

MOLY MAY PROPERTY ANYOX CAMP

103P/5W

AN ORIENTATION SURVEY



ZELON — MINERAL EXPLORATION GROUP (1973) CANADA & U.S.A.

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1988 ASSESSMENT REPORT

MOLY GOLD GROUP 88

record 2936

SKEENA MINING DISTRICT, B.C.

103P/5W

## GEOCHEMICAL PROSPECTING

Exploration Program Conducted Between: June 10, and July 05, 1988

# For

PROSPECTORS Airways Co. Ltd.

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Name of Claim	Record #	# Units	Date recorded	Ownership
Moly May	2936 (4)	10	April 10, 1985	Prospectors Airways Co. Ltd
Moly May 2	3135 (7)	8	July 2, 1985	Prospectors Airways Co. Ltd
Moly May 3	3136 (7)	20	July 2, 1985	Prospectors Airways Co. Ltd
Moly May Fr. 1	2938 (4)	1	April 10, 1986	Prospectors Airways Co. Ltd
MC #1	6478 (10)	20	October 20, 198	7 Lucky Tim Resources Ltd.
MC #2	6457 (10)	2	October 20, 198	7 Lucky Tim Resources Ltd.

Ownership is 100% to each respective company.

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### MOLLY MAY PROJECT

## ANYOX CAMP

# 103P/5W

# June 1988 progress report

From June 12 to 30, 1988, a seven men crew conducted an orientation survey on the Moly May property under the direction of J. H. Hajek, mining consultant Geochemist.

The program consisted of:

- 5,000 meters of grid line surveying, including 4000 meters of line cutting (Fig. 2)
- 607 geochemical samples (544 soils/peat, 48 rocks, 15 tree bark samples)
- Radio-mapping using 3 portable spectrometers including 200 meters detailed test grid line. The radiometric prospecting/mapping resulted in the discovery of 4 new showings.
- 42 prospect pits were blasted on mineralized outcrop in order to provide fresh rocks samples and geological information. In the process 31.75 cubic meters of rocks were moved.

From our field observation, one half of the Moly May region is favorable to geochemical sampling while the other half is composed of rock exposures favorable to conventional mapping, prospecting and geophysical surveys (Fig 3).

Upon reviewing the analytical results the following conclusions are suggested:

- Gold association with bismuth, molybdenum in high grade

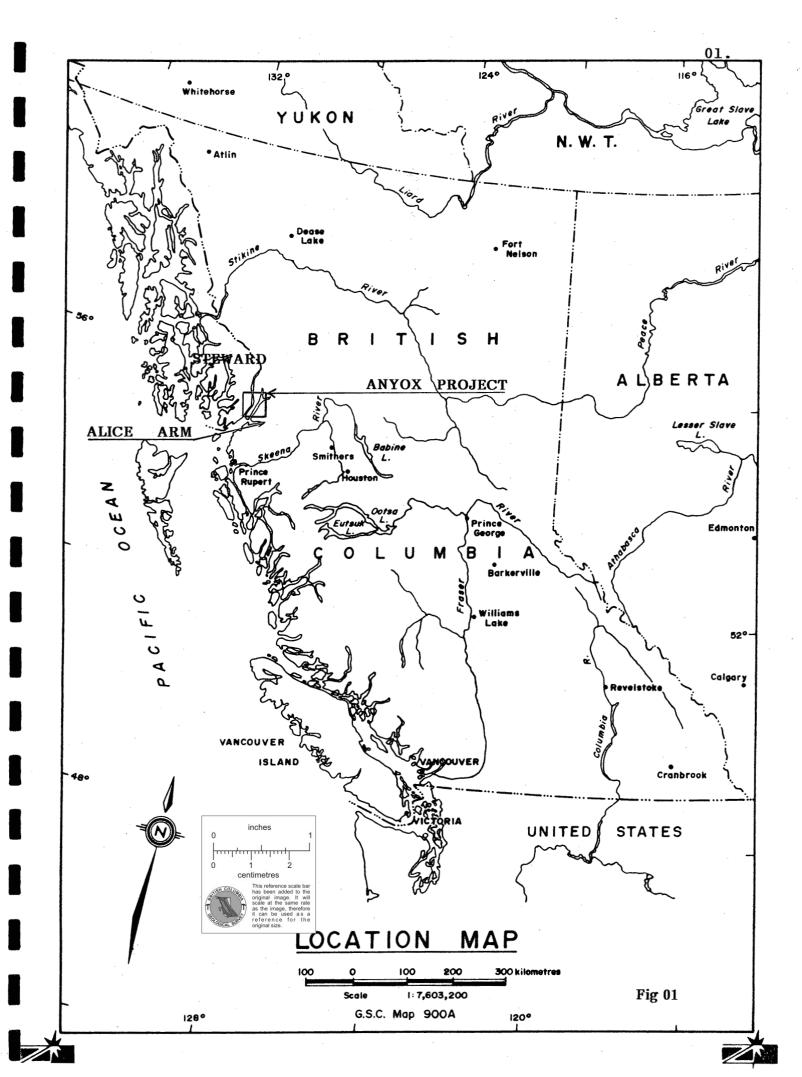
showings has been found along :

- Moly Mack, 2200S 1775E
- Moly May East, 2380S 1600E and 2400S 1510E
- Moly May West, 2400S 950E
- Geochemical sampling revealed several copper-rich dispersions on 2400S 1600E Insert #1, 2400S 1150E Insert #2.
- Radiomapping and blasting are a must in order to outline the nature and extend of mineralized structures and zones of mineralization.

High

J.H. HAJEK, Geochemist





# I INTRODUCTION

The Moly May property orientation survey was carried out by a seven men crew under the direction of the author, a mining consultant & Geochemist, between June 12 and June 30, 1988. The property is located 8 kilometers south of Anyox, B.C. 55°21'N latitude & 129°48'W longitude, fig 01.

The object of this program is to combine exploration technics into a unified approch of geological prospecting, blasting and systematic sampling. Field work consists of line cutting and soil sampling of access grid lines over the claim area, fig 2 & 3. Evaluation of the most promissing outcrops is followed by pit blasting and become the site for rock lithogeochemical sampling and mapping. Radiometric identification of Mo, K, Bi, Ba and others radiodaughters such as rhenium, using portable spectrometers, helps to pinpoint at the unconspicious metal enrichment.

This short project is based on geochemical sampling of all available mediums: soil profiles, peat moss, streams, bedrock and trees, conducted at various densities, with the aim to provide a general guide line for systematic sampling of the region.

The project was successful in finding zones of copper enrichment in soil-bedrock interface, associated to gold, cadmium and lead values. Blasting and geological prospecting uncovered several zones of mineralization, fig 4:

- Molybdenum ore in pegmatite
- Moly associated with bismuth, tellurium and often gold in substantial quantity.
- Gold associated with tellurium and bismuth
- Gold in chlorite-biotite-pyrite rich alteration zones having distinct radiometric signatures, App. B

# II Moly May Geology

The Moly May property is located on the west shore of Observatory Inlet in the southern part of the Granby peninsula, seven kilometers south of Anyox, B.C.

The property lies within the Alice Arm Quartz Hill molybdenum belt, consisting of a stock 1.5 km x 5 km of alaskite granite that is hydrothermally altered in two areas. Those areas contain quartz stock work development with coincident molybdenite along fractures (fig. 1, ref. 1).

# 1. Regional Geology

The Moly May stock (48 M.Y) is one of several monzonite granite of the Alice Arm intrusions. Those Tertiary stocks have been intruded into the coast plutonic through lower Jurassic Hazelton group which is overlain by Middle Jurassic Hazelton sediments.

The Alice Arm intrusions contain several molybdenum deposits: the Kitsault molybdenum mine of Amax 25 km to the east and Quartz Hill stockwork molybdenum of U.S. Borax 45 km to the west.

# 2. Property Geological Overview

The Moly May intrusion is composed of biotite-muscovite leucogranite containing inclusion of coarse grained biotite rich monzonite rocks with some metasedimentary inclusion. The leucogranite rocks grade locally into fine grained aplitic variety, ref. 2.

The stockwork is composed of quartz felspar muscovite biotite garnets and contains gossan zones which are rimmed by a layer of sericite muscovite with hydrothermal or deuteric pervasive alteration. The Moly May intrusion is highly fractured (320°, 350°, 10°) parallel to veinlets (20°-90°) cross-cut by several faults running N-E, N-S, N-W. Several mafic dykes of N-E orientation intersect most rocks and seem to be related to late stage quartz veins (5 to 150 cm) which contains pyrite and radio elements resulting from daughters decay of Mo-Re, Bi, K, Cs, Ba, etc.

The Property has been separate into:

- Moly Mack

- Moly May East and West

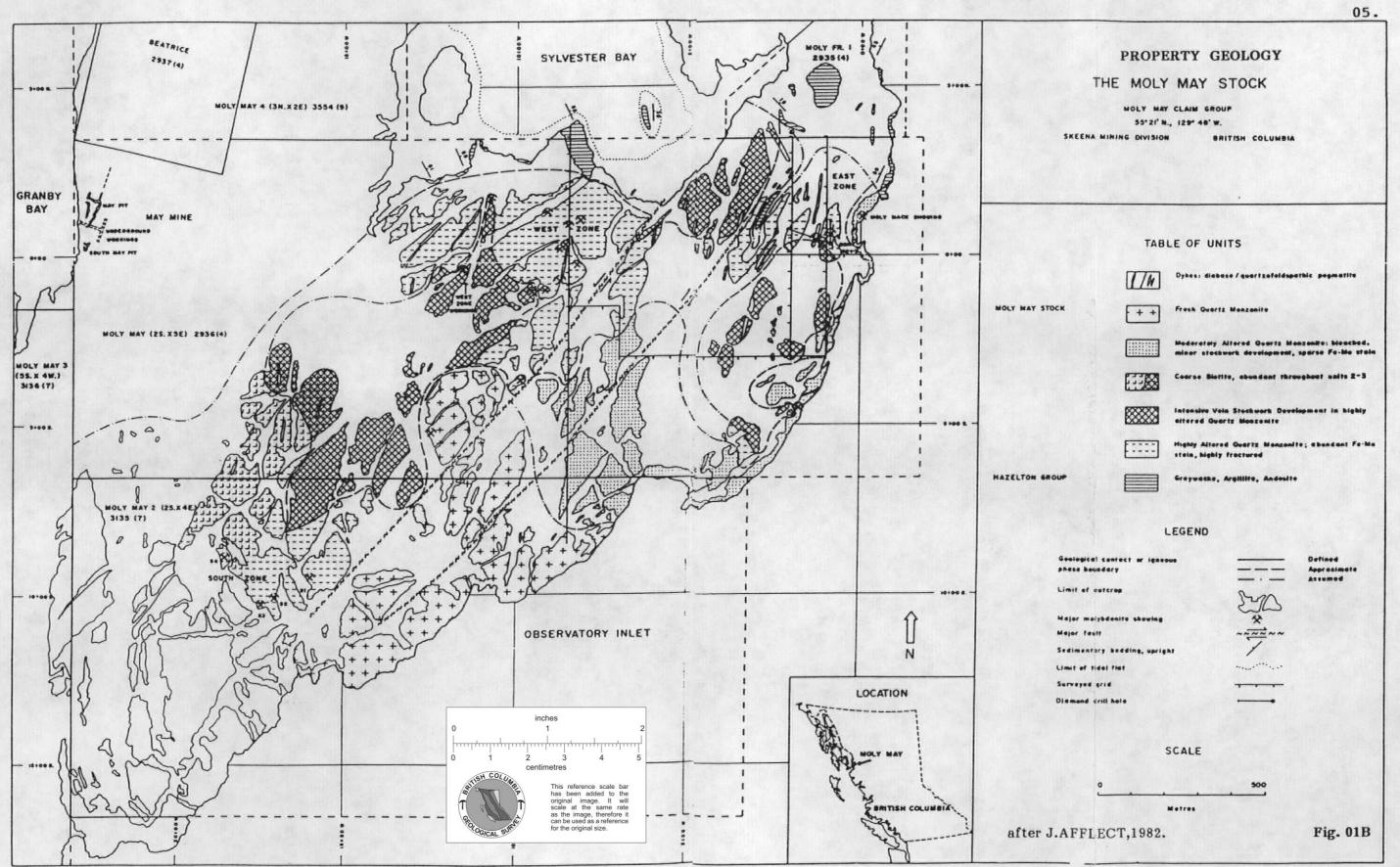
- Moly May south

Molybdenite occurs in all regions as flakes and rosettes ranging from 1 to 10mm across, often intergrown with muscovite especially in leucogranitic and pegmatitic environment. Sometimes molybdenum is associated with tellurides of bismuth, gold and silver.

## 3. Moly Mack Showings.

Detailed observations have been made by several authors on the near shore gold bismuth tellurides showings comprising the Moly Mack. The main showing is at sea level west of Franck point and south of the contact between the coast intrusion and the Granby peninsula sedimentary rocks. South and west of the showing leucogranitic quartz monzonite porphyries of the coast intrusives form low ridges and weather to a creamy white color. Phenocrysts are anhedral glassy quartz, an euhedral feldspars make up most of the rock, with muscovite the dominant mafic mineral.

Sedimentary rocks in the area have been metamorphosed to biotite quartz hornfels and are cut by numerous narrow sills of monzonitic composition. Molybdenite occurs in small area of biotite rich granite within the quartz monzonitic porphyries. Coarse grained molybdenite is found along the biotite cleavage and near margins of quartz lenses.



# III ROCK LITHOGEOCHEMISTRY

Forty eight bedrock samples were taken from 42 test pits representing 31 cubic meters of blasted rocks from Moly May East and West, fig 04. Analytical results clearly indicate a direct relationship between gold, tellurium and bithmuth, suggesting the presence of gold tellurides and or bithmuth tellurides associated with gold.

Detail rock sampling on selected locations was done with the purpose of identifying the nature and value of the mineral occurrences, fig 4A. The five sampled areas represent three contact zones between quartz montzonite intrusions and sediments, four molybdenite occurrences and one radiometric pyrite-rich discovery zone. The interpretation is as follows:

## 1. Moly Mack, 2200S 1800E.

Fe, Mg, Na, & P.

It is composed of two separate areas

- Several beach occurences, samples Z-2,3 & 6.

- A large shear zone near the beach high water line contact, samples: Z-4 & 5.

a) Beach Occurrences
Several small N-S fracture zones, dip 45°E to 90° which are filled with 1 to 2 cm of vein material.
Z-3: Au=173ppb, Te=1.9ppm, Bi, Cd=94ppm, Cr, Mo=775ppm, W and Zn=1865ppm
Zinc and cadmium are indicative of the possible presence of a massive sulphide horizon (located near the shore line).
Z-6: Au=405ppb, Te=6, Bi=168, Mo=344, P=4790.
Gold value increases from 173 to 405ppb and is coincidental with an increase in F, Te, Al, Ag, Ba, Bi, Ca,

b) Shear zone

Z-4: F, Mo=2070, P=5840, Na/K = 1200/500.

Z-5: ore grade gold at +10ppm or 0.3oz/ton, Te=21, Ag=44, Bi=+1%, Mo=+1%, W=100.

## Conclusion:

Gold values are related to tellurides which are friable and prone to weathering, explaining some of the results disparities. The Moly Mack area should be explored along the newly found shear zone and extended by blasting.

## 2. Hazelton sediments contact zones

It is comprised of two distinct areas with three showings and located on 3700S 200W and 2300S 1365E

- South of the Goldskeish quartz mine: a long contact zone between sediments and alaskite granite Samples Z-1 & Z-1b.
- Moly May North Eastern Hazelton group embayment Two locations near 2300S 1365E Samples Z-325 to 329 and Z-330 to 332.

a) 3700S 200W shale greywacke contact.
Located west of Moly May south zone,
Z-1: Be=2ppm, W=210ppm, low K and high Na,
This zone will require further sampling.

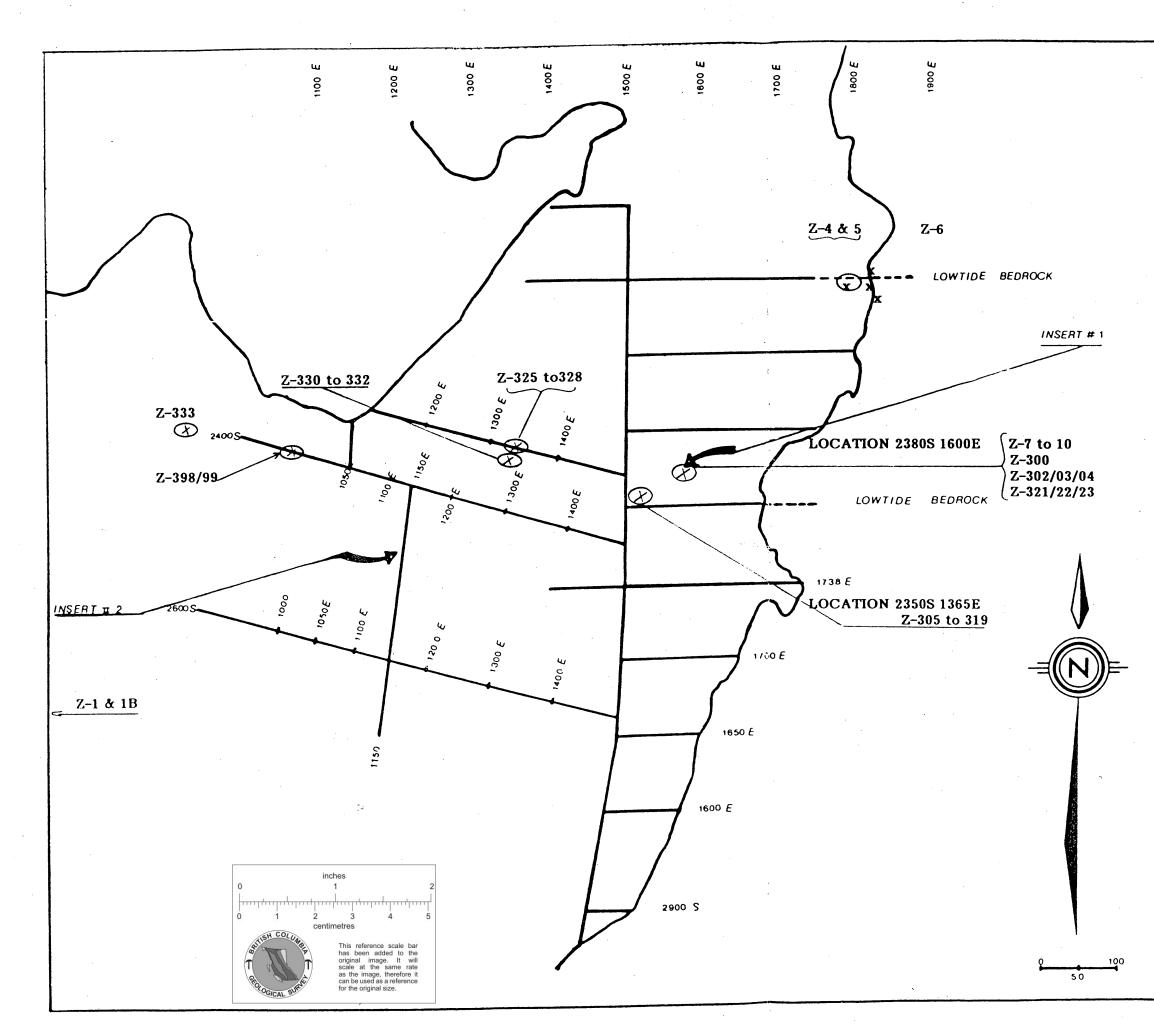
b) 2340S 1365E embayment

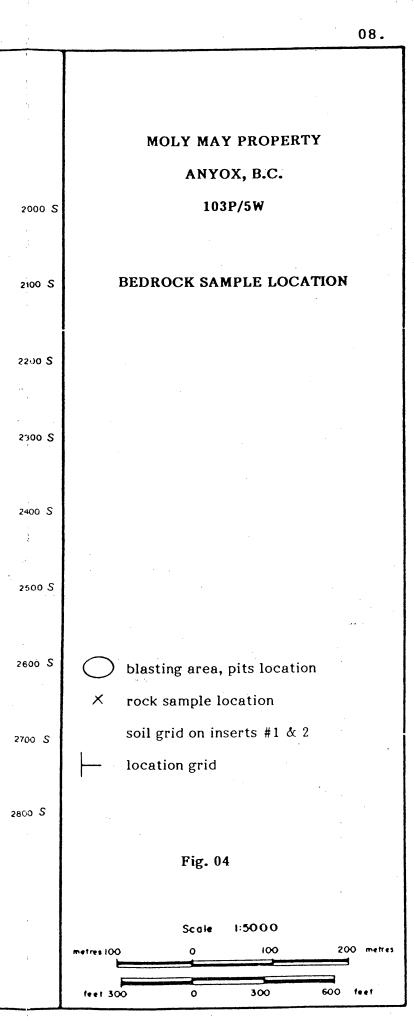
Z-325 to Z-329 represent a pyrite rich contact zone with potassium enrichment up to 0.5%

c) 2300S 1370E Hazelton group ridge Z-330 to Z-332 are characterized by Cu, Ba, & Mo moderate enrichment with K/Na/Mo/P correlation, 3800/1600/29/380, 6000/700/40/940 and 6900/300/2/240.

### Conclusion:

The relation between sodium/potassium content seem to be correlating with gold values.





## 3. Moly May East Zone

It is comprised of several molybdenite showings containing gold, bismuth and tellurites. Molybdenum values are often very high, however its relation to gold is hard to rationalize. Gold values seem to decrease with the slightest potassium increase of the host rock. Also the Na/K=1:1 ratio appears to be favorable to higher gold content with the exception of pegmatitic host rocks.

a) Molybdenite Occurrences, 2380S 1600E

Samples Z-7/10, Z-300, Z-302/04, Z-321/23.

A molybdenite showing, 4x10 meters, discovered by D.Javorsky in 1981 is the centre of interest. Ore material containing Mo, Bi & Au occur on the surface, probably associated with tellurides. Several detailed soil grids were done 100m northward from the showing, (see insert #1).

Z-7/10: represent freshly blasted samples from the southend of the same moly showing. Minor values of gold(30-75ppb), tellurium, bismuth are associated to high molybdenum(1795ppm). Higher K/Na ratio, 800-1500/200-400 seem to depress gold values.

Z-300: east flanck of showing, pyrite enrichment.

Au=690ppb, Te=12ppm, Bi=268ppm, weathered tellurides?

Z-321/22: second blast as Z-7/10 location, pyrite on fractures. Au=180, Te=3.2, Ag, As, Bi=74-76, K/Na=100/100. Change of K/Na=700/200ppm in sample Z-321 brings a decrease of gold value to 60ppb along with Aluminium decreasing from 1500 to 300ppm while Te & Bi are staying at the same level.

Z-323: Au=1050ppb, Te=10ppm, Bi=346ppm.

High k=1300ppm, pegmatitic source, with low Molybdenum value.

b) Discovery Ridge, 2350S 1365E

A 50 meter long and 10 meter wide radiometric discovery zone located along a 150m, creamy white quartz rich N-S ridge. Fractures are filled with pyrite with a gradational change being observed across the entire 10m width, occuring from biotite granite to sericite-chlorite quartz monzonite. Samples, 305 & 308, srike 10° to 30° and dip 70°to 90°W. Sample 316, strike 20° dip 45°W.

Z-309/09A: results varies within the same location due to alteration patern changes: As=5-35ppm, Ag=0.4-1.2ppm, Na=200-600ppm, Sr=165-7, P=450-70, Mg=1.03-0.01%.

Z-305/06: from sericite to biotite rich rocks, values change as follow: Au=20-105ppb; Te=06-1.lppm; Bi=8-26ppm.

Z-307/8,310,311: gold increase is correlated with the increase of bismuth and tellurium. However "Mo" at the same location increase 10-214ppm, with "K" increasing 1300-1700ppm for Z-307/08 and 1000-1800ppm for Z-310/11.

Z-312/13: Gold 325-230ppb is related to tellurium and bismuth, followed by lower "Mo" and "K" (500-1000ppm).

Z-315/16/19: Au(185-35-5ppb) correlates well with Te(3.8-0.4-0.1ppm), Bi(78-12-4ppm) and K(600-1000-1300ppm).

Z-314 & 317: end of sericite zone with surface weathering, autocorrelation with Au, Te, Bi, K, Na and Mo.

Z-318/19: biotite contact zone with same elemental comparisons as Z-314.

## Conclusion:

Gold is directly related to tellurides and bismuth, however inversely proportional to potassium and directly to Na/K provided that each value stays at a low level, ie: less than 1000ppm; molybdenum and gold correlation are rare and not well documented with the exception of bismuth and gold tellurides.

(\*) It must be noted that analytical values are obtained from I.C.P.data, therefor they are not reflecting total rock content.

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## 4. Moly May West zone

Molybdenum has been found using portable spectrometers on pegmatite granite and quartz montzonite outcrops, which composed most of the claims area hills.

a) Pyrite-moly showing, 2400S 965E

## Sample Z-398/99

A pyrite rich zone with minor molybdenite rosettes found by spectrometer prospecting.

Te=3-3.5ppm, Ag=5.6-2.8ppm, Bi=56-76ppm, K=400-700ppm with low Na.

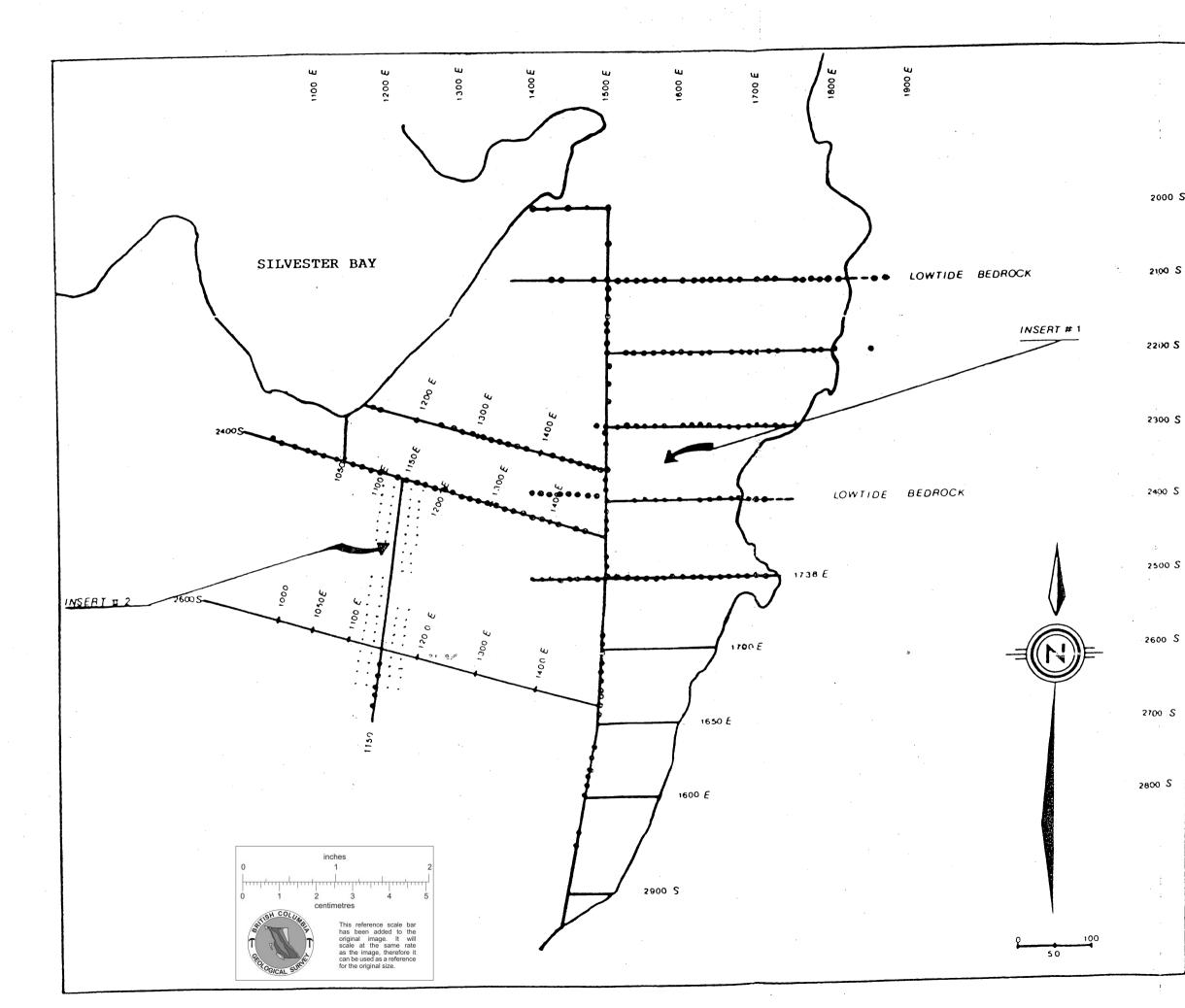
b) Molybdenite showing, 2400S 850E

Sample Z-333

High grade  $MoS^2$ , within white quartz monzonite granite, has been found with spectrometer prospecting. F=3850ppm, K=1200ppm, Na=900ppm, Mo & P over 1%.

## Conclusion:

The western part of the Moly May property present a large bedrock exposure which is in need of detail mapping and prospecting. The wide use of portable spectrometers is highly recommended since it helps to differenciate between mineralized fracture systems and barren ones. Spectrometer surveys also speed up the process of locating various molybdenite showings which usually are not obvious to surface observations.



# MOLY MAY PROPERTY ANYOX, B.C. 103P/5W

2000 S

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# SAMPLING LOCATION MAP

2200 S

2100 S

2300 S

2400 S

2500 S

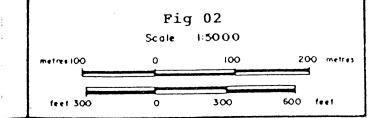
Geochemical soil sampling Location grid detail on inserts

2700 S

2800. S

1

LOCATION MAP



# IV GEOCHEMICAL SAMPLING

The region east and south of Silvester bay covering one square kilometer and known as the Moly Mack, Moly May East and Moly May West has been used as a test case for a geochemical survey.

# 1. Sampling density

The sampling density varies with the terrain, geology and type of mineralization. About 50% of the Moly May property has exposed or semi-exposed bedrock, fig 02. Sampling mediums are difficult to find due to a lack of soil and an abundance of thick peat. Long forested depressions, usually located between two N-S ridges are ideal places to conduct detailed geochemical sampling.

Detail sampling on the Moly May property represents 80 samples per kilometer of cut and chained lines, each sample is taken 12.5 meters apart. For detail work additional four samples are added to each centre line site, representing two on each side of the centre line, each sample site spaced 12.5m apart. In summary, 9 sites plus 18 on each side or a total of 36 + 9 = 45 sites for each 100m of cut line. This represents a zone of influence of 150m x 75m.

This high density of samples could be reduced to 15 sites/100m of cut lines by increasing the spacing on the main line to 25 meters and by taking only one additional sample on each side 12.5m apart. The new zone of influence would, then be reduced to 125m x 50m.

Three pertinant cases are presented:

a) Case #1, Regional Orientation CoverageSample spacing at 25 meters on cut lines with 100 metersline spacing gives a density of 40 sites/km of lines.Total coverage will require 400 sites, however 50% ofoutcrops will reduce the number of sites to 200.

# Case #1 requires 200 to 400 sample sites.

# b) Case #2, Property Coverage

Sample spacing of 12.5m on cut line with 100m apart lines results in a sample density of 80 sites/km of lines. 100% coverage and 10 km of lines represents 800 sites, therefore with a 50% rock exposure one requires a minimum of 400 sample sites per square kilometer of ground fig. 03. Case #2 requires 400 to 800 samples sites.

c) Case #3, Property follow-up

Same case as above which is 400 to 800 sites per square kilometer of ground with an additional follow-up sampling of 45 sites for each 100m of line. An average of 5 lines of 100 feet each is recommended adding to 225 locations. Case #3 requires 625 to 1025 samples sites.

d) Conclusion

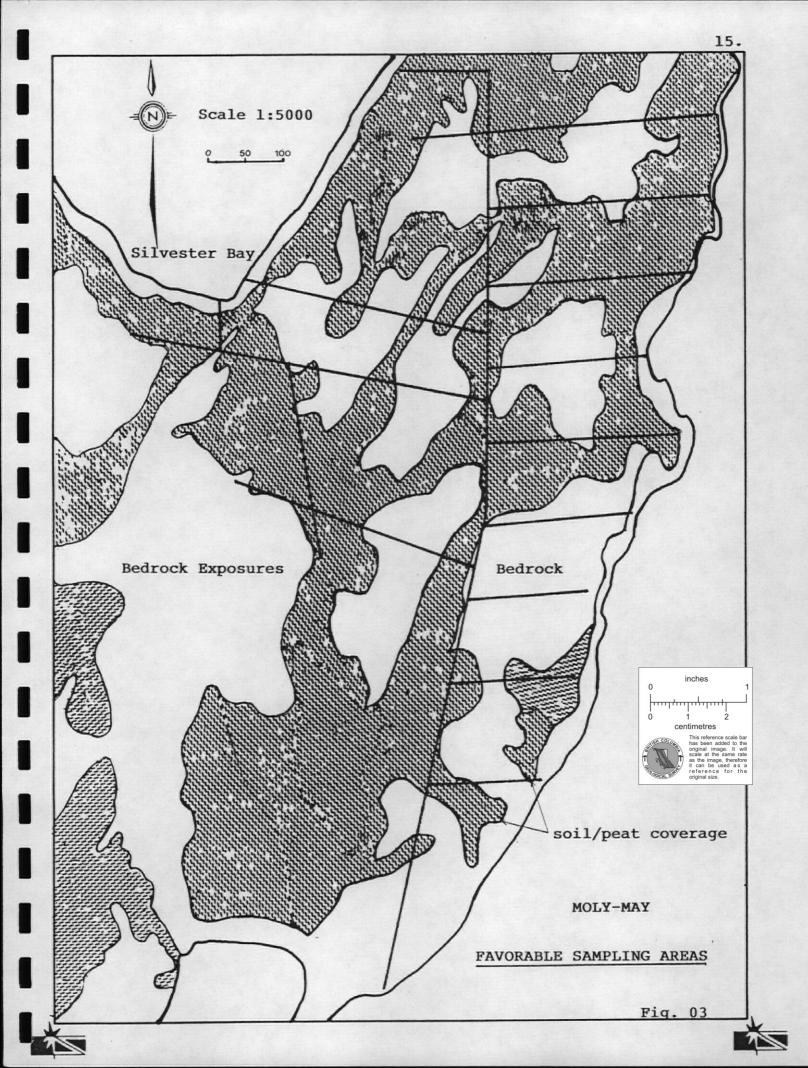
12.5 meters sample site spacing is required to reflect on small mineralized structures and other geological features. In the case of steeper topography, 25 meters spacing would be adequate therefore cutting down the number of sites by one half.

# 2. Geochemical Sampling Mediums.

The area is characterized by a lack of soil profile or soils in general fig. 03. Peat left over from old swamps covers most of the low land and gullies. On most sample sites, one can find a 5-15cm charcoal layer which constitutes a useful marker horizon left over from old burns. Part of the low ground is covered by a meter of peat and small scrubs while other parts are swampy with 1 to 2 meters of organic debris, peat and muds.

# a) Inorganic clay and silts.

Inorganic clay and or silts are rare and represent about 10% of the samples. The best places to take samples are in depressions, away from tree roots and rocks. The interface



between bedrock and top soil cover is the most favorable sampling horizon. However, the old burn layer must be used as a marker horizon, with samples always being taken below. Most observed inorganic profiles are Gleysolic and range from Orthic Humic Gleysol to Terric Mesisol and Sphagno-Fibrisol.

b) Stream Sediments

Several small first and second order creeks have been found along with several seepage areas. The best sampling medium is composed of 50% organic ooze and 50% inorganic fine silt, taken 2-5cm from the surface. However if the drainage site is well located, two separate samples should be taken. A marked linen bag must be used to drain exess water.

c) Organic Peat, Sphagno-Fibrisol.

80% of the samples are taken from a water filled swamp having a peat layer of one to two meters thick when filled with water and 0.5 to 1 meter thick when dry. The best samples will come from the decayed part sitting above bedrock and usually located in the reduction zone. This zone is also called the interphase since ground water is near, with the profile being characteristically wet. Sometimes in a dry environment, the interphase zone is marked by an abrupt change of color.

Organic peat sampling is the "last resource sample" when there is no inorganic clays or silts and only peat and roots located above a weathered and bleached bedrock. Special treatment in the laboratory is required to separate the inorganic material from the peat. Ashing is recommended to improve upon results variability thus enhancing some elements concentration: gold, barium, Strontium and others. d) Tree bark sampling, (Western Hemlock).

Lower tree bark samples have been taken in areas with no other sampling medium. A larger sampling area is tapped by the tree's root system than by soil samples. Therefore assays results represent a much more accurate mesurement of elements movement and concentration from nearby bedrock weathering. Neutron activation results are reflecting true metal content of biological tissues; ie: bark, needles and or stems. Ashed samples will provide a better contrast between background values and threshold anomalous levels by increasing the metal concentration between 20 and 50 folds.

# 3. Field sample preparation

Due to the amount of rain the Anyox region receives, most samples are collected wet. Sample preparation should be done at camp in order to increase quality control on the sample collection and decrease shipping cost.

One drying tent with a wood stove and several drying racks is required. Each day's samples are recorded and transferred into new dry legible bags, missing or poor samples being resampled the following day.

Dry samples are screened to -80 mesh and repacked, while inorganic rejects are kept in each original bag. Rocks of all types are kept away from soils and other samples due to contamination risk.

# V Subsurface Geochemical Interpretations

Metal enrichment in rocks associated with "mineral deposits", is often reflected by the sub-surface sampling. Trace elements analytical results will provide the necessary tools to measure and evaluate the quantities of metal available in the nearby bedrock.

# 1. Sampling coverage

About one quater of the Moly May property has been sampled in some details with the objective to evaluate the usefulness of various geochemical sampling mediums, fig 2. One half of the area is exposed to bare rock and the remainant is composed of swamps or old peat areas, gulleys and shore line which are barely suitable to geochemical sampling, fig 3.

A total of 607 geochemical samples were taken, divided into 544 soil/peat samples (organic humus, peat, ooze, "B & C" soils, organic debris mixed with leached rocks), stream sediments and ground water soil interface; appendix C. 13 hemlock lower bark samples.

5,500 meters of geochemical lines have been sampled; sample spacing varying from 5m to 25m apart and 100m line spacing, fig 2 & inserts #1 & 2.

As outlined in chapter IV under samples density, various attempts have been made to find what are the most suitable minimum sampling density. Copper values in soil horizons help to draw conclusions on its mobility, retention and bedrock enrichment.

# 2. Copper Dispersion.

Copper enrichment in soils comes in various levels reflecting the source rock. The geochemical dispersion is represented by narrow zones 5 to 20 meters wide. The various copper levels (ref.3) of interest are:

Threshold, 40 to 80ppm Cu.

Anomalous, 2 to 3x above log mean, 100 to 150ppm Cu.

Highly anomalous, +4x above mean, 200 to 300 ppm Cu. Many cluster copper anomalies are to be found within the 400 to 1000 ppm copper range, however mineralized bedrock is reflected by 1600, 1550, 2740 & 2790 ppm Cu peaks, fig 5, 5b, appendix A page A-4 & A-5.

a) Wide Sampling, fig 5.

High copper values are mostly found within samples reflecting near bedrock metal leaching. The disparity of copper and other metals values, reflect the lack of upward ionic movement within the sampling column. It has been observed that within a 10cm depth change, a significant copper anomaly is not detected and often is equal to background level. This contrasts with detail sampling which has been successful in finding narrow copper zones that have been missed by the 100m gride lines. Regional sampling on fig 5B outline several adjacent N-S trends with emphasis on the following metals:

-- Cu & Ag

-- Cu & Ag-Pb with patchy Au.

b) Detail Follow up sampling.

10 to 12 meters sample spacing and often several profile samples per site have been necessary to outline narrow zones of copper enrichment:

Insert #1, fig 6.

Over 120 sites, 10 meters apart have been taken to follow on the extention of a molybdenum-gold rich outcrop. The sampled area is covered by 20 to 100cm of peat and swamps, copper enrichment varies greatly with depth, with high values found near the bedrock interface, fig 6B. Several zones of interest are located within the following ranges:

600-800, 900-1050 ppm, 600-1850, and 2600 ppm Cu Favorable metal associations to be compilled are:

Cu + Cd and or Cu + Ag

Cu + Cd + Au and or Pb-Zn-Sb

# Insert #2, fig7.

Over 110 sites, 12 meters apart have been taken to cover a swampy N-S depression flancked on both sides by low ridges. High copper values match and extand well regional trends, fig 7B appendix A-9. The most obvious metal associations with copper consist of Cu + Cd & Ag and or Pb, while gold, barium and phosphorus anomalous values occure without obvious repeat patterns.

Several sample sites present a high copper contrast with depth, again indicatif of no upward ionic metal movement: 34/1535, 25/358, 69/1055, 23/663, 42/418 ppm Cu.

## c) Conclusion.

Several large copper trends have been found by geochemical sampling of the surface cover, probably reflecting the soilbedrock interface enrichment.

Copper in the Anyox region is a good indicator to be used in combination of other elements. However the sampling must be done with great care, below the old burn and on the unbleached interface between soil and rock. Various trace elements relate to copper and seem to be pointing to the presence of a massive sulphide environment.

## 3. Gold and Related Enrichments.

Due to the variability of the sampling mediums no satisfactory gold background-threshold data have been established for the property. Approximately 100 repeat fire assays for gold on organic rich soil interface samples have only confirmed previous erratic values.

Surprisingly the 13 lower bark samples taken from Western Hemlock trees in areas with heavy peat cover, have given very encouraging results, fig.8 App A-10.

Biogeochemical analysis seem to reflect well the bedrock lithology and present several advantages over conventional soil sampling:

-high gold detection with excellent contrasts

-elemental assemblages are more apparent

-distinction between ground water mouved metal and near bedrock source.

-copper-cadmium correlation with weak gold values.

Several metallogenic correlations seem to be possible and are behond this preliminary study; copper-cadmium correlation with weak gold values is taken as an exemple:

Cu ppm : 2070, 935, 1605

Cd ppm : 7.0, 2.5, 5.5

Au ppb : 35, 50, 35

On the Moly May property gold is often directly related to tellurides along with Bithmuth and molybdenum. Gold associated to Cu-Pb-Cd is very mobile since it is readilly released from its ionic stage during weathering.

# VI GEOLOGICAL RADIO-MAPPING

Spectrometer prospecting is an ideal tool to find molybdenum occurrences in granitic environments by measuring the potassium enhancement or depletion of surface rock exposures.

Most molybdenite rich showings are releasing various amounts of potassium, rhenium, thallium, bismuth, barium and others isotopes. The resulting decay energies are measured by field spectrometer's sodium iodide crystal, appendix B.

For practical purposes the most used measurements on the Moly May have been made on TCl or total count #1 which measures all energy levels above 0.08MEV, in addition TC2 which measures all energy levels above 0.40MEV has been used on all high reading instances.

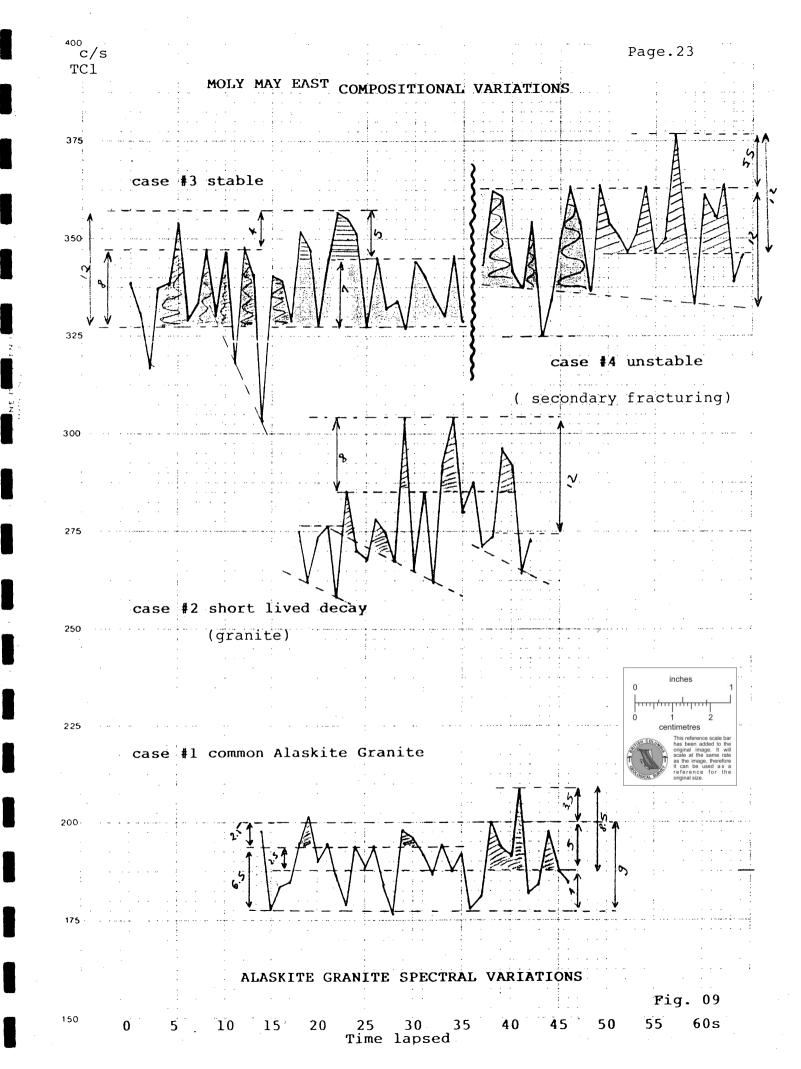
The Moly May property is best characterised by an unusual lack of potassium isotopes while abunding in all the other daughter products related mainly with this unusual high grade molybdenum ore, Appendix B.

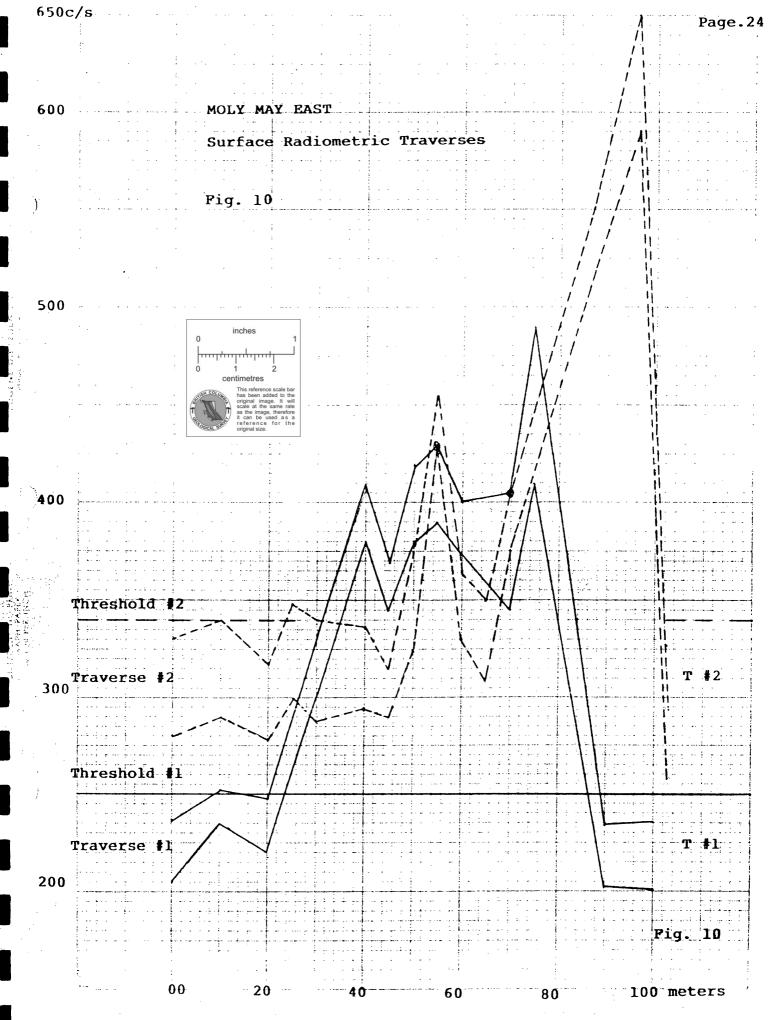
Radiometric mapping and prospecting are ideal exploration tools since most bedrock changes have enrichments with distinct radiometric signatures, well above a low background level. Background values fluctuate between, 95-114c/s on TCl channel, page B-5.

fig 09 illustrates compositional changes within a granitic outcrop mainly due to quartz content fluctuations, age, intensity of fracturing and origin of alteration minerals.

fig 09B appendix B, differentiates between pyrite-rich showings and molybdenite mineralization within the same outcrop.

Fig 10 represents two surface traverses following a N-S ridge with 5 meters line separation, referred as Discovery ridge located at 2350S 1365E and resulted in discovering a 5 x 15 meters contact zone between biotite rich and chloritepyrite altered quartz monzonite. This area has been expended to an area 10m wide x 50m long by blasting and prospecting.





Traverse #1 represents lower peaks (370-490c/s) of enrichment, than traverse #2 (425-675c/s) mainly due to compositional changes and detector's crystal size. The fresh blasted rocks registered up to 1360-1460c/s on TCl channel, the outcrop has visible molybdenite, App B-6/9 fig 11.

Field observations and rock analysis suggest that Moly May molybdenum occurrences could be divided into two distinct geological types:

1. Massive MoS2 related to pegmatite.

Pegmatite molybdenite ore varies from 1-20% occuring mostly along frcture planes as lenses or podes.

fig 11 App. B-10/12: provide some characteristics on a pegmatite granite occurrence located on Moly May west. TCl vary from 2650c/s to 2700c/s with 15s decay periodes possibly due to Rhenium & Potassium isotopes.

fig 11A: TC2 fluctuates between 480 & 540c/s with 5-10-12s decay cycles.

fig 11B: "K" varies from 24 to 39c/s with 15s cycles.

2. Molybdenite associated to altered pyritic zones.

Disseminated MoS2 and molybdenite rosettes often associated to bismuth and gold, fig 09 & 09B Appendix B-4.

Conclusion:

Radio-Geological prospecting is essential to the rapid outline and evaluation of molybdenite showings.

Systematic potassium mesurements will provide needed data to prouve or disprouve the previously assumed existence of potassium halo zoning.

# VII CONCLUSION

Geochemical sampling and prospecting of the Moly May claim have found several new molybdenite showings. Two distinct categories seem to occure:

- molybdenite associated to polymetallics, such as Bi, Pb, Cd, Te, Au and often located in pyritic zones. A radiometric signature of 400 to 800c/s on TCl is the norm.

- molybdenite related to pegmatite lenses, having a high radio-count: TCl from 1200 to 2500c/s, possibly due to high rhenium content.

Rock lithogeochemistry on freshly blasted outcrops has been usefull in outlining several metals intercorrelations between Mo, Au and Pb. Attempting to relate Na/K variations to gold values and mesuring correlation factors in addition to Mg, Ba, and P may help in outlining chemical changes and zoning patterns.

Geochemical interpretation is obscured by the complex nature of several mineral assemblages. Close spacing in the field sampling is required as indicated by the copper dispertion on insert #1 & 2.

Copper seem to be related to quartz carbonate sulphide chloritic rocks, as veins or contact filling.

Chalcopyrite and galena have been reported from interstitial patches with pyrite grains countaining seams of chalcopyrite along sets of fine parallel fractures.

Tellurbismuth, tetradymite, galena and native lead have been found on the property and are associated with pyrite in quartz calcite contact zones.

# VIII RECOMMENDATIONS

A systematic mapping, prospecting and sampling of the Moly May propery is required.

The use of portable spectrometers as a pathfinder for alteration zones, molybdenum and pyritic mineralization is highly recommended. It should be followed by trenching, pit basting, lithogeochemical sampling and structural mapping.

Geochemical sampling of forest and swamp covered areas should make use of all mediums available including trees.

Data compillation must include Copper, lead, cadmium, molybdenum and gold-silver autocorrelation with other anomalous elements such as Bi, As, Te, P, K, Na, Mg.

An overall selection of objectives and priority rating must be establish before drilling.

Respecfully submitted,

Hay

Vancouver, January 13, 1989 Zelon chemicals Ltd.

John H. Hajek Exploration Geochemist



## STATEMENT OF QUALIFICATION

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I John Henry Hajek of 4440 Regency place, West Vancouver, B.C. do hereby certify that:

-I am a Geochemist-Chemist with a bachelor degree in sciences from U. of Paris 1964

-I am a member of the Canadian Institute of mining and Metallurgy, association of Geochemists & American Chemical society.

-I am employed by Zelon Chemicals ltd, which office is located at 1316-510 West Hastings St. Vancouver, B.C.

-I have no interest in the Moly May property.

-I have practiced continuously as an exploration Geochemist geologist since 1969.

-This report is based on results of work carried out on the Moly May Claim, under my direct supervision during June 10 to July 05,1988.

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J.H. HAJEK Mining Consultant/Geochemist