

# 3246

GEOLOGICAL AND GEOPHYSICAL

FIELD PROGRAM

ON

PYRITE CLAIM GROUP

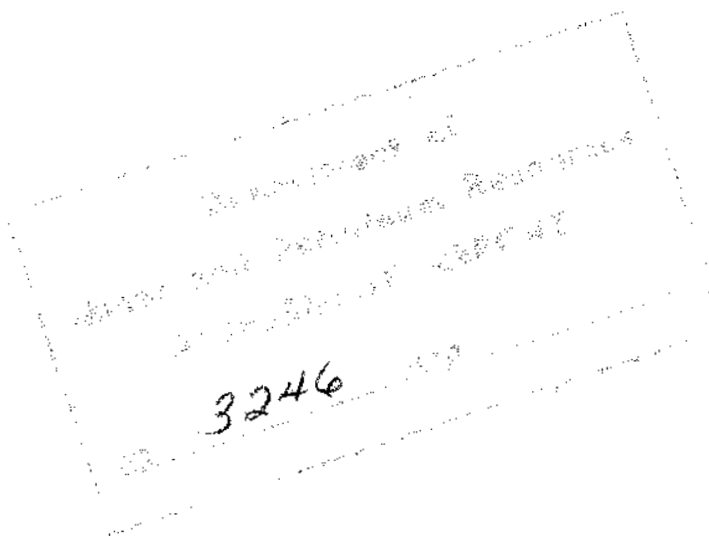
FOR

THOR EXPLORATIONS LTD.

(50°40'N, 121°00'W)

KAMLOOPS MINING DIVISION

92 I / 11E, 14E



18th to 25th June, 1971.

24th to 26th August, 1971.

D. Arscott, P.Eng.,

24th September, 1971.



INTRODUCTION:

The Pyrite Claims (#s 1 to 40), are owned 50% by A. Ablett and 50% by A. Kirshfeld. In the spring of 1971 Thor Explorations Ltd. obtained an option to explore these claims.

Up to the present fairly extensive exploration work had been carried out on the claims, but very little in the vicinity of the main gossan zone. The 1971 program consisted of detailed mapping of the gossan zone in an effort to explain its presence, and to evaluate the original government reported mineralization within it, and about 3 miles of Induced Polarization coverage. The latter coverage was arranged in the vicinity of the gossan zone (a) on the assumption that copper mineralization in the area is not necessarily coincident with pyrite of the gossan zone and (b) to evaluate 3 neighbouring geochemical anomalies.

The detailed mapping and most of the compilation work was carried out by J.W.Cant, and the Induced Polarization Survey by Seigel Associates Ltd. Acknowledgment is also extended to Mr. Ablett for his ready help in locating these and other claims in the area.

LOCATION AND ACCESS:

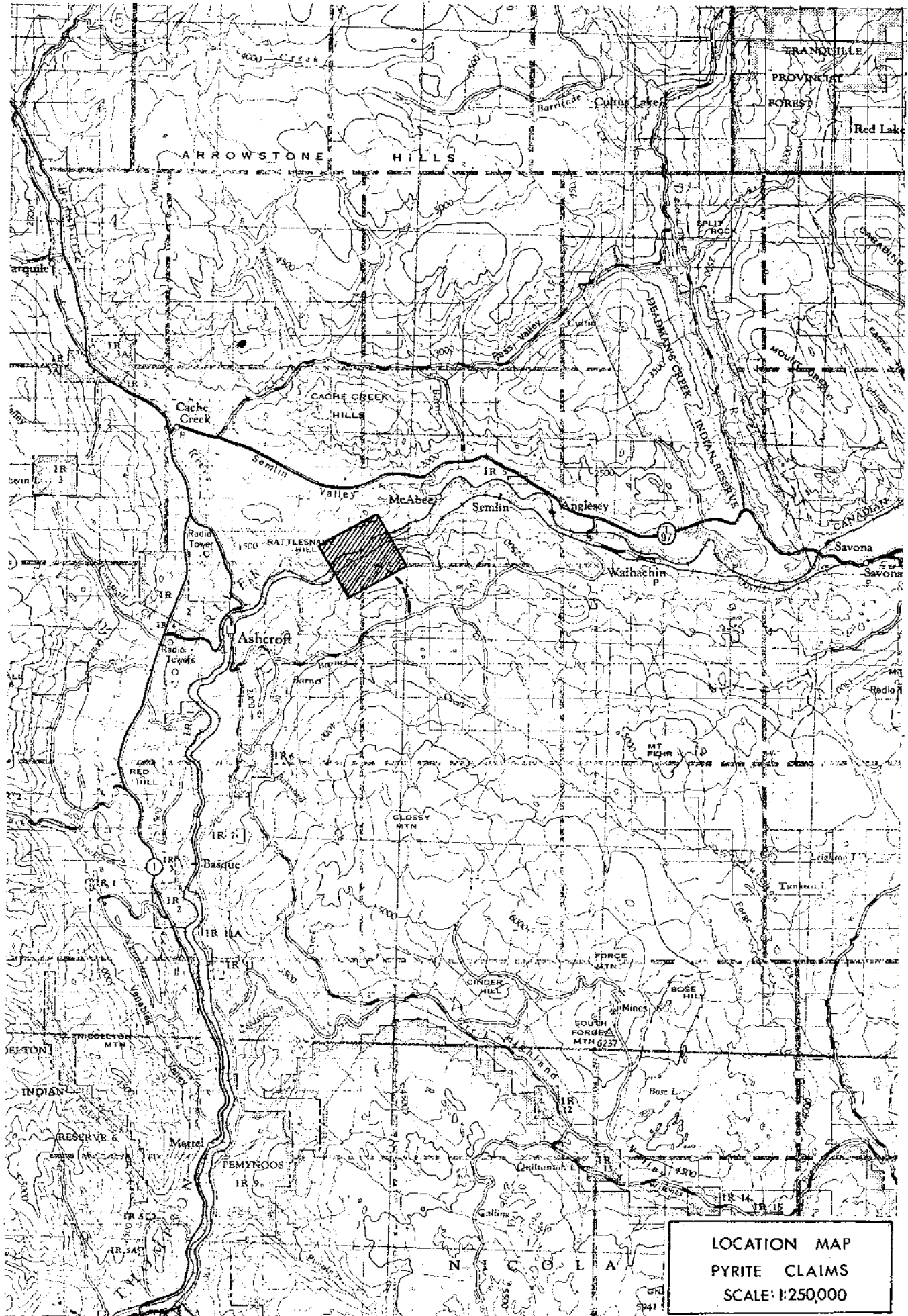
The Pyrite Claims are located in two blocks on opposite sides of the Thompson River. Claims 1 - 24 are on the south side of the Thompson and are approximately 4.5 miles ENE of the town of Ashcroft. Access is via the Highland Valley Highway. Six miles out of Ashcroft a left turn is taken onto the Barnes Lake road which is followed for another 7 miles, a left turn is taken again, and after 2 miles on an old drill road, the Pyrite #14 claim is entered.

Claims 25 - 40 are located immediately opposite on the north side of the Thompson. Access is gained by taking the Trans-Canada Highway east of Cache Creek for 5 miles, and a dirt road 2 miles to the south to reach the Pyrite #31, 32 initial post.

PREVIOUS WORK:

Earliest reports on the area refer to the 8 Burr claims (1898) located approximately on the main gossan zone. A short and optimistic, but unsubstantiated account is given of a Cu, Au, Ag deposit. Brief mention is also made in 1938 of the Coronation group further to the west.

In 1951 the area was mapped at a scale of 1" = 4 inches by McTaggart and Duffel on behalf of the



LOCATION MAP  
 PYRITE CLAIMS  
 SCALE: 1:250,000

Geological Survey of Canada.

The Pyrite Claims were staked by A. Ablett in the fall of 1967 and spring of 1969. In 1969, under an option agreement with the Placid Oil Co., the Pyrite and adjacent claims (May and Mud) were extensively soil sampled for copper and mapped on a reconnaissance basis. In the summer of 1970 the geochemical anomalies were evaluated and the area mapped at a scale of 1" = 200' by John Kerr. On Kerr's recommendation 35,700' of Induced Polarization work was carried out on a large linear geochemical anomaly on the north side of the Thompson with negative results. Three diamond drill holes with a total length of 1250' were put down on the south side with similar results. A magnetic survey has also been made, revealing strong variations in magnetic intensity between different rock units.

} drill  
holes

GEOGRAPHY:

The claims are located in a semi-arid region of the interior plateau of British Columbia. They are contained mostly within the sloping banks of the Thompson River Valley, with terrain slopes of about 30° and a topographic relief of 2500'.

Overburden is usually thin except on the river terraces.

The valley walls are strongly gullied but all stream beds are without exception dry during the summer.

The vegetation is predominantly sage and coarse grass. Some pine grows at higher elevations on the gentler slopes.

GEOLOGY:

General

The main gossan zone (an area about 1800 feet by 800 feet) on the south side of the river, was mapped on a scale of 1 inch = 100 feet (Figure 3). The gossan occurs in a series of deep gullies which lie along the contact of a medium grained intrusive of quartz-diorite composition (Guichon Creek Batholith), and volcanic flows of intermediate composition (believed to be Nicola Group).

The main body of the intrusive is remarkable for its consistency in grain size and lack of alteration. The only mappable feature within it is the main fracture orientation (jointing?), which strikes consistently north, and dips steeply to the east. No chilling or prominent shearing effects were noticed near its contact with the volcanics.

The volcanics comprise two phases which are superficially alike and which may grade from one to the

other. Both phases have approximately the same (andesitic) composition, and are porphyritic.

However, one of the phases, map unit 2, is non-magnetic and has a somewhat lower colour index. In outcrop it is pale green to grey and has a distinctive pebbly texture. Pyrite is abundant in this phase as small veins and disseminations. The thin section examination seems to indicate that the pyritization was associated with silicification. The presence of chlorite, albite, carbonate, uralite, and biotite places the local metamorphism as being of the greenschist facies (moderate pressure, moderate temperature, and abundant water).

Map unit 3 is, in contrast, strongly magnetic, with a higher colour index. In outcrop it is dark grey and often iron stained. Pyrite is present only in minor amounts. Like unit 2 it contains minerals of the greenschist facies.

The relationships of Map units 2 and 3 to the dissected terrain suggests that these two phases are stratified parallel to the present overall topography.

These volcanics have been previously mapped as belonging to the Kamloops Group (Miocene, and usually barren), but it is felt more likely that they are Nicola Group volcanics (Upper Triassic) because of

(a) Greenschist facies metamorphism, not usually present in Kamloops volcanics,

(b) the high overall magnetic susceptibility,



(c) the fact that Kamloops volcanics in the region are at higher elevations and flat lying as evidenced by their frequent contacts parallel to topographic contours and

(d) there are Nicola volcanics immediately across the river to the north

The nature of the contact between the quartz diorite and the volcanics remains enigmatic. It has features of both a fault contact and of an intrusive contact. It is reasonably straight for more than 2000 feet vertically and 3600 feet horizontally, suggestive of a steep to vertical planar interface. This, and the lack of chill effects, are characteristic of a fault contact. However, the associated metamorphic effects, and the lack of a more pronounced, single-direction shearing, are characteristic of an intrusive contact. Perhaps, as the Sufi said, the truth is neither this, nor that. Some combination of events is likely. Faulting across previously metamorphosed volcanics would produce most of the features present.

The dyke (map unit 4) may well represent a fine grained version of the quartz diorite contemporaneous with the original intrusion. It is parallel in strike and dip to the main intrusive contact.

There are two fracture populations in the area, one bearing N43° W and dipping steeply to the west,

present only in the volcanics and a second bearing N6°W, dipping steeply to the east, present in both intrusive and volcanics. The first may be pre-or syn- intrusive, while the latter post-dates both rock types.

Kaolinization, sericitization, and silicification occurs throughout the gossan zone, and is very strong in some patches. In such areas there are signs that the pyrite has been leached out.

#### Mineralization

Pyritization, in disseminated, and occasionally veinlet form, is common in the volcanics, and especially in the non-magnetic phase.

Copper and silver mineralization is scattered, where seen to date, and of low to medium grade.

The prospecting results are summarized as follows:

<u>Sample #</u>	<u>Type</u>	<u>Location</u>	<u>%Cu</u>	<u>oz/ton Ag</u>
PY - 1	Selected	Small pit somewhere near 54N, 9W.	0.02	2.4
PY - 2	Composite grab	From over about 1000' of main gossan zone.	0.02	0.76
PY - 3	Grab	Adit portal, 57N, 18E.	Trace	0.18
12 (Placid Oil Co.)	?	40N, 5W	0.655	1.00
28	?	42 + 30N, 5 + 20W	0.610	0.09

<u>Sample #</u>	<u>Type</u>	<u>Location</u>	<u>% Cu</u>	<u>oz/ton Ag</u>
437	?	?	0.762	0.49
19	?	41 + 50N, 5W	0.011	1.35
16	?	40 + 90N, 5W	0.355	0.26

Minor zinc, and very minor lead and molybdenum values are associated with these samples. Gold is present for the most part only as traces.

### GEOCHEMISTRY

Soil sampling near the main gossan zone is considered ineffective because, as a result of the abundant pyrite, the soil is too acid, (pH = 2.3 to 2.6) to retain copper in place. Almost any copper in the soil would be dissolved and re-deposited down slope in some less acid environment.

However, in other areas the soil sampling by Placid Oil Co. outlined several anomalous zones (see Fig.2). These have been prospected and in three cases checked with Induced Polarization surveying. The results are shown in the summary.

### GEOPHYSICS

#### Magnetic Survey

A ground magnetic survey was carried out on the property by Placid Oil Co. in 1970. Several areas of very uniform magnetic intensity have been outlined. In particular an extensive 'flat' area occurs 3000 feet southwest of the main gossan zone, bounded on either side by belts of high and erratic magnetism. The

boundaries correspond reasonably well to the geologic contacts mapped in the area by Kerr. The 'flat' area is believed to represent Kamloops volcanics overlying the Nicola volcanics.

Induced Polarization (See Fig. 2 for coverage)

6.5 line miles of I.P. (Induced Polarization) Survey on the north side of the river, carried out by Seigel Associates Ltd. in 1970, yielded one anomaly of limited size and intensity. According to the Seigel interpretation this should represent 1% by volume of metallicly conducting material. Even if such material were chalcopyrite or molybdenite, the anomaly has neither sufficient width nor apparant depth to represent an economic concentration. Furthermore, prespecting in the area has revealed only disseminated pyrite, and this itself would most probably explain the anomaly.

This year a further 2.6 miles of I.P. surveying was conducted, this time in the vicinity of the main gossan zone, to cover geochemical anomalies 3, 4, and 6. Predictably there is a large induced polarization over the main gossan zone, consistent with 2 to 3% metallicly conducting material. The pervasive pyritization of the gossan zone is sufficient to explain this particular anomaly.

A lower grade anomaly is also present, 2000 feet southwest of the gossan zone. It is of narrow width

and marginal chargeability, but is however, 'open' to the north. This area has not been mapped. However there is a small pit in this general vicinity which yielded a selected sample of pyritized volcanic bearing 2.4 oz per ton silver and 0.02% copper. While this correlation of anomaly and mineralization is not well established, it does invite the speculation that a significant mineral deposit may exist, of which the survey line has crossed only the end. The correlation of this anomaly with the north end of a geochemical anomaly (G.C.A.3), and its presence in Nicola Volcanics are encouraging features. So also is the presence of surface mineralization towards the south end of the same geochemical anomaly.

#### SUMMARY

Coverage and results are noted as follows:

(Refer to compilation map).

#### Main Gossan Zone

Has been mapped in detail and chip sampled. Selected samples have been assayed for Cu, Ag, and Au. The old Burr workings were re-located. Minor amounts of the metals are present, but are erratic in distribution.

#### G.C.A. #3 (Geochemical Anomaly #3)

This anomaly is of some importance because of its relationship to mineralization and to an I.P. anomaly. Details are under "Mineralization", "Induced Polarization", and "Conclusions".

G.C.A. #1

This area is well exposed, and prospecting has failed to reveal any significant copper.

G.C.A. #2

Has been thoroughly covered by Induced Polarization surveying, with negative results.

G.C.A #4

Is located entirely within Kamloops volcanics. Furthermore it showed no I.P. response, and no surface mineralization has been found.

G.C.A.#5

Traces of mineralization have been found here, but they, and most of the anomaly, are outside the property boundary.

G.C.A #6

Is underlain by the Guichon Creek Batholith. Except for 2 small gossan zones, (chip samples across which showed negligible copper, gold and silver), there is no surface mineralization in the area.

CONCLUSIONS

Interest has been narrowed to one zone (at grid location 48N, 6W), with the following characteristics:

1. The northern end of a geochemical anomaly coincides with a marginal strength I.P. anomaly.
2. The zone is open to the north because
  - a) the transported soil of the river terrace would have inhibited geochemical results to the north.
  - b) there is no I.P. coverage on this side.

3. The geochemical zone is parallel to the intrusive contact which lies 2000 feet to the east.
4. Scattered samples of good grade copper and silver mineralization have occurred within the geochemical anomaly, and in a pit located somewhere near the northern end of it.
5. The underlying volcanics are believed to be of the Nicola Group

The results from the main gossan zone itself have been disappointing in view of the excellent structural and alteration environment. However, the orientation of the G.C.A. #3 zone with respect to the gossan is intriguing in view of the zoned copper-pyrite relationships common in deposits of the Highland Valley.

In view of this I feel that the northward extension of the zone should be checked by diamond drilling. No other approach is satisfactory because of the depth of overburden likely to be encountered under the river terrace.

Two holes of about 500 feet each should be sufficient to thoroughly check the extension of this zone. The cost would be of the order of \$10,000.00.

Cordially submitted

*David Arscott*

David Arscott  
September 24, 1971

P. M. McANDLESS AND ASSOCIATES - Geological Field Consultants  
327 - 470 Granville Street, Vancouver 2, B. C.  
Telephone: 685-0038

August 23, 1971

Mr. D. Arscott,  
c/o Mr. J. Cant,  
301 - 540 Burrard Street,  
Vancouver 1, B. C.

Gentlemen,

Enclosed please find a petrographic report based upon four thin sections from the Highland Valley-Ashcroft area, K.M.D., submitted July 7, 1971, by Coats-Coddington Petrographic Service.

The petrographic analysis uncovered a variety of volcanic rocks, recorded as part of the Nicola group, each of which appeared to represent separate andesitic flow events. The idea of a flow concept is supported by the fact that each specimen [except for C-py-16] exhibits a weak trachytic texture and also that the degree of magnetism is distinctly different between the "flow" specimens. A basic andesitic flow event in which the magnetite content was high [C-py-8] is contrasted by a less basic, weakly magnetic andesite flow [C-py-17]. Thus the separate flow rocks represent part of a lithological sequence of volcanic eruption.

Contact metamorphic effects from dykes or larger intrusive bodies is represented by C-py-13 - possibly an altered equivalent of C-py-17.

The introduction of later andesitic dyke material from the same volcanic source is portrayed by C-py-16.

Major alteration minerals included: albite, chlorite, urallite, carbonate, sericite, silica, epidote, clinozoisite, kaolinite, pyrite and limonite.

Mineralization appeared to be mainly the result of recrystallization of ferro magnesium minerals. Sulphides were also associated with silification. Subsequent hydrous conditions resulted in iron oxidation along fractures and faults.

Yours truly,

*P. M. McAndless*

P. M. McAndless  
Geologist

PMMcA/LA  
Encls.



P. M. McANDLESS AND ASSOCIATES - Geological Field Consultants  
327 - 470 Granville Street, Vancouver 2, B. C.  
Telephone: 685-0038

August 23, 1971

TSC-PY-17        The dark grey, weakly magnetic specimen represents an altered porphyritic andesite, typical of volcanic flow rocks from the Nicola group.

Texturally, the partially silicified intermediate volcanic is comprised of corroded plagioclase phenocrysts imbedded in an equigranular, quartzo-feldspathic matrix. The columnar-textured matrix is spotted with various-sized opaque blobs [mainly pyrite along with minor magnetite] which are rimmed with biotite, chlorite and occasionally uralite. Micro quartz veinlets containing opaque minerals are ubiquitous.

Minor alteration products of plagioclase include kaolinite, epidote, sericite, albite and carbonate.

Approximate percentage compositions include: quartz - > 10, feldspar [albite, andesine] - > 60, biotite - < 5, chlorite - > 10, epidote - > 1, uralite - > 1, carbonate - 1, kaolinite ->1, sericite - 1, zircon - < 1, opaques [py > mg >> cp] - 10.

Sulphide mineralization coupled with the formation of biotite and uralite are mainly products of the recrystallization of ferromagnesium minerals [e.g.] augite. Minor sulphides were introduced in quartz veinlets. Subsequent oxidation and leaching produced extensive limonite.

TSC-Py-13

This particular bleached and pyritized specimen possibly represents an advanced alteration stage of TSC-Py-17.

The original andesitic rock is predominantly comprised of plagioclase alteration products, biotite and pyrite. Mosaic masses of kaolinite and albite are interstitially separated by minute fibrous masses of sericite along with secondary and minor primary biotite flakes.

Minor alteration products of plagioclase and mafic minerals include epidote, carbonate and chlorite. Spinel is a prominent accessory mineral.

Approximate percentage composition values, include: Quartz - 1, feldspar [albite, Ca plagioclase] - > 25, kaolinite - > 25, sericite - > 20, biotite - > 0, carbonate - < 5, chlorite - 1, epidote - 1, spinel - < 5, opaques [py >> cp] - 8.

Biotite and pyrite are products of recrystallization of ferromagnesium minerals. Plagioclase alteration yielded sericite, albite and carbonate. Subsequent intense weathering promoted kaolinitization of feldspar and iron oxidation in fractures.

TSC-Py-8

The blackish, strongly magnetic specimen, like TSC-Py-17 is typical of the volcanic flow rocks of the Nicola group.

This particular specimen is an andesitic porphyry comprised predominantly of plagioclase and biotite imbedded in a matrix of alteration products. A mild

trachytic texture is exhibited by various-sized plagioclase phenocrysts and partial biotite grains to which smaller feldspar laths are tangential. The mosaic-like equigranular quartzo-feldspathic matrix also includes randomly oriented blades of biotite, chlorite and uralite. Biotite is commonly associated with irregular-shaped opaque masses. Quartz veinlets are prominent throughout the section.

The major alteration products include: chlorite, albite, biotite, and silica along with minor uralite and carbonate.

Approximate percentage compositions include:  
quartz -  $> 10$ , feldspar [albite, andesine] -  $> 60$ ,  
biotite - 5, chlorite -  $> 5$ , uralite -  $< 5$ , carbonate - 1, epidote -  $< 1$ , opaques - 15.

Sulphide mineralization appears to be attributed to:

- a] recrystallization of ferromagnesium minerals in which pyrite formed as a secondary bi-product;
- b] silicification [i.e.] iron rich solutions introduced in quartz veinlets.

TSC-Py-16

This particular specimen represents an altered quartz, feldspar, hornblende porphyry.

The spotted, partially bleached specimen is characterized by subhedral and anhedral phenocrysts of quartz, feldspar and hornblende which are imbedded in an equigranular mosaic-like matrix.

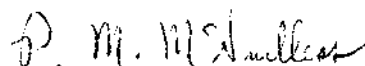
Texturally, the partially replaced and corroded subhedral plagioclase along with rounded quartz "eyes" and subhedral pseudomorphs of hornblende are randomly oriented in a matrix of columnar and bladed quartzo-feldspathic-sericite matrix. Minor subhedral phenocrysts of biotite and apatite are also present.

The plagioclase crystals are partially replaced by an albite-sericite-epidote combination and the mafic minerals are almost completely chloritized.

Approximate percentage compositions include:  
quartz - 10, feldspar [albite, andesine] - > 45,  
chloritized hornblende - 10, chlorite - 15, chlori-  
tized biotite - < 5, sericite - > 15, epidote - > 1,  
apatite - 1, kaolinite - > 1, opaques < 1.

Mineralization is primarily associated with the chloritization of the mafic minerals with subsequent oxidation along fractures.

Respectfully submitted,



P. M. McAndless  
Geologist

COSTS BREAKDOWN

Mapping & Prospecting

Labour: Field	\$ 687.50
Travel	232.50
Report	307.50
Administration, expediting	181.25
Drafting	330.00
	<hr/>
	\$1,738.75

Expenses:

Assaying etc.	523.90
Trucks	286.56
Airfares	133.65
Food	114.63
Hotels	105.38
Reproduction	37.74
Equipment	27.77
Telephone	17.60
Taxis	16.07
	<hr/>
	\$1,263.30

Total	\$3,002.05
Induced Polarization Survey (See attached invoice)	3,661.28
	<hr/>
Total Costs For 1971	\$6,663.33
	<hr/> <hr/>

**SEIGEL ASSOCIATES LIMITED**  
GEOPHYSICAL CONSULTANTS & CONTRACTORS  
A DIVISION OF SCINTREX LIMITED

September 22, 1971

Invoice No. BC 10903

Job No. 824

Thor Explorations Limited  
301 - 540 Burrard Street  
Vancouver, B. C.

FOR PROFESSIONAL SERVICES RENDERED:

To execute an induced polarization survey, in the Barnes Lake area, British Columbia as per our contract dated August 23, 1971.

2 days mobilization and demobilization @ \$150.00/day	\$300.00
5 days production @ \$275.00/day	1,375.00
7 days possible for period	

Field Assistants:

M Vallee	8 days	
R Van Buiten	7 days	
H Mueller	7 days	
E Novotny	7 days	
	<u>29 man days @ \$27.50/day</u>	797.50

Field Expenses:

Rented truck	\$425.15	
Lodging	310.80	
Food	266.44	
Travel	67.85	
Telephone & Postage	10.47	
	<u>\$1,080.71</u>	
Plus 10 percent	108.07	
	<u>\$1,188.78</u>	<u>1,188.78</u>
Total		\$3,661.28
Less: Deposit		<u>1,000.00</u>
Balance Due		\$2,661.28

Terms: Due when rendered. Any amounts outstanding after 30 days will bear interest at the rate of 1 percent per month.

E. & O. E.

Invoice No. 14  
May 31, 1971

Thor Explorations Ltd.  
301 - 540 Burrard Street  
Vancouver 1, B. C.

Re: Field Programs

AUDREY CLAIMS

Fees: D. Arscott, 2 1/4 days @ 55.00	\$ 123.75	
J. Cant 7 days @ 45.00	315.00	
P. Fulljames 7 days @ 30.00	210.00	
Expenses	<u>694.20</u>	
	\$1342.95	\$1342.95

PYRITE CLAIMS

Fees: 1 3/4 days @ 55.00	96.75 <sup>25</sup>	<u>96.75<sup>25 0.4</sup></u>
TOTAL COSTS FOR PERIOD (See attached statement)		<u>\$1439.70</u>

*D. A.*

David Arscott

Invoice No. 16  
June 15, 1971

Thor Explorations Ltd.  
540 Burrard Street  
Vancouver 1, B. C.

Re: COSTS FOR PERIOD JUNE 1 - 15, 1971

I. PYRITE CLAIMS:

Fees: D. A. - 2 days @ \$55.00	\$110.00	
Expenses	28.04	✓
Truck usage (from Vancouver) 1/2 x 660 mi. x .10	33.00	
Assays	<u>32.00</u>	
	\$203.04	\$203.04

II POGO CLAIMS:

Fees: D.A. - 1 1/2 days @ \$55.00	\$82.50	
J. C. 8 days @ 45.00	360.00	
P.F. 7 1/2 days @ 30.00	225.00	
Expenses- J.C.	264.29	
Truck usage ( to Vancouver ) = 1/2 x 660 mi. x .10	33.00	
Expenses- D.A.	40.91	
Field Supplies	<u>39.06</u>	
	\$1,044.76	\$1,044.76

III. AUDREY CLAIMS:

Expenses - J.C.	\$158.04	
Expenses - D.A.	6.00	
Fees: J.C. 5 days @ 45.00	225.00	
P.F. 5 days @ 30.00	150.00	
Soil analyses	<u>66.00</u>	
	\$605.04	\$605.04

TOTAL FOR PERIOD

*D.A.* \$1852.84  
*Pd. from acct.*



Invoice # 21  
June 30, 1971

Thor Explorations Ltd.,  
301 - 540 Burrard St.,  
Vancouver 1, B.C.

Re: Costs for period 16 - 30 June 1971

AUDREY CLAIMS

Fees: D.A.	1 day @ 55.00	\$55.00
J.C.	4 days @ 45.00	180.00
P.F.	2 1/2 days @ 30.00	75.00

Expenses D.A.

56.50 CR

~~366.50~~      366.50  
263.50

PYRITE CLAIMS

Fees: D.A.	1/2 day @ 55.00	27.50
J.C.	9 days @ 45.00	405.00
P.F.	<sup>6</sup> <del>2 1/2</del> days @ 30.00	180.00

Expenses: D.A.

47.40 ✓

Expenses: J.C.

285.13 ✓

Other Tilden Truck Rental

149.45

\$1094.48      1094.48

POGO CLAIMS

Expenses

193.73

193.73

TOTAL COSTS

~~\$1654.71~~  
1551.71

David Arscott

*D.A.*

Invoice No. 25  
July 15, 1971

Thor Explorations Ltd.  
301 - 540 Burrard Street  
Vancouver 1, B. C.

Re: Costs for Period July 1 - 15, 1971

CBS 3370 (Shared with Mark V Mines Ltd.)

See Invoice No. 24

326.78 X  $\frac{1}{2}$  = \$ 163.39

CBS 1856 (Shared with Anglo-Bomarc Mines Ltd)

Fees:	D.A.	3 days @ \$55.00	\$ 165.00	
	J.C.	5 $\frac{1}{2}$ days @ 45.00	247.50	
	P.F.	6 $\frac{1}{2}$ days @ 30.00	187.50	
	G.C.	4 $\frac{1}{2}$ days @ 30.00	135.00	
	W.M.	4 $\frac{1}{2}$ days @ 30.00	135.00	
	H.J.	4 $\frac{1}{2}$ days @ 30.00	135.00	
	D.V.	4 $\frac{1}{2}$ days @ 30.00	135.00	

Expenses:

D.A. \$1,586.11

\$2,726.11 X  $\frac{1}{2}$  \$1,363.05

PYRITE CLAIMS

Fees: J.C. 1 day @ \$45.00 \$ 45.00

Expenses:

D.A. 148.60

\$ 193.60 \$ 193.60

AUDREY CLAIMS

Fees: D.A. 3/4 days @ \$55.00 \$ 41.25  
J.C. 4 days @ 45.00 180.00

Expenses:

D.A. 5.22

\$ 226.37 \$ 226.47

POGO CLAIMS

Fees: J.C. 2 days @ \$45.00 90.00

OPPORGOL MINE VISIT (Horseshoe Bay)

Fees: D.A. 1 $\frac{1}{2}$  days @ \$55.00 \$ 68.75 \$ 134.08  
J.C. 1 day @ 45.00 \$ 45.00

TOTAL COSTS FOR PERIOD 20.33 \$2,170.59

D.A.

THOR EXPLORATIONS LTD.,  
301 - 540 Burrard Street,  
Vancouver 1, B.C.

IN ACCOUNT WITH  
DAVID P. ARSCOTT, P. ENG.

30 JULY, 1971

RE: COSTS FOR PERIOD 16 - 30 JULY, 1971:

<u>C B S 1856</u> (shared with Anglo-Bomarc Mines Ltd. See Invoice No. 29)		\$ 731.89
<u>C B S 3370</u> (shared with Marv V Mines Ltd. See Invoice No. 30)		
	FEES:	868.75
	EXPENSES:	579.79
<u>PYRITE CLAIMS</u> EXPENSES:		275.20 ✓
<u>AUDREY CLAIMS:</u> FEES:           3/4 day @ \$55.00		41.25
<u>POGO CLAIMS</u> FEES:           1/2 day @ 55.00		27.50
<u>OPPORGOL MINE VISIT</u> EXPENSES:		<u>48.00</u>
<u>TOTAL COSTS FOR PERIOD:</u>		\$2,572.38
<u>TOTAL AMOUNT DUE (see attached statement)</u>		<u>\$4,587.22</u>

D. A.

---

 DAVID P. ARSCOTT, P. ENG.

Invoice #34

16th August, 1971

Thor Explorations Ltd.,  
301 - 540 Burrard Street,  
Vancouver 1, B. C.

IN ACCOUNT WITH

DAVID ARSCOTT, P. ENG.  
301 - 540 Burrard Street  
Vancouver 1, B. C.

---

Re: Costs for Period 1 - 15 August, 1971

CBS 1856 [shared with Anglo-Bonarc Mines Ltd. see Invoice #33]	684.05 x $\frac{1}{2}$	\$342.02	
CBS 3370 [shared with Mark V Mines Ltd. see Invoice #32]	437.37 <del>341.37</del> x $\frac{1}{2}$	215.69	
PYRITE CLAIMS	Fees: J.C. - 1 $\frac{1}{2}$ days @ \$45.00	67.50	
OPPOGOL MINE	Fees: D.A. - 1 $\frac{1}{2}$ days @ \$55.00	82.50	
TOTAL COSTS FOR PERIOD		<u>\$707.71</u>	
TOTAL AMOUNT DUE			<u><u>\$707.71</u></u>

*D.A.*

D. Arscott

Invoice #41  
Sept. 7, 1971

IN ACCOUNT WITH  
DAVID ARSCOTT  
301-540 Burrard Street  
Vancouver 1, B. C.

To Thor Explorations Ltd.,  
301 - 540 Burrard Street,  
Vancouver 1, B. C.

Re: Costs for Period 16 - 31 August, 1971

Pyrite Claims

Fees:	D.A. - $\frac{1}{4}$ day @ \$55.00	\$ 13.75	
	J.C. - 7 days @ 45.00	315.00	
	P.F. - $3\frac{1}{4}$ days @ 30.00	97.50	
Expenses:	D.A. -	60.34	
	J.C. - $\frac{1}{2}$ x 348.88	<u>174.44</u>	178.94
		\$ 661.03	\$ <del>661.03</del> 669.53

Pogo Claims

Fees:	D.A. - $1\frac{1}{4}$ days @ \$55.00	82.50	
	J.C. - $5\frac{1}{4}$ days @ 45.00	236.25	
	P.F. - $3\frac{1}{4}$ days @ 30.00	97.50	
Expenses:	D.A. -	218.17	
	J.C. - $\frac{1}{2}$ x 348.88	<u>174.44</u>	
		\$ 808.86	808.86

CBS 3370 - (Shared with Mark V Mines Ltd.)  
(See invoice #38)

	267.81 x $\frac{1}{2}$	<u>133.91</u>	133.91
--	------------------------	---------------	--------

Audrey Claims

Expenses:	D.A.	<u>18.58</u>	18.58
-----------	------	--------------	-------

TOTAL AMOUNT DUE \$1,622.38

*D.A.*

David Arscott

Invoice No. 45

In account with:

D. Arscott  
301 - 540 Burrard St.,  
Vancouver, 1, B.C.

September 21, 1971.

Thor Explorations Ltd.,  
301 - 540 Burrard Street,  
Vancouver, 1, B.C.

Re: Costs for Period September 1 - 15/71

CBS 3370 (Shared with Mark V Mines Ltd.)

Fees:	D.A. - 1/2 day @ \$55.00	\$27.50	
	1/2 x \$27.50		\$ 13.75

PYRITE CLAIMS

Fees:	D.A. - 1/4 day @ \$55.00	13.75	
	J.C. - 4 days @ \$45.00	<u>180.00</u>	193.75

POGO CLAIMS

Fees:	J.C. - 1-1/4 days		
	@ \$45.00	56.25	<u>56.25</u>

Total Amount Due:

\$263.75

*D. A.*

D. Arscott.

In account with: Invoice No. 47  
D. Arscott  
301-540 Burrard St.  
Vancouver 1, B.C.  
Sept. 24, 1971

Thor Explorations Ltd.  
301-540 Burrard St.  
Vancouver 1, B.C.

Re: Costs for period 16-30 Sept. 1971

PYRITE CLAIMS:

Fees:	D.A.	1½ days @ 55.00	82.50	
	T.D.	3½ days @ 30.00	105.00	
			<u>187.50</u>	187.50
Expenses:	D.A.		29.70	29.70
				<u><u>217.20</u></u>
TOTAL AMOUNT DUE				<u>217.20</u>

*D. A.*

D. Arscott

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.  
To Wit:

In the Matter of GEOLOGICAL AND GEOPHYSICAL  
FIELD PROGRAM ON PYRITE CLAIM GROUP

I, David Philip Arscott

of 301 - 540 Burrard Street, Vancouver,

in the Province of British Columbia, do solemnly declare that the following are the labour costs in carrying out the above program:

<u>Name</u>	<u>Position</u>	<u>Address</u>	<u>Days worked</u>	<u>Rate</u>	<u>Fees</u>
D. Arscott	Geologist	301-540 Burrard St. Vancouver, B.C.	6½	55.00	343.75
J. Cant	Geologist	3985 W. 12th. Ave. Vancouver, B.C.	22½	45.00	1012.50
P. Fulljames Field	Assistant	1968 W. 2nd. Ave. Vancouver, B.C.	9½	30.00	277.50
T. Drews	Draftsman	948 Bute Street, Vancouver, B.C.	3½	30.00	105.00
TOTAL					1752.50

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 24th.  
day of September 1971, A.D.

*David Arscott*

*D. P. Phillips*  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.



CERTIFICATE

I, DAVID PHILIP ARSCOTT, of 301 - 540 Burrard Street, Vancouver, British Columbia, am a Professional Engineer registered in the Province of British Columbia.

The field program on the Pyrite Claims was carried out at my direction by Mr. J.W.Cant, B.Sc., with the exception of the Induced Polarization Survey, carried out by Seigel Associates Ltd.

All costs as reproduced herein are accurate to the best of my knowledge.

*David Arscott*

David Arscott,

24th September, 1971.

## REFERENCES

- 1898 B.C. Minister of Mines Report.
- 1961 Duffel, S. and McTaggart, K. - Ashcroft Map  
Area, G.S.C. Memoir 262.
- 1969 Northcote - Geology and Geochronology of  
Guichon Creek Batholith.
- 1970 Kerr, J. - Geological Report on the Pyrite,  
May, and Mud Claims.
- 1970 Baird, J. - Report on Induced Polarization  
Survey on Some Pyrite Claims.
- 1970 Jenks, J., Buckley, R. - Geological and  
Geochemical Report on May and Pyrite  
Claims.
- Air photos B.C. 5168-091, B.C. 5169-128.

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.  
 PHONE: 988-5315 TELEX: 04-54554

CERTIFICATE OF ASSAY

TO D. Arscott  
301 - 540 Burrard St.  
Vancouver 1, B.C.

Report No: A21-250  
 Sample rec'd: June 4/71  
 Results Completed : June 8, 1971

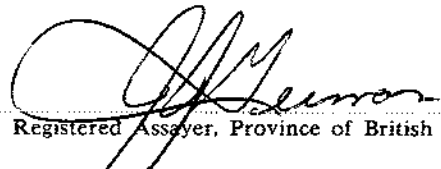
I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED	GOLD		SILVER	Cu							TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent		
Ore											
PY-1	Trace		2.4	0.02							
2	Trace		0.76	0.02							
3	Trace		0.18	Trace							
4	Trace		0.12	0.01							
semi quan spec to follow shortly.											

NOTE:  
 Rejects retained two weeks  
 Pulps retained three months  
 unless otherwise arranged.

Gold & Silver values reported on these sheets  
 have not been adjusted to compensate losses and  
 gains inherent in fire assay methods.

Gold calculated at \$..... per ounce

  
 Registered Assayer, Province of British Columbia



# BONDAR-CLEGG & COMPANY LTD.

geochemists • assayers • analytical chemists

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.  
PHONE: 988-5315 TELEX: 04-54554

*PYRITE*

## CERTIFICATE OF ASSAY

TO D. Arcscott  
301 - 540 Burrard St.  
Vancouver 1, B.C.

Report No: A21-329  
Samples Rec'd: June 30, 1971  
Results Completed: July 9, 1971

I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED	GOLD		SILVER	Cu	Percent	Percent	Percent	Percent	Percent	Percent	TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent							
<b>Ore</b>											
Line A 0+10 SW	Trace		Trace	10.01							
0+30	Trace		Trace	10.01							
0+50	Trace		Trace	10.01							
0+70	Trace		Trace	10.01							
0+10 NE	Trace		Trace	0.01							
0+30	Trace		Trace	0.01							
Line B 0+00	Trace		Trace	10.01							
0+25 N	Trace		Trace	10.01							
0+50	Trace		Trace	10.01							
0+75	Trace		Trace	10.01							
0+25 E	Trace		Trace	10.01							
L52N 14+25 E	Trace		Trace	0.01							
14+50	Trace		Trace	0.01							
14+75	Trace		Trace	0.01							
15+00	Trace		Trace	0.01							
15+50	Trace		Trace	0.01							
15+75	Trace		Trace	0.01							
16+00	Trace		Trace	0.01							
16+25	Trace		Trace	0.01							
16+50	Trace		Trace	0.01							
16+75	Trace		Trace	0.01							
17+00	Trace		Trace	0.01							

L means less than

NOTE:  
Rejects retained two weeks  
Pulps retained three months  
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate losses and gains inherent in fire assay methods.

Gold calculated at \$..... per ounce

*[Signature]*  
Registered Assayer, Province of British Columbia

To: ArscottREPORT No. A 29PAGE No. 2

BONDAR-CLEGG &amp; COMPANY LTD.

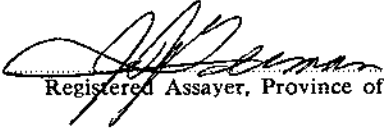
DATE: July 9, 1971

## CERTIFICATE OF ASSAY

PYRITE

I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED			GOLD		SILVER	Co						TOTAL VALUE PER TON (2000 LBS.)
			Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	
Ore												
L52N	17+25	E	Trace		Trace	0.01						
L56N	14+75	E	Trace		Trace	0.01						
	15+00		Trace		Trace	0.01						
	15+75		Trace		Trace	0.01						
	16+25		Trace		Trace	0.01						
	17+50		Trace		Trace	0.01						
	17+75		Trace		Trace	0.01						
	18+25		Trace		Trace	0.01						
C.S.	#1		Trace		Trace	0.01						
	#2		Trace		Trace	0.01						
	#3		Trace		Trace	0.01						

  
Registered Assayer, Province of British Columbia

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.  
 PHONE: 988-5315 TELEX: 04-54554

CERTIFICATE OF ASSAY

TO David Arscott  
301-540 Burrard St.  
Vancouver, B.C.

Report No: A21-326  
 Samples Rec'd: June 29, 1971  
 Results Completed: July 9, 1971

I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED	GOLD		SILVER	Cu							TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent		
Ore											
C-PY-1	0.005		0.05	0.08							
2	Trace		0.05	LO.01							
3	Trace		0.02	LO.01							
4	Trace		0.01	LO.01							
5	Trace		Trace	LO.01							
6	Trace		Trace	LO.01							
7	Trace		Trace	0.01							
C-PY-9	Trace		Trace	0.01							
10	Trace		Trace	0.01							
11	Trace		Trace	LO.01							
12	Trace		Trace	LO.01							
C-PY-14	Trace		Trace	LO.01							
15	Trace		Trace	LO.01							
18	Trace		0.02	LO.01							
19	Trace		Trace	LO.01							
20	Trace		0.02	LO.01							

L means less than

NOTE:  
 Rejects retained two weeks  
 Pulp retained three months  
 unless otherwise arranged.

Gold & Silver values reported on these sheets  
 have not been adjusted to compensate losses and  
 gains inherent in fire assay methods.

Gold calculated at \$..... per ounce

  
 Registered Assayer, Province of British Columbia



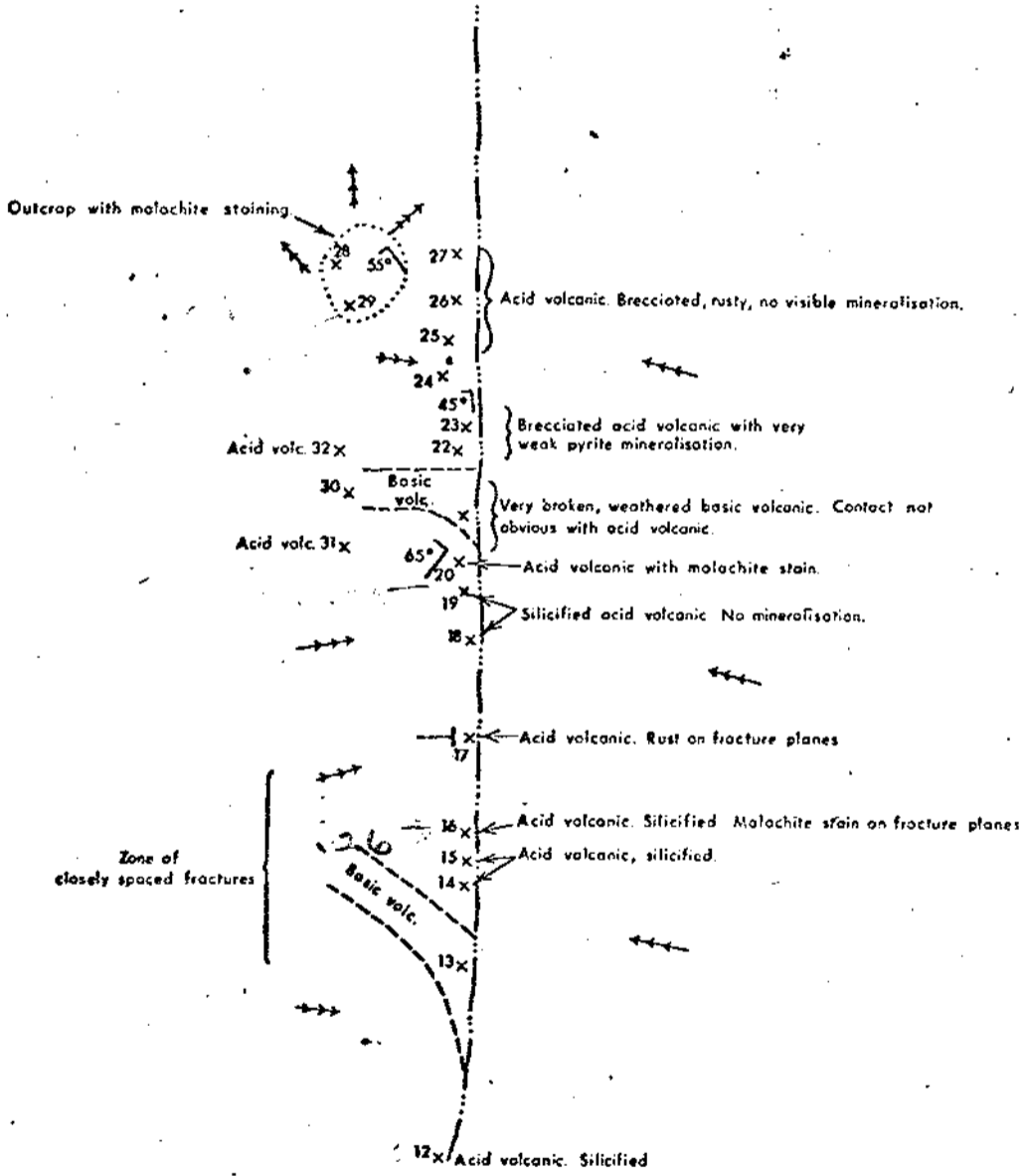
43N -

400' to E/LA

42N -

41N -

40N -



6+00W

5+00W

4+00W

SAMPLE LOCATION ----- x17  
 JOINT PLANE, INCLINED, VERTICAL ----- |  
 GEOLOGICAL CONTACT, INFERRED ----- |  
 DRY CREEK BED ----- |  
 SLOPE OF GROUND ----- >>>

(PLACID OIL CO.)

SAMPLE LOCATIONS  
ANOMALY "F"

(GCA # 3)



BCC

BONDAR-CLEGG & COMPANY LTD.

768A BELFAST ROAD (M.R. 1), OTTAWA, ONTARIO K1G 0Z5  
 PHONE: 237-3110 TELEX: 013-3548

BRANCH OFFICES  
 INDUSTRIAL RD., WHITEHORSE, Y.T. 1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. BOX 487, CAMPBELLTON, N.B.  
 PYRITE 3/

SEMI-QUANTITATIVE ANALYSIS

No: 322-1

Sample No. PY-2

From: B.C.C. - Vancouver

Method: XRF

Date: June 17 1971

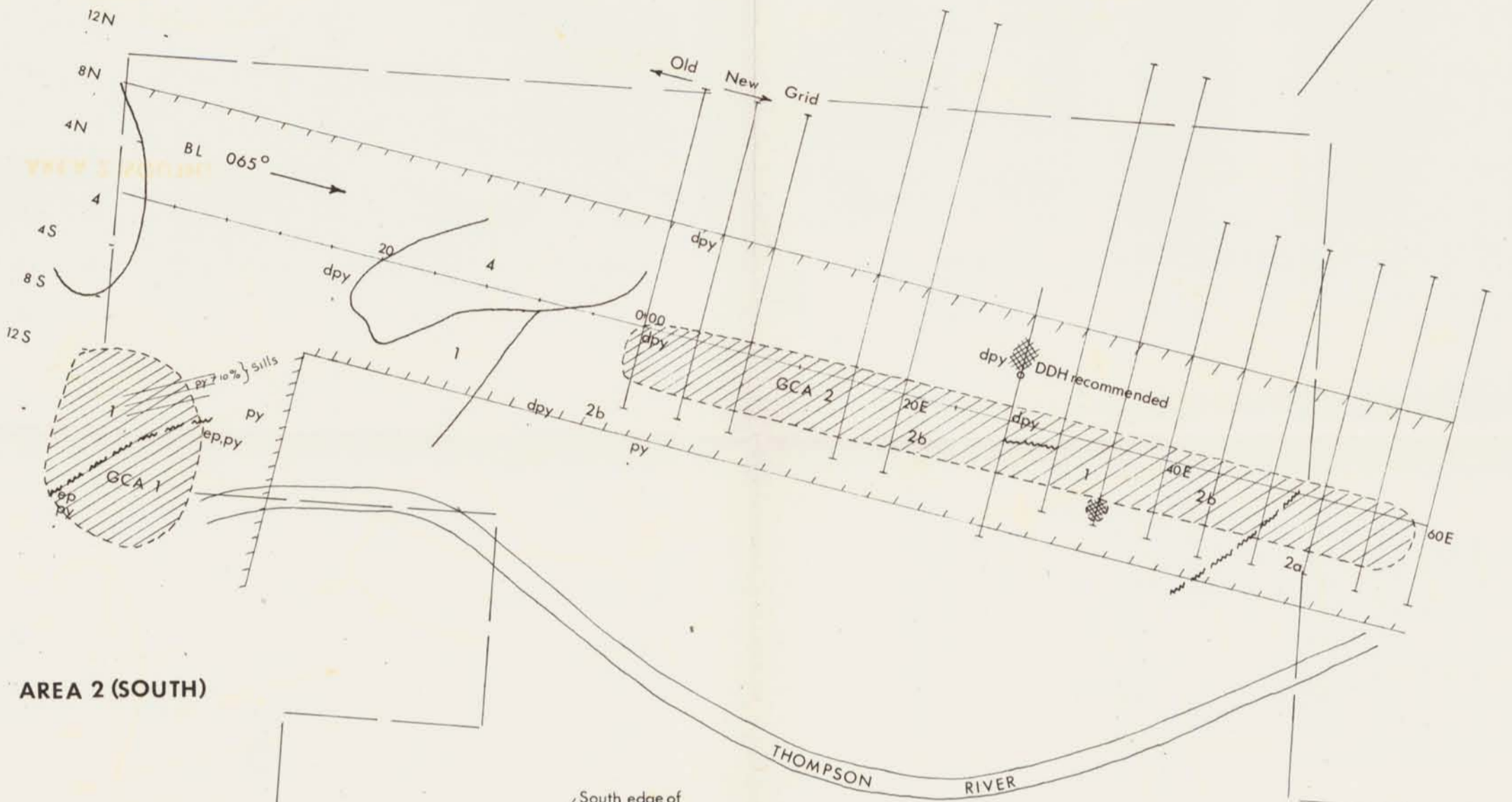
No. of Elements: 32

Analyst: XRF, - Dr. Roger J. Goodman

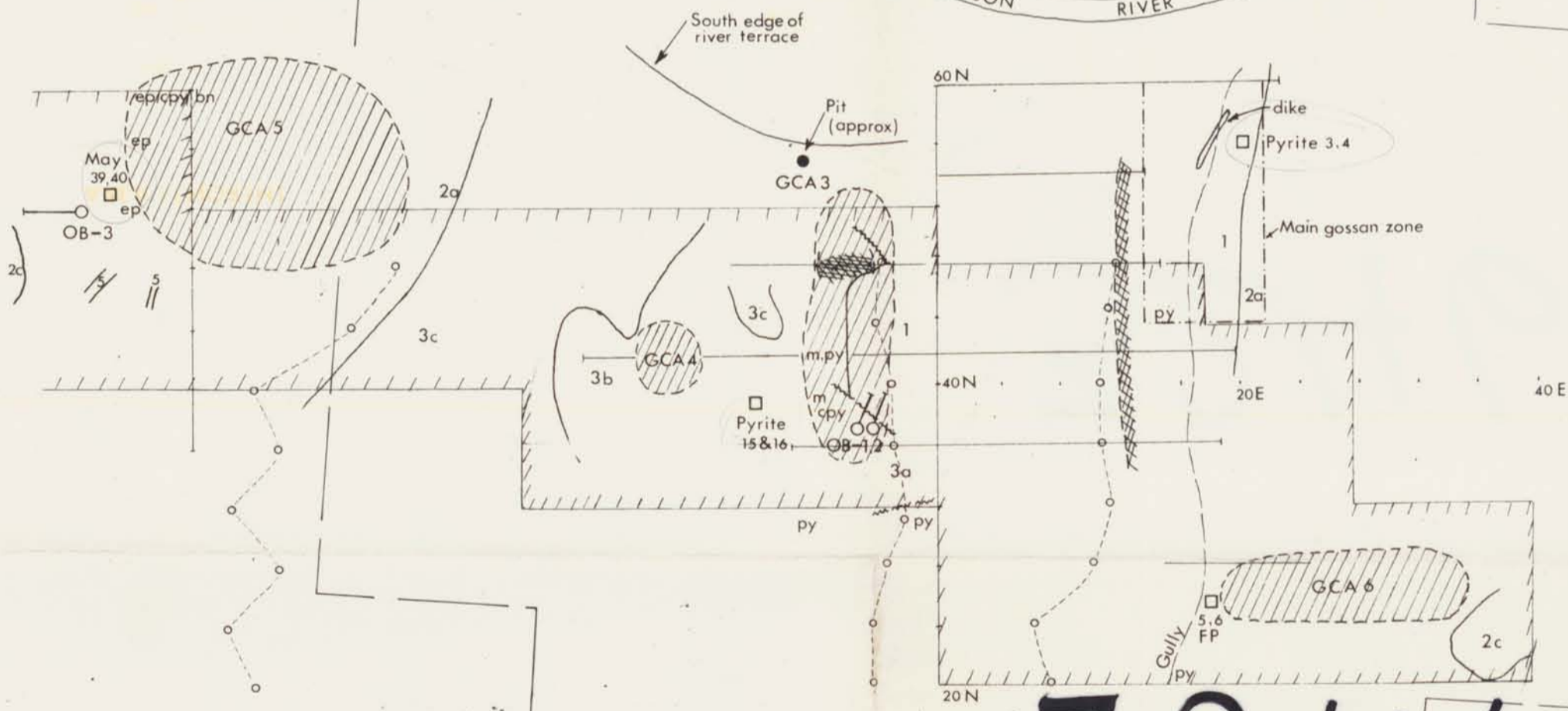
MAJOR ELEMENTS (%)	<.003	.003-.01	.01-.03	.03-0.1	0.1-0.3	0.3-1.0	1.0-3.0	3.0-10.0	> 10.0	REMARKS
SiO <sub>2</sub>									X	
Al <sub>2</sub> O <sub>3</sub>									X	
Total Fe (Fe <sub>2</sub> O <sub>3</sub> )									X	
MgO							X			
CaO							X			
Na <sub>2</sub> O						X				
K <sub>2</sub> O						X				
TiO <sub>2</sub>							X			
TRACE ELEMENTS (%)										
V				X						
Cr		X								
Mn					X					
Co		X								
Ni		X								
Cu		X								
Zn		X								
As			X							
Sr			X							
Y		X								
Zr		X								
Nb	X									
Mo	X									
Ag	X									
Sn	X									
Sb	X									
Ba				X						
La			X							
Ce			X							
W	X									
Pb		X								
Bi	X									
Th	X									
U	X									

*Roger J. Goodman*

AREA 1 (NORTH)



AREA 2 (SOUTH)



LEGEND

ep epidote  
 cpy chalcopyrite  
 bn bornite  
 py pyrite

GCA 2  
 Geochemical anomaly #2 (Cu)

IP lines  
 IP anomaly

O Diamond drill hole

Fault

Geologic contact

o---o Magnetic boundary

Boundary area mapped by Kerr

Low mag  
 High mag  
 $132^\circ$

- |        |           |  |
|--------|-----------|--|
| 1      | Nicola    | 1 Undifferentiated<br>1a Acidic breccia rhyolite<br>1b Dacite porphyry |
| 2a2b2c | Guichon   | 2a Coarse diorite<br>2b Fine to medium grained gabbro<br>2c Granite    |
| 3a3b3c | Kamloops  | 3a Andesite<br>3b Rhyolite<br>3c Rhyolite porphyry                     |
| 4      | Tert Seds | Sandstone conglomerate   |
| 5      | And & Bas | Dyke rock  |

3246 M-2

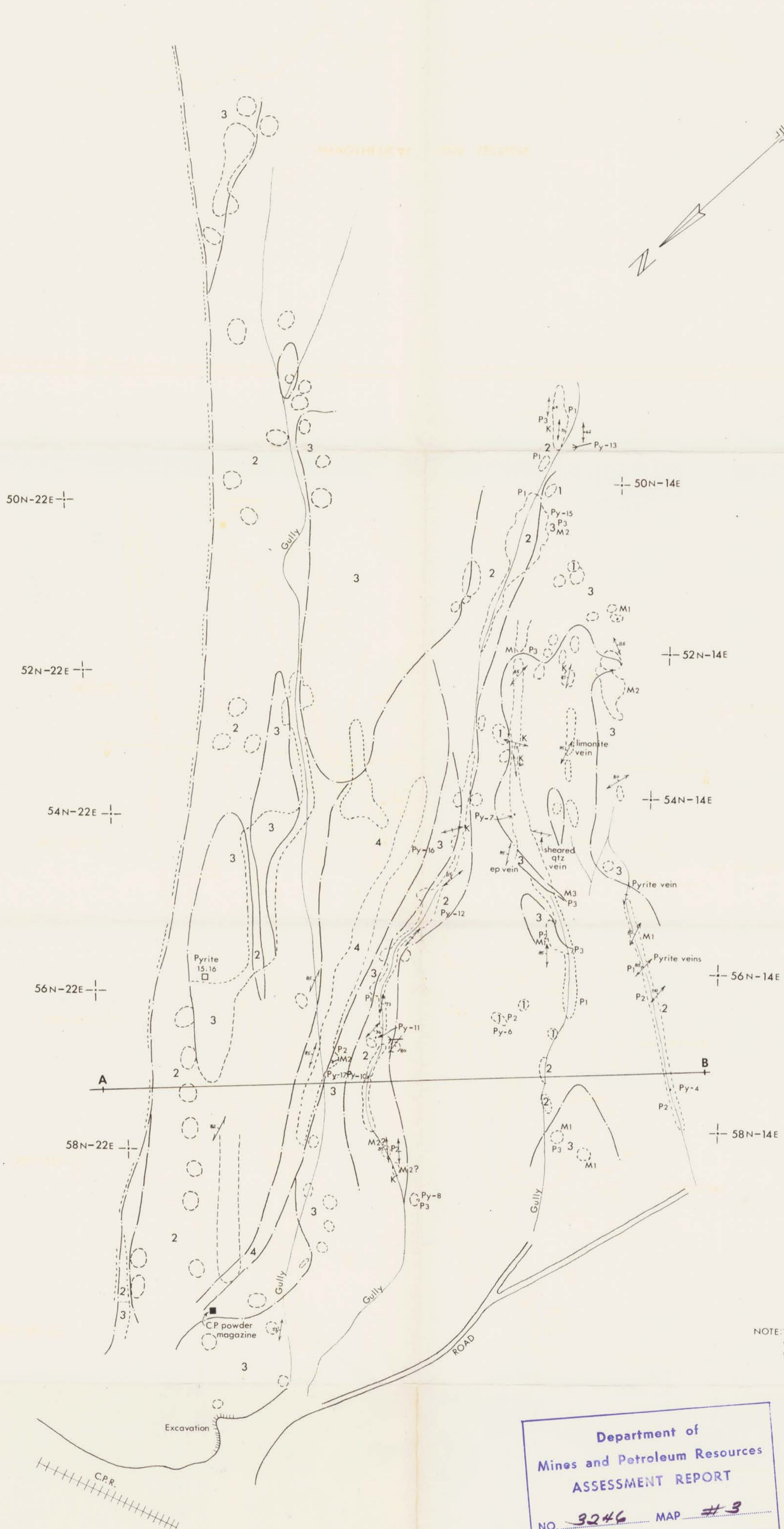
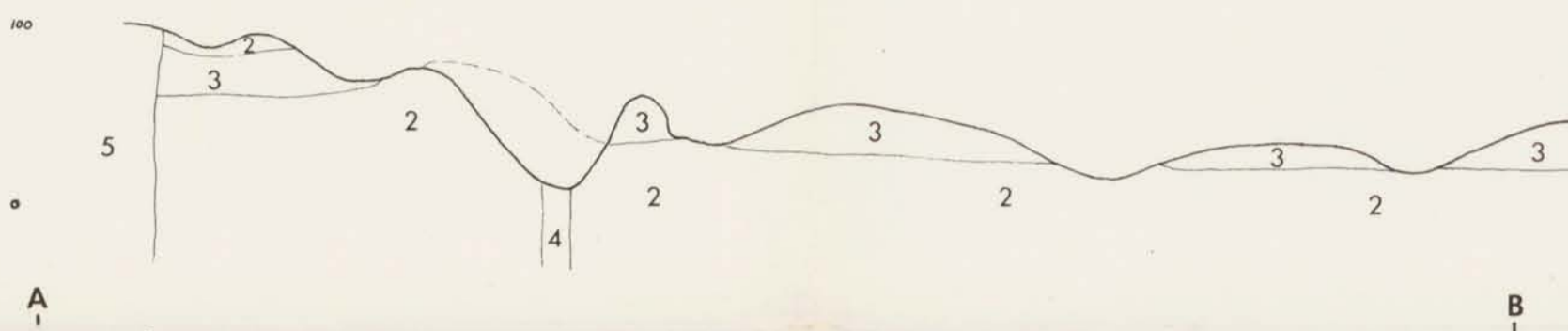
Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 3246 MAP # 2

NOTE:  
 To accompany report, 'Geological and Geophysical Field Program on Pyrite Claim Group', by D. Arscott, Sept. 24, 1971.

David Arscott

FIG 2  
 COMPILATION MAP  
 SCALE 1"=1000'  
 SEPT. 1971  
 J. CANT

HYPOTHETICAL CROSS SECTION



NOTE: To accompany report, "Geological and Geophysical Field Program on Pyrite Claim Group", by D.A. Scott, Sept. 24, 1971

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3246 MAP #3

LEGEND

- |   |  |          |   |
|---|--|----------|---|
| 1 | Strongly kaolinized and sericitized rock, probably altered   | ○        | Outcrop   |
| 2 | Andesite porphyry, medium green, fine grained, non magnetic, less mafic than 3, abundant disseminated pyrite | ---      | Geologic contact                                |
| 3 | Andesite porphyry, dark grey, fine grained, strongly magnetic  | ///      | Fractures: inclined, vertical                   |
| 4 | Dyke: quartz, feldspar, hornblende porphyry (may be younger than 5)  | ///      | Foliation: inclined, vertical                   |
| 5 | Guichon Creek Batholith: hybrid phase, medium grained granodiorite, moderately magnetic                      | M1 M2 M3 | Magnetic susceptibility: strong, moderate, weak |
|   |  | P1 P2 P3 | Pyrite abundance: strong, moderate, weak        |
|   |  | Py-8     | Hand specimen location                          |
|   |  | K        | Kaolinization                                   |
|   |  | →        | Adit  |

FIG 3  
THOR EXPLORATIONS LTD  
PYRITE CLAIMS  
GEOLOGY OF MAIN GOSSAN ZONE  
ASHCROFT, B.C.  
SCALE 100 50 0 50 100ft.  
June 1971  
Geology by - J. Cant

*David  
Scott*