

2704

REPORT ON THE

OIL & GAS GROUP

FOR

TOPPER MINES LTD. [N.P.L.]

July 28, 1970  
Vancouver, B. C.

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M A P S

SCALE

#2	GEOCHEMICAL SURVEY. . . . .	1 inch = 400 feet
#1	SURFACE PLAN. . . . .	1 inch = 400 feet
#3	LOCATION SKETCH	

REPORT ON THE  
OIL & GAS GROUP  
FOR  
TOPPER MINES LTD. [N.P.L.]

INTRODUCTION:

The Topper Mines Oil and Gas property consists of twenty-nine contiguous mineral claims located three miles north-west of Nicola in South Central B. C.

The Claims are underlain in part by volcanic rocks of the Nicola Group. These rocks are host to copper mineralization at numerous locations throughout the Nicola area.

During the period July 4-13, the writer directed a geological/geochemical survey covering the claim group. No surface showings of mineralization were found during this work but a low order geochemical anomaly [copper] was outlined which is possibly reflecting economic mineralization at depth.

A limited programme of follow-up soil sampling is recommended to determine the significance of the anomalous zone.

LOCATION AND ACCESS:

The Oil and Gas claims of Topper Mines are located three miles north-west of Nicola; some seven miles east of the Craigmont Mine in south central B.C. Access to the property is by five miles of rough but all-weather track from the town of Nicola.

PHYSIOGRAPHY:

Topographic relief within the claimed area is moderate, elevations range from 3,500 to 4,000 feet. The central part of the claim block is cut by a low swampy valley which appears to be heavily drift covered. Bedrock exposures are limited to scattered outcrops along north-south trending ridges.

The property is largely covered by second growth fir and spruce.

LAND:

The Topper Mines Nicola property comprises the following 29 contiguous mineral claims.

<u>NAME</u>	<u>RECORD NO.</u>
Gas 1 - 12	43007 - 43018
13 - 17	43047 - 43051
Oil 1 - 5	42995 - 42999
6 - 12	43000 - 43006

Sag [fractional] 1 - 3 Tag Nos. 100736M - 100738M

The writer checked several of these claims while on the property. These were found to be staked in accordance with the regulations set forth in the Mineral Act for the province of British Columbia.

During the course of the field program it was found that several gaps existed between claims. These are subsequently covered by fractional claims Sag 1-3, staked on July 11th and recorded in Vancouver on July 16, 1970.

GENERAL GEOLOGY:

The geology of the Merritt-Kamloops area has been mapped by the GSC and is published on a scale of 1 inch = 4 miles [Map No. 886A "Nicola"].

The Nicola area is underlain by volcanic rocks of the Nicola group which are Triassic in age. The group consists largely of andesitic greenstones, porphyries and volcanic fragmental rocks.

Plutonic masses of coast intrusion type cut the Triassic series. These rocks are predominantly medium to coarse grained granodiorites and quartz diorite.

Overlying the above units are remnants of a miocene sedimentary series; the Coldwater beds. These consist of conglomerate sandstone and shales.

Stratigraphic Sequence:

Miocene or earlier - Coldwater Beds  
Conglomerate, sandstone, shale

Triassic - Nicola Group:  
Greenstone; andesite; agglomerates  
and tuffs

Jurassic - Coast Intrusions:  
Granodiorite, quartz diorite

Occurrences of sulphide mineralization are widespread throughout the plutonic and volcanic rocks of the area. Notable among these are the porphyry type copper deposit of the Guichon Batholith and the many veins and disseminations of copper minerals known in the rocks of the Nicola Group.

GEOCHEMICAL SURVEY:

During the period July 4-13 a soil geochemical survey was conducted over the Oil and Gas claim block. A sampling grid with a line spacing was of 400 feet established by chain and compass. Soil samples, from the 'B' horizon were collected at 200 ft. intervals along the lines.

Samples were packaged in kraft envelopes and shipped to Chemex Labs Ltd. of North Vancouver for analysis. The minus 80 fraction of the dried samples were tested for total copper content. Extraction was by a perchloric-nitric acid medium with analysis by atomic absorption.

GEOLOGICAL RECONNAISSANCE:

During the course of the geochemical work the writer visited the property on two occasions to map the geology. Exposures

of bedrock were found to be limited to outcrops scattered along generally north-south trending ridges. The topographic lows within the area surveyed are invariably drift covered.

The contact between the prospective Nicola volcanic rocks and the overlying clearwater sediments is not exposed within the property. Its position as shown on the accompanying geological sheet takes into account regional aeromagnetic and geological maps as well as available outcrops.

Exposures of the Clearwater Beds found toward the southern part of the claim include conglomerates and thin bedded siltstone. The conglomerates are poorly sorted and consist largely of rounded andesite cobbles with a matrix of quartz and relatively unaltered feldspar and mica detritus.

Nicola volcanic rocks are exposed along a north-south trending ridge which lies at the eastern edge of the claim group. These rocks are of andesitic composition. Texturally they include both massive aphanitic and porphyritic types. Minor disseminations of fine grained pyrite were noted at a number of locations but no other sulphide mineralization was observed.

#### RESULTS - GEOCHEMISTRY:

The copper values of sampled material represent a strongly unimodal population grouped around a mean of approximately 30 ppm. The frequency distribution plot of sample values indicates that copper content in excess of 100 ppm can be tentatively considered as anomalous.

The accompanying geochemical plan shows the "anomalous" [i.e. + 100 ppm] sample points lying along a north-westerly trending arc at the northern end of the claim block. These values, supported by the results from adjacent samples constitute an "anomalous zone" which has a length of about 2,500 feet. No bedrock exposures are known along this zone which appears to be heavily drift covered throughout its length.

CONCLUSIONS AND RECOMMENDATIONS:

The results of the geochemical survey are largely inconclusive. The "anomalous zone" may be reflecting sulphide mineralization at depth or may constitute a number of isolated copper highs associated with sulphide rich erratics within the drift cover.

A limited programme of follow-up sampling is recommended to cover the northern part of the claim block. This would involve sampling on a 100 x 200 foot grid between lines 3,000 and 6,000 north and lines 000 and 4,000 west. In conjunction with this work a number of pits should be dug to provide information on variations in the soil profile throughout the sampled area.

EXPLORATION COST ESTIMATION:

Camp and transportation	\$ 1,000.00
Establishment of detailed grid [12 miles]	1,000.00
Collecting and testing of soil samples	1,500.00
Soil profile pits	300.00
Consulting and supervision	<u>400.00</u>
	\$ 4,200.00
Contingencies	<u>840.00</u>
TOTAL	<u><u>\$ 5,040.00</u></u>

Respectfully submitted,

  
Robert Potter, Geologist

Endorsed By: Ron Philp, P. Eng.

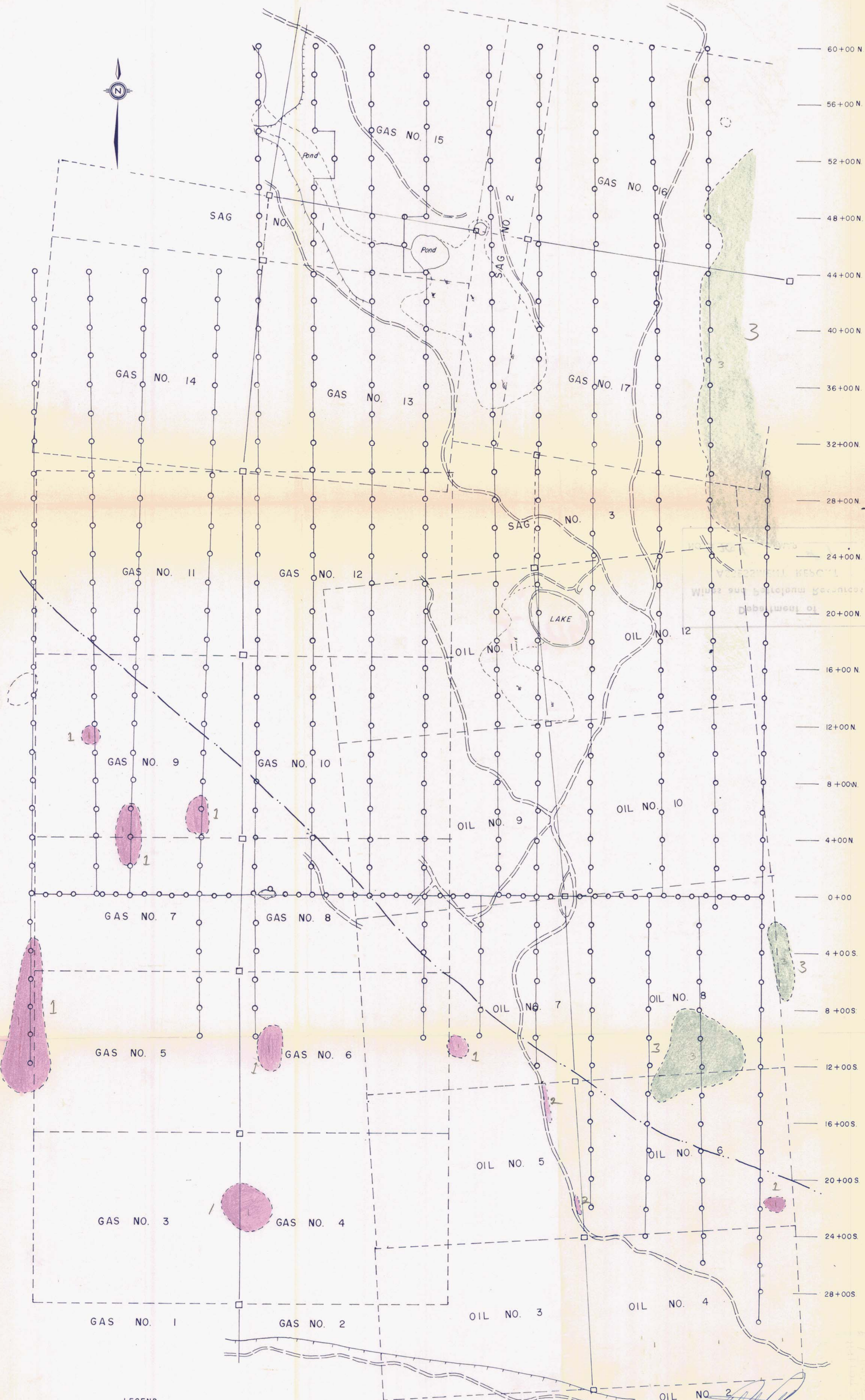
July 28, 1970



52+00W 48+00W 44+00W 40+00W 36+00W 32+00W 28+00W 24+00W 20+00W 16+00W 12+00W 8+00W 4+00W 0+00



60+00N  
56+00N  
52+00N  
48+00N  
44+00N  
40+00N  
36+00N  
32+00N  
28+00N  
24+00N  
20+00N  
16+00N  
12+00N  
8+00N  
4+00N  
0+00  
4+00S  
8+00S  
12+00S  
16+00S  
20+00S  
24+00S  
28+00S



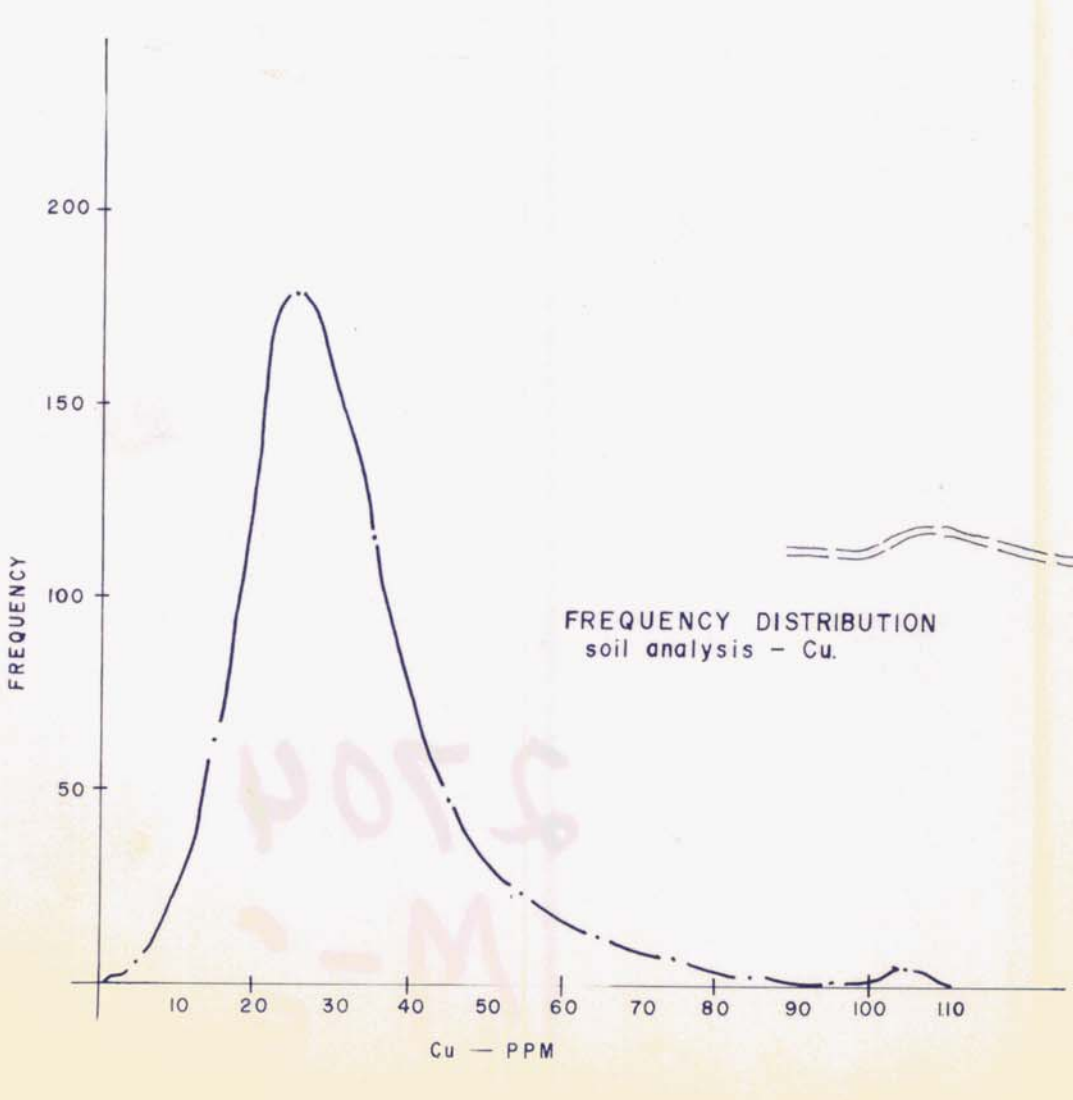
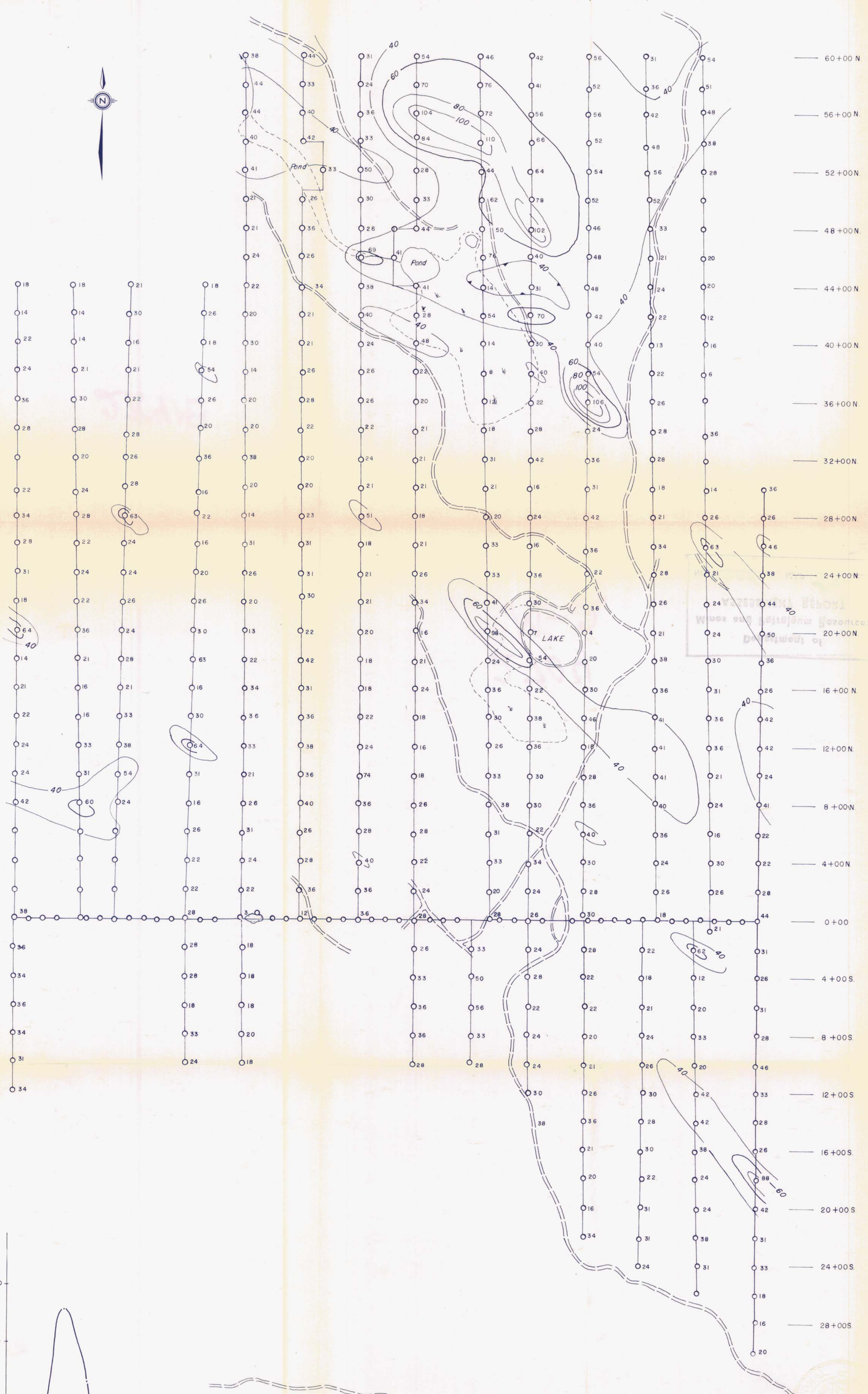
**LEGEND**

□	- Claim post	—	- Road
○	- Outcrop	~	- Swamp
1	- Coarse conglomerate	}	COLDWATER BEDS CENOZOIC
2	- Siltstone		
3	- Porphyritic andesite	}	NICOLA GROUP UPPER TRIASSIC
- - -	- Assumed contact		

**2704**  
**M-1**

AGILIS EXPLORATION SERVICES LTD.	
TOPPER MINES LTD. (NPL)	
OIL and GAS GROUP	
Surface Plan (2704)	
DRAWN BY: L.M.	SCALE: 1" = 400'
CHECKED BY: R.P.	DATE: July, 1970

52+00 W 48+00 W 44+00 W 40+00 W 36+00 W 32+00 W 28+00 W 24+00 W 20+00 W 16+00 W 12+00 W 8+00 W 4+00 W 0+00



FREQUENCY DISTRIBUTION  
soil analysis - Cu.

LEGEND  
 ↓ 42 Copper Value (ppm)  
 - - - Copper Contour

2704  
M-2

*[Signature]*

AGILIS EXPLORATION SERVICES LTD.

TOPPER MINES LTD (NPL)  
OIL and GAS GROUP  
Geochemical Survey

DRAWN BY: L.M.	SCALE: 1" = 400'
CHECKED BY: R.P.	DATE: July, 1970

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 2704 MAP # 3

38891P FIR 92	38893P FIR 93	38894P FIR 95
38895P FIR 96	38896P FIR 97	38897P FIR 98
38898P FIR 99	38899P FIR 00	38900P FIR 01

45233E DMC E3	45234E DMC E4	45235E DMC E5	45236E DMC E6
45237E DMC E7	45238E DMC E8	45239E DMC E9	45240E DMC E10
45241E DMC E11	45242E DMC E12	45243E DMC E13	45244E DMC E14
45245E DMC E15	45246E DMC E16	45247E DMC E17	45248E DMC E18

43049 N GAS 17	43051 N GAS 17			
43048 N GAS 14	43047 N GAS 14	43050 N GAS 14		
43017 N GAS 11	43018 N GAS 12	43005 N OIL 11	43006 N OIL 12	
43015 N GAS 9	43016 N GAS 10	43003 N OIL 9	43004 N OIL 10	
30995 G MC 5	43013 N GAS 7	43014 N GAS 8	43001 N OIL 7	43002 N OIL 8
30997 G MC 7	43011 N GAS 5	43012 N GAS 6	42999 N OIL 5	43000 N OIL 6
30999 G MC 9	43009 N GAS 3	43010 N GAS 4	42997 N OIL 3	42998 N OIL 4
31001 G MC 11	43007 N GAS 1	43008 N GAS 2	42995 N OIL 1	42996 N OIL 2
R 38967 MARY 1	39189A HOWE 11	39190A HOWE 12	39192A HOWE 14	39191A HOWE 13
R 38969 MARY 3	39187A HOWE 9	39188A HOWE 10	39194A HOWE 16	39193A HOWE 15
R 38971 MARY 5	39185A HOWE 7	39186A HOWE 8	39196A HOWE 18	39195A HOWE 17
R 38973 MARY 7	39183A HOWE 5	39184A HOWE 6	39198A HOWE 20	39197A HOWE 19
	39181A HOWE 3	39182A HOWE 4	39200A HOWE 22	39199A HOWE 21
	39179A HOWE 1	39180A HOWE 2	39202A HOWE 24	39201A HOWE 23

35703 N MOUSE 168 C	35705 N MOUSE 170 C	35707 N MOUSE 172	35709 N MOUSE 174	35711 N MOUSE 176
35701 N MOUSE 164 C	35702 N MOUSE 165 C	35700 N MOUSE 163 C	26342 R MOUSE 26341	26344 R MOUSE 26343
35699 N MOUSE 162 C	31027 G MOUSE 141	31028 G MOUSE 142	26340 R MOUSE 26339	26341 R MOUSE 26340
35697 N MOUSE 160 C	31025 G MOUSE 140	31026 G MOUSE 141	26338 R MOUSE 26337	26339 R MOUSE 26338
35694 N MOUSE 157 C	35695 N MOUSE 158 C	31024 G MOUSE 139	26336 R MOUSE 26335	26337 R MOUSE 26336
35692 N MOUSE 165	35693 N MOUSE 164	31022 G MOUSE 137	26334 R MOUSE 26333	26335 R MOUSE 26334
35690 N MOUSE 153	35691 N MOUSE 154 C	31020 G MOUSE 135	26332 R MOUSE 26331	26333 R MOUSE 26332
35688 N MOUSE 151 C	35689 N MOUSE 152 C	31018 G MOUSE 133	26330 R MOUSE 26329	26331 R MOUSE 26330
35686 N MOUSE 149 C	35687 N MOUSE 150 C	31016 G MOUSE 131	26328 R MOUSE 26327	26329 R MOUSE 26328
35684 N MOUSE 147 C	35685 N MOUSE 148 C	31014 G MOUSE 129	26326 R MOUSE 26325	26327 R MOUSE 26326

2704 M3

OIL PIPE LINE

Nicola

IR No 4

459  
BONANZA  
13  
30  
R  
389  
BONANZA  
5