87-141-15812 1/88

,

Province of British Columbia

25

Ministry of Energy, Mines and Petroleum Resources

ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S) Geochemical	TOTAL COST
	\$51,568.50
AUTHOR(S)G.HRayner, .PEng	SNATURE(S) . J. Mull N. Ka.
DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FIL PROPERTY NAME(S) January and March Groups	ED .udiludr,y .Ju, 1907 YEAR OF WORK 1980
COMMODITIES PRESENTGQld-Silver	•••••••••••••••••••••••••••••••••••••••
B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN	
LATITUDE 54.44'.N LO	
NAMES and NUMBERS of all mineral tenures in good standing (when wo 12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified	ork was doned that form the property (Evernoles) TAY 1.4 EIRE 2
January 1 (20 units), January 2 (16 units),	January 3.(12.units), January 4.(20.ur
January.5.(9.units),March.1-4,Frances.1-	
Frances 5 Fr.	
DWNER(S)	
1) Marine Drive Estates Ltd (2)	•••••••••••••••••••••••••••••••••••••••
······	
AAILING ADDRESS 330-808 W. Hastings St.	RECEIVEM
Vancouver, B.C., V6C 2X4	······································
OFERATOR(S) (that is, Company paying for the work)	
1) .Marine.Drive.Estates.Ltd (2)	GOVERNMENT AGENT
· · · · · · · · · · · · · · · · · · ·	
AAILING ADDRESS	FILMED
.330-808.W. Hastings St.	
.Vancouver, B.C.	••••••••••••••••••••••••••••••••••••••
· V6C· 2X4· · · · · · · · · · · · · · · · · · ·	••••••
UMMARY GEOLOGY (lithology, age, structure, alteration, mineralizatio	n, size, and attitude):
edimentary and volcanoclastic rocks of Hazel	ton Age may contain extensions of
ome.Mountain.Camp.gold-silver.vein.structure	s. hock outclops are very scarce.
on the property G.E O.I	OGICAL BRANCH
······	SSMENT.REPORT
	2.0.0.146.W.14. # . ## . # . # . #
EFERENCES TO PREVIOUS WORK	
• • • • • • • • • • • • • • • • • • • •	
	(over)

# TABLE OF CONTENTS

	Page
SUMMARY AND CONCLUSIONS	1 /
INTRODUCTION	1/
LOCATION AND ACCESS	21
PROPERTY	2 /
HISTORY AND PREVIOUS WORK	4 /
DISTRICT GEOLOGY AND MINERALIZATION	5/
PROPERTY GEOLOGY	6 /
GEOCHEMISTRY	7 /
RECOMMENDATIONS	10 /
COST ESTIMATES	11./
REFERENCES	12 🖌
CERTIFICATE	13 /
Statement of costs	141

# ILLUSTRATIONS

FIGURE	1following page	1 /
FIGURE	2following page	2 /
FIGURES	3-8GEOCHEMICAL PLANSfollowing page	9 /
FIGURE	9following page	5 /
FIGURE	10DOME MOUNTAIN AREA GEOLOGYfollowing page	6 /

#### SUMMARY AND CONCLUSIONS

The Dome Mountain Project of Marine Drive Estates Ltd. encompasses an area of favourable geology in close proximity to mineral zones presently being developed toward ore body status by other operators.

The Marine Drive ground appears to be almost entirely covered by overburden. Such outcrops as may occur will probably be subdued and hard to locate. This makes it very difficult to explore the property for mineral zones of the Dome Mountain type since these zones do not appear to respond to standard geophysical techiques, they are not predictable geologically (with present knowledge) and they typically have a very modest geochemical expression.

A geochemical soil survey carried out by the company during 1986 has identified geochemical responses similar to the subdued indications found over substantial gold-bearing mineral zones elsewhere in the camp.

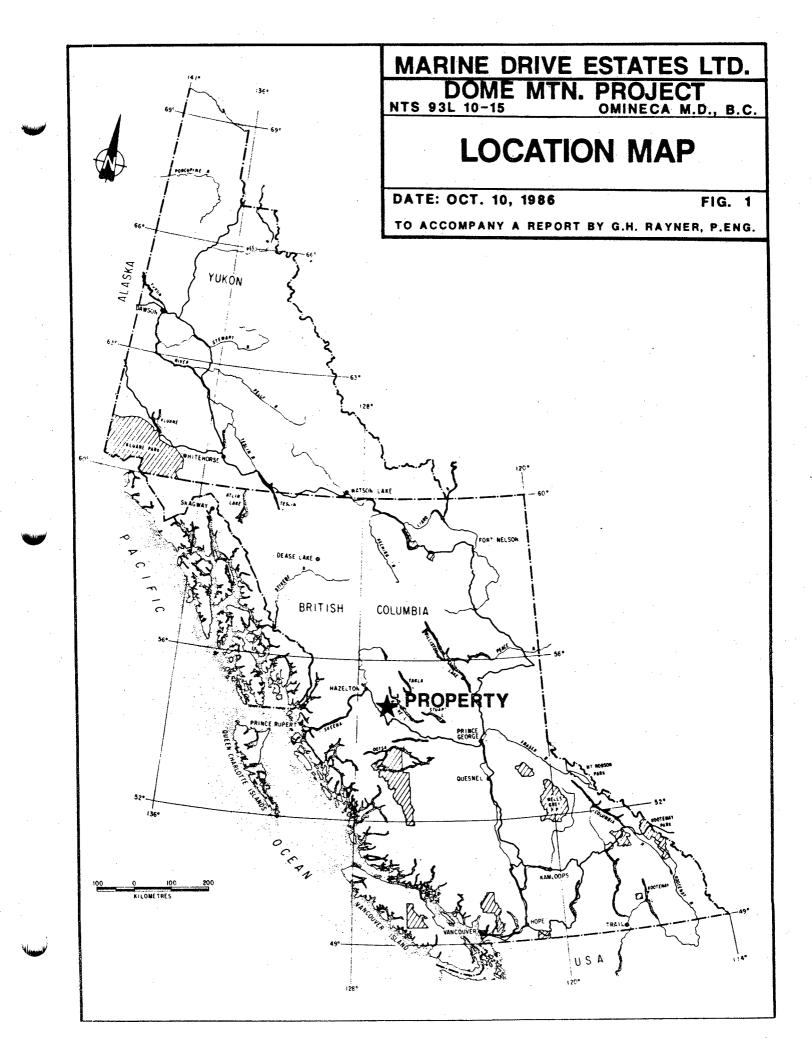
In summary, the potential exists to discover economic mineralization similar to that known in the camp. A staged program to explore the ground is recommended.

#### INTRODUCTION

At the request of the directors of Marine Drive Estates Ltd., the writer examined the company's property in the Dome Mountain area during the period from September 13th to 15th, 1986. Mr. R. Woolverton, one of the property vendors, acted as guide during the examination.

This report presents the results of this field examination, of work carried out by the company and of information researched from public and private records.

-1-



#### LOCATION AND ACCESS

The property is located in central British Columbia about 23 kilometers east north-east of the village of Telkwa and 32 kilometers east of the town of Smithers.

The claims lie on the southwest slope of Dome Mountain between elevations of about 1000 meters and 1500 meters above sea level.

The specific location would be 54°44' North Latitude: 126°43' West Longitude.

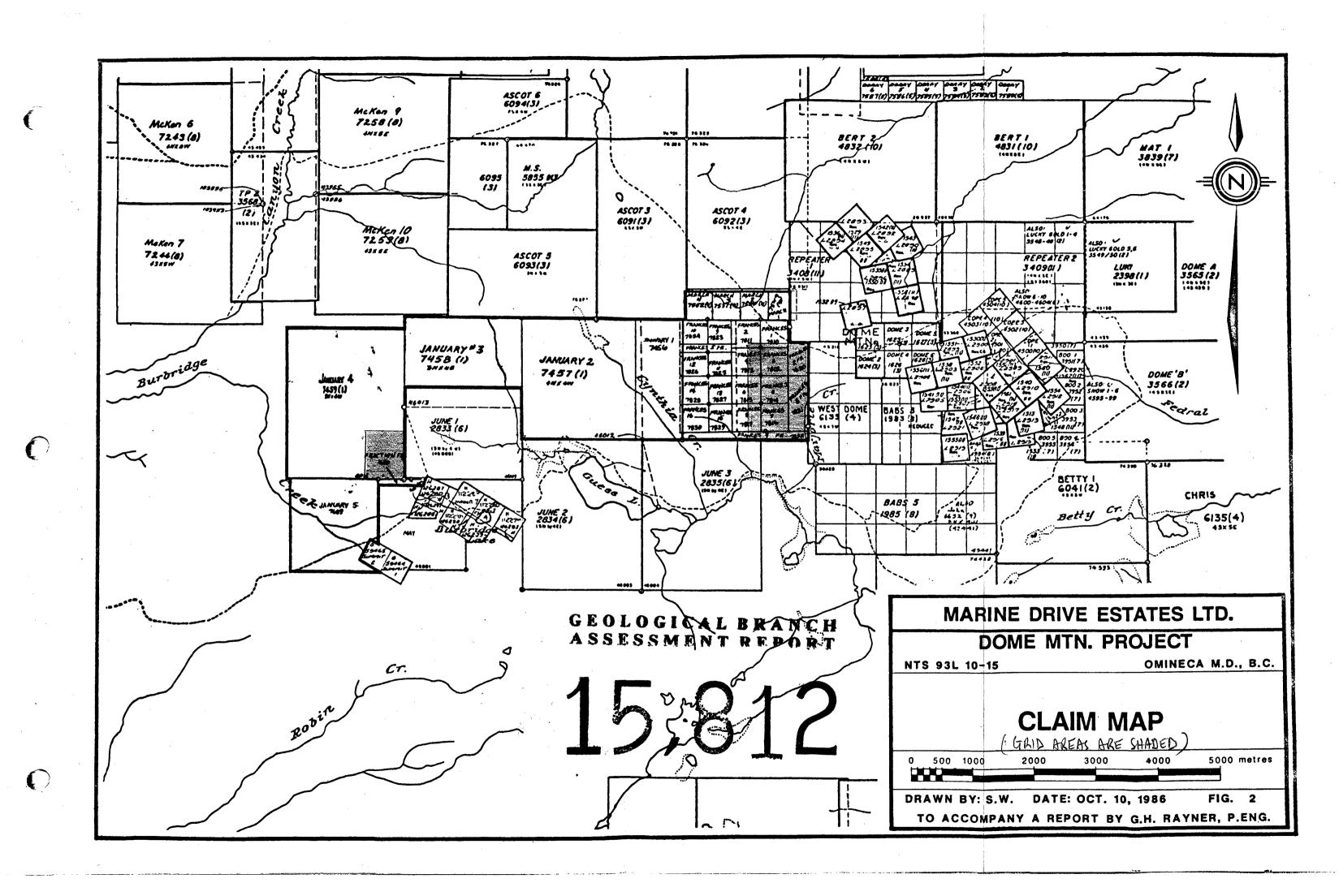
Access to various parts of the claims is available by rough forest and mining access roads however the eastern, higher areas are best reached by helicopter. Charter helicopter service is locally available.

Both Telkwa and Smithers are served by the Canadian National Railway and by Provincial Highway No. 16. The town of Smithers has available most of the services and facilities necessary for supporting an exploration program and is connected to Vancouver by scheduled air service

#### PROPERTY

The property consists of 5 modified Grid claims totalling 77 units and 20 two-post claims. Five fractions complete the land package for a total of 102 claim units.

Claim details are presented in the following tabulation:



	-			
		-3-		
CLAIM NAME	RECORD #	UNITS	EXPIRY DATE	RECORDED OWNER
January 1	7456	20	Jan. 30, 1987	D.C. Plecash, Box 2694, Smithers, B.C.
January 2	7457	16	. 11	D.C. Plecash
January 3	7458	12	II	II
January 4	7459	20	11	11
January 5	7689	9	July 11, 1987	Joe Hidber, Box 280, Telkwa, B.(
March 1-4	7549-7552	4	April 11, 1987	D.C. Plecash
Frances 1-8	7810-17	8	Aug. 26, 1987	Roy Woolverton, 5427 Halifax St. Burnaby, B.C.
Frances 9-16	7823-30	8	_ <b>I</b> I	Ellen Woolverton, 5427 Halifax St. Burnaby, B.C.
Frances Fr. 2-4	7820-22	3	н	Roy Woolverton
Fraction Claim	7690	1	July 11, 1987	Joe Hidber
Frances 5 Fr.	8078	1	Nov. 17, 1987	D.C. Plecash

Expiry dates shown are those on file with the Mining Recorder's office in Vancouver except in the case of the Frances 5 Fraction where the data shown were obtained from the Smithers Mining Recorder's office.

Title was not further investigated.

#### HISTORY AND PREVIOUS WORK

The Dome Mountain gold camp has been known and intermittently explored since the initial discoveries in the area which occured about 1915.

The first significant underground work in the camp was in 1923 when the Dome Mountain Gold Mining Company sank a shaft about 33 meters deep with some lateral work on the Forks zone, today part of the Canadian United holdings.

In subsequent years, small programs and limited test shipments were carried out from time to time on various Dome Mountain showings.

The present cycle of development in the area began in the late 1970's when Reako Explorations Ltd. and Panther Mines Ltd. assembled much of the ground into a single package and undertook limited production from the Freegold deposit. Subsequently, the ground package has developed under the control of Noranda, Canadian United and others. This ongoing work resulted in the discovery in 1985 of the Boulder zone following subtle geochemical indications. This zone under steady development has to date revealed an indicated tonnage of 240,000 tons at a grade of material grading 0.458 oz/ton gold and 2.32 oz/ton silver. Work continues at the present time.

There is no record of any early work on the Marine Drive claims prior to the area being logged in about the 1950's. At this time it is rumoured that the loggers located and opened up a quartz vein on what is now the January 4 claim. Although vein-type quartz float is locally common in this area, neither the bedrock source nor any old workings have been located to date.

No other previous work is known on the property.

#### DISTRICT GEOLOGY AND MINERALIZATION

Regionally the area is underlain by rocks of the Hazelton Group of Lower to Middle Jurassic Age. The Hazelton Group is composed of both sedimentary and volcanic units with a large volcanic component in the sediments.

Recent mapping by the B.C. Department of Mines has clarified the geology in the district to some extent but numerous complexities remain to be sorted out (MacIntyre, 1985). The regional and district geological overviews are presented in Figures 9 and 10 after MacIntyre.

In the Dome Mountain area, only two formations of the Hazelton Group have been mapped. Of these, the younger Nilkitwa Formation consists of a heterogenous mixture of interbedded vocanoclastics, limestone, siltstone, argillite and conglomerate (see Fig. 10).

The older Telkwa Formation consists of a chaotic assemblage of coarse-grained agglomerate, tuff-breccia and lapilli-tuff with lesser intercalations of lithic, crystal and ash tuff and volcanic derived sedimentary rocks. This formation has been subdivided by MacIntyre into map units 1 a (foliated tuff) and 1 (fragmental volcanic rocks, andesite flows).

The Telkwa Formation, and in particular, map unit 1 a appears to be the favoured host apparently for structurally controlled mineralization in the area.

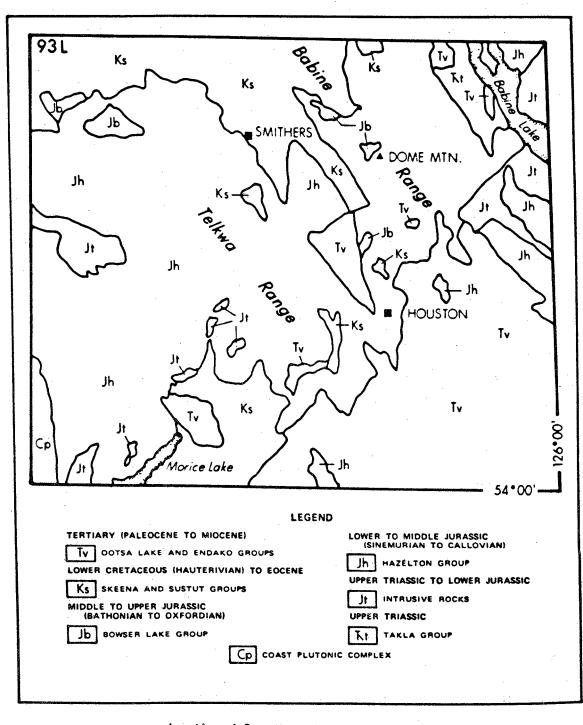


FIG. 9

•

Location of Dome Mountain gold camp and general geology of the Smithers map-area.

AFTER MACINTYRE (1985)

The structure of the district is dominated by a large anticlinal fold that plunges to the south east (Fig. 10). The deformation has developed a slaty cleavage in most finer grained rocks which, in most cases, sub-parallels bedding.

The veins of the camp vary somewhat in structural setting however the majority have north westerly strikes and steep dips. The veins are found both paralleling and cutting the foliation in the host rocks. In some instances, veins appear to have been folded and brecciated during deformation of the host rocks while in other cases the veins cross-cut deformation features of the surrounding rocks. More than one age of vein introduction is implied.

The sulphide mineralogy of the veins is variable. MacIntyre notes assemblages consisting of pyrite, pyrite-chalcopyrite, pyritechalcopyrite-galena, pyrite-galena-sphalerite and pyrite-arsenopyrite in different veins of the district. This variety of mineral assemblages further complicates the exploration of the district by geochemical means.

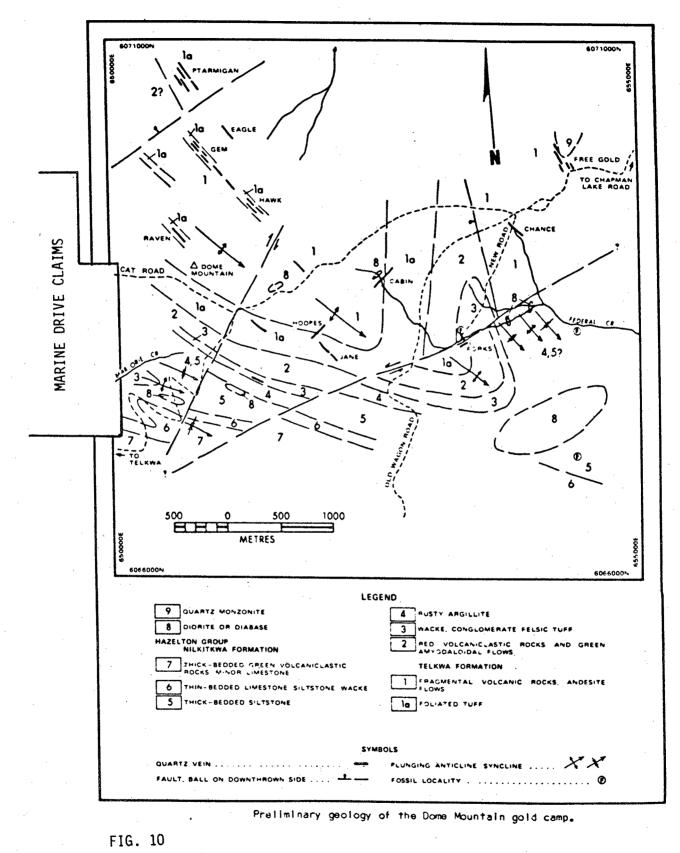
#### PROPERTY GEOLOGY

Very little exposure occurs on the claims so that virtually no geological detail is available.

In only two areas is there any bedrock information.

In the area adjoining the West Dome claims of Freemont Gold Corp. there are a few scattered exposures of foliated tuffaceous sediments (?) along a single West-trending ridge.

The only other area of available data is in the northern part of the January 4 grid. Here, during logging activities some years ago,



AFTER MACINTYRE (1985)

it is locally reported that a quartz vein carrying gold values was located. Limited surface work was apparently carried out at that time but development did not proceed. The location has since been lost. In the area there are float concentrations of quartz vein material with pyrite and base metal sulphides but the few specimens checked by the property vendors have not returned significant gold values.

The January 4 grid area, as mentioned, has been logged over and the abundant second growth vegetation makes prospecting difficult. The quartz float indicates that vein material does occur in the area and the fact that abundant float rock of similar lithology is often found together suggests that the overburden cover is not excessive and that outcrops might be found by close investigation.

#### GEOCHEMISTRY

During 1986, Marine Drive carried out a soil sampling program over grids on two areas of the property. The two grids were chosen to cover the areas that were felt to be most likely to give positive results with this technique. In both areas, overburden is felt to be mainly shallow enough for soil sampling to meaningfully reflect bedrock conditions. Secondly, in both cases, there was reason to expect mineralization from other evidence in the area. In the case of the January 4 grid, quartz vein float and a rumoured showing provided encouragement. In the case of the Frances Grid, the area lay immediately west of the West Dome zone where Freemont Gold Corp. was actively trenching structurally controlled quartz-sulphide mineralization.

In total, 525 samples were collected on the two grids. B material was collected where possible but in some instances only A2 soil was available. The samples were treated in standard fashion--

dried, screened to -80 mesh and analysed by I.C.P.. Six potentially significant elements, Ag, As, Sb, Cu, Pb and Zn were plotted on grid plans.

The geochemical results produced a broad low background with limited areas of statistically anomalous but not impressive values. These weak anomalies could readily be discounted or overlooked were it not for the example of the recent course of exploration on property to the east where work by Noranda and others has recently developed the Boulder zone to 240,000 indicated tons at 0.458 oz/ton gold and 2.32 oz/ton silver. The Boulder zone, from published information, was completely blind. It was uncovered under a two-station geochemical zinc high of 390 and 290 ppm values with apparently no other clues to its existence.

The significance of this train of discovery for the Marine Drive claims is considerable.

In contouring the Marine Drive data (Fig. 3-9) the following contour levels were chosen with the choice being in part influenced by experience elsewhere in the district.

Element	Contour Levels (ppm)	Cumulative % Freq. (Approx)
Zn	250	95
	400	99
Ag	1.4	97
	2.8	99
Pb	90	96
As	37	99
Cu	50	97
Sb	6	98

On the Frances grid, values in most elements were low and unexciting.

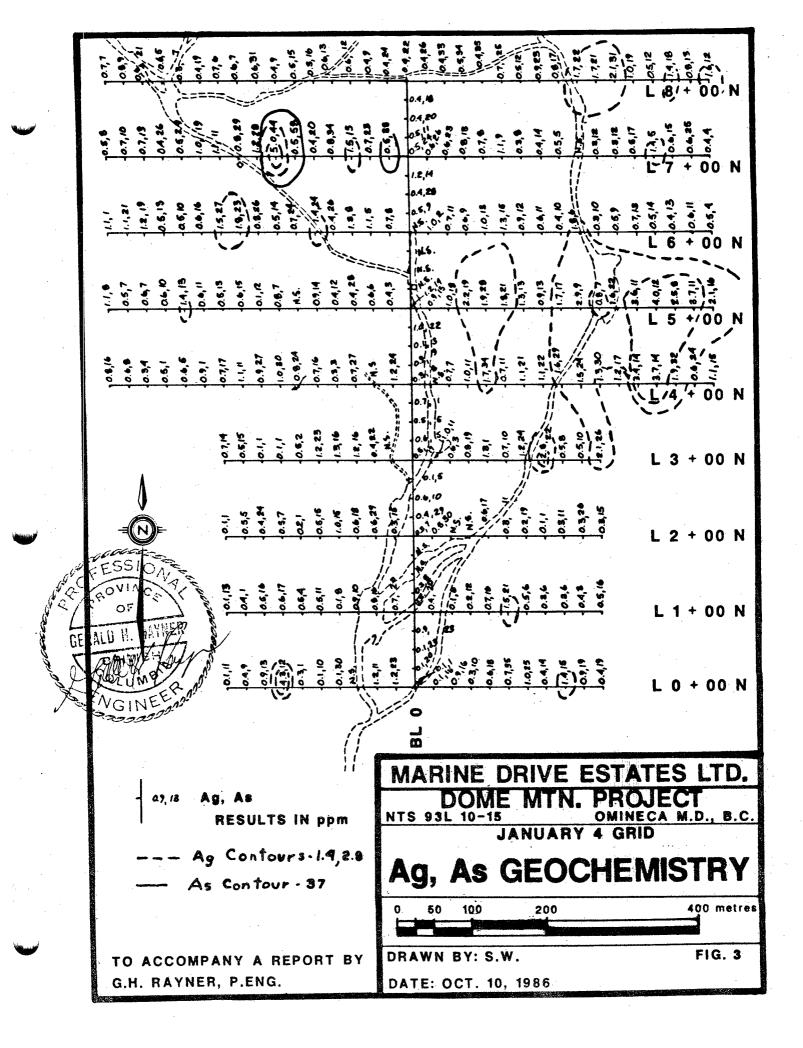
The area on the east side of the grid adjoining the ground on which Freemont Gold Corp is trenching returned generally uninteresting values except for a short section on L. 0 + 00 W. from 5 + 50 S. to 7 + 50 S. In this zone higher values for zinc (up to 314 ppm) and lead (up to 168 ppm) may reflect the westward extension of the Freemont mineralization.

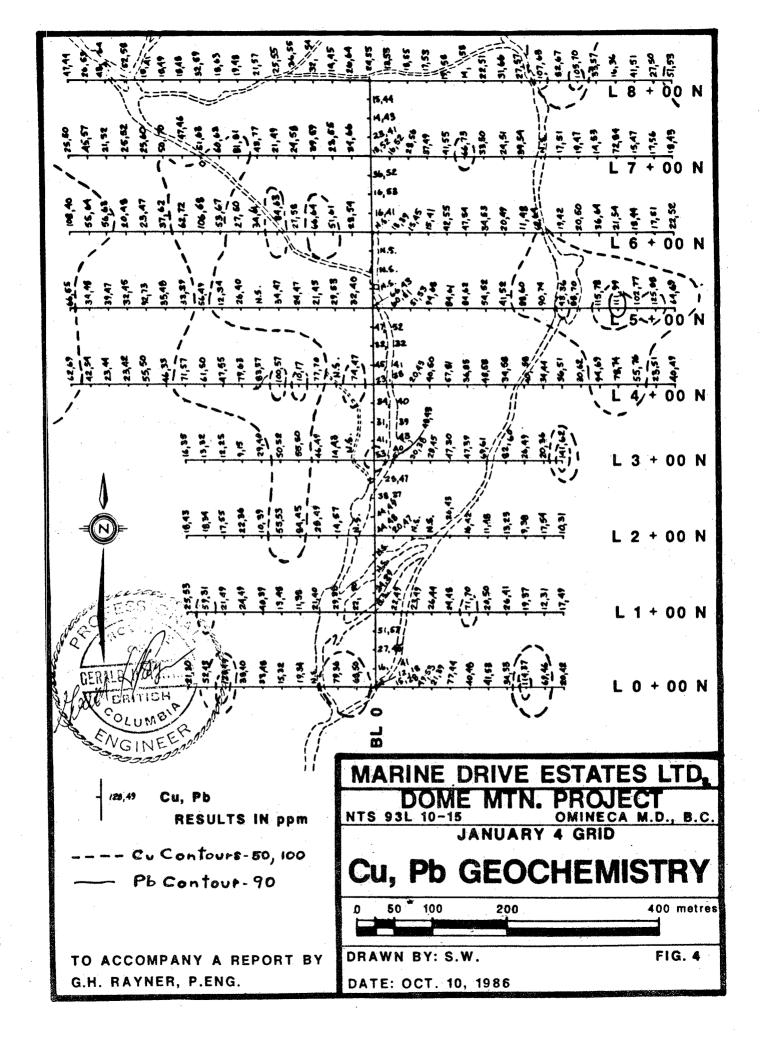
The only other area of interest on this grid lies on L. 10 + 50 W. between about 6 + 50 S and 9 + 50 S. and a small adjoining section on L 9 + 00 S. between 7 + 50 and 9 + 00 S. Within this section, zinc levels are elevated (up to 356 ppm) and there is weak scattered support in silver and lead. Although the pattern is not particularly strong or coherent, it warrants further work in view of the subtle responses that are of interest in this district.

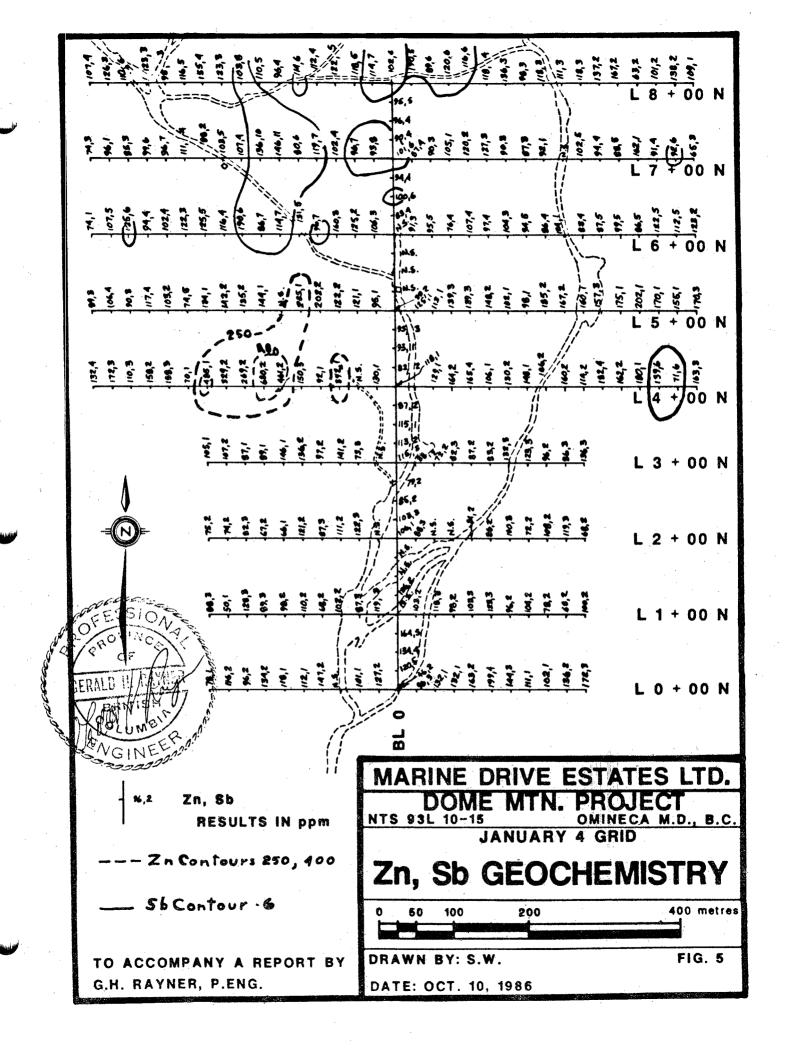
On the January 4 grid values are generally higher but few coherent patterns emerge. The strongest zone lies on L. 5 + 00 N. between 2 + 00 E. and 4 + 00 E. and extends to the adjoining line 4 + 00 N. in the section from about 3 + 00 E. to 3 + 75 E. The area is characterized by higher silver values (up to 4.0 ppm) and modest but consistently higher copper values. There is also very weak support in lead and antimony.

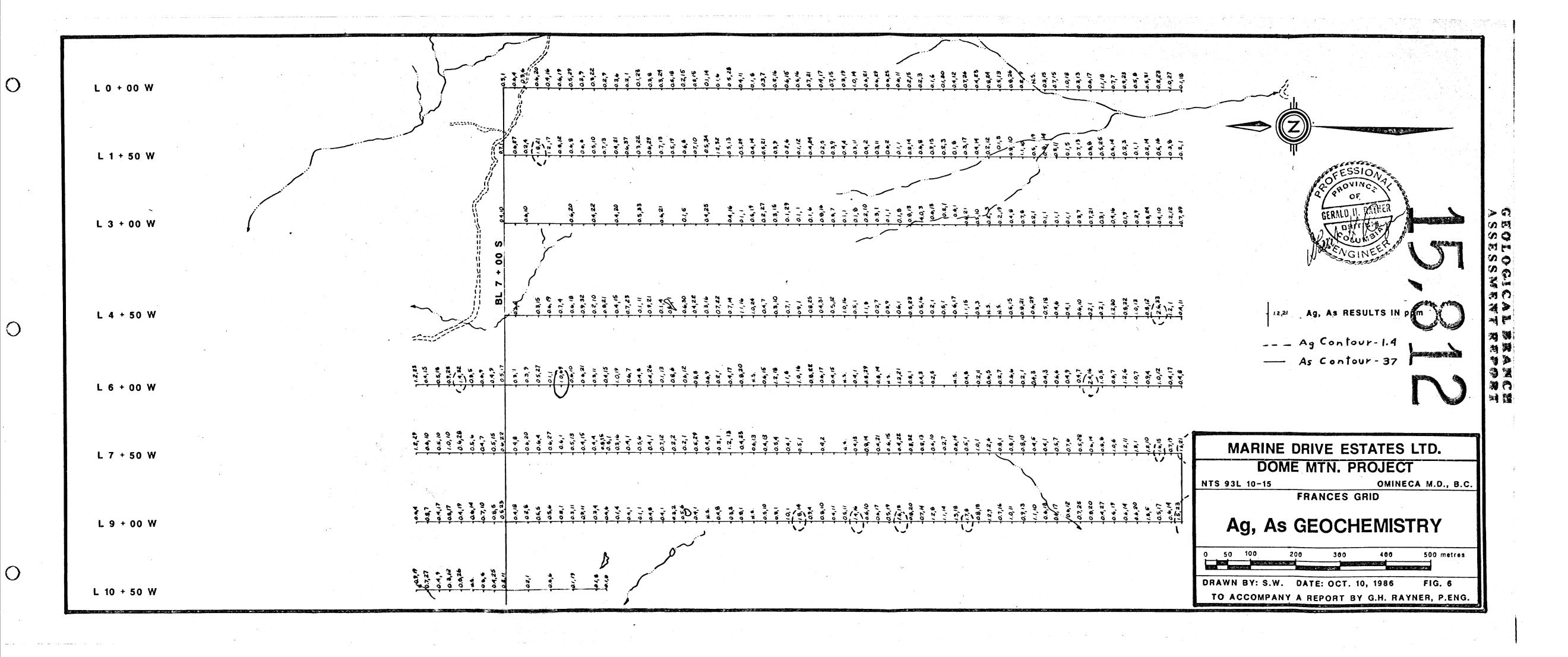
The other area of particular note on the grid is a point high at L.7 + 00 N. from 1 + 75 to 2 + 00 W. Here, elevated values are seen in silver and arsenic with weak support in copper and zinc.

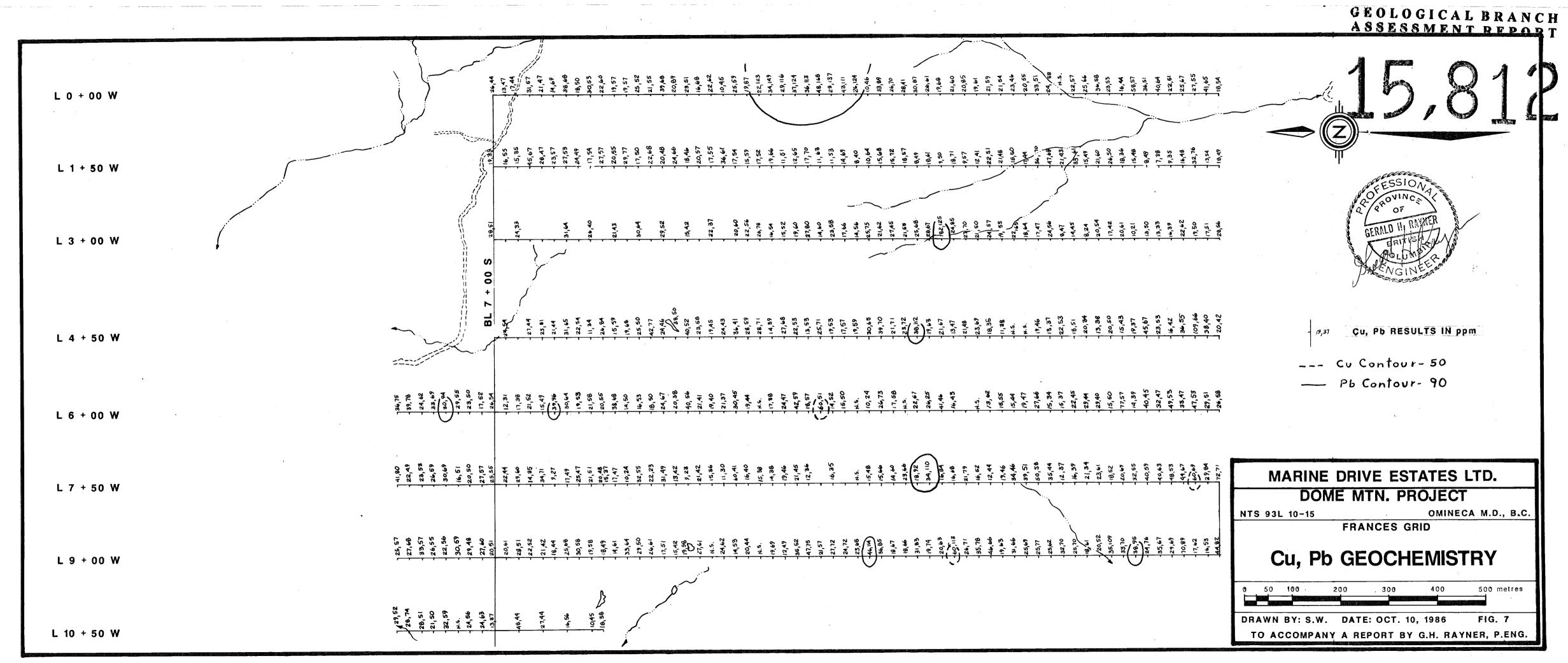
Since nothing is known of the sulphide mineralogy of the vein reported in this area, its location could be reflected by either of these dissimilar geochemical patterns. In any event, further investigation is indicated in both areas.

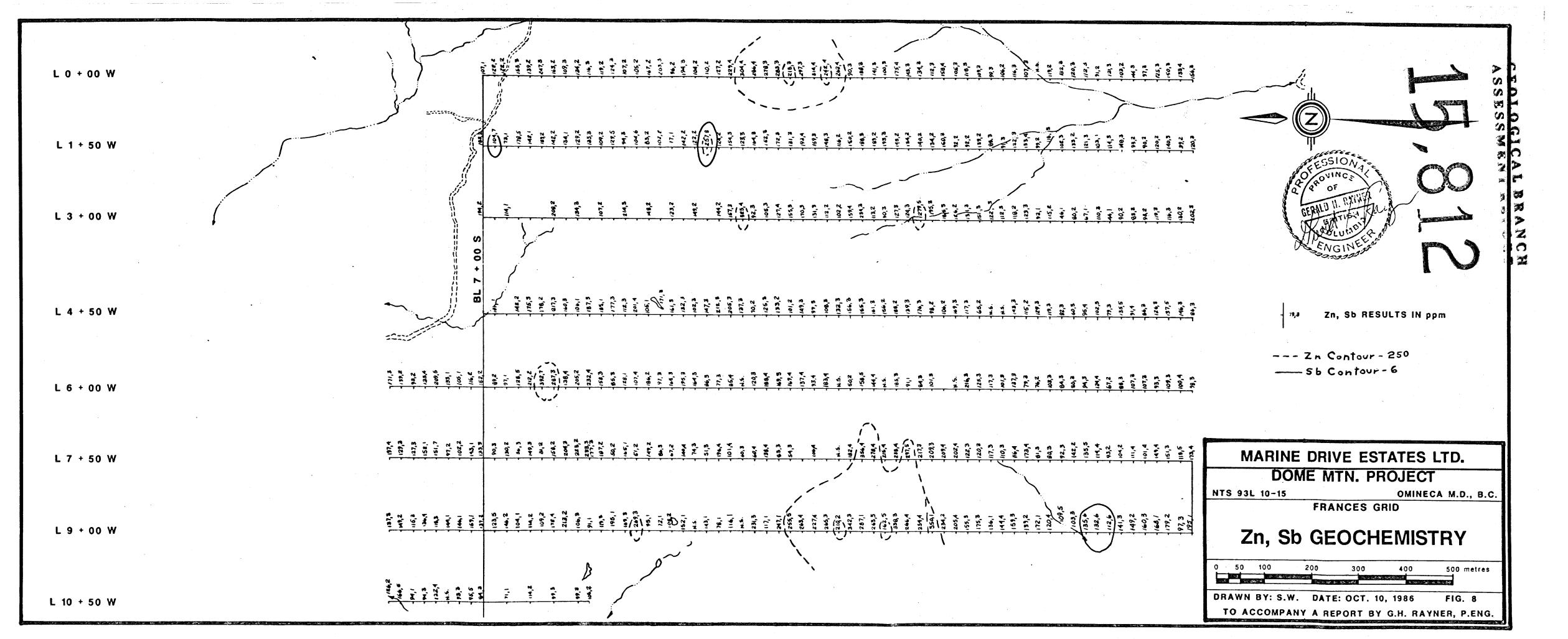












О

 $\bigcirc$ 

 $\bigcirc$ 

#### RECOMMENDATIONS

A staged program of exploration is recommended as follows:

#### STAGE I

- (a) Geological mapping and prospecting over the whole claim group.
- (b) Limited backhoe trenching of areas of geochemical response.
- (c) Limited expansion of the present geochemical coverage.

STAGE II (following a favourable review of the results of STAGE I)

- (a) Further backhoe trenching of areas of interest.
- (b) 300 meters of diamond drilling in short holes to test showings uncovered or to test areas of interest that cannot be reached with a backhoe.

STAGE III (following a favourable review of the results of STAGE II) (a) Further diamond drilling to test targets developed to this stage.

# COST ESTIMATES

STAGE I			
Geological mapping and	prospecting		
1 geologist for 10 d	ays @\$450/day	\$ 4,500.00	
Limited expansion of g	eochemical		
coverage (grid and s	ampling)	5,000.00	
- -			
Backhoe trenching		10,000.00	
Transportation		3,000.00	
Supervision and admini	stration	2,500.00	an a
	TotalSTAGE I	\$25,000.00	\$ 25,000.00
STAGE II			
Backhoe trenching		13,000.00	
Diamond drilling. 300	meters at		
\$100/meter (including	g assaying)	30,000.00	
Transportation		3,000.00	
Supervision and adminis	stration	4,000.00	
	TotalSTAGE II	\$50,000.00	50,000.00
STAGE III			
Diamond drilling. 350	meters at		
\$100/meter (including	g assaying)	35,000.00	×
Transportation		5,000.00	
Supervision and adminis	stration	5,000.00	
Engineering and report	ing	5,000.00	
	TotalSTAGE III	\$50,000.00	50,000.00
	TotalSTAGES I-III		\$125,000.00

Respectfully submitted,

G.H. Rayner, P. Eng.

#### REFERENCES

B.C. Minister of Mines Annual Rept: 1916, p. K77.

Cross, George Newsletter; No. 204 (1986), October 23, 1986.

- MacIntyre, D.G.; 1985, Geology of the Dome Mountain Gold Camp (93L/10,15) in Geological Fieldwork, 1984, B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1985-1.
- Myers, D.E. Jr.; 1984, Linecutting and Geochemical Report on the Dome North Claim Groups on Dome Mountain, B.C.D.M. Assess. Rept. 13277 for Noranda Exploration Co. Ltd. (NPL).
- Phendler, R.W.; 1981, Report on the Dome Mountain Free-Gold Property, Omineca Mining Division, B.C., Private Company Report for Reako Explorations Ltd. and Panther Mines Ltd.
- Price, B.J.: 1985, Geological Report, Dome Mountain Gold Property, April, Chris, Mag, Fort, Ophir, Sally, Ben, West Dome Claims. Private Company Report for Freemont Gold Corporation.
- Sheldrake, R.F.; 1985, Report on a Helicopter Borne Multifrequency Electromagnetic and Magnetometer Survey in the Dome Mountain Area, British Columbia, Private Company Report for Freemont Gold Corporation.
- Tipper, H.W. and Kichards, T.A.: 1976, Geology, Smithers Map Area, British Columbia, G.S.C. Open File 351.

Vancouver Stock Watch; October 27, 1986.

### CERTIFICATE

- I, Gerald H. Ryaner do hereby certify that:
- I am a consulting geological engineer with offices at 626 Duchess Avenue, West Vancouver, B.C.
- 2. I am a graduate of the University of British Columbia (B.Sc. Geology).
- 3. I am a member in good standing of the Association of Professional Engineers of the Provicne of British Columbia.
- I have practised my profession since 1958 primarily in Western North America and the South Pacific.
- 5. This report is based on the references cited, on various company data and on an examination of the property during the period September 13th to 15th, 1986.
- 6. I hold no interest in the properties or shares of Marine Drive Estates Ltd. nor do I expect to receive any.
- 7. I hold no interest in any property within 10 kilometers of the subject property.

Dated at West Vancouver, B.C. this 21st day of November, 1986:

Gerald H. Rayner, P. Eng.

# STATEMENT OF COSTS

## DOME MOUNTAIN PROJECT

# (including) JANUARY/MARCH/FRANCES CLAIMS Expenditures Aug. 1-Sept. 30, 1986

# SALARIES & WAGES

R. Woolverton	Geologist/Soil Sampler Aug 7,8,14-17,19-31 Sept 1-7,12-30,	19 days 25% days	44% @ \$400	\$17,800.00
J. Coswan	Soil Sampler Aug 21,22,28-30 Sept 2,4-6,8	5 days 4½days	9% @ \$100	950.00
E. Woolverton	Soil Sampler Aug 8,15,16,19,21-26	9 days	9 @\$100	900.00
A. Woolverton	Soil Sampler Aug 7,8,15,16,19,21-26	11 days	11 @ \$100	1,100.00
S. Woolverton	Soil Sampler Sept 2,4-8,13-23,25,27-29	19 days	19 <b>e</b> \$100	1,900.00
C. Woolverton	Soil Sampler Sept 17-23,25,27-29	8½ days	8½ @ \$100	\$50.00

\$23,500.00

#### TRANSPORTATION

	1	
P.W.A. Vancouver-Smithers-Vancouver (2)	391.85	
P.W.A. /Greyhound Bus freight - shipping samples	220.60	
Dome Mountain Helicopters		•
Smithers-Dome Mountain-Smithers	4,313.55	4,928.00
Trucks Crewcab 45 days	900.00	· · · · · · · · · · · · · · · · · · ·
4x4 rental 32 days @ \$30/day	960.00	
4x4 rental - Smithers Super Service	188.99	
Gas (all vehicles)	600.45	2,649.44
ASSAVS		
Min-En Laboratories, North Vancouver, B.C.	·	· · ·
790 soil samples analysed for:	• •	
Ag. As. Cu. Pb. Sb. Zn @ \$5.85/sample	4,621.50	. •
Ag,As,Cu,Pb,Sb,Zn @ \$5.85/sample Stats 820 samples @ \$0.25/sample	205.00	4,826.50
SURVEYS		•
Swanex Exploration - surveying	500.00	
Hank Van Alfen – Linecutters	575.00	1,075.00

BALANCE FORWARD

\$36,976.94

Summary of Costs-Dome Mountain Project Cont'd

CARRIED FC	DRWARD	\$36,976.94
CAMP MAINTENANCE & SUPPORT August - 44 man days @ \$50/man/day September - 53 man days @ \$50/man/day	2,200.00 2,650.00	
Expediting/office Neville Crosby Miscellaneous hardware	1,100.00 1,117.77 54.79	7,122.56
10B-demob		
Vancouver-Smithers-Vancouver 3 days (including wages, etc)		2,050.00
REPORT PREPARATION & CONSULTING	5,419.00	5,419.00

TOTAL COST

\$ 51,568.50