A&M exploration ltd. GEOLOGY • GEOPHYSICS MINING ENGINEERING

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800002

MEMORANDUM REPORT

on the

MAM PROPERTY

Osoyoos Mining Division - British Columbia

Lat. 49° 03'N. Long. 119° 34'W.

N.T.S. 82 E/4

for

HIGHMARK RESOURCES LTD.

by

Donald G. Allen, P. Eng.

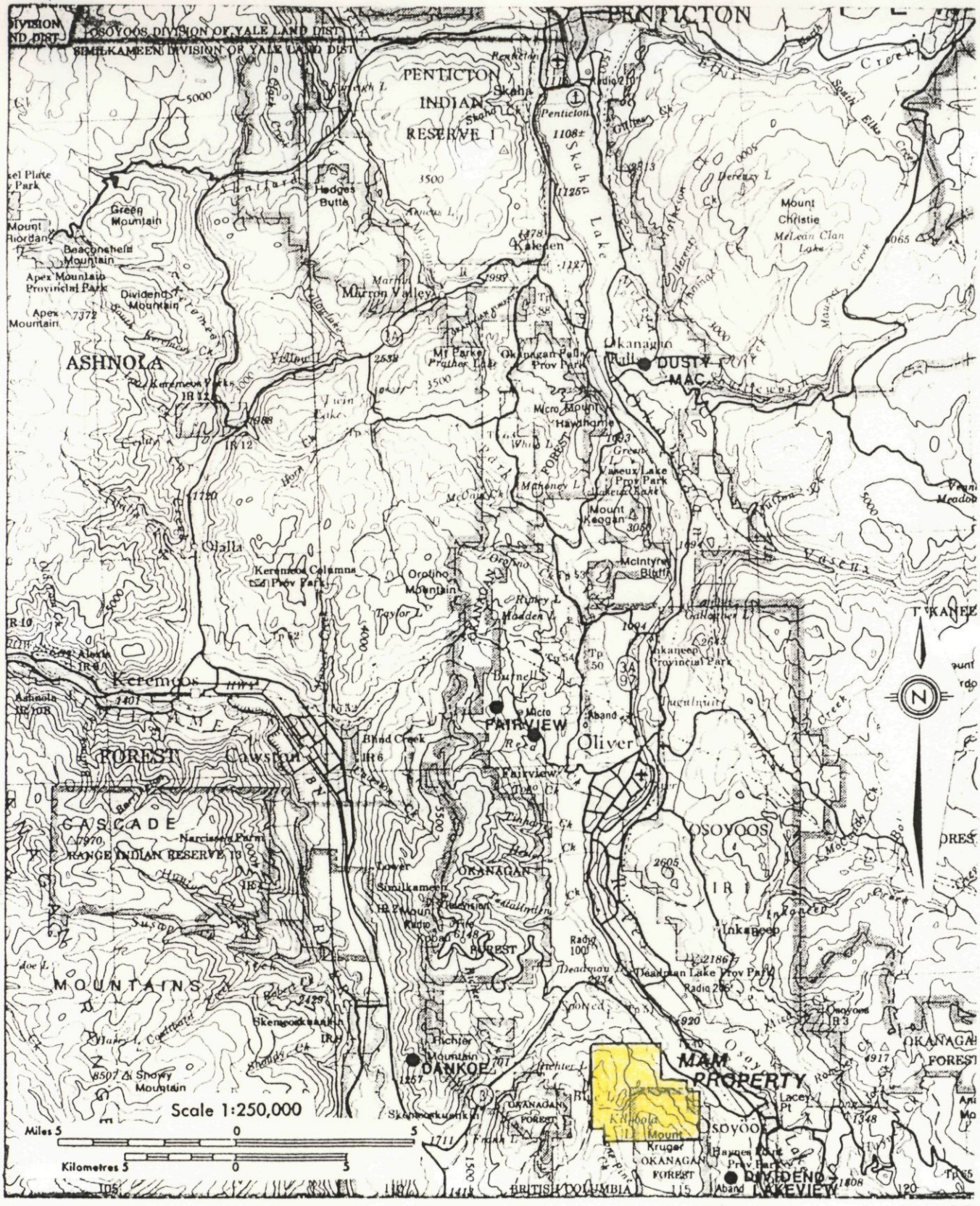
June 21, 1984 Vancouver, B. C.

INTRODUCTION

HIGHMARK RESOURCES LTD. holds the MAM gold prospect, comprising 86 claim units near Osoyoos, British Columbia (Figures 1 and 2). The claims cover a gold-bearing quartz vein (Main vein) which has been traced for a length of 250 metres. At the request of D. Collingwood, the writer examined the property and reviewed the work completed to date. This report is based on a visit to the property on May 17 and 18, 1984 and on results of work carried out by Weymark Engineering in 1980 to 1982. Reports by Weymark and Chang (1980), and Weymark (1983) provide details of the property, location access, ownership, geology and mineralization. In this report the writer deals with some of these aspects in an abbreviated form.

HISTORY

The MAM claims were acquired by HIGHMARK RESOURCES LTD. in 1979. Since that time the company has conducted reconnaissance geochemical, VLF electromagnetic, and magnetic surveys, trenching, 2559 metres (8,397 feet) of diamond drilling in 37 holes and metallurgical studies. All diamond drilling was directed to testing the Main vein.



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HIGHMARK RESOURCES LTD.

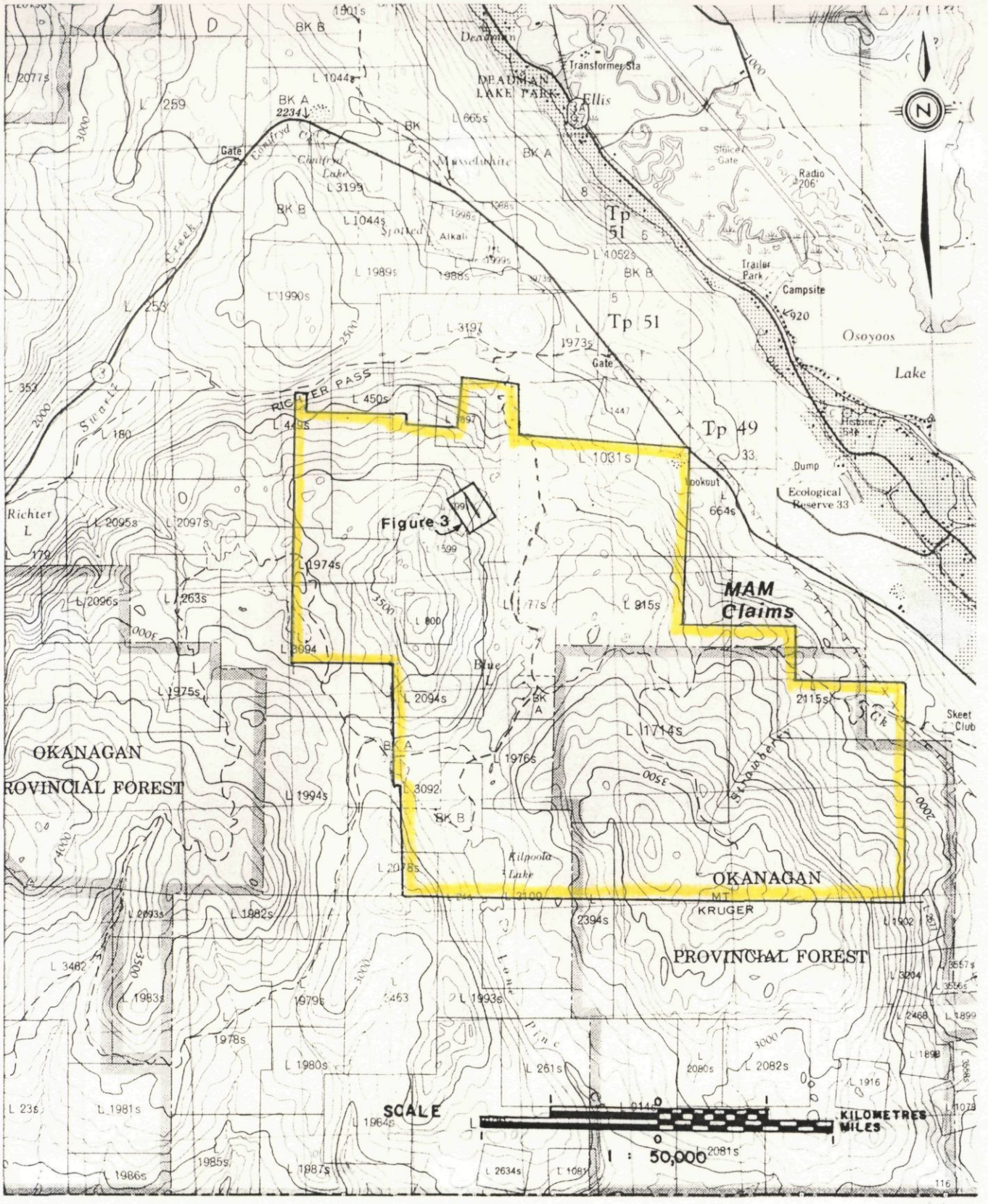
ACCESS MAP

Osoyoos Mining Division - British Columbia

MAM PROPERTY

A·M exploration ltd.

Figure 1



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HIGHMARK RESOURCES LTD.

CLAIM MAP

Osoyoos Mining Division - British Columbia

MAM PROPERTY

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Figure 2

GEOLOGY AND MINERALIZATION

The MAM property is in the Keremeos Map area, the geology of which has been described by Bostock (1930) and summarized by Weymark (1983).

The geology of the MAM property has not been mapped in detail. In the vicinity of the Main vein, the rock types exposed are foliated granodiorite of the Osoyoos intrusions which contain roof pendants of chloritic schistose greenstone. The granodiorite is weakly to moderately chloritized and epidotized. The Main vein is a quartz vein which locally contains high grade gold values (up to 5 ounces per ton). Gold appears to be associated with pyrite and chalcopyrite which occur as disseminated clots and blebs and in irregular seams in the vein. The presence of free gold and gold-bearing tellurides has been inferred but not proven. The vein appears to be controlled in part by a schist-granodiorite contact. It ranges in width from 0 to 1 metre and has been traced for a distance of 250 metres. The trend is northwesterly and the dip is steep to the southwest. The granodiorite adjacent to the vein is fractured and contains scattered quartz veinlets which parallel the Main vein. In addition to being propylitized (epidote-chlorite altered), the wall rock is weakly sericitized and biotitized.

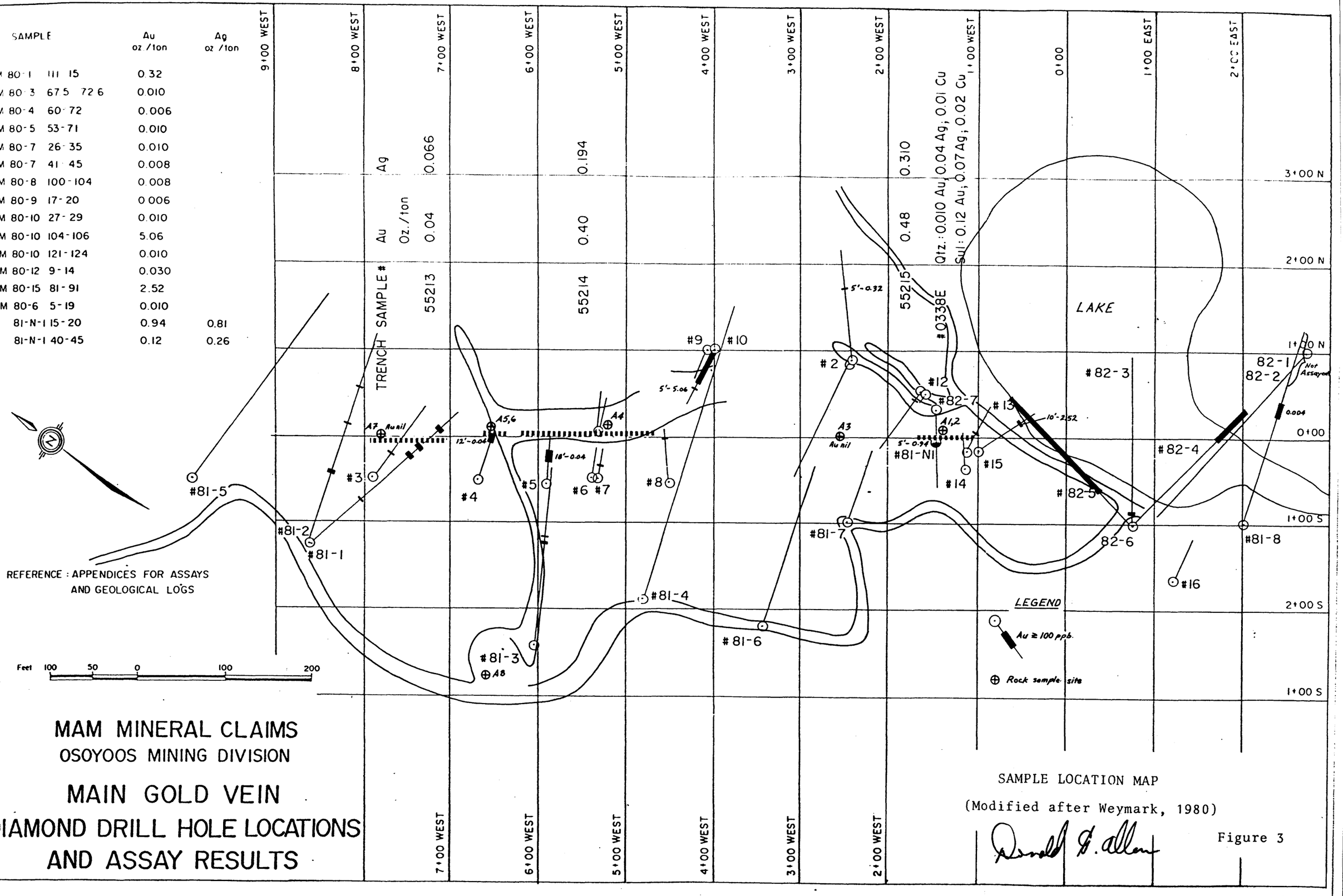
ANALYTICAL RESULTS

A total of eight samples of vein material and fractured granodiorite were selected for gold analysis. Samples weighing two to five kilograms were crushed and panned down to a sulphide or magnetite concentrate and the concentrates examined and assayed. Purpose of this work was to determine whether or not free gold might be contributing to the erratic gold values reported by Weymark. Pyrite and chalcopyrite were the only sulphide minerals observed in the concentrates. Neither free gold nor any tellurides were observed. Assays (Table 1) indicated that gold is closely associated with the sulphides.

DISCUSSION

Detailed diamond drilling has been used unsuccessfully in an attempt to delineate the Main vein. Although it can be traced on surface for over 250 metres, it contains erratic gold values and is somewhat discontinuous. For example, in good bedrock exposures near the base line at station 2+50 west (sample site A3 - Figure 3), the vein is virtually absent. The granodiorite, however, is fractured and contains a few scattered quartz veinlets less than one centimetre wide. The irregular nature of the vein is also obvious near the collar of drill hole 4 (sample sites A5, A6)

SAMPLE	Au oz /ton	Ag oz /ton
MAM 80-1 111-15	0.32	
MAM 80-3 675-726	0.010	
MAM 80-4 60-72	0.006	
MAM 80-5 53-71	0.010	
MAM 80-7 26-35	0.010	
MAM 80-7 41-45	0.008	
MAM 80-8 100-104	0.008	
MAM 80-9 17-20	0.006	
MAM 80-10 27-29	0.010	
MAM 80-10 104-106	5.06	
MAM 80-10 121-124	0.010	
MAM 80-12 9-14	0.030	
MAM 80-15 81-91	2.52	
MAM 80-6 5-19	0.010	
81-N-1 15-20	0.94	0.81
81-N-1 40-45	0.12	0.26



MAM MINERAL CLAIMS
OSOYOOS MINING DIVISION
MAIN GOLD VEIN
DIAMOND DRILL HOLE LOCATIONS AND ASSAY RESULTS

SAMPLE LOCATION MAP

(Modified after Weymark, 1980)

Donald G. Allen

Figure 3

TABLE

SAMPLE DESCRIPTIONS

Sample	Description	Assay* oz/ton Au
A1	Quartz vein containing cubes and scattered seams of pyrite. Vein is 20 to 30 cm wide.	3.15
A2	Wallrock within 1 metre of vein. Fractured granodiorite is chloritized and sericitized adjacent to vein. Secondary biotite developed within 1 cm of fractures. One 1-cm veinlet of quartz with pyrite parallels main vein.	0.116
A3	Granodiorite with locally abundant joints that are parallel to and along strike with main vein.	0.001
A4	Quartz vein, 10-20 cm wide, containing pyrite and chalcopyrite.	0.959
A5	Weathered quartz vein containing minor amounts of disseminated pyrite.	0.390
A6	Wall rock from hanging wall side of vein - within 2 metres. Fractured granodiorite.	0.358
A7	Quartz vein, 7-15 cm wide.	0.001
A8	Fractured granodiorite with a few scattered quartz veinlets. Rusty fractures locally abundant.	0.214

* Analysis of crushed and panned sample.

where a small pit exposes a lens ranging from 0 to 1 metre wide. This irregularity, along with low gold values obtained from surface sampling, suggests that the potential for any significant tonnage of high grade material is limited.

Of possible significance is the relatively long intersections of low grade gold values in two drill holes as follows:

Drill hole	Footage	Grade
82-4	305-400	135 ppb Au (0.004 oz/ton)
82-5	60-300	235 ppb Au (0.007 oz/ton)

Drill logs indicate that the granodiorite in these intervals is fractured, sheared and contains scattered quartz veinlets with pyrite. Some potential therefore may exist for large-tonnage low-grade mineralization. The absence of gold values in an intervening hole 82-3 suggests that the weakly mineralized zones encountered in 82-4 and 82-5 trend oblique to the Main vein. Fractures and quartz veinlets with associated anomalous gold values near the collar of hole 81-3 (sample site A8) also trend oblique to the Main vein.

The association of gold values with sulphides suggests that induced polarization surveys might be useful to detect and outline sulphide distribution. Pyrite zones, as outlined by mapping and induced polarization surveys, will be excellent targets.

Work on the MAM claims to date, except for reconnaissance-type geochemical and geophysical surveys, has been confined

only to the Main vein area. The geological setting of the property is excellent, considering the proximity to a number of significant gold and silver prospects such as Dankoe Mines (9.5 kilometres to the west), the Dusty Mac Mine (near Okanagan Falls), the nearby Dividend-Lakeview prospect, (6.5 kilometres to the southeast - currently being evaluated by Golden Dividend Resources Corp. - see Hainsworth, 1983), and the Fairview prospect (near Oliver - currently being explored by Cominco Ltd.). The property as a whole should be evaluated by standard geological and geochemical techniques.

CONCLUSION AND RECOMMENDATION

Drilling has been unsuccessful in outlining the Main vein for the following reasons:

1. no detailed geological, geochemical or geophysical surveys were carried out prior to drilling to aid in defining drill targets;
2. the vein is lensoid and locally pinches down to a few fractures and quartz veinlets; and
3. high grade gold values occur in pockets.

No further drilling is warranted on the Main vein; however, trenching with bulldozer or backhoe might be useful to locate any possible near-surface high grade pockets.

The MAM property, as a whole, should be evaluated by geological mapping and geochemical soil and rock sampling. Induced polarization surveys should be undertaken in the

vicinity of the Main vein to attempt to define the low-grade mineralization encountered in holes 82-3 and 82-4, as well as any other areas of interest outlined by mapping and geochemical surveys.

A two-stage exploration program is recommended. Stage Ia is designed to locate any other areas of interest by geological mapping and geochemical sampling. Stage Ib will comprise test induced polarization surveys in the Main vein area and to follow-up any areas of interest outlined in Stage Ia. Stage II, contingent on results of Stages Ia and Ib will consist of follow-up diamond drilling.

Donald G. Allen

ESTIMATED COSTS OF RECOMMENDATIONS

Stage Ia Geological mapping, geochemical sampling.

Salaries		
Geologist	1 mo. @ $6,000	$ 6,000
2 assistant soil samplers @ $3,000/mo.		6,000
Management and consulting fees		5,000
Vehicle rental and fuel		1,000
Room and board	90 man days @ $40	3,600
Field supplies		500
Geochemical analyses		5,000
		$ 27,100
	Contingencies	2,900
	Subtotal	$ 30,000

Stage Ib Induced polarization surveys.

10 line kilometres @ $1500 all inclusive	$ 15,000

Stage II Diamond drilling.

2,500 feet @ $45/foot all inclusive	$ 112,500
Grand total	$ 157,500

REFERENCES

Bostock, H. S. (1930). Keremeos, Geol. Survey of Canada, Map 341 A.

Hainsworth, W. G. (1983). Report on the Dividend-Osoyoos Claims. Private report for Golden Dividend Resources Corp.

Weymark, W. J. and Chang, W. (1980). Geological - Geochemical - Geophysical Surveys of the MAM Mineral Claim Group. B. C. Ministry of Mines Assessment Report 8830.

Weymark, W. J. (1983). Evaluation Report on the Gold-Silver-Copper Mineral Potentialities of the MAM Mineral Claims Group. Private Report for Highmark Resources Ltd.

CERTIFICATE

I, Donald G. Allen, certify that:

1. I am a Consulting Geological Engineer, resident at 4570 Hoskins Road, North Vancouver, B. C.

2. I am a graduate of the University of British Columbia with degrees in Geological Engineering (B.A.Sc., 1964; M.A.Sc., 1966).

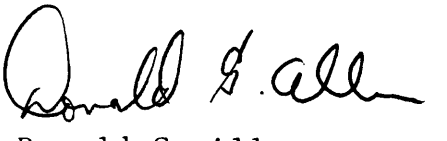
3. I have been practising my profession since 1964.

4. I am a member in good standing of the Association of Professional Engineers of British Columbia.

5. This report is based on a property examination carried out personally on May 17 and 18, 1984 and on information listed under References.

6. I hold no interest, nor do I expect to receive any, in the MAM group of claims or in Highmark Resources Ltd.

7. I consent to the use of this report in a Statement of Material Facts or in a Prospectus in connection with the raising of funds for the project covered by this report.



June 21, 1984
Vancouver, B. C.

Donald G. Allen,
P. Eng. (B. C.)

APPENDIX I

ANALYTICAL RESULTS

ROSSBACHER LABORATORY LTD.

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BURNABY, B.C. V5B 3N1
TEL: (604) 299-6910

CERTIFICATE OF ANALYSIS

TO: A&M EXPLORATION LTD.
214-850 W.HASTINGS ST.
VANCOUVER B.C.

CERTIFICATE NO. :84139- 1

INVOICE NO. :4136

PROJECT: 214.CONC.

DATE ANALYSED :JUNE 13 1984

	SAMPLE#	oz/t Au
A	1	3.150
A	2	0.116
A	3	0.001
A	4	0.959
A	5	0.390
A	6	0.358
A	7	0.001
A	8	0.214

CERTIFIED BY : J. Rossbacher