

84-#62 - 12150



SAWYER CONSULTANTS INC.

GEOCHEMICAL ASSESSMENT REPORT

on the  
TAN CLAIM 2/85  
Nitinat River Area  
Victoria Mining Division, B.C.

NTS 92 F/2  
Latitude 49°04'20"N  
Longitude 124°34'20"W

of

C. ASHWORTH (Owner)

for

LODE RESOURCE CORPORATION (Operator)

by

Gordon D. House, M.S., F.G.A.C.  
of  
SAWYER CONSULTANTS INC.

February 29th, 1984

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

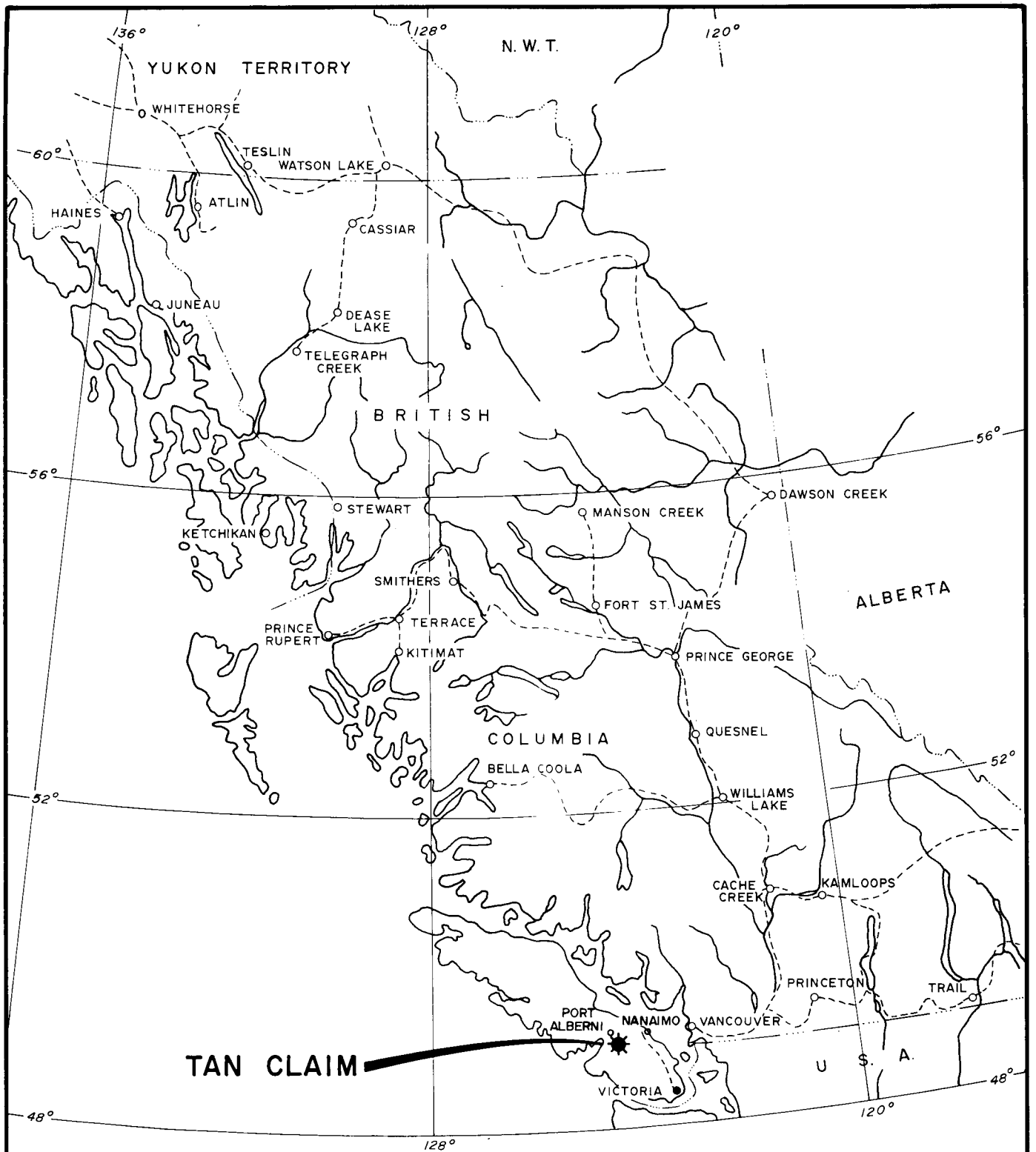
**12,150**

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LODE RESOURCE CORPORATION  
**TAN CLAIM**  
 VICTORIA & ALBERNI MINING DIVISIONS, B.C.  
**GENERAL LOCATION SKETCH**

SCALE : 1" = 125 MILES

FIGURE 1

## INTRODUCTION

The Tan claim was staked in 1980 to cover apparently anomalous Total Heavy Metal geochemical values in streams, detected by Gunnex Ltd. in the 1960's during regional exploration programs. The Tan claim was optioned by Lode Resource Corporation in 1983 to consolidate their land holdings in the Mount McQuillan - Nitinat River area of Vancouver Island, B.C.

During the period 13th February to 18th February, 1984, a program of geochemical silt sampling on the Tan claim was carried out by Gordon D. House, Geologist, and an assistant. This report summarizes the work carried out and the results obtained. Costs of this work were paid for by Lode Resource Corporation of 1020 - 475 Howe Street, Vancouver, B.C., V6C 2B3.

## PROPERTY AND OWNERSHIP

The Tan claim consists of 16 units, Record No. 313, located in the Victoria Mining Division.

The claim was staked in February 1980 and optioned by Lode Resource Corporation (formerly Jan Resources Ltd.) in 1983. The registered owner of the claim is Clive Ashworth of West Vancouver, B.C.

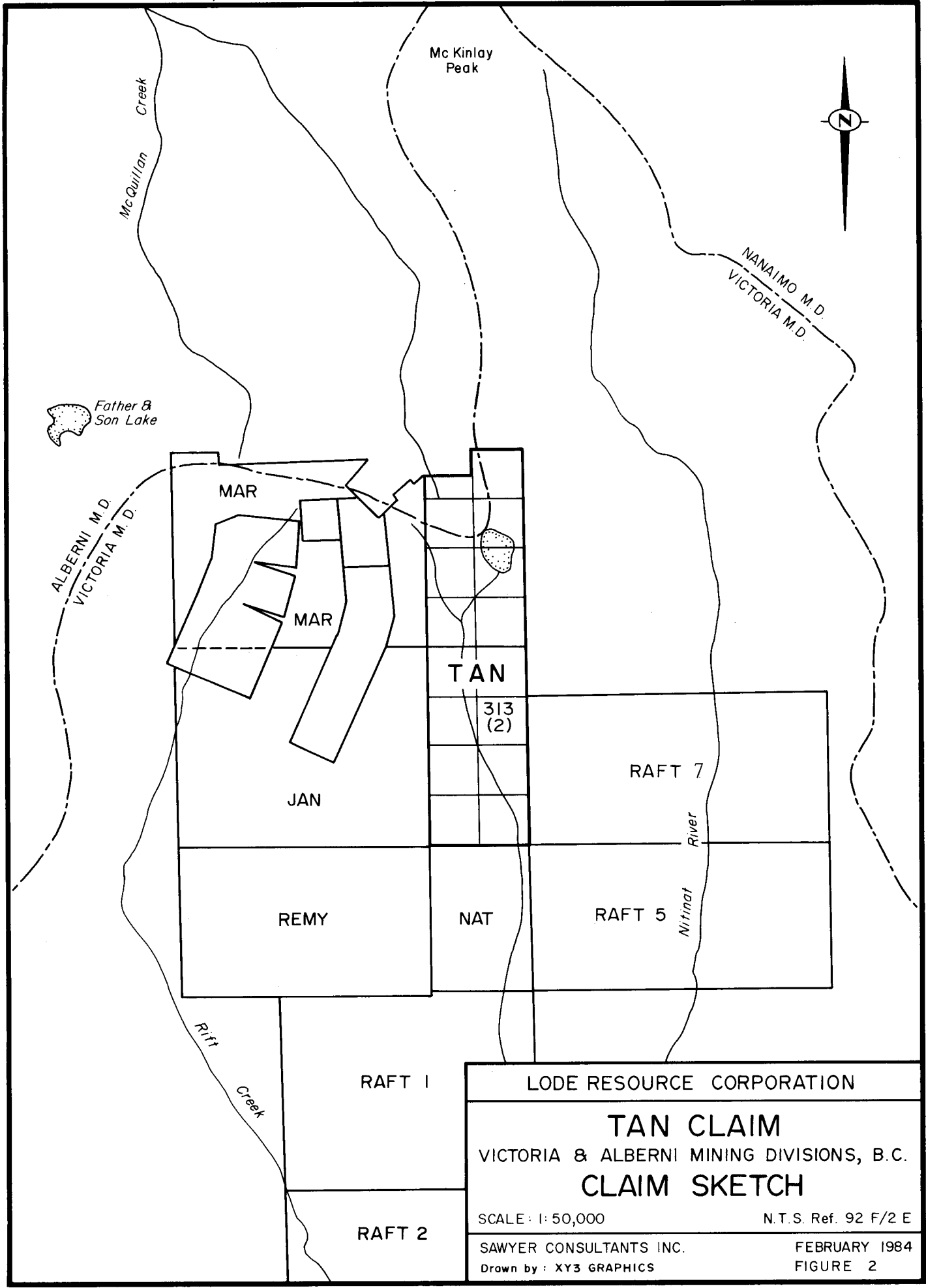
## LOCATION AND ACCESS

The Tan claim is located about 25 kilometres southeast of Port Alberni on the west coast of Vancouver Island, and covers the east side of the steep ridge running south from the peak of Mount McQuillan, on the middle fork of the Nitinat River east of Rift Creek.

The claim is accessible by logging roads constructed by the MacMillan Bloedel Company on whose timber rights the claim lies. The area was logged in the past and is apparently being logged at present, with new logging road construction to the head of the middle fork of Nitinat River and to the top of the ridge to the east. There was no active logging at the time of the field work, with all operations apparently closed down for the winter.

## PHYSIOGRAPHY AND CLIMATE

The Tan claim lies within the western coastal forest region characterized by fairly abundant rainfall and heavy growth of larger timber. Elevations on the claim range from about 400 metres on the middle fork of the Nitinat River to over 1000 metres on the north



<b>LODE RESOURCE CORPORATION</b>	
<b>TAN CLAIM</b>	
VICTORIA & ALBERNI MINING DIVISIONS, B.C.	
<b>CLAIM SKETCH</b>	
SCALE: 1: 50,000	N.T.S. Ref. 92 F/2 E
SAWYER CONSULTANTS INC.	FEBRUARY 1984
Drawn by: XY3 GRAPHICS	FIGURE 2

boundary of the claims on the ridge top above Black Lake. Topography is quite steep with local relief precipitous. Streams are confined in fairly narrow steep sided valleys with smaller tributaries occupying V-shaped gullies with abundant waterfalls.

Logging over the area covered by the Tan claim in the past decades has obscured several of the smaller tributary streams, while culverts in the roads have introduced a possible source of contamination. Logging slash on the hillsides and erosion of the clear cut areas have made travel extremely difficult off the logging roads.

During the winter there is abundant precipitation, a large portion of which accumulates as snow. Rapid fluctuations in freezing level often results in increased run-off, causing washouts of culverts and bridges.

### HISTORY AND PREVIOUS WORK

The Tan claim lies within the original Esquimalt and Nanaimo Railway Land Grant, much of which has been relinquished. The boundaries of portions retained are not known but one such portion is believed to cover an area north of Mount McQuillan, northwest of the Tan claim.

Mineral prospecting has been carried out in the area of China Creek and Franklin Creek since placer gold was mined in the 1860's. Development of lode gold prospects followed and up to eight properties had gone into production by 1940. The artificially low gold price and low tonnage potential of the vein gold deposits hindered further development.

In the 1960's Gunnex Ltd. acquired prospecting rights on certain parts of the E&N Land Grants under terms of a joint venture or farm-out agreement with Canadian Pacific. Work done by Gunnex Ltd. up to 1965 included a helicopter-borne low level aeromagnetic survey, a regional geochemical soil and silt sampling program, and geological mapping combined with prospect and mineral showing examinations. Reports and maps covering these activities were made available to Lode Resource Corporation and formed the basis of selecting areas for examination and further work.

The Gunnex Ltd. geochemical survey covered most of the main creeks and drainages, and included both stream sediment and soil samples collected along the main drainages and creeks. Results from the survey showed most of the creeks draining the ridge trending south from Mount McQuillan, covered partly by the Tan claim, contained anomalous Total Heavy Metal values. There was no follow-up on these anomalous geochemical values and no further work was carried out.

The 1962 aeromagnetic survey was flown by helicopter on quarter mile line spacing and mean terrain clearance of 500 feet.

Results were plotted at 20 gamma contour intervals. A prominent north-south magnetic high is roughly coincident with the peak and high points of the ridge of Mount McQuillan lying west of the Tan claim. Several old properties and prospects are associated with the edges of the magnetic high zone.

Lode Resource Corporation, and its predecessor, Jan Resources Ltd., has carried out exploration work on the Jan, Mar, and Remy claims, adjoining the Tan claim to the west, since 1979. The exploration has included prospecting and geochemical sampling programs over areas of former showings and prospects, with detailed sampling of veins over these old prospects. Results from the programs in 1980 were sufficiently encouraging that diamond drill testing of three vein systems was carried out in late 1980 - early 1981, and in late 1983.

The Tan claim adjoins the Mar and Jan claims on the east, partly covering the southerly extension of Mount McQuillan ridge. There has been no systematic follow-up work reported on the Total Heavy Metal anomalies discovered in the creeks draining Mount McQuillan ridge.

### REGIONAL GEOLOGY

The Mount McQuillan area of Vancouver Island is underlain predominantly by volcanic rocks which have been mapped and grouped as part of the Sicker Series by Muller (1968). A recent publication by Muller (1980) has refined the geological work and redefined some of the sub-divisions of the Sicker Group.

The Sicker Group rocks are of Palaeozoic age and as recently redefined the Group has been sub-divided into four units as follows:

Buttle Lake Formation: limestone, calcarenitic, crinoidal, commonly recrystallized; interbedded with subordinate or equal thicknesses of calcareous siltstone and chert; some diabase sills;

Sediment-Sill Unit: thinly bedded to massive argillite, siltstone and chert with interlayered sills of diabase;

Myra Formation: basic to rhyodacitic banded tuff, breccia and (?) lava; thinly bedded to massive argillite, siltstone, chert;

Nitinat Formation: metabasaltic lavas, pillowed or agglomeratic, commonly with large conspicuous uralitized pyroxene phenocrysts and amygdules of quartz and dark green minerals; minor massive to banded tuff.

The lowest of these four units is comprised almost entirely of intermediate to basic volcanics and Muller has proposed that the

name Nitinat Formation, formerly used in a different context, be applied to rocks of this unit. Overlying the Nitinat volcanics are a thick succession of bedded volcanic and sedimentary rocks which include volcanic (rhyolitic to dacitic) breccias, tuff and flows as well as argillite, siltstone, greywacke, and minor conglomerate. The name Myra Formation has been proposed by Muller for this succession which probably is conformable on the Nitinat Formation.

The geology of the Tan claim area is of considerable interest; there has been no detailed geological mapping in the area and there was no follow-up on the geochemically anomalous creeks discovered in the 1960's Gunnex Ltd. program. The occurrence of Myra Formation rocks in the Summit Lake area immediately adjacent indicates such units might possibly underlie part of the Tan claim. The Myra Formation hosts volcanogenic sulphide deposits owned by Westmin Resources at Buttle Lake to the north, and the Formation has become a favourable exploration target in recent years.

#### GEOCHEMICAL SURVEY - 1984

During the period February 13th to February 18th, 1984, a geochemical stream sediment sampling program was carried out on the Tan claim by Gordon D. House, M.S., Geologist, and an assistant.

The silt samples were taken from active sediments in streams and tributary creeks, with care taken that the streams and creeks sampled were free of logging debris and slide material from road construction.

The creeks on the west side of the middle fork of the Nitinat River covered by the Tan claim occur on an open talus and slide slope below precipitous cliffs, covered by brush and bushes. There has only been minor logging activity on this side of the creek in the southern quarter of the Tan claim.

The main logging activity has taken place on the east side of the middle fork of the Nitinat River and several of the smaller creeks have been obscured and obliterated.

The silt samples were collected in Kraft paper envelopes with the sample numbers marked on with waterproof marker, and the location carefully plotted on field maps. The samples were delivered to Bondar-Clegg & Company Ltd. of North Vancouver, B.C. for geochemical analyses for copper, lead, zinc, silver, and gold.

In the laboratory the samples were dried and sieved, with the -80 mesh fraction used for analyses. Metal extractions for copper, lead, zinc, and silver were made using  $\text{HNO}_3$ -HCl Hot Extraction, with concentrations determined in parts per million by Atomic Absorption techniques. Metal extractions for gold were made using Aqua Regia



with concentrations determined in parts per billion by Fire Assay and Atomic Absorption techniques. A copy of the Geochemical Lab Report is included in this report as Appendix "A".

The lower detection limits for the elements analyzed are 1 ppm for copper and zinc, 2 ppm for lead, 0.2 ppm for silver, and 5 ppb for gold. The sample weight required for the 5 ppb detection limited for gold is 20 grams; in one case a 3 gram sample could only be obtained which increased the lower detection limit to 15 ppb. This one sample, TN-23, returned a gold analysis of less than 15 ppb.

The sample locations and results were plotted on 1:10,000 maps made from photogrammetry produced by McElhanney Surveying and Engineering Ltd. in April 1980 and based on aerial photography flown in July 1976. The copper-lead-zinc values for the stream sediment samples are plotted on Map 1 while the results for silver and gold are plotted on Map 2.

### DISCUSSION OF RESULTS

The geochemical silt sampling program carried out on the Tan claim in February 1984 has outlined several areas of interest which are worthy of further investigation.

The geochemical analyses for the silts were subjected to standard statistical treatment from which the following figures were derived:

		<u>Stream Sediment Samples</u>			
				Uncut	
<u>Copper</u>	Number of samples	=	29		
	Mean	=	152		
	Standard Deviation	=	67		
	Mean + 2 x Standard Deviation	=	Anomalous	=	286 ppm
<u>Lead</u>	Number of samples	=	29		
	Mean	=	11		
	Standard Deviation	=	7		
	Mean + 2 x Standard Deviation	=	Anomalous	=	25 ppm
<u>Zinc</u>	Number of samples	=	29		
	Mean	=	156		
	Standard Deviation	=	58		
	Mean + 2 x Standard Deviation	=	Anomalous	=	272 ppm
<u>Silver</u>	Number of samples	=	29		
	Mean	=	0.145		
	Standard Deviation	=	0.143		
	Mean + 2 x Standard Deviation	=	Anomalous	=	0.43 ppm

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<u>Gold</u>	Number of samples	=	29	
	Mean	=	22.4	
	Standard Deviation	=	52.2	
	Mean + 2 x Standard Deviation	=	Anomalous =	126.7 ppb

The stream sediment sampling program carried out on the Tan claim has confirmed the anomalous Total Heavy Metal values in some of the creeks discovered by Gunnex Ltd. during the regional exploration programs in the 1960's. The survey just completed showed those creeks that were anomalous in the Gunnex Ltd. survey are anomalous in copper, zinc, or gold.

There is known mineralization, outcropping and exposed in trenches, on the ridge trending south from Mount McQuillan to the northwest of the Tan claim. The creeks draining this area returned analyses above background in copper, zinc, and gold.

The creeks draining the southerly trending ridge of Mount McQuillan, on the west side of the Tan claim, nearly all returned analyses above background or anomalous copper, zinc, and gold while only one creek draining the east side of the claim returned an anomalous value in gold.

The results of the analyses for lead and silver were all relatively low with no anomalous values whereas the values for copper, zinc, and gold were above normally accepted background values with some anomalous high values. This suggests that the mineralization indicated as occurring on the Tan claim contains copper, zinc, and gold with little or no lead and silver. Such precious metals with copper/zinc mineralization is typical of a volcanogenic massive sulphide deposit associated with acidic volcanism of the Myra Formation of the Sicker Group volcanics.

The results of the survey suggest that volcanogenic massive sulphides may exist on the south ridge of Mount McQuillan to the west of the Tan claim while there may be gold-bearing veins in the ridge to the east of the Tan claim below Black Lake.

## CONCLUSIONS AND RECOMMENDATIONS

Several areas of anomalous geochemical stream sediment samples have been outlined on the Tan claim which are recommended for further investigation.

One area of interest occurs on the east side of the Tan claim, near the centre, where a stream sediment sample returned an anomalous value in gold. A soil sample taken further up the slope, above where the creek had been obliterated by logging and road building, also returned an anomalous gold value. This area has recently been logged over and a logging road runs up to the ridge top which would provide excellent access for a program of detailed soil sampling and geological mapping to determine the source of the gold anomalies.

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Several creeks on the west side of the southern portion of the Tan claim returned anomalous values in copper, zinc, and gold, and all were generally above background for these elements. These creeks drain the southerly trending ridge of Mount McQuillan where there are several old prospects and trenches with known mineralization. A program of detailed stream sediment sampling with soil sampling along the banks is recommended for these anomalous creeks to determine the source of the anomalies.

The creeks flow across an open talus slope, covered by brush and bushes, and is obviously an avalanche slope or chute in periods of heavy snowfall. Such avalanches and rock slides carry rocks and material from the cliffs above down the talus slope. Such material may be the source of the geochemical anomalies, and the recommended program of geochemical sampling would try to determine this. Geological mapping of the cliffs and outcrops above the talus slope is also recommended. This ground lies west of the Tan claim and is covered by the Jan claim owned by Lode Resource Corporation. The geological mapping program would have to form part of a larger program covering both the Tan claim and the Jan claim.

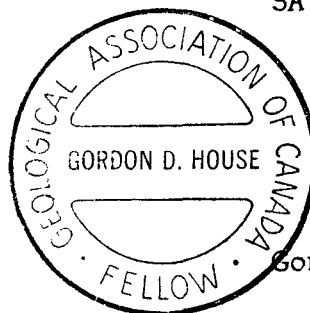
The area on the east central part of the Tan claim containing anomalous gold values in stream sediment and soil should be covered by a cut line or chained grid, and soil sampled at relatively close intervals, say 30 metre intervals, to delimit the area containing anomalous gold values. Geological mapping and lithochemical sampling would assist in outlining favourable areas for more detailed testing by bulldozer trenching and, if warranted, diamond drilling.

The continuing exploration of the western side of the Tan claim should form part of a larger program covering the Jan claim, lying to the west. Depending on the results from such a program, further exploration involving diamond drilling and possible underground work would be required to further define the areas of interest.

The Tan claim has been shown to contain several areas of interest which require further detailed investigation to outline possible economic mineralization.

Respectfully submitted,

SAWYER CONSULTANTS INC.



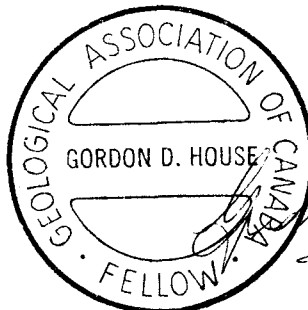
Gordon D. House, M.S., F.G.A.C.

SAWYER CONSULTANTS INC.

CERTIFICATE OF QUALIFICATION

I, Gordon D. House, of North Vancouver, British Columbia,  
DO HEREBY CERTIFY:

1. That I am a Consulting Geologist, a graduate of Trinity College, Dublin, in 1961, with a B.A. in Honors Natural Science - Geology. I received a M.S. degree in Geology from the University of Alaska, Fairbanks, in 1980.
2. That I am a member of The Institution of Mining and Metallurgy, London, since 1964, and a Registered Chartered Engineer with the Council of Engineering Institutions, London. I am a Fellow of the Geological Society, London; a Member of the Society of Mining Engineers of the American Institute of Mining, Metallurgical and Petroleum Engineers; a Member of the Canadian Institute of Mining and Metallurgy; and a Fellow of the Geological Association of Canada.
3. That I have practised my profession as a Geologist since 1962 in Ireland and West Africa; since 1965 in British Columbia, Yukon, Northwest Territories, Saskatchewan, Manitoba, Ontario, Alaska, Arizona, California, Nevada and Idaho. I have undertaken professional visits to Germany, Australia, New Zealand, Fiji, and South Africa.
4. That the information, opinions, and recommendations in this report are based on my work on the Tan claim in February 1984 and my previous work in the area in 1983, as well as on work previously carried out in the area by Sawyer Consultants Inc. since 1979.
5. That I have no direct or indirect interest in any of the subject properties of this report, nor in the shares or securities of Lode Resource Corporation nor of its predecessor company, Jan Resources Ltd., nor do I expect to receive any such interest.



Gordon D. House, M.S., F.G.A.C.

Dated at Vancouver, British Columbia this 29th day of February, 1984.

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APPENDIX "A"

Copy of Geochemical Analyses Report

**SAWYER CONSULTANTS INC.**

RECEIVED FEB 27 1984

REPORT: 124-0221

PROJECT: NONE GIVEN

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	wt./Au	NOTES
S TN-3-D		44	10	52	0.3	50		
I TN-1-S		121	18	215	0.4	35		
I TN-2-S		60	40	78	0.4	25		
I TN-4-S		116	8	75	0.3	135		
I TN-5-S		125	21	183	0.3	15		
I TN-6-S		130	17	161	0.3	15		
I TN-7-S		84	12	205	0.3	<5		
I TN-8-S		92	10	152	<0.2	<5		
I TN-9-S		87	6	66	<0.2	<5		
I TN-10-S		80	7	54	0.2	<5		
I TN-11-S		265	8	124	0.2	<5		
I TN-12-S		357	18	156	<0.2	<5		
I TN-13-S		202	6	120	<0.2	<5		
I TN-14-S		244	12	275	<0.2	10		
I TN-15-S		210	11	185	0.2	25		
I TN-16-S		190	8	163	<0.2	260		
I TN-17-S		174	17	170	0.3	15		
I TN-18-S		128	10	230	0.2	10		
I TN-19-S		128	11	257	<0.2	10		
I TN-20-S		94	7	95	<0.2	10		
I TN-21-SA		156	10	190	0.2	<5		
I TN-21-SB		112	13	125	0.3	10		
I TN-22-S		201	13	175	0.2	<15	2.0	
I TN-24-S		101	6	118	<0.2	5		
I TN-25-S		110	8	120	<0.2	5		
I TN-26-S		135	9	153	<0.2	5		
I TN-27-S		241	6	174	<0.2	10		
I TN-28-S		112	8	130	0.2	30		
I TN-29-S		130	12	136	0.2	5		
I TN-30-S		162	8	141	<0.2	15		
I SI-1-S		93	13	99	0.3	10		

APPENDIX "B"

Statement of Expenditures  
and  
List of Personnel  
for Assessment Purposes

**SAWYER CONSULTANTS INC.**

APPENDIX "B"

STATEMENT OF EXPENDITURES

The expenditures itemized below were incurred by Lode Resource Corporation in connection with a geochemical silt sampling program carried out on the Tan claim in the period February 13th to 18th, 1984.

Field Work (Feb. 13th to Feb. 18th, 1984)

Mobilization, demobilization, geochemical sampling

1 geologist - 4 days @ \$300.00/day	\$1,200.00	
1 assistant - 4 days @ \$100.00/day	<u>400.00</u>	
	\$1,600.00	\$1,600.00

Field Crew Expenses

Room and board

2 men, Feb. 13th to Feb. 18th, 1984	\$509.17	
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Travel

Ferry fare, gas, repairs	<u>261.31</u>	
	\$770.48	770.48

Analyses

Geochemical analyses for Cu, Pb, Zn, Ag, Au

30 samples @ \$12.15/sample		364.50
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Truck Rental

4 days @ \$75.00/day		300.00
----------------------	--	--------

Office Compilation

1 geologist - 2 days @ \$300.00/day	\$600.00	
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Secretarial service	<u>160.00</u>	
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\$760.00

Report preparation, drafting, map printing,  
photocopying and disbursement costs

320.00

\$1,080.00      1,080.00

TOTAL      \$4,114.98



Gordon D. House, M.S., F.G.A.C.  
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APPENDIX "B"

LIST OF PERSONNEL

Gordon D. House, M.S., F.G.A.C.

Consulting Geologist

Feb. 13th to 18th, and Feb. 28th & 29th, 1984

Sampling, report preparation

6 days @ \$300.00/day

\$1,800.00

Brent Schorn

Assistant

Feb. 13th to 18th, 1984

Geochemical sampling

4 days @ \$100.00/day

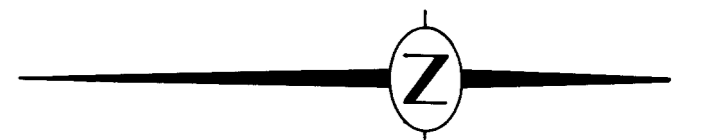
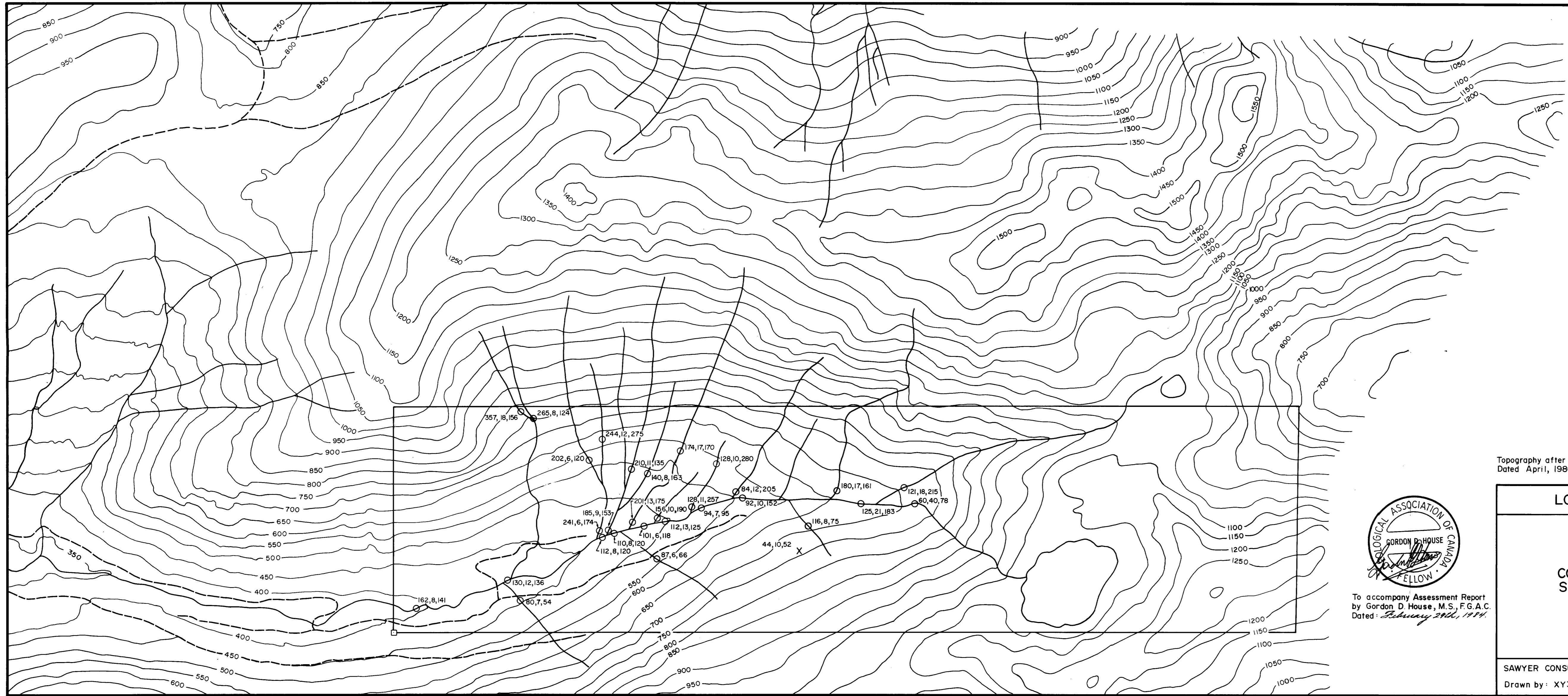
400.00

\$2,200.00


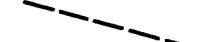




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**LEGEND**

-  Stream
-  Logging road, trail
-  Stream sediment sample point
- 128,10,280 Copper, Lead, Zinc in parts per million
- X Soil sample point
- 44,10,52 Copper, Lead, Zinc in parts per million
-  Legal corner post for Tan Claim and claim boundary

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**12,150**

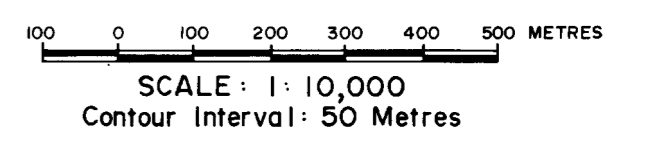
Topography after McElhanney Surveying and Engineering Photogrammetry  
Dated April, 1980

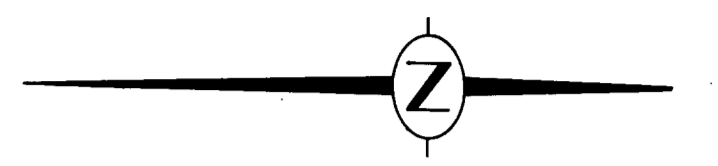
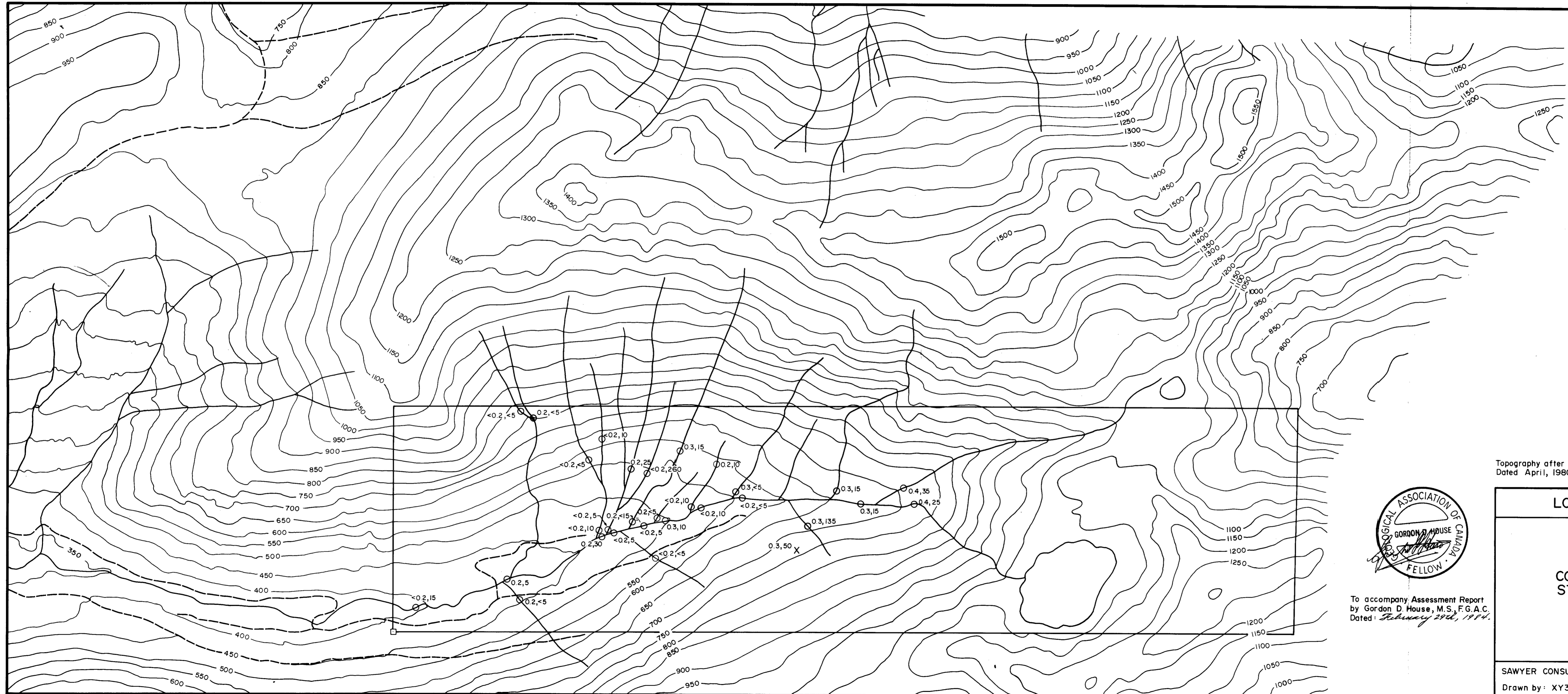


To accompany Assessment Report  
by Gordon D. House, M.S., F.G.A.C.  
Dated: February 21st, 1984.


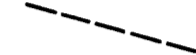
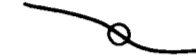
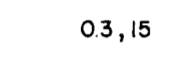
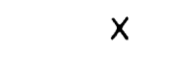
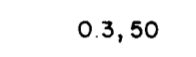

**LODE RESOURCE CORPORATION**

**TAN CLAIM**  
NITINAT RIVER AREA  
VICTORIA MINING DIVISION, B. C.  
**COMPOSITE GEOCHEMICAL MAP**  
**STREAM SEDIMENT SAMPLES**  
**COPPER, LEAD, ZINC**





**LEGEND**

-  Stream
-  Logging road, trail
-  Stream sediment sample point
-  0.3, 15  
Silver in parts per million,  
Gold in parts per billion
-  X  
Soil sample point
-  0.3, 50  
Silver in parts per million,  
Gold in parts per billion
-  Legal corner post for Tan Claim  
and claim boundary

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**12,150**

Topography after McElhanney Surveying and Engineering Photogrammetry  
Dated April, 1980



To accompany Assessment Report  
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**LODE RESOURCE CORPORATION**

**TAN CLAIM**  
NITINAT RIVER AREA  
VICTORIA MINING DIVISION, B. C.  
**COMPOSITE GEOCHEMICAL MAP**  
**STREAM SEDIMENT SAMPLES**  
**SILVER, GOLD**

100 0 100 200 300 400 500 METRES  
SCALE: 1:10,000  
Contour Interval: 50 Metres

SAWYER CONSULTANTS INC. FEBRUARY 1984  
Drawn by: XY3 GRAPHICS Designed by: GDH MAP 2