

REPORT ON  
THE GEOCHEMISTRY, GEOPHYSICS AND  
GEOLOGY OF THE McDAME PROPERTY  
OF ERICKSON GOLD MINING CORP., LIARD MINING DIVISION

(Goldhill 1-4, Top 1-5, Red Hill 5-6, FG 1-2, Jennie Extension 1-4,  
Nora, Rock, Lake, BB, MC, Ned 1, Val, UP, Sun, Sno, Kat, AA,  
and Crown Grants - L6537, L6539 and L6540)

OWNERS: Erickson Gold Mining Corp.  
New Coast Silver Mines Ltd.  
Table Mountain Mines Ltd.

OPERATOR: Esso Resources Canada Limited  
314-1281 West Georgia Street  
Vancouver, B.C.

NTS 104P/4E  
Latitude 59°15'N  
Longitude 129°37'N

by  
P.A. GODKIN and Z.B. DOBORZYNSKI

March 1980

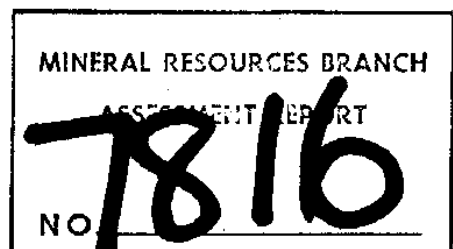


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GEOCHEMISTRY, GEOPHYSICS AND  
GEOLOGY OF THE McDAME PROPERTY

SUMMARY

The property optioned by Esso Resources Canada Limited from Erickson Gold Mining Corporation is underlain by andesites and argillites of the upper Devonian - lower Mississippian Sylvester Group. At least 38 gold bearing quartz veins are known on the property. Only the Jennie vein is a producer of gold and silver.

Tension fractures and shear zones, which host the veins, are related to the two major folding events that have affected the area. These folding events are at  $140^{\circ}$  and  $80^{\circ}$  azimuth. The introduction of silica into fractures and sheers was likely synchronous with the emplacement of Jurassic/Cretaceous granitic rocks of the Cassiar intrusions.

Geochemical studies have proven useful in defining broad areas of anomalous Ag, Au, Cu and As values but have not defined specific drill targets. Areas underlain by argillite are considered to have little potential for gold bearing veins as the lack of competency in these rocks has curtailed fracturing.

Geophysical surveys, using a Phoenix VLF-2 E.M. system, resulted in the location of 16 bedrock conductors. Several of the anomalies are recommended for follow-up work as they correlate with anomalous geochemical results or possible extension of known quartz veins.

No drilling is recommended at present as both the geochemical and geophysical anomalies require much more detailed investigation and definition.

Extension of the present grid over areas underlain by andesitic rocks is also recommended.

## I. INTRODUCTION

### A. LOCATION AND ACCESS

The McDame District is located in the northern portion of the 104P/4E map sheet at a latitude of 59°15'N and longitude of 129°37'W. Needle Point Mountain is 9 kilometers southwest with the Cassiar townsite being 11 kilometers to the northwest, see figure #1. Watson Lake, Yukon is 168 kilometers north along Provincial Highway #37.

### B. GEOMORPHOLOGY AND VEGETATION

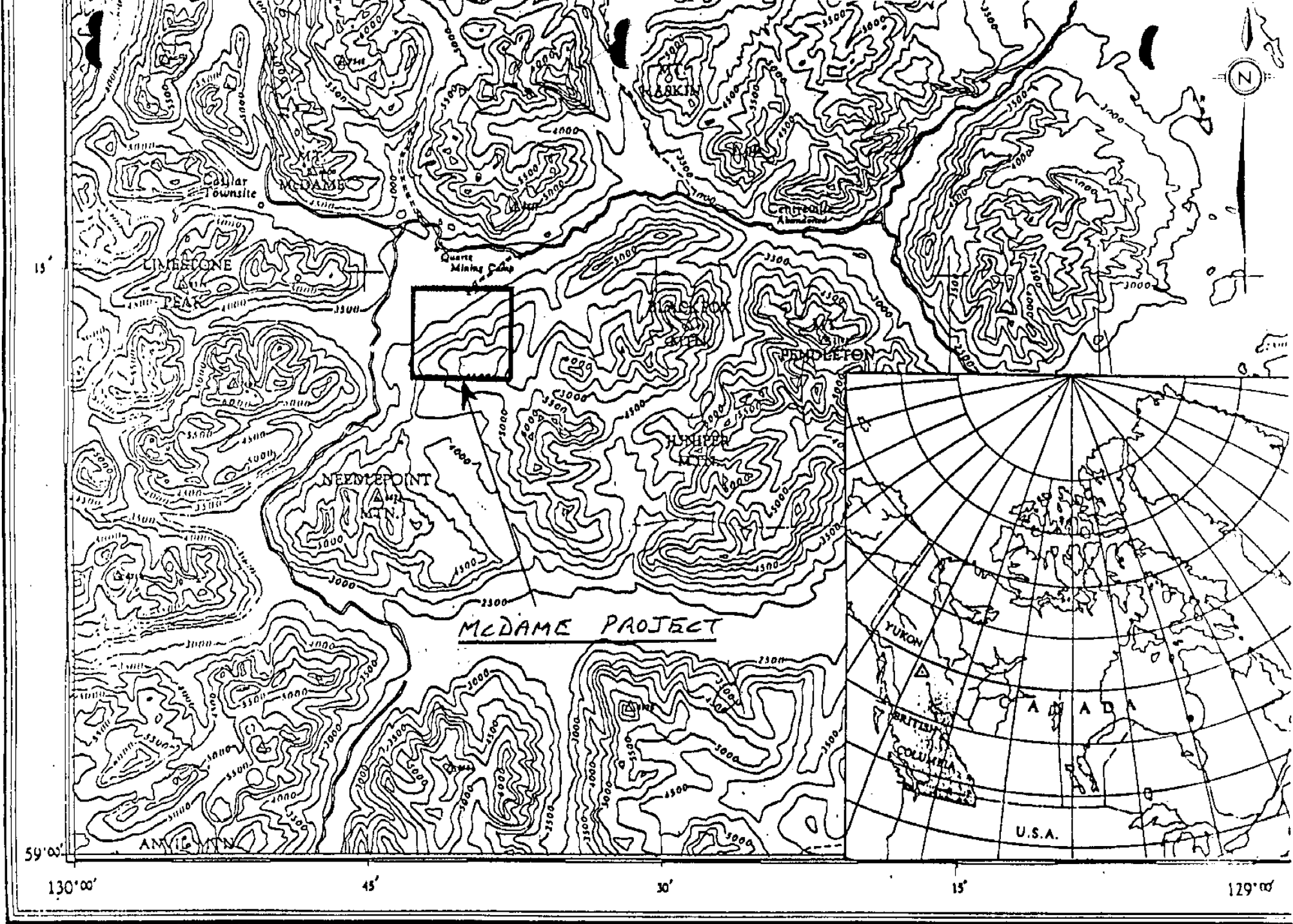
Glacial valleys contain moderate stands of lodgepole pine with balsam fir and willow predominating in the low lying, poorly drained areas. Large well developed stands of balsam fir occur on the north slope of Table Top Mountain - an informal name given to the east/west trending ridge at the south end of the property. Lodgepole pine all but disappear above the 1200 meter contour with scattered patches of alpine fir becoming more dominant as one nears the alpine zone above 1500 meters.

Valley floors possess a hummocky terrain while mountain tops are semi-rounded with a few angular peaks reaching a maximum elevation of 1700 meters. The valleys have a moderate drainage. Glacial till cover is very heavy, exceeding 5 meters in thickness on slopes dipping in excess of 25 degrees.

### C. HISTORY

Placer gold was discovered in McDame Creek in 1874 but potential for lode deposits was not recognized until 1931. Several gold bearing quartz veins were discovered north of McDame Creek during 1934 and 1935. In addition to gold, most veins contain minor amounts of pyrite, tetrahedrite and chalcopyrite. Reference to these and other showings is available in MMAR 1935.

The Vollaug vein, situated on the crest of Table Top Mountain, underwent extensive diamond drilling during the late 1930's while under the ownership of Cominco. It was not until the post war period that Silver Standard began underground work on the vein. The Jennie vein underwent subsurface development throughout 1977 and 1978 after a successful drilling program in 1976. In January of 1979 a



NTS 104P/4

Scale 1 : 250,000  
 Approximately 4 Miles to 1 Inch.

LOCATION MAP - McDAME



PROJECT

130-150 ton per day mill began production under the ownership of Erickson Gold Mining Corporation Ltd. Although the Vollaug vein shows considerable strike length the majority of veins apparently have potential for yielding only small tonnages.

D. PROPERTY DEFINITION

Table #1 contains a list of mineral claims for which Erickson Gold Mining Corporation Ltd. presently has the right of ownership or option for which option has been granted to Esso Resources Canada Limited.

TABLE #1 Mineral Claims Under Option by Esso Resources Canada Limited  
November 1979 - Liard Mining Division

<u>Claim Name</u>	<u>Record No.</u>	<u>Month</u>	<u>No. of Units</u>
Jennie Extension 1	4921	October	1
Jennie Extension 2	4934	September	1
Jennie Extension 3	4933	September	1
Jennie Extension 4	4932	September	1
Red Hill 6	2997	August	1
Red Hill 5	2996	August	1
FG 2	72236	October	1
FG 1	72296	October	1
L6540			
L6537			
L6539			
Top 1	72283	November	1
Top 2	72284	November	1
Top 3	72285	November	1
Top 4	72286	November	1
Top 5	72287	November	1
Nora	1359	November	1
Rock	237	October	1
Goldhill 1	534	February	1
Goldhill 2	535	February	1
Goldhill 3	536	February	1
Goldhill 4	537	February	1
AA	260	March	20
Lake	258	March	1
BB	386	June	1
MC	265	April	2
Ned 1	442	July	3
Val	259	March	20
UP	14	July	5
Sun	13	July	8
Sno	63	October	6
Kat	56	October	4



<u>Claim Name</u>	<u>Record No.</u>	<u>Month</u>	<u>No. of Units</u>
Mill	261	March	4
Bit	257	March	12
NA	267	April	9
Tip 1	11	July	2
Go	387	June	12
Sky	262	March	18
K	266	April	4

E. 1979 WORK SUMMARY

The following field work was carried out on the McDame project between July 9th and October 31st, 1979.

Geological Survey - 35 square kilometers at a scale of 1:12,000 (orthophoto map control)

Geophysical Survey - 27 line kilometers of EM-16

Geochemical Survey - 404 organic samples  
- 444 soil samples of the B horizon  
- 1 heavy mineral sample

Grid Establishment - 27 line kilometers of linecutting and/or picketing and blazing

Work was actually performed on the following claims:

Geological Survey: Jennie Extension 1-4  
Red Hill 5, 6  
FG 1, 2  
KAT  
L6540  
L6537  
L6539  
AA  
VAL  
SUN  
SNO  
SKY

Geochemical/ Geophysical Survey and Grid Establishment:

TOP 1-5  
NORA  
ROCK  
GOLDHILL 1-4  
LAKE  
BB  
MC  
KAT  
VAL  
AA  
MILL  
BIT  
TIP 1  
GO  
K  
NED 1

## II. GEOLOGY

The McDame district is underlain by 4600 meters of upper Devonian to lower Mississippian Sylvester Group sediments and andesitic volcanics. Sedimentary rocks are comprised of argillite, slate, argillaceous quartzite, greywacke, quartzite and limestone. It has been proposed by H. Gabrielse (1963) that this group of rocks forms a northwest trending synclinorium whose axis runs through McDame Lake. Jurassic and/or Cretaceous granitic intrusions appear 8 kilometers west of McDame Lake near the community of Cassiar. Lower Cambrian to middle Devonian clastic and non-clastic sediments occur as inclusions within the Cassiar batholith or as discontinuous units on the eastern edge of the batholith, between it and the southwest margin of the McDame Synclinorium. These same sediments reappear 14 kilometers northeast of McDame Lake, on the northeast limb of the synclinorium. They form a northwest trending folded sequence. Regional faulting parallels this northwest trend.

### A. LOCAL GEOLOGY

The Sylvester sediments in the mapped area are composed of argillite, sandstone, siltstone, greywacke and limestone. The greywacke and limestone units occur locally and directly overlie a basal lithology of andesite and rhyolite flows with minor intercalated andesitic tuff and breccia horizons. Two folding events at  $80^{\circ}$  and  $140^{\circ}$  azimuth preceded a very strong northeasterly shear direction. These shears presently contain gold bearing quartz veins. The regional structure and quartz veining have been offset by north trending faults. Maps 1A and 1B show the local geology at a scale of 1:12,000.

#### 1. LITHOLOGY

##### Argillite

This black coloured unit weathers either dark grey or black with only minor local Fe-staining. Slate and mudstone subunits have been included within the argillite as they lack sufficient continuity to appear as separate map units. The texture is very fine grained with no visible mineralogy. The appearance of well rounded concentrically layered argillite balls, that may reach 50 cm in diameter, are thought to represent a primary depositional structure.

These structures can be identified throughout the entire argillite unit and comprise up to 10% of such. Local well bedded members are composed of interbedded light brown argillaceous siltstone and argillite. A strong foliation parallels the bedding.

#### Sandstone

Competent medium grey coloured sandstone weathers light brown to medium grey with a diagnostic sandpaper - like weathered surface. Dark grey well rounded quartz eyes, generally less than 1 mm in diameter, appear locally and make up to 10% of the sandstone. When present, fine white feldspar grains are easily identified on a weathered surface. The matrix is very fine grained. Outcrops are massive and generally show a blocky weathering pattern having sharp contacts with over and underlying units.

#### Siltstone

Identified by its platy rather than blocky weathering pattern this unit has a grey or greenish-brown weathered surface colour while retaining a greenish-brown fresh surface. Fine grained biotite and potassium feldspar are present locally within a very fine grained matrix. Unlike its associated sandstone horizon, bedding can be identified in isolated outcrops.

#### Greywacke

This unit contains both a dark grey fresh and weathered surface with some Fe-staining. A very fine grained black coloured mud matrix surrounds 10-15% 1 mm black, glassy, quartz eyes with 5% white feldspar grains. The feldspar grains are easily identified on a weathered surface and show considerable size variation throughout the map area. Local trace amounts of an unidentified pale green mineral have been noted. In outcrop the unit is quite massive and shows no signs of foliation development.

The greywacke-turbidite sequence is quite variable. Greywacke clasts predominate throughout the lower portions of the sequence where an argillite matrix may compose as little as 5% of the exposure. Clasts here may reach 6 meters in diameter making it difficult to identify such from a homogeneous greywacke outcrop if it were not for thin surrounding layers of recessive argillite. Near the upper portions of the sequence well rounded clasts grade upwards from 1.5 m in diameter to only a few cm in size. Some bedding exists within the argillaceous matrix.

### Limestone

This massive crystalline unit displays a light grey fresh and weathered surface. No primary or secondary features were identified within the limited exposures.

### Andesite Breccia

This rock type is either a flow breccia or tuff breccia. It has a dark grey to black fresh surface colour with a medium grey coloured weathered surface. Elongate angular volcanic fragments range in size from a few mm to 10 cm and may be white, green or grey in colour. These fragments compose up to 40% of the outcrop and often appear an orange colour on weathered exposures. The black or grey siliceous mud sized matrix appears much like a mudstone when fragments are absent. The matrix seldom shows foliation, but areas which do so are commonly quite talc rich and resemble argillite. Pyrite cubes may be found throughout the unit while bedding occurs locally.

### Rhyolite

The weathered surface always appears a white colour while the fresh surface has a variable colour ranging from light to dark grey with shades of green and purple. Flow banding is common and the unit is very siliceous. Alteration zones within the rhyolite are heavily Fe-stained and foliated.

### Andesite

Previously classified by H. Gabrielse in 1963 as a greenstone, this light green massive extrusive has a fine grained to aphanitic texture and a dark grey weathered surface. Augite and/or quartz crystals, less than 1 mm in diameter, appear locally within an aphanitic groundmass. Pillows reach a maximum dimension of 1.5 m x 1.0 m and may contain vesicles. Pipe vesicles and calcite amygdules were noted in a single isolated exposure.

### Basic Dykes

The most prominent of the basic dykes has a fine grained texture with 50% needle-like 3 mm long plagioclase crystals surrounded by a groundmass composed mostly of pyroxene. The brownish-grey dyke is massive in appearance and has a brown coloured weathered surface. Chilled contact margins may be visible.

## 2. STRATIGRAPHY

Within the McDame District, the upper Devonian to lower Mississippian rocks of the Sylvester Group lie east of Vine Lake and south of Snow Creek, see maps 1A and 1B. West of Vine Lake the conformable? limestones and argillaceous dolomites of the McDame Group dip easterly underneath the Sylvester Group while to the north, ridges of Mississippian? ultramafic intrusions appear. Figure #2 shows a stratigraphic column for the study area.

Argillite was the youngest member identified within the map area. It is exposed along the northeast trending crest of Table Top Mountain and to the north a number of small well bedded exposures were noted along Troutline Creek north of McDame Lake. Well exposed at higher elevations, only float and a few stream outcrops were noted on the more gentle southerly and northeasterly slopes. As the upper surface of the argillite has been exposed to erosion no indication of its true thickness was obtained within the study area. However, 4.2 kilometers east along highway #37 an excellent stratigraphic section indicated a thickness in excess of several hundred meters.

Near the basal portion of the argillite an important sequence of interbedded sandstone and siltstone beds occur. Two massive sandstone horizons separated by a single platy siltstone unit, provides an effective marker horizon throughout the entire mapped area. The resistance of the 50 meter thick sandstone-siltstone unit has allowed formation of a number of outliers. Several other sandy argillite and sandstone horizons were discovered throughout the argillite but all lacked thickness and continuity. A second greenish-brown siltstone horizon underlies the lower sandstone member but due to limited exposure it proved too difficult to define as a separate map unit. All sandstone members displayed very sharp contacts.

The greywacke/turbidite sequence is well exposed along the cliff face west of the Erickson Creek fault. The basal contact with massive andesite is very irregular with the lower most portion of this unit being composed of block sized fragments grading upwards into a pure argillite. This large scale grading is important as a geopotential indicator. Only a very small percentage of clasts were not of greywacke composition. The lateral extent of the turbidite sequence is difficult to determine. It is known that block sized

# STRATIGRAPHIC COLUMN McDAME DISTRICT

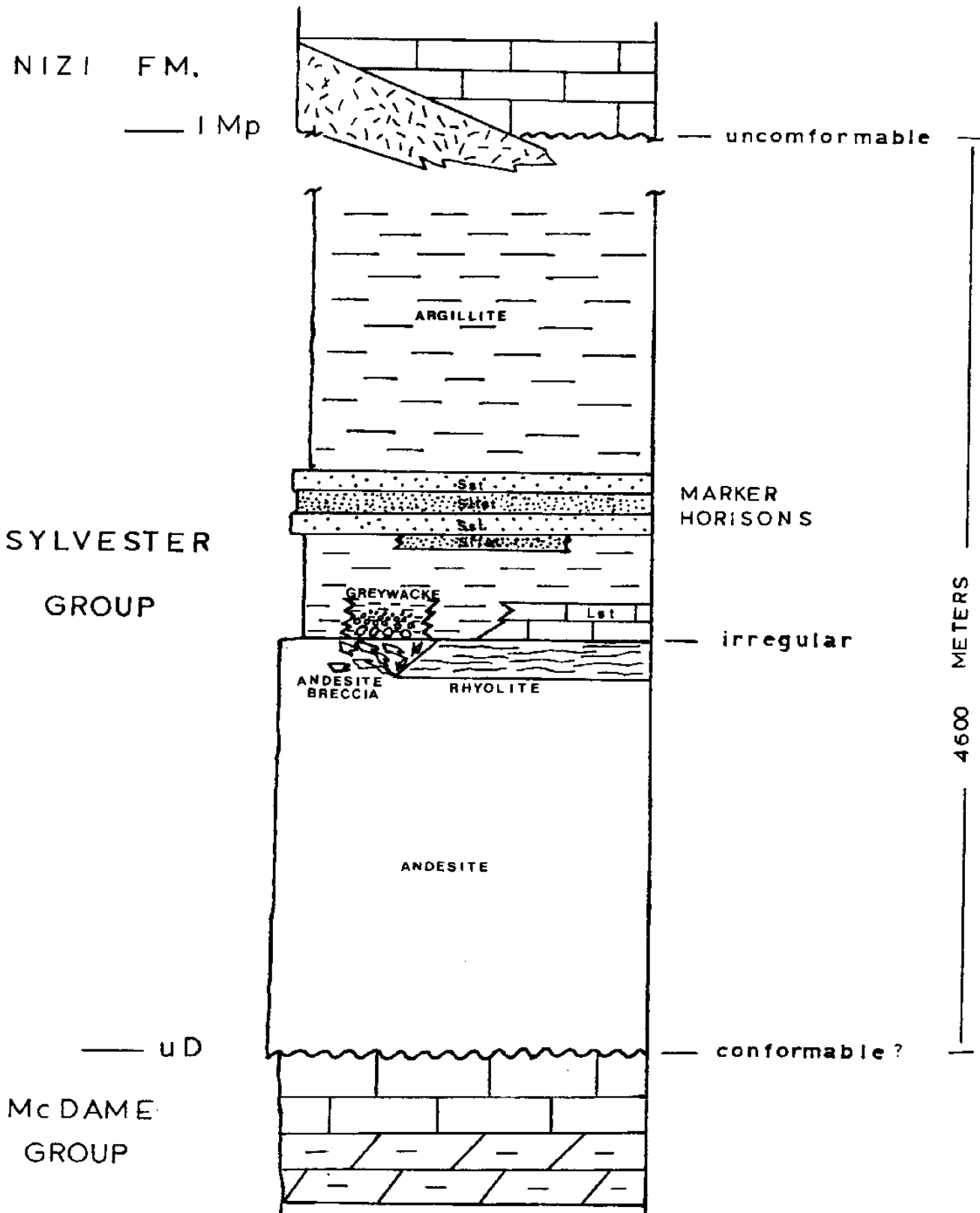


FIGURE \*2

clasts occur just east of the fault and that most of the cliff face immediately west is of massive greywacke. However, failure to look closely at an argillite outcrop may cause one to overlook the presence of greywacke clasts, while detailed examination of a greywacke outcrop may overlook a 1-20 cm argillaceous margin defining a 6 m diameter turbidite block. No divisions were made between greywacke and its turbidite equal. Most likely both units possess a gradational change both vertically and laterally. Combined both units are less than 50 m thick.

Massive crystalline limestone was found in the extreme southeastern corner of the study area. The G.S.C. Map No. 1110A shows several such limestone exposures occurring as far south as Dease River. Float material occurs in a number of localities along the andesite-argillite contact. Limestone filled fractures are visible in an andesite mound approximately 1 km ENE of Plaza's field camp. The presence of limestone to the south and greywacke to the north may prove useful for reconstructing the depositional history of this area. The unit is less than 20 m thick.

Rhyolite, when present, occurs at or near the top of the volcanic sequence. Large expanses of rhyolite were noted near the west end of the Jennie vein and about 2 km south of the erosional limestone remnant seen on Map 1B. Three small outcrops near the east shore of Callison Lake are not part of the main unit.

In and around the Jennie vein and mine area huge expanses of andesite breccia have been uncovered through mapping and drilling. This unit directly underlies the argillite formation and the nature of the contact is unknown. It is underlain by massive locally pillowed andesite and seems to become thinner to the west of Erickson Creek before outcropping as a very argillaceous member along the road to Silver Standard's camp. Little is known about this unit, only that it is almost impossible to recognize any subunits that can be correlated over a distance.

Massive andesite flows of several thousand meters thickness underlie most of the McDame District. In the extreme southeast 500 m high angular mountain peaks have been mapped as andesite. Several inliers of andesite appear near the crest of Table Top Mountain.

Three parallel diabase dykes were identified in Erickson Creek. One dyke, slightly greater than 5 m wide, was traced over a distance of 3 kilometers in a ESE direction.

### 3. STRUCTURE

#### Folding

Two major folding events have created a non-symmetrical dome and basin structure within the McDame District.  $F_1$  occurred at  $80^\circ$  azimuth while  $F_2$  occurred at  $140^\circ$  azimuth. The latter is similar to the northwest fold trend previously noted along the east limb of the McDame Synclinorium. The  $F_1$  direction is based on a single drag fold attitude.  $F_1$  fold axes were noted at the crest of Table Top Mountain parallel to the Vollaug and Jennie veins. Both folds have been well defined through bedding and contact attitudes and drill results. Less well defined  $F_1$  fold axes cross the sandstone-siltstone complex and lie south of Plaza's field camp. The north limb of the latter has been defined east of the map area.

The last folding event,  $F_2$ , is well developed throughout the district. An anticlinal-synclinal pair, west of Erickson Creek, is shown by bedding and flow top attitudes.  $F_2$  axes also lie within the sandstone-siltstone complex and at the northeast end of Table Top Mountain. The Troutline Creek and northeast Table Top Mountain anticline are probably one and the same.

#### Faulting

The Erickson Creek dextral strike slip? fault passes through a N/S gully near the west end of the Vollaug vein and is visible along road cuts east of Erickson Creek. Support for this structure is seen by the sudden termination of the Vollaug vein and apparent right lateral offset of an anticlinal fold axis. The Jennie and Vollaug veins are probably one and the same. This fault is likely responsible for the occurrence of argillaceous andesite breccia along the stream cut north of the mine site.

East/west quartz veins may be associated with faulting and in the case of the Jennie and Vollaug veins there is some evidence to support such an interpretation.



## B. QUARTZ VEINING & MINERALIZATION

During the 1930's several small mining and milling operations worked a number of auriferous quartz veins. Two of these veins, the Davis and Rocky Ridge, are shown on map 2A. In January of 1979 production began on the only producing gold vein within the McDame District, the Jennie vein, see map 2B. It has an average Au and Ag value at the millhead of 0.8 and 0.6 oz/ton, respectively. The Vollaug vein, probably the eastern extension of the Jennie vein, has an estimated 3000 m strike length. However, underground work and drilling since the post war period has not resulted in production.

Table #2 gives the coordinates of all known quartz veins within the McDame District. Two types of veins have been identified. The most common and frequently seen vein is composed of bull quartz while silicified shears with or without bull quartz are rarely observed.

### 1. BULL QUARTZ VEINS

These veins can be found throughout the entire stratigraphic section but are most prevalent among the massive andesite flows E and NE of Callison Lake. The veins vary in thickness from a few centimeters to 5 m, averaging about 1 m. A maximum strike length to 300 m was noted within the grid area. Exception to this size rule is shown by the stockwork structure of Red Rock Creek. Here 40 m high cliffs reveal 30-100% white quartz mixed with heavily Fe-stained volcanics.

Bull quartz veins weather as resistant knolls about 2-3 m high and are generally covered by lichen making them difficult to identify within the hummocky andesite terrain.

QUARTZ VEIN COORDINATES  
McDAME PROJECT - 2150

<u>VEIN NUMBER</u>	<u>WEST</u>	<u>EAST</u>	<u>NORTH</u>	<u>SOUTH</u>
1001	450			1080
1002	465			1125
1003	510			1290
1004-1006		810		780
1007-1018	1290		1230	
1019-1020		120		790
1021		215		765
1022	345			2665
1023	1140			780
1024	1060			1695
1025/1030	940			1600
1026	840			1605
1027	645			1830
1028	740			1940
1029	710			1330
1031	990			1730
1032	1020			1790
1033	950			1800
1034	1365			2100
1035	1310			2105
1036		1560		5220
1037	1185			2390
1038	1185			2405
1039	780			2190
1040	400			1245
1041	495			1320
1042				
1043	1350			1110
1044	1400			1020
1045				900
1046	910			3600
1047			270	3090
1048	2200		1640	
1049	1950		3620	
1050	675		250	
1051	405			430
VOLLAUG		180-2880		5320
JENNIE	75			3600

TABLE #2: Numerical values shown are meters west and east of longitude 129°40'00"W and meters north and south of latitude 59°15'00"N. Vein numbers are shown on maps 2A and 2B.

The veins are composed of massive white quartz with local smokey grey discolouration patches. Second phase, colourless quartz stringers are randomly orientated and common to all veins. The stringers take on a dark grey colour if disseminated pyrite is present. Pyrite is seldom found within the vein itself and when present it occurs in minor amounts along fractures and in vugs, although slight limonite fracture coatings are common. Chalcopyrite, tetrahedrite, malachite, azurite and arsenopyrite are the most frequently seen minerals. They seldom exceed more than 1 weight percent. However, tetrahedrite was noted in veins 1003 and 1049 in excess of 5 weight percent. No relationship was found between the As, Ag, and Au values but high Cu values within the Jennie vein accompany high Au values. Graphite was noted in about 10% of the veins especially 1029, 1035 and 1039. In the latter two, graphite was concentrated along the vein margins.

Massive andesite is host for all bull quartz veins except vein 1036. The contact between vein and wallrock is always sharp. The host may be cross-cut by 2nd phase quartz stringers and contain pyrite and some carbonate alteration. A light grey discolouration and increase in grain size reflect such alterations. As pyrite reaches an observed maximum of 30 weight percent the aphanitic volcanic shows an increased percentage of less than 3 mm white anhedral feldspar with varying amounts of an unidentified anhedral 1-2 mm green coloured mineral (feldspar?). Extensive pyrite is a very important indicator of associated quartz veining as normal pyrite content ranges from 0 to 3% in the andesites. Limonite soil gossans should be sampled and analyzed for Au. An important vein within the Hanna Showing reportedly was found in this manner. (Montmorillanite and kaolinite? occur in minor amounts locally.)

## 2. SILICIFIED SHEAR ZONES

These zones tend to be much thicker, averaging 3 m, than the bull quartz veins. Veins 1024, 1037 and 1038 are of this type. In outcrop they weather dark grey and have a slightly more irregular surface than andesite. However, a fresh surface must be examined for identification purposes. They are found only within the massive andesite and commonly change along strike into bull quartz veins. An example of this is shown by veins 1024 and 1025.

The shear zones are composed of up to 35% 1 mm - 2 cm., subangular, pale yellow or white to light grey andesite fragments. The silica matrix may be white, light grey, or black in colour depending on the weight percent of fine grained disseminated pyrite. Surface exposures within trenched pits are always heavily Fe-stained. 10-20% 1-2 mm vugs are common within the silica matrix. Colourless to dark grey hairlike quartz stringers crosscut both the shear zones and host rock. Locally massive white quartz and smokey quartz patches may appear. No mineralization other than pyrite was noted in outcrop but diamond drilling by Cominco in the 1930's on shears 1037 and 1038 indicated 0.02 oz/ton Au in one intersection, see maps 2B and 3B.

### 3. GENERALIZATIONS

1. Two types of intergrading host quartz veins exist: (a) bull quartz veins and (b) silicified shear zones.

2. Shear zones are found only in andesite while white bull quartz veins common to andesite may be found within the sedimentary sequence.

3. The following strike directions were observed for both vein types - in order of decreasing occurrence.

- (a) 55<sup>0</sup>-70<sup>0</sup> azimuth
- (b) 80<sup>0</sup>-90<sup>0</sup>
- (c) 30<sup>0</sup>
- (d) 10<sup>0</sup>

4. All veins and their host rocks have been fractured. The following strongly developed (2-4/30 cm) fracture directions were observed for both vein types - in order of decreasing occurrence.

- (a) 40<sup>0</sup>-60<sup>0</sup> azimuth
- (b) 350<sup>0</sup>-10<sup>0</sup>
- (c) 140<sup>0</sup>-150<sup>0</sup>
- (d) 80<sup>0</sup>-90<sup>0</sup>

5. All veins have two phases of quartz.

6. Veins vary in thickness, length, and may terminate suddenly.

7. Mineralization tends to be sporadic - especially Au content.

#### 4. STRUCTURE AND GENESIS

Bull quartz veining would seem to be related to tension fracturing rather than shearing. Vein 1036 provides some evidence for this as a 2 m wide vein crosscutting argillite suddenly terminates in sandstone without indication of further shearing along strike. The relationship of tensional stresses to regional structure or the inferred McDame Valley fault? was not examined. Because of the homogeneity within the andesite unit it is difficult to determine whether the prevalent  $55^{\circ}$ - $70^{\circ}$  vein attitudes are a reflection of the  $F_1$  fold axis. Vein dips are variable and a vein on one limb of a fold could be identified with certainty on an adjacent limb. The Jennie vein, with dips varying between  $30^{\circ}$ - $90^{\circ}$ N, was said to show a south dip east of the portal. Although folding may be implied, it was observed that veins would tend to bend along the andesite-argillite contact. The Jennie vein with its  $70^{\circ}$  strike obviously crosses structure, at least that of the  $F_2$  event. Vein fracture attitudes correspond well with the vein attitudes themselves. The prominent  $350^{\circ}$ - $10^{\circ}$  azimuth fracture direction is likely associated with the strong local and regional north fault trends.

No previous studies have been done on the genesis of the auriferous quartz veins within the McDame District. Certainly, the Jurassic and/or Cretaceous Cassiar Batholith, 12 km to the west, may be viewed a likely source for the gold bearing silica. Mineralized veins that were examined indicated that mineralization occurred prior to extensive fracturing. It was not determined whether the metals and native elements were emplaced during or after the original vein emplacement. Certainly, pyrite is more prevalent in the 2nd phase quartz stringers and silicified shear zones rather than 1st phase massive white quartz. Primary examination of tetrahedrite bearing veins, with up to 1 cm diameter mineralized vugs, failed to indicate whether the vugs formed as the sulphide was leached away or whether they were syngenetic and simply provided a depositional site for post-emplacement of ore-bearing fluids.

### III. GEOCHEMISTRY

A total of 404 organic and 444 soil samples were collected from a 3200 m long, 1 km wide grid. Gridlines were spaced at 100 m intervals with McDame Lake and McDame Creek serving as the grids northern boundary, maps 5 - 7 present the analytical results of Au, Ag, Cu and As. It was hoped that geochemistry would prove an effective tool for uncovering veins, especially to the east of Mystery Lake where outcrop is absent.

#### 1. MULL (ORGANIC SAMPLES)

Humus-rich forest soil (mull) was used by G. Curtin et al, 1968 to study the known gold distribution in bedrock. It was found that gold in bedrock was accumulated by pine and aspen trees and is concentrated in the mull by the decay of organic litter from these trees. Gold soil anomalies within extensive glacial drift cover was found to poorly reflect the known gold deposits. As the McDame District is heavily covered with glacial till this method was chosen for geochemical study.

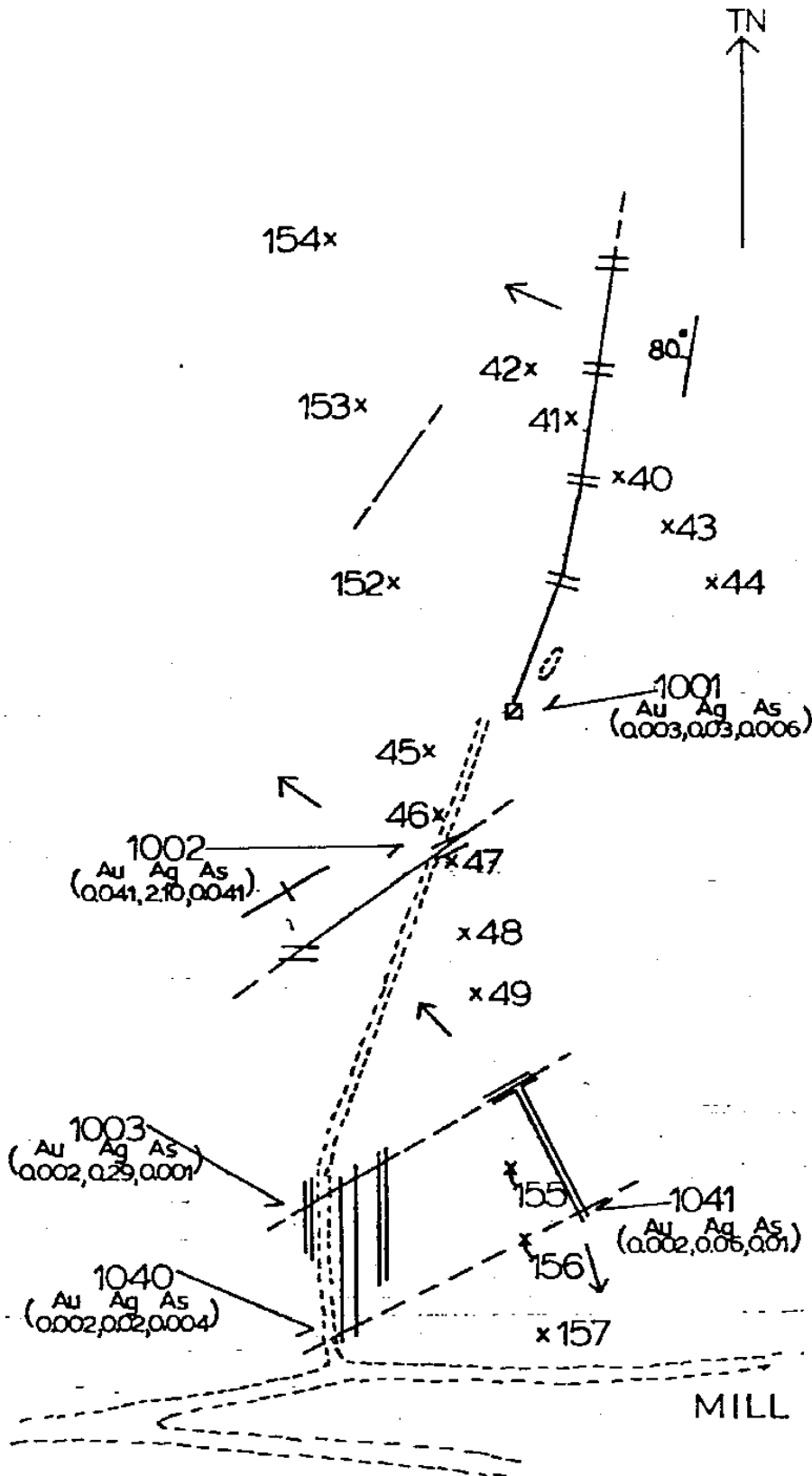
Preliminary studies were conducted on the Jennie, Davis, and Goldhill showings. The results for both 50 and 100 meter spacings are shown in figures 3, 4 and 5. The Goldhill showing, figure 3, showed excellent response in both soil and mull samples. Thin, less than 1 m, overburden cover is responsible for the well defined soil anomalies. Ag, As, Cu and Zn were anomalous in soil samples collected at 20 m intervals. It is interesting to note that a low As value in vein 1001 relative to vein 1002 was enhanced in the soil. Uneven vein mineralization might also explain this enhancement. Mull samples showed excellent response in all elements. With increasing thickness in overburden cover, exceeding 5 meters, soil anomalies showed less enhancement against their background values while mull geochemistry still gave reasonable definition of the veins.

Sampling at 50 meter intervals across the Jennie vein gave a weak, broad anomaly but did not locate the specific vein location (Figure #4). Figure #5 located a geochemical anomaly north of known veins.

LAKEVIEW/GOLDHILL  
SHOWINGS  
GEOCHEMISTRY

LEGEND

- x Sample location (soil+mull)
- \\ Trench
- ⊠ Shaft
- Quartz vein (defined, assumed)
- 10— Quartz vein sample Number, assay=oz./ton (As in %)
- ↗ Slope direction
- Quartz outcrop



ESSO MINERALS CANADA

PROJECT 2150

Scale 1:2000

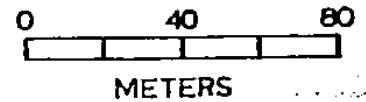


Figure 3

LAKEVIEW/GOLDHILL SHOWING  
ANALYSIS DATA  
SEPTEMBER 1979

Sample No.	Mull Sample						Soil Sample				
	Au	Ag	As	Cu	Pb	Zn	Ag	As	Cu	Pb	Zn
40	300	4.0	236	160	74	328	1.1	112	172	14	70
41	350	2.0	700	134	24	186	1.0	400	125	11	93
42	80	4.0	178	124	38	124	0.9	97	80	12	84
43	5	1.2	74	44	8	104	1.0	45	43	16	90
44	25	2.8	52	180	20	152	0.8	82	105	15	78
45	140	1.0	54	22	4	66	0.7	55	21	13	87
46	230	1.6	290	52	18	130	0.8	32	19	14	102
47	970	3.4	2000	144	22	600	5.8	1350	260	12	800
48	20	1.0	36	28	10	84	0.8	39	20	14	105
49	10	1.6	138	30	14	126	0.5	15	29	10	56
152	75	-	196	70	-	-	1.4	450	40	15	107
153	<5	-	28	20	-	-	0.9	9	10	16	104
154	10	-	228	52	-	-	1.2	7	25	21	260
155	45	-	40	40	-	-	1.4	129	41	12	100
156	20	-	80	44	-	-	1.6	92	36	17	84
157	5	-	68	28	-	-	1.3	45	24	14	92

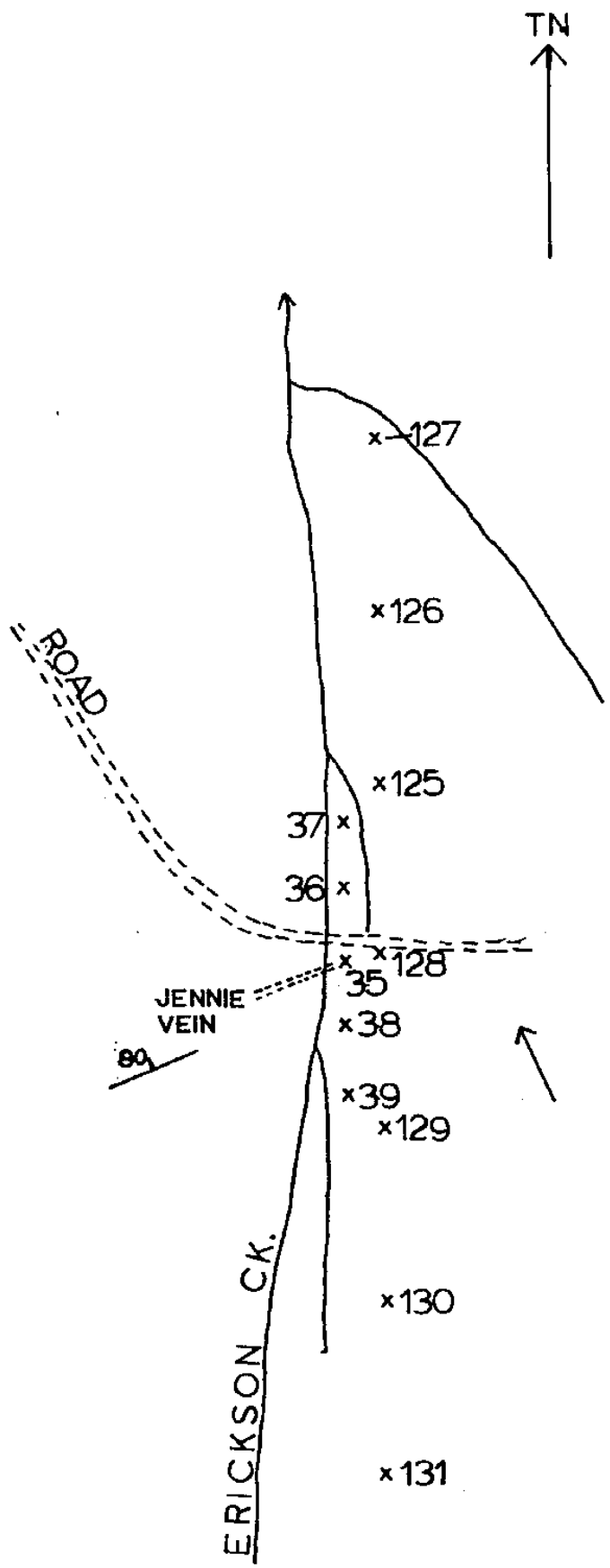
Note: Gold values in ppb, all others in ppm



JENNIE VEIN  
GEOCHEMISTRY

LEGEND

- x Sample location (soil+mull)
- ↑ Slope direction



ESSO MINERALS CANADA  
PROJECT 2150

Scale 1:2000



Figure\* 4

JENNIE VEIN  
ANALYSIS DATA  
SEPTEMBER 1979

Sample No.	Mull Sample						Soil Sample					
	Au	Ag	As	Cu	Pb	Zn	Au	Ag	As	Cu	Pb	Zn
35	25	1.4	16	92	34	174	10	1.4	30	61	28	95
36	5	1.0	19	54	20	98	5	1.2	34	59	27	93
37	10	1.2	12	40	22	92	5	1.3	21	47	25	82
38	20	2.0	19	110	34	168	10	1.4	23	60	28	96
39	5	1.4	23	50	22	104	10	1.5	21	54	29	89
125	30	-	48	60	-	-	-	1.0	33	35	18	91
126	5	-	68	32	-	-	-	1.2	32	54	18	87
127	20	-	172	60	-	-	-	1.3	133	115	16	122
128	10	-	96	58	-	-	-	1.1	20	42	18	95
129	5	-	144	68	-	-	-	1.2	40	50	20	102
130	<5	-	224	69	-	-	-	1.0	9	32	13	68
131	25	-	176	108	-	-	-	1.2	16	32	15	86

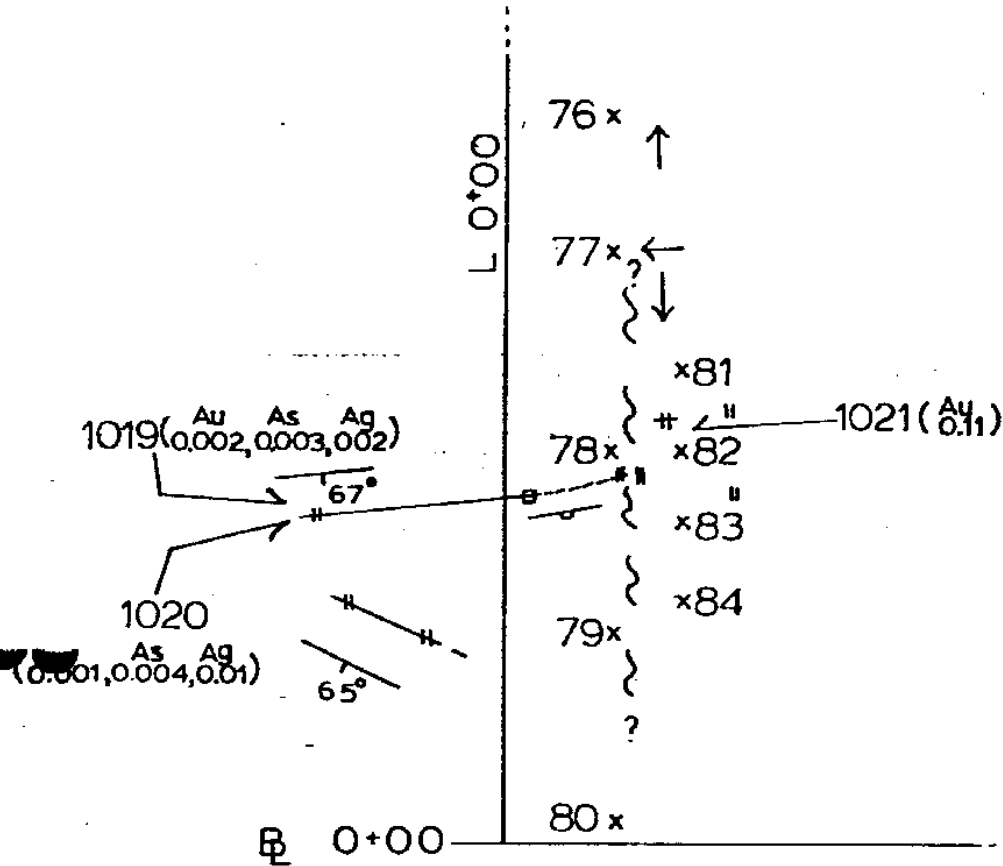
Note: Gold values in ppb, all others in ppm



# PORCUPINE SHOWING GEOCHEMISTRY

## LEGEND

- Fault assumed
- Mull sample
- Soil sample
- Sample location
- Trench
- Quartz vein
- Quartz vein sample
- Number, assay=oz/to  
(As in %)



ESSO MINERALS CANADA  
PROJECT 2150

Scale 1:2000



Figure #5

PORCUPINE SHOWING  
ANALYSIS DATA  
SEPTEMBER 1979

Sample No.	Mull Sample						Soil Sample					
	Au	Ag	As	Cu	Pb	Zn	Au	Ag	As	Cu	Pb	Zn
76	80	-	68	88	-	-	No sample					
77	200	-	164	52	-	-	-	1.8	1900	64	20	82
78	60	-	4	60	-	-	-	1.2	28	111	12	112
79	30	-	12	20	-	-	-	1.2	12	13	14	171
80	35	-	92	12	-	-	-	1.5	15	22	19	250
81	25	-	12	20	-	-	-	1.0	52	33	12	83
82	15	-	4	10	-	-	-	0.7	14	16	8	52
83	10	-	1	16	-	-	-	1.2	7	41	14	65
84	5	-	44	16	-	-	-	1.0	9	25	14	56

Note: Gold values in ppb, all others in ppm

### III. GEOCHEMISTRY

A total of 404 organic and 444 soil samples were collected from a 3200 m long, 1 km wide grid. Gridlines were spaced at 100 m intervals with McDame Lake and McDame Creek serving as the grids northern boundary, maps 5 - 7 present the analytical results of Au, Ag, Cu and As. It was hoped that geochemistry would prove an effective tool for uncovering veins, especially to the east of Mystery Lake where outcrop is absent.

#### 1. MULL (ORGANIC SAMPLES)

Humus-rich forest soil (mull) was used by G. Curtin et al, 1968 to study the known gold distribution in bedrock. It was found that gold in bedrock was accumulated by pine and aspen trees and is concentrated in the mull by the decay of organic litter from these trees. Gold soil anomalies within extensive glacial drift cover was found to poorly reflect the known gold deposits. As the McDame District is heavily covered with glacial till this method was chosen for geochemical study.

Preliminary studies were conducted on the Jennie, Davis, and Goldhill showings. The results for both 50 and 100 meter spacings are shown in figures 3, 4 and 5. The Goldhill showing, figure 3, showed excellent response in both soil and mull samples. Thin, less than 1 m, overburden cover is responsible for the well defined soil anomalies. Ag, As, Cu and Zn were anomalous in soil samples collected at 20 m intervals. It is interesting to note that a low As value in vein 1001 relative to vein 1002 was enhanced in the soil. Uneven vein mineralization might also explain this enhancement. Mull samples showed excellent response in all elements. With increasing thickness in overburden cover, exceeding 5 meters, soil anomalies showed less enhancement against their background values while mull geochemistry still gave reasonable definition of the veins.

Sampling at 50 meter intervals across the Jennie Vein gave a weak, broad anomaly but did not locate the specific vein location (Figure #4). Figure #5 located a geochemical anomaly north of known veins.

## 2. SAMPLING TECHNIQUE

### Soil Samples

Soil samples of the B horizon were collected at 50 m intervals with 100 m sample intervals being analyzed for Ag, Cu and As. Two types of soils were sampled (a) a light brown mixture of sand and gravel (glacial till deposit) and (b) a light grey clay which may in part have a fluvial origin. Soil depths varied from 10 to 40 cm depending on the thickness of the overlying organic mat. About 250 grams of soil was placed in a 7 x 12 cm cotton bag. The bag was prelabelled with the sample and project number using a felt marker pen. A mattock or spade was used to collect the sample. Samples were not collected from swampy regions or flood plains. Samples were sent to the laboratory where their Ag, Cu and As contents were determined.

### Mull Samples

Mull samples of the A horizon were collected at 50 m intervals with 100 m interval samples being analyzed for Au, Cu and As. The living organic growth was first removed using a garden trawl or one's hands to expose the underlying dark brown mull. A mattock or trawl was used to cut around the edge of the exposed mat and it was then peeled back to expose the underlying B horizon. After removing any adhering soil particles, decaying tree branches, or living root systems the sample was placed in a prelabelled 20 x 35 cm plastic bag. About 50% of the bag was filled. Sample depths seldom exceeded 15 cm and in the case of a thick mull layer the upper portion was sampled. In open areas sample sites were chosen such that they lay close to evergreen trees - remaining within 4 m of the gridline picket. Samples were sent to the laboratory where their Au, Cu and As contents were determined.

## 3. LABORATORY TECHNIQUE

### Soil Samples

All samples were processed by Min-En Laboratories Ltd. at 705 West 15th Street, North Vancouver, B.C. as follows:

1. Samples are dried at 95<sup>0</sup>C.
2. Dried samples are screened by 80 mesh screens to obtain minus 80 mesh fraction.
3. 1.0 gram of the sample is digested for 6 hours with HNO<sub>3</sub> and HClO<sub>4</sub> mixture.
4. After cooling, the samples are diluted to standard volume.
5. Solutions are analyzed by atomic absorption spectrophotometers.
6. Ag, Cu and As are analyzed using the CH<sub>2</sub>H<sub>2</sub> - air flame combination.

#### Mull Samples

All samples were processed by Min-En Laboratories Ltd. at 705 West 15th Street, North Vancouver, B.C. as follows:

1. Samples are dried at 95<sup>0</sup>C.
2. Samples are screened to obtain the minus 2 mm fraction.
3. 5.0 or 10.0 grams are pretreated with HNO<sub>3</sub> and HClO<sub>4</sub>.
4. Pretreated samples are digested with Aqua Regia solutions.
5. Samples are brought to suitable volume using 25% HCl.
6. Copper and silver are analyzed from suitable aliquots by atomic absorption spectrophotometric techniques.
7. At least 75% of the original sample solution is further oxidized and treated with methyl iso-butyl ketone.
8. Using suitable standard solutions gold is analyzed by atomic absorption instruments. Detection limit is 5 ppb.

#### 4. RESULTS

All geochemical data were treated statistically with threshold and background values being based on interpretation of a lognormal cumulative probability plot (after A.J. Sinclair, 1974). The threshold values ( $T_x$ ) for all elements are shown in Appendix 1. Inflection points on the cumulative probability graph are shown by a small arrow while the 95% confidence limits are based on Lepeltier (1969). Open circles represent the summation of two dashed linear plots which themselves represent geochemical data on each side of the inflection point. In the ideal case these open circles should all lie on the part of the curve which they represent. Trimodal distributions were noted in all cases except for As in soil and Au in mull which are bimodally distributed. The following thresholds have been adopted and not all may be identifiable on each graph:  $T_1$  = upper anomalous population,  $T_2$  = probably anomalous,  $T_3$  = possibly anomalous,  $T_4$  = upper background with background being less than the  $T_4$  value. In both bimodal distributions  $T_3$  was estimated while in the graphical plot of Au the upper 2% of the data was considered  $T_2$  - normal application of Sinclair's method would have adopted the mid-point of the vertical portion of the curve. No satisfactory linear representation could be obtained for  $T_1$  and  $T_2$  for Cu in mull; the upper 2% of the data was considered anomalous. All geochemical results have been plotted on maps 5 through 7. Soil anomalies have been underlined rather than contoured.

Maps 5A - D contain the geochemical results for the westernmost part of the grid. The underlying geology is massive andesite with outcrops lacking in the SE corner. All four elements proved anomalous along L12W and L11W defining the NE striking quartz vein 1031. Elsewhere on the grid no anomalous Cu values were noted except for preliminary soil anomalies across the Goldhill veins. Other areas of interest are listed in point form below:

1. Baseline 5S, L11W - a very high As (mull) anomaly with possibly anomalous Au values.
2. L9W, 100S - very high Ag and As (soil) values and possibly anomalous Au values may be associated with Callison Creek and mill waste pond.



3. L9W, 200N - possibly anomalous Au value; L5W, 400N - a very high Au anomaly.

4. L5W - L7W, south of Erickson Creek - anomalous As (soil) and probably anomalous Ag values likely represent a regional flood plain effect.

5. L1W and L2W, north - high Ag anomalies: L1W, 500N - 2.9 ppm Ag values lying south of the Porcupine showing.

Most As anomalies would seem to occur near creeks or in swampy regions and lack the support of other anomalous elements.

Maps 6A - D include the geochemical results for the central part of the grid. The underlying geology is massive andesite to the west of Mystery Lake with outcrops lacking south of the baseline. To the east of Mystery Lake argillite is suspected to predominate except in the extreme northern portions of the grid. Anomalies are listed below.

1. L7E and L8E - very high Au anomalies are associated with the Camp/Davis showing and to the north.

2. L4E, 50N - possibly anomalous Au value.

3. L10E, 400N - probably anomalous Au value with highly anomalous As (mull).

4. L0 to L8E, south - generally higher Ag and As (mull) values. This flat lying poorly drained area represents a collecting basin.

5. L9E and L10E, south - high Ag anomalies with some associated high As (mull) values.

6. East of Mystery Lake - high in Ag, As (mull) and Cu (mull). The andesite-argillite contact is suspected in this area, it may also partially influence anomaly 5 (above).

Maps 7A - D contain the geochemical results for the eastern part of the grid. There are few rock outcrops and it is suspected that only the northern most 30% of the grid is underlain by andesite, the rest being argillite. No Au anomalies were found.

1. L13E, south - several high Cu anomalies are supported by high As (mull) values.

2. L18E, 400N - a very high Cu (mull) anomaly in a region of probably anomalous Ag values.

Arsenic appears as several high mull anomalies south of baseline 0+00. Most of these are not supported by anomalies of any other element. Ag tends to show some probably anomalous trends in this area.

#### 5. CONCLUSIONS

The geochemical results and their statistical treatment seem to define regional anomalies rather than local ones. Acceptance of threshold values as determined would overlook the Jennie and Goldhill veins completely. This is not to imply that the present results should be ignored. Rather, that more detailed work should be done in areas defined as anomalous and individual non-anomalous results may be viewed relative to one another instead of as part of the regional picture. Elements with possibly anomalous values with support of other elements having probably anomalous values should be given a high degree of priority. The trimodal lognormal distribution is likely not reflecting the two prominent rock types.

#### IV. GEOPHYSICS

##### 1. PURPOSE

A reconnaissance VLF electromagnetic survey has been carried out in the McDame Lake area to localize fracture systems which may contain gold and silver bearing quartz veins.

##### 2. EQUIPMENT AND DATA PROCESSING

A Phoenix Geophysics VLF 2 electromagnetic receiver was used. This type of detector measures variations in very low frequency radio waves generated by transmitters. Operated by the military, for communications with submarines, these radio waves have a frequency band from 10 to 30 kHz. For exploration purposes, VLF receivers are designed to detect one component of the signal: the ground wave. Measurement of its characteristics gives a measure of the conductivity of the ground. Rapid conductivity variations of the earth produce equally rapid changes in the characteristics of the ground EK wave, thus, such conductors as sulphide mineralizations, graphitic sediments, swamps and fractures can be detected by this method.

Ideally, the strongest response to a conductor occurs when its strike is in the direction of the transmitter. In the McDame Lake area, the strike of the gold bearing fractures is roughly

east-west, consequently measurements were made using the VLF transmitter near Cutler, Maine (NAA, 17.8 kHz).

Station readings were taken at 50 meter intervals. At each station the tilt angle of the ground EM wave and its horizontal field strength were recorded. Because the field strength varies with time, base stations were established. Readings at these stations were repeated at two hour intervals during the course of the survey. The recorded drift was then removed from the horizontal field strength data.

Furthermore, to allow contouring of the tilt angle data, a four point averaging procedure was applied. If  $O_1$ ,  $O_2$ ,  $O_3$  and  $O_4$  are four successive readings along a crossline, averaging was obtained using the following equation  $O \text{ avg.} = (O_3 + O_4) - (O_1 + O_2)$ . The resulting value was then plotted midway between the location of  $O_2$  and  $O_3$ . This procedure reduces geological noise as well as enhances weak anomalies.

Data obtained on this grid is plotted on three map sheets covering the western, central and eastern portion of the grid. Tilt angle profiles are presented on maps 8A, 9A and 10A. The contoured tilt angle data is plotted on maps 8B, 9B and 10B and the horizontal field strength values are contoured on maps 8C, 9C and 10C. The interpreted conductors are plotted on all of the above maps.

### 3. RESULTS

Eighteen conductive features have been delineated. All but two appear to be due to bedrock sources. Some occur in areas where vein systems have been located while others have associated gold or silver geochemical anomalies. The conductor responses are generally poor to fair reflecting, in part, the large station separation used in this reconnaissance survey.

A discussion of individual anomalies follows:

#### West Grid - Line 12+00W to 0+00 - Maps 8A, B and C

The horizontal field strength map (8C) shows slightly increased field strengths in the western and southeastern portion of the grid. There is only marginal correlation with tilt angle data which suggests that the field strength data may reflect overburden conductivity.

Five conductive zones have been identified (map 8B), four of which may be bedrock conductors:

Anomaly A (Map 11) is located on line 9W at 3+5S. This is a weak anomaly which coincides with a vein system, approximately 5 m wide. A short adit and trench have been put down to test this vein. North of this area a weak geochemical gold anomaly is reported. This zone may extend westward to 10W.

Anomaly B is located west of line 10W at about 5+50S. It is a weak conductor.

Anomaly C lies south of B and is located between two vein systems. A geochemical silver anomaly lies immediately north of this conductor.

Anomaly D is found on line 7W at 10+25S. This is a strong anomaly. A broad geochemical silver anomaly lies to the north of this anomaly.

Anomaly E this pronounced anomalous response coincides with the developed area of Erickson Gold Mines Ltd. which is its cause.

Anomaly F this zone extends from 1W to 6E (map 11) at about 1+50S.

Anomalies G and H are located on line 1W and 0. These are presently interpreted as one line anomalies, however, they may reflect the same bedrock feature.

#### Central Grid - Line 0 to 11E - Maps 9A, B and C

Horizontal field strength contours (map 9C) again show broad areas of increased field strength. Two such areas are in the vicinity of lakes which may be covered by increased overburden conductivities. This tilt angle data, map 9B, shows 5 anomalous areas, two of which have coincident field strength anomalies.

Anomaly I located on line 2E at 10+75 is the strongest response within a very weak trend which extends to line 6E. The poor quality of the responses suggests most of this zone may reflect overburden conductors.

This anomaly has a coincident field strength anomaly which extends westward to the area of a vein system on line 0 at 1+00N. Again, this link is tenuous because of an indicated fault just east of line 0.

Anomaly K this anomaly has its strongest response in the vicinity of Mystery Lake which may be the source of the anomaly.

East Grid - Lines 12E to 20E - Maps 10A, B and C

Referring to maps 10B and 10C, the area south of the baseline is more conductive than the north portion of the grid. Drilling has indicated that the southern portion of the grid is underlain by an argillite sequence. Thus, anomalies N, O, P, R and possibly M are probably caused by conductive argillite bands which, as a result, downgrades this area's potential for gold or silver bearing quartz veins.

To the north, anomaly L appears to extend to 14E. There are no anomalous geochemical values associated with this part of the conductor.

Anomaly Q is a questionable conductor located between lines 15E and 17E at about 2+50N. This conductor lies within a broad geochemical silver anomaly.

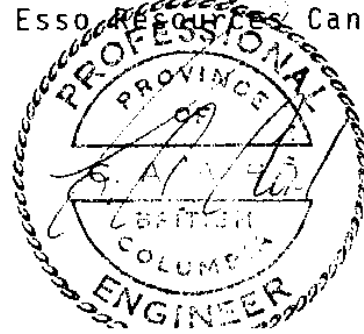
4. CONCLUSIONS

Eighteen conductive zones have been delineated. Sixteen are probably caused by bedrock sources. Because of the reconnaissance nature of the survey no quantitative estimate of depth can be given, furthermore, the quality of the conductors delineated can only be determined by a detailed survey with a station interval of about 10 m.

Anomalies B, D, F & J, L and Q are recommended for follow-up. Of these, anomalies F & J and Q are the most promising. The former anomaly has a strike length of 700 m with geochemical silver anomalies along most of its length. Anomaly Q is a very weak conductor, however, it lies within a broad geochemical silver anomaly.

Anomalies N, O, P, R and possibly M are probably caused by conductive argillite bands and are consequently of secondary interest only.

P.A. Godkin - Geologist  
Z.B. Doborzynski - Geophysicist  
Esso Resources Canada Limited



STATEMENT OF QUALIFICATIONS

I am a bachelor of Science Honors graduate from the University of Manitoba (May 1977) and have been employed as an exploration geologist within the mining industry for five years.

*Paul Godkin*

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Paul A. Godkin

STATEMENT OF QUALIFICATIONS

I am a graduate of McGill University with B.Eng. and M.Sc. degrees in Applied Geophysics. I am presently employed by Esso Minerals Canada as a minerals geophysicist and have worked within the mineral exploration industry for the past seven years.

*J. Polozynski*

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Journal of Geochemical Exploration: Selection of Threshold Values in Geochemical Data Using Probability Graphs; A.J. Sinclair; March 1974; p129-149

U.S. Department of the Interior: Geological Survey Circular 562; Utilization of Humus Rich Forest Soil (Mull) in Geochemical Exploration for Gold; G.C. Curtin, H.W. Lakin, G.J. Neurgurg, and A.E. Hubert; 1969



APPENDIX #1

GEOCHEMISTRY STATISTICAL GRAPHS

APPENDIX I

Geochemical Threshold Values (Tx)

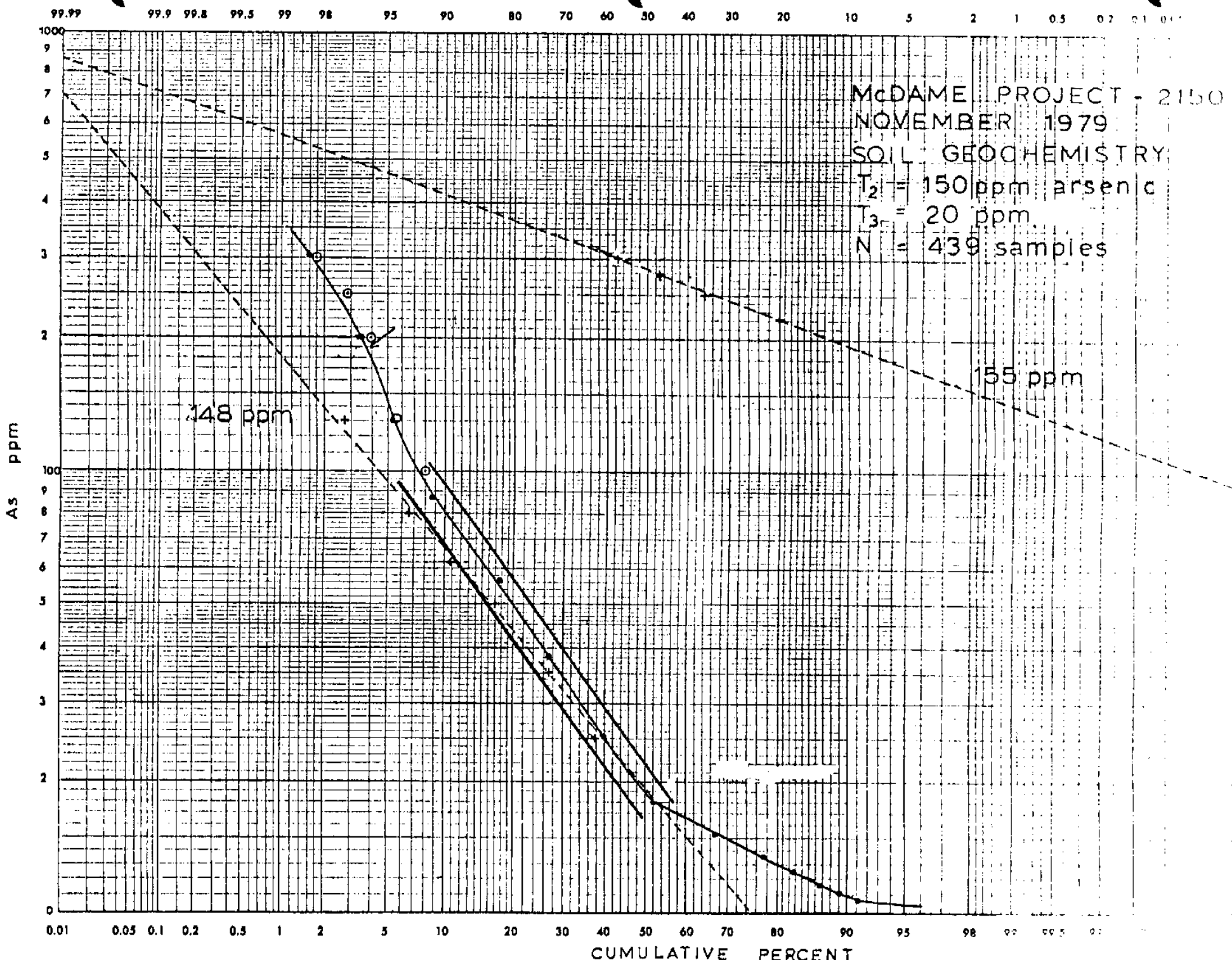
- T<sub>1</sub> = Upper anomalous population  
T<sub>2</sub> = Probably anomalous  
T<sub>3</sub> = Possibly anomalous  
T<sub>4</sub> = Upper limit of background values

Soils

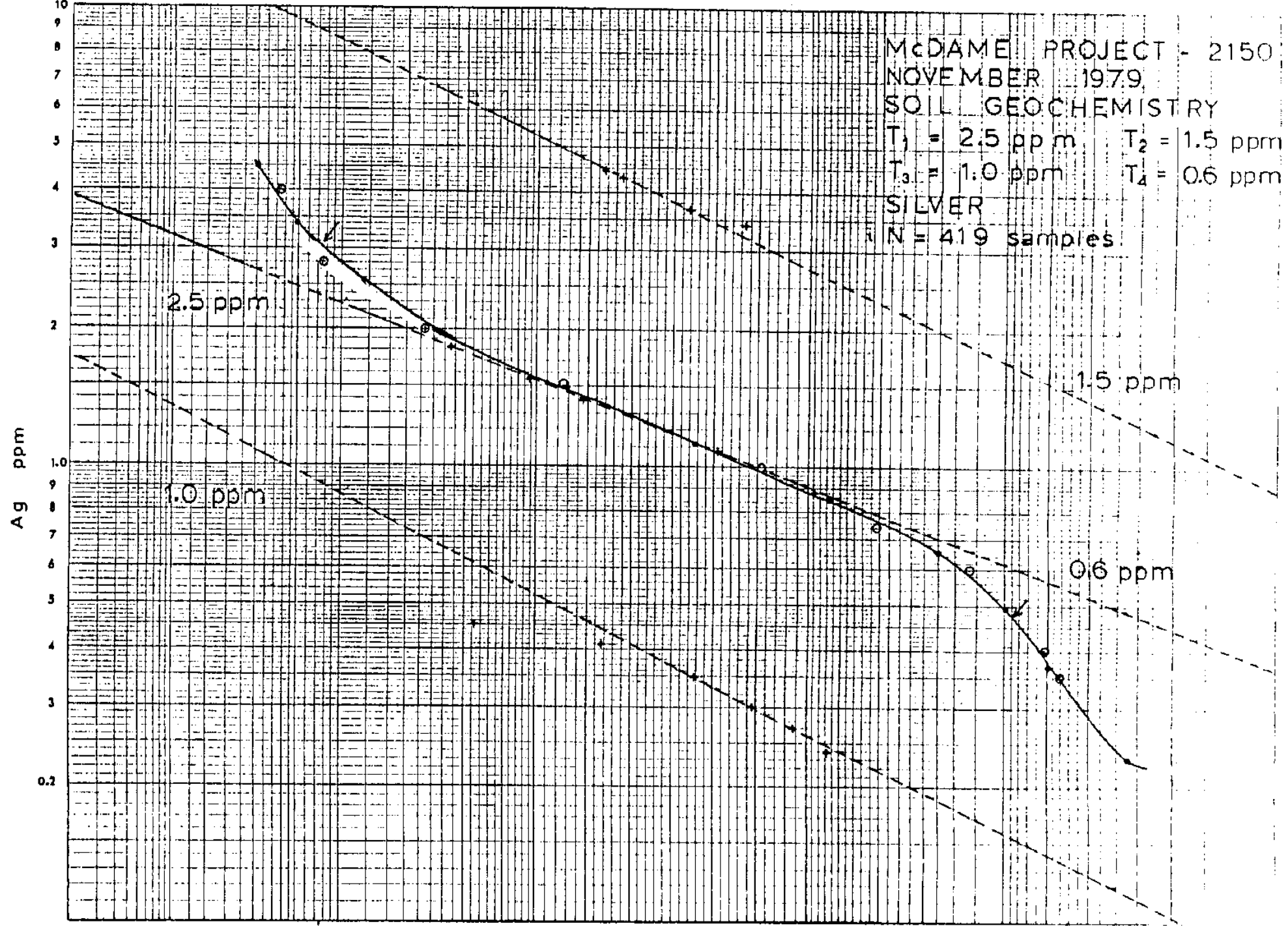
	T <sub>4</sub>	T <sub>3</sub>	T <sub>2</sub>	T <sub>1</sub>
Arsenic		20 ppm	150 ppm	
Silver	0.6 ppm	1 ppm	1.5 ppm	2.5 ppm
Copper	9 ppm	26 ppm	108 ppm	120 ppm

Mulls

Arsenic	37 ppm	60 ppm	460 ppm	1050 ppm
Gold		20 ppb	300 ppb	
Copper	29 ppm	46 ppm	250 ppm	



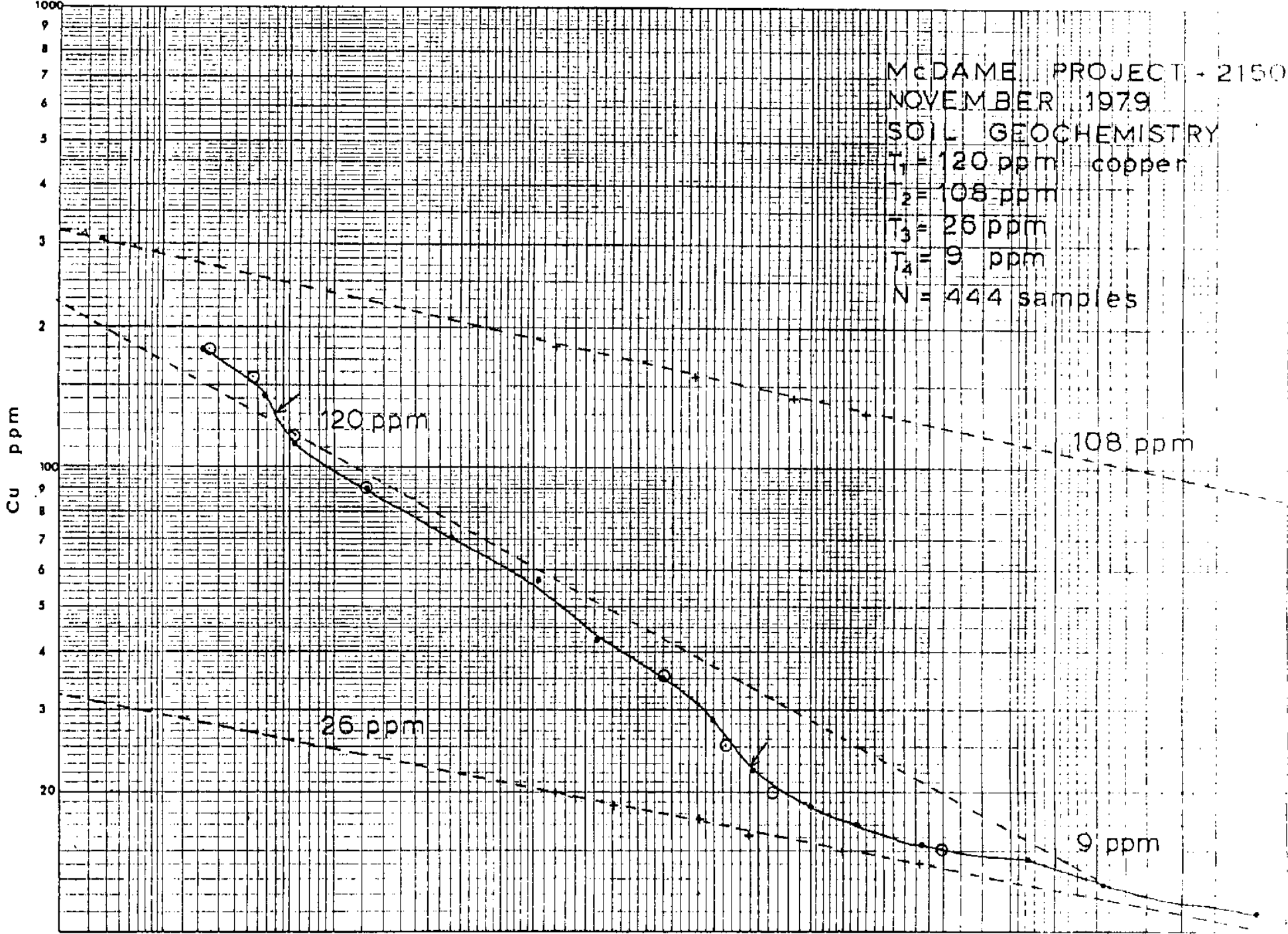
99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 40 30 20 10 5 2 1 0.5 0.2 0.1



McDAME PROJECT - 2150  
NOVEMBER 1979  
SOIL GEOCHEMISTRY  
T<sub>1</sub> = 2.5 ppm    T<sub>2</sub> = 1.5 ppm  
T<sub>3</sub> = 1.0 ppm    T<sub>4</sub> = 0.6 ppm  
SILVER  
N = 419 samples

CUMULATIVE PERCENT

99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05



McDAME PROJECT - 2150  
NOVEMBER 1979  
SOIL GEOCHEMISTRY  
T<sub>1</sub> = 120 ppm copper  
T<sub>2</sub> = 108 ppm  
T<sub>3</sub> = 26 ppm  
T<sub>4</sub> = 9 ppm  
N = 444 samples

Cu ppm

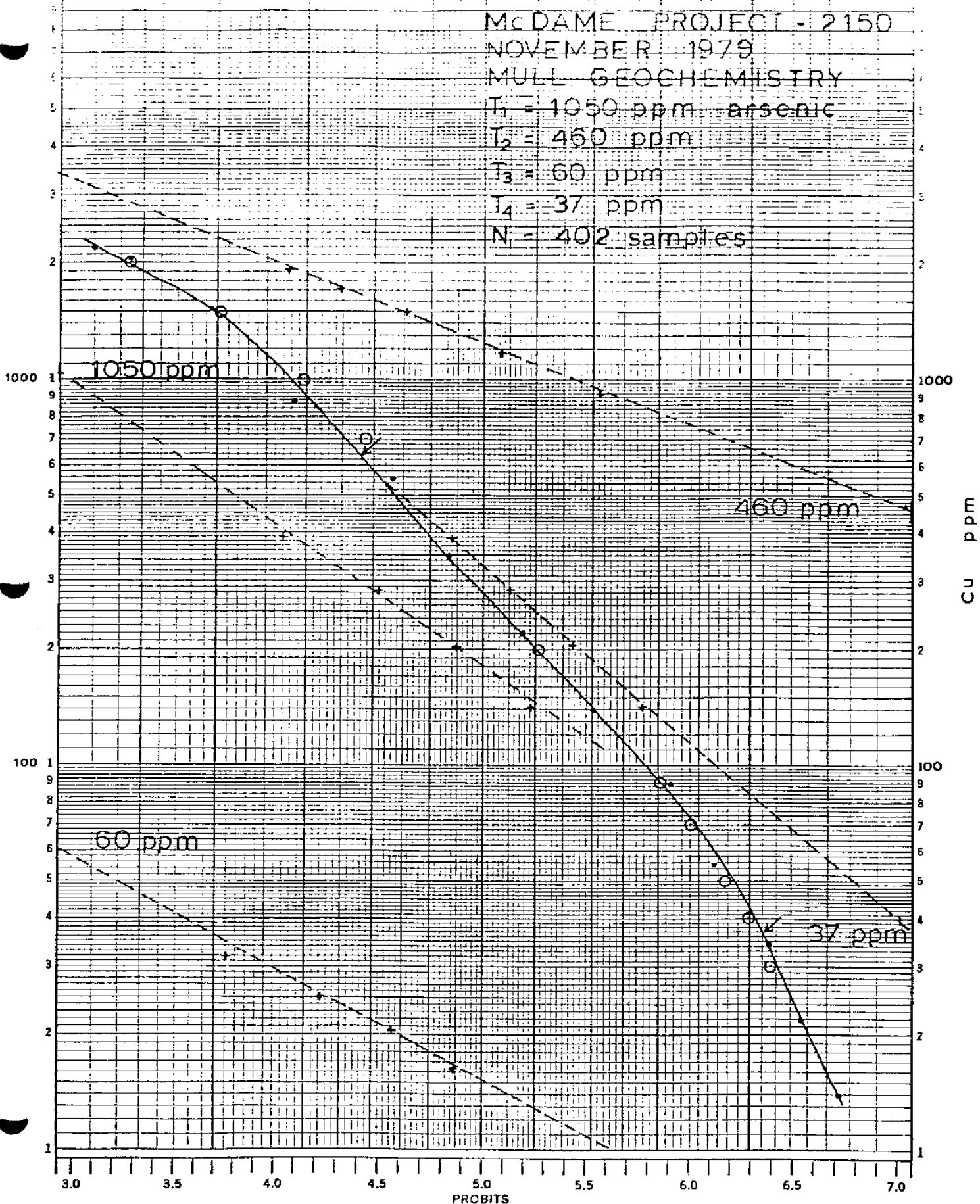
CUMULATIVE PERCENT

CUMULATIVE PERCENT

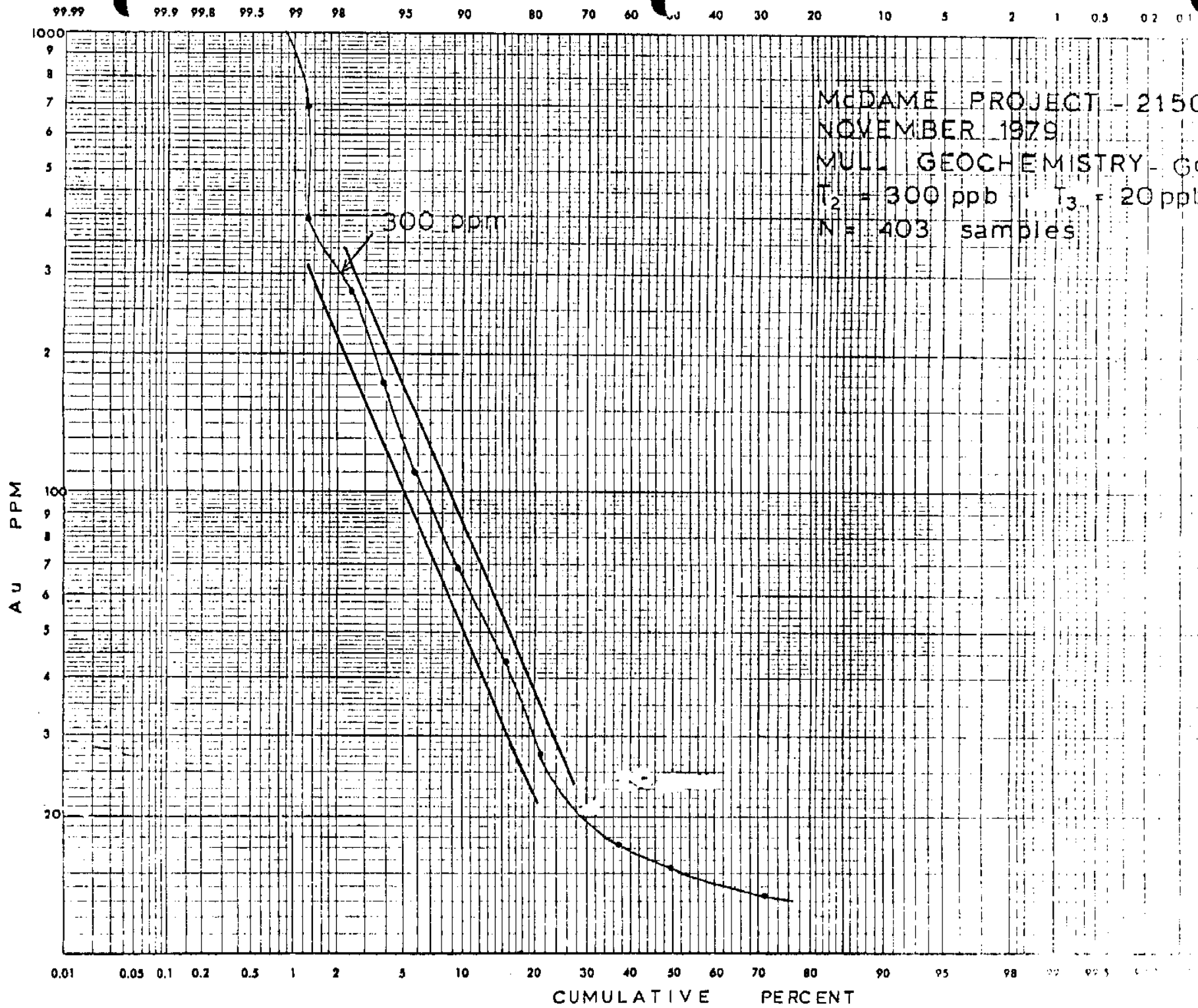
PERCENTAGE

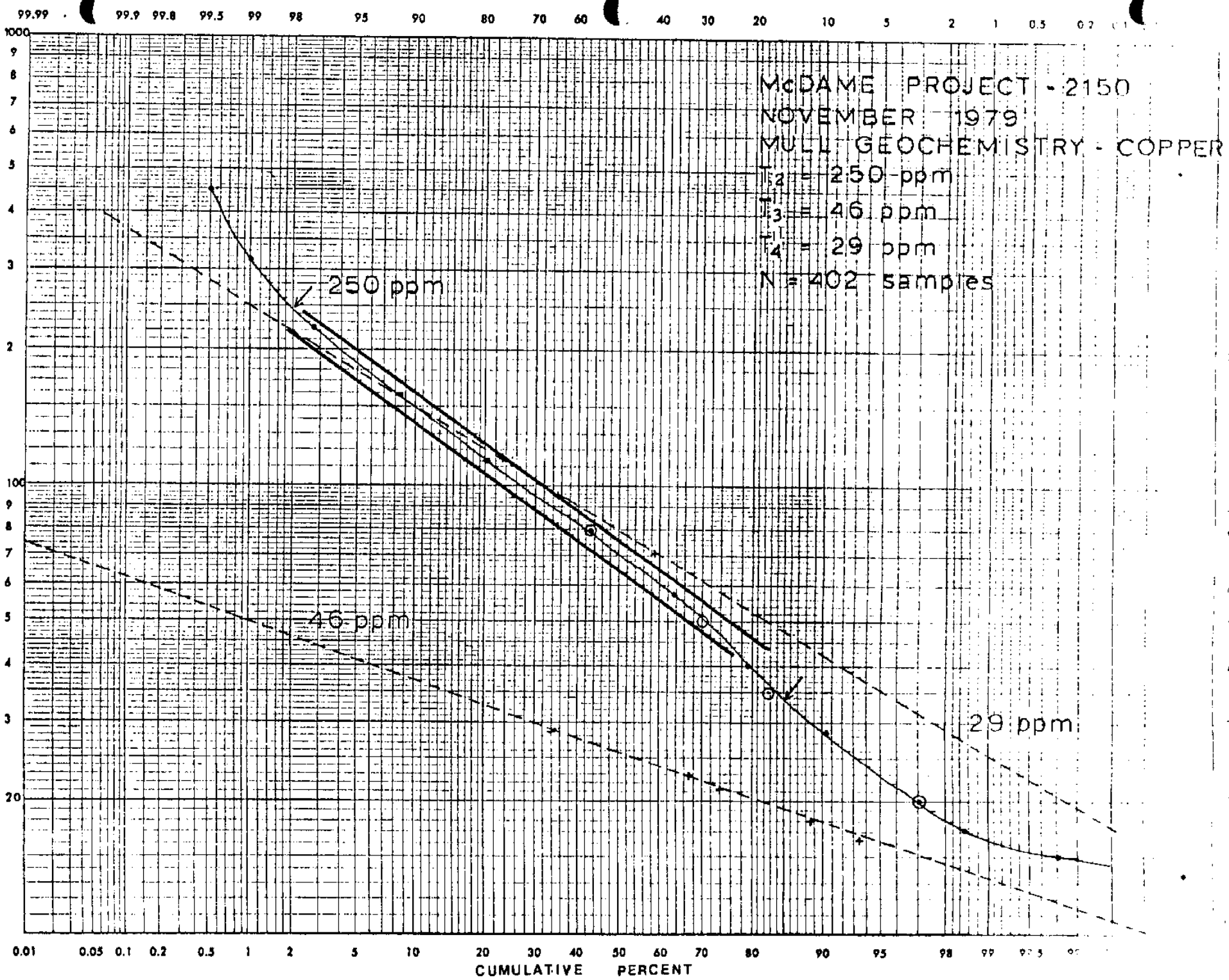
10,000 10,000

McDAME PROJECT - 2150  
NOVEMBER 1979  
MULL GEOCHEMISTRY  
T<sub>1</sub> = 1050 ppm arsenic  
T<sub>2</sub> = 460 ppm  
T<sub>3</sub> = 60 ppm  
T<sub>4</sub> = 37 ppm  
N = 402 samples



46 8080  
PROBABILITY  
X 3 LOG CYCLES  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.







APPENDIX #2

ITEMIZED COST STATEMENT

COST STATEMENT - McDAME PROJECT

TYPE OF WORK	MAN DAYS	COST PER MAN DAY	COST	TOTALS
Geology	4	\$100.	\$ 400.00	
	54	59.	3,186.00	
	21	43.	903.00	
	11	38.	<u>418.00</u>	\$4,907.00
Geochemistry	14	\$ 59.	\$ 826.00	
	5	43.	215.00	
	5	38.	190.00	
Contract Work - 10 days			<u>1,672.66</u>	\$2,903.66
Geophysics (21 man days, 27 line/kilometers of EM 16)	4	\$100.	\$ 400.00	
	17	59.	<u>1,003.00</u>	\$1,403.00
Line Cutting (33 man days, 27 line/kilometers)	7	\$ 59.	\$ 413.00	
	5	43	215.00	
	6	38	228.00	
Contract Work - 15 days			<u>2,508.98</u>	\$3,364.98
Field Office Work (data interpretation, drafting, report writing, etc.)	45	\$ 59.	<u>\$2,655.00</u>	\$2,655.00

Geochemistry Analytical Costs

Number and Sample Type	Analyzed Elements	Cost
389 organic (Av'g. \$10.39/unit)	Au/Cu/As	\$4,040.25
349 soils (Av'g. \$ 5.43/unit)	Ag/Cu/As	1,894.25
61 soils (\$5.80/unit)	Cu/Zn/Ag/As	353.80
41 soils (\$0.65/unit)	Pb	26.65
25 soils (\$4.00/unit)	Au	100.00
35 soils (\$4.65/unit)	Cu/Zn/As	162.75
11 soils (\$1.30/unit)	Pb/Ag	14.30
10 organic (\$12.95/unit)	Cu/Pb/Zn/Ag/As/Au	129.50
15 soils (\$3.95/unit)	Cu/Pb/Zn/Ag	59.25
5 organic (\$11.45/unit)	Cu/Pb/Zn/Ag/Au	<u>57.25</u>
		6,838.00

Food & Accommodation: July 9 to October 31, 1979

223 man days      averaged costs at \$23.35/man day      \$5,207.43

Transportation

Air fares: Vancouver to Watson Lake	\$ 750.00	
Freight	721.28	
Truck Rentals: July 9 to October 31		
104 days @ \$32.50/day	3,380.00	
Gas, Oil	<u>315.19</u>	
		\$5,166.47

Instrument Rental

Pheonix VLF-2: September 20-October 26, 1979      \$ 690.00

Mapping, Photographic and Reproduction Services      \$4,750.21

Field Supplies: Sample bags, Engineering Supplies, Hardware, etc.      \$ 938.24

\$38,823.99



BREAKDOWN OF LABOUR COSTS  
FOR McDAME COST STATEMENT

LABOUR

Senior Geologist	August 20-25 September 18-26	2 days 6 days <u>8 days</u>	@ \$100.	\$800.00
Field Geologist	July 9-31 August 1-31 September 1-30 October 1-31 November 1-30 December 1-31	21 days 27 days 26 days 27 days 18 days 18 days <u>137 days</u>	@ \$59.	\$8,083.00
Geological Assistant	July 9-31 August 1-31	15 days 16 days <u>31 days</u>	@ \$43.	\$1,333.00
Geologist Assistant	July 24-21 August 1-31	6 days 16 days <u>22 days</u>	@ \$38.	\$836.00
Contracted Work:	September 21 - October 13, 1980			
Geochemical Sampling:	10 man days			
Line Cutting :	15 man days			\$4,181.64

COST DISTRIBUTION

Costs are distributed prorata according to the amount of work performed in each group.

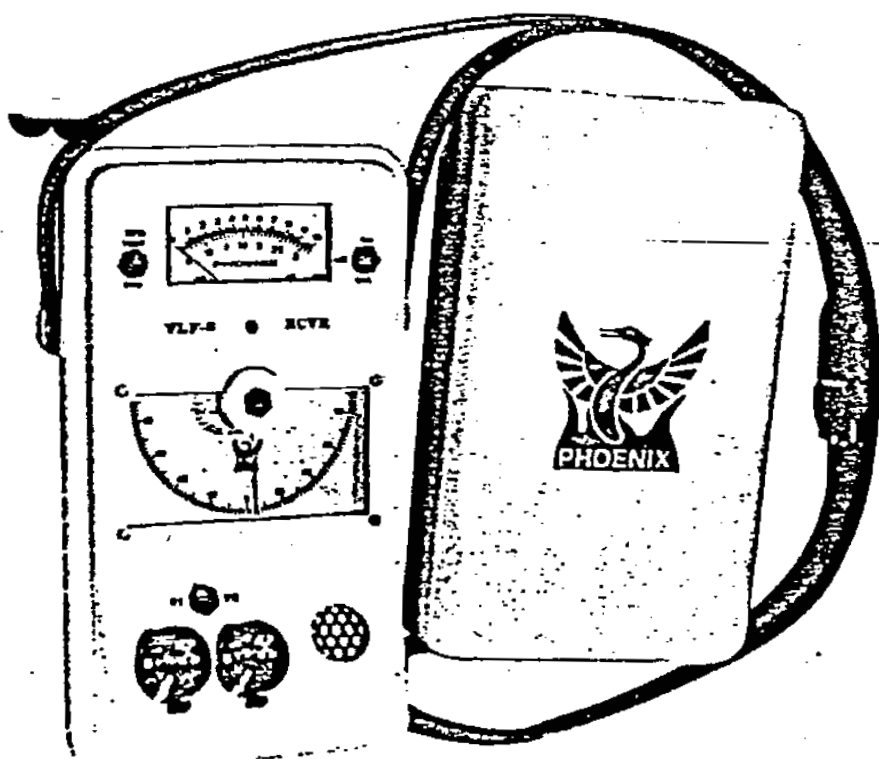
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
Geology	\$4,907.00	\$883.26	\$1,128.61	\$1,423.03	\$1,472.10
Geochemistry	2,903.66		813.02	1,016.28	1,074.36
Geophysics	1,403.00		392.84	491.05	519.11
Line Cutting	3,364.98		942.20	1,177.74	1,245.04
Analyses	6,838.00		1,914.64	2,393.30	2,530.06
Transportation	5,166.47	929.96	1,188.29	1,498.28	1,549.94
Room & Board	5,207.43	937.34	1,197.71	1,510.15	1,562.23
Orthophoto, etc.	4,750.21	855.04	1,092.55	1,377.56	1,425.06
Rentals	690.00		193.20	241.50	255.30
Supplies	938.24	168.88	215.80	272.08	281.48
Field Office Time	2,655.00	477.90	610.65	768.95	797.50
<b>TOTAL</b>	<u>\$38,823.99</u>	<u>\$4,252.38</u>	<u>\$9,689.51</u>	<u>\$12,169.92</u>	<u>\$12,712.18</u>
<b>WORK APPLIED</b>		4,200.00	9,600.00	12,100.00	12,600.00
<b>PAC</b>		600.00	1,200.00	100.00	-
<b>TOTAL APPLIED</b>		<u>\$4,800.00</u>	<u>\$10,800.00</u>	<u>\$12,200.00</u>	<u>\$12,600.00</u>

APPENDIX #3

EM-16  
PHOENIX VLF-2 FIELD MANUAL

# VLF-2

- Lightweight, low battery drain, rugged, simple to operate
- Two independent channels
- Each channel may select any station between 14.0 and 29.9 kHz
- Single crystal used for all frequencies
- Locking clinometer provides tilt-angle memory
- Superheterodyne detection and digital filtering provide extremely high selectivity and noise rejection



Military and time standard VLF transmitters are distributed over the world. These stations are used for geophysical EM surveying thus eliminating the need for a local transmitter and permitting one-man operation.

To ensure that a station excites the prospective conductor, two stations at approximately right angles are used during a survey (see data on back).

The choice of 160 frequencies in the range 14.0 to 29.9 kHz permits the use of a local EM transmitter when no suitable regular VLF station is available.



## PHOENIX GEOPHYSICS LIMITED

Geophysical Consulting and Contracting, Instrument Manufacture, Sale and Lease.

Head Office: 200 Yorkland Blvd. Willowdale, Ont., Canada, M2J 1R6. Tel: (416) 493-6350  
1424 - 355 Burrard St. Vancouver, B.C., Canada, V6C 2G8. Tel: (604) 684-2285  
2430 N. Huachuca Dr., Tucson, Arizona, U.S.A. 85705. Tel: (602) 884-8542

- Diameters Measured** : Orientation and magnitude of the major and minor axes of the ellipse of polarization.
- Frequency Selection, Front Panel** : Dual channel, front panel selectable (F1 or F2) each with independent precision 10-turn dial gain control.
- Frequency Selection, Internal** : F1 and F2 can be selected by internal switches within the range 14.0 to 29.9 kHz in 100 Hz increments.
- Detection And Filtering** : Superheterodyne detection and digital filtering provide a much narrower bandwidth and thus greater rejection of interfering stations and 60 cycle noise than conventional receivers.
- Meter Display** : 2 ranges: 0 to 300 or 0 to 1000. Background is typically set at 100. Meter is also used as dip angle null indicator and battery test.
- Radio** : Crystal speaker, 2500 Hz used as null indicator.
- Dipmeter** :  $\pm 90^\circ$ ,  $\pm 0.5^\circ$  resolution. Normal locking, push button release.
- Battery** : One standard 9v transistor radio battery. Average life expectancy - 1 to 3 months (battery drain is 3 mA)
- Temperature Range** :  $-40^\circ$  to  $+60^\circ$  C.
- Dimensions** : 8 x 22 x 14 cm (3 x 9 x 6 inches).
- Weight** : 850 grams (1.9 pounds).

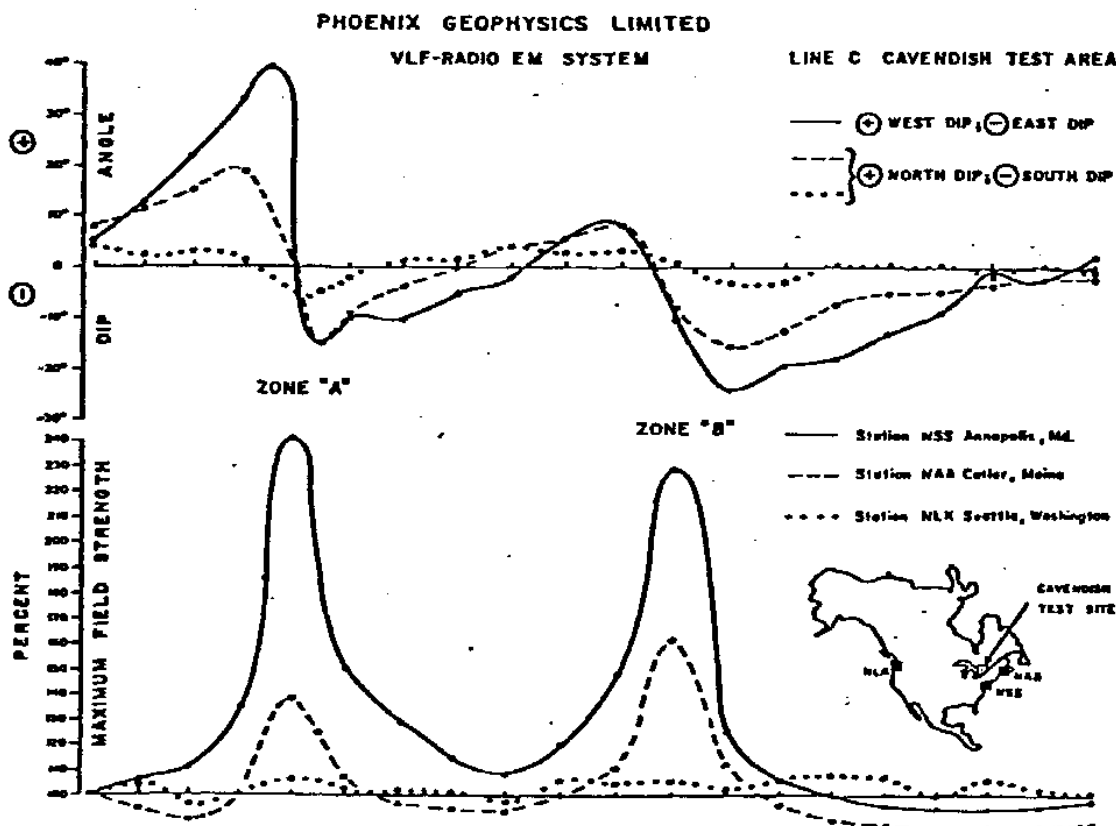
All of the established stations may be selected, or alternatively, a local VLF transmitter may be used which transmits at any frequency in the range 14.0 to 29.9 kHz.

VLF Station	Frequency (kHz)
Bordeaux, France	15.1
Odessa (Black Sea)	15.6
Rugby, U.K.	16.0
Moscow, U.S.S.R.	17.1
Yasamai, Japan	17.4
Hegaland, Norway	17.6
Cutler, Maine	17.8
Seattle, Washington	18.6
Malabar, Java	19.0
Oxford, U.K.	19.6
Paris, France	20.7
Annapolis, Maryland	21.4
Northwest Cape, Australia	22.3
Loulualei, Hawaii	23.4
Buenos Aires, Argentina	23.6
Rome, Italy	27.2

## Field Data

Results below illustrate the need for using two orthogonal stations when the strike of the prospective conductor is not well-known. The dip angle and amplitude were measured using station NLK in Seattle, Washington, and only a very weak anomaly associated with the two inductive sulphide zones at Cavendish, Ontario.

The results obtained using Cutler, Maine reveal a more prominent anomaly, but the best response was obtained using Annapolis, Maryland since the station lies almost due south and the transmitted electromagnetic field is thus maximum-coupled with the North-South trending conductors.





QUARTZ VEIN SHOWING MAP

REFERENCE: REPORT OF THE MINISTER OF MINES (BRITISH COLUMBIA), 1935

10-- VEIN ASSAY NUMBER  
 --m VEIN THICKNESS (meters)

SYMBOLS

- Drift-covered area [Symbol]
- Rock outcrop, area of outcrop, float [Symbol]
- Geological boundary (defined, approximate, interpreted) [Symbol]
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) [Symbol]
- Bedding, tops unknown (inclined, vertical, dip unknown) [Symbol]
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown) [Symbol]
- Lamination, axes of minor folds (horizontal, inclined, vertical) [Symbol]
- Drag fold (arrow indicates plunge) [Symbol]
- Fault (defined, approximate, interpreted) [Symbol]
- Fault (inclined, vertical) [Symbol]
- Fault (solid circle indicates downthrow side, arrows indicate relative movement) [Symbol]
- Thrust fault (approximate, interpreted) [Symbol]
- Shearing and dip [Symbol]
- Joint (horizontal, inclined, vertical, dip unknown) [Symbol]
- Syncline (defined, approximate) [Symbol]
- Anticline (defined, approximate) [Symbol]
- Anticline and syncline (overturned) [Symbol]
- Intensity (weak, moderate, strong) [Symbol]

- Trench [Symbol]
- Adit or tunnel [Symbol]
- Rock dump or tailings [Symbol]
- Quarry or mine [Symbol]
- Shaft, raise, winze [Symbol]
- Diamond-drill hole [Symbol]

Contours 2500 C.I. 25 Metres

Stream or creek (Perennial, intermittent) [Symbol]

Marsh [Symbol]

Lake [Symbol]

Road [Symbol]

Jeep Road [Symbol]

Trail [Symbol]

Trees [Symbol]

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7816**

ESMO MINERALS CANADA

McDAME PROJECT - 2150

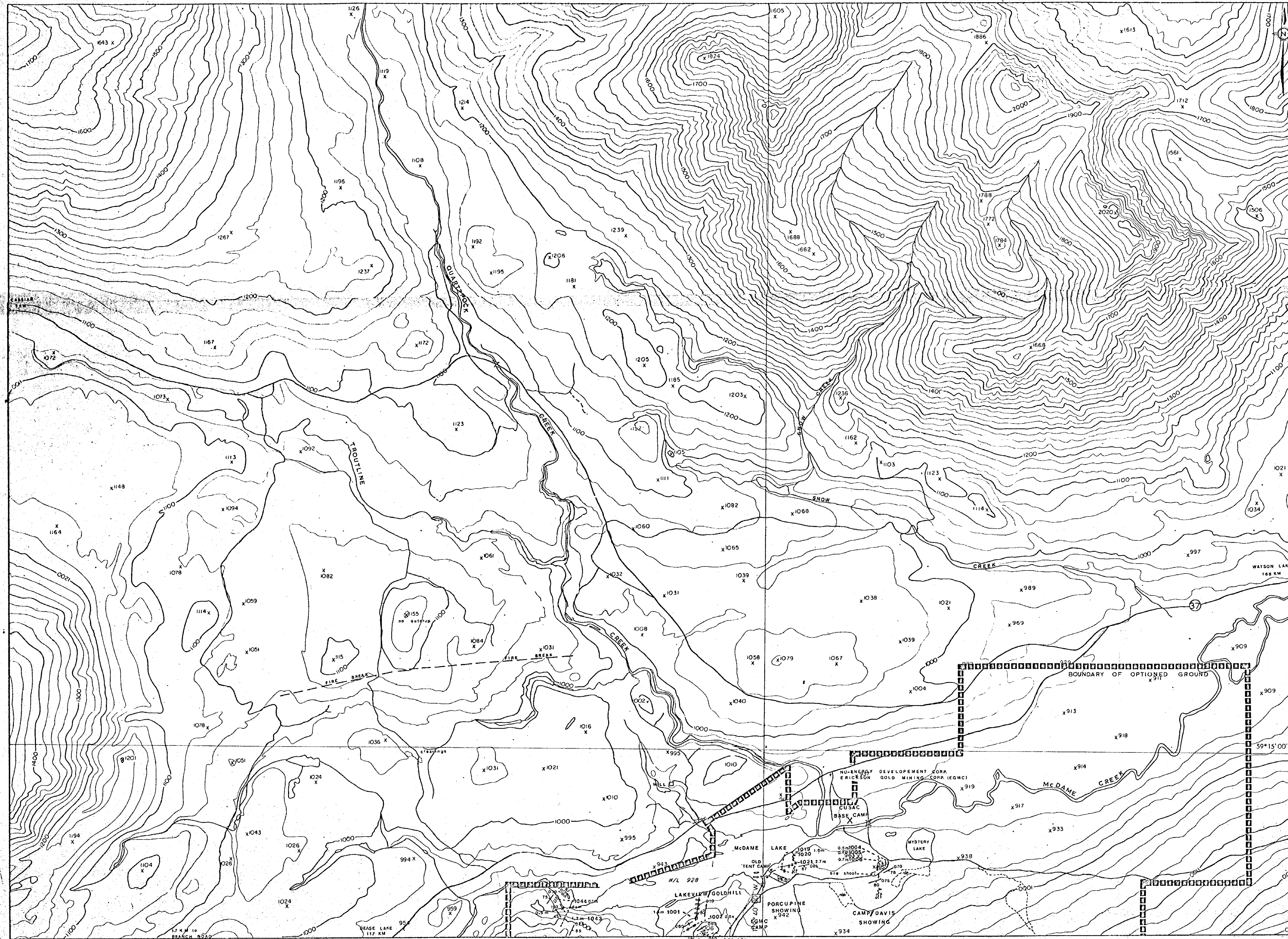
Project No. 2150 Mining Division LIARD

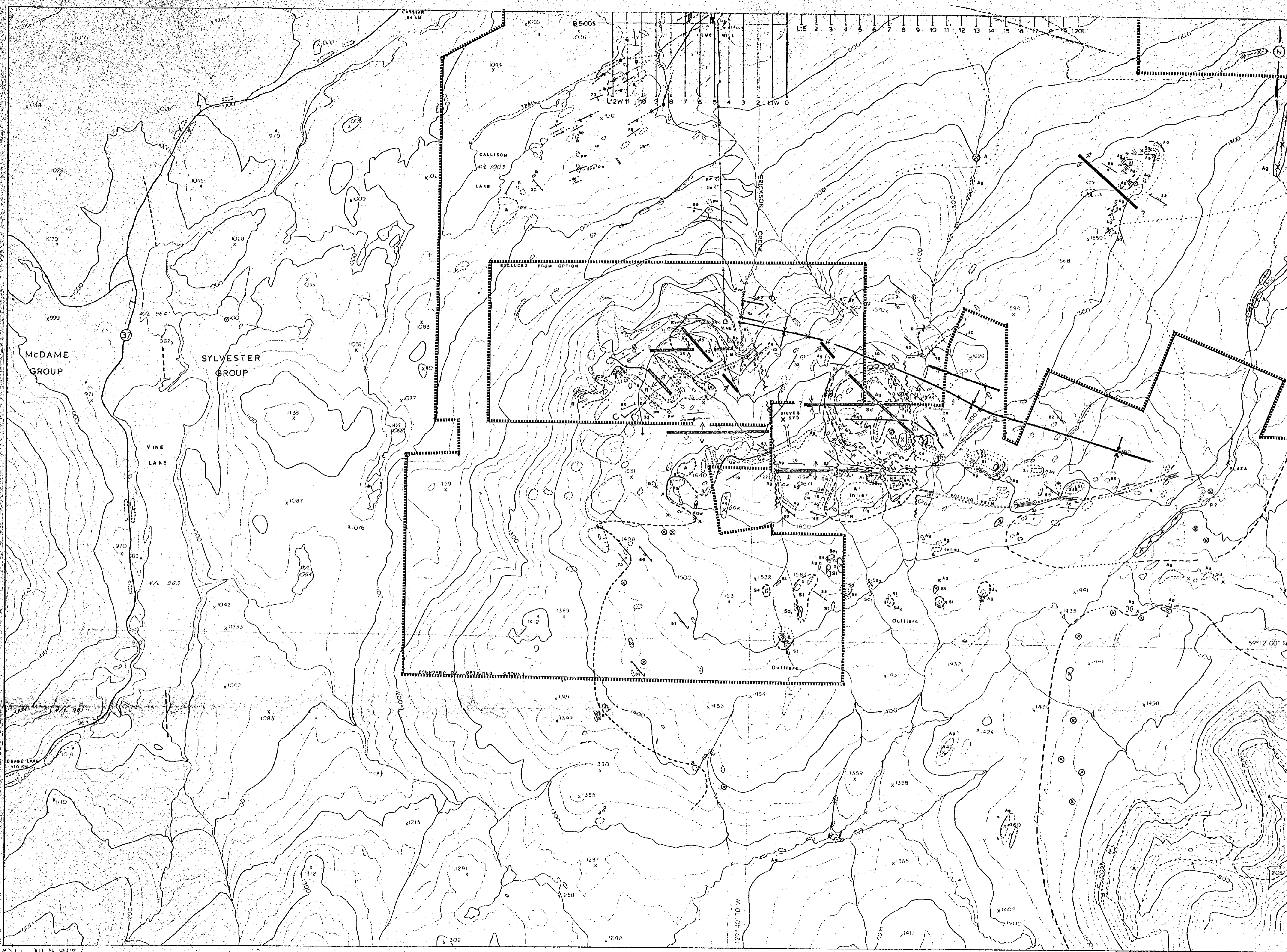
Latitude 59° 15' N Longitude 129° 40' W

NTS 104 P/4

P. GOOKIN  
 To Accompany A Report By: B. SOMERVILLE P. ENG.

Dated: NOVEMBER, 1973 Map No. 2A





**GEOLOGY**

**STRATIGRAPHY**

- Ag ARGILLITE - includes slate, mudstone, argillite, and well-bedded argillaceous siltstone.
- Sd SANDSTONE - light brown, massive, fine grained.
- St SILTSTONE - greenish-brown, fine grained, slaty cleavage.
- Gw GREYWACKE - grey, massive, 10-15% black quartz eyes, mud matrix.  
- turbidite sequence: rounded greywacke clasts, argillite matrix, local bedding.
- L LIMESTONE - buff coloured, massive, crystalline.
- A ANDESITE - green, massive, local pillows, flows, minor tuffs and breccia.
- R RHYOLITE - variable colour, very siliceous, local flow banding.

**SYMBOLS**

- Drift covered area
- Rock outcrop, area of outcrop, float X (XXX) X
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) +
- Bedding, tops unknown (inclined, vertical, dip unknown) /
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown) ~
- Lamination, axes of minor folds (horizontal, inclined, vertical) /
- Dragfold (arrow indicates plunge)
- Fault (defined, approximate, interpreted) -
- Fault (inclined, vertical) -
- Fault (solid circle indicated downthrow side, arrows indicate relative movement) -
- Thrust fault (approximate, interpreted) -
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown) +
- Syncline (defined, approximate) -
- Anticline (defined, approximate) -
- Anticline and syncline (overturned) -
- Intensity (weak, moderate, strong) -
- Quartz vein attitude
- Quartz (vein) boundaries
- Pillowed flow pw
- Rhyolite R
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole

Contours 2500 0.1 25 Metres.  
 Stream or creek (Perennial, intermittent)  
 Marsh  
 Lake  
 Road  
 Jeep Road  
 Trail  
 Tree

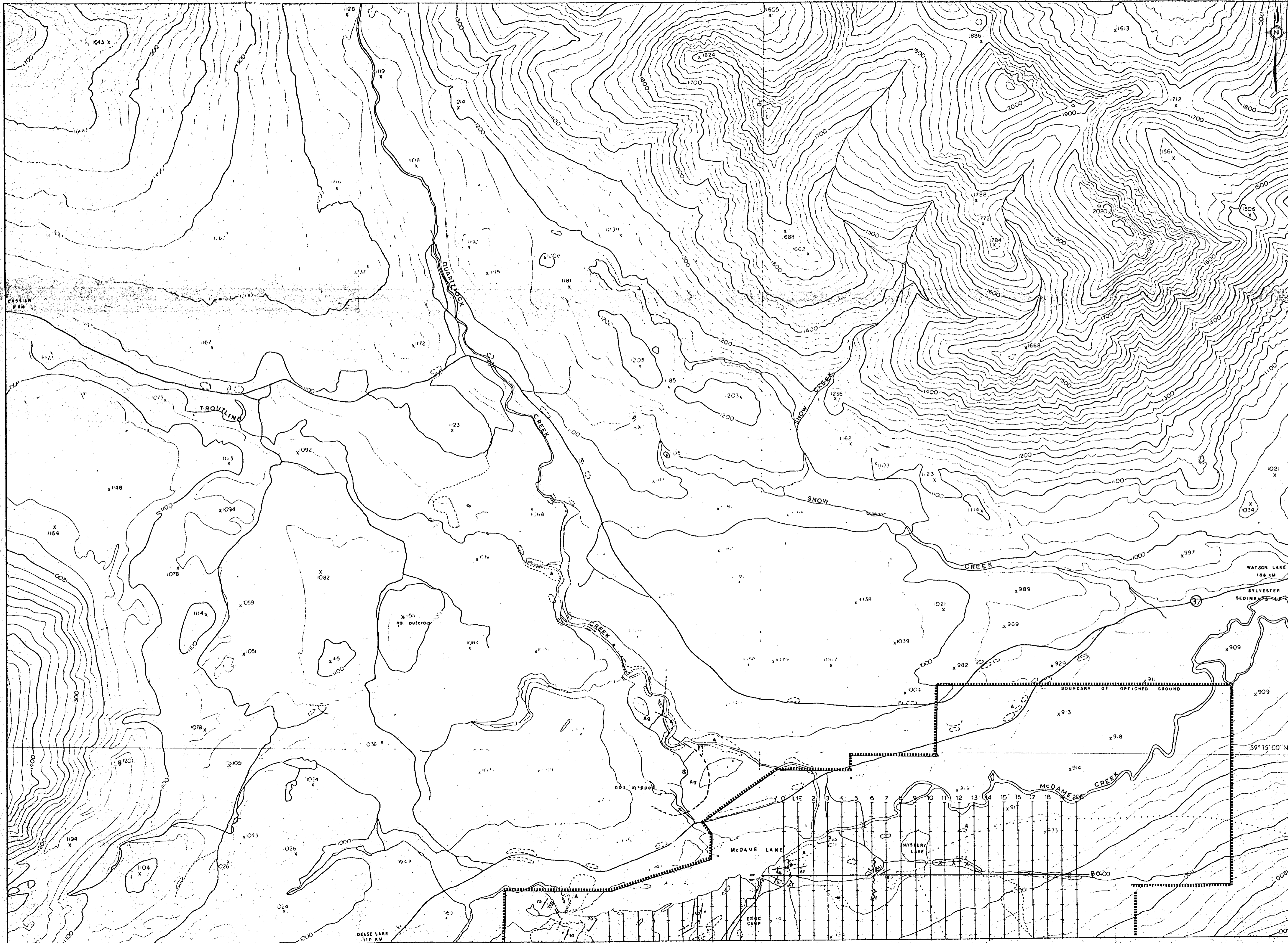
MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**NO. 7816**

SCALE 1:12000

ESSO MINERALS CANADA  
 McDAME PROJECT - 2150

Project No. 2150 Mining Division LIARD  
 Latitude 59° 12' N Longitude 129° 40' W  
 NTS 104P/4

To Accompany A Report By A. GOSKIN & R. SOMERVILLE P. ENG  
 Dated: NOVEMBER 1979 Map No. 1B



**GEOLOGY**

**STRATIGRAPHY**

- Ag ARGILLITE - includes: slate, mudstone, argillite, and well bedded argillaceous siltstone.
- Sd SANDSTONE - light brown, massive, fine grained.
- St SILTSTONE - greenish-brown, fine grained, staley cleavage.
- Gw GREYWACKE - grey massive, 10-15% black quartz eyes, mud matrix.  
- turbidite  
sequence: rounded greywacke clasts, argillite matrix, local bedding.
- L LIMESTONE - buff coloured, massive, crystalline.
- A ANDESITE - green massive, local pillows, flows, minor tuffs and breccia.
- R RHYOLITE - variable colour, very siliceous, local flow banding.

**SYMBOLS**

- Drift covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicates downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Quartz vein altitude
- Heavy Fe staining
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole

Contours 2500 - C.S. 25 Metres  
 Stream or creek (Perennial, intermittent)

Marsh  
 Lake  
 Road  
 Jeep Road  
 Trail  
 Trees

**MINERAL RESOURCES BRANCH**  
**ASSESSMENT REPORT**  
**NO. 7816**

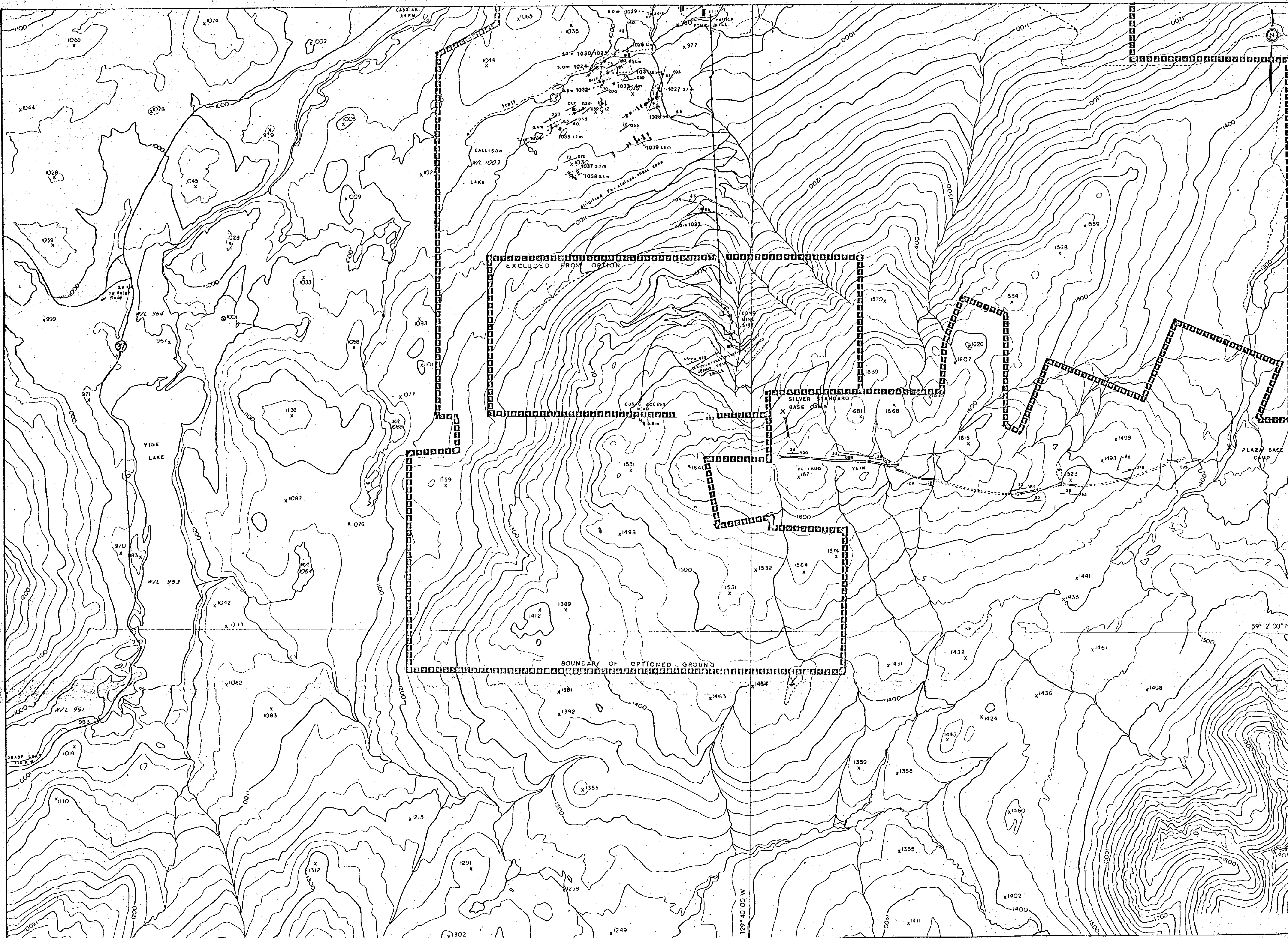
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 0 METRES 200 400 600 800 1000

**ESSO MINERALS CANADA**

**MCDAME PROJECT - 2150**  
**GEOLOGY**

Project No. 2150 Mining Division LIARD  
 Latitude 59°15'N Longitude 129°40'W  
 NTS 104P14

R. GODKIN  
 To Accompany A Report By: R. SOMERVILLE P. ENG.  
 Dated: NOVEMBER, 1979  
 Map No. 1A



QUARTZ VEIN SHOWING MAP

REFERENCE: REPORT OF THE MINISTER OF MINES (BRITISH COLUMBIA), 1935

10-- VEIN ASSAY NUMBER  
 ---m VEIN THICKNESS (meters)

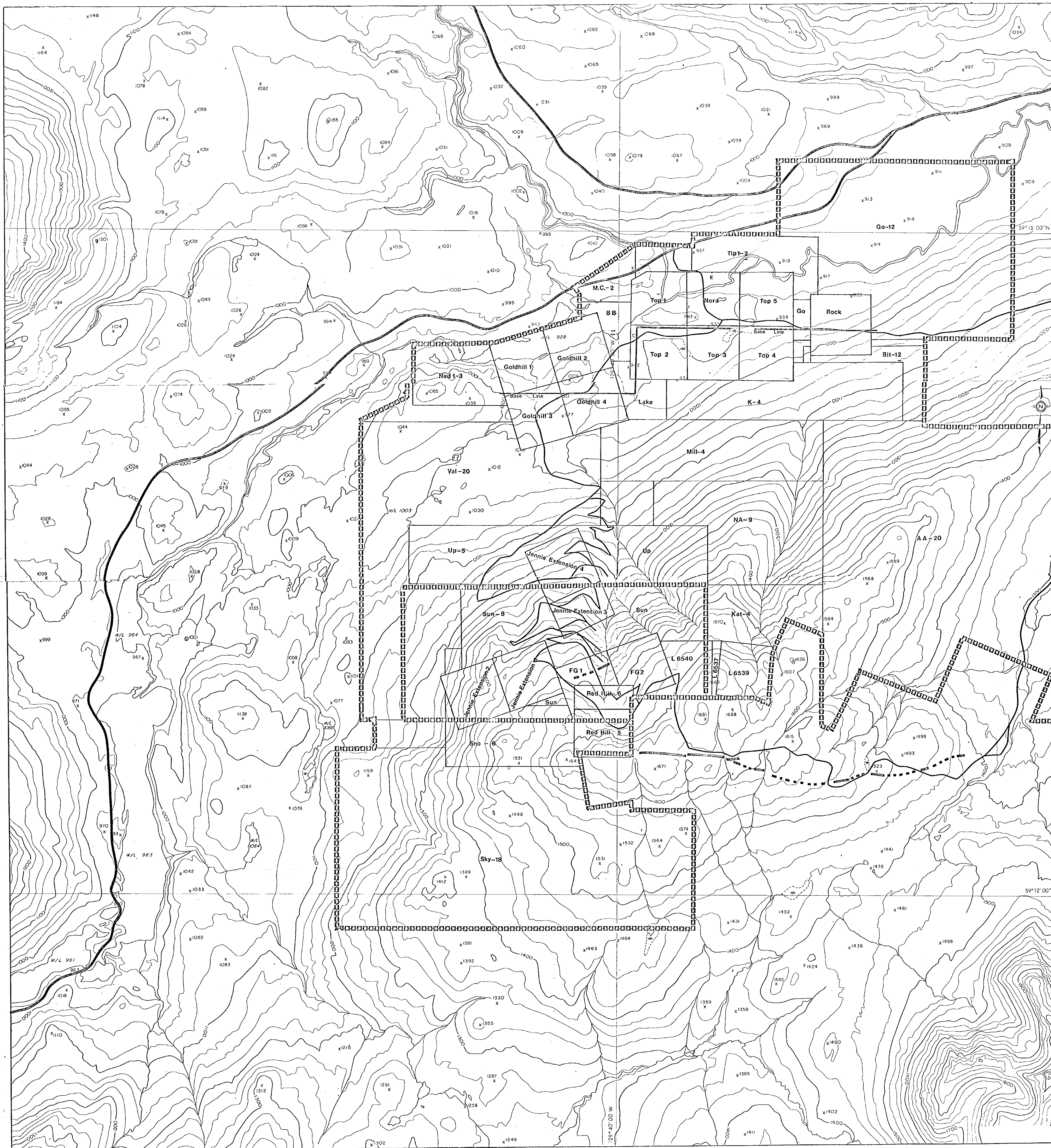
- SYMBOLS**
- Drift-covered area
  - Rock outcrop, area of outcrop, float
  - Geological boundary (defined, approximate interpreted)
  - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
  - Bedding, tops unknown (inclined, vertical, dip unknown)
  - Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
  - Lamination, axes of minor folds (horizontal, inclined, vertical)
  - Drag-fold (arrow indicates plunge)
  - Fault (defined, approximate, interpreted)
  - Fault (inclined, vertical)
  - Fault (solid circle indicates downthrow side, arrows indicate relative movement)
  - Thrust fault (approximate, interpreted)
  - Shearing and dip
  - Joint (horizontal, inclined, vertical, dip unknown)
  - Syncline (defined, approximate)
  - Anticline (defined, approximate)
  - Anticline and syncline (overturned)
  - Intensity (weak, moderate, strong)

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole

Contours — 2500 — G.I. 25 Metres  
 Stream or creek (Perennial, intermittent)  
 Marsh  
 Lake  
 Road  
 Jeep Road  
 Trail  
 Trees

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
 NO. 7816  
 SCALE 1:12,500  
 0 METRES 200 400 600 800 1000

ESSO MINERALS CANADA  
 McDAME PROJECT - 2150  
 Project No. 2150 Mining Division LIARD  
 Latitude 59° 12' N Longitude 129° 40' W  
 NTS 104P/4  
 To Accompany A Report By P. GOODKIN  
 H. SOMERVILLE P. ENG.  
 Dated: NOVEMBER, 1979  
 Map No. 2B



Claim Name - Number Of Units

- SYMBOLS**
- Drift-covered area
  - Rock outcrop, area of outcrop, float
  - Geological boundary (defined, approximate interpreted)
  - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
  - Bedding, tops unknown (inclined, vertical, dip unknown)
  - Schistosity, grainosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
  - Lamination, axes of minor folds (horizontal, inclined, vertical)
  - Dragfold (arrow indicates plunge)
  - Fault (defined, approximate, interpreted)
  - Fault (inclined, vertical)
  - Fault (solid circle indicated downthrow side, arrows indicate relative movement)
  - Thrust fault (approximate, interpreted)
  - Shearing and dip
  - Joint (horizontal, inclined, vertical, dip unknown)
  - Syncline (defined, approximate)
  - Anticline (defined, approximate)
  - Anticline and syncline (overturned)
  - Intensity (weak, moderate, strong)

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole

Contours 2500 01.25 Metres  
 Stream or creek (Perennial, intermittent)  
 Marsh  
 Lake  
 Road  
 Jeep Road  
 Trail  
 Trees

MINERAL RESOURCE DIVISION  
**7816**  
 NO. 7816  
 SCALE 1:12,000  
 METRES 0 200 400 600 800 1000

ESSO MINERALS CANADA  
**McDAME PROJECT**  
**Claim Map**

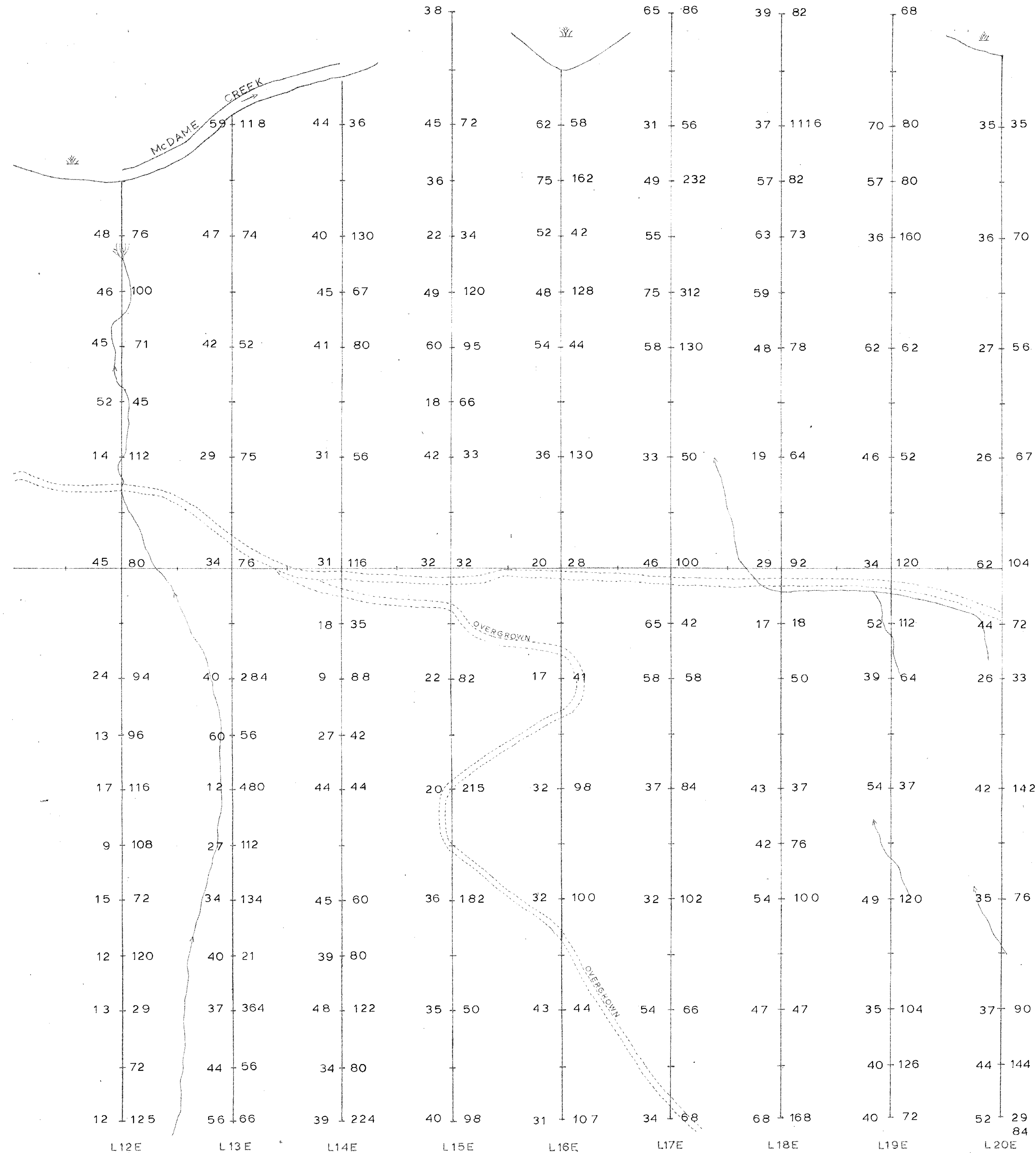
Project No. 2150 Mining Division LIARD  
 Latitude 59° 15' Longitude 129° 40'  
 NTS 104P/4

To Accompany & Part of: P. Godkin  
 Date: Jan. 1980 Map No. 11

5+00N

0+00

5+00S



SOIL|MULL GEOCHEMISTRY

COPPER

MULL  
 PROBABLY ANOMALOUS, ABOVE-250 PPM.  
 POSSIBLY ANOMALOUS, ABOVE-46 PPM.  
 UPPER BACKGROUND, ABOVE-29 PPM.  
 BACKGROUND

SOIL  
 UPPER ANOMALOUS POPULATIONS, ABOVE-120 PPM.  
 PROBABLY ANOMALOUS, ABOVE-108 PPM.  
 POSSIBLY ANOMALOUS, ABOVE-26 PPM.  
 UPPER BACKGROUND, ABOVE-9 PPM.  
 BACKGROUND

SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - cut, flagged, & picketed except L10S, L11S, & L12 (250-500S) uncut

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond drill hole
- Contours - 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

Scale: 1:2000 meters

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
 NO. 7816

ESSO MINERALS CANADA

Mc DAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

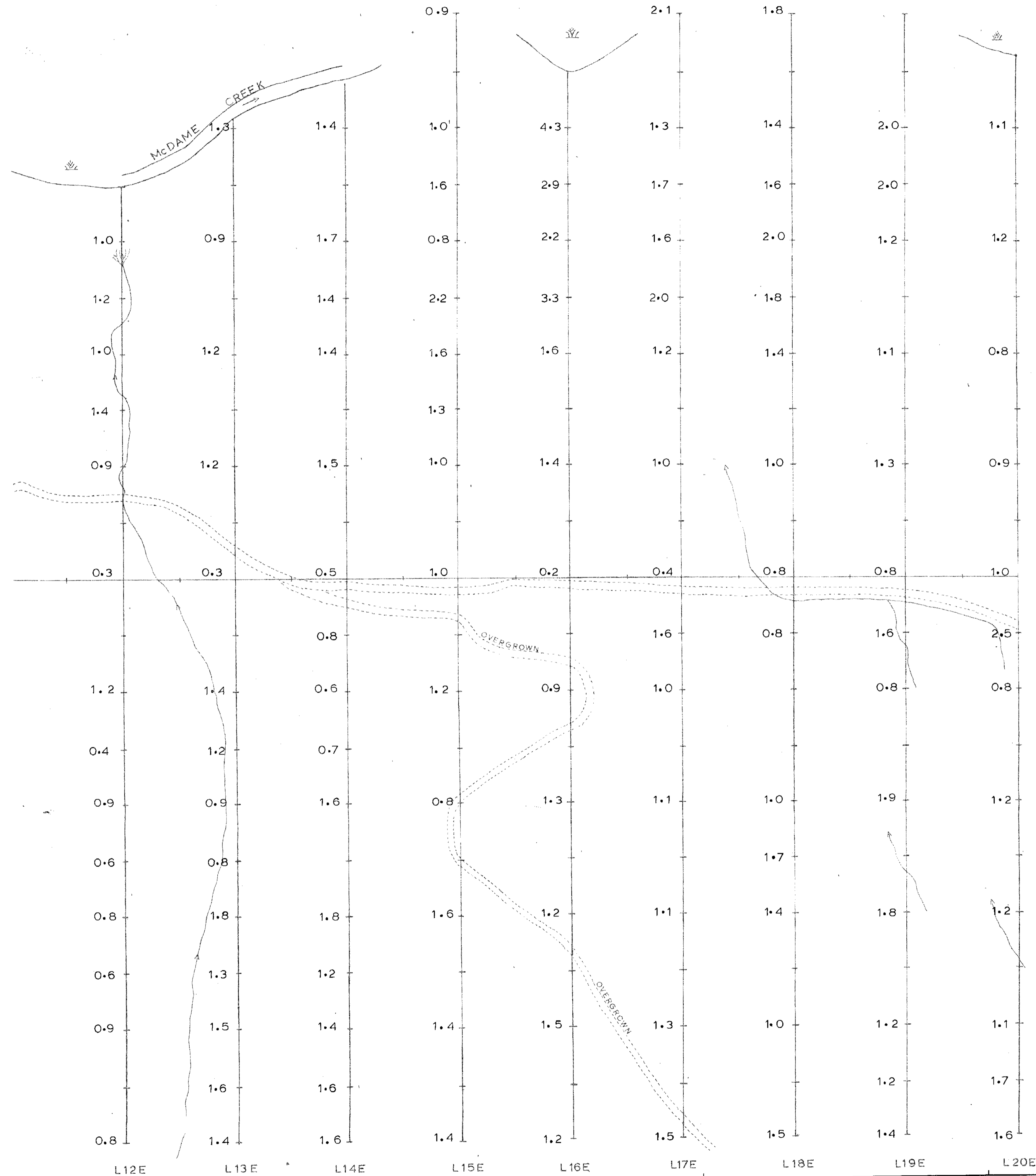
To Accompany A Report By P. GODKIN  
 R. SOMERVILLE P. ENG.  
 Dated: November, 1979

Map No. 7C

5+00N

0+00

5+00S



SOIL GEOCHEMISTRY

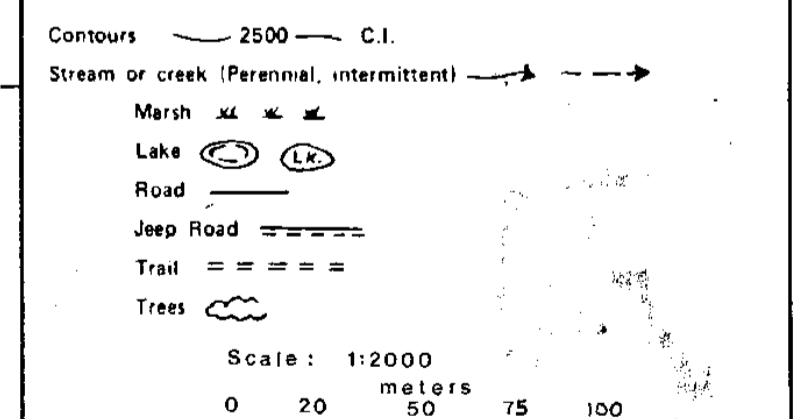
SILVER

UPPER ANOMALOUS POPULATION, ABOVE 2.5 ppm  
 PROBABLY ANOMALOUS, ABOVE 1.5 ppm  
 POSSIBLY ANOMALOUS, ABOVE 1.0 ppm  
 UPPER BACKGROUND, ABOVE 0.6 ppm  
 BACKGROUND

SYMBOLS

- Drift covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicates downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - cut, flagged, & picketed except L10S, L11S, & L12 (250-500S) uncut
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond drill hole

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
 NO. 7816



ESSO MINERALS CANADA

Mc DAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59°12'N Longitude 129°40'W

NTS 104P/4

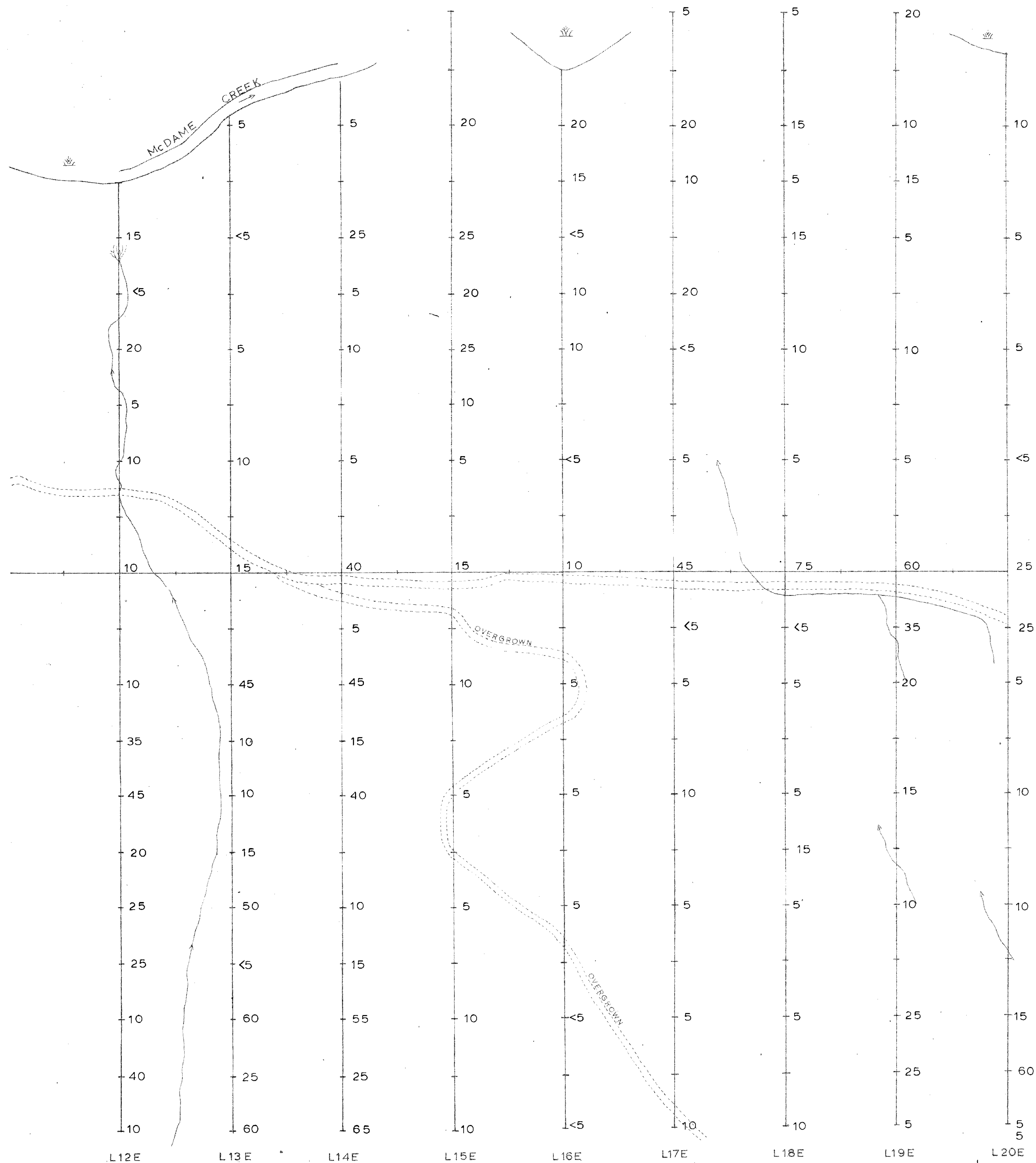
To Accompany A Report By P. GODKIN  
 R. SOMERVILLE P. ENG.  
 Dated: November, 1979

Map No. 7B

5+00N

0+00

5+00S



MULL GEOCHEMISTRY

GOLD

PROBABLY ANOMALOUS, ABOVE 300 ppm

POSSIBLY ANOMALOUS, ABOVE 20 ppm

BACKGROUND > 20 ppm

SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop float
- Geological boundary (defined approximate)
- Bedding, tops known (horizontal, inclined, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lamination, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - cut, flagged, & picketed except L10S, L11S, & L12 (250-500S) uncut

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole

- Contours - 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**NO. 7816**

Scale: 1:2000  
0 20 50 75 100 meters

ESSO MINERALS CANADA

Mc DAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

To Accompany A Report By P. GODKIN R. SOMERVILLE P. ENG.

Dated: November, 1979

Map No. 7A



SOIL MULL GEOCHEMISTRY

ARSENIC

MULL  
 UPPER ANOMALOUS POPULATION, ABOVE - 1050 ppm  
 PROBABLY ANOMALOUS, ABOVE - 460 ppm  
 POSSIBLY ANOMALOUS, ABOVE - 60 ppm  
 UPPER BACKGROUND, ABOVE - 37 ppm  
 BACKGROUND

SOIL  
 PROBABLY ANOMALOUS, ABOVE - 150 ppm  
 POSSIBLY ANOMALOUS, ABOVE - 20 ppm  
 BACKGROUND

CONTOUR INTERVAL - 500 PPM.

SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown)
- Lamination, axes of minor folds (horizontal, inclined, overturned)
- Drag fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines  
 North - cut & picketed along with L5S, L2(10-150S)  
 South - flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number
- m vein thickness
- Contours - 2500 - C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7816**  
 NO.

ESSO MINERALS CANADA

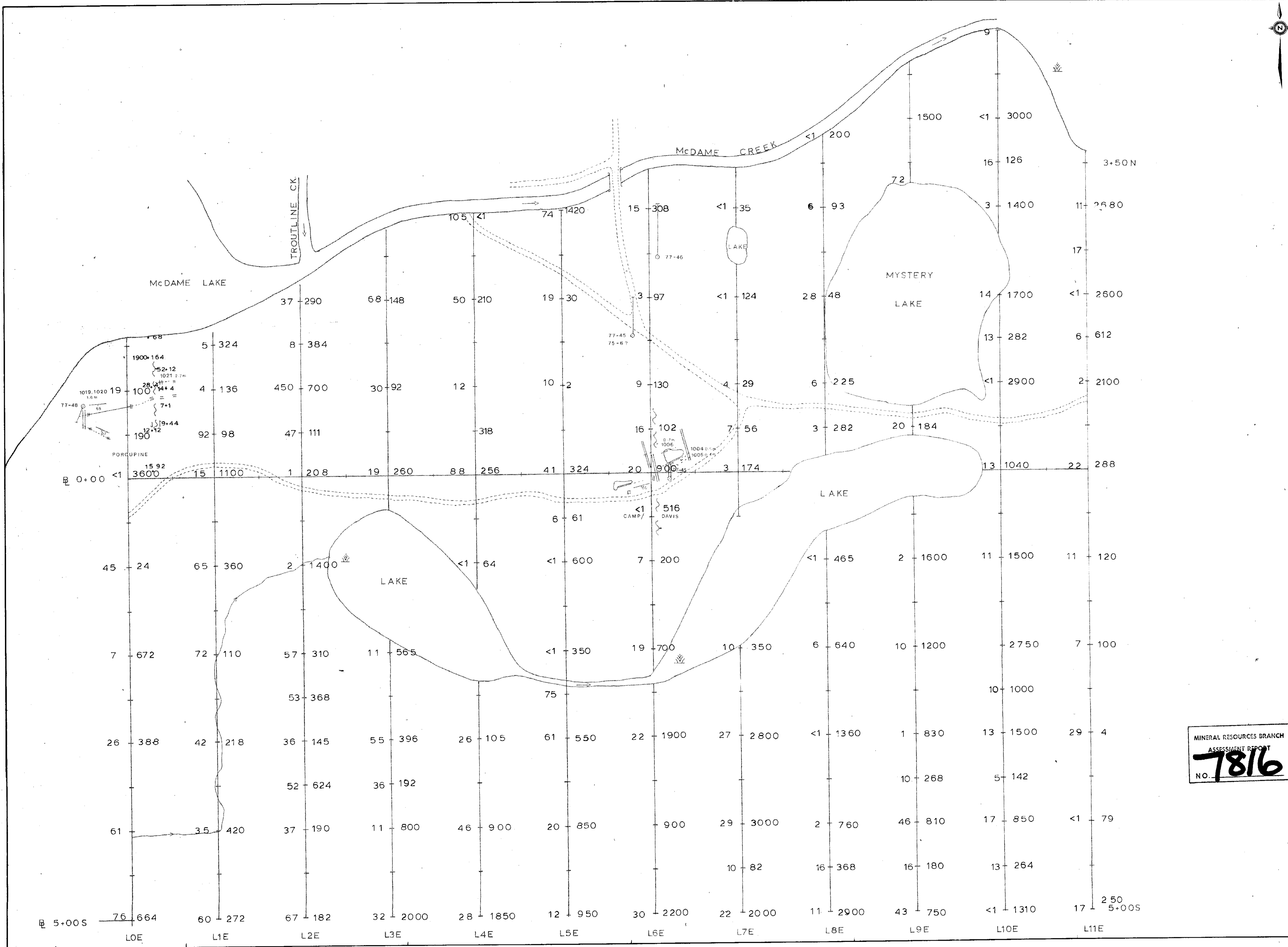
McDAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

P. GOODIN  
 To Accompany A Report By: R. SOMERVILLE, P. ENG.  
 Dated: November, 1979  
 Map No. 6 D



SOIL/MULL GEOCHEMISTRY  
COPPER

MULL  
PROBABLY ANOMALOUS, ABOVE - 250 ppm  
POSSIBLY ANOMALOUS, ABOVE - 46 ppm  
UPPER BACKGROUND, ABOVE - 29 ppm  
BACKGROUND

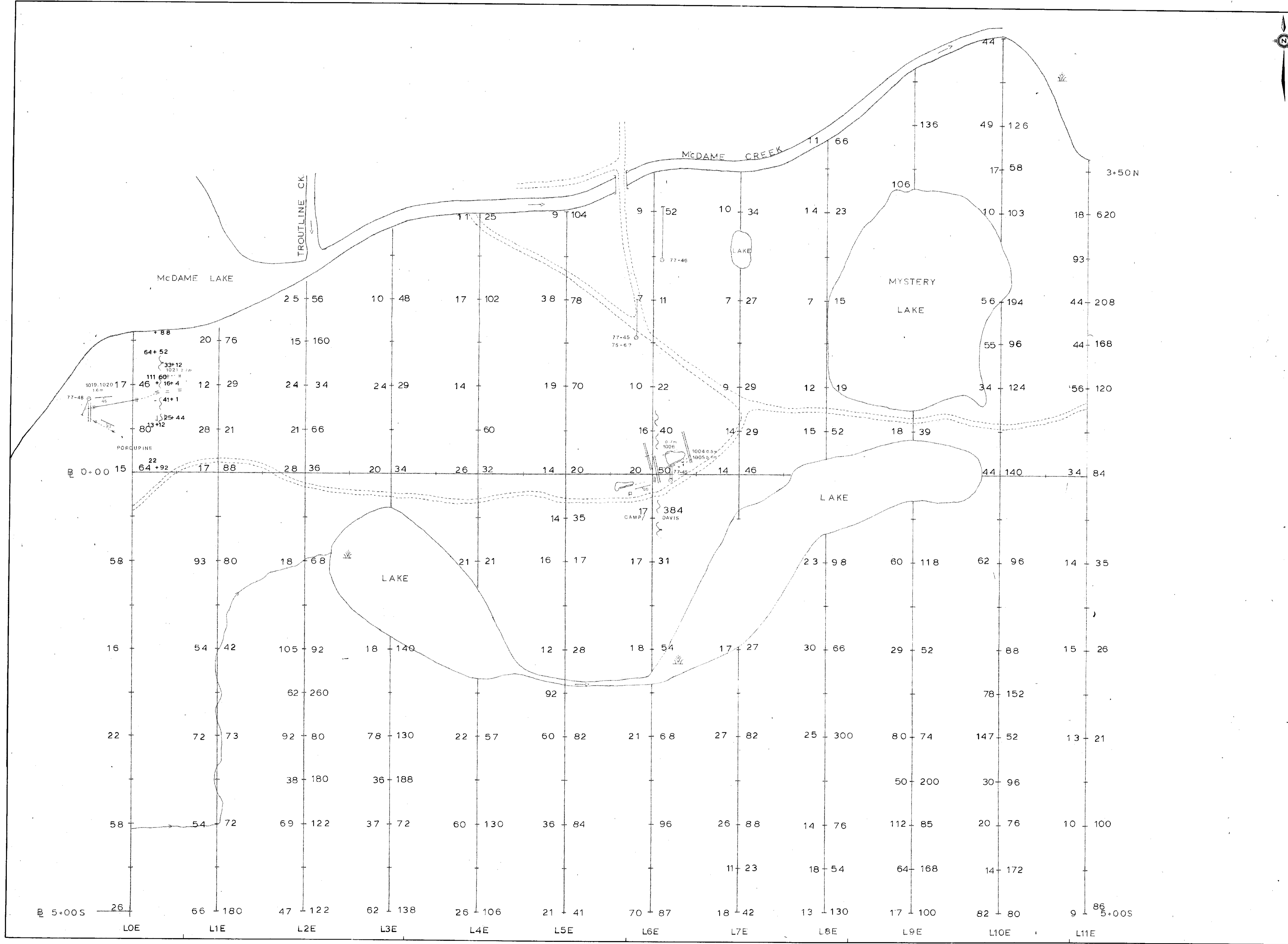
SOIL  
UPPER ANOMALOUS POPULATIONS, ABOVE - 120 ppm  
PROBABLY ANOMALOUS, ABOVE - 108 ppm  
POSSIBLY ANOMALOUS, ABOVE - 26 ppm  
UPPER BACKGROUND, ABOVE - 9 ppm  
BACKGROUND

- SYMBOLS**
- Drift-covered area
  - Rock outcrop, area of outcrop, float X (XXX) X
  - Geological boundary (defined, approximate interpreted)
  - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) + / \
  - Bedding, tops unknown (inclined, vertical, dip unknown) / \
  - Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown) + / \
  - Lineation, axes of minor folds (horizontal, inclined, vertical) / \
  - Drag fold (arrow indicates plunge)
  - Fault (defined, approximate, interpreted) ~~~~~
  - Fault (inclined, vertical) ~~~~~
  - Fault (solid circle indicated downthrow side, arrows indicate relative movement) ~~~~~
  - Thrust fault (approximate, interpreted) ~~~~~
  - Shearing and dip / \
  - Joint (horizontal, inclined, vertical, dip unknown) + / \
  - Syncline (defined, approximate) ~~~~~
  - Anticline (defined, approximate) ~~~~~
  - Anticline and syncline (overturned) ~~~~~
  - Intensity (weak, moderate, strong) / \
  - Gridlines  
North - cut & picketed along with L55, L210-1505  
South - flagged & picketed

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number
- m vein thickness
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. **7816**  
Scale: 1:2000  
0 20 50 75 100 meters

**ESSO MINERALS CANADA**  
McDAME PROJECT 1979  
Project No. 2150 Mining Division LIARD  
Latitude 59° 12' N Longitude 129° 40' W  
NTS 104P/4  
P. GODKIN  
To Accompany A Report By R. SOMERVILLE, P. ENG.  
Dated November, 1979  
Map No. 6C



SOIL GEOCHEMISTRY  
SILVER

UPPER ANOMALOUS POPULATION, ABOVE 2.5 ppm  
PROBABLY ANOMALOUS, ABOVE 1.5 ppm  
POSSIBLY ANOMALOUS, ABOVE 1.0 ppm  
UPPER BACKGROUND, ABOVE 0.6 ppm  
BACKGROUND

SYMBOLS

- Drift covered area
- Rock outcrop, area of outcrop, float X
- Geological boundary (defined, approximate, interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines  
North-cut & picketed, along with L5S, L2 (0-1505)  
South-flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailing
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number
- m vein thickness
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO. 104P/4  
Scale: 1:4000  
0 20 50 75 100  
meters

ESSO MINERALS CANADA

McDAME PROJECT 1979

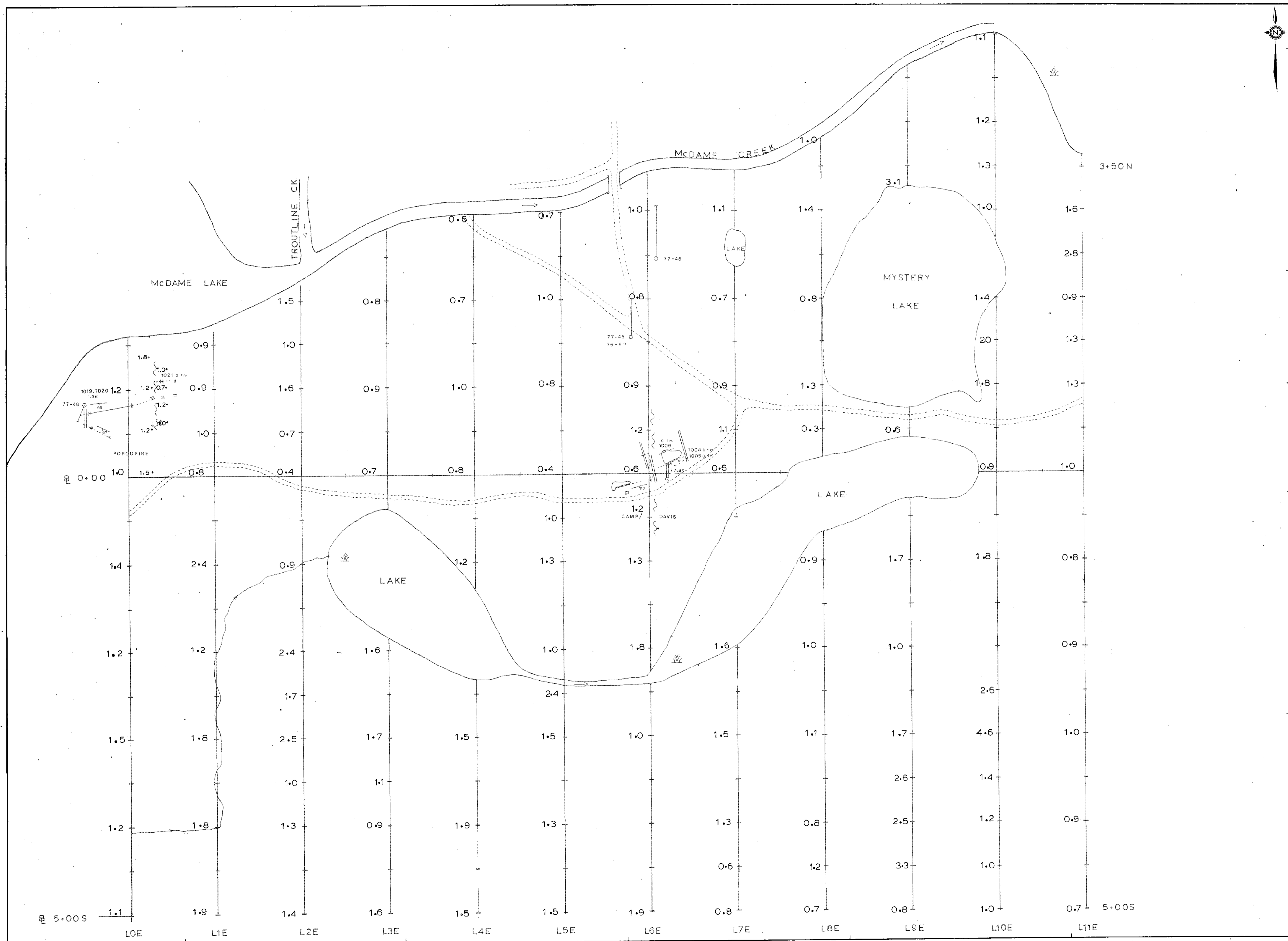
Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

P. GODKIN  
To Accompany A Report By R. SOMERVILLE P. ENG.

Dated November, 1979  
Map No. 6 B



MULL GEOCHEMISTRY  
GOLD

PROBABLY ANOMALOUS, ABOVE  
300 ppm  
POSSIBLY ANOMALOUS, ABOVE  
20 ppm  
BACKGROUND < 20 ppm

SYMBOLS

- Drift covered area
- Rock outcrop, area of outcrop, float X (X) X (X)
- Geological boundary (defined, approximate interpreted) - - - - -
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) + / / / / /
- Bedding, tops unknown (inclined, vertical, dip unknown) / / / / /
- Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown) / / / / /
- Lamination, axes of minor folds (horizontal, inclined, vertical) / / / / /
- Diap-fold (arrow indicates plunge) / / / / /
- Fault (defined, approximate, interpreted) ~ ~ ~ ~ ~
- Fault (inclined, vertical) ~ ~ ~ ~ ~
- Fault (solid circle indicated downthrow side, arrows indicate relative movement) ~ ~ ~ ~ ~
- Thrust fault (approximate, interpreted) ~ ~ ~ ~ ~
- Shearing and dip / / / / /
- Joint (horizontal, inclined, vertical, dip unknown) + / / / /
- Syncline (defined, approximate) + - - - -
- Anticline (defined, approximate) - - - - +
- Anticline and syncline (overturned) - - - - +
- Intensity (weak, moderate, strong) / / / / /
- Gridlines  
North-cut & picketed along with L55, L2(10-1005)  
South-flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number  
- - - vein thickness
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trench

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. 7816  
Scale: 1:2000  
0 20 50 75 100 meters

ESSO MINERALS CANADA

McDAME PROJECT 1979

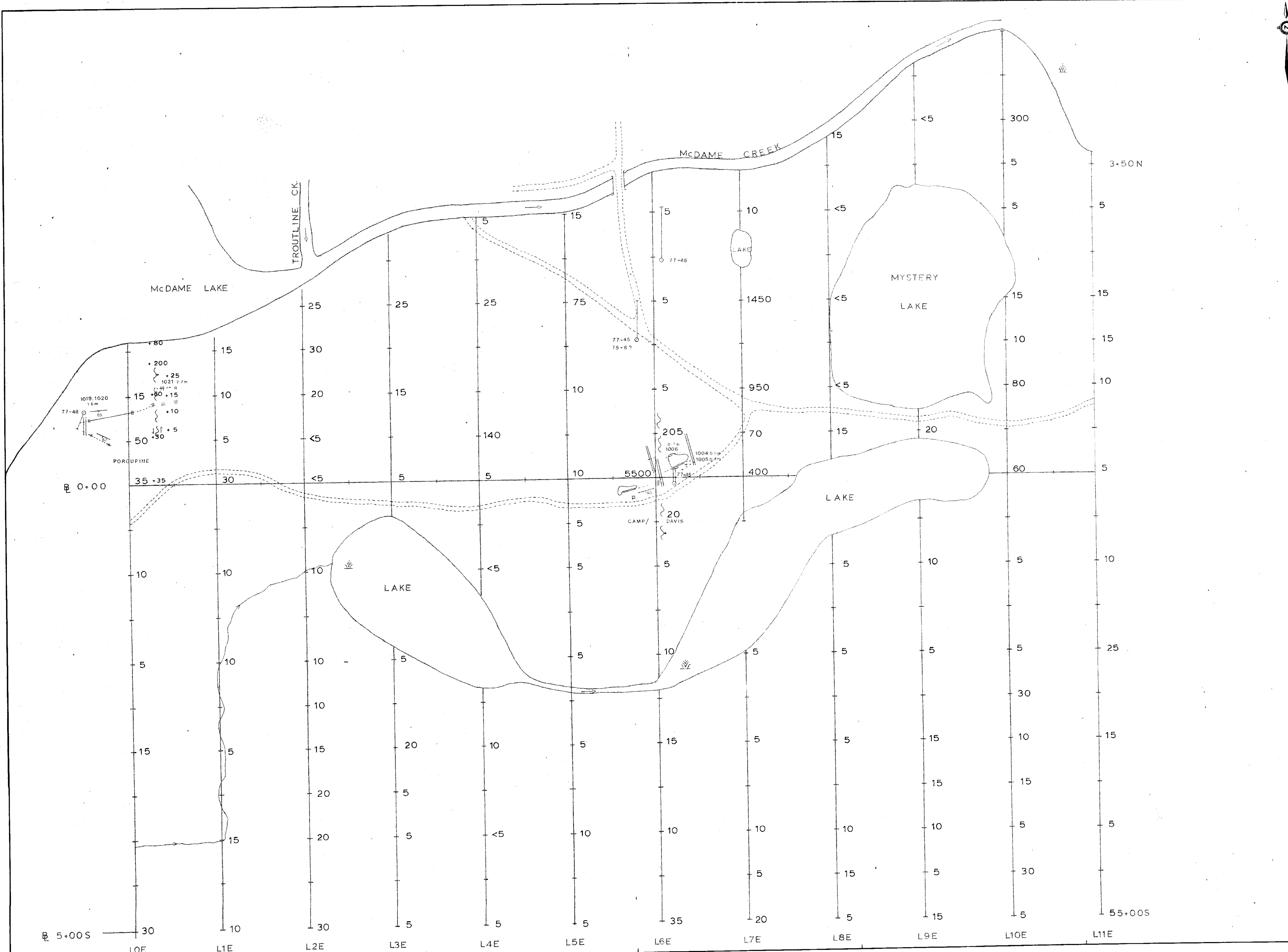
Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

P. GGDKIN  
To Accompany A Report By R. SOMERVILLE P. ENG.  
Dated November, 1979

Map No. 6A



SOIL/MULL GEOCHEMISTRY

ARSENIC

MULL  
 UPPER ANOMALOUS POPULATION, ABOVE-1050 PPM.  
 PROBABLY ANOMALOUS, ABOVE-460 PPM.  
 POSSIBLY ANOMALOUS, ABOVE-60 PPM.  
 UPPER BACKGROUND, ABOVE-37 PPM.  
 BACKGROUND

SOIL  
 PROBABLY ANOMALOUS, ABOVE-150 PPM.  
 POSSIBLY ANOMALOUS, ABOVE-20 PPM.  
 BACKGROUND

CONTOUR INTERVAL - 500 PPM.

SYMBOLS

- Drift-covered area: [Symbol]
- Rock outcrop, area of outcrop, float: X [Symbol]
- Geological boundary (defined, approximate interpreted): [Symbol]
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown): [Symbol]
- Bedding, tops unknown (inclined, vertical, dip unknown): [Symbol]
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown): [Symbol]
- Lamination, axes of minor folds (horizontal, inclined, vertical): [Symbol]
- Dragfold (arrow indicates plunge): [Symbol]
- Fault (defined, approximate, interpreted): [Symbol]
- Fault (inclined, vertical): [Symbol]
- Fault (solid circle indicated downthrow side, arrows indicate relative movement): [Symbol]
- Thrust fault (approximate, interpreted): [Symbol]
- Shearing and dip: [Symbol]
- Joint (horizontal, inclined, vertical, dip unknown): [Symbol]
- Syncline (defined, approximate): [Symbol]
- Anticline (defined, approximate): [Symbol]
- Anticline and syncline (overturned): [Symbol]
- Intensity (weak, moderate, strong): [Symbol]
- Gridlines - flagged & picketed: [Symbol]
- Trench: [Symbol]
- Adit or tunnel: [Symbol]
- Rock dump or tailings: [Symbol]
- Quarry or mine: [Symbol]
- Shaft, raise, winze: [Symbol]
- Diamond-drill hole: [Symbol]
- 10 - Quartz vein assay number
- m vein thickness

Contours - 2500 C.I.

Stream or creek (Perennial, intermittent): [Symbol]

Marsh: [Symbol]

Lake: [Symbol]

Road: [Symbol]

Jeep Road: [Symbol]

Trail: [Symbol]

Trees: [Symbol]

Scale: 1:5000

0 20 50 75 100 meters

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7816**

**ESSO MINERALS CANADA**

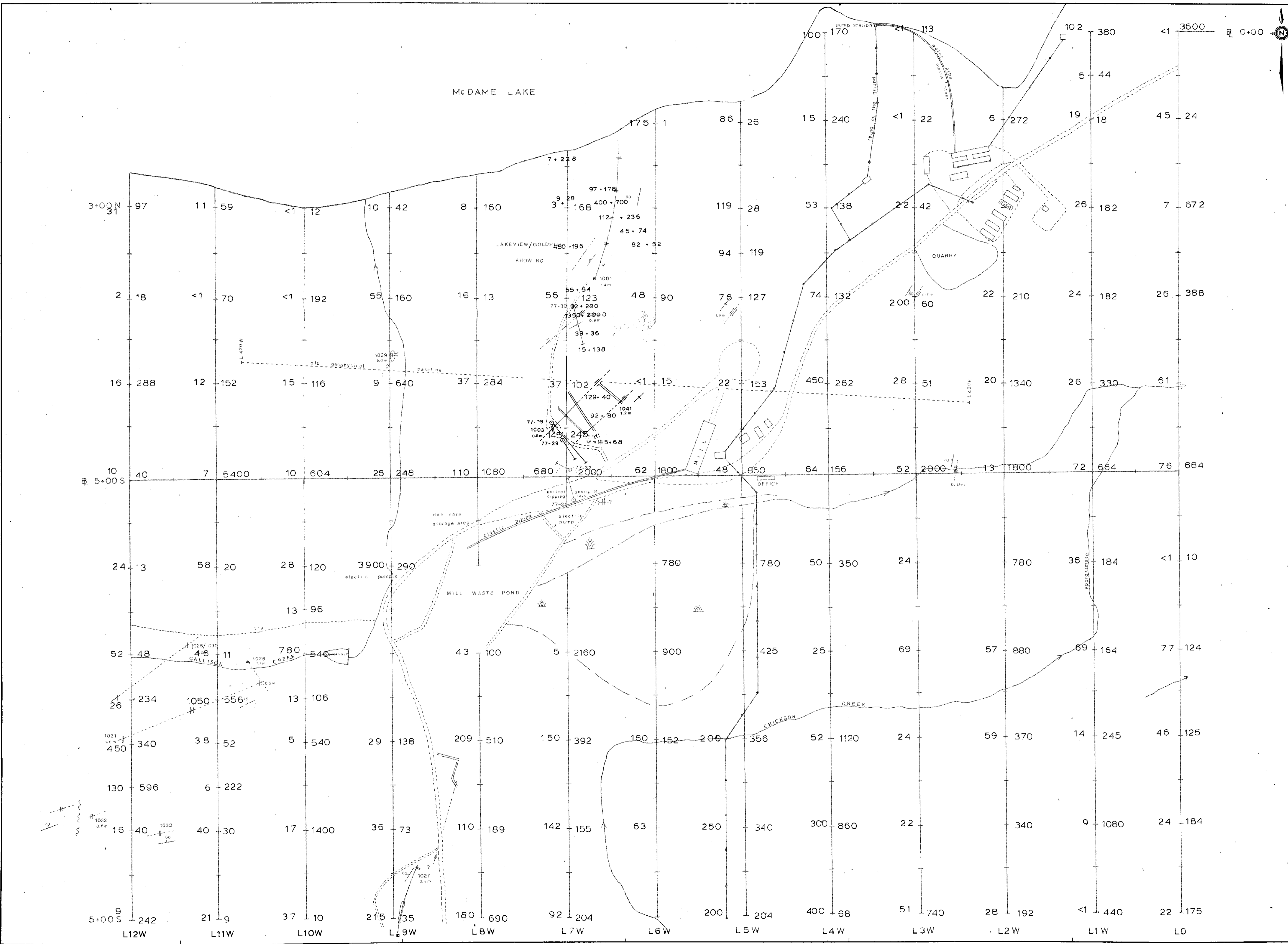
Mc DAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

P. GODKIN  
 To Accompany A Report By: R. SOMERVILLE P. ENG.  
 Dated: NOVEMBER, 1979  
 Map No. 5 D



SOIL MULL GEOCHEMISTRY

COPPER

MULL  
 PROBABLY ANOMALOUS, ABOVE-250 P.P.M.  
 POSSIBLY ANOMALOUS, ABOVE-46 P.P.M.  
 UPPER BACKGROUND, ABOVE-29 P.P.M.  
 BACKGROUND

SOIL  
 UPPER ANOMALOUS POPULATIONS, ABOVE-120 P.P.M.  
 PROBABLY ANOMALOUS, ABOVE-108 P.P.M.  
 POSSIBLY ANOMALOUS, ABOVE-26 P.P.M.  
 UPPER BACKGROUND, ABOVE-9 P.P.M.  
 BACKGROUND

SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lamination, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number
- m- vein thickness

Contours - 2500 - C.I.  
 Stream or creek (Perennial, intermittent)  
 Marsh  
 Lake  
 Road  
 Jeep Road  
 Trail  
 Trees

Scale: 1:2000  
 0 20 50 75 100 meters

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7816**  
 NO. 7816

ESSO MINERALS CANADA

Mc DAME PROJECT 1979

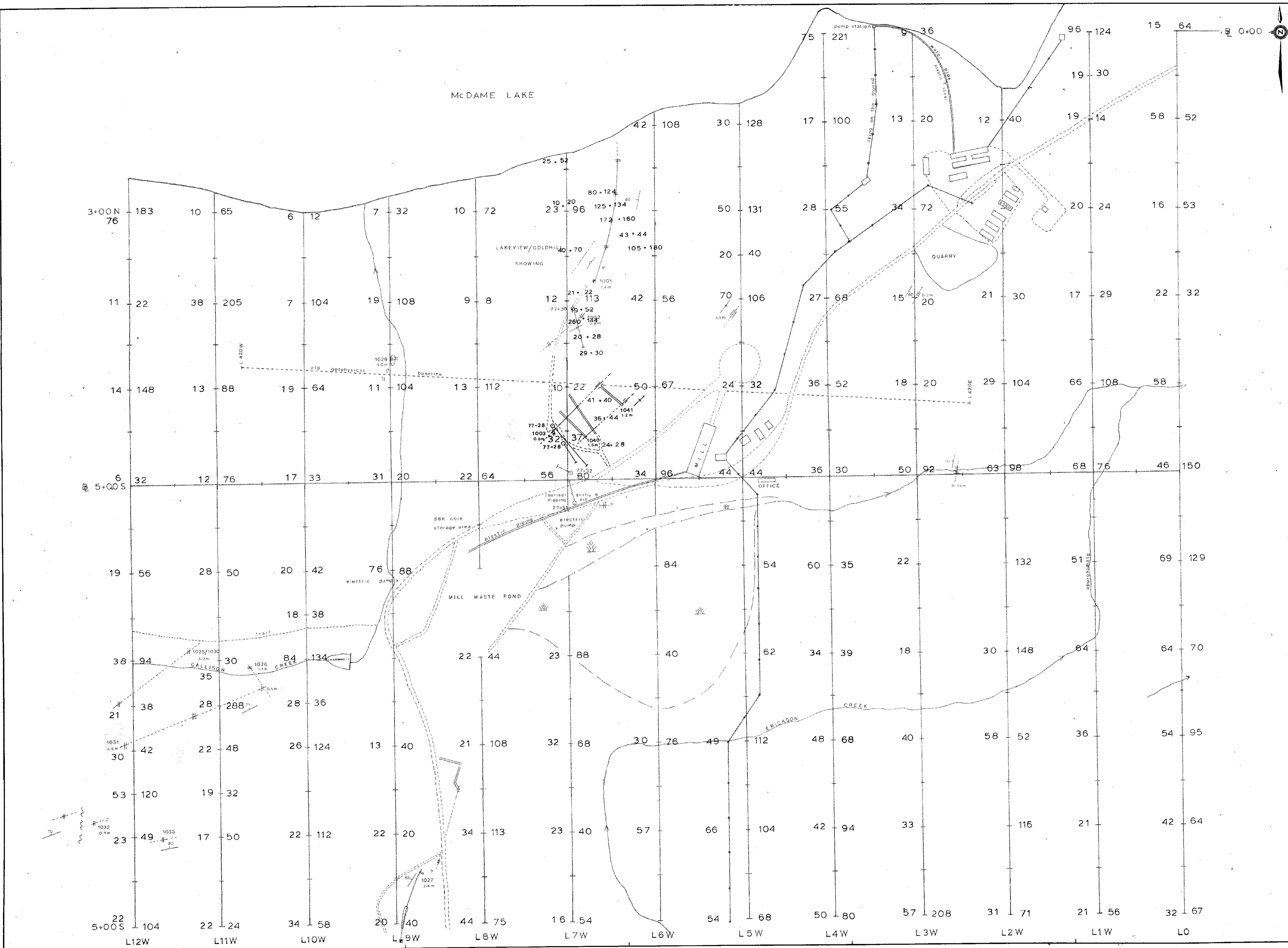
Project No. 2150 Mining Division LIARD

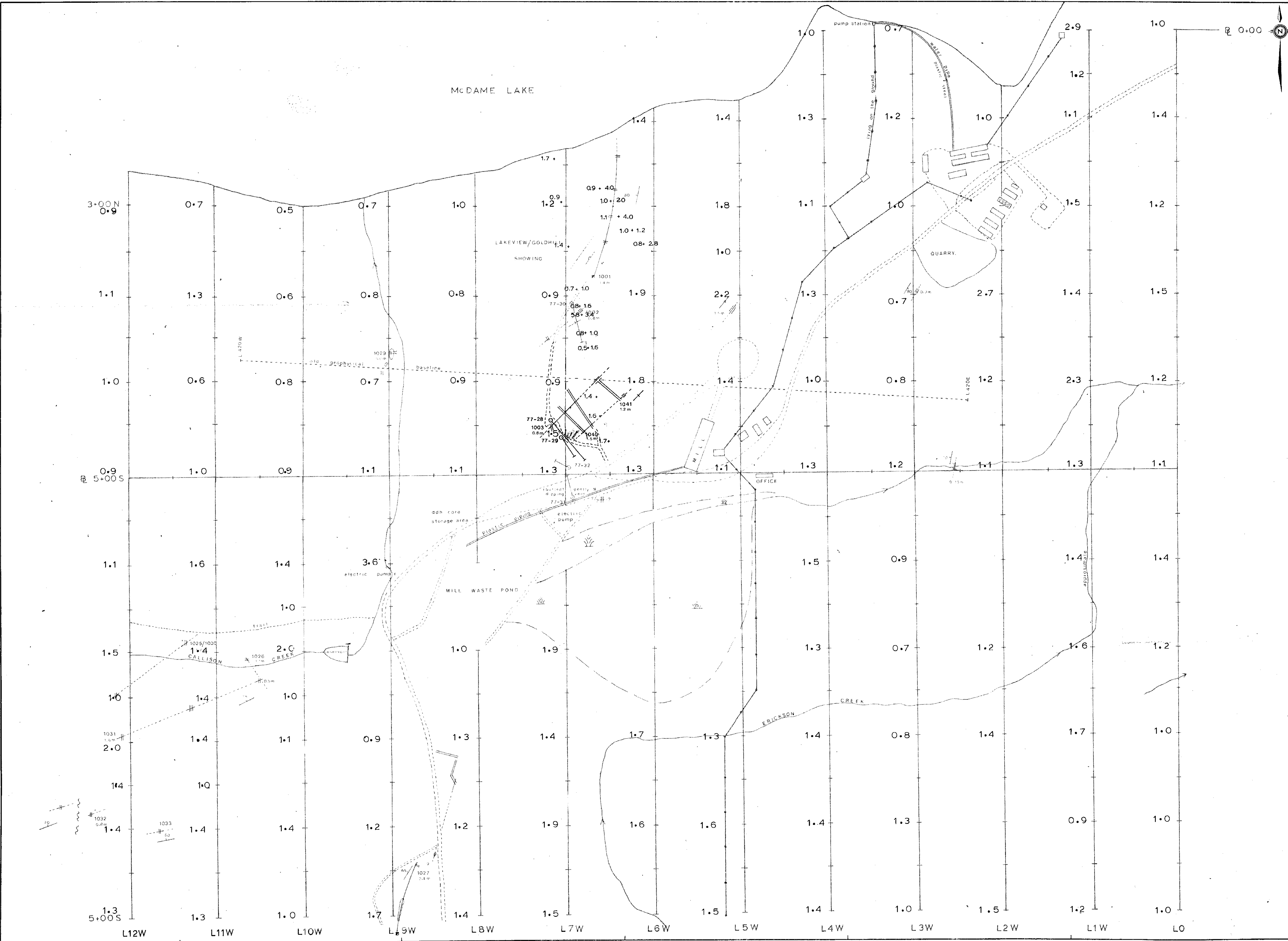
Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

P. GODKIN  
 To Accompany A Report By: B. SOMERVILLE P. ENG.

Dated: NOVEMBER, 1979  
 Map No. 5C





### SOIL GEOCHEMISTRY SILVER

UPPER ANOMALOUS POPULATION, ABOVE 2.5 ppm  
 PROBABLY ANOMALOUS, ABOVE 1.5 ppm  
 POSSIBLY ANOMALOUS, ABOVE 1.0 ppm  
 UPPER BACKGROUND, ABOVE 0.6 ppm  
 BACKGROUND

**SYMBOLS**

Drift-covered area: [Symbol]  
 Rock outcrop, area of outcrop, float: X (XXX) X  
 Geological boundary (defined, approximate interpreted): [Symbol]  
 Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown): [Symbol]  
 Bedding, tops unknown (inclined, vertical, dip unknown): [Symbol]  
 Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown): [Symbol]  
 Lineation, axes of minor folds (horizontal, inclined, vertical): [Symbol]  
 Drag-fold (arrow indicates plunge): [Symbol]  
 Fault (defined, approximate, interpreted): [Symbol]  
 Fault (inclined, vertical): [Symbol]  
 Fault (solid circle indicated downthrow side, arrows indicate relative movement): [Symbol]  
 Thrust fault (approximate, interpreted): [Symbol]  
 Shearing and dip: [Symbol]  
 Joint (horizontal, inclined, vertical, dip unknown): [Symbol]  
 Syncline (defined, approximate): [Symbol]  
 Anticline (defined, approximate): [Symbol]  
 Anticline and syncline (overturned): [Symbol]  
 Intensity (weak, moderate, strong): [Symbol]  
 Gridlines - flagged & picketed: [Symbol]

Trench: [Symbol]  
 Adit or tunnel: [Symbol]  
 Rock dump or tailings: [Symbol]  
 Quarry or mine: [Symbol]  
 Shaft, raise, winze: [Symbol]  
 Diamond-drill hole: [Symbol]  
 10- Quartz vein assay number  
 - - - vein thickness

Contours: 2500 - C.I.  
 Stream or creek (Perennial, intermittent): [Symbol]  
 Marsh: [Symbol]  
 Lake: [Symbol]  
 Road: [Symbol]  
 Jeep Road: [Symbol]  
 Trail: [Symbol]  
 Trees: [Symbol]

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO

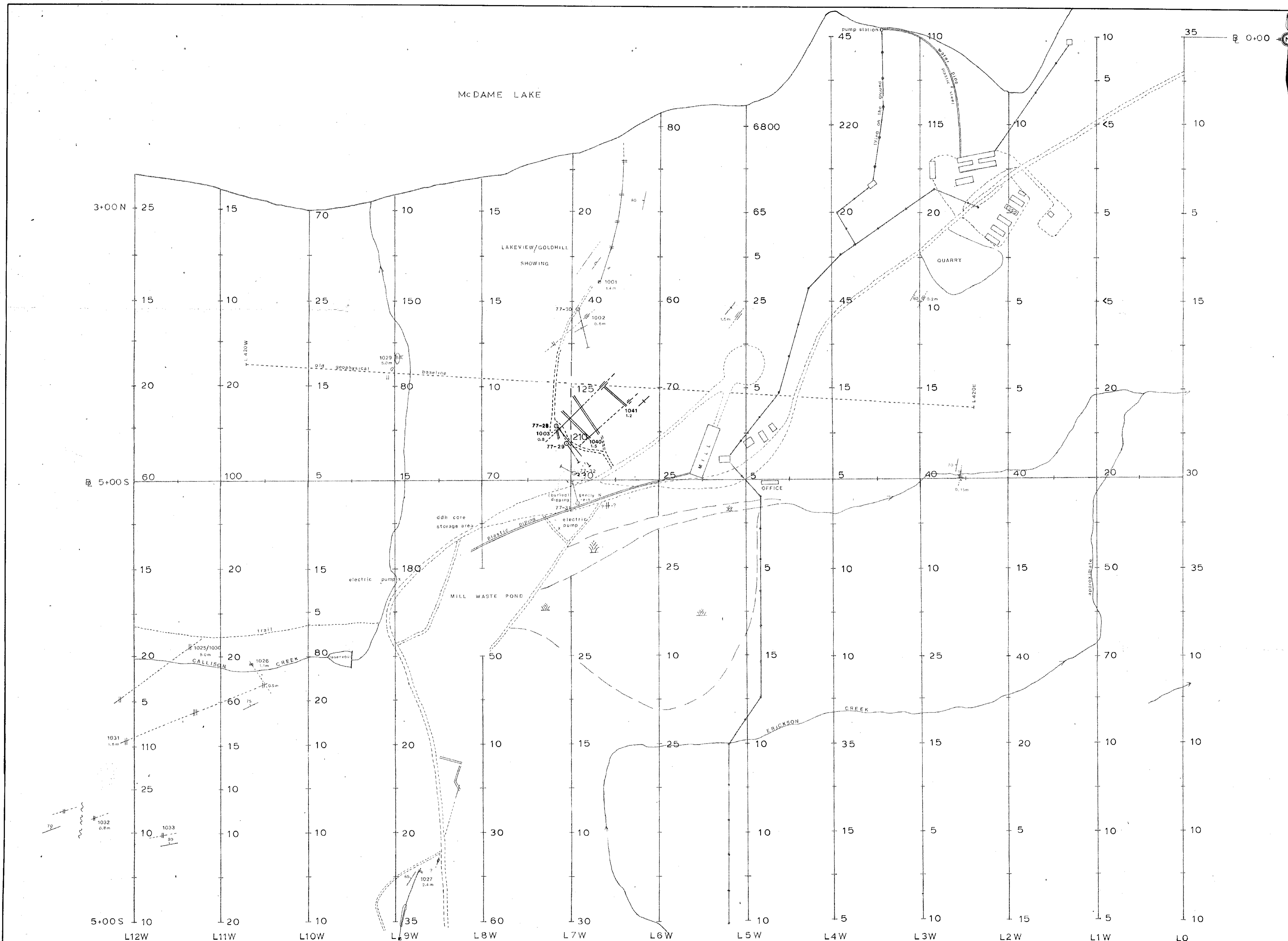
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**ESSO MINERALS CANADA**

Mc DAME PROJECT 1979

Project No. 2150 Mining Division LIARD  
 Latitude 59° 12' N Longitude 129° 40' W  
 NTS 104 P/4

P. GODKIN  
 To Accompany A Report By: R. SOMERVILLE, P. ENG.  
 Dated: NOVEMBER, 1979  
 Map No. 5B



MULL GEOCHEMISTRY  
GOLD

PROBABLY ANOMALOUS, ABOVE  
300 ppm

POSSIBLY ANOMALOUS, ABOVE  
20 ppm

BACKGROUND < 20 ppm

- SYMBOLS**
- Drift-covered area
  - Rock outcrop, area of outcrop, float X (XXX) (X)
  - Geological boundary (defined, approximate interpreted)
  - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) +
  - Bedding, tops unknown (inclined, vertical, dip unknown) /
  - Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown) //
  - Lineation, axes of minor folds (horizontal, inclined, vertical) //
  - Drag-fold (arrow indicates plunge) /
  - Fault (defined, approximate, interpreted) ~
  - Fault (inclined, vertical) ~
  - Fault (solid circle indicates downthrow side, arrows indicate relative movement) ~
  - Thrust fault (approximate, interpreted) ~
  - Shearing and dip /
  - Joint (horizontal, inclined, vertical, dip unknown) +
  - Syncline (defined, approximate) - - -
  - Anticline (defined, approximate) - - -
  - Anticline and syncline (overturned) - - -
  - Intensity (weak, moderate, strong) /
  - Gridlines - flagged & picketed

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number
- m vein thickness
- Contours - 2500 - C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees
- Scale: 1:2000

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. 7816

**ESSO MINERALS CANADA**

McDAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

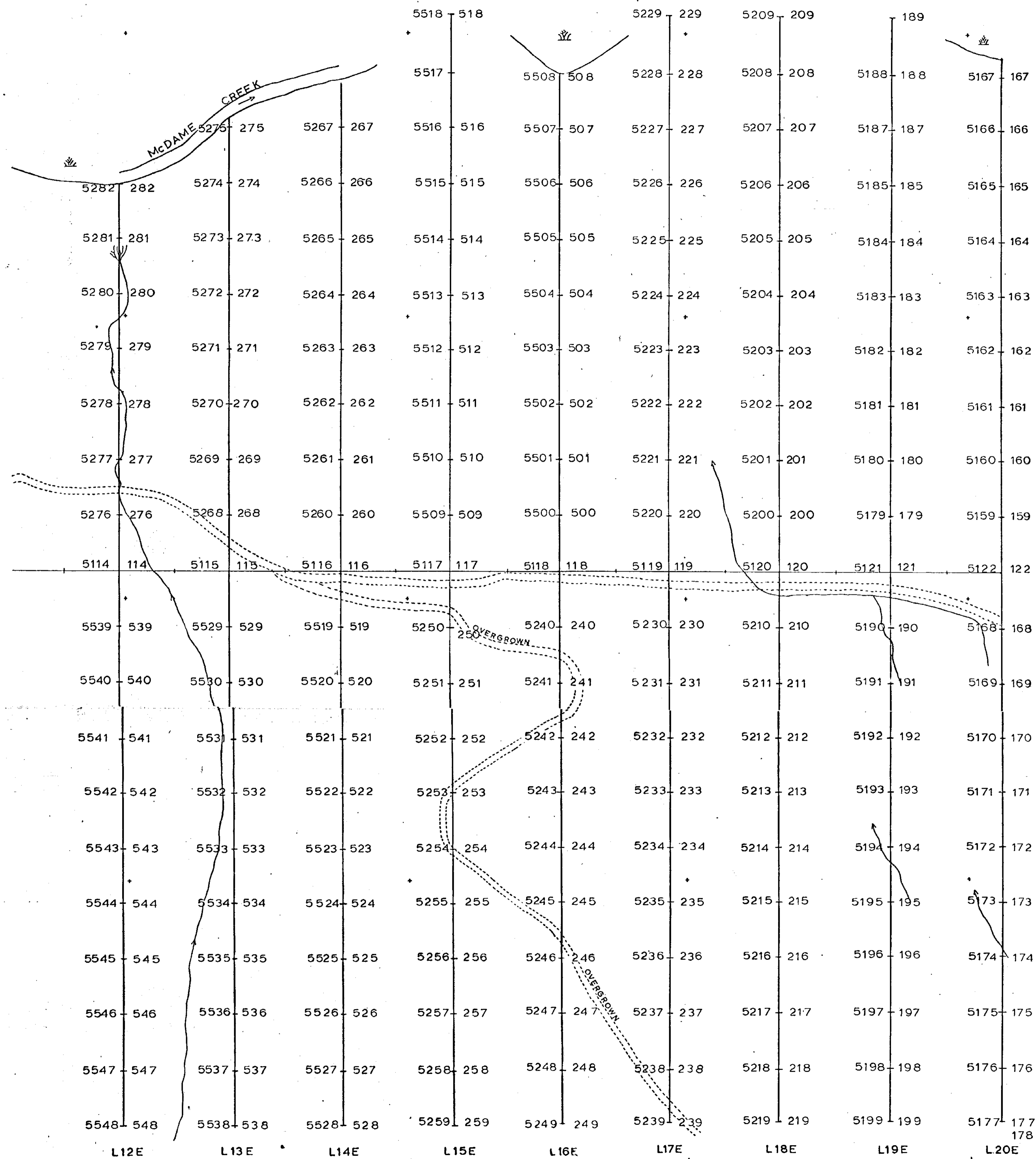
P. GODKIN  
To Accompany A Report By: B. SOMERVILLE P. ENG.  
Dated: NOVEMBER, 1979  
Map No. SA



5·00N

0·00

5·00S



SAMPLE LOCATION MAP

SYMBOLS

- Drift covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate, interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - cut, flagged, & picketed except L105, L115, & L12 (250-1005) uncut
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond drill hole

Contours 2500 C.I.  
 Stream or creek (Perennial, intermittent)

Marsh  
 Lake  
 Road  
 Jeep Road  
 Trail  
 Trees

Scale: 1:2000  
 0 20 50 75 100 meters

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
 NO. 7816

IMPERIAL OIL LIMITED - MINERALS

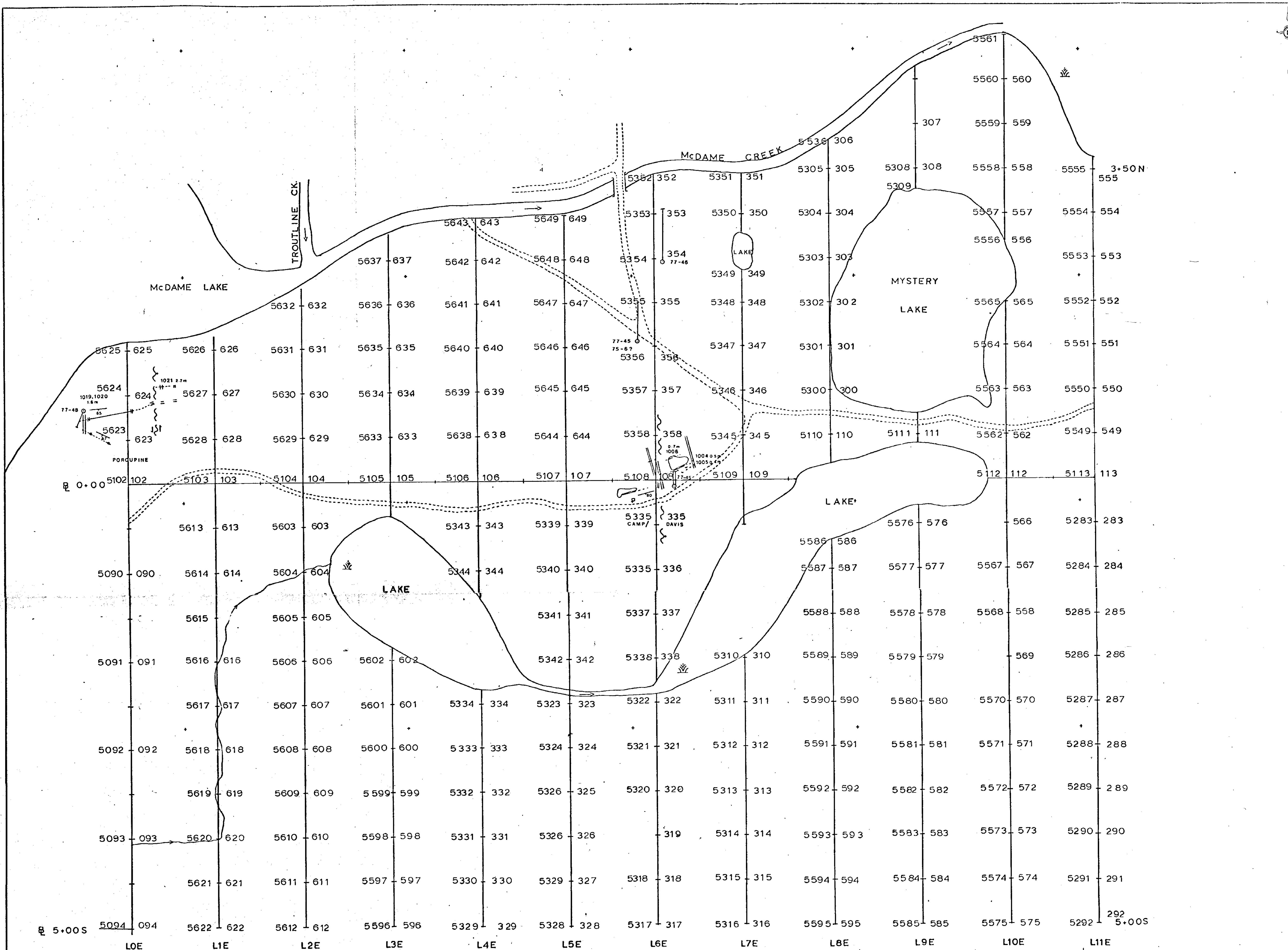
Mc DAME PROJECT - 2150  
 SAMPLE LOCATION

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

P. GODKIN  
 To Accompany A Report By: B. SOMERVILLE P. ENG.  
 Dated: November, 1979  
 Map No. 4C



- SYMBOLS**
- Drift covered area
  - Rock outcrop, area of outcrop, float X (XXX) X
  - Geological boundary (defined, approximate interpreted)
  - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) + / / / / /
  - Bedding, tops unknown (inclined, vertical, dip unknown) / / / / /
  - Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown) / / / / /
  - Lamination, axes of minor folds (horizontal, inclined, vertical) / / / / /
  - Dragfold (arrow indicates plunge) / / / / /
  - Fault (defined, approximate, interpreted) ~ ~ ~ ~ ~
  - Fault (inclined, vertical) ~ ~ ~ ~ ~
  - Fault (solid circle indicated downthrow side, arrows indicate relative movement) ~ ~ ~ ~ ~
  - Thrust fault (approximate, interpreted) ~ ~ ~ ~ ~
  - Shearing and dip / / / / /
  - Joint (horizontal, inclined, vertical, dip unknown) + / / / /
  - Syncline (defined, approximate) + - + - +
  - Anticline (defined, approximate) - + - + -
  - Anticline and syncline (overturned) - + - + -
  - Intensity (weak, moderate, strong) / / / / /
  - Gridlines
    - North - cut & picketed along with L55, L210-1505
    - South - flagged & picketed
  - Trench
  - Adit or tunnel
  - Rock dump or tailings
  - Quarry or mine
  - Shaft, raise, winze
  - Diamond-drill hole
  - 10 - Quartz vein assay number
  - - - vein thickness
  - Contours - 2500 - C.I.
  - Stream or creek (Perennial, intermittent)
  - Marsh
  - Lake
  - Road
  - Jeep Road
  - Trail
  - Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO  
Scale: 1:2000  
0 20 50 75 100 meters

IMPERIAL OIL LIMITED - MINERALS

**McDAME PROJECT - 2150**  
SAMPLE LOCATION

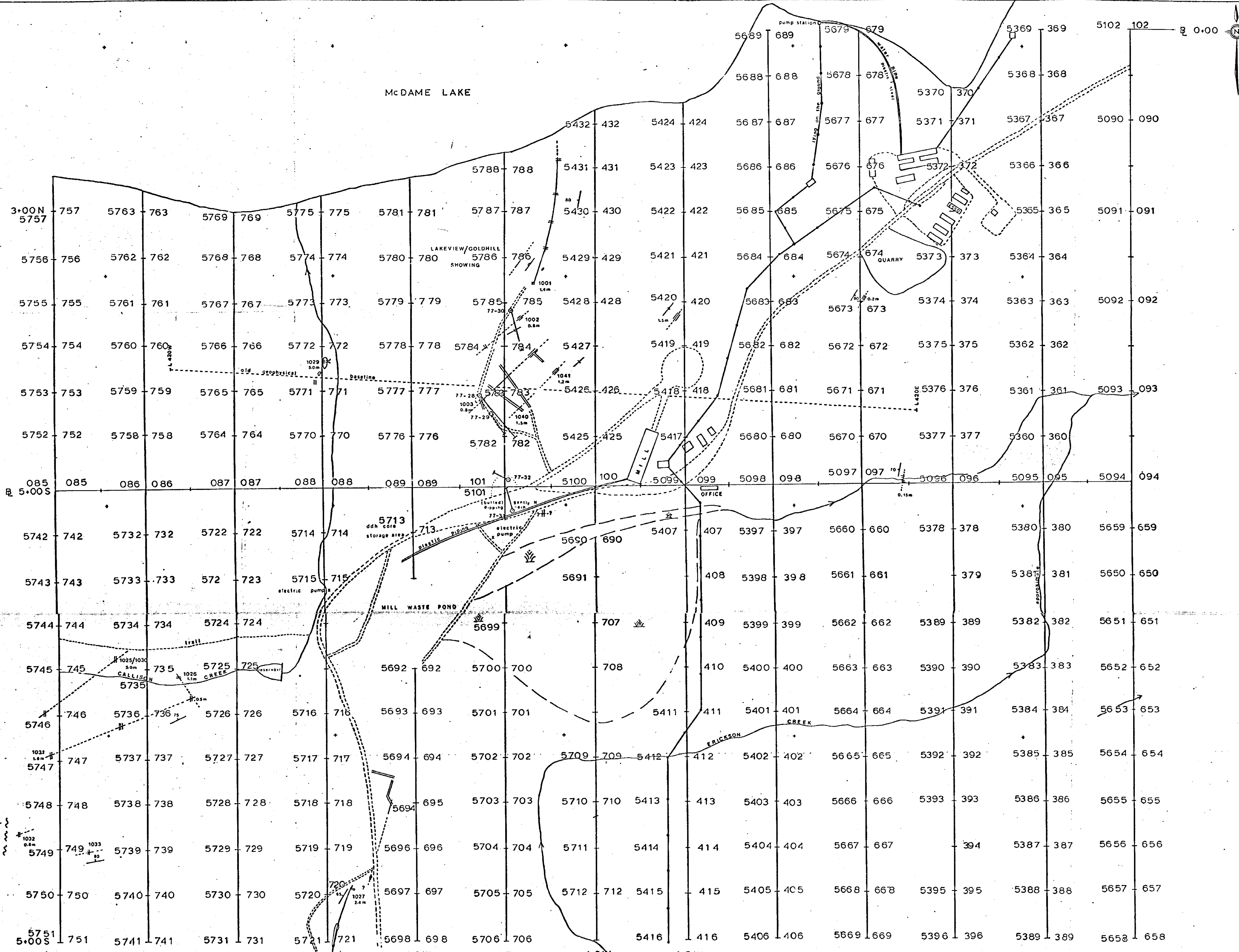
Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

P. GOGKIN  
To Accompany A Report By: B. SOMERVILLE, P. ENG.  
Dated November, 1979  
Map No. 4 B

SAMPLE LOCATION MAP



- SYMBOLS**
- Drift covered area (stippled pattern)
  - Rock outcrop, area of outcrop, float (X, circle with X, circle with X)
  - Geological boundary (dashed line)
  - Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) (lines with arrows)
  - Bedding, tops unknown (inclined, vertical, dip unknown) (lines with arrows)
  - Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown) (lines with arrows)
  - Lamination, axes of minor folds (horizontal, inclined, vertical) (lines with arrows)
  - Drag fold (arrow indicates plunge)
  - Fault (defined, approximate, interpreted) (wavy line)
  - Fault (inclined, vertical) (wavy line)
  - Fault (solid circle indicated downthrow side, arrows indicate relative movement)
  - Thrust fault (approximate, interpreted) (wavy line)
  - Shooting and dip (lines with arrows)
  - Joint (horizontal, inclined, vertical, dip unknown) (lines with arrows)
  - Syncline (defined, approximate) (line with arrows)
  - Anticline (defined, approximate) (line with arrows)
  - Anticline and syncline (overturned) (line with arrows)
  - Intensity (weak, moderate, strong) (lines with arrows)
  - Gridlines - flagged & picketed (dashed line)

- Trench (line with arrows)
- Adit or tunnel (line with arrows)
- Rock dump or tailing (stippled area)
- Quarry or mine (circle with X)
- Shaft, raise, winze (square with X)
- Diamond-drill hole (circle with dot)
- 10... Quartz vein assay number
- m vein thickness

Contours — 2500 — C.I.

Stream or creek (Perennial, intermittent) (line with arrows)

Marsh at etc. (line with arrows)

Lake (circle with wavy lines)

Road (line with double arrows)

Jeep Road (line with single arrows)

Trail (dashed line)

Trees (wavy lines)

Scale: 1:2000  
meters  
0 20 50 75 100

MINERAL RESOURCES BRANCH  
ACCESS REPORT  
NO. **7816**

IMPERIAL OIL LIMITED - MINERALS

McDAME PROJECT - 2150  
SAMPLE LOCATION

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

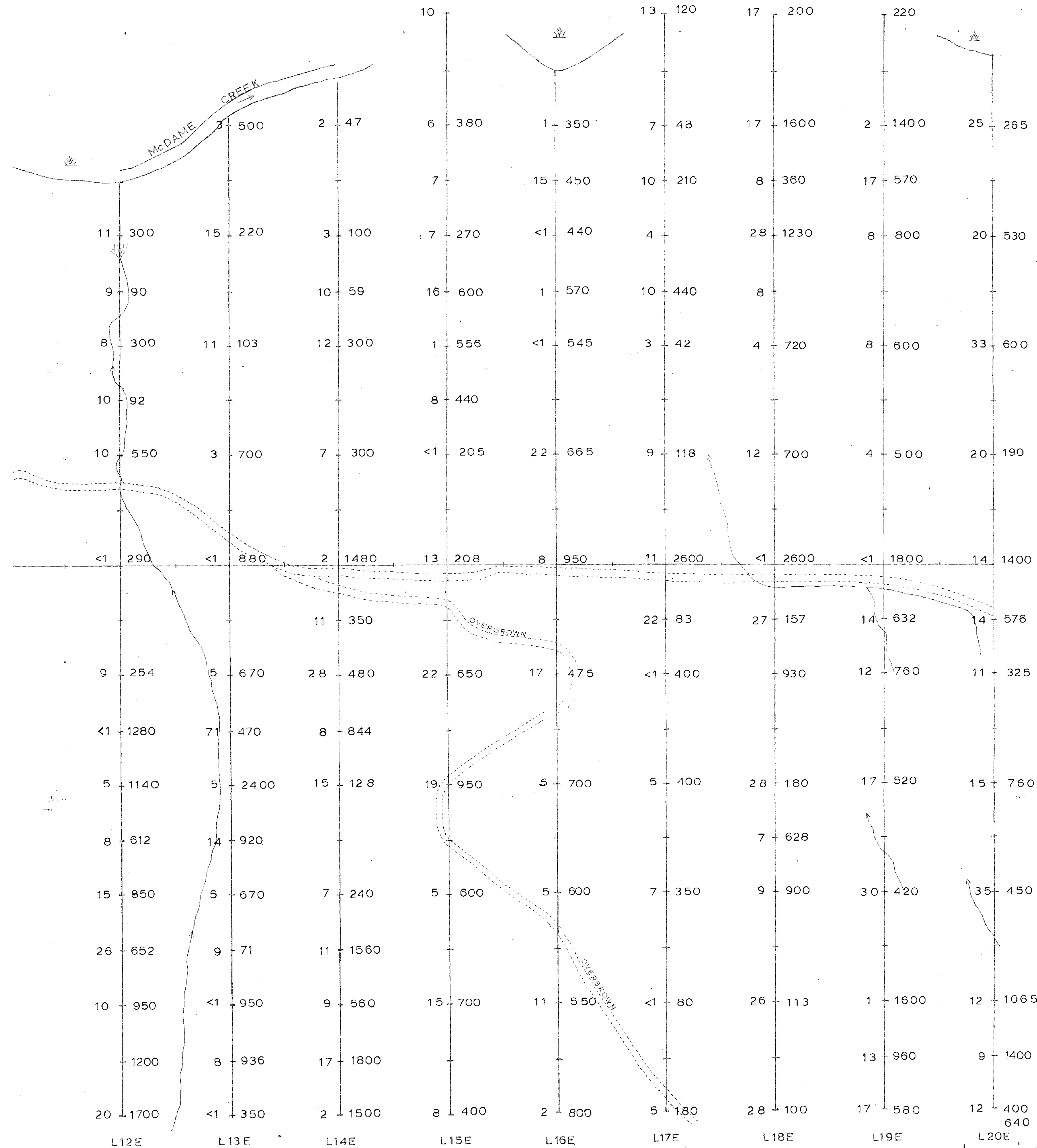
NTS 104 P/4

P. GOODKIN  
To Accompany A Report By B. SOMERVILLE, P. ENG.  
Date: NOVEMBER, 1979  
Map No. 4A

5+00N

0+00

5+00S



SOIL/MULL GEOCHEMISTRY

ARSENIC

MULL  
 UPPER ANOMALOUS POPULATION, ABOVE 1050 PPM.  
 PROBABLY ANOMALOUS, ABOVE 450 PPM.  
 POSSIBLY ANOMALOUS, ABOVE 60 PPM.  
 UPPER BACKGROUND, ABOVE 37 PPM.  
 BACKGROUND

SOIL  
 PROBABLY ANOMALOUS, ABOVE 150 PPM.  
 POSSIBLY ANOMALOUS

CONTOUR INTERVAL - 500 PPM.

SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float X (XXX) X
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lamination, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - cut, flagged, & picketed except L10S, L11S, & L12 (250-500) uncut
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole

- Contours - 2500 - C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

Scale: 1:2000  
 0 20 50 75 100 meters

MINERAL RESOURCES BRANCH  
 7816  
 NO.

ESSO MINERALS CANADA

Mc DAME PROJECT

Project No. 2150 Mining Division LIARD

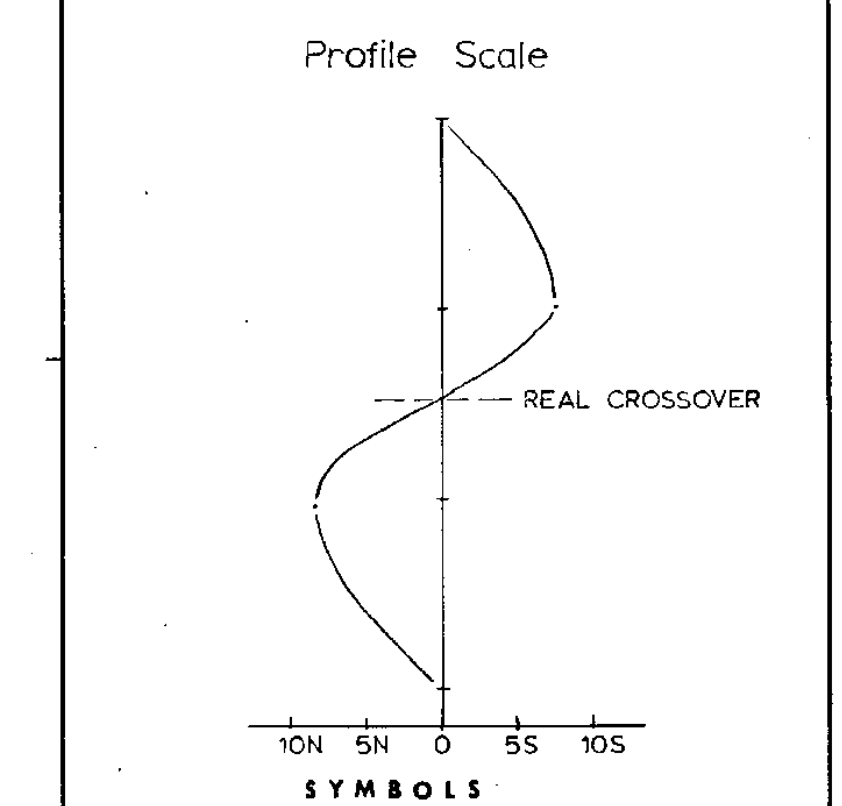
Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

P. GODKIN  
 To Accompany A Report By R. SOMERVILLE P. ENG.  
 Dated: November, 1979  
 Map No. 7D

ELECTROMAGNETIC SURVEY

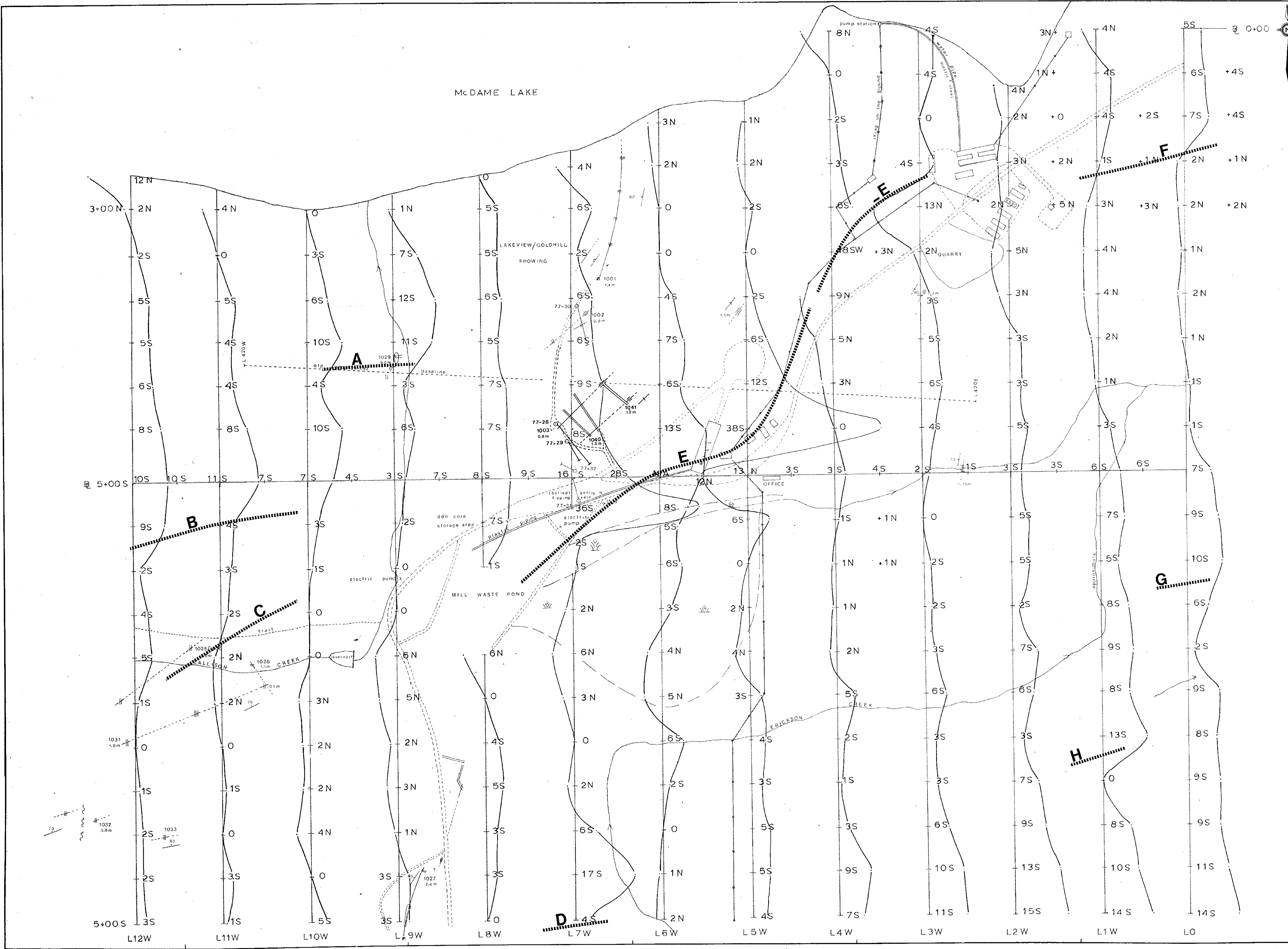
Instrument : PHOENIX  
VLF 2  
Tilt Angle Profile  
Frequency : 17.8 Hz  
Cutler, Maine



- Driftcovered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate, interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lamination, axes of minor folds (horizontal, inclined, vertical)
- Dragfold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - flagged & picketed

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond drill hole
- 10-- Quartz vein assay number
- m vein thickness
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees
- Scale: 1:2000

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO. 7816  
Scale: 1:2000  
meters 0 20 50 75 100  
**ESSO MINERALS CANADA**  
McDAME PROJECT 1979  
Project No. 2150 Mining Division LIARD  
Latitude 59° 12' N Longitude 129° 40' W  
NTS 104 P14  
P. GODKIN  
To Accompany A Report By: R. SOMERVILLE P. ENG.  
Dated: NOVEMBER, 1979  
Map No. 8A



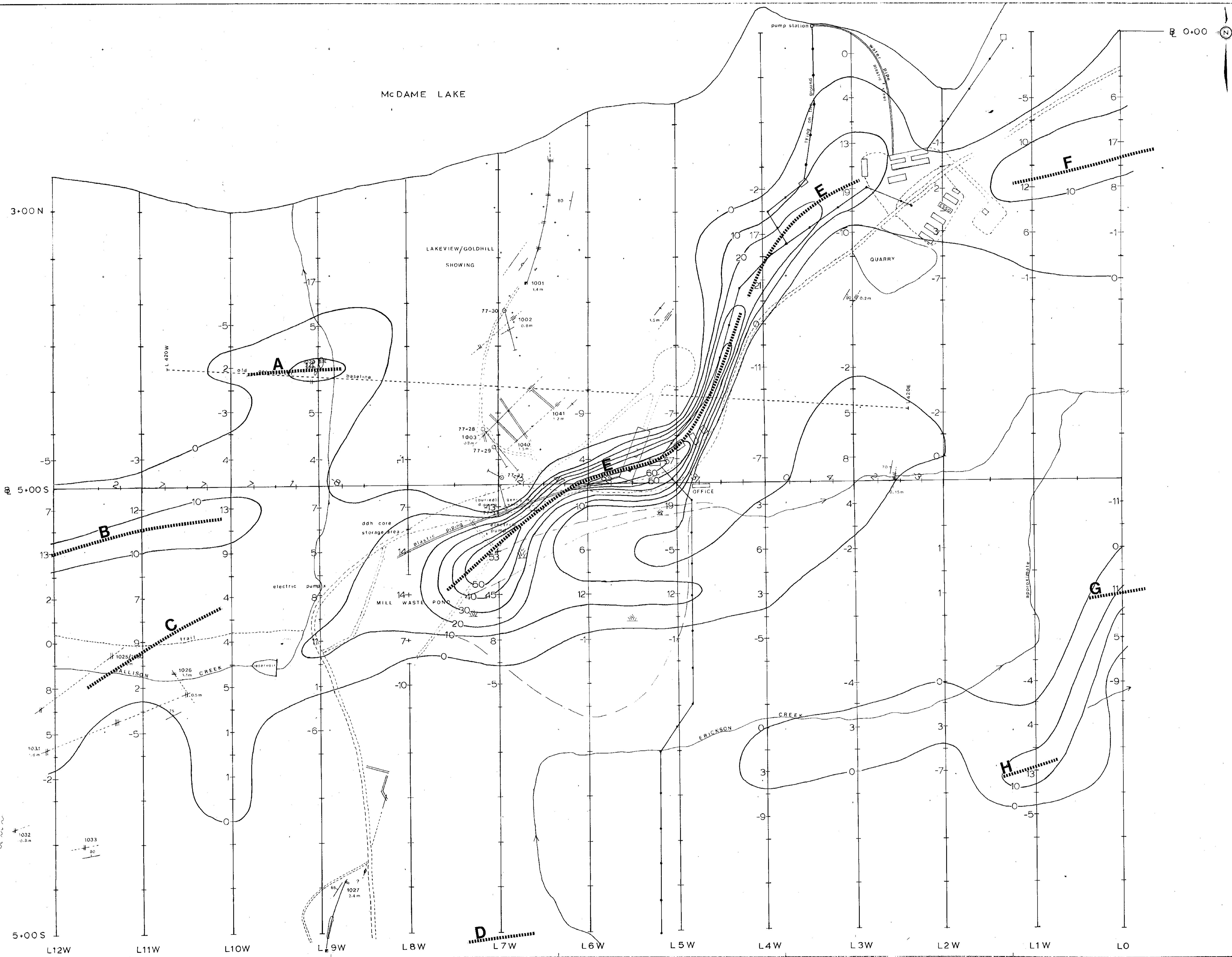
ELECTROMAGNETIC SURVEY

Instrument: PHOENIX  
VLF 2

Tilt Angle Contours

Frequency: 17.8 Hz  
Cutler, Maine

Contour interval: 10°



SYMBOLS

- Drift covered area: [Symbol]
- Rock outcrop area of outcrop float: X (XXX) X
- Geological boundary (defined, approximate, interpreted): [Symbol]
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown): [Symbol]
- Bedding, tops unknown (inclined, vertical, dip unknown): [Symbol]
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown): [Symbol]
- Limestone axes of minor folds (horizontal, inclined, vertical): [Symbol]
- Drag/fold (arrow indicates plunge): [Symbol]
- Fault (defined, approximate, interpreted): [Symbol]
- Fault (inclined, vertical): [Symbol]
- Fault (solid circle indicated downthrow side, arrows indicate relative movement): [Symbol]
- Thrust fault (approximate, interpreted): [Symbol]
- Shearing and dip: [Symbol]
- Joint (horizontal, inclined, vertical, dip unknown): [Symbol]
- Syncline (defined, approximate): [Symbol]
- Anticline (defined, approximate): [Symbol]
- Anticline and syncline (overturned): [Symbol]
- Intensity (weak, moderate, strong): [Symbol]
- Gridlines - flagged & picketed: [Symbol]

- Trench: [Symbol]
- Adit or tunnel: [Symbol]
- Rock dump or tailings: [Symbol]
- Quarry or mine: [Symbol]
- Shaft, raise, winze: [Symbol]
- Diamond drill hole: [Symbol]
- 10 - Quartz vein assay number
- m vein thickness
- Contours - 2500 - C1
- Stream or creek (Perennial, intermittent): [Symbol]
- Marsh: [Symbol]
- Lake: [Symbol]
- Road: [Symbol]
- Jep Road: [Symbol]
- Trail: [Symbol]
- Trees: [Symbol]

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO. 7816

IMPERIAL OIL LIMITED - MINERALS

McADAME PROJECT - 1979

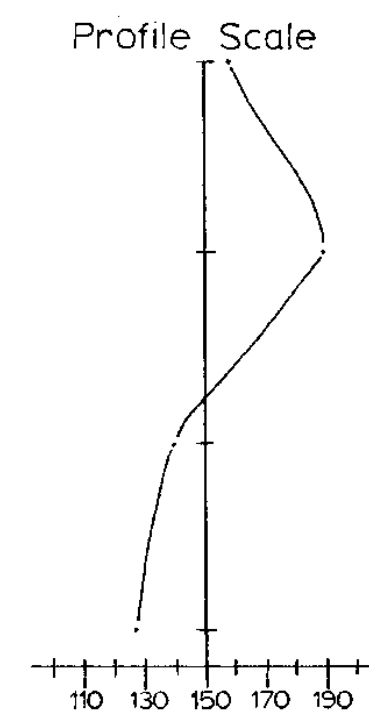
Project No. 2150 Mining Division LIARD  
Latitude 59° 12' N Longitude 129° 40' W  
NTS 104 P/4

P. GODKIN  
To Accompany A Report By R. SOMERVILLE P. ENG.  
Dated NOVEMBER, 1979  
Map No. 8B

ELECTROMAGNETIC SURVEY

Instrument: PHOENIX VLF 2

Horizontal field strength  
Profiles and Contours  
Frequency: 17.8 Hz  
Cutler, Me.

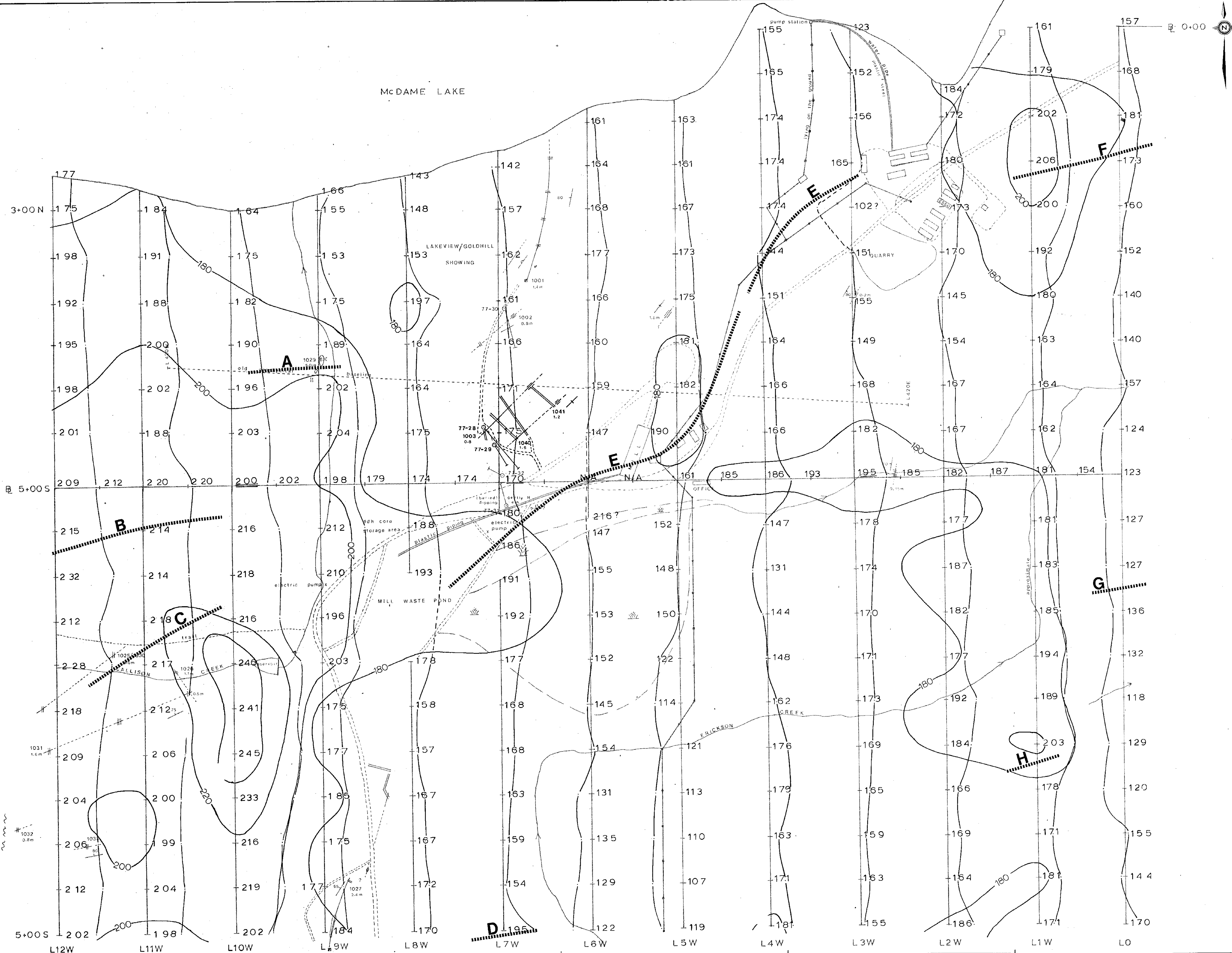


SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown)
- Limestone, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicates downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailing
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10 - Quartz vein assay number
- m vein thickness
- Contours - 2500 - C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
Scale: 1:2000  
0 20 50 75 100 meters

**ESSO MINERALS CANADA**  
McDAME PROJECT 1979  
Project No. 2150 Mining Division LIARD  
Latitude 59° 12' N Longitude 129° 40' W  
NTS 104 P/4  
P. GODKIN  
To Accompany A Report By R. SOMERVILLE P. ENG.  
Dated NOVEMBER, 1979  
Map No. BC



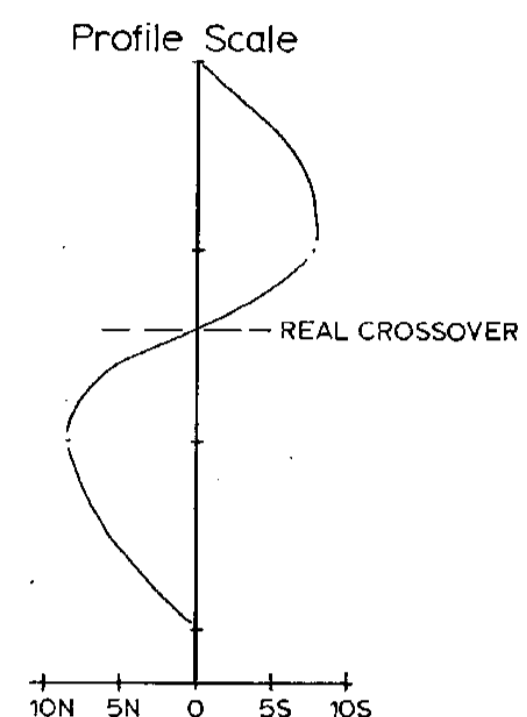
+156 172 +155 +176

ELECTROMAGNETIC SURVEY

Instrument : PHOENIX  
VLF 2

Tilt Angle Profile

Frequency : 17.8 Hz  
Cutler, Maine



SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float X (XXX) X
- Geological boundary (defined, approximate, interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lamination, axes of minor folds (horizontal, inclined, vertical)
- Drag fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines
  - North-cut & picketed along with L5S, L2(0-100S)
  - South-flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond-drill hole
- 10-- Quartz vein assay number
- m vein thickness
- Contours 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO.

Scale: 1:2000  
0 20 50 75 100 meters

ESSO MINERALS CANADA

McDAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

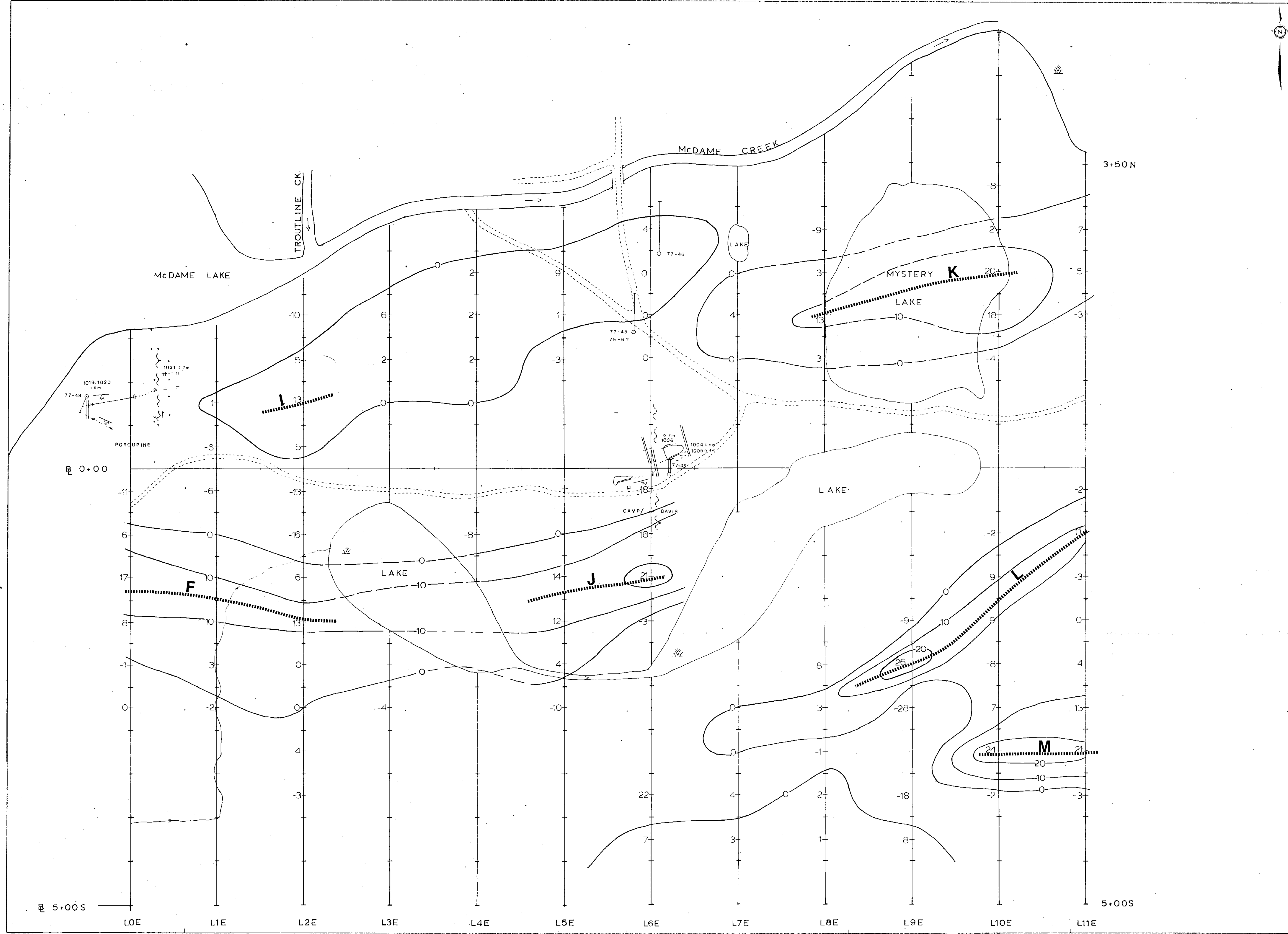
P. GGDKIN  
To Accompany A Report By: R. SOMERVILLE P. ENG.  
Dated: November, 1979  
Map No. 9A





ELECTROMAGNETIC SURVEY

Instrument: PHOENIX  
VLF 2  
Tilt Angle Contours  
Frequency: 17.8 Hz  
Cutler, Maine  
Contour interval: 10°



SYMBOLS

- Drift covered area
- Block outcrop, area of outcrop, float X (XXX)
- Geological boundary (defined, approximate, interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown) + / \ / \
- Bedding, tops unknown (inclined, vertical, dip unknown) / \ / \
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown) + / \ / \
- Lineation axes of minor folds (horizontal, inclined, vertical) / \ / \
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicated downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown) + / \ / \
- Syncline (defined, approximate) + - + -
- Anticline (defined, approximate) - + - +
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong) / \ / \
- Gridlines
- North-cut & picketed along with L5S, L2 (0-1505)
- South-flagged & picketed
- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond drill hole
- 10 - Quartz vein assay number
- - - vein thickness
- Contours - 2500 - C1
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7816**  
NO. 7816

IMPERIAL OIL LIMITED - MINERALS

McDAME PROJECT -1979

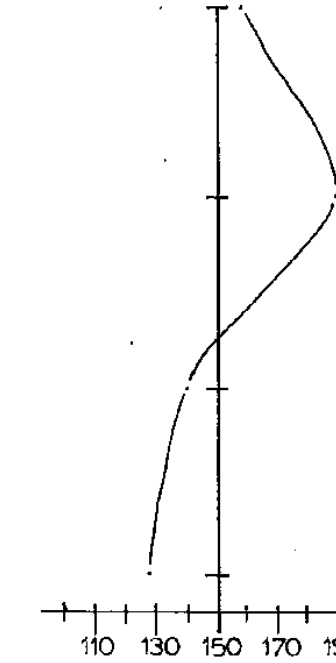
Project No. 2150 Mining Division LIARD  
Latitude 59° 12' N Longitude 129° 40' W  
NTS 104 P/4  
P. GODKIN  
To Accompany A Report By R. SOMERVILLE, P. ENG.  
Dated November, 1979  
Map No. 9B

ELECTROMAGNETIC SURVEY

Instrument: PHOENIX  
VLF 2

Horizontal field strength  
Profiles and Contours  
Frequency: 17.8 Hz  
Cutler, Maine

Profile Scale



SYMBOLS

- Drift-covered area: [Symbol]
- Rock outcrop, area of outcrop, float: X (XXX) X
- Geological boundary (defined, approximate interpreted): [Symbol]
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown): [Symbol]
- Bedding, tops unknown (inclined, vertical, dip unknown): [Symbol]
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown): [Symbol]
- Limestone, axes of minor folds (horizontal, inclined, vertical): [Symbol]
- Drag-fold (arrow indicates plunge): [Symbol]
- Fault (defined, approximate, interpreted): [Symbol]
- Fault (inclined, vertical): [Symbol]
- Fault (solid circle indicated downthrow side, arrows indicate relative movement): [Symbol]
- Thrust fault (approximate, interpreted): [Symbol]
- Shearing and dip: [Symbol]
- Joint (horizontal, inclined, vertical, dip unknown): [Symbol]
- Syncline (defined, approximate): [Symbol]
- Anticline (defined, approximate): [Symbol]
- Anticline and syncline (overturned): [Symbol]
- Intensity (weak, moderate, strong): [Symbol]
- Gridlines:
  - North-cut & picketed along with L5S, L2 (0-150S)
  - South-flagged & picketed
- Trench: [Symbol]
- Adit or tunnel: [Symbol]
- Rock dump or tailings: [Symbol]
- Quarry or mine: [Symbol]
- Shaft, raise, winze: [Symbol]
- Diamond-drill hole: [Symbol]
- 10 - Quartz vein assay number
- m vein thickness

Contours 2500 C.I.  
Stream or creek (Perennial, intermittent): [Symbol]

Marsh: [Symbol]  
Lake: [Symbol]  
Road: [Symbol]  
Jeep Road: [Symbol]  
Trail: [Symbol]  
Trees: [Symbol]

Scale: 1:2000  
0 20 50 75 100 meters

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. 7816

ESSO MINERALS CANADA

McDAME PROJECT 1979

Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104 P/4

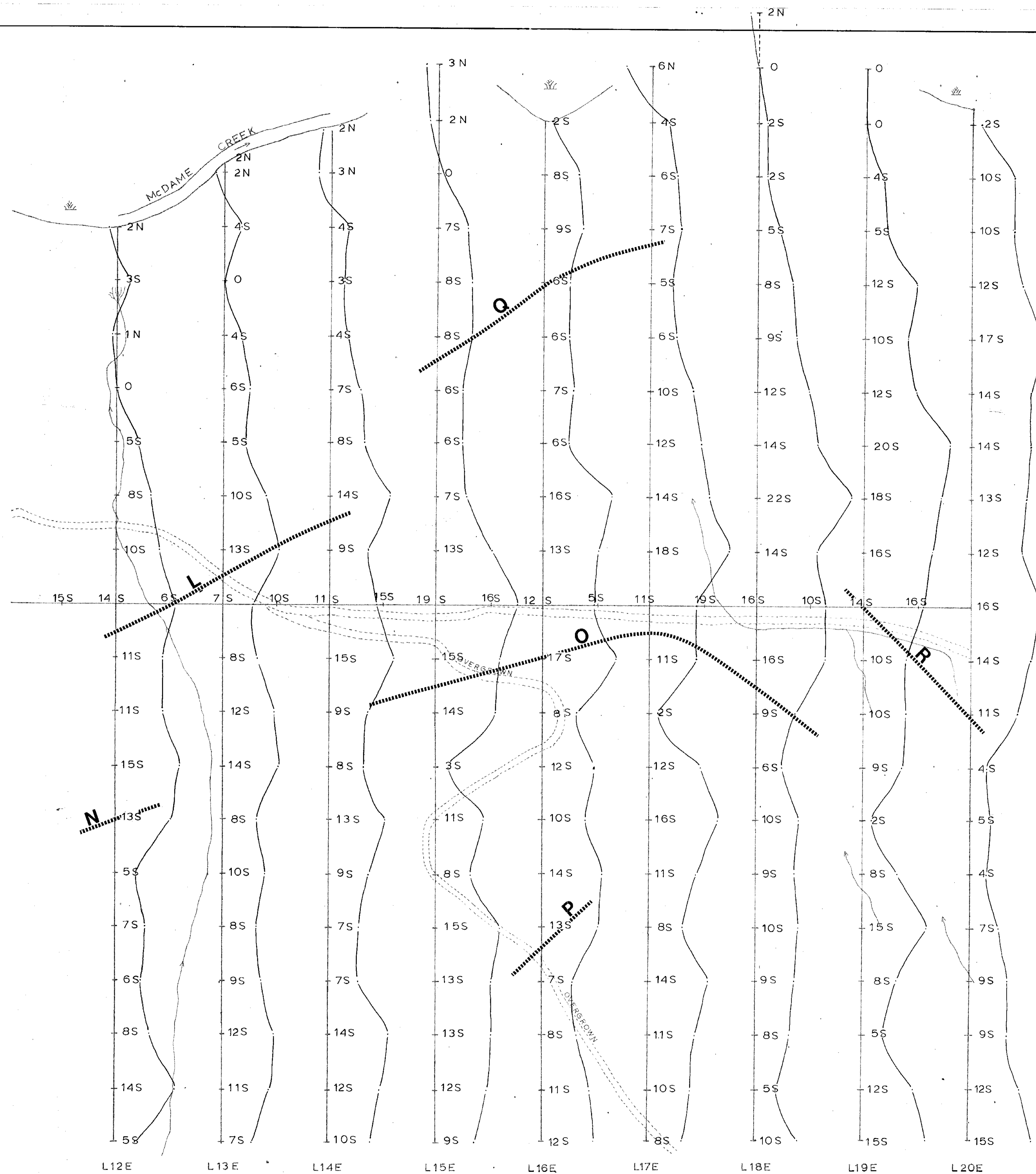
P. GODKIN  
To Accompany A Report by: R. SOMERVILLE, P. ENG.  
Dated: November, 1979  
Map No. 9C



5+00N

0+00

5+00S



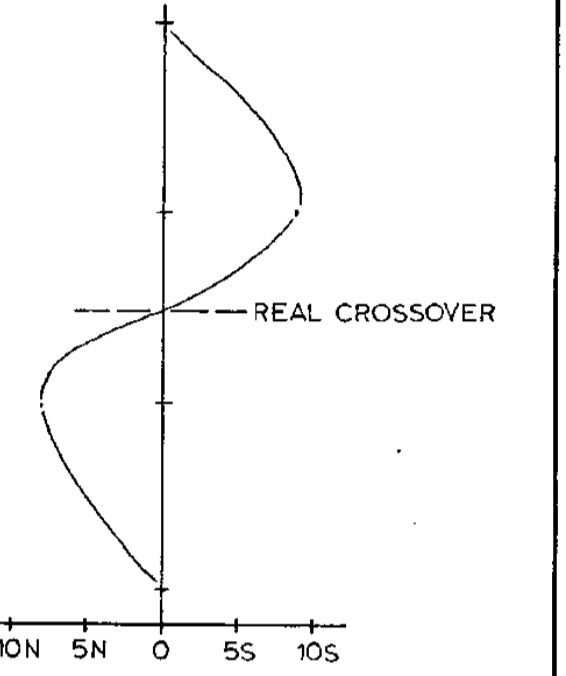
ELECTROMAGNETIC SURVEY

Instrument: PHOENIX VLF 2

Tilt Angle Profile

Frequency: 17.8 Hz  
Cutler, Maine

Profile Scale



SYMBOLS

- Drift-covered area
- Rock outcrop, area of outcrop, float
- Geological boundary (defined, approximate interpreted)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)
- Lineation, axes of minor folds (horizontal, inclined, vertical)
- Drag-fold (arrow indicates plunge)
- Fault (defined, approximate, interpreted)
- Fault (inclined, vertical)
- Fault (solid circle indicates downthrow side, arrows indicate relative movement)
- Thrust fault (approximate, interpreted)
- Shearing and dip
- Joint (horizontal, inclined, vertical, dip unknown)
- Syncline (defined, approximate)
- Anticline (defined, approximate)
- Anticline and syncline (overturned)
- Intensity (weak, moderate, strong)
- Gridlines - cut, flagged, & picketed except L10S, L11S, & L12 (250-500S) uncut

- Trench
- Adit or tunnel
- Rock dump or tailings
- Quarry or mine
- Shaft, raise, winze
- Diamond drill hole
- Contours - 2500 C.I.
- Stream or creek (Perennial, intermittent)
- Marsh
- Lake
- Road
- Jeep Road
- Trail
- Trees

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. 7816

ESSO MINERALS CANADA  
Mc DAME PROJECT 1979

Project No. 2150 Mining Division LIARD  
Latitude 59° 12' N Longitude 129° 40' W  
NTS 104P/4

P. GODKIN  
To Accompany A Report By: R. SOMERVILLE P. ENG.  
Dated: November, 1979  
Map No. 10A

5+00N

0+00

5+00S



ELECTROMAGNETIC SURVEY

Instrument: PHOENIX  
 VLF 2  
 Tilt Angle Contours  
 Frequency: 17.8 Hz  
 Cutler, Maine  
 Contour interval: 10°

SYMBOLS

- Drift covered area: [Symbol]
- Rock outcrop area of outcrop float: X [Symbol]
- Geological boundary (defined, approximate, interpreted): [Symbol]
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown): [Symbol]
- Bedding, tops unknown (inclined, vertical, dip unknown): [Symbol]
- Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown): [Symbol]
- Lineation, axes of minor folds (horizontal, inclined, vertical): [Symbol]
- Dragfold (arrow indicates plunge): [Symbol]
- Fault (defined, approximate, interpreted): [Symbol]
- Fault (inclined, vertical): [Symbol]
- Fault (solid circle indicated downthrow side, arrows indicate relative movement): [Symbol]
- Thrust fault (approximate, interpreted): [Symbol]
- Shearing and dip: [Symbol]
- Joint (horizontal, inclined, vertical, dip unknown): [Symbol]
- Syncline (defined, approximate): [Symbol]
- Anticline (defined, approximate): [Symbol]
- Anticline and syncline (overturned): [Symbol]
- Intensity (weak, moderate, strong): [Symbol]
- Gridlines - cut, flagged, & picketed except L10S, L11S, & L12 (250-500S) uncut
- Trench: [Symbol]
- Adit or tunnel: [Symbol]
- Rock dump or tailings: [Symbol]
- Quarry or mine: [Symbol]
- Shaft, raise, winze: [Symbol]
- Diamond drill hole: [Symbol]

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**NO. 7816**

IMPERIAL OIL LIMITED - MINERALS  
 Mc DAME PROJECT - 1979  
 Project No. 2150 Mining Division LIARD  
 Latitude 59° 12' N Longitude 129° 40' W  
 NTS 104P/14  
 P. GOODWIN  
 To Accompany A Report By B. SOMERVILLE P. ENG.  
 Dated November, 1979  
 Map No. 10B

5+00N



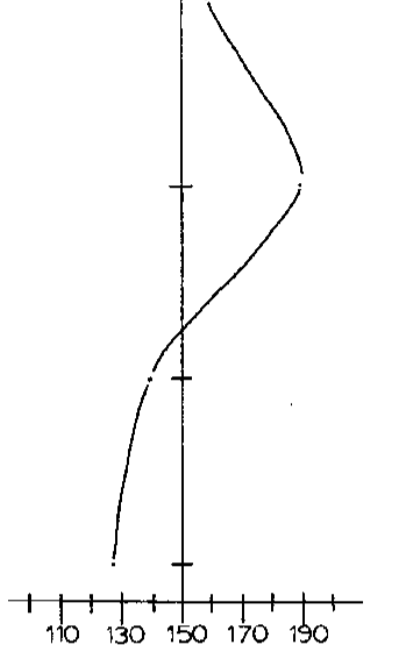
ELECTROMAGNETIC SURVEY

Instrument: PHOENIX  
VLF 2

Horizontal field strength  
Profiles and Contours  
Frequency: 17.8 Hz

Cutler, Maine

Profile Scale



SYMBOLS

- Drift-covered area: [Symbol]
- Rock outcrop, area of outcrop, float: [Symbol]
- Geological boundary (defined, approximate interpreted): [Symbol]
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown): [Symbol]
- Bedding, tops unknown (inclined, vertical, dip unknown): [Symbol]
- Schistosity, gneissosity, cleavage, foliation (horizontal inclined, vertical, dip unknown): [Symbol]
- Lincation, axes of minor folds (horizontal, inclined, vertical): [Symbol]
- Dragfold (arrow indicates plunge): [Symbol]
- Fault (defined, approximate, interpreted): [Symbol]
- Fault (inclined, vertical): [Symbol]
- Fault (solid circle indicated downthrow side, arrows indicate relative movement): [Symbol]
- Thrust fault (approximate, interpreted): [Symbol]
- Shearing and dip: [Symbol]
- Joint (horizontal, inclined, vertical, dip unknown): [Symbol]
- Syncline (defined, approximate): [Symbol]
- Anticline (defined, approximate): [Symbol]
- Anticline and syncline (overturned): [Symbol]
- Intensity (weak, moderate, strong): [Symbol]
- Gridlines - cut, flagged, & picketed: except L10S, L11S, & L12 (250-500S) uncut

- Trench: [Symbol]
- Adit or tunnel: [Symbol]
- Rock dump or tailings: [Symbol]
- Quarry or mine: [Symbol]
- Shaft, raise, winze: [Symbol]
- Diamond-drill hole: [Symbol]

- Contours: [Symbol] 2500 C.I.
- Stream or creek (Perennial, intermittent): [Symbol]
- Marsh: [Symbol]
- Lake: [Symbol]
- Road: [Symbol]
- Jeep Road: [Symbol]
- Trail: [Symbol]
- Trees: [Symbol]

Scale: 1:2000  
0 20 50 75 100 meters

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
NO. 7816

ESSO MINERALS CANADA

Mc DAME PROJECT 1979

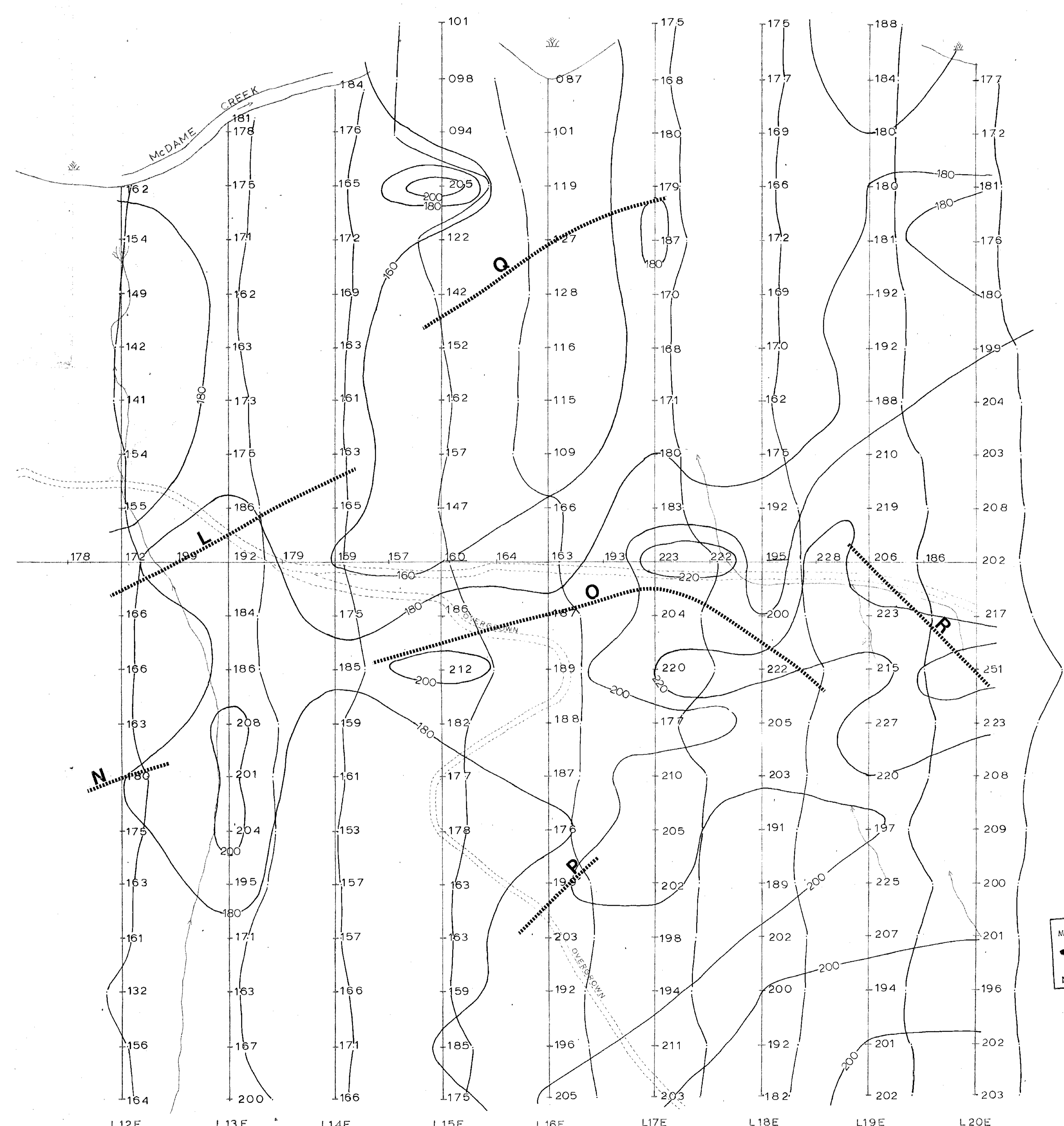
Project No. 2150 Mining Division LIARD

Latitude 59° 12' N Longitude 129° 40' W

NTS 104P/4

P. GODKIN  
To Accompany A Report By: R. SOMERVILLE P. ENG.  
Dated: November, 1979

Map No. 10 C



5+000

5+00 S

L12E L13E L14E L15E L16E L17E L18E L19E L20E