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GEOCHEMICAL, GEOPHYSICAL AND PROSPECTING

ASSESSMENT REPORT

ON THE

HOLBERG INLET PROPERTY

NANAIMO MINING DIVISION

BRITISH COLUMBIA

GEOLOGICAL BRANCH N.T.S.: 92LM2 ASSESSMENT REPORT



By

MAY 1 1992 -

D.J. Pawliuk, B.Sc., P.Geol.



September 30, 1991

dorlon03.rpt

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In Map Pocket In Map Pocket

SUMMARY

The Holberg Inlet property is located on northern Vancouver Island, British Columbia. A number of zinc, lead, gold, silver and copper showings occur on the claims. Between August 27 and September 15, 1991, Daiwan Engineering Ltd. conducted an exploration program on the Holberg Inlet property on behalf of Cameco Corporation. The object of the program was to determine the source of, and to better define, geochemical and geophysical anomalies outlined during the spring (1991) exploration work on the property. Work included prospecting, soil sampling, IP and magnetometer surveys, rock sampling and geological mapping. This program was designed to test three areas which contain most of the showings on the property, and to attempt to discover new metal occurrences within these areas.

The property is underlain by a conformable sequence of generally east-west striking, moderately southdipping basalt flows of the Karmutsen Formation, limestone of the Quatsino Formation, siliceous siltstone of the Parson Bay Formation (collectively the Triassic Vancouver Group) and mafic to intermediate volcaniclastics of the Jurassic Bonanza Group. This sequence has been intruded by several phases of dykes, sills and stocks, and later cut by a complex series of faults.

The most significant mineralization on the property occurs within the 150 to 300 metres thick Quatsino Formation limestone and the 100 to 300 metres thick Parson Bay Formation.

A total of 254 soil samples was collected on 6.625 km of hip-chain-and-compass surveyed flagged lines. The survey better defined previously known anomalies near the old showings and identified a few small zones with anomalous amounts of gold which may warrant follow-up.

Magnetometer and IP surveys were conducted over 8.94 km of cut crossline. The IP survey outlined several apparent zones of sulphide mineralization and numerous geological contacts. The magnetic survey was conducted by the geophysical crew to aid in the interpretation of the IP data. A few small magnetic highs probably due to the presence of magnetite-bearing skarns were profiled.

The prospecting has resulted in the discovery of several new mineral occurrences on the Holberg Inlet property in the Contact Creek, HPH and Dorlon areas. The Contact Creek and HPH areas warrant additional work to evaluate the mineralization in each area.

Expenditures on the property between August 27 and September 30, 1991 totalled \$64,725.52

INTRODUCTION

At the request of Mr. Robert Chapman, Regional Geologist of Cameco Corporation, Daiwan Engineering Ltd. conducted an exploration program on the Dorlon Claim Group located near Port Hardy, British Columbia. This program consisted of IP and magnetometer surveying, prospecting, geological mapping and geochemical rock and soil sampling. The purpose of this exploration program was to explore in more detail three areas of interest identified during the previous episode of exploration on the property.

During the program, 254 soil and 99 rock samples were collected; IP and magnetometer surveys were performed over 8.94 line-kilometres; three areas within the property were prospected and a limited amount of geological mapping was done. The cut crosslines totalled 8.94 km, and 6.625 km of flagged only crosslines were completed.

This report is a description of work completed on the property between August 27 and September 15, 1991.

LOCATION AND ACCESS

The Dorlon property is centred approximately 21 km west of Port Hardy on northern Vancouver Island, British Columbia (Figure 1).

The gravel road between Port Hardy and Holberg passes through the central part of the property. Logging roads branching out from this main road provide good access to most parts of the property.

TOPOGRAPHY AND VEGETATION

The westerly trending Nahwitti River valley occupies the eastern portion of the property area. This valley is bounded by westerly trending ridges which are cut by narrow creek gullies. Elevations range from approximately 300 to 550 metres a.s.l. The western portion of the property rises steeply from Nahwitti Lake to elevations of 730 metres a.s.l.

The property is within an active logging area with forest cover ranging from mature fir, hemlock, spruce and cedar stands to dense second growth to open clear-cut areas. The lower parts of the Nahwitti River and Kains Creek valleys are covered by thick brush and berry bushes. In areas of previous logging



activity, traverses are difficult because of the dense secondary growth. Recent tree thinning across the property has obliterated much of the earlier grid, and made access difficult.

Rock outcrops are exposed within creek gullies, in logging road cuts and on the steeper hillsides. Thick accumulations of sand and gravel are present on valley floors.

The property is precipitous south of Nahwitti Lake, especially in the vicinity of limestone outcrops.

PROPERTY

This property consists of 25 contiguous claims totalling 120 claim units within N.T.S. map-sheet 92L/12. The property consists of the following contiguous mineral claims located in the Nanaimo Mining Division. The claims are depicted on Figure 2 and listed below:

Name	Record No.	<u>Units</u>	<u>Expiry</u>	Recorded Owner
Dorlon	2455	20	August 13, 1993	Lexa Scott
Iron Hat	2761	12	August 17, 1993	James Scott
Kains	2759	18	August 17, 1993	Lexa Scott
Lexa	2762	4	August 17, 1993	11 11
Quatsino	2760	15	August 17, 1993	11 11
HPH 1	8597	1	July 4, 2000	Hisway Resources Corp.
HPH 2	8598	1	July 4, 2000	11 II
HPH 3	8599	1	July 4, 2000	" . "
HPH 4	2558	2	February 19, 1994	11 11
Nahwitti	2657	16	May 6, 1994	Lexa Scott
Cliff	2769	4	August 19, 1994	Hisway Resources Corp.
JLJ 1	2730	1	April 29, 1994	11 11
Л.Ј 2	2731	1	April 29, 1994	11 11
ЛЈ 3	2732	1	April 29, 1994	11 11
JLJ 4	2733	1	April 29, 1994	11 TI
Iron Fraction #1	4158	1	April 13, 1994	L. Allen
Iron Fraction #2	2 4159	1	April 13, 1994	11 U
Ruth Mary	2757	12	August 17, 1993	Hisway Resources Corp.



Name	Record No.	<u>Units</u>	Expiry	Recorded Owner
Kains 1	3686	1	January 20, 1994	C. Von Einsiedel
Kains 2	3687	1	"	11 II
Kains 3	3688	1		11 11
Kains 4	3689	1	"	" "
Kains 5	3690	1	January 22, 1994	17 11
Kains 6	3691	1	11	11 11
Kains 7	3692	1	1 9 .	,, ,,
Kains 8	3693	1	**	
	Total	120		

claims list cont:

2

The above claims are optioned by Hisway Resources Corporation to Cameco Corporation. The expiry dates shown are the current date, and do not show credit for this assessment report.

HISTORY

A HPH lead-zinc occurrence was discovered about three km east of Nahwitti Lake by M. Hepler, F.K. Hicklenton and S.S. Pugh during 1930. Two shafts, an adit and trenches were excavated on this occurrence during 1930 (Christopher, 1988).

Intermittent mineral exploration since 1930 has included prospecting, geological mapping, geochemical soil sampling, magnetometer surveys, induced polarization surveys, an airborne electromagnetic survey and also the completion of more than 40 diamond drill holes. Numerous showings and 15 named mineral occurrences have been located as a result of this work.

Christopher (1988), Greene and Einsiedel (1990) and Oakley (1990) have outlined the exploration history of the Dorlon (Holberg Inlet) property in some detail.

Hisway Resources Ltd. optioned the property and completed preliminary exploration in 1988 and 1989. Further claims were staked in this period to protect the land holdings and to cover additional showings. Cameco Corporation optioned the property from Hisway Resources Ltd. in April 1991. Cameco Corporation performed a program of geological mapping, soil sampling, stream sediment (dredge) sampling, rock sampling and magnetic/VLF-EM surveys between April and June, 1991 (Allen and Dasler, 1991).

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.).

Vancouver Group

The Vancouver Group rocks consist of the Harbledown Formation sills and argillites, the Karmutsen Formation basalts, the Quatsino Formation limestone, the Parson Bay Formation argillites and cherty tuffs and the Bonanza Formation volcanic breccias and flows.

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 northern coast of Vancouver Island.

Quartz-feldspar porphyry dykes and irregular bodies occur along the southern edge of the belt of stocks. The quartz-feldspar porphyries are thought to be differentiates of middle Jurassic felsic intrusive rocks.

REGIONAL MINERALIZATION

A number of types of mineral occurrences are known on northern Vancouver Island (Figure 4). These include:

- 1. Skarn deposits: copper-iron and lead-zinc skarns,
- 2. Copper in basic volcanic rocks (Karmutsen): in amygdules, fractures, small shears and quartzcarbonate veins, with no apparent relationship to intrusive rocks,





- 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.

PROPERTY GEOLOGY

The Holberg Inlet property is underlain by a conformable sequence of generally east-west striking, moderately south-dipping basalt flows of the Karmutsen Formation, limestone of the Quatsino Formation, fine-grained clastic sediments of the Parson Bay Formation (collectively the Triassic Vancouver Group) and intermediate volcaniclastics of the Jurassic Bonanza Group.

Table 1 - Stratigraphy of the Holberg Inlet PropertyEARLY JURASSIC BONANZA GROUPLATE TRIASSIC VANCOUVER GROUPParson Bay FormationQuatsino FormationKarmutsen Formation

This sequence has been intruded by several phases of dykes, sills and stocks, and later cut by a complex series of faults (Figures 6a and 6b).

The report by G. Allen and P.G. Dasler (1991) outlines the geology of the property in detail. One aspect of the mineralizing events on the property, which has not been determined, is the relationship between the various types of intrusive rocks present and the known mineral occurrences. There are numerous siliceous or felsic rocks on the property that may be either intrusive dykes or else interbeds of felsic tuff. These rocks are very fine grained, with sometimes ghosts of relic feldspars. Occassionally they are speckled with sulphides; often they are barren. Whole rock analyses of these "dykes" indicate that they have widely varying compositions. At least five types of intrusive rock occur on the property (Allen and Dasler, 1991).

MINERALIZATION

The main exploration targets are the Quatsino Formation limestone and Parson Bay Formation sediments and tuffs which extend over the entire length of the property. Significant mineralization is hosted in these rock units in sporadically distributed showings along a discontinuous strike length of 7.7 km. The mode of occurrence and precious metal content of the various showings is not consistent, suggesting that these rocks have been affected by several mineralizing events, possibly related to the various intrusive units.

Structure

The property appears to be underlain by a simple, conformable, upright stratigraphic sequence striking roughly easterly and dipping moderately to the south. Minor folding has occurred but this does not seem to have complicated the stratigraphic sequence. The rocks are, however, cut by a complex set of faults which have apparent offsets of up to 800 m.

PROSPECTING

Twenty man-days were spent prospecting and detail mapping on the Holberg Inlet property during September, 1991. This work was done to investigate three areas of interest outlined during the April-June 1991 exploration: HPH, Dorlon and Contact Creek.

The prospecting was hampered in portions of all three areas by the presence of thick forest and/or recent tree spacing which results in a tangle of fallen trees covering the ground. However, new sulphide mineral occurrences were discovered in all three of the areas. Most of these occurrences were found during follow-up of anomalies from May-June 1991 geochemical soil sampling; this exploration technique works well in the property area.

HPH Area

Numerous new sulphide mineral occurrences were discovered in the HPH area within Quatsino Formation limestone and Parson Bay Formation cherts and ash tuffs (Figure 12).

The most important of these new occurrences is the lead-zinc-silver occurrence in limestone exposed along the south side of the creek at 48+10W/3+60S (Figure 12). Here finely brecciated limestone contains lenses up to 0.6 or 0.7 metre wide mineralized with sphalerite, galena and pyrite occurring within small veinlets, disseminated or as irregular masses. The mineralized zone is exposed for 12 to 15 metres easterly along strike; it is cut off by a subvertical fracture or fault at its western end. This mineralization was thought to form part of a bedded sulphide deposit, however later inspection shows that the mineralization is more likely to represent replacement along the fault system in the creek.

There is evidence of shearing in the outcrop exposures in the vicinity of the showing. A northwesterly trending fault at 51+00W/2+40S likely extends southeastward through the showing area. An anticlinal fold hinge is exposed west of the showing in the creek gully at 48+75W/3+75S.

Two samples of the mineralized material, numbered 76217 and 76218, were collected from the showing. Sample 76217 contains 2.23% lead, 26.20% zinc and 232.7 ppm (6.79 opt) silver. Sample 76218 contains 3.07% lead, 18.05% zinc and 321.2 ppm (9.37 opt) silver. These two rocks also contain up to 451 ppm copper, 2964.7 ppm cadmium and up to 103 ppb gold (Appendices A and B).

To the north of this occurrence, on the south-facing slope of the HPH ridge, are several new (small) sulphide occurrences within interbedded chert and felsic ash tuff of the Parson Bay Formation (Figure 12). These contain up to 5619 ppm zinc, 46 ppm lead, 377 ppm copper and up to 2.4 ppm silver (Appendix A). Most of the occurrences within the Parson Bay Formation rocks appear stratabound with sulphides concentrated within cherty interbeds.

Disseminated honey-coloured sphalerite was found within limestone near the top of the north facing slope of the HPH ridge (Figure 12, Appendix B). Samples 76208 and 76209 were collected from one of these occurrences in metamorphosed limestone containing sphalerite, hydrozincite and galena at 49+00W\1+75S. These contain up to 46,633 ppm (4.66 %) zinc, 30749 ppm (3.07 %) lead and up to 315.3 ppm (9.20 opt) silver. All of the occurrences in this area are within a thickly forested area with limited rock exposure and so are difficult to evaluate. (The area would be accessible to a small excavator).

Siliceous-looking "dyke" material mineralized with pyrite and local pyrrhotite, sphalerite and graphite was sampled at three locales on the north-facing slope of the HPH ridge. These rocks, numbered 76201, 76203 and 76210, contain up to 2440 ppm zinc, 1405 ppm lead, 58 ppm copper, 21.7 ppm silver and up to 23 ppb gold. These three showings are the only new occurrences within the HPH area which appear to be related to igneous intrusions (felsic dykes).

Contact Creek Area

The results of prospecting and geochemical soil sampling in the Contract Creek area are shown on figure 13.

Bands or tongues of garnet skarn occur within limestone at western Contact Creek area at 93+70-W/2+45S. These bands vary from 10 metres down to 1-2cm. This skarn appears to be altered Parson Bay Formation sediments in a couple of places; in other places the protolith may be limestone.

The skarn is most abundant within 25 metres of the contact between the sediments and an intrusive hornblende granite and is likely related to this contact. The skarn bands pinch out and disappear with increasing distance from the contact (Figure 13). Discontinuous chip sample 99388, from one of these bands, contains 63,489 ppm zinc, 2,575 ppm copper, 198 ppm lead, 12.8 ppm silver, 547.9 ppm cadmium and 25 ppb gold across 4.6 metres. This occurrence is likely the "Monzonite Showing" drilled by American Smelting and Refining Co. in 1966. Log cribbing from an old X-Ray(?) drillsite is east and upslope of the occurrence. One of their drill holes reportedly intersected 27.4 m (90 ft) of mineralized skarn (Clarke, 1968); no assays of this drill core are available.

Skarn within limestone at 89+80W\2+10S contains sphalerite, galena, greenockite(?), pyrite (Figure 13). Samples 76223, 76224 and 76225 of this rock contain from 7,141 to 38,344 ppm zinc, 922 to 4,757 ppm lead, 142 to 1188 ppm copper, 2.7 to 4.7 ppm silver, 58.6 to 316.7 ppm cadmium and from 3 to 13 ppb gold (Appendices A and B). This site is near an area of high chargeability detected during the IP survey (Appendix D). The high chargeability may be due to the presence of sulphide minerals.

Pale green to brown, garnet skarn-altered Parson Bay Formation float is mineralized with galena, sphalerite, chalcopyrite, pyrite and pyrrhotite between 2+35S and 6+18S along line 85+00W (Figure 13). Grab samples 99376 through 99385 were collected from this area. These rocks contain up to 55,724 ppm zinc, 5,063 ppm lead, 2,103 ppm copper, 12.6 ppm silver and up to 38 ppb gold. The source area of these rocks was not determined due to a lack of outcrop exposure, but is probably near by.

The source of the high gold concentrations within soil at the northern end of line 96+00W could not be determined due to a lack of outcrop exposure and no boulder float in the area. This area is wooded by mature cedar trees.

Dorlon Area

The results of prospecting in the Dorlon area are shown on figure 11. Several new, small sulphide occurrences were located in this area, mainly within interbedded Parson Bay Formation chert and

limestone.

Rock samples numbered 76247, 99405 and 99406 are from occurrences exposed in the creek gully about 175 m southwest of the Dorlon Shaft occurrence at 18+50W/1+55S; these showings may be part of the original "Dorlon" occurrence. The three rocks contain up to 14,025 ppm zinc, 1,155 ppm lead, 508 ppm copper, 4.4 ppm silver and up to 391 ppb gold (Appendix A). Samples 99405 and 99406 are from interbedded Parson Bay Formation felsic tuff, chert and limestone horizons up to 30 cm thick which contain local pyrite, sphalerite, galena, pyrrhotite, chalcopyrite and magnetite near a felsic dyke. This appears to be replacement-style mineralization within 20 m along strike of the contact with the pale greenish grey felsic dyke. Small scale open folds are present within the sediments. Sample 76247 is of disseminated pyrite and sphalerite within limestone near the intrusive contact with a siliceous-looking dyke.

Grab sample 99400 is of a cherty Parson Bay Formation band 6 to 8 cm wide mineralized with sphalerite, pyrite and greenockite at 24+00W/2+37S. This mineralized band is exposed for 1 metre along strike. The sample contains 29,339 ppm zinc, 321 ppm copper, 12 ppm lead, 4.9 ppm silver and 44 ppb gold (Appendix A).

Grab samples 99392, 99393 and 99394 are of Parson Bay Formation marble or chert mineralized with pyrite, pyrrhotite, chalcopyrite, sphalerite and galena at the intrusive contact with quartz diorite at about 21+90W/1+34S. These rocks contain up to 18,384 ppm zinc, 246 ppm copper, 104 ppm lead, 3.4 ppm silver and 169 ppb gold. These are replacement-style mineral occurrences.

Grab samples 99396 and 99397 are from limestone and Parson Bay Formation cherty tuff at $18+00-W^2+12S$ mineralized with locally up to 0.5% disseminated chalcopyrite and pyrite. Chalcopyrite and malachite also occur spotted along fracture surfaces. The two rocks contain 1,220 and 1,221 ppm copper.

Grab samples 76237 and 76238 are of meta-sediment(?) at 20+01W\0+30N with disseminated pyrite, pyrrhotite, sphalerite, chalcopyrite and galena. They contain 2,270 and 3,190 ppm zinc, 380 and 6,059 ppm lead, 102 and 114 ppm copper, 2.5 and 29.1 ppm silver and 48 and 235 ppb gold respectively.

CONCLUSIONS

- The Holberg Inlet (Dorlon) property is underlain by a conformable sequence of basalt, limestone, siltstone and volcaniclastic rocks which have been intruded by several phases of dykes, sills and stocks and disrupted by a complex set of block faults.
- Geological data collected to date indicate that lead-zinc-silver occurrences within the Quatsino Formation limestone, and polymetallic stratabound occurrences within the Parson Bay Formation are the most promising exploration targets on the property.
- 3) Numerous new showings were discovered during prospecting follow-up of the May, 1991 geochemical soil anomalies in all three areas of detailed work. The soil geochemistry survey also outlined previously known showings and a few small gold anomalies without any known associated bedrock mineralization. This exploration technique works well in the Holberg Inlet property area.
- 4) The southern portion of the HPH ridge area is interesting because the numerous stratabound sulphide occurrences present in Parson Bay Formation rocks do not appear to be related to any intrusive event; no igneous dykes were recognized within this area. These occurrences may thus be due to volcanogenic massive sulphide-style mineralization.
- 5) The new zinc-lead-silver occurrence along the south side of the creek between 48W and 49W at HPH area is hosted by finely brecciated limestone which occurs as lenses which parallel the presumed trace of a northwesterly trending fault of considerable displacement. This showing is probably related to the existence of the fault.
- 6) The new occurrences discovered at the Dorlon area are mostly due to replacement-style mineralization, and are within a few metres of the contact with a younger, intrusive rock unit.
- 7) The soil overlying the Quatsino Formation limestone west of the Dorlon Shaft contains anomalous amounts of zinc. This may be due to the presence of additional sphalerite mineralization within this limestone.

- 8) The IP survey results show that there are a number of zones of high chargeability and low resistivity. These are possibly due to the presence of stratabound sulphide mineral occurrences. Many have a strike length of greater than 200 metres. Almost all of these anomalies correlate with known sulphide occurrences and/or soil geochemistry anomalies. This strongly suggests that the causative source of the IP anomalies is sulphide mineralization (Appendix C).
- 9) The magnetometer survey results show that magnetite-bearing skarns likely exist within the sedimentary rocks on the Holberg Inlet property.
- 10) The source of the high gold concentrations within soil at the northern end of line 96W in Contact Creek area could not be determined due to a lack of outcrop exposure and no boulder float. This area is wooded with mature cedar trees.

RECOMMENDATIONS

- 1) The area with coincident IP and soil geochemistry anomalies at lines 90W and 92W in the Contact Creek area should be further explored by backhoe trenching along the old logging road upslope of these anomalies. Metallic occurrences uncovered during the trenching may warrant testing with diamond drill holes.
- 2) The southern portion of the HPH ridge area should be further investigated. The numerous stratabound sulphide occurrences present in Parson Bay Formation rocks do not appear to be related to any intrusive event. These occurrences may be due to volcanogenic massive sulphide mineralization. Backhoe trenching in overburden-covered parts of this area is needed to determine the extent and grade of these occurrences. Some of them may warrant testing by diamond drill holes.
- 3) The soil overlying the Quatsino Formation limestone west of the Dorlon Shaft contains anomalous amounts of zinc. This may be due to the presence of further sphalerite mineralization within this limestone. Backhoe trenching and rock sampling possibly to be followed by diamond drilling will be needed to investigate these anomalies.

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	Explorations Limited (N.P.L.); private, unpublished report by
	Walter E. Clarke, Professional Engineer.

CERTIFICATE OF QUALIFICATIONS

- I, David J. Pawliuk, do hereby certify that:
- 1.0 I am a geologist for Daiwan Engineering Ltd. with offices at 1030 609 Granville Street, Vancouver, British Columbia.
- 2.0 I am a graduate of the University of Alberta, Edmonton, Canada, with a degree of B.Sc., Geology.
- 3.0 I am a member, in good standing, of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- 4.0 I have practised my profession since 1975.
- 5.0 This report is based upon my personal fieldwork including supervision of the geochemical and geophysical surveys, and on reports of others working in the area.
- 6.0 I have no direct or indirect interest in the property or securities of Cameco Corporation or Hisway Resources Corporation, or in companies with claims contiguous to the Holberg Inlet prop-



STATEMENT OF COSTS

The following expenditures were incurred for exploration on the Holberg Inlet Project between August 27 and September 30 1991.

Personnel		
P. Dasler, Geologist		
2.05 days @ \$380/day	\$ 779.00	
D. Pawliuk, Geologist		
16 days @ \$340/day	5,440.00	
L. Allen, Field Technician		
18 days @ \$260/day	4,680.00	
S. Oakley, Field Technician		
18.5 days @ \$250/day	4,625.00	
R. Bilquist, Field Technician		
19 days @ \$260/day	4,940.00	
T. Sheridan, Office		
2.15 days @ \$220/day	473.00	
Total Personnel		\$ 20,937.00
<u>Disbursements</u>		
Transportation		
4 x 4's - 39 days	2,223.81	
Fuel, etc.	568.76	
Airline	641.61	
Equipment Rental		
Chainsaws - 34 days @ \$28/day	952.00	
Food & Accommodation		
66 days @ \$26.69/day	1,761.65	
Supplies		
Flagging/thread/bags	288.82	
Assays		
255 soil samples, 30 el ICP and Au geochem @ 11.16		
100 rock samples, 30 el ICP and Au FA @ \$10.16		
Misc assays and freight \$8.65	3870.45	
Office & Miscellaneous	175.96	
Geotronics Survey - IP Survey and mag 8.94 km	25,696.00	
Total Disbursements		36,174.53
Disbursement Fees		3,379.71
SUBTOTAL		60,491.24
Plus GST		4,234.28
TOTAL		\$ <u>64,725.52</u>

APPENDIX A

GEOCHEMICAL ANALYSIS CERTIFICATES

APPENDIX A

GEOCHEMICAL ANALYSIS CERTIFICATES

ACME ANA .I	CAL	L	ABOR	ATOP	IES	LTD.		8	52 E.	HAS	TIN	GS	ST.	V	0	UVER	B.C.	. 1	76 A	1R6		рĦ	ONE	(60	4)2	53-	315	8 1	FAX	()25	53-1716
									GE	och	EMI	CAI	A	NA	LYS	IS C	ert	IF	[CA	TE												
TT			Da	iwa	n Er	gin	<u>eer</u> 1030	inc - 60	<mark>g Lt</mark> 9 Gran	đ. Ville	PRO St.,	JE(Van	CT	HO] er B	<u>LBE</u> : v7y	<u>RG I</u> 165	N L.E. Subm	<u>T</u> itteo	F by:	'ile :D.J.	# PAWL	91- .IUK	45	22	1	Pag	je :	1				TT
SAMPLE#	F	No pm	Cu ppm	Pio ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe X	As ppm	U ppm	Au ppm j	Th opmi	Sr ppm	Cd ppm	Sb ppm (Bi ppm j	V opm	Ca X	P X	La ppm (Cr ppm	Mg X	8a ppm	Ti X	B ppm	Al X	Na X	K X	W A	lu** ppb
C 76201 C 76202 C 76203 RE C 76208 C 76204	1	1 4 3 13 60	58 1169 28 78 101	189 5212 177 31246 45	129 17510 338 26466 98	3.4 286.9 6.4 107.4 1.9	43 6 2 17 171	25 6 1 2 10	393 104 323 280 128	5.12 3.90 .96 .39 1.84	18 87 48 17 15	5 5 5 13	ND ND ND ND ND	1 1 3 1 3	318 8 49 12 64	2.0 176.7 3.5 234.4 1.8	2 193 3 23 2	222222	36 19 2 9 115	4.15 .10 1.44 1.54 5.92	.060 .021 .011 .040 .119	2 2 11 2 8	19 17 3 29 29	.71 .02 .16 .02 .05	60 15 34 4 58	.11 .01 .01 .01 .17	5 3 4 10 33	6.28 .19 1.93 .14 1.78	.50 .01 .22 .01 .02	. 15 .02 .07 .02 .02	3 1 1 2	2 4 23 8 4
C 76205 C 76206 C 76207 C 76208 C 76208 C 76209		13 2 45 14 6	42 19 56 76 277	34 34 22 30749 20718	716 207 23 25850 46633	2.4 1.7 .7 107.5 315.3	33 8 73 17 14	4 1 6 2 5	332 166 120 277 335	.21 .38 .94 .38 1.15	33 5 38 15 14	5 5 5 5 5 5	ND ND ND ND	1 1 1 1	320 30 158 14 28	7.4 2.1 .8 233.3 406.4	3 2 23 85	2 2 2 2 2 2	12 3 25 9 8	32.94 5.43 12.46 1.69 2.46	.032 .014 .046 .038 .021	3 2 3 2 2	4 7 8 33 39	.02 .08 .05 .02 .02	4 26 4 6	.03 .01 .08 .01 .01	928 49 87 12 46	.36 .14 1.14 .14 .21	.01 .01 .01 .01 .01	.01 .24 .02 .01 .01	1 1 2 1 1	5 1 9 9 26
C 76210 C 76211 C 76212 C 76213 C 76214		3 1 1 1 9	58 182 4461 94 25 3	1405 62 41 225 29	2440 97 55 9259 3381	21.7 1.8 5.5 4.9 1.7	20 3 247 91 36	14 12 603 28 7	126 1772 538 932 291	1.37 11.79 20.84 2.52 .90	8 22 188 289 56	5 9 6 5 6	ND ND ND ND	1 1 2 1 2	147 2 1 167 254	22.0 3.9 1.2 67.5 65.4	7 2 2 3	2 2 2 2 2	14 5 36 261	1.36 12.80 .68 9.01 17.46	.062 .003 .005 .059 .226	3 2 2 2 17	7 2 4 64 54	.18 .01 .01 .42 .11	87 2 112 121	.12 .01 .01 .13 .07	8 2 6 5 31	1.39 .29 .08 2.97 1.24	.19 .01 .01 .09 .03	.06 .01 .01 .06 .03	1 2 4 1	2 3 9 31 16
C 76215 C 76216 C 76217 C 76218 C 76219		1 6 7 13 1	94 355 85 451 302	17 19362 22832 31870 239	110 99999 99999 99999 99999 1609	.8 186.7 232.7 321.2 3.0	193 31 49 52 85	32 11 21 16 42	574 1136 2859 2211 356	4.62 1.18 1.65 1.44 9.38	4 138 108 189 .3	5 5 5 5 5	ND ND ND ND ND	1 1 1 1	244 35 9 15 20	2.2 791.5 2964.7 2002.5 13.1	2 41 45 52 2	2 2 2 2 2	54 14 11 18 147	3.29 1.62 .34 .56 .67	.068 .026 .026 .026 .042 .101	3 2 2 2 2	164 154 1 86 125	1.27 .05 .02 .04 2.28	55 9 8 11 16	.18 .01 .01 .01 .40	4 2 2 2 2	4.98 .23 .14 .23 1.96	.20 .01 .01 .02 .05	.07 .04 .04 .04 .04	2 1 1 1	4 53 103 72 8
C 76220 C 76221 C 76222 C 76223 C 76224		2 1 1 1	48 107 11 1188 1116	132 120 23 1295 922	714 559 116 38344 26679	1.6 2.1 .5 3.3 4.7	83 102 3 5 3	39 30 1 12 13	432 520 117 13709 8715	1.95 4.71 .28 5.29 10.37	197 25 6 17 10	5 5 5 5 5	ND ND ND ND	1 1 1 1	318 304 413 36 10	6.7 5.6 1.0 316.7 199.1	2 2 2 2 2 2	2 2 2 2 4	135 95 6 11 4	10.19 7.21 43.31 2.73 .90	.114 .091 .020 .024 .025	4 3 2 2 2	104 92 3 28 29	.50 .89 .09 .07 .09	111 144 15 15 5	.25 .24 .02 .02 .01	9 6 2 2 2	8.60 8.20 .35 .38 .12	.42 .36 .02 .02 .01	.27 .28 .02 .03 .02	1 2 1 1	13 9 8 9 13
C 76225 C 76226 C 76227 C 76228 C 76229		1 1 1 1	142 3690 63 10 41	4757 7365 130 103 77	7141 14724 514 186 160	2.7 8.8 .4 .3	2 7 1 1	7 25 1 1	46433 4427 402 1060 228	1.94 2.45 .19 .09 .16	12 13 6 6	26 5 5 5 5	ND ND ND ND ND	3 1 1 1	84 28 442 1126 438	58.6 117.6 3.3 1.4 1.1	2 2 2 2 2 2	4 11 2 2 2	12 12 1 1	5.72 4.93 36.93 41.12 42.63	.020 .019 .022 .015 .025	222222	10 15 1 1	.06 1.13 .04 .02 .04	20 18 5 4 3	.02 .01 .01 .01 .01	2 2 2 5	.44 .46 .16 .06 .11	.01 .01 .01 .01 .01	.01 .01 .01 .01 .01	1 1 1 1	3 6 3 2 1
C 76230 C 76231 C 76232 C 76233 C 76234	- - -	51 5 1 2 4	9 57 15 26 22	6219 105 27788 26428 849	8605 4381 92168 66683 1391	2.3 .4 15.2 5.9 .7	25 27 3 9 106	6 54 89 29	23568 664 6938 13030 2202	.56 .45 2.44 2.36 1.10	8 18 6 17 477	7 5 5 5 5	nd Nd Nd Nd Nd	1 1 1 1 1	251 110 41 17 332	63.0 54.8 738.2 533.7 10.9	2 2 2 2 2	2 2 15 5 2	368 58 10 7 28	10.47 10.15 5.45 2.10 6.18	.035 .032 .091 .043 .051	3 2 2 2 2 2	41 47 75 51 21	. 12 .03 .17 .35 .14	7 49 3 15 29	.02 .08 .01 .01 .07	2 2 2 2 2	.48 1.14 1.09 .31 5.60	.01 .02 .01 .01 .23	.01 .02 .01 .01 .05	1 1 2 3 1	5 2 16 6 14
C 76235 C 76236 STANDARD C/AL	J-R	1 1 18	2900 49 58	1486 67 37	999999 1036 128	20.8	52 64	14 17 29	27965 624 991	15.36 4.27 3.90	276 58 40	7 5 21	2 ND 7	1 1 37	24 111 52	1278.9 9.1 18.7	2 2 15	18 2 18	3 52 56	1.54 3.04 .46	.020 .062 .082	2 3 36	47 46 56	.01 .08 .86	5 40 178	.01 .19 .09	2 2 33	.19 3.37 1.91	.01 .11 .06	.02 .11 .16	2 7 1 13	2476 13 468

TCP - .500 GRAM SAMPLE IS DIGESTED WITH SML 5-1-2 HCL-HMOS-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR NG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB - SAMPLE TYPE: P1 TO P3 ROCK P4 TO P6 SOIL AU** ANALYSIS BY FA/ICP FROM 30 GM SAMPLE.

Samples beginning 'RE' are duplicate samples.





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SAMPLE#	Mo Cu ppm ppm	i Pt 1 ppr	o Zn n ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe X	As ppm	Rh	Au** ppb	Pt ppb	Sr ppm	Cd ppm	S15 ppm	Au** ppb	V ppm	Ca X	P X	La ppm	Cr ppm	Ng X	Ba ppm	Ti X	B ppm	AL X	Na X	K X F	W /	Au** ppb
C 76237	1 102	380	2277	2.5	230	38	2508	5.81	6	5	2	2	317	15.2	2	3	16	8.09	.067	3	46	. 12	12	.12	4	4.95	.28	.04	11	48
C 76238	1 114	6059	3190	29.1	267	45	3826	6.63	17	9	2	1	345	22.8	6	38	16	7.98	070	3	51	18	0	11	3	5.69	37	04	16	235
C 76239	3 28	3 50	178	.6	6	1	436	.99	4	5	2	2	89	1.0	2	2	2	2.10	015	5	7	27	53	03	x	3 00	28	14	1	5
C 76240	1 128	3 2/	5008	1 7	25	10	2089	6 10	27	5	2	1	63	42 K			45	5 85	1054	2	01	80	81	15	10	3 55		20	22	10
C 76241	2 1/7	7 51	200	27	81	10	7.00	6 55	220	ś	2		375	4 1	5	2	79	1.05	070	2	72	1 0/	50	10	5	5.55	21	43	4	71
6 70241	2 14/		5 200	6.1	0.0	50	470	0.33	220	1	2	'	550	1.1	٤	2	50	4.20	.019	3	61	1.04	22	. 17	2	5.30	. 21	102		21
C 76242	2 65	5 34	4 4223	1.5	37	15	1516	3.20	36	5	2	1	77	38.2	5	3	56	3.74	.093	5	78	.23	14	.24	3	2.45	.07	.05	22	22
C 76243	3 49	> 36	5 59	.8	11	10	392	3.98	3	5	2	1	91	.7	2	2	43	1.60	068	2	13	85	25	22	2	2.97	13	06	1	4
C 76247	7 8	5 114	5 14025	4.4	45	24	3770	7.05	509	ō	2	1	03	151 4		3	44	6 69	044	Ā	8	60	34	17	Ā	2 60	08	10	1	रर
D 99351	3 3	ζ <u>1</u>	5 524		24	7	711	1 27	76	Ś	2	. 1	01	4 7	14	2	117	8 17	476	11	70	.00	13	10	~~~	2.00	.00	01	2	10
PE D 00355	1 1 07	ε ο ¹	2 88	1 0	5	2	277	1 00		5	2	1	12	1 0	2	2		0.11	.0.0		- 20	. 2.3	13	- 10		2	14	.01	4	10
KE 0 77333	4 7.	, 2	- 00	1.0	,	2	233	1.00	0	J	2	4	43	1.0	۲	2	4	.04	.017	2	'	.07	43	.04	4	.00	. 10	.05	I	2
D 99352	3 22	2 2	4 217	.2	9	2	216	.56	8	5	2	4	13	2.2	2	2	4	.25	-013	19	7	.09	35	.03	2	.50	.06	.07	1	1
D 99353	10 21	5 1	1 443	7	46	5	500	1 10	25	ŝ	2	1	135	5 8	5	2	204	16 52	6/5	16	42	18	26	no	17	2 52	.00	02	ż	8
D 00354	23 1	, , ,	1 66%		7/	ź	1410	3 00	28	Á	2	4	145	9.5	5	2	25/	14 54	4/3	17	00	.10	4.5	.07	2	4 4 4	.02	1/	2	2
0 00355		ະ 1 7 ວິ	2 0/		14	'	367	1 00	20	Ĕ	2	;	105		2	2	2,74	10.30	.042	13	00	.0/		.04		1.01	.01	. 14		2
D 97333	4 7	7 4	C 94 / 4/75		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- 2	201	1.00		2			40	1.2	<u></u>		4.76	. /0	.019	2	Y	.00	44	.04	~ ~ ~	.92	.17	.05	1	3
0 99350	10 37	r 1	0 1433	2.4	YY	23	401	5.70	21	2	2		207	20.0	د	0	128	0.27	.018	2	21	.23	70	.15	10	3.30	. 19	.11	>	27
D 99357	23 16	6 1	3 2378	.7	117	23	770	3.52	600	5	2	1	126	33.8	3	2	156	4.85	.034	5	26	. 10	79	.16	2	1.87	.20	.03	12	12
D 99358	3 1	2	7 41	.3	6	1	153	.57	11	5	2	- 4	16	.4	2	2	7	.25	.014	11	5	.09	83	.06	4	.35	.06	.08	1	1
D 99359	10 2	8 1	6 1639	.6	102	12	2463	3.48	41	10	2	1	28	8.9	2	3	578	3.33	076	7	01	13	71	.28	रं	1 86	Ω.	04	Å	ġ
0 99360	5 11	0 0	3 170		16	1	258	25	10	š			87	2.8	5	5	15	15 00	011		7	- 1.5			2804	17	- 01	.07	ž	1
0 00361	13 12	1	5 117 6 76		0	11	200	2 11	67	ś	5	4	105	2.0	5	2	14	31 71	.011	2	',	.00	10	.01	170	4 47	.01	.02		
0 77501	13 12	•	0 00	• 1	47		200	2.11	41	,	2	'	173	• *	2	2	40	21.0	.043	2		.00	19	• • •	170	1.04	.00	.05	1	11
D 99362	5 2	1	7 131	.3	31	1	172	-44	6	5	2	1	585	4.0	2	2	152	39.00	.016	2	8	.06	19	.03	31	.47	.02	.01	1	1
D 99363	6 2	8	3 35	2	23	1	184	. 41	7	5	2	1	416	. 4	5	5	20	36 52	028	2	š		Å	01	ā	21	01	01	÷	2
D 99364	53 3	6	3 30		20	2	400	32	44	11	5		158		ž	5	18	28.05	201	<u> </u>	10	.05	ž	.01	77		.01	- 01		2
D 00345	1.2 1	<u> </u>	5 5410	2	127	2	400		77	1	2		77	444 5	2	2	440	20.03	.201	5	77	.00	,	.03	500		.01	.01	-	4
D 00344	15 /	7	4 00	.0	127	7	195	.40	10	5	5		73	4 2	2	2	009	23.30	.033	2	21	.00	· · ·	.05	240	./2	.01	.02	0	4
0 99306	15 4	1	0 90	.4	40	3	102	. 31	10	2	2	1	218	1.2	2	2	14	32.20	.050	5	5	.02	5	.05	21	.52	.01	.01	1	10
D 99367	11 3	9	2 1052	.3	64	2	222	.49	24	5	2	1	258	18.2	5	2	457	34.30	.057	6	13	.05	12	.03	286	.45	.01	.01	5	Z
D 99368	41 29	14	6 379	1.2	126	23	778	2.85	160	5	2	1	207	4.6	2	6	232	4.59	.049	- 4	22	.22	82	.20	6	1.94	.30	.10	1	7
D 99369	6 6	3	2 239	1.2	49	5	300	. 89	37	- 5	2	1	314	8.1	7	2	71	29.24	.632	9	22	.08	29	.05	17	.72	.04	.02	2	7
D 99370	1 84	9	7 61	.9	39	17	279	4.18	5	5	2	1	248	5	2	5	117	7 70	104	Ť	76	75	- . .	10	i i i i i i i i i i i i i i i i i i i	3 05	20	05	-	ò
D 99371	7 51	4 2401	4 57398	314.8	21	13	438	1.83	43	5	2	3	6	567.9	96	6	8	.40	.037	2	4	.06	4	.02	17	.21	.01	.01	i	66
D 99372	1 34	7 10	1 304	30	157	54	279	3 34	8	5	2	1	687	1 0	,	,	54	1. 11	074	,	1/0	3 70	407	-	-		77			
D 99373	1 1 1	· · · ·	0 15	4	6	2	47	40	2	5	2		100	1.0		4	20	4.34	.070		140	2.39	102	.20		0.43		.07		2
D 00374	1	.	7 12		0		2/70	. 12	- C	2	2	1	- 50	2		2	5	.21	.002	2	8	.11	- 4	.01	2	.29	.01	.02	. 1	8
D 00775		1 4 0 0	1 300	1.4	42	- 11	2470	9.12	20	2	2	1	11	2.6	5	2	65	15.03	.042	2	16	.23	6	.04	9	1.34	.01	.01	3	5
D 97373		v y	7 142	1.0	4	_2	901		8	2	2	1	381	1.1	2	2	6	43.49	.005	2	2	.05	- 3	.01	2	. 10	.01	.01	2.	3
0)666 0	1.39	1 40	U 3424	2.4	15	37	13025	12.21	82	6	2	1	29	43.7	2	5	117	17.30	.162	5	26	. 14	61	.27	2	1.14	.01	.01	27	4
d 99377	1 3	0 372	5 13098	10.2	8	27	12827	3.50	7	8	2	1	10	106.4	2	14	13	2.40	.019	2	3	.97	23	.01	2	.50	.01	.01	1.	12
D 99378	2 1	2 171	0 4385	2.5	51	10	7826	9.32	89	16	2	1	19	27.1	2	2	60	11.26	.086	5	10	.31	22	.03	2	.57	.01	.01	29	4
STANDARD C/AU-R	18 6	0 4	0 132	7.2	: 70	32	1042	3.96	41	17	6	37	52	18.8	16	19	57	.49	.090	38	58	.88	177	.09	34	1.88	.06	. 15	11	474





SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe X	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca X	P X	La ppm	Cr ppm	Mg X	Ba ppm	Ti X	B	AL X	Na X	K X	W ppm	Au** ppb
D 99379	1	17	5063	12231	12.6	91	27	6627	3.66	35	5	ND	1	11	91.2	2	17	71	5.82	. 182	9	10	.49	7	.05	3	.83	.01	.01	1	6
D 99380	333	75	344	10361	.9	146	96	13741	4.18	31	5	ND	1	- 16	83.5	2	2	1087	4.19	.066	- 5	68	.83	170	.06	2	1.30	.01	.01	1	6
D 99381	17	- 99	54	810	.6	49	11	1489	1.64	35	5	ND	1	- 78	8.9	2	2	157	13.14	. 126	4	38	.06	- 79	.08	3	1.85	.85	.05	5	3
D 99382	4	78	188	2825	.7	38	11	939	.90	31	5	ND	1	85	30.6	2	2	72	4.77	.561	9	10	.07	154	.08	4	1.70	.10	.04	17	3
0 99383	65	2103	195	55724	5.9	47	177	5338	2.22	19	5	ND	2	61	489.9	7	18	210	1.89	.040	5	29	.70	49	.03	15	.72	.01	.01	2	9
RE D 99387	9	32	52	2146	.5	7	6	1192	1.86	3	5	ND	3	33	17.2	2	2	39	3.45	.031	5	8	.31	24	.08	6	2.29	- 04	.05	10	4
D 99384	7	91	27	53692	2.4	42	76	2368	1.95	12	- 5	ND	- 3	81	451.6	8	- 5	- 99	4.36	.067	- 3	20	1.25	9	.05	14	.94	.01	.01	1	6
D 99385	1	26	4495	8979	8.2	- 88	18	8380	3.96	25	- 5	ND	1	6	57.0	2	11	61	4.34	.081	- 4	12	.67	9	.05	- 5	.75	.01	.01	20	38
D 99386	3	1563	27	38099	6.2	3	19	17433	31.74	43	9	ND	1	2	318.8	- 19	15	9	5.90	.006	2	1	.06	2	.01	21	. 16	.01	.01	1	19
D 99387	8	30	50	2013	.2	7	6	1088	1.70	3	5	ND	2	30	15.9	2	2	35	3.06	.027	5	7	.29	22	.07	2	2.07	.04	.04	10	4
D 99388	2	2575	198	63489	12.8	6	34	22863	31.26	79	8	ND	۰2	3	547.9	25	46	8	5.43	.015	3	1	.12	3	.01	27	.29	.01	.01	1	25
D 99389	1	1002	19	29562	5.5	2	20	18160	32.20	78	10	ND	1	3	273.4	17	16	5	5.56	.014	2	1	.08	3	.01	20	. 18	.01	.01	1	14
D 99390	1	1699	13	27792	5.8	3	32	15478	23.62	84	5	ND	1	37	242.0	14	16	8	4.66	.017	3	1	.30	5	.02	15	.47	.01	.01	1	17
D 99391	2	195	32	10657	1.6	19	10	2599	3.14	16	5	ND	1	203	82.1	2	2	11	22.23	150.	2	11	.18	13	.03	- 3	.80	.04	. 14	1	93
D 99392	136	246	87	2797	3.4	142	19	898	6.15	12	5	ND	1	250	25.8	5	3	67	5.81	.087	6	39	.04	15	.20	9	3.55	.13	.06	16	115
D 99393	5	245	47	4129	2.5	24	5	1942	2.66	16	5	ND	1	263	32.6	2	2	5	28.14	.019	4	2	.03	15	.03	7	1.70	.04	.02	26	129
D 99394	11	141	104	18384	3.3	5 14	- 5	1883	1.80	37	- 5	ND	1	317	' 149.7	5	2	11	31.34	.024	3	1	.01	16	.03	8	2.45	.11	.04	1	169
D 99395	14	65	i 13	430	.5	5 33	- 14	353	2.90) 9	5	ND	1	326	3.9	2	- 3	6 0	3.31	.041	2	25	.50	28	. 19	7	4.51	.81	.09	1	10
D 99396	1	1220) 8	143	- 1.1	1	1	1234	. 35	i 4	5	ND	1	198	1.2	2	7	2	40.55	.001	2	1	.04	. 3	.01	2	. 14	.02	.01	2	8
D 99397	1	1221	5	392		8	3	1319	.47	9	5	ND	1	194	2.9	2	6	7	37.92	.005	2	22	.16	7	.02	2	.43	.01	.02	3	10
D 99398	17	471	1 18	695	1.3	5 147	38	252	4.4	201	5	ND	1	473	7.5	2	2	45	4.70	. 144	5	108	.59	79	.11	6	4.44	.24	.31	3	12
D 99399	1	77	7 28	156	• .e	5 193	- 38	250	4.56	5 12	5	ND	1	378	.6	- 3	2	- 35	3.88	.064	- 4	99	1.21	72	.07	4	5.64	.46	. 16	1	12
D 99400	1	321	l 12	29339	4.9	7	21	865	6.0	5 184	5	ND	2	2 16	5 313.4	16	8	63	2.52	.039	2	27	.53	5 9	.20	14	2.19	.03	.02	1	44
D 99401	1	1136	5 12	2 300	1.5	5 396	113	771	8.18	3 395	5	ND	1	3	5 2,9	4	8	17	'.73	.017	7 2	13	.07	r 10	.01	- 4	.17	.01	.01	2	12
D 99402	1	2 1760	34	154	1.1	278	77	2302	7.1	238	5	ND	1	19	9 1.3	2	10	103	3.56	.296	9) 47	.03	5 15	.03	3	.59	.01	.01	3	4
D 99403	.	8	5 e	5 4403	5 1.0) 6	5	294	1.1	2 38	5	ND	1	362	2 41.2	2	2	10	37.73	.016	5 2	2 2	.10) 4	.02	3	.32	.01	.01	26	8
D 99404	1'	174	4 ε	3 339	2 1.5	5 74	21	277	6.2) 50	5	ND	1	61	3.0	14	. 4	162	2 1.37	.064	5	i 79	.90) 69	.17	6	1.83	.06	. 10	1	48
D 99405	· ·	1 54	4 1155	5 4986	5 2.4	4 19	14	1781	5.0	1 67	5	ND	1	39	9 54.0) 6	, 2	47	9.20	. 056	57	7 11	.55	2 4	- 17	' 3	2.39	.01	.01	27	13
D 99406		2 508	B 16	5 140	2.0	0 109	71	819	27.2	8 147	5	ND	1	15	5 1.0) 2	: 3	35	5 3.31	.025	i 3	5 18	.07	7 10	.01	7	. 28	.01	.01	- 4	391
STANDARD C/AU-R	1	7 51	8 30	5 132	2 7.1	1 70	31	1039	3.9	3 40	15	6	37	7 54	18.6	i 16	18	56	5.48	.090	38	3 58	.88	3 177	7 .09	34	1.89	. 06	. 15	11	467





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SAMPLE#	Мо ррл	Cu ppm	РЬ ppm	Zri ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe X	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca X	P X	La ppm	Cr ppm	Mg X	Be ppm	TI X	8 ppm	Al X	Na X	K X	W ppm	Aut (ppb	10
91W 0+25S 91W 0+50S 91W 0+75S 91W 0+75S 91W 1+00S 91W 1+50S	1 1 1 1 1	83 65 184 177 35	141 97 251 26 26	333 465 1288 1040 379	1.9 1.9 5.6 2.7 1.1	20 28 40 21 22	19 25 28 21 15	4533 2446 5859 2738 15383	5.73 5.24 9.97 8.45 4.23	18 24 54 71 19	5 5 5 6	nd Nd Nd Nd	1 1 1 1	50 52 44 53 126	2.9 4.5 8.7 7.6 5.9	2 2 2 2 2 2 2	3 2 3 6 2	85 75 62 31 45	1.75 2.17 3.31 5.93 3.02	.059 .087 .075 .075 .145	2 2 6 4 4	52 47 37 23 22	.22 .24 .47 .27 .47	24 27 86 37 137	.16 .12 .11 .06 .10	2 4 5 1 2 4 9 1 3 1	4.87 3.75 4.04 1.81 3.53	.02 .02 .02 .01 .01	.02 .02 .02 .02 .02	1 1 3 1	43.4 49.6 68.7 35.5 10.6	
91W 1+75S 91W 2+00S 91W 2+50S 91W 2+75S 91W 2+75S 91W 3+00S	1 1 1 4	17 25 24 20 42	38 43 224 163 67	205 78 306 356 136	.8 .2 .3 1.5 .5	16 19 22 70 17	14 7 7 5 11	1614 295 661 6111 1134	3.59 4.33 5.04 4.47 4.03	32 12 71 77 17	5 5 7 5	ND ND ND ND ND	1 1 1 1	122 27 21 138 25	2.0 .4 .9 3.8 1.2	2 2 2 2 2 2	2 2 2 2 2 2	50 163 163 78 139	2.01 .59 .70 3.24 .94	.111 .021 .065 .228 .066	3 2 8 4	21 52 26 8 54	.20 .17 .12 .21 .20	27 22 18 138 22	.10 .29 .25 .04 .22	3 2 3 2	3.66 1.20 2.21 6.17 6.25	.02 .03 .01 .05 .01	.03 .01 .02 .04 .01	1 1 1 1	3.2 4.2 5.1 5.3 7.7	
91W 3+255 91W 3+505 91W 3+755 91W 4+005 89W 0+255	3 2 3 1 2	23 16 37 12 82	37 24 26 11 13	86 44 104 22 46	1.0 .5 .4 .1 .4	13 13 14 10 12	8 2 4 5 7	683 560 316 199 134	5.38 3.90 3.81 4.71 4.95	26 11 14 3 5	5 5 5 5 5	ND ND ND ND	1 1 1 2	21 19 24 15 46	.9 .9 1.2 .6 1.7	2 2 3 2	2 2 2 2 2	168 148 129 208 120	2.30 3.40 1.15 .52 .41	.033 .027 .035 .010 .038	4 3 2 3	55 34 47 34 49	. 15 . 12 . 19 . 05 . 19	23 34 24 13 20	.24 .23 .24 .32 .23	2 2 2 2 2 2	4.64 1.84 6.26 .68 6.77	.02 .02 .01 .02 .02	.02 .02 .01 .01 .02	1 1 1 1	8.5 5.3 3.2 2.4 3.3	
89W 0+50S 89W 0+75S RE 89W 2+25S 89W 1+00S 89W 1+25S	1 6 10 4 5	42 21 37 20 19	15 28 46 23 19	33 79 127 55 36	.3 .8 .8 .4 .2	26 9 17 13 10	9 5 7 6 5	109 420 763 195 148	7.31 5.06 7.50 6.17 7.69	3 12 29 9 14	5 5 5 5 5	nd Nd Nd Nd	1 1 2 1 1	23 26 33 30 22	.6 1.5 1.4 .9 .8	2 2 2 2 2	2 2 2 2 2	248 199 183 223 304	.27 2.33 3.91 .91 .44	.016 .020 .045 .018 .011	2 2 3 2 2	171 32 31 41 47	.13 .22 .35 .16 .10	19 21 28 33 13	.35 .30 .19 .31 .47	2 2 2 2 2	1.47 2.74 3.09 1.60 2.23	.02 .02 .01 .02 .02	.02 .01 .01 .02 .01	1 1 1 1	8.7 3.3 6.7 4.5 2.5	
89W 1+50S 89W 1+75S 89W 2+00S 89W 2+25S 89W 2+25S 89W 2+50S	4 5 6 10 6	28 24 28 34 33	15 17 42 40 31	40 74 112 121 97	.6 .5 .8 .7 .4	5 9 19 17 15	5 4 5 6 7	102 218 472 748 574	8.27 4.37 5.10 7.18 3.49	10 11 18 28 17	5 5 5 5 5	ND ND ND ND	2 1 1 1	31 38 34 32 44	1.0 .8 1.0 1.9 1.5	2 2 2 2 2	2 2 2 2 2	236 142 157 174 104	.54 .71 2.25 3.85 3.23	.013 .019 .026 .043 .061	2 2 3 4	23 30 31 30 23	.11 .22 .37 .33 .31	16 18 50 26 27	.47 .39 .21 .18 .10	2 2 3 2 3	3.67 2.53 2.13 2.89 2.74	.02 .02 .02 .01 .01	.01 .01 .01 .02 .02	1 1 1 1	1.4 4.0 1.9 3.3 3.9	
89W 2+755 89W 3+005 89W 3+255 89W 3+505 49W 0+505	9 12 8 8 1	69 45 31 40 27	76 55 32 74 77	315 97 94 120 151	.8 .6 .7 .5 .8	25 14 14 12 15	7 5 4 7	457 225 251 222 266	3.32 3.41 5.03 1.73 6.97	24 16 13 11 25	5 6 5 5 5	nd Nd Nd Nd Nd	1 1 1 2	35 30 30 28 21	1.4 1.0 .8 1.0 1.4	2 2 2 3	2 2 2 2 2	167 162 175 120 171	1.64 .78 .77 .73 .48	.086 .048 .042 .040 .029	4 3 3 2	43 45 35 46 49	.45 .26 .20 .22 .21	44 35 34 27 24	.18 .22 .20 .22 .34	2 2 3 2	5.20 4.28 3.31 4.31 3.54	.02 .02 .03 .02 .02	.01 .02 .02 .02 .02	1 1 1 1	7.6 3.5 2.5 2.6 6.8	
49W 0+75S 23W 1+50N 23W 1+25N 23W 1+25N 23W 1+00N 23W 0+75N	1 1 4 7 38	52 17 22 16 44	124 13 14 12 11	370 31 44 140 690	4.5 .3 .2 .2	39 4 6 17	11 2 6 26	4023 163 115 323 14818	3.83 1.49 2.49 4.88 1.65	230 3 7 4 11	5 5 5 7	NÐ ND ND ND	1 2 1 1 1	91 13 14 23 52	4.2 .2 .3 .9 11.5	3 4 2 3 2	2 2 2 2 2	60 124 169 182 42	2.44 .19 .22 .70 3.74	. 165 . 023 . 037 . 029 . 094	7 3 3 2 2	24 48 47 27 14	.42 .06 .13 .15 .07	95 25 22 30 129	.06 .48 .40 .38 .04	5 2 2 11	4.59 1.92 2.91 1.48 1.95	.03 .02 .02 .03 .02	.05 .03 .03 .03 .03	1 1 1 1 1	6.8 2.6 1.0 1.6 2.0	
23W 0+50N 23W 0+25N STANDARD C/AU-S	1 2 18	20 86 57	25 11 40	86 110 133	.3 .3 7.1	8 20 70	3 8 32	433 377 1035	3.89 4.05 3.98	20 27 40	5 5 20	ND ND 6	1 2 40	13 20 52	.8 8. 17.5	2 2 16	2 2 17	196 107 55	.41 .60 .48	.018 .053 .092	2 2 37	41 42 57	.12 .25 .90	20 18 178	.41 .23 .08	2 2 34	1.84 5.89 1.91	.01 .02 .06	.02 .02 .14	1 1 11	3.7 3.2 48.3	





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SAMPLEN	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	N1 ppm	Co ppm	Mn ppm	Fe X	As ppm	U PPM	Au ppm	Th ppm	Sr ppm	Cd ppm	sb ppm	Bli ppm	V ppm	Ca X	Р Х	La ppm	Cr ppm	Mg X	Be ppm	Tí X	B A ppm 2	Na X	K X	W Pipin	Au*cw ppb	7
234 0+00	4	52	9	94	.6	7	2	155	4.29	18	5	ND	3	10	.2	2	3	107	.19	.044	5	53	.15	12	.30	3 8.3	.01	.01	1	16.9	ļ
23¥ 0+25S	16	59	101	898	.9	72	10	347	4.12	108	18	ND	1	26	3.2	5	3	515	.83	.058	12	106	.16	34	.21	7 6.1	.01	.01	4	4.9	1
234 0+505	4	107	28	626	1.0	46	10	534	3.37	128	18	ND	1	33	6.8	2	3	149	1.05	.045	10	76	.29	22	.21	16 4.2	.02	.02	1	130.0	
234 0+755	7	67	77	1017	1.6	111	25	3374	4.06	45	11	ND	1	25	6.1	3	3	645	96	.126	13	86	. 27	34	16	2 4 3	5 .01	.01	ż	46 4	1
23W 1+00S	9	86	61	1114	1.3	137	26	5673	4.76	82	14	ND	1	26	12.5	2	2	493	.98	.205	13	83	.37	51	.11	2 6.6	.01	.01	5	48.1	
234 1+255	2	147	45	5438	1.3	556	16	2868	2.64	16	7	ND	1	33	17.2	2	3	3299	5.90	.326	18	156	.61	38	. 12	2 2.7	.01	.01	32	4.3	
23W 1+50S	7	40	47	539	1.6	39	65	2623	5.14	37	9	ND	1	34	2.4	6	2	307	1.18	.286	9	72	. 15	45	.17	4 6.0	7.01	.01	2	31.9	
23W 1+75S	9	25	54	174	.7	14	19	950	6.49	- 28	5	ND	1	13	.6	2	3	235	.28	.047	5	50	.11	18	.23	2 5.2	3.02	.01	1	10.6	
23W 2+00S	6	27	40	360	.7	30	8	611	6.82	26	5	ND	1	16	1.1	2	2	294	.46	.040	4	57	. 39	24	.30	3 3.8	5 .02	.02	1	10.7	i
23W 2+25S	3	17	21	55	8.	2	2	342	8.65	27	5	NĎ	1	9	.2	2	3	242	.20	.035	3	9	.22	13	.37	2 2.0	5.02	.02	1	7.2	
23W 2+50S	2	11	20	56	.8	2	1	305	5.93	33	5	ND	1	12	.2	2	3	182	.29	.041	3	7	.26	15	.36	3 1.6	8.02	.04	1	24.4	
23W 2+75S	1	8	13	64	.4	2	2	346	3.95	- 35	5	ND	1	12	.3	2	2	156	.45	.057	2	5	.54	13	.23	3 1.4	8.05	.07	1	4.7	
23W 3+00S	4	22	43	153	.7	6	- 4	512	6.05	40	5	ND	1	12	.2	2	2	163	.24	.082	2	44	. 19	20	.31	2 6.1	9.02	.02	1	2.5	
21W 1+50N	3	28	27	70	1.0	9	3	255	6.25	38	5	ND	1	10	.2	z	4	172	.28	.034	6	56	. 16	12	.37	2 4.0	7.01	.01	1	2.9	
21W 1+25N	2	111	101	553	1.6	36	19	3038	4.66	110	5	ND	1	31	5.7	2	4	95	.74	.062	8	37	.41	49	.22	3 3.7	8.02	.03	1	23.0	
21W 1+00N	1	22	83	226	2.1	13	7	552	5.05	84	5	ND	1	15	1.2	2	3	137	.54	.027	3	40	. 10	22	.28	2 1.3	z .02	.02	1	4.7	
RE 23W 1+25S	2	152	48	5736	1.3	569	16	2866	2.80	15	5	ND	1	34	17.7	2	2	3453	6.22	.331	19	161	.62	39	.14	2 2.8	0.01	.01	31	2.7	
21W 0+75N	2	17	28	89	.7	8	4	874	4.82	29	5	ND	1	10	.7	2	3	164	.21	.027	4	43	. 13	17	.39	2 2.5	9 .01	.01	1	4.4	
211 0+00	2	14	30	101	1.7	9	Å	1124	3.40	57	ŝ	ND	1	10	.5	2	3	128	.25	.034	2	20	.08	15	.24	4.8	1 .01	.02	1	12.1	
214 0+255	1	48	118	518	1.0	12	13	4173	3.96	31	5	ND	1	22	4.1	2	2	67	.69	.060	5	21	.24	21	.17	3 5.1	0 .01	.03	1	430.0	
21W 0+50S	1	23	115	953	2.8	17	8	3752	3.28	105	5	NÐ	1	44	5.1	2	2	60	.69	.062	6	23	.23	38	. 10	2 2.8	3.0	2 .04	4	21.1	
21W 0+50S (DUP)	1	106	172	2522	3.1	43	19	9914	5.86	127	5	ND	1	52	16.6	2	2	- 29	1.89	.542	9	16	.34	102	.05	8 5.5	2.07	2 .03	12	130.0	
21W 0+75S	1	113	89	4642	1.5	81	20	26586	9.41	1045	6	ND	1	31	47.3	2	- 4	72	.69	.094	21	42	1.03	177	.06	2 3.7	0.0	2 .02	24	180.0	ļ
21V 1+00S	4	43	70	3931	1.3	109	7	11077	2.31	96	5	ND	1	128	38.2	2	2	30	3.39	. 181	9	7	. 30	132	.04	94.2	4 .02	2 .09	22	63.8	
21W 1+25S	8	16	22	404	1.2	26	8	651	2.62	68	5	ND	1	21	2.3	z	3	105	.62	.021	4	25	.23	34	.27	6 1.2	3.0	.03	1	2.5	
21W 2+00S	45	44	21	180	.6	12	35	986	2.36	30	5	ND	1	18	2.8	2	2	91	.56	.221	11	38	.07	33	.05	4 4.8	2.0	2 .02	1	3.2	
21W 2+25S	- 44	- 34	20	142	.5	11	31	682	2.18	20	5	ND	1	15	2.3	2	2	86	.48	.144	9	30	.04	27	.04	3 3.9	4 .0'	I .02	1	3.6	
21W 2+50S	5	51	41	151	.3	17	7	409	1.52	17	5	ND	1	105	1.3	2	2	57	2.23	.087	5	23	.34	38	.08	7 3.1	6 .04	.06	1	.9	
218 2+755	6	54	26	651	1.0	37	22	5666	3.21	27	5	ND	1	52	9.3	2	2	114	1.42	.067	6	32	.23	36	. 18	3 2.2	7 0	.06	1	4.8	
21W 3+00S	6	20	14	88	.4	16	2	254	3.45	30	5	ND	1	18	.6	2	3	220	.48	.032	3	104	.61	20	.45	3 2.2	7 .0	2 .04	. i	3.2	
19W 2+00N	2	8	12	68	.3	4	2	388	2.56	11	5	ND	1	23	.5	2	2	133	.68	.016	3	21	.13	20	.39	2.8	8.0	2.02	1	2.0	
19W 1+50N	1	83	40	4817	2.0	- 38	- 4	16627	1.00	33	6	ND	1	78	50.0	2	2	18	4.72	.153	10	11	.08	241	.02	19 1.5	7 .0	.02	26	18.7	
19W 1+25N	1	74	116	2387	2.3	51	13	30800	4.24	97	6	ND	1	38	16.7	2	2	59	1.20	. 145	14	23	.25	169	. 11	244	0 .0	t .03	ō	5.9	
19W 1+00N	1	47	60	2988	1.0	30	14	20464	3.92	71	ŝ	ND	1	47	21.0	5		- LA	2 15	110	15	31	12	240	0.8	4 4 4	2 0	1 07	14	1 4	
19W 0+75W	3	71	61	456	.9	28	17	8462	5.81	82	5	ND	i	11	4.7	ž	Ž	96	.46	.067	6	60	.26	28	.24	2 5.7	5 .0	1 .01	1	144.0	
19W 0+50N	2	63	23	243	1.1	16	13	5831	4.76	32	5	ND	1	12	1.4	2	2	134	.26	.055	4	50	. 25	29	.31	2 5.3	3.0	2 .01	1	11.4	
19W 0+25N	2	23	62	221	1.7	14	9	2338	6.01	- 43	5	ND	1	14	1.1	2	3	161	.27	.043	ż	50	.25	19	.35	2 3 4	1 .0	2 .02	1	5.3	Ĩ
STANDARD C/AU-S	19	58	- 39	2 132	6.9	71	33	1033	3.99	40	18	7	- 36	54	18.4	15	18	55	.50	.092	37	58	. 88	179	.09	34 1.8	8 .0	5 .15	13	46.7	





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 SAMPLE#	Мо ррп	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Min ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca X	P X	La ppm	Cr ppm	Mg X	Ba ppm	Ti X	B ppm	Al X	Na X	K X	¥ ppm	Au* (/C	, gm)
 199 0+00	1	30	211	1351	1.4	48	14	9904	3.89	39	5	ND	1	79	8.3	2	3	75	1.97	.229	6	23	.49	40	.13	14	5.08	.02	.07	6	7.9	
19¥ 0+25s	1	71	1087	4125	7.3	51	9	12195	3.17	86	12	ND	1	160	28.1	2	2	45	6.70	.610	16	10	.90	64	.05	20	3.75	.01	.09	30	19.6	
19₩ 0+50S	1	106	2497	6957	5.3	48	12	38397	3.99	72	7	ND	1	76	105.9	2	2	37	1.75	.591	5	6	.33	59	.04	6	2.88	.01	.06	33	210.0	
RE 19W 1+50S	2	31	321	814	1.3	45	24	3853	3.67	108	5	ND	1	43	4.1	3	4	99	.42	.100	7	57	.18	43	.21	2	6.68	.01	.02	5	9.0	
19W 0+75S	1	40	213	3860	1.7	46	13	28017	3.66	56	6	ND	1	79	31.1	2	2	85	1.70	.556	6	23	.45	204	.11	2	4.35	.02	.03	25	13.1	
19W 1+00S	1	91	54	525	.8	17	13	3179	4.21	58	5	ND	1	17	3.7	2	5	109	.37	.041	5	43	.37	23	.32	2	4.41	.02	.02	2	18.7	
19W 1+25S	1	10	74	188	3.2	17	7	1740	1.46	28	5	ND	1	52	2.0	2	2	63	1.54	.113	2	8	.14	20	.11	4	1.07	.02	.02	1	3.7	
19W 1+50S	2	31	318	740	1.4	46	25	3794	3.86	111	5	ND	1	46	3.1	2	4	104	.42	.102	8	60	.18	45	.21	3	6.99	.01	.02	3	10.5	
19W 1+75S	25	26	53	367	.4	29	16	1791	6.60	57	7	ND	1	8	2.1	2	3	708	2.54	.022	7	55	.13	14	.38	3	2.38	.01	.01	1	9.6	
19W 2+005	9	10	13	139	.3	7	2	708	8.81	41	5	ND	1	6	.7	2	3	425	4.03	.023	4	84	. 18	5	. 38	2	1.38	.01	.01	1	31.2	
STANDARD C/AU-S	18	59	42	129	6.9	70	32	1037	3.93	38	16	7	36	51	17.2	15	19	56	.48	.091	36	59	.88	171	.09	34	1.88	.06	. 15	13	45.2	

awite hus	ILa	LA	 .B	L'OR	- I e e	LTD	•	8		. Ha	_ Aire	igs	 	V		En 1				- Ku	Ĕ	avni	Z(60		53	- 	 Fn	-, ⁻)-		.72.
		•		. *					GI	EOCH	EMI	CAI	A	IAL	YSI	5 CI	2RT)	FI	CAT	2; ·											
H						Da	aiwa	an i	Eng	inee 1030	erir - 60	1 g] 9 Gra	Ltd.	e St.	F , Van	ile couve	# 9 r BC)1-4 V7Y 1	422 65	4	Paç	je 1	Ľ		÷					Ľ	Ê
SAMPLE#	Мо ррт	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe X	As ppm	U ppm	Au ppm	Th ppm	\$r ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca X	P X	La ppm	Cr ppm	Mg X	Ba ppm	Ti X	B ppm	Al X	Na X	K X	W ppm	Au# ppb
95W 0+25S 95W 0+50S 95W 0+75S 95W 0+75S 95W 1+00S 95W 1+25S	8 7 9 4 10	88 28 27 112 174	93 30 20 38 95	511 158 69 285 724	.8 .5 .3 .5 1,4	33 14 7 25 45	14 5 2 12 26	2393 709 218 1333 2921	4.60 4.17 3.12 4.30 6.28	25 15 4 15 38	5 5 5 5 8	ND ND ND ND	1 1 1 1 1	49 35 23 39 45	4.2 1.3 .4 2.5 7.2	2 2 2 2 2	2 2 2 2 2 2	178 133 106 119 215	2.20 1.03 .62 1.26 2.18	.100 .033 .017 .064 .116	7 5 5 6 9	40 23 32 39 48	.35 .20 .12 .30 .62	53 30 24 33 63	.13 .21 .27 .19 .14	3 2 2 2 2 2	3.27 2.08 2.08 4.80 4.31	.02 .02 .01 .02 .02	.02 .02 .02 .02 .02	1 1 1 1	4.0 3.2 4.7 7.7 2.3
95W 1+50S 95W 2+00S 95W 2+25S 95W 2+50S 95W 2+75S	5 2 4 5 4	124 133 57 50 33	48 79 20 15 19	407 934 182 142 112	.9 .6 .5 .5	41 48 23 20 13	21 21 16 14 8	1358 1234 1459 1294 693	4.42 4.56 4.46 4.69 5.69	26 26 14 12 11	5 5 5 5 5	ND ND ND ND ND	3 2 2 2 4	62 67 64 61 44	3.9 3.8 .9 1.0 .6	2 2 2 2 2	2 2 2 2 2 2	151 99 97 97 117	1.84 1.92 1.75 1.68 .85	.078 .104 .058 .056 .035	9 12 6 6	43 51 29 28 26	.36 .57 .44 .40 .26	61 52 65 61 98	.15 .14 .13 .14 .20	2 2 2 2 2	4.97 4.43 3.39 3.76 3.65	.03 .04 .03 .02 .02	.04 .04 .04 .03 .02	1 1 1 1	6.7 3.9 1.8 8.9 1.3
95W 3+00S 95W 3+25S 95W 3+50S 95W 3+75S 95W 4+00S	6 3 5 5 3	20 66 25 9 9	26 21 15 9 19	91 182 53 21 49	.5 .4 .4 .1 .3	9 22 7 5 7	6 18 4 3 3	314 1500 206 168 129	6.40 3.93 5.98 4.11 3.53	12 14 10 4 5	5 5 5 5 5	ND ND ND ND ND	5 1 4 1 2	26 69 41 12 14	.4 1.4 .4 .2 .2	2 2 2 2 2	2 2 2 2 2 2	173 84 206 225 135	.68 1.73 .65 .35 .35	.027 .062 .019 .004 .021	6 6 3 3	41 27 35 21 30	.16 .41 .16 .04 .18	36 68 57 16 24	.35 .11 .29 .36 .39	2 2 2 2 2	4.56 2.83 4.11 .70 1.10	.02 .04 .02 .01 .02	.04 .04 .03 .01 .05	1 1 1 1	2.6 12.7 6.9 1.9 .5
93W 0+25S 93W 0+50S 93W 0+75S 93W 1+00S 93W 1+25S	6 6 7 3 3	47 48 42 41 40	38 40 47 5 5	207 209 173 220 331	.4 .5 .5 .6	20 21 18 7 10	17 19 19 4 6	1383 1542 1375 1619 3371	3.88 3.90 4.51 1.20 2.49	20 18 20 8 19	5 5 6 7	ND ND ND ND ND	1 2 1 1	74 77 62 90 79	1.7 1.5 1.0 3.4 6.1	2 2 2 2 2	2 2 2 2 2 2	102 100 117 33 63	1.91 1.89 1.51 4.41 2.75	.060 .061 .045 .062 .064	6 5 6 2 3	25 26 29 12 20	.36 .37 .33 .12 .20	54 55 52 35 54	.11 .11 .15 .04 .07	2 2 14 8	3.96 4.50 4.33 1.36 2.72	.02 .02 .02 .02 .02	.04 .04 .02 .02 .03	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.9 .9 7.9 2.9 .9
93W 1+50S 93W 1+75S RE 93W 0+75S 93W 2+00S 93W 2+25S	1 1 6 1	65 72 41 65 68	50 52 48 23 38	999 1114 192 322 414	1.2 1.1 .5 .9 1.1	53 62 18 21 23	26 30 19 17 19	3713 4268 1446 1045 939	5.08 4.96 4.44 4.29 4.85	78 88 22 44 48	8 6 5 5 5	ND ND ND ND	1 1 2 1 1	37 33 58 35 31	6.0 6.2 1.2 1.7 2.4	2 2 2 2 2	4 3 2 2 3	74 69 114 69 84	1.88 1.65 1.36 2.67 2.54	.076 .088 .043 .038 .038	7 9 6 3 3	38 42 29 21 27	.89 .82 .32 .34 .37	70 72 52 20 20	.14 .13 .15 .13 .17	2 4 2 2 2	4.95 5.92 4.32 4.70 6.01	.02 .02 .02 .01 .02	.02 .01 .03 .03 .02	1 1 1 1	1.6 .2 10.3 4.5 2.9
93W 2+50S 93W 2+75S 93W 3+00S 93W 3+25S 93W 3+50S	1 1 7 11	68 61 32 26 60	39 35 16 21 3 6	466 457 282 55 577	1.6 1.3 1.3 .4	24 23 41 13 51	20 22 16 6 15	1079 1328 8688 762 1365	5.07 4.58 4.76 7.18 4.92	52 48 83 17 27	5 5 11 5 7	nd Nd Nd Nd	1 1 1 1	32 30 41 15 22	2.5 2.2 3.8 .8 2.6	2 2 2 2 2	4 2 2 2 2	87 81 83 350 647	2.41 2.10 2.49 1.55 1.70	.045 .039 .198 .021 .051	4 3 18 2 8	29 26 14 43 92	.41 .39 .76 .10 .18	20 19 102 13 22	.17 .16 .13 .40 .18	3 3 2 2 2	7.05 6.53 7.06 1.04 5.74	.02 .02 .01 .01 .01	.02 .02 .01 .01 .01	1 1 1	10.7 1.3 21.0 .4 .2
93W 3+75S 93W 4+00S 87W 0+25S 87W 0+50S 87W 0+75S	5 10 3 3 2	111 111 135 78 98	58 54 20 15 7	988 324 397 205 63	1.6 1.7 .6 .3	107 43 26 15 12	19 26 29 27 6	3663 1791 1171 1414 200	2.90 5.27 3.11 3.09 5.55	47 36 19 12 4	5 5 5 5 5	ND ND ND ND	1 1 2 1 1	18 26 92 70 47	11.5 3.1 5.6 2.9 .8	2 2 2 2 2 2	2 2 2 2 2	292 336 50 60 83	1.59 .87 1.60 1.56 .48	.231 .080 .044 .039 .050	17 11 3 4 2	80 77 20 25 25	.28 .17 .43 .36 .27	49 58 15 22 33	.09 .21 .11 .15 .16	2 2 3 2 2	5.29 6.11 1.60 2.22 2.48	.01 .03 .01 .01 .02	.01 .01 .01 .01 .04	1 1 1 1	32.2 .3 10.9 5.5 1.0
87W 1+00S 87W 1+25S STANDARD C/AU-S	4 5 19	37 74 63	10 13 37	86 97 132	.3 .5 7.3	19 24 70	12 11 34	735 368 1056	3.91 5.84 3.93	18 10 43	5 5 23	ND ND 7	1 1 39	42 32 53	1.0 1.0 18.6	2 2 15	2 2 20	85 147 57	2.04 .63 .47	.019 .027 .089	2 3 41	50 88 57	.22 .25 .89	15 20 178	.28 .48 .08	2 2 32	1.40 4.32 1.90	.01 .01 .06	.02 .01 .15	1 1 13	11.0 8.4 45.3

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HN03-H20 AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AQ. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. <u>Samples beginning 'RE' are duplicate samples.</u>

DATE RECEIVED: SEP 9 1991 DATE REPORT MAILED: Sept 13/9/. SIGNED BY

ACHE ANALYTICAL

Daiwan Engineering Ltd. FILE # 91-4224

AMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Nī ppm	Co ppm	Mn ppm	Fe ۲	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppn	Sb ppm	Bi ppm	V ppm	Ca X	P %	La ppm	Cr ppn	Mg X	Ba ppm	Ti X	B ppm	Al X	Na X	K X	W ppm	Au* ppb
17W 1+505	4	31	15	86	.5	18	7	795	4.58	17	5	ND	1	60	.5	2	2	110	2.63	.017	2	59	.23	11	.38	4 1	.30	.01	.01	1	9.5
37W 1+75S	- 4	61	22	340	.5	22	23	1717	3.01	15	5	ND	1	- 94	2.7	2	2	70	2.74	.072	- 4	26	-83	43	.16	72	2.64	.01	.02	1	5.3
37W 2+00S	1	93	6	579	.4	32	42	2196	3.60	9	5	ND	1	98	2.7	2	2	171	2.76	.074	3	14	3.50	22	.21	23	5.40	.01	.01	1	1.3
17W 2+25S	8	19	25	56	.4	5	- 3	360	6.51	10	5	ND	1	49	3	2	2	186	.97	.009	3	35	.21	11	.56	3 1	.50	.01	.02	1	2.3
37W 2+50S	6	36	32	178	.5	15	13	643	2.34	9	5	ND	1	99	.6	2	2	54	2.58	.102	4	23	.69	26	.11	4 3	5.75	.02	.03	1	1.6
37w 2+75s	10	32	86	181	1.1	16	71	2161	3.44	10	5	ND	1	65	1.3	2	2	106	1.09	.044	4	32	.48	45	.17	53	5.10	.02	.03	. 1	.2
37W 3+00S	7	63	70	230	1.2	20	- 53	2245	2.44	7	5	ND	1	65	1.7	2	2	- 59	1.39	.081	6	28	.35	59	.07	8 3	5.30	.02	.02	. 1	1.4
37₩ 3+25S	11	72	91	337	1.9	23	42	1663	1.43	9	5	ND	1	47	3.2	2	2	55	1.25	.115	6	32	.22	46	.07	74	.77	.02	.02	. 1	.2
37¥ 3+50S	14	66	108	215	1.4	18	31	652	3.76	13	5	ND	1	33	.4	2	3	112	1.11	.068	5	42	.26	22	.16	4 5	5.62	.02	.02	1	1.2
35W 0+25S	19	41	204	429	.5	24	64	9118	6.96	20	8	ND	1	52	6.7	2	2	160	.98	.062	4	27	. 18	98	.07	6 1	.89	.02	.02	1	1.8
35W 0+50S	18	55	175	314	.4	19	46	2250	8.91	32	5	ND	1	31	1.8	2	2	238	.98	.040	6	50	.30	35	.24	2 3	5.03	.02	.01	. 1	1.8
35W 0+75S	14	51	162	190	.5	15	16	597	5.65	20	5	ND	1	26	.9	2	2	179	.61	.034	6	61	.24	25	.36	4 4	4.48	.02	.02	1	.8
35W 1+00S	102	35	419	319	.8	14	59	6477	15.27	39	7	ND	1	25	2.3	2	2	414	.84	.089	5	51	. 15	43	.16	4 3	3.07	.01	.02	1	1.7
35¥ 1+25s	9	56	157	416	2.3	- 34	21	1552	5.59	27	5	ND	1	41	2.0	2	3	177	1.20	.050	8	35	.35	83	.23	2 3	3.97	.02	.02	1	1.1
35W 1+50S	11	91	575	1616	1.5	40	25	3947	5.85	23	5	ND	1	55	10.0	2	2	122	1.69	. 135	7	33	.48	96	. 14	6 3	5.50	.02	.02	6	4.2
35w 1+75s	6	91	733	2413	.9	57	26	3482	5.07	-44	9	ND	1	77	16.6	2	2	107	2.28	. 143	7	28	.39	108	.08	9 3	3.51	.02	.03	10	.9
35W 2+00S	8	53	303	601	.8	26	27	3422	4.50	27	5	ND	1	71	3.9	2	2	101	1.69	. 143	7	27	.36	67	.09	7 3	3.97	.02	.05	1	3.4
85W 2+25S	9	43	298	507	5	24	40	4147	3.18	47	5	ND	1	78	4.3	2	2	72	1.91	.253	8	26	.24	71	.07	5 5	5.60	.02	.05	i 1	2.3
35W 2+50S	2	28	10893	7125	5.7	25	- 31	8186	8.87	31	6	ND	1	143	57.4	4	3	87	2.56	.118	2	51	.39	67	.16	3 3	3.79	.01	.07	19	.2
RE 85W 3+25S	4	42	168	417	1.5	35	22	3340	5.03	27	5	ND	1	34	2.3	2	2	171	1.33	.093	5	42	.36	35	.20	4 :	3.76	.02	.02	1	1.8
35W 2+75S	6	68	177	747	.9	45	20	2982	5.45	25	5	ND	1	54	7.5	2	2	141	2.01	. 148	7	35	.41	72	,16	11 :	3.45	.02	.03	2	1.4
55W 3+00S	7	- 24	42	110	.4	17	8	519	4.79	30	5	ND	1	35	7	2	2	182	1.02	.032	4	33	. 19	42	.34	2 3	2.17	.02	.02	1	2.1
55W 3+25S	4	45	169	438	1.5	38	23	3517	5.34	28	5	ND	1	- 36	2.3	2	2	182	1.43	. 100	5	43	.39	38	. 19	4	3.99	.02	.02	1	1.3
35W 3+50S	4	46	87	263	1.6	31	14	871	4.23	20	5	ND	1	21	.9	6	2	175	.55	.097	10	49	.24	23	.21	3	7.64	.03	.02	i	.9
35W 3+75S	4	48	83	213	1.3	24	11	674	4.44	18	5	ND	1	21	.9	2	3	178	.50	.052	9	50	.21	24	.27	3	6.47	.02	.01	1	1.0
35W 4+00S	11	27	136	313	1.7	62	24	2725	5.14	52	17	ND	1	25	1.5	2	2	528	2.66	.040	8	76	.20	22	.22	5 4	4.20	.01	.01	. 1	.9
57W 0+350S	1	8	16	23	.3	4	1	209	1.75	- - 4	5	ND	1	10	.2	2	Ż	203	.35	.005	3	- 38	.06	11	.57	2	.69	.01	.01	2 1	11.3
57W 0+375S	1	- 44	11	- 36	4	15	- 4	137	6.96	i: 3	5	ND	1	11	ં .2	2	2	259	.22	.015	3	92	.13	13	.42	2	1.93	.02	.02	1	1.3
57W 0+400S	3	- 24	22	42	3	8	- 3	147	2.73	6	5	ND	1	10	i .2	2	3	193	.27	.014	- 4	73	.29	14	.43	2	3.52	.02	.02	5 1	1.1
57W 0+4258	1	41	11	72	.7	7	1	61	1.35	3	5	ND	1	12	.2	2	2	60	.16	.092	5	31	.06	20	.06	3	1.95	.02	.04	ា	1.6
57W 0+450S	1	11	5	32	.3	11	2	178	2.33	. 2	5	ND	1	5	.2	2	3	147	. 18	.008	3	102	.21	5	.37	2	.30	.01	.01	1	6.9
57W 0+500S	2	7	20	19	6	2	1	149	1.23	. 6	5	ND	1	17	.2	2	3	89	.73	.009	2	18	.04	10	.37	2	.96	.02	.02	P 1	1.0
57W 0+525S	2	53	19	- 74	.7	12	- 4	204	6.31	18	5	ND	1	13	.2	2	3	197	.40	.017	3	59	.13	15	.45	3	3.36	.02	.02	<u> </u>	.2
57W 0+550S	3	37	15	42	.3	12	4	256	4.25	12	5	ND	1	18	.2	2	Š	162	.67	.011		37	.22	10	.41	2	1.28	.01	.01	. 1	.2
57w 0+575s	1	23	54	170	1.1	11	6	277	6.15	35	5	ND	1	27	.6	2	Ž	125	.76	.026	7	40	. 19	27	.32	2	3.27	.02	.02	., i	.2
57W 0+600s	1	38	44	184	1.0	17	6	225	4.41	40	5	ND	1	21	.5	2	2	91	.56	.041	8	48	.20	24	.23	2	5.98	.02	.02	1	1.8
57W 0+625S	1	22	103	342	8	11	12	687	5.45	36	5	ND	2	14	.8	2	2	140	.33	.025	- Â	46	.27	16	.28	2	5.12	.01	.01	11	.9
STANDARD C/AU-S	17	57	37	132	7.0	70	33	1043	3.%	40	18	7	38	51	18.4	. 16	17	54	.49	.090	38	58	. 89	177	.09	31	1.88	.06	. 15	13	52.3

Samples beginning 'RE' are duplicate samples.

Page 2



Daiwan Engineering Ltd. FILE # 91-4224

SAMPLE#	Mo ppm	Cu ppm	РЬ ppm	Zn ppm	Ag ppm	N Í PPM	Co ppm	Hn. ppm	Fe X	As ppm	U ppm	Au ppm	ĩh. ppm	Sr ppm	Cd ppm	Sb ppn	Bil ppm	V ppm	Ca X	P X	La. ppm	Cr ppm	Hg X	8a ppm	۲۱ X	8 ppm	A\ X	Na X	K X	W PPM	Au* ppb
57N 0+650s 57N 0+675s 57N 0+725s 57N 0+750s 55N 0+750s 55N 0+250s	3 3 3 4 4	15 9 12 14 115	13 12 9 19 10	40 38 35 60 137	.2 .1 .2 .1	4 7 4 3 22	7 9 8 8 28	463 581 505 140 3944	4.10 5.41 4.54 5.69 3.42	8 9 7 35 8	5 5 6 11	ND ND ND ND ND	4 4 3 1 1	19 20 18 15 52	.2 .2 .3 .2 2.6	2 2 2 2 2 2	2 2 3 3	129 182 148 214 108	.44 .49 .41 .29 2.42	.032 .024 .030 .030 .140	7 6 5 3 8	43 44 42 12 47	.15 .14 .13 .09 .05	26 23 26 13 50	.24 .32 .26 .39 .05	5 3 2 3 4 3 2 1 7 4	.45 .06 .33 .80 .89	.02 .02 .02 .01 .02	.02 .01 .01 .01 .01	2 2 1 2 1	4.1 2.8 4.5 2.5 3.1
55W 0+2758 55W 0+3008 55W 0+3258 55W 0+3508 55W 0+3758	2 1 1 2 2	109 80 9 90 135	15 4 22 13 35	160 149 25 78 241	.4 .2 .1 .2	22 28 9 16 41	22 28 4 8 25	2644 2449 275 237 3029	3.52 1.54 1.37 4.90 5.24	4 2 27 46	5 5 8 8 13	ND ND ND ND	1 1 1 2 1	55 71 18 20 45	1.9 3.3 .2 .3 2.4	2 2 2 2 2	2 2 2 2 4	98 22 177 122 135	2.48 3.30 .46 .62 1.33	.097 .079 .005 .063 .044	7 7 5 4 11	49 19 68 67 50	.11 .05 .20 .23 .34	47 64 18 21 52	.06 .02 .77 .29 .28	74 82 45 36	.38 .52 .73 .71 .02	.02 .02 .01 .02 .02	.01 .02 .01 .02 .02	1 1 2 1	4.0 10.0 77.9 12.5 12.1
55W 0+400S 55W 0+425S 55W 0+450S 55W 0+475S 55W 0+500S	4 2 3 1	132 56 110 146 31	19 9 12 11 141	100 51 44 39 368	.1 .1 .7 .4 1.9	25 11 9 9 18	10 6 7 9 17	374 266 583 536 1553	4.68 3.77 7.17 8.45 6.92	20 16 45 62 114	5 7 14 19 6	ND ND ND ND	2 1 1 2	27 19 20 15 63	.6 .2 .2 .2 2.1	2 2 2 5	2 2 2 2 2	135 148 236 253 100	.83 .88 3.17 3.19 1.24	.035 .025 .020 .020 .020 .086	3 3 2 2 5	67 51 64 66 32	.25 .17 .07 .05 .33	25 14 13 10 32	.34 .33 .78 .79 .20	4 5 2 2 2 1 4 1 5 4	.28 .89 .18 .24 .78	.02 .01 .01 .01 .01	.01 .02 .01 .01 .03	1 1 1 2	9.0 5.1 8.4 4.9 11.0
55W 0+525S RE 55W 0+650S 55W 0+550S 55W 0+575S 55W 0+6600S	1 3 1 1 2	27 17 25 27 20	47 10 42 87 73	179 78 161 270 175	_4 _1 _4 _3 _4	14 11 14 42 27	16 11 15 32 20	516 4492 504 3192 1485	5.27 4.20 5.67 4.45 4.43	99 14 94 52 44	8 7 5 5 5	ND ND ND ND	2 1 1 1	41 25 42 29 29	1.0 .5 .8 .9 .5	2 2 2 2 2	3 3 2 2 4	117 122 118 89 103	.93 .59 .94 .57 .55	.066 .054 .055 .153 .077	5 6 4 5 4	28 42 24 101 107	.46 .19 .43 .30 .40	25 34 23 23 25	.22 .20 .25 .13 .16	34 54 25 56 53	.94 .18 .60 .91 .77	.02 .02 .02 .02 .02	.04 .02 .03 .02 .02	1 1 1 1	3.1 1.8 3.1 2.6 .2
55W 0+625S 55W 0+650S 53W 0+25S 53W 0+50S 53W 0+75S	3 5 3 4 2	17 15 20 18 11	4 10 10 16 7	80 72 74 64 38	.1 .3 .4 .2	10 10 12 12 5	13 9 9 7 5	2620 4296 775 294 158	4.28 3.99 3.13 3.77 2.89	10 2 11 15 13	5 5 7 5	ND ND ND ND	1 1 3 1	24 22 42 41 23	.4 .2 .5 .3 .7	2 2 3 4	2 6 2 2 2	117 115 75 76 53	.58 .54 .73 .44 .21	.054 .052 .032 .024 .014	5 5 4 5 3	45 40 26 32 20	.21 .17 .34 .36 .20	26 30 31 49 21	.20 .18 .13 .14 .11	34 34 21 62	.11 .03 .89 2.10 1.12	.02 .02 .02 .02 .02 .01	.02 .01 .02 .02 .01	1 1 1 2	.2 1.1 3.3 2.2 15.4
53W 1+00S 53W 1+25S 53W 1+50S 53W 1+75S 53W 2+00S	3 2 1 1	64 96 188 84 191	17 17 21 33 27	107 73 70 105 259	1 .8 .1 .5 .4	23 33 39 32 52	16 15 13 10 28	647 372 432 389 1010	4.29 9.68 5.41 3.41 4.36	13 9 18 13 21	5 10 5 11 5	ND ND ND ND	1 2 1 1	80 28 23 42 53	.8 .4 .3 .2 .9	2 4 3 2 2	2 7 4 5	109 190 92 114 87	1.12 1.36 1.95 1.78 2.86	.038 .027 .041 .047 .075	5 4 7 5 7	43 104 60 85 47	.69 .56 .41 .45 .71	57 13 10 25 37	.20 .59 .31 .43 .16	2 2 4 4 4 0 6 0	2.79 6.79 5.91 5.71 6.15	.03 .02 .01 .02 .03	.03 .01 .01 .02 .04	1 1 4 1 6	3.7 5.9 4.9 3.7 5.4
53W 2+25S 53W 2+50S 53W 2+75S 53W 3+00S 53W 3+25S	1 1 3 2	114 126 77 22 10	17 271 63 40 21	94 1066 174 216 68	.1 1.7 1.9 .1 .2	26 57 19 15 8	15 37 9 11 7	801 3165 339 853 235	3.35 5.04 4.70 4.58 5.04	6 35 35 39 24	5 5 8 5	ND ND ND ND	1 1 3 2 1	87 40 24 30 18	.4 3.0 .6 .2	2 2 6 2 2	6 5 2 2	85 124 109 129 165	2.10 1.08 .65 .33 .33	.042 .124 .034 .065 .015	3 7 9 4	38 46 71 37 26	.70 .76 .37 .18 .12	32 40 33 26 13	.22 .23 .23 .21 .29	4 2 6 4 5 4 3 *	2.84 4.63 5.71 4.86 1.26	.04 .03 .02 .02 .01	.03 .03 .01 .02 .02	1 2 2 1	3.7 2.5 6.0 5.5 3.5
53W 3+50S 53W 3+75S STANDARD C/AU-S	2 2 19	6 4 57	20 11 36	38 35 136	.1 .1 7.0	4 4 72	5 3 32	113 100 1075	3.17 3.23 4.03	32 8 40	5 5 21	ND ND 6	1 1 39	12 15 52	.2 .2 18.7	2 2 16	3 2 23	136 128 55	.22 .08 .50	.016 .013 .092	2 2 39	18 15 58	.09 .07 .87	11 13 176	.20 .21 .09	4 3 32	.81 .42 1.91	.01 .01 .06	.01 .01 .16	1 1 11	1.4 1.5 45.0

Samples beginning 'RE' are duplicate samples.

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Daiwan Engineering Ltd. FILE # 91-4224

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ACRE ANALYTICAL

Page 4

AMPLE#	Mo	Cu ppm	₽b ppm	Zn ppm	Ag ppm	Ni ppm	Со ррт	nM mgg	Fe X	As ppn	U Pipeni	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppn	Bi ppm	V ppm	Ca X	P %	Le ppm	Cr ppm	Mg X	Ba ppm	Tí X	8 ppm	Al X	Na X	K X	H Au ppm pi	u* po
3W 4+00S 3W 4+25S 3W 4+50S 3W 4+75S 3W 4+75S 3W 5+00S	1 1 2 1 1	59 33 34 19 9	22 165 217 167 9	103 1212 1304 371 91	.2 2.3 .6 .5 .3	32 22 32 17 5	18 16 18 9 3	1059 12767 4355 426 270	3.49 4.62 4.31 5.15 1.27	6 49 65 34 4	5 9 5 5 5	ND ND ND ND	1 1 1 1	48 29 45 19 46	.5 16.0 5.7 1.2 1.1	2 2 2 2 2 2 2	2 2 2 2 2	83 121 79 177 56	.55 .40 1.07 .46 .73	.032 .074 .176 .060 .040	3 11 7 5 2	51 35 26 35 5	1.01 .27 .73 .24 .29	54 62 32 14 29	.11 .16 .14 .25 .11	53 75 65 3	5.20 5.36 5.73 5.89 .53	.02 .02 .02 .02 .02	.03 .02 .02 .01 .04	1 11 1 16 1 27 1 1 1 12	.0 .9 .7 .9
1W 0+00 1W 0+25s 1W 0+50s 1W 0+75s 1W 1+00s	4 1 1 1	82 113 115 137 124	16 60 22 298 4368	477 317 102 456 2871	.6 1.3 1.8 4.3 17.1	19 33 20 28 24	10 22 10 36 15	2519 8441 435 2413 3607	4.30 6.01 5.48 5.07 4.30	11 39 20 43 79	5 7 5 5 5	nd Nd Nd Nd	1 1 1 1	44 46 37 32 51	10.1 4.3 .6 2.1 15.6	2 2 2 2 2 2	2 2 2 2 2	138 110 131 112 90	1.50 1.05 .52 1.01 2.02	.063 .040 .039 .044 .075	6 10 4 6 8	42 41 74 46 31	.35 .33 .31 .36 .33	41 83 40 27 38	.26 .21 .34 .21 .14	7 3 5 4 7 6 3 4 12 3	5.56 6.36 6.69 4.87 5.09	.03 .02 .02 .02 .02	.02 .02 .02 .02 .02	1 3 1 4 9 1 5 1 12	.1 .6 .8 .2 .7
1W 1+25S 1W 1+50S 1W 1+75S 1W 2+00S 1W 2+25S	1 2 1 2 1	37 41 37 28 6	110 41 167 47 6	295 144 449 144 96	.9 2.4 1.3 2.2 .8	26 20 26 20 3	12 9 17 9 1	367 227 381 164 61	5.08 5.26 5.47 6.59 .29	92 46 108 88 2	5 6 5 5 5	ND ND ND ND ND	2 1 1 1	41 21 49 20 43	1.1 1.0 2.1 .7 1.1	2 2 8 6 2	2 2 2 2 2	100 150 103 144 6	.38 .34 .77 .30 .57	.041 .037 .059 .038 .033	7 5 5 8 2	50 69 29 120 4	.31 .30 .29 .19 .24	50 26 42 23 26	.15 .28 .15 .28 .01	5 5 6 6 10 5 9 6 2	5.27 6.70 5.31 6.62 .32	.02 .02 .02 .02 .03	.02 .02 .02 .01 .03	1 1 3 2 6 4 7 1 4	.9 .4 .5 7.1
1W 2+505 1W 2+755 1W 3+255 1W 3+505 1W 3+755	1 1 2 3	10 90 8 7 18	21 35 8 52 348	94 227 52 57 344	.3 .3 .4 .1 .4	6 41 5 6 7	1 32 2 6 14	121 793 115 319 3699	.42 4.74 1.13 4.73 8.99	5 77 4 18 128	5 5 5 5 5	nd Nd Nd Nd	1 1 1 1	36 98 27 18 16	1.5 1.7 1.0 .2 1.9	2 2 2 2 2	2 2 2 2 4	11 106 48 175 164	.97 1.20 .70 .26 .29	.048 .112 .047 .012 .029	2 10 2 4 6	4 45 10 27 49	.10 .51 .14 .08 .27	45 101 10 14 21	.01 .15 .07 .23 .24	3 9 5 4 6	.39 6.13 .31 1.23 3.25	.02 .03 .02 .01 .01	.04 .04 .04 .01 .01	1 5 4 4 1 3 1 2	i.3 i.4 i.1 2.1 8.9
1W 4+00S .1W 4+25S .1W 4+50S .1W 4+55S .1W 4+75S .1W 5+00S	2 3 4 2	4 15 16 6 14	20 33 30 21 91	29 214 157 31 139	.3 1.1 .9 .1 .3	5 9 10 5 5	2 9 5 4 33	234 1342 502 192 3008	1.76 4.42 4.33 3.51 3.70	9 19 18 6 83	5 5 5 5 5	ND ND ND ND ND	1 1 1 1	12 32 33 13 99	.2 1.2 .9 .4 1.6	2 2 2 2 2	2 2 2 2 2	107 162 154 149 63	.24 1.09 1.10 .35 1.80	.010 .030 .028 .018 .067	3 9 11 5 7	12 33 37 35 6	.06 .14 .15 .06 .13	13 30 32 15 15	.20 .21 .22 .21 .21	4 5 3 5	.65 2.74 3.34 1.94 3.75	.01 .02 .02 .01 .03	.01 .02 .01 .01 .03	1 5 1 4 1 8 1 2 1 4	i.1 i.3 3.0 2.3 6.9
9W 1+00S 9W 1+75S 9W 2+00S 9W 2+25S 9W 2+50S	1 10 31 22 9	30 49 24 7 26	50 250 27 40 18	174 576 46 98 163	1.8 9.0 .4 .5 .4	13 128 19 11 102	6 20 3 6 9	3082 2079 185 162 318	1.87 4.25 2.62 6.31 4.84	51 73 71 47 101	5 5 5 5 5	ND ND ND ND	1 1 1 1	318 80 11 13 38	1.7 4.3 .6 .7	2 4 2 2 2	2 6 2 3 2	25 160 258 435 341	19.24 2.41 1.42 .72 2.07	.117 .133 .019 .028 .054	3 15 2 3 4	8 39 16 37 50	.15 .36 .28 .08 .33	35 85 6 9 38	.03 .14 .41 .54 .21	7 13 9 7 10	1.55 4.72 .94 .95 2.05	.03 .02 .01 .01 .01	.06 .03 .01 .01 .02	1 7 1 6 2 2 1 9	7.7 5.2 2.7 5.4 4.4
19W 2+755 19W 3+005 19W 3+255 2E 49W 3+005 19W 3+755	15 11 16 11 5	16 20 32 22 21	17 4 117 9 10	76 73 1059 85 98	.3 .1 .5 .1	48 79 62 79 18	8 12 12 13 13	384 422 833 461 854	4.99 2.32 4.10 2.33 3.56	52 31 38 34 10	5 5 14 5 5	ND KO ND ND ND	1 1 1 1	15 23 31 26 83	.6 .7 4.5 .8 1.1	4 2 3 2 2	2 2 2 2 2 2	220 116 963 139 92	2.08 3.70 2.10 3.86 1.28	.043 .053 .031 .054 .050	4 8 5 7	43 28 97 31 31	.24 .08 .09 .07 .55	13 8 28 7 51	.32 .22 .28 .23 .14	13 49 5 47 6	2.66 1.96 2.77 2.02 2.22	.01 .01 .01 .01 .03	.02 .01 .01 .01 .04	24	6.2 5.0 1.2 7.6 .2
994 4+005 994 4+255 Standard C/Au-S	5 10 20	22 13 61	11 25 40	91 71 133	.1 .4 7.1	17 14 72	13 4 32	813 217 1061	3.93 4.02 3.95	6 17 43	5 5 16	ND ND 7	1 1 40	89 26 53	.6 .3 18.7	2 2 16	2 4 22	101 197 58	1.15 .59 .48	.047	7 5 41	32 38 58	.57 .14 .89	58 23 176	.14 .30 .08	4 4 35	2.36 1.22 1.87	.03 .02 .07	.03 .02 .15	1 2 12 4(.2 .7 6.4



Daiwan Engineering Ltd. FILE # 91-4224



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SAMPLE#	Mo	Cu	РЬ	Zn	Ag	Ni	Co	Mn	Fe	As	υ	Au	Th	Sr	Cd	Sb	8 i	V	Ca	P	La	Cr	Mg	8a	TI	8	AL	Na	K	W	Au*
	ppm	ppm	ррт	ppm	ppm	pom	ppm	ppm	<u>x</u>	ppm	ррт	ppm	ppm	ppm	ppm	ppm	ppm	ppm	X	X	ppm	ppm	X	ppm	*	ppm	X	X	X	ppm	ppb
49W 4+50S	9	52	122	270	2.8	81	15	5154	3.87	40	11	ND	1	21	2.4	2	2	164	1.52	.086	15	43	.21	41	.12	14 4	.20	.01	.02	1	6.0
49W 4+75S	4	100	54	1250	1.3	139	24	2949	2.73	47	14	ND	1	43	3.8	2	2	64	2.72	.163	14	27	.25	49	.09	46 1	1.45	.01	.02	1	4.0
49W 5+00s	17	40	29	886	1.7	93	7	463	4.49	36	6	ND	2	26	2.1	2	2	1014	1.64	.035	7	79	.28	68	.21	2 2	2.91	.01	.02	Ť.	4.3
49W 5+25S	15	24	28	721	1.2	71	7	503	4.55	38	5	ND	2	18	1.7	2	2	1000	2.42	.026	6	76	.13	39	.21	2 2	2.57	.01	.02	1	5.1
49W 5+50S	19	38	36	624	1.6	77	8	518	4.25	45	7	ND	2	18	1.8	2	2	922	1.99	.047	10	79	. 15	50	.23	5 2	2.84	.01	.01	1	4.7
47₩ 0+25s	2	77	28	114	.8	26	19	784	4.91	18	5	ND	3	24	1.3	2	2	145	.58	.047	8	53	.42	27	.32	3 !	5.17	.02	.03	. 1	4.1
RE 45W 0+50S	2	336	198	1433	2.2	53	186	1616	8.48	97	7	ND	2	50	12.4	2	2	136	1.91	.080	6	34	.40	36	. 15	4 3	2.27	.04	.05	1	14.1
47W 0+50S	1	115	67	214	.7	28	36	2054	7.14	33	6	ND	2	18	1.9	2	2	166	.44	.045	8	67	.30	26	.39	3 (5.65	.02	.03	1	7.8
47W 0+75S	2	66	38	110	.7	18	10	535	6.78	43	5	ND	2	13	.8	2	2	184	.27	.027	3	62	.20	13	.31	3 1	2.88	.01	.03	1	4.9
47W 1+00S	2	57	37	89	.5	16	10	489	7.34	46	5	ND	2	12	.5	2	2	212	.25	.025	3	58	.20	12	.39	2	2.29	.01	.03	1	4.3
47W 1+25S	1	26	25	723	.9	26	8	2125	1.31	. 29	5	ND	1	114	7.2	2	2	25	5.02	.098	2	25	. 15	45	.03	18	1.20	.04	.04	1	3.2
47W 1+75S	1	57	322	1798	2.7	103	41	14217	6.49	148	13	ND	1	53	18.3	2	2	116	1.09	.178	13	56	.61	100	.09	2 (6.56	.01	.04	1	2.2
47₩ 2+00s	1	52	151	1075	1.9	16	7	2952	1.53	28	5	ND	1	100	8.1	2	2	30	3.49	.096	2	11	.27	20	.04	6	1.01	.01	.05	1	33.2
47W 2+50S	14	- 36	19	768	· .7	63	4	303	5.91	62	5	ND	- 3	24	1.4	2	2	948	.76	.040	6	75	.22	28	.24	2 3	3.60	.03	.04	1	12.0
47W 2+75S	4	44	29	454	1.1	49	5	502	5.02	. 68	9	ND	2	38	1.9	2	2	410	.86	.295	8	142	.28	60	- 13	6 (4.04	.01	.04	1	9.6
47W 3+00S	5	35	30	642	.9	49	13	517	2.73	152	32	ND	2	39	13.3	2	2	169	1.28	.114	29	83	.11	87	.03	6	4.11	.01	.03	1	5.0
47₩ 3+25s	4	80	15	560	1.2	57	- 4	417	1.85	138	55	ND	1	- 44	20.4	2	2	102	1.77	.049	25	110	.08	49	.04	13	2.65	.02	.01	1	7.9
47₩ 3+50s	9	10	8	48	.2	7	- 3	251	6.01	13	5	ND	- 3	19	1.0	2	2	204	.26	.012	- 4	38	.11	13	.36	- 4	1.12	.01	.02	1	1.3
47W 3+75s	4	15	- 4	32	.3	8	- 3	136	4.38	2	5	ND	1	30	_ . 2	2	2	129	.20	.036	- 3	60	.09	29	.17	3	1.85	.02	.01	1	3.1
45W 0+25S	4	68	586	652	4.2	24	19	1356	4.27	90	12	ND	1	26	9.3	2	2	109	.69	.068	6	43	.35	26	.15	4	4.28	.02	.02	1	2.7
45w 0+50s	2	302	235	1425	2.3	54	183	1618	8.35	97	6	ND	2	47	12.9	2	2	134	1.97	.076	6	35	.40	32	. 15	3	2.23	.04	.04	- 1	13.2
45W 0+75S	1	119	1279	2813	7.1	50	18	6682	4.70	116	5	ND	1	103	28.2	2	2	92	2.36	. 189	13	29	.51	55	. 10	3 -	4.98	.02	.05	1	13.0
45W 1+00S	1	- 29	125	386	1.9	12	5	1686	1.56	- 38	5	ND	1	223	4.7	2	2	33	18.62	.054	2	8	. 14	18	.04	2	1.20	.01	.02	1	2.8
45W 1+25S	4	75	256	1549	2.6	176	13	2539	2.59	85	10	ND	1	202	57.1	2	2	104	13.97	. 153	6	27	.40	57	.05	32	2.77	.01	.04	1	9.3
45W 1+50S	17	21	57	340	1.0	45	8	630	4.66	38	5	ND	1	21	4.8	2	2	854	1.93	.024	4	37	. 25	23	.30	4	1.47	.01	.01	1	5.7
45W 1+75S	16	23	48	341	1.2	52	9	681	4.93	39	5	ND	2	24	1.5	2	2	828	1.13	.026	5	44	.24	32	.28	2	1.61	.01	.02	. 1	5.7
45¥ 2+00S	- 44	94	3191	7100	36.0	170	- 18	891	5.83	70	13	ND	- 2	- 14	9.3	27	23	1558	1.67	.066	13	101	. 16	17	. 15	5	3.08	.01	.01	1	26.4
45W 2+25S	22	22	306	1182	3.2	42	5	358	4.42	46	5	ND	2	20	2.2	2	2	867	.71	.066	5	65	.12	29	.27	3	1.36	.01	.02	1	44.9
45W 2+50S	5	- 36	21	569	2.3	49	8	573	3.19	29	7	ND	- 4	40	3.5	- 4	2	439	1.17	.209	11	105	.24	41	. 16	5	2.18	.01	.02	1	13.8
45W 2+75S	5	26	32	124	.6	13	3	166	3.71	20	5	ND	5	13	.6	2	2	160	.21	.050	8	72	. 19	29	. 20	2	6.52	.01	.01	1	8.6
45W 3+00S	3	9	17	43	1	5	1	94	1.65	6	5	ND	_1	11	.2	2	2	111	.16	.019	4	23	- 11	18	.23	2	1.97	.01	.01	1	1.3
STANDARD C/AU-S	<u> </u>	60	38	132	7.4	70	31	1063	5.98	- 43	20	6		52	18.9	15	20	57	.48	.093	<u> </u>	59	. 89	176	.09	32	1.92	.06	.15	13	48.7

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 ASSAY CERTIFICATE

Daiwan Engineering Ltd. PROJECT HOLBERG INLET FILE # 91-4522R

 SAMPLE#	Pb Zn % %	
C 76217 C 76218	2.23 26.20 3.07 18.05	

- 1 GM SAMPLE LEACHED IN 50 NL AQUA - REGIA, ANALYSIS BY ICP.

- SAMPLE TYPE: ROCK PULP

DATE RECEIVED: SEP 24 1991	DATE REPORT MAILED: Sept 26 /91.
<i>-</i>	

APPENDIX B

ROCK SAMPLE DESCRIPTIONS

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GEOCHEMICAL ROCK SAMPLE DESCRIPTIONS Samples collected by Ron Bilquist:

76201	4796W/152S.	Siliceous looking "dyke" with disseminated pyrite, occ. spot of sphalerite and some graphite in small masses and on fractures.
76202	49W/175S.	Local float; orange weathered meta-limestone (?) with occ. 1 to 2 mm quartz veinlet and semi-massive black/brown sphalerite,
76203	4990W/160S.	Siliceous looking "dyke" with diss. pyrite, pyrrhotite and traces of sphalerite (?). The "dyke" cuts cooked-up sediments.
76204	4810W/173S.	Local float; thinly bedded cherty sediments with the occ. 1 to 2 mm quartz\calcite stringer; traces of pyrite, pyrrhotite and possible chalcopyrite.
76205	4830W/185S.	Thinly banded cherty sediments with traces of sphalerite, pyrite and possible chalcopyrite.
76206	4890W/200S.	Dark grey limestone with traces of diss. pyrite and sphalerite.
76207	49W/203S.	Interbedded calcareous and non-calcareous sediments with diss. pyrite and chalcopyrite (?).
76208	49W/175S.	Subcrop of cooked limestone (?) with hydrozincite, honey coloured sphalerite and galena.
76209		Same as above.
76210	4930W/190S.	Siliceous looking "dyke" with diss. pyrite and pyrrhotite.
76211	5205W/190S.	Massive garnet with traces of chalcopyrite and "smears" of magnetite.
76212	51W/220S.	Subangular float; massive pyrite and chalcopyrite with magnetite and or pyrrhotite.
76213	5235W/165S.	Subrounded float; grey limestone with small band of sphalerite and diss. pyrite and sphalerite.
76214	4950W\370S.	Thinly bedded P. Bay ash tuff with dark chert interbed with diss. sphalerite, chalcopyrite and pyrite.
76215		Intensely "cooked-up" P. Bay sediments with 5 to 10 per cent diss. and veinlet pyrite, possible chalcopyrite; traces of sphalerite, galena and pyrrhotite across approx. 10 m thickness on south side of creek.
76216		Local float with massive sphalerite and traces of galena and chalcopyrite (?).
76217	4810W\360S.	Dark grey, fine grained, finely brecciated band 0.6 to 0.7 m wide and 12 to 15 m along strike within limestone contains 50 to 60 % sphalerite, galena, pyrite and local chalcopyrite? Generally abundant hydrozincite coating fracture surfaces; little or no limonite on weathered outcrop surface. Mineralized band dips at about 15 ° to the south, and has an easterly strike. Mineralized band finely brecciated with interlocking veinlets spaced 2 to 5 mm apart in some sections. Sample from outcrop on southern bank of creek.
76218		As above; grab from at least 10 sites along strike within the mineralized band.
76219	6050W\750S.	And lining fractures. Some magnetite as small, irregular lenses. P. Bay or ?Bonanza Fm.
76220		Meta-limestone with pyrite and traces of sphalerite and chalcopyrite.
76221		Same as above.
76222		Grey/white recrystallized limestone; occ. streaks of graphite and diss. pyrite. One mm wide chalcedony veinlets present.
76223 76224	8990W/212S.	Skarn with massive pyrite, galena (?) and greenockite coating fracture surfaces. Same as above.

76225 8980W/210S. Skarn with diss. galena, sphalerite and intense manganese weathering. 76226 8915W/135S. "Cooked-up" limestone with diss. sphalerite, galena and occ. pyrite, chalcopyrite and greenockite. Angular float with occ. 1 mm wide quartz veinlets. Very rare pyrite diss. and 76227 92W/0+64S. along the quartz veinlets. 76228 92W/0+67S Grey limestone with brown "patches"; traces of pyrite, sphalerite (?) and greenockite (?). Angular float: brecciated limestone with occ. diss. pyrite. 76229 92W/0+84S. 76230 9195W/297S. "Cooked" limestone (?) with manganese oxides and diss. sphalerite, galena and traces of greenockite. 76231 9198W/307S. Cherty sediments with diss. galena and sphalerite. Rock appears to be replaced limestone overlying intensely fractured intrusive units. 76232 85W\250S. The outcrop area is 2 by 6 m and is massive to semi-massive sphalerite and galena; occ. greenockite. 76233 8505W\250S Same as above. These two samples combined are a discontinuous chip sample of the entire exposed outcrop area. 76234 1985W\125N. Metasediment (?) with diss. pyrrhotite and occ. arsenopyrite and traces of chalcopyrite. 76235 1980W\125N. Chip sample across 40 cm of black, massive sphalerite in dark grey recrystallized limestone with occ. greenockite. 76236 20W\125N. Subcrop of siliceous looking "dyke" rock with diss. pyrite and pyrrhotite. 762372001W0+30N Meta-sediment (?) with diss. pyrite, pyrrhotite and sphalerite; traces of chalcopyrite. Same as above but with diss. galena. 76238 at approx. same location as 97140. Siliceous-looking dyke with diss. pyrite and 76239 20W\120N a trace of sphalerite and chalcopyrite. 76240 1997W\125S. Siliceous looking dyke cutting limestone with diss. pyrite, galena and sphalerite. Subcrop of cherty meta-sediment; diss. pyrite, pyrrhotite, sphalerite and possible 76241 20W\151S. traces of chalcopyrite and magnetite. 76242 1998W\150S. Subcrop; cherty meta-sediment with "bands" of sphalerite and diss. sphalerite, pyrite and traces of galena. 76243 1340W/125N. Approx. 75 m upstream from the point where line 14W crosses the Nahwitti River. Intensely fractured sediments with quartz and zeolite veinlets and diss. pyrite. 76244-76246 inclusive intentionally omitted; collected on another property. 76247 1850W/155S. 175 m southwest of the Dorlon Shaft at the base of a waterfall. Diss. sphalerite and pyrite near the contact of a siliceous-looking dyke intruding limestone. Samples collected by D. Pawliuk: 99351 48W\300S. Pale brownish cream Parson Bay clay-rich rock with pale grey to brownish grey chert laminae to 3 mm wide and up to 10 mm long. Probable felsic tuff; no sulphides seen. Collected at site of 1418 ppm zinc in soil. Off-white P. Bay felsic tuff (?) with rare trace pyrite. 99352 48W\330S Grab sample from 3 locales across 1.5 m in brecciated P. Bay cherts with weak 99353 48W\345S. skarn alteration. Specks pyrite, chalcopyrite(?) and bornite(?) seen. 99354 4745W\360S. Grab from 4 locales over 1 m² in green, brecciated P. Bay; angular limestone clast 10 by 25 mm seen. Pyrite to 5 %, local specks chalcopyrite(?). Abundant hematite both along fractures and pervasive.

- 99355 4708W\305S. Grab from 0.5 m² area of chalky white weathered, pale grey to maroon grey P. Bay cherty felsic tuff with av. say 1 % pyrite, 0.5 % pyrrhotite (locally 5 % over 2 cm²) and occ. specks chalcopyrite.
- 99356 4725W\300S. Float prob. near source; abundant orange limonite in soil. Pale greenish grey P. Bay felsic tuff ribboned with dark green-maroon chert interbeds 1 to 2 cm thick. Pyrrhotite, pyrite and chalcopyrite(?) av. 1-2 % finely diss. mainly within the chert. Similar float found 20 m upslope of here.
- 99357 4690W\285S. Interbedded, banded (on cm and mm scale) P. Bay felsic tuff and chert with diss. pyrite, pyrrhotite, chalcopyrite and arsenopyrite?
- 99358 4655W\235S. Chalky white weathering P. Bay felsic tuff spotted by dark brown limonite after pyrite; 0.5 % diss. pyrite. Grab.
- 99359 46W\225S. Grab of brown to orange weathering P. Bay felsic tuff at bottom of pit dug to investigate soil geochemistry anomaly. No sulphides seen.
- 993604940W\2+15S. Grab of dark to light grey, thinly bedded limestone with finely diss. pyrite, chalcopyrite and arsenopyrite? (unsure of grey ?sulphide mineral). Outcrop 10 m west of edge of clearcut.
- 99361 4795W\245S. Cream to pale P. Bay ash tuff with dark maroon chert interbed 10 mm thick containing hematite, pyrite and sphalerite? P. Bay here contains limestone interbeds.
- 99362 4940W\340S. Grab of 60 % black to dark grey recrystallized limestone, 40 % P. Bay felsic tuff. Possible sphalerite band about 20 cm wide within the black limestone.
- 99363 4940W\320S. Grab sample of black, fine grained limestone with very fine diss. specks of reddish brown mineral (sphalerite?).

99364 4950W\295S. Grab sample of fine grained, felsic P. Bay ash tuff with occ. chalcopyrite specks.

- 99365 4980W\285S. Grab of P. Bay ash tuff with cherty laminae and crosscutting quartz veinlets contains pyrite and sphalerite(?) locally to 10 %.
- 99366 4980W\220S. Grab of limestone 75 %, cherty ash tuff 25 % containing about 0.5 % pyrrhotite, pyrite and ?chalcopyrite.

99367 50W\273S. Angular float of P. Bay ash tuff with sphalerite, trace chalcopyrite.

- 99368 50W\300S. Few pieces angular float; pale brownish grey rock with occ. black cherty interbeds. P. Bay ash tuff with specks pyrrhotite, pyrite, chalcopyrite and ?sphalerite.
- 99369 4590W\215S. Grab of P. Bay ash tuff with black chert interbeds to 2 cm thick contains very fine diss. pyrite, pyrrhotite both diss. and as hairline veinlets subparallel bedding within chert beds, chalcopyrite as hairline veinlet approx. perpendicular to bedding within cherty bed. Beds strike 116 dip 43 S.
- 99370 Grab of maroon-green fine grained andesite on north side of creek at entrance to canyon. 1 % diss. pyrite (occ. veinlet and bleb) and locally up to 1 % chalcopyrite. Weakly magnetic rock. Occ. pyrrhotite esp. near patches bright green garnet? Sample site 5 m below limestone contact.
- 99371 Float from creek bed. Subangular boulder 0.5 m in diameter. P. Bay with galena, pyrite, ?sphalerite and chalcopyrite(?).
- 99372 4935W\395S 20 m upstream of 76214. Subangular float approx. 30 cm diameter; P. Bay ash tuff (?) with diss. and veinlet pyrite, pyrrhotite, chalcopyrite, sphalerite and galena(?).
- 99373 6095W/975S. Subround float boulder approx. 20 cm diameter from Meade Creek with garnet, pyrite, chalcopyrite, sphalerite and galena. This boulder also contains about 80 % black metallic mineral that looks like magnetite but is not magnetic. Tough rock

probably some distance from source.

99374 6140W\1010S Faintly banded (probably relict bedding), pale green-brown, skarn-altered P. Bay (?) contains garnet with local blackjack sphalerite and pyrite. Grab.

- 99375 54W\275S. Grab samples from at least 10 float boulders contain traces diss. pyrite and rare traces of sphalerite within coarsely crystalline limestone. Flagging labelled 99374 at this site.
- 99376 8600W\235S P. Bay (?) float containing 30 to 50 % brown sphalerite; all of subangular rock 15 cm long taken.
- 99377 8600W\237S. Subangular to subround boulder 20 cm diameter pale greyish green P. Bay with say 5 % galena as diss. blebs and irregular masses, traces pyrite, trace sphalerite.
- 99378 8588W\285S. Angular float boulder 0.6 m diam. light green to pale green P. Bay with 1 to 2 % finely diss. galena blebs av. 0.75 mm across. Red sphalerite also present locally up to say 25 or 30 % of rock volume; some of this material may be fine grained garnet. Local trace to 2 % pyrite as subround masses up to 3 mm across. Boulder surface weathered surface weathered dark brown-black.
- 99379 8581W\284S. Angular 0.4 m diam. pale green to light green P. Bay with diss. galena as blebs to 1 mm across, local reddish sphalerite traces, pyrite traces.
- 99380 8570W\285S. Light brownish green, fine grained P. Bay with some galena speckles less than 0.5%. Float; small, subangular boulder 0.2 m diameter.
- 99381 86W\605S. Grab from P. Bay float along road. Banded ash tuff with cherty interbeds on cm and mm scale contains chalcopyrite, pyrrhotite, sphalerite trace.
- 99382 86W\607S. Larger piece P. Bay float; light brownish grey tuff with chert interbed contains galena, sphalerite, pyrite and ?chalcopyrite.
- 99383 8590W\603S. Pale green P. Bay float contains galena and sphalerite. Soft rock similar to that seen at 86W\285S.
- 99384 8628W\618S. Float as above with galena diss. as small blebs; softer and more friable than P. Bay ash tuffs at 99381,99382.
- 99385 86W\351S. Angular float; boulder 0.3 by 0.3 by 0.15 m of pale green, fine grained, granular P. Bay speckled by diss. galena and sphalerite.
- 99386 9397W\224S. Angular float approx. 0.35 m diam. of dark brown rock that appears to be mainly sphalerite; lighting not good here. Galena to 5 %, pyrite to 1 %.
- 99387 9373W\245S. Grab sample from several locales over 30 m² outcrop area of hornblende granite adjacent to mineralized skarn.
- 99388 9370W\242S. Discontinuous chip across 4.6 m of dark brown skarn that appears to be altered P. Bay breccia. Unmineralized skarn pale greyish green, mostly fine grained; mineralized rock mainly dark brown garnet and blackjack sphalerite. Local galena up to 80 % over 5 cm, occ. greenockite traces.
- 99389 9370W\239S. Continuous chip across 3 m of skarn 90 % as for 99388, 10 % light brownish green with diss. galena. Into overburden at north end of sample interval.
- 99390 9375W\255S. Discontinuous chip across 4 m of skarn with bright green to pale brown garnet, sphalerite, galena, pyrite, calcite; local greenockite and malachite.
- 99391 22W\0+93S. Subangular float 0.6 m diameter maroon-grey P. Bay chert with galena, sphalerite, pyrite, chalcopyrite. Tough, indurated rock.
- 99392 2193W\135S. Grab of P. Bay brown-grey chert outcrop with 0.5-1 % diss. pyrrhotite, to 0.5 % pyrite, local traces chalcopyrite, ?sphalerite diss. Sample taken immediately adjacent to contact with intrusive quartz diorite.
- 99393 2190W\133S. Pale grey P. Bay marble or limestone with 1 to 3 cm wide chert interbeds contains

diss. pyrite, pyrrhotite, sphalerite, galena, trace chalcopyrite at base cliff exposure. 99394 2184W\134S. Grab from 10 sites over 2 m² P. Bay marble with chert interbeds within 1 m of discrete intrusive contact with quartz diorite to east. Little red-brown limonite on weathered surface. Diss. blackjack sphalerite, galena, pyrrhotite, chalcopyrite trace, pyrite. Grab from 4 pieces angular P. Bay chert float in vicinity of high Zn in soil sample 99395 22W\175S. point. Rocks contain diss. pyrrhotite, pyrite, local chalcopyrite and sphalerite (?). No outcrop near here. Grab of cherty tuff, P. Bay outcrop. Trace amounts pyrite, chalcopyrite and mala-99396 18W\210N. chite diss. and spotted along fracture surfaces. Upslope of high Cu in soil at 225N/18W. Grab from 1 m^2 area of light grey, fine grained limestone with up to 0.5 % diss. 99397 18W\215N chalcopyrite; malachite spotted along fracture surfaces to 0.5 %. Upslope of high Cu in soil at 225N/18W. Grab of angular to subangular float P. Bay cherty tuff from road ditch with 1 to 99398 24W\125S 3 % combined diss. pyrite, pyrrhotite, chalcopyrite and ?sphalerite. 99399 2396W/190S. Grab of P. Bay float with 1 % diss. pyrite, pyrrhotite and sphalerite(?). Grab from 6 to 8 cm wide band of cherty P. Bay mineralized with pyrite, 99400 24W\237S. sphalerite and greenockite exposed for 1 m along strike. 99401 2510WV235S. Grab of float from road ditch. Light grey-green to green P. Bay with 5 % pyrite, possible chalcopyrite and translucent quartz veinlets. Sample collected ~25 m on bearing 060° from one of Mayer's survey points. 99402 2418W\128S. Grab of float; subangular boulder 0.2 m diam., P. Bay with pyrite, chalcopyrite. calcite and sphalerite. Grab of light grey, medium to fine grained, partly recrystallized limestone with 99403 4W\130S. traces diss. pyrite, pyrrhotite(?) and sphalerite(?). 99404 550W\0+50N. Discontinuous chip across 2 m in soft, friable, slatey, black P. Bay argillite that is thinly bedded. 99405 1860W/155S. 175 m southwest of the Dorlon Shaft occurrence. Grab of P.Bay felsic tuff? underlying limestone bed exposed at top of waterfall on west side of canyon. Pyrite and galena across approx. 40 cm width in slightly skarn-altered P. Bay. 99406 1860W/190S 40 m above waterfall southwest of Dorlon Shaft. Grab of interbedded P. Bay felsic tuff. limestone and chert beds to 30 cm thick mineralized with magnetite. pyrite, sphalerite, pyrrhotite and chalcopyrite. Certain beds within P. Bay mineralized for up to 20 m along strike in what appears to be replacement-style mineralization adjacent to the margin of a pale greenish grey felsite dyke which crosscuts the P. Bay sediments. Small-scale open folds present within the sediments.

APPENDIX C GEOPHYSICAL SURVEY REPORT

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

GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION, RESISTIVITY AND MAGNETOMETER SURVEYS

OVER A PORTION OF THE

HOLBERG INLET PROJECT

NORTHERN VANCOUVER ISLAND AREA

NANAIMO MINING DISTRICT, BRITISH COLUMBIA

PROPERTY	: 21 km west of town of Port Hardy
	: 50° 42' North Latitude 127° 47' West Longitude
	: N.T.S. 92L/12
WRITTEN FOR	: CAMECO CORPORATION 2121 - 11th Street West Saskatoon, Saskatchewan S7M 1J3
WRITTEN BY	: David G. Mark, Geophysicist GEOTRONICS SURVEYS LTD. #405 - 535 Howe Street Vancouver, B.C., V6C 225
DATED	: October 4, 1991

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GEOTRONICS SURVEYS LTD. Engineering & Mining Geophysicists

VANCOUVER, CANADA

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IP/Resistivity Survey Pseudosections with Magnetic Profiles

Line	18+00W	1:	2,500	7(a)
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Line	48+00W	1:	2,500	7(e)
Line	50+00W	1:	2,500	7(f)
Line	54+00W	1:	2,500	7(g)
Line	56+00W	1:	2,500	7(h)
Line	82+00W	1:	2,500	7(i)
Line	86+00W	1:	2,500	7(j)
Line	90+00W	1:	2,500	7(k)
Line	92+00w	1:	2,500	7(1)

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SUMMARY

Induced polarization, resistivity and magnetometer surveys were carried out during August and September, 1991 over a portion of the Holberg Inlet Project located on Nahwitti River, 21 km west of the town of Port Hardy, British Columbia. The purpose of the work was to locate base metal sulphides hopefully containing associated gold mineralization.

The IP and resistivity surveys were carried out using a Huntec receiver operating in the time-domain mode with the dipoledipole array at 6 separations. The dipole length and reading interval were 30 m. Twelve lines were done totalling 8.94 km. The data for IP (chargeability) and the data for resistivity were each plotted in pseudosection form and contoured.

The magnetometer survey was completed along the same lines as the IP survey. Two Scintrex MP-2 proton precession magnetometers were used, measuring the total field at 30-metre station intervals. A total of 8.94 km were done. The data were diurnally corrected, plotted and profiled with the IP and resistivity pseudosections at a scale of 1:2500.

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CONCLUSIONS

Strong IP anomalies with good strike lengths occur throughout the Holberg Inlet Project on all three grids. Almost all of the anomalies correlate with known sulphide showings and/or with gold, zinc, and/or copper soil geochemistry anomalies. This strongly suggests the causative source of the IP anomalies is sulphide mineralization.

The strike of the main anomalies, that is, those of greatest exploration interest, is east-west, the strike length is a minimum of 800 or 1,000 m being open on one or both ends, and the dip is southerly, which is the same as that of the rock-types on the property.

The anomalies of greatest exploration interest are as follows:

- (1) Dorlon Grid anomalies A and B;
- (2) H.P.H. Grid anomalies B and C as well as possibly A;
- (3) Contact Grid anomaly A.

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RECOMMENDATIONS

Considering the wide spacing of 200 or 400 meters between the IP survey lines, fill-in IP/resistivity surveying should be done between the lines. Also since each of the IP anomalies are open in at least one direction, IP/resistivity surveying should be carried out to extend the strike length of the anomalies.

However, there is no doubt that numerous drill targets of IP anomalies occur throughout the property and that these drill targets can be drilled now before any further IP/resistivity surveying is carried out. Prioritizing the drill targets and choosing the location of the drill collars as well as the dip of the holes should be done in collaboration between the geologist and the geophysicist. A southerly dip of the causative source for each anomaly should always be assumed.

Prospecting and/or geological mapping for the causative source of each IP anomaly on each line should be carried out. It is understood, however, that much of this was done while the IP/ resistivity survey was in progress as the results became available.

A horizontal loop EM survey may prove useful in helping to more accurately determine the dips of the various causative sources. But this assumes that they would be conductive enough to give a strong enough response. Also, the terrain would increase the cost significantly over most other areas. Therefore, a horizontal loop EM survey is not recommended.

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GEOPHYSICAL REPORT

ON

INDUCED POLARIZATION, RESISTIVITY AND MAGNETOMETER SURVEYS

OVER A PORTION OF THE

HOLBERG INLET PROJECT

NORTHERN VANCOUVER ISLAND AREA

NANAIMO MINING DISTRICT, BRITISH COLUMBIA

INTRODUCTION AND GENERAL REMARKS

This report discusses the instrumentation, theory, field procedure and results of induced polarization (IP), resistivity and magnetometer surveys carried out over a portion of the claims belonging to the Holberg Inlet Project of Cameco Corporation located 21 km west of the town of Port Hardy on Nahwitti River within Northern Vancouver Island.

The field work was completed between August 29 and September 14, 1991 under the supervision of David G. Mark and under the field supervision of Marc Beaupre, senior geophysical technician, who also formed part of the field crew. A second geophysical technician as well as two helpers completed the crew of four.

The purpose of the IP survey was to locate base metal sulphides with which, hopefully, gold is associated.

The main purpose of the resistivity survey was to assist in mapping lithology and structure, especially as to how they relate to the IP anomalies.

The purpose of the magnetic survey was to assist in the IPresistivity interpretation in addition to mapping lithology and geological structure.

The exploration on the property was under the supervision of Peter Dasler and Dave Pawliuk, both consulting geologists with Daiwan Engineering Ltd., who was carrying out the work on behalf of Cameco Corporation.

This report will appear as an appendix to a report authored by Pawliuk. Therefore, it will not contain a description of the property such as claims, ownership, location, access, physiography, history and geology, which appear in Pawliuk's report.

INDUCED POLARIZATION-RESISTIVITY SURVEY

a) Instrumentation

The transmitter used for the induced polarization-resistivity survey was either a Model IPT-1 powered by a 2.5 Kw motor generator, (both manufactured by Phoenix Geophysics Ltd. of Markham, Ontario) or a Huntec MK IV transmitter powered by a 7.5 Kw MK IV motor-generator, both manufactured by Huntec ('70) Limited of Scarborough, Ontario.

The receiver used was a model Mark IV manufactured by Huntec ('70) Limited of Scarborough, Ontario. This is state-of-the-art equipment, with software-controlled functions, programmable through the front panel.

The Mark IV system is capable of time domain, frequency domain, and complex resistivity measurements.

b) <u>Theory</u>

When a voltage is applied to the ground, electrical current flows, mainly in the electrolyte-filled capillaries within the rock. If the capillaries also contain certain mineral particles that transport current by electrons (most sulphides, some oxides and graphite), then the ionic charges build up at the particleelectrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomena is known as electrode polarization.

A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositelycharged ions from the surrounding electrolyte; when the current stops, the ions.slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absence of metallictype conductors.

Most IP surveys are carried out by taking measurements in the "time-domain" or the "frequency-domain".



Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless paramater, the chargeability, "M" which is a measure of the strength of the induced polarization effect. Measurements in the frequency-domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, "PFE".

The quantity, apparent resistivity, ρ_{α} , computed from electrical survey results is only the true earth resistivity in a homogenous sub-surface. When vertical (and lateral) variations in electrical properties occur, as they always will in the real world, the apparent resistivity will be influenced by the various layers, depending on their depth relative to the

electrode spacing. A single reading cannot therefore be attributed to a particular depth.

The ability of the ground to transmit electricity is, in the absence of metallic-type conductors, almost completely depending on the volume, nature and content of the pore space. Empirical relationships can be derived linking the formation resistivity to the pore water resistivity, as a function of porosity. Such a formula is Archie's Law, which states (assuming complete saturation) in clean formations:

0-2 Ξ Ro Rw

Where: Ro is formation resistivity Rw is pore water resistivity 0 is porosity

c) <u>Survey Procedure</u>

The IP and resistivity measurements were taken in the timedomain mode using an 8-second square wave charge cycle (2seconds positive charge, 2-seconds off, 2-seconds negative charge, 2-seconds off). The delay time used after the charge shuts off was 200 milliseconds and the integration time used was 1,500 milli-seconds divided into 10 windows.

The array chosen was the dipole-dipole shown as follows:

DIPOLE-DIPOLE ARRAY



The dipole length ('a') was chosen to be 30 m for all lines. The 30-m (100-ft) dipoles were read from one to six levels ('n'), to give a separation of 180 m and a maximum theoretical depth penetration of 100 m.

CATRANICE CLIDVEVELTA

The dipole-dipole array was chosen because of its symmetry resulting in a greater reliability in interpretation. Also smaller mineral zones, such as occur on this property, can be missed entirely using non-symetrical arrays such as pole-dipole.

Stainless steel stakes were used for current electrodes. For the potential electrodes, metallic copper in copper sulphate solution, in non-polarizing, unglazed, porcelain pots was used.

Readings were taken over 12 different lines to give a total survey length of 8.94 km.

d) Compilation of Data

The chargeability (IP) values are read directly from the instrument and no data processing is therefore required prior to plotting. The resistivity values are derived from current and voltage readings taken in the field. These values are combined with the geometrical factor appropriate for the dipole-dipole array, to compute the apparent resistivities.

The chargeability and resistivity data were each plotted in pseudosection form on maps 7(a) through to 7(1) for lines 18+00W to 92+00W, respectively, at a scale of 1:2,500 (see List of Illustrations at front of report). The chargeability data were then contoured at an interval of 5 msec, and the resistivity data at a logarithmic interval to the base 10 in ohm-m.

The soil geochemistry anomalies were placed on the same maps in order to show their correlation with the IP and resistivity results. What is considered anomalous for gold is above 10 ppb; for zinc, above 500 ppm; and for copper, above 100 ppm.

MAGNETOMETER SURVEY

a) Instrumentation and Theory

The magnetic survey was carried out with two Scintrex MP-2 proton precession magnetometers, manufactured by Scintrex Limited of Concord, Ontario. This instrument reads directly in gammas to an accuracy of ± 1 gamma, over a range of 20,000 - 100,000 gammas. Operating temperature range is -35° to +50° C, and gradient tolerance is up to 5,000 gammas per meter.

Only two commonly occurring minerals are strongly magnetic, magnetite and pyrrhotite; magnetic surveys are therefore used to detect the presence of these minerals in varying concentrations. Magnetics is also useful as a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite.

b) <u>Field Procedure</u>

Readings of the earth's total magnetic field were taken every 30 metres along all 12 survey lines on the three grids, by one of the magnetometers. The work consisted of 8.94 km of survey.

The diurnal variation was monitored in the field by using the second magnetometer as a base station. This enabled the diurnal variation to be removed from the raw data prior to plotting.

c) Compilation of Data

The total magnetic field values were profiled above the IP and resistivity pseudosections on each map for each line at a scale of 1:2500.

DISCUSSION OF RESULTS

The survey has revealed numerous strong IP (chargeability) anomalies across all three grids. This should not be surprising considering the IP survey lines were placed across target areas, that is, locations containing sulphide mineralization, soil geochemistry anomalies, and/or favourable geology.

It is considered that the most important survey of the three surveys carried out by Geotronics is IP chargeability, since IP anomalies are in all likelihood reflecting sulphides, and it is sulphides that are being sought after on this property. Therefore, the discussion will center around the IP anomalies and the resistivity and magnetic survey results will be discussed, for the most part, in how they relate to the IP anomalies.

The results are discussed on a grid-by-grid basis. The writer has labelled IP anomalies of interest by capital letters and has attempted to connect anomalies from one line to the next using geophysics, geology, and geochemistry. This, for the most part, should work since the lithology is mainly striking perpendicular to the lines, that is, westerly. However, the distance between the lines is 200 or 400 meters, which is fairly large. As a result, it should be kept in mind that an IP anomaly labelled by the same letter on two adjacent lines may in fact be two different anomalies that are caused by two different sources.

In trying to determine the dip of the causative source of the IP anomalies, the writer takes into account geology and the resistivity results over the IP results. For example, the weaker of the two legs of a pant-leg type IP anomaly often correlates with the dip of the causative source, and not the stronger of the two legs.

A. DORLON (Lines 18+00W to 22+00W)

The writer has labelled six IP anomalies considered to be worthy of further discussion. Some of these are minor in size, but, because they correlate with known sulphide showings, have been labelled. The anomalies are labelled from south to north.

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<u>Anomaly A</u> occurs on all three lines and therefore has a minimum east-west strike length of 400 m, being open to both the east and to the west. The resistivity as well as the geology suggest a southerly-dip. It occurs on the south side of a sharp, strong magnetic high that correlates with a resistivity high that is probably caused by a basalt dyke. It is therefore quite possible that this "basalt dyke" is related to the sulphide mineralization that is the causative source of IP anomaly A. Of even stronger exploration interest is the correlation of a gold soil anomaly with A on lines 18+00W and 20+00W.

Anomaly A occurs within the Parsons Bay sediments and/or close to its contact with the Bonanza volcanics breccias and flows. However, on line 22+00W, A correlates directly with a northwest-striking intrusive dyke. It is here where anomaly A is the strongest.

<u>Anomaly B</u> is considered to be the anomaly of greatest exploration interest on the Dorlon Grid. It is also seen on all three lines, which therefore indicates a minimum westerly-strike length of 400 m, being open to both the east and to the west. A southerly dip is also suggested for the causative source of this anomaly.

On each line anomaly B correlates with known sulphide mineralization described as follows:

- Line 18+00W 50 m west of the line at 1+50S occurs disseminated chalcopyrite, pyrite, sphalerite, pyrrhotite, and some galena within a felsic tuff and limestone.
- Line 20+00W At 1+50S occur bands and disseminations of sphalerite with pyrite and galena occurring within a cherty siltstone.
 - At 1+25S occur pyrite, galena, and sphalerite within limestone intruded by a felsic dyke.
- Line 22+00W At 1+60S occurs float, and downhill at 1+45S occurs in place disseminated pyrite, sphalerite, galena, chalcopyrite and pyrrhotite within interbedded cherts and limestone.

There is a similarity in the geology and mineralogy of the sulphide occurrences on all three lines, strongly suggesting continuity for the causative source.

There is a strong correlation with soil geochemistry results, especially on line 22+00W where it correlates with the uphill part of a wide gold/zinc soil anomaly. There is also a correlation on line 20+00W with a gold/zinc soil anomaly, but on 18+00W, IP anomaly B occurs just downhill of a gold/zinc anomaly and just uphill of a zinc anomaly.

Anomaly B occurs on the north side of a strong magnetic high suggesting a correlation with a basalt dyke. Also, B correlates with a resistivity low which may be caused by alteration and/or fracturing associated with the sulphide mineralization.

<u>Anomaly C</u> is an east-striking anomaly occurring on lines 20+00W and 18+00W and therefore is open only to the east. On both lines it correlates with a zinc soil anomaly and on line 18+00W,

it correlates with two 30-m separated showings that consist of massive sphalerite with some galena, pyrite, and chalcopyrite occurring at a limestone/felsic dyke contact. The resistivity correlation seems to be a high dipping to the south.

<u>Anomaly D</u> also occurs only on lines 18+00W and 20+00W, therefore being open only to the east. On line 20+00W, the anomaly is relatively weak, but on line 18+00W it is quite strong. The suggested dip of the causative source is southerly.

The only soil geochemistry correlation is on line 20+00W where it correlates with a gold/zinc anomaly. The resistivity correlation is with a high possibly caused by Quatsino limestone or an intrusive. The geological mapping indicates the causative source, that is, the sulphide mineralization, occurs within Quatsino limestone very close to its contact with an intrusive dyke.

<u>Anomaly E</u> is also an IP anomaly considered to be of strong exploration interest that occurs on all three lines. Since it seems to be striking in a southwesterly direction, it would be open to both the southwest and to the northeast and have a minimum strike length of 450 m.

The causative source also appears to be plunging to the southeast. On line 22+00W it sub-crops at about 0+45N; on line 20+00W, it may sub-crop at 2+10N, though the main causative source seems to be 50 m to 100 m below surface; and on line 18+00W it may sub-crop at 2+10N although the main causative source may be at least 150 m below surface.

On line 18+00W, the possible IP sub-crop correlates with a showing of disseminated chalcopyrite and pyrite within limestone and cherty tuff. Also at this location is a correlation with a

copper/zinc soil anomaly. On line 22+00W there is a possible correlation with a gold soil anomaly centered at 1+30N.

The resistivity correlation is with a low on both lines 18+00W and 22+00W. However, on line 20+00W, it occurs on the edge of a south-dipping resistivity high that appears to be caused by Quatsino limestone. Also, on line 20+00W, anomaly E occurs between two strong magnetic highs probably caused by basalt dykes.

<u>Anomaly F</u> occurs at the northern edge of the survey on all three lines. The IP survey should be extended northerly in order to properly ascertain the location of the causative source. However, the anomaly appears to strike northerly, have a minimum strike length of 400 m, and therefore is open to both the north and to the south.

Anomaly F correlates with a resistivity low that the writer thinks is probably caused by the Nahwitti River fault. The sulphide mineralization (or graphite?) is therefore probably related to the fault.

There are no other correlations with anomaly F.

B. H.P.H. GRID (lines 46+00W to 56+00W)

For this grid, four IP anomalies thought to be caused by four separate causative sources have been labelled by the capital letters A to D, inclusive.

<u>Anomalies A and B</u> are closely sub-parallel to each other and occur on the eastern four lines. This suggests a minimum strike length of 800 m being open to the east. On line 56+00W, anomaly

A does not occur and anomaly B possibly may occur which would extend B's minimum strike length to 1000 m, being open to the west as well.

On line 48+00W, anomaly A correlates with a showing of disseminated sphalerite, pyrite and chalcopyrite within an ash tuff. Another possible causative source of A is the occurrence of pyrite and sphalerite within graphite limestone 30 m north of the first showing.

Anomaly B correlates directly with a sulphide showing on line 48+00W which consists of disseminated hematite, pyrite, and sphalerite occurring within an ash tuff, and with a sulphide showing on line 50+00W which consists of disseminated pyrite and pyrrhotite within an ash tuff. On line 54+00W, float was found at anomaly B that consisted of sphalerite and chalcopyrite within limey sediments.

On all five lines anomalies A and B correlate with zinc soil anomalies that in places correlate with gold and copper soil anomalies as well.

The resistivity correlation with IP anomaly B is clearly a low which could be caused by alteration or possibly faulting associated with the sulphide mineralization. The resistivity correlation with anomaly A is much less clear with both lows and highs correlating with it.

IP anomaly A occurs closely with a magnetic high suggesting a close association with basalt dyking (if this is the causative source of the magnetic high).

<u>Anomaly C</u> can be seen on the western four lines and probably on line 56+00W as well, though at depth. This suggests a minimum

strike length of 1000 m. The dip of the causative source appears to be southerly.

On line 48+00W, anomaly C correlates with a showing of veinlets and disseminations of sphalerite, galena, pyrite, and chalcopyrite occurring within a brecciated limestone. In addition, anomaly C correlates with a gold/zinc anomaly on lines 50+00W and 56+00W.

The causative source appears to occur within Quatsino limestone on lines 50+00W, 54+00W, and 56+00W, though very close to a contact with an intrusive.

The correlation of C with the resistivity results is mixed, sometimes correlating with a high, sometimes with a low, and sometimes with the edge of a high (or low).

<u>Anomaly D</u> is shown to occur only on line 56+00W. It is possible that D is in fact an extension, or arm, of anomaly C, but the host rock of D is an intrusive whereas that of C is Quatsino limestone adjacent to the same intrusive.

There is no other correlation other than that it occurs on the northern edge of a resistivity low. Both the IP and resistivity suggest a near vertical dip.

C. CONTACT GRID (Lines 82+00W to 92+00W)

<u>IP anomaly A</u> is of strong exploration interest. It occurs on all four lines indicating a minimum strike length of 1000 m and open to both the east and the west. The dip of the causative source is southerly. The anomaly occurs within the Quatsino limestone near its contact with the Parson Bay sediments. This feature therefore has been used to connect the anomaly from one line to the next.

The anomaly is quite strong except on line 86+00W where it is significantly weaker.

On line 92+00W, anomaly A correlates directly with a showing of disseminated sphalerite and galena within an altered limestone. Also occurring nearby is float containing sphalerite and galena within cherty sediments. On line 86+00W, float has been found at the location of anomaly A that contained disseminated (?) pyrite, galena, sphalerite, and chalcopyrite within boulders of siltstones and tuffs. The boulders were angular, indicating the source was very close.

Anomalous soil values in gold, zinc, and/or copper correlate with anomaly A except on line 90+00W.

The resistivity correlation is with a low, indicating alteration or fracturing occurring with the sulphide mineralization.

<u>Anomaly B</u> occurs within the Parson Bay sediments on line 82+00W. It has a nearby correlation with a zinc soil anomaly.

<u>Anomaly C</u> is a strong IP anomaly occurring on line 86+00W. The host rock appears to be an intrusive occurring within Quatsino limestone. It correlates with a zinc/copper soil anomaly.

On this property, the resistivity results are not clearly indicative of the various lithological units. At different locations, highs can be seen to correlate with intrusive dykes, and at other locations there is no correlation. Also, the Quatsino limestone is reflected by both highs and lows. Perhaps the lows

indicate limestone that contains water-filled fractures and/or is a "dirty" limestone. The highs would therefore indicate limestone that is relatively clean and non-fractured.

Respectfully submitted,

GEOTRONICS SURVEYS LTD.

David G. Mark Geophysicist

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GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices located at #405-535 Howe Street, Vancouver, British Columbia.

I further certify:

- 1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
- 2. I have been practising my profession for the past 23 years and have been active in the mining industry for the past 26 years.
- 3. This report is compiled from data obtained from induced polarization, resistivity and magnetometer surveys carried out by a crew of Geotronics Surveys Ltd., under my supervision, and under the field supervision of Marc Beaupre, geophysical technician, from August 29 to September 14, 1991.
- 4. I do not hold any interest in Cameco Corporation, nor in any of the properties discussed in this report, nor will I receive any interest as a result of writing this report.

Geophysicist

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