3980

[redacted]

Report by: R.G.Clifford

Work by: Texas Gulf, Inc.

Field Work: September 8, 1971 - September 15, 1972

November 28, 1972 Vancouver, B.C.

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ACCOMPANYING MAPS

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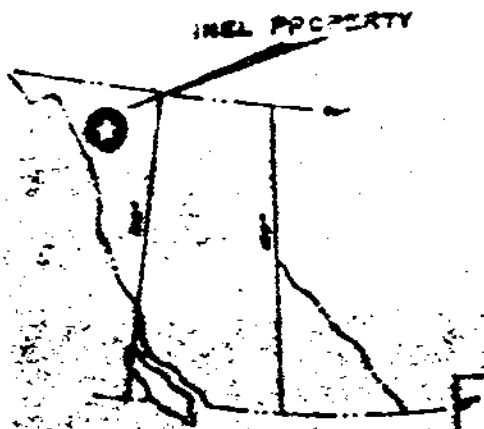
GEOLOGICAL SURVEY
DEL CLAIM GROUP
Island Mining Division, 56°13'30"N.W.

[redacted] held by Skyline Explorations Ltd. consists of [redacted] Kyuquot, British Columbia. [redacted] was conducted in September, 1971 and [redacted] preliminary work consisted of [redacted] The claim group is underlain by acid and intermediate volcanics of the Karmutsen Volcanics. All rocks within the map-area have been extensely sericitized.

Gold, copper and zinc, associated with pyritic lodes, are found over a large area of the property. A major northeast break, and a favored volcanic unit form two important controls to mineralization in the map-area.

Diamond drilling to test the principal showings, supplemented by geophysical surveys to explore the covered extensions of the localizing structures, together with additional geological mapping to evaluate the importance of other areas on the property is recommended as the next stage in exploration for commercial sulfide deposits on the claim group.



INDEX MAP

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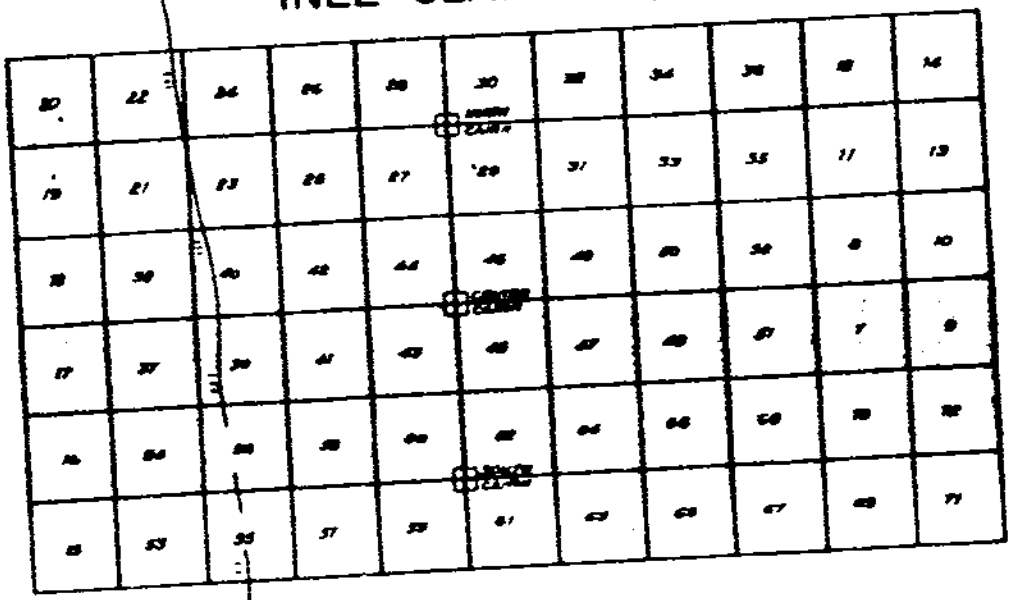
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3980 MAP #1

DIONISON GLACIER

INEL CLAIMS



To accompany Geological Report on Inel Nos. 1-2 Groups by R. Gifford

SCALE 1" = 2000'

FIG 1

TEXAS GULF SULPHUR CO.

INEL PROPERTY
CLAIM MAP

LIARD M.D. 104-

Work by	Drawn by:	Date:
R.S.G.		August, 1972

INTRODUCTION

The Inel mineral claims cover a gold, copper and zinc prospect situated in the northwestern part of British Columbia (Fig. 1, Index Map). The recent program of geological mapping and surface sampling by Texas Gulf, Inc. was carried out to assess the economic potential of this property. The work was performed from September 8, 1971 to September 15, 1971. The location date of the claims is September 8, 1971.

The central portion of the property was mapped on a scale of one inch = 100 feet using tape, altimeter and compass for control. Talus and snow covers a large part of the map area, and likely reaches depths to 100 feet or better in the main areas of accumulation. Bedrock is exposed on approximately 20 percent of the claim group. Fog and inclement weather proved a hindrance to mapping productivity.

PROPERTY

The Inel property consists of one block of 66 full-sized mineral claims named Inel 7-72 (Fig. 1, Claim Map). Anniversary dates for the claims fall on October 1st and October 11th.

All the claims are held by Skyline Explorations Ltd., Vancouver, B.C.

LOCATION

The Inel claim group is in the Liard Mining Division, British Columbia at latitude 56°36'N, longitude 130°57'W and N.T.S. 104B/10. The elevation of the property ranges approximately from 3,500 feet to 6,500 ft. Water resources are plentiful but glacial-fed streams predominate and are subject to severe silting and fluctuation in flow. The claims are above

timberline but an abundant supply of merchantable timber can be obtained from the main valleys at lower elevation.

The prospect is south of the confluence of Bronson Creek and Iskut River on the east side of Bronson Glacier. It is accessible by helicopter from a DC-3 airstrip 8 miles to the southeast. The newly completed Terrace-Cassiar highway lies 38 miles to the northeast.

The property is on the eastern margin of the rugged Coast Mountains, and straddles a sharply-defined ridge within the active zone of glaciation. The relief between valley floor and ridge-line on the claims is approximately 3,000 feet. Optimum conditions for surface work occur in late summer, centered around the period July 15 - September 15.

GEOLOGICAL SETTING

Regional

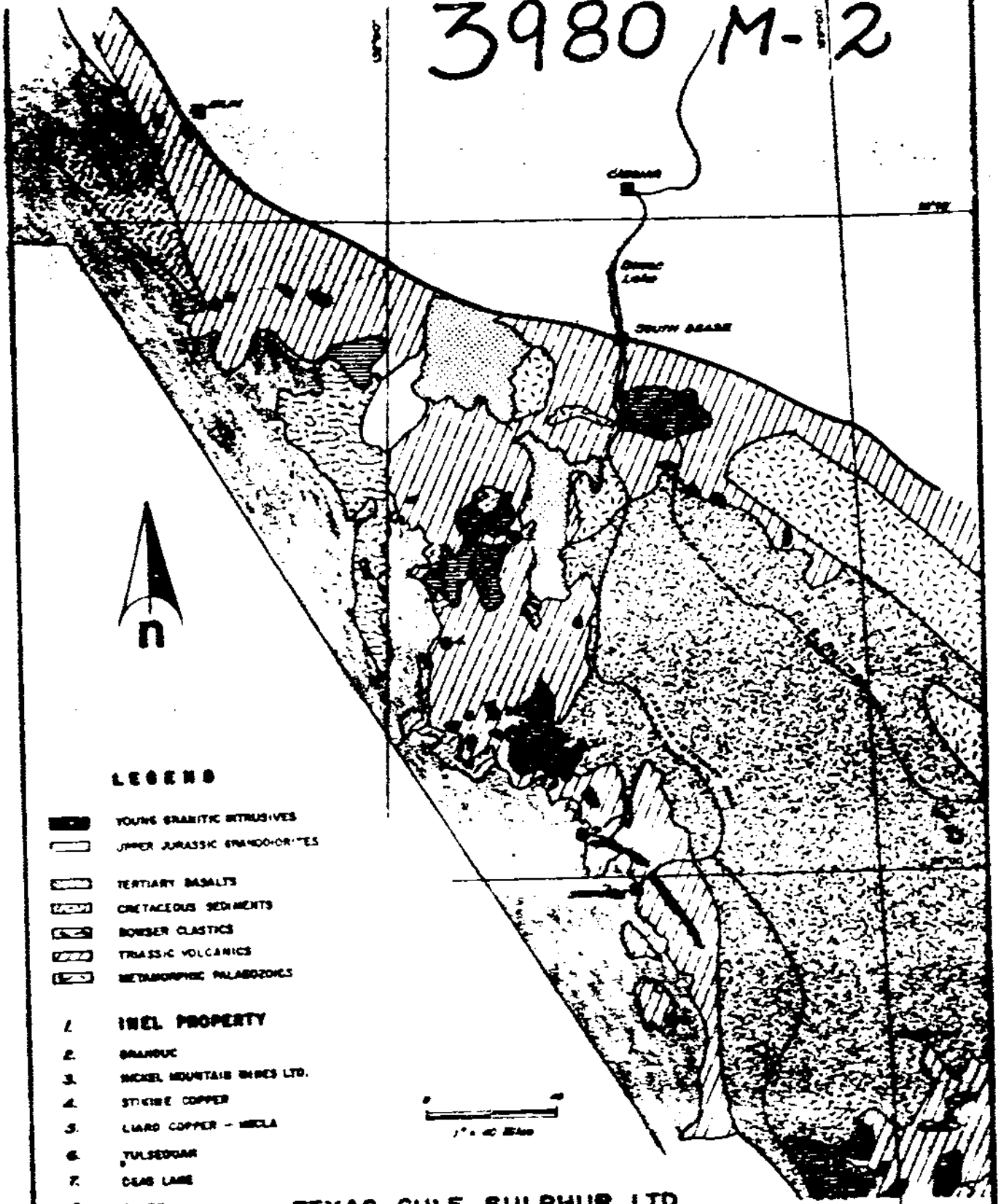
The Inel property is underlain by volcanic rocks of the Stewart Complex of Upper Triassic Lower/Jurassic age (Fig. 2, Regional Geology). It lies peripheral to the east flank of the Coast Crystalline Belt, which in this sector consists of mainly quartz monzonite with satellitic bodies of syenite and diorite.

Immediately west of the property is a major structural zone along which rust-stained areas and felsitic rocks are conspicuous in a northwestward trend for a distance of 18 miles.

Property

The mapped area is underlain by layered volcanic rocks, generally acid to intermediate in composition, that in part are pyroclastic in origin (Fig.3, Property Geology). Thin section investigation of selected

3980 M-2



TEXAS GULF SULPHUR LTD.

INEL PROPERTY

REGIONAL GEOLOGY

To accompany Geological Report on Inel Nos 1-2 Groups by R. Gifford

Work by: Drawn: Date: August, 1972

FIG. 2

specimens categorizes the dominant rock type as fine-grained volcanic porphyry (Appendix, Petrographic Report). Lesser rock types include metasediments, breccia and intrusive feldspar porphyry (Appendix, Rock Types).

All rock types within the mapped area are intensely sericitized, probably as a result of regional effects of the Coast Intrusions. Additional important alteration effects, varying according to differing hosts, include the assemblages; ankerite, silica-albite, and calc-chlorite-biotite.

Structure

The layered units of the property are generally moderately to steeply eastward dipping. In the map-area the volcanics strike northerly and dip moderately to the east; however, to the south beyond the 'diagonal fault zone' the sediments, though similar in trend, are sharply folded.

Two structures, a bedding shear zone and a diagonal fault zone, dominate the map-area. The diagonal zone is the most conspicuous, and is marked by rust-staining, sulfide veining, coarse breccia and intense quartz-sericite-albite alteration of all rock constituents. The zone strikes northeasterly and dips steeply. It has a width up to 1,000 feet, and can be traced along strike for 2,000 feet and down dip for 1,000 feet. A large strike offset is indicated by contrasting lithologies across the zone. A subsidiary and subparallel break, following the course of Big Creek 1,200 feet to the north, is suggested from preliminary mapping.

The bedding shear zone is distinguished by its schistose fabric, fine breccia, sulfide sheeting and intense calc-chlorite-sericite-biotite alteration. The zone strikes northerly and dips moderately eastward. It

has an exposed width of 500 feet and can be traced along strike for 1200 feet.

[redacted]

Important lode mines in the region such as the Tulsequah Chief, Big Bull and Granduc have features comparable to the Inel prospect. Points of similarity include the controls to mineralization, mineralogy, alteration, and the age and kind of host rocks. By analogy the Inel has potential for a large tonnage of economic sulfide mineralization.

Mineralization

Prospecting and mapping of the Inel mineral showing has delineated important amounts of pyrite, chalcopyrite and sphalerite over a minimum zone measuring 3,000 feet by 1,500 feet. The northern half of the mineralized zone, in Map Unit 3, consists of widespread sulfide sheeting concordant with a bedding shear structure. The southern half of the zone, in Map Unit 4, consists principally of cross-cutting vein systems aligned with a diagonal fault structure.

The bedding shear zone and the diagonal fault zone of the mapped area are clearly centers of important mineral concentration. Sulfide impregnation within these zones, associated with Map Unit 3 and 4, occurs with bedding cleavage, diagonal fractures, ladder structures, local stockworks and local replacement of sedimentary laminae.

Pyrite is the most abundant sulfide present. Other major sulfides in order of abundance are sphalerite, chalcopyrite and galena, with small amounts of molybdenite, arsenopyrite, magnetite, chalcocite and bornite, as well as gold and silver from assays. Elsewhere on the property pyrrhotite forms an important constituent. Rust-weathering from iron is conspicuous over a large area, and minor patches of green-coloured copper staining occurs locally.

Minor amounts of chalcopyrite and molybdenite are associated with Unit 1a, Rhyolite Porphyry. In addition, minor quantities of chalcopyrite and molybdenite occur in associated with Unit 5, Feldspar Porphyry. Of interest are the occurrences of evenly disseminated galena-sphalerite in association with Unit 1e, Quartz-eye Porphyry.

Lodes

An extensive surface sampling campaign was carried out in the main mineralized zone. Most of the samples were of selected sulfide material, and were designed to find the run of the gold values. The assays were obtained from an accummulation of over 100 pounds of sampled material. The best values include 2½ feet of 1.4 oz/T Au, and 5½ feet of .1 oz/T Au, 3 oz/T Ag, .6% Cu, 19% Zn. The sample results are presented in Figure 4, Assay Plan.

Veins aligned with the diagonal fault zone range from 6 inches to 5 feet in thickness and can be traced for lengths up to 400 feet. The veins generally strike northeasterly and dip gently to moderately southward.

The sulfide lenses associated with the bedding shear zone are abundant but generally thin, ranging from one-half inch to twelve inches in thickness. The extent and character of the sulfide occurrences, in part diagrammatic, is indicated in Figure 4, Surface Mineralization.

CONCLUSIONS

The Inel property offers scope for exploration as evidenced by extensive sulfide mineralization, existence of important values in gold, zinc and copper, and potential for major tonnage. A detailed investigation of the prospect is warranted.

Exploration possibilities for the prospect include testing the zone of intersection between the two main mineralized structures, and testing the diagonal structure in closer proximity to the rhyolite unit.

R.G.Gifford, P.Eng.

APPENDIX B - Description of Rock Types

UNIT 1, Rhyolite Porphyry: Light grey-weathering, mild to intense [illegible], local crowded texture, original rock [illegible] rhyolite, likely tuffaceous in part; resistant and knoll-forming, platy to blocky fracture; [illegible] rock unit in map-area; petrographic nos. AB 1, RG 273-1, RG 274, Key Comparisons, and RG 271-1, RG 280-1.

Unit 1a: rust-weathering, pyritic (3-7%), local crowded texture; recessive, generally broken (1"-2" fragments); petrographic nos. RG 273-A, RG 278-A, RG 280-A.

Unit 1b: rust-weathering, brecciated, pyritic.

Unit 1c: white-weathering, quartz-eyes, minor disseminated sphalerite and galena; petrographic no. RG 285.

Unit 1d: buff-weathering, ankeritic, intense calc-sericite alteration, local crowded texture; petrographic no. RG 289-5.

Unit 1e: greenish grey-weathering, intense calc-sericite-chlorite alteration, epidote, local crowded texture; petrographic no. RG 275.

UNIT 2, Metasediment: Green to grey-weathering, slightly schistose, secondary biotite, calc-sericite-chlorite alteration, original assemblage includes siltstone and argillite, possibly tuffaceous; petrographic nos. AB-3, RG 276, RG 291.

UNIT 3, Chlorite Schist: Dark green-weathering, pyritic, secondary biotite, calc-chlorite-sericite-biotite alteration, schistose and brecciated, local crowded texture, original rock possibly intermediate volcanic porphyry, possibly tuffaceous; economically important in map-area; petrographic nos. AB 4, RG 277.

UNIT 4, Bleached Rock: Undifferentiated metavolcanics, metasediments and breccia; rust-weathering, bleached pyritic, secondary biotite, severe quartz-sericite-albite alteration; economically important in map-area; petrographic nos. AB 7, AB 8.

UNIT 5, Feldspar Porphyry: Dark grey-weathering, coarse albite phenocrysts, sericite-ankerite alteration; intrusive into Unit 1 and Unit 4; petrographic no. AB 6.

Massive Sulfide: Rust-weathering; recessive, compact and rounded; chiefly granular pyrite; subordinate sphalerite, chalcopyrite, galena, metallic gold, magnetite; silver in assay; most common form of mineralization in map-area; petrographic nos. AB 12-2, AB 15, 29Z6.

A PETROGRAPHIC REPORT

BASED UPON

53 ROCK SPECIMENS

FOR

TEXAS GULF SULPHUR LTD.

P. M. McAndless, B.Sc.,
Geological Consultant

November 6, 1972

[redacted]

November 6, 1972

Mr. R. G. Gifford,
Texas Gulf Sulphur Ltd.,
701 - 1281 West Georgia Street,
Vancouver 5, B. C.

Mr. Gifford,

Re: Project No. EET-20

Enclosed please find a petrographic report based upon the analysis of 23 rock specimens from the series AB and RG. Twenty thin sections and three polished blocks were analysed.

The following is a summary table of the analysis:

Specimen No.	Rock Type	Alteration	Comments
AB-1	altered feldspar ppy	sericite	dacite or rhyolite
AB-3	meta sediment	chl-ser-calc-biotite	argillite
AB-4	meta volcanic	chl-ser-calc-biotite	dacite or rhyolite
AB-6	altered feldspar ppy	ser-calc-biotite	andesite or dacite
AB-7	tectonic breccia	biotite-silica	fault or vent bx
AB-8	altered feldspar ppy	sericite-silica	intermediate volc.
RG 271-1	altered feldspar ppy	calc-sericite	dacite or rhyolite
RG 273-1	altered feldspar ppy	sericite	intermediate volc.
RG 273-A	altered feldspar ppy	sericite	andesite or rhyolite
RG 274	altered feldspar ppy	sericite	intermediate volc.
RG 275	altered feldspar ppy	calc-ser-chl-ep	intermediate volc.
RG 276	meta sediment	calc-ser-biotite	graded pelite
RG 277	calc-chlorite-biotite scht.	greenschist	volcanic
RG 278-A	altered feldspar ppy,	sericite-silica	intermediate volc.
RG 278-1	quartz feldspar ppy	sericite-biotite	rhyolite
RG 280-A	meta sediment or meta-volcanic	sericite-silica	pelite or volc.
RG 280-1	altered feldspar ppy.	Calc-ser-biotite	andesite
RG 285	quartz feldspar ppy	calc-sericite	rhyolite
RG 289-S	meta volcanic	calc-sericite	rhyolite (?)
RG 291	meta sediment	calc-sericite	banded argillite

All three polished blocks contained massive pyrite along with minor fractured filled sphalerite and gold. The gold was associated with silica fracture filling.

The rock types in the suite can be separated into four classifications: a medium to coarse grained quartz feldspar porphyry; a fine to medium grained 'crowded' feldspar porphyry, a pelitic rock and a breccia.

The following is a table categorizing each rock specimen according to type and degree of metamorphic grade.

	Alteration Intensity		
Rock Type	Low	Moderate	High
Quartz feldspar ppy	RG 278-1 RG 285	AB-6	RG 274 RG 280-1 AB-8
crowded feldspar ppy		AB-1 RG 273-1 RG 273-A RG 271-1	RG 277 RG 275 RG 278-A RG 289-5 AB-4
pelite		RG 276	RG 280-A RG 291 AB-3
breccia		AB-7	

Mineralization, in the form of pyrite and chalcopyrite, along with minor sphalerite, galena, and gold was a product of either and/or:

[a] Remobilization of primary sulphides into open spaces and fractures as a result of regional metamorphism and local shearing.

[b] Introduction of hydrothermal sulphide solutions along fault zones and precipitating in fractures and along bedding and schistosity planes.

A case in point for [b] would be AB-7.

A further investigation into the relative field occurrence of the different alteration facies and their correlation with fracture and mineralization intensities would possibly enhance the understanding of the mode of occurrence of potential economic mineralization.

Yours truly,

P. M. McAndless

P. M. McAndless

AB-1 A micro crystalline, light grey <u>altered feldspar</u> porphyry. Original rock probably a porphyritic dacite or rhyolite. Minor sulphides associated with open space fillings.

Mineralogy:

Phenocrysts:	Plagioclase pseudomorphs	- 30%
	quartz	- 8
Matrix:	quartz-albite	- 33
	sericite	- 25
Opaques:	leucoxene	- 2
	iron oxide/sulphides	- 2

Textures:

A 'crowded porphyry' texture consisting of two distinct sizes of tabular and lath-shaped pseudomorphic plagioclase phenocrysts randomly oriented and tightly packed in a homogeneous micro crystalline quartzo-feldspathic sericite matrix. Small round quartz phenocrysts are sparsely distributed throughout the crowded porphyry mosaic. All of the plagioclase phenocrysts are intensely flecked with sericite. A few discontinuous sericite and one silica veinlet transect the matrix. The silica veinlet is offset and cut by the sericite veinlet. Sulphide mineralization and oxidation occurs in and around the sericite veinlets and vugs.

Alteration:

Intense sericitization of feldspar constituents. Minor albitization of plagioclase phenocrysts.

Discussion:

Sulphide mineralization is associated with open space filling and the introduction of sericite along fracture planes. No particular orientation or pattern to fractures.

A [illegible] micro crystalline, fractured, vuggy, slightly schistose meta sediment [towards a calc chlorite-sericite phyllite]. Original rock probably an argillite. The specimen exhibits weak banding. Abundant [illegible] in open space fillings.

Mineralogy:

Porphyroblasts:	quartz	- 3%
Matrix:	quartz-feldspar	- 45
	sericite	- 15
	carbonate [ankerite]	- 15
	chlorite	- 10
	biotite	- 7
Opaques:	leucoxene	- 2
	sulphides	- 3

Textures:

A few rare, pod-shaped quartz metacrysts preferably oriented in a finely crystalline, schistose, quartzo-feldspathic calc-chlorite-sericite matrix. Secondary biotite [illegible] porphyroblastic. Schistosity is accentuated by vague [illegible] alternating bands of calc-chlorite-sericite [illegible] lepidoblastic. A few discontinuous, undulating, fine-grained carbonate veinlets parallel the plane of schistosity. Disrupted sulphide aggregates are oriented parallel to schistosity.

Alteration:

Chlorite-carbonate-sericite-biotite replacement of original pelitic constituents.

Conclusions:

Low grade regional metamorphism including local shearing of a pelitic rock - probably an argillite. Sulphide mineralization is controlled by open space fractures that parallel the schistosity. The mineralization could be the result of either: a] remobilization of primary sulphides into open space fractures produced by shearing; or b] introduction of hydrothermal sulphide solutions along slip planes that parallel the schistosity.

AB-4 A fine grained, grey green, slightly schistose, brecciated meta volcanic. Fine grained fragments in evidence on cut surface. Abundant disseminated sulphides. Original rock possibly a decite or rhyolite porphyry.

Mineralogy:

Metacrysts/fragments:	silica-feldspar	- 10%
Matrix:	quartz-feldspar	- 36
	carbonate [ankerite]	-10
	sericite	- 15
	chlorite	- 7
	biotite	- 10
	epidote	- 6
Opaques:	leucoxene	- 5
	sulphides	- 4
Veinlets:	carbonate/epidote	- 2

Textures:

Various-sized, irregular-shaped, quartz-feldspar metacrysts and/or breccia fragments impregnated in a finely crystalline, slightly schistose, quartzo-feldspathic, calc-sericite-chlorite matrix. Secondary biotite is flecked throughout the matrix. A few pseudomorphic plagioclase and hornblende crystals. Discontinuous carbonate and epidote veinlets crosscut the matrix. The former cuts the latter. Abundant, irregular-shaped blebs of leucoxene and sulphides are unevenly distributed throughout the matrix although concentrated in and around epidote and carbonate veinlets.

Alteration:

Calc-chlorite-sericite-biotite replacement of primary constituents.

Discussion:

Mineralization associated with the introduction of carbonate and epidote. The abundance of leucoxene coupled with relic plagioclase and hornblende pseudomorphic phenocrysts suggest the original rock was more likely a basic or intermediate volcanic.

AB-6 A grey, coarse grained <u>feldspar porphyry</u>. Original rock - an andesitic or dacite porphyry dyke. Minor disseminated sulphides.

Mineralogy:

Phenocrysts:	Albite-oligoclase	- 12%
	quartz	- 3
Matrix:	feldspathic	- 46
	sericite	- 20
	carbonate	- 10
	biotite	- 4
Opaques:	sulphides/iron oxide	- 5

Textures:

Fine to coarse grained, subhedral and anhedral laths and tabular-shaped, sericitized, plagioclase phenocrysts along with fine grained sparse quartz grains randomly oriented in a microcrystalline, homogeneous feldspathic-sericite-carbonate matrix. Plagioclase phenocrysts frequently intensely flecked with sericite. Some of the phenocrysts are rimmed with felted biotite and/or granular carbonate. A few poikilitic hornblende pseudomorphs are completely replaced by biotite. Minor iron stained fractures transect the matrix. Cubic to rounded blobs of pyrite are unevenly distributed throughout the matrix.

Alteration:

Sericitization of feldsper constituents. Carbonate [ankerite] and biotite are lesser alteration products.

Discussion:

Sulphide mineralization appears to have been contemporaneous with the dyke phase. The pinkish feldspars are iron stained albite phenocrysts in thin section although no K-feldspar stain was employed to verify.

A light grey tectonic breccia in contact with an aplitic dyke. Abundant fracture and vug-filled pyrite. The breccia constituents appear to be both crystal and rock fragments.

Mineralogy:

Rock fragments:	volcanic	- 20%
Crystal fragments:	plagioclase/quartz	- 20
Matrix:	quartz-feldspar	- 45
	biotite [secondary]	- 15

Textures:

Various-sized angular to sub-rounded rock fragments and quartz and feldspar crystal fragments haphazardly oriented in a quartzo-feldspathic-biotite matrix. The rock fragments include feldspar porphyry volcanics of various textures and stages of alteration. The breccia fragments appear to resemble some of the altered quartz feldspar porphyries of the rock units.

Alteration:

Biotization and minor silicification of matrix constituents. Possible albitization [?].

Discussion:

Aplite dyke intruding into a structural weakness [i.e.] the breccia zone. Mineralization associated with brecciation. Possible vent breccia [?].

AB-8 A light, whitish grey, bleached, iron stained <u>feldspar porphyry</u>. Iron stained fracture faces. Abundant pyrite in fractures and vugs.

Mineralogy:

Phenocrysts:	Plagioclase pseudomorphs	- 30%
Matrix:	feldspar	- 22
	quartz [secondary]	- 25
	sericite	- 15
Opaques:	pyrite/iron stain	- 8

Textures:

Various-sized pseudomorphic plagioclase phenocrysts randomly oriented and tightly packed in a fine grained feldspathic-secondary silica matrix. Plagioclase phenocrysts are partially to completely replaced by sericite and albite. Several discontinuous silica veinlets transect the porphyry mosaic. Cubic and rounded opaque blebs are aggregated in and around silica filled vugs and fractures.

Alteration:

Intense sericitization of feldspar phenocrysts along with minor albitization. Silicification of original matrix constituents.

Discussion:

Sericite-silica alteration of an intermediate or acid volcanic feldspar porphyry. Multiple fracturing, silicification and sulphide mineralization were probably interrelated events.

RG 271-1 A fine grained, dark grey green, altered feldspar porphyry. Original rock probably a dacite or rhyolite porphyry. Relic fine grained phenocrysts visible on cut surface. Minor disseminated sulphides.

Mineralogy:

Phenocrysts:	plagioclase pseudomorphs	- 10%
	quartz	- 4
Matrix:	quartz-feldspar	- 38
	sericite	- 20
	carbonate [ankerite]	- 15
	chlorite	- 7
	biotite	- 4
Opaques:	sulphides	- 1
	magnetite	- 1

Textures:

Faintly visible, various-sized sericitized, plagioclase pseudomorphic laths randomly oriented in microcrystalline quartzo-feldspathic sericite-carbonate matrix. Fine grained, rounded recrystallized quartz 'eyes' are sparsely distributed. Fibrous chlorite and biotite are concentrated in and around relic hornblende crystal sites. Chlorite-carbonate 'pressure shadows' frequently enclose relic quartz phenocrysts. Opaque blebs are typically aggregated about relic mafic sites.

Alteration:

Calc-sericite replacement of primary volcanic constituents. Minor chlorite-biotite replacement of original mafic grains.

Discussion:

Intense calc-sericite alteration of an intermediate volcanic feldspar porphyry. Mineralization associated with mafic replacement and/or open space filling.

R6273-1

A light grey, vuggy, pitted, altered feldspar porphyry. Original rock probably a dacite or rhyolite porphyry. Mild iron oxide stain coating on fracture faces and in pits. Pits possibly represent original feldspar phenocryst sites.

Mineralogy:

Phenocrysts:	plagioclase pseudomorphs	- 15%
	quartz	- 4
Matrix:	quartz-feldspar	- 62
	sericite	- 15
	biotite	- 4
Opaques:	sulphides/iron oxide	- 2
	magnetite	- 1

Textures:

Various-sized, faintly visible sericitized plagioclase pseudomorphs along with minor fine grained, rounded quartz 'eyes' randomly oriented in a micro crystalline homogeneous quartzo-feldspathic sericite matrix. Cubic and round opaque blebs disseminated throughout the matrix.

Alteration:

Moderate sericitization of primary feldspar constituents. Minor albitization of feldspar phenocrysts.

Discussion:

Pervasive sericitization of an intermediate or acid volcanic feldspar porphyry. Mineralization appears to be primary.

RG 273-A

A fine grained, <u>altered feldspar porphyry</u>. Original rock probably an andesite or rhyolite porphyry. Abundant disseminated sulphide mineralization.

Mineralogy:

Phenocrysts:	plagioclase pseudomorphs	- 25%
Matrix:	quartz-feldspar	- 48
	sericite	- 20
Opaques:	Pyrite	- 7

Textures:

Various sized, tabular and lath-shaped, sericitized, plagioclase pseudomorphs closely spaced and randomly oriented in a fine grained, homogeneous quartzofeldspathic matrix. Sericite is pervasively flecked throughout the matrix. Coarse grained, sub-cubic, opaque blebs are evenly distributed throughout the section.

Alteration:

Complete sericitization of plagioclase phenocrysts. Minor silicification of matrix constituents.

Discussion:

Sulphide mineralization either primary feature or introduced in conjunction with silicification.

RG 274 A micro crystalline, light grey, iron stained, <u>altered feldspar porphyry</u>. Original rock probably an intermediate or acid volcanic porphyry [ie] rhyolite porphyry.

Mineralogy:

Phenocrysts:	plagioclase pseudomorphs	- 15%
Matrix:	quartz-feldspar	- 64
	sericite	- 15
	biotite	- 2
Opaques:	sulphides	- tr.
	magnetite/iron stain	- 3
Veinlets:	sericite	- 1

Texture:

Fine to coarse grained, tabular and lath-shaped sericitized plagioclase phenocrysts haphazardly oriented in a finely crystalline quartzo-feldspathic sericite matrix. Minor biotite-sericite replacement of original mafic constituents. Discontinuous, sericite microveinlets cross cut the matrix. Micro granular to fine grained opaque blebs are disseminated throughout the matrix. Minor micro fractures cross cut the section.

Alteration:

Intense sericitization of feldspar constituents.

Discussion:

Sulphide mineralization associated with fracture filling.

A fine grained, dark grey green, intensely altered [illegible] porphyry. Original rock possibly an intermediate feldspar.

Mineralogy:

Phenocrysts:	plagioclase pseudomorphs	- 20%
Matrix:	quartz-feldspar	- 30
	sericite	- 20
	carbonate	- 10
	chlorite	- 12
	epidote	- 4
Opaques:	pyrite	- 2
	magnetite	- 2

Textures:

Various-sized lathe and tabular-shaped calc-sericitized plagioclase pseudomorphic crystals randomly oriented, crowded and blended into a finely crystalline quartzo-feldspathic, calc-sericite, chlorite matrix. Discontinuous, narrow carbonate veinlets transect the matrix.

Alteration:

Intense prophylitic alteration [calc-sericite-chlorite-epidote].

Discussion:

Intense propylitization of an intermediate volcanic feldspar porphyry. Mineralization probably associated with alteration.

RS 276 An aphanitic, vaguely banded, meta sediment. Original rock probably a graded siltstone. Minor disseminated pyrite.

Mineralogy:	quartz-feldspar	- 49%
	sericite	- 20
	carbonate	- 10
	biotite	- 10
	chlorite	- 3
Veinlets:	carbonate	- 2
	chlorite	- 2
Opaques:	pyrite/hematite	- 4

Textures:

Microcrystalline to fine grained quartzo-feldspathic graded bedding masked by extremely fine grained flecks of sericite and granular carbonate. The relic bedding planes are accentuated by evenly spaced narrow bands of 'felted' biotite. A few discontinuous chlorite and carbonate micro veinlets parallel and crosscut the relic bedding planes. Various sized opaque blebs are evenly distributed throughout the matrix although concentrated in and around micro fractures and veinlets.

Alteration:

Calc-sericite-biotite replacement of primary constituents.

Discussion:

Intense alteration of a graded pelitic rock. Mineralization is associated with the introduction of the alteration minerals [i.e.] carbonate veinlets.

RG 277

A dark, grey green, schistose <u>calc-chlorite biotite schist</u>. Well developed cleavage planes. Original rock possibly a basic volcanic [?]. Disseminated sulphides.

Mineralogy:

Porphyroblasts:	chlorite	- 5%
Matrix:	quartz-feldspar	- 50
	sericite	- 3
	chlorite	- 15
	biotite	- 10
	carbonate	- 10
Opaques:	pyrite/hematite	- 3
	leucoxene	- 4

Textures:

A few ragged, rectangular shaped, chloritized porphyroblasts preferably oriented in a finely crystalline, schistose, calc-chlorite-biotite, quartzofeldspathic matrix. Opaque blebs are evenly distributed throughout the matrix.

Alteration:

Low grade green schist metamorphism. Chloritization of original phenocrysts.

Discussion:

Relic porphyroblasts and abundant leucoxene suggest a volcanic origin for the low grade schist.

RG 278 1 A medium grained, buff grey, altered quartz, feldspar porphyry. Original rock probably a rhyolitic porphyry. Minor disseminated sulphides.

Mineralogy:

Phenocrysts:	quartz	- 7%
	plagioclase	- 15
Matrix:	quartz-albite	- 47
	sericite	- 10
	biotite [secondary]	- 7
Opaques:	sulphides/iron oxide	- 10
	magnetite	- 2
	leucoxene	- 2

Textures:

Various sized, sub-rounded to sub-angular quartz 'eyes' and anhedral to subhedral tabular and rectangular-shaped albite phenocrysts randomly oriented and crowded into a micro crystalline, homogeneous, quartzo-feldspathic, sericite matrix. The matrix is overprinted with felted secondary biotite and iron oxide stain. Fine to coarse grained opaques blebs and aggregates are pervasive throughout the matrix.

Alteration:

Mild sericitd replacement of plagioclase phenocrysts. Biotitization of matrix constituents.

Discussion:

Sulphide mineralization associated with biotitization and/or open space filling.

AG 280 A

A whitish grey, bleached, intensely fractured, iron stained, pyritized <u>meta sediment</u> [?].

Mineralogy:

Porphyroblasts:	recrystallized silica	- 4%
Matrix:	quartz-feldspar	- 58
	sericite	- 20
Opaques:	pyrite/iron oxide	- 7
	leucoxene	- 4
Veinlets:	silica	- 7

Textures:

A few fine grained, rounded, recrystallized silica porphyroblasts engrained in a micro crystalline, homogeneous, quartzo-feldspathic sericite matrix. The entire section is colored with a light, ubiquitous iron stain.

Discontinuous, undulating silica veinlets transect the matrix. Opaque blebs of pyrite are distributed throughout the section although concentrated in and around silica veinlets.

Alteration:

Intense sericite-silica replacement of primary rock constituents.

Discussion:

Sulphide mineralization related to silicification. Original rock either a pelitic rock or volcanic. Original rock textures obliterated by alteration.

RG 280 1 A fine grained, grey green slightly foliated, altered feldspar porphyry. Original rock probably an andesite porphyry. Disseminated pyrite accompanied by patchy iron stain.

Mineralogy:

Phenocrysts:	plagioclase pseudomorphs	- 10%
Matrix:	quartz-feldspar	- 48
	sericite	- 15
	carbonate	- 12
	biotite	- 10
Opaques:	pyrite/iron oxide	- 2
	leucoxene	- 1
Veinlets:	carbonate/sericite	- 2

Textures:

Various-sized tabular and lath-shaped sericitized plagioclase phenocrysts preferably oriented in a finely crystalline, schistose, quartzo-feldspathic, calc-sericite-biotite matrix. A few calc/sericite veinlets cross cut the plane of schistosity. Opaque blebs are aggregated in and around relic phenocryst sites.

Alteration:

Calc-sericite-biotite replacement of primary constituents.

Discussion:

Moderate regional metamorphism including local shearing of a volcanic feldspar porphyry. Mineralization is possibly primary or a product of remobilization from other nearby rock sequences.

RG 285

A fine grained, light grey, quartz feldspar porphyry of rhyolitic composition. Possibly a rhyolitic dyke phase [?]. Minor disseminated sulphides. Minor flecks of sphalerite and galena.

Mineralogy:

Phenocrysts:	quartz	- 5%
	albite pseudomorphs	- 5
Matrix:	quartz-feldspar	- 67
	sericite	- 7
	carbonate	- 5
Opaques:	pyrite/hematite	- 1

Textures:

Fine to coarse grained sub-rounded quartz eyes along with partially sericitized albite laths randomly oriented in a homogeneous, microcrystalline quartzofeldspathic matrix. Sericite and carbonate are moderately flecked throughout the matrix. The quartz 'eyes' are typically clear, fracture free and strained.

Alteration:

Moderate calc-sericite replacement of feldspar constituents.

Discussion:

One of the least altered rocks in the suite. Mineralization related to open space filling.

RG 289 5 A light grey, altered meta volcanic. Abundant disseminated sulphides and accompanying iron stain. Similar in appearance to RG 278 A.

Mineralogy:

Metacrysts:	Recrystallized silica	- 5%
Matrix:	quartz-feldspar	- 52
	sericite	- 15
	carbonate [ankerite]	- 20
Opaques:	sulphides/iron stain	- 5
Veinlets:	carbonate	- 3

Textures:

A fine grained, homogeneous, quartzo-feldspathic mosaic overprinted by a pervasive although patchy calc-sericite blanket. Discontinuous, undulating carbonate veinlets transect the mosaic. Various-sized opaque blebs are evenly distributed throughout the matrix although concentrated in and around micro fractures.

Alteration:

Intense calc-sericite replacement of primary constituents.

Discussion:

Very similar in texture to RG 278 A. A further advanced alteration stage in this particular case.

RG 291 An aphanitic, banded, slightly schistose meta sediment. Original rock probably a banded argillite. Minor disseminated sulphides.

Mineralogy:		
	quartz-feldspar	- 56%
	sericite	- 15
	carbonate [ankerite]	- 25
	pyrite/hematite	- 3
	magnetite	- 1

Textures:

A fine grained, slightly schistose, uniform grain size mosaic characterized by alternating narrow, undulating bands of calc-sericite and quartzo-feldspathic. A few sericite and quartzo-feldspathic. A few sericite laminae parallel the bedding plane. Fine grained opaque dusts are evenly distributed throughout the matrix. Carbonate is typically granular.

Alteration:

Calc-sericite alteration of original pelitic constituents.

Discussion:

Banded effect due to the fact that either some of the sedimentary layers were more susceptible to alteration or fracturing and subsequent alteration developed in particular layers. Mineralization appears to have been introduced along slip planes parallel to bedding.

AB 12-2 Massive, granular pyrite engrained in a silica gangue. Minor amounts of sphalerite and gold.

Pyrite occurs as cubes and irregular-shaped aggregates that are highly fractured and pitted. Minor blebs of sphalerite and gold occur in the fractures and seams.

Gold is a hydrothermal feature probably introduced with silica.

Sphalerite is frequently found partially replacing the pyrite.

AB 15 Massive pyrite, similar to AB 12-2. Fracture filled native gold can be detected with the naked eye. Gold and sphalerite associated with silica fracture filling. Specimen contains highest amount of gold.

2926 Similar to previous two specimens although there is an abundance of sphalerite in this case. Similar amount and mode of occurrence of gold to AB 12-2.

Respectfully submitted,

P. M. McAndless
Geologist

Statement of Expenditures, 1971-1972

Inel Claim Group
Liard Mining Division

PERSONNEL

R.G.Gifford,P.Eng. Staff Geologist: 11 days @ $80/day	$ 880.00
A.O.Birkeland, Geologist: 14 days @ $45/day	630.00
A.Guthiel, assistant: 12 days @ $25/day	300.00
M.Cloutier, driller: 3 days @ $45/day	135.00

SUPPORT

Lodging:4 men, 40 man-days @ $10/man-day	400.00
Vehicle: four-wheel drive, ½ month @ $450/mo	225.00
Helicopter: 9.53 hours @ $260/hr	2,478.00
Radio: Spilsbury Tindall SBX-11, 1 mo @ $75/mo	75.00

EQUIPMENT AND MATERIALS

Copco rock drill, ½ month @ $300/mo	150.00

ANALYSIS

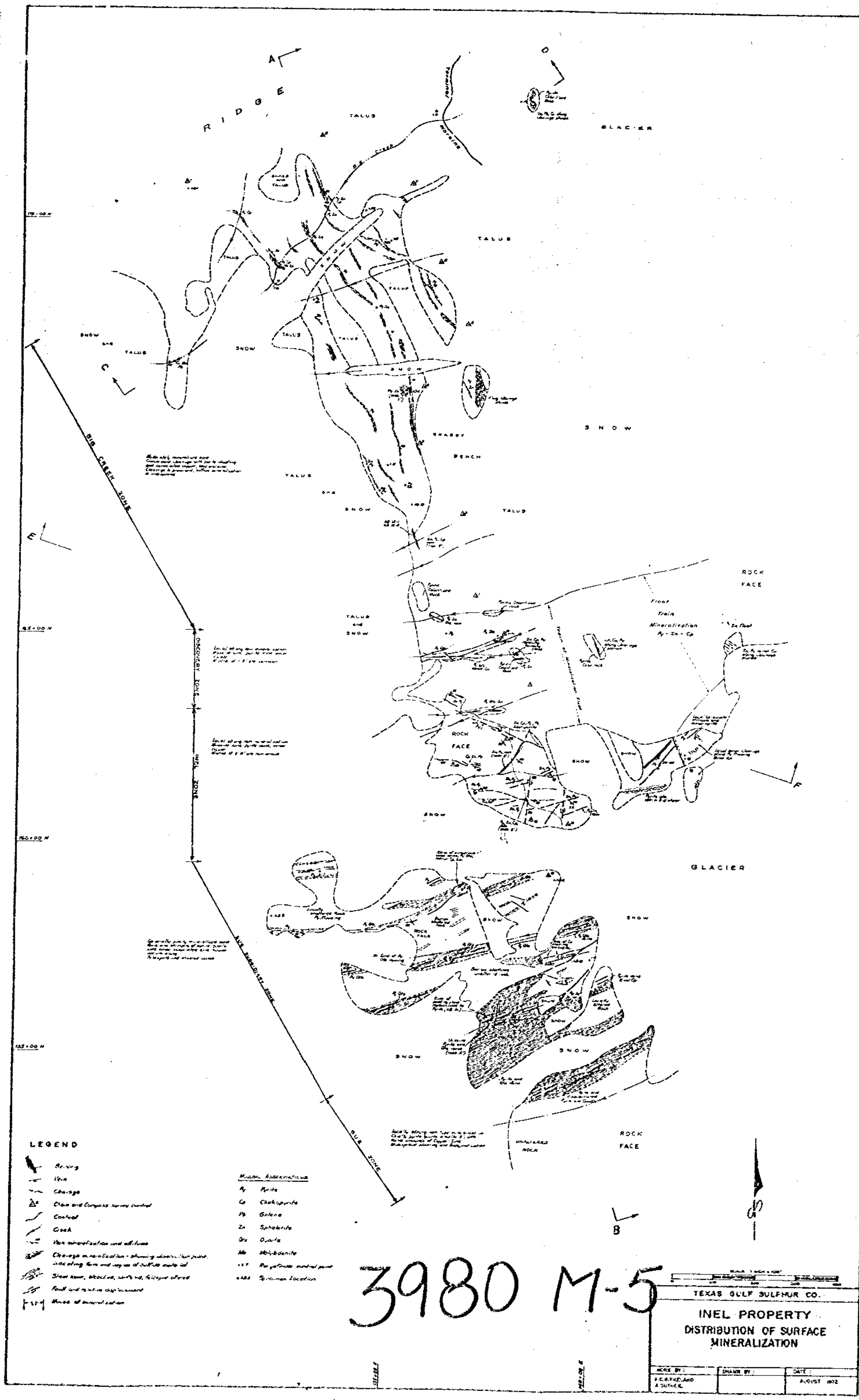
Rock assays, Au Ag Cu Pb Zn, 52 samples	705.00
Total Expenditures, Inel Claims for Sept. 8,1971 - Sept. 15,1972	$5,978.00

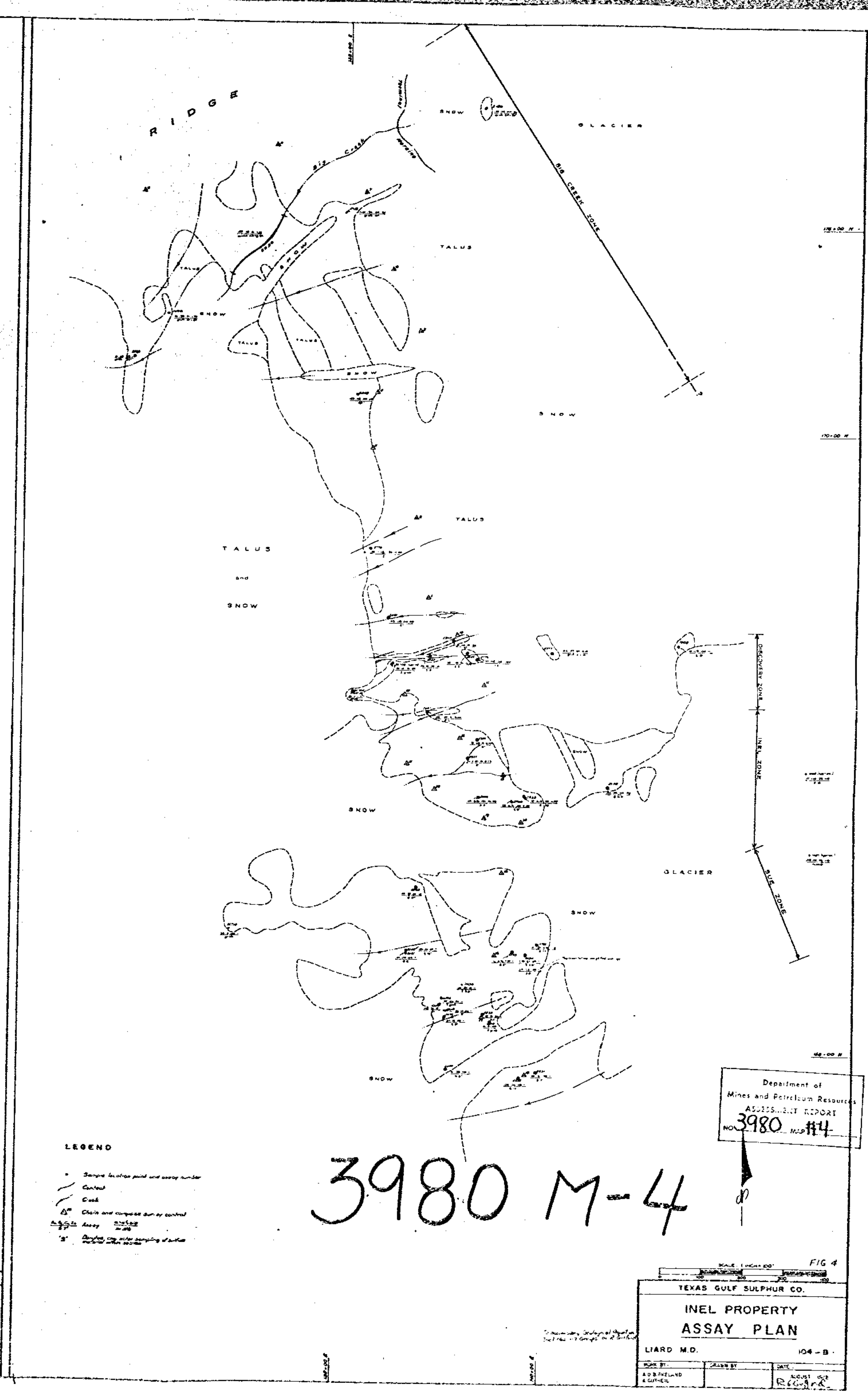
Declared before me at the City of Vancouver, in the Province of British Columbia, this 1 day of Dec. 1972, A.D.

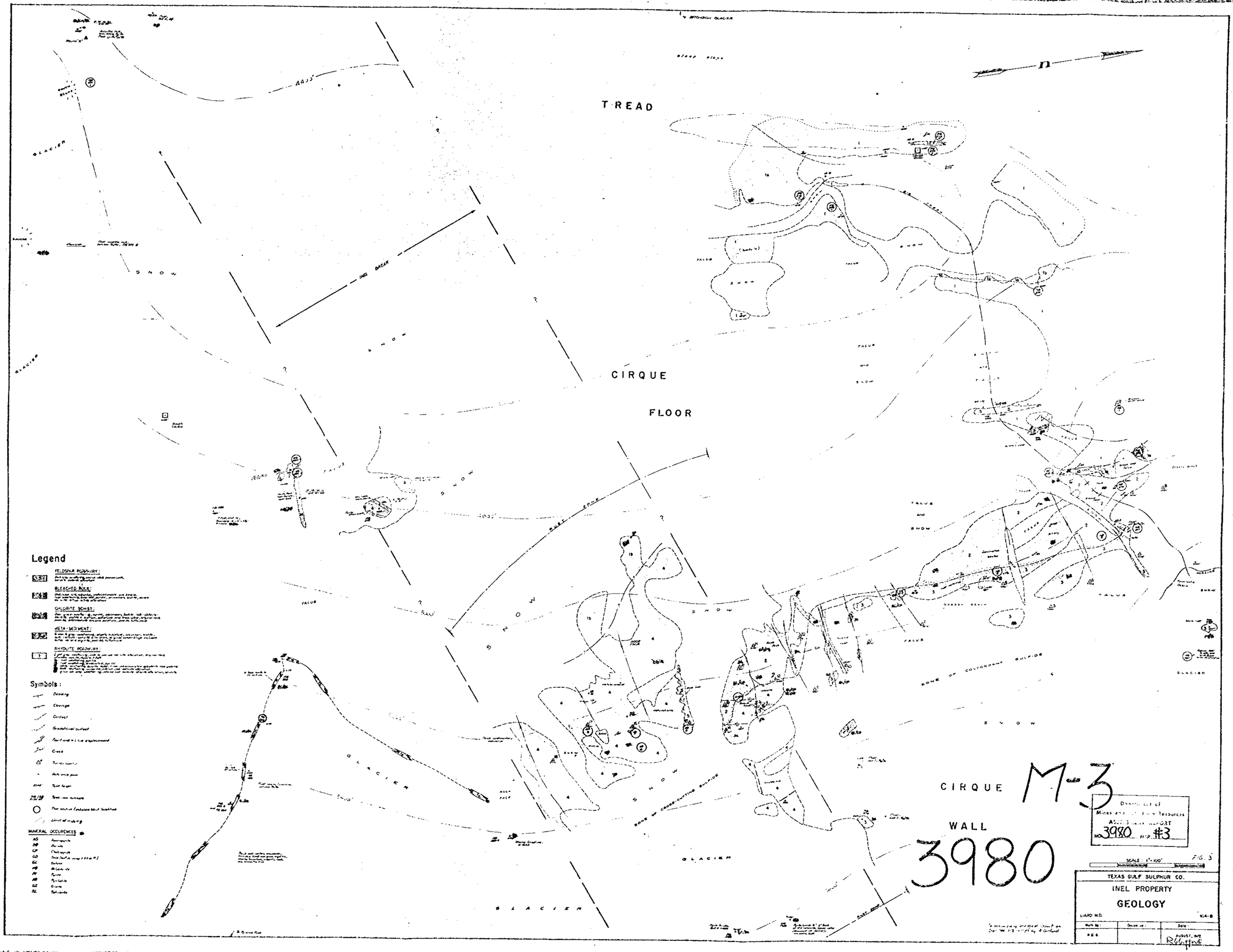
R.G.Gifford, P.Eng.

A Commissioner for taking Affidavits within British Columbia

Sub-mining Recorder


RIDGE
TALUS
GLACIER
SNOW
GRASSY BENCH
ROCK FACE
Float Train Mineralization
BIG CREEK ZONE
DISCOVERY ZONE
INEL ZONE
GLACIER
LEGEND
3980 M-5
TEXAS GULF SULFHUR CO.
INEL PROPERTY
DISTRIBUTION OF SURFACE MINERALIZATION
AUGUST 1972


RIDGE
GLACIER
SNOW
TALUS
TALUS and SNOW
BIG CREEK ZONE
DISCOVERY ZONE
INEL ZONE
GLACIER
LEGEND
Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3980 MAP #4
3980 M-4
FIG 4
TEXAS GULF SULPHUR CO.
INEL PROPERTY
ASSAY PLAN
LIARD M.D.
104-B
AUGUST 1972


TREAD
CIRQUE
FLOOR
SNOW
GLACIER
TALUS
ZONE OF CROSS-CUTTING SULFIDE
ZONE OF CONCORDANT SULFIDE
Legend
Symbols :
CIRQUE
WALL
M-3
3980
TEXAS GULF SULPHUR CO.
INEL PROPERTY
GEOLOGY
LIARD M.D.
104-B
AUGUST, 1972
SCALE 1" = 100'
FIG. 3