83-#389 - 11.)65

GEOLOGICAL AND DIAMOND DRILLING

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REPORT

ON THE

MOUNTAIN MEADOW PROPERTY

LOCATED IN THE BURTON AREA

SLOCAN MINING DISTRICT, B. C.

NTS 82K/4W

at

50°05' N Latitude

117<sup>0</sup>47' W Longitude

for

MAR-GOLD RESOURCES LTD.

by

DAVID A. CAULFIELD, GEOLOGIST

CHARLES K. IKONA, P. ENG.

PAMICON DEVELOPMENTS LIMITED

January 31, 1983

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#### INTRODUCTION

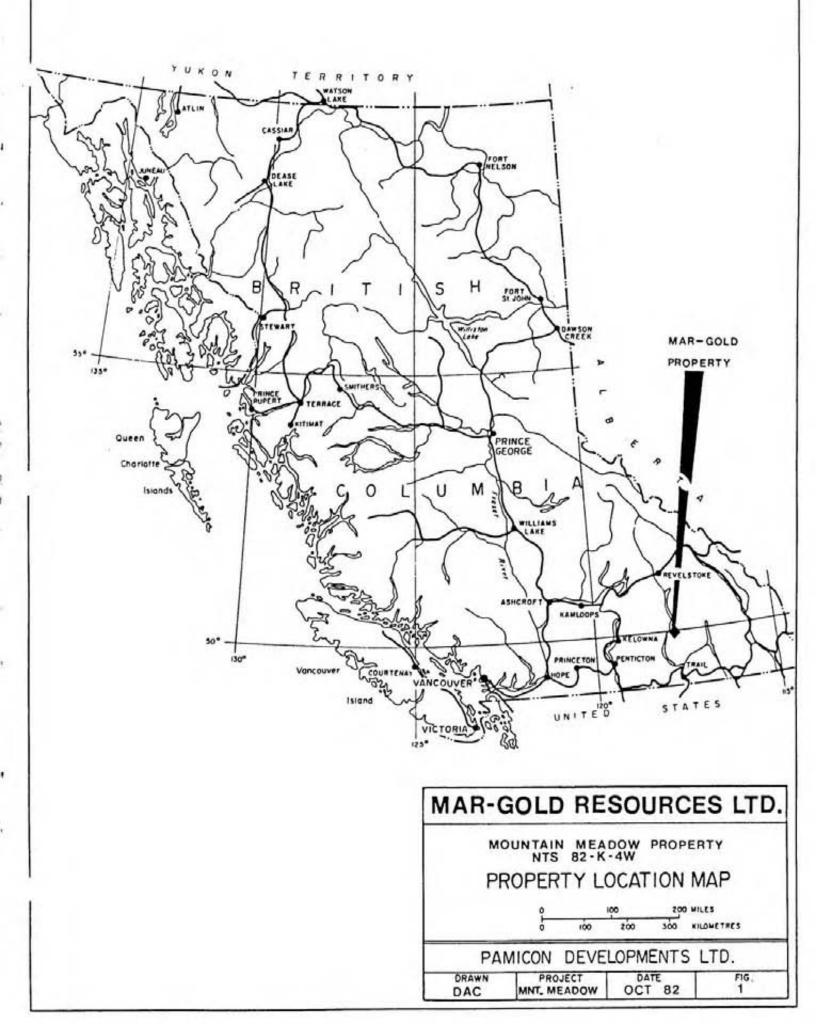
The Mountain Meadow property is located near Burton in southeastern British Columbia. Following the turn of the century, this area was well prospected for veins rich in lead-silver mineralization. More recently, high grade surface occurrences of gold were discovered on Tillicum Mountain. Following this spectacular discovery in 1980 that property was optioned to Esperanza Explorations Ltd. and Welcome North Mines Ltd. of Vancouver. The area was subsequently blanketed by extensive claim staking during the late summer and fall of 1982. At this time, Mar-Gold Resources Ltd. of Vancouver acquired the option to Mountain Meadow property from two local prospectors in Nakusp.

Pamicon Developments Ltd. was requested by Mar-Gold Resources Ltd. to complete a small program of sampling and diamond drilling in the vicinity of the arsenopyrite-gold showings as previously outlined by Brenda Mines Ltd. The work completed, at a cost of approximately \$65,000, included surface sampling of all the exposed trenches and 485.6 m of diamond drilling in six short holes.

The writer was retained to assimilate all data received to date and to set forth recommendations for future exploration on the property. As a follow up to the 1982 Stage I program, a Stage II program during 1983 should consist of legal surveying, trenching, sampling, geochemical and geophysical surveys. A Stage III program of diamond drilling would be instituted dependent on the results of the previous program.

# 2.0 LIST OF CLAIMS

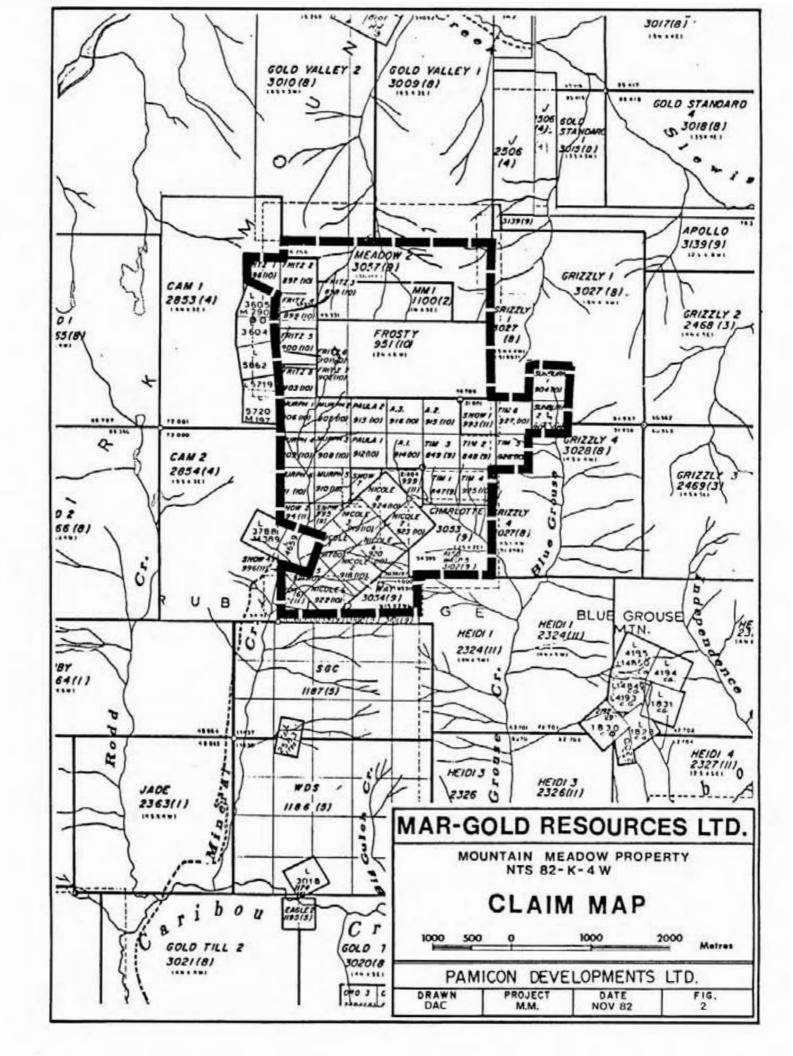
The B.C. Ministry of Mines, Energy and Petroleum Resources indicates that the following claims (Fig. 2) are included within the Mountain Meadow property.



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# LIST OF CLAIMS CONTINUED

Claim Name	Record No.	Units	Record Date
Fritz No. 1	896	1	Oct. 78
Fritz No. 2	897	1	Oct. 78
Fritz No. 3	898	1	Oct. 78
Fritz No. 4	899	1	Oct. 78
Fritz No. 5	900	1	Oct. 78
Fritz No. 6	901	1	Oct. 78
Fritz No. 7	902	1	Oct. 78
Fritz No. 8	903	1	Oct. 78
Frosty	951	12	Oct. 78
MM #1	1100	5	Feb. 79
Charlotte	3053	4	Sept. 82
Way	3054	2	Sept. 82
M.M. Fraction	3056	1	Sept. 82
Meadow 2	3057	18	Sept. 82
Tim No. 1	847	1	Sept. 78
Tim No. 2	848	1	Sept. 78
Tim No. 3	849	1	Sept. 78
Tim No. 4	925	1	Oct. 78
Tim No. 5	926	1	Oct. 78
Tim No. 6	927	1	Oct. 78
Paula No. 1	912	1	Oct. 78
Paula No. 2	913	1	Oct. 78
Murph No. 1	906	1	Oct. 78
Murph No. 2	907	1	Oct. 78
Murph No. 3	908	1	Oct. 78
Murph No. 4	909	1	Oct. 78
Murph No. 5	910	1	Oct. 78
Murph No. 6	911	1	Oct. 78
Sunburn No. 1	904	1	Oct. 78
Sunburn No. 2	905	1	Oct. 78
Nicole No. 1	917	1	Oct. 78
Nicole No. 2	918	1	Oct. 78



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## LIST OF CLAIMS CONTINUED

Claim Name	Record No.	Units	Record Date
Nicole No. 3	919	1	Oct. 78
Nicole No. 4	920	1	Oct. 78
Nicole No. 5	921	1	Oct. 78
Nicole No. 6	922	1	Oct. 78
Nicole No. 7	923	1	Oct. 78
Nicole No. 8	924	1	Oct. 78
A 1	914	1	Oct. 78
A 2	915	1	Oct. 78
A 3	916	1	Oct. 78
Snow 1	993	1	Nov. 78
Snow 2	994	1	Nov, 78
Snow 3	995	1	Nov. 78
Snow 4	996	1	Nov. 78
Snow 6	998	1	Nov. 78
Snow 7	999	2	Nov. 78

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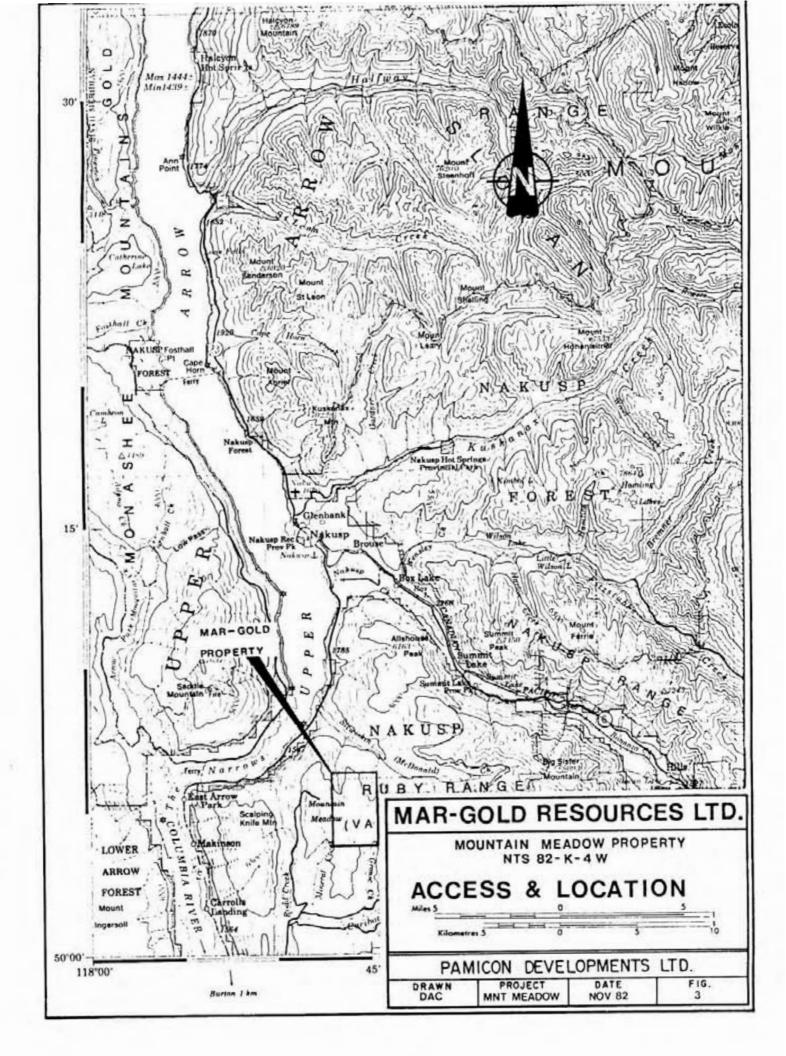
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#### LOCATION AND ACCESS

The Mountain Meadow property is located in the Selkirk Mountains along the eastern edge of Arrow Lake in southeastern British Columbia ( Fig. 1). The claims are situated between the headwaters of Mineral and Blue Grouse Creeks on the Mountain Meadow plateau.

Access to the property is via logging road which departs from Highway 6 just south of the town of Burton. The 30 Km route to the center of the property is made by taking the Rodd Creek junction which branches from the Cariboo Creek road near the confluence of Rodd and Cariboo Creeks, 7 Km from Burton (Fig. 3). A four-wheel drive vehicle is recommended to negotiate the final stretches of road on and near the actual property.

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#### PHYS10GRAPHY

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The property covers a flat mountain plateau at approximately 1830 m elevation bounded by steep slopes, especially to the north and northeast. The headwaters of Mineral, Blue Grouse and tributaries of Slewskin (Mc Donald) Creeks have cut deep ravines into the plateau.

Sub-alpine grasses and flora intermixed with scrub bush, spruce and pine cover the upper reaches of the mountain whereas the slopes are heavily treed by smaller spruce, pine and cedar. Tag alder and devil's club are common to the lower elevations and ravine bottoms.

## 5.0 HISTORY

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Following the turn of the century, the Burton area was well prospected for bonanza type silver-lead mineralization. Some of earliest recorded mining in the district occurred along the western boundary of the Mountain Meadow property on the Skylark (formally the Mountain Meadow Group)crown grants. A short adit of 15 m and two drifts of 30 m and 15 m to the north and south of the adit were driven and it was reported that 80 tons of high grade silverlead ore was stockpiled. During the 1950's, the Promistora crown grant was mined by the McLeod Bros. for Promistora Gold Mines and there reportably was a bulk shipment of ore shipped to eastern Canada. These two crown grants are located directly south of the Skylark property along the southeast edge of the Mountain Meadow prospect. Both of these mining ventures were concerned with developing vein systems which probably are closely related, spatially, to the Mountain Meadow stock.

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υI	QUATERNARY	
CENOZOIC	Qs Glacial deposits, recent alluvium, few if any outcrops	
CEN	Qsl Landslide and rock slide debris	
	Kcc NELSON BATHOLITH (KCC to Jqd) CARIBOU CREEK PLUTON: biotite-hornblende quartz monzonite, granodiorite; minor quartz diorite and granite. All contain potash feldspar megacrysts	-
	Kqmb GOATCANYON-HALIFAX CREEK and WRAGGE CREEK STOCKS: hornblende-biotite quartz monzonite; minor quartz diorite and granodiorite	
1.0	JURASSIC AND/OR CRETACEOUS	
	Jqdm RUBY RANGE STOCK: biotite-hornblende quartz diorite, diorite, quartz monzonite, monzonite and symodiorite	
OIC	Jqd MEADOW MOUNTAIN and EAST CARIBOU STOCKS: foliated hornblende quartz diorite; minor quartz monzonite	
54	JURASSIC	
MESOZOIC	JKX KUSKANAX BATHOLITH AND STOCKS (JKX, JKXS, JKX): Acgerine-augite leucoquartz monzonite; minor leucosyenite and leucogranite	3
i	JKXs Syenite	
	LJKX Foliated and/or lineated leucoquartz monzonite	
1	LOWER JURASSIC	
	UPPER SINEMURIAN	
	IJP ARCHIBALD FORMATION (?): grey argillite, shale and siltstone	
	TRIASSIC AND (?) JURASSIC TRIASSIC TO (?) LOWER JURASSIC (SINFMURIAN) SLOCAN GROUP	
	RJsvb Augite meta-basalt and meta-andesite flows and tuff	
	FJSvd Grey meta-andesite and meta-dacite tuff and flows	
	<b>RSP</b> Grey to black phyllite, argillite, quartzite; minor tuffaceous sediments near top	Rssb Crey mica schist
	<b>Rsc</b> Grey to black limestone; minor argillite and quartzite	Rssc Calc-silicate marble
	RASLO GROUP Meta-andesite flows, tuff, breecia; minor meta- dacite; rare tuffaceous phyllite	Pakym
U,		
PALEOZOIC	MISSISSIPPIAN TO PENNSYLVANIAN OR PERMIAN UPPER MISSISSIPPIAN TO PENNSYLVANIAN OR PERMIAN MILFORD GROUP	
PALE	UMmsb Biotite schist, paragueiss	Pisn Undivided
	Geological boundary { defined	
	reuit {	
	meddling, facing determined { vertical	
	Bedding, facing undecormined {unclined	

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Cleaveque (inclined, wertical)...... ~ -{undetermined vergence. 5 Linescon, fold esta rold lundetermined vergence, mercharly vergence" Vergence is the direction of the upper memour of the cotational couple implied by the asymmetry of the fold.

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Geology by J.C. Wheeler, 1965, 1967; P.B. Read, 1962-1964, 1971-1976.



#### HISTORY CONTINUED

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The area was largely ignored until 1974 when Mr. H. Murphy and Mr. F. Jordan discovered and staked a small gold showing on the Mountain Meadow plateau. Following the completion of a short trenching program, the claims were allowed to lapse until 1978 when the ground was restaked as the Tim 1 to 4 mineral claims. Prospecting of the surrounding area led to the discovery of several small molybdenite occurrences situated east of the original gold showing. Mr. Murphy and Mr. Jordan staked 43 additional units and optioned the property to Brenda Mines Ltd.

Grass root geological and geochemical surveys completed by Brenda personnel in 1979 were followed by a more detailed geochemical and geophysical program during the fall of 1980.

During 1981, Brenda Mines Ltd. allowed their option to drop and the ground was then optioned to Mr. Fred Marehard of Mar-Gold Resources Ltd. in September of this year. It was also during this month that additional ground to the north and south was purchased (1rom Mr. Ralph Allen) and from a syndicate of prospectors headed by Mr. James McDonald. At this time, a detailed trench mapping and sampling program was initiated. This was followed by a short diamond drill program under the direction of the writer of Pamicon Developments Ltd.

### 6.0 GEOLOGY

#### 6.1 Regional Geology

The Mountain Meadow property lies within the Omenica Crystalline Belt which is one of the five distinct, geological belts of the Canadian Cordillera.

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# 6.1 Regional Geology continued

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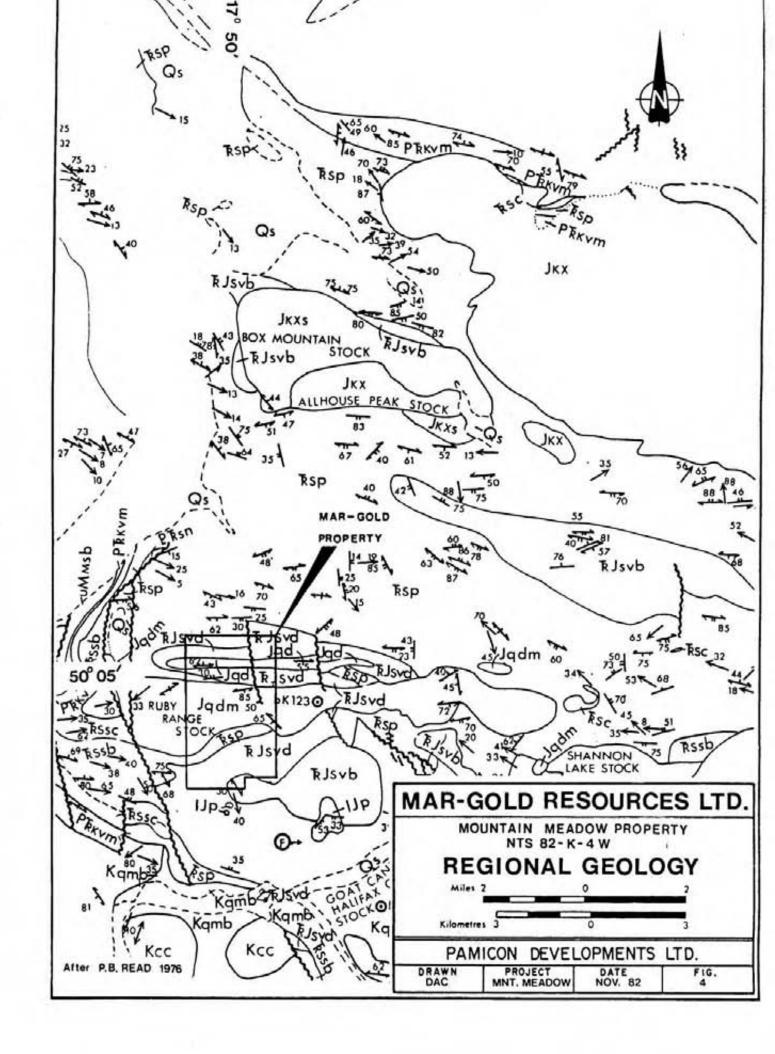
The geology of the area has been described by D.W. Hyndman of the Geological Survey of Canada in Bulletin 161 (1968). A revised compilation map, by P. B. Read, was published by the Survey in 1976 (0.F. 432). Accompanying this geological map of Lardeau West-half is a mineral inventory map, compiled from various sources, by the Geological Survey of Canada (0.F. 464). The bedrock geology of the area (Fig. 4) can be divided into four main groups:

(1) the Jurassic to Cretaceous intrusive phases.

- (2) The Slocan Group.
- (3) the Kaslo Group.
- (4) The Milford Group.

Note - Three small outcrops, of what are thought to be sediments of the lower Jurassic Archibald Formation, have been located just south of the Mountain Meadow property.

Three different ages of plutonism have been separated in the Nakusp-Burton area. The youngest of the intrusive phases, which is located to the south of the Mountain Meadow property, is that of the Nelson Batholithic complex. That the portion of intrusive rock shown on Figure 4 represents only the northern border of a much larger complex extending to the south. Underlying the Mountain Meadow property, are the calc-alkalic intrusions of the Ruby Range and Meadow Mountain/East Cariboo stocks. These dioritic and monzonitic rocks are characterized by megacrysts of potassium feldspar and are thought to be upper Jurassic and/or lower Cretaceous in age. Biotite from the Ruby Range rocks just to the east of the property has yielded a K - Ar age of 123 - 10 m.y. These two stocks may, in part, be genetically related to the Nelson Batholith. The oldest intrusion in the map area is the extensive alkalic Kuskanax batholith and its satellitic plutons ( i.e. the Box Mountain, Allhouse Peak and Shannon Lake stocks).



#### 6.1 Regional Geology continued

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Radiometric dating has revealed a K - Ar date of 178 m.y. for the batholith. This lower Jurassic batholith is composed mainly of aegerine-augite leuco-quartz monzonites.

Lying between the Kuskanax and Nelson batholiths is the Triassic/ lower Jurassic Slocan Group. The series consists of metamorphosed pelitic sediments with interbedded quartzites, limestones, conglomerates, breccias and sandstones overlain by a metavolcanic sequence. Regionally, the group falls within the biotite-chlorite zone of regional metamorphism.

Situated to the west of the Mountain Meadow property are exposures of both the Kaslo and Milford groups. The amphibolites of the Permian/Triassic Kaslo Group are known to disconformably underlie the Slocan Group as detritus from the Kaslo Group has been found in basal conglomerates of the Slocan Group. The oldest rock units are those of the Mississippian to Permian Milford Group which include biotite schizts and paragneisses.

Structurally, the area lies within the Selkirk allochthon which was transported to its present position east of Columbia River fault system during Mesozoic time ( Peter Read, pers. comm.1982).

Peter Read ( 1976) has recognized three phases of deformation on a regional scale for the Lardeau west-half with the complexity of structural deformation increasing from the east to the west half of the map sheet. The major faulting in the area appears to be primarily in a north-south direction.

# 6.2 Property Geology

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Preliminary mapping of the Mountain Meadow property was established by Brenda Mines Ltd. during the 1979 and 1980 field seasons. This mapping has been supplemented by further examination using thin sectional studies and staining methods. Three different rock packages have been noted. (Fig. 5):

 Hornblende - Biotite Quartz Monzonite (formerly labelled as quartz diorite) of the Ruby Range stock.

(2) Quartz Monzonite Porphyry ( formerly labelled as diorite porphyry ) of the Meadow Mountain stock.

(3) Metavolcanics and metasediments of the Slocan Group.

The Ruby Range stock of monzonitic composition is centrally located on the property and is bounded on the north and south by rocks of the Slocan Group. Outcrops are glaciated and grey in color whereas fresher specimens reveal a medium grained, equigranular intrusive. Feldspar population consists of plagioclase and microcline and the mafic minerals include biotite and hornblende with the latter found in greater abundance. Mafic concentrations increase towards the contact which probably resulted from the assimilation of the more basic country rock during the emplacement of the intrusive. This hypothesis is supported by the presence of xenoliths of argillite and andesite close to the boundary of the stock. It may be noted that, to date, the most consistent and strongest mineralization has been located within this stock.

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# 6.2 Property Geology continued

Outcrops of the light grey quartz monzonite porphyry occur in the northern portion of the map area. Rock specimens of this unit are easily recognizable by the unique occurence of large ( up to 5 cm) euhedral phenocrysts of microcline in a coarse grained equigranular matrix of essentially quartz, plagioclase and hornblende. These potassium feldspar phenocrysts frequently contain biotite inclusions arranged in patterns parallel to the crystal boundaries. Trace amounts of pyrite are disseminated throughout. Feldspar alignment imparts an east-west foliation with a moderate dip to the north. The porphyry is fractured along a steeply dipping 160° strike and fracture density increase along eastern and western margins and hosts several mineralized quartz veins.

The non-intrusive rocks within the claim boundary are the metavolcanics to the north, and the metasediments to the south, both originating from the Slocan Group. Meta-andesite outcrops are microcrystalline in texture and appear dark grey to green in colour. Petrographic examinations reveals that the volcanic rock has been strongly altered to chlorite and clay minerals and that the rock is peppered by tiny opague grains of magnetite. Contacts with the intrusives are sharp and frequently concordant with the andesite's flow banding.

The southern portion of the claim group covers a large body of fine grained argillite. This unit is grey to green in colour and partially silicified. Bedding planes are distinct, following a 100<sup>°</sup> strike and northerly ( 40<sup>°</sup>) dip. The argillite unit forms an abrupt easterly contact with the hornblende-biotite quartz monzonite. Small marble occurrences have been encountered locally within this unit.

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6.2 Property Geology continued

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It is these Slocan sediments which host both the Skylark and Promistora vein structures immediately to the west of the claim group.

## 6.3 Mineralization and Alteration Assemblages

Three types of economic mineralization have been identified on the property to date. Each type of mineralization is not only recognized by its specific sulphide species but is characterized by its associated alteration minerals and location within the property. The three mineralization types are:

- (1) Molybdenite pyrite veining.
- (2) Arsenopyrite gold veining.
- (3) Galena silver ( gold ) veining.

## 6.3.1 Molybdenite-Pyrite Veining

The strongest molybdenite-pyrite mineralization occurs in an area bounded by 14 + 00 S, 5 + 00 S, 10 + 00 E and 12 + 00 E which is targeted within a larger area of anomalous Mo geochemical values (Fig. 10). The majority of the quartz macroveins strike  $160^{\circ}$  and dip moderately to the northeast. A weaker Mo fracture direction strikes  $030^{\circ}$  and dips steeply to the southeast. Quartz monzonite porphyry hosted quartz veins at 5+00N, 9+00W range from 1 to 5 cm in width and contain similar pyrite-molybdenite mineralization.

The two sulphide species, pyrite and molybdenite, are found in quartz - potassium feldspar veins up to 30 cm wide.

#### 6.3.1 Molybdenite-Pyrite Veining continued

Texturally, the molybdenite occurs as thin seams along fracture surfaces within the vein or as tiny rosettes up to 1 cm in diameter. On the other hand, pyrite varies from an irregular to almost perfect euhedral form. Large euhedral grains of K - feldspar give the vein a pegmatitic texture. Weathered products of the vein system include limonite and ferrimolybdite or " yellow ochre".

#### 6.3.2 Arsenopyrite - Gold Veining

The major thrust of 1982 program investigated the area underlain by the arsenopyrite - gold veining (Fig. 8). Previous work in the area involved extensive trenching, sampling, geophysics and one short unsuccessful diamond drill hole.

The mineralization consists of a series of sub parallel arsenopyrite ( minor pyrite) - quartz veins encompassed by well developed envelopes of mainly arsenopyrite and sericite/ muscovite. Minor elements of the envelope include pyrite epidote, chlorite, carbonate and clay minerals. At this locality, any gold values are invariably associated with strong arsenopyrite mineralization ( see Table, Fig. 6 ) within the vein or in the surrounding envelopes. Arsenopyrite within the alteration envelope is easily distinguished from the more massive vein material by the appearance of individual euhedral grains ( up to 5 mm ) with striated crystal faces. Surface exposures of the vein reveal a yellowish green coating which probably indicates the presence of scorodite, a arseniciron oxidation product of arsenopyrite. More intensely weathered surfaces have been altered further to a deep reddish brown limonite.

# 6.3.2 Arsenopyrite-Gold Veining continued

- 12 -

Trenching has exposed vein systems ( i.e. vein and envelope) up to 75 cm wide. Envelope contacts are sharp, nearly vertical and appear to follow an 055° strike

In thin section, the main phyllic alteration has been overprinted by a carbonate or propylitic phase. This is illustrated by hairline cross-cutting fractures of carbonate.

# 6.3.3 Galena - Silver ( - Gold) Veining

Quartz diorite exposures on east side on Mineral Creek have been cut by several quartz veins up to 6 cm in width which strike at  $160^{\circ}$  and display an easterly dip.. Mineralization occurs as lenses of galena and pyrite within weathered vuggy quartz. Average values of three grab samples from parallelling vein structures revealed 4.60 % Pb, 1.85 oz/ton Ag and .053 oz/ton Au.

## DIAMOND DRILLING

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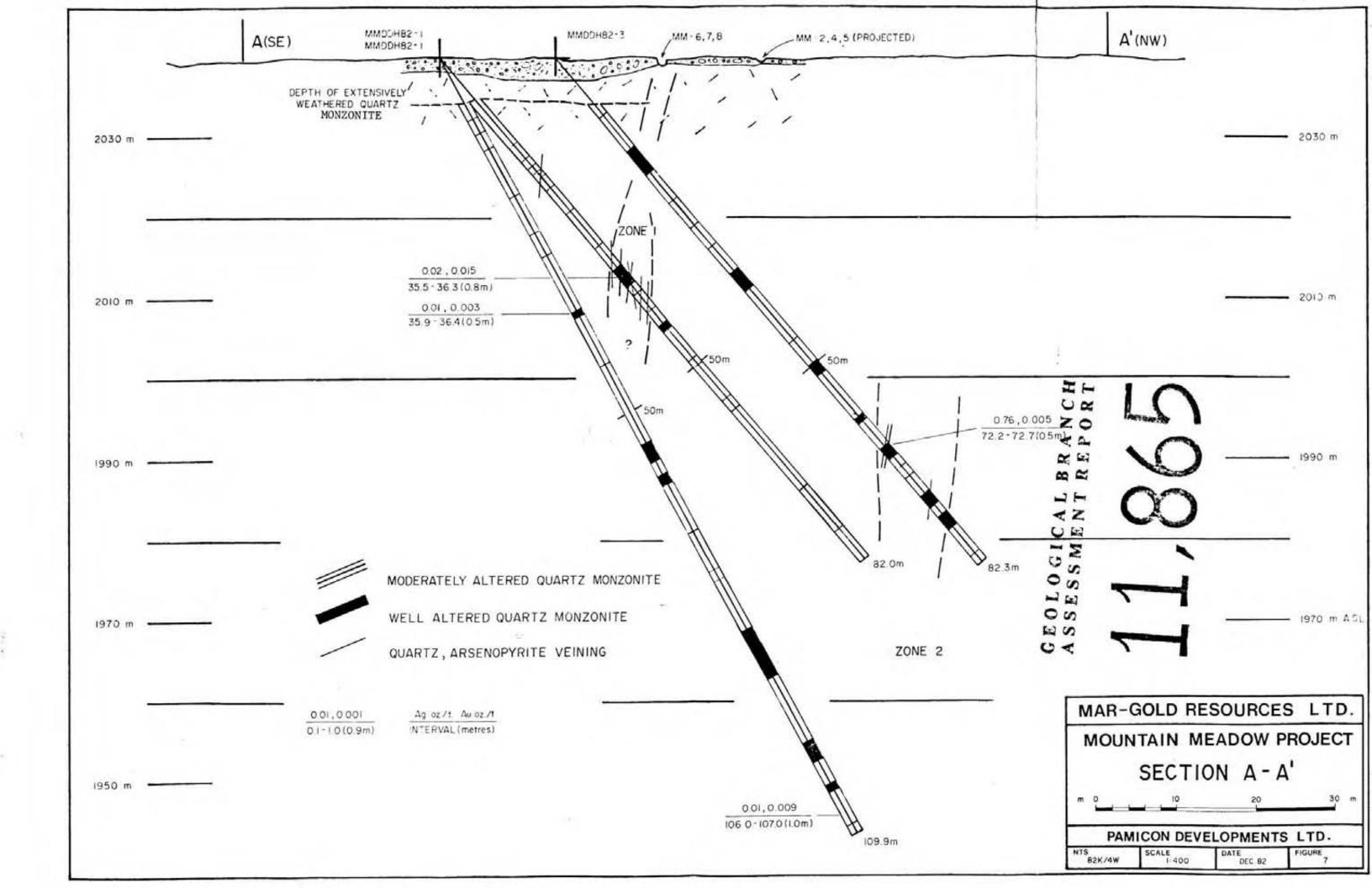
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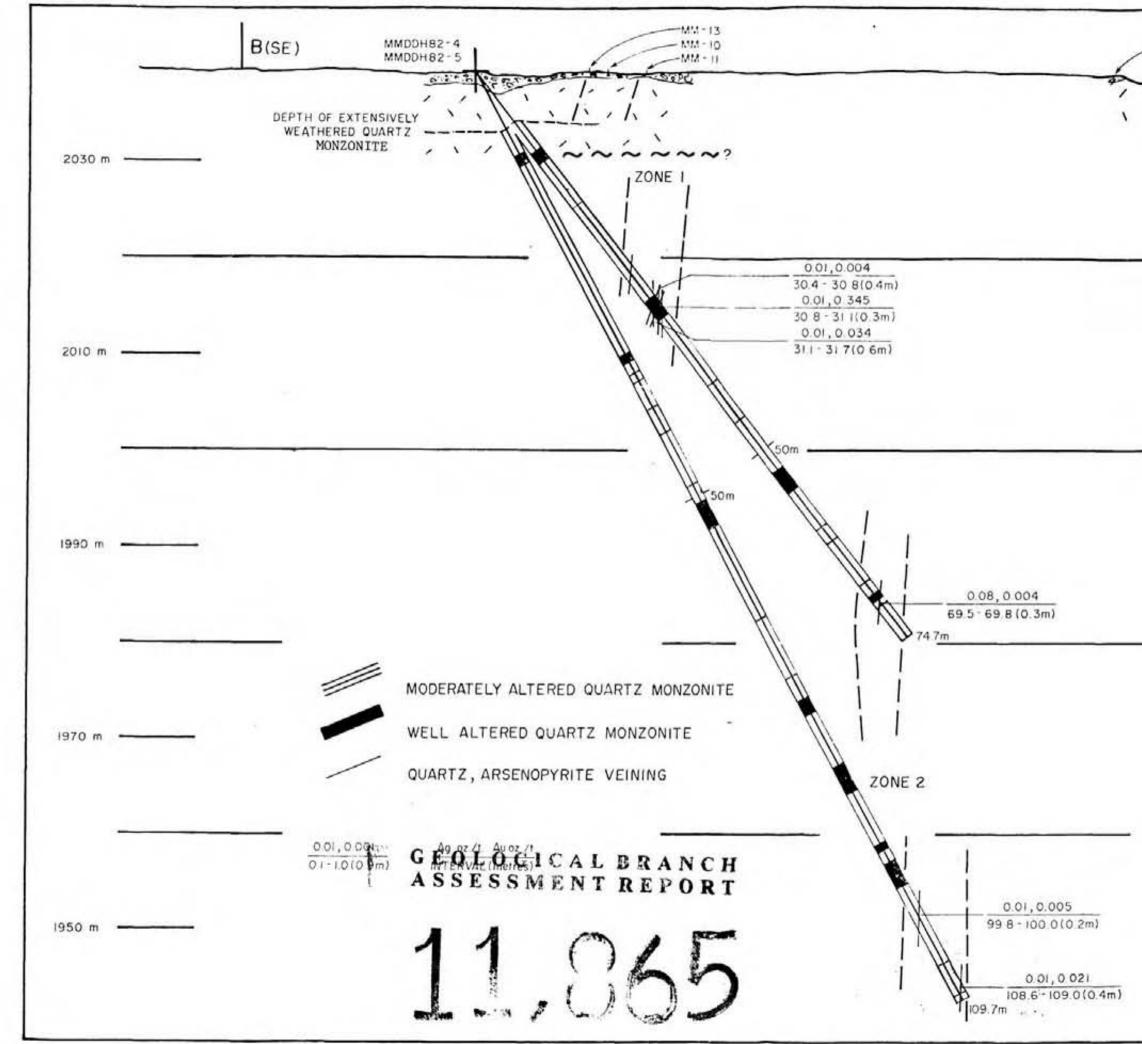
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Based upon the recommendations as set forth by Brenda Mines Ltd. in 1980, a small diamond drill program was instituted to interesect and delineate the arsenopyrite-gold structures exposed in surface trenches. Six diamond drill holes were drilled totalling 485.6 m (58.2 m N Q; 427.4 m BQ) as follows:

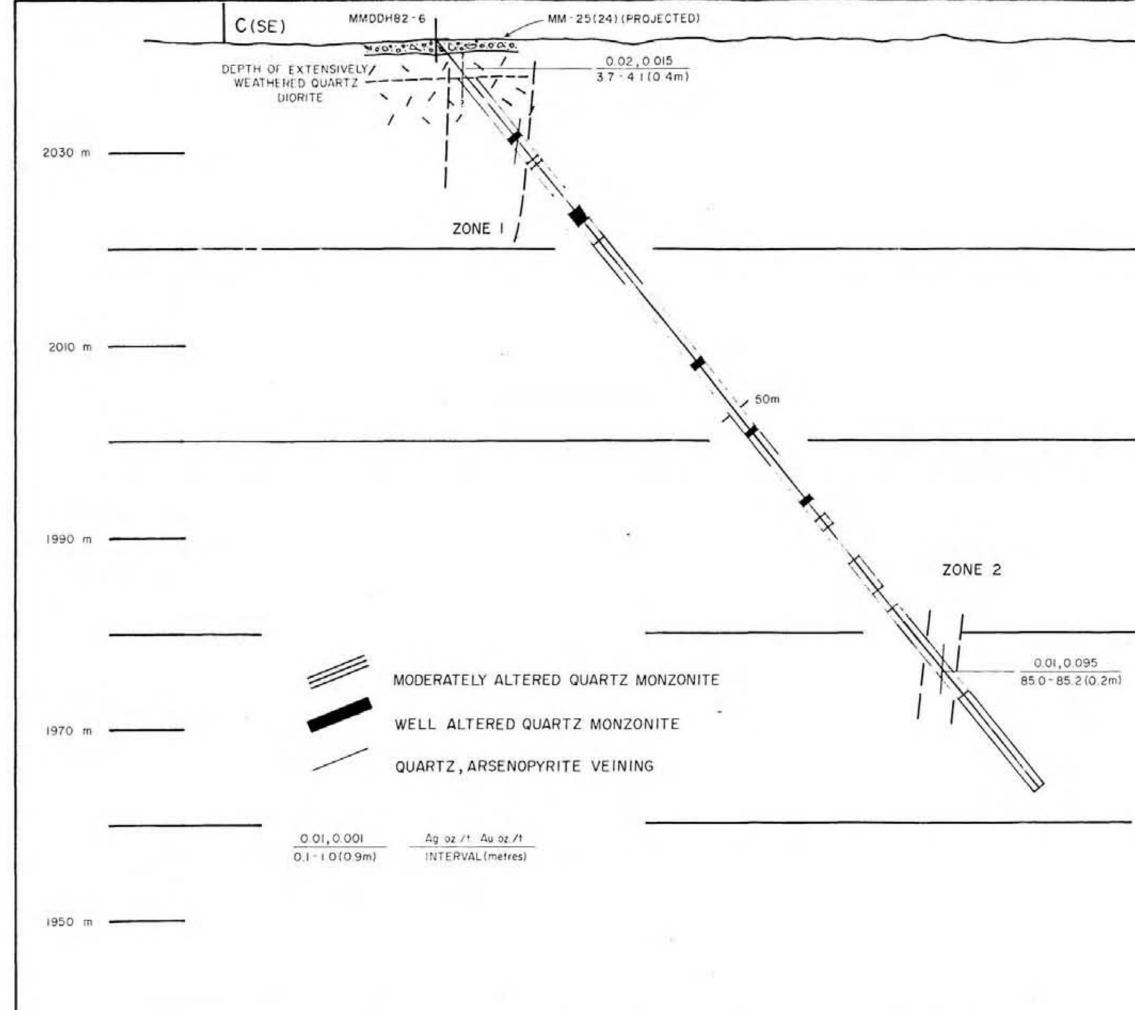
HOLE		AZIMUTH	DIP	DEPTH
MMDDH	82-1	325 <sup>0</sup>	-045°	82.0 m
MMDDH	82-2		-060°	109.9 m
'n	-3		-045°	82.3 m
	-4		-045°	74.7 m
	-5		-060°	109.7 m
	-6		-045°	100.6 m

(Drilling Contractor: Drilcore Industries Ltd.)





					-	
MM-1 (PROJECT	TED)	B'(NW)				
						2030 m
						2010 m
						1990 m
					_	1970 m ASL
	1000 Sectore and	JNTAI	N ME	11-603261	PR	LTD. OJECT
	m 0 P/ NTS 82K/41			OPMEN	-	30 m LTD. FIGURE 8



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C'(NW) - 2030 m - 2010 m н E UZ ZO < A 2 3 8 2 1990 m 16 Z > SME 0 S HW 00 E S 04 1970 m ASL MAR-GOLD RESOURCES LTD. MOUNTAIN MEADOW PROJECT SECTION C-C' 30 m PAMICON DEVELOPMENTS LTD. NTS 82K/4W SCALE DATE DEC. 82 FIGURE 9

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#### DIAMOND DRILLING CONTINUED

Drilling conditions on the property are described as excellent. Overburden depths were restricted to less than 4.0 m and the core recovery was essentially 100% once the broken, surface weathered bedrock had been penetrated. An ample water supply from the headwaters of a tributary of Blue Grouse Creek was within 250 m of all the drill stations.

All but one diamond drill hole, MMDDH82-2, intersected quartz, arsenopyrite veining (Figs. 7,8,9) and the central stock of hornblende-biotite quartz monzonite was the only rock type encountered. Gold-bearing arsenopyrite structures were intersected over a strike length of approximately 110 m. Although, on average, the values of drill hole intersections were not as high as surface samples, it is apparent that there is a strong correlation between the gold metallization and arsenopyrite veining. Surface weathering conditions do not appear to be very intense and therefore, supergene gold enrichment would most probably be ruled out to explain any discrepancy between the surface and drill hole values.

All work to date has suggested two different explanations for the structural nature of the arsenopyrite veining. In the first case, the drilling may indicate that there are two separate vein systems or zones which from drill core/fracture angles and surface measurements appear to strike 055° and dip steeply to the southeast. Zone 1, which was intersected in MMDDH 82-1, 4 and possibly 6 pinches out at depth as indicated by MMDDH82-2 and 5 as they should have intersected down deep extensions of the zone. An alternative explanation is that the Zone 1 has not pinched out but in fact has been faulted off and that Zone 2 is the displaced extension of Zone 1.

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### DIAMOND DRILLING CONTINUED

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Further work will be needed to prove whether one, two or perhaps even more zones exist in this area.

#### 8.0 CONCLUSIONS

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All mineralization found and described to date could be adequately described as porphyry - type mineralization. Sulphide-bearing fractures with symmetrically developed alteration envelopes are either found within intrusive units, in particular the central stock of quartz monzonite, or within close proximity of their margins. As in most porphyry situations, each metal is spatially related to each other metal within the stock (Fig. 10).

The deposit model identifies itself by its similarity to the classic. Mesozoic quartz monzonite type porphyry molybdenum deposit. At the core of the system, one finds a potassium feldspar and quartz altered area ( Potassic Zone ) with the associated sulphides being molybdenite and pyrite ( Fig. 10, Zone A ). Although there has been no geochemical assaying for tungsten, it must be considered as a potential byproduct due to the fact that tungsten has been found with many Canadian Cordillera molybdenum deposits. Geological modelling has found tungsten to be inherently associated with the molybdenum core. Overlapping and immediately surrounding the potassic core is a quartz-sericite-pyrite zone ( Phyllic Zone) as discovered during the 1982 drilling program. It is within this zone, that the arsenopyrite-precious metal zone (Fig.10, Zone B) is located. Another zone consisting of lead, zinc and silver enrichment is also found peripheral to the central core ( Fig. 10, Zone C).

#### CONCLUSIONS CONTINUED

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In summary, the Mountain Meadow property appears to be a quartz monzonite molybdenum porphyry system with a lead, zinc, and precious metals halo around a molybdenum core. The 1983 field program should allow for the evaluation of all three zones of economic mineralization.

#### RECOMMENDATIONS

As a Stage I program was completed during the past field season, for approximately \$65,000 on the recommendation of Brenda Mines Ltd., the following 5 part program is recommended for the Stage II exploration during the early summer of 1983.

#### STAGE II

(1) Claims Survey: An investigation of the present claims status of the Mountain Meadow property should be undertaken to define the legal boundaries of the property. Following the determination of the post locations, a surveyor should be contracted to define their exact location. Grid and showing locations should be tied into this survey.

(2) Road restoration: A cat should be employed to restore easy access along approx. 5 km of existing roads.

(3) Geochemistry: A chain and compass grid consisting of 15,300 m lines should be located to cover possible strike extensions of the known Au showings. The grid should be sampled at 20 m intervals and the samples analysed for Au with approx. 50 percent of the samples analysed for As.

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RECOMMENDATIONS CONTINUED

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(4) Trenching and sampling:

- 16 -

Following preliminary geologic mapping, a hand trenching and sampling program should be conducted in the area of the known silver - lead - veins. All trenches should be mapped in detail and prospecting should be done in the surrounding area.

(5) Geophysics: A 2000 m x 1600 m grid consisting of a 2000 m baseline with 1600 m cross lines at 200 m intervals should be located over the molybdenum geochemical target area. An IP Survey should then be conducted over the grid area by initially surveying at 400 m spacing and filling in as results warrant.

#### STAGE III

Details of the recommendations for this phase of development cannot be made until the results of the above program are reviewed. Assuming that encouraging results will be received from the above investigations, provisions should be set aside for a small diamond drill program for later on in the summer to examine any targets defined by the various surveys.

Respectfully submitted,

David A. Caulfield, Geologist

C. K. Ikona, P. Eng.

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# 10.0 BIBLIOGRAPHY

Bankes, P. C. (1980): Report on Mountain Mead

Report on Mountain Meadow Property conducted during 1979 - 1980.

Read, P. B. ( 1976): Open File , 4632, 464

Slingha, G. C. ( 1971 ):

Report on the Mountain Meadow Group

Acme Analytical			
15 Pails with lids		79.50	79.50
Acme Analytical - Inv. #82-123	8 & 82-1299		
12 Ag, Au Assays	x 10.00	120.00	
124 Ag, Au by fire assay	x 12.00	1.488.00	
8 Mo,Cu,Ag,Au, by fire assay		136.00	
6 additional Pb & Zn assays	x 7.00	42.00	
124 Core samples preparations		310.00	
8 Rock samples preparations	x 2.50	20.00	2.116.00
(TOTAL ASSAY COS	TS 3.297)	)	
REPORT PREPARATION			
D. Caulfield - Geologist			
14 days x 100		1.400.00	
Typing, Reproduction		158.53	1.558.53
DIAMOND DRILLING CONTRACT			
Sept. 20/82 - Oct. 9/82			
Drilcor Industries,			
17-7449 Hume Ave., Delta, BC.V	46 163		
Inv. # 8215/3 & 8215/4	10 100		
Mob. & De-Mob. Expenses			
(Richmond-Nakusp-Richmond)		3.810.57	3.810.57
			0.010.01
Drilling Cost as per invoice		36.776.00	36.776.00
Materials:			
72 Coreboxes @ 4.95 (B.Q.)		356.40	
10 " @ 4.90 (N.Q.)		49.00	
25 Lids @ 2.00		50.00	
2 Bags Mud @ 9.00		18.00	
5 Gal. E-2 Mud@ 25.15		125.75	
AL CONTRACTO STATISTICS (C.C.).		599.15	
	BC. SST.6%	35.95	
		635.10	+ 15%
		000110	730.36
		Total:	64.108.99

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DRAFTING EXPENSE		
J. & W. Drafting Inv. # 53739, 53734	52.45	52.45
INV. # 53739, 53734	52.45	56.45
TRAVEL, FOOD & ACCOMODATION		
D. Caulfield, Expenses	070 10	
Food, Gas, Repairs & Accomodation F. Marehard	872.40	
Food, Travel, Accomodation as per receipts	1.666.00	
A. Schildhorn	2.100.00	4.638.40
Food, Travel, Accomodation as per receipts	2.100.00	4.030.40
MATERIALS & SUPPLIES		
Paint Brush	2.96	
Core Shack (Lumber etc.) as per receipts	267.00	269.96
TELEPHONE & COMMUNICATION		
	169.10	169.10
B.C. Tel Long Distance Charges	109.10	105.15
CONTRACTORS FEES (Geological Management)		
CONTRACTORS FEES (Geological Management) Pamicon Developments as per invoices		
	2.256.99	2.256.99
Pamicon Developments as per invoices	2,256,99	2.256.99
Pamicon Developments as per invoices	2.256.99	2.256.99
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328		2.256.99
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10	330.00	2.256.99
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15	330.00 15.00	
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10	330.00	
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329	330.00 15.00 127.50	
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP	330.00 15.00 127.50 7.50	472.50
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Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75	330.00 15.00 127.50 7.50	472.50
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP 1 Rock Geochem Ring Chemex Labs. Inv. # 18213825 12 Samples analysed for Au, Fa, x 7.00	330.00 15.00 127.50 7.50 2.50 84.00	472.50 10.00
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP 1 Rock Geochem Ring	330.00 15.00 127.50 7.50 2.50	472.50
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP 1 Rock Geochem Ring Chemex Labs. Inv. # 18213825 12 Samples analysed for Au, Fa, x 7.00	330.00 15.00 127.50 7.50 2.50 84.00 45.00	472.50 10.00 129.00
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP 1 Rock Geochem Ring Chemex Labs. Inv. # 18213825 12 Samples analysed for Au, Fa, x 7.00 12 " Pulverized x 3.75 Chemex Labs. Inv. # 18280100	330.00 15.00 127.50 7.50 2.50 84.00	472.50 10.00 129.00
Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP 1 Rock Geochem Ring Chemex Labs. Inv. # 18213825 12 Samples analysed for Au, Fa, x 7.00 12 " Pulverized x 3.75	330.00 15.00 127.50 7.50 2.50 84.00 45.00	472.50 10.00
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Pamicon Developments as per invoices Sept. Oct. Nov. Dec. 82, Jan. 83 ASSAY & GEO- CHEMICAL ANALYSES Chemex Labs - Inv. # 18213328 33 Samples analysed for Ag,Au x 10 1 " " Mo,Ag,Au x 15 34 " pulverised x 3.75 Chemex - Inv. # 18213329 1 Sample analysed for ICP 1 Rock Geochem Ring Chemex Labs. Inv. # 18213825 12 Samples analysed for Au, Fa, x 7.00 12 " Pulverized x 3.75 Chemex Labs. Inv. # 18280100 50 Vials x 0.35 Chemex Labs. Inv. # 18213322	330.00 15.00 127.50 7.50 2.50 84.00 45.00	472.50 10.00 129.00

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# MAR-GOLD RESOURCES LTD.

### MOUNTAIN MEADOWS

# ITEMIZED COST STATEMENT

# WAGES

David Caulfield, Geologist		
Sept. 4,5,6,7,8,20,21,22,23,24,		
25,26,27,28,29,30,31		
17 days x 150 perday	2.550.00	
Sept. 2,3, - 1½ days x 150 per day	225.00	
Oct.1-12 12 days x 150 per day	1.800.00	
Oct. 14,15,18,19,20,21,22		
7 days x 150 per day	1.050.00	5.625.00
David Yeager - Geologist		
Aug. 31. 1 day x 250 per day	250.00	
Sept.4,5,6,7,8,		
5 days x 250 per day	1.250.00	
Oct.4,5,6,13,14,15,18,19,		
3 days x 200 per day	600.00	2.100.00
Kevin Millidge - Accountant		
Nov.18,19, 2 days x 100 per day	200.00	200.00
Robert Darney - Geologist		
Aug. 25, ½ day x 250 per day	125.00	125.00
Andreas Schildhorn - Projects Manager		
Sept.22,23,24,25,26,27,28,29,30,		
Oct.1,2,3,4,5,6,7,8,9,10,11,		
20 days x 80 per day	1.600.00	1.600.00
(TOTAL WAGES 9.650.00)		
COMMERCIAL FREIGHT		
Ace Couriers	19.00	
Greyhound Express	144.75	163.75
OUTSIDE REPRODUCTION		
Western Reproducers # H-72145		
# 71716, 72159, 72643.	66.16	
Pamicon (in-house)	9.00	75.16
MISCELLANEOUS EXPENSES MAPS, ETC.		
Province of B.C.		
54 maps x 2.00	108.00	
Geological Survey	17.72	
Miscellaneous expenses as per receipts	535.00	660.72

APPENDIX II

#### STATEMENT OF QUALIFICATIONS

I, DAVID A CAULFIELD, of 3433 West 12th Street, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY THAT:

1.

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3.

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5.

6.

I am a Geologist in the employment of Pamicon Developments Ltd. with offices at 208 - 850 West Hastings St. Vancouver, B.C.

I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology.

My primary employment since 1978 has been in the field of mineral exploration.

My experience has encompassed a wide range of geological environments and has allowed considerable familiarization with geophysical, geochemical, and diamond drilling techniques.

This report is based on data generated from work done by myself and David A. Yeager and data supplied by Brenda Mines Ltd. I visited the property during the months of September and October of 1982.

I have no interest in the property described herein, nor in securities of Mar-Gold Resources; nor do I expect to acquire any such interests.

DATED AT VANCOUVER, BRITISH COLUMBIA, this 3/ day of TAN 1983

David A. Caulfield, Geologist

APPENDIX III

#### ENGINEERS CERTIFICATE

I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody in the Province of British Columbia, DO HEREBY CERTIFY THAT:

I am a Consulting Mining Engineer with offices at 208 - 850 West Hastings Street, Vancouver, British Columbia.

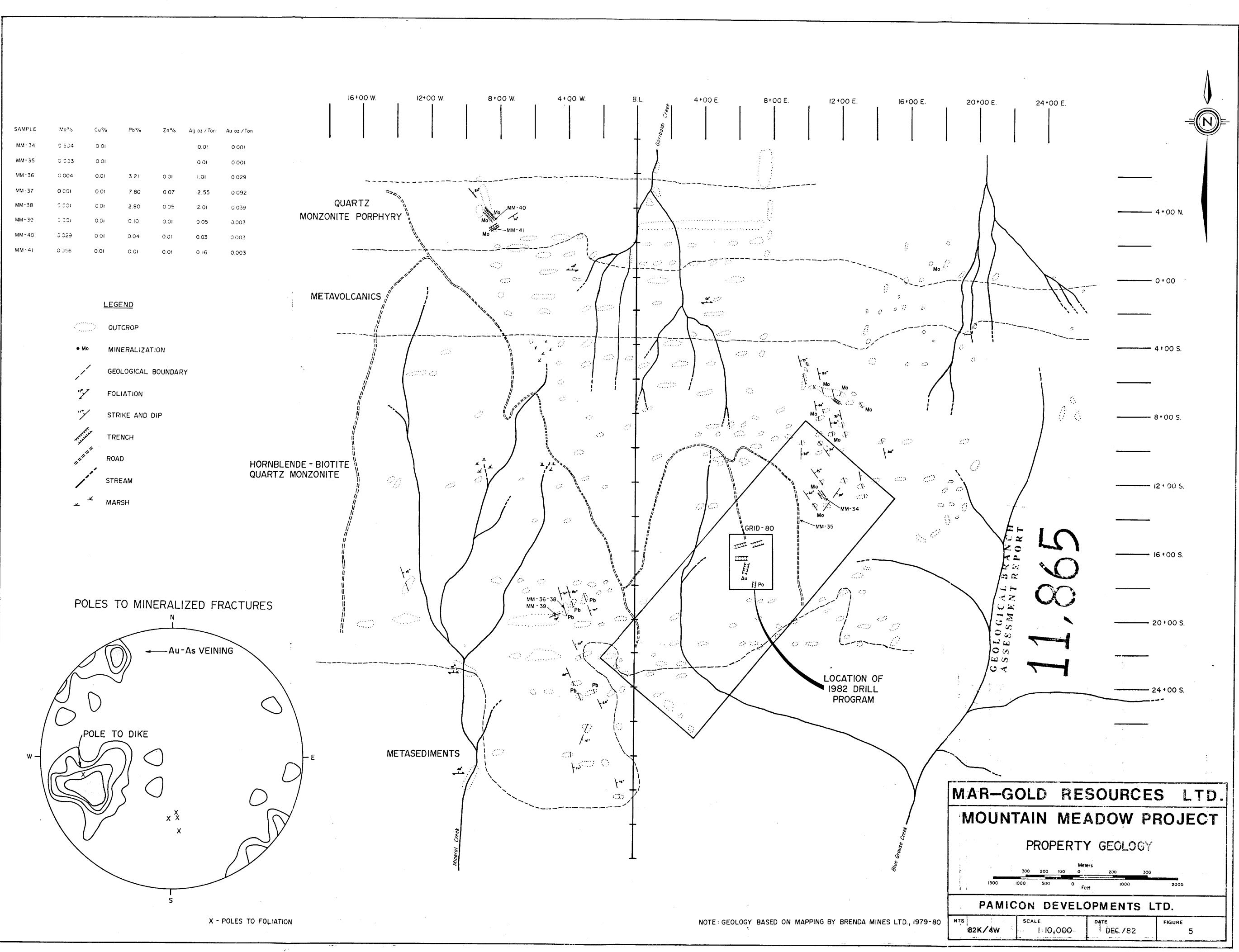
- I am a graduate of the University of British Columbia with a degree in Mining Engineering.
- I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
- This report is based on work carried out under my supervision by David A. Yeager, Geologist and David A. Caulfield, Geologist.
  - I have no interest in the property reported on or in the securities of any company associated with the property nor do I expect to acquire any such interst.
- 6. I consent to the use by Mar-Gold Resources Ltd. of this report in a Prospectus or Statement of Material Facts or any other such document as may be required by the Vancouver Stock Exchange or the office of the Superintendent of Brokers.

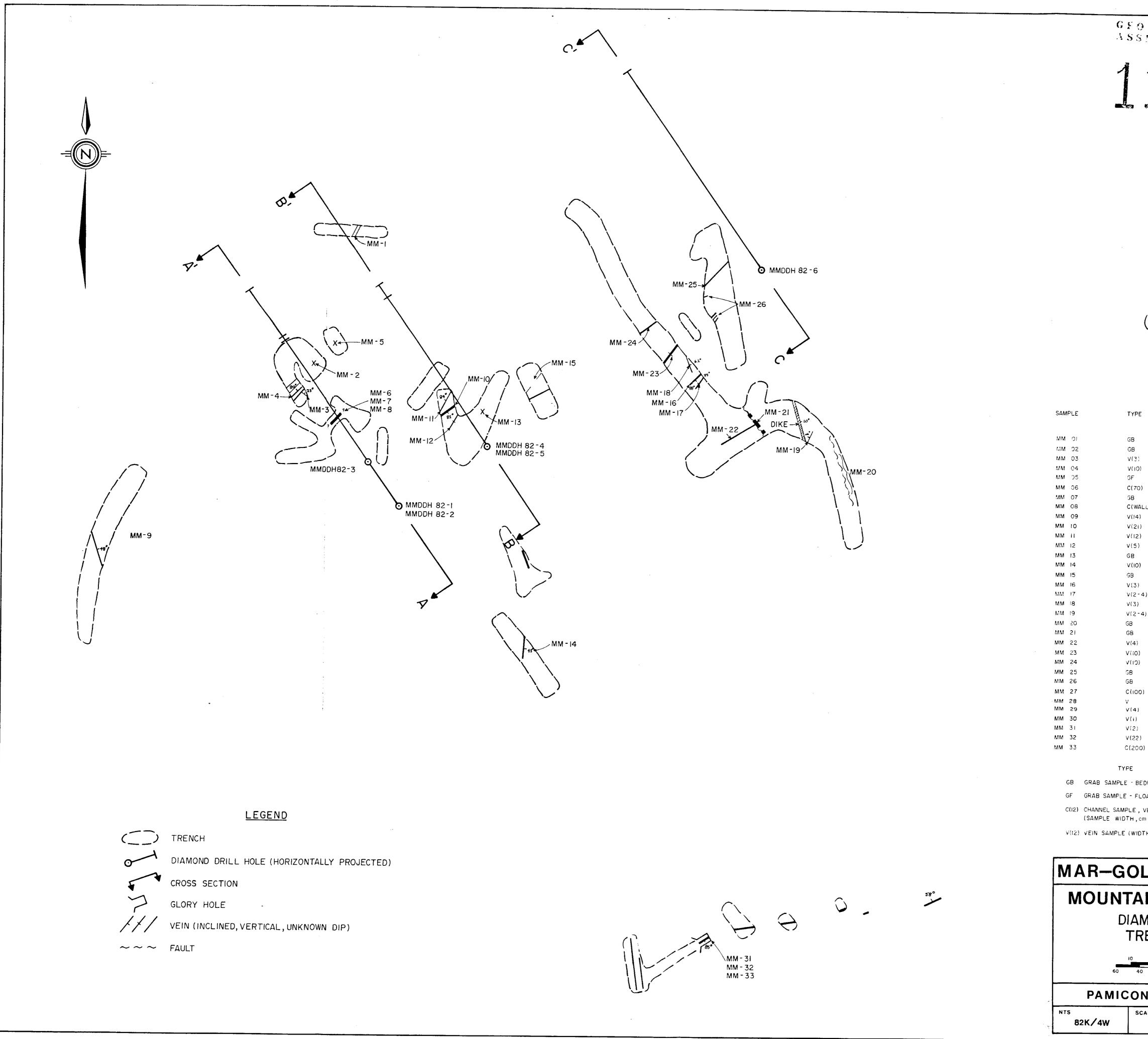
DATED at Vancouver, British Columbia, this \_\_\_\_\_ day of ) . /

Charles K. Ikona, P. Eng.

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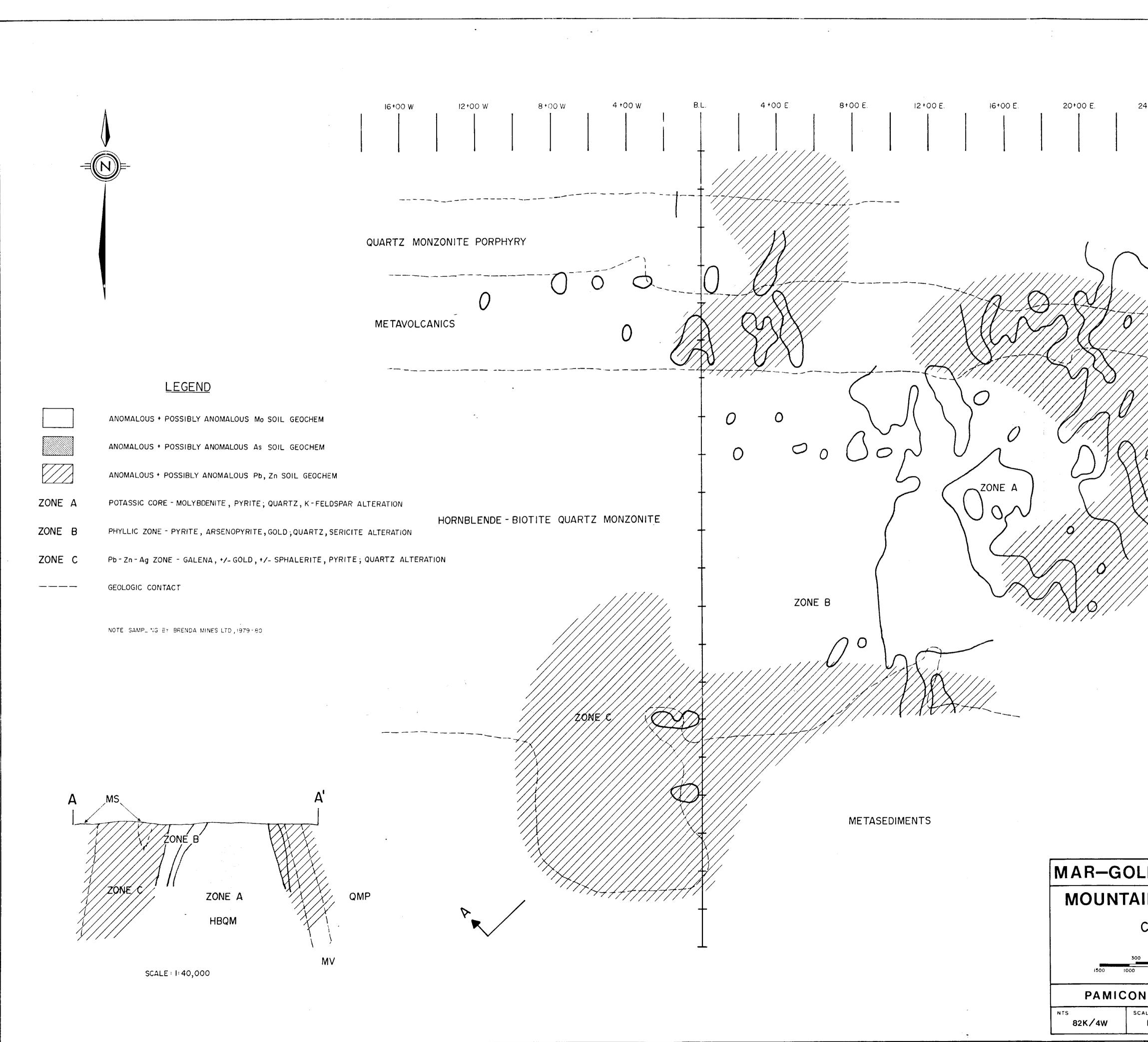
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	ASSOCIATED SULPHIDES WITH QUARTZ VEIN	Ag Fa oz./T	Au Fa oz./T
	Py As, Py	0.26 0.60	0.003 0.250
	As, Fy As, Py	0.10 0.10	0.003 0.038
	As, Py As, Fy	0,18 0.14	0.110 0.206
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	Py As,Py	0.58 0.26	0 003 1.044
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	As,Fy Py	0.12 0.32	0.612 0.026
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