RECONNAISSANCE GEOLOGICAL AND GEOCHEMICAL SURVEY

VANCO ASPEN GROVE PROJECT 1985

For:

VANCO EXPLORATIONS LIMITED
4600 Toronto Dominion Centre
Toronto, Ontario

By:

I. M. WATSON & ASSOCIATES
T. E. Lisle, P.Eng.

October 1, 1985

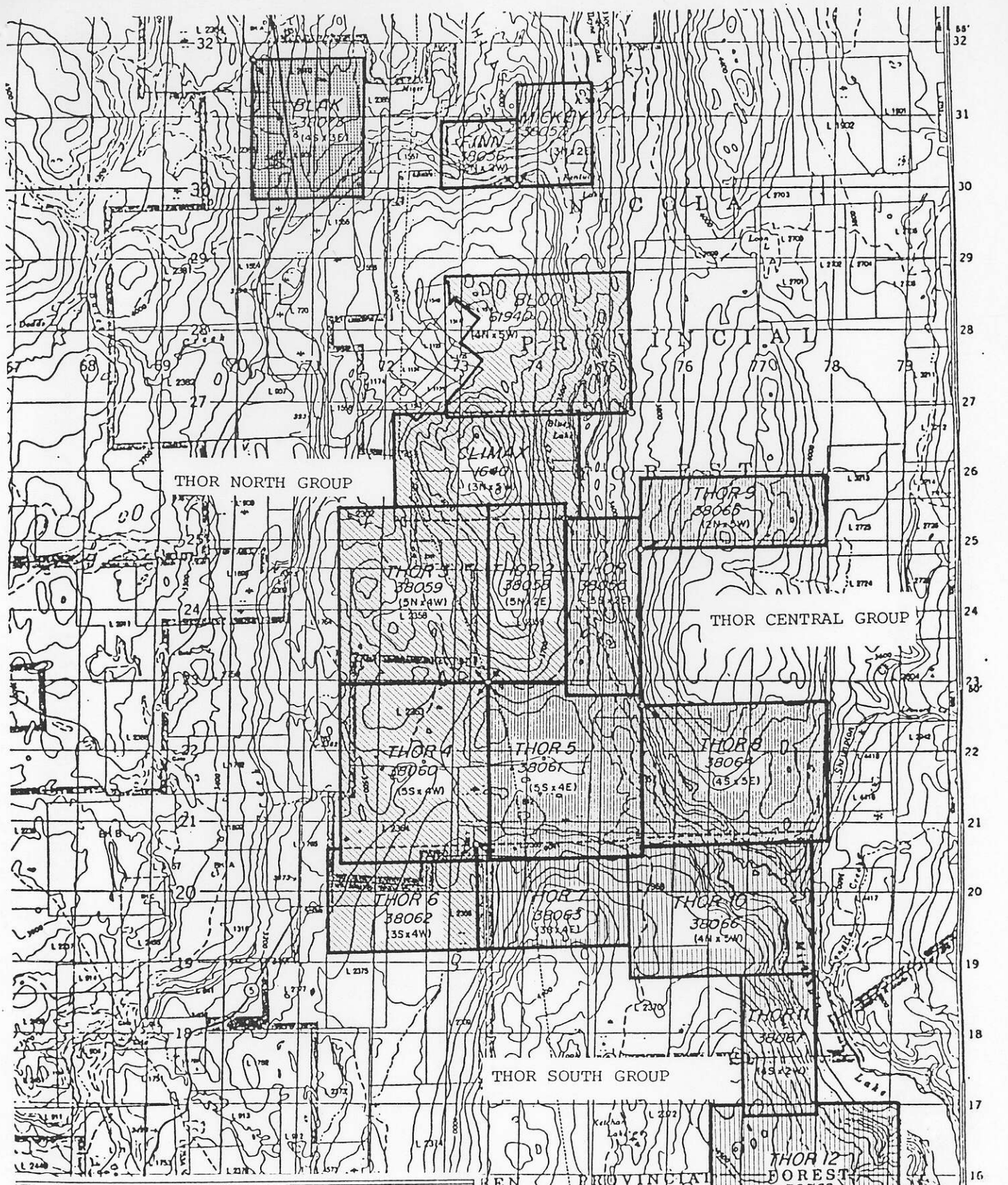

Figure 2:

Vanco Explorations Limited

ASPEN GROVE PROJECT CLAIM MAP

Nicola & Similkameen Mining Divisions

I. M. Watson & Associates Ltd.

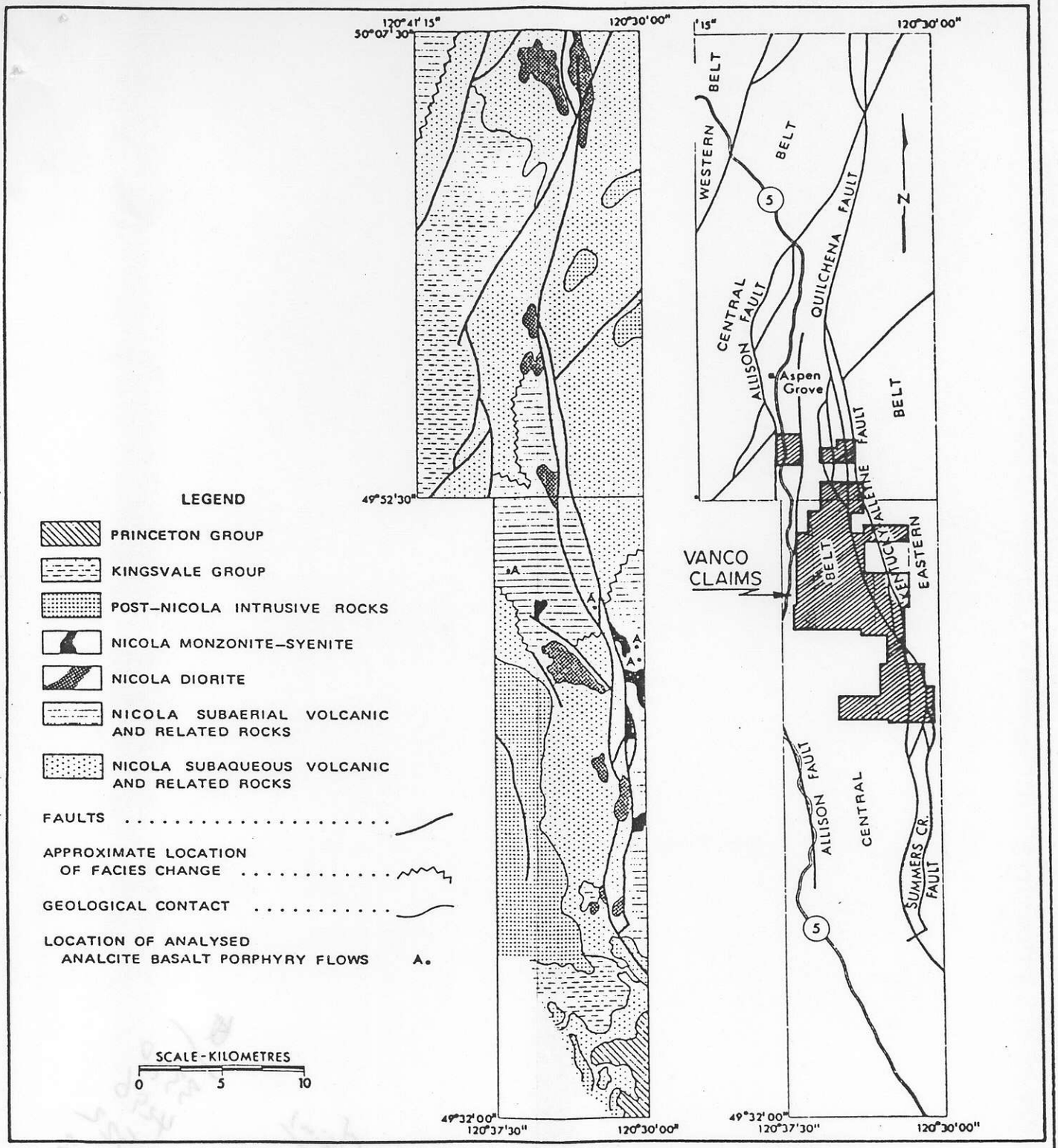

Figure 5. Generalized distribution of subaerial and subaqueous Nicola assemblages. Distribution of main faults.

Figure 3b:

Vanco Explorations Limited

GENERALIZED GEOLOGY
ASPEN GROVE AREA
(After Preto 1979)

August, 1985

I. M. Watson & Associates Ltd.

Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL-GEOCHEMICAL	$3,370.92

AUTHOR(S) T.E. Lisle, P.Eng. SIGNATURE(S) T.E. Lisle

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED August 27, 1985 YEAR OF WORK 1985

PROPERTY NAME(S) MICKEY-FINN GROUP

COMMODITIES PRESENT Copper

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Nicola NTS 92H/15E

LATITUDE 49° 44' LONGITUDE 120° 34'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

MICKEY (6 units)
FINN (4 units)

OWNER(S)

(1) Vanco Explorations Ltd. (2)

MAILING ADDRESS

4600 Toronto Dominion Centre
Toronto, Ontario M5K 1E5

OPERATOR(S) (that is, Company paying for the work)

(1) As above (2)

MAILING ADDRESS

As above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Mickey and Finn claims underlain by upper Triassic Nicola Group andesites and basalts, and red and green laharic breccias. A small diorite plug intrudes the volcanics in the central part of the Mickey claim. Copper showings (chalcopyrite, chalcocite, bornite, malachite) are related to contacts and faults.

REFERENCES TO PREVIOUS WORK B.C. Assessment Reports: 3758, 7029
B.C. MMAR 1891, 1899, 1901, 1964, 1967, 1974, 1978

(over)

Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL-GEOCHEMICAL	$4,296.51

AUTHOR(S) T.E. Lisle, P.Eng. SIGNATURE(S) T.E. Lisle

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED August 27, 1985 YEAR OF WORK 1985

PROPERTY NAME(S) BLAK

COMMODITIES PRESENT Copper

M.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Nicola NTS 92H/15E

LATITUDE 49° 55' LONGITUDE 120° 37'

CLAIM NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

BLAK (12 units)

OWNER(S)

(1) Vanco Explorations Ltd. (2)

MAILING ADDRESS

4600 Toronto Dominion Centre
Toronto, Ontario M5K 1E5

OPERATOR(S) (that is, Company paying for the work)

(1) As above (2)

MAILING ADDRESS

As above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Claims are underlain by rocks of Nicola Group Central Belt, comprising flow and fragmental volcanics and sediments which include narrow irregular bands of limestone.

Small scattered copper occurrences appear related to faults and contacts and are present in areas of conspicuous brown carbonate alteration.

REFERENCES TO PREVIOUS WORK British Columbia Minister of Mines Annual Reports, 1965, 1969, 1970, 1972. Assessment Reports: 1850, 3686.

(over)

Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL-GEOCHEMICAL	$21,522.18

AUTHOR(S) T. E. Lisle, P. Eng. SIGNATURE(S) T. E. Lisle

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED September 3, 1985 YEAR OF WORK 1985

PROPERTY NAME(S) THOR SOUTH GROUP

COMMODITIES PRESENT Copper, Silver

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Nicola and Similkameen NTS 92H/15E

LATITUDE 49° 50' LONGITUDE 120° 35'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property (Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)):

THOR SOUTH GROUP (Thor 7, 10, 11, 12, 13, 14, 15, 16)

OWNER(S)

(1) Vanco Explorations Ltd. (2)

MAILING ADDRESS

4600 Toronto Dominion Centre
Toronto, Ontario M5K 1E5

OPERATOR(S) (that is, Company paying for the work)

(1) As above (2)

MAILING ADDRESS

As above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Claims are underlain by volcanic and sedimentary rocks of Nicola Group Central Belt; and to lesser extent by eastern belt rocks. Formations are cut by northerly trending faults. Numerous copper prospects with malachite, chalcocite and locally chalcopyrite, bornite and pyrit occur near faults and contacts. Silver and minor gold is locally present.

REFERENCES TO PREVIOUS WORK Numerous references - B.C. Min File

(over)

Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL-GEOCHEMICAL	$25,923.13

AUTHOR(S) T.E. Lisle, P.Eng. SIGNATURE(S) T.E. Lisle

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED September 3, 1985 YEAR OF WORK 1985

PROPERTY NAME(S) THOR NORTH GROUP

COMMODITIES PRESENT Copper, Silver

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Nicola and Similkameen NTS 92H/15E

LATITUDE 49° 50' LONGITUDE 120° 35'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

THOR NORTH GROUP (Bloo, Climax, Thor 2, 3, 4, 6)

OWNER(S)

(1) Vanco Explorations Ltd. (2)

MAILING ADDRESS

4600 Toronto Dominion Centre
Toronto, Ontario M5K 1E5

OPERATOR(S) (that is, Company paying for the work)

(1) As above (2)

MAILING ADDRESS

As above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Claims are underlain by volcanic and sedimentary rocks of Nicola Grou Central Belt. Formations are cut by northerly trending faults. Numerous copper prospects, with malachite, chalcocite and locally chalcopyrite, bornite and pyrite occur near faults and contacts. Silver and minor gold is locally present.

REFERENCES TO PREVIOUS WORK Numerous References - B.C. Min File

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Province of British Columbia

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL-GEOCHEMICAL	$12,331.42

AUTHOR(S) T.E. Lisle, P.Eng. SIGNATURE(S) T.E. Lisle

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED September 3, 1985 YEAR OF WORK 1985

PROPERTY NAME(S) THOR CENTRAL GROUP

COMMODITIES PRESENT Copper

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION Nicola and Similkameen NTS 92H/15E

LATITUDE 49° 50' LONGITUDE 120° 35'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

THOR CENTRAL GROUP (Thor, Thor 5, 8, 9)

OWNER(S)

(1) Vanco Explorations Ltd. (2)

MAILING ADDRESS

4600 Toronto Dominion Centre
Toronto, Ontario M5K 1E5

OPERATOR(S) (that is, Company paying for the work)

(1) As above (2)

MAILING ADDRESS

As above

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

Claims are underlain by volcanic and sedimentary rocks of Nicola Group Central Belt; and to lesser extent by eastern belt rocks. Formations are cut by northerly trending faults. Numerous copper prospects with malachite, chalcocite and locally chalcopyrite, bornite and pyrite occur near faults, and contacts. Silver and minor gold is locally present.

REFERENCES TO PREVIOUS WORK Numerous references - B.C. Min File

(over)

Geological and Geochemical Report

on the

BLAK MINERAL CLAIM

Nicola Mining Division
Aspen Grove Area, British Columbia
Latitude 49°54'; Longitude 120°34'
NTS 92H/15E

For:

VANCO EXPLORATIONS LIMITED
4600 Toronto Dominion Centre
Toronto, Ontario

By:

L. M. WATSON & ASSOCIATES
T. E. Lisle, P.Eng.

October 1, 1985

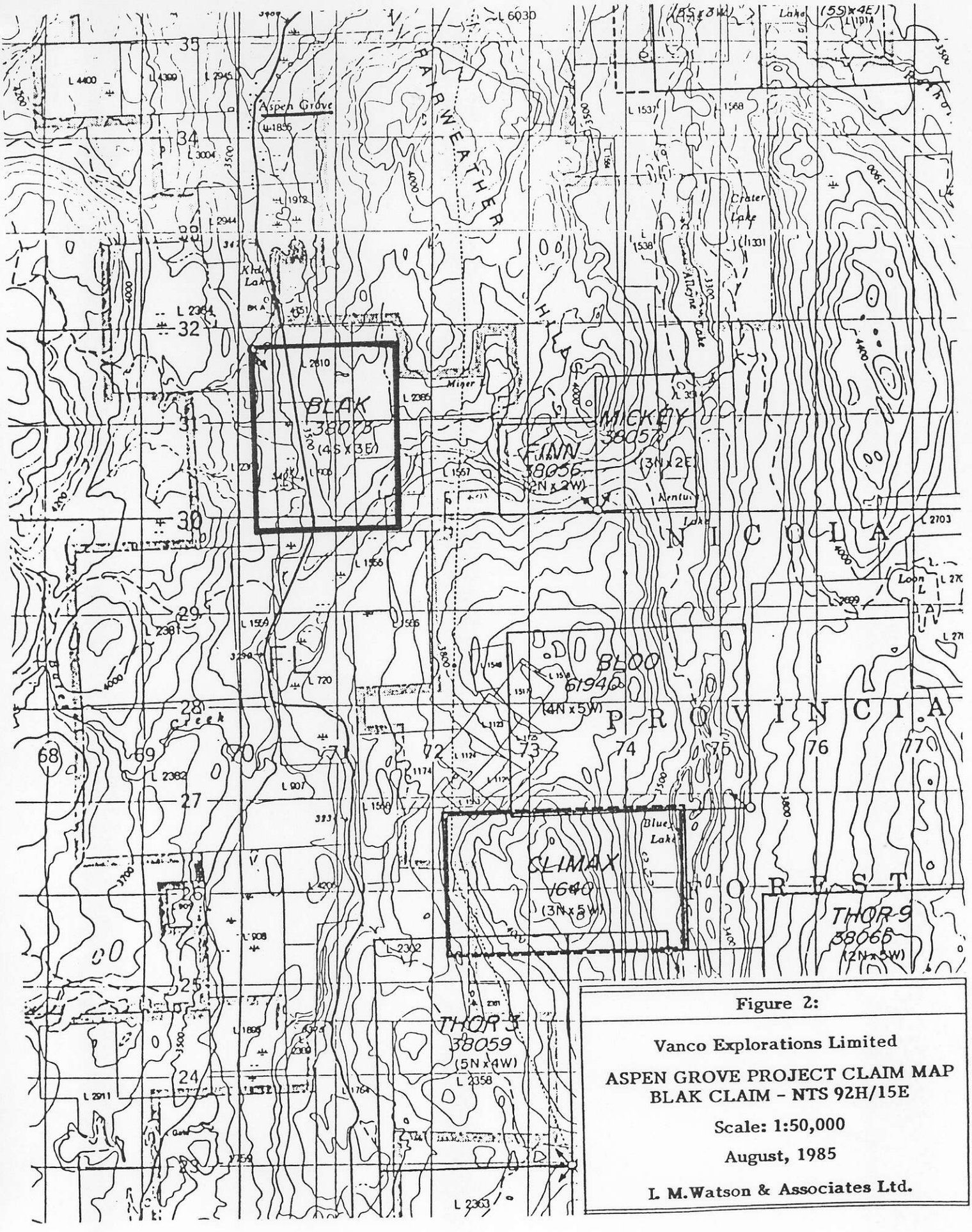

Figure 2:

Vanco Explorations Limited

ASPEN GROVE PROJECT CLAIM MAP
BLAK CLAIM - NTS 92H/15E

Scale: 1:50,000

August, 1985

L. M. Watson & Associates Ltd.

In 1967, exploration work carried out on ground about 7 kilometres north of the Blak-Mickey-Finn claims yielded the following drill intercepts indicating a significant potential for gold mineralization in the area. (Watson, 1985.)

Au	Ag	Cu	Width
0.13 ozs	1.15 ozs	0.70%	165' - 175' (10')
0.15 ozs	0.48 ozs	0.20%	210' - 270' (60')
0.115 ozs	1.68 ozs	0.26%	310' - 320' (10')

This property is still under active investigation.

Much of the work completed on or near the Blak claim was undertaken in the 1968 to 1972 period on property covered by the HH and Mix mineral claims. These efforts resulted in the discovery of a number of small copper prospects that were investigated, in part, at the following times:

1968 Induced polarization survey.

1969 Geological, magnetic, geochemical and induced polarization surveys and 1800 feet of percussion drilling in 6 holes.

1970 Electromagnetic and geochemical surveys.

1972 Magnetic surveys.

WORK PROGRAM

The preliminary evaluation of data on the area showed a number of characteristics commonly present in gold prospects and deposits in the same geological environment. These include major fault zones and calcareous strata around which a number of mineral prospects and zones of alteration are concentrated.

Geological examinations were completed in these areas and a total of 21 large rock samples and 84 soil samples were collected for analyses. The soil samples were

	BLAK CLAIM		ASPEN GROVE PROJECT AREA	
A)	Soils (84 samples)		(1131 samples)	
	Range		Range	Threshold
Au	1 - 19 ppb		1 - 95 ppb	10 ppb
Mo	1 - 10 ppm		1 - 14 ppm	3 ppm
Cu	32 - 125 ppm		5 - 1744 ppm	150 ppm
Pb	3 - 16 ppm		2 - 181 ppm	19 ppm
Zn	48 - 228 ppm		12 - 3781 ppm	165 ppm
Ag	0.1 - 0.5 ppm		0.1 - 7.4 ppm	0.6 ppm
Co	9 - 16 ppm		1 - 27 ppm	16 ppm
As	2 - 45 ppm		2 - 45 ppm	15 ppm
Ca	.54 - 3.87%		.21 - 33.5%	2.8 %
B)	Rocks (21 samples)		(340 samples)	
	Range		Range	
Au	1 - 11 ppb		1 - 980 ppb	
Mo	1 - 2 ppm		1 - 185 ppm	
Cu	44 - 10,702 ppm		5 - 74,949 ppm	
Pb	3 - 15 ppm		2 - 939 ppm	
Zn	42 - 345 ppm		1 - 2308 ppm	
Ag	0.1 - 12.6 ppm		0.1 - 177.4 ppm	
Co	9 - 20 ppm		1 - 172 ppm	
As	2 - 34 ppm		2 - 491 ppm	
Ca	1.26 - 26.46 %		0.1 - 29.48 %	

(Antimony and tungsten have been omitted from the table as analysis failed to indicate any significant variation or anomalies.)

On the Blak claim, the small number and irregular distribution of samples reflecting the reconnaissance nature of the programme, precludes any interpretation of trends. The accompanying plans show sample locations and element analyses; values for copper only are plotted.

DISCUSSION

Data generated in the geochemical part of this program in general, indicate a low range of values with the following exceptions:

- Two samples from the small grid near the north boundary of the claim yielded a low-grade anomaly of 12 and 19 ppb Au. This zone is coincident with a poorly exposed buff carbonate altered rock adjacent to limestone, and is believed to be near a northerly trending fault. A number of rock samples from this area yielded significant copper-silver assays.

- Four soil samples from the north reconnaissance line showed elevated levels of arsenic, molybdenum and zinc at contiguous sites east of the highway. This area is close to a northerly trending fault in argillaceous rocks that appears to host copper mineralization further to the north.

- A number of rock samples collected from other areas of the claim yielded significant copper assays that were largely expected given the nature of the showings. Some of these samples also yielded high silver, and locally anomalous arsenic, zinc and antimony. One sample yielded 11 ppb gold.

CONCLUSIONS

The objectives of the reconnaissance program on the Blak claim, to re-examine precious and related trace element content of porphyry copper and other geological targets, have been met.

This program revealed two areas, described above, that require further investigation. Follow-up work should include detailed prospecting and geological traverses with geochemistry to determine the nature and extent of mineralization.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
T.E. LISLE

1 October 1985

T.E. Lisle, P.Eng.

Geological and Geochemical Report

on the

MICKEY-FINN GROUP

Nicola Mining Divisions
Aspen Grove Area, British Columbia
Latitude 49°54'; Longitude 120°34'
NTS 92H/15E

For:

VANCO EXPLORATIONS LIMITED
4600 Toronto Dominion Centre
Toronto, Ontario

By:

I. M. WATSON & ASSOCIATES
T. E. Lisle, P.Eng.

October 1, 1985

Much of the data generated during the geochemical part of this work plots within a narrow range for all elements with the following exceptions:

Sample No.		Sample No.		
M1017 -	95ppb gold	M2017 -	10ppb gold	
M2018 -	22ppb gold	M2028 -	10ppb gold,	714ppm Cu
M2029 -	540ppm Cu	M1040 -	10ppb gold	

Limited follow-up geochemistry in these areas failed to reveal any significant mineralized zones.

Rock samples from some of the trenches yielded high copper assays, up to 5.7 ppm silver but low, (up to 18 ppm gold). Rock samples from the area of the old Cincinnati showings yielded 5 to 12 ppm antimony and 5 to 13 ppm tungsten. These results are not abnormally high but are certainly higher than other results in the project area.

CONCLUSIONS

The objectives of the reconnaissance exploration on the Mickey and Finn claims, i.e. re-examination of mineralized showings and specific targets of interest, has been completed. This work did not point to zones that warrant a high priority follow-up.

Some of the anomalous results noted above occur close to projected fault zones, a short distance from the dioritic intrusion. Detailed re-examination of these areas by prospecting and geological traverses should be completed in the further evaluation of the claims.

1 October 1985

T.E. Lisle, P.Eng.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
T.E. LISLE

I.M. WATSON & ASSOCIATES LTD.

Geological and Geochemical Report

on the

BLOO, CLIMAX, THOR, AND THOR 2 TO 16 MINERALS CLAIMS
THOR NORTH GROUP (BLOO, CLIMAX, THOR 2, 3, 4, 6)
THOR CENTRAL GROUP (THOR 5, 8, 9)
THOR SOUTH GROUP (THOR 7, 10, 11, 12, 13, 14, 15, 16)

Nicola and Similkameen Mining Divisions
Aspen Grove Area, British Columbia
Latitude 49°50'; Longitude 120°35'
NTS 92H/15E

For:

VANCO EXPLORATIONS LIMITED
4600 Toronto Dominion Centre
Toronto, Ontario

By:

L. M. WATSON & ASSOCIATES
T. E. Lisle, P.Eng.

October 1, 1985

#816 - 675 West Hastings Street, Vancouver, B.C. V6B 1N2 Tel. (604) 669-6737

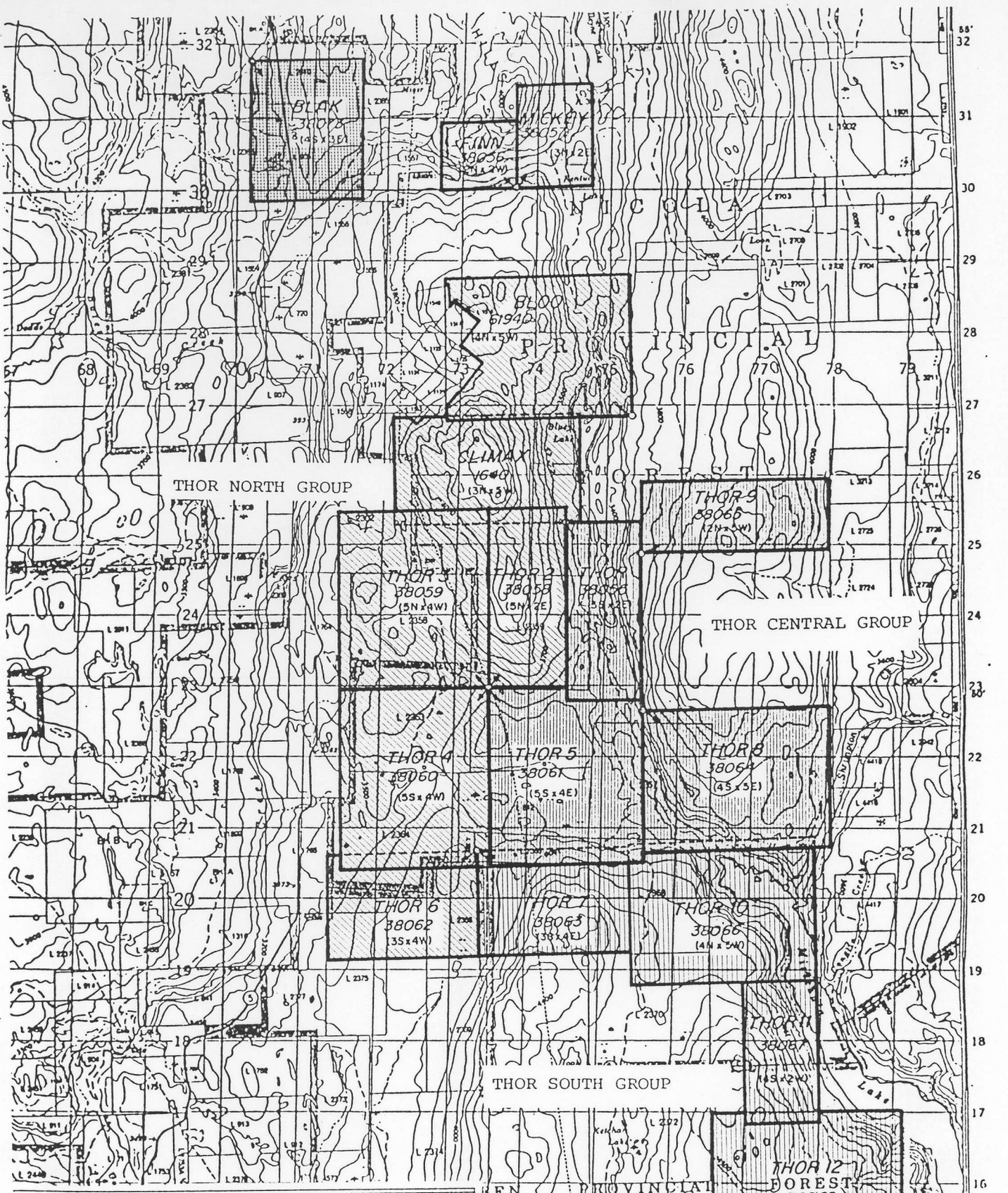

Figure 2:

Vanco Explorations Limited

ASPEN GROVE PROJECT CLAIM MAP

Nicola & Similkameen Mining Divisions

L. M. Watson & Associates Ltd.

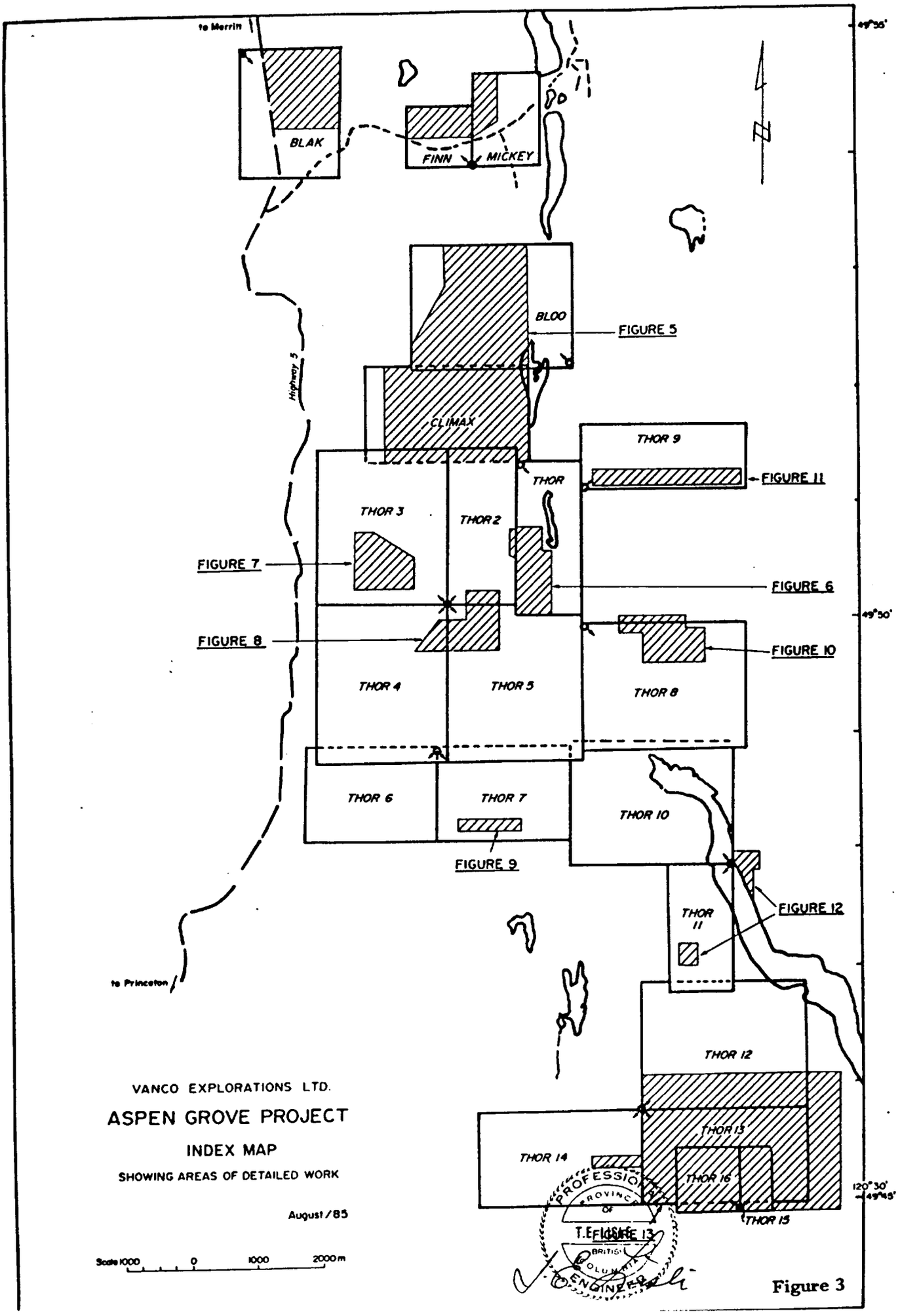
to Merrin
BLAK
FINN
MICKEY
BLOO
FIGURE 5
Highway 5
CLIMAX
THOR 9
FIGURE 11
THOR
THOR 3
THOR 2
FIGURE 7
FIGURE 6
FIGURE 8
FIGURE 10
THOR 4
THOR 5
THOR 8
THOR 6
THOR 7
THOR 10
FIGURE 9
THOR 11
FIGURE 12
to Princeton
THOR 12
THOR 13
THOR 14
THOR 16
THOR 15
FIGURE 13
49°55'
49°50'
120°30'
49°45'
VANCO EXPLORATIONS LTD.
ASPEN GROVE PROJECT
INDEX MAP
SHOWING AREAS OF DETAILED WORK
August / 85
Scale 1000 0 1000 2000 m
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA

Figure 3

GEOCHEMISTRY

A total of 343 rock samples, and 1134 soil samples including two pan concentrates and one drill hole precipitate were collected from the following areas for analyses:

Claim	Rock	Soil
Blak	21	84
Mickey and Finn	18	62
Bloo-Climax	127	456 (1)
Thor	8	107
Thor 2	1	11
Thor 3	4	51
Thor 4	-	15
Thor 5	4	31
Thor 6	-	-
Thor 7	4	13
Thor 8 (and vicinity)	17	60
Thor 6	3	28
Thor 10	-	-
Thor 11 (and vicinity)	13	-
Thor 12-16 (and vicinity)	119	216 (2)
Misc. (samples from other areas)	4	-
	343	1134

(1) Includes 1 drill hole precipitate
(2) Includes 2 pan concentrates

Soil samples were collected with tree planters' shovels from depths ranging to 40 centimetres. Attempts were made to take 'B' horizon soils. Where this was not possible, 'C' horizon or talus fines were collected. In a few areas of thick glacial drift, small rock chips of the nearest outcrops were taken. Sample data was recorded in field books, samples packaged in kraft soil envelopes and shipped to Acme Analytical Laboratory in Vancouver for analysis.

Rock samples other than those noted above ranged from 1 to 5 kilograms in weight. Many of the samples from trench areas were representative 'grabs' either from the dump or from bedrock. In some areas, the best mineralization available was selected for assay. These samples were packaged in heavy duty plastic sample bags and freighted to Vancouver for geochemical analysis. At the laboratory, the soils were

BLOO-CLIMAX

Mineral occurrences on the Bloo-Climax claims are partly related to the westerly margin of a diorite intrusion along a major off-shoot of the Missezula-Kentucky-Alleyne Fault. The diorite intrudes a complex assemblage of Central Belt rocks including flow and fragmental volcanics of units 1a and 1c; and limestone, breccias and tuffaceous sedimentary rocks of units 1e, 1f and 1g.

The contact area is marked by strong lineaments and faults that parallel the regional north-northwest trend and by less conspicuous northeasterly structures that locally offset the contact (Figure 5c).

Mineral deposits are widespread within the broad contact area. A number of the more recent investigations have been directed to copper mineralization a few hundred metres west of the contact in zones partly marked by pervasive brown carbonate alteration. Small outcrops of syenite and diorite have been mapped along trend and a relationship is likely. Mineralization includes chalcocite, malachite, pyrite and chalcopyrite. Hematite and minor quartz fractures are locally evident.

Chalcocite, malachite, bornite, magnetite and gold is associated with epidote-calcite fractures within and adjacent to the intrusive contact in the central Bloo claim area. Hematite is present at some small pits thought to be part of the old Boomerang prospect.

A large section of the Bloo-Climax claims was examined by 127 rock and rock chip samples, and by 456 soil samples collected from reconnaissance grid lines. Extensive geological and prospecting traverses were made and geological and geochemical data compiled on figures 5a to 5c accompanying this report.

A preliminary evaluation of the resulting data reveals the following:

1) A low-grade gold anomaly, up to 59 ppb in the soils, is present along the contact in the vicinity of the old Boomerang prospect. A number of rock samples in this area range up to 980 ppb gold.

2) Copper and zinc content in this soil is highly variable, and high values are widely scattered. Assays above the thresholds noted above do not appear to indicate highly anomalous trends, although zinc is slightly more prevalent along the belt to the west of the contact. Elevated levels of both elements also occur along the northern boundary of the claim.

3) The soils near the Western Belt show scattered areas of anomalous lead, silver, and locally arsenic and calcium, and rarely antimony, molybdenum and cobalt.

4) Copper content of the rocks is high particularly those collected from mineral showings, but zinc content is low. Silver assays greater than 1 ppm are widespread. In one area of the central Climax claim, silver assays ranged to 177.4 ppm.

5) Scattered high assays of arsenic, lead, antimony and molybdenum in rock samples tend to be more concentrated along the western belt.

6) A number of rock samples collected from the central area and near the southern boundary of the Climax claim contain gold ranging up to 55 ppb. This area is partly coincident with high copper and silver and warrants detailed investigation.

THOR

The Thor claim lies astride a major branch of the Summers Creek-Missezula fault zone that separates the Nicola Group Eastern and Central Belts. The most recent mapping by Preto shows the area to be underlain by flow and fragmental rocks of Central Belt unit 1a that are locally overlain by a small remnant of Tertiary basalt (unit 18).

Previous workers, (Assessment Report 7165-Cominco) show the area to be underlain by a narrow arcuate dyke-like mass of diorite trending south-southwest and northwest. This interpretation may have been aided by drill hole information not presently available. An I.P. anomaly is coincident with the northwest trend.

Mineralization at three copper prospects in the claim includes malachite, chalcocite, pyrite, chalcopyrite and locally magnetite. Calcite and hematite are present, and at the southern trench mineralization appears to be related to fractures trending 155° /48S. The showings have been investigated by a variety of geological surveys, and by trenching and drilling.

107 soil samples and 8 rock samples were collected from reconnaissance grid lines and from mineralized outcrops. The locations of sample sites are shown on figure 6 accompanying this report.

The analyses of the soil samples show the assays to range to 259 ppm copper, the higher values being generally coincident with zinc assays of ±100 ppm. Gold content of the soils ranges to 11 ppb.

Rock samples from the trenches yielded high copper assays as expected, ranging to 45,557 ppm. The higher copper assays had correspondingly high silver assays that ranged to 33.9 ppm. One or two samples also yielded higher than background arsenic and lead. Gold content ranged to 9 ppb.

The copper prospects on the Thor claim can be grouped along with others that are spatially related to the main Missezula-Summers Creek fault. A number of these showings to the north are auriferous, consequently the trace of the showings should be further explored.

THOR 3

A number of traverses were completed over an area mapped by previous workers as fine grained diorite (Assessment Report 7165); or as dark basaltic volcanic rocks of Preto's Central Belt unit 1a. Both volcanic and intrusive rocks have been noted, and the area is marked by a large magnetic anomaly. (Figure 7a.)

Traces of pyrite, malachite and native copper are present in a greyish-red volcanic rock near 187N and 188E. The host rock contains finely disseminated magnetite and is strongly fractured (195°/72 W).

Forty-six soil samples were collected from traverses laid out to examine areas of high magnetics and pyrite mineralization. Five additional samples were collected near the northeast boundary of the claim and are shown on adjacent maps of the Bloo-Climax area. The locations of the samples and of the four rock samples collected, are shown on figure 7b accompanying this report.

The assay data of the samples plot within a narrow range for all elements. A few samples yielded ±100 ppm in copper and zinc, however, gold content for soil and rocks is low.

THOR 2, 4, 5

A number of small copper showings are present close to the power line right-of-way, and by the common boundary of the Thor 4 and 5 mineral claims. Assessment Report 7165 shows this area to have anomalous rock geochemistry and magnetic anomalies that appear to be part of a larger area that includes the Thor 3 claim. (Figure 8a.)

The area is underlain by dark green diorite of unit 5, and by coarse laharic breccias of Central Belt unit 1d. A small carbonatized outcrop with minor quartz veining is present near the boundary (Sample 2007).

Fifty-one soil samples and five rock samples were collected from the area of interest, and from a showing on the Thor 2 claim near the road. Several prospecting traverses were also completed in the search for other occurrences. The results of the assays and the location of the sample sites are shown on figure 8 accompanying this report.

The soil assays plot in a narrow range for most elements. A few samples show slightly elevated levels of copper and zinc around 100 ppm, however, no significant trends are indicated.

Two of the rock samples yielded anomalous copper and slightly anomalous silver. One of these samples was selected from chalcocite-malachite mineralization contained in 320°/90 and 260°/70S fractures. The sample yielded 155 ppm gold. Detailed prospecting in this area failed to reveal other mineralization of interest.

THOR 7 (Power Line Area)

An area in the southern part of the Thor 7 claim along the power line road is underlain by greyish-green flows with abundant clasts of pink syenite thought to be unit 1a, and by hematitic fragmentals of unit 1c. The formations are cut by a strong east-north-east striking fault. Epidote is locally present.

Chalcocite and malachite are present in poorly exposed outcrops along the road. Sampling by previous operators showed 0.70% copper over 2 metres. (Assessment Report 7165.) The setting is not apparent, however the mineralization may relate to one or more strands of the fault.

Thirteen soil samples and four rock samples were collected from the area of interest. The locations and results of the analyses are shown on figure 9 accompanying this report.

Soils adjacent to the showing yielded slightly anomalous copper and zinc in the order of 100 ppm, and one sample yielded 8 ppb gold. The four rock samples assayed up to 2625 ppm copper, and up to 1.9 ppm silver; gold content is low, up to 5 ppb.

THOR 8

A number of traverses were completed to examine the geology and geochemistry across the trace of the Summers Creek-Missezula Fault zone, and tuffaceous sedimentary rocks to the west.

Rocks mapped on the west side of the fault include red to green to maroon basaltic flows and fragmentals of Central Belt unit 1a, and by well bedded red tuffs thought to be part of unit 1e. These bedded rocks trend northwest and dip northeast. Near the faults, epidote alteration is common.

East of the fault(s), the assemblage is largely sedimentary (Eastern Belt unit 2c). The rocks are well bedded, trend northeast, dip northwest, and include grey-green tuff and siltstone and dark grey to black argillaceous limestone or calcareous argillite comparable to that found at the Laramide gold prospect to the north. Near the fault(s), the sedimentary rocks are locally bleached and contain traces of pyrite. Minor quartz fractures have also been noted in this area.

A small outcrop of altered diorite (syenite)? is present near the faults, and is believed to be the southern extension of an elongate mass mapped along the fault further to the north.

A total of 60 soil samples and 17 rock samples were collected from the claim, and from ground immediately to the north. The location of sample sites and the results of the analyses are shown on maps accompanying this report.

A plot of the soil data reveals a few copper and zinc assays in the order of 100 ppm, and 5 widely scattered points with 17 to 27 ppm cobalt. Two samples yielded 10 and 12 ppb gold. The highest rock assay of 6060 ppm copper and 2.9 ppm silver is from a sample of mineralization from an old trench north of the Thor 8. The remaining rock samples yielded low copper assays up to 987 ppm, and up to 5 ppb gold. Rock samples taken east of the fault(s) show a slightly higher arsenic content than those to the west.

THOR 9

The Thor 9 claim covers rocks of the Central and Eastern Belts separated by major strands of the Missezula-Summers Creek fault that are marked by prominent lineaments. West of the fault, rocks are a greyish-green to maroon volcanics of Central Belt unit 1c. East of the fault the exposures are well to poorly layered laharic deposits of Eastern Belt unit 2c. Pyritized andesite of unknown affiliation occurs along the ridge near post ON-3E. Between two strands of the fault, a small exposure of dark green basalt or diorite with disseminated magnetite is present and may relate to an elongate mass of diorite mapped further to the south.

Twenty-eight soil samples and three rock samples were collected from the traverse made 100 metres north of the Thor 9 south boundary. The location of sample sites along with assay results are shown on Figures 11A and 11B accompanying this report.

All sample assays, both rock and soil, plot within a narrow range for all elements. One soil sample at station 227 East, near a suspected fault, yielded 12 ppb gold and should be further checked.

THOR 11

A number of copper showings located east of the eastern boundary of the Thor 11 claim were examined and sampled. The area is underlain by syenitic rocks believed by Preto to mark an eroded volcanic centre. East of the intrusion, roadwork has uncovered black to dark grey argillaceous limestone (calcareous argillite)? interbedded with pinkish-grey pyritic tuff trending at 050°/23 NW.

West of the intrusion, basaltic flows of (unit 2a?) are mapped near the lake. Between the basalt and the intrusion, an irregular mass of coarse tuff and pale buff limestone trending at 090°/+42S is present. The copper showings are spatially related to these rocks which are thought to belong to unit 2b of the Eastern Belt.

Eleven rock samples were collected from the mineralized showings, and from the roadcut crossing Conglin Creek. The locations of these samples are shown on figure 12 accompanying this report.

The sample results plot in a wide range for Mo, Cu, Pb, Zn, As, Au, and Sb. One of the samples yielded high copper, silver and 80 ppb gold, the gold content being higher than samples with high copper-silver ratios elsewhere in the project area. The arsenic content of some of the samples is also slightly higher.

THOR 12-16

The Thor 12 to 16 claim area is underlain by Nicola Group Central Belt rocks including units 1a, 1b, 1e, 1f?, and 1g?; and by small dioritic intrusions. The area is cut by northerly trending branches of the Missezula-Kentucky fault, one of which separates Eastern Belt rocks a short distance to the east of the claims. Recent roadwork has uncovered a northwesterly fault on the Thor 12 claim thought to be related to a major northwest splay of the fault.

Much of the previous work completed in the claim area was directed to porphyry copper showings near the south boundary of the Thor 13, 15 and 16 claims. (Assessment Reports 3365, 8352, 9407.) The copper mineralization is in part localized within and around a small dioritic mass that intrudes volcanic flows of unit 1a; and is bounded on the east by a major northerly fault.

Small lenses of pale grey limestone outcrop immediately east of the fault (unit 1f) and are succeeded eastward by black graphitic, pyritic, non-calcareous argillite interbedded with and partly bounded by grey-green tuff and breccia tentatively mapped as unit 1g. Further to the east and north, volcanic sediments and minor chert of unit 1e are present.

Current investigation of the claims was largely through road traverses and east-west reconnaissance grid lines. A total of 216 soil samples and 119 rock samples was collected for analyses. A number of these samples were taken from ground immediately east of the claims either from the new road, or from cuts and trenches around an old prospect southeast of Thor 13 claim. All relevant data is shown plotted on Figures 13a and 13b accompanying this report. A preliminary assessment of the data indicates the following:

1) With minor exceptions, soils on the west side of the fault in the vicinity of the porphyry prospect, contain higher levels of zinc, copper and lead than those east of the fault. (Cu - 213 ppm, Zn - 3781 ppm, Pb - 61 ppm.)

2) Elevated levels of arsenic (14 to 36 ppm) are present on both sides of the fault, but are more prevalent to the west.

3) Gold content of the soils is generally low and ranges to 60 ppb. Higher values occur on both sides of the fault.

4) One soil sample near the northeast boundary of the Thor 13 claim yielded 35 ppm tungsten.

5) Gold content of the rock samples varies from 5 ppb to 130 ppb. The higher assays are clustered in two areas: a) around the porphyry prospect west of the fault and b) on the Thor 12 claim several hundred metres to the north. Rock samples from these areas contain elevated levels of copper, lead and zinc, and locally silver.

6) 20 to 30 ppm arsenic and ±20 ppm cobalt contents are common in the above areas and along the road east of the claims. The arsenic content increases to about 100 ppm on both sides of the fault near the porphyry prospect, and cobalt peaks at 172 ppm on the Thor 12 claim.

7) Rock samples from trenches southeast of the Thor 13 claim yielded anomolous levels of copper, molybdenum, antimony, silver and lead.