

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **2402** MAP

TAURUS EXPLORATION CORPORATION LTD.
'I' Project
Fraser Lake, B.C.

ALRAE ENGINEERING LTD.

October 23, 1969

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ALRAE ENGINEERING LTD.
VANCOUVER, B.C.
ENGINEERS & GEOLOGISTS

File Area I Areas. 1970.

Apr 70

I project

136 cl. to file on

Creal. Muzzing - P. Sawyer. Supv'n	20,157 ²³
	300
Aero mag, EM + interests rest by Kidd. - D. Tully. Supv'n.	5,497 ⁻
	300
Geochem - Barringer 1st rest. P Sawyer Supv'n.	3,948 ⁻
	200
Ground EM & Soils grid. (# 300.)	

Total.

30,402²³

2 yrs on	107 cl.	214 c/w
3 yrs on	30 21 22 cl.	<u>90</u>
		300 c/w ✓
		304 ✓

	<u>cl's in gr.</u>	<u>cl's to hold.</u>	<u>c/w's.</u>
A	35	11	22
B	35	12	24
C	35	19	38
D	40	17	39
E	40	10	22
F	40	10	23
G	40	7	
H	40	10	
I	40	10	
J	40	10	
K	40	10	
L	40	<u>10</u>	
		136	

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1" = 1,500 ft.
 1" = 500 ft.

Maps
 #2 Index to 500 scale Map Sheets
 #3 Claim Location and Geological Map
 #54-10 Geological Maps (sheets 1 to 7)

Figures
 1 Azimuthal Distribution of Mafic Inclusions (*in report*)
 2 Attitude of Dykes and Veins
 #1 3 Zones of Rock Alteration
 4 Attitude of Joints
 1" = 1/2 mi.

LIST OF ILLUSTRATIONS (*in folder*)

INTRODUCTION

During the summer of 1969 detailed geological mapping, at a scale of 1" = 500' was carried out on a group of 479 claims ('I' Project) for Taurus Exploration Corporation Ltd. The claim area is located approximately five miles south of the town of Fraser Lake.

Physiographically, the area is located on the Nechako Plateau, part of the Interior Plateau, between the Rocky Mountains and the Coast Ranges. The entire area shows evidence of glaciation and measurements of the orientation of glacial striae agree with the work of Tipper (1963) who states that the direction of movement of the glacial ice was from west to east in this area.

Most of the rock types found in the claim area are part of the Topley Intrusions, a group of acidic, intrusive rocks which covers approximately 1,500 square miles (Armstrong, 1949). Post-Topley volcanics have been found, both within the claim area and in the immediately surrounding area. In addition, a gabbro intrusive, possibly related to the volcanics, has been mapped in the northeastern corner of the claim area.

In addition to the geological mapping, detailed airborne magnetic and EM maps (1) were prepared, a ground magnetic survey was run along all claim lines, and stream sediment samples from all major streams were analyzed for copper and molybdenum content (2). Soil samples and ground EM (3) were run on a small grid located just east of the Foster Lakes.

(1) Airborne magnetometer and EM flown by Lockwood Survey Corporation Ltd.

(2) Stream sediment sampling was done by Barringer Research Ltd.

(3) Ground EM run by Evergreen Explorations Ltd.

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LOCATION AND ACCESS

The 'I' project claims are located in central British Columbia approximately 95 miles west of Prince George and two to five miles south of Fraser Lake. Co-ordinates of the centre of the group are 54°00'N latitude and 124°45'W longitude. Elevation of the claims varies from 2,500 feet to 4,000 feet.

Ready access to the claims is provided by numerous logging roads leading south from Highway No. 16, the main route between Prince George and Prince Rupert. The Canadian National Railway parallels the highway in the vicinity of Fraser Lake.

CLAIMS

The 'I' project claims may be listed as follows:

<u>CLAIM NAME</u>	<u>RECORD NUMBER</u>
I- 1 - 99	69798 - 69896
I-100 & 101	71326 & 71327
I-102 - 121	69897 - 69916
I-201 - 290	70395 - 70484
I-293 - 493	70485 - 70685
I-495	70686
I-497 - 506	70687 - 70696
I-511 - 520	70697 - 70706
I-525 - 528	70707 - 70710
I-531 - 534	70711 - 70714
I-539 - 542	70715 - 70718
I-547 - 556	70719 - 70728
I-557 - 564	71809 - 71816
I-565	70729
I-567	70730
I-569	70731
I-571	70732
I-573	70733
I-575	70734
I-576 - 581	Record No's not yet received
I-1 Fr.	" " " " "
I-2 Fr. - 4 Fr.	" " " " "

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PREVIOUS WORK

The claim area has been mapped by the Geological Survey of Canada as part of the Fort St. James Map Area (Armstrong, 1949) and the Nechako River Map Area (Tipper, 1963). In these reports the claim area is shown as undifferentiated Topley Intrusions.

J.M. Carr (1965) investigated the geology of the Endako area and mapped an area extending east from the Endako orebody to the Foster Lakes. Carr separated the Topley Intrusions into 13 separate phases. The present report follows his nomenclature as closely as possible.

The results of geochemical stream sampling (Barringer Research Ltd., 1969) show anomalous high concentrations of copper and molybdenum in the southwest corner of the property.

As noted by Carr (1965), trenching and diamond drilling have been undertaken on Nithi Mountain (off the property to the southwest) and numerous molybdenite showings have been found.

Several shallow exploration pits have been opened in pegmatite east of the Foster Lakes. No mineralization is present at these localities.

DESCRIPTION OF ROCK TYPES

Outcrop is sparse but generally sufficient for map preparation. Areas with no outcrop are invariably topographic lows and are covered by glacial deposits. The best exposed outcrops are generally found on the west end of moderately high hills and were exposed as the glaciers moved over the hills from west to east. Contacts between the different rock types are seldom exposed and therefore age relations are generally inferred from other evidence (chill margins, etc.) or are as inferred by Carr (1965).

Topley Intrusions

The Topley Intrusive is, as previously mentioned, composed of several different phases. They range in composition from gabbro to quartz monzonite and are thought, on the basis of stratigraphic evidence, to be Lower Jurassic in age, however, radiometric dates on biotite from the Topley yield ages ranging from Lower Jurassic to Paleocene (Carr, 1965).

The following rock units are separated on the basis of their field appearance:

Nithi Quartz Monzonite

The Nithi Quartz Monzonite occupies much of the map area and is thought to be the oldest rock type within the claim area. The Nithi is a medium grained, pinkish-grey, porphyritic quartz monzonite. It is unfoliated within the claim area, although Carr (1965) describes a steeply-dipping, weak foliation on the western side of Nithi Mountain. The Nithi consists of two intergradational contemporaneous phases with approximately the same composition. The more porphyritic phase occurs in the vicinity of the Foster Lakes and has a modal composition of quartz - 40%; orthoclase - 30%; plagioclase - 20%; biotite - 10%. It is medium to coarse grained and the average phenocryst length is approximately 6 mm. The biotite is platy and occurs in large flakes. The modal composition of the less porphyritic phase is quartz - 35%; orthoclase - 30%; plagioclase - 25%; biotite - 10%. Small amounts of hornblende (1% or less) are sometimes seen in this phase.

In the less porphyritic phase the biotite occurs in small flakes and has a 'crumpled' appearance, and the average orthoclase phenocryst length is approximately 5 mm. In both phases the orthoclase phenocrysts are perthitic and often poikiloblastic, containing biotite and quartz inclusions. The Nithi only rarely contains small, dark, rounded, mafic-rich inclusions whose maximum length is 3 cm.

and whose origin is unknown.

Casey Quartz Monzonite

The Casey Quartz Monzonite occurs chiefly to the west of the Foster Lakes. The Casey is inferred to be younger than the Nithi Quartz Monzonite (Carr, 1965). It is a medium grained, equigranular, tannish-pink quartz monzonite. Its modal composition is approximately Quartz - 35%; orthoclase - 30%; plagioclase - 30%; biotite - 2 to 3%. The few biotite flakes present are always platy and undeformed. The average grain size is 1 - 2 mm. The Casey is unfoliated within the map area.

The area underlain by the Casey seems to be characterized by a moderately low, flat magnetic 'topography'.

Joseph Lake Quartz Diorite

The Joseph Lake Quartz Diorite, a medium grained, equigranular, greenish-grey, quartz diorite is found in the eastern part of the claim area. Its modal composition varies from: quartz - 25%; orthoclase - 15%; plagioclase - 45%; biotite - 12%; hornblende - 3% to quartz - 35%; orthoclase - 10%; plagioclase - 44%; biotite - 4%; hornblende - 7%. The average grain size is 1 - 1.5 mm. Mafic inclusions are common in the Joseph Lake Quartz Diorite and tend to be oriented in a north-south direction (Figure 1). A weak foliation is present in the extreme eastern corner of the property and trends variously N20E and N40W.

The northern-most outcrops of the Joseph Lake Quartz Diorite are deeply weathered and somewhat leached. To the south it is found in contact with the Casey Quartz Monzonite and is clearly intrusive into it. Some slight assimilation and alteration of the Casey is present at the contact. The age relations between the Joseph Lake Quartz Diorite and both the Nithi Quartz Monzonite and

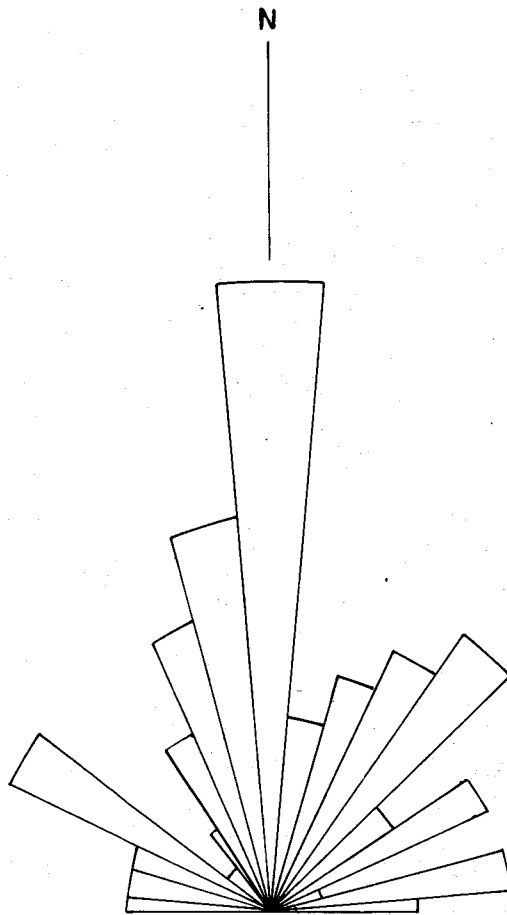


FIGURE 1

TAURUS EXPLORATION CORPORATION

PROJECT "1"

AZIMUTHAL DISTRIBUTION OF MAFIC INCLUSIONS

JOSEPH LAKE - QUARTZ DIORITE

ALRAE ENGINEERING LTD.
GEOLOGISTS AND ENGINEERS
VANCOUVER, B.C.

the Large Phenocryst Quartz Monzonite are, at best, doubtful; however, it is believed that the Nithi Quartz Monzonite is the oldest of the three rock types and that the Large Phenocryst Quartz Monzonite is the youngest.

Large Phenocryst Quartz Monzonite

The Large Phenocryst Quartz Monzonite occurs in the eastern part of the claim area, and is a very distinctive unit. It is a medium grained, pinkish-grey, porphyritic rock which contains very large poikiloblastic orthoclase phenocrysts. These phenocrysts have an average length of 5 cm., while the average size of the groundmass is 1-2 mm. The modal composition of the Large Phenocryst Quartz Monzonite is quartz - 25%; orthoclase - 30%; plagioclase - 40%; biotite - 5%. The biotite occurs in small flakes and has a crumpled appearance. The Large Phenocryst Quartz Monzonite is unfoliated and contains no mafic inclusions.

Post Topley Units

Theda Lake Gabbro

The Theda Lake Gabbro occurs in the northeastern corner of the claim area, it intrudes the Nithi Quartz Monzonite and is thought to be younger in that the grain size becomes coarser away from the contact. The Nithi has been partially remelted and assimilated by the gabbro at its contact.

The Theda Lake Gabbro is coarse grained and porphyritic. Its average grain size ranges from 2 mm to 4 mm and the modal composition is plagioclase - 40%; pyroxene - 60%. Trace amounts of pyrite are also present. This gabbro body is responsible for the high airborne and ground magnetic anomalies present in this area. The gabbro intrusive is thought to be related in age to the Endako Group extrusives. The Theda Lake Gabbro is unmineralized and unaltered.

Endako Group

The Endako Group, consists, in the claim area, predominantly of a fine grained, non-porphyrific basalt. It occurs as an erosional remnant extending northeast from the Foster Lakes to the northern edge of the property, on the east side of Roys Lake. The basalt rarely outcrops in this area and its configuration is based largely on the associated magnetic anomaly.

In the exposures east of the Foster Lakes and at the Fire Lookout east of the property, the basalt is seen to be essentially horizontal. It ranges from massive to highly vesicular. At all localities flow tops may be recognized by their rubbly nature and by the rusty red colour due to oxidation of the flow top.

Northeast of the southernmost Foster Lake an interbedded volcanic agglomerate may be seen. At this locality there are vesicule fillings of a very fine grained, green material. These vesicle fillings have tentatively been identified as saponite. The Endako Basalt overlies the Nithi Quartz Monzonite and is generally thought to be Oligocene or younger (Carr, 1965). The Endako Group, within the claim area, is unaltered and unmineralized.

Dykes and Veins

Three major types of dykes were encountered within the claim area. Their orientations are shown in Figure 2.

- 1) Aplite - a fine grained, pinkish, equigranular acidic rock. The modal composition of the aplite is: quartz - 40%; orthoclase - 40%; plagioclase - 20%. Occasionally small amounts of biotite are also present. The aplite dykes are generally steeply dipping and vary in width from 1/8 inch to two feet, the majority being one to two inches wide.
- 2) Quartz-Feldspar Porphyry - a fine grained, porphyritic rock, generally tan or light grey in colour, containing quartz, orthoclase, and/or plagioclase phenocrysts. In the light grey variety biotite is always present (3% - 5%). The width of the Quartz-Feldspar Porphyry dykes varies from one inch to four feet.

- 3) Mafic Dykes - very fine grained to fine grained, equigranular or porphyritic in texture. They appear to have a composition similar to basalt and may be related to the Endako Group extrusives. The mafic dykes are concentrated in the east end of the property and vary in width from one inch to twenty feet.

Pegmatite

Very coarse grained, quartz-orthoclase pegmatite is also found in the claim area. Pegmatite localities are shown on the geologic map. The pegmatite occurs as pods or lenses in the surrounding rock. These individual pegmatite bodies range in size from one foot to ten feet and in all instances are unmineralized.

Quartz Veins

Many small quartz veins were found within the claim area. Their orientation is shown in Figure 2. They are sometimes surrounded by orthoclase envelopes and are always unmineralized. They range in width from 1/16 inch to one inch with the average being 1/8 inch.

ALTERATION AND MINERALIZATION

Weak to moderate kaolinization, due to hydrothermal alteration, is found in the western corner of the property. Weak kaolinization has been defined as partial breakdown of the plagioclase to a greenish-white clay. Quartz, orthoclase and biotite are unaffected. Moderate kaolinization is characterized by the "complete breakdown of the plagioclase to a soft green or white clay" (Kimura and Drummond, 1968). The quartz and orthoclase are still fresh, while the biotite is either fresh or chloritized.

Both the Nithi and the Casey Quartz Monzonite are affected by the alteration and therefore the alteration is thought to be structurally, rather than lithologically controlled. No alteration is present east of the Foster Lakes.

The degree of kaolinization increases to the southwest and near the crest of Nithi Mountain becomes moderate to extreme. Weak to moderate kaolinization was also noted in quartz monzonites further to the south approximately one and one-half miles west of the Counts Lakes. Infrequently, throughout the area, orthoclase-rich 'envelopes' are found along joints. These are believed to be the results of hydrothermal alteration, but are never mineralized.

Carr (1965) has noted numerous molybdenite showings on Nithi Mountain, but only one of these lies within the claim area. It is described as a small showing "on the Nithi Mountain road west of Foster Lake" (p. 133). This showing was looked for during the course of the field work but could not be found. Pyrite has been found in the southwest corner of the claim area, as shown on the geologic map.

No alteration or mineralization were found east of the Foster Lakes. Within the zone of alteration no mineralization of economic importance was found. The geochemical copper-molybdenum anomalies found on the western end of the property are thought to be due to the downward migration of material from the crest of Nithi Mountain. The intensity of alteration and the amount of mineralization increase to the southwest towards the crest of Nithi Mountain and therefore it is this area which is the most economically promising (Figure 3).

STRUCTURE

There are no large scale structural features present within the claim area. Numerous small scale features (joints, small displacement faults, and shear planes) are present and their orientations were measured and recorded.

Joints

Joints are very abundant within the claim area. They are

predominantly nearly vertical and occur in most outcrops in mutually perpendicular sets. No master sets are predominant throughout the entire area although northwest-southeast trending sets appear to be more numerous than northeast-southwest trending sets (Figure 4). Nearly horizontal joint sets are present in most outcrops and are probably due to unloading during erosion. The orientation of these low angle joint sets was not measured.

Faults

Numerous small displacement (2" - 4") faults were found in the eastern end of the claim area. They are randomly oriented and confined chiefly to the Joseph Lake Quartz Diorite. No evidence of large displacement faults was found in the claim area. Topographic lineaments seen on the air photos are thought to occur along joints although some of these topographically low areas may be developed along fault planes.

Shear

Most of the shear planes within the claim area are oriented between N20E and N20W and are nearly vertical. In all cases the shear planes are developed parallel to a joint set. The shear planes are typically spaced 1/8 inch to 1/4 inch apart. Maximum displacement along these shear planes is estimated to be 1/8 inch.

CONCLUSIONS

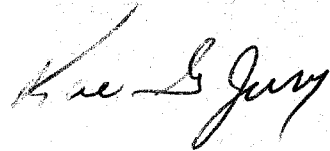
The Topley intrusive within the claim area may be divided into four separate units, the Nithi Quartz Monzonite, Casey Quartz Monzonite, Joseph Lake Quartz Diorite, and the Large Phenocryst Quartz Monzonite. The quartz monzonites, although nearly alike in modal composition, are readily recognizable in the field as separate units.

Alteration and mineralization within the claim area is confined to the area west of the Foster Lakes. Further geochemical studies on the west and south sides of Nithi Mountain will help to locate more precisely the source of the anomalous copper and molybdenum concentrations present within the area.

Respectfully submitted:

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Endorsed by:



Rae G. Jury, P. Eng.

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APPENDIX

TAURUS EXPLORATION CORPORATION LTD.
Project 'I'
PETROLOGICAL DESCRIPTIONS

ENDAKO GROUP

Specimen 8

Hand Specimen

Dark, fine-grained, aphanitic basic lava. Finely developed sub-vertical closely spaced joints almost reaching the status of a cleavage are picked out by a greenish alteration product.

Thin Section

Orthopyroxene)	
Augite)	Porphyroclasts
Analcime)	
Calcic plagioclase)	
Augite)	Groundmass

Description

Porphyritic intergranular texture with well shaped crystals of orthopyroxene and larger lathes of calcic plagioclase in the labradorite range are set in a groundmass of fine-grained, granular pyroxene and plagioclase. The groundmass pyroxene is more likely to be augite. Feldspar lathes show a definite alignment, presumably as a result of original flow. Magnetite is scattered in small disseminated grains in the groundmass. Numerous small clots of zeolite (analcime) with typical greenish alteration rims form small amygdular type structures throughout the groundmass. One or two large, partially corroded quartz fragments with distinctive reaction rims are an unusual feature of this rock. Probably representing quartz fragments picked up by the intrusive material.

Comments

The absence of olivine and presence of quartz even in its anomalous state indicates that this is a typically oversaturated tholeiitic basalt.

THEDA LAKE GABBRO

Specimen 249

Hand Specimen

Coarse-grained, grey holocrystalline gabbro.

Thin Section

Minerals

Calcic plagioclase	60%
Clinopyroxene (augite))	35 - 40%
Hornblende (cummingtonite))	
Accessories - zoisite, iron ore (possibly sulphide), chlorite.	

Description

The rock is coarse-grained and exhibits a typical xenomorphic granular texture. Large, fresh twinned calcic plagioclase crystals make up 60% of the rock. A Lévy determination indicates a plagioclase composition An 60, Ab 40 in the labradorite range. Mafics consist of large crystals of clinopyroxene, probably augite, which is largely altered by uraltic processes to the green amphibole cummingtonite. In most cases large pyroxenes are completely made over to a granular aggregate of amphibole more rarely alteration is restricted to marginal zones and cores of pyroxene are retained. Iron ores form large irregular grains and interstitial fillings, indicating late crystallization of this mineral.

Comments

Typical coarse-grained gabbro, the alteration of augite to cummingtonite suggests possible incipient metamorphism.

NITHI QUARTZ MONZONITE

Specimen 19

Hand Specimen

Coarse-grained, granitic rock with both pink and white feldspars visible. Relatively leucocratic.

Thin Section

Minerals

Quartz	20 - 30%
Plagioclase	30 - 40%
Orthoclase	20 - 30%
Biotite	10%
Accessories - iron ore, rutile.	

Description

Coarse-grained xenomorphic granular texture. Plagioclase crystals often shows well developed zoning. Twinned crystals indicate a composition in the oligoclase/andesine range. Orthoclase, with a little perthitic intergrowth, forms large plates, slightly clouded by alteration products. Quartz crystals show strong strain shadow effects but no fracture and have probably been subjected to very slight post-intrusive deformation. Biotite is present as large brown flakes showing slight marginal alteration to chlorite. Rutile is present as one or two well formed crystals.

Comments

Using standard terminology, the percentage of quartz in this rock is much too high to be classed as a monzonite or even a quartz monzonite, and with the portion of plagioclase to K-feldspar being in the order of 6:4, the rock is more properly termed an adamellite.

Specimen 157

Hand Specimen

This rock is very similar to the previous one except that there is no noticeably pink feldspar, although this may be due to a slight increase in weathering.

Thin Section

The rock is extremely similar to the previous specimen except that a small amount of green hornblende is present in addition to biotite. Again, the percentage of quartz is as high, at about 30%.

Specimen 42

Hand Specimen

This rock shows very similar characteristics to the previous specimens, except the quartz is slightly more strained and shows incipient fractures. The plagioclase, particularly the cores of zoned crystals, is more sericitized and altered, though the orthoclase is still very fresh. Biotite is fresh and unaltered. Although this rock was labelled in field notes as altered quartz diorite, there is relatively no difference between it and previously described specimens.

Specimens 54 and 257

Hand Specimen

In hand specimen these rocks are slightly coarser grained than previous rocks from the same group, in particular, No. 54 is almost pegmatitic in part. Feldspars appear to be slightly altered and the biotite partly altered to chlorite.

Thin Section

Minerals

Quartz	40%
Plagioclase	30%
Orthoclase	20%
Biotite and chlorite	5 - 10%
Accessories - iron ore, tourmaline, epidote	

Description

The texture is typically xenomorphic granular and very coarse-grained rock. There is probably more plagioclase and more quartz in these particular specimens than in previous examples. The cores of plagioclase crystals are largely sericitized and orthoclase is becoming cloudy. Biotite in these rocks tends to be bleached and partially chloritized.

Comments

Both these specimens in fact show more alteration than previous specimens, including No. 42, which was described as more altered in outcrop. In addition, there is a noticeable reduction in the amount of K-feldspar.

GENERAL COMMENTS

Overall, these rocks are very granitic in character, quartz rarely being below 30%. Generally, the term adamellite would be

more suitable than quartz monzonite for these rocks. There is no apparent foliation, cataclasis or superimposed metamorphic alteration, and these rocks would appear to represent a fairly late igneous intrusive body.

LARGE PHENOCRYST QUARTZ MONZONITE

Specimen 203

In thin section, the general groundmass of this rock is indistinguishable from the Nithi Quartz Monzonite from which it was separated in the field by the presence of large phenocrysts of orthoclase up to 5 cm. in diameter. The only other difference noticed in thin section was a tendency for the biotite to be in clusters rather than large separate flakes, some being entirely altered to chlorite, others being relatively fresh. It is considered that this rock represents a phase of the Nithi Quartz Monzonite intrusive.

CASEY QUARTZ MONZONITE

Specimen 60

Hand Specimen

Medium-grained, even textured holocrystalline granitic rock containing a fair percentage of quartz, although relatively low in mafics. This rock resembles a finer-grained, more alkaline equivalent of the Nithi intrusives.

Thin Section

Minerals

Quartz	30 - 40%
Plagioclase (oligoclase)	30%
Orthoclase	30%
Biotite	2 - 3%
Accessories - iron ore	

Description

The rock exhibits a granular xenomorphic texture and is medium grained. Feldspar is comprised of fresh, twinned oligoclase and orthoclase with slight perthitic tendencies. The cores of the larger plagioclase crystals are zoned and also show sericitic alteration. Biotite is present in scattered flakes and is often associated with granular magnetite. Quartz shows slight fracture, but there is no post-cataclastic re-crystallization.

Comments

Technically, this rock is an adamellite and very similar in composition to the Nithi Quartz Monzonites previously described except in respect of the grain size of the particular rocks examined.

JOSEPH LAKE QUARTZ DIORITE

Specimen 269 and 214

Hand Specimen

Fresh, grey biotite-hornblende-granodiorite relatively rich in mafics including both biotite and hornblende.

Thin Section

Minerals

Plagioclase	40 - 50%
Quartz	20 - 30%
Orthoclase	10 - 20%
Biotite and chlorite	5%
Green hornblende	5%
Accessories - iron ore, sphene	

Description

Medium-grained xenomorphic equigranular rock with from 20% to 30% quartz. Plagioclase is present as large, fresh crystals, some of which show well defined zoning. The composition of unzoned plagioclase is An 40 to Ab 60, which is slightly more albite-rich than the plagioclase of the Withi Quartz Monzonite, which is more in the oligoclase/andesine range. Orthoclase is not very abundant in these specimens but the few large plates present are fresh and show little alteration. Brown biotite showing slight alteration to chlorite at margins and along cleavages is about equal in abundance with fresh green hornblende which forms rather elongate prismatic crystals. Accessories comprise a little iron ore and sphene.

Comments

Again, this is a more granitic rock than the term quartz diorite would imply, specifically with reference to the percentage of quartz and considering the preponderance of plagioclase over orthoclase, the term granodiorite would appear to be more suitable. The presence of a high percentage of mafics and plagioclase greatly in excess of K-feldspar clearly differentiates these rocks from the previously described Withi intrusives.

TIME AND COST DISTRIBUTION
Project 'I' - Fraser Lake, B. C.
Mapping

Name	Position	Date 1969	Days	
J. Bartle	Prospector	May 17 - 31 June 1 - 26	41	\$ 1,763.10
C. Pinkerton	Field Assistant	May 17 - 31 June 1 - 30 July 1 - 31 Aug. 1 - 30 Sept. 1 - 2	108	3,294.27
G. Stephens	Geologist	May 26 - 31 June 1 - 30 July 1 - 31 Aug. 1 - 30	97	6,353.74
E. Rickli	Magnetometer Operator	July 6 - 15	10	455.02
R.G. Jury	Supervision	May - Sept.		985.53
M. Payne	Draftsman	May - June	95-1/4 hrs.	476.25 ✓
E. Robbins	Draftsman	July - Oct.	224 hrs	1,120.00 ✓
N. Brown	Draftsman	Oct.	63 hrs	315.00 ✓
				<u>\$ 14,762.91</u>
Equipment rentals		\$ 3,263.33		
Mapping - assays		722.56		
Field supplies - expendable hardware		191.22		
Truck - gas, R&M		852.74		
Communications		208.80		
Expediting		138.88		
Air fares - mileage		376.79		
				<u>5,754.32</u>
				<u>\$ 20,517.23</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 20
day of November 1969, A.D.

Rae L. Jury

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



Note: To accompany Geological Report by G. Stephens and R.G. July P. Eng., on "1" Scale,
 Foster Lake, Ontario M.D. Dated October 23, 1969.
Rae G. July

2402

TAURUS EXPLORATION CORPORATION	
PROJECT	
ALAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: M.P.	SCALE: HOR. 1" = 500'
DRAWN: R.G.J.	VERT. 1" = 500'
CHECKED: R.G.J.	DWG. No. 316-13
DATE: OCT. 69	SHEET NO. 2



2402

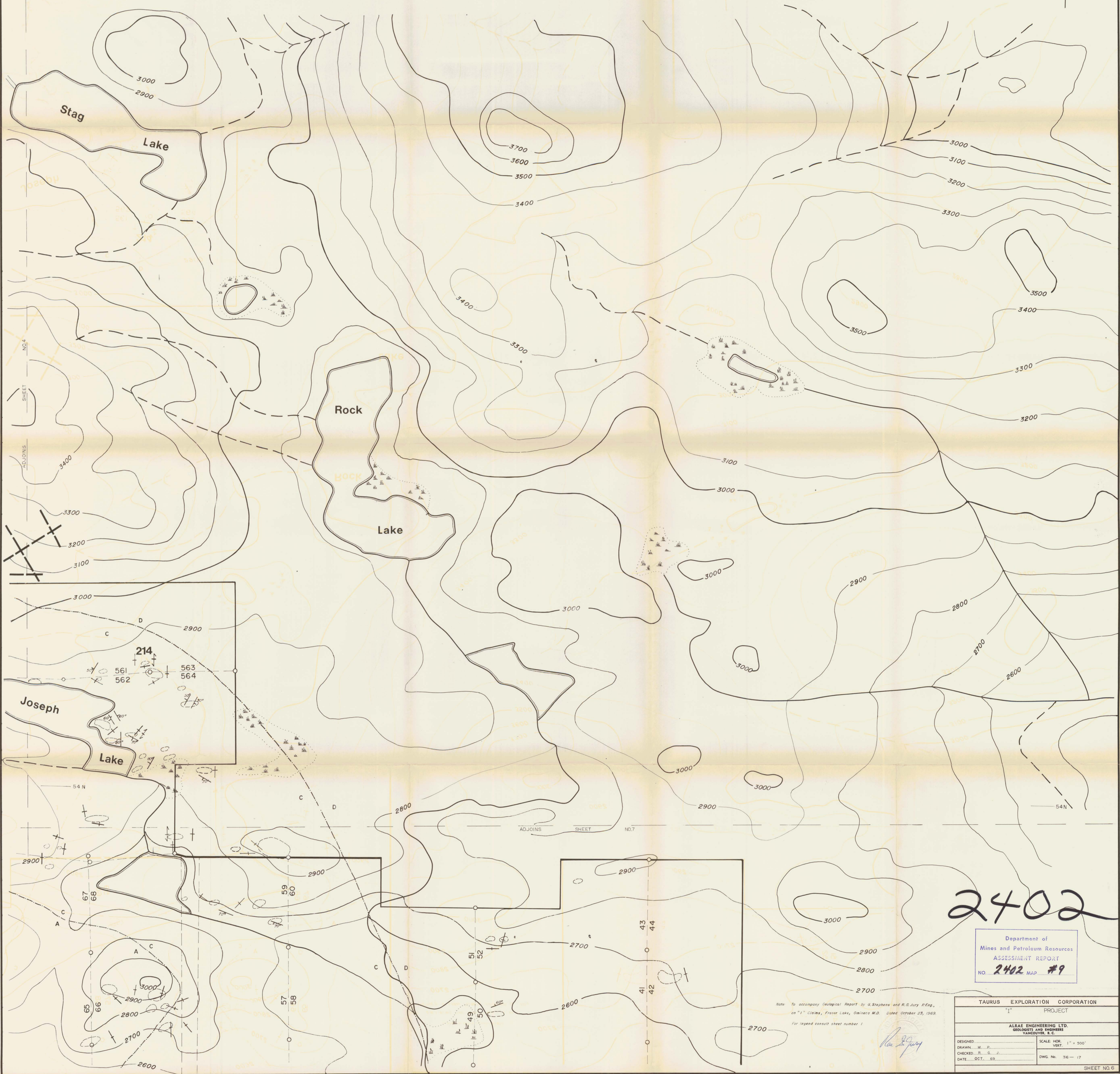
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2402 MAP #6

Note: To accompany Geological Report by G. Stephens and R.G. Jory P. Eng.,
on the "1" Claims, Foster Lake, Ontario M.O. Dated October 25, 1969.
For legend consult sheet number 1

Rae J. Jory

TAURUS EXPLORATION CORPORATION	
PROJECT	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: _____	SCALE: HORIZ. 1" = 500'
DRAWN: M. P. _____	VERT. _____
CHECKED: R. G. J. _____	DWG. No. 316-14
DATE: OCTOBER 1969	
SHEET NO. 3	

N

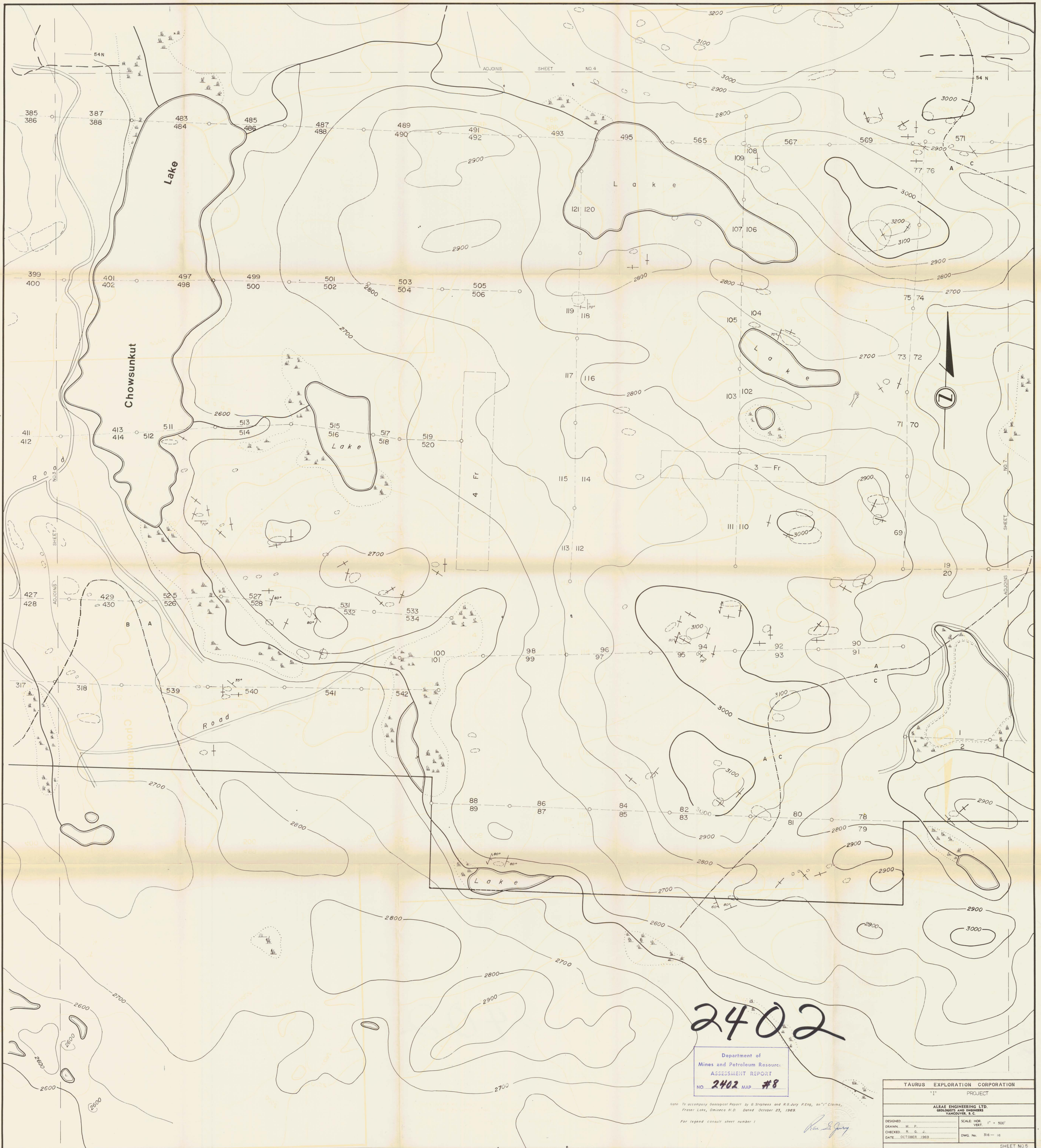


2402

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2402 MAP #9

Note: To accompany Geological Report by G. Stephens and R.G. Juby P.Eng.,
on "1" Claims, Freres Lake, Ontario M.D. Dated October 23, 1969.
For legend consult sheet number 1

TAURUS EXPLORATION CORPORATION	
PROJECT	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: _____	SCALE: HOR. 1" = 500'
DRAWN: M. P. _____	VERT. _____
CHECKED: R. S. J. _____	
DATE: OCT. 69	DWG. No: 56-17
SHEET NO. 6	



2402

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2402 MAP #8

Note: To accompany Geological Report by G. Stephens and R.G. Jury P.Eng. on "1" Claims,
Fraser Lake, Ontario M.D. Dated October 23, 1969.
For legend consult sheet number 1

R. S. J.

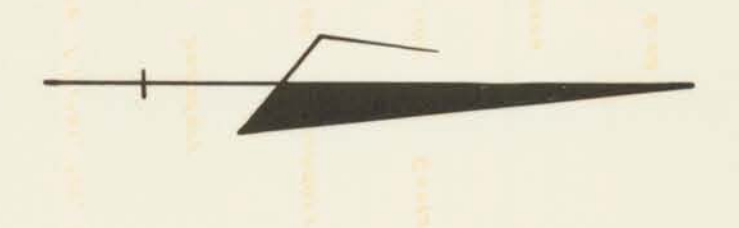
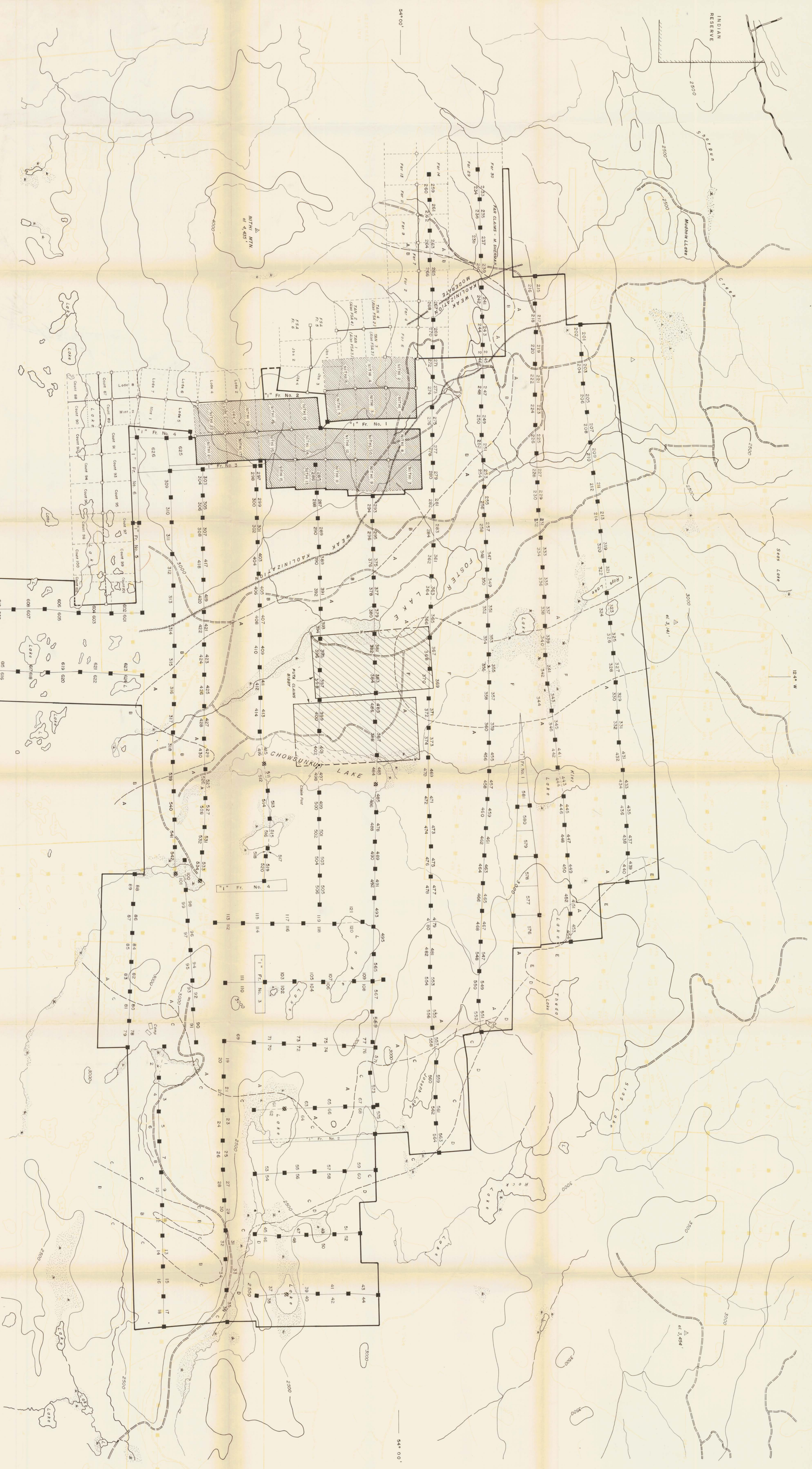
TAURUS EXPLORATION CORPORATION	
"1" PROJECT	
ALBAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: _____	SCALE: HOR. 1" = 500'
DRAWN: M. P. _____	VERT. _____
CHECKED: R. S. J. _____	DWG. No. 516-16
DATE: OCTOBER, 1969	



Note: To accompany Geological Report by G. Stephens and H.C. Joly P. Eng. on "Claims, Fraser Lake, Ontario M.D. Dated October 25, 1969. For legend consult sheet number 1.

Rae L. Gray

TAURUS EXPLORATION CORPORATION	
PROJECT	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: _____	SCALE: HOR. 1" = 500'
DRAWN: M. P. _____	VERT. _____
CHECKED: R. S. J. _____	DWG. No. 316-15
DATE: OCTOBER, 1969.	SHEET NO. 4



E G E N D

- ENDAKO GROUP
 - F Endako basin
- POST TOPLEY
 - T Trade lake basin
- TOPLEY INTRUSIVES
 - D Large Platyferric quartz monzonite
 - C Quartz monzonite
 - B Quartz monzonite
 - A High quartz monzonite

S Y M B O L S

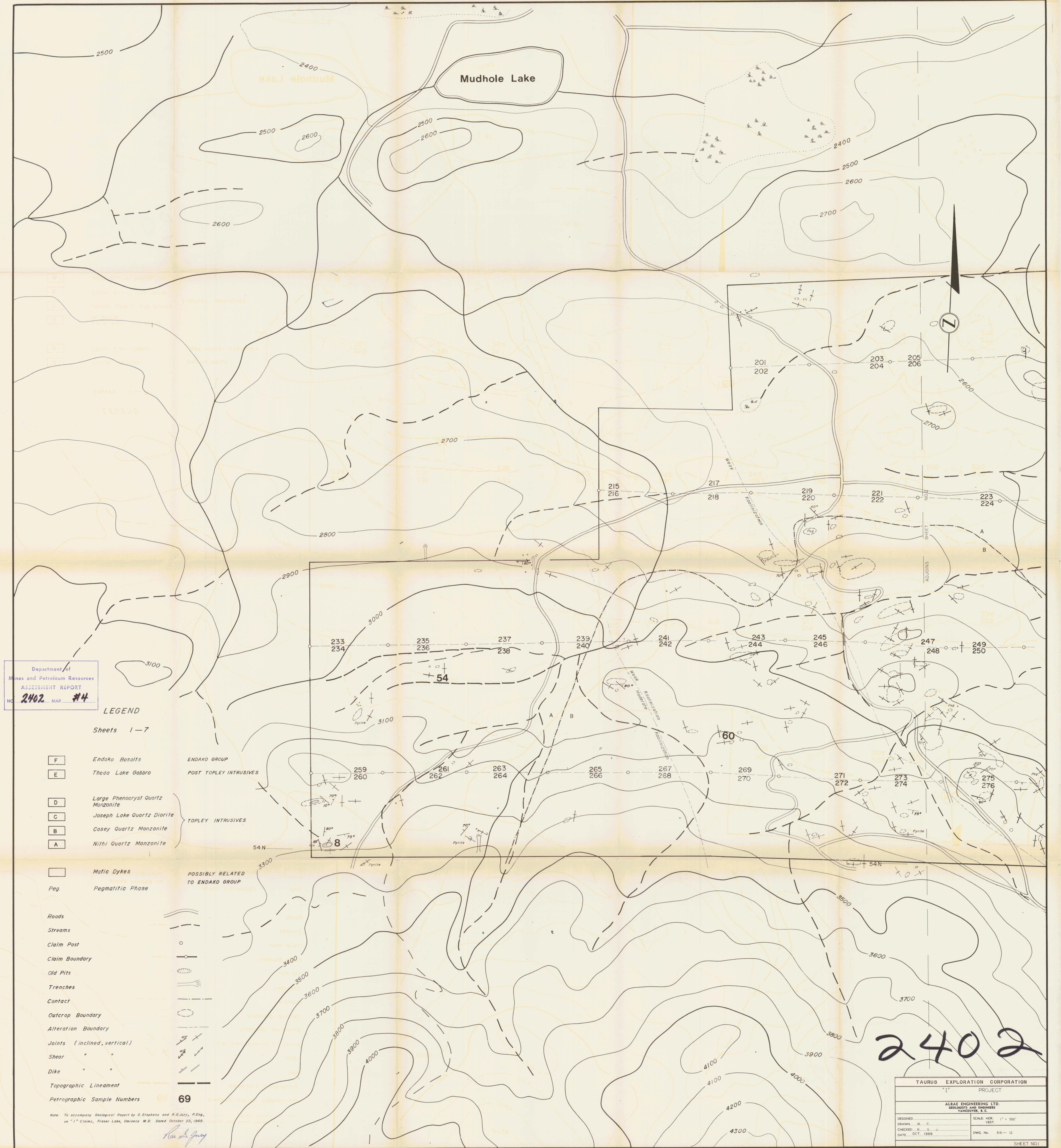
- Claim boundary line
- 1/4 claim group, claim post and claim line
- Claim post and claim line per Minn., Wis., Tex., Ill., Ind., Iowa, Mo. and Calif.
- Claim line
- Claim line (Minn., Wis., Tex., Ill., Ind., Iowa, Mo. and Calif.)
- Geological boundary
- Reconnaissance boundary
- Center line - Center marked every 500 feet
- Small house
- Small dam
- Small well
- Highway number 46
- Logging road 47 trail

NOTE: All claim lines are prepared by the Minn., Wis., Tex., Ill., Ind., Iowa, Mo. and Calif. laws.

Department of
 Mines and Petroleum Resources
 ASSESSMENT UNIT
 NO. 2402 M.P. #3

2402

TAURUS EXPLORATION CORPORATION	
PROJECT LOCATION AND GEOLOGICAL MAP	
DESIGNER: K.E.B.	SCALE: 1" = 1.500'
CHECKED: K.E.B.	DATE: 1982
DATE: 1982	MAP NO. 316-19



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2402 MAP #4

LEGEND

Sheets 1-7

- | | | |
|-----|-----------------------------------|------------------------|
| [F] | Endako Basalts | ENDAKO GROUP |
| [E] | Theda Lake Gabbro | POST TOPLEY INTRUSIVES |
| [D] | Large Phenocryst Quartz Monzonite | TOPLEY INTRUSIVES |
| [C] | Joseph Lake Quartz Diorite | |
| [B] | Casey Quartz Monzonite | |
| [A] | Nitahi Quartz Monzonite | |

- | | | |
|-----|------------------|----------------------------------|
| [] | Mafic Dykes | POSSIBLY RELATED TO ENDAKO GROUP |
| [] | Pegmatitic Phase | |

- Roads
- Streams
- Claim Post
- Claim Boundary
- Old Pits
- Trenches
- Contact
- Outcrop Boundary
- Alteration Boundary
- Joints (inclined, vertical)
- Shear
- Dike
- Topographic Lineament
- Petrographic Sample Numbers

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Note: To accompany Geological Report by G. Strahans and R.S. Jurek, P.Eng., on "1" Claims, Fraser Lake, Ontario M.D. Dated October 23, 1969.

Rex J. Gray

2402

TAURUS EXPLORATION CORPORATION	
PROJECT	
ALBAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B.C.	
DESIGNED: _____	SCALE: HOR. 1" = 500'
DRAWN: M. P. _____	VERT. _____
CHECKED: E. E. J. _____	
DATE: OCT. 1969	DWG. No. 316-12
SHEET NO. 1	