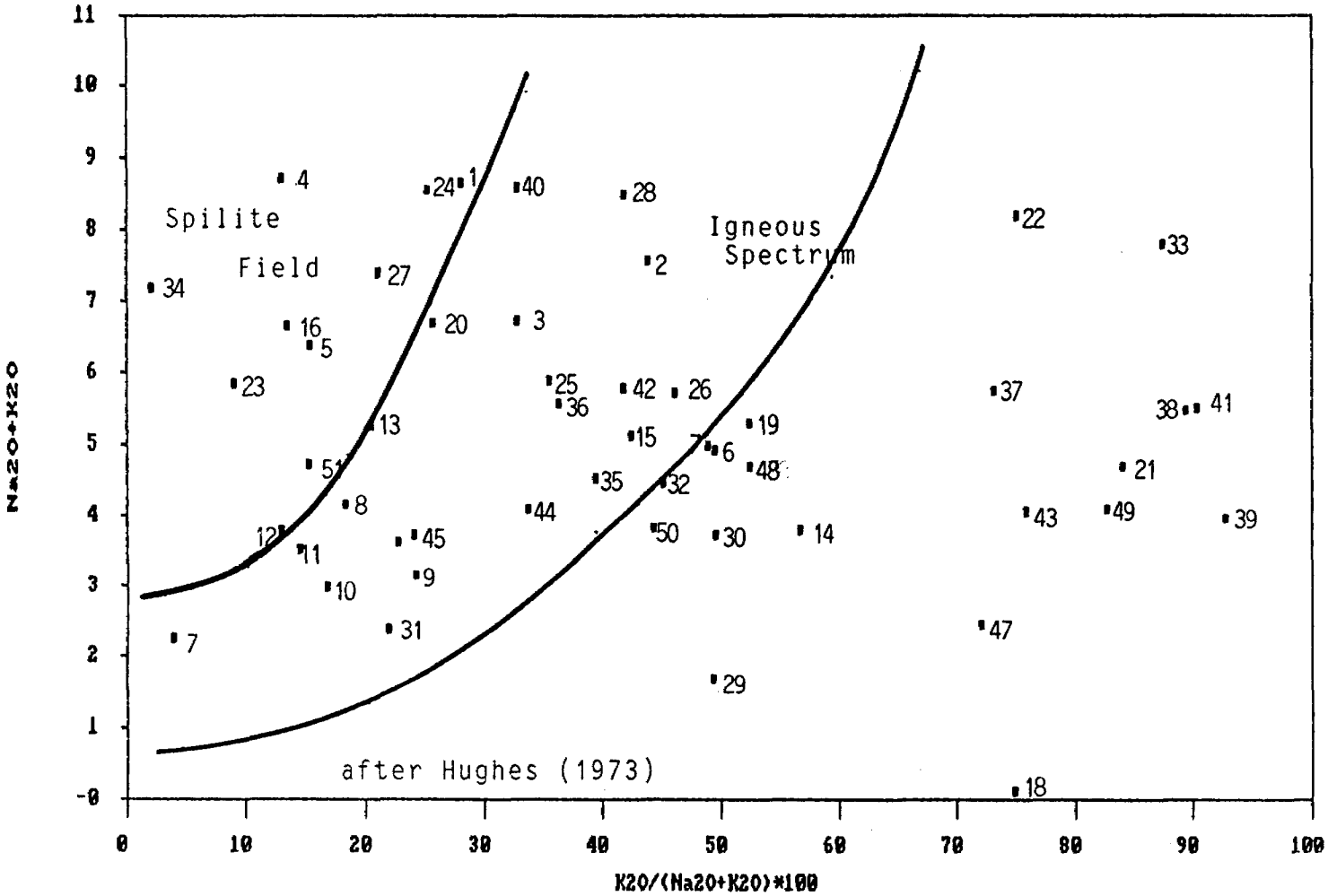


FIGURE 11


Spilite
Field
Igneous
Spectrum
after Hughes (1973)
Na2O+K2O
K2O/(Na2O+K2O)*100
0
10
20
30
40
50
60
70
80
90
100
-0
1
2
3
4
5
6
7
8
9
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11
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FIGURE 12

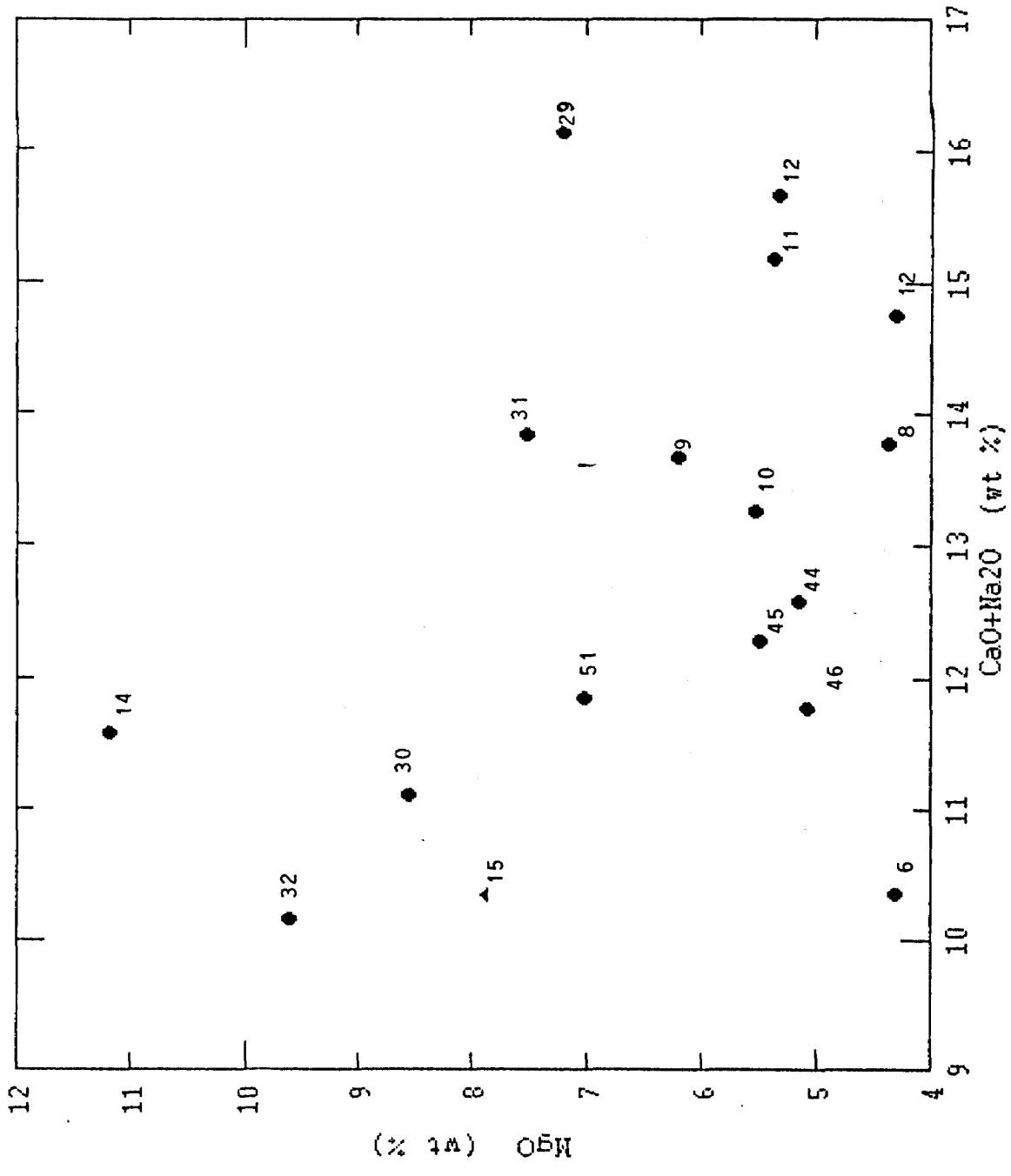


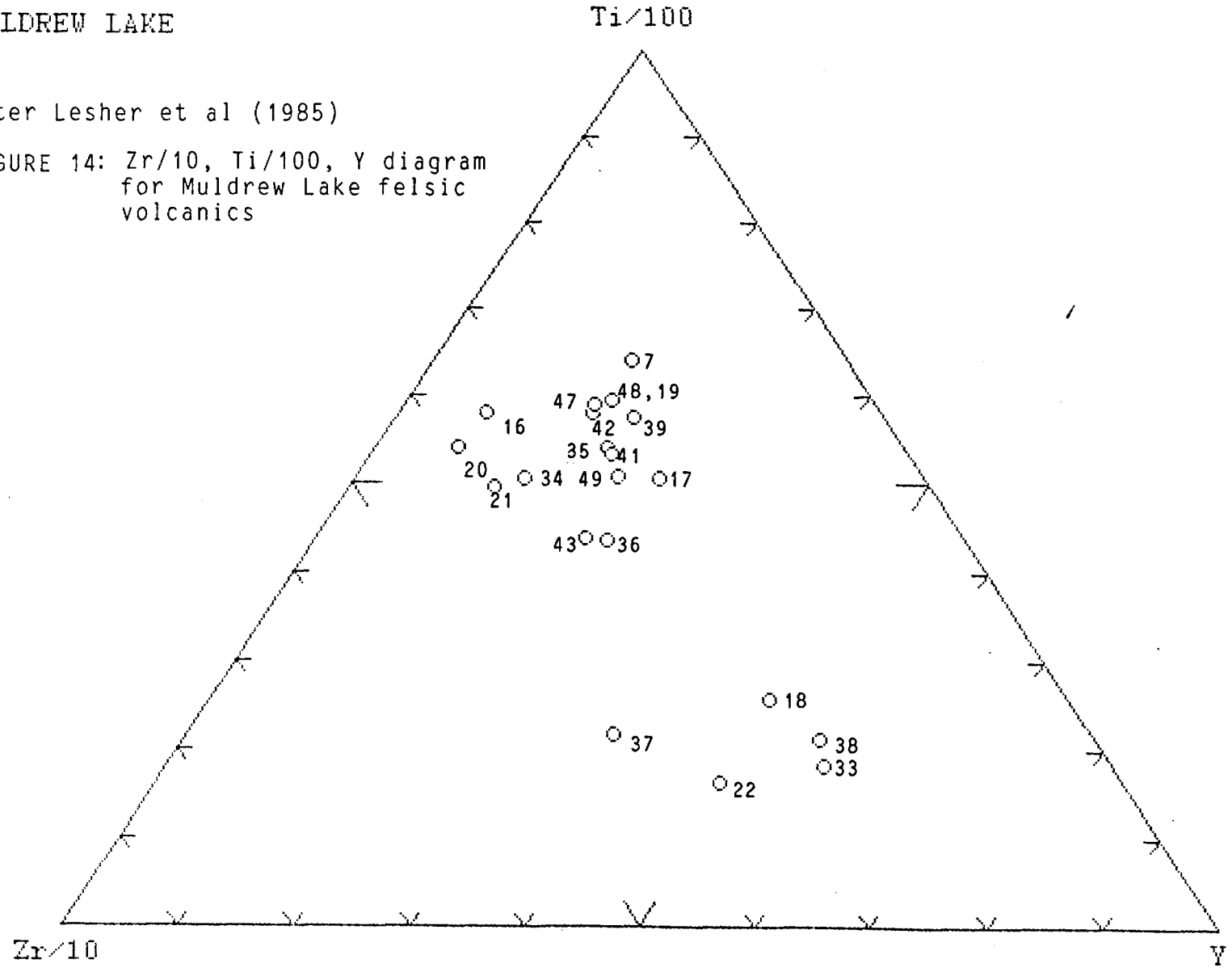
FIGURE 13

Diagram is a plot of MgO vs CaO+Na2O for all the mafic samples taken at Muldrew Lake.

MULDREW LAKE

after Lesher et al (1985)

FIGURE 14: Zr/10, Ti/100, Y diagram for Muldrew Lake felsic volcanics



Group FI: Felsic volcanic rocks from barren sequences not containing base metal deposits.

Group FII: Felsic volcanic rocks with minor base metal deposits.

Group FIII: Felsic volcanic rocks which host known base metal deposits.

Lesher's classification is based on associations between rare earth elements. Figure 14 shows that the felsic volcanic rocks from the Muldrew Lake property occur primarily within the FI group. A small cluster of samples occurs in FIII with most of these corresponding to the area of sphalerite, galena and chalcopyrite mineralization observed during the field mapping programme. Further geochemistry would be required to see if these felsic rocks met all of Lesher's parameters for classifying FIII group felsic volcanics.

7. CONCLUSIONS AND RECOMMENDATIONS

In summary the 1991 field programme delineated favourable geology, alteration and structure indicative of base metal mineralization. The two areas of highest potential occur in the western portion of the claim block on either side of a north northeasterly trending fault which is situated along the eastern side of Muldrew Lake.

The areas consist of a mixture of felsic and mafic metavolcanics on the east side of the fault with gneissic granites and minor volcanic segments west of the fault. Two showings of pyrite with local chalcopyrite, sphalerite and galena are present in this region.

More detailed geology with closer line spacing is recommended in an area extending from the western edge of the claim block to line 2+00W. Further mapping would also be useful in delineating the subunits of the felsic metavolcanics along Dublin Lake. Ground geophysics including magnetic and VLF may also assist in pin-pointing prominent structures and alterations possibly associated with base metal mineralization.

Further work could also be done extending the volcanic stratigraphy east and west of the main claim block with the developement of a flagged grid for control in Battersby Township.

Respectfully submitted

D.M.E. Pilkey, BSc.

Y.P. Clement,

Geological Technologist.

CERTIFICATE OF QUALIFICATION

I. David Marshall Evans Pilkey do hereby certify:

1. that I am a geologist and reside at 904 Howey Drive, Sudbury, Ontario P3B 1H4.

2. that I graduated from Laurentian University in 1984 with a Bachelor of Applied Science in Geology.

3. that I have practiced my profession continuously for the past 9 seasons.

4. that my report on the Muldrew Lake Property claim block is based on my personal knowledge of the area geology through numerous visitations to the property.

David M.E. Pilkey, BSc.,

January, 1992

CERTIFICATE OF QUALIFICATION

I, Yves Pierre Clement do hereby certify:

1. that I am a geological technologist and reside at 422 St. George St., Sudbury, Ontario P3B 2L6.

2. that I graduated form Cambrian College in 1986 with a Geological Technologist Diploma.

3. that I have partially fulfilled the requirements for a Bachelor of Applied Sciences in Geology at Lake Superior State University.

4. that I have practiced my profession continuously for the past five seasons.

5. that my report on the Muldrew Lake Property claim block is based on my personal knowledge of the area geology through numerous visitations to the property.

Yves P. Clement

Y.P. Clement

Geological Technologist

January, 1992

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MAPS

1. Department of Energy, Mines and Resources; Topographical Map #41 P/4, Low Water Lake Area, Scale 1:5000.
2. Geological Survey of Canada; Aeromagnetic Maps #279G & #280G.
3. Ministry of Northern Developement and Mines; Claim Map #M-767; Dublin Township, Scale 1" to 1/2 mile.
4. Ontario Department of Mines; Preliminary Map #P-300; Westree Sheet, Scale 1" to 2 miles.
5. Ontario Geological Survey; Geological Compilation Map #M-2361; Sudbury-Cobalt Sheet, Scale 1" to 4 miles.

APPENDIX 1

Analytical Procedures

ANALYTICAL PROCEDURES

SAMPLE PREPARATION:

Samples were shipped to XRAY Laboratories in Don Mills, Ontario for preparation. Primary reduction is achieved using a two stage crushing facility employing a 6" and 8" jaw crusher followed by a 10" Gy-Roll cone crusher as the second stage. Initial crushing produces 45% minus 1/8' and 99% minus 1/4" product. A subsample is withdrawn from this crusher product using a 3/8" Jones sample splitter with the sample representing not less than 1/8 the original. An oscillatory swing mill is then used to produce a pulp of minus 200 mesh.

WHOLE ROCK AND TRACE ELEMENT ANALYSIS:

Samples were then analyzed by XRAY Laboratories of Don Mills for 11 major oxides and 6 trace elements. Trace elements included Rb, Sr, Y, Zr, Nb and Ba. Detection limits for these elements was originally 10 ppm but further analysis using X-Ray Fluorescence Spectrometry on a pressed pellet reduced the detection limits of Zr, Nb and Y to 3, 2 and 2 ppm respectively.

Initial whole rock analysis was performed on a 1.3 gram sample of the pulp that is roasted for 1 hour at 950 degrees and fused to 5 grams of lithium tetraborate. The melt is then cast into a 40 mm button.

The button is then analyzed on a Philips PW1600 simultaneous x-ray fluorescence spectrometer. The system is

calibrated using more than 40 reference materials as tabulated in Syd Abbey's "preferred" values compilation. Major elements are counted over a 60 second interval through their own fixed channel. Traces are run as counts and are accumulated for the majors using a scanner. LOI are obtained during roasting. Samples with sums less than 98% and greater than 101% are repeated. Precision on most elements is better than 0.5% with 1-2% errors only encountered on lower count rates.

Lower detection limits for Zr, Nb and Y are obtained by mixing 3 grams of sample with 3 grams of celluse and pressed into a pellet. The pellets are then loaded into the holder of an automatic sample changer of a Philips PW1400 wavelength dispersive x-ray spectrometer. Samples are loaded six to a tray with a total of 12 trays. The elements are then run in a vacuum atmosphere employing a rhodium tube. Specific standard reference materials are inserted with the samples to verify calibration.

BASE METAL ANALYSIS BY DCP:

A quarter gram of sample is digested with 2 ml of nitric acid for one half hour in a water bath, then 1 ml of hydrochloric acid is added and the digestion continues for an additional 2 hours. Test tubes are shaken at regular intervals.

Samples are then made up to volume with lithium buffer and run on the simultaneous direct current plasma emission spectrometer. In house standards and previously analyzed samples are run to monitor proper digestion procedures.

Synthetic standards are used to calibrate the instrument.

APPENDIX 2

Sample Descriptions & Locations

MULDREW LAKE PROPERTY - ROCK SAMPLES

SAMPLE	ROCK TYPE	GRID LOC'N (UTM LOC'N)	ROCK SAMPLE DESCRIPTION
25701	2	1+40E 8+00N (449800E 5218000N)	Outcrop grab. Rock consists of medium-coarse grained amphibolite with 15% granitic veinlets. Unit exhibits spotty hematite, epidote and chlorite alteration and contains trace pyrite. Unit may also contain trace sphalerite.
25702	2	2+10E 7+25N (449875E 5218000N)	Boulder grab. Rock consists of fine grained mafic volcanic that exhibits moderate pervasive chlorite, weak blebby calcite and spotty epidote alteration. Unit contains trace-1% finely disseminated pyrite adjacent to calcite blebs.
25703	2	2+60E 8+00N (449950E 5218000N)	Outcrop grab. Rock consists of fine-medium grained, greyish green amphibolite. Unit exhibits weak pervasive chloritization, spotty fracture controlled epidote alteration. Rock also contains tr-1% finely disseminated to fracture controlled pyrite.
25704	2	4+25E 8+00N (450100E 5218000N)	Outcrop grab. Rock consists of migmatitic amphibolite containing 15% mafic bands within a slightly more intermediate unit. Rock exhibits moderate pervasive chlorite and spotty epidote alteration. Unit also contains tr-4% pyrite and minor malachite.
25705	3a	10+55E 8+00N (450750E 5218005N)	Outcrop grab. Rock consists of weakly altered and mineralized feldspar porphyry. Unit contains 15% weakly saussuritized feldspar phenocrysts. Unit exhibits weak fracture controlled hematite, chlorite and calcite alteration. Trace pyrite is present.
25706	2	10+10E 7+15N (450650E 5217900N)	Outcrop grab. Rock consists of fine-medium grained mafic volcanics (locally grading to amphibolite). Unit contains several quartz-feldspar lenses and veinlets with narrow veinlets containing trace-2% finely disseminated pyrite.
25707	2	10+20E 5+50N (450680E 5217800N)	Outcrop grab. Rock consists of fine grained, dark green to lime green, strongly folded mafic volcanic. Unit exhibits strong pervasive chlorite to epidote alteration. Unit contains trace pyrite.
25708	IF	5+97E 0+00N (450225E 5217150N)	Outcrop grab. Rock consists of fine grained, gossaneous and moderately banded, magnetite iron fm. Unit contains sugary silica-chert and is pitted in appearance. Rock exhibits very weak fracture controlled hematite and contains trace-2% pyrite.
25709	2	6+10E 0+95N (450240E 5217225N)	Outcrop grab. Rock is strongly fractured and locally brecciated mafic-intermediate volcanic with 10% narrow, fracture controlled quartz-feldspar veinlets. Sample contains trace pyrite and chalcopyrite within the veinlets.
25710	1d	6+00E 1+10N (450225E 5217250N)	Grab from talus. Rock consists of fine to medium grained, gossaneous, quartz-feldspar sericite schist. Unit contains 15-20% bull white blebby quartz lenses with trace-3% finely disseminated pyrite.
25711	3a	1+60W 4+80N (449440E 5217515N)	Outcrop grab. Rock consists of weakly-moderately altered medium grained, green grey quartz-feldspar porphyry. Unit contains 35% quartz phenocrysts and exhibits moderate saussurite alteration. Rock contains tr-2% disseminated pyrite.
25712	2	1+65W 3+05N (449480E 5217670N)	Outcrop grab. Rock consists of fine grained mafic volcanic. Unit exhibits weak-moderate pervasive epidote, weak pervasive chlorite and weak fracture controlled epidote-calcite stringers. Stringers contain trace chalcopyrite.
25713	2,3a	1+90W 0+80S (449430E 5217130N)	Outcrop grab. Rock consists of strongly foliated mafic volcanic? interbanded quartz-feldspar porphyry. Mafic exhibits strong pervasive epidote, spotty chlorite alteration and contains 20% quartz blebs and veinlets.
25714		0+40W 3+10S (449560E 5216900N)	Outcrop grab. Sample taken from narrow felsic band within mafic volcanic unit. Felsic is locally strongly foliated to schistose and contains 2-5% finely disseminated to blebby pyrite and locally tr-2% blebby chalcopyrite.

25715	2b	0+10E 6+90S (449450E 5216610N)	Outcrop grab. Rock consists of moderately foliated to banded mafic volcanic. Unit exhibits moderate pervasive chlorite alteration with spotty hematite. Sample taken of strongest mineralization with unit containing 3-7% foliation controlled pyrite.
26716	IF	12+10E 4+85N (450850E 5217550N)	Outcrop grab. Rock consists of fine grained, reddish green magnetite iron formation with minor chloritic amphibolite. Rock exhibits weak fracture controlled hematite alteration and contains 3-5% finely disseminated pyrite with trace chalcopyrite.
25717	2b	2+08E 6+60S (449710E 5216560N)	Boulder grab. Rock consists of fine grained, weakly banded mafic volcanics that appear to be weakly siliceous with a well developed slatey cleavage. Boulder is very rusty in character reflecting up to 15% finely disseminated pyrite.
25718	3b/3d	12+35E 0+20N (450825E 5217115N)	Outcrop grab. Rock consists of medium grained, brownish white quartz-feldspar porphyry. The unit exhibits weak, spotty to fracture controlled epidote and hematite with minor chlorite. The unit also contains trace-1% finely disseminated pyrite.
25719	3b/3d	12+50E 0+05N (450845E 5217115N)	Outcrop grab. Rock consists of medium to fine grained quartz-feldspar porphyry. The unit exhibits strong pervasive epidotization with moderate fracture controlled hematite. The rock also contains 5% bull white quartz and trace-2% blebby pyrite.
25737	1c	22+00W 18+70S (447440E 5215385N)	Outcrop grab. Rock consists of fine-medium grained, strongly foliated felsic volcanic-sediment? Unit is rich in biotite and sericite and contains 0.5-2% finely disseminated to foliation controlled pyrite.
25720	IF	15+95E 5+20N (451200E 5217500N)	Outcrop grab. Rock consists of fine grained, banded and folded mafic-intermediate iron formation. Rock exhibits spotty chlorite alteration with local pervasive silicification also noted. The unit also contains trace-2% disseminated pyrite.
25721	1c	26+00E 7+25N (452200E 5217710N)	Outcrop grab. Rock consists of fine grained felsic volcanic-sediment? with migmatized mafic bands. The unit also contains 35% blebby quartz and exhibits spotty sericite alteration. The rock also contains trace-5% pyrite with trace chalcopyrite.
25722	IF	3+65W 4+80S (449215E 5216740N)	Outcrop grab. Unit consists of strongly banded, fine grained, cherty magnetite iron formation. The rock exhibits hematite alteration and contains several quartz-chlorite blebs. The unit also contains trace-5% pyrite with possible chalcopyrite.
25723	IF ?	3+80W 4+85S (449235E 5216740N)	Outcrop grab. Rock consists of strongly banded, felsic rock (possible sulphide facies iron formation). Minor narrow chloritic bands are present in the unit as well as 10% foliation controlled pyrite. The rock may also contain trace sphalerite.
25724	3c	9+55W 12+05S (448650E 5216020N)	Outcrop grab. Rock consists of foliated, medium grained granodioritic gneiss (possible minor felsic volcanic?). The unit exhibits weak-moderate pervasive saussurite alteration and spotty hematite and chlorite. The rock contains trace-1% pyrite.
25725	3b,1c-b	9+55W 11+90S (448650E 5216035N)	Outcrop grab. Rock consists of fine grained, cherty felsic volcanic with granodioritic fingers. Alteration consists of moderate pervasive saussurite alteration with spotty hematite and chlorite. Unit contains 3-5% foliation controlled pyrite.
25726	2	9+75W 11+65S (448630E 5216060N)	Outcrop grab. Rock consists of foliated-schistose mafic volcanic with local saussuritized intermediate bands. Rock is greenish black in colour, locally gossaneous containing tr-3% foliation controlled to disseminated pyrite.
25727	3c	15+95W 15+50S (448070E 5215700N)	Outcrop grab. Rock consists of moderately foliated to schistose granodioritic gneiss. Alteration consists of spotty weak-moderate saussurite alteration with weak chlorite and hematite alteration. Schistose portions are sericitized with 2% pyrite.
25728	3c	15+95W 15+50S (448070E 5215700N)	Outcrop grab. Schistose granitic gneiss with moderate pervasive foliation controlled sericite alteration. Unit contains up to 5% pyrite.
25729	3c	15+05W 16+00S (448055E 5215650N)	Outcrop grab. Rock consists of strongly foliated to schistose, medium grained intrusive. The unit exhibits weak to locally strong pervasive sericitization. The unit contains tr-3% disseminated and blebby pyrite.

25730	1c	26+25W 19+50S (447020E 5215310N)	Outcrop grab. Rock consists of medium-fine grained, moderately foliated felsic volcanic? Unit exhibits weak pervasive sericitization and contains trace-3% finely disseminated to foliation controlled pyrite. Trace blebby chalcopyrite is also noted.
25731	1d	25+75W 19+50S (447070E 5215310N)	Outcrop grab. Rock consists of fine-medium grained quartzo-feldspathic sericite schist. Unit contains minor biotite with trace-5% blebby pyrite encountered. Strongest foliated portions contain up to 3% pyrite.
25732	1c-1d	25+75W 19+50S (447070E 5215310N)	Outcrop grab. Rock consists of foliated, weakly sericitized felsic-intermediate volcanics with local narrow schistose bands. The unit also contains trace-3% foliation controlled pyrite.
561	1c/3c	7+30W 11+01S (448840E 5216124N)	Outcrop(7.0 m Chip) Fine - medium grained, light green-grey, strongly foliated/banded, felsic tuff? / gneissic granite? Rock contains 5-10% medium grained foliation controlled muscovite. Tr-2%, locally up to 5%, medium grained foliation controlled py.
562	1c/3c	7+30W 10+94S (448840E 5216131N)	Outcrop(1.0 m Chip) Fine-medium grained, strongly foliated/banded, felsic-intermediate tuff? / gneissic granite? containing 7-10% combined foliation controlled biotite and muscovite. Rock contains 5-10% contorted qtz-feld. bands. Tr-2% foliation py.
563	1c/3c	7+30W 10+93S (448840E 5216132N)	Outcrop chip. Chip over 0.55m. Rock consists of strongly gossaneous, medium grained felsic volcanic? (migmatized granitic rock). Unit contains several boudinage, bull white quartz lenses and exhibits spotty sericite alteration. 2-4% pyrite noted.
564	1c/3c	7+30W 10+92S (448840E 5216133N)	Outcrop chip. Chip over 3.7m. Rock consists of banded felsic-migmatitic granitic gneiss. Bands consist of quartz-feldspar and biotite with the rock containing 1-3% foliation controlled pyrite.
565	3c	7+30W 10+88S (448840E 5216137N)	Outcrop chip. Chip over 0.6m. Rock consists of gossaneous granitic gneiss. Unit has very granular texture and contains up to 10% coarse blebby pyrite. Contacts between gossaneous unit and weakly mineralized rock are shcistose.
566	3c ?	7+30W 10+87S (448840E 5216138N)	Otc-2.4 m chip Sample appears to consist of strongly foliated/banded, light greenish-grey, gneissic granite. Rock exhibits weak foliation sericite and epidote. Tr-2% foliation controlled py. Several narrow (2-5 cm) strongly weathered shears.
567	schist	7+30W 10+97S (448840E 5216128N)	Outcrop grab. Narrow(2-10 cm), pinch and swell, quartzo-feldspathic biotite-chlorite schist exhibiting strong semi-pervasive iron staining.
25733	1d	2+05W 1+25S (449410E 5217080N)	Outcrop grab. Rock consists of fine grained, strongly foliated to schistose quartzo-feldspathic sericite schist. Unit contains spotty fracture controlled hematite and saussurite. Rock contains 10% quartz lenses and boudins.
25734	2	4+50W 7+70S (449130E 5216400N)	Outcrop grab. Unit is fine grained, strongly altered mafic volcanic to amphibolite. Unit weathers gossaneous orange and exhibits moderate fracture controlled to strong pervasive epidote and local hematite. Rock contains 5-10% disseminated pyrite.
25735	2b	4+70W 7+65S (449110E 5216450N)	Outcrop grab. Rock consists of strongly foliated to laminated mafic volcanics. Unit exhibits moderate pervasive epidotization with weak pervasive chloritization. Rock also contains 15% finely disseminated pyrite.
25736	1c	5+00W 7+40S (449080E 5216480N)	Boulder grab. Sample from large subangular boulder of fine grained, moderately laminated felsic volcanic? (sediment). Rock contains between 10 and 30% medium grained, disseminated to foliation controlled pyrite.
25738	3c(1c)	19+40W 16+90S (447400E 5215590N)	Outcrop grab. Rock consists of a mixture of intrusive felsic (granitic gneiss) with lesser amounts of felsic volcanic. Rock is fine grained and biotitic in character. Unit is moderately banded and contains 0.5-2% pyrite.
25739	1c	22+40W 18+65S (447700E 5215395N)	Outcrop grab. Rock consists of fine grained, well foliated and moderately banded felsic volcanic-sediment. Rock contains sericite and biotite as well as up to 1% pyrite.
25801	3a	0+35E 4+45N (449690E 5217615N)	Outcrop grab. Moderately altered porphyritic granodiorite containing trace to 3% disseminated euhedral pyrite. Alteration consists of moderate, locally strong, semi-pervasive epidote and chlorite. Rock exhibits a very rusty weathered surface.

25802	2a	2+28E 8+07N (449890E 5217990N)	Outcrop grab. Rare, locally tr-2%, fine to medium grained subhedral py (cp?) associated with qtz - epidote - calcite fracture fillings present within mafic volcanics.
25803	2b	4+10E 7+93N (450700E 5217995N)	Outcrop grab. Fine grained, banded, migmatitic, mafic volcanic containing trace, locally 2-3%, leucocratic, granitoid, neosome band controlled py. Sample exhibits weak-moderate neosome band controlled epidote and hematite.
25804	1c	6+30E 6+75N (450300E 5217905N)	Outcrop grab. Fine to very fine grained, weakly laminated, felsic - intermediate material with 5-10% concordant and discordant narrow qtz bands. Sample contains rare, locally trace, fine grained py and cp associated with discordant qtz bands.
25805	1c	4+30E 0+12S (450075E 5217150N)	Outcrop grab. Strongly foliated to locally schistosed intermediate to felsic material containing trace-1% foliation controlled pyrite. Rock exhibits moderate pervasive foliation controlled sericite and contains 10% concordant qtz bands and boudins.
25806	1c	3+95E 0+05N (450035E 5217165N)	Outcrop grab. Medium to fine grained, strongly foliated, garnetiferous, intermediate to felsic tuff/sediment containing 10% qtz boudins. Sample exhibits weak foliation controlled sericite and contains tr-3% foliation and qtz boudin controlled py.
25807	1d	4+05E 0+30N (450045E 5217190N)	Outcrop grab. Sample consists of well developed quartzo-feldspathic sericite schist characterized by intense pervasive sericite and well developed crenulation cleavage. No visible sulphides.
25808	3a	3+65W 5+95N (449225E 5217775N)	Outcrop grab. Porphyritic granodiorite containing rare, locally trace - 1%, disseminated pyrite. Rock exhibits weak - moderate fracture controlled epidote, hematite and chlorite. Rare fine grained disseminated magnetite also present.
25809	3a	1+85W 8+70N (449435E 5218050N)	Outcrop chip. Moderately foliated, porphyritic granodiorite containing trace, locally 1%, foliation controlled pyrite (rare cp?). Sample also contains rare disseminated magnetite.
25810	1b / 3d	0+35W 9+00N (449640E 5218075N)	Outcrop grab. Fine to very fine grained, equigranular , weakly foliated, felsic (siliceous) rock containing rare - trace foliation controlled py and rare - nil cp. Rock contains 2 - 5% fine flaked foliation controlled biotite.
25811	IF	2+15E 2+10S (449830E 5216985N)	Outcrop grab. Sulphide facies iron formation. Sample consists of very fine grained cherty material interbanded with chloritic mafic material. Sulphides consist of 3-5% py, 2-3% po and trace cp occuring as thin concordant stringers.
25812	IF	2+15E 2+10S (449830E 5216985N)	Outcrop grab. Sulphide facies iron formation. Sample consists of interbanded greenish chert, chloritic mafic and qtz bands containing 2-3% py, 1-2% po and trace cp occuring as discontinuous stringers along band planes.
25813	1d	3+95E 0+20S (450035E 5217140N)	Outcrop chip. Sample consists of very rusty quartzo-feldspatic sericite schist. No visible sulphides.
25814	2b	6+65E 0+20S (450300E 5217140N)	Outcrop grab. Strongly foliated, migmatitic, mafic volcanic containing trace-2% py and rare cp. Sulphides occur as disseminations proximate to leucocratic neosome bands.
25815	2a	7+95E 0+75S (450435E 5217080N)	Outcrop grab. Weakly to moderately altered mafic volcanic containing trace fine grained disseminated py and rare cp. Alteration consists of weak to moderate patchy epidote and chlorite.
25816	3b	12+05E 2+45S (450780E 5216855N)	Outcrop grab. Medium grained, pinkish-orange, granite containing rare-trace fine grained disseminated py and very rare, locally trace, cp. Rock exhibits weak - moderate fracture controlled hematite and epidote.
25817	3b	13+90E 0+50S (450975E 5217045N)	Large subangular bld Sample consists of medium to coarse grained granite containing trace, locally 1-2%, fine grained disseminated pyrite.
25818	2b	4+05E 3+40S (450035E 5216820N)	Outcrop grab. Moderately migmatitic, banded, mafic volcanic containing rare - trace fine grained disseminated pyrite.
25819	1a	6+50W 10+95S (448945E 5216120N)	Medium angular bld. Fine grained, massive to weakly foliated, felsic material containing 2-3% medium grained disseminated py. Weathered surface very rusty. Bld (block) found within sand dug out of Muldrew Creek diversion trench.

25820	2a	5+75W 8+35S (449015E 5216380N)	Outcrop grab. Mafic volcanic exhibiting moderate, locally strong, fracture to patchy epidote and iron staining. Medium grained, euhedral, epidote crystals locally found within vuggy fracture fillings. No visible sulphides.
25821	1c	6+35W 5+50S (448965E 5216665N)	Outcrop chip. Fine grained, buff coloured, thinly banded/bedded felsic - intermediate material containing trace disseminated py.
25822	2b	6+30W 5+80S (448970E 5216635N)	Outcrop grab. Migmatitic mafic volcanic containing trace to 2-3% fine grained pyrite. Pyrite occurs adjacent to fine grained leucocratic (felsic) neosome bands.
25823	1c	7+65W 13+20S (448815E 5215910N)	Outcrop grab. Migmatitic, intermediate - felsic tuff/sediment containing trace-3% fine grained py associated with felsic neosome bands. Minor thin concordant mafic bands also present.
25824	1c	7+45W 13+20S (448835E 5215910N)	Large angular bld. Medium - fine grained, greenish-grey, moderately foliated, felsic material containing 2-5% medium grained, subhedral, foliation controlled py. Rock contains 2-5% fine grained foliation controlled biotite.
25825	IF	7+40W 12+65S (448840E 5215965N)	Outcrop chip. Sulphide facies iron formation (0.5 m). Sample consists of interbanded greenish chert, clear qtz and amphibolitic bands containing 2-5% py/po and trace cp. Sulphides occur along band planes and along fine cross-fractures.
25826	2b	7+40W 12+76S (448840E 5215954N)	Small angular bld. Possibly frost heaved block. Migmatitic, banded, mafic volcanic containing trace to 2% fine grained py. Pyrite present adjacent and within thin concordant felsic(feld./qtz) neosome bands.
25827	1c/3c	9+05W 10+50S (448700E 5216185N)	Outcrop chip. Fine grained, thinly banded, strongly foliated, locally schistosed, intermediate-felsic material containing trace-2%, foliation py(cp?). Moderate foliation sericite. Original material tuff/seds? or strongly deformed gneissic granite?
25828	3c	8+95W 10+75S (448710E 5216185N)	Outcrop grab. Strongly foliated to locally schistosed, xenolithic, gneissic granite containing trace, locally 1-2%, fracture controlled py. Rock exhibits weak foliation sericite and contains 5-10% elongated, strongly digested, xenoliths.
25829	1b	13+60W 12+60S (448385E 5215950N)	Outcrop chip. Very fine to fine grained, weakly foliated, bluish-grey, felsic(siliceous) material containing trace foliation controlled pyrite.
25830	1c	13+75W 13+45S (448355E 5215865N)	Outcrop grab. Fine to medium grained, moderately foliated, intermediate - felsic rock containing 2-3% foliation controlled py and rare cp. Sample exhibits weak-moderate foliation controlled sericite and contains trace, fine grained, purplish gts.
25831	1d	13+75W 13+45S (448355E 5215865N)	Outcrop grab. Sample consists of well developed quartzo-feldspathic sericite schist containing trace to 2-3% fine grained py. Sulphides present adjacent to qtz boudins.
25832	2b	14+01W 13+45S (448329E 5215865N)	Outcrop chip. Strongly foliated to schistosed, banded, mafic volcanic containing trace, locally 2-3%, foliation controlled pyrite.
25833	1c	14+10W 13+90S (448320E 5215820N)	Outcrop grab. Fine grained, laminated, strongly foliated , intermediate - felsic material containing trace-2% fine grained foliation controlled py/po and very rare cp. Rock exhibits weak - moderate foliation controlled sericite.
25834	1c	14+20W 12+90S (448310E 5215720N)	Outcrop grab. Fine to medium grained, moderately foliated, intermediate - felsic tuff/sediment containing trace, locally 2-3%, foliation controlled pyrite.
25835	1b	27+80W 20+50S (446875E 5215205N)	Outcrop grab. Fine to very fine grained, moderately foliated to locally schistosed, felsic rock containing trace, locally 2-3%, medium grained foliation controlled py and/or po. Sample exhibits moderate, locally strong, foliation sericite.
25836	1b	27+75W 20+40S (446880E 5215215N)	Outcrop chip. Medium grained, subequigranular, muscovite rich, granitoid containing rare, locally trace fine grained disseminated py. Rock contains trace reddish-brown garnets. Sample exhibits weak fracture sericite and a rusty weathered surface.
25837	1b	27+75W 20+40S (446880E 5215215N)	Outcrop grab. Fine to very fine grained, banded, whitish, felsic (siliceous) rock with 2-3% band controlled py and po. Rock contains 5-7% qtz eyes (0.5-1.0mm). Sample exhibits weak band controlled sericite and a very rusty weathered surface.

25838	3c	7+30W 10+85S (448840E 5216140N)	Outcrop(5.0 m chip). Medium grained, greyish, moderately foliated, pyritic , gneissic granite. Sample contains rare - trace, locally 1-2%, fine-medium foliation controlled pyrite.
25839	3c	7+30W 10+80S (448840E 5216145N)	Outcrop(5.0 m chip). Medium grained, greyish, well foliated, pyritic, gneissic granite. Sulphides consist of rare - trace , medium to fine grained foliation and dessiminated pyrite.
25840	3c	7+30W 10+75S (448840E 5216150N)	Outcrop(5.0 m chip). Medium grained, subequigranular, strongly foliated, pyritic, gneissic granite. Sample contains rare foliation controlled py and cp. Rock exhibits weakly - moderately gossaneous streaks.
25841	3c	7+30W 10+70S (448840E 5216155N)	Outcrop(3.0 m chip). Medium grained, subequigranular, well foliated, pyritic, gneissic granite. Sulphides consist of rare, locally trace, fine to medium grained foliation controlled cp and py. Rock exhibits moderately gossaneous streaks.
25842	3c	7+30W 10+65S (448840E 5216160N)	Outcrop(5.0 m chip). Medium grained, greyish, well foliated, pyritic, gneissic granite. Sample contains rare to trace fine grained, foliation controlled py.
25843	3c	7+30W 10+60S (448840E 5216165N)	Outcrop(5.0 m chip). Medium grained, well foliated, xenolithic, pyritic, gneissic granite containing rare, locally trace, foliation controlled pyrite. Rock contains 5-10% moderately digested, elongated, mafic, xenoliths.
25844	3d	7+35W 10+40S (448835E 5216185N)	Outcrop chip sample. Medium grained, pinkish, subequigranular, muscovite bearing granitic rock containing rare - trace fine grained disseminated cp and py. Granitic material present as a narrow(+/- 1.0 m) dyke.
25845	3a ?	0+15E 4+75N (449670E 5217645N)	Outcrop grab. Strongly to intensely, pervasively epidotized and hematized material containing trace-2%, locally semi-massive, py and po as small pods. Numerous gossaneous spots visible on outcrop. Original rock appears to consist of granodiorite?
25846	3a	7+50W 4+60S (448870E 5216750N)	Outcrop grab. Moderately foliated, xenolithic, porphyritic(feld.) granodiorite containing 2-3%, locally up to 5%, disseminated py. Rock contains 10-15% strongly digested mafic xenoliths.
25847	3a ?	7+50W 4+60S (448870E 5216750N)	Frost heaved blocks. Schistosed, intensely hematized, material exhibiting 2-3% gossaneous(rusty) cubic outlines(py ?). Rock appears to contain strongly deformed qtz and feldspar phenocrysts.
25848	1d	7+55W 4+40S (448865E 5216780N)	Outcrop grab. Sample consists of quartzo-feldspathic sericite schist containing 2-5% medium grained, subhedral, foliation controlled pyrite.
25849	IF ?	7+55W 3+70S (448865E 5216840N)	Outcrop grab. Sulphide facies iron formation ? Sample consists of strongly foliated / sheared greenish cherty material with subordinate qtz and chloritized mafic slivers/boudins. Trace to 2-3% fine-medium grained, foliation controlled py and po.
25850	1b	7+55W 3+10S (448865E 5216900N)	Outcrop grab. Massive to weakly foliated, whitish, very felsic(siliceous) material containing rare, locally trace-0.5%, galena and sphalerite occuring as coarse blebs. Rock exhibits weak foliation controlled sericite.
25851	1b	7+55W 3+10S (448865E 5216900N)	Outcrop grab. Massive to weakly foliated, banded, felsic(siliceous) rock containing rare coarsed blebbed galena and sphalerite. Sample exhibits weak foliation controlled sericite and very weak fracture controlled hematite.

MULDREW LAKE PROPERTY - ROCK SAMPLES

SAMPLE	ROCK TYPE	GRID LOC'N (UTM LOC'N)	ROCK SAMPLE DESCRIPTION
WR-001	3b	14+15E 2+35N (451000E 5217330N)	Otc.-Rep:ML-061. Subequigranular, pinkish white granitic rock (possible qz-fd porphyry). Unit contains very rare spotty hematite. Unit also contains no visible sulphide mineralization.
WR-002	3b	1+50E 8+90S (449700E 5216280N)	Otc.-Rep:ML-068. Rock consists of medium grained, strongly porphyritic granitic gneiss. Unit exhibits weak local fracture controlled hematite alteration but contains no visible sulphides.
WR-003	3a	22+00E 6+90N (451770E 5218000N)	Otc.-Rep:ML-052. Rock consists of fine to medium grained, porphyritic granite. Unit exhibits weak pervasive chloritization of mafics within the granite. Rock does not contain any visible sulphides.
WR-004	3b	14+10E 0+00N (451005E 5217095N)	Otc.-Rep:ML-059. Rock consists of medium grained, pinkish white granitic gneiss (qz-fd porphyry). Unit exhibits weak, spotty hematite alteration and contains no visible sulphides.
WR-005	3a	3+20W 0+80N (449310E 5217385N)	Otc.-Rep:ML-031. Rock consists of fine to medium grained quartz-feldspar porphyry, locally schistose in appearance. Sample contains 10% biotite slivers and exhibits moderate foliation controlled sericite. No sulphides are observed.
WR-006	2b	20+50E 5+45N (451630E 5217640N)	Otc.-Rep:ML-064. Rock consists of fine grained, moderately banded mafic volcanic. Unit exhibits very weak pervasive chlorite and minor fracture controlled calcite alteration.
WR-007	2b	20+20E 5+30N (451595E 5217625N)	Otc.-Rep:ML-065. Rock consists of fine grained to cherty felsic volcanics. Unit contains 5% concordant silica rich bands and appears to be moderately foliated. No visible sulphides observed.
WR-008	2b	15+80E 4+65N (451170E 5217560N)	Otc.-Rep:ML-008. Rock is fine to medium grained, locally migmatized mafic volcanic. Rock consists primarily of amphibole with only very weak local chlorite noted. No visible sulphides are encountered.
WR-009	2b	11+35E 8+00N (450795E 5218080N)	Otc.-Rep:ML-007. Rock consists of medium grained, subequigranular mafic volcanics. No alteration or sulphide mineralization is encountered in the unit.
WR-010	2b	6+05E 0+30N (450185E 5217135N)	Otc.-Rep:ML-012. Rock is fine to medium grained, locally banded consisting of narrow biotite rich bands. Unit is predominately amphibole and exhibits no apparent alteration or sulphide mineralization.
WR-011	2b	0+25W 3+10S (449570E 5216880N)	Otc.-Rep:ML-045. Rock consists of fine to medium grained, moderately foliated and locally banded mafic volcanic. Unit exhibits very weak pervasive chloritization locally and contains rare pyrite.
WR-012	2b	4+70W 7+60S (449080E 5216450N)	Otc.-Rep:ML-086. Rock consists of fine grained, moderately foliated to banded mafic volcanic. Rock contains 15-20% felsic bands. Unit exhibits weak fracture controlled hematite with strong local, fracture to foliation controlled epidote. No sulphides.
WR-013	2b	1+60W 1+90N (449460E 5217680N)	Otc.-Rep:ML-038. Rock consists of fine grained, weakly foliated to banded mafic volcanic. Rock contains minor narrow feldspar fracture fillings. No sulphides observed.
WR-014	2a	3+00E 8+00N (449960E 5218000N)	Otc.-Rep:ML-003. Rock consists of a medium-coarse grained mafic volcanic (mafic dyke) with moderately well developed foliation. Feldspars exhibit a weak orangy discolouration. No sulphides are observed.
WR-015	4b	22+00E 4+15N (451770E 5217630N)	Otc.-Rep:ML-049. Rock consists of a medium-coarse grained mafic dyke containing 15-20% biotite lenses. No sulphide mineralization is observed.
WR-016	1c	24+10E 5+80N (452025E 5217570N)	Otc.-Rep:ML-067. Rock consists of fine-medium grained, moderately well banded felsic sediment. Rock contains 5% rounded quartz-feldspar fragments. No sulphide mineralization is observed. Weak hematite alteration is present along fractures.
WR-017	1c	22+00E 4+90N (451840E 5217700N)	Otc.-Rep:ML-050. Rock consists of fine grained, weakly banded felsic volcanic? The unit contains 1-2% reddish garnets and appears weakly sericitic. No visible sulphides are observed.

WR-018	1b	10+00E 4+95N (450585E 5217590N)	Otc.-Rep:ML-054. Rock consists of fine grained to cherty felsic volcanic. Unit is locally weakly banded and appears to be unaltered. Rare fine grained foliation-fracture controlled pyrite is encountered.
WR-019	1c	6+20E 1+15N (450210E 5217265N)	Otc.-Rep:ML-015. Rock consists of fine grained, moderately foliated and banded felsic tuff-sediment. Unit is locally schistose exhibiting moderate to strong foliation controlled sericite alteration. Rare fine grained pyrite is also encountered.
WR-020	1c-1d	2+00W 0+05S (449420E 5217190N)	Otc.-Rep:ML-041. Rock consists of fine grained, strongly foliated felsic volcanic to sericite schist. Unit exhibits strong foliation controlled sericite and fracture controlled hematite. No visible sulphides are observed.
WR-021	1d	2+10E 1+40S (449415E 5217050N)	Otc.-Rep:ML-083. Rock consists of fine grained quartz-feldspar sericite schists with minor biotite. Unit contains weak foliation controlled iron staining.
WR-022	1b	26+00W 19+90S (447030E 5215265N)	Otc.-Rep:ML-076. Rock consists of fine grained to cherty felsic volcanic. Unit locally has pitted surface and exhibits weak foliation controlled sercite alteration. No visible sulphides are encountered.
WR-023	3d	2+00W 6+65S (449415E 5216560N)	Otc.-Rep:ML-057. Rock consists of fine grained to aphanitic felsic intrusive(volcanic?). Unit is weakly banded with 15% concordant quartz rich bands. Unit contains weak fracture controlled chlorite clots with no visible sulphides encountered.
WR-024	3b	7+15W 13+15S (448855E 5215900N)	Otc.-Rep:MY-150. Light to medium pinkish-orange, medium to coarse grained, weakly foliated granitic rock (Qtz Monzonite ?). No visible sulphides.
WR-025	3a	1+90W 9+00N (449430E 5218085N)	Otc.-Rep:MY-051. Weakly foliated, porphyritic (qtz) granodiorite containing +/- 10% elongate biotite clots. Alteration consists of weak pervasive saussuritization of feldspar and weak - nil fracture controlled hematite.
WR-026	3a	3+90W 2+25N (449220E 5217425N)	Otc.-Rep:MY-47. Very weakly foliated, porphyritic (qtz) granodiorite. Granodiorite contains 10 -15% rounded qtz phenocrysts. Rock exhibits very weak fracture controlled hematite and spotty chlorite.
WR-027	3b	28+00E 0+40S (452405E 5217050N)	Otc.-Rep:MY-108. Medium grained, moderately well foliated, weakly porphyritic (feld.) biotite granite. Rock exhibits weak fracture controlled to locally pervasive hematite.
WR-028	3b	8+65W 19+50S (448760E 5215300N)	Otc.-Rep:MY-140. Medium - coarse grained, equigranular, leucocratic granite. Rock exhibits weak spotty epidote and hematite. Sample collected adjacent to a diabase dyke.
WR-029	2b	28+00E 6+80N (452350E 5217650N)	Otc.-Rep:MY-110. Migmatitic, banded, mafic volcanic containing 10 - 15% leucocratic bands (neosome ?). Rock exhibits weak band controlled epidote and is weakly garnetiferous.
WR-030	2a	12+10E 0+25S (450590E 5216950N)	Otc.-Rep:MY-94. Fine grained, foliated, massive, mafic volcanic exhibiting very weakto weak pervasive chloritization. Rock very brittle / splintery in nature. Sample collected proximate to contact with granite.
WR-031	2b	6+40E 2+25S (450210E 5216820N)	Otc.-Rep:MY-74. Fine grained, banded, mafic volcanic exhibiting strongly developed slatey cleavage. Sample collected in close proximity to granite body.
WR-032	2a	7+60W 2+90S (448880E 5216940N)	Otc.-Rep:MY-210. Medium to coarse grained mafic volcanic (gabbro ?) exhibiting a gabbroic texture. Coarse grained nature of rock may reflect the presence of several granitic masses / dykes present within the volcanics.
WR-033	1b	27+75W 20+40S (446870E 5215220N)	Otc.-Rep:MY-182. Fine to very fine grained, banded, sugary white, felsic material containing 5 - 10% qtz eyes (0.5 - 1.0 mm). Sample exhibits weak band controlled sericite and weak spotty / fracture controlled hematite.
WR-034	1b	13+75W 12+70S (448370E 5215945N)	Otc.-Rep:MY-173. Fine to very fine grained, light bluish-grey, moderately banded / foliated felsic material. Sample exhibits very weak fracture controlled hematite and spotty chlorite. Rare foliation controlled pyrite present.
WR-035	1c	13+75W 13+65S (448370E 5215850N)	Otc.-Rep:MY-175. Fine grained, moderately foliated, weakly garnetiferous, felsic material. Rock exhibits weak - moderate foliation controlled sericite. Sample contains trace - 3% fine to medium grained foliation controlled pyrite.

WR-036	1c	8+90W 10+10S (448715E 5216205N)	Otc.-Rep:MY-169. Fine grained, weakly foliated, thickly laminated, intermediate - felsic material. Sample exhibits weak foliation controlled sericite.
WR-037	1b	7+30W 2+90S (448875E 5216900N)	Otc.-Rep:MY-225. Fine to very fine grained, banded, moderately foliated, felsic(siliceous) material. Rock exhibits moderate foliation controlled sericite and very weak fracture controlled hematite. Rare fine grained py/po present. Possible magnetite?
WR-038	1b	7+65W 4+10S (448840E 5216810N)	Otc.-Rep:MY-217. Fine to very fine grained, weakly foliated, buff coloured, felsic(siliceous) rock exhibiting weak pervasive foliation controlled sericite. Felsic material present as narrow bands(5-15 cm) within quartzo-feldspathic sericite schist.
WR-039	1c	7+55W 4+35S (448850E 5216780N)	Otc.-Rep:MY-215. Fine to medium grained, moderately to strongly foliated, felsic rock containing 5 - 10% wine red garnets. Sample exhibits moderate pervasive foliation controlled sericite and weak fracture controlled hematite. Trace py also present.
WR-040	3d	2+00E 2+05S (449800E 5216895N)	Otc.-Rep:MY-61. Very fine to fine grained, thinly banded, felsic (cherty) rock containing +/- 5% thin discontinuous qtz bands and lenses. Sample exhibits very weak fracture controlled hematite and weak local sericite.
WR-041	1d	4+10E 0+20N (449990E 5217120N)	Otc.-Rep:MY-29. Sample consist of fine grained quartzo-feldspathic sericite schist. Rock is characterized by intense pervasive seritization and 5 - 10% qtz boudins.
WR-042	1c	1+75E 0+55N (449850E 5217160N)	Otc.-Rep:MY-34. Fine grained, moderately foliated / laminated intermediate - felsic material containing 5-7% fine grained foliation controlled biotite. Minor hairline fracture controlled feldspar stringers.Rock exhibits strong folding on o/c scale.
WR-043	1c	4+25E 6+80N (450300E 5217915N)	Otc.-Rep:MY-16. Fine grained, equigranular, finely laminated, felsic to intermediatematerial. No visible alteration and/or sulphides.
WR-044	2b	22+55W 20+20S (447430E 5215220N)	Otc.-Rep:ML-12 (E). Rock consists of fine grained, greyish black mafic volcanics. Unit is weakly banded to foliated with minor felsic whisps parallel to foliation. Unit contains 0.5% pyrite.
WR-045	2b	19+00W 18+25S (447690E 5215410N)	Otc.-Rep:ML-16 (E). Rock is fine grained, moderately foliated to banded mafic volcanic. Unit contains rare to trace finely disseminated pyrite.
WR-046	2b	22+35W 20+90S (447435E 5215150N)	Otc.-Rep:ML-11 (E). Rock consists of fine grained, moderately banded to foliated mafic volcanics. Unit contains trace to rare disseminated pyrite.
WR-047	2b(1c)	21+90W 18+45S (447475E 5215105N)	Otc.-Rep:ML-05 (E). Rock consists of a mixture of fine grained, banded mafic-felsic volcanic. Unit is strongly foliated with 5% boudinage quartz-feldspar veinlets. Sample contains 0.5-2% finely disseminated pyrite.
WR-048	1c	19+70W 18+05S (447700E 5215435N)	Otc.-Rep:ML-10 (E). Rock is fine to medium grained felsic to intrusive. Unit is biotite rich and is moderately banded containing tr-1% pyrite.
WR-049	1c	19+90W 17+10S (447675E 5215530N)	Otc.-Rep:ML-23 (E). Rock consists of fine to medium grained felsic volcanic-sediment. Possible intrusive phase present. Rock contains 0.5-2% pyrite and is biotitic in character.
WR-050	3b	19+50W 15+70S (447710E 5215675N)	Otc.-Rep:ML-20 (E). Rock consists of fine to medium grained, strongly foliated felsic intrusive. Unit is weakly banded, epidotized and contains trace pyrite.
WR-051	2b	19+35W 18+30S (447730E 5215420N)	Otc.-Rep:ML-17 (E). Rock consists of fine grained, banded to weakly foliated mafic volcanic. Sample contains rusty bands (possible biotite) with rare disseminated pyrite.

APPENDIX 3

Analytical Results

XRAL

X-RAY ASSAY LABORATORIES
A DIVISION OF SGS SUPERVISION SERVICES INC.
1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA
TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

REPORT 17810

TO: DAVID PILKEY
904 HOWEY DRIVE
SUDBURY, ONTARIO
P3B 1H4

CUSTOMER No. 2228

DATE SUBMITTED
6-Dec-91

REF. FILE 11460-S5

Total Pages 6

51 ROCKS Proj. MULDREW LAKE

	METHOD	DETECTION LIMIT
WRMAJ %	WR	.01
WRMIN PPM	WR	10.
Y PPM	XRF	2.
ZR PPM	XRF	3.
NB PPM	XRF	2.

DATE 23-DEC-91

CERTIFIED BY .....

Jean H.L. Opdebeeck, General Manager

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
WR-001	72.7	15.3	1.05	.55	6.22	2.43	.95	.03	.153	.05	.02	.62	100.3
WR-002	72.9	14.1	1.93	.46	4.23	3.32	1.72	.04	.206	.06	.01	.70	99.9
WR-003	68.6	14.0	2.86	1.27	4.51	2.20	3.68	.07	.507	.14	<.01	1.39	99.4
WR-004	66.7	16.9	3.21	.50	7.57	1.14	2.14	.04	.249	.09	<.01	.77	99.5
WR-005	68.3	15.0	1.73	2.31	5.38	.98	2.80	.04	.373	.09	<.01	1.85	99.0
WR-006	49.6	17.6	7.88	4.31	2.47	2.42	11.9	.24	.853	.07	.05	1.62	99.2
WR-007	58.9	13.5	12.5	3.50	2.14	.09	6.62	.18	.681	.12	.02	.93	99.3
WR-008	49.1	16.3	10.4	4.37	3.37	.76	12.1	.17	1.56	.09	<.01	1.62	99.9
WR-009	48.5	16.4	11.3	6.20	2.37	.76	11.5	.19	.711	.05	.02	.85	98.9
WR-010	49.9	14.0	10.8	5.53	2.47	.50	14.3	.22	1.04	.10	.02	.77	99.7
WR-011	49.6	14.2	12.2	5.38	2.98	.51	11.3	.30	.785	.07	.03	1.70	99.1
WR-012	50.1	14.0	12.4	5.34	3.26	.49	10.6	.31	.779	.07	.03	1.23	98.7
WR-013	52.5	17.4	10.6	4.30	4.15	1.07	8.02	.17	.740	.06	.03	1.00	100.1
WR-014	52.5	9.92	9.96	11.2	1.62	2.13	8.56	.18	.362	.23	.13	1.23	98.1
WR-015	53.1	13.4	7.41	7.89	2.93	2.16	9.26	.16	.735	.28	.05	1.93	99.5
WR-016	68.8	15.3	1.73	1.87	5.75	.90	3.25	.06	.380	.10	<.01	1.54	99.8
WR-017	65.9	15.9	3.25	2.14	2.53	2.42	4.65	.12	.511	.09	<.01	2.08	99.7
WR-018	72.0	10.7	10.7	.64	.02	.06	3.81	.07	.097	.04	.01	1.23	99.5
WR-019	67.5	16.2	1.44	.97	2.51	2.77	4.57	.12	.670	.19	<.01	2.08	99.1
WR-020	76.1	13.7	.67	.42	4.96	1.71	.95	.02	.376	.08	.01	.77	99.9
WR-021	69.1	14.9	1.51	1.45	.74	3.92	4.51	.06	.396	.11	.01	2.31	99.1
WR-022	77.2	11.4	.36	.08	2.03	6.13	.49	.01	.066	.02	.01	1.08	99.2
WR-023	81.0	10.3	.88	.14	5.32	.53	.81	.12	.043	.02	.03	.31	99.5
WR-024	72.8	15.2	1.25	.31	6.39	2.15	.86	.02	.127	.05	.02	.54	99.9
WR-025	68.2	14.7	2.55	2.07	3.79	2.09	3.79	.07	.506	.15	<.01	1.85	99.9
WR-026	69.0	14.5	3.81	1.61	3.06	2.63	2.99	.06	.469	.13	<.01	1.70	100.1
WR-027	70.3	14.0	1.06	1.44	5.82	1.56	3.62	.07	.422	.13	.01	1.39	100.0
WR-028	75.6	13.0	.50	.20	4.93	3.55	1.22	.04	.117	.04	.02	.47	99.8
WR-029	44.5	13.3	15.3	7.23	.83	.81	13.5	.40	.828	.10	.05	2.08	99.0
WR-030	48.2	15.3	9.25	8.55	1.86	1.83	11.1	.24	.727	.05	.04	1.77	99.0
WR-031	48.3	15.4	12.0	7.53	1.84	.52	12.2	.25	.722	.07	.04	.77	99.7
WR-032	53.0	11.9	7.73	9.61	2.43	2.01	8.73	.19	.584	.21	.08	1.70	98.3
WR-033	74.5	11.8	.06	.16	.97	6.82	2.32	.01	.085	.03	.01	1.31	98.5
WR-034	70.0	13.8	.29	2.89	7.02	.16	2.85	.06	.347	.07	<.01	1.85	99.4
WR-035	62.0	16.3	6.44	2.14	2.72	1.78	5.39	.20	.451	.09	<.01	1.93	99.5
WR-036	69.4	14.5	2.11	2.13	3.54	2.03	3.23	.06	.403	.08	.01	2.08	99.7
WR-037	77.8	12.4	.03	.36	1.54	4.21	.82	.02	.079	.03	.01	1.39	98.9
WR-038	76.1	13.6	.06	.41	.57	4.89	.85	.04	.097	.03	<.01	1.93	98.7
WR-039	69.3	15.2	.24	.87	.28	3.64	6.76	.29	.603	.20	.01	2.62	100.1
WR-040	71.5	13.2	2.79	.45	5.77	2.82	.98	.06	.135	.05	<.01	2.08	100.0
WR-041	69.8	17.7	.47	.48	.52	4.98	2.02	.02	.638	.12	.02	2.23	99.1
WR-042	67.4	15.7	1.19	1.83	3.35	2.41	4.53	.10	.516	.08	<.01	2.39	99.6
WR-043	73.4	13.2	.69	1.62	.97	3.06	3.66	.04	.404	.09	<.01	2.16	99.4
WR-044	48.8	15.2	9.87	5.15	2.70	1.38	13.4	.36	.781	.07	.04	1.08	98.9
WR-045	50.7	14.3	9.50	5.50	2.79	.89	13.3	.24	1.05	.09	.03	1.00	99.4
WR-046	53.4	15.3	9.00	5.08	2.77	.82	11.2	.20	.766	.06	.03	1.08	99.8
WR-047	64.3	16.3	4.42	2.54	.67	1.74	6.47	.16	.656	.16	.01	2.16	99.7
WR-048	66.3	15.0	2.16	2.47	2.22	2.45	4.98	.15	.557	.13	<.01	2.08	98.6
WR-049	70.3	14.9	2.06	1.80	.70	3.36	2.89	.11	.522	.11	.01	2.47	99.4
WR-050	66.3	14.4	4.60	2.55	2.12	1.69	4.07	.07	.474	.22	.02	1.93	98.6

XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
WR-051	51.7	13.2	7.87	7.02	3.97	.72	12.8	.24	.792	.08	.06	1.77	100.3

XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES

SAMPLE \ PPM	RB	SR	Y	ZR	NB	BA
WR-001	68	562	<10	88	18	1010
WR-002	95	258	<10	107	<10	1360
WR-003	63	317	29	220	24	746
WR-004	45	1030	<10	134	13	595
WR-005	33	214	20	143	17	444
WR-006	115	222	13	61	<10	907
WR-007	12	900	<10	125	20	56
WR-008	36	220	38	41	<10	111
WR-009	37	174	28	55	15	81
WR-010	23	146	<10	74	<10	105
WR-011	16	266	11	47	25	149
WR-012	14	234	<10	40	<10	183
WR-013	23	232	40	44	16	179
WR-014	57	351	<10	67	<10	519
WR-015	77	542	24	107	15	995
WR-016	27	390	19	150	17	276
WR-017	100	196	21	147	15	677
WR-018	10	1030	<10	62	16	17
WR-019	74	190	<10	161	13	457
WR-020	40	99	<10	178	22	400
WR-021	63	40	<10	187	20	594
WR-022	100	216	23	79	20	2040
WR-023	25	88	39	45	<10	202
WR-024	73	752	14	73	16	877
WR-025	79	382	12	171	13	765
WR-026	92	205	10	131	<10	401
WR-027	61	181	<10	244	<10	853
WR-028	92	72	16	113	24	1100
WR-029	21	417	42	79	12	378
WR-030	109	95	<10	47	<10	562
WR-031	25	112	15	53	21	93
WR-032	58	170	17	88	<10	1130
WR-033	174	85	26	74	16	3330
WR-034	<10	70	<10	167	32	140
WR-035	54	231	<10	148	18	471
WR-036	76	257	30	205	12	646
WR-037	101	52	<10	98	40	1290
WR-038	131	37	<10	49	34	1020
WR-039	139	15	11	180	30	631
WR-040	82	91	14	73	24	720
WR-041	98	79	19	197	30	749
WR-042	63	128	13	142	28	623
WR-043	52	11	18	210	<10	349
WR-044	59	194	19	46	14	282
WR-045	19	145	30	73	12	182
WR-046	53	114	20	59	11	226
WR-047	43	76	31	197	27	325
WR-048	97	65	11	155	16	651
WR-049	146	19	40	176	27	1030
WR-050	75	710	<10	159	21	443

SAMPLE \ PPM	RB	SR	Y	ZR	NB	BA
WR-051	29	162	19	69	12	192

SAMPLE	Y PPM	ZR PPM	NB PPM
WR-001	<2	80	4
WR-002	2	104	4
WR-003	18	177	11
WR-004	<2	119	4
WR-005	<2	122	7
WR-006	18	54	4
WR-007	11	119	7
WR-008	15	55	<2
WR-009	21	59	7
WR-010	17	68	5
WR-011	10	50	3
WR-012	10	51	6
WR-013	19	48	4
WR-014	10	74	5
WR-015	15	111	5
WR-016	3	135	7
WR-017	16	140	9
WR-018	11	59	10
WR-019	12	153	9
WR-020	3	161	8
WR-021	6	180	9
WR-022	12	86	12
WR-023	21	55	2
WR-024	<2	73	6
WR-025	9	135	7
WR-026	10	124	8
WR-027	5	203	6
WR-028	16	103	9
WR-029	22	70	4
WR-030	14	41	<2
WR-031	13	51	4
WR-032	11	73	7
WR-033	16	70	9
WR-034	6	142	6
WR-035	10	129	7
WR-036	14	171	9
WR-037	8	90	11
WR-038	15	65	13
WR-039	13	137	7
WR-040	15	75	11
WR-041	15	185	10
WR-042	9	134	8
WR-043	13	181	10
WR-044	16	49	4
WR-045	19	68	4
WR-046	14	57	2
WR-047	11	162	10
WR-048	10	127	7
WR-049	14	162	7
WR-050	11	146	9

SAMPLE	Y PPM	ZR PPM	NB PPM
WR-051	14	53	5

X-[redacted]ASSAY LABORATORIES 18-DEC-91 REPORT 17760 REF. 11465 PAGE 1

SAMPLE	CO PPM	NI PPM	CU PPM	ZN PPM	MO PPM	AG PPM	CD PPM	PB PPM
561	27	29	29.4	46.6	3	.8	<1	15
562	23	46	14.4	55.3	2	.6	<1	11
563	32	64	15.9	85.5	3	.6	<1	98
564	13	22	25.7	106.	2	1.1	1	53
565	16	21	158.	445.	3	2.2	3	1490
566	13	14	30.7	80.0	2	.9	<1	540
567	24	28	26.4	56.0	3	.6	<1	3
25701	19	15	66.2	25.9	2	<.5	<1	<2
25702	60	61	208.	140.	4	1.0	<1	<2
25703	26	75	187.	31.8	2	.6	<1	<2
25704	47	64	548.	66.0	3	1.4	<1	<2
25705	16	6	2.7	48.2	3	<.5	<1	<2
25706	16	14	72.8	22.1	2	<.5	<1	<2
25707	8	7	50.8	12.2	<1	<.5	<1	<2
25708	4	5	13.5	6.4	2	<.5	<1	<2
25709	8	11	28.9	13.5	3	<.5	<1	<2
25710	10	11	57.7	15.3	2	<.5	<1	3
25711	15	14	254.	37.4	2	.8	<1	<2
25712	18	44	174.	27.1	2	.6	<1	<2
25713	2	4	4.1	7.7	<1	<.5	<1	<2
25714	38	50	440.	64.3	10	1.3	<1	2
25715	22	33	295.	84.7	5	1.3	<1	6
25716	26	59	298.	69.3	3	.9	<1	29
25717	122	112	704.	418.	6	1.7	2	10
25718	29	27	18.6	35.3	8	<.5	<1	<2
25719	23	7	8.1	9.6	2	<.5	<1	<2
25720	43	63	250.	36.1	2	.8	<1	6
25721	54	80	699.	27.5	4	.9	<1	<2
25722	12	7	96.3	9.1	2	<.5	<1	<2
25723	18	27	287.	305.	3	1.8	1	4
25724	9	12	25.8	56.9	8	.6	<1	7
25725	12	13	86.8	60.3	2	<.5	<1	39
25726	28	54	85.7	9.8	3	.6	<1	28
25727	16	72	24.7	21.1	3	<.5	<1	<2
25728	28	96	29.0	12.9	2	<.5	<1	<2
25729	14	15	18.2	23.3	3	<.5	<1	<2
25730	27	26	42.7	68.1	6	.5	<1	3
25731	21	19	615.	31.5	12	1.2	<1	2
25732	8	5	47.8	12.2	7	<.5	<1	3
25733	4	7	15.8	10.4	1	<.5	<1	<2
25734	57	66	64.4	84.8	2	.9	<1	179
25735	35	64	610.	164.	3	3.8	<1	990
25736	50	47	607.	40.5	3	.9	<1	19
25737	10	13	9.1	3.5	5	<.5	<1	3
25738	22	27	47.8	31.1	5	.8	<1	<2
25739	14	15	50.8	84.1	6	.8	<1	35
25801	39	25	3.5	21.1	3	<.5	<1	<2
25802	14	28	25.7	16.3	3	.5	<1	<2
25803	17	68	238.	18.2	2	<.5	<1	<2
25804	12	13	32.8	20.7	5	.5	<1	<2
25805	18	22	45.1	42.1	3	<.5	<1	3
25806	20	18	22.0	118.	4	.9	<1	25
25807	14	25	12.0	42.0	3	<.5	<1	<2
25808	11	10	16.1	39.3	4	<.5	<1	<2
25809	16	13	87.9	46.1	6	.6	<1	<2
25810	16	15	193.	28.2	6	.7	<1	<2
25811	47	73	504.	221.	5	1.6	1	68
25812	58	129	1380.	103.	12	3.4	<1	7
25813	2	3	3.3	1.5	10	<.5	<1	<2
25814	35	57	60.2	63.5	6	.5	<1	<2
25815	6	4	13.0	34.9	16	<.5	<1	5
25816	9	17	50.2	13.3	4	.5	<1	<2
25817	6	4	9.0	34.1	7	<.5	<1	<2
25818	14	39	132.	122.	3	<.5	<1	23
25819	12	19	8.5	130.	6	1.9	<1	76
25820	28	56	8.5	90.1	3	.5	<1	<2
25821	16	23	9.3	93.3	5	.7	<1	24
25822	14	24	79.5	32.2	2	.5	<1	5
25823	21	20	30.3	62.2	6	.9	<1	10
25824	25	37	15.1	50.7	4	.6	<1	11
25825	14	24	91.9	106.	5	.9	<1	45
25826	10	22	154.	51.2	4	.6	<1	9
25827	10	9	15.8	66.1	3	.5	<1	42
25828	9	11	9.8	86.9	2	<.5	<1	89
25829	16	26	7.5	46.3	3	<.5	<1	4
25830	15	29	8.8	44.2	3	.5	<1	3

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SAMPLE	CO PPM	NI PPM	CU PPM	ZN PPM	MO PPM	AG PPM	CD PPM	PB PPM
25831	15	22	37.2	21.8	4	<.5	<1	<2
25832	28	58	37.7	15.5	2	<.5	<1	<2
25833	8	11	11.9	44.9	3	<.5	<1	9
25834	20	23	45.2	76.2	7	.8	<1	17
25835	<1	3	11.5	4.0	4	<.5	<1	2
25836	1	2	16.3	3.6	2	<.5	<1	2
25837	1	2	12.5	2.9	3	<.5	<1	3
25838	17	22	20.8	43.5	4	<.5	<1	6
25839	15	22	15.0	56.8	4	.6	<1	21
25840	15	21	116.	82.6	6	.6	<1	8
25841	13	20	15.4	72.7	6	<.5	<1	22
25842	12	18	19.5	65.7	6	<.5	<1	28
25843	13	17	19.5	166.	5	.5	1	62
25844	7	9	48.4	18.0	3	<.5	<1	7
25845	182	160	80.1	47.4	30	.6	<1	6
25846	33	49	70.4	108.	3	1.1	<1	13
25847	5	9	24.1	28.9	3	.7	<1	13
25848	17	19	32.2	38.8	2	.6	<1	41
25849	13	16	44.0	17.8	12	1.3	<1	20
25850	2	4	11.9	603.	5	<.5	5	550
25851	<1	2	9.7	1560.	4	<.5	12	1170

Ministry of Northern Development and Mines

Ontario

Report of Work Conc
After Recording Clai

Mining Act

W9270.00019

41P04SE0005 2.14571 DUBLIN

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Personal inform ...n collected on this form is obtained under the authority of the Mining ... this collection should be directed to the Provincial Manager, Mining Lands, Ministry ... Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.14571

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

Recorded Holder(s)	Yves P. Clement (S.1126104-S.1126133 incl. : 30 claims) David M. Pilkey (S.1126134-S.1126149 incl. : 16 claims).	Client No. 119098 182463
Address	422 St-George Street, Sudbury, Ontario, P3B 2L6 904 Howey Drive, Sudbury, Ontario, P3B 1H4	Telephone No. 705-673-9297 705-674-8189
Mining Division	Sudbury Mining Division	Township/Area: Dublin Township
		M or G Plan No.: Claim Map: M-767
Dates Work Performed	From: June 5, 1991	To: January 30, 1992

Work Performed (Check One Work Group Only)

	Work Group	Type
X	Geotechnical Survey	Geological Mapping, lithogeochemical (whole rock) survey (includes line-cutting for above surveys) Note: Analytical Results Included.
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

Total Assessment Work Claimed on the Attached Statement of Costs $ 39,984.44

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

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

Name	Address
Yves P. Clement David M. Pilkey	422 St-George Street, Sudbury, Ontario, P3B 2L6 904 Howey Drive, Sudbury, Ontario, P3B 1H4

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(attach a schedule if necessary)

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

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date: May 11/92	Recorded Holder or Agent (Signature): Yves P. Clement David Pilkey

Certification of Work Report

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

Name and Address of Person Certifying: Yves P. Clement: 422 St-George St., Sudbury, Ontario, P3B 2L6 David M. Pilkey: 904 Howey Drive, Sudbury, Ontario, P3B 1H4		
Telepone No.: 705-673-9297 705-674-8189	Date: May 11/92	Certified By (Signature): Yves P. Clement David Pilkey

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
$39,400	May 12, 1992		SUDBURY MINING DIV. RECEIVED MAY 18 1992 A.M. 7 8 9 10 11 12 1 2 3 4 5 6 P.M.
	Deemed Approval Date: August 10/92	Date Approved: Mining Recorder	
	Date Notice for Amendments Sent		

0241 (03/91)

1:99 mH

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction: Lu4270.00019

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

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

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		32,700
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type: See attached sheets for cost types and cost.breakdown.		[illegible]
Supplies Used Fournitures utilisées	Type		
	RECEIVED		310.8
Equipment Rental Location de matériel	Type: MAY 19 1992		
Analyses	MINING LANDS BRANCH		3,425.08
	Total Direct Costs Total des coûts directs		36,235.92

2. Indirect Costs/Coûts indirects

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

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type: Sample shipping	$ 76.52	
	Daily travel to property (see attached sheets for cost breakdown).	$3,672.00	
			[illegible]
Food and Lodging Nourriture et hébergement			[illegible]
Mobilization and Demobilization Mobilisation et démobilisation			[illegible]
	Sub Total of Indirect Costs Total partiel des coûts indirects		3,748.52
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			3,748.52
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs)	**Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		$3,748.52

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

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

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
x 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
x 0,50 =	

Certification Verifying Statement of Costs

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

that as Recorded Holders (Recorded Holder, Agent, Position in Company) I/we are authorized

to make this certification

Attestation de l'état des coûts

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

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

à faire cette attestation.

Signature: [signature] Date: May 12/92

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

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	S.1126104	1	$879.44	$400		$479.44
	S.1126105	1	$869.00	$400		$469.00
	S.1126106	1	$869.00	$400		$469.00
	S.1126107	1	$869.00	$400		$469.00
	S.1126108	1	$869.00	$400		$469.00
	S.1126109	1	$869.00	$400		$469.00
	S.1126110	1	$869.00	$400		$469.00
	S.1126111	1	$869.00	$400		$469.00
	S.1126112	1	$869.00	$400		$469.00
	S.1126113	1	$869.00	$400		$469.00
	S.1126114	1	$869.00	$400		$469.00
	S.1126115	1	$869.00	$400		$469.00
	S.1126116	1	$869.00	$400		$469.00
	S.1126117	1	$869.00	$400		$469.00
	S.1126118	1	$869.00	$400		$469.00
	S.1126119	1	$869.00	$400		$469.00
	S.1126120	1	$869.00	$400		$469.00
	----		----	----		----
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

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

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

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

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

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

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

(241 (03/91)

* See attached sheets for remaining claims.

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	S.1126121	1	$869.00	$400		$469.00
	S.1126122	1	$869.00	$400		$469.00
	S.1126123	1	$869.00	$400		$469.00
	S.1126124	1	$869.00	$400		$469.00
	S.1126125	1	$869.00	$400		$469.00
	S.1126126	1	$869.00	$400		$469.00
	S.1126127	1	$869.00	$400		$469.00
	S.1126128	1	$869.00	$400		$469.00
	S.1126129	1	$869.00	$400		$469.00
	S.1126130	1	$869.00	$400		$469.00
	S.1126131	1	$869.00	$400		$469.00
	S.1126132	1	$869.00	$400		$469.00
	S.1126133	1	$869.00	$400		$469.00
	S.1126134	1	$869.00	$400		$469.00
	S.1126135	1	$869.00	$400		$469.00
	S.1126136	1	$869.00	$400		$469.00
	----		----	----		----
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

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

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

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	S.1126137	1	$869.00	$400		$469.00
	S.1126138	1	$869.00	$400		$469.00
	S.1126139	1	$869.00	$400		$469.00
	S.1126140	1	$869.00	$400		$469.00
	S.1126141	1	$869.00	$400		$469.00
	S.1126142	1	$869.00	$400		$469.00
	S.1126143	1	$869.00	$400		$469.00
	S.1126144	1	$869.00	$400		$469.00
	S.1126145	1	$869.00	$400		$469.00
	S.1126146	1	$869.00	$400		$469.00
	S.1126147	1	$869.00	$400		$469.00
	S.1126148	1	$869.00	$400		$469.00
	S.1126149	1	$869.00	$400		$469.00
	46 claims		$39,984.44	$18,400		$21,584.44
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

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

Please contact collect in the event of a conflict cut back.

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

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

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

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

STATEMENT OF COSTS FOR ASSESSMENT CREDIT

1) Direct Costs

Wages: Line-cutting, geological mapping, whole rock sampling, drafting and report writing conducted by co-holders of claims in question. Refer to report for co-holders' certificate of qualification.

128 man-days at $250/day (industry standard)
128 x $250 = $32,000

See accompanying summary of work and daily report for breakdown of man-days.

Contractor's Fees: Drafting (final copies of geology and geochemistry maps)

Enzo Padovan 609 Jupiter Crescent Sudbury, Ontario	$ 500.00

Supplies Used:

Airphoto an airphoto enlargement	$ 68.93
Flagging tape, hip chain thread, markers	143.77
Line-cutting, supplies: chain oil, gas, 2-cycle oil, chain file, spray paint	48.52
Stationary supplies: field books, mylar, paper, photocopying	49.62
TOTAL	$ 310.84

Analyses:

8 element analytical package by DCP (97 samples)	$ 1,037.90
XRF whole rock analyses (51 samples)	2,387.18
TOTAL	$ 3,425.08

Refer to report for details concerning analytical procedures and results.

TOTAL DIRECT COSTS	$36,235.92

2) Indirect Costs:

Transportation: Daily travel to property
51 days x 240 km/trip x $0.30/km $ 3,672.00

Total Assessment Work Claimed:

Direct costs	$36,235.92
Indirect costs	3,748.52
TOTAL	$39,984.44

The enclosed report of work constitutes assessment work performed by the co-holders of the Muldrew Lake Property. The Muldrew Lake Property (S.1126104 - S.1126149 inclusive) is equally owned (50-50) by Yves P. Clement and David M. Pilkey.

Please contact either of the co-holders in the event of a credit cut-back. Work currently being conducted on the property will enable, in the near future, the co-holders to prioritize the claims.

Yves P. Clément

David Pilkey

GEOLOGICAL PROGRAMME (1991)

Programme Description

A programme of line cutting, geological mapping, sampling and prospecting was initiated by the co-holders on the Muldrew Lake Property in June, 1991. Initial phases included the cutting of a 3.8 kilometer baseline along the northeastern portion of the Muldrew Lake claim block, just south of Dublin Lake. An additional three lines were established from this baseline to provide control through the western and central portions of the claim block. In total, including the baseline, 6.1 kilometers of cut line were established on the Muldrew Lake claim block.

The next phase involved the establishment of compass and hip chain crosslines at 200 meter interval along the 090 trending baseline and control lines. Crosslines were extended to physiographic boundaries or to the outer edge of the claim block with stations located at 25 meter intervals along the lines. A total of 343 line kilometers of crosslines was established on the Muldrew Lake claim block. West of highway 144 compass and hip chain lines follow east-west trending claim lines. These lines were tied into the control lines east of the highway and were used for control on these claims.

Geological mapping and prospecting was then completed on the flagged lines in an attempt to delineate the lithologic units on the property and to define areas of sulphide mineralization that may be related to the highway 144 Cu-Pb-Zn occurrence. Additional man days were spent sampling and mapping the highway 144 showing and sampling lithologies for whole rock geochemistry. The results of the geological programme are presented in the enclosed report.

DAILY REPORT

NOTE: Following daily log represents work performed by both recorded holders.

Field Days: 48 x 2 = 96 days

Day	Project Area	Date	Work Performed
1	Muldrew Lake	June 5/91	Linecutting
2	"	June 6/91	Linecutting
3	"	June 7/91	Linecutting
4	"	June 8/91	Linecutting
5	"	June 9/91	Flagging tieline
6	"	June 12/91	Mapping
7	"	June 13/91	Mapping
8	"	June 14/91	Mapping
9	"	June 15/91	Mapping
10	"	June 16/91	Mapping
11	"	June 17/91	Mapping
12	"	June 19/91	Mapping (roadside)
13	"	June 20/91	Mapping (roadside)
14	"	July 12/91	Linecutting
15	"	July 13/91	Flagging lines
16	"	June 14/91	Mapping
17	"	June 15/91	Mapping
18	"	June 16/91	Mapping
19	"	July 17/91	Mapping
20	"	July 18/91	Mapping
21	"	July 19/91	Mapping
22	"	July 22/91	Mapping
23	"	July 23/91	Linecutting
24	"	July 24/91	Linecutting
25	"	July 25/91	Mapping
26	"	July 26/91	Mapping
27	"	July 27/91	Mapping (lakeshore)

28	"	July 29/91	Mapping
29	"	July 30/91	Mapping
30	"	July 31/91	Mapping
31	"	August 1/91	Mapping
32	"	August 2/91	Mapping
33	"	August 3/91	Mapping (lakeshore)
34	"	August 9/91	Mapping
35	"	August 10/91	Mapping
36	"	August 12/91	Mapping
37	"	August 13/91	Mapping
38	"	August 14/91	Mapping
39	"	August 17/91	Mapping
40	"	August 18/91	Mapping
41	"	August 19/91	Mapping
42	"	August 20/91	Mapping
43	"	August 21/91	Mapping
44	"	August 26/91	Mapping
45	"	August 27/91	Mapping
46	"	August 29/91	Whole rock sampling
47	"	August 30/91	Whole rock sampling
48	"	Sept. 3/91	Whole rock sampling

NOTE: Mapping also includes flagging of crosslines.

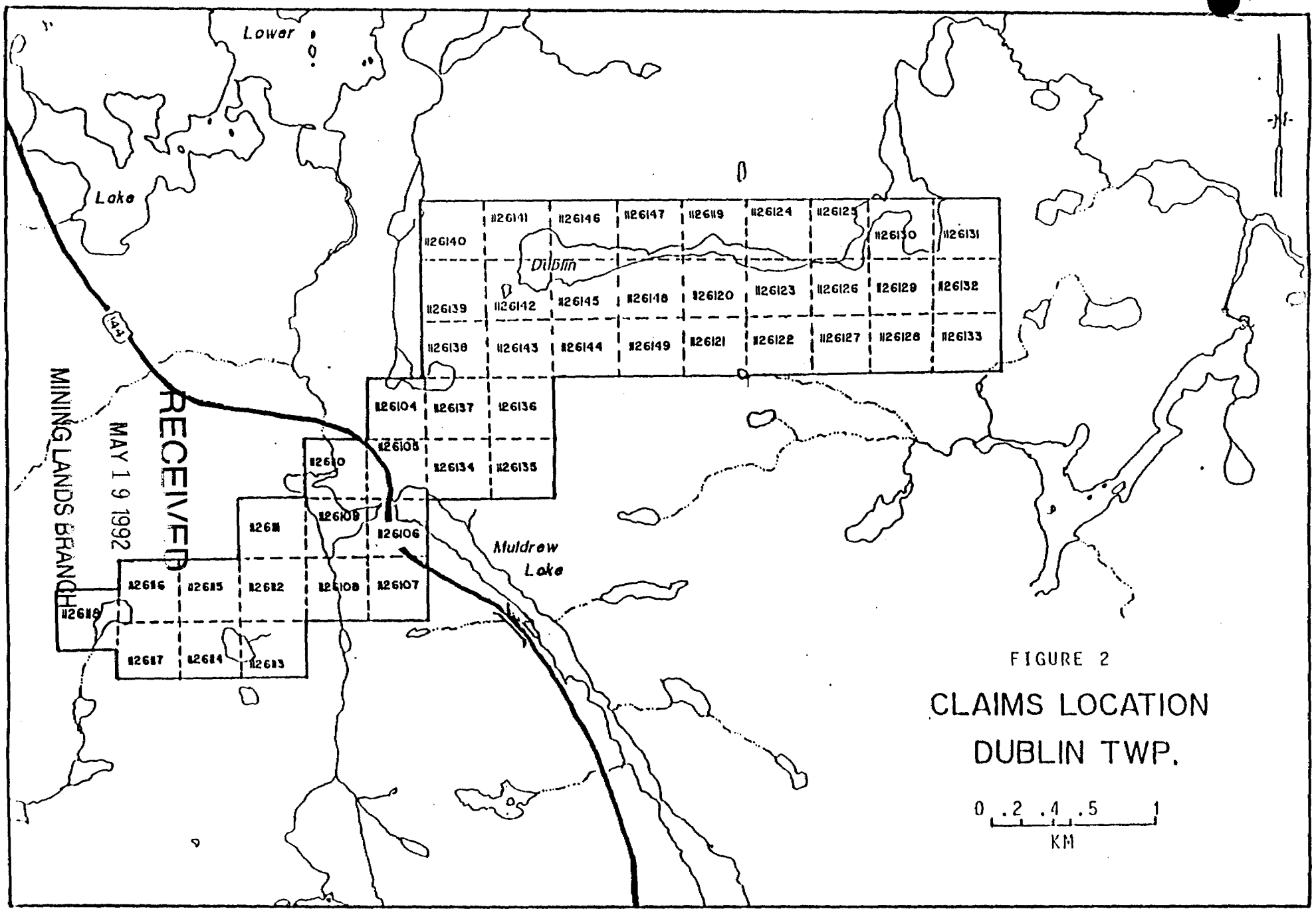
OFFICE DAYS

16 x 2 = 32 days

Day	Project Area	Date	Work Performed
1	Muldrew Lake	August 28/91	Select whole rock sample sites
2	"	Sept. 4/91	Plotting of maps
3	"	Sept. 5/91	Plotting of maps
4	"	Sept. 6/91	Plotting of maps
5	"	Sept. 9/91	Report writing
6	"	Sept. 10/91	Report writing
7	"	Sept. 11/91	Report writing
8	"	Sept. 12/91	Report writing
9	"	Sept. 13/91	Report writing
10	"	Sept. 16/91	Report writing
11	"	Sept. 17/91	Report writing
12	"	Sept. 24/92	Report writing
13	"	Sept. 27/92	Report writing
14	"	Sept. 28/92	Report writing
15	"	Sept. 29/92	Finalizing maps
16	"	Sept. 30/92	Finalizing report

Total man-days: 96 + 32 = 128 days

NOTE: Report writing days also include preparation of base maps and figures and sample descriptions.


Lower
Lake
Dublin
Muldrew
Lake
141
RECEIVED
MAY 19 1992
MINING LANDS BRANCH
112610
112611
112612
112613
112614
112615
112616
112617
112618
126104
126105
126106
126107
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126148
126149
FIGURE 2
CLAIMS LOCATION
DUBLIN TWP.
0 .2 .4 .5 1
KM

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

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

Telephone: (705) 670-7251
Fax: (705) 670-7262

Our File: 2.14571
Transaction #: W9270.00019

August 10, 1992

Mining Recorder
Ministry of Northern Development
and Mines
159 Cedar Street, 2nd Floor
Sudbury, Ontario
P3E 6A5

Dear Sir:

RE: Approval of Assessment Work on mining claims S 1126104 et al. in Dublin Township.

The Assessment Credits for Geology and Geochemistry, sections 12 and 13 of the Mining Act Regulations, as listed on the original Report of Work, have been approved as of AUGUST 10, 1992.

Please indicate this approval on the claim record sheets.

If you have any questions please call Clive Stephenson at (705) 670-7251.

Yours sincerely,

Ron C Gashinski

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

CDS/jl
Enclosures:

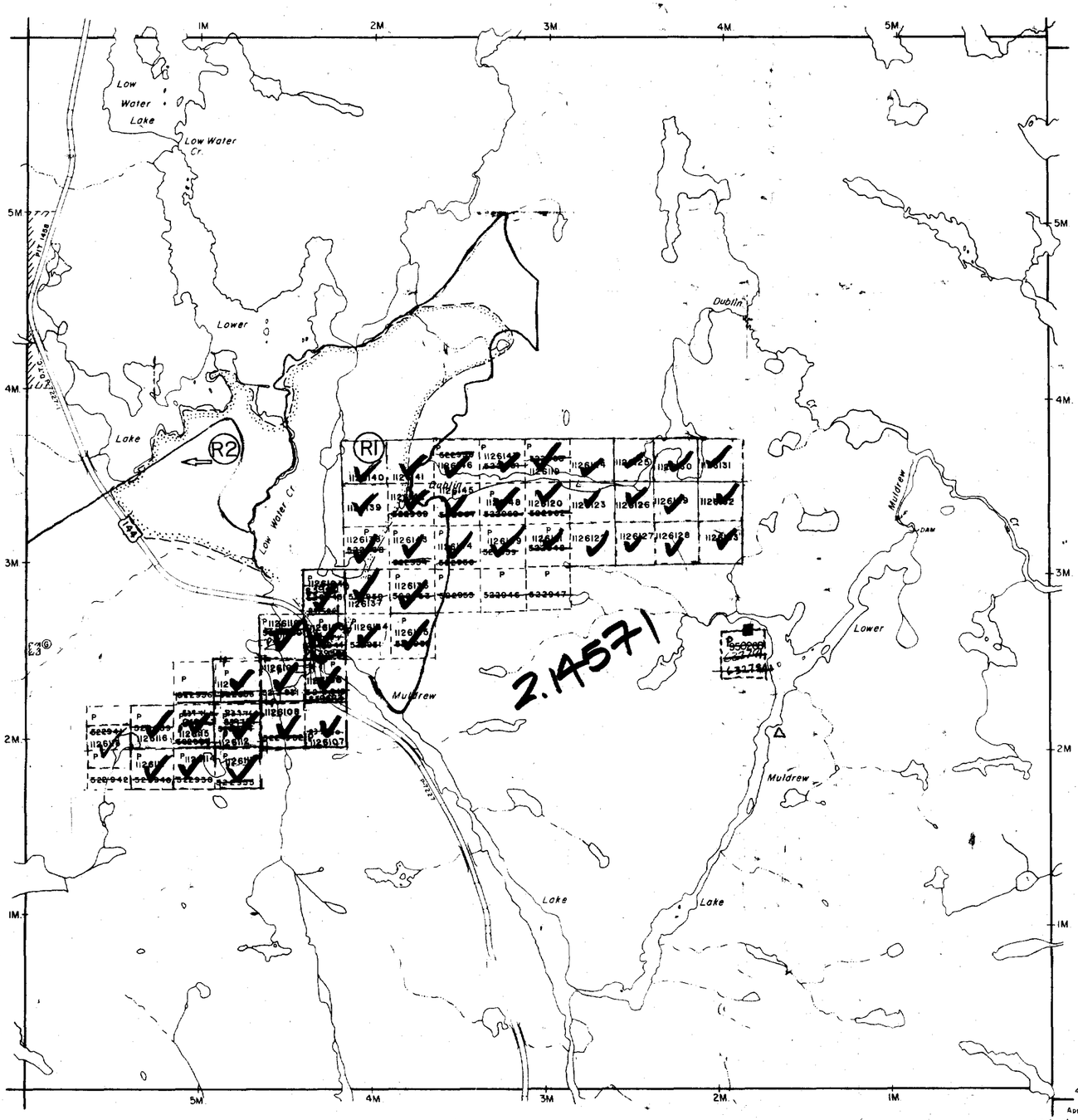
cc: Assessment Files Office
Sudbury, Ontario

Resident Geologist
Sudbury, Ontario

TRIM LINE

M-767 TWP. DUBLIN

BAYNES TWP. M-652



BATTERSBY TWP. M-651

ONAPING TWP. M-1037

MULDREW TWP. M-876

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

SAND AND GRAVEL

Ⓠ QUARRY PERMIT

■ d.u.p.

△ Trapline Camp

5 Year Forestry Operations as of Aug 21/87

DATE OF ISSUE
MAY 19 1992
SUDBURY
MINING RECORDER'S OFFICE

DV-1 - [illegible] June 15, 1986 David Unrecorded

Ⓡ1 HARVEST AREAS

Ⓡ2 EXISTING ROAD

Received Jan. 4/80

LEGEND

PATENTED LAND	Ⓟ or ●
PATENTED FOR SURFACE RIGHTS ONLY	◐
LEASE	Ⓛ
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	(17)
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

TOWNSHIP SUBJECT TO FORESTRY OPERATIONS

*used only with summer resort locations or when space is limited

TOWNSHIP OF

DUBLIN

DISTRICT OF
SUDBURY

SUDBURY
MINING DIVISION

SCALE : 1 INCH 40 CHAINS (1/2 MILE)

DR. R.W. NOBLE	PLAN NO M-767
DATE MAR 17, 72	

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

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

M-767 TWP. DUBLIN

41P04SE0005 2.14571 DUBLIN

200

LOW WATER LAKE

DUBLIN LAKE

MULDREW LAKE

WESTARM OF MULDREW LAKE

EASTARM OF MULDREW LAKE

HIGHWAY 144

T.C. W.005

T.L. 8+00N

BL. 0+00

Magnetic North Declination 1988: 9° west

NO O/C

1126104 1126105 1126106 1126107 1126108 1126109 1126110 1126111 1126112 1126113 1126114 1126115 1126116 1126117 1126118 1126119 1126120 1126121 1126122 1126123 1126124 1126125 1126126 1126127 1126128 1126129 1126130 1126131 1126132 1126133 1126134 1126135 1126136 1126137 1126138 1126139 1126140 1126141 1126142 1126143 1126144 1126145 1126146 1126147 1126148 1126149

L 22+00 W L 20+00 W L 18+00 W L 16+00 W L 14+00 W L 12+00 W L 10+00 W L 8+00 W L 6+00 W L 4+00 W L 2+00 W L 0+00 L 2+00 E L 4+00 E L 6+00 E L 8+00 E L 10+00 E L 12+00 E L 14+00 E L 16+00 E L 18+00 E L 20+00 E L 22+00 E L 24+00 E L 26+00 E L 28+00 E L 30+00 E L 32+00 E

LEGEND

LITHOLOGIES

- 4 MAFIC DYKES
  - 4a GABBRO(diabase)
  - 4b PORPHYRITIC "lamprophyre"
- 3 SILICIC INTRUSIVE ROCKS
  - 3a GRANODIORITE (porphyritic)
  - 3b GRANITE
  - 3c GNEISSIC GRANITE
  - 3d GRANITIC DYKES + SILLS
  - 3e PEGMATITE
- 2 MAFIC METAVOLCANIC ROCKS
  - 2a MASSIVE
  - 2b BANDED
  - 2c PILLOWED
- IF IRON FORMATION
- 1 FELSIC METAVOLCANIC ROCKS
  - 1c UNDIFFERENTIATED
  - 1b BANDED
  - 1fc TUFFACEOUS (possible metasediments)
  - 1qfc QUARTZO-FELDSPATHIC SERICITE SCHIST

ALTERATION

- wk weak
- md moderate
- st strong
- FC FRACTURE CONTROLLED
- SY SPOTTY
- PV PERVASIVE
- SPV SEMI-PERVASIVE
- hm hematite
- fx iron oxide
- ch chlorite
- mag magnetite
- se sericite
- ep epidote
- si silica
- cc calcite
- tr trace
- Xe xenoliths
- mig migmatitic
- bx breccia
- sch schistose
- gts garnetiferous
- pw pillowed
- porph porphyritic
- qv quartz veining

MINERALIZATION

- CP CHALCOPYRITE
- PY PYRITE
- PO PYRRHOTITE
- SP SPHALERITE
- GA GALENA

STRUCTURE

- FOLIATION
- FOLIATION(dip unknown)
- LINEATION (with plunge)
- FOLD AXIS (plunge unknown)
- FOLD AXIS (with plunge)
- JOINTING (with dip)
- LITHOLOGICAL CONTACT
- FAULT (shear)

- Outcrop
- Small outcrop
- Claim post (located)
- Claim post (not located)
- Witness post
- 1126131 Claim number
- Boulder sample
- 25826 Outcrop sample
- Cut control line
- Flag grid line (25m stations)

LITHOLOGIC EXAMPLES

- 3a(2b) Granodiorite with subordinate mafics
- 3a/2b Granodiorite or granite
- 3b-3c Granite grading to gneissic granite

MULDREW LAKE PROPERTY

DUBLIN TOWNSHIP

SUDBURY MINING DISTRICT ONTARIO

GEOLOGY

NTS 41 P4/SW

PREPARED BY: D.M.E.P. & Y.C.

DRAFTED BY: E.P.

SCALE : 1 : 5000

SEPTEMBER, 1991

2.14571

100m 50m 0 100m 200m

LOW WATER LAKE

DUBLIN LAKE

WESTARM OF MULDREW LAKE

EASTARM OF MULDREW LAKE

HIGHWAY 144

Magnetic North
30° West (declination used)

LEGEND

- D.C.P. SAMPLES (outcrop)
- ▲ D.C.P. SAMPLES (boulder)
- ✶ WHOLE ROCK SAMPLES

Cu ppm
13,35,5—Pb ppm
Zn ppm

MULDREW LAKE PROPERTY
DUBLIN TOWNSHIP
SUDBURY MINING DISTRICT ONTARIO

GEOCHEMISTRY

NTS 41 P4/SW

PREPARED BY: D.M.E.P. & Y.C.

DRAFTED BY: E.P.

SCALE: 1 : 5000

SEPTEMBER, 1991

2.14571

100m 50m 0 100m 200m