

GM 30647

REPORT ON THE BIG M PROPERTY

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Énergie et Ressources
naturelles

Québec 

REPORT ON

THE BIG 'M' PROPERTY

TWP 5845

LABRADOR TROUGH

UNGAVA

NEW QUEBEC, CANADA

JANUARY, 1975

BY: W. B. LORING

CLAIMS - 327217 (1-5)

327218 (1-4)

Ministère des Richesses Naturelles, Québec
SERVICE DE LA
DOCUMENTATION TECHNIQUE

Date: 16 AVR 1975

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INTRODUCTION

Field work on the Big M property was done during August, 1974 by the writer, W. B. Loring, of Vancouver, assisted by Myles Roth of Toronto. As the ground had been under litigation, no work was done there during the 1970 and 1971 seasons, when the consulting firm of Derry, Michener and Booth, of Toronto, conducted exploration for Cities Service on our 8 other properties in the district.

We reached our camp site on August 5, and returned to Ft. Chimo on the 26th. Our camp was a mile northwest of the property, on a site on the west side of Hollanah Lake used by Hollinger North Shore Exploration when they were drilling their Leslie property to the west and Erickson to the east. The name Hollanah is a combination of those of the parent companies, Hollinger and Hannah.

LOCATION, ETC.

The property is in the northern part of the province of Quebec, Canada, in the region called Ungava or New Quebec. It is at latitude 58°N and longitude 69°45W. The village of Fort Chimo is 50 miles to the east. There is no road; summer travel must be by air.

Ft. Chimo is on the Koksoak river, 30 miles south of Ungava bay. It is 900 miles N.E. of Montreal. The nearest town, Schefferville, is 250 miles south, at the end of a 400 mile rail line from Septiles on the north shore of the Gulf of St. Lawrence. Ft. Chimo is the first stop on the Montreal-Frobisher Bay flight of Nordair. In the summer (mid July- mid Oct.) ships come to a point in the river about 5 miles below Ft. Chimo; barges are used for transport between ship and dock.

The population of Ft. Chimo is about 2,000 mostly Eskimo. Facilities include a hotel, an oil agency, a general store (Hudson's Bay Co.) and two local air services. St. Felicien Air Service, Box 910 St. Felicien, Quebec, operates a fleet of float planes from Stewart lake just north of Ft. Chimo. Skyrotors, Box 7, Arrprior, Ontario, have a helicopter base in Ft. Chimo. A branch of the Canadian Imperial Bank of Commerce operates one day a week.

VEGETATION & CLIMATE

The property is close to the tree line. Trees, mostly spruce, cover about 5% of the land surface; they are 2 to 5 feet high. In some areas, mainly near lakes, spruce and tamarack will reach 15 feet. Low willows are about as abundant as the conifers. Cranberry and blueberry bushes hug the ground. Cotton grass grows in some wet places. Reindeer moss is not very abundant. Grey lichens are the most abundant vegetation, occurring on all rock surfaces.

Very little animal life was seen. It consisted of geese, ptarmigan, buntings and lemmings. A few caribou tracks and antlers were seen. Hol- lanah and the smaller lakes appear to have no fish. There should be char in Gerido lake.

Mosquitos were troublesome when there was no wind. It was too cold for them on clear nights.

The temperature was about 40^o to 70^o. Residual snow patches disappeared by about Aug. 10. Wind was almost constant, it came from all directions. The total rainfall was slight, but some fell almost every day. The sky was usually overcast.

PROPERTY

The name 'Big M' (from an 'M' indicating a mineralized outcrop on a geologic map) applies to a group of 9 claims staked for Cities Service Minerals Corp. in February, 1973. Earlier claims had been in conflict with some staked by Hollinger. A provincial mining judge had disallowed both groups of claims. In this part of Quebec assessment work requirements for the first year can be deferred to the second.

The 9 claims are: Lic. 32717, nos. 1-5 (on Feb. 13) and Lic. 327218, nos. 1-4 (on Feb. 14).

The property is in the northern part of twp 58⁴⁵4. The north line of this township is 58°N latitude and is a surveyed line. All but 2 of the claim corners were found. The property is roughly 3600' (E-W) by 4,000'.

TOPOGRAPHY

This is a region of narrow lake-filled valleys separated by broad ridges which are dotted with smaller lakes and ponds. Streams are small. The trend of the larger lakes is N30°W, following the geologic structures.

On the Big M property, the land rises evenly from a low near Lake Gerido of 700' in the northeast to an area in the centre and west, of intermittent N.N.W. rocky ridges and interspersed small lakes and ponds, where elevations range from 800' to 900'. About 15% of the property is lake-covered.

Permafrost was not encountered directly, but water oozing out of fractures on steep rock faces probably came from ice melting.

GEOLOGY

Mapping was done on a scale of 1 in=200 ft. using lines which had been marked on the surface at 400' intervals by use of compass and tape. Line positions were corrected by use of an aerial photograph.

Thin and polished sections were studied by Christian Soux, in Vancouver.

The Thevenet Lake Area report, and map at one mile to one inch, covers the area; this is Geological Report No. 104, and Map 1499, published by the Department of Natural Resources, Quebec, 1965. The area is also included in the map, 'Metallic Mineralization in Part of the Labrador Trough, North Sheet', Map 1674 of Special Paper No. 5, by the same department.

The area is in the Labrador Trough, a belt of folded Proterozoic sediments, volcanics and basic sills, 20 to 50 miles wide, that extends for 100 miles north, to Hopes Advance Bay, and for 340 miles south, to the Grenville Front. The Trough is a highly folded belt, against the Superior craton, to the west. Folding east of the Trough is gentler. Here the degree of metamorphism is greater, indicating that the area has been uplifted. A similar situation exists to the south, beyond the Grenville Front, the uplifted iron ore is more coarsely crystalline in the smaller remnant deposits, than it is in the main mining region north of the Front.

On the property rock outcrops, mainly on ridges, amount to 15% of the area (the same percentage as is lake-covered). The actual rock surface is visible only between the lichens, which are light gray or orange when alive and black when dead. The rocks are volcanics and interbedded fine sediments of the Hellancourt formation, near the top of the

Proterozoic series of the Labrador Trough, cut by gabbrosills.

The property is on the East limb of a N35°W striking syncline; steep to slightly overturned. A section is as follows (along line 12N, near the north edge of the property):

1100'	(+) Andesite flows - Hellancourt Volcanics
400'	Gabbro Sill
900'	Andesite flows
450'	Blotchy Gabbro-Gabbro Sill
5'	Sediments, fine-grained, clastic
100'	Covered probably sediments
600'	Gabbro Sill
5 +	Sediments - Baby formation
1500'	Covered probably sediments
100'	Gabbro dike? (on shore of Gerido Lake)

These rocks have undergone green schist stage regional metamorphism.

Andesite is the most abundant exposed rock, occurring as flows, with pillowed tops, 300 to 500 feet thick. It is a greenish-gray fine-grained semi-schistose rock. It contains some residual plagioclase and actinolite, and the alteration products chlorite, chinozoisite, quartz and epidote. Pillow structures show tops to the west.

It forms discontinuous rounded outcrops, except in the southwest where there is a fault scarp.

Gabbro occurs as sills, which were intruded before the folding, as shown by the lack of cross-cutting patterns in the Trough as a whole. Individual sills are about 400 feet thick, and run the length of the property.

Plagioclase, the main component, has been altered to clinozoisite, Pyroxene nearly as abundant, is now actinolite, with some chlorite. The rock is greenish gray weathering to a light greenish-brown.

The most prominent ridges on the property, in the southeast and north centre, (each east of a lake) are formed by one of the sills. Another sill, in the west (to the west of the foot-shaped lake) has discontinuous outcrops. In between these two a gabbro sill, or sills, is intermittently blotchy. These sills are at or close to the base of the volcanics. Just east of the northeast corner of the property an outcrop about 100 feet wide appears to be a sill down in the sediments, or a dike.

Except where a narrow section of sediments is exposed on the edge of a ridge, the contacts of the gabbro sills are covered.

Blotchy Gabbro, also called 'Leopard Rock', occurs as lenses, segregated from, or intruding, the central sill (the sill that is just below the base of the volcanics). In this rock roughly circular light-gray blotches, 1/4 inch up to 2 inches in diameter, make up about half of the rock. The blotches are separated by dark gray areas. In weathering the blotches are gray polka dots in a light orange-brown surface. Sulphide grains are usually present in the matrix; they give a deep-brown gossan.

The blotches consist of fine-grained clinozoisite, replacing coarse-grained plagioclase. The dark matrix consists of actinolite and chlorite, after pyroxene. Thus, the unaltered rock was a porphyritic gabbro.

Specimens from a mineralized part of the Keweenawan age Duluth Gabbro Complex from near Ely, Minn. U.S.A. resemble the probable pre-metamorphic appearance of the Blotchy Gabbro. However, this is augite troctolite (similar to olivine gabbro) with olivine and augite interstitial to 1 in. diameter plagioclase clusters. "Report of Investigations 9, Gabbro Lake Quadrangle" University of Minn., 1969, describes this occurrence. The unit is the "Contact Zone", the lowest sill in the Complex; below it is the basement of Middle and Lower Precambrian rocks; above the Complex are the Keweenawan flows.

On the Big M property, the blotchy gabbro is widest in the north. At about 1500 feet south of the boundary, it is about 400 feet wide, in small outcrops. On strike to the northwest it dies out in 900 feet, to be replaced by regular gabbro. To the southeast, a footwall section about 100 feet wide can be traced for 1800 feet; and a hanging wall section for 800 feet.

In the south, about 50 feet of sediments separate the blotchy gabbro from regular gabbro on the east, while on the west the contact is rather gradational.

The blotchy gabbro appears more likely to be a segregation than a separate sill. It may be that the last of the intrusives contained un-mixed coarser material, including a little pyrrhotite.

Sedimentary Rocks outcrop only next to sills. They probably underly the northeastern 1/6 of the property, beneath alluvium. Here they could reach 1500 feet in thickness. Beneath the lake-filled valley in the southeast there could be an additional 200 feet, above the eastern sill. They belong to the upper member of the Baby formation, which is made

up mainly of argillites, phyllites and some quartzites.

The most common rock is slaty phyllite (after siltstone?) a fine-grained light gray thin-banded rock comprised of quartz plus muscovite. It is usually a rich brown color on the weathered surface; due to limonite, after fine-grained pyrrhotite.

In the southeast part of the property, between the lake on the west and gabbro on the east, is rock that resembles banded tuff. It is composed of alternating siliceous and chloritic layers. It is a light greenish gray, weathering slightly greener.

On the east side of the above material, next to the gabbro, is a discontinuous 1 foot band of crystalline carbonate, dolomite or calcite.

Glacial Features consist of erratics, till, roches moutonnees and striae. Till covers the slope down to Lake Gerido. Striae mainly trend $S25^{\circ}W - N25^{\circ}E$; roche moutonnee plucking indicates that movement was from the southwest. Erratics are sub-rectangular, up to 10 feet high. They are grouped on ridge-tops like platoons of Easter Island guardian figures. Nests of boulders are common, especially at the ends of lakes.

Structures: As previously mentioned, the property is on the east limb of a tightly folded syncline that strikes $N35^{\circ}W$. Dips are close to vertical.

A scarp in the S. W. trending about $N30^{\circ}W$, probably marks a fault along the synclinal axis.

A few vertical joints, perpendicular to the strike were noticed in gabbro, slightly mineralized with pyrrhotite.

MINERALIZATION

General

In this part of the Labrador Trough sulphide mineralization extends from near Koksoak River, in the south, to just south of Leaf Bay, in the north: a distance of 60 miles. Report 104 lists three types of deposits, as follows:

1) Fine-grained pyrite-pyrrhotite, deposits in black shale at the top of the Baby formation, just below the lavas.

2) Copper-Zinc bodies, with some gold values, occurring as lenses within the very long deposits of type 1.

3) Pyrrhotite-chalcopyrite deposits in (blotchy) gabbros, with low to moderate nickel and negligible zinc and gold values. They consist generally of pyrrhotite and chalcopyrite with traces of pentlandite. The sulphides are accompanied by minor quartz and chlorite. Sulphides and gangue have selectively replaced the ferro-magnesian minerals leaving unattacked the clots of altered feldspar except along narrow fractures.

The distribution of this type of mineralization is remarkable in that it is abundant and yet is practically restricted to what is probably a single sill largely made of characteristic blotchy gabbro. Only traces of sulphides have so far been found in other sills. In some cases at least, the mineralization is more intense in the "stratigraphically" lower non-blotchy part of the sill.

In the above quotes type 3 is the kind of deposit occurring on the Big M property. Mineralization, associated with a blotchy part of a sill, dies out with the disappearance of the blotchy material near the north and south boundaries of the property. However, the sill is blotchy, and mineralized on the Erickson property, a mile north. On

the west limb of the syncline are the Massive Lake and Leslie occurrences.

BIG M PROPERTY

Sulphide mineralization, as shown by surface gossans, is found mainly in blotchy gabbro and in adjacent sediments. This is in a belt about 2,000 feet long by up to 400 feet wide trending north-westerly in the centre of the property. Minor gossan areas occur in sediments, such as west of the north end of the lake in the southeastern corner and just southeast of the foot-shaped lake. There is a little mineralization at some dike contacts and flow tops.

Three old trenches on two ridges S.E. of a crescent lake near the centre of the property expose sulphide material, below the shallow gossan. This work may have been done in 1930 or 31 by the Cyril Knight Prospecting Co. or in 1945 by Frobisher. Mineralized rock is blotchy gabbro, and to the east, less than five foot of phyllite. Since broken rock had not been removed most of the trench floors were not visible.

A study of specimens, by Mr. Soux, showed sulphides in grains up to 1/4 inch across replacing the ferro-magnesian minerals interstitial to the blotches. He found 10% of the sulphides to be early pyrrhotite, 65% to be later pyrrhotite and 25% to be chalcopyrite.

According to him, the early pyrrhotite was syngenetic; and the other sulphides were introduced while the sills were horizontal, before folding and metamorphism.

This could be a case of ore mineralization following the lower contact of the last intrusion (the partly porphyritic gabbro) and making up into the intrusive for some distance, and down into the underlying shale for only a few feet. An analogous situation exists in Minnesota,

where a porphyritic gabbro rock, the lowest (and last?) sill of the Duluth Complex carries up to 1% (combined) of Ni and Cu.

MAGNETOMETER SURVEY

A model MF-2 Fluxgate magnetometer, rented from Scintrex Ltd. Concord, Ontario was used on the Big M property. Readings were taken at 100 foot intervals on the east-west lines and the base line. Base station readings were taken morning and evening. The field operator was Myles Roth. Readings, after diurnal corrections, range from 300 to 1,390 gammas.

No magnetite was seen in specimens of any of the rocks. The highest reading was on an outcrop of blotchy gabbro carrying pyrrhotite. For gabbro the average of 40 readings (ranging from 330 to 490 gammas) was 386 gammas. For andesite, for 50 readings (ranging from 280 to 470 gammas) it was 386. For sediments (?) under cover, in the north-east, the average of 50 readings (ranging from 310 to 450) was 377. Thus, the differences in rock types is too slight for distinguishing them by magnetometer.

Anomalous readings (520 to 1,040 in covered areas indicate narrow pyrrhotite - rich bands (about 100' wide or less) just east of the foot-shaped lake and further north and south; this appears to be in sediments. North of the crescent-shaped lake near the centre of the property, mineralization in blotchy gabbro appears to occur in 3 narrow zones with an overall width of 600 feet. The mineralization in sediments next to gabbro west of the north end of the lake in the south-east corner shows up 400 feet to the north and to the south. This is at a gabbro (to the west) contact.

V.L.F. SURVEY

A Scopas SE-80 V.L.F. receiver, rented from Scintrex, was used by Myles Roth, over all of the property; except for areas in the east and the northwest where no conductors were expected. Readings were taken at 100 ft. intervals on the E-W lines. The frequency used was 17.8 K H Z, that of station NAA in Cutler, Maine. The tilt angle method was used, measuring the amount of tilt, from the vertical, to the position of minimum signal, in the vertical plane of the maximum reading.

Several cross-overs were found, indicating conductors. In addition to the mineralization in the area of the trenches, which was indicated on two lines for a 400 ft. length, discontinuous indications were found in blotchy gabbro for 1600 ft. to the north. Mineralization also appears to be indicated by cross-overs on lines 4, 5 and 85, just S.E. of the foot-shaped lake. Near the southern edge of the property cross-overs appear to be on gabbro contacts.

VERTICAL LOOP E.M. SURVEY

J E M equipment rented from Crone Geophysics, Mississauga, Ont. was used for a vertical loop survey. In this method, the transmitting coil was held on an outcrop of sulphide mineralization and the receiving coil moved at 50 foot intervals along a line 200 feet away. The vertical angle (+ or -) for null sound in the receiver earphones, was plotted; a cross-over indicated the position of the conductor. The transmitting coil was moved to this position, and the receiving coil moved to a new line 200 feet further on.

To the south of the area of outcrop of blotchy gabbro mineralization cut by the trenches, it was possible to get cross-over patterns extending the mineralization for at least 400 feet. To the north the patterns were inconsistent, perhaps because of more widespread, less concentrated mineralization.

DISCUSSION OF GEOPHYSICAL RESULTS

The magnetometer was expected to be of use in defining contacts; however there was no appreciable difference over the three rock types (gabbro, andesite, sediments). The pyrrhotite mineralization, though, was identifiable; and probably would show up well with closer stations,

The V.L.F. E.M. method was of doubtful value, perhaps because of permafrost. Where cross-overs were found perhaps, because of higher ground, the frost top was at some depth that late in the Summer.

The vertical loop method did show an extension, southerly, of known mineralization. It might be useful in conjunction with a drilling program, for spotting the next hole after one hits ore.

For disseminated mineralization like this the I.P. method should work, unless permafrost affects it.

TRENCH SAMPLING

Assays of trench sampling are shown on the accompanying map; 24 rock samples were taken from disseminated pyrrhotite and chalcopyrite in blotchy gabbro.

In the north trench, muck samples were taken over 10 foot lengths. These averaged, over 30 feet: Tr Au, 0.04 Oz Ag, 0.52% Cu, 0.18% N, 0.02% Zn. A sample cut from 2 small pits to the east ran, over 14 feet: Tr Au, Tr Ag, 0.06% Cu, 0.07% Ni, Tr Zn, from heavy pyrrhotite in phyllite.

In the central trench, 180 ft. to the southeast, chip samples were taken over 5 foot lengths. The best 40 feet averaged 0.01 Oz Au, 0.08 Oz Ag, 1.12% Cu, 0.07% Ni, 0.04% Zn, This was from blotchy gabbro with disseminated sulphides, and phyllite, with streaks of heavy pyrrhotite. Cu and Ni in an adjoining 3 feet of phyllite were 0.06% and Tr; in an adjoining 5 feet of blotchy gabbro they were 0.11% and 0.05%.

In the southern trench 110 feet southeast 40 feet averaged: 0.01 oz Au, 0.24 oz Ag, 2.13% Cu, 0.10% Ni, 0.05% Zn. This included one sample in phyllite, with heavy pyrrhotite. An adjoining sample in blotchy gabbro ran 0.24% in Cu and 0.07% in Ni.

In this trench two samples were tested also for platinum and palladium. The phyllite sample, carrying 0.75% Cu and 0.31% Ni, assayed Tr Pt and Tr Pd. The adjoining sample, in blotchy gabbro with 11.22% Cu and 0.04% Ni, assayed 0.1 oz Pt and 0.3 oz Pd.

A sample taken in a shallow trench dug just east of the north end of the foot-shaped lake, in a silicified zone, ran only Tr, Au and Tr Ag.

SOIL SAMPLING

Thirty-nine samples were taken from frost-boil material. Considering values over 100 ppm to be anomalous, the remaining samples were as follows:

<u>Metal</u>	<u>Average</u>	<u>High</u>	<u>Low</u>	
Cu	67	97	30	PPM
Ni	49	95	25	"
Zn	56	92	10	"

The maximum value for Cu was 1500, for Ni 425, for Zn 400.

Out of 7 samples taken at 50 foot intervals south of the crescent lake only the easternmost was interesting. It ran in P.P.M., 1500 Cu, 100 Ni and 400 ZN. This is in an area of rusty soils, and rust coated boulders, on strike from an outcrop of mineralized blotchy gabbro, north of the lake.

On a line 300 feet north of that lake two adjoining samples had 575 and 152 PPM Cu, while a 250 PPM Cu sample is on the line 400 feet north. This is an area of small gossany blotchy gabbro outcrops.

In areas like these, at least, where soil cover is thin, sampling of frost boils at close intervals may be useful in outlining drill targets.

ORE POSSIBILITIES

To the ends of the outcrops that contain the 3 trenches, there is indicated by sampling a zone of mineralization, in blotchy gabbro and up to 5 feet of phyllite (on the east) 40 feet wide by 620 feet long. The grade is: 0.008 oz Au, 0.12 oz Ag, 1.15% Cu, 0.11% Ni, 0.4% Zn, and, from the averages of 2 samples, 0.06 oz Pt, and 0.16 oz Pd; for around 2,000 tons per vertical foot.

One possibility, based on the presence of gossans on sparse outcrops and on geophysical and geochemical data, is that this zone extends for a total length of 2500 feet, or about 8,000 tons per vertical foot.

A western zone, indicated by soil samples, gossans and some geophysical evidence, for a length of 1500 feet, if 50 feet wide would be an additional 6,000 tons per vertical foot.

RECOMMENDATIONS

The Big M property, like all the other Cities' properties in the district, should have sufficient cross-cutting shallow diamond drilling done to determine the grade and horizontal pattern (length and width) of mineralization. Where pit size ore-bodies appear to be a possibility, a few holes to check for changes with depth should be drilled.

Mineralized core should be assayed for at least the following: copper, nickel, gold, silver, palladium.

In the case of the Big M, soil sampling, of frost boils, should be done in all of the area of shallow overburden. Also, especially for zinc, on a reconnaissance basis in the northeast area of probably deep overburden.

Detailed work, with a sensitive magnetometer, in areas of known mineralization, should be done to outline pyrrhotite-bearing zones. On lakes work could be done from a one-man rubber raft.

The above proposed soil and magnetic work are intended to guide drill planning. However, with present knowledge the following drilling is suggested.

For the main zone of blotchy gabbro mineralization, -30° holes at 400 ft. intervals.

4 holes in the south, at 150' each: 600'

2 holes in the north, at 600 each: 1200'

For the western zone:

1 hole, under the north end of the crescent shaped lake: 400'

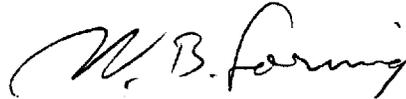
1 hole south of the lake : 400'

For mineralization in sediments away from blotchy
gabbro:

1 hole east of the south end of the foot-shaped lake	: 400'
1 hole west of the north end of the southeast lake	: 400'
	<hr/>
Total	3400'

Vancouver

December 1974


W. B. Loring

CERTIFICATE OF QUALIFICATION

NAME

WILLIAM B. LORING

EDUCATION

Mich. Tech. University, Houghton, Mich. U.S.A.
B.S. degree in Geology, 1940.

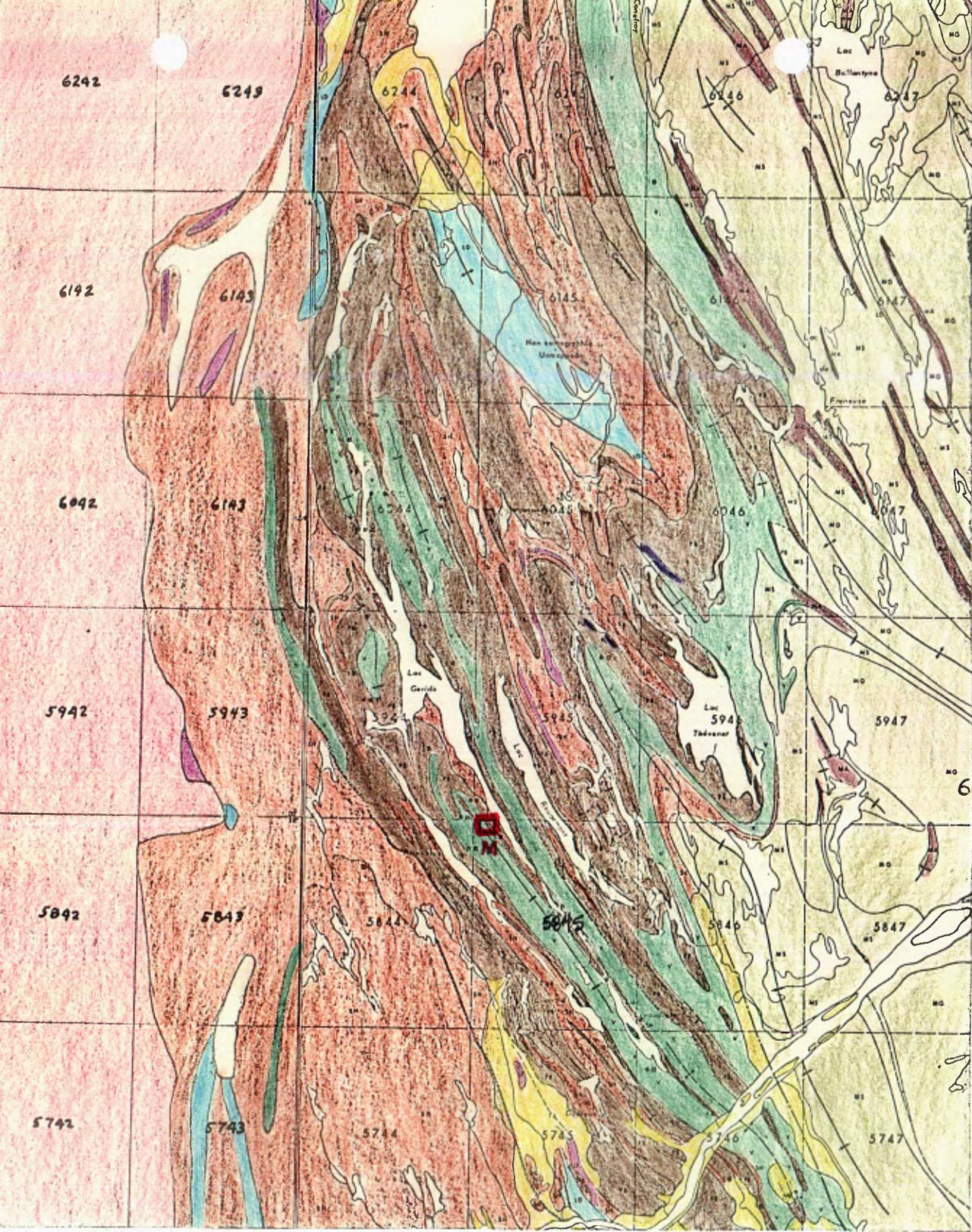
University Ariz., Tucson, Arizona, U.S.A.
M.S. degree in Economic Geology, 1947, Ph.D. Degree
in Economic Geology, 1959.

EXPERIENCE

Employed by mining companies in non-ferrous metal
exploration and mining geology continuously since
1948, in the U.S.A., Canada and Mexico.

February 4, 1975
Vancouver, B.C.


W. B. Loring



LEGEND

LABRADOR TROUGH

- Glacial Drift
- PROTEROZOIC
(Green schist facies of metamorphism)
- Gabbro
- Ultrabasics
- Volcanics
- Iron Formation
- Dolomite
- Sediments; mainly fine-grained

EAST OF TROUGH

PROTEROZOIC

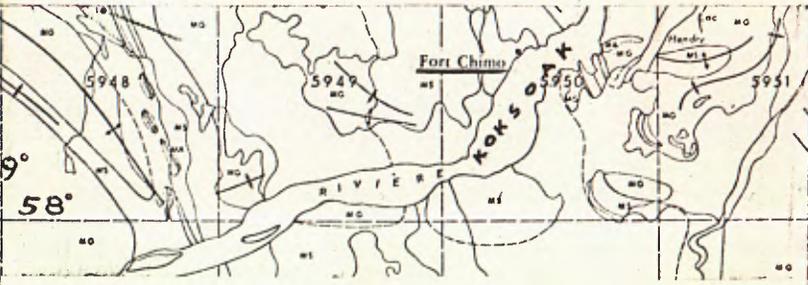
- (Amphibolite facies of metamorphism)
- Gneiss and schist (equivalent to sediments above?)
- Amphibolite (equivalent to igneous rocks above?)

WEST OF TROUGH

Superior Province

ARCHEAN

- Gneiss, schist, granite, etc.



**REGIONAL MAP
BIG M PROPERTY**

CITIES SERVICE MINERALS CORP.

NEW QUEBEC, CAN.

1 IN. = 8 MI.



W.B. Purvis

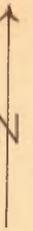
LEGEND

-  Gossan
-  5 Blotchy Gabbro
-  4 Gabbro
-  1 Phyllite

ORDER: Ft, Au, Ag, Cu, Ni, Zn, Pt, Pd

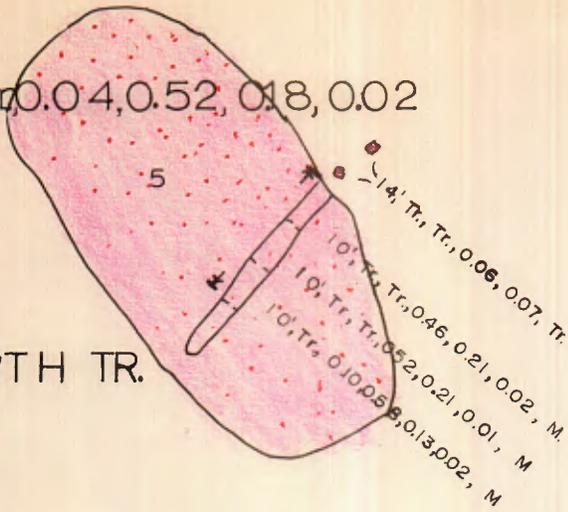
M: Muck Sample

Other Samples: Chip Channel



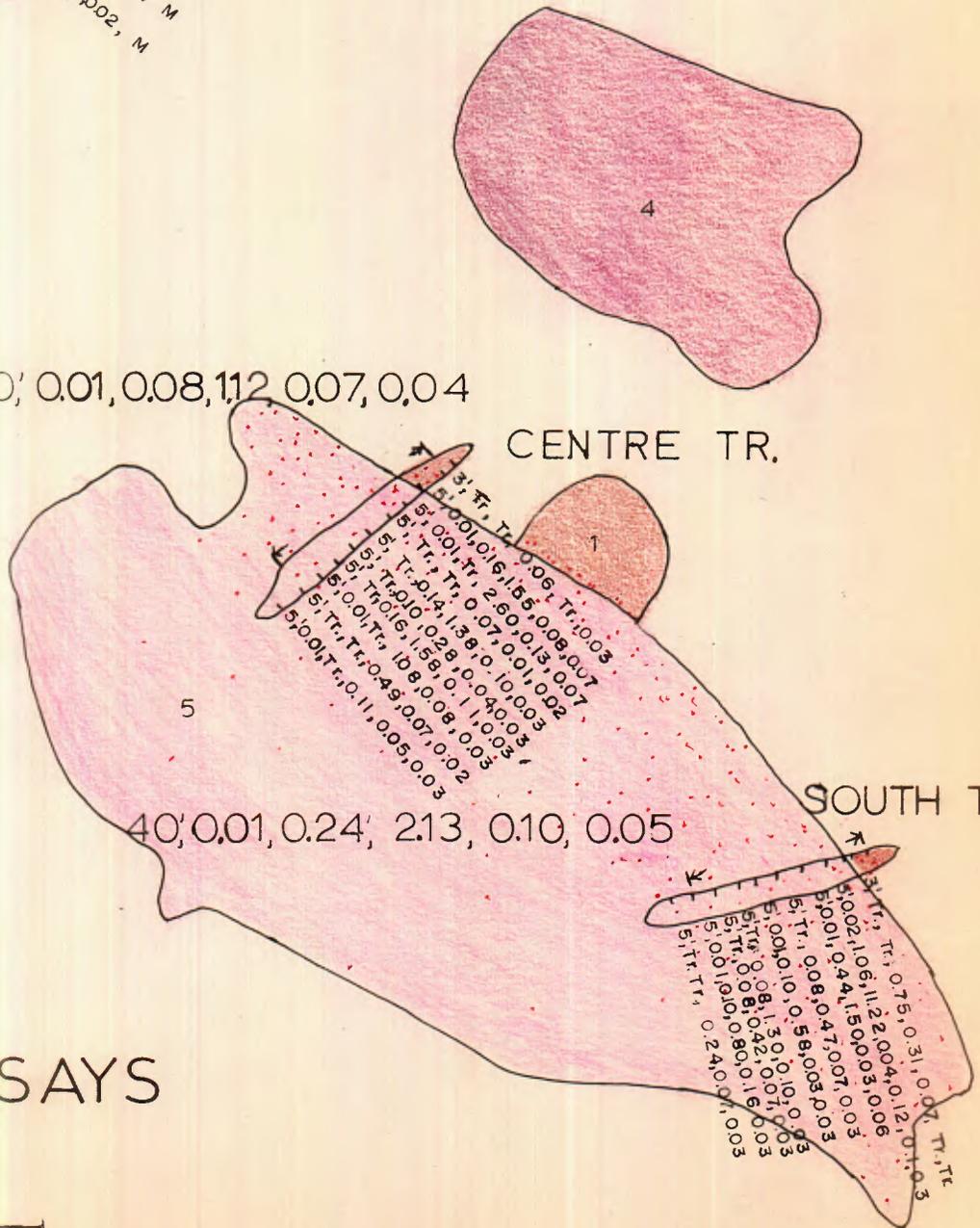
30', Tr, 0.04, 0.52, 0.18, 0.02

NORTH TR.



40', 0.01, 0.08, 1.12, 0.07, 0.04

CENTRE TR.



40', 0.01, 0.24, 2.13, 0.10, 0.05

SOUTH TR.

BIG M TRENCH ASSAYS

1 IN. = 40 FT.



W.B.L.

Jan 75

W.B. Loring



1154 Sanford Street, Winnipeg R3E 2Z9, Man. . . . Tel. 786-7546

September 24, 1974.

ASSAY OF 24 SAMPLES ORE

Cities Service Minerals Corporation,

Received September 13, 1974

From 405-1200 West Pender St., VANCOUVER, B.C.

V6E 2S9

LABORATORY NUMBERS	MARKS ON SAMPLES	GOLD	SILVER	COPPER	NICKEL	ZINC	PER CENT	PER CENT
		OUNCES PER TON OF 2000 LBS.	OUNCES PER TON OF 2000 LBS.	Cu. PER CENT	Ni. PER CENT	Zn. PER CENT		
0 9513	23251	.01	.16	1.55	.08	.07		
9514	23252	Trace	Trace	.06	Trace	.03		
9515	23253	.01	Trace	2.60	.13	.07		
9516	23254	Trace	Trace	.07	.01	.02		
9517	23255	Trace	.14	1.38	.10	.03		
9518	23256	Trace	.10	.28	.04	.03		
9519	23257	Trace	.16	1.58	.11	.03		
9520	23258	.01	Trace	1.08	.08	.03		
9521	23259	Trace	Trace	.49	.07	.02		
9522	23260	.01	Trace	.11	.05	.03		
9523	23261	Trace	Trace	.75	.31	.07		
9524	23262	.02	1.06	11.22	.04	.12		
9525	23263	.01	.44	1.50	.03	.06		
9526	23264	Trace	.08	.47	.07	.03		
9527	23265	.01	.10	.58	.03	.03		
9528	23266	Trace	.08	1.30	.10	.03		
9529	23267	Trace	.08	.42	.07	.03		
9530	23268	.01	.10	.80	.16	.03		
9531	23269	Trace	Trace	.24	.07	.03		
9532	23270	Trace	Trace	.06	.07	Trace		
9533	23271	Trace	Trace	.46	.21	.02		
9534	23272	Trace	Trace	.52	.21	.01		
9535	23273	Trace	.10	.58	.13	.02		
9536	23274	Trace	Trace					

Ministère des Richesses Naturelles, Québec
 SERVICE DE LA DOCUMENTATION TECHNIQUE
 Date: 18 AVR 1975
 No GM: 30647

THE FOLLOWING CURRENT QUOTATIONS:
 THE VALUES WHERE GIVEN ARE BASED ON

Gold at per oz.
 Silver at per oz.

WARNOCK HERSEY INTERNATIONAL LIMITED
 PROFESSIONAL SERVICES DIVISION

Per