

80-671-# 8337

GEOLOGICAL AND GEOPHYSICAL REPORT  
ON  
GRANITE BASIN 1 - 6 MINERAL CLAIMS

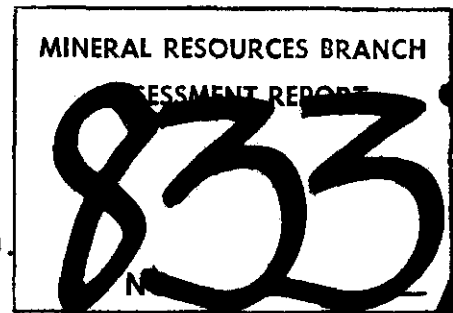
56°28' N LATITUDE  
125°52' W LONGITUDE

OMINECA MINING DIVISION  
BRITISH COLUMBIA  
N.T.S. MAP-AREA 94-C-5W

prepared for  
MARK V PETROLEUMS AND MINES LTD.

*Filmed*

by  
M. Fox, P.Geol.  
TAIGA CONSULTANTS LTD.  
CALGARY, ALBERTA



OCTOBER 1980

## TABLE OF CONTENTS

Certificate	
SUMMARY. . . . .	1
INTRODUCTION . . . . .	2
Property, Location, Access, Ownership	
History	
WORK CARRIED OUT IN 1980 . . . . .	5
GEOLOGY. . . . .	6
STRUCTURE. . . . .	8
GROUND ELECTROMAGNETIC SURVEY. . . . .	9
CONCLUSIONS AND RECOMMENDATIONS. . . . .	10
Summary of Expenditures	

### Maps in Back Pocket

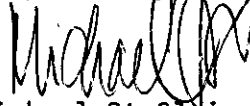
Figure 2: Property Geology	(1:5000)
Figure 3: Trench Sampling	(1:1000)
Figure 4: Trench Geology	(1:1000)
Figure 5: Ground VLF-EM Survey	(1:1000)

C E R T I F I C A T E

I, the undersigned, do hereby certify that:

1. I am a practising professional geologist with an office at #100. 1300 - 8th Street S.W., Calgary, Alberta;
2. I am a graduate of the University of British Columbia with a B.Sc. in Geology (1974) and that I have been practising my profession since that date;
3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta;
4. I have personally worked on the claims and supervised the exploration work carried out there; and
5. I have no interest, directly or indirectly, in the property or securities of Mark V Petroleum and Mines Ltd. nor do I expect to receive any.

Respectfully submitted



Michael St. Clair Fox, P.Geol.

October 1980

SUMMARY

The Granite Basin property is a precious metals prospect first explored in the 1920's by two short adits and surface sampling.

During the period September 9 to 21, 1980, an exploration program consisting of detailed trench mapping and sampling, linecutting, surveying, property mapping, and ground electromagnetic surveying was carried out over the Granite Basin 1 - 6 claims.

Two line kilometres of grid mapping and ground VLF-EM surveying were carried out. Detailed trench sampling consisted of semi-continuous chip sampling over 1 - 5 m sample intervals. A total of 155 samples were collected.

The results of the VLF-EM surveying, detailed trench mapping, and sample locations are included with this report as 1:1000 scale maps. Property geology is presented on a 1:5000 topographic base.

## INTRODUCTION

### Property, Location, Access, Ownership

The Granite Basin property is a precious metals prospect consisting of six two-post mineral claims staked to cover mineralized structures first explored by the Consolidated Mining and Smelting Co. of Canada Ltd., in the 1920's. The claims are situated in the Omineca Mining Division approximately 10 km northwest of Aiken Lake in N.T.S. map-area 94-C-5W. The claims may be reached by a 3 km long mine access road that joins the Omineca development road approximately 145 km northwest of Germansen Landing. Germansen Landing is situated at the Omineca River crossing, approximately 350 km from Prince George via a network of logging roads along the west side of Williston Lake. Germansen Landing may also be reached by a 250 km long road from Fort St. James.

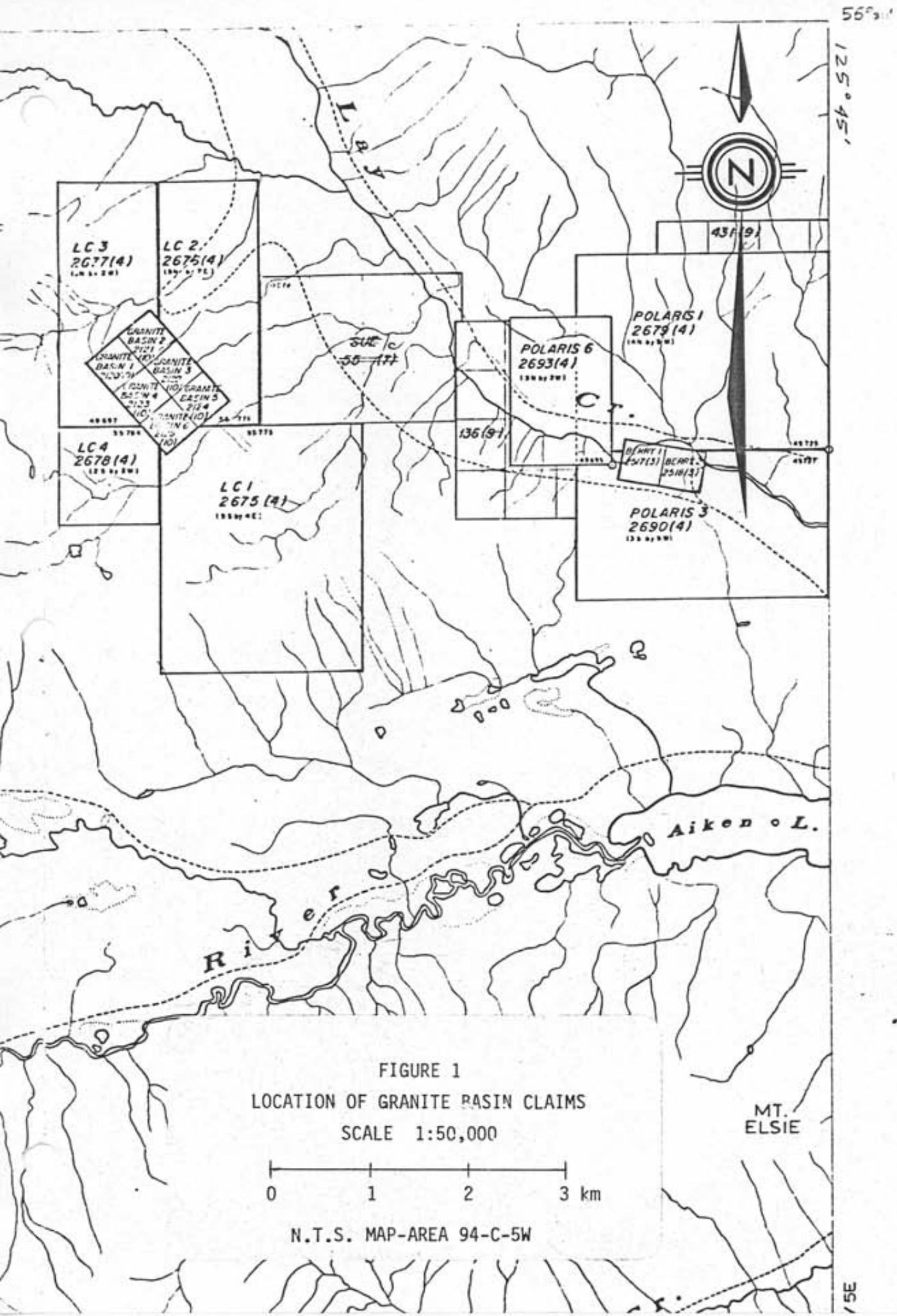
The Granite Basin 1 - 6 claims are owned by Mark V Petroleums and Mines Ltd. and are described more specifically as follows:

<u>Claim</u>	<u>Record Number</u>	<u>Date of Record</u>
Granite Basin 1	2120	3 October, 1979
Granite Basin 2	2121	3 October, 1979
Granite Basin 3	2122	3 October, 1979
Granite Basin 4	2123	3 October, 1979
Granite Basin 5	2124	3 October, 1979
Granite Basin 6	2125	3 October, 1979

### History

The property was first explored by detailed surface rock sampling and by two short adits driven by the Consolidated Mining and Smelting Co. of Canada Ltd. in the 1920's. Gold assays of 1/3 oz per ton over 30' and 0.2 oz per ton over 40' widths were reported to occur in easterly striking shears in broad pyritized bands outcropping in the south wall of a north-easterly facing cirque known as Granite Basin. A small area around the adits was mapped in detail by the G.S.C. and reported on in G.S.C. Memoir 274 by E. F. Roots.

Interest in the prospect was rekindled by the rise of gold prices in the 1970's, when Susie Gold Mines Ltd. carried out trenching and sampling over the projected extensions of the mineralized structures. Susie's claims lapsed, and the prospect was staked by Mark V Petroleum and Mines Ltd. late in 1979.



6

5

4

15E

## WORK CARRIED OUT IN 1980

### Surveying

The positions of the old adits, cat roads, and trenches were surveyed by the chain and compass surveying technique to provide a 1:1000 scale base map for detailed mapping and sampling in the trenches.

### Sampling

Outcrop zones in the trenches were divided into 1 to 5 m sample intervals by pickets which were permanently marked by aluminum tags. Samples averaging 3 kg in weight were collected by semi-continuous chip sampling over these intervals. A total of 155 samples were collected. A 1:1000 scale plan of sample locations is included with this report.

### Geological Mapping

Detailed geological mapping of outcrops in the trenches was carried out and plotted at 1:1000 scale using the survey pickets for control.

Geological mapping at a scale of 1:5000 was carried out over adjacent areas of the property. Mapping control was provided by chained cut lines and a topographic base contoured at 10 m intervals.

### Geophysics and Linecutting

A small grid was cut and chained in the area between the trenches and the two adits. VLF-EM dip-angle surveying was carried out over the grid using a Crone Radem VLF-EM unit. The transmitter used was Cutler, Maine (17.8 KHz). Readings were taken at 25 m intervals along the grid lines.



## GEOLOGY

Property mapping carried out at a scale of 1:5000 indicates that the claims are underlain by a thick, northerly striking, westerly dipping series of andesitic flows, fragmental horizons, and sedimentary interbeds, typical of the Takla Group volcanics. The dominant rock type is a fine- to medium-grained, dark green hornblende porphyry. Sedimentary rocks and fragmental volcanic horizons increase in abundance upwards in the section. In the vicinity of the mineralized zones in Granite Basin, the volcanic rocks are cut by sills or gently cross-cutting intrusive bodies of pyritized feldspar porphyry. Local contact metamorphic effects are apparent at the margins of the feldspar porphyry bodies. Virtually all of the rocks underlying the claims are pyritized, with pyritization being most extensive near and in the feldspar porphyry bodies.

Detailed mapping at a scale of 1:3600 was done by E. F. Roots in the area adjacent to the adits and published in G.S.C. Memoir 274. Part of this area was remapped in 1980 and the petrographic terminology used by Roots has been revised. The following major rock types have been differentiated:

### Unit 1: Feldspar Porphyry

Rocks classified as feldspar porphyry vary in color from light grey to dark green groundmass; are generally fractured, siliceous, and well-pyritized; and contain abundant light grey feldspar phenocrysts 0.5 to 3.0 mm in diameter. Hornblende is usually absent (or not visible) or constitutes less than 15% of the rock. This rock was originally described as a feldspar porphyry by Roots.

### Unit 2: Diorite

Rocks classified as diorite are leucocratic, medium- to coarse-grained, and contain large feldspar phenocrysts in a light grey to light green matrix. This rock was originally described as a porphyritic diorite by Roots.

Unit 3: Hornblende Porphyry Dykes

These dykes were observed to range from 1 m to 5 m in width and are composed of black hornblende phenocrysts 0.5 mm to 2.0 mm in diameter in a dark green groundmass. These are probably feeder dykes for flows of similar composition which occur higher in the geologic section. Roots included this rock type in his "diorite porphyry" classification.

Unit 4: Hornblende Porphyry

This rock type is the dominant rock type underlying the ridges surrounding the property but is less widespread than feldspar porphyry in the immediate vicinity of the claims. It is most commonly composed of porphyritic hornblende crystals 0.5 mm to 3.0 mm in diameter, set in a dark green groundmass, but may contain visible feldspar phenocrysts in equal abundance. Hornblende porphyry flows were observed to grade imperceptibly or abruptly into hornblende feldspar flows without any intervening structural feature or discordance, and probably represent differentiated phases of a common parent magma. This rock type was referred to by Roots as a "porphyritic andesite".

Unit 5: Andesite

This unit was observed mainly in the cat trenches where it consists of an aphanitic, in places highly siliceous, fractured, pyritized dark green rock. Occasional very fine-grained hornblende crystals are visible and the rock may be equivalent in composition to Unit 4. This unit was not recognized by Roots and was not found anywhere within the area mapped by him.

Unit 6: Argillaceous Tuff, Black Siltstone, Chert

Several bands of black siltstones, argillaceous tuffs, and chert are intercalated with the volcanic rocks. These rocks are silicified and altered to hornfels where they are in contact with bodies of feldspar porphyry.

STRUCTURE

The regional strike and dip of the formations underlying the property is  $030^{\circ}/48^{\circ}\text{NW}$ . The topography of the property is such that an almost vertical cross section of the beds is exposed in the south wall of the Granite Basin cirque. However, in the trenched area and the slopes above the trenches, the beds trend subparallel to the contours of the mountain-side.

Shearing is widespread and is particularly well exposed in the trenches where shear systems oriented  $165^{\circ}/60^{\circ}\text{W}$ ,  $110^{\circ}-130^{\circ}/40^{\circ}-80^{\circ}\text{S}$ , and  $080^{\circ}-105^{\circ}/80^{\circ}\text{S}$  were mapped. Attitudes of shear planes vary considerably over a few metres distance.

GROUND ELECTROMAGNETIC SURVEY

A dip-angle VLF-EM survey was carried out over approximately 2 km of grid lines utilizing a Crone Radem VLF-EM unit and the Cutler, Maine (17.8 KHz) frequency. Topography on the grid is severe and the data as presented are unfiltered. No significant conductivity is apparent, other than 'geologic noise'. No further VLF-EM surveying is recommended.

### CONCLUSIONS AND RECOMMENDATIONS

Analyses of the rock samples were not completed at the time of writing this report. Consequently, it is not possible to draw any conclusions concerning the distribution of mineralization in the trenches or its relationship to property geology and the mineralized zones worked in the late 1920's.

Several more days should be spent mapping the area between the trenches and the old adits in 1:1000 scale detail. A fair bit of this area is occupied by cliffs and steep rock faces; tight grid control will be essential.

The mineralized shears worked in the old adits are developed in a hornfelsic, recrystallized zone penetrated by a series of feldspar porphyry sills. Elsewhere on the property, contact zones with feldspar porphyry bodies were observed to be recrystallized, silicified, and usually heavily pyritized. A possible relationship between gold mineralization and the intrusive bodies has not been ruled out. Further property mapping is recommended to delineate these zones.

VLF-EM surveying does not appear to be an applicable exploration technique on the Granite Basin property. No further VLF-EM surveying is recommended.

SUMMARY OF EXPENDITURES  
 MARK V PETROLEUMS & MINES LTD.  
GRANITE BASIN PROJECT, B.C.

GRANITE BASIN 1-6 CLAIMS

N.T.S. 94-C-5W

PERSONNEL

J. R. Allan, P.Geol. (Project Supervisor)			
Sept.9-14	5 days @ \$275/day	1,375.00	
M. St.C. Fox, P.Geol. (Project Geologist)			
Sept.9-16	8 days @ \$240/day	1,920.00	
R. Davies (Prospector)			
Sept.9-14, 16-19	10 days @ \$145/day	1,450.00	
T. Nelson (Prospector/Instrument Operator)			
Sept.9-19	11 days @ \$145/day	<u>1,595.00</u>	
			6,340.00

CAMP & ACCOMMODATION

Food:	34 man days @ \$17/man day	578.00	
Camp equipment:	34 man days @ \$10/man day	340.00	
Transceiver Radio	11 days @ \$ 7/day	<u>77.00</u>	
			995.00

TRANSPORTATION

Two 3/4-ton 4x4 trucks	2 x 11 days @ \$35/day	770.00	
Mileage:	2900 km @ 10¢/km	290.00	
Fuel		est. 180.00	
Travel expenses		est. <u>250.00</u>	
			1,490.00

EQUIPMENT RENTALS

Crone Radem VLF-EM	11 days @ \$10/day	110.00	
Scintrex MP-2 proton magnetometer and MBS-2 base station	11 days @ \$40/day	<u>440.00</u>	
			550.00

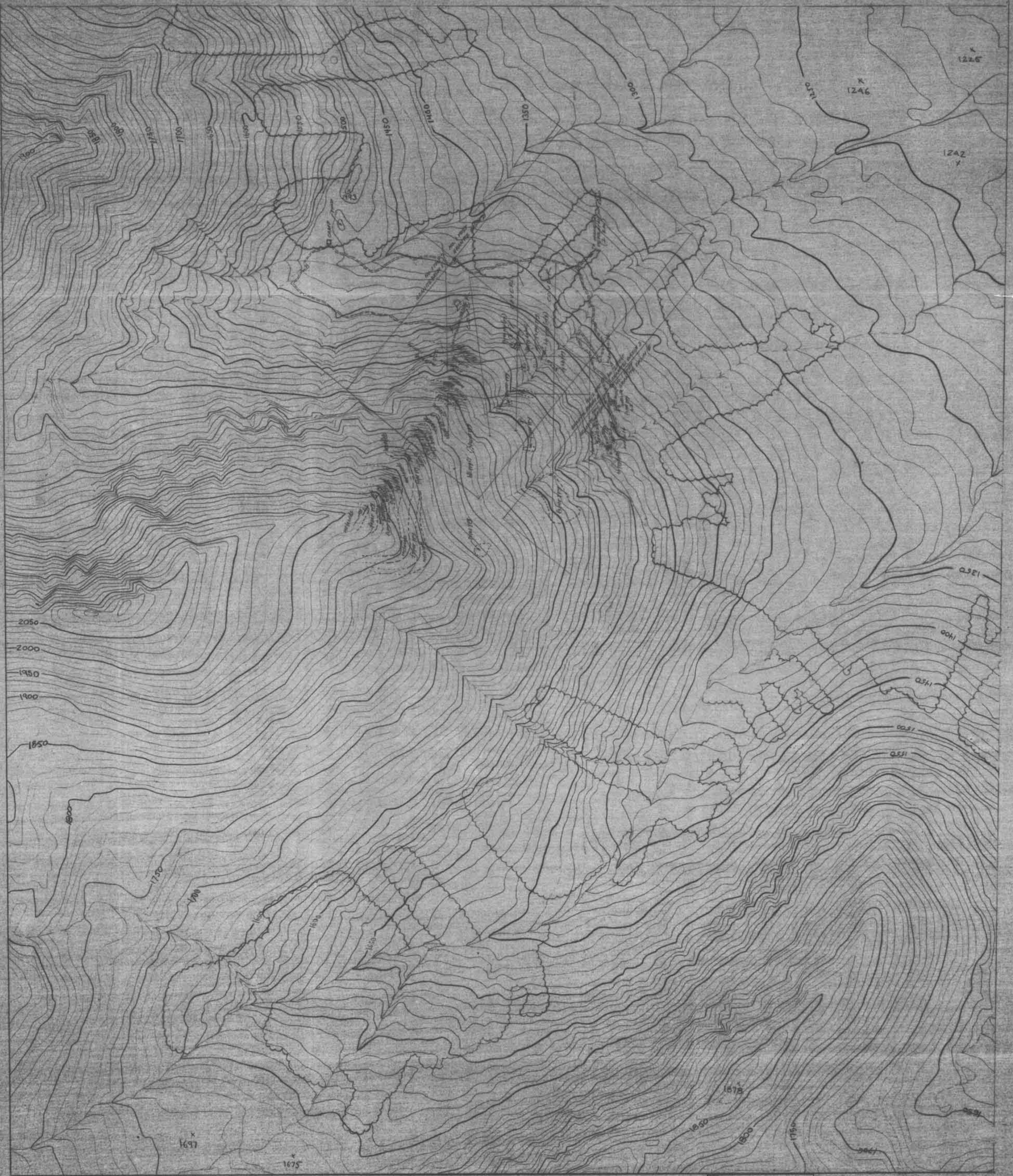
DISPOSABLE SUPPLIES

From Taiga stock:			
200 plastic sample bags	@ \$250/M	50.00	
6 gunny sacks	@ \$1.85	11.10	
4 rolls glass filament tape	@ \$4.61	18.44	
4 field note books	@ \$3.75	15.00	
5 felt tip markers	@ \$0.82	4.10	
12 rolls flagging	@ \$1.20	14.40	
200 wire stake flags	@ \$70/M	<u>14.00</u>	
			127.04
Propane	3 20-lb bottles	est. 27.00	
Naphtha	5 gallons	est. <u>17.50</u>	
			44.50

Summary of Expenditures  
Mark V Petroleum & Mines Ltd.  
Granite Basin Project, B.C.

OFFICE EXPENDITURES

Long-distance telephone		est.	50.00	
Drafting	20 hrs @ \$18/hr		360.00	
Reproductions		est.	200.00	
Final Report: M.Fox	5 days @ \$175/day		<u>875.00</u>	
				<u>1,485.00</u>
		TOTAL EXPENDITURES		<u>\$ 11,031.54</u>



**ABBREVIATIONS**

ry granite  
 fsp feldspar  
 hb hornblende  
 pp pyroxene  
 mnd micaceous  
 fg fine grained  
 vfg very fine grained

**SYMBOLS**

strike and dip  
 faulting  
 pyritized zone  
 heavily pyritized zone  
 contact, defined, inferred, assumed  
 access roads, trenches  
 stream post

MINERAL RESOURCES BRANCH

**8337**

Scale and elevation data based on limited ground control resulting in good ratios, but accuracy should be observed.  
 Compiled from aerial photography at an approximate scale of 1:70,000. flown in 1974.

DOLMAGE, CAMPBELL & ASSOC.

GRANITE BASIN

PRELIMINARY GEOLOGY

FIGURE 2

McGraw-Hill

Scale - 1:5000

Contour - 10 metres

Date - June 5, 1980

Job No. 06729-0

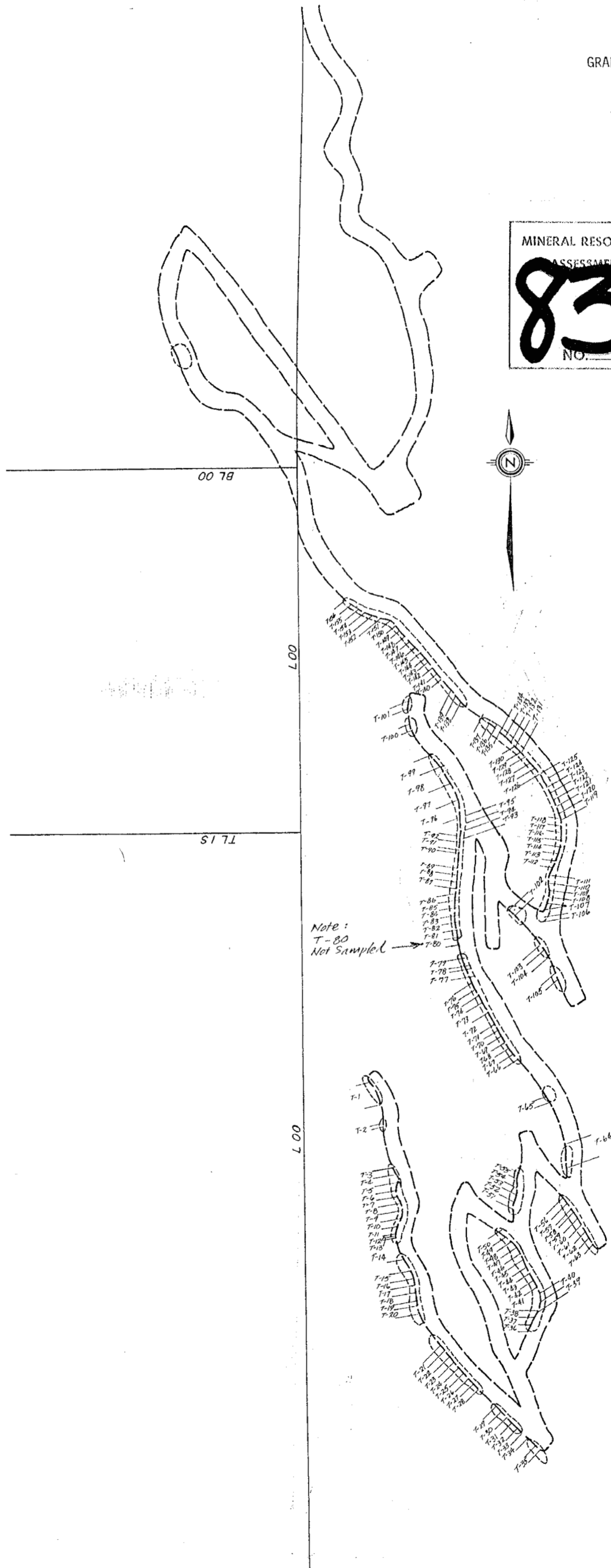
Sheet No. 1 of 1



GRANITE BASIN CLAIMS  
LOCATIONS  
OF  
TRENCH SAMPLES  
SCALE 1:1000  
FIGURE NO. 3

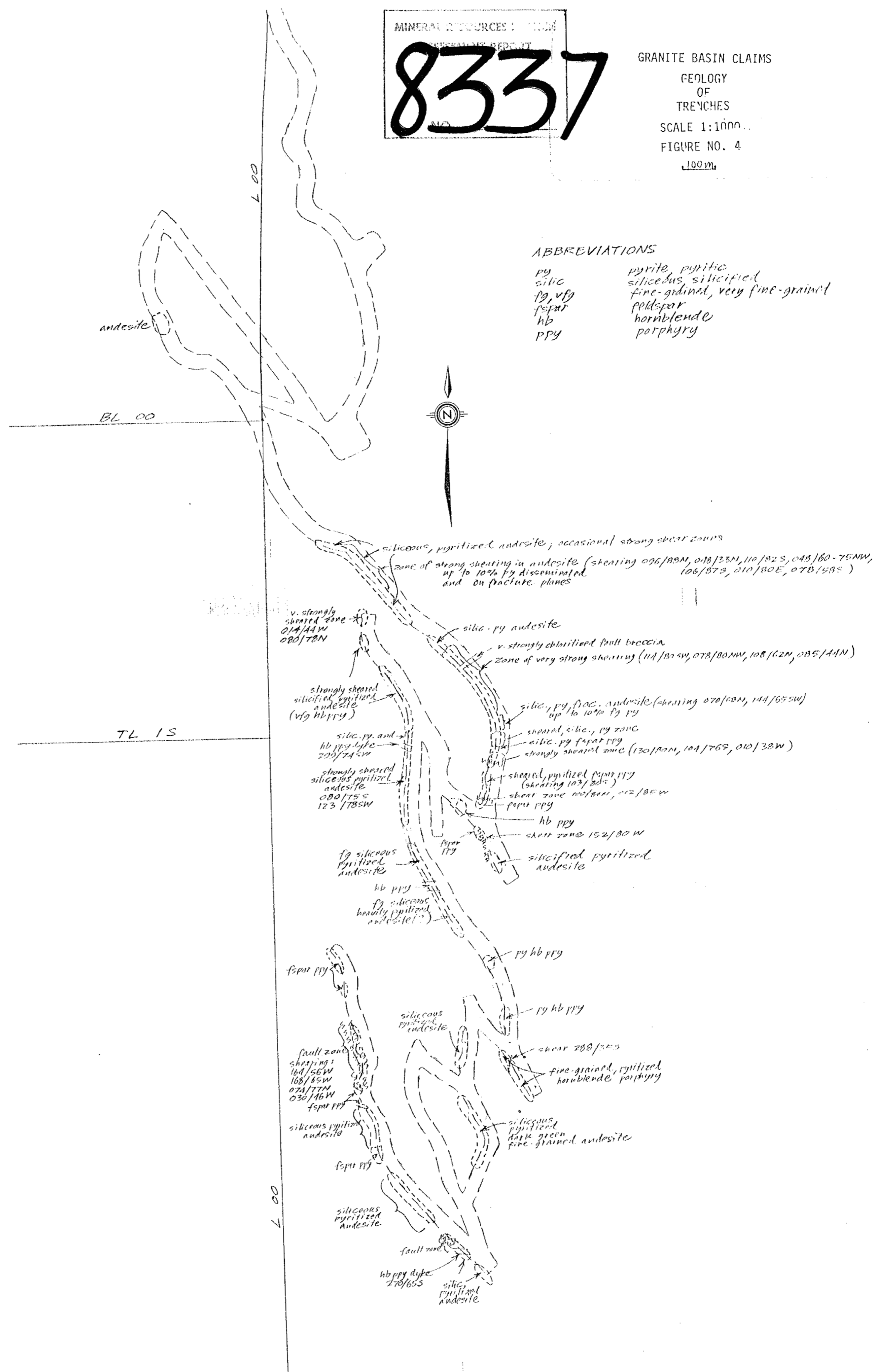
100 m

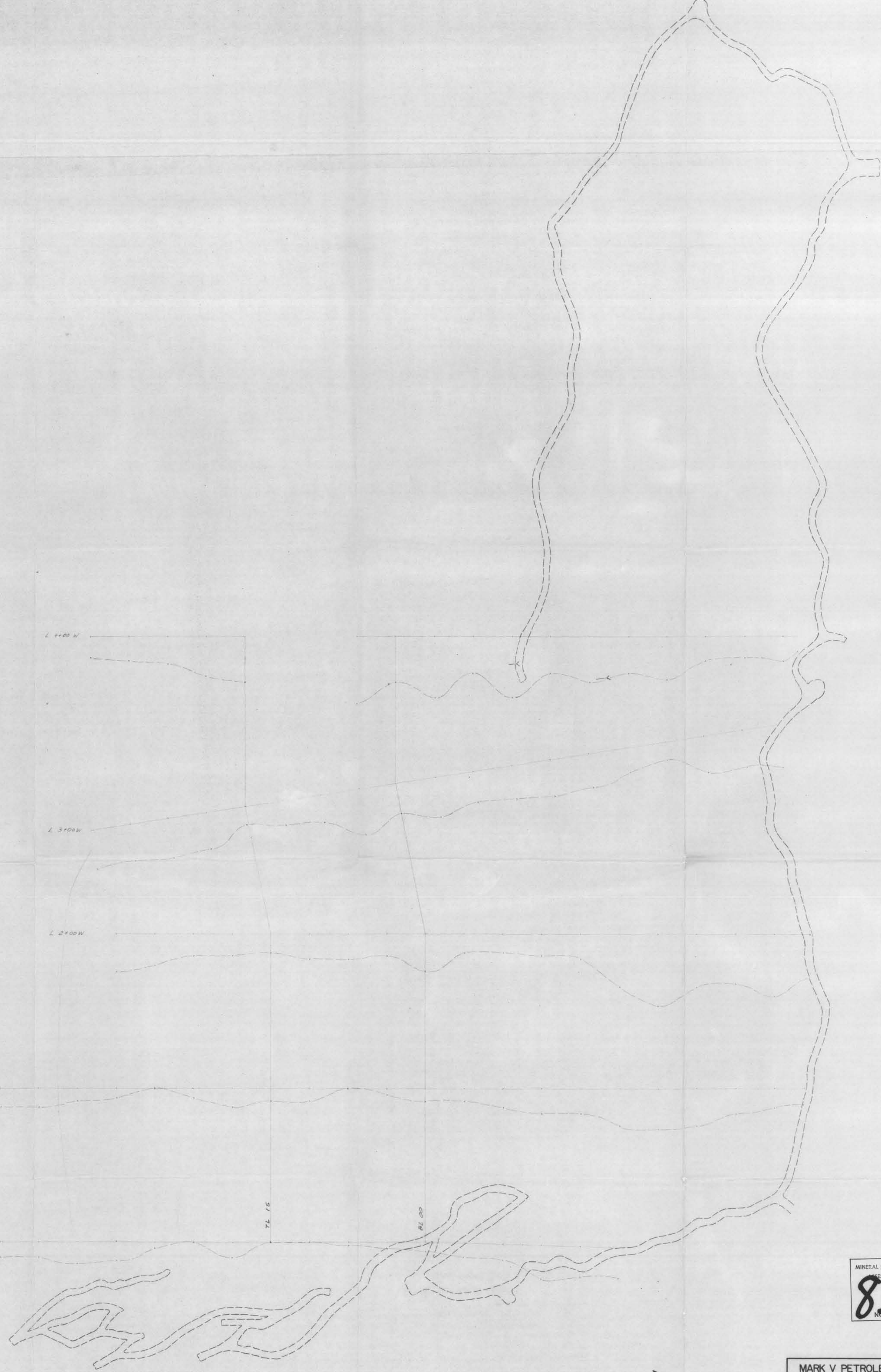
MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8337**  
NO.



# 8337

GRANITE BASIN CLAIMS  
 GEOLOGY  
 OF  
 TRENCHES  
 SCALE 1:1000  
 FIGURE NO. 4  
 100m





MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8337**

N  
080° CUTLER, MAINE  
(17.8 KHz)  
INSTRUMENT: CRONE RADEM VLF-EM  
PROFILE SCALE: 1" = 2mm.

MARK V PETROLEUMS AND MINES LTD.	
GRANITE BASIN CLAIMS GROUND VLF-EM SURVEY	
NTS	DATE OCTOBER 1980
PROJECT	MAP 5
SCALE 1:1,000	20 10 0 10 20 metres
TAIGA CONSULTANTS LTD.	