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# GEOPHYSICAL AND DIAMOND DRILLING REPORT

ON THE

MARISA PROPERTY

Nanaimo Mining Division

British Columbia

SUB-RECORDER  
RECEIVED  
MAR 26 1992  
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VANCOUVER, B.C.

NTS: 92L/11W and 12E

Latitude: 50° 40'N

Longitude: 127° 31'W

For

Great Western Gold Corporation  
420, 475 Howe Street,  
Vancouver, B.C.  
V6C 2B3

By

Gordon J. Allen, P. Geol

And

Peter G. Dasler, M.Sc., P. Geol.

February 29, 1992

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

22,243

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## SUMMARY

The Marisa property is located on northern Vancouver Island approximately 5km northwest of BHP-Utah's Island Copper Mine. It is underlain by andesitic volcanic rocks of the Bonanza Group and probably basalt of the Karmutsen Formation, which have been intruded by several phases of diorite and quartz diorite of the Jurassic Island Intrusions. A previous prospecting program identified disseminated chalcopyrite in the volcanic rocks, and disseminated and fracture-related pyrite, chalcopyrite and molybdenite in a quartz diorite on the Marisa 1 claim. The target of this phase of the exploration program was the mineralized quartz diorite.

Between December 10, 1991 and February 12, 1992, Daiwan Engineering Limited conducted an exploration program on the Marisa property on behalf of Great Western Gold Corporation. The program consisted of 20.6km of line cutting, 16.6km of magnetic survey, 12.3km of IP survey, and 376.43m of diamond drilling. The purpose of this program was to locate near surface material which could be used to augment mill feed at the nearby Island Copper Mine.

Very little bedrock exposure occurs on the Marisa 1 claim in the grid area. From a few outcrops located in creek beds it appears that the grid is largely underlain by quartz diorite or granodiorite in contact with andesitic volcanic rocks along the north part of the grid. The magnetic survey conducted during this program outlined a roughly 500m wide east-west trending zone of relatively low magnetic susceptibility which appears to correspond to the quartz diorite. The south part of the grid has a relatively high magnetic susceptibility. Subsequent drilling indicates that this magnetic high corresponds to Quatse diorite.

The quartz diorite exposed in a creek bed between 1+50W and 3+50W is mineralized with disseminated and fracture-controlled pyrite, chalcopyrite and molybdenite. It was hoped that an IP survey would outline the extent of this mineralization. The survey outlined a few areas of weak chargeability both in areas with relatively high and low magnetic susceptibilities (probably diorite and quartz diorite respectively), but failed to clearly define the area with known chalcopyrite mineralization. It is possible that a survey with a 50m dipole separation cannot identify zones with such a low sulphide content.

Diamond drilling on the property consisted of five holes which targeted both areas with known mineralization and zones with anomalous chargeability. Four holes were drilled along roughly 1.5km of the belt of relatively low magnetic susceptibility and intersected primarily quartz diorite in all cases. Holes M92-4 and M92-5, the easternmost and westernmost holes respectively, were generally barren with copper values averaging less than 20 ppm. The central two holes, M92-1

and M92-3, were drilled in the vicinity of the mineralized exposures along the creek. These holes intersected consistently weakly mineralized quartz diorite with disseminated and fracture-controlled pyrite (up to 1%), chalcopyrite (generally >0.1%) and molybdenite (traces). The upper part of M92-1 contained 0.17% (converted from ppm) copper across 16.17m. The highest copper values in M92-1 are within zones in which magnetite appears to have been altered to pyrite. Rock in these intervals has a paler appearance than normal and may have undergone weak argillic and/or sericitic alteration (thin section to come).

Hole M92-2 was drilled to test coincident magnetic and chargeability anomalies. The hole intersected Quatse diorite and crosscutting felsic dykes. Both units were barren.

The weak mineralization and sporadic alteration intersected in holes M92-1 and M92-3 are encouraging and suggest that the quartz diorite has the potential to host a porphyry copper deposit. IP data indicate, however, that it is unlikely a mineralized zone with a sulphide content significantly greater than that of the showings exists in the survey area. A target grade of 0.3% copper would require 1% chalcopyrite or double that occurring in the upper part of M92-1. It is conceivable that this type of material with little associated pyrite may occur in the area and that it would not produce a strong IP response.

It would be helpful to better define specific targets within the quartz diorite. It is unclear if the preliminary two line soil sample survey conducted in the previous program was able to 'see' through the overburden away from the creek, but it may be warranted to collect soil samples at 25m or perhaps 50m intervals on the present grid to better define targets.

It would also be of interest to extend the grid to the northeast to better cover the apparent quartz diorite - andesite contact area. A sample of massive pyrite and pyrrhotite skarn float was located 70m northeast of the baseline at 8+00W, suggesting that significant mineralization may occur along this contact.

The quartz diorite in the showings area requires further drill testing. An additional 300m in three or four holes northeast, southeast and southwest of M92-1 would help to define the limits of the known mineralization and/or indicate in which direction mineralization and alteration is becoming stronger.

A program of geological mapping, grid expansion, soil sampling, magnetic surveying, and 300m of drilling is recommended. The program is estimated to cost \$77,000.

## **1.0 INTRODUCTION**

The Marisa property is located on northern Vancouver Island approximately 5km northwest of BHP-Utah's Island Copper Mine. From previous programs it was known that the Marisa property was partially underlain by a chalcopyrite and molybdenite-bearing quartz diorite to granodiorite. At the request of Great Western Gold Corporation, Daiwan Engineering conducted an exploration program on the Marisa property, focusing on the mineralized quartz diorite.

The program consisted of 20.6km of line cutting, 16.6km of magnetic survey, 12.3 km of IP survey, and 376.43m of diamond drilling. Fieldwork was conducted between December 18, 1991 and February 12, 1992.

The purpose of the program was to outline a block of mineralized rock with greater than or equal to 0.3% copper which could be accessed and mined at minimal cost to augment mill feed at the nearby Island Copper Mine.

## **2.0 PROPERTY LOCATION AND ACCESS**

The Marisa Property is located on Northern Vancouver Island, on NTS map sheets 92L/11W and 12/E, at latitude 50°40'N, longitude 127°31'W. It is roughly 5km south of Port Hardy. Port Hardy is the main commercial centre for Northern Vancouver Island. The town supports the local forestry industry and the nearby 55,000 tpd Island Copper Mine.

The property is crossed by the paved Port Hardy - Coal Harbour road, and covered by a system of inactive but passable logging roads giving good access to the claims.

## **3.0 PROPERTY TITLE**

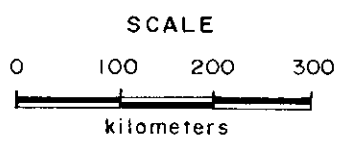
The property consists of 76 contiguous mineral claims located in the Nanaimo Mining Division. These claims are under option to Great Western Gold Corporation.

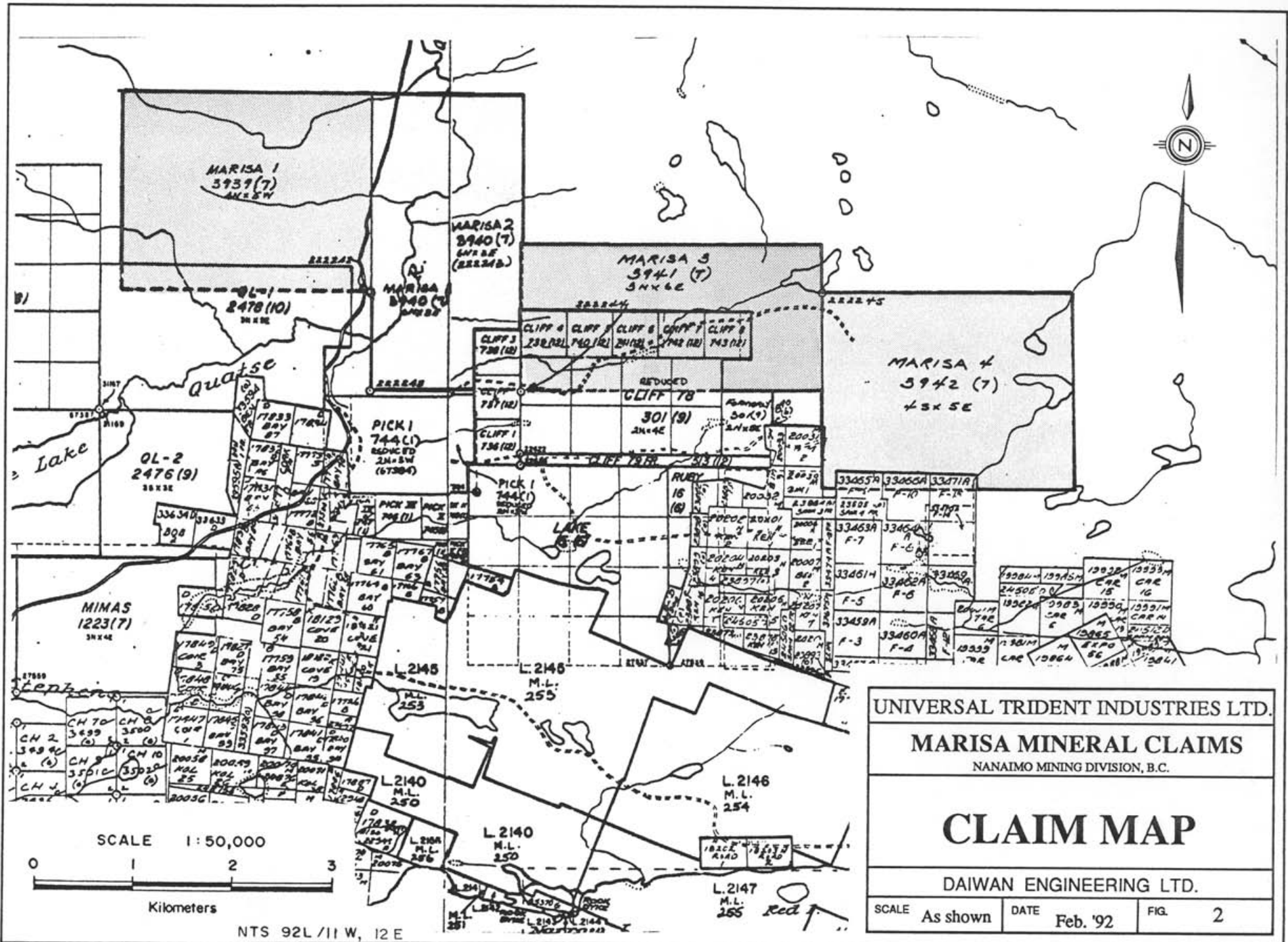
The claim locations are shown in Figure 2.



**PROPERTY**

GREAT WESTERN GOLD CORP.		
MARISA PROJECT NANAIMO MINING DIVISION, B.C.		
<b>LOCATION MAP</b>		
DAIWAN ENGINEERING LTD.		
SCALE As Shown	DATE Feb. '92	FIG. 1





UNIVERSAL TRIDENT INDUSTRIES LTD.

MARISA MINERAL CLAIMS

NANAIMO MINING DIVISION, B.C.

# CLAIM MAP

DAIWAN ENGINEERING LTD.

SCALE	As shown	DATE	Feb. '92	FIG.	2
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NTS 92L/11W, 12E



**CLAIM DATA**

<u>Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry Date</u>	<u>Registered Owner</u>
Marisa 1	3939	20	July 25 / 92	Daiwan Eng. Ltd.*
Marisa 2	3940	18	"	Daiwan Eng. Ltd.
Marisa 3	3941	18	July 20 / 92	Daiwan Eng. Ltd.
Marisa 4	3942	<u>20</u>	"	Daiwan Eng. Ltd.
	Total	76		

\* Daiwan holds the claims in trust for Universal Trident Industries Ltd.

**4.0 PREVIOUS WORK**

This area was mapped by Muller in the 1960's. Utah Mines Limited explored part of the property in the 1970's concentrating on the Bonanza Group volcanic rocks.

The Little Joe skarn showing, which is within but not covered by the Marisa 3 claim, was drilled by Energex in 1980 (AR11407). Short intervals of 1-2% copper were reported at a limestone-diorite contact.

A prospecting program conducted by Daiwan Engineering Limited in 1991 identified broad zones of low grade disseminated copper mineralization in the volcanic rocks on the property, and a copper and molybdenum-bearing quartz diorite on the Marisa 1 claim. This mineralized intermediate intrusion was not recognized in any previous mapping or exploration programs.

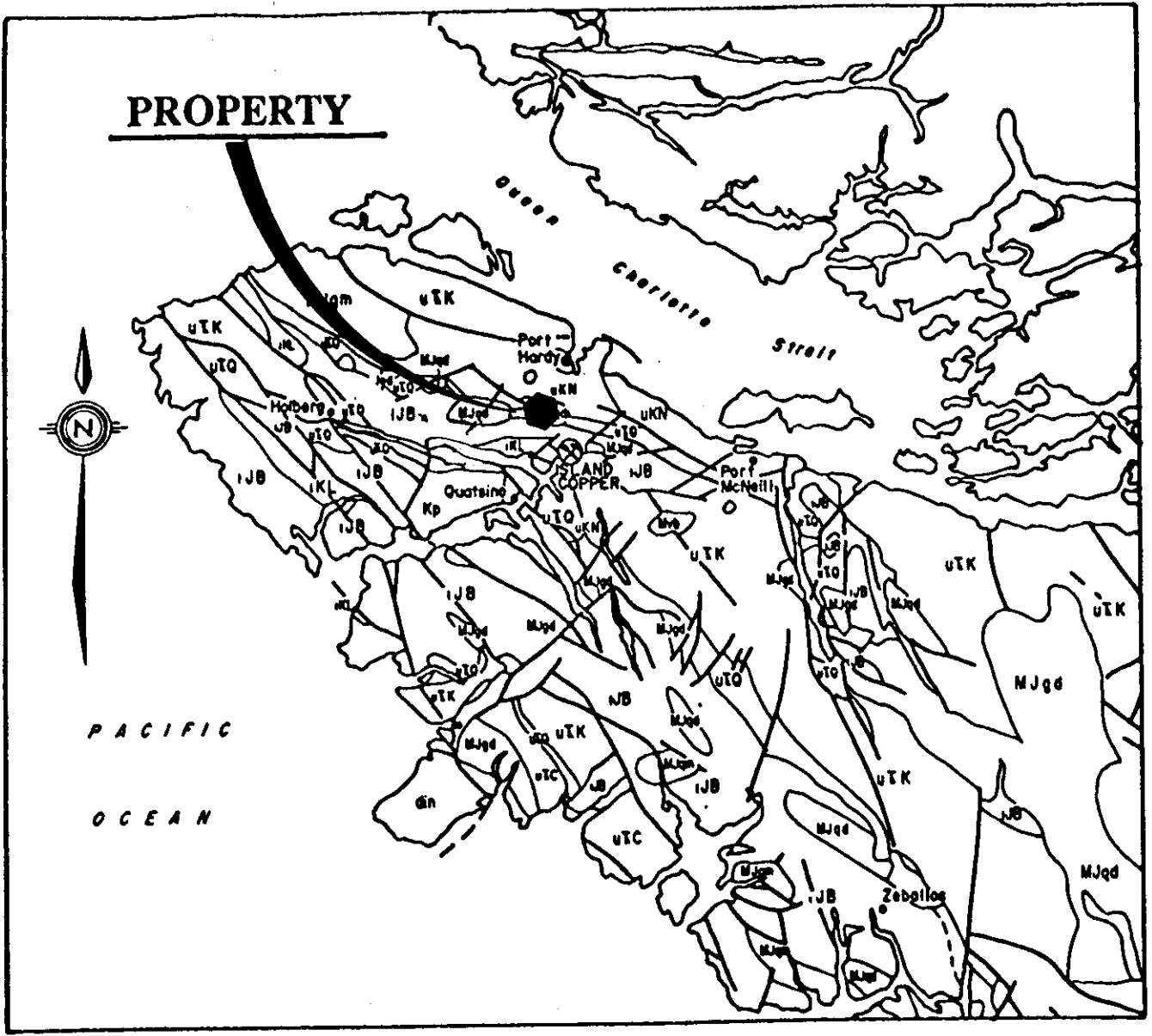
**5.0 REGIONAL GEOLOGY**

Vancouver Island north of Holberg and Rupert inlets is underlain by rocks of the Vancouver Group. These rocks range in age from Upper Triassic to Lower Jurassic. They are intruded by rocks of Jurassic and Tertiary age and disconformably overlain by Cretaceous sedimentary rocks. Figure 3 shows the regional geological mapping of the northern part of the Island.

Faulting is prevalent in the area. Large-scale faults with hundreds to thousands of metres of displacement are offset by younger, strike-slip faults with displacements up to 750 metres (2,500 ft.).

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508



**PROPERTY**

**LEGEND**

- MIOCENE**  
Mvb basalt flows, sills and dykes
- UPPER CRETACEOUS, PALEOCENE, EOCENE**  
Kp QUEEN CHARLOTTE GROUP: siltstone, shale, greywacke
- UPPER CRETACEOUS**  
uKN NANAIMO GROUP: sandstone, shale, conglomerate
- LOWER CRETACEOUS**  
iKL LONGARM: greywacke, conglomerate
- JURASSIC**  
Jgd granodiorite, quartz diorite
- MIDDLE JURASSIC**  
MJgm quartz monzonite, granite, monzonite  
MJgd granodiorite  
MJqd quartz diorite
- LOWER JURASSIC**  
UJB BONANZA; andesite, dacite, rhyolite
- UPPER TRIASSIC**  
uTQ QUATSINO and PARSON BAY: limestone, argillite  
uTK KARMUTSEN: basalt, pillow lava

**SCALE**



<b>GREAT WESTERN GOLD CORP.</b>		
<b>MARISA PROJECT</b> NANAIMO MINING DIVISION, B.C.		
<b>REGIONAL GEOLOGY</b>		
DAIWAN ENGINEERING LTD.		
SCALE As Shown	DATE Feb. '92	FIG. 3

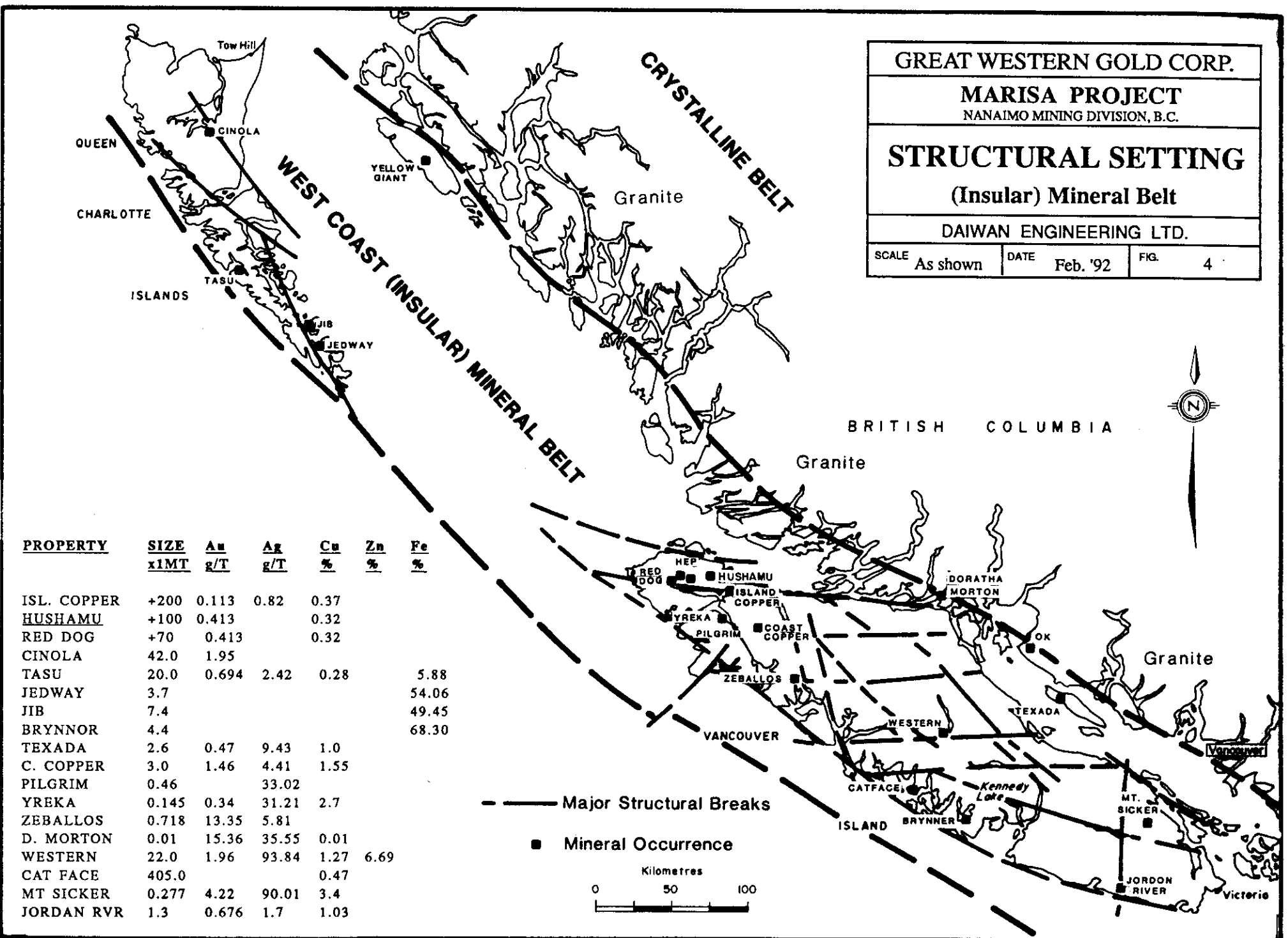
GREAT WESTERN GOLD CORP.

MARISA PROJECT  
NANAIMO MINING DIVISION, B.C.

**STRUCTURAL SETTING**  
(Insular) Mineral Belt

DAIWAN ENGINEERING LTD.

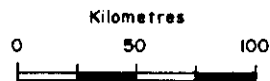
SCALE	As shown	DATE	Feb. '92	FIG.	4
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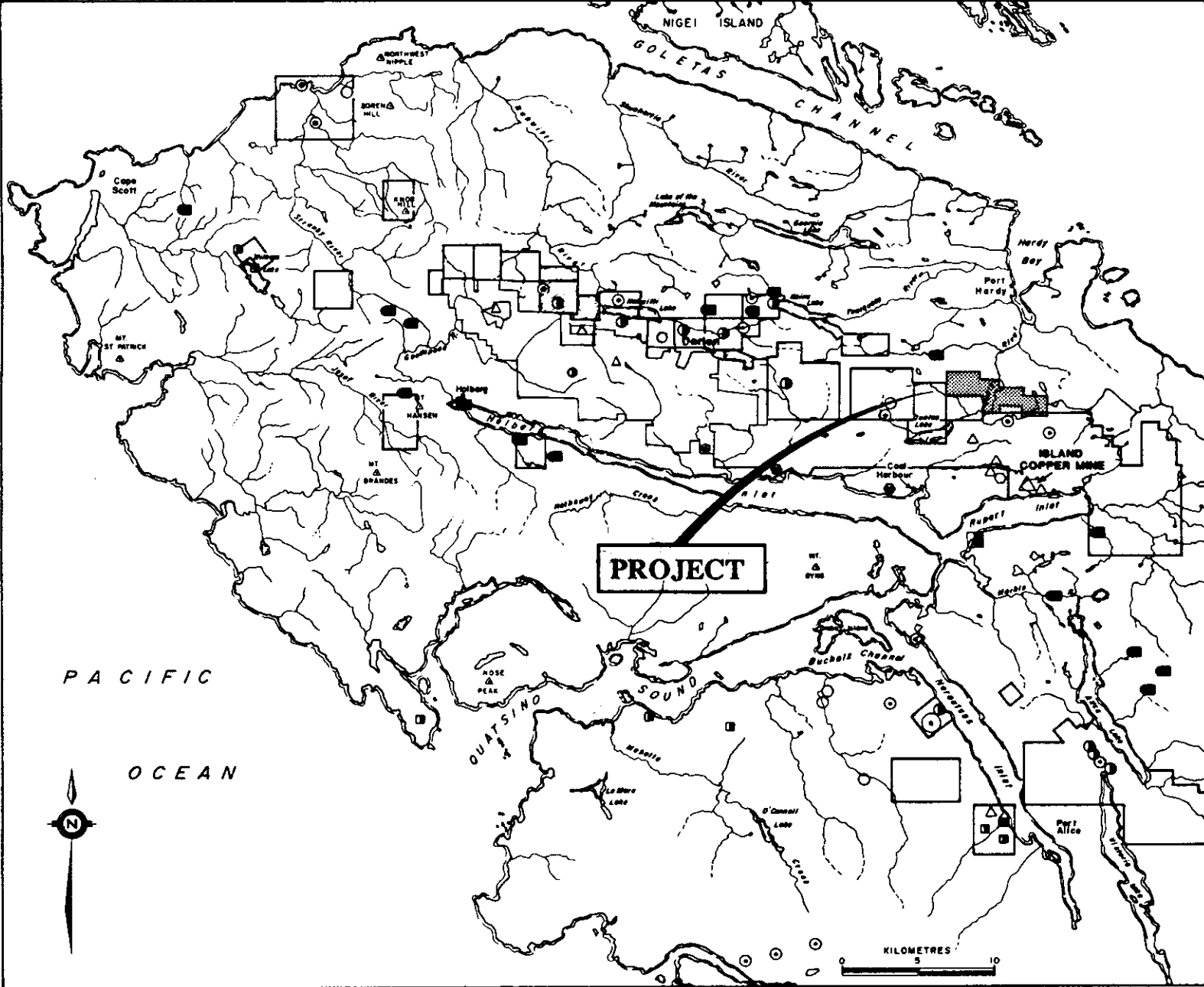


PROPERTY	SIZE x1MT	As g/T	Ag g/T	Cu %	Zn %	Fe %
ISL. COPPER	+200	0.113	0.82	0.37		
HUSHAMU	+100	0.413		0.32		
RED DOG	+70	0.413		0.32		
CINOLA	42.0	1.95				
TASU	20.0	0.694	2.42	0.28		5.88
JEDWAY	3.7					54.06
JIB	7.4					49.45
BRYNNOR	4.4					68.30
TEXADA	2.6	0.47	9.43	1.0		
C. COPPER	3.0	1.46	4.41	1.55		
PILGRIM	0.46		33.02			
YREKA	0.145	0.34	31.21	2.7		
ZEBALLOS	0.718	13.35	5.81			
D. MORTON	0.01	15.36	35.55	0.01		
WESTERN	22.0	1.96	93.84	1.27	6.69	
CAT FACE	405.0			0.47		
MT SICKER	0.277	4.22	90.01	3.4		
JORDAN RVR	1.3	0.676	1.7	1.03		

--- Major Structural Breaks

■ Mineral Occurrence





**LEGEND**

- Bog iron
- Potassium-alumina
- △ Porphyry copper
- Gold quartz veins
- Copper-bearing veins
- ⊙ Lead-zinc skarn or replacement in limestone
- ⊕ Copper skarn
- Iron skarn
- Copper in volcanics
- □ △ ○ Mineral occurrence
- □ △ ○ Properties recording production
- - Current Mineral Titles

(Data from British Columbia Department of Mines and Petroleum Resources, mineral inventory maps and cards; by E.V. Jackson and G.E.P. Eckford)

GREAT WESTERN GOLD CORP.		
MARISA PROJECT NANAIMO MINING DIVISION, B.C.		
REGIONAL MINERALIZATION OF NORTHERN VANCOUVER ISLAND		
DAIWAN ENGINEERING LTD.		
SCALE As shown	DATE Feb. 92	FIG 5



The Vancouver Group is described as follows:

**(a)Karmutsen Formation: Upper Triassic Age**

Karmutsen Formation consists of 3,000 - 6,000 metres (10-20,000 ft.) of volcanic flows, pyroclastics and minor sediments. It includes three distinct units: a lower pillow lava unit, a middle pillow breccia unit, and an upper lava flow unit. The latter consists of predominantly porphyritic and amygdaloidal basalt flows, individual flows of which range from 1-30 metres (to 100 ft.) thick.

Two thin bands of limestone occur near the top of the Karmutsen Formation. The distribution of limestone outcrops is erratic and suggests a series of lenses at the same general stratigraphy horizon rather than one continuous bed.

The lower contact of the formation has not been observed on the northern part of Vancouver Island. The upper contact with limestone of the Quatsino Formation is generally discrete and easily recognized, although limestones and basalt locally are interbedded over a narrow stratigraphic interval at this contact.

Low-grade metamorphism of the Karmutsen Formation rocks has resulted in pervasive chloritization and amygdules filled with epidote, carbonate, zeolite, prehnite, chlorite, and quartz.

Basaltic rocks along contacts with intrusive stocks are in many places altered to dark-coloured hornblende hornfels. Skarn zones occur sporadically along these contacts, both in the inter-lava limestones and in the basalts.

**(b)Quatsino Formation: Upper Triassic Age**

The Quatsino Formation ranges from 60-1,000 metres (2,000-3,500 ft.) in thickness and consists almost entirely of limestone with a few thin andesite or basalt flows. It has conformable contacts with both the overlying Parson Bay sediments and the underlying Karmutsen Formation volcanics. The upper contact with the Parson Bay Formation is gradational with limestone grading upward into carbonaceous argillites.

Within the contact metamorphic/metasomatic aureoles adjacent to intrusive stocks, skarn development and silicification of limestone, accompanied by chalcopyrite-magnetite or galena, sphalerite and silver mineralization has been noted.

**(c) Parson Bay Formation: Upper Triassic Age**

The Parson Bay Formation consists of between 60-360 metres (200-1,200 ft.) of argillite, minor limestone, agglomeratic and tuffaceous limestone, tuff, quartzite and minor conglomerate. At both its base and top, the unit exhibits gradational contacts with the Quatsino and Harbledown Formations.

On a regional scale, the rocks are unmetamorphosed. Locally, adjacent to intrusive contacts, there are pyrite-magnetite replacement bands up to one centimetre thick in banded tuffs.

**(d) Harbledown Formation: Lower Jurassic Age**

The Harbledown Formation consists of 485 metres (1,600 ft.), a non-volcanic argillite-greywacke sequence separating the Parson Bay from the Bonanza Group.

**(e) Bonanza Group: Lower Jurassic Age**

The Bonanza Group is approximately 1,500 metres (8,500 ft.) thick. The lower portion consists of bedded and massive tuffs, formational breccias and are amygdaloidal and porphyritic flows, in the compositional range andesite to basalt. Porphyritic dykes and sills intrude the lower part of the unit. In the upper a part of the Bonanza, rhyodacite flows and breccias become more numerous and are interbedded with andesite and basalt flows, tuffs and tuff breccias.

Regional metamorphism within the Bonanza Group is very low grade, possibly zeolite facies.

Plagioclase commonly is albitized and saussuritized. Chlorite, epidote and laumontite occur within the matrix of volcanic breccias, in veinlets, and in amygdules. Coarse intraformational breccias locally are hematized.

Biotite and amphibolite hornfelsed occur adjacent to stocks which intrude the Bonanza Formation.

"Pyrobitumen", a black hydrocarbon erratically distributed within the Bonanza rocks, generally occurs as fracture filling or in the centre of zeolite-carbonate veins. Its distribution is not related to the position of the intrusive stocks.

## Cretaceous Sediments

The Vancouver Group is unconformably overlain by non-marine Cretaceous sediments of the Longarm Formation which are estimated to be about 300 metres (1,000 ft.) thick in the Port Hardy area. The Longarm Formation consists of conglomerate, sandstone, greywacke, siltstone and some carbonaceous and impure coal seams; these sediments occupy local basins. Early coal mining in the district was from several of these basins.

## Intrusive Rocks

The Vancouver Group rocks are intruded by a number of Jurassic-aged stocks and batholiths. In the Holberg Inlet area a belt of northwest-trending stocks extends from the east end of Rupert Inlet to the mouth of Stranby River on the north coast of Vancouver Island.

Quartz-feldspar porphyry dykes and irregular bodies occur along the south edge of the belt of stocks. Dykes are characterized by coarse, subhedral quartz and plagioclase phenocrysts set in a pink, very fine grained, quartz and feldspar matrix. They are commonly extensively altered and pyritized. At Island Copper Mine, these porphyries are enveloped by altered, brecciated and mineralized Bonanza Group wallrocks. The porphyries, too, are cut by siliceous veins, pyritized, extensively altered, and are mineralized with copper where they have been brecciated. The quartz-feldspar porphyries are thought to be differentiates of middle Jurassic felsic intrusive rocks.

## Structure

The rocks north of Holberg and Rupert inlets are folded into shallow synclines with northwesterly fold axes. The steeper southwesterly limbs of the folds have apparently been truncated by faults roughly parallel to the fold axis. Failure of limestone during folding may have influenced the location of some of the faults as indicated by the proximity of the Dawson and Stranby River faults to the Quatsino Formation limestone. Transverse faulting is pronounced and manifested by numerous north and northeasterly trending faults and topographic lineaments.

The northern part of Vancouver Island lies in a block faulted structural setting with post Lower Cretaceous northwesterly trending faults apparently being the major system (Figure 3). This system causes both repetition and loss of parts of the stratigraphic section, with aggregate movement in a vertical sense in the order of tens to hundreds of metres. The most significant of these fault systems trends west to northwest along Rupert and Holberg inlets. Near the west end of Holberg Inlet this fault splits, with the main branch following Holberg Inlet and the other

branch passing through the west side of the Stranby River valley. Another northwesterly system passes through William Lake and still another smaller system passes through Nahwitti Lake.

Northeasterly trending faults comprise a subordinate fault system. In some cases, apparent lateral displacement in the order of several hundred metres can be measured on certain horizons. Movement, however, could be entirely vertical with the apparent offset resulting from the regional dip of the beds.

Recent computer modelling and interpretation of the government airborne magnetometer data has provided a clear understanding of the relationship of secondary conjugate sets of northeast and northwesterly faults related to the major west-northwest trending breaks. These conjugate faults sets appear to relate directly to the significant metal occurrences at the Island Copper, Hushamu, Hep and Red Dog copper/gold deposits.

Generally, regional dip of the bedding is gentle to moderate southwesterly. In the area west of Holberg dips are locally much steeper in close proximity to major faults. There is little folding or flexuring of bedding visible, except along loci of major faults where it is particularly conspicuous in thinly bedded sediments of Lower Bonanza Formation. Bedding is generally inconspicuous in massive beds of Karmutsen, Quatsino and Bonanza formation rocks, particularly inland where outcrops are widely scattered.

### **REGIONAL MINERALIZATION**

A number of types of mineral occurrences are known on northern Vancouver Island. These include:

1. Skarn deposits: copper-iron and lead-zinc skarns,
2. Copper in basic volcanic rocks (Karmutsen): in amygdules, fractures, small shears and quartz-carbonate veins, with no apparent relationship to intrusive activity,
3. Veins: with gold and/or base metal sulphides, reacted to intrusive rocks,
4. Porphyry copper deposits: largely in the country rock surrounding or enveloping granitic rocks and their porphyritic phases.

Four significant discoveries on ground near the Win Property illustrate the copper mineralization in the area:

The Hep occurrence west of Nahwitti lake contains an estimated 43,350 tonnes grading 0.80%



copper at the intersection of two shear zones. The Hep claims are underlain by andesites and tuffs of the Bonanza Group which are intruded by quartz monzonite. Propylitic alteration is most common, but argillic and siliceous alteration occurs along fractures and adjacent to the volcanic-intrusive contacts. Pyrite with chalcopyrite and lesser bornite occurs along fractures and as fine disseminations within the andesite.

The Hushamu deposit located 21.5 kilometres southwest of the property, is a zone of copper-molybdenum mineralization in Bonanza volcanic rocks which is estimated to contain over 107 million tons grading 0.30% Cu, 0.010% Mo and 0.010opt Au.

The Red Dog deposit is located 30 kilometres west of the property. Tuffs and tuff breccia of the Bonanza group are intruded by diorite, quartz diorite and quartz-feldspar porphyry of the Island Intrusions. The tuffs have been altered to hornblende biotite hornfels in contact zones with silicification and hydrothermal alteration in shear zones. Chalcopyrite occurs as fine grained disseminations in the hornfels and in association with magnetite in siliceous breccia.

A fourth porphyry copper target presently being evaluated by Moraga Resources Ltd. lies 10 kilometres southwest of the property at Wanokana Creek. This property shows strong geochemical and geophysical resemblance to the Island Copper deposit.

## **6.0 1992 EXPLORATION PROGRAM**

### **6.1 Geology Of The Marisa 1 Claim**

No geological mapping was conducted on the property during this program. From the 1991 prospecting program and current geophysical and drilling data it appears that the claim is underlain by amygdaloidal 'andesite' (possibly Triassic Karmutsen Formation, or Jurassic Bonanza Group) in the northeast corner and younger intrusions (probably Jurassic Island Intrusions) in the rest of the area (Figure 6).

The intrusions can be divided into two main types. The Quatse diorite is a medium blue-grey to black medium-grained intrusion with 30% 1-5mm clots of chlorite-altered hornblende. It is generally strongly magnetic.

Quatse diorite is apparently (no contacts observed) cut by a fine to medium-grained more felsic intrusion, probably quartz diorite to granodiorite in composition. It is generally medium to light greenish to pinkish-grey with a fine-grained crystalline groundmass of feldspar and quartz (10%),



25% <1-2mm white stubby subhedral to euhedral feldspar phenocrysts, and 10% dark fuzzy clots of altered mafic minerals up to 5mm in diameter (average 1-2mm). These clots are commonly composed of fine-grained chlorite, magnetite and sulphides (chalcopyrite, pyrite, and molybdenite). Sulphides also occur along several closely spaced (5-10cm) fracture sets. Grab samples of this material from surface exposures contained up to 0.45% copper (conversion from ppm; 1991 sample 60768).

Both intrusive units described above have been cut by brown to greenish-grey fine-grained quartz phyric felsic dykes.

## **6.2 Induced Polarization Survey**

A total of 12.3km of IP survey was done on the Marisa property between January 10 and January 14, 1992, by Pacific Geophysical Limited. The separate report of the survey with pseudosections and 10 point filter plans has been prepared for the property (Cartwright and Cormier, 1992), and is included as Appendix V.

The survey was conducted with a 50m dipole separation giving an approximate maximum penetration of 100m.

Several weak but relatively discrete zones of chargeability were outlined. Zones with greater than 6 millisecond chargeabilities are outlined on Figure 6, a geology-geophysics composite. These zones appear to cover both quartz diorite and diorite. One chargeability anomaly between 0+00 and 6+00W is partially coincident with the mineralized zone but does not include the apparently better mineralized part between 0+00 and 2+00W along the creek.

It is possible that a survey with 50m dipole separation is unable to outline zones with such low sulphide contents. In retrospect it may have been useful to run lines at 100m spacings with a 25m dipole separation across the mineralized zone between 0+00 and 4+00W.

## **6.3 Magnetic Survey**

A magnetic survey was conducted over 16.6km of line (entire grid). Data, plan and a discussion of the results is included in Appendix II.

The survey clearly outlined a 200-500m wide east-west trending relative magnetic low feature extending across the entire grid. Bedrock exposures and drill hole data suggest that this feature

Relative high magnetic susceptibility features were outlined in the north and south (true) parts of the grid. Hole M92-2 was drilled into the southern magnetic high and intersected strongly magnetic Quatse diorite. The northern magnetic feature may also be related to diorite, suggesting that the quartz diorite is simply a late stage east-west trending dyke cutting across the diorite.

#### 6.4 Diamond Drilling

Diamond drilling on the property consisted of five holes which targeted both areas with known mineralization and zones with anomalous chargeability. Drill hole locations are shown in Figure 6.

Four holes were drilled along roughly 1.5km of the belt of relatively low magnetic susceptibility and intersected primarily quartz diorite in all cases. Holes M92-4 and M92-5, the easternmost and westernmost holes respectively, were generally barren with copper values averaging less than 20 ppm. The central two holes, M92-1 and M92-3, were drilled in the vicinity of the mineralized exposures along the creek. These holes intersected consistently weakly mineralized quartz diorite with disseminated and fracture-controlled pyrite (up to 1%), chalcopyrite (generally >0.1%) and molybdenite (traces). The upper part of M92-1 contained 0.17% (converted from ppm) copper across 16.17m. The highest copper values in M92-1 are within zones in which magnetite appears to have been altered to pyrite. Rock in these intervals has a paler appearance than normal and may have undergone weak argillic and/or sericitic alteration (thin section to come).

Hole M92-2 was drilled to test coincident magnetic and chargeability anomalies. The hole intersected Quatse diorite and crosscutting felsic dykes. Both units were barren.

#### MARISA PROPERTY 1992 DRILL HOLE SUMMARIES

##### M92-1 (Proposed Hole M-A)

Coordinates: 2+25W, 4+53S

Azimuth: 240°

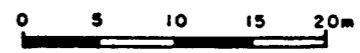
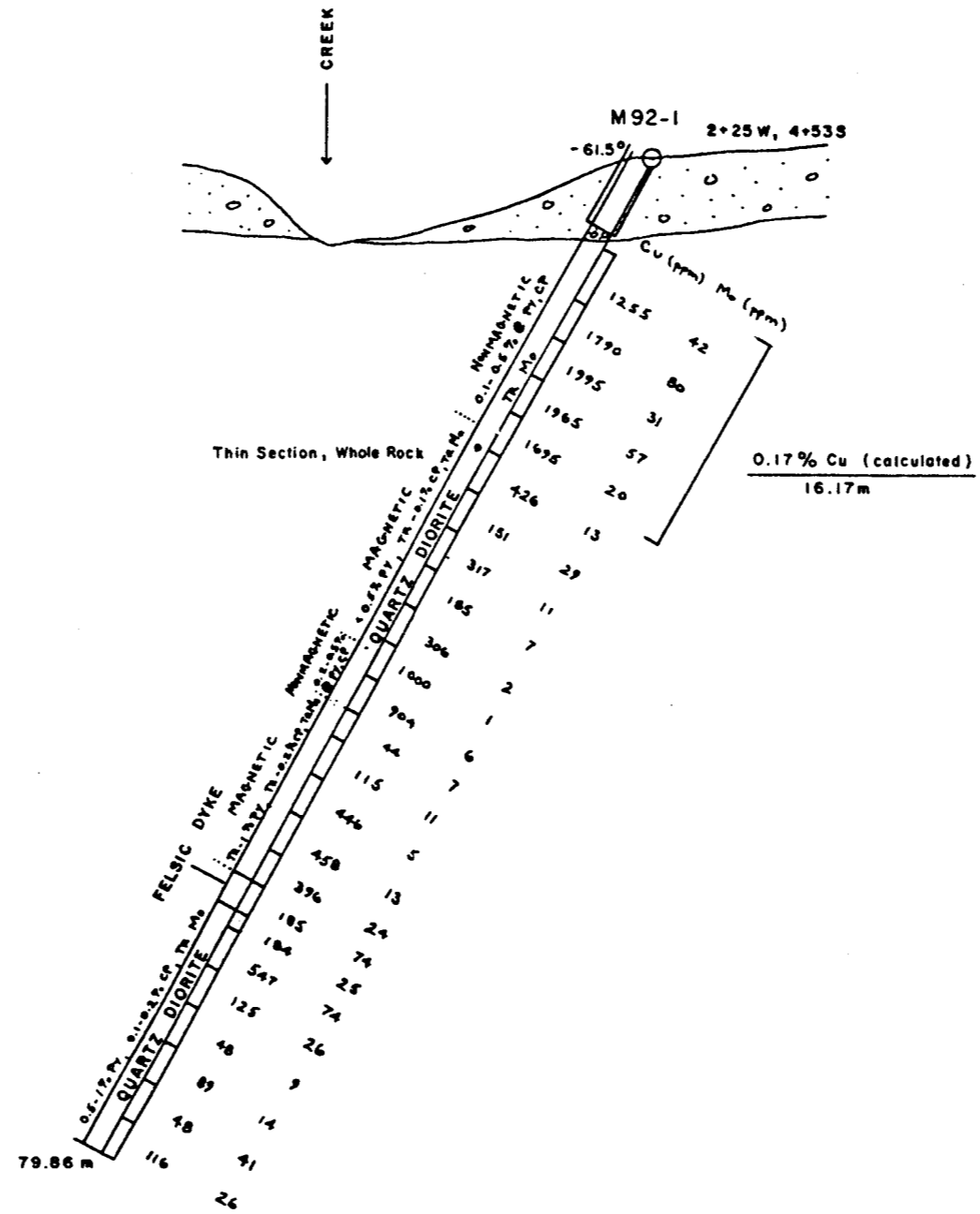
Dip: -61.5°

Length: 79.86m (262')

This hole tested a zone with visible mineralization (chalcopyrite and molybdenite along fractures and replacing mafic clots) in a quartz diorite(?) exposed in several places along the creek. The collar is located approximately 60m northwest of sample 60768 (0.45% copper). Two north-

240° ←

→ 060°



GREAT WESTERN GOLD CORP.	
MARISA PROPERTY	
CROSS - SECTION	
M92-1	
NANAIMO MINING DIVISION	
SCALE: 1:500	DRAWN BY: G. ALLEN
DATE: FEB. '92	
DATA BY: G. ALLEN	FIGURE NO.: 7a

M92-1

south soil sample lines which straddle this area partially outlined a 100m wide zone with elevated copper and sporadically anomalous molybdenum. The area has a relatively low chargeability. It was not a prime geophysical target but because of visible mineralization and encouraging soil geochemistry data the area warranted drill testing.

Hole M92-1 intersected predominantly quartz diorite which was divisible into well defined zones on the basis of colour (alteration), and magnetite and sulphide content.

Magnetic intervals have 1-2% magnetite associated with mafic clots. The intervals are generally cut by several sets of closely spaced (3-10/10cm interval) hairline fractures commonly flooded with calcite and pink zeolite. A pink alteration envelope up to 2cm wide is common adjacent these fractures. Some of these pink altered zones are hard and some are soft suggesting that they are a mixture of potassic feldspar and zeolite. Sulphides occur both along hairline fractures and disseminated throughout associated with mafic clots. Sulphides include traces to 1% pyrite, traces to 0.2% chalcopyrite, and traces of molybdenite.

Nonmagnetic intervals are a lighter grey than the adjacent magnetic intervals. Feldspar phenocrysts are light grey to white. Pink alteration around fractures is not common. Sulphide content is higher in the nonmagnetic than the magnetic intervals, with 0.1 to 1% pyrite, 0.1-0.5% chalcopyrite and traces of molybdenite. Sulphides occur predominantly disseminated throughout associated with mafic clots, but are also found along fracture surfaces.

It appears that the nonmagnetic intervals are a product of a sporadic alteration event which has bleached the rock (possibly weak argillic to sericitic alteration), destroyed earlier formed pink alteration envelopes around fractures, altered magnetite to pyrite, and introduced additional copper.

A nonmagnetic interval at the top of the hole between 7.30m and 23.47m contained 0.17% copper (converted from ppm) across 16.17m. Magnetic intervals average 300-400 ppm copper. Copper content generally decreases down hole.

Between 57.9m and 60.23m the hole intersected a quartz-feldspar phyric felsic dyke mineralized with traces to 0.1% each of pyrite and chalcopyrite, and traces of molybdenite. The fact that dykes carry the same metallic minerals as the quartz diorite indicates that the mineralization was a late stage event.

**M92-2 (Proposed hole M-B)**

Coordinates: 1+89W, 8+73S

Azimuth: 240°

Dip: -61.5°

Length: 79.86m (262')

This hole was designed to test the centre of a roughly 200m wide weak chargeability high between 8+00S and 10+00S on line 2+00W. The area has a relatively high magnetic susceptibility. No outcrop was located in the area.

The hole intersected predominantly medium blue-grey to black, moderately to strongly magnetic diorite, and is probably what Muller referred to as the Quatse diorite. It is generally barren, containing only traces of pyrite and chalcopyrite.

Between 46m and the end, the hole intersected a series of 5-7m wide brown, fine-grained quartz-feldspar phytic felsic dykes with traces (+?) of very fine-grained pyrite. Although sulphide content of these dykes is low, they may be the source of the IP anomaly in the area. The dykes are probably the same as those intersected in holes M92-1 and M92-3.

**M92-3 (Proposed hole M-C)**

Coordinates: 4+10W, 5+73S

Azimuth: 240°

Dip: -61.5°

Length: 76.81m (252')

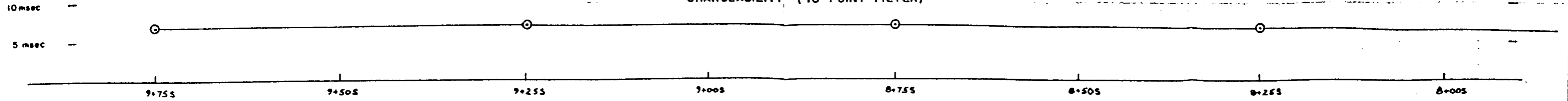
Hole M92-3 was designed to test the core of a weak chargeability anomaly which occurs between 5+00S and 8+00S on line 4+00W. Chalcopyrite, pyrite, and molybdenite occur disseminated and on fractures within a quartz diorite exposed in the creek (samples 60779 and 60780) roughly 75m to the south of the drill collar. This mineralization appears to occur within the 200-300m wide zone of chargeability which trends east-west across lines 8+00W to 4+00W. The hole was also drilled on strike with a copper-in-soil anomaly partially defined by two lines of samples to the east.

The hole intersected quartz diorite with pink alteration envelopes around hairline fractures as in hole M92-1. Sulphide content in this hole was generally lower, however, with less than 1% pyrite, traces to 0.5% (average <0.1%) chalcopyrite, and traces of molybdenite. Sulphides occur disseminated throughout, most commonly associated with mafic clots. A minor amount of

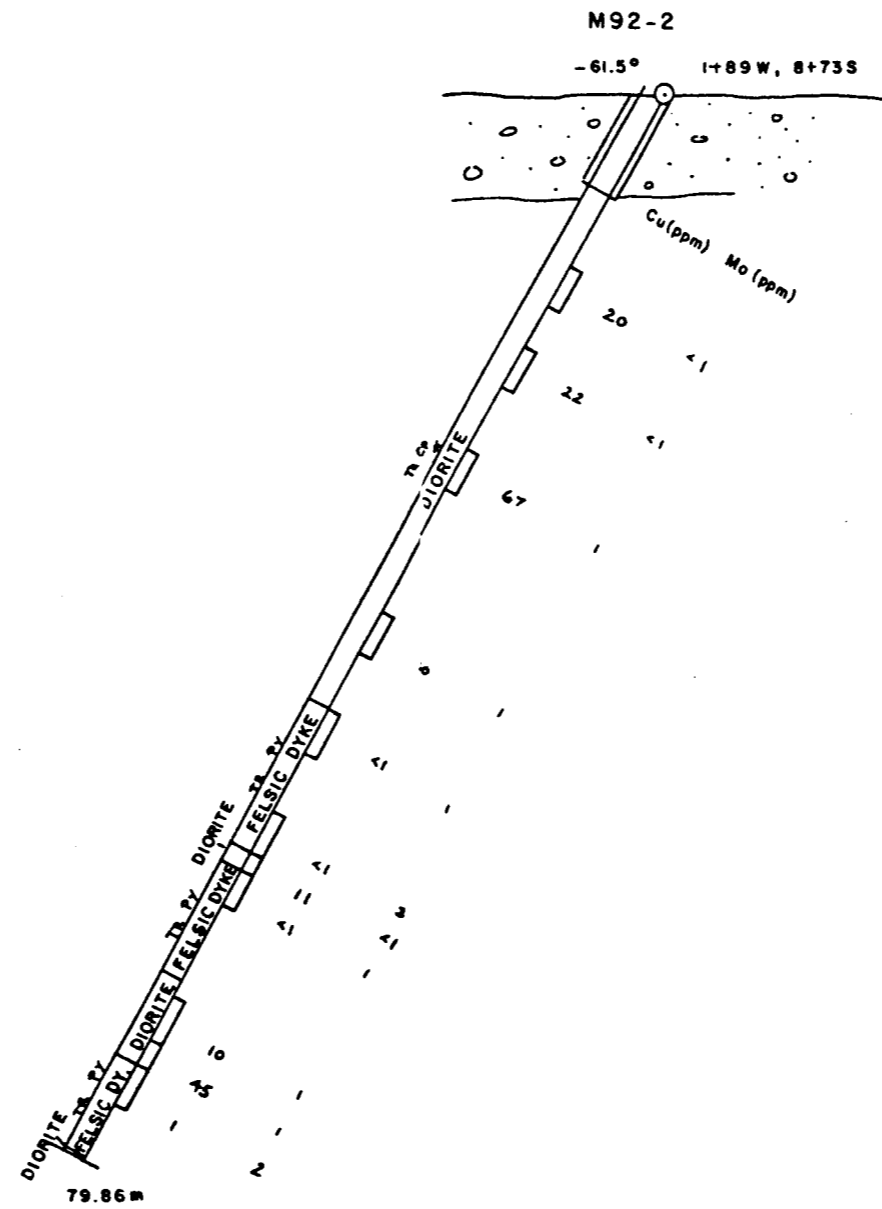
240° ←

→ 060°

CHARGEABILITY (10 POINT FILTER)



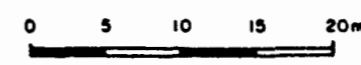
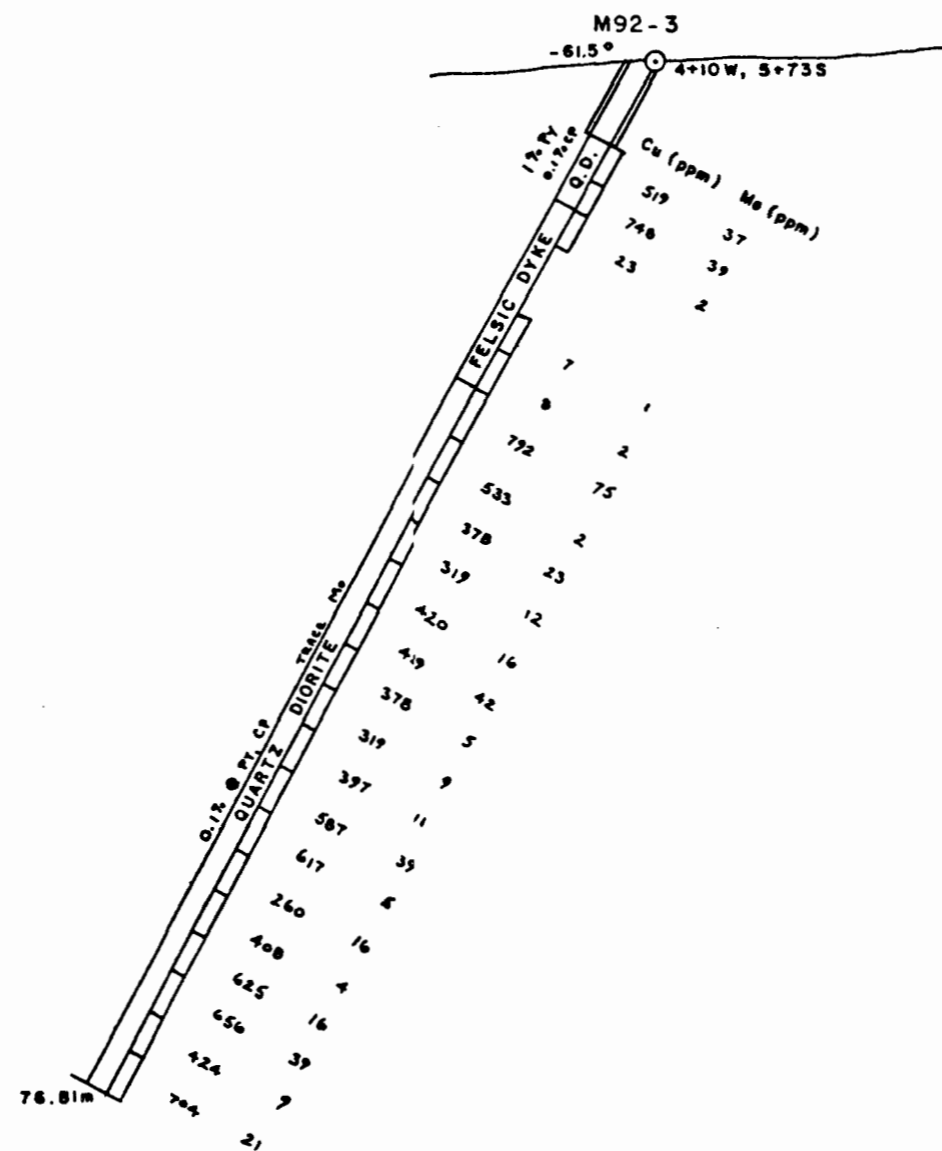
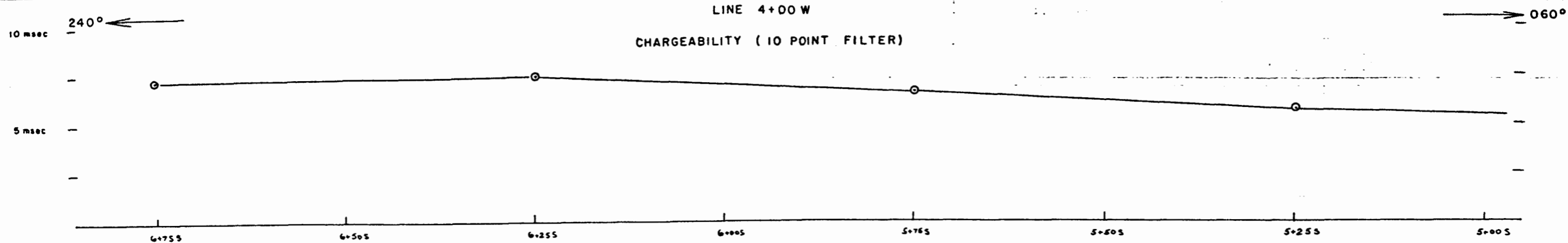
LINE 2+00 W



GREAT WESTERN GOLD CORP.	
MARISA PROPERTY	
CROSS - SECTION	
M92-2	
NANAIMO MINING DIVISION	
SCALE: 1:500	DRAWN BY: G. ALLEN
DATE: FEB. '92	
DATA BY: G. ALLEN	FIGURE NO.: <del>52</del>

M92-2





GREAT WESTERN GOLD CORP.	
MARISA PROPERTY	
CROSS - SECTION	
M92-3	
NANAIMO MINING DIVISION	
SCALE: 1:500	DRAWN BY: G. ALLEN
DATE: FEB. '92	
DATA BY: G. ALLEN	FIGURE NO.:

M92-3

sulphides occur along hairline fractures. This rock averaged roughly 500 ppm copper.

A quartz-feldspar phyric felsic dyke with very fine-grained disseminated pyrite was intersected between 11.0 and 24.4m. The dyke appears to be in the core of the IP anomaly, as was found in hole M92-2. Copper content of the dyke is very low in contrast to the host quartz diorite, indicating that this dyke is post mineralization. The felsic dyke in M92-1 was mineralized, suggesting that there may be more than one phase of felsic dykes cutting the quartz diorite.

**M92-4 (Proposed hole M-E)**

Coordinates: 4+00E, 1+39S

Azimuth: 240°

Dip: -60°

Length: 92.96m (300')

This hole was drilled to test a broad weak chargeability anomaly on line 4+00E, centred roughly at 2+25S. The area has a relatively low magnetic susceptibility, suggesting that it is underlain by granodiorite.

The hole intersected generally barren quartz diorite or granodiorite with pink alteration around hairline fractures. Traces of chalcopyrite occur between 74.9m and the end of the hole.

**M92-5 (Proposed hole M-F)**

Coordinates: 8+15W, 10+70S

Azimuth: 240°

Dip: -62.5°

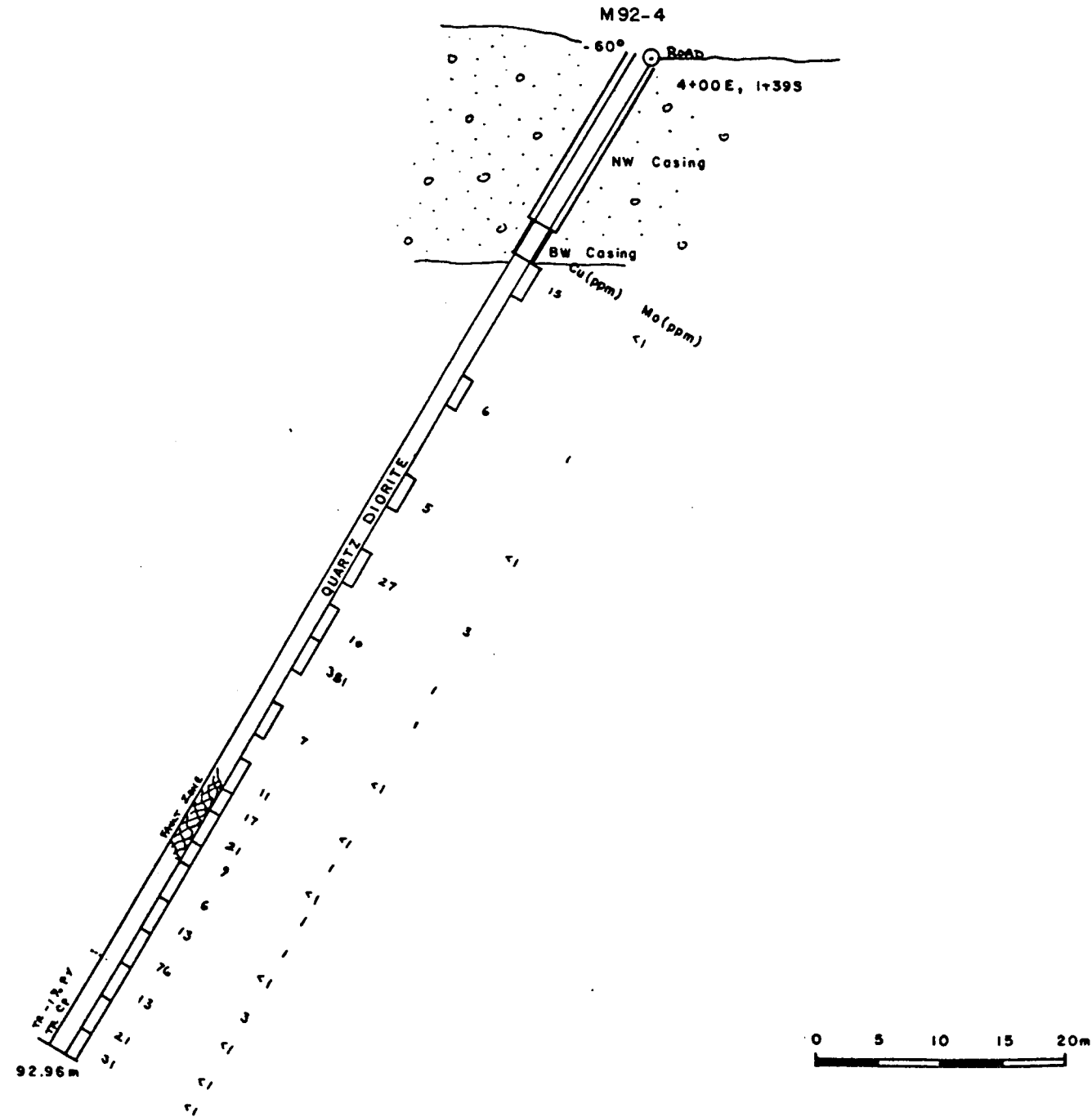
Length: 46.33m (152')

Hole M92-5 was drilled on the flank of a weak chargeability anomaly in an area with relatively low magnetic susceptibility. The hole intersected a quartz diorite as in holes M92-1,3 and 4. The rock is generally barren, containing only traces of chalcopyrite.

The core is very blocky and sheared suggesting that the hole was drilled near to or within a fault zone.

240° ←

→ 060°



M92-4

GREAT WESTERN GOLD CORP.

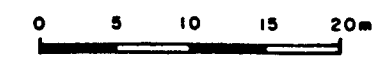
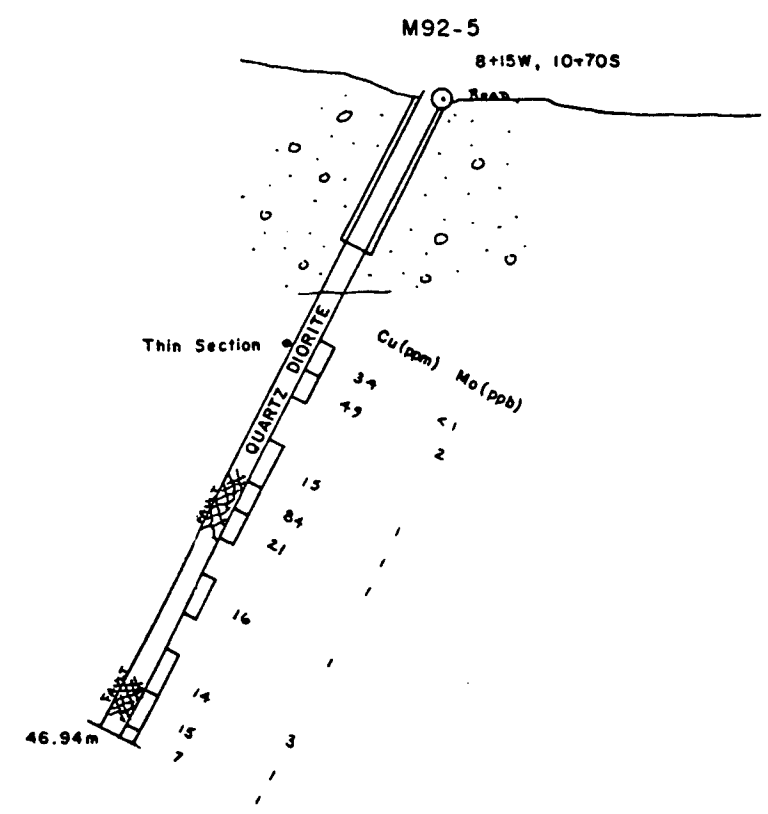
MARISA PROPERTY  
CROSS - SECTION  
M92-4

NANAIMO MINING DIVISION

SCALE: 1:500	DRAWN BY: G. ALLEN
DATE: FEB. '92	
DATA BY: G. ALLEN	FIGURE NO.: 7-1

240° ←

→ 060°



GREAT WESTERN GOLD CORP.	
MARISA PROPERTY	
CROSS-SECTION	
M92-5	
NANAIMO MINING DIVISION	
SCALE: 1:500	DRAWN BY: G. ALLEN
DATE: FEB. '92	
DATA BY: G. ALLEN	FIGURE NO.: 7e

M92-5

## 7.0 CONCLUSIONS

- 1) A 300 to 500m wide east-west trending quartz diorite dyke, which correlates with a clear magnetic low feature, appears to extend across the entire Marisa 1 claim. The dyke is probably hosted by Quatse diorite.
- 2) The quartz diorite has been sporadically altered and mineralized with disseminated and fracture-related pyrite, chalcopyrite and molybdenite. To date mineralization has been located between lines 0+00 and 4+00W.
- 3) The IP survey with a 50m dipole separation does not clearly outline the area with known mineralization.
- 4) Based on grab samples on surface with up to 0.45% copper and a 16.17m interval in drill hole M92-1 of altered quartz diorite with 0.17% copper, it appears that the intrusion has the potential to host a porphyry copper deposit. IP data indicate, however, that it is unlikely a mineralized zone with a sulphide content significantly greater than that of the showings exists in the survey area. A target grade of 0.3% copper would require 1% chalcopyrite or double that occurring in the upper part of M92-1. It is conceivable that this type of material with little associated pyrite may occur in the area and that it would not produce a strong IP response.
- 5) The quartz diorite in the showings area requires further drill testing.
- 6) It would be helpful to have specific targets outlined in the quartz diorite. Soil sampling on the present grid is warranted.
- 7) The apparent quartz diorite - mafic volcanic contact northeast of the showings area is a secondary exploration target. A sample of massive pyrite and pyrrhotite skarn float with 722 ppm copper (1991 sample 60711) was located 70m northeast of the baseline at 8+00W, suggesting that significant mineralization may occur along this contact.

## 8.0 RECOMMENDATIONS

- 1) Geological mapping at a scale of 1:5000 or larger is needed along the creeks to more accurately correlate sample sites and mineralization to grid-related data.
- 2) Soil sampling on the present grid is warranted to help define drill targets.
- 3) A minimum of 300m of drilling in three or four holes is needed northeast, southeast and southwest of M92-1 to help define the limits of the known mineralization.
- 4) Although of lower priority, the grid and subsequently soil geochemical and magnetic surveys should be expanded to better cover the quartz diorite - volcanic contact northeast of the showings area.

The following budget is an estimate of costs for the above mentioned Phase III exploration program.

## CERTIFICATE OF QUALIFICATIONS

I, Gordon J. Allen, do hereby certify;

- 1) I am a graduate in geology of the University of British Columbia (B.Sc., Honours, 1975)
- 2) I have practised as a geologist in mineral exploration for sixteen years.
- 3) I am a member in good standing of the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.
- 4) Opinions, conclusions and recommendations contained herein are based on fieldwork and research performed by me between January 12 and February 11, 1992.
- 5) I own no direct, indirect, or contingent interests in the subject property.

Duncan, B.C.

February 29, 1992



GORDON J. ALLEN, P. GEOL.

**CERTIFICATE OF QUALIFICATIONS**

I, Peter G. Dasler, do hereby certify that:

1. I am a geologist and principal for Daiwan Engineering Ltd. with offices at 1030-609 Granville Street, Vancouver, British Columbia.
2. I am a graduate of the University of Canterbury, Christchurch, New Zealand with a degree of M.Sc., Geology.
3. I am a Fellow of the Geological Association Of Canada, a Member, in good standing, of the Australasian Institute of Mining and Metallurgy, and a Member of the Geological Society of New Zealand.
4. I have practised my profession continuously since 1975, and have held senior geological positions and managerial positions, including Mine Manager, with mining companies in Canada and New Zealand.
5. This report is based on a personal fieldwork and supervision of the work programmes on the property since 1986, and from reports of Professional Engineers and others working in the area.
6. I have no interest in the shares of Great Western Gold Corp., nor do I expect to receive any. Mr. R. Philp, is President of Universal Trident Industries Ltd the optioner of the Marisa property, and myself hold equal interests in Daiwan Engineering Ltd.

Peter G. Dasler, M.Sc., FGAC, P. Geo.  
February 29, 1992

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508



## **APPENDIX I**

### **LIST OF PERSONNEL AND STATEMENT OF EXPENDITURES**

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508

**CERTIFICATE OF EXPENDITURES**

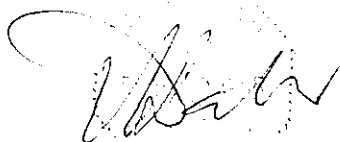
The following costs relate to geophysical surveys and diamond drilling at the Marisa Property between January 1 1992 and February 28 1992.

**Personnel**

Project Geologist	G. Allen 26 days @ \$380/day	\$ 9,880.00	
Senior Geologist	P. Dasler 9 days @ \$380/day	2,850.00	
Office Assistant	T. Sheridan .65 days @ \$220/day	143.00	
Field Technician	R. Bilquist 19.75 days @ \$260/day	5,135.00	
Field Technician	L. Allen 23.5 days @ \$260/day	6,110.00	
Field Technician	S. Oakley 7 days @ \$260/day	1,820.00	
Field Technician	D Cosgrove 5.5 days @ \$260/day	1,430.00	
Field Technician	M. Kilby 5.5 days @ \$260/day	1,430.00	
Field Technician	D. Oneill 11 days @ \$260/day	2,860.00	
Field Technician	C. Bilquist 19.25 days @ \$260	<u>5,005.00</u>	
			36,663.00

**Disbursements**

Geophysical Surveys Mag and IP	11,284.92	
Drilling 1,497 feet @ \$ 18.94/foot	28,361.89	
Food and Accommodation 124 man days @ \$62.20	7,713.71	
Field Supplies	682.87	
Equipment Rental	1,630.00	
Vehicle/Supplies - 4x4's -42 days @ \$63.61 all-inclusive	2,671.75	
Airfares (part)	179.06	
Helicopter	5,251.13	
Drafting/Maps/Office/Report	536.83	
Assays -cores, 84 by 9 element ICP +Au @ \$14.18	1,191.63	
Disbursement Fee	6,947.46	
Miscellaneous, Shipping	<u>297.41</u>	
		66,748.66
<b>SUBTOTAL</b>		<b>\$ 103,411.66</b>
<b>GST</b>		<b><u>7,224.18</u></b>
<b>TOTAL</b>		<b>110,635.84</b>




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Peter G. Dasler, P. Geo.

February 28, 1992

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508

## **APPENDIX II**

### **DIAMOND DRILL LOGS**

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Property MARISA Location PORT HARDY District MANAIMO Hole No. M92-1 Length 72.86m (26)  
 Commenced JAN. 17, '92 Completed JAN. 19, '92 Core Size NG True Bearing 240° Corr. Dip \_\_\_\_\_  
 Collar Coordinates 2+25W, 4+53S Elev. \_\_\_\_\_ Hor. Comp. 38.11 m Vert. Comp. 70.18m  
 Percent Recovery 99 Collar Dip -61.5 Objective TO TEST MINERALIZED ZONE EXPOSED IN CREEK AND COPPER-IN-SOIL ANOM

Depth (m)		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Length (m)	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
0	6.10	CASING											
6.10	7.30	OVERBURDEN / RUBBLE Predominantly 2-5cm chunks of dark grey-brown intermediate to mafic volcanic rock with 1-2mm feldspar and hornblende phenocrysts. Looks like till.											
7.30	57.9	QUARTZ DIORITE TO GRANODIORITE Generally a medium to light greenish to pinkish-grey fine to medium-grained intrusive rock with a fine-grained crystalline aggregate of feldspar and quartz ( $\pm 10\%$ ), 25% $\leq 1.2$ mm white square to slightly prismatic subhedral to euhedral feldspar phenocrysts and 10% dark fuzgy clots of altered mafic minerals up to 5mm in diameter (average 1-2mm). These clots are commonly	8.23-11.28	93	7.30	11.28	93	37001	3.98	<5	<0.5	1255	42
			11.28-14.33	97	11.28	14.33	97	37002	3.05	<5	<0.5	1790	80
			14.33-17.37	100	14.33	17.37	100	37003	3.04	<5	<0.5	1995	31
			17.37-20.42	100	17.37	20.42	100	37004	3.05	<5	1.0	1965	57
			20.42-23.43	98	20.42	23.47	98	37005	3.05	<5	0.5	1695	20
							*	M92-1 23.5m					POLISHED THIN SECTION AND WHOLE

Client GREAT WESTERN GOLD Note(s): \_\_\_\_\_ Checked by G. ALLEN Hole No. M92-1  
 Drilling Company OLYMPIC Date JAN. 22, '92 Page One of 9

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Copyright

Depth		Description	Recovery		Sample Interval		Sample %	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to	Recovery			ppb	ppm	ppm	ppm
		composed of fine-grained chlorite, ± minor pale brown limonite, ± magnetite, ± sulphides (chalcopyrite, pyrite, molybdenite).	23.47-26.52	98	23.47	26.52	98	37006	3.05	<5	<0.5	426	13
			26.52-29.57	100	26.52	29.57	100	37007	3.05	<5	<0.5	151	29
		MAGNETITE	29.57-31.39	100	29.57	32.60	100	37008	3.03	<5	<0.5	317	11
		Magnetite occurs in the chloritized mafic dets within relatively discrete intervals. Magnetic intervals (detailed below) are generally cut by hairline fractures flooded by calcite and pink zeolite. A pink alteration envelope up to 2cm wide is common adjacent these fractures.	31.39-34.14	100									
			34.14-35.66	96	32.60	35.66	98	37009	3.06	<5	<0.5	185	7
		Nonmagnetic intervals are a lighter grey colour than the magnetic intervals. Feldspar phenocrysts are light grey to white, and pink hairline stringers with associated pink alteration are distinctly absent.	35.66-38.71	100	35.66	38.71	100	37010	3.05	<5	<0.5	306	2
			38.71-40.54	100	38.71	41.46	100	37011	2.75	<5	<0.5	1000	1
		Magnetic susceptibility of intervals is listed below: 7.3 - 22.2 - Nonmagnetic 22.2 - 39.6 - Magnetic (Weak to moderate) 39.6 - 44.0 - Nonmagnetic 44.0 - 57.9 - Moderately magnetic.	40.54-43.28	100	41.46	44.20	100	37012	2.74	<5	<0.5	904	6
			43.28-46.33	100	44.20	46.33	100	37013	2.13	<5	<0.5	44	7
			46.33-49.38	99	46.33	49.38	99	37014	3.05	<5	<0.5	115	11
			49.38-52.43	99	49.38	52.43	99	37015	3.05	<5	<0.5	446	5
			52.43-55.47	100	52.43	55.47	100	37016	3.04	<5	<0.5	458	13

Object MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN. 22, '92

Hole No. M92-1  
 Page 2 of 9

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

pyright

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth from	to	Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
			run	%	from	to				ppb	ppm	ppm	ppm
	7.3 - 22.2	(NONMAGNETIC INTERVAL)	55.47 - 58.52	98	55.47	57.90	98	37017	2.43	<5	<0.5	396	24
		Light to medium, <sup>qz</sup> fine to medium-grained quartz diorite or granodiorite with light grey to white feldspar plagioclase. Interval is generally nonmagnetic.											
		7.3 - 8.9 - Weak pervasive pink alteration of feldspar in groundmass. Pseudotachylite alteration.											
		Fractures: 25°, 25°, 40-50° etc.											
		10.5 - 18 - Blocky core. Some quartz- carbonate flooded intervals to 10cm.											
		Three distinct hairline fracture sets healed with 1-5mm soft grey material (zeolite?) and minor quartz and carbonate. Fracture density 3-5 per 10 cm interval											
		Mineralization: 7.3 - 8.9 0.1 - 0.5% each of pyrite and chalcopyrite disseminated throughout but most commonly associated with chloritic altered masses. Sulphides also occur within 1-2mm											

Object MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN 22, '92

Hole No. M92-1  
 Page 3 of 9

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 686-1508

pyright

Depth		Description	Recovery		Sample Interval		Sample %	Sample No.	Sample Length	Au	Ag		
from	to		run	%	from	to	Recovery						
		hairline quartz stringers at 25-30° CA. Stringers commonly have cores filled with soft black material (probably pyrobitumen).											
		8.9-22.2 - 0.1-0.5% each of pyrite and chalcopyrite in quartz-carbonate flooded zones, stringers and disseminated (predominantly associated with mafic clots). Sulphides generally in <1-2 mm masses (average $\leq 1$ mm). Sulphides also commonly concentrated on surface of hairline fractures. Traces of molybdenum associated with chalcopyrite.											
		- 22.2 - 39.6 (MAGNETIC INTERVAL) Medium grained-grey quartz diorite cut by hairline fractures healed with pink zeolite, some with associated pink alteration envelope up to 5mm wide. Pink altered feldspar within these envelopes are soft to hard suggesting a mixture of zeolite and K-feldspar alteration.											

Project MARISA

Logged by G. ALLEN

Note(s): \_\_\_\_\_

Hole No. M92-1

Location PORT HARDY

Date JAN. 22, '92

Page 4 of 9

# Drill Hole Record

pyright

## DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag		
from	to		run	%	from	to							
		Fractures:											
		Hairline fractures at											
		45°, 50°, 25°, 5° CA.											
		filled with pink zeolite. Fractures appear to											
		be of several generations with minor offsets											
		up to 5mm.											
		Mineralization:											
		≤ 0.5% pyrite and trace to 0.1% chalcopyrite											
		Trace molybdenite. mafic clots contain 10-50%											
		magnetite.											
		- 39.6 - 44.0 (NONMAGNETIC INTERVAL)											
		Fracture orientations and density similar to											
		above. Interval distinct because fracture fillings											
		not pink.											
		Mineralization:											
		0.2 - 0.5% each of pyrite and chalcopyrite.											
		* Distinct increase in sulphide content in											
		low magnetic intervals. Sulphides generally											
		disseminated. Trace molybdenite.											

Project MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN. 22, '92

Hole No. M92-1  
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# Drill Hole Record

## DAIWAN ENGINEERING LTD.

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1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag
from	to		run	%	from	to					
		- 44.0-57.9 (MAGNETIC INTERVAL)									
		Lithology as 22.2-39.6.									
		Fracture:									
		25-30°C, 25-15°C, 45°C.									
		Fracture density 3-10/10 cm interval. Increase density from interval above. The zone has a distinct increase in pink alteration around stringers, generally 5mm to 5cm. The stringers themselves are pink quartz but pink alteration in host is moderately hard and could be K-feldspar.									
		Mineralization:									
		Trace to 1% pyrite, trace to 0.2% chalcocite, and trace of molybdenite. Sulphide predominantly disseminated, generally associated with mafic clasts.									

Project MARISA

Logged by C. ALLEN

Note(s):

Hole No. M92-1

Location PORT HARDY

Date JAN. 23, '92

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# Drill Hole Record

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# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
From	to		run	%	from	to				ppb	ppm	ppm	ppm
57.9	60.23	QUARTZ-FELDSPAR PHYRIC FELSIC DYKE	58.52 - 61.37	100	57.90	60.23	100	37018	2.33	<5	<0.5	105	74
		light grey to pinkish-brown fine-grained crystalline aggregate of feldspar (pluss?) with feldspar phenocrysts and quartz (10-15%, rounded) up to 1mm. 2-5% chlorite clots after mafic phenocrysts. Nonmagnetic.											
		Fractures: Two dominant hairline fracture sets at 25° and 45° CA. Relatively hard pink alteration of feldspars in 1mm to 1cm envelope (probably potassic alteration).											
		Mineralization: Traces to 0.1% each of pyrite and chalcocite and traces of molybdenite. Sulphides both disseminated and along hairline fractures.											

Project MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN. 23 '92

Hole No. M92-1  
 Page 7 of 9

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

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1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample %	Sample No.	Sample	Au	Ag	Cu	Mo
from	to		run	%	from	to	Recovery	Length	ppb	ppm	ppm	ppm	
60.23	79.86	QUARTZ DIORITE TO GRANODIORITE			60.23	61.57	100	37019	1.34	<5	<0.6	194	25
	E.O.H.	As above dyke. Fine-grained aggregate of feldspar and ±10% quartz with 25-35% 1-2mm stubby greenish-grey (propylitic alt.) feldspar phenocrysts and 15-20% 2-5mm clots of altered mafic composed of chlorite, magnetite and epidote.	61.57-64.62	98	61.57	64.62	98	37020	3.05	<5	<0.5	547	74
			64.62-67.67	100	64.62	67.67	100	37021	3.05	<5	<0.5	125	26
			67.67-70.71	99	67.67	70.71	99	37022	3.04	<5	<0.5	48	9
		Fractures: Three dominant fracture sets 5-30°, 30° and 40-50° CA. Fracture density 3-6/10cm interval. Fractures generally filled with soft pink quartz with associated pink alteration envelopes up to 1cm wide.	70.71-73.76	99	70.71	73.76	99	37023	3.05	<5	<0.5	89	14
			73.76-76.81	99	73.76	76.81	99	37024	3.05	<5	<0.5	48	41
			76.81-79.86	98	76.81	79.86	98	37025	3.05	<5	<0.5	116	26
		Mineralization: 0.5-1% pyrite, traces to 0.5% (average 0.1-0.2%) chalcopyrite, and traces of molybdenite. Sulphides generally disseminated, most commonly associated with mafic clots. Minor sulphide concentrations along fractures. Molybdenite generally in 1-2mm masses in pink alteration zones adjacent to fractures.											

Object MARISA

Logged by G. ALLEN

Note(s):

Hole No. M92-1

Location PORT HARDY

Date JAN. 23, '92

Page 8 of 9



# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Property MARISA Location PORT HARDY District NANAIMO Hole No. M92-2 Length 79.86 m (26)  
 Commenced JAN. 20, '92 Completed JAN. 22, '92 Core Size NQ True Bearing 240° Corr. Dip \_\_\_\_\_  
 Collar Coordinates 1+89 W, 8+73 S Elev. \_\_\_\_\_ Hor. Comp. 38.11 m Vert. Comp. 70.18 m  
 Percent Recovery 100 Collar Dip -6 1/2° Objective TO TEST A DISCRETE IP ANOMALY ON 2+00W

Depth (m)		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Length (m)	Au ppb	Ag ppm	Cu ppm	Mo ppm
from	to		run	%	from	to							
0	7.62	CASING											
			7.62-12.80	66									
7.62	46.0	DIORITE (QUATSE DIORITE?) Medium blue-grey to black medium-grained intrusion. Crystalline aggregate of blue-grey feldspar with 30% <1-5mm clots of chlorite - altered hornblende, strongly magnetic. The rock is generally homogeneous. Minor 1-5 cm fine-grained black inclusions. Hairline fractures and stringers of calcite up to 5mm 30° CA, subparallel CA and 45° CA. Fracture density 1-2 / 10cm. Feldspars are typically altered to a soft pink material (zeolite?) in alteration envelopes up to 1cm wide. and chalcopyrite.											
			12.80-15.86	115	12.80	15.86	100	37026	3.06	<5	<0.5	20	<1
			15.86-18.90	107									
			18.90-21.94	115	18.90	21.94	100	37027	3.04	<5	<0.5	22	<1
			21.94-24.99	111									
			24.99-28.04	104	26.47	28.54	100	37028	3.07	<5	<0.5	67	1
			28.04-31.09	102									
			31.09-34.14	106	38.71	41.84	100	37029	3.13	<5	<0.5	10	1
			34.14-35.05	110									
		26.8-27.4 - Minor chalcopyrite and magnetite along fracture at 30° CA.											

Client GREAT WESTERN GOLD Note(s): \_\_\_\_\_ Checked by G. ALLEN Hole No. M92-2  
 Drilling Company OLYMPIC Date JAN. 24, 92 Page One of 3

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

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1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
46.0	56.74		FELSIC DYKE	35.05 - 36.27	95	46.33	49.38	100	37030	3.05	<5	<0.5	<1
		Down brown to greenish-grey fine-grained dikes. Fine-grained crystalline aggregate with 15% $\leq$ 1mm stubby white feldspar phenocrysts	36.27 - 38.71	97									
		2-5% $\leq$ 1mm chloritic masses after mafic minerals and vague rounded grey glassy quartz eyes. Traces of fine-grained disseminated pyrite. This unit may be the source of the weak chargeability anomaly the hole was designed to test. Unit is nonmagnetic.	38.71 - 40.23	95									
		Upper contact 45° CA. Lower contact at 70° CA. Dikes a greenish-grey colour within 1 m of both contacts.	40.23 - 43.20	107	53.75	56.74	100	37031	2.99	<5	<0.5	<1	3
			43.20 - 46.33	101	56.74	58.10	100	37032	1.36	<5	<0.5	11	<1
			46.33 - 49.38	110	58.10	60.83	100	37033	2.73	<5	<0.5	<1	1
			49.38 - 52.42	112									
56.74	58.10	DIORITE	52.42 - 55.47	111									
		As 7.62-46.0 - Minor shearing with associated chlorite and clay alteration. Lower contact along shear at 30° CA.	55.47 - 58.52	110									
			58.52 - 61.57	113									
58.10	66.40	FELSIC DYKE	61.57 - 64.52	109									
		As 46.0-56.74. Crude flow banding sporadically apparent throughout. Alternating light											

Project MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN. 25, '92

Hole No. M92-2  
 Page 2 of 3

# Drill Hole Record

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## DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample %	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to	Recovery			ppb	ppm	ppm	ppm
		brown to medium greenish-grey in 1-2 cm intervals. Banding 25-30° CA, apparently parallel to contacts.	64.52-67.66	97									
66.40	72.63	DIORITE Upper contact along a 5 cm chloritic shear zone. Calcite flooded. Trace pyrite. Shear at 25° CA.	67.66-70.71	102									
					67.66	70.71	100	37034	3.05	<5	<0.5	10	1
		70.5-70.71 - Weak breccia interval flooded by quartz and epidote. Feldspar altered to a soft pink mineral (zeolite?).	70.71-73.76	107	70.71	72.63	100	37035	1.92	<5	<0.5	45	1
			73.76-76.81	110	72.63	75.58	100	37036	2.95	<5	<0.5	1	2
72.63	79.51	FELSIC DYKE As 46.0-56.74. Very distinct flow banding within 1 m of upper and lower contacts. Upper contact 35° CA. Lower contact 60° CA. Sharp. Weak fracture sets at 45°, 20° and subparallel CA. MINERALIZATION: Trace disseminated pyrite associated with altered mafic minerals.	76.81-79.86	102									
79.51	77.86	DIORITE											

Project MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_ Hole No. M92-2  
 Location PORT HARDY Date JAN. 25, 1992 Page 3 of 3

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Property MARISA Location PORT HARDY District NANAIMO Hole No. M92-3 Length 76.81m (252')  
 Commenced JAN. 22, '92 Completed JAN. 23, '92 Core Size NG True Bearing 240° Corr. Dip \_\_\_\_\_  
 Collar Coordinates 4+10 W, 5+73 S Elev. \_\_\_\_\_ Hor. Comp. 36.65m Vert. Comp. 67.50m  
 Percent Recovery 100 Collar Dip -6 1/2 Objective TO TEST CHARGEABILITY ANOMALY ON LINE T+00W.

Depth (m)		Description	Recovery		Sample Interval		Sample %	Sample No.	Length (m)	Au	Ag	Cu	Mo
from	to		run	%	from	to	Recovery			ppb	ppm	ppm	ppm
0	6.10	CASING											
6.10	11.0	GRANODIORITE / QUARTZ DIORITE			6.10	8.78	78	37037	2.68	<5	<0.5	519	37
		Fine-grained crystalline aggregate of feldspar and quartz (~10%?), 20% stibby, 1-2 mm white to greenish-grey feldspar phenocrysts, and 15% fine-grained chlorite in clots (attached mafic minerals) up to 5 mm.			8.78	11.0	100	37038	2.22	<5	<0.5	748	39
		The rock is weakly to moderately brecciated and sporadically altered to a pinkish-brown relatively hard material (K-spar alteration). Fracture zone up to 2cm wide are commonly flooded (?) with fine-grained black material (limonite?). Minor gouge in some crushed intervals. The unit is non to weakly magnetic. Magnetite occurs as fine-grained crystals in the chloritized mafic.			11.0	13.60	100	37039	2.60	<5	<0.5	23	2

Client G.W.G. Note(s): \_\_\_\_\_ Checked by G.ALLEN Hole No. M92-3  
 Drilling Company OLYMPIC Date JAN. 25 / 92 Page One of 4



# Drill Hole Record

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## DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
		MINERALIZATION: 1% very fine-grained disseminated pyrite, 0.1-0.3% disseminated chalcopyrite in masses to 1mm, most commonly associated with chloritic clots. Trace molybdenite.											
		Hairline fracture sets at 20, 40 and 60° CA. Fracture density is quite high (~1-2/cm). Minor pyrite along fracture.											
11.0	24.4	FELSIC DYKE Medium brown to brownish-grey fine-grained crystalline aggregate of feldspar (+?) with 10% < 1mm grey stubby feldspar phenocrysts and possibly rounded quartz grains. 5% chloritic altered mafic minerals to 2mm. Most of the unit is sporadically moderately leucitized. Minor gouge. MINERALIZATION: very fine-grained disseminated pyrite. Lower contact 20° CA. Sheared. Same dyke material intersected in M92-2. Same of IP anomaly?			18.90	21.44	100	37040	2.54	<5	<0.5	7	1
					21.44	24.4	96	37041	2.96	<5	<0.5	8	2
					24.4	28.04	96	37042	3.64	<5	<0.5	792	75

Object MARISA

Logged by G. ALLEN

Note(s):

Hole No. M92-3

Location PORT HARDY

Date JAN. 25 / 92

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## Drill Hole Record

pyright

## DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mn
from	to		run	%	from	to				ppb	ppm	ppm	ppm
24.4	76.81	GRANODIORITE / QUARTZ DIORITE			28.04	31.09	100	37043	3.05	<5	<0.5	533	2
	E.O.H.	Medium greenish-grey fine-grained crystalline aggregates of feldspar (+?) with 20-30% 1-2mm stubby white to medium greenish-grey feldspar phenocrysts and 15% irregular 2-5mm clots of chlorite and magnetite. This unit is weakly to moderately magnetic in contrast to the granodiorite on the other side of the felsic dyke.			31.09	34.14	100	37044	3.05	<5	<0.5	378	23
		The unit is cut by abundant hairline fractures with associated pink alteration halos up to 2cm wide (average 2-5mm). Pink altered feldspars are moderately hard - probably K-spar alteration. Fracture density: 4-5/10cm. Fracture sets at: 0-20°CA, 30°CA, 60°CA.			34.14	37.18	100	37045	3.04	<5	<0.5	319	12
		MINERALIZATION: Traces to 0.5% (over few centimetre intervals) each of pyrite and chalcopyrite (average ~ 0.1% each) both disseminated and along hairline fractures. Chalcopyrite in masses to 3mm (average <1mm) most commonly associated with chlorite masses. Traces molybdenite.			37.18	40.23	100	37046	3.05	<5	<0.5	420	16

Project MARISA Logged by C. ALLEN Note(s): \_\_\_\_\_Hole No. M92-3Location PORT HARDY Date JAN. 25/92Page 3 of 4

## Drill Hole Record

pyright

## DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
	32.85 - 33.20	Breccia zone 30°C <sub>A</sub> Dark (win?) grey fine-grained cherty material, laminated and flooded with calcite and fine-grained black mineral (bitite?). 2-3% fine-grained pyrite			40.23	43.28	100	37047	3.05	<5	<0.5	429	42
					43.28	46.33	100	37048	3.05	<5	<0.5	378	5
					46.33	49.38	100	37049	3.05	<5	<0.5	319	9
	38.4 - 39.8	1-2cm pink le-spar veins, irregular, generally 30-45°C <sub>A</sub> . 0.5% chalcocypite in masses to 3mm. Trace molybdenum.			49.38	52.42	100	37050	3.04	<5	<0.5	397	11
					52.42	55.47	100	37051	3.05	<5	<0.5	587	39
		Hardline to 2mm quartz stringers (minor component) at 30° and 70°C <sub>A</sub> . Commonly contain small pods of soft black material in their cores. Could be pyrolite.			55.47	58.52	100	37052	3.05	<5	<0.5	617	5
					58.52	61.57	100	37053	3.05	<5	<0.5	260	16
					61.57	64.62	100	37054	3.05	<5	<0.5	408	4
	53.36 - 55.87	Breccia zone as 32.85 - 33.20											
	56.2 -	2mm quartz stringers at 45°C <sub>A</sub> offset 5cm by hairline fracture at 40°C <sub>A</sub>			64.62	67.66	100	37055	3.04	<5	<0.5	625	16
					67.66	70.71	97	37056	3.05	<5	<0.5	656	39
	71.26 - 71.8	Pink K-spar alteration. Perovskite. Irregular calcite flooding. 1-2% PY.			70.71	73.76	100	37057	3.05	<5	<0.5	424	9
					73.76	76.81	100	37058	3.05	<5	<0.5	704	21

Object MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_Hole No. M92-3Location PORT HARDY Date JAN. 25, '92Page 4 of 4

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Property MARISA Location PORT HARDY District NANAIMO Hole No. M92-4 Length 92.96m (305')  
 Commenced JAN. 24, '92 Completed JAN. 26, '92 Core Size BG True Bearing 240° Corr. Dip \_\_\_\_\_  
 Collar Coordinates 4+00 E, 1+39 S Elev. \_\_\_\_\_ Hor. Comp. 46.48m Vert. Comp. 80.51m  
 Percent Recovery 98 Collar Dip -60° Objective TO TEST WEAK TO MODERATE IP ANOMALY AT 4+00 E, 2+00 S

Depth (m)		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Length (m)	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
0	15.85	'N' CASING											
15.85	18.90	'B' CASING											
18.90	92.96	GRANODIORITE											
		18.90-45.7: Medium blue-grey fine to medium grained granodiorite. Medium blue-grey to pinkish brown (mines) fine-grained aggregate of feldspar (plu?) with 20% stubby ±1mm feldspar phenocrysts and 15-20% chlorite and magnetite masses up to 5mm (altered mafic minerals - probably hornblende). The rock is weakly to moderately magnetic. Fracture density is not high, roughly 1-2/10cm. Fractures at: 35°, 65°, 5° CA. Very little alteration around fractures.			18.90	22.10	98	37059	3.20	<5	<0.5	15	<1
					29.56	32.31	100	37060	2.75	<5	<0.5	6	1
					38.71	41.76	96	37061	3.05	<5	<0.5	5	<1

Client G.W.G. Note(s): \_\_\_\_\_ Checked by G.ALLEN Hole No. M92-4  
 Drilling Company OLYMPIC Date JAN. 27 Page One of 3

## Drill Hole Record

## DAIWAN ENGINEERING LTD.

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1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1506

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au ppb	Ag ppm	Cu ppm	Mo ppm
from	to		run	%	from	to							
		MINERALIZATION:											
		Trace pyrite associated with chloritic clots.											
		This interval is fresh in appearance.											
		45.7 - 68.2											
		Crossedite as above but with abundant hairline fracture with associated pink alteration envelopes up to 1 cm wide. Fracture density increases down hole; averaging 2-4 / 10 cm.			45.7	48.82	95	37062	3.12	<5	<0.5	27	3
		Pink hairline stringers are probably zeolite. Pink alteration of feldspars adjacent stringers is moderately hard suggesting possible K-spar alteration.			50.90	53.95	88	37063	3.05	<5	<0.5	10	1
		Stringers / fractures at: 25°C, 25°C, 60°C and 0-15°.			53.95	57.00	100	37064	3.05	<5	<0.5	381	1
		Feldspars commonly altered to greenish-grey colour.			60.04	63.09	100	37065	3.05	<5	<0.5	7	<1
		MINERALIZATION:											
		Trace pyrite. Minor increase from interval above.			65.20	68.20	99	37066	3.0	<5	<0.5	11	<1
		54.4 - 54.6 - fine-grained blade interval adjacent shown at 54.4 at 40°C. 5 cm gauge. Alteration along fault? 1-2% pyrite.											
		Interval still magnetic as above.											

Object MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN. 26, '92

Hole No. M92-4  
 Page 2 of 3

# Drill Hole Record

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## DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
	68.2 - 74.9	FAULT ZONE			68.20	71.15	100	37067	2.95	<5	<0.5	17	1
		Broken con. Rubble zone. Shaded 30° CA.											
		Clay gouge zone to 5cm. Interval only			71.15	73.03	97	37068	1.88	<5	<0.5	21	<1
		sporadically magnetic. Calcite stringers to			73.03	74.90	99	37069	1.87	<5	<0.5	9	1
		5mm parallel to shearing. Abundant			74.90	78.33	99	37070	3.43	<5	<0.5	6	1
		fracture 30°, 60° & 15° CA. Fracture density											
		10-15/10cm.			78.33	81.38	97	37071	3.05	<5	<0.5	13	<1
		MINERALIZATION:			81.38	84.43	100	37072	3.05	<5	<0.5	76	3
		0.5-1% crystalline pyrite predominantly on fracture			84.43	87.48	100	37073	3.05	<5	<0.5	13	<1
		surface. Minor disseminated pyrite. Trace											
		chalcopyrite.											
	74.9 - 92.96 -				87.48	90.53	98	37074	3.05	<5	<0.5	21	<1
		Quartzite with pink alteration adjacent fracture			90.53	92.96	91	37075	2.43	<5	<0.5	31	<1
		as above fault zone. Fracture 30°, 45°, 70° CA.											
		predominantly filled with pink zeolite. Some											
		gray calcite stringers with core of what looks											
		like pyropeite.											
		MINERALIZATION:											
		74.9 - 85 - Trace to 1% disseminated pyrite											
		85 - 92.96 - Pyrite 0.5-1%, trace chalcopyrite (dism.)											

Project MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_  
 Location PORT HARDY Date JAN. 26, '92

Hole No. M92-4  
 Page 3 of 3

# Drill Hole Record

# DAIWAN ENGINEERING LTD.

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Property MARISA Location PORT HARDY District NANAIMO Hole No. M 92-5 Length 46.94 m (154')  
 Commenced FEB. 8 Completed FEB. 9 Core Size NG True Bearing 240° Corr. Dip \_\_\_\_\_  
 Collar Coordinates 8+15 W, 10+70 S Elev. \_\_\_\_\_ Hor. Comp. 20.94 m Vert. Comp. 42.01 m  
 Percent Recovery \_\_\_\_\_ Collar Dip -63½° Objective TO TEST FLANK OF WEAK CHARGEABILITY ANOMALY AND MAG. LOW.

Depth (m)		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Length	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
0	11.28	CASING											
					18.75	19.0		M92-5, 19.0m THIN SECTION					
11.28	14.32	OVERBURDEN											
14.32	46.94	QUARTZ DIORITE											
	E.O.H.	Medium grey fine to medium-grained crystalline aggregate of feldspar and quartz (?) with 15-20% 1-3mm greenish stubby subhedral feldspar phenocrysts and 15-20% black masses up to 5mm of chlorite and magnetite after hornblende (?). Rock is weakly to moderately magnetic throughout.			17.07	19.81		37234	2.74	<5	<0.5	34	<1
		Rock is cut by abundant (5-8/10cm) hairline fractures 0, 20° and 60° CA, typically with pink alteration envelopes up to 1cm. Blochy throughout.			19.81	21.94		37235	2.13	<5	<0.5	49	2
		* Rare trace chalcocite in mafic clots. Generally barren.			24.99	28.04		37236	3.05	<5	<0.5	15	1
					28.04	30.48		37237	2.44	<5	<0.5	84	1
					30.48	32.31		37238	1.83	<5	<0.5	21	1

Client GREAT WESTERN GOLD Note(s): \_\_\_\_\_ Checked by G. ALLEN Hole No. M 92-5  
 Drilling Company OLYMPIC Date FEB. 10, '92 Page One of 2

# Drill Hole Record

## DAIWAN ENGINEERING LTD.

pyright

1030 - 609 Granville Street, Vancouver, B.C., V7Y 1G5 (604) 688-1508

Depth		Description	Recovery		Sample Interval		Sample % Recovery	Sample No.	Sample Length	Au	Ag	Cu	Mo
from	to		run	%	from	to				ppb	ppm	ppm	ppm
		20.2-20.9 - manganese coated fracture parallel to core axis.											
					37.75	37.75		37239	3.00	<5	<0.5	16	1
		28-32.5 - FAULT ZONE - broken milled core. 28.6-29.3 - gouge intrudes up to 5cm. Shaving 30° CA.											
					40.23	43.28		37240	3.05	<5	<0.5	14	3
		43.2-45.8 - FAULT ZONE - milled. 43.8-44.1 - Shave, gouge. 20-30° CA.											
					43.28	45.8		37241	2.52	<5	<0.5	15	1
					45.8	46.94		37242	1.14	<5	<0.5	7	1

Project MARISA Logged by G. ALLEN Note(s): \_\_\_\_\_ Hole No. M 92-5

Location PORT HARDY Date FEB. 10, '92 Page 2 of 2



TO: DAVE PAWLIK

HOLE M92-1

BOX NO.	FROM	TO
1	6.1	12.12
2	12.12	17.16
3	17.16	22.43
4	22.43	28.05
5	28.05	32.84
6	32.84	38.27
7	38.27	43.28
8	43.28	48.61
9	48.61	54.86
10	54.86	59.53
11	59.53	64.78
12	64.78	70.56
13	70.56	76.00
14	76.00	79.86
15		
16		
17		
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25		

E.O.H.

Hi Dave,

Here are the data required  
for the 1ST set of box labels.

EXAMPLES:

M92-1 BOX 1 6.1-12.12 m

Thanks for the help!

Bord

M92-1

BOXES

	From	To
1	6.1	12.12
2	12.12	17.16
3	17.16	22.43
4	22.43	28.05
5	28.05	32.84
6	32.84	- 38.27
7	38.27	43.28
8	43.28	48.61
9	48.61	54.86
10	54.86	59.53
11	59.53	64.78
12	64.78	70.56
13	70.56	76.00
14	76.00	79.86 E.O.H.

RUNS	TO	LENGTH ACT	RECOV	%
8.23	11.28	3.05	2.83	93
11.28	14.33	3.05	2.97	97
14.33	17.37	3.04	3.04	100
17.37	20.42	3.05	3.05	100
20.42	23.47	3.05	3.00	98
23.47	26.52	3.05	2.98	98
26.52	29.57	3.05	3.05	100
29.57	31.39	1.82	1.82	100
31.39	34.14	2.75	2.75	100
34.14	35.66	3.05	3.05	100
35.66	38.71	1.83	1.81	100
38.71	40.54	2.76	2.75	100
40.54	43.28	3.05	3.05	100
43.28	46.33	3.05	3.02	99
46.33	49.38	3.05	3.02	99
49.38	52.43	3.04	3.04	100
52.43	55.47	3.05	3.00	98
55.47	58.52	3.05	3.05	100
58.52	61.57	3.05	2.99	98
61.57	64.62	3.05	3.05	100
64.62	67.67	3.04	3.00	99
67.67	70.71	3.05	3.02	99
70.71	73.76	3.05	3.03	99
73.76	76.81	3.05	3.00	98
76.81	79.86	1.52	1.46	96

2471 = 98.84  
25

99%  
average

# SAMPLE RECOVERY

ID	FROM	TO	LENGTH	ACT	%
37001	7.3	11.28	3.98	3.52	
37002	11.28 x	14.33	3.05	2.97	
37003	14.33 x	17.37	3.04	3.04	
37004	17.37 x	20.42	3.05	3.05	
37005	20.42 x	23.47	3.05	3.00	
37006	23.47 x	26.52	3.05	2.95	
37007	26.52 x	29.57	3.05	3.05	
37008	29.57 -	32.60	3.03	3.03	
37009	32.60 -	35.66	3.06	3.06	
37010	35.66 - x	38.71	3.05	3.05	
37011	38.71	41.46	2.75	2.72	
37012	41.46 -	44.20	2.74	2.74	
37013	44.20	46.33	2.13	2.13	
37014	46.33 x	49.38	3.05	3.02	
37015	49.38 x	52.43	3.05	3.02	
37016	52.43 x	55.47	3.04	3.04	
37017	55.47	57.90	2.43	2.39	
37018	57.90	60.23	2.33	2.32	
37019	60.23	61.57	1.34	1.34	
37020	61.57 x	64.62	3.05	2.99	
37021	64.62 x	67.67	3.05	3.05	
37022	67.67 x	70.71	3.04	3.00	
37023	70.71 x	73.76	3.05	3.02	
37024	73.76 x	76.81	3.05	3.03	
37025	76.81 x	79.86	3.05	3.00	

## CORE RECOVERY

HOLE NO. M 92-2

① OF 2

RUN				
FROM	TO	LENGTH	LENGTH OF CORE	RECOVERY (%)
7.62	12.80	5.18	3.43	.66
12.80	15.86	3.06	3.53 (37026)	1.15
15.86	18.90	3.34	3.59	1.07
18.90	21.94	3.04	3.50	1.15
21.94	24.99	3.05	3.40	1.11
24.99	28.04	3.05	3.19	1.04
28.04	31.09	3.05	3.11	1.02
31.09	34.14	3.05	3.23	1.06
34.14	35.05	.91	1.00	1.10
35.05	36.27	1.22	1.16	.95
36.27	38.71	2.44	2.36	.97
38.71	40.23	1.52	1.45	.95
40.23	43.20	2.97	3.19	1.07
43.20	46.33	3.13	3.17	1.01
46.33	49.38	3.05	3.34	1.00
49.38	52.42	3.04	3.43	1.12
52.42	55.47	3.05	3.39	1.11
55.47	58.52	3.05	3.34	1.1
58.52	61.57	3.05	3.45	1.13
61.57	64.52	2.95	3.23	1.09
64.52	67.66	3.14	3.06	.97
67.66	70.71	3.05	3.12	1.02





TO: DAVE PAWLIUK

FROM: GORD ALLEN

HOLE M 92-2

BOX NO.	FROM	TO
1	6.57	13.92
2	13.92	18.55
3	18.55	23.49
4	23.49	28.98
5	28.98	34.55
6	34.55	40.33
7	40.33	46.03
8	46.03	51.05
9	51.05	56.40
10	56.40	61.57
11	61.57	67.06
12	67.06	72.61
13	72.61	77.28
14	77.28	79.06
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E. A. H.

Hi Dave + Steve,

Here's the next instalment.  
Thanks!

Gord



TO: DAVE PAWLUK

FROM: GORD ALLEN

HOLE M92-3

BOX NO.	FROM	TO
1	6.10	12.20
2	12.20	17.40
3	17.40	22.91
4	22.91	28.04
5	28.04	33.44
6	33.44	39.14
7	39.14	44.63
8	44.63	50.35
9	50.35	55.70
10	55.70	61.41
11	61.41	66.84
12	66.84	72.65
13	72.65	76.81 E.O.H.
14		
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Hi Dave & Steve,

Thanks.

Gord

## CORE RECOVERY

HOLE NO. M-92-3

1 OF 2

RUN				
FROM	TO	LENGTH	LENGTH OF CORE	RECOVERY (%)
6.10	9.75	3.65	3.02	84
9.75	12.80	3.05	3.24	101
12.80	15.86	3.06	3.19	104
15.86	18.90	3.04	3.37	110
18.90	21.44	2.54	3.21	126
21.44	24.99	3.55	3.34	94
24.99	28.04	3.05	3.26	106
28.04	31.09	3.05	3.18	104
31.09	34.14	3.05	3.15	103
34.14	37.18	3.04	3.18	104
37.18	40.23	3.05	3.21	115
40.23	43.28	3.05	3.05	100
43.28	46.33	3.05	3.35	111
46.33	49.38	3.05	3.08	101
49.38	52.42	3.04	3.28	107
52.42	55.47	3.05	3.11	102
55.47	58.52	3.05	3.14	103
58.52	61.57	3.05	3.11	102
61.57	64.62	3.05	3.22	105
64.62	67.66	3.04	3.18	104
67.66	70.71	3.05	2.95	97
70.71	73.76	3.05	3.20	105



CORE RECOVERY IN SAMPLES

HOLE NO. M-92-3

SAMPLE NO.	FROM	TO	LENGTH	LENGTH OF CORE	RECOVERY (%)
37037	6.10	9.80	2.70	2.10	78.
37038	9.80	11.00	2.20	2.21	100
37039	11.00	13.60	2.60	2.85	110
37040	18.90	21.44	2.54	3.21	126
37041	21.44	24.40	2.96	2.83	96
37042	24.40	28.04	3.64	3.94	90
37043	28.04	31.09	3.05	3.18	104
37044	31.09	34.14	3.05	3.15	103
37045	34.14	37.14	3.04	3.18	104
37046	37.14	40.23	3.05	3.21	105
37047	40.23	43.28	3.05	3.05	100
37048	43.28	46.33	3.05	3.35	110
37049	46.33	49.38	3.05	3.08	101
37050	49.38	52.42	3.04	3.28	107
37051	52.42	55.47	3.05	3.11	102
37052	55.47	58.52	3.05	3.14	103
37053	58.52	61.57	3.05	3.11	102
37054	61.57	64.62	3.05	3.22	105
37055	64.62	67.66	3.04	3.18	104
37056	67.66	70.71	3.05	2.95	97
37057	70.71	73.76	3.05	3.20	105
37058	73.76	76.81	3.05	3.14	103

TO: DAVE PAWLUK

FROM: GORD ALLEN

HOLE M92-4

BOX NO.	FROM	TO
1	18.90	23.41
2	23.41	29.06
3	29.06	34.82
4	34.82	40.66
5	40.66	46.41
6	46.41	52.00
7	52.00	57.92
8	57.92	63.42
9	63.42	69.34
10	69.34	75.18
11	75.18	81.15
12	81.15	86.86
13	86.86	92.96
14		
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17		
18		
19		
20		
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22		
23		
24		
25		

E.O.H.

Hi Dave + Steve,

Thanks.

Gord

## CORE RECOVERY

HOLE NO. M-92-4

RUN				
FROM	TO	LENGTH	LENGTH OF CORE	RECOVERY (%)
18.90	20.42	1.52	1.38	91
20.42	23.47	3.05	2.96	97
23.47	25.61	2.14	2.11	98
25.61	26.62	1.01	1.01	100%
26.62	29.56	2.94	2.96	100
29.56	32.31	2.75	2.81	102
32.31	34.44	2.13	2.15	101
34.44	35.66	1.22	.99	.81
35.66	38.71	3.05	3.00	.98
38.71	41.76	3.05	2.92	.96
41.76	44.80	3.04	3.08	101
44.80	47.86	3.06	2.99	98
47.86	50.90	3.04	3.16	104
50.90	53.95	3.05	2.67	.88
53.95	57.00	3.05	3.21	105
57.00	60.04	3.04	3.28	108
60.04	63.09	3.05	3.05	100
63.09	66.14	3.05	2.95	97
66.14	69.19	3.05	3.13	103
69.19	72.29	3.10	3.05	98
72.29	75.38	3.09	3.16	102
75.38	78.38	2.95	2.94	100







## **APPENDIX III**

### **CERTIFICATES OF ANALYSIS**

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

To: DAIWAN ENGINEERING LTD.  
ATTN: PETER DASLER  
1030 - 609 GRANVILLE ST.  
VANCOUVER, BC  
V7Y 1G5

A9210781

Comments: ATTN: PETER DASLER CC: GORD ALLAN

**CERTIFICATE** **A9210781**

DAIWAN ENGINEERING LTD.

Project: MARISA  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 7-FEB-92.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	39	Geochem ring to approx 150 mesh
294	39	Crush and split (0-10 pounds)
238	39	NITRIC-AQUA REGIA DIGESTION

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	39	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
1005	39	Ag ppm: 9 element, soil and rock	ICP-AES	0.5	200
1929	39	Co ppm: 9 element, soil & rock	ICP-AES	1	10000
1931	39	Cu ppm: 9 element, soil & rock	ICP-AES	1	10000
1932	39	Fe %: 9 element, soil & rock	ICP-AES	0.01	15.00
1937	39	Mn ppm: 9 element, soil & rock	ICP-AES	5	10000
1938	39	Mo ppm: 9 element, soil & rock	ICP-AES	1	10000
1940	39	Ni ppm: 9 element, soil & rock	ICP-AES	1	10000
1004	39	Pb ppm: 9 element, soil and rock	ICP-AES	5	10000
1950	39	Zn ppm: 9 element, soil & rock	ICP-AES	2	10000



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

To: DAIWAN ENGINEERING LTD.  
 ATTN: PETER DASLER  
 1030 - 609 GRANVILLE ST.  
 VANCOUVER, BC  
 V7Y 1G5

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 05-FEB-92  
 Invoice No. : 19210718  
 P.O. Number :  
 Account : BZH

Project : MARISA  
 Comments: ATTN: PETER DASLER CC: GORD ALLEN

## CERTIFICATE OF ANALYSIS A9210718

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
37001	205	294	< 5	< 0.5	4	1255	1.30	225	42	1	6	20
37002	205	294	< 5	< 0.5	3	1790	0.93	185	80	1	4	14
37003	205	294	< 5	< 0.5	3	1995	0.97	150	31	1	2	14
37004	205	294	< 5	1.0	5	1965	1.14	165	57	1	4	14
37005	205	294	< 5	0.5	6	1695	1.75	230	20	1	2	18
37006	205	294	< 5	< 0.5	4	426	1.70	225	13	1	4	12
37007	205	294	< 5	< 0.5	5	151	2.19	260	29	2	< 2	14
37008	205	294	< 5	< 0.5	5	317	2.20	290	11	1	2	16
37009	205	294	< 5	< 0.5	4	185	1.66	200	7	1	4	10
37010	205	294	< 5	< 0.5	5	306	1.52	175	2	1	4	10
37011	205	294	< 5	< 0.5	3	1000	1.32	180	1	1	2	14
37012	205	294	< 5	< 0.5	5	904	1.29	210	6	< 1	2	16
37013	205	294	< 5	< 0.5	5	44	1.69	205	7	1	2	10
37014	205	294	< 5	< 0.5	5	115	1.76	200	11	< 1	2	12
37015	205	294	< 5	< 0.5	6	446	1.84	210	5	1	< 2	14
37016	205	294	< 5	< 0.5	7	458	1.77	200	13	1	2	16
37017	205	294	< 5	< 0.5	6	396	1.90	220	24	1	2	14
37018	205	294	< 5	< 0.5	3	185	0.63	110	74	1	4	6
37019	205	294	< 5	< 0.5	4	184	1.55	205	25	1	4	14
37020	205	294	< 5	< 0.5	7	547	2.01	225	74	1	2	22
37021	205	294	< 5	< 0.5	7	125	2.20	245	26	1	2	16
37022	205	294	< 5	< 0.5	5	48	2.06	245	9	1	2	14
37023	205	294	< 5	< 0.5	4	89	1.81	200	14	1	2	12
37024	205	294	< 5	< 0.5	5	48	1.84	215	41	1	2	12
37025	205	294	< 5	< 0.5	5	116	2.00	245	26	1	< 2	14
37026	205	294	< 5	< 0.5	9	20	3.09	470	< 1	1	2	32
37027	205	294	< 5	< 0.5	9	22	3.08	440	< 1	1	4	30
37028	205	294	< 5	< 0.5	11	67	3.63	510	1	2	2	32
37029	205	294	< 5	< 0.5	9	10	3.51	470	1	2	4	30
37030	205	294	< 5	< 0.5	1	< 1	0.49	215	1	< 1	6	10
37031	205	294	< 5	< 0.5	1	< 1	0.37	275	3	1	14	28
37032	205	294	< 5	< 0.5	11	11	3.39	885	< 1	3	10	54
37033	205	294	< 5	< 0.5	< 1	< 1	0.45	245	1	1	10	18
37034	205	294	< 5	< 0.5	9	10	3.20	620	1	1	2	46
37035	205	294	< 5	< 0.5	11	45	3.42	905	1	2	10	60
37036	205	294	< 5	< 0.5	1	1	0.67	325	2	1	14	20

CERTIFICATION:

*Phai D Ma*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

To: DAIWAN ENGINEERING LTD.  
 ATTN: PETER DASLER  
 1030 - 609 GRANVILLE ST.  
 VANCOUVER, BC  
 V7Y 1G5

Page Number :1  
 Total Pages :1  
 Certificate Date: 07-FEB-92  
 Invoice No. :I9210781  
 P.O. Number :  
 Account :BZH

Project : MARISA  
 Comments: ATTN: PETER DASLER CC: GORD ALLAN

## CERTIFICATE OF ANALYSIS A9210781

SAMPLE	PREP CODE	Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
37037	205 294	< 5	< 0.5	5	519	1.47	400	37	1	8	30
37038	205 294	< 5	< 0.5	5	748	1.59	445	39	1	20	32
37039	205 294	< 5	< 0.5	1	23	0.52	250	2	< 1	8	14
37040	205 294	< 5	< 0.5	1	7	0.48	255	1	< 1	6	14
37041	205 294	< 5	< 0.5	1	8	0.47	240	2	< 1	6	14
37042	205 294	< 5	< 0.5	7	792	2.06	465	75	1	10	32
37043	205 294	< 5	< 0.5	7	533	2.03	365	2	< 1	< 2	20
37044	205 294	< 5	< 0.5	6	378	1.80	315	23	1	< 2	18
37045	205 294	< 5	< 0.5	6	319	1.74	275	12	1	2	14
37046	205 294	< 5	< 0.5	4	420	1.38	230	16	< 1	< 2	14
37047	205 294	< 5	< 0.5	6	429	1.74	295	42	1	< 2	18
37048	205 294	< 5	< 0.5	6	378	1.74	280	5	1	< 2	16
37049	205 294	< 5	< 0.5	6	319	1.83	305	9	1	< 2	16
37050	205 294	< 5	< 0.5	6	397	1.85	305	11	1	< 2	18
37051	205 294	< 5	< 0.5	7	587	1.93	305	39	1	2	18
37052	205 294	< 5	< 0.5	7	617	1.87	320	5	1	< 2	18
37053	205 294	< 5	< 0.5	6	260	1.79	345	16	1	< 2	20
37054	205 294	< 5	< 0.5	6	408	1.72	300	4	1	< 2	14
37055	205 294	< 5	< 0.5	6	625	1.97	285	16	1	< 2	16
37056	205 294	< 5	< 0.5	6	656	1.92	295	39	1	2	18
37057	205 294	< 5	< 0.5	6	424	2.06	410	9	1	6	30
37058	205 294	< 5	< 0.5	6	704	1.79	335	21	1	6	26
37059	205 294	< 5	< 0.5	6	15	1.88	425	< 1	1	2	26
37060	205 294	< 5	< 0.5	6	6	1.77	415	1	2	2	24
37061	205 294	< 5	< 0.5	5	5	1.68	415	< 1	1	2	24
37062	205 294	< 5	< 0.5	6	27	1.66	400	3	2	2	22
37063	205 294	< 5	< 0.5	5	10	1.60	405	1	1	2	20
37064	205 294	< 5	< 0.5	6	381	1.78	455	1	1	4	38
37065	205 294	< 5	< 0.5	7	7	2.13	415	< 1	1	2	30
37066	205 294	< 5	< 0.5	4	11	1.43	390	< 1	1	2	22
37067	205 294	< 5	< 0.5	4	17	1.39	335	1	1	4	18
37068	205 294	< 5	< 0.5	4	21	1.37	365	< 1	1	2	18
37069	205 294	< 5	< 0.5	5	9	1.70	410	1	2	4	20
37070	205 294	< 5	< 0.5	7	6	2.28	555	1	1	< 2	34
37071	205 294	< 5	< 0.5	5	13	1.75	420	< 1	1	2	22
37072	205 294	< 5	< 0.5	6	76	1.69	380	3	1	2	24
37073	205 294	< 5	< 0.5	6	13	1.79	400	< 1	1	< 2	24
37074	205 294	< 5	< 0.5	5	21	1.72	345	< 1	1	2	20
37075	205 294	< 5	< 0.5	5	31	1.77	355	< 1	1	2	22

CERTIFICATION: *Peter Dasler*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221

To: DAIWAN ENGINEERING LTD.  
 ATTN: PETER DASLER  
 1030 - 609 GRANVILLE ST.  
 VANCOUVER, BC  
 V7Y 1G5

Page Number : 1  
 Total Pages : 1  
 Certificate Date: 24-FEB-92  
 Invoice No. : I9211305  
 P.O. Number :  
 Account : BZH

Project : MARISA  
 Comments: ATTN: PETER DASLER CC: GORDON ALLEN

## CERTIFICATE OF ANALYSIS A9211305

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
37234	205	294	< 5	< 0.5	5	34	1.79	340	< 1	2		24
37235	205	294	< 5	< 0.5	5	49	1.77	350	2	1	< 2	24
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37237	205	294	< 5	< 0.5	5	84	1.88	375	1	1	2	26
37238	205	294	< 5	< 0.5	5	21	1.87	435	1	2	< 2	26
37239	205	294	< 5	< 0.5	4	16	1.72	295	1	< 1		22
37240	205	294	< 5	< 0.5	4	14	1.76	400	3	2	< 2	26
37241	205	294	< 5	< 0.5	5	15	1.70	380	1	2	2	26
37242	205	294	< 5	< 0.5	5	7	1.79	425	1	< 1	2	28

CERTIFICATION: *Phai D Ma*

## **APPENDIX IV**

# **BUDGET FOR FURTHER EXPLORATION**

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508

MARISA PROJECT  
 PROPOSED BUDGET FOR PHASE III EXPLORATION PROGRAM

Fieldwork  
 -----

PERSONNEL:	DAYS	RATE	COST	COST
Proj. Mgr.	16	380	6080	
Assistant	14	260	3640	
Assistant (soil	17	260	4420	
Consulting	1	380	380	
			-----	
			14520	14520

DISB. 1:	DAYS/NO.	RATE	COST	
Accomodation	16	25	395	
Accomodation	31	20	622	
Food	47	20	940	
Vehicle	33	45	1485	
Helicopter	8	705	5640	
Hiab Truck	3	50	150	
Analyses (core)	125	14	1693	
Analyses (soils	700	15	10500	
Shipping			250	
Fuel			200	
Core shed Rent	1	250	250	
Radios	2	40	80	
Misc. (Tel, Supplies, etc.)			500	
			-----	
			Disbursements Subtotal	22704
			Administration (15%)	3406
			-----	
			26110	26110

DISB. 2:	DAYS/NO.	RATE	COST	
Drilling	1000 feet	25	25000	
	Administration (10%)		2500	
			-----	
			27500	27500

			-----	
			Fieldwork Subtotal	68130
			Contingency (10%)	6813
			-----	
			ESTMATED TOTAL FIELDWORK COSTS	74943      74943

REPORT  
 -----

REPORT				2500
				-----
			ESTIMATED TOTAL PROJECT COST	\$77,443
				=====

**APPENDIX V**

**PACIFIC GEOPHYSICAL LTD.**

**REPORT**

**Daiwan Engineering Ltd.**

1030, 609 Granville Street, Vancouver, B.C. Ph. (604) 688-1508



PACIFIC GEOPHYSICAL LTD.

REPORT ON THE

INDUCED POLARIZATION, RESISTIVITY AND MAGNETIC SURVEYS

ON THE

MARISA PROJECT

NANAIMO MINING DIVISION, BRITISH COLUMBIA

FOR

DAIWAN ENGINEERING LTD.

LATITUDE: 50 40' N LONGITUDE: 127 31' W

N.T.S. 92L/11W,12E

BY

Paul A. Cartwright, P.Geoph.  
Geophysicist

and

Michael J. Cormier, B.Sc.  
Geophysicist

DATED: FEBRUARY 14, 1992.

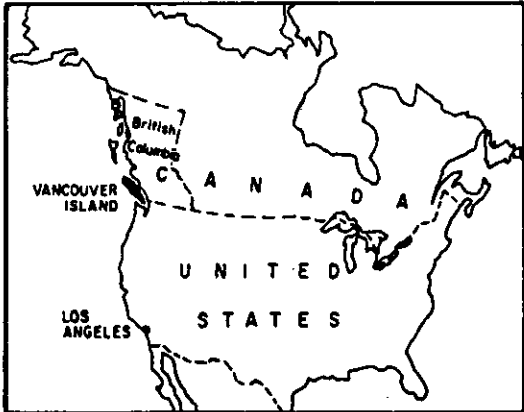
## SUMMARY

Induced polarization, resistivity and magnetic surveys have been carried out on the Marisa Project by Pacific Geophysical Ltd. on behalf of Daiwan Engineering Ltd. during the period January 10, 1992 to January 14, 1992.

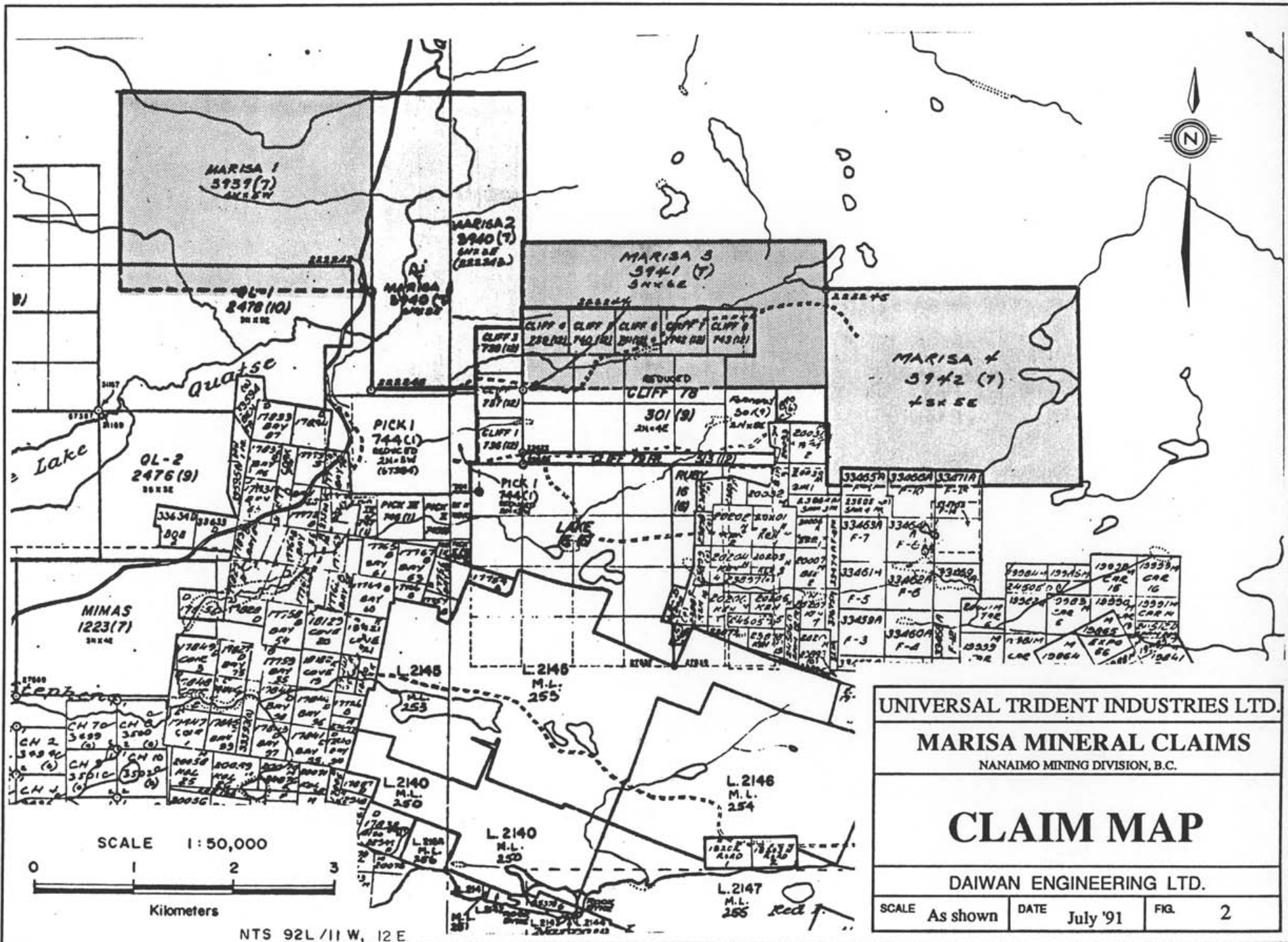
A large zone of moderately anomalous IP effects, whose borders remain open, has been identified within the data. A set of five drillholes collared within the zone have all intersected copper mineralization. It has been recommended that further IP / resistivity surveying be conducted to establish the northeast and southeast boundaries of the IP zone prior to another round of drilling.

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10.	Statement of Cost	8
11.	Certificate: Paul A. Cartwright, P.Geoph.	9
12.	Certificate: Michael J. Cormier, B.Sc.	10
 <b>PART B ILLUSTRATIONS</b>		
	Location Map	Fig. 1
	Claim Map	Fig. 2
	IP Pseudosections	9 Sections
	Contoured IP with Interpretation	PLAN MRSaip
	Contoured Resistivity	PLAN MRSARES
	Contoured Magnetics	PLAN MRSAMAG



UNIVERSAL TRIDENT INDUSTRIES LTD.		
MARISA MINERAL CLAIMS NANAIMO MINING DIVISION, B.C.		
<b>LOCATION MAP</b>		
DAIWAN ENGINEERING LTD.		
SCALE	DATE	FIG.
As shown	July '91	1



UNIVERSAL TRIDENT INDUSTRIES LTD.

MARISA MINERAL CLAIMS  
NANAIMO MINING DIVISION, B.C.

# CLAIM MAP

DAIWAN ENGINEERING LTD.

SCALE	As shown	DATE	July '91	FIG.	2
-------	----------	------	----------	------	---

NTS 92L/11W, 12E

## 1. INTRODUCTION

Induced Polarization (IP), resistivity and total field magnetic surveys have been carried out on the Marisa Project at the request of Daiwan Engineering Ltd. by Pacific Geophysical Limited. The property, located approximately 6 km south of Port Hardy, on northern Vancouver Island, was accessed by road.

Field work was carried out during the period January 10, 1992 to January 14, 1992 under the direction of Michael J. Cormier, geophysicist. A total of 12.3 line-kilometers of IP / resistivity data and 16.3 line-kilometers of total field magnetic data was acquired.

## 2. DESCRIPTION OF CLAIMS

The Marisa Project is comprised of the following claims, all of which are located in the Nanaimo Mining Division and owned by Daiwan Engineering Ltd.:

<u>Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry Date</u>
Marisa 1	3939	20	July 25, 1992
Marisa 2	3940	18	July 25, 1992
Marisa 3	3941	18	July 20, 1992
Marisa 4	3942	20	July 20, 1992

### 3. DESCRIPTION OF GEOLOGY

The geology of the area is dominated by the Quatse Diorite intrusive body, andesitic volcanics and limestone. For a more complete description of the property geology, the reader is referred to the "PROSPECTING AND SAMPLING REPORT ON THE MARISA MINERAL CLAIMS, NORTH VANCOUVER ISLAND, BRITISH COLUMBIA" by Ron Bilquist and P.G. Dasler of Daiwan Engineering Ltd., dated July 19, 1991.

### 4. INSTRUMENT SPECIFICATIONS

The IP / resistivity measurements were made using an EDA Model IP-6 six channel time domain receiver set to "mode 3" whereby a delay time (TD = 80 milliseconds) is followed by 10 measurement windows (td = 80,80,80,80,160,160,160,360,360 and 360 milliseconds) yielding a total integration time of 1880 milliseconds. The signal used to make the measurements was provided by a Phoenix Model IPT-1 transmitter producing a 2 second on / 2 second off square wave of alternating polarities. The transmitter was powered by a 2 kilowatt motor generator set. IP effects were recorded as chargeability in milliseconds while apparent resistivity values were normalized in units of ohm - meters.

A GEM Systems Model GSM-19 Overhauser magnetometer was employed to collect the total field magnetic data along the grid lines while

an EDA Model PPM-375 magnetometer monitored the magnetic field at the base station. At the end of each day, the recorded base station data were combined with the field readings to correct for diurnal variations in the earth's magnetic field.

## 5. SURVEY SPECIFICATIONS

The IP / resistivity was carried out using the pole - dipole array with an interelectrode spacing of 50 meters. The moving current electrode was to the south of the potential electrode pair. Measurements were made at stations along grid lines spaced 200 meters apart, recording four dipole separations in each case.

Total field magnetic readings were made at 25 meter intervals along the same grid lines referred to above, as well as on three additional 200 meter spaced lines located west of the IP survey lines.

## 6. DATA PRESENTATION

The induced polarization and resistivity results are shown on the following data plots in pseudosection format:

<u>Line</u>	<u>Electrode Interval</u>	<u>Reading Interval</u>	<u>Total Coverage</u>
1200W	50 meters	200S - 1500S	1300 meters
1000W	50 meters	0 - 1500S	1500 meters
800W	50 meters	0 - 1500S	1500 meters



600W	50 meters	0 - 1500S	1500 meters
400W	50 meters	0 - 1500S	1500 meters
200W	50 meters	0 - 1500S	1500 meters
0	50 meters	0 - 1400S	1400 meters
200E	50 meters	0 - 1100S	1100 meters
400E	50 meters	0 - 1000S	1000 meters

Also included with this report is a contoured, posted, 1:5000 scale plan map (PLAN: MRSAIP) of the 10-point Fraser-filtered chargeability values which includes the IP interpretation. The Fraser filter value is arrived at by calculating an average value for each dipole separation using one n=1 value, two n=2 values, three n=3 values and four n=4 values. These results are then further averaged to yield one number which can be contoured in plan view. The strong, moderate and weak IP anomalies are indicated by bars in the manner shown on the plan map legend as well as on the pseudosections. These bars represent the surface projection of the anomalous zones interpreted from the transmitting and receiving electrode locations when the anomalous values were measured. The contoured, posted Fraser filtered resistivity data are illustrated on the 1:5000 scale plan map labelled PLAN: MRSARES.

Magnetic survey results are posted and contoured on the 1:5000 scale plan map labelled PLAN: MRSAMAG.

## 7. DISCUSSION OF RESULTS

The present Induced Polarization (IP) and resistivity survey, and total field magnetometer survey, has evaluated an area of

intrusive rocks centered on the Marisa #1 Claim. Chalcopyrite mineralization has been discovered within fine grained diorite along a stream bed that cuts across the geophysical grid.

Somewhat higher than background IP effects are detected underlying the entire southeastern half of the survey area, with the creek that exposes the copper mineralization striking across the northern region of the anomalous IP zone. This anomalous response is currently undefined in three directions. The southern portion of the IP zone correlates well with a distinctive magnetic anomaly, which is itself roughly coincident with higher than normal resistivity values.

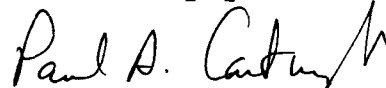
Five diamond drill holes have been completed in the vicinity of the geophysical anomalies. Locations of these holes are shown on the induced polarization plan MRSAIP, together with the interpreted outline of the anomalous IP zone. All of the above holes are reported to have intersected chalcopyrite mineralization, with diamond drill hole M92-1 reportedly encountering significant copper values over its entire length. Diamond drill hole M92-2 was collared well within the area of anomalous IP effects, on the northeastern flank of the coincident magnetic anomaly, and encountered magnetite rich diorite. Some chalcopyrite mineralization was reported associated with felsic dykes intersected near the bottom of this hole.

There seems to be a good correlation between the magnitude of the observed IP effects, and sulphide and/or magnetite concentration. Hole M92-5 tested the least anomalous IP effects of any of the five diamond drill holes. It would appear that this hole also returned the least amount of polarizable material.

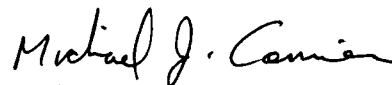
## 8. CONCLUSIONS AND RECOMMENDATIONS

The IP survey centered on the Marisa #1 Claim has outlined part of a moderately anomalous zone which has been drill tested in five locations. As all of these diamond drill holes encountered some degree of copper mineralization, additional geophysical surveying is recommended to extend the boundaries of the anomalous IP zone, particularly towards the northeast and southeast. The southern extension of the zone appears to be complicated by the presence of widespread magnetite, and should be given lower priority for follow up work at this time. Further drill holes could be positioned once the IP zone was fully outlined.

Pacific Geophysical Ltd.



Paul A. Cartwright, P.Geoph.



Michael J. Cormier, B.Sc.

Dated: February 14, 1992

## 9. PERSONNEL

The personnel utilized during the geophysical program are listed below:

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Date</u>
M. Cormier	Geophysicist	212-744 W.Hastings St. Vancouver, B.C.	Jan.10-14/92 Feb. 3-6 /92
J. Jordan	Geophysicist	"	Jan.10-14/92
A. Pratt	Helper	"	Jan.10-14/92
A. Sperling	Helper	"	Jan.10-14/92
S. Fleming	Helper	"	Jan.10-14/92
M. Steiner	Helper	"	Jan.10-14/92
P. Cartwright	Geophysicist	"	Feb. 4-5 /92

PACIFIC GEOPHYSICAL LIMITED



Paul A. Cartwright, P.Geoph.

Dated: February 14, 1992.

## 10. STATEMENT OF COST

Reference: Marisa Project

Data Acquisition	\$ 8,100.00
Mobilization - Demobilization	\$ 750.00
Data Processing, Plotting, Reproduction	\$ 1,035.00
Interpretation and Report Preparation	\$ <u>1,050.00</u>
	Subtotal \$ 10,935.00
	G.S.T. \$ <u>765.45</u>
	Subtotal \$ 11,700.45
Motel Expense (includes \$22.68 G.S.T.)	\$ <u>372.60</u>
	Total \$ 12,073.05

PACIFIC GEOPHYSICAL LTD.



Paul A. Cartwright, P.Geoph.

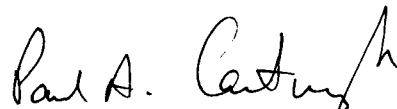
Dated: February 14, 1992.

11. CERTIFICATE

I, Paul A. Cartwright, of the City of Vancouver, Province of British Columbia, do hereby certify:

1. I am a geophysicist residing at 4238 West 11th Avenue, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia, with a B.Sc. degree (1970).
3. I am a member of the Society of Exploration Geophysicists, the European Association of Exploration Geophysicists and the Canadian Society of Exploration Geophysicists.
4. I have been practising my profession for 21 years.
5. I am a Professional Geophysicist licensed in the Province of Alberta.
6. I have no direct or indirect interest, nor do I expect to receive any interest, directly or indirectly, in the property or securities of Daiwan Engineering Ltd. or any affiliates.
7. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

Dated at Vancouver, British Columbia this 14th day of February, 1992.



PAUL A. CARTWRIGHT, P.GEOPH.

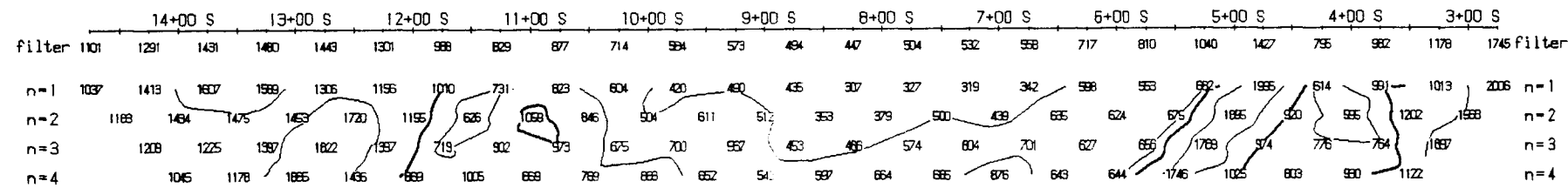
12. CERTIFICATE

I, Michael J. Cormier, of the City of Vancouver, Province of British Columbia, do hereby certify:

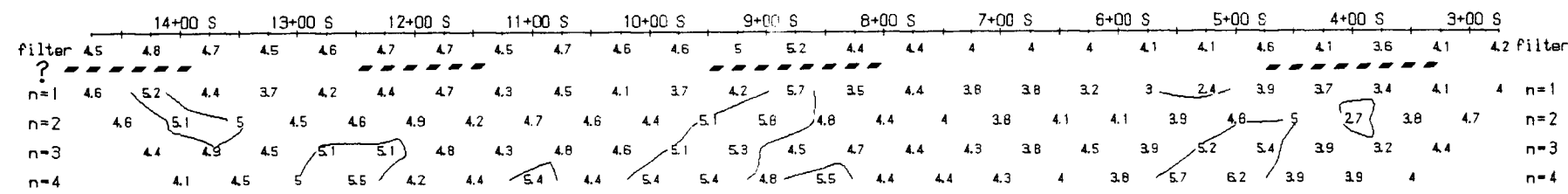
1. I am a geophysicist residing at 5512 Kings Road, Vancouver, British Columbia.
2. I am a graduate of McGill University, Montreal, Quebec with a B.Sc. degree (1981).
3. I have been practising my profession for 10 years.
4. I have no direct or indirect interest, nor do I expect to receive any interest, directly or indirectly, in the property or securities of Daiwan Engineering Ltd. or any affiliates.
5. Permission is granted to use in whole or in part for assessment and qualification requirements but not for advertising purposes.

Dated at Vancouver, British Columbia this 14th day of February, 1992.

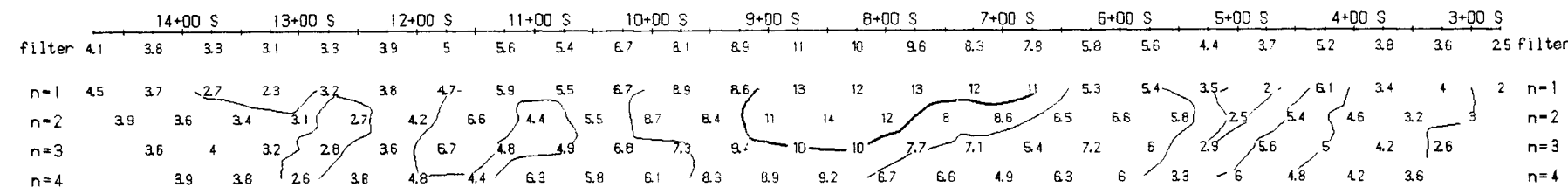
  
MICHAEL J. CORMIER, B.Sc.



RESISTIVITY  
(ohm.m)

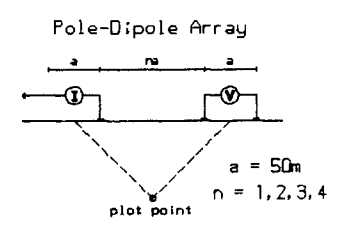


OBS. CHARGEABILITY  
(msec)



METAL FACTOR  
(ip/res \* 1000)

Line 1200 W



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : MJC, JLL

INTERPRETATION

- Strong increase in polarization
- Moderate increase in polarization
- Weak increase in polarization

DAIWAN ENGINEERING

INDUCED POLARIZATION SURVEY  
Line 1200 W  
Marisa Property, Nanaimo M.D., B.C.

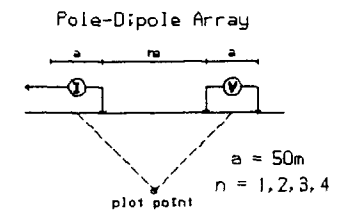
Date: January 1992  
Interpretation by: *free*

Pacific Geophysical

GEOSOFI (tm) Software For the Earth Sciences, Toronto, Canada



### Line 1000 W



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
 Frequency : 2s ON / 2s OFF  
 Operators : N.J.C., J.J.

#### INTERPRETATION

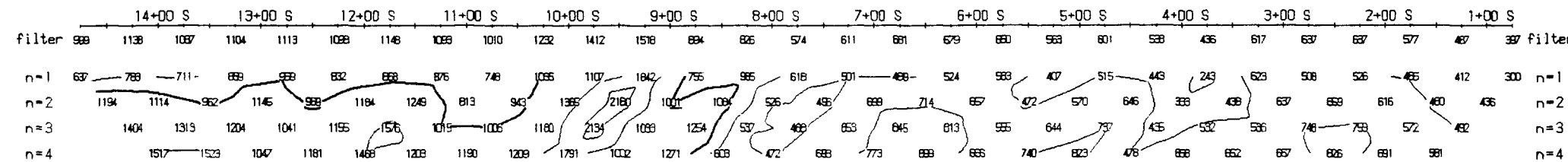
- ▬ Strong increase in polarization
- ▬▬▬▬ Moderate increase in polarization
- ▬▬▬ Weak increase in polarization

### DAIWAN ENGINEERING

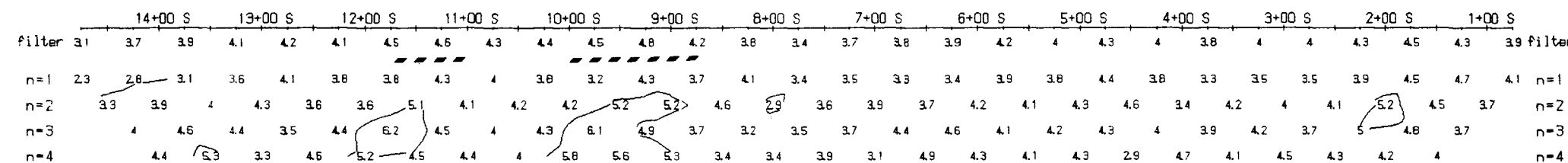
INDUCED POLARIZATION SURVEY  
 Line 1000 W  
 Marisa Property, Nanaimo W.D., B.C.

Date: January 1992  
 Interpretation by: *proe*

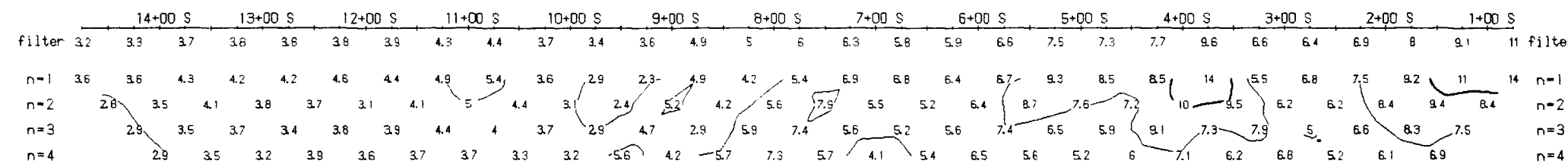
Pacific Geophysical



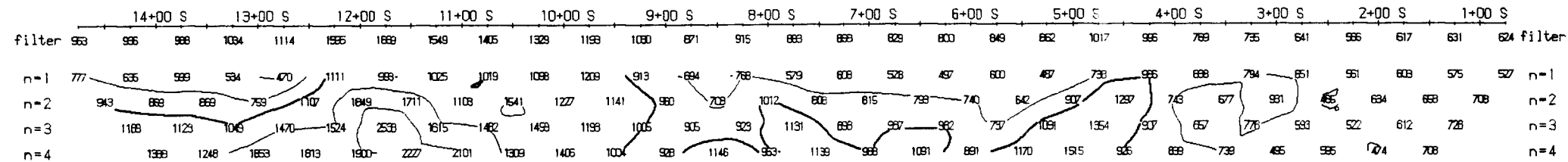
RESISTIVITY (ohm-m)



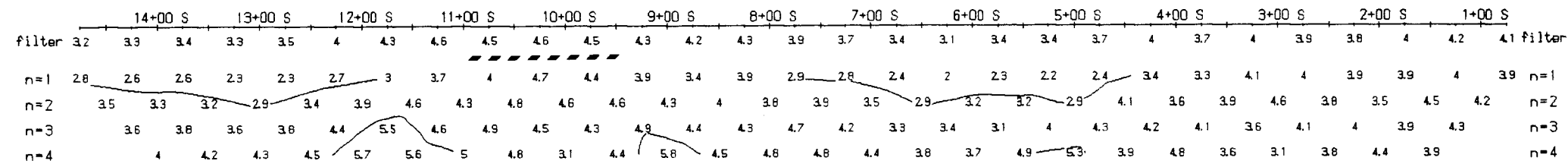
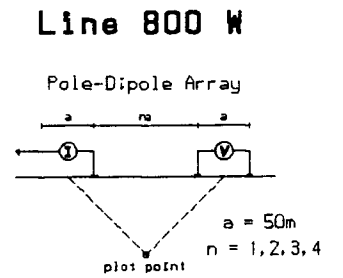
OBS. CHARGEABILITY (msec)



METAL FACTOR (ip/res \* 1000)



RESISTIVITY  
(ohm-m)



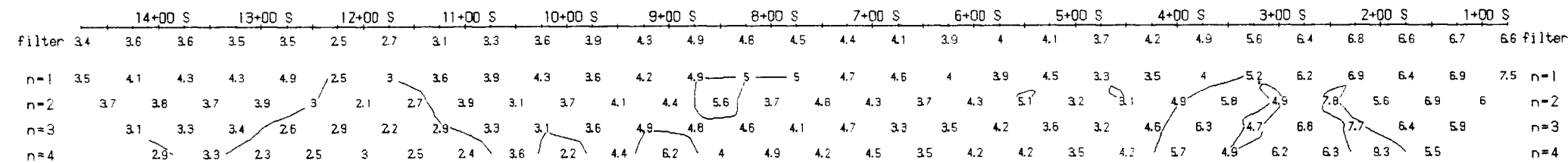
OBS. CHARGEABILITY  
(msec)

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : NJC, JJJ

INTERPRETATION

- ▬ Strong increase in polarization
- ▬▬▬ Moderate increase in polarization
- ▬▬▬ Weak increase in polarization



METAL FACTOR  
(1p/res \* 1000)

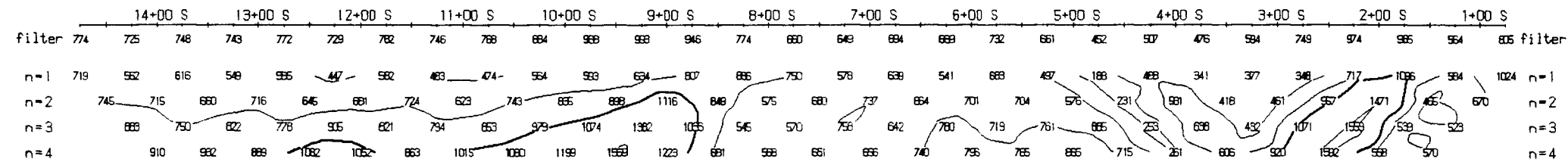
DAIWAN ENGINEERING

INDUCED POLARIZATION SURVEY

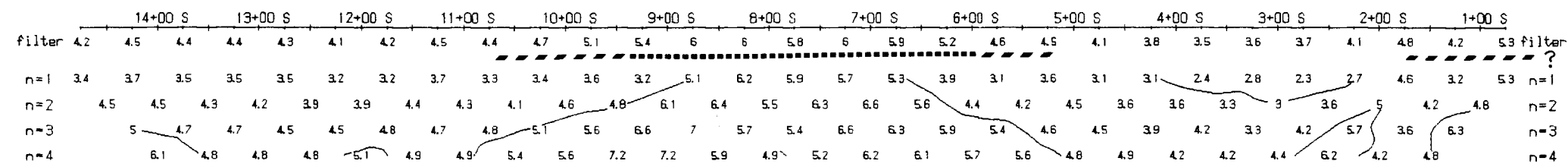
Line 800 W  
Merise Property, Nanaimo N.D., B.C.

Date: January 1992  
Interpretation by: *me*

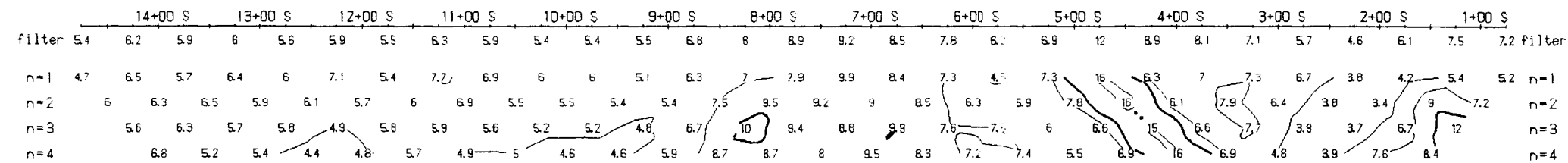
Pacific Geophysical



RESISTIVITY  
(ohm.m)

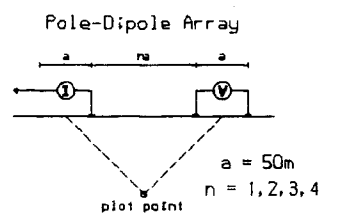


OBS. CHARGEABILITY  
(msec)



METAL FACTOR  
(ip/res \* 1000)

Line 600 W



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : MJC, JJJ

INTERPRETATION

- Strong increase in polarization
- Moderate increase in polarization
- Weak increase in polarization

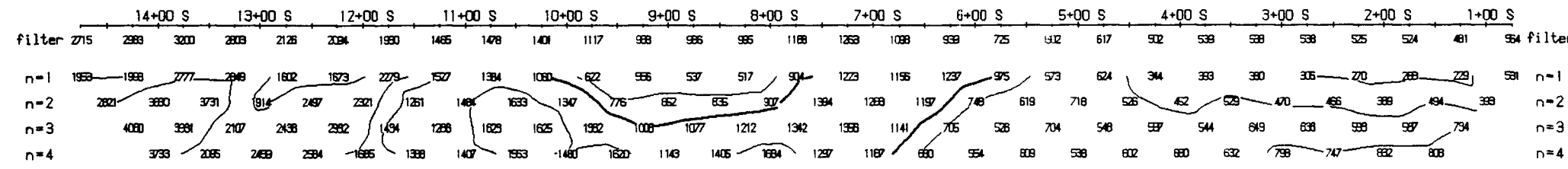
DAIWAN ENGINEERING

INDUCED POLARIZATION SURVEY  
Line 600 W  
Merisa Property, Nanaimo M.D., B.C.

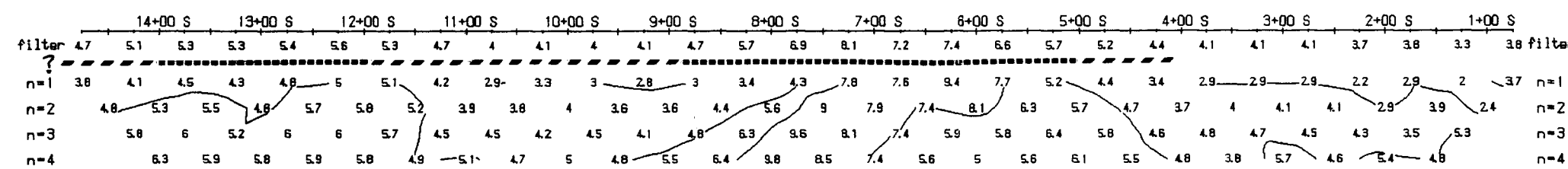
Date: January 1992  
Interpretation by: *pac*

Pacific Geophysical

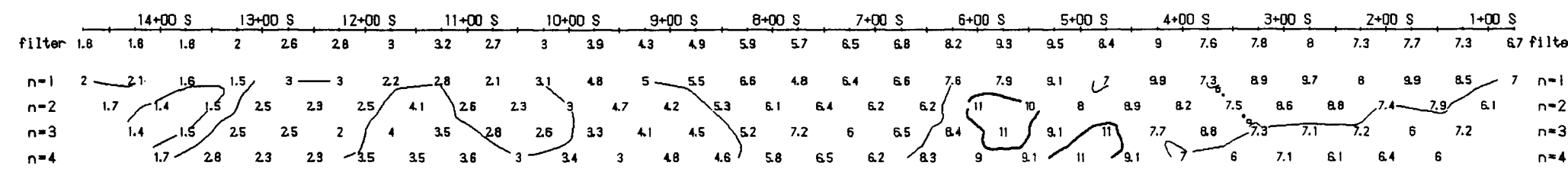
BEUSOFI (tm) Software for the Earth Sciences, Toronto, Canada



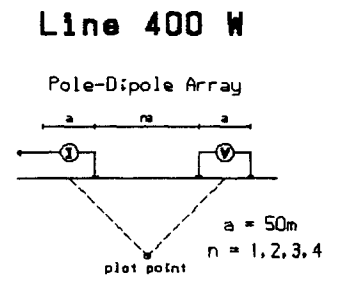
RESISTIVITY  
(ohm-m)



OBS. CHARGEABILITY  
(msec)



METAL FACTOR  
( $1p/res \times 1000$ )



Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : MJC, JJJ

INTERPRETATION

- Strong increase in polarization
- Moderate increase in polarization
- Weak increase in polarization

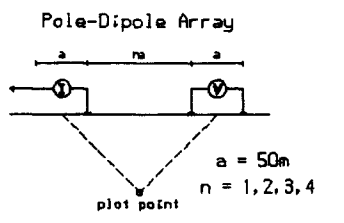
DAIWAN ENGINEERING

INDUCED POLARIZATION SURVEY  
Line 400 W  
Merisa Property, Nanaimo M.D., B.C.

Date: January 1992  
Interpretation by: *pac*

Pacific Geophysical

### Line 200 W



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
 Frequency : 2s ON / 2s OFF  
 Operators : N.J.C., J.L.J.

#### INTERPRETATION

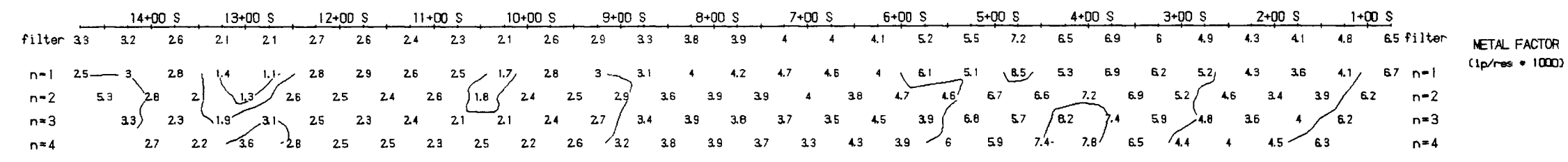
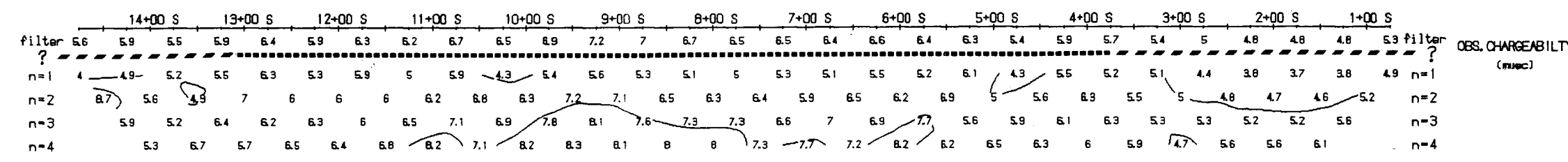
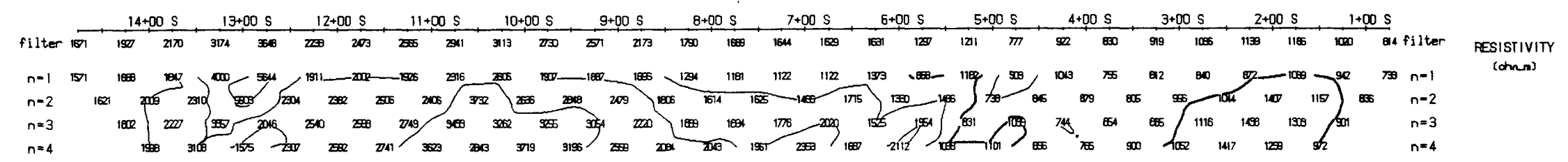
- ▬ Strong increase in polarization
- ▬▬▬▬ Moderate increase in polarization
- ▬▬▬ Weak increase in polarization

### DAIWAN ENGINEERING

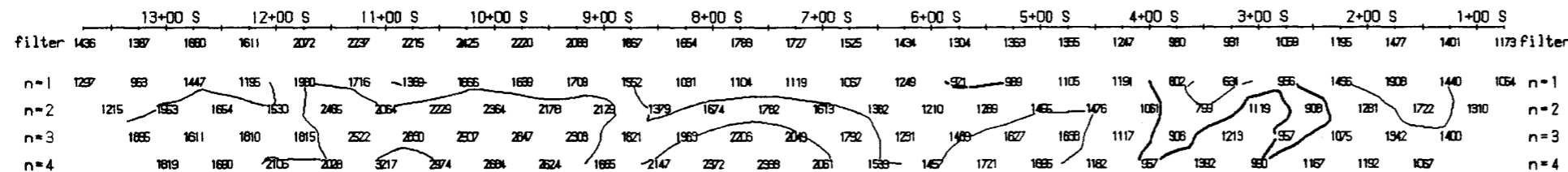
INDUCED POLARIZATION SURVEY  
 Line 200 W  
 Marisa Property, Nanaimo M.D., B.C.

Date: January 1992  
 Interpretation by: *psc*

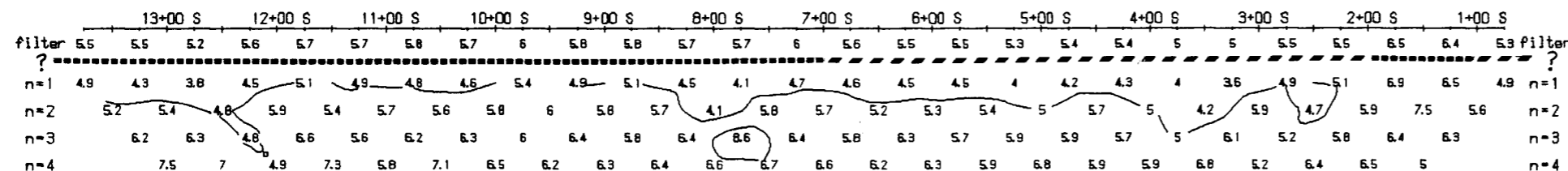
### Pacific Geophysical



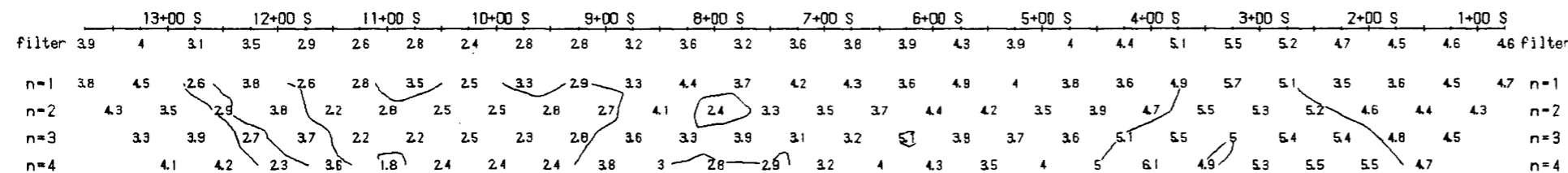
SEISOF (6n) Software For the Earth Sciences, Toronto, Canada



RESISTIVITY  
(ohm-m)



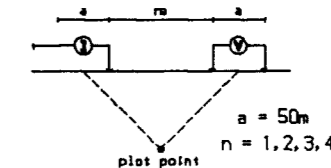
OBS. CHARGEABILITY  
(msec)



METAL FACTOR  
(ip/res \* 1000)

### Line 0

Pole-Dipole Array



Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : MJC, JLJ

#### INTERPRETATION

- ▬ Strong increase in polarization
- ▬ Moderate increase in polarization
- ▬ Weak increase in polarization

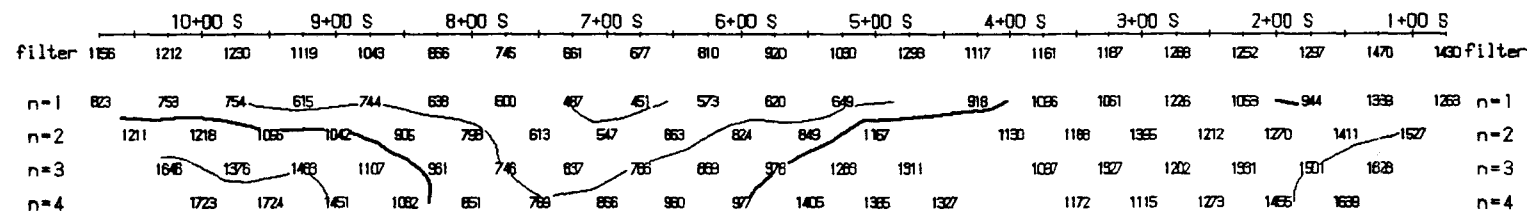
DAIWAN ENGINEERING

INDUCED POLARIZATION SURVEY

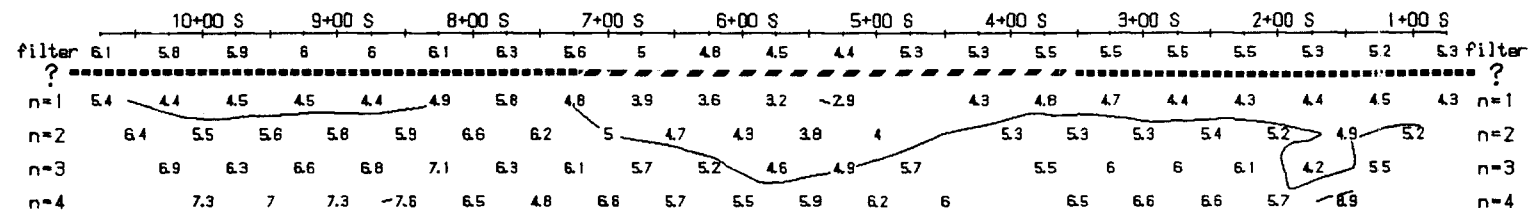
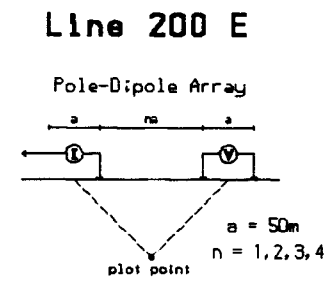
Line 0  
Merisa Property, Naneimo N.D., B.C.

Date: January 1992  
Interpretation by: *msc*

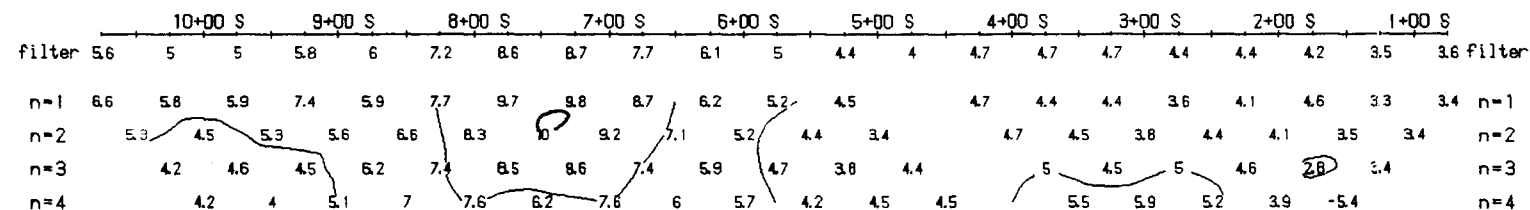
Pacific Geophysical



RESISTIVITY  
(ohm-m)



OBS. CHARGEABILITY  
(msec)



METAL FACTOR  
(ip/res \* 1000)

Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : MJC, JLJ

INTERPRETATION

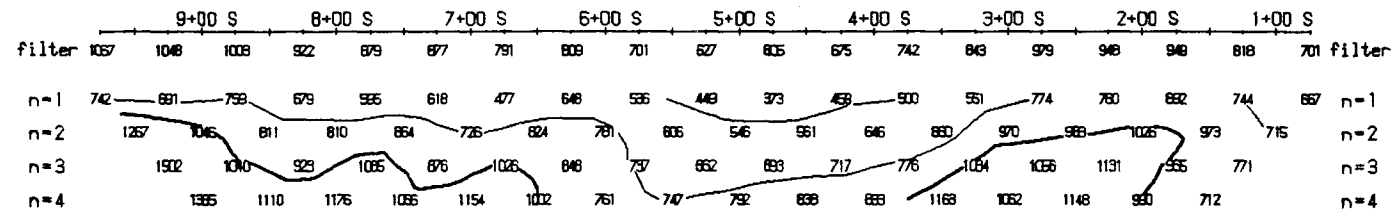
- ▬ Strong increase in polarization
- ▬▬▬ Moderate increase in polarization
- ▬▬▬ Weak increase in polarization

DAIWAN ENGINEERING

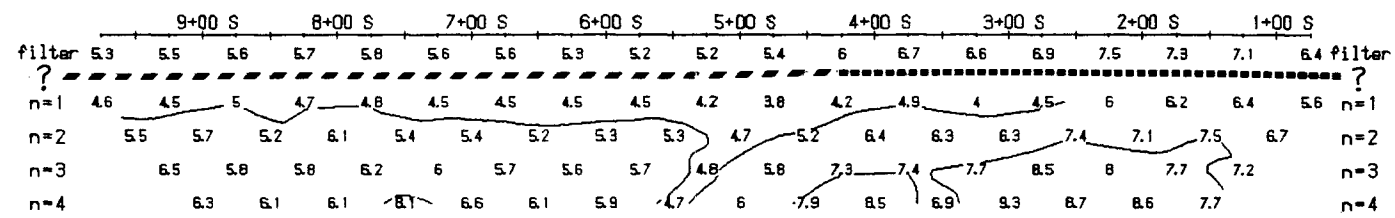
INDUCED POLARIZATION SURVEY  
Line 200 E  
Marisa Property, Nanaimo M.D., B.C.

Date: January 1992  
Interpretation by: *pro*

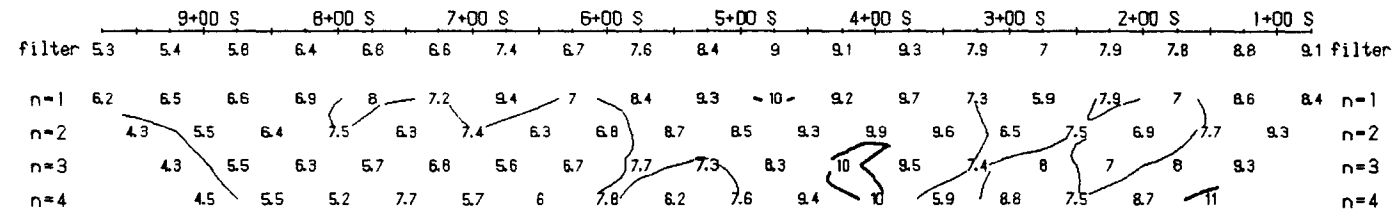
Pacific Geophysical



RESISTIVITY  
(ohm-m)

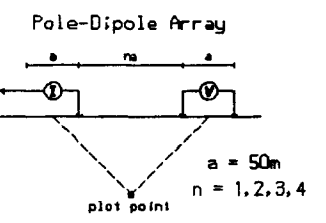


OBS. CHARGEABILITY  
(msec)



METAL FACTOR  
( $\mu p/res \times 1000$ )

### Line 400 E



Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

Instrument : EDA IP 6  
Frequency : 2s ON / 2s OFF  
Operators : MJC, JJJ

#### INTERPRETATION

- ▬ Strong increase in polarization
- ▬▬▬▬ Moderate increase in polarization
- ▬▬▬ Weak increase in polarization

DAIWAN ENGINEERING

INDUCED POLARIZATION SURVEY  
Line 400 E  
Merise Property, Neneimo M.D., B.C.

Date: January 1992  
Interpretation by: *proe*

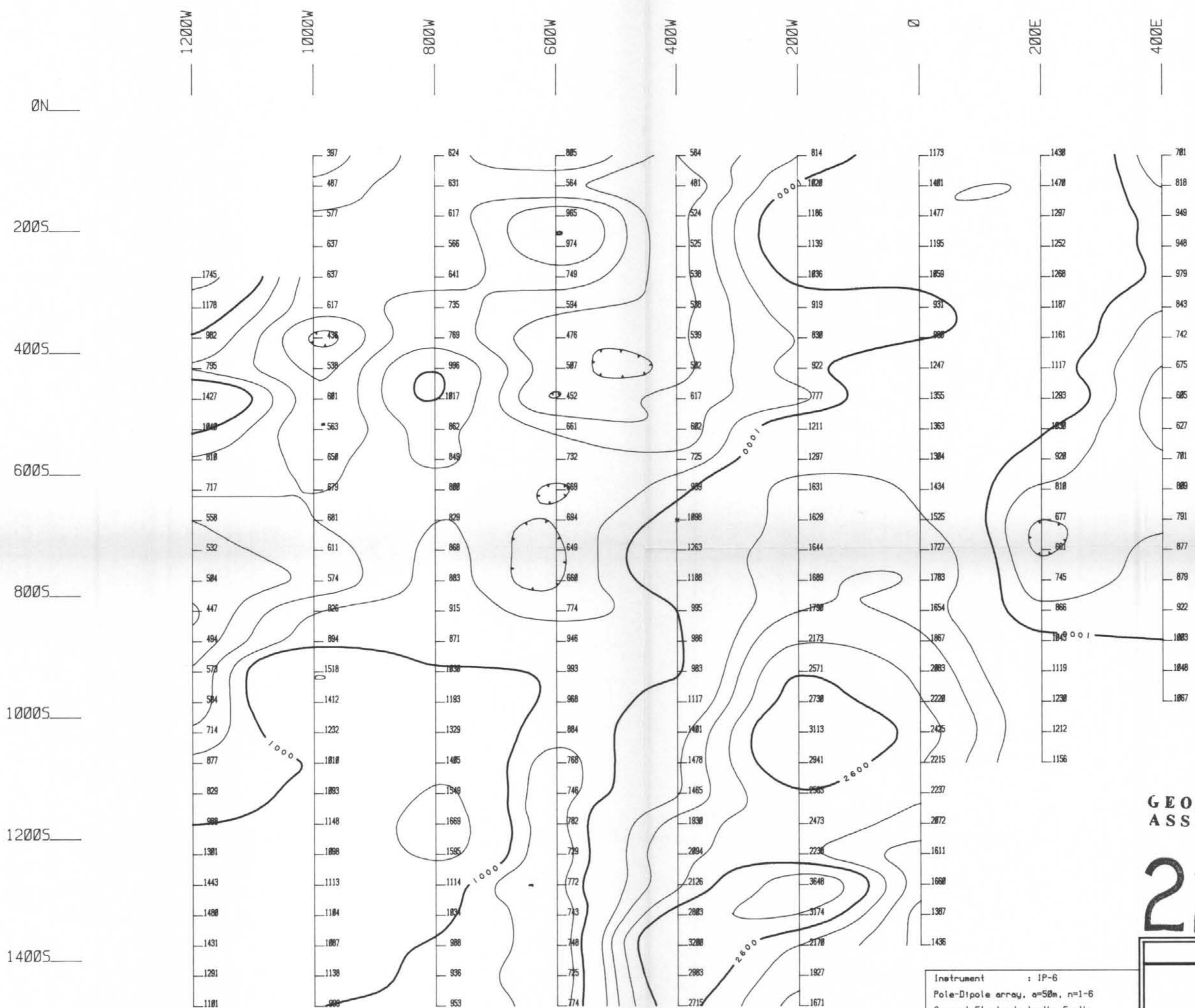
Pacific Geophysical

SEUSOFT (tm) Software For the Earth Sciences, Toronto, Canada









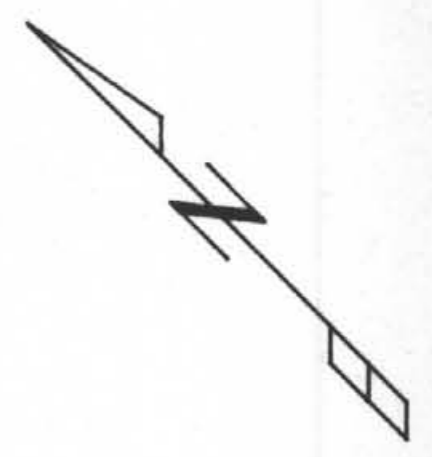
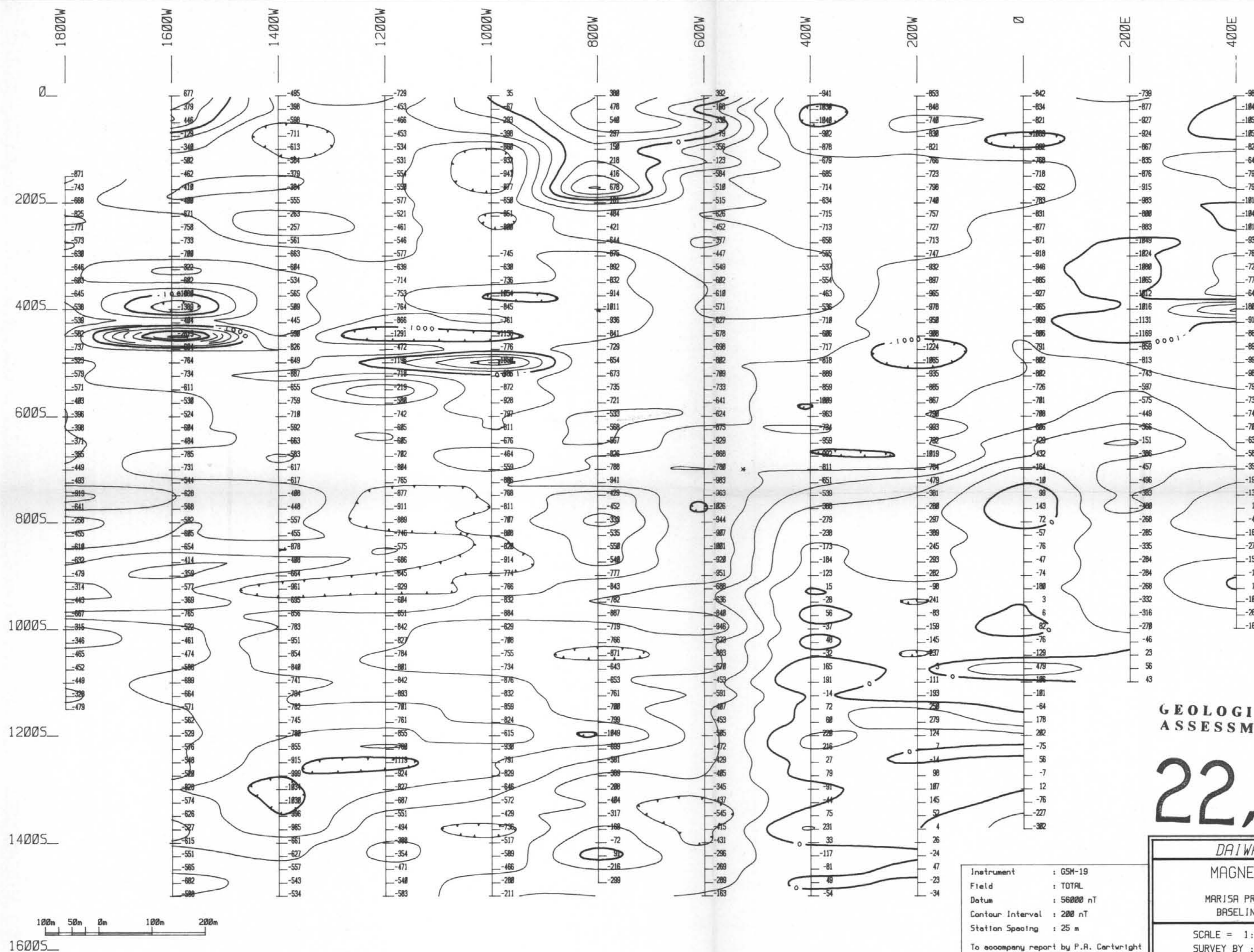
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**22,243**

Instrument : IP-6  
 Pole-Dipole array,  $a=50m$ ,  $n=1-6$   
 Current Electrode to the South  
 Contour Interval: 1,1.5,1.8,2.2,2.6,  
 3.2,3.8,4.6,5.6,6.8,8.3,10,... ohm-m  
 10 Point Filter Presentation: \*

**DAIWAN ENGINEERING**  
**RESISTIVITY SURVEY**  
 MARISA PROJECT, Nanaimo M.D., B.C.  
 BASELINE AZIMUTH : 135 Deg.  
 SCALE = 1 : 5000    DATE : Jan. 92  
 SURVEY BY : MJC/JJ    NTS : 92L/11W,12E  
 PLAN : MRSARES  
 Pacific Geophysical

To accompany report by P.A. Cartwright  
 and M.J. Cormier, dated Feb. 14, 1992.



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**22,243**

Instrument : GSM-19  
 Field : TOTAL  
 Datum : 56000 nT  
 Contour Interval : 200 nT  
 Station Spacing : 25 m  
 To accompany report by P.R. Cartwright  
 and M.J. Cormier dated Feb. 14, 1992.

DAIWAN ENGINEERING	
MAGNETOMETER SURVEY	
MARISA PROJECT, Nonaimo M.D., B.C. BASELINE AZIMUTH : 135 Deg.	
SCALE = 1:5000	DATE : Jan. 92
SURVEY BY : JJ/AS/SF NTS : 92L/11W,12E	
PLAN : MRSAMAG	
Pacific Geophysical	



16005