AMARK EXPLORATIONS LTD.

ASSESSMENT REPORT

GEOCHEMICAL - GEOPHYSICAL SURVEYS

ALCO MINERAL CLAIMS GROUP

MAMQUAM RIVER - SQUAMISH AREA

VANCOUVER MINING DIVISION

BRITISH COLUMBIA

Latitude: 49° 40' North: Longitude: 123° 55' West

Geophysical Survey By: Wm. Chang M. Sc.; Wm. Weymark B. Sc. P. Eng.
Geochemical Survey By: Wm. Chang M. Sc.; J. W. Weymark
Interpretation By: Wm. Chang M. Sc.; Wm. J. Weymark, B. Sc., P. Eng.
Chemical Analysis By: Chemex Labs Ltd.; North Vancouver, B. C.

15 August 1979

7386

AMARK EXPLORATIONS LTD.

ASSESSMENT REPORT

GEOCHEMICAL - GEOPHYSICAL SURVEYS

ALCO MINERAL CLAIMS GROUP

MAMQUAM RIVER - SQUAMISH AREA

VANCOUVER MINING DIVISION

BRITISH COLUMBIA

CONTENTS

	Page
1.0 Property	1
2.0 Access and Location	2
3.0 Geology	2
4.0 Mineral Zones and Exploration Work	2
5.0 Geochemical Survey	3
6.0 Geophysical Survey	3
7.0 Summary Conclusions	3
8.0 Recommendations	4

APPENDICES

Annex - A Geology Mamquam Area

Annex - B Certificate of Analyses

Annex - C Details Scopas Scintrex Instrument

Annex - D Cost Distribution

ILLUSTRATIONS

Figure: 1 Frontispiece

Figure: 2 Claims Location

Figure: 3 Geology, Regional

Figure: 4 Claim Geology

Figure: 5 Frequency Curves, Copper - Molybdenum

Figure: 7 Zonal Patterns, Geochemical Background

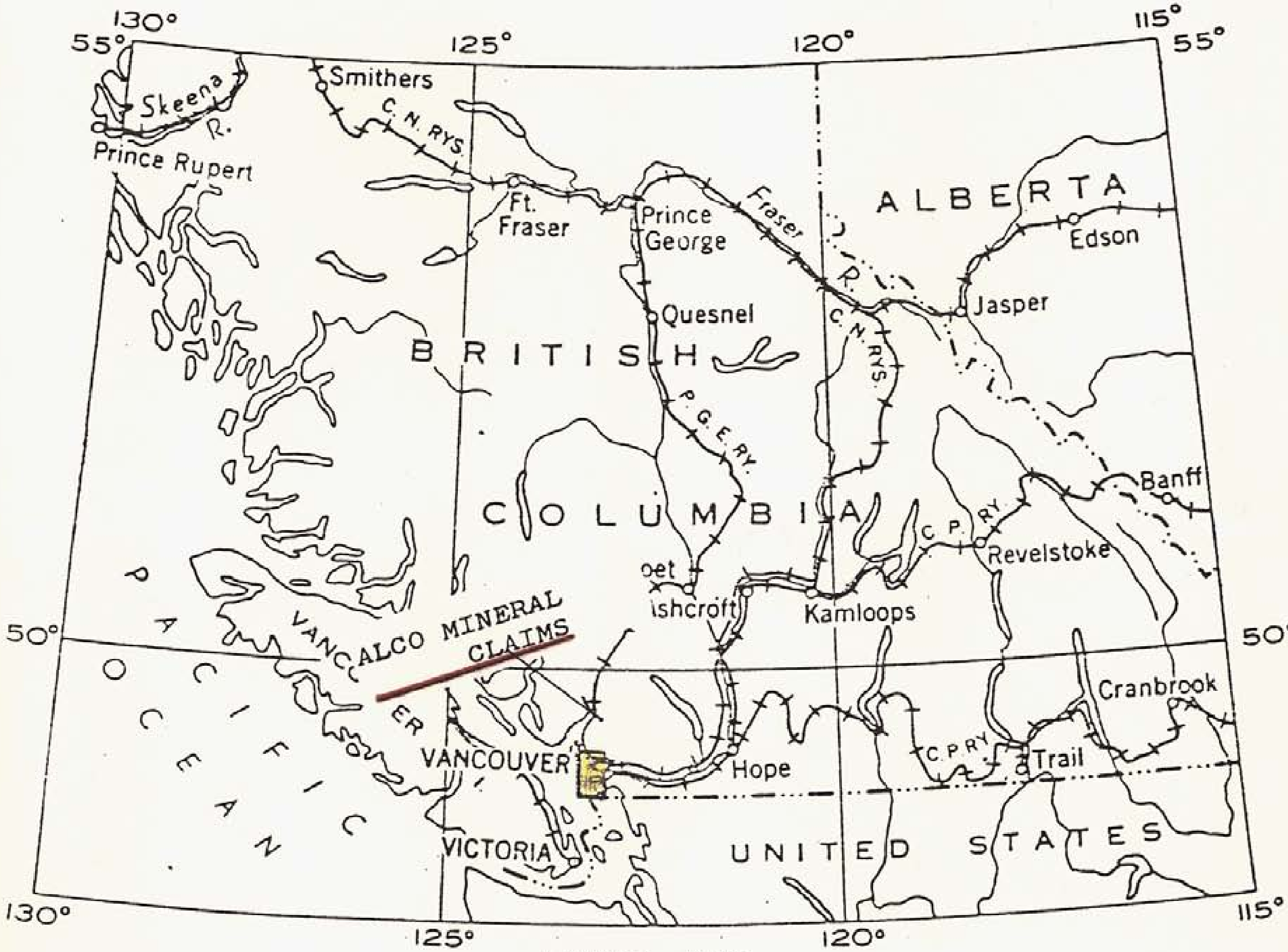
Figure: 8 Geochemical Survey, Copper

Figure: 9 Geochemical Survey, Molybdenum

Figure: 10 Geophysical Survey, Electromagnetic

Figure: 11 Composite, Geophysical - Geochemical Anomalies

Figure: 12 Anomalous Zones, Previous Investigators



INDEX MAP

<u>LOCATION</u>

ALCO MINERAL CLAIMS GROUP

VANCOUVER MINING DIVISION

MAMQUAM RIVER AREA, SQUAMISH

<u>BRITISH COLUMBIA</u>

WEYMARK ENGINEERING LTD.
Consulting Engineers
3310 WESTMOUNT ROAD
WEST VANCOUVER, B.C.
CANADA

TELEPHONE
922-1536

15 August 1979

Amark Explorations Ltd.
Suite 711 - 475 Howe Street
Vancouver, British Columbia

Gentlemen:

Re: Assessment Report
Geochemical - Geophysical Surveys
Alco Mineral Claims Group
Squamish - Mamquam River Area
Vancouver Mining Division
British Columbia

We are pleased to submit for your information, this Assessment Report relating to the Ground Geochemical - Geophysical Surveys undertaken on the Alco Mineral Claims Group completed in the field on the 16th July 1979.

Soil Sampling in the field was by Wm. Chang, J. Weymark and William J. Weymark, P. Eng. Chemical Analysis was by Chemex Labs Ltd. The Geophysical Electro-Magnetic Survey in the field was directed by Wm. Chang, M. Sc. McGill University, Geophysics, assisted by J. Weymark and William J. Weymark P. Eng., using a Scintrex Scopas VLF Electromagnetic Unit Model SE - 80. Interpretation was by Wm. Chang and W. J. Weymark P. Eng.

Background technical references relating to the Alco Mineral Claims Group are given in the following reports.

i. Weymark Engineering Ltd. Primary Report - 22 January 1979
ii. Noranda Exploration Co. Ltd. Assessment Reports Nos 4916, 17,18 and 3294 - 1971 - 1973
iii. Exeter Mines Ltd. - Assessment Reports Nos 3793 and 4467 - 1972
iv. Minister of Mines Reports, B. C. - 1971 - 1974
v. Memoir 335, Geological Survey of Canada by J. A. Reddick pp 58 - 61, 1965

1.0 Property:

The area covered by the Geochemical - Geophysical Surveys involved the 30 claim units of the Alco Mineral Claims Group:-

Alco - 1 Unit, Record No: 90 - 17 May 1976
Alco - 2 9 " Record No: 298 - 18 July 1978
Alco - 2 20 " Record No: 299 - 18 July 1978

The Reference Claim Map is 92 G/10 W, See Figure 2

2.0 Access and Location:

Access to the claims is easy via Highway No: 99, Vancouver to Squamish and then over a heavy-load classified logging road, following for the most part the Mamquam River - a distance of about eleven miles onto the claims area. This road is open year-round except during heavy snowfall and fire peril periods. Permission has to be obtained from the foresters - MacMillan Bloedel ltd. for use of the roads - logging trucks operate on a radio block control basis. Several main and branch roads transect the claims area.

The geographic reference is 49° 40' North and 123° 55' West. The claims are within the Vancouver Mining Division with registry office in Vancouver and the Vancouver Land Recording District with Registry Office in Vancouver. The claims area extend under Timber Licenses Nos 3064 - 68, 3284 - 85 and adjacents.

The claims area is mostly clear-cut with residual patches. Several parcels are replanted with speciality test timber varieties and second growth has taken over in other areas. In the upper reaches, there is considerable rock outcrop. Overburden ranges from a few inches to ten or more feet along the Mamquam River .

3.0 Geology:

Geological References are Map 42 - 1963 and Map 1151A, Geology Pitt Lake - 1965 accompanying Memoir 335, Vancouver North, Coquitlam and Pitt Lake Map-Areas, J. A. Roddick, Geological Survey of Canada, 1965. See Figure - 3.

Base Formations are Plutonic Rocks of Mezoic, - Cretaceous and earlier also (Cenozoic?) being Leucocratic - granites, granodiorites, diorites, granulites and in places migmatites. Overlaying these plutonic rocks are tuffs; andesites, sandstones-greywacke, basalts of the Gambier Group, See Annex - A

There are several North-South trending faults, shear and fracture zones and , in general, these provide the courses for many streams and creeks on the property. The mafic content of the rocks varies near these structures. Hornblende and Biotite composition varies from 90 - 20% and quartz-feldspar from 20 - 90%.

The metallic minerals of interest are copper and molybdenum, sulphides and oxides. Pyrite is generally associated with these metallics and also paragenetically and syngenetically sequences.

4.0 Mineral Zones and Exploration Work

Figure - 4 portrays the copper - molybdenum zones delineated by the Geochemical - Geophysical surveys conducted by previous investigators and reported upom in Assessment Reports . Since the base grids referenced in those surveys is not reconstructable, a new grid base was established with stations established at 500-foot intervals - East-West and 1000-foot intervals North-South. Samples and geophysical readings were taken at 500-foot intervals, in places at 250-foot intervals, See Figures - 5 and 6. The 0+00 East-West and 0+00 North-South was established at the No. 1 Post of Alco - 2.

5.0 Geochemical Survey: As part of the initial phase of the investigation of the metalliferous possibilities of the Alco Mineral Claims Group, a geochemical testing of the soils for copper and molybdenum was carried out under the direction of Weymark Engineering Ltd. Soil samples of the B Horizon of the soil profile, were taken on 500-foot intervals, EAST-WEST along the Grid Lines, See Figure: 5. The record of theSamples and Analyses is given in Annex - B. Chemical Analyses were made by Chemex Labs Ltd. using HC104 and atomic absorption. Plots of the results are given on Figure: 5.

Figure: 6 summarizes mathematical characteristics of the sampling results for both Copper and Molybdenum:

	Copper	Molybdenum
Average	324.4	6.2 ppm
Standard Deviation	1230	15
Variance	1,510,513	228.5
Threshold	800	18

Figure: 7 depicts the areal pattern of metal abundance throughout the Cordillera and the Histogram of the average level of metal background. As noted thereon, the background for Copper is 60 PPM and for Molybdenum is 2. The levels recorded on the Alco Claims excede those background levels.

Results:

Figures 8 and 9 depict planemetric plots of the chemical analyses of the soil samples respectively for copper and molybdenum. Anomalous values for copper range from 800 to 10,000 ppm for copper and 18 to 160 ppm for molybdenum. As shown on these Figures, there is general coincidence between the anomalous zones for copper and molybdenum.

To the West of the 0 - 0 Line (North-South) a broad zone 2000 feet by 1000 Feet (Plus) persists. Between chainage 0 to 1000 feet East an irregular zone , some 500 feet in width, extends and 1000 feet farther East a narrower zone trends Northeasterly South westerly for over 1500 feet. The structural trend appears to transect the base geological formation trend of North Westerly - South Easterly.

6.0 Electro-Magnetic Geophysical Survey:

A ground electromagnetic test was made of the claims area using a Scintrex Scopas instrument, Serial No. 101023 SE, Model 707022 and reference transmitting Station Jim Creek, Washington, USA 48N12; 121W55; 18.6 KHZ; 250 KW. Details of the instrument are given in Annex - C. The readings of the EM Survey are given on Figure: 10, consolidating Dip Angle, Vertical Field and Compass Azimuth geophysical features.

As shown on Figure: 10 there is a broad anomalous zone, some 1200 x 5000 feet in dimension. To the East of the base-line another large zone persists some 5000' x 900' in dimension. Smaller satellite zones are indicated. The general trend of these zones is Northeasterly - Southwesterly.

7.0 Summary Conclusions;

The results of the geochemical - geophysical surveys as presently interpreted are:

Summary Conclusions: (Cont'd)

i. There is general coincidence of the geochemical and geophysical anomalous zones with respect to areal extend and directional trend.

ii. The trend of the zones transects at about a Forty-Five degree relationship to that generally indicated by the geological formations.

iii. The correlation between the geochemical,-copper and molybdenum, and the geophysical anomalous zones present a valid indication of the near surface expression of the underlying sulphide mineralization on the Alco claims.

iv. The intensity of the anomalous zones, considering both geochemical and geophysical levels is such to indicate major alteration and copper-molybdenum presence in the underlying geological formations.

v. The results of these surveys conform, in general, to the anomalous zones recorded by previous investigators, see Figure: 12.

8.0 Recommendations:

On the basis of the results obtained from the relating Geochemical - EM Geophysical surveys conducted and referred to in this report, it is considered that further field tests are warranted. Future programmes should include the work items presented in Weymark Engineering Ltd. Primary Report, Alco Mineral Claims Group dated 22 January 1979, geological mapping and shallow drill holes to determine the extent and distribution of the copper - molybdenum mineralization.

Respectfully submitted,

15 August 1979

William J. Weymark P. Eng.

CERTIFICATE

I, William James Weymark, P. Eng., Consulting Engineer, President of Weymark Engineering Ltd., of the District of West Vancouver, of the Province of British Columbia, hereby certify that:

1. I am a graduate of Mining Engineering of Queen's University, Kingston, Ontario, B. Sc., 1940 and have been practising my profession for thirty-five years.

2. I am a member of the Association of Professional Engineers of the Province of British Columbia, the Consulting Engineers Division of the Association of Professional Engineers of British Columbia, The Consulting Engineers of Canada.

3. I am a practising Consulting Engineer and reside at 3310 Westmount Road, West Vancouver, British Columbia.

4. I am a member of the Canadian Institute of Mining and Metallurgy and of the American Institute of Mining, Metallurgical and Petroleum Engineers, and of the American Geophysical Union.

5. I have no direct or indirect interest whatsoever in Amark Explorations Ltd., or in the Alco Mineral Claims, nor do I expect any interest, direct or indirect in this organization or property or any affiliate or any security of the company.

6. The findings of the accompanying report are based on my personal examination of the Alco Mineral Property in 1978 and 1979 and participation in the field surveys relating to this report as well as review of all available information relating to the property and preparation of this report.

DATED at West Vancouver, British Columbia, this 15th Day of August 1979.

William J. Weymark P. Eng.
President
Weymark Engineering Ltd.

APPENDICES

VANCOUVER NORTH, COQUITLAM and PITT LAKE MAP AREA - MEMOIR. 335, Page 58 - 61

GEOLOGY: MAMQUAM RIVER AREA

Indian River Pendant

The Indian River pendant is about 15 miles long, occupying the upper half of Indian River Valley and the lower half of Skookum Creek valley. About half the pendant, the central part, lies west of Pitt Lake map-area, and much of the north end is covered by the Garibaldi volcanic rocks, especially by the Ring Creek lava flow. Most of the Indian River pendant was examined by James (1929). He placed the numerous rock types present in this area in the Lower Goat Mountain Formation (in the middle of the Britannia Group). These rocks are not represented in the vicinity of Britannia Mine, and are separated from the nearby Middle Goat Mountain Formation (James, 1929) by a narrow dyke-like body of hornblende diorite. Nonetheless it is probable that some of the rocks in the Indian River pendant are equivalent to parts of the Middle Goat Mountain Formation.

Indian River valley has steep walls and is heavily wooded. Creek beds and lichen-covered cliffs provide the principal outcrops but the creeks are deeply incised in narrow canyons and interrupted by numerous impassable falls, making them less favourable for geological study than might be expected.

For descriptive purposes the pendant may be divided into five sections, from north to south.

1. *Northeast Part*

The northeast section crosses Mamquam River, just east of Skookum Creek. This part of the pendant is bordered on the east by dioritic plutonic rocks and overlain on the northwest by the Ring Creek lava flow. This is a heavily wooded area and outcrops are not very plentiful. The principal rock is a dark weathering, grey-green, metamorphosed feldspar porphyry. This is probably the most common of the many puzzling rock types in the Indian River pendant that have been called greenstones by prospectors and geologists because of their enigmatic greenish appearance in hand specimens. Yet, when seen under the microscope, the various greenstones have little in common except their colour. The least altered of the feldspar porphyries are composed primarily of slightly kaolinized, very fine grained, andesine laths forming a trachytic texture, which, although fairly normal, is interrupted here and there by granular crystals of introduced quartz and recrystallized plagioclase. Scattered throughout this matrix are medium-grained plagioclase (generally medium to calcic andesines) phenocrysts which usually make up about 10 per cent of the rock, but may range from 3 to 25 per cent. Even in the least altered of these rocks nothing remains of the original mafic material. It is represented in part by chlorite but most of it seems to have been leached out of the rock. From the data available, however, it cannot be proved that some of these rocks, which now contain little mafic material, were not originally anorthositic. Although the external appearance of the porphyries is usually not much changed by metamorphism, their microscopic appearance is radically altered. This is characteristic of these rocks when subjected to low and medium grades of metamorphism. It arises chiefly from the tendency of the phenocrysts to retain their form, even though the texture of the matrix is entirely obliterated by recrystallization and metasomatism. The metamorphism of the phenocrysts indeed follows a delayed and different route from that of the matrix.

Normally the first stage in the alteration of a porphyry is the kaolinization of the matrix plagioclase and conversion of the matrix mafic minerals (usually hornblende) to chlorite. This causes a change in megascopic colour from dark grey to greenish grey, a colour that persists until the rock reaches a grade of metamorphism high enough to destroy the chlorite. If the temperature remains low, kaolinization is intense and the matrix becomes nearly opaque under the microscope. This stage must usually be reached before the process begins to affect the phenocrysts. Typical of porphyries at this stage are whitish weathering rocks having clear or only slightly clouded plagioclase phenocrysts in a nearly opaque matrix.

Accompanying kaolinization, but not conspicuous until the later stages, is the crystallization of quartz and albite. These minerals are interstitial at first but become prominent with growth. With further alteration the whole matrix is involved in recrystallization, which produces at first very irregular, amoeboid-shaped crystals and later the more regular equidimensional crystals typical of the granulites. The onset of extensive recrystallization rapidly clears the matrix of clay minerals probably by incorporating their components into the new plagioclase. With increasing grades of metamorphism, the stable plagioclase becomes more calcic, reaching in the most highly metamorphosed porphyries of the Indian River pendant, a calcic oligoclase.

The mafic minerals in the matrix seem to play only a minor role in the alteration of the porphyries. The solutions that cause kaolinization seem to leach most of the mafic minerals from the rock. Those components that are not carried away combine as chlorite, some of which forms patches and some interstitial disseminations. When the matrix felsic components have attained a granulitic texture, much of the chlorite has been changed to an olive-green biotite in tiny irregular, commonly shredded crystals and in patches of decussate crystals.

The feldspar phenocrysts seem to behave almost independently from the rest of the rock. Kaolinization is slow to begin and generally does not reach its fullest development until the matrix has largely cleared itself by recrystallization, yet where albitization in the matrix is sufficiently intense, the phenocrysts also succumb. Unlike the matrix plagioclase, the phenocrysts are replaced pseudomorphically by albite, even to the extent of preserving the original, broad-lamellae twinning. In certain instances, the phenocrysts are replaced, again pseudomorphically, by muscovite, calcite, or epidote, or a combination of these minerals with albite. Striking though these changes are under the microscope, they make little difference in the general appearance of the hand specimen.

Phenocrysts of mafic minerals were apparently rare in the original porphyries of the Indian River pendant, but a few seem to have existed. They have been replaced by pseudomorphic patches of chlorite, which in some instances have progressed to clots of decussate biotite crystals that still preserve the outline of the former mafic phenocrysts.

As a result of the different ways and rates at which the various components of the porphyries react to low grade metamorphism, some peculiar rocks are produced. Some for example have a matrix opaque with kaolin and contain clear phenocrysts, and some have oligoclase matrix feldspar and albite phenocrysts. These rocks are the common porphyritic "greenstone" in the Indian River pendant.

Although the porphyries in their various stages of alteration are the most abundant rocks in the northeast section of the pendant, some arkosic rocks are interbedded with them.

Normal arkose. This is a grey-green, coarse-grained, granular, rather soft rock. A thin section of it is semi-opaque because of a dense overall alteration to kaolin and chlorite. The rock consists primarily of sodic plagioclase grains (½ to 1 mm) in an extremely fine grained argillaceous cement. Some epidote and muscovite are also present. Although highly altered, the rock has a clastic appearance. The larger grains of plagioclase are subrounded. No quartz was detected.

Epidote arkose. This is a medium grey, fine-grained rock with, as seen under the microscope, a fairly well-sorted, clastic texture. Most of the rock consists of grains (subrounded and angular) of medium oligoclase, all of which are kaolinized. About half of them are about ¼ mm in diameter and the rest are much finer grained. Mixed with finer grained material is a sparse, pale green, dissemination of chlorite. Commonly larger than the plagioclase grains are crystals of strongly pleochroic epidote which make up about 15 per cent of the rock. These also appear to be primary clastic grains rather than alterations of the plagioclase. Little recrystallization is evident.

Pseudo-porphyritic arkose. This rock is greenish grey and looks megascopically like a feldspar porphyry. In thin section the larger plagioclase crystals, which give the rock its porphyritic appearance, are seen to be merely the larger grains of a more or less seriate texture. These larger grains are chiefly albite and constitute about 10 per cent of the rock. The finer grained material making up most of the rock is composed chiefly of recrystallized oligoclase and a somewhat lesser amount of quartz. The unrecrystallized quartz crystals have a rounded, clastic appearance. Epidote forms veins and patches, and chlorite is scattered throughout. The texture is complicated by considerable amounts of myrmekitic material involving quartz and albite.

Both porphyries and sedimentary rocks are cut by dykes that do not seem to be directly related to the porphyries. These include light grey hornblende-hypersthene lamprophyres and dark brown basalt. The lamprophyre is a dark grey weathering rock about one quarter of which is made up of phenocrysts. These are chiefly sodic labradorite but include also green hornblende and a pleochroic hypersthene. The basalt is composed mostly of a calcic labradorite with 5 per cent olivine. Most of the olivine has been converted to a greenish brown serpentinous material. The basalt contains a few small plagioclase phenocrysts, some of which have been pseudomorphically replaced by calcite.

2. *Part South of Roy Creek*

In the vicinity of Roy Creek the dominant rock is a grey-green andesitic porphyry. The plagioclase phenocrysts are altered to aggregates of albite, sericite, and quartz and the mafic minerals, both in the matrix and in phenocrysts, have been altered to chlorite. Locally, where silicification is unusually intense, the phenocrysts are replaced by clear quartz aggregates preserving to an amazing degree the outlines of the original phenocrysts.

About half a mile south of the confluence of Roy Creek and Indian River, the latter stream is sharply offset to the east, controlled by a transverse shear zone. The shear zone is about 40 feet wide, locally pyritized, and is a good illustration of how the Indian River porphyries are affected by shearing. Unsheared slices in the shear zone consist of light grey-green, rusty porphyry, which, in thin section, is seen to be composed of a trachytic-textured matrix of very fine grained plagioclase, generally kaolinized and sericitized, some patches (1 mm) of introduced quartz granules, and phenocrysts (1 mm) of plagioclase, highly altered especially to muscovite. The mafic minerals are restricted to green and brown varieties of chlorite forming very small, ragged interstitial patches and wisps. The rock, although not sheared, has evidently undergone the same hydrothermal alteration vicinity is commonly moss-covered. Owing to chloritization of some of the hornblende, the whole rock has a greenish cast. Inclusions of dark green granulite are common. Both to the north and to the south the quartz diorite grades into the h-granodiorite area (90). The southern contact of the small pendant in this area is best exposed on the west side of the ridge separating Buntzen Lake and Indian Arm. The pendant there consists mostly of faintly banded granulite. Some of the bands are isolated in the plutonic rock some distance away from the principal contact. These blocks are arranged parallel with the foliation within the pendant. The plutonic rock exposed nearest the contact is very rich in hornblende and very poor in quartz. Much of it is pink owing to hydrothermal alteration. Numerous quartz and calcite veinlets cut the pendant near the contact with the plutonic rocks. The actual contact is not exposed.

(39) Between Indian River and Mamquam River (PL)

This body lies between Mamquam River and the Indian River pendant. Little information is available concerning it, but most of the rock appears to be a medium-grained, greenish H-quartz diorite. Most of the hornblende has been converted to chlorite and chlorite coats many of the joint surfaces. The plagioclase is commonly epidotized. Locally the rock is stained reddish by hydrothermal alteration. Quartz is generally not plentiful. The grain size and the distribution of mafic minerals are irregular. In many places inclusions are very abundant and the rock is migmatitic. Dykes related to the Garibaldi volcanic rocks are common on the ridge.

(40) Between Gold and Mayer Creeks (PL)

East of the Mount Blanshard pendant is a small body consisting chiefly of medium- to coarse-grained H-quartz diorite. Quartz is abundant, forming numerous large crystals, some bluish, and the mafic mineral content is only about 5 per cent. The hornblende commonly forms clots of tiny crystals. Minor amounts of medium- to coarse-grained h-diorite are also present in the area. Locally epidote has replaced some of the plagioclase. The inclusion content is variable, but probably does not exceed 3 per cent.

(41) Vicinity of Dewdney Peak (PL)

This body underlies the lower reaches of Norrish Creek and most of the terrain between Dewdney Peak and Nicomen Mountain. The most common rock type is a medium-grained H-quartz diorite containing about 10 per cent hornblende. Biotite is rare except near the biotite-rich rocks to the west and in a few places between Norrish Creek and the western projection of the Nicomen Mountain pendant. Small areas of H-diorite are scattered irregularly throughout the area. The area as a whole is complicated by numerous small shears, abundant inclusions of dark fine-grained granulite, a considerable number of narrow andesitic dykes, epidote stringers, and widespread pink hydrothermal alteration.

(42) Between Stave and Chehalis Lakes (PL)

In the area extending from the central part of Stave Lake to Chehalis Lake, about 16 miles to the northeast, the most common rock type is a medium-grained H-quartz diorite, containing about 12 per cent hornblende. Some heterogeneity is

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Weymark Engineering Ltd.,
1063 Balfour Ave.,
Vancouver 9, B.C.
V6H 1X2
ATTN:

CERTIFICATE NO. 47852
INVOICE NO. 30753
RECEIVED June 25/79
ANALYSED June 27/79

SAMPLE NO. :	PPM Cu	PPM Mo
RDA 5+00E	44	2
20+00E	60	1
25+00E	56	1
30+00E	82	10
35+00E	1300	48
50+00E	84	5
45+00E	40	3
50+00E	52	5
50+00W	152	2
55+00E	18	1
55+00W	210	1
60+00W	38	1
65+00W	140	2
75+00W	82	2
80+00W	98	1
85+00W	178	1
90+00W	48	1
95+00W	126	1
100+00W	22	2
RDA 105+00W	48	2
RDB 5+00E	920	17
10+00E	>10,000	17
15+00E	540	18
18+00E	54	1
5+00W	480	5
10+00W	2650	19
15+00W	1600	50
20+00W	590	11
25+00W	480	8
30+00W	270	2
35+00W	530	5
40+00W	560	4
RDB 45+00W	92	2
RDC 00+00	8	1
5+00	30	1
10+00	210	6
15+00	54	3
20+00	16	1
25+00	38	2
RDC 30+00	1100	11

CERTIFIED BY: Hart Bichler

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Weymark Engineering Ltd.
1063 Balfour Avenue
Vancouver, B.C.
V6H 1X2

ATTN:

CERTIFICATE NO. 48181

INVOICE NO. 31001

RECEIVED July 4/79

ANALYSED July 12/79

SAMPLE NO. :		PPM Cu	PPM Mo
RD-A	10+00E	66	6
	15+00	36	2
RD-A	70+00E	68	3
RD-A1	5+00	30	3
	10+00	24	6
	15+00	10	1
	20+00	10	1
	25+00	6	9
	30+00	180	160
RD-A1	35+00	NS	NS
A2	30+00E	98	9
A2	35+00E	>10000	65
RD-1	0+00	430	1
	5+00	80	8
	10+00	52	24
RD-1	15+00	10	1
RDC-1	0+00	34	30
	5+00	20	2
	10+00	18	2
	15+00	12	1
	20+00	16	1
RDC-1	25+00	8	1
RDE	0+00	30	1
	5+00	28	3
	10+00	22	4
	15+00	28	1
	20+00	54	1
	25+00	34	5
	30+00	28	1
	35+00	30	1
	40+00	52	10
	45+00	34	1
	50+00	38	1
	55+00	36	1
	60+00	44	1
	65+00	46	1
	70+00	22	1
	75+00	54	1
	80+00	52	1
RDE	85+00	42	2

NOTE: NS Denotes No Sample.

CERTIFIED BY: Hart Bichler

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 48182
INVOICE NO. 31001
RECEIVED July 4/79
ANALYSED July 12/79

TO: Weymark Engineering Ltd.
1063 Balfour Ave.
Vancouver, B.C.
V6H 1X2

ATTN:

SAMPLE NO. :	PPM Cu	PPM Mo
RDE 90+00	34	4
95+00	72	4
RDE 100+00	70	3
RDM 55+00E	40	2
60+00	48	2
RDM 65+00E	44	5
5+00N 20+00E	38	2
5+00N 25+00E	8	1

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Bichle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 48183

INVOICE NO. 31001

RECEIVED July 4/79

ANALYSED July 12/79

TO: Weymark Engineering Ltd.
1063 Balfour Ave.
Vancouver, B.C.
V6H 1X2

ATTN:

ROCK

SAMPLE NO. :	PPM Cu	PPM Mo
1 Rock	104	2

CTA
MEMBER
CANADIAN TESTING
ASSOCIATION

CERTIFIED BY:

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 48305
INVOICE NO. 31154
RECEIVED July 9/79
ANALYSED July 17/79

TO: Weymark Engineering Ltd.,
1063 Balfour Ave.,
Vancouver 9, B.C.
V6H 1X2

ATTN:

SAMPLE NO. :	PPM Cu	PPM Mo
A1 9+00	38	3
18+00	520	8
20+00	76	1
A1 23+00	1100	18
B1 48+00	1000	21
50+00	1800	19
55+00	68	5
60+00	84	2
B1 62+50	26	1
C1 25+00	14	1
30+00	6	1
35+00	18	3
40+00	10,000	21
43+00	94	2
50+00	196	7
55+00	12	1
60+00	50	3
C1 62+00	24	1
D 5+00	60	1
10+00	44	1
15+00	74	3
20+00	46	1
24+00	64	3
25+00	44	50
30+00	60	4
31+00	46	1
35+00	72	1
40+00	54	1
40+00	58	3
45+00	620	100
50+00	100	4
dark 55+00	205	7
light 55+00	172	3
59+00	98	1
60+00	156	1
65+00	144	7
70+00	118	13
75+00	26	6
76+00	50	2
D 80+00	100	3

CERTIFIED BY: Hart Bichler

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Weymark Engineering Ltd.,
1063 Balfour Ave.,
Vancouver, 9, B.C.
V6H 1X2

ATTN:

CERTIFICATE NO. 48306
INVOICE NO. 31154
RECEIVED July 9/79
ANALYSED July 17/79

SAMPLE NO. :	PPM Cu	PPM Mo
D 85+00	96	2
90+00	88	1
90+50	80	1
95+00	134	1
97+50	68	1
100+00	98	2
104+00	74	1
D 105+00	82	1
G 0+00	30	1
5+00	36	1
10+00	44	1
15+00	48	1
20+00	48	3
25+00	34	1
30+00	52	2
30+00	52	1
40+00	28	1
G 45+00	38	1
F 0+00	44	1
5+00	28	1
10+00	50	1
15+00	68	1
20+00	34	3
F 30+00	32	1
FG0+00	26	2

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: Hart Bichle

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 48307
INVOICE NO. 31154
RECEIVED July 9/79
ANALYSED July 17/79

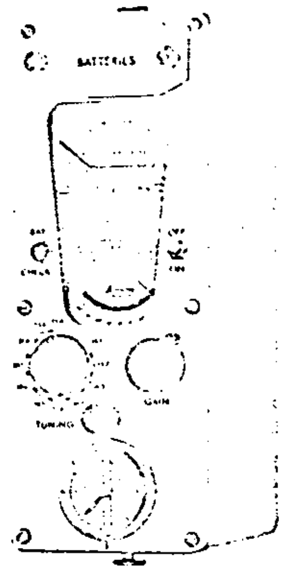
TO: Weymark Engineering Ltd.,
1063 Valfour Ave.,
Vancouver, 9, B.C.
V6H 1X2
ATTN:

ROCKS

SAMPLE NO. :	PPM Cu	PPM Mo
F 10+50S	6	1
G 11+00	40	1
16+00	46	1
32+00	16	1
G 35+00	10	2

CTA
MEMBER
CANADIAN TESTING
ASSOCIATION

CERTIFIED BY: Hart Bichler

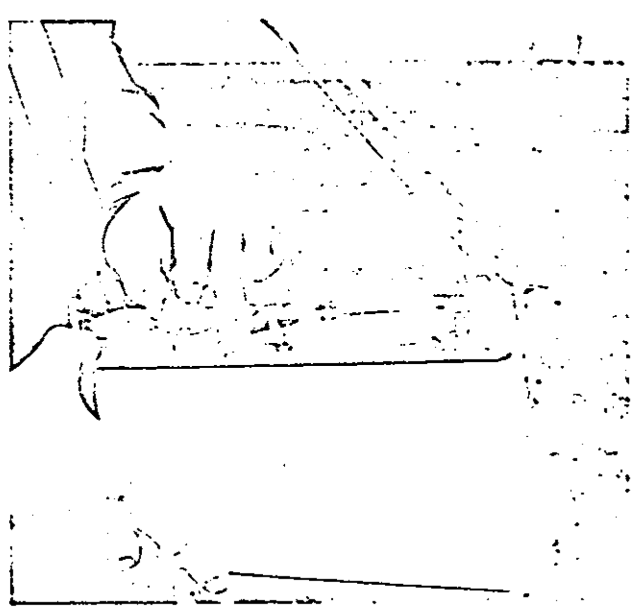


SCINTREX

SCOPAS*

The SCOPAS* VLF System employs V.L.F. Radio Stations in the 15 to 25 kHz Range as primary field sources. The undisturbed field from these remote sources is essentially horizontal and of relatively constant strength. When conductors are present, the geometry and amplitude of the field are locally distorted and polarization of the field may occur.

With the versatile SCOPAS* unit, all amplitudes and geometric parameters as well as the characteristics of the polarization ellipse can be measured. For fast reconnaissance surveys dip-angle and field directions can be rapidly determined. For detailed surveys, amplitude relations and the elliptical polarization in the horizontal and vertical planes can be determined as well. Thus, the operator can select the parameters most useful for his search problem.



*Can. Pat. 678765

SPECIFICATIONS OF SCOPAS VLF ELECTROMAGNETIC UNIT MODEL SE-80

Primary Field: From any selected VLF transmitting station in frequency range between 15.4 kHz to 25 kHz.

Station Selection: By means of an eight step switch and variable control covering full range.

Measured Values:

a) The azimuth of horizontal field.

b) The dip of the axis of the coil at the minimum field, measured from the vertical.

c) The amplitude of the horizontal field strength in any direction.

d) The amplitude of the vertical field strength.

The phase angle between the maximum horizontal and vertical field can be calculated from measured values.

Normal Reading Accuracy: Amplitude ±2%.
Azimuth ±2°.
Dip ±1°. — Dependent on signal strength.

Batteries: Two 9 volt dry cells.

Dimensions: 9.66"x 3.68"x 5.80"
24.5 cm x 9.4 cm x 14.7 cm

Weight: 3 lbs. (1.35 kg)

Accessories: Carrying strap.

SCINTREX LIMITED
222 Snidercroft Road • Concord, Ontario, Canada

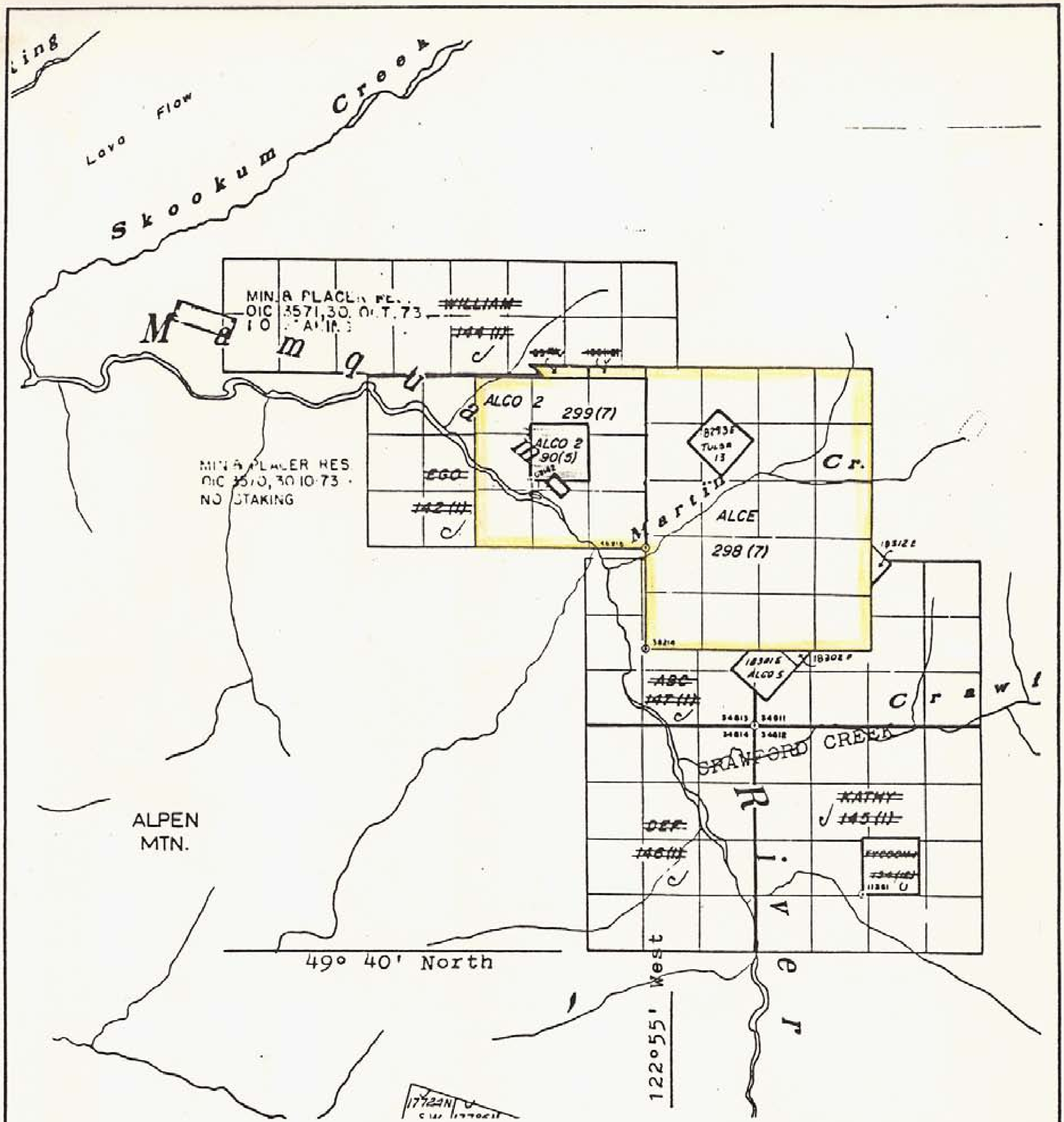
ANNEX - D

COST DISTRIBUTION

1. Chemical Analysis, Chemex Labs ...	$717.75
2. William Chang M. Sc. 8 days @ $150	1200.00
3. J. W. Weymark, Soil Sampler & Chaining - Grid June 15. 16, 22,23, 29,30 July 1,2, - 8 days @ $75/day Social Security No: 717 510 122	600.00
4. Weymark Engineering Ltd Field Surveys, Geochemical - Geo-Physical - office, assembly, collation, plotting, fairdrawing and interpretation of data and preparation of Report	882.25
5. Rental Geophysical Equip ...	200.00
	$3,600.00

William J. Weymark P. Eng.

ILLUSTRATIONS



Reference: B. C. Minister of Mines
Map M92G/10W, July 27/1978

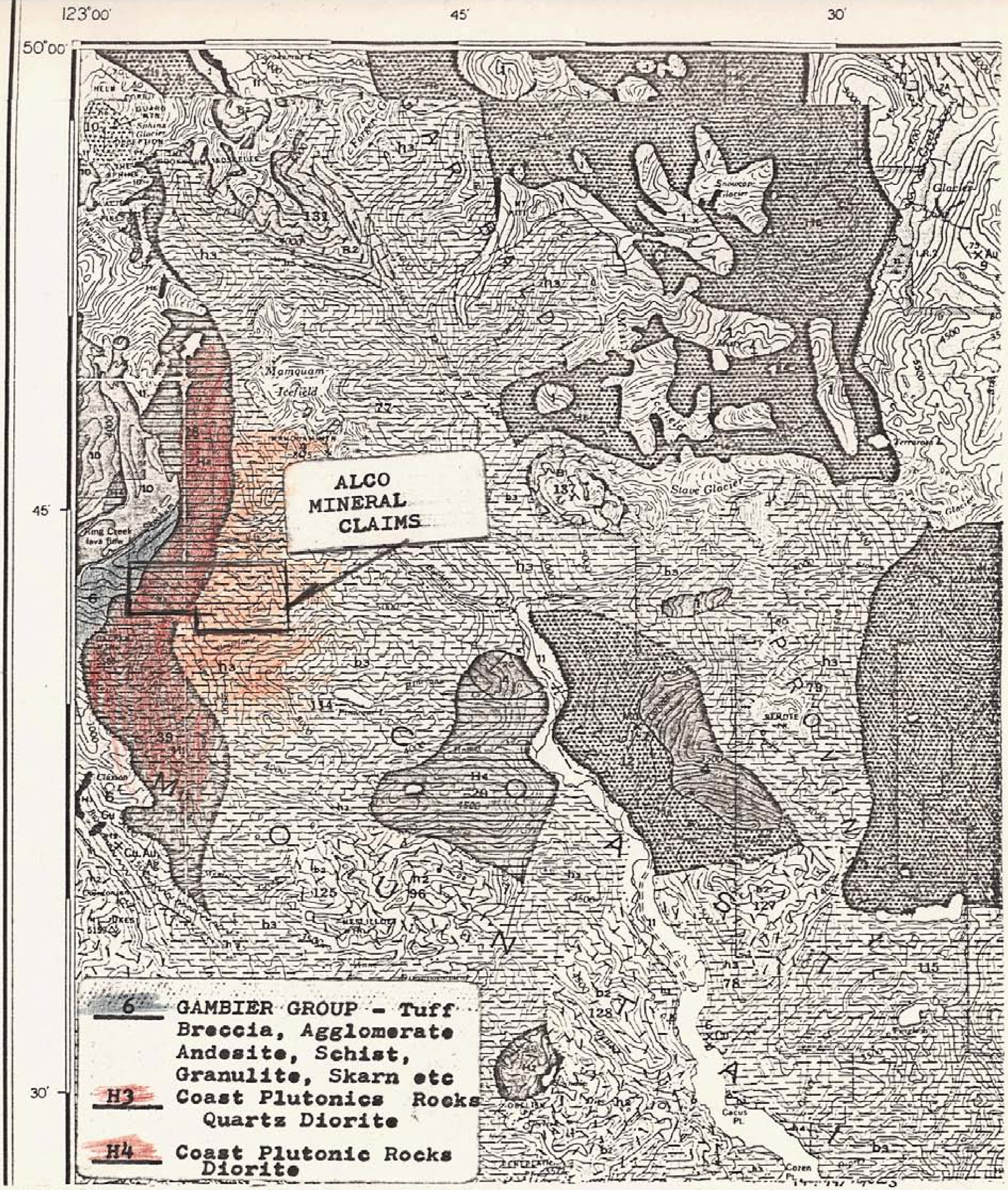
AMARK EXPLORATIONS LTD.

WEYMARK ENGINEERING LTD.
CONSULTING ENGINEERS
WEST VANCOUVER, BRITISH COLUMBIA
CANADA

ALCO MINERAL CLAIMS GROUP
VANCOUVER MINING DIVISION

DATE	2 Jan 79	SCALE	1" = 1.25 miles
SUBMITTED	WJW	CHECKED	WJW
DRAWN	WJW	FILE No.	AM – 1
TRACED	WJW	CONTRACT	AM-1

FIGURE: 2



REFERENCE: Memoir 335 Geological Survey of Canada, Vancouver North Coquitlam and Pitt Lake Map-Areas, B. C. J. A. Roddick, 1965

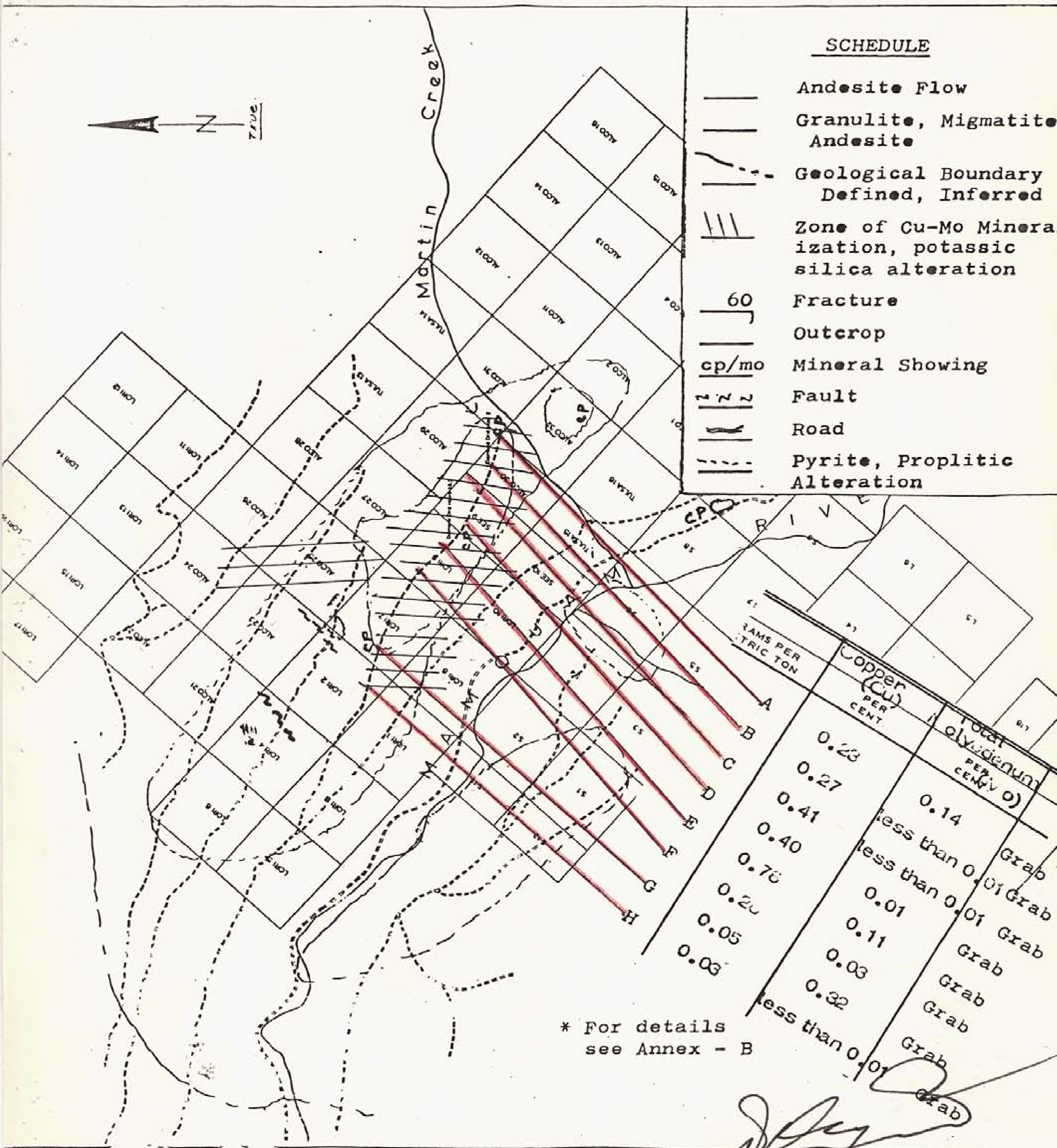
ALCO MINERAL CLAIMS GROUP
SQUAMISH - MAMQUAM RIVER AREA

GEOLOGY

Scale: 1:253,440 1" = 4 Mil

FIGURE: 3

25 Ha = 17 mm / 1500 m² 10,000 882000



Geology After B.Prescott and P. McAndless Oct 1973

ALCO MINERAL CLAIM GROUP

CLAIM GEOLOGY

Figure: 4

SOIL SAMPLES
MOLYBDENUM IN PARTS PER MILLION

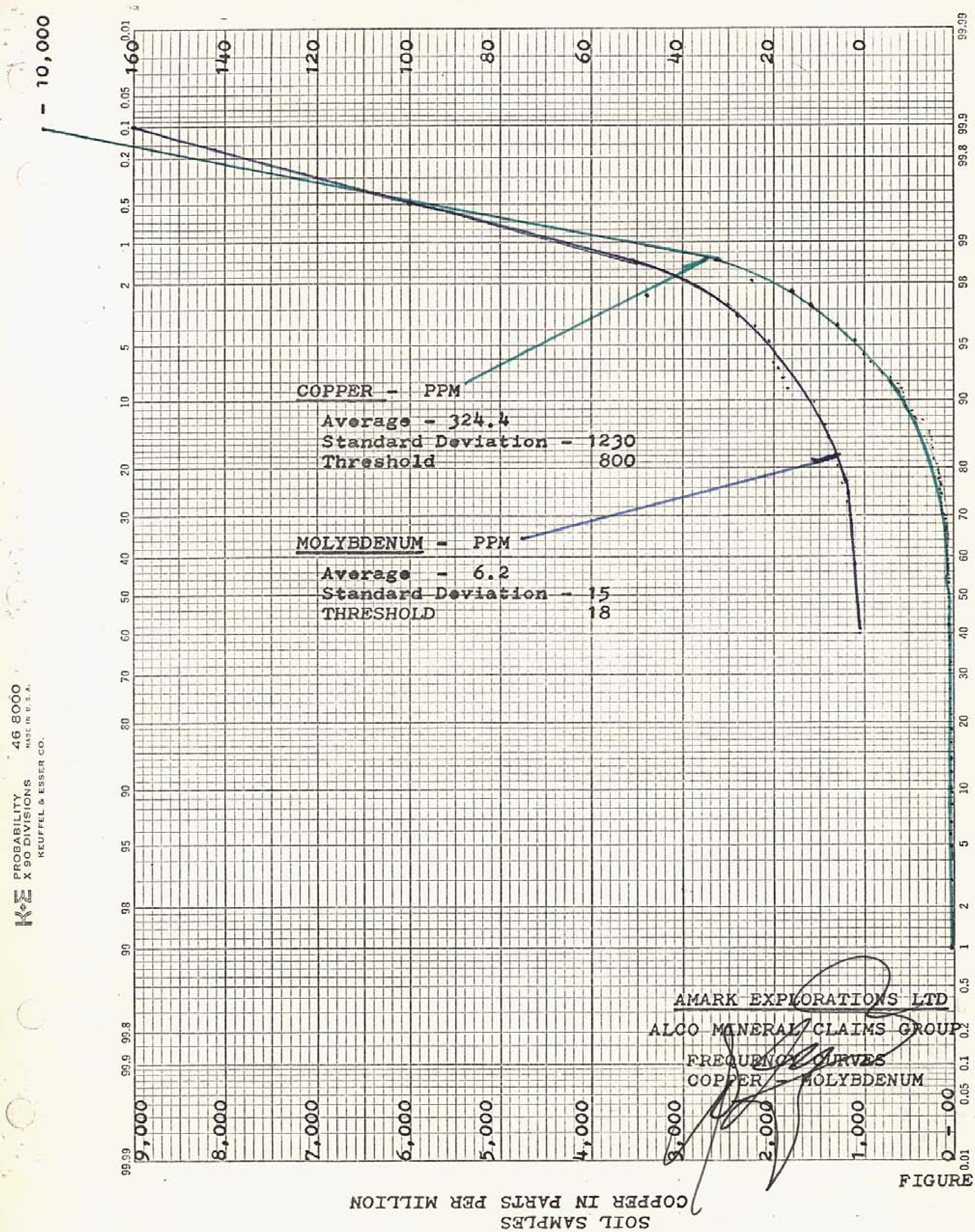
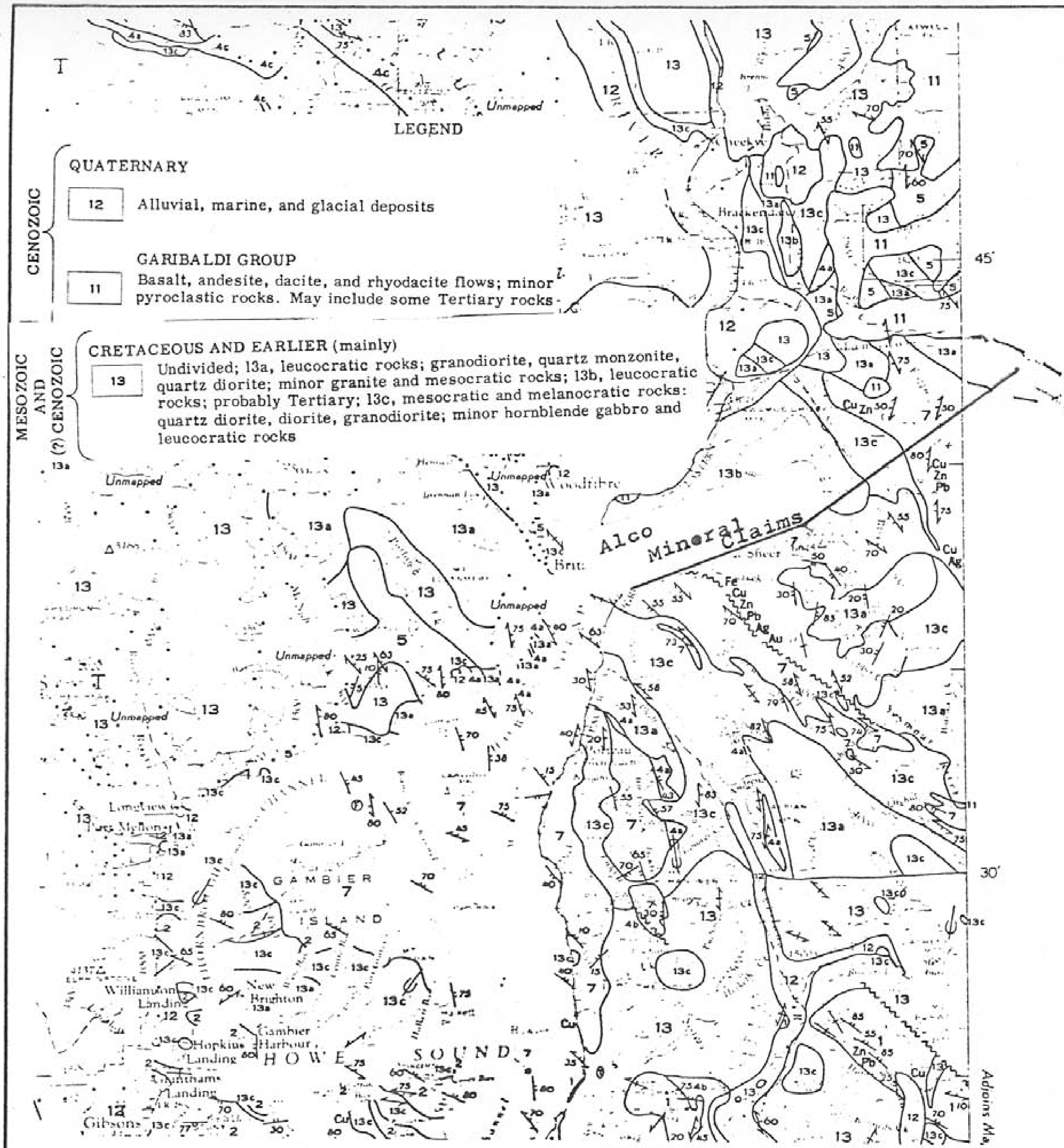


FIGURE:5



AMARK EXPLORATIONS LTD.	
WEYMARK ENGINEERING LTD. CONSULTING ENGINEERS WEST VANCOUVER, BRITISH COLUMBIA CANADA	
ALCO MINERAL CLAIMS GROUP REGIONAL GEOLOGY	
DATE 2/1/79	SCALE One Inch = 4 mi
SUBMITTED WJW	CHECKED WJW
DRAWN WJW	FILE No. AM - 1
TRACED WJW	CONTRACT AM - 1

Reference: Map 42 - 1963 Geology
Squamish West Half, British Columbia
Geological Survey of Canada. HH Bostock

FIGURE: 6

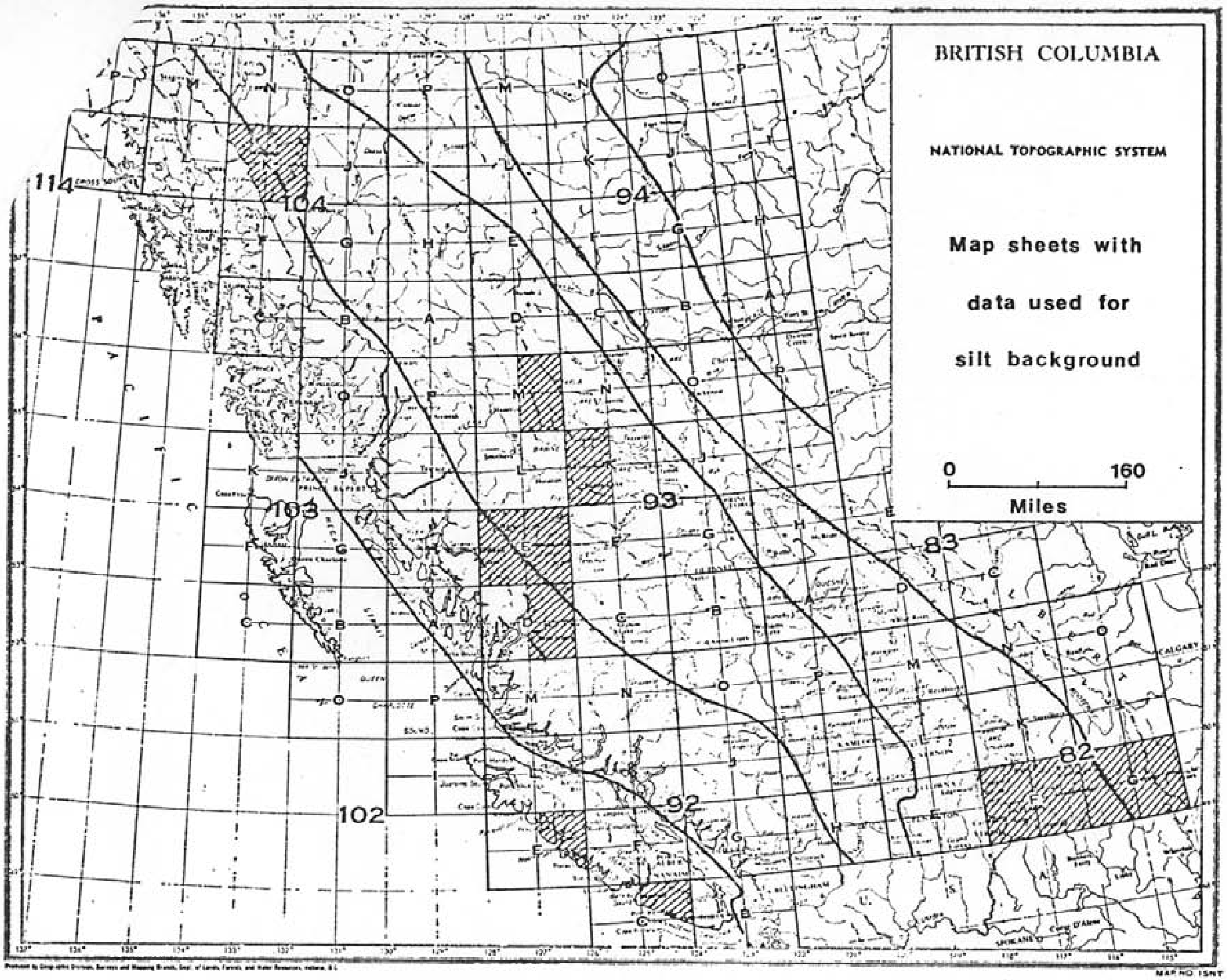


FIGURE 2 — Distribution of NTS areas in which silt background data are available.

Zonal Pattern of Backgrounds

It would be extremely useful to know accurately the areal pattern of metal abundances (background) throughout the Cordillera. This is not yet possible, but reflections of these figures are available to a greater or lesser degree in the regional background levels of silts and soils. Intensive work by exploration geochemists has led to the determination of these values, but they are not widely available and in fact relatively few companies seem to have made the effort to assemble and interpret them. Backgrounds for soils are available to those diligent enough to search the assessment report files of the British Columbia Department of Mines and Petroleum Resources. The writer assumes that silt backgrounds fairly truly represent averaged regional geochemical abundances. C. S. Ney and his former colleagues of Kennco Explorations, (Western) Limited provided the silt background for the NTS areas shown on Figure 2. These values were used to construct Figure 3, which purports to represent backgrounds for Cu, Zn, Mo and Pb for the respective belts. The values are listed in Table 4.

The writer sampled the geochemical reports in our assessment files to provide the data for Figure 5, which shows background for the same metals (Cu, Zn, Mo, and Pb) in soils. The data in the files are diverse — different standards of sampling and laboratory

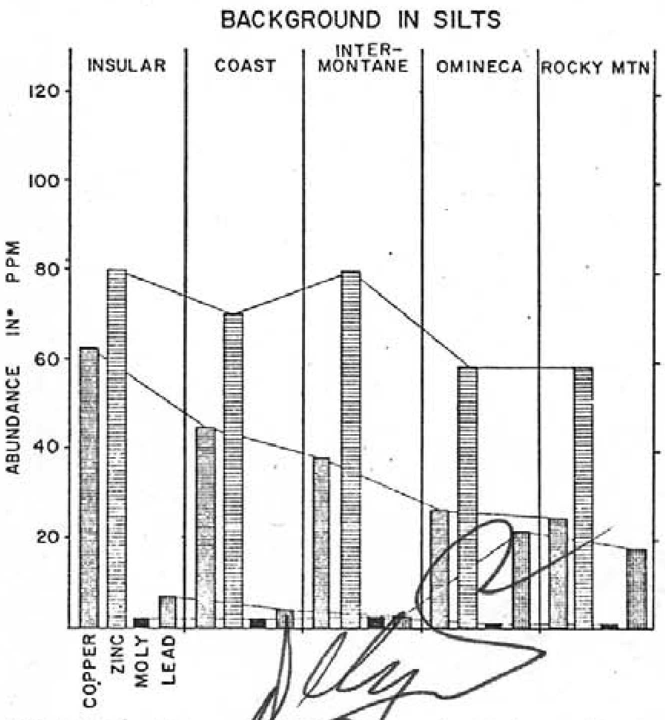


FIGURE 3 — Histogram of the average level of metal background in silts by tectonic belt.

FIG. 7

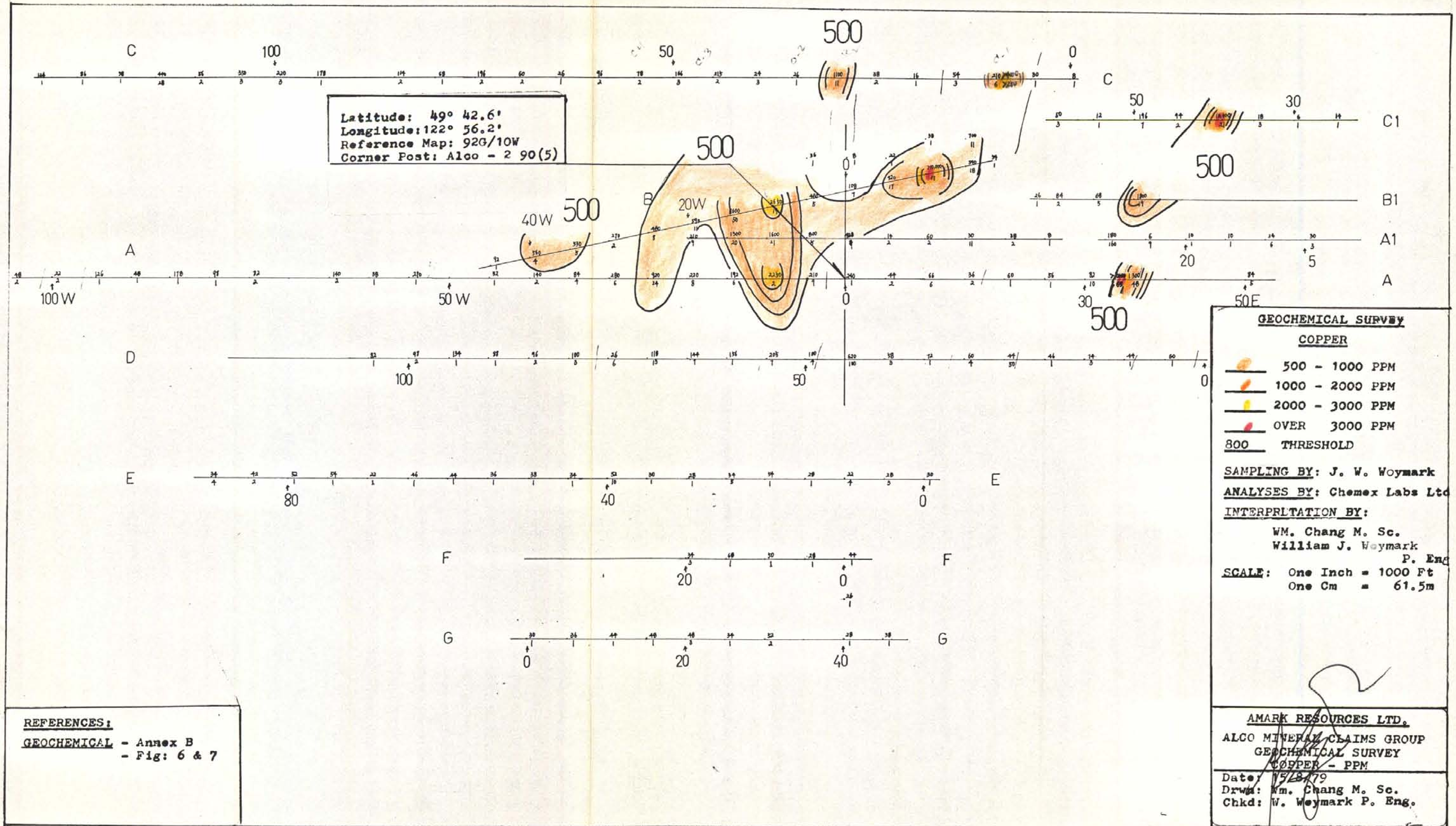

Latitude: 49° 42.6'
Longitude: 122° 56.2'
Reference Map: 92G/10W
Corner Post: Alco - 2 90(5)
C
C1
B
B1
A
A1
D
E
F
G
100 W
50 W
40 W
20W
0
50E
500
GEOCHEMICAL SURVEY
COPPER
500 - 1000 PPM
1000 - 2000 PPM
2000 - 3000 PPM
OVER 3000 PPM
800 THRESHOLD
SAMPLING BY: J. W. Woymark
ANALYSES BY: Chemex Labs Ltd
INTERPRETATION BY:
WM. Chang M. Sc.
William J. Woymark P. Eng
SCALE: One Inch = 1000 Ft
One Cm = 61.5m
REFERENCES:
GEOCHEMICAL - Annex B
- Fig: 6 & 7
AMARK RESOURCES LTD.
ALCO MINERAL CLAIMS GROUP
GEOCHEMICAL SURVEY
COPPER - PPM
Date: 15/8/79
Drwn: Wm. Chang M. Sc.
Chkd: W. Woymark P. Eng.

FIG. 8

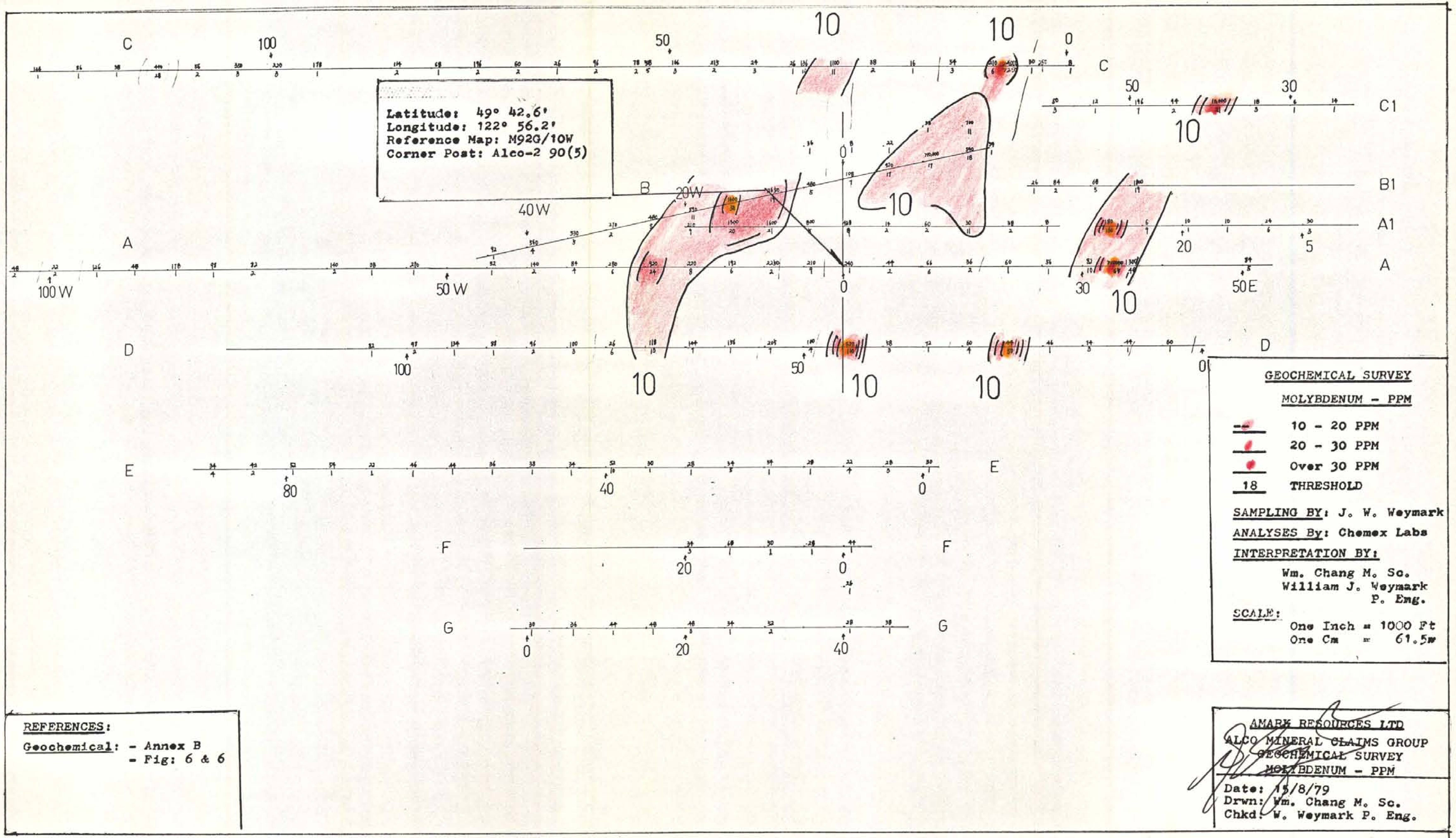

Latitude: 49° 42.6'
Longitude: 122° 56.2'
Reference Map: M92G/10W
Corner Post: Alco-2 90(5)
C
C1
B
B1
A
A1
D
E
F
G
100 W
50 W
40 W
20 W
50 E
GEOCHEMICAL SURVEY
MOLYBDENUM - PPM
10 - 20 PPM
20 - 30 PPM
Over 30 PPM
18 THRESHOLD
SAMPLING BY: J. W. Weymark
ANALYSES By: Chemex Labs
INTERPRETATION BY:
Wm. Chang M. Sc.
William J. Weymark P. Eng.
SCALE:
One Inch = 1000 Ft
One Cm = 61.5m
REFERENCES:
Geochemical: - Annex B
- Fig: 6 & 6
AMARK RESOURCES LTD
ALCO MINERAL CLAIMS GROUP
GEOCHEMICAL SURVEY
MOLYBDENUM - PPM
Date: 15/8/79
Drwn: Wm. Chang M. Sc.
Chkd: W. Weymark P. Eng.

FIG. 9

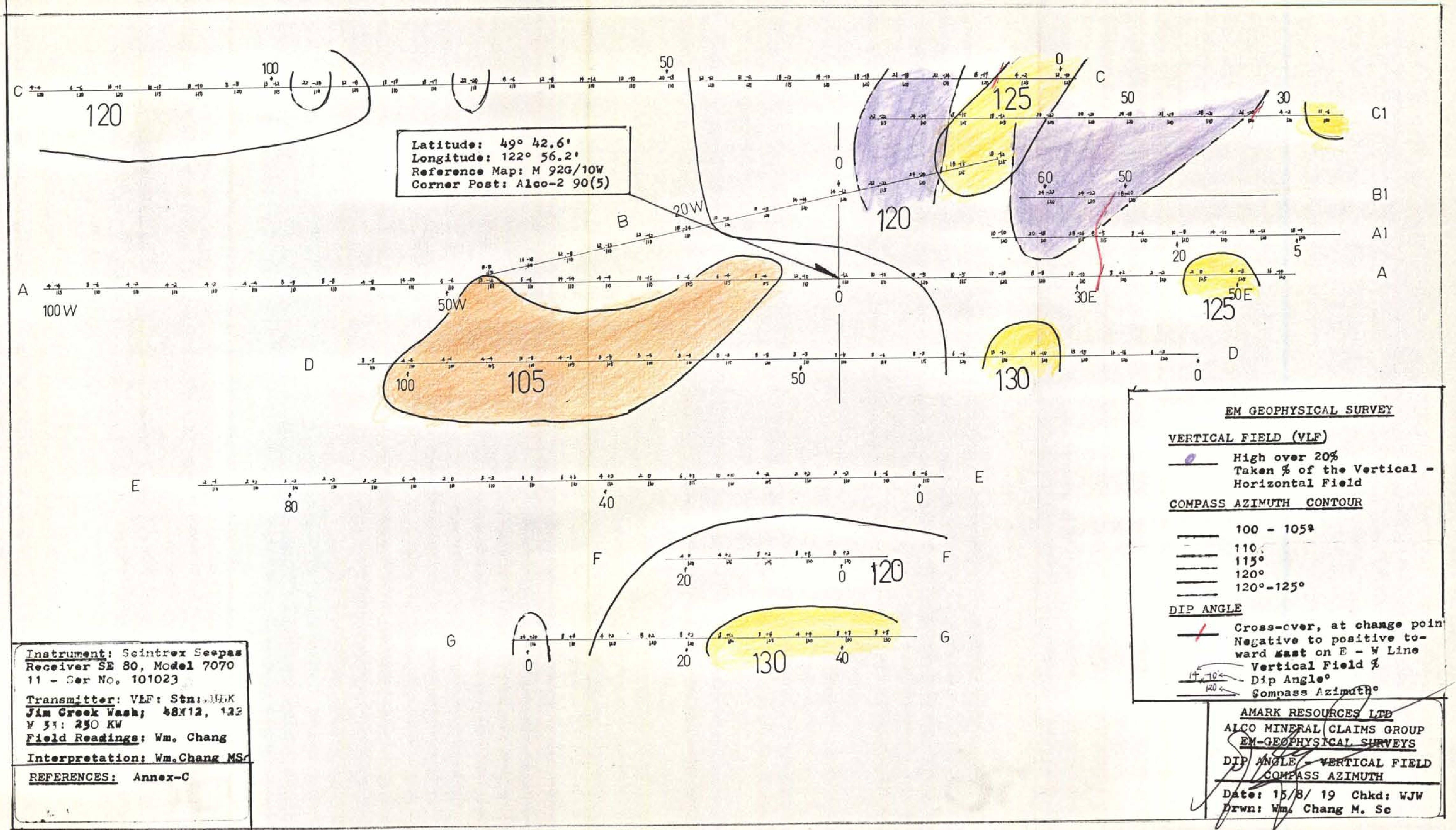
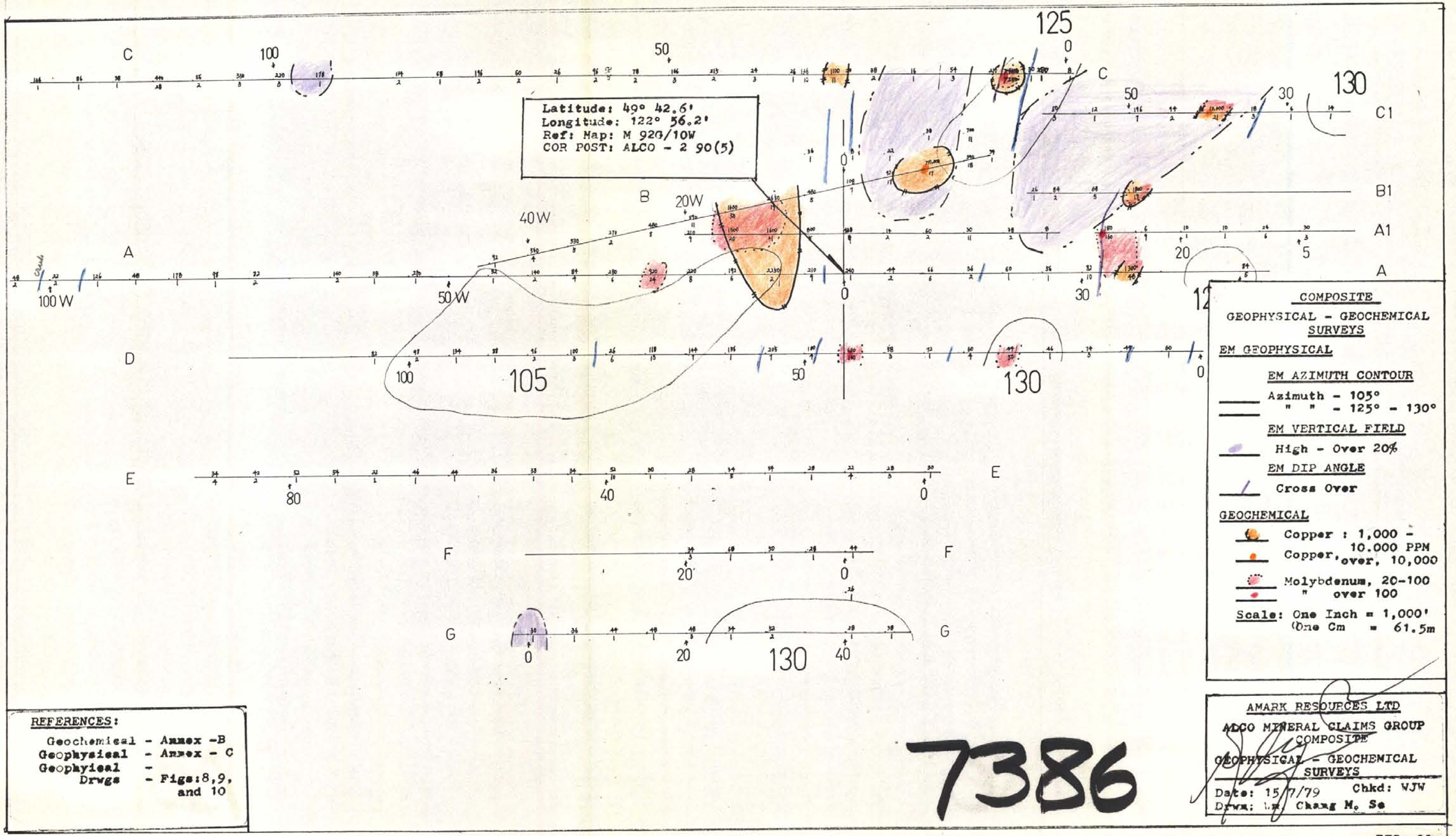
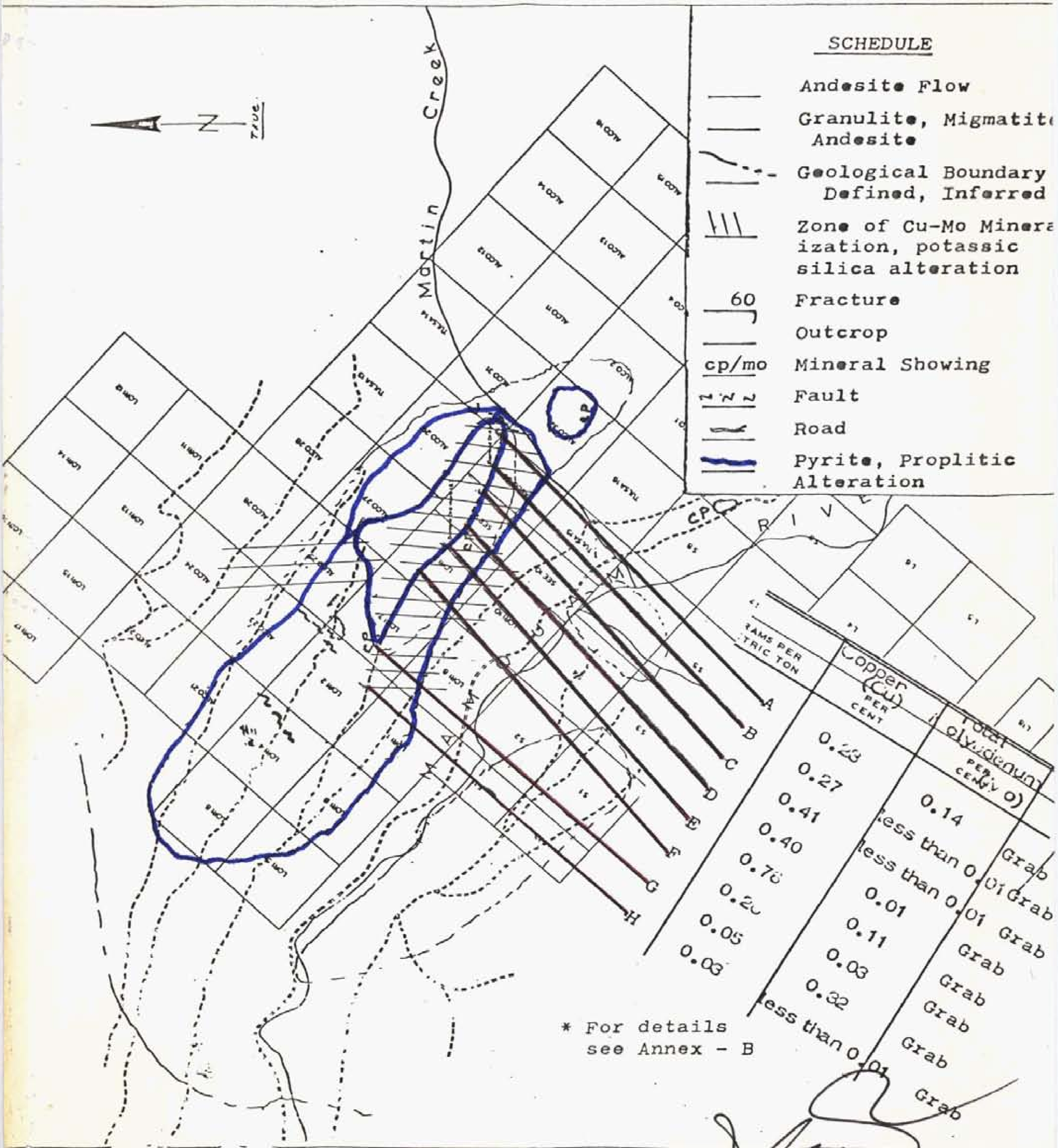

Latitude: 49° 42.6'
Longitude: 122° 56.2'
Reference Map: M 92G/10W
Corner Post: Alco-2 90(5)
C
C1
B
B1
A
A1
D
E
F
G
100 W
50W
20W
30E
50E
120
125
105
130
EM GEOPHYSICAL SURVEY
VERTICAL FIELD (VLF)
High over 20%
Taken % of the Vertical - Horizontal Field
COMPASS AZIMUTH CONTOUR
100 - 105°
110°
115°
120°
120°-125°
DIP ANGLE
Cross-over, at change point Negative to positive toward East on E - W Line
Vertical Field %
Dip Angle°
Compass Azimuth°
Instrument: Scintrex Seepas Receiver SE 80, Model 7070 11 - Ser No. 101023
Transmitter: VLF: Stn: NLK Jim Creek Wash; 48N12, 122 W 53: 250 KW
Field Readings: Wm. Chang
Interpretation: Wm. Chang MSc
REFERENCES: Annex-C
AMARK RESOURCES LTD
ALCO MINERAL CLAIMS GROUP
EM-GEOPHYSICAL SURVEYS
DIP ANGLE - VERTICAL FIELD
COMPASS AZIMUTH
Date: 15/8/ 19 Chkd: WJW
Drwn: Wm. Chang M. Sc

FIG. 10



Latitude: 49° 42.6'
Longitude: 122° 56.2'
Ref: Map: M 92G/10W
COR POST: ALCO - 2 90(5)
C
C1
B1
B
A1
A
D
E
F
G
100 W
50 W
40 W
20 W
105
125
130
COMPOSITE
GEOPHYSICAL - GEOCHEMICAL SURVEYS
EM GEOPHYSICAL
EM AZIMUTH CONTOUR
Azimuth - 105°
" " - 125° - 130°
EM VERTICAL FIELD
High - Over 20%
EM DIP ANGLE
Cross Over
GEOCHEMICAL
Copper : 1,000 - 10.000 PPM
Copper, over, 10,000
Molybdenum, 20-100
" over 100
Scale: One Inch = 1,000'
One Cm = 61.5m
REFERENCES:
Geochemical - Annex -B
Geophysical - Annex - C
Geophyical Drwgs - Figs:8,9, and 10
7386
AMARK RESOURCES LTD
ALCO MINERAL CLAIMS GROUP
COMPOSITE
GEOPHYSICAL - GEOCHEMICAL SURVEYS
Date: 15/7/79
Chkd: WJW
Drwn: Chang M. Se

FIG. 11



Geology After B.Prescott and
P. McAndless Oct 1973

ALCO MINERAL CLAIM GROUP
CLAIM GEOLOGY
Figure: 12