

641

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of Expenditures on Geological mapping by Cowichan Copper Co. Ltd. (N.P.L.) in the Chemainus River Area.

I, Robert C. Smith

of 620 Howe Street, Vancouver 1,

in the Province of British Columbia, do solemnly declare that

\$1,933.44 was expended on wages and fringe benefits for the following employees:

Project Geologist	D. C. Malcolm	Aug 20th to Sept 20th 1964
Assistant	D. Taylor	Aug 20th to Sept 20th 1964
Helper	E. McAvity	Aug 20th to Sept 20th 1964
Geochemical Testing	S. MacDonald	September 1-15, 1964

COMEGO group of Mineral Claims.

D. Malcolm	1 mos	\$1100.00
D. Taylor	1 mo	550.00
E. MacAvity	1 mo.	220.00
S. MacDonald	1/2 mo	63.44
		<u>\$1933.44</u>

Geology	\$1870.00
Geochemical	63.44
	<u>\$1933.44</u>

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of "Vancouver", in the Province of British Columbia, this 5th day of May, 1965, A.D.

[Signature]

Malcolm S. King

A Commissioner for taking Affidavits within British Columbia or A Notary Public in and for the Province of British Columbia.



DEPARTMENT OF MINES

MINERAL ACT
FORM D

MINING RECORDER
RECEIVED and RECORDED
JUN 9 1965
M.R. # 120-August
VICTORIA, B. C.

Affidavit on Application for Certificate of Work

I, Walter Deans Agent for O.G. MacDonald
(Name.) (Name.)

Lake Cowichan 620 Howe Street
(Address.) (Address.)
Vancouver B.C.

Free Miner's Certificate No. 36004 Free Miner's Certificate No. 38106

Date issued May 31st 1965 Date issued May 31st 1965

make oath and say:—

I have done, or caused to be done, work on the "COMEGO"

4 Group of 4 Mineral Claim(s)
New Comego 5895. Comego #1 5896. MacD #1B 10085. MacD #2B 10086.
Record No.(s) MacD #3B 10087. MacD #4B 10088. MacD #5B 10089. MacD #6B 10090.
MacD #7B 10091. MacD #8B 10092. MacD #9B 10093. MacD #10B 10094.
situate at On Divide between Widow Creek, and the most Westerly branch of
the Chemanius River.

in the Victoria Mining Division, to the value of at least
\$2400.00
~~xxx~~ hundred dollars, since the 1st day of September, 1964

The following is a detailed statement of such work:—
(Set out full particulars of the work done in the twelve months in which such work is required to be done.)

Drilling & Blasting in 5 pits and moving not less than 45 cu yds of rock
in 5 pits on MacD #3B. MacD #4B. MacD #10B. Powder fuse etc and a
Geological Report and soil sampling survey attached hereto in duplicate;
to a total value of not less than \$2400.00 and to be applied for as
Assessment work on the "COMEGO" group for TWO YEAR'S. 5 pits
(1) 25'x3'x3' (2) 20'x5'x4' (3) 20'x3'x3' (4) 25'x3'x3' (5) 25'x3'x3'
\$1933.40 expended on the Geological Report. and not less than \$466.56
on the 5 pits & rockwork; powder fuse etc.

That I have not and will not use the work declared herein in any way for the purposes of obtaining tax exemption on a Crown-granted mineral claim under the terms of the *Taxation Act*.

SWORN and subscribed to at Duncan
this 8th day of June
1965, before me—

* This affidavit may be taken by a person empowered to take affidavits by the Evidence Act of British Columbia.

C O M E G O G R O U P

G E O L O G I C A L R E P O R T

B Y

D. C. M A L C O L M, B.A. Sc. P. ENG. 2568

Vancouver, B.C.
March 22nd, 1965.

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<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO. <u>641</u> M&P</p>
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SUMMARY

The claims cover a well known deposit originally staked in 1902 and explored for gold. In 1964 it was mapped geologically and geochemically sampled. Previously magnetometer surveys had been made over the ground. The mineralization is in shear zones cutting folded Sicker Group sediments and volcanics intruded by a flat lying diorite sill by a Saanich granodiorite plug, and by quartz feldspar porphyry dikes.

LOCATION

Latitude 48°50' Longitude 124°15' Elevation 3000'

The property covers the headwaters of Chemainus River and Widow Creek and is five miles east of Youbou on Cowichan Lake. The area is best reached by using the McMillan and Bloedel logging roads up the Chemainus River valley. These roads extend to all parts of the claims.

HISTORY

The original discovery was made in 1902 and since that time has been extensively trenched and explored by five short tunnels and two diamond drill holes.

Since the Canadian Pacific Oil and Gas Agreement with Mr. MacDonald was made new trenches on the roads and along the banks of the Chemainus River have been excavated.

GEOLOGY

(a) Topography

The property covers the rolling 3500 foot elevation summit

between Widow Creek and extends down a steep spur northward to the Chemainus River at an elevation of 1200 feet. The lots cover the steep basin at the headwaters of the River and extend to the Nanaimo watershed.

(b) General Geology:

An uplifted range of sharply folded and faulted Permian and Triassic volcanics and sediments are intruded by gabbro-diorite sills and dikes, by a series of elongated granodiorite plutons and by numerous quartz feldspar porphyry dikes.

(c) Claim Geology:

The claims are underlain by a bedded series of chert, agglomerate and andesite flows tightly folded along northwest axes plunging 45 degrees to the north. These rocks are intruded by diorite which is thought by the writer on scanty evidence to be a series of sills derived from slow cooling andesitic magma of the Vancouver Volcanics. This rock covers most of the surface of the claims but blocks of it are separated by elongated bands of chert and these bands could underlie the intrusion.

A Saanich granodiorite plug outcrops on the northeast claims intruding the diorite and a series of east striking steep dipping quartz feldspar porphyry dikes, probably associated with the granodiorite, extend from the plug westward across the remainder of the property.

(d) Rock Types:

1. Cherts - These are well bedded fine grained siliceous tuffs varying in color from light grey to black but generally light grey in

color. The rocks are brittle and are generally extensively fractured and fragmented rubble outcrops are general.

2. Agglomerates - The cherts grade into and contain bands of medium grained agglomerate with a tuffaceous matrix and angular chert and andesite fragments.

3. Andesite - Purple and green dark andesite flows and andesitic tuffs are interbedded with the cherts and agglomerates. These are medium grained rocks.

4. Diorite - gabbro - The rock varies in appearance. In some outcrops it has medium grained granitic textures with prominent hornblende and feldspar crystals. In other areas it is fine grained granitic textured rock with equal amounts of plagioclase and hornblende. There are few other minerals although magnetite and pyrite are common in segregations.

5. Quartz Feldspar Porphyry - These rocks have only been seen as dikes 5 to 30 feet in width. The rock is medium textured and has a fresh siliceous appearance with some quartz eyes and numerous feldspar phenocrysts.

6. Granodiorite - This is a light colored medium grained granitic textured rock with prominent hornblende crystals and equigranular quartz and feldspar. It contains inclusions of diorite and is cut by lamprophyse dikes. Graphite is common near the contacts and pyrite is often an accessory. It may contain some primary molybdenum.

(e) Mineralization:

There are five separate deposits on the claims with similar but varied sulphide minerals. These different deposits are almost all on

northwest striking shear zones. They are all on contacts and are usually on chert-andesite contacts as follows:-

1. On the west side of Comego No. 1 an area of massive pyrrhotite about 200 feet square is exposed by a number of open cuts. Magnetite, chalcopyrite and sphalerite occurs near a coarse gabbro-diorite contact in altered crushed cherty rocks. The extension of this to the northwest is covered.

2. On Skerk Creek, along strike, a sheared greenstone-chert contact is altered to a garnet skarn zone 10 to 15 feet wide exposed for 50 feet along the creek. It contains massive nodules of chalcopyrite with lesser amounts of sphalerite, molybdenite, arsenopyrite, scheelite and pyrrhotite.

3. Downstream from the garnetite trenches in the creek, and on a road to the northeast, a wide shear zone is rusty and contains quartz carbonate stringer zones. They contain finely disseminated molybdenite, pyrite, chalcopyrite and tenantite with bornite and magnetite in some sections. The andesite footwall of this zone at the creek contains a 4 foot width of massive pyrrhotite and chalcopyrite. The extensions are overburden covered.

4. At the northeast corner of the Comego No. 1 claim, a northwest to west striking silicified zone or quartz vein contains bunches of chalcopyrite, pyrite and molybdenite. The zone is 5 feet wide and has been traced for 50 feet in trenches and by a short adit. The workings are high in grade where it is exposed but the vein dips flatly, parallel with the hill and the workings do not expose the extensions. Samples over 5 feet average 1.3% cu. 4.6% Mo.

5. On the Comego claim along a limy tuff-diorite contact, a zone

is exposed for 300 feet in height in trenches and short tunnels at about 50 foot intervals for a length of 500 feet. Further extensions were found 1000 feet south east but the intervening ground has not been explored in detail. The two diamond drill holes were drilled on this and both intersected the mineralization at shallow depths. Core recovery in the holes was very poor and copper values were low where they were assayed. The grade of the trenched area which is mineralized with chalcopyrite, pyrite, magnetite, pyrrhotite, arsenopyrite, molybdenite and scheelite in garnet actinolite skarn rocks. The gold and silver values are appreciable but low, although some very high samples have been obtained. The following are a series of surface samples:

<u>Width</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Mo</u>
5	.01	-	0.25	-
20	-	-	3.67	-
15	-	-	3.75	-
10	.03	0.6	1.8	-
15	.02	0.8	2.7	1.3
4	.26	0.2	8.3	0.4
6	-	-	0.9	-
5	-	-	2.2	-

The diamond drill holes assayed as follows:

	<u>Au</u>	<u>Ag</u>	<u>Cu</u>
10	.01	0.2	0.1
24	.02	0.3	0.5

GEOCHEMISTRY

In 1964 soil samples were taken at 100 foot intervals along roads and on irregular geology traverses at 100 foot intervals. These were tested with Rubeanic Acid strips. The reactions were sharp and definitive as shown on the plan. An anomalous area was found to

extend from the known shears in sediments through the diorite intrusive along its projected strike. The granodiorite contact showed some indications of higher copper content and the shear zones were sharply defined over the known zones. A large positive aureal of copper extends northward down the slope from the Comego claim showing.

GEOPHYSICS

In 196~~6~~⁴ a magnetometer survey was run over the main showings. The anomalies are sharp but they outline the diorite intrusive rather than the sulphide mineralization.

CONCLUSIONS AND RECOMMENDATIONS.

High temperature good grade gold, silver, copper molybdenum mineralization occurs in shear zones along sediment-volcanic contacts. Diamond drilling should be done to test the deposits to depth.

*D. P. Malesh
P. Eng 25-68*

COMEGO - CLAIMS

<u>CLAIM</u>	<u>TAG NO.</u>	<u>RECORDED</u>	<u>RECORD NO.</u>
Comego 1		July	58954
Comego 2			58964
Mac D 1B	449489	July 10/62	10085
" 2B	449490	July 10/62	10086
" 3B	449491	July 10/62	10087
" 4B	449492	July 10/62	10088
" 5B	449493	July 10/62	10089
" 6B	449494	July 10/62	10090
" 7B	449495	July 10/62	10091
" 8B	449496	July 10/62	10092
" 9B	449497	July 10/62	10093
" 10B	449498	July 10/62	10094

Geochemical Survey.

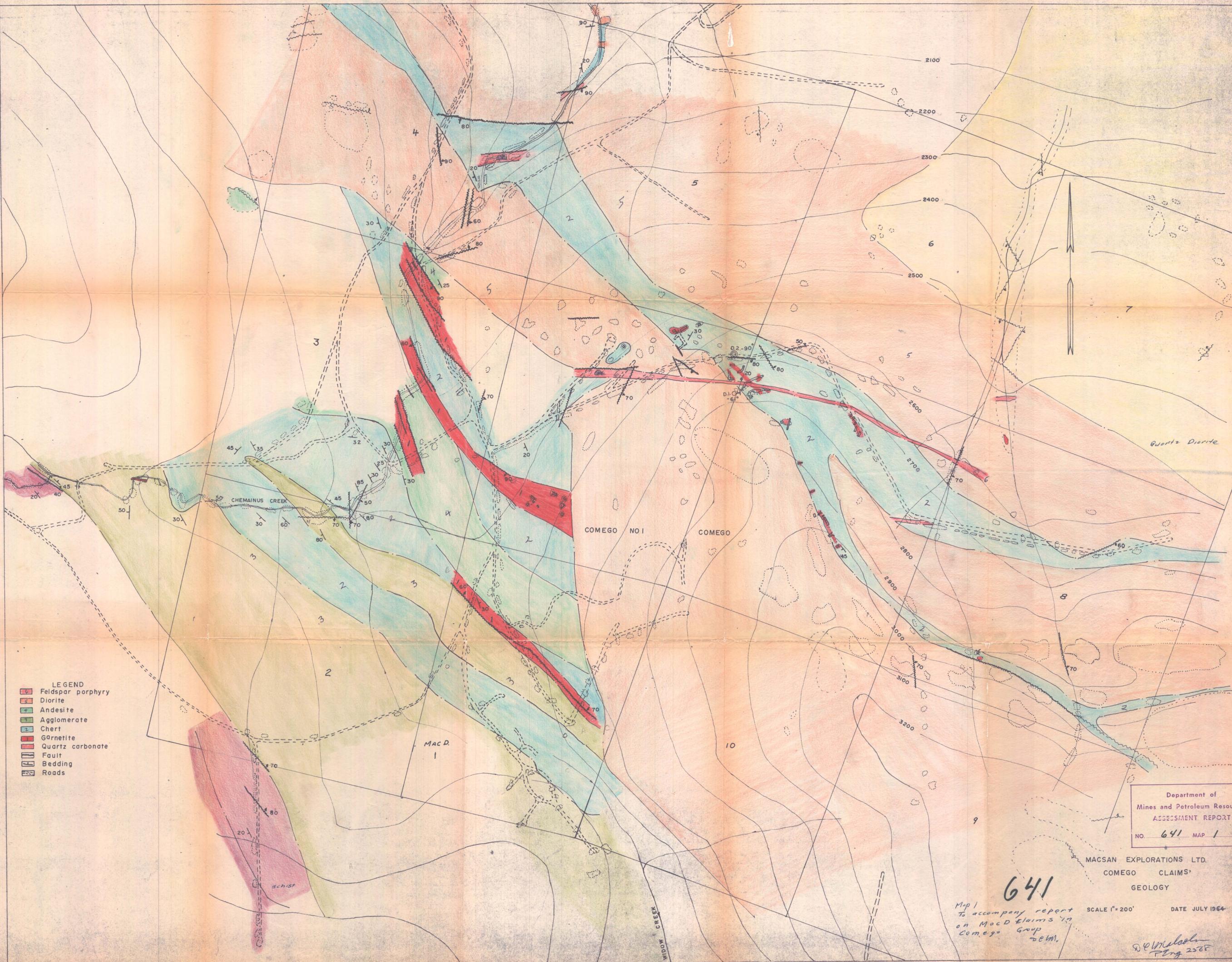
Soil sampling. Geological traverses were made using a Brunton Compass and a 100 foot chain. soil samples were taken at each of the 100 foot stations on the traverse using a 1½ inch auger, about 2 oz samples were taken at a depth of 1 foot to 18 inches in the topsoil beneath the humus layer, and placed in plastic and paper bags marked with the traverse and sample number.

Soil testing. The testing of the samples was done in a laboratory at Jordan River, Vancouver Island using a prepared Rubeonic acid strips obtained from G.S. Eldridge & Coy., and made by impregnating strips of filter paper in a solution of 1 gram of rubeonic acid (dithio-examide) in 100 millilitres of acetone and drying them.

The copper in the soil is extracted by adding 500 grams of hydrated sodium acetate to 1 litre of acetic acid and shaking the mixture for 15 seconds, the solution is filtered on to a rubeonic acid strip and the resultant dot appearing on the strip is compared with a standard dot prepared from known amounts of copper bearing soil; the results are recorded on the attached map.

D. Malcolm.

Standard G.S. Eldridge Rubeonic acid test.



- LEGEND**
- Feldspar porphyry
 - Diorite
 - Andesite
 - Agglomerate
 - Chert
 - Garnetite
 - Quartz carbonate
 - Fault
 - Bedding
 - Roads

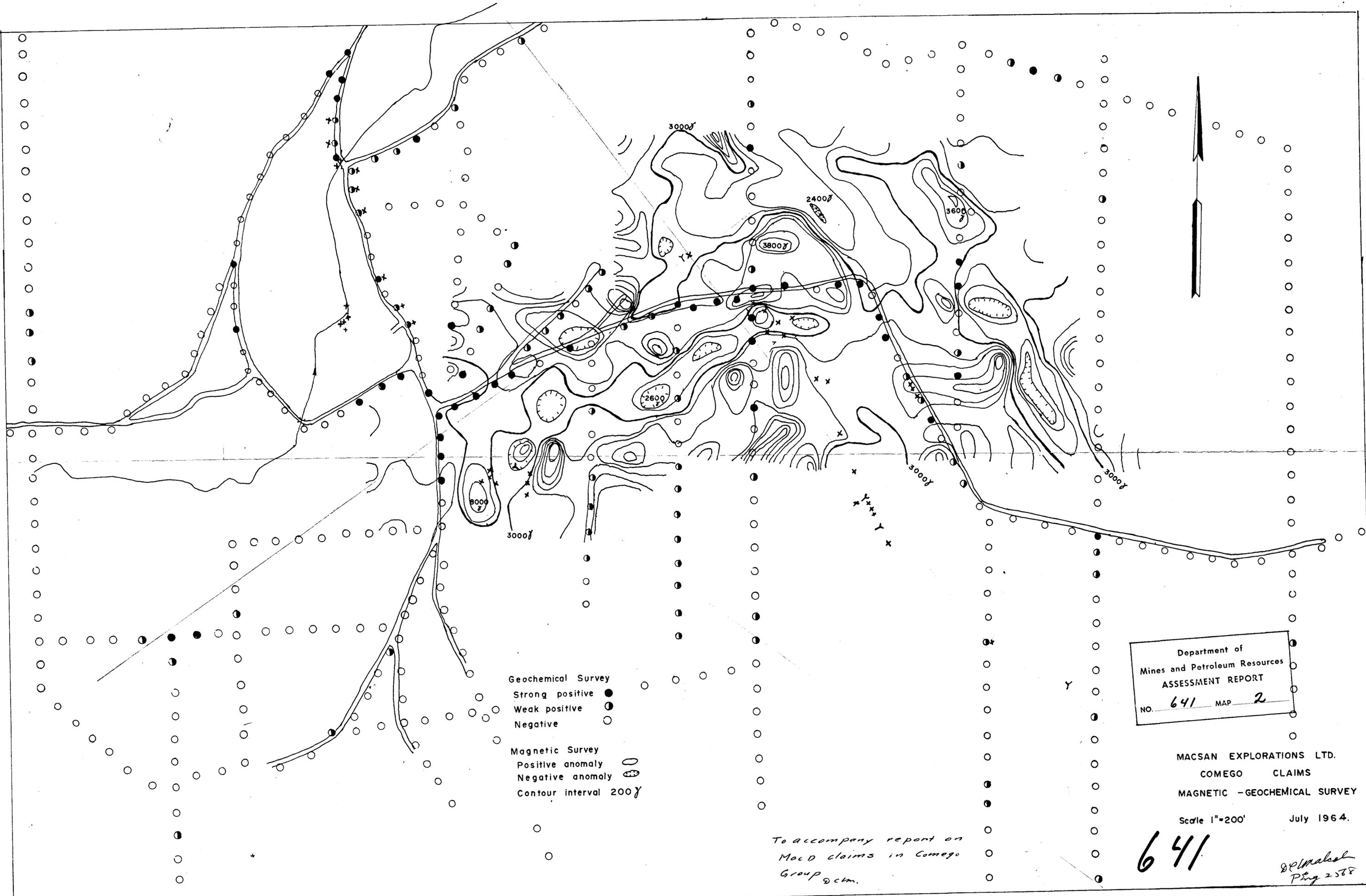
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 641 MAP 1

MACSAN EXPLORATIONS LTD.
COMEGO CLAIMS
GEOLOGY

641
Map 1
To accompany report
on MacD Claims in
Comego Group
DEM.

SCALE 1"=200' DATE JULY 1964

DeMelo
PENG 2588



Geochemical Survey
 Strong positive ●
 Weak positive ○
 Negative ○

Magnetic Survey
 Positive anomaly ○
 Negative anomaly ○
 Contour interval 200γ

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 641 MAP 2

MACSAN EXPLORATIONS LTD.
 COMEGO CLAIMS
 MAGNETIC - GEOCHEMICAL SURVEY
 Scale 1"=200' July 1964.

To accompany report on
 MacD claims in Comego
 Group claim.

641

8/2/64
 Ping 2588