Kamaka Resources Ltd.

6074, 45A Avenue, Delta, B.C. V4K 1M7 (604) 940-1591

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GEOCHEMICAL and **GEOLOGICAL**

ASSESSMENT REPORT

ON THE

RUTH MARY PROPERTY

NANAIMO MINING DIVISION

BRITISH COLUMBIA

N.T.S.: 92L\12

Latitude: 50° 42' N Longitude: 127° 47' W

For

HISWAY RESOURCE CORPORATION

1120-777 Dunsmuir Street Vancouver, B.C. Canada

By

Peter G. Dasler, M.Sc., P. Geo. GEOLOGICAL BRANCH ASSESSMENT REPORT

August 17 19 3, 050



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Gold Commission

VANCOUVER, B

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SUMMARY

The Ruth Mary property is located on northern Vancouver Island, British Columbia. A number of zinc, lead, gold, silver and copper showings occur on and adjacent to the claim. Between August 13 and August 17 1993, the author carried out a sampling, mapping and interpretation program on the property on behalf of Hisway Resources Corporation.

The object of the program was to better understand geochemical and geophysical anomalies outlined during the spring (1991) exploration work on the property. Work included surface mapping and prospecting, and sampling of previously unsplit drill core from the property to attempt to discover new metal occurrences within the area.

The 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, 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 Ruth Mary and adjacent properties occurs within the 150 to 300 metres thick Quatsino Formation limestone and the 100 to 300 metres thick Parson Bay Formation.

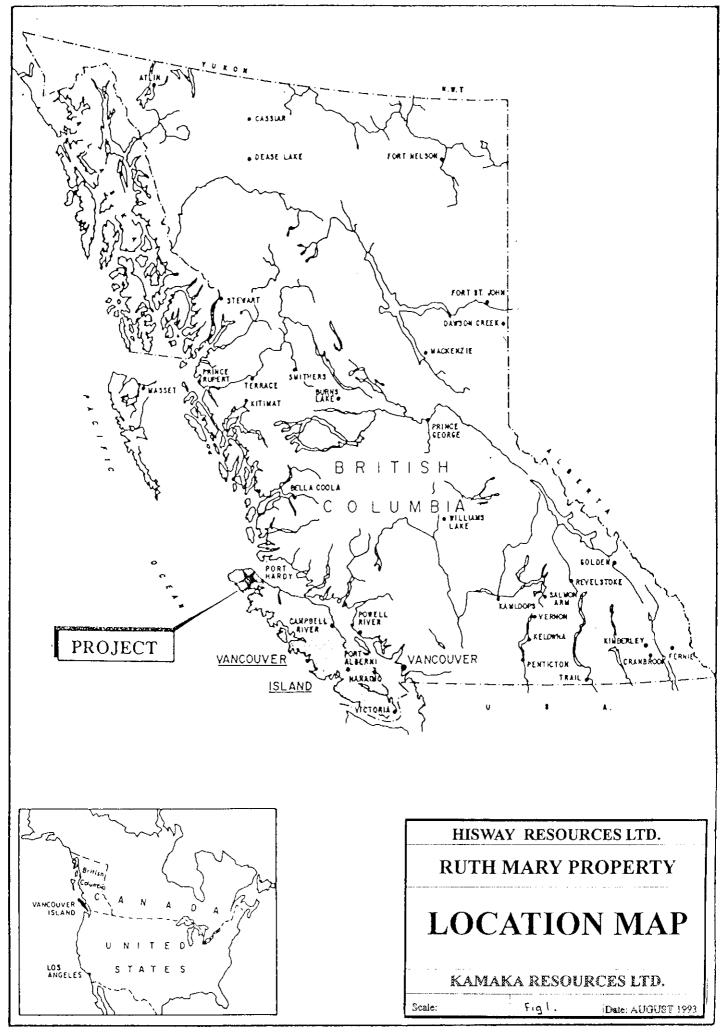
A total of 25 core samples and two mineralized rock samples were collected. The survey better defined previously known anomalies near the old showings and identified the stratabound nature of the replacement mineralization drilled in holes (91)-HO1D5 and HO1D-6. A reinterpretation of the geology indicates that zinc mineralization may subcrop south of the previously known showings. Some trenching is warranted in this area. Other areas on the property with anomalous amounts of gold warrant follow-up.

Expenditures on the property between August 13 and August 17 totalled \$2,490.62

INTRODUCTION

At the request of Mr. Ron Webb, Director of Hisway Resources Corp. the author carried out a mapping and sampling programme on the Ruth Mary claim, located near Port Hardy, British Columbia. The purpose of this exploration program was to explore for gold mineralization associated with significant zinc mineralization intercepted in two drillholes which were completed in 1991.

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During the program, 25 core samples and 2 rock samples were collected. This report is a description of work completed on the property between August 13 and 17, 1993.

LOCATION AND ACCESS

The Ruth Mary 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 northern part of the property. Old (overgrown) logging tracks branching out from this main road provide access to the steeper parts of the property.

TOPOGRAPHY AND VEGETATION

The Ruth Mary property is located immediately south of Nahwitti Lake. The property rises steeply from the 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. 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 locally present.

The property is occasionally precipitous especially in the vicinity of limestone outcrops.

PROPERTY

This property consists of one claim totalling 12 claim units within N.T.S. map-sheet 92L/12. in the Nanaimo Mining Division. The claim is depicted on Figure 2 and listed below:

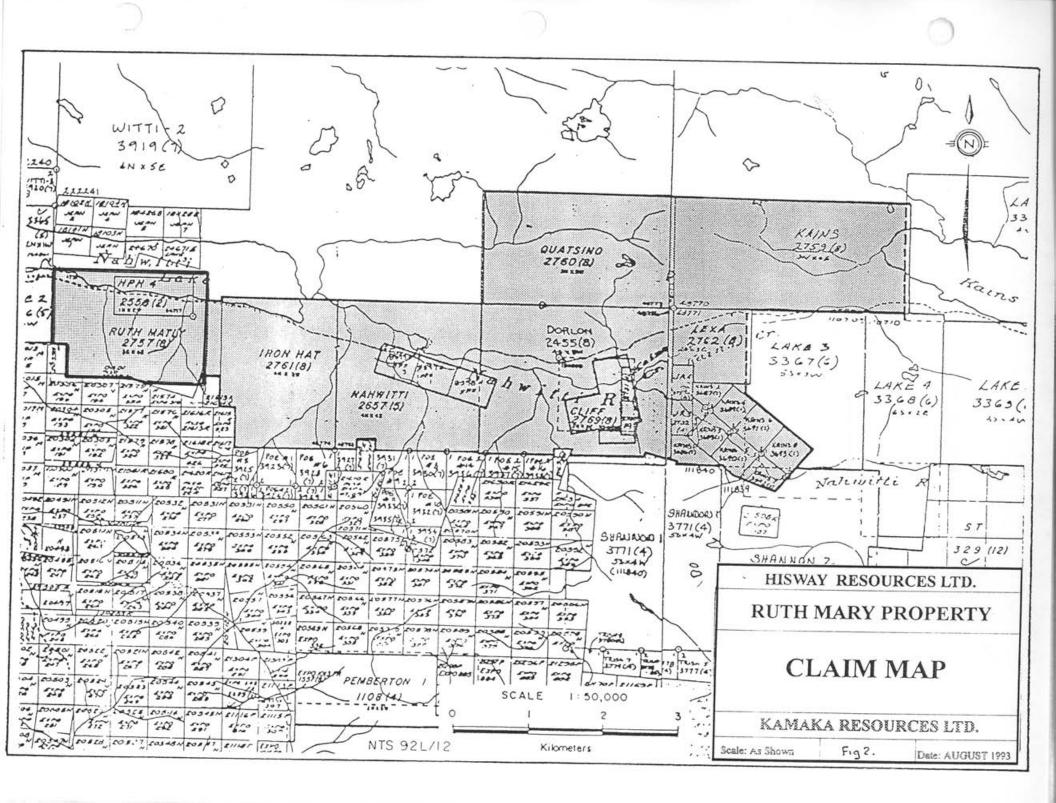
<u>Name</u>	Record No.	<u>Units</u>	<u>Expiry</u>	Recorded Owner
Ruth Mary	2757	12	August 17, 1993	Hisway Resources Corp.

The expiry dates shown are the current date, and do not show credit for this assessment report. One year of assessment has been applied for.

HISTORY

The 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

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this occurrence during 1930 (Christopher, 1988).

Intermittent mineral exploration across the ground immediately south of Nahwitti Lake 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" property (of which the Ruth Mary claim is a part) in some detail.

Hisway Resources Ltd. optioned the Dorlon 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). A diamond drill programme was carried out on the properties in October 1991. Two of these holes HO1D-5, HO1D-6, were targeted at anomalous mineralization discovered on the Ruth Mary claim. The holes intercepted significant zinc mineralization, but did not show any associated gold mineralization.

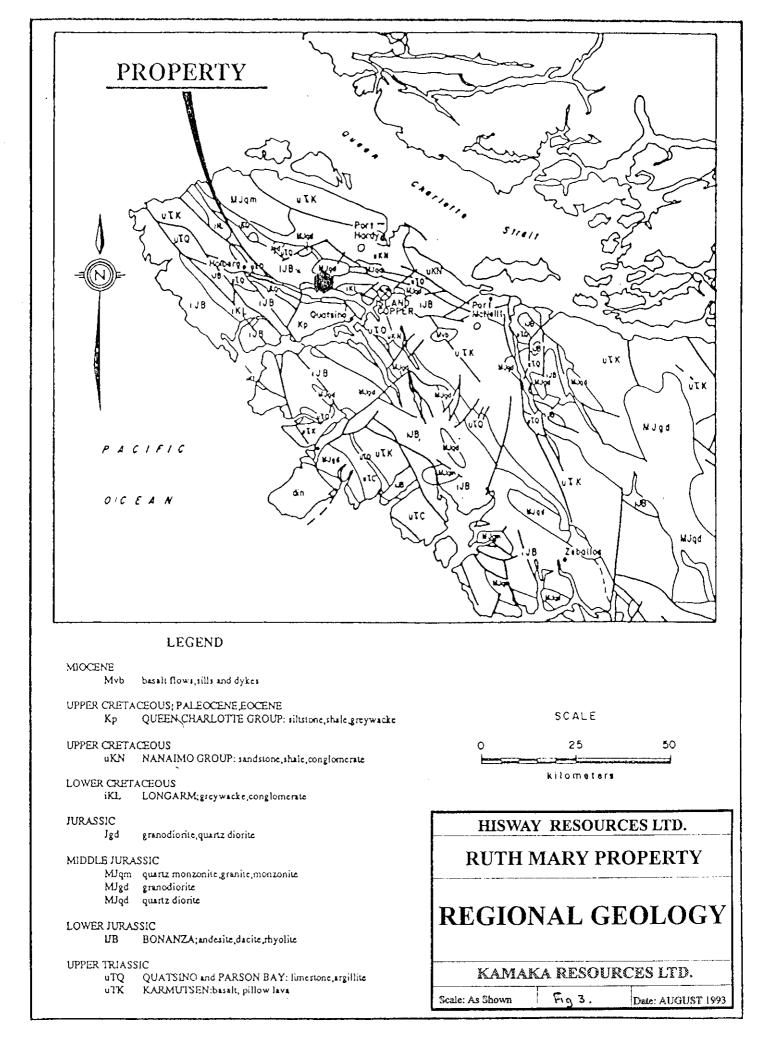
REGIONAL GEOLOGY

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, these include:

- 1. Skarn deposits: copper-iron and lead-zinc skarns,
- 2. Copper in basic volcanic rocks (Karmutsen): in amygdules, fractures, small shears and quartz-carbonate veins, with no apparent relationship to intrusive 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 Ruth Mary 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. This sequence has been intruded by several phases of dykes, sills and stocks, and later cut by a complex series of faults (See Allen, Dasler 1991).

The report by G. Allen and P.G. Dasler (1991) outlines the geology of belt of rocks south of Nahwitti Lake in detail. There are numerous 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. Occasionally 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 along the south side of Nahwitti lake. 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.

<u>Structure</u>

The area south of Nahwitti lake appears to be generally underlain by a simple, conformable, upright stratigraphic sequence striking roughly easterly and dipping moderately to the south. Minor folding has occurred, and, in the vicinity of the two drillholes on the Ruth Mary claim the stratigraphy is more flat lying. The rocks are, however, cut by a complex set of faults which have apparent offsets of up to 800 m.

Mapping is hampered in the area by the presence of thick forest and/or recent tree spacing which results in a tangle of fallen trees covering the ground.

GEOLOGICAL WORK 1993

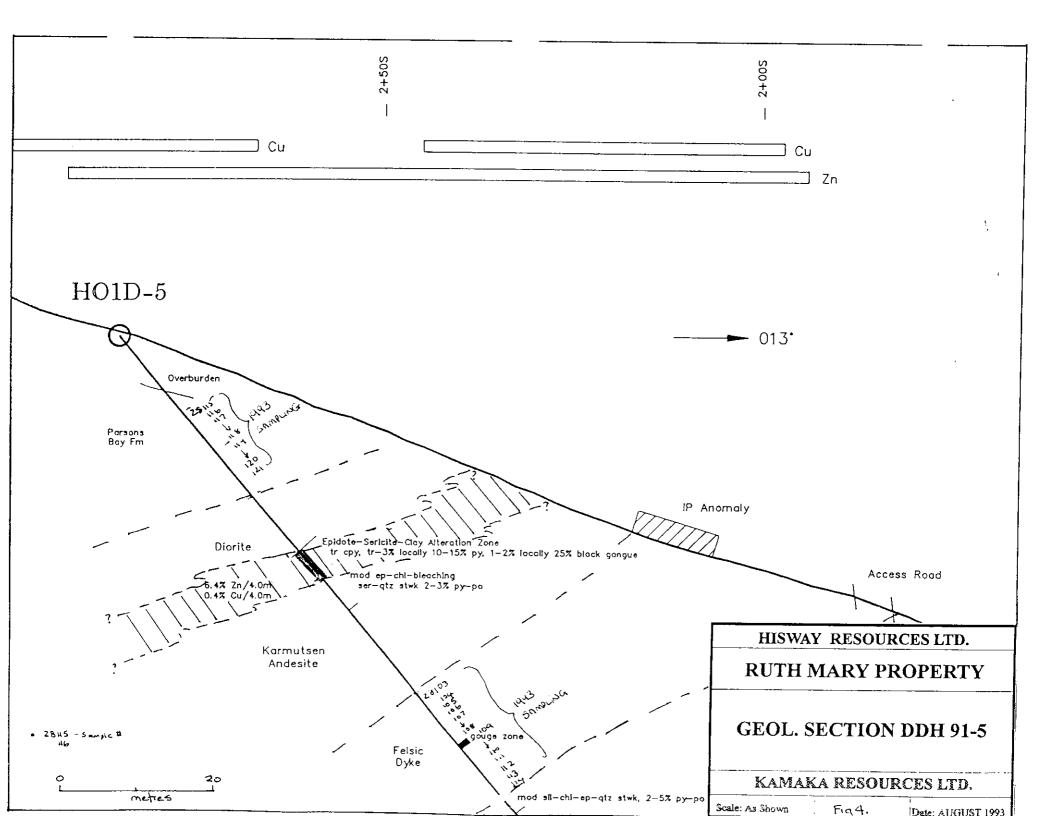
The results of prospecting and geochemical soil sampling in the Contract Creek area are reported by Pawliuk (1991).

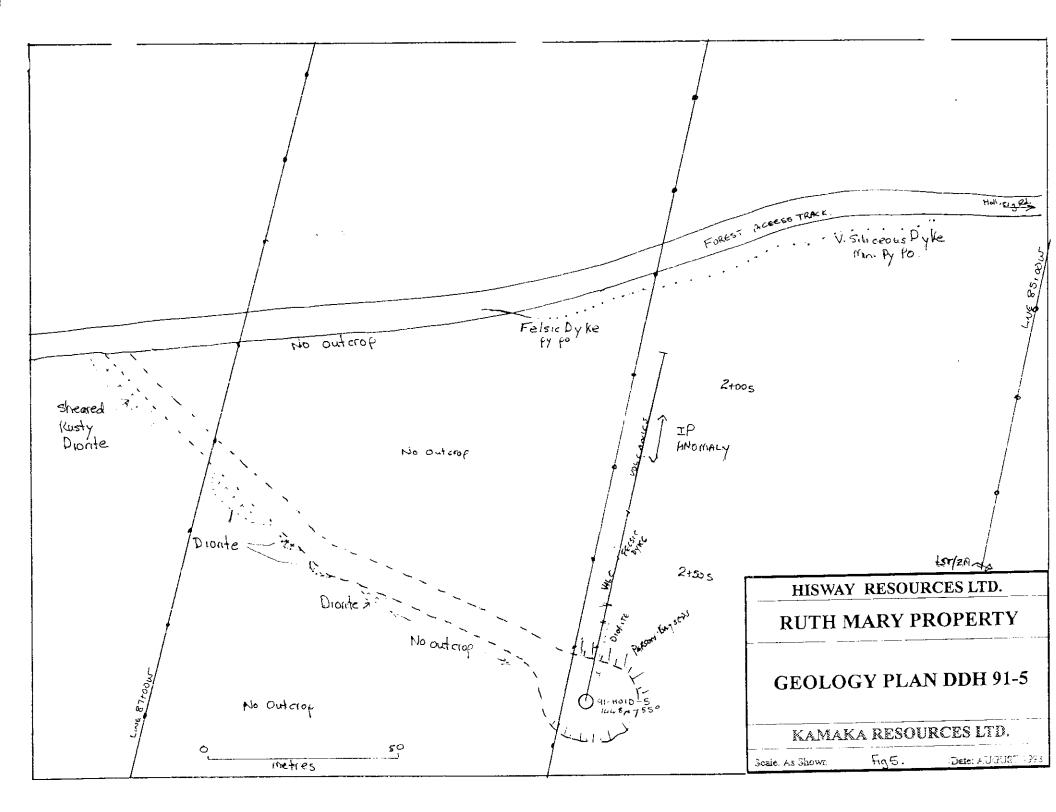
Bands or tongues of garnet skarn occur within limestone at western Contact Creek area at 93+70-W/2+45S. These bands vary from 10 metres down to 1-2cm. This skarn appears to be altered Parson Bay Formation sediments in a couple of places; in other places the protolith may be limestone.

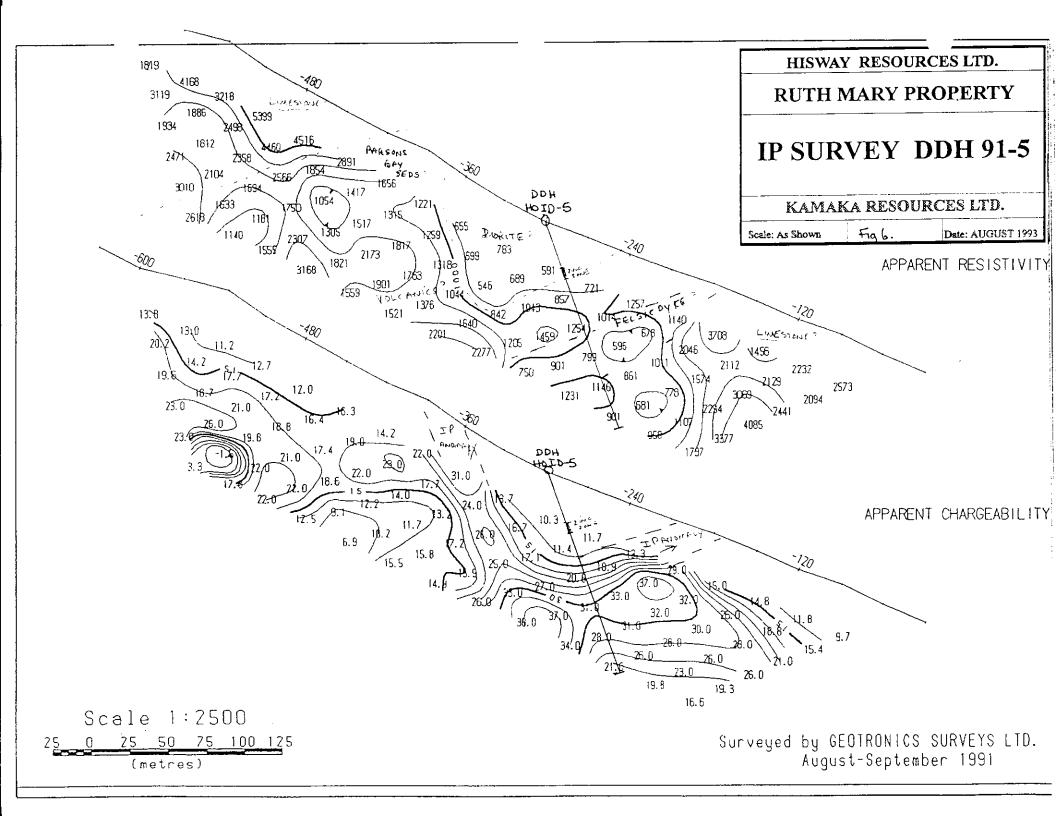
The previous work by Pawliuk showed that the Contact Creek skarn is most abundant within 25 metres of the contact between the sediments and an intrusive hornblende granite and is likely related to this contact. The skarn bands pinch out and disappear with increasing distance from the contact.

Drillhole 91-5 Area

There is very limited outcrop in the vicinity of drillhole 91-5. Approximately 4 hours were spent surveying the roads and the vicinity of the drillhole. The drillhole intercepted a significant interval of zinc mineralization at the contact of the diorite intrusive and the underlying volcanics (6.4% zinc over 4 metres), but this zone is too near surface to be detected by the IP survey with the current electrode spacing. The diorite appears to extend some distance to the east (see fig 8). The IP anomaly appears to represent the more pyritic phase of the felsic dyke intercepted in the hole, and outcropping along the access track. Further IP anomalies, and geochemical anomalies uphill of the







drillhole should be tested.

Approximately 150 metres to the west of the drillhole there is an extensive zinc skarn outcropping in the creek, and this appears to continue along a limestone unit to just west of the drill hole. There was no limestone in the drillhole, however the skarn zone may have overprinted it. Such a limestone unit would form part of the upper Karmutsen formation, and would only be present locally because of fault uplift.

Two zones in the drill hole were split and sampled to check for gold mineralization. The first interval was fine bedded Parsons Bay formation from the top of the hole. This rock was intensely silicified, with locally well developed epidote and pyrite/pyrrhotite replacements along bedding. The second interval sampled was from the Felsic dyke unite below the zinc mineralization. This is an aphanitic siliceous rock with disseminated (0.5%) pyrite and pyrrhotite.

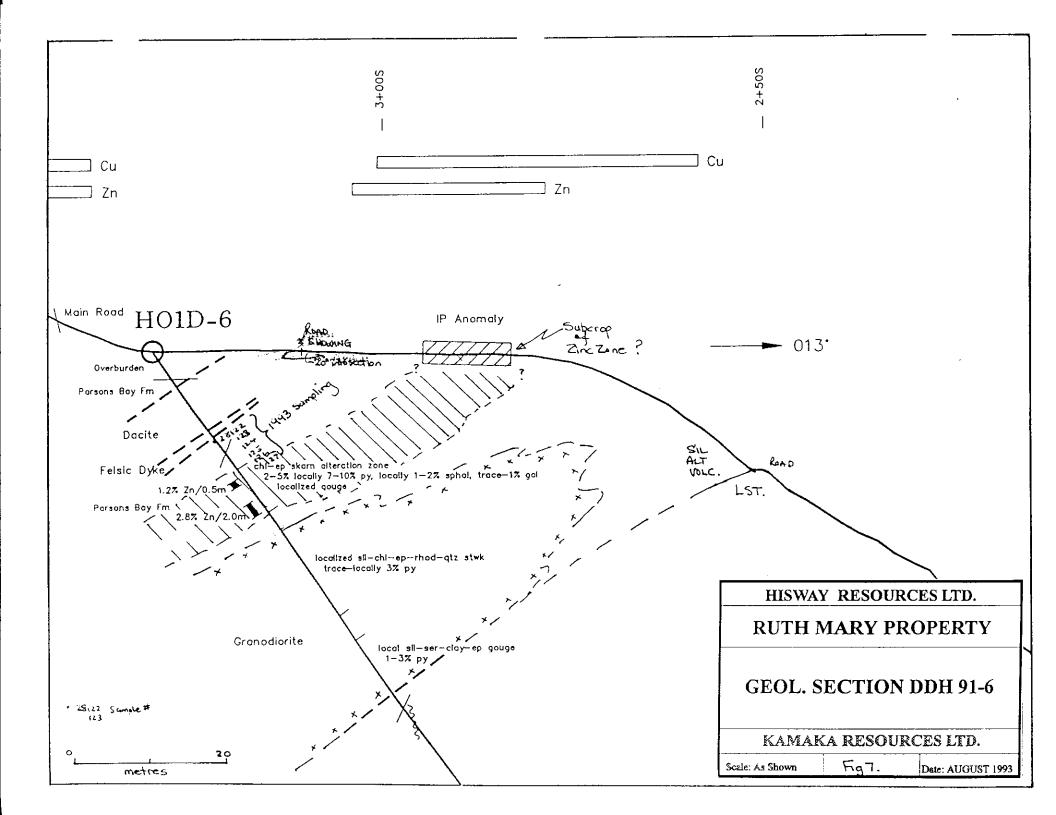
There were no significant gold assays from the samples in the hole. The results are tabulated in appendix 1 along with the sample descriptions.

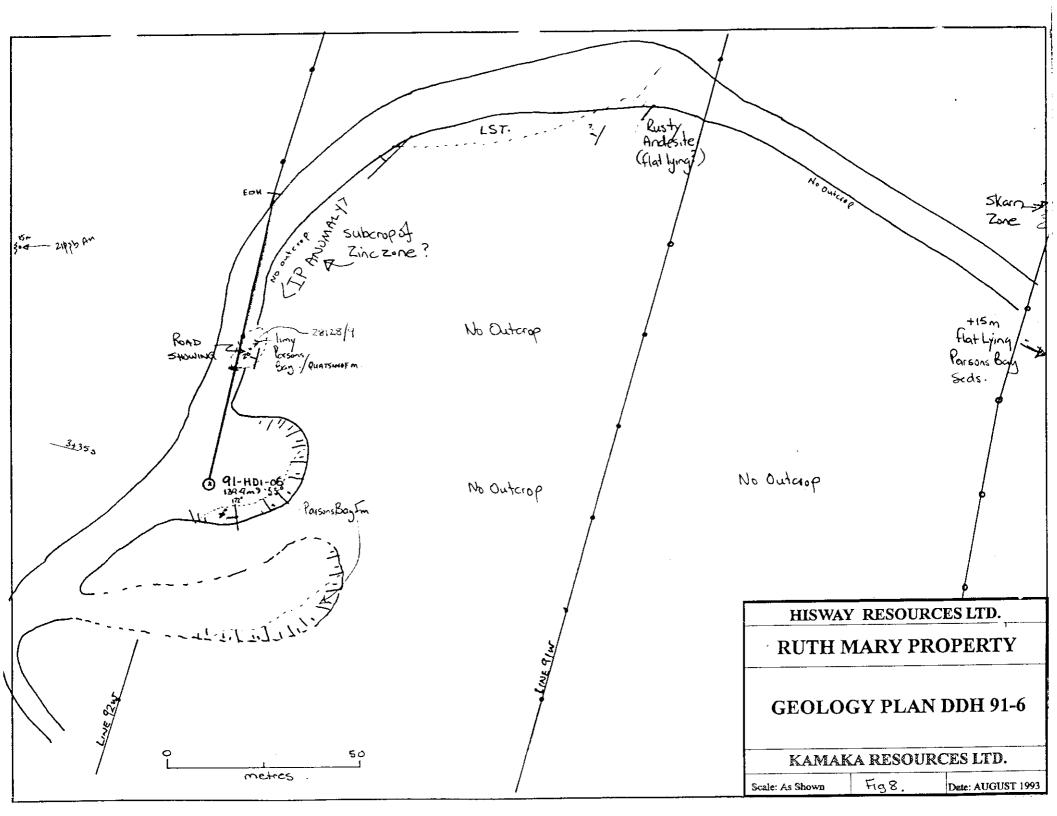
Drillhole 91-6 Area

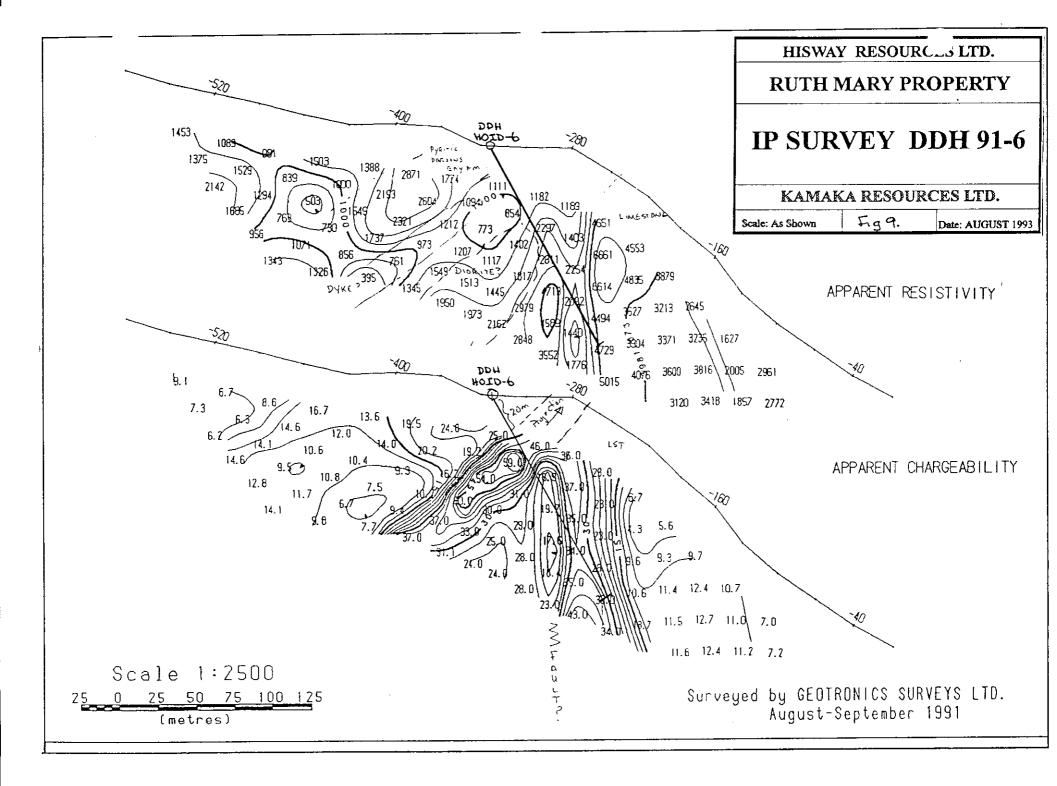
The previously discovered sulphide mineral occurrences (Road Showing) near drillhole #(91)-HO1D-6 were found in this survey to be conformable with the stratigraphy, rather than crosscutting. The drillhole which was targeted at this showing, and the associated IP anomaly, passed under the showing and hit a second mineralized zone which is now interpreted to subcrop north of the road showing (see figs 7-9). For this area the IP information is able to be interpreted with regard to the zinc mineralization, the diorite and the limestone. A major fault appears to cut the limestone, however it is probably at a very oblique angle to the section. The extensions of the drill intercept are shown on the drill and IP sections.

The drill core above the zinc intersection had not been sampled in the previous programme. The appearance of wispy pyrite and pyrrhotite bands within the core, and the calc-silicate formation within the Parsons Bay sediments, indicated that there was potential for replacement gold mineralization. The interval of core representing the overlying sediments was split and sampled by the author. Unfortunately there was no significant gold mineralization in any of the samples. The assays and descriptions of the samples are within appendix 1.

This mineralization averaged 1.67% zinc over 4.5 metres, including 2.8% over 2.0 metres in the drillhole. Further to the west (200 Metres) the (continuation? of the) skarn zone was drilled ny ASARCO and it returned 6.1 m of 11.21% zinc and 1.5% copper. It appears from the







reinterpretation that limited excavator work could determine if the zone outcrops. The locally shallow dip of the sediments in the area, may help to produce a near surface open-pitable zone. This can be relatively easily tested by the proposed excavator work and by further drilling.

The author spent some time prospecting across the interpreted extensions of the zone in an attempt to find outcrop, however none was visible. Some hand excavation was carried out around the zone of interest, however overburden was too deep.

Two samples were collected from the road showing, the first across the bedding, and the second along the outcrop. They were assayed for gold as well as 30 element ICP. The first sample of 0.2 metres (across the bedding) returned 0.8% zinc and 0.5% lead, the second (across 2.0 metres) returned 1.4% zinc and 0.8% lead. The (now clean) outcrop is obviously a flat lying (-20°), stratigraphically controlled, replacement of limited size. It was previously thought to be the edge of a steeply dipping replacement zone.

Other Areas

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.

CONCLUSIONS

- 1) The Ruth Mary 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) The 1993 sampling programme failed to identify any further gold mineralization in the drillholes, however the flat lying nature of the skarn zones became evident. A reinterpretation of the drillholes and further mapping indicates two areas for followup by drilling or trenching.
- 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

- The area with coincident IP and soil geochemistry anomalies at line 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 further testing with diamond drill holes.
- 2) Further drilling should be attempted west of and along strike of drill hole 91-5 in an attempt to extend the mineralization already drilled.

REFERENCES

Allen, G. and Dasler P.G. (1991)	Geochemical, Geophysical and Geological assessment report on the Holberg Inlet property, Nanaimo Mining Division, British Columbia; private unpublished report prepared for Cameco Corporation by Daiwan Engineering Ltd.
Christopher, P.A. (1988)	Report on the H.P.H. Property, Nanaimo Mining Division, Nah- witti Lake Area, British Columbia; private unpublished report prepared for Hisway Resources Corporation by Peter Christopher and Associates Inc.
Melrose D.L. (1992)	1991 Fall Diamond Drilling Program Holberg Inlet Project, for Cameco Corporation, January 1992.
Muller, J.E., Northcote, K.E. and Carlisle, D. (1974)	Geology and mineral deposits of Alert Bay-Cape Scott map- area (92L - 102I) Vancouver Island, British Columbia; Geologi- cal Survey of Canada Paper 74-8.
Pawliuk, D.J. (1991)	Geochemical ,Geophysical, and Prospecting Assessment report on the Holberg Inlet Property, for Cameco Corporation. Sept 30, 1991.

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CERTIFICATE OF QUALIFICATIONS

- I, Peter G. Dasler, do hereby certify that:
- 1. I am a geologist and principal for Kamaka Resources Ltd. with offices at 6074, 45A Avenue, Delta, British Columbia.
- 2. I am a graduate of the University of Canterbury, Christchurch, New Zealand with a degree of M.Sc., Geology.
- 3. I am a Fellow of the Geological Association Of Canada, a Member, in good standing, of the Australasian Institute of Mining and Metallurgy, and a Member of the Geological Society of New Zealand and a registered Professional Geologist with the Province of British Columbia.
- 4. I have practised my profession continuously since 1975, and have held senior geological positions and managerial positions, including Mine Manager, with mining companies in Canada and New Zealand.
- 5. This report is based on my mapping and sampling on the Ruth Mary Property, and from reports of Professional Engineers and others working in the area.
- 6. This report was prepared for assessment purposes only.



Peter G. Dasler, M.Sc., FGAC P. Geo. August 17, 1993

STATEMENT OF COSTS

The following expenditures were incurred for exploration on the Ruth Mary claims between August 13 and 17 1993.

Personnel

P. Dasler, Geologist 2.5 field days @ \$380/day 0.5 Office days @ \$380	\$ 950.00 190.00
Total Personnel	\$ 1,140.00
<u>Disbursements</u>	
Transportation 4 x 4's - 3 days incl mileage Fuel, etc. Equipment Rental Food & Accommodation 3 days @ \$52.95/day Assays 25 core samples, Au geochem @ 10.20 2 rock samples, 30 el ICP and Au FA @ \$13.35 freight \$22.00 Office & Miscellaneous	470.00 107.43 50.00 158.86 303.70 11.44
Total Disbursements Disbursement Fees SUBTOTAL Plus GST	\$1,101.43 2,241.43 <u>87.26</u> 2,327.69 <u>162.93</u>

TOTAL

\$ 2,490.62



APPENDIX A

GEOCHEMICAL ANALYSIS CERTIFICATES

ROCK SAMPLE DESCRIPTIONS

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Sample No.	Interval	Description
Hole 91-5	(2) (1) (1) (1)	Public states with valo you alith
28103	63.6-64.6m	Felsic dyke with volc xenolith
28104	64.6-65.6	Felsic dyke
28105	65.6-66.6	Felsic dyke
28106	66.6-67.6	Felsic dyke
28107	67.6-68.6	Felsic dyke
28108	68.6-71.5	Felsic dyke
28109	71.5-73.5	Felsic dyke, pink zeolite veinlets
28110	73.5-75.0	Felsic dyke, becoming more competent, blebs py
28111	75.0-76.0	Felsic dyke, competent, fine py.as diss and stringers
28112	76.0-77.0	Felsic dyke, broken tr epidote
28113	77.0-78.0	Felsic dyke more epidote, py .5% as stringers
28114	78.0-79.2	Felsic dyke py stringers and blebs 1%
28115	14.3-15.3	Parsons Bay, sil alt, shadowy qv. epidote .5% py
28116	15.3-16.3	Parsons Bay, sil alt, no bedding, tr epidote, shadowy qv
28117	16.3-17.3	As above w. epidote
28118	17.3-20.4	P. Bay. V. Siliceous, raggy qv, tr py epidote
28119	20.4-22.8	P. Bay, softer, zeolite/carb alt. tr epidote, less qv
28120	22.8-25.0	carb alt, rhodochrosite
28121	25.0-26.5	P. Bay sim 120, more sil to end
HOLE 91-6		
28122	14.3-15.3	Sil P. Bay 2% epidote, bands @ 40, pink garnet
28123	15.3-16.3	as 122, stringer galena, 1mm 15.9-16.0, pink garnet
28124	16.3-17.3	P. Bay sil. epidote bands 2mm vuggy siliceous
28125	17.3-18.3	P. Bay Sil. epidote bands
28126	18.3-19.3	as above
28127	19.3-20.5	more chloritic.
ROCK SAMPL	LES	
28128	Road Show line 92	Chip across bedding over 20cm dip -20 deg
20120	$\mathbf{D} = 1 \mathbf{C} 1 \mathbf{C} 1^{\dagger} \mathbf{C} 0 2$	

28129

Road Show line 92

Chip across bedding over 20cm dip Chip across outcrop 2 metres

S	SAMPLE#	Au** ppb
	28103 28104 28105 28106 28106 28107	20 <1 <1 <1 <1 <1
	28109 28110 28111	<1 <1 4 1 1
R	28113 28114 28115 E C 28115 28116	7 <1 <1 <1 <1 5
	28118 28119 28120	<1 <1 2 <1 5
	28123 28124 28125	2 <1 3 8 9
C S	28127 TANDARD AU-R	10 488
- SAMPLE TYPE: P1 CO Samples beginning (P	RE P2 ROCK	NED BY
4	y i	

ACME AN	TI	CAL	LAB	ORAT						EOC	HEN Ltd	IIC7	NL 7	NAI	YSI RU	:s c <u>)TH</u>	ERT Fi	'IF .le	ICA		1980		NE (6 Pag			3158	F	AX		253- 4	1716 A
SAMPLE#	Mo. ppm	Cu ppn	. –		Ag ppm	Ni ppm	Co ppn	Min ppm			U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca X	P %	La ppm	Cr ppm	Hg X	Ba ppm	Ti X	B ppm	Al %	Na %	K X	¥ ppm	Au* ppb
C 28128 C 28129 RE C 28129	44 69 68	12		8479 13925 14072		32 59 60	16	47762 21730 21810	1.30	5 3 2	≺5 9 10	<2 <2 <2	<2 <2 <2	25	59.2 84.6 85.1	<2 <2 <2		609	4.05	.014 .061 .062		10 65 67	.40 .22 .22	8 16 16	.01 .05 .05	3 <2 1 <2 1		.01 .01 .01	.04 .01 <.01	<1 <1 <1	5 8 8

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 AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

- SAMPLE TYPE: P1 CORE P2 ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

Samples beginning 'RE' are duplicate samples.