#### ARIS SUMMARY SHEET

bistrict Geologist, Victoria

Off Confidential: 90.02.13

ASSESSMENT REPORT 18770

MINING DIVISION: Alberni

126 46 30

ROPERTY:

Central Zeballos

LOCATION:

LAT 50 01 30 LONG

UTM 09 5543563 659374

NTS 092L02W

CAMP:

029 Zeballos - Kyuquot Area

LAIM(S):

Rimy 5, Rimy 7-8, H & J 7-8

OPERATOR(S):

Canalaska Res.

EPORT YEAR:

Freeze, J.C. 1989, 26 Pages

OMMODITIES

SEARCHED FOR: Gold

**KEYWORDS:** 

Eocene, Oligocene, Sooke Intrusions, Quartz diorite, Quartz Veins

ORK

DONE: Prospecting, Geological

PETR 2 sample(s)

PROS 40.0 ha

Map(s) - 1; Scale(s) - 1:1200

RELATED

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GEOLOGICAL ASSESSMENT REPORT

on the

RIMY 5/7 and 8 and the H AND J NO.S 7 and 8 CLAIMS

of the

CENTRAL ZEBALLOS PROPERTY

ALBERNI MINING DIVISION

WEST COAST VANCOUVER ISLAND, BRITISH COLUMBIA

NTS 92L/2W

50° 01.5'N 126° 46.5'W

#### FOR

NEW IMPACT RESOURCES INC. 1840 - 200 GRANVILLE STREET VANCOUVER, BRITISH COLUMBIA

AND

CANALASKA RESOURCES LTD.
SUITE 920 - 625 HOWE STREET
VANCOUVER, B.C.
V6C 2T6

PREPARED BY

BEATY GEOLOGICAL LTD.
SUITE 900 - 625 HOWE STREET
VANCOUVER, BRITISH COLUMBIA
V6C 2T6

Author: J.C. FREEZE, F.G.A.C.

MAY, 1989

MAY 15 %380

MANCOUVER, B.C.



#### SUMMARY

The Central Zeballos property comprises 22 crown grants and 11 reverted crown grants in the Alberni mining division on Vancouver Island, British Columbia. The nearest communities are Zeballos, 15 road kilometres to the southwest and Port NcNeill, 90 road kilometres to the north. Access is by road via the North Island Highway and the Zeballos Forestry road which connects with the highway 42 kilometres north of Zeballos and 50 kilometres south of Port McNeill. The property is situated on the west coast of Vancouver Island, 33 kilometres east of the Pacific Ocean. The region has a wet climate averaging 250 centimetres precipitation annually.

This report covers the Rimy 5/7 and 8 and the H and J No.s 7 and 8 claims which were initially staked in the late 1930's and were crown granted in the 1940's. Underground work was carried out on adjacent claims on which ore grade gold bearing quartz veins were discovered. In the Zeballos Camp the gold bearing veins are believed to have been formed as a late stage of the Tertiary Sooke (quartz diorite) Intrusion. This quartz diorite body underlies both the Rimy and the H and J claims.

CanAlaska Resources Ltd. optioned the property from the New Impact Resources Inc. in the Fall of 1988. On behalf of CanAlaska, Beaty Geological Ltd. carried out an exploration program in February and May of 1989. Geological mapping, prospecting and an aerial reconnaissance was carried out.

Further exploration is recommended to test the economic potential of the Rimy and the H and J claims.

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#### 1. INTRODUCTION

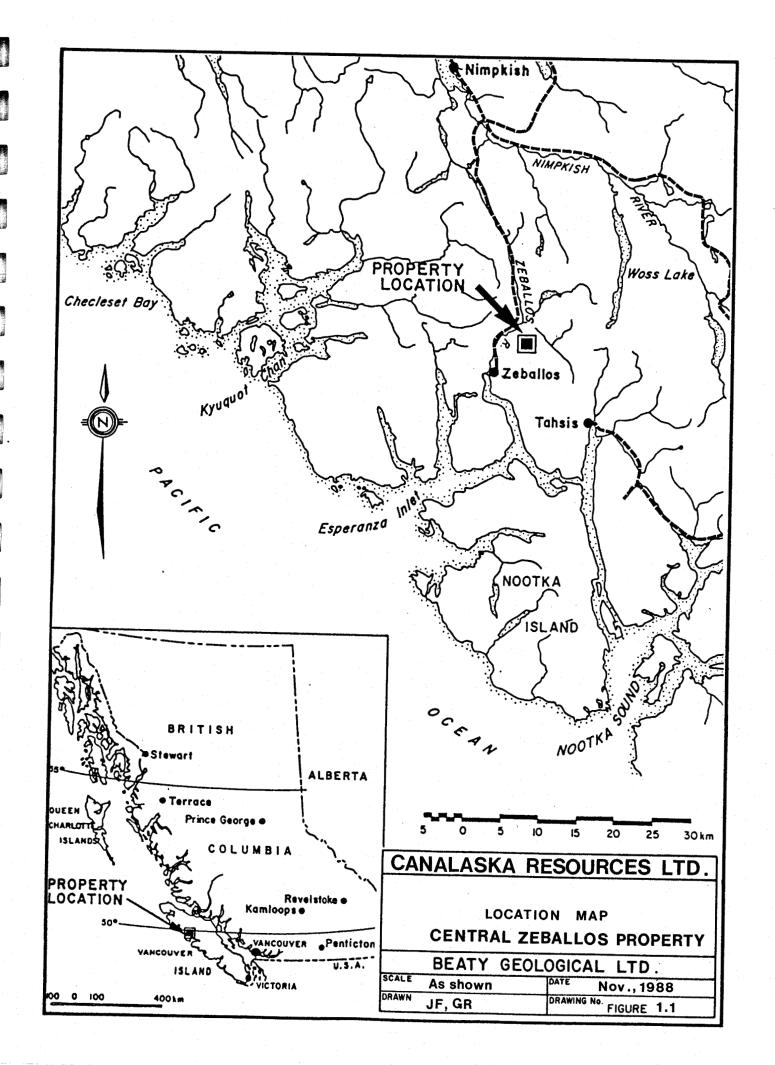
The geology and economic potential of precious metal prospects covered by the Rimy and H & J groups of claims on the Central Zeballos property, under option to CanAlaska Resources Ltd. from New Impact Resources Inc., are discussed in this report. The data presented was obtained during a recent exploration programme carried out by A.C. Freeze and J.C. Freeze. In addition to recent findings, results of exploration, development and mining programmes carried out since the original staking of the crown grants in the late 1930's, have been summarized. Additional exploration is recommended to test the economic potential of these claims.

## 1.1 Location and Access

The Central Zeballos property is situated on the west coast of Vancouver Island, British Columbia and is located on N.T.S. Map Sheet 92L/2W at 50°01.5'N and 126°46.5'W. Declination for the area is 23°. The property 90 road kilometres south of the town of Port McNeill and 200 road kilometres northwest of the city of Campbell River. The Rimy 5/7 and 8 claims cover an area of approximately 0.3 square kilometres (7.5 hectares or 18.55 acres) and the H and J No.7 and No.8 claims cover an area of 0.36 square kilometres (9 hectares or 22.26 acres) ( see Figure 1.2).

Access to the town of Zeballos is provided by a Service (gravel) road 42 kilometres in length which connects with the Island Highway 160 kilometres north of Campbell River. The nearest road access to the Rimy and H & J claims is provided by the Gold Valley Main line which connects with the Zeballos Forest road 6 kilometres north of Zeballos. The Rimy claims are located at 792 to 1006 metres above sea on the west side of the northerly trending Lukwa Mountain ridge. A recently built spur to the Gold Valley line reaches an elevation of 600 metres at a horizontal distance of 250 metres directly west of the Rimy claims. The H & J claims are located between 518 and 1113 metres above sea level on the east side of the Lukwa Mountain Ridge 375 metres east of the Rimy 8 claim. The Nomash logging road comes within a horizontal distance of 1 kilometre of the H & J No. claim at an elevation of 183 metres, on the east side of the river.

Sea port access is currently available at Campbell River. Air access by helicopter is available either from bases in Goldriver or Campbell River. Groceries, fuel, lumber and general supplies are available to a limited extent in Zeballos. The remainder may be trucked from Campbell River, Port Hardy or Port McNeill.



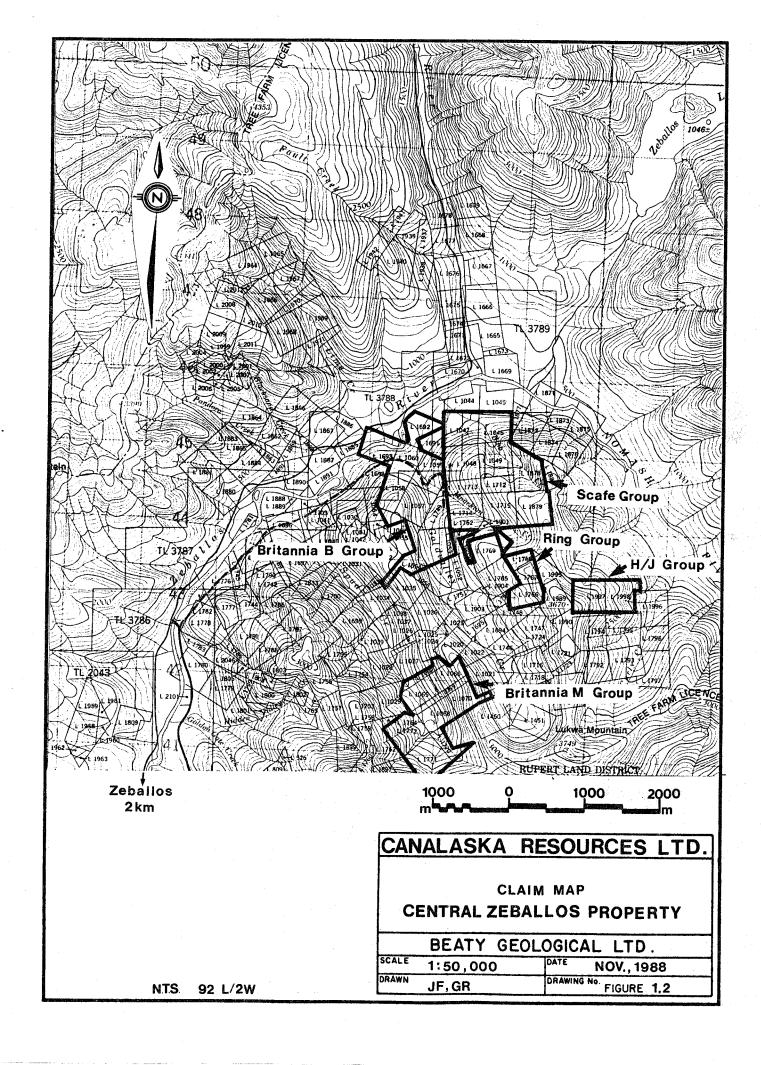
#### 1.2 Property

The Central Zeballos property is held by 22 crown grants and ll reverted crown grants in the Alberni mining division as listed below. It is understood that the property is held by New Impact Resources Inc. and is under option to CanAlaska Resources Ltd., however, the legal terms are not covered by the scope of this report. The exploration programme discussed in this report covers the last 4 claims listed.

Table 1.2
Claim Status

Group	Name	Expiry Date	Lot No.	Rec No	.status
Scafe	AE		L1046		C.G.
	AD		L1047		C.G.
	Extension No. 5	12/13/91	L1048	1577	R.C.G.
	Extension No. 6		L1049		C.G.
	Extension No.10		L1712		C.G.
	Extension No. 9	12/13/91	L1713	1576	R.C.G.
	Extension No. 7	12/13/91	L1714	1575	R.C.G.
	Extension No. 8		L1715		C.G.
	Mon Fraction		L1878		C.G.
	Bas Fraction		L1879		C.G.
	Rimy 6 & 1	12/13/91	L1901/02	1574	R.C.G.
Britannia B			L1053		C.G.
	B-2 Fraction		L1054 <sup>1</sup>		C.G.
	B-3		L1057		C.G.
	B-5		L1058		C.G.
	B-4		L1059		C.G.
	B-6		L1060		C.G.
	T		L1692		C.G.
	B-7		L1693		C.G.
	Wet Fraction		L1749		C.G.
Britannia M			L1065		C.G.
	M-2		L1066		C.G.
	M-3 Fraction		L1067		C.G.
	M-4		L1068		C.G.
	M-6 Fraction		L1069		C.G.
	M-5		L1070		C.G.
	XY	12/13/91	L1770	1572	R.C.G.
	XX	12/13/91	L1771	1571	R.C.G.
<u> </u>	XZ	12/13/91	L1772	1573	R.C.G.
Rimy	Rimy 8	02/13/94	L1766	2471	R.C.G.
	Rimy 5 & 7	02/13/94	L1767/68		R.C.G.
H/J	H and J No.7	02/13/94	L1997	2472	R.C.G.
	H and J No.8	02/13/94	L1998	2473	R.C.G.

An undivided interest only as to lot 1054 except that part lying southwest of the production northwesterly of the northeasterly boundary of Lot 1035, Rupert District (Surface Title Number 128049-1)



## 1.3 Physiography, Vegetation and Climate

The claims are situated on the west coast of Vancouver Island, 25 kilometres east of the Pacific Ocean. The region has a wet climate; snow cover in winter is moderate; rain, snow, and wind storms are common all year round. Mean annual precipitation is greater than 250 cm.

The claims cover a rugged, mountainous terrain with elevations ranging from 455 metres (1,500 feet) to 1,070 metres (3,510 feet). Some slopes are extremely steep, but most may be traversed with care.

Westerly flowing tributaries to Goldvalley Creek drain the Rimy claims while the H & J claims are drained by the easterly flowing Curly Creek watershed which drains into the Nomash River. Both the Nomash River and Goldvalley Creek flow into the Zeballos River which flows southwesterly into Esperanza Inlet and enters the Pacific Ocean 23 kilometres west of the property.

Natural vegetation cover is moderate to dense and typical of west coast rain forest. Cedar, hemlock and balsam trees with thick to moderate underbrush characterize the vegetation. Alder trees grow in thick patches where logging has taken place.

Water and timber resources for exploration and development purposes are plentiful.

## 1.4 History

#### Zeballos Camp

The discovery of placer gold in the Zeballos River in 1907 encouraged prospecting in the surrounding area and led to the discovery of gold bearing quartz veins. The first "gold vein" was staked in 1924 on the Tagore property, 1 1/2 miles up from the mouth of the Zeballos River, and by 1929 forty claims had been staked in the Zeballos River valley. Mining began in the winter of 1934-1935 following the discovery of the rich gold - quartz veins on the White Star, Spud Valley and Privateer properties on Spud Creek. The first shipments were made from these properties in 1937 and 1938. By the end of 1948 a total of 287,811 ounces of gold had been produced from a total of 651,000 tons mined of which 370,750 tons were milled. Average gold grade was 0.44 ounces per ton mined and 0.75 ounces per ton milled.

In 1962 Zeballos Iron Mines Ltd. produced 3700 tons of iron per day from a magnetite skarn in the Karmutsen volcanics north of the Zeballos River. The ore was shipped from a deep sea port in Zeballos. Production ceased and the mine was sold in 1972 due to world iron markets.

### Rimy Claims

The Rimy No.s 3,8,5,7,2,6 and 1 claims (L.1765-69,1901-2) were staked between 1934 and 1935 and brought to Crown grant in 1942. The claims were acquired by Man-of-War Mines Limited who drove two main adits on the main vein on the Rimy No. 3 claim (L.1765). A total of 19 tons of ore containing 44 ounces of gold and 51 ounces of silver were shipped by 1938. Underground work was only continued by Man-of-War Mines through 1939. At least three veins have been reported on the property, and adits have been driven on two of them.

The Rimy No.s 5&7 and 8 claims held by New Impact Resources Inc. and CanAlaska Resources Ltd. are located directly east of the No. 3 claim covering the anticipated easterly extension of the veins.

### H and J Claims

The H and J No.s 1-9 claims (L.1792-5,1996,1796,1997-8,1797) were staked in 1937 and called the Golden Horn Property. Limited surface work was carried out in 1938 by Pioneer Gold Mines Limited. Homeward Mines Limited acquired the property in 1939 and drove two main adits on L.1794 and L.1795. The company also built a 50 ton per day amalgamation-flotation mill which operated from June, 1941 to February, 1942, when the mine was closed. A total of 3,652 tons of ore were mined, of which 1,400 tons were milled and 1,491 ounces of gold and 3,500 ounces of silver were produced.

Five veins have been reported on the property, although all of the production was from the No. 1 vein. Three of the other veins, No.s 2-4, are exposed up the mountain westerly from the adits, less than 600 feet (183 metres) north of the No. 1 vein. The fifth vein is exposed near the southern border of L.1795.

The H and J No.s 7 and 8 (L.1997-8) claims, held by New Impact Resources Inc. and CanAlaska Resources Ltd., are located to the north of L.1794 and L.1795. Vein No.s 2-4 may be located near the border between L.1794 & L.1795 and L.1997 & L.1998.

## Recent History

Impact Resources Inc. (now New Impact Resources In 1981. Inc.) acquired the Central Zeballos property and since that time has carried out exploration programmes comprising back sampling of the old workings, rehabilitation of a portion of the old workings, diamond drilling of a dolomitic limestone in the Central Zeballos No. 9 level crosscut, body and sampling reconnaissance prospecting and a Results were encouraging and warranted geochemical survey. additional exploration and rehabilitation of the old Central Zeballos workings.

Both the Spud Valley and Privateer properties have received a renewed interest since 1984 and are currently being developed by McAdam Resources Inc. and New Privateer Mines Ltd., respectively. McAdam Resources reports reserves of 429,533 tons grading 0.25 ounces per ton over a 4 foot mining width.

the Fall of 1988 CanAlaska Resources Ltd. optioned Central Zeballos property from New Impact Resources Inc. and an exploration programme comprising following: rehabilitation of the No. 9 level crosscut; sampling and geological mapping of the accessible levels of surface prospecting and geological the mine; geophysical surveys; geochemical sampling and a compilation of all data previously collected. During the winter of 1988-89 underground diamond drilling was carried out from the No.9 level of the Central Zeballos Mine. Results from these exploration programmes were encouraging, details have been discussed in previous reports which are listed in the References.

## 1.5 1989 Rimy and H & J Exploration Programme

In 1989 exploration was undertaken by geologists A.C. Freeze and J.C. Freeze. Between February 1st and 12th research on the property was carried out and a helicopter flight was taken both to access the claims and to carry out an aerial review of the property to search for prominent structures. Due to a heavy snow cover there were no outcrops exposed on the accessible part of the claims, however, a very distinct east-west trending linear was observed on the north end of the Rimy claims. This linear started near the Rimy adits on the claim west of the Rimy 7 claim and continued up the mountain on to the Rimy 7 claim. No linear features were apparent from the air on the H and J claims.

On May 8th a second helicopter flight was taken to access the claims and investigate the linear feature noted during the February flight. Geological mapping and prospecting was carried out on the sides of Lukwa Ridge on the Rimy 5&7 and 8 and H and J No.7 claims. Several outcrops were mapped and samples were collected for petrographic analysis, however snow cover still hampered the survey and the linear observed from the helicopter was not accessible.

Approximately \$1,300.00 was spent in February and \$3,253.00 was spent in May.

#### 2. GEOLOGY

## 2.1 Regional Geology

The Zeballos River area was mapped initially by H.C. Gunning of the Geological Survey of Canada ("G.S.C.") in 1932 as part of a regional map covering an area of 142 square miles. Gunning's report and map are part of the G.S.C. Summary Report 1932. The most recent geological work in the area was compiled in 1977 by J.E. Muller as G.S.C. Open File 463 (see Figure 2.1).

The oldest rocks in the area are Triassic volcanics sediments correlated with the Vancouver Group the Nimpkish Lake region. In the Zeballos area the group represented by two formations. The lower is the Karmutsen Formation comprising mafic to intermediate volcanics and volcaniclastics; overlying the Karmutsen volcanics is the Quatsino limestone. These rocks lie in fault contact along the northern branch of the Zeballos River north of the property. Early Jurassic Bonanza Group volcanics overlie the Vancouver Group on the southwest portion of the Britannia claims.

The volcanic and sedimentary rocks were intruded and in part replaced by a Jurassic Island Intrusion of granodioritic to quartz dioritic composition which outcrops in a northwesterly trending body predominantly north of the Zeballos River. A younger intrusive named the Zeballos (quartz diorite) Batholith, which has been dated at 38 Ma (Tertiary - Oligocene/Eocene) intrudes all older rocks and outcrops in a southeasterly trending body south of the Zeballos River.

The gold bearing quartz veins are believed to have been emplaced during the late stages of the Tertiary quartz diorite intrusion along with mafic and felsic dykes which are seen both to crosscut and be crosscut by the veins.

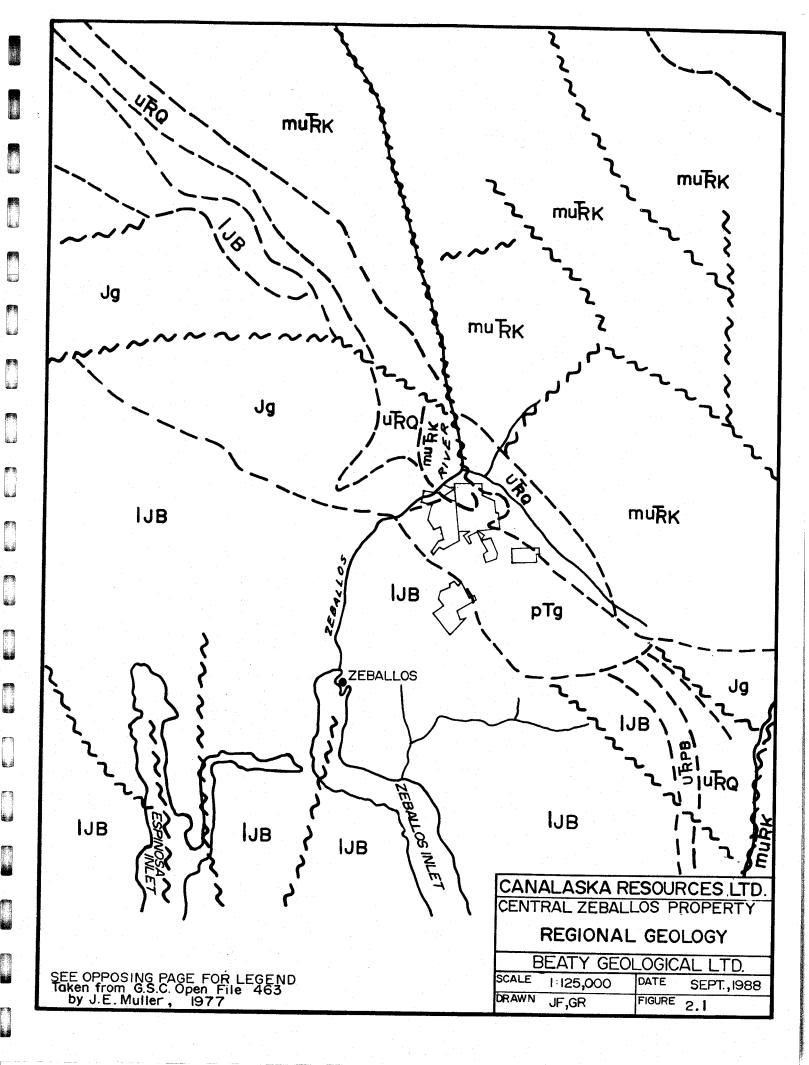


TABLE OF	FORM	MATIONS	OF	VANCOUVER	ISLAND
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SEQUENTIAL LAYERED ROCKS CRYSTALLINE ROCKS, COMPLEXES OF POORLY DEFINED						F POORLY DEFINED AGE							
	PERI	00	STAGE	GROUP	FORMATION	SYM- BOL	AVERAGE THICKNESS IN M.±	LITHOLOGY				K/Ar	LITHOLOGY
ပ			:		late Tert.volc's of Port McNeill								
200	.			·	SOOKE BAY	mpTs8		conglomerate, sandstone, shale		· ·			
70			EOCENE to		CARMANAH	eoTc	1,200	sandstone, siltstone, coglomerate					guartzdiarita trandhiamita
ENO			OLIGOCENE		ESCALANTE	eT E	300	conglomerate, sandstone	silicic SOOKE INTRUSIONS-basic		1		quartzdiorite, trondhjemite, agmatite, porphyry gabbro, anorthosite, agmatite
บ			early EOCENE		METCHOSIN	еТм	3,000	basaltic lava,pillow lava,breccia, tuff	METCHOSIN SCHIST, GNEISS			4	chlorite schist, gneissic amphibolite
			MAESTRICHTIAN		GABRIOLA	uKGA	350	sandstone, conglomerate	LEECH RIVER FM.	JKL	•	38-41	phyllite, mica schist, greywacke, argillite, chert
					SPRAY	υKs	200	shale, siltstone	1				
					GEOFFREY	uKG	150	conglomerate, sandstone					
					NORTHUMBERLAND	uKN	250	siltstone, shale, sandstone					
		1 E	CAMPANIAN	NANAIMO	DE COURCY	uKbc	350	conglomerate, sandstone					
		∢			CEDAR DISTRICT	uKco	300	shale, siltstone, sandstone					
		ן ר		9	EXTENSION - PROTECTION	uKEP	300	conglomerate, sandstone, shale, coal	• 1				
U					HASLAM	υКн	200	shale, siltstone, sandstone	l I				
0			SANTONIAN		COMOX	υKc	350	sandstone, conglomerate, shale, coal		-	·		
7		_	CENOMANIAN ALBIAN	QUEEN	conglomerate unit	lKoc	900	conglomerate, greywacke	1				
S		R	APTIAN?	CHARLOTTE	siltstone shale unit	lKop	50	siltstone, shale	4.				
w		EA	VALANGINIAN BARREMIAN		LONGARM	lКц	250	greywacke, conglomerate, siltstone		<del> </del>	-		
₹	SSK	MIDE	TITHONIAN CALLOVIAN		Upper Jurassic sediment unit	υJs	500	siltstone, argillite, conglomerate	PACIFIC RIM COMPLEX				greywacke, argillite, chert, basic volcanics, limestone granodiorite, quartz diorite, granite, quartz monzonite
	4		TOARCIAN?	202142174	volcanics	IJB	1,500	basaltic to rhyolitic lava, tuff, breccia, minor argillite, greywacke	ISLAND INTRUSIONS WESTCOAST silicic	Jg PMns	264		
	불	EAR	PLIENSBACHIAN SINEMURIAN	BONANZA	HARBLEDOWN	IJн		argillite, greywacke, tuff	COMPLEX basic	PMnb	7	163-192	quartz-feldspargneiss metaquartzite.marble harnblende-plagioclase aneiss
	U	u	NORIAN		PARSON BAY	uk PB	450	calcareous siltstone, greywacke, silty – i limestone, minor conglomerate, breccia					hornblende-plagioclase gneiss quartz diorite, agmatite, amphi- bolite
	SSIC	Y	KARNIAN	VANCOUVER	QUATSINO	υīko	400	limestone	·				
	⋖	L			KARMUTSEN	mulkk	4,500	basalte lava, pillow lava, breccia, tuff	diabase sills	Pīrb	1		
	IR	M D	LADINIAN		sediment – sill unit	Teds	750	metasiltstone, diabase, limestone	limestone metavolcanic rocks	Ls PMmv			material canic rocks minor mater
v	Ъ.				BUTTLE LAKE	СРві	300	limestone, chert	melavoicamic rocks	FMITT			metavolcanic rocks, minor meta- sediments; limestone, marble
ō	Z			SICKER	sediments	CPss	600	metagreywacke, argillite, schist, marble	·				
LEOZOIC	PENN. and				volcanics	CPsv	2,000	basaltic to rhyolitic metavolcanic					
1	2 2						1 .	flows, tuff, agglomerate	TYEE INTRUSIONS	Pg	>390		metagranodiorite metaguartzdio
PA	DEV. or								COLQUITZ GNEISS WARK DIORITE GNEISS	Pns Pnb	>390	63-182	quartz feldspar gneiss hornblende-plagioc lase gneiss lauartz diorite, arbhib olite

## 2.2 Regional Mineralization

The mineral deposits of the Zeballos Camp have been investigated and described by geologists of the Minister of Mines for B.C. and the Geological Survey of Canada since 1908. Descriptions given by J.S. Stevenson (1935 to 1948) and by Bancroft (1940) have been found to be accurate and informative. The Zeballos camp is well known for its' rich gold bearing quartz veins which produced a total of 287,811 ounces of gold between 1934 and 1948.

#### Vein Structure

These veins comprise quartz and sulphides in well defined fault fissures which are rarely more than a foot in width but maintain fairly uniform strikes and dips for considerable distances. The gold bearing vein material occurs as lenticular bodies, often referred to as ore shoots, within the consistent structures making reserves difficult to block out by diamond drilling.

Some of the gold bearing veins occur in sheeted zones comprised of joints spaced 2 to 8 inches apart over widths of up to 4 feet. Although narrow gouge films and quartz sulphide stringers line these joints the gold grades over the 4 foot width is often less than in the narrower but solid veins. These sheeted zones often grade into narrow shears containing high grade lenticular quartz sulphide veins.

#### Vein Composition

The vein material comprises sulphides and gold occurring in a gangue of quartz and minor carbonate. Gold grades appear to have an inverse relationship the amount of carbonate in the gangue. Films of gouge usually line the walls to the quartz sulphide veins. Banding occurs both between the quartz and sulphides and between the sulphides themselves indicating a sequential deposition. The quartz occurs in a comb texture made up of pyramid shaped crystals with often occurring between crystals. sulphides Sulphides comprising pyrite, sphalerite, arsenopyrite, chalcopyrite, galena, pyrrhotite and minor marcasite make up from 10 to 50%, averaging 25%, of the vein material.

Crushed country rock occurring in vein shears with gold bearing stringers and disseminated pyrite are usually low in gold content. Brecciated vein matter characterizes many parts of the veins and includes fragments of wall rock up to 10 inches across. Some of the wall rock fragments have been totally replaced by silicification. Where this has not occurred the wall rock tends to dilute the mineralization. Visible gold often occurs in the veins but commercial ore may

not contain any gold visible to the naked eye. The Privateer and the Goldfield veins are the best known for gold crystals and hackly masses of visible gold. Gold distribution in the quartz sulphide ore is directly proportional to sphalerite and galena content. This evidence suggests these minerals were precipitated from the same solutions although banding evidence indicates that the gold deposited slightly later than the base metals. As a rule quartz veins containing pyrite and arsenopyrite without sphalerite and galena do not contain very much gold. The entire depositional sequence is believed to have started with pyrrhotite and some sphalerite, followed by arsenopyrite, pyrite, sphalerite, chalcopyrite, galena and gold. associations with gold are varied: it replaces arsenopyrite, pyrite and galena and occurs along the contact of quartz and the various sulphides, galena, sphalerite and pyrite. also occurs entirely surrounded by quartz or moulded around the ends of prismatic quartz crystals.

The deposition of quartz appears to have started soon after the pyrrhotite and to have been repeated several times before the final stages of mineralization. The earliest quartz is dark grey and contains fine grained arsenopyrite and pyrite. This grey quartz forms the walls to most gold bearing veins as well as most of the gangue in narrow veins. A second stage quartz is drusy and white while a third and last stage quartz is white and barren of both sulphides and gold.

#### Wallrock Alteration

Alteration along the veins occurs in all rock types but is more intense along those crosscutting granodiorite and quartz diorite. Complete sericitization of the plagioclase crystals and total destruction of biotite and hornblende crystals has occurred in these intrusive rocks. The lime silicate rocks show little alteration and the volcanics show an altered zone up to 6 inches from the vein shears.

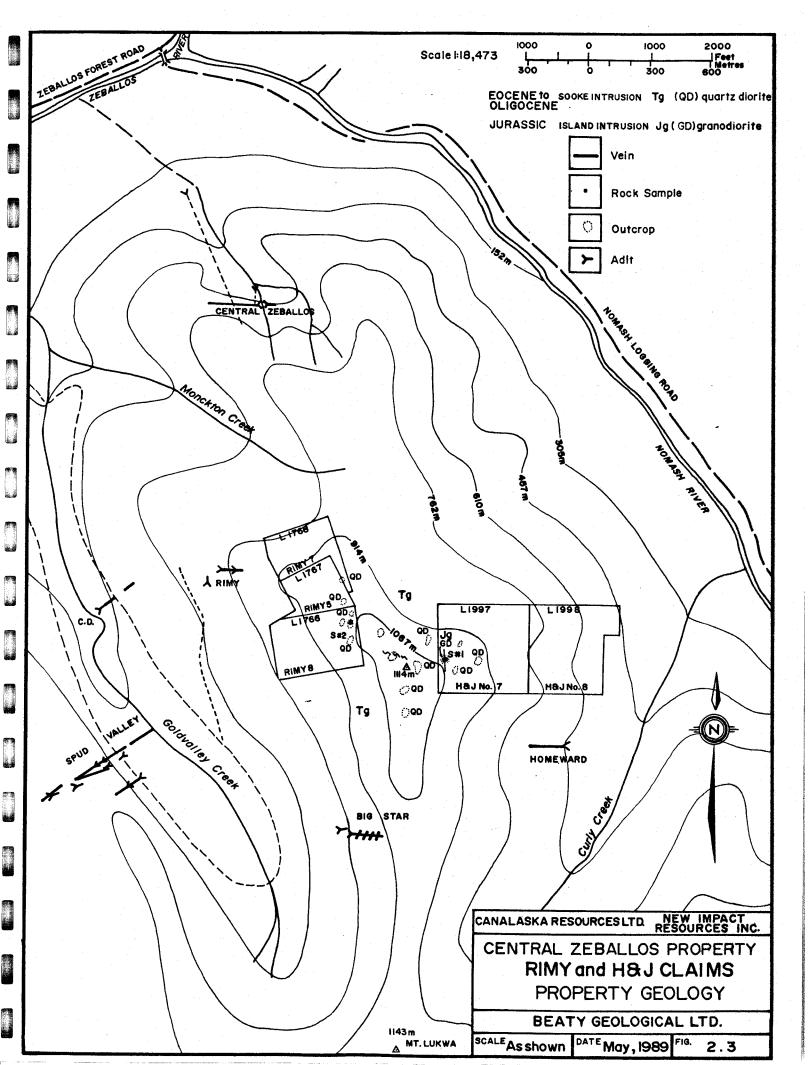
In addition to the gold bearing quartz veins the Zeballos camp hosts several skarn deposits. The largest discovered to date is a magnetite skarn in the Karmutsen volcanics north of the Zeballos River. In 1962 Zeballos Iron Mines Ltd. produced 3700 tons of iron per day from this skarn. Production ceased in 1972 due to world iron markets. Other skarn deposits host magnetite, copper and gold. Impressive gold results have recently been announced from the Footwall property on the Artlish River.

## 2.3 Property Geology

The Rimy and the H and J claims are underlain predominantly by the Tertiary aged Zeballos Batholith which comprises quartz diorite. The quartz diorite has a homogeneous medium grained salt and pepper texture and is made up of plagioclase, quartz, biotite, hornblende, oligoclase-andesine feldspar, chlorite, saussurite, apatite, epidote and opaques. Outcrops are massive in form with noticeable jointing. Rounding is common along joints giving a bouldery shape. Weathering occurs as speckled light and dark grey and minor buff colours.

Thin section examination of a sample (S#1) collected during the recent geological mapping programme identified a granodiorite crosscut by secondary orthoclase veinlets. Unless this is an alteration phenomena the Jurassic Island Intrusion of granodiorite composition must also underlie the H and J claims. The granodiorite comprises plagioclase, quartz, orthoclase, hornblende, biotite, chlorite and minor opaques and apatite. It has a medium crystalline texture, weathers to a slightly rusty buff - brown colour, is slightly magnetic and has a trace of pyrite. The mafics show weak chlorite alteration.

A few northeasterly striking andesite and feldspar dykes have been mapped by Stevenson (1950) on the Rimy claims. Northwesterly striking andesite dykes, from 6 inches to 2 feet wide, are also reported to crosscut the quartz diorite on the H and J claims.



## 2.4 Property Mineralization and Alteration

## Rimy Claims

The Rimy 5/7 and 8 claims (L.1767/8,1766) were staked to cover the possible easterly extensions of three easterly striking veins discovered on the Rimy 3 claim (L.1765).

The main vein strikes 096° and dips 80° to the south, is 1 to 3 inches wide (2.54 to 7.62 cm) and follows a well defined shear 1 to 10 inches wide (2.54 to 25.4 cm). Vein material comprises quartz with sulphide streaks, predominantly pyrite and arsenopyrite with minor sphalerite and galena. The vein follows the footwall of the shear while later breccia and black gouge occur on the hanging wall. Northeasterly striking diagonal veins of comb quartz and sulphides extend from the main vein indicating a left lateral movement to the shear as is common with other east-west breaks in the camp. Gold values of 0.1 to 9 ounces per ton were reported by Stevenson (1950).

A second vein also striking easterly comprises 2 inches of quartz and arsenopyrite and 2 inches of gouge and crushed rock.

## H and J Claims

Although no mineralized veins are known to outcrop on the H and J No. 7 and 8 claims (L.1997-8), five easterly striking veins are exposed on the H and J No. 3 and 4 claims (L.1794-5) just south of No.s 7 and 8.

The No. 1, known as the Homeward, vein strikes east-west and dips 85 to the north and ranges from 0 to 12 inches (30.48 cm) wide, averaging 3 inches. The vein comprises quartz and sulphides, predominantly pyrite and fine grained arsenopyrite with minor sphalerite and galena and occasional free gold. Post vein faulting results in the pulverizing of minerals. Cleaved calcite occurs in coarsely cleaved patches in the vein. This vein has been traced over 3,600 feet (1097 metres) along strike and 2,000 feet (610 metres) over a vertical distance. This vein also follows a strong crush and shear zone. The sheared and crushed quartz diorite selvages to the vein are bleached to a white mass. Diagonal quartz veins extending from the main shear also indicate left lateral movement along the fault.

Samples of the vein vary from ore grade to sub-ore grade but mill heads were reported as 0.58 to 0.84 ounces per ton.

## 2.5 Petrographic Analyses

The following descriptions are by J.T. Shearer of Vancouver Petrographics Ltd.

Specimen Number: S#1

### Hand Specimen Description:

Slightly rusty-buff brown weathering, medium crystalline, hypidiomorphic granular, abundant anhedral to subhedral plagioclase, irregular rounded quartz grains and lenses, hornblende grains up to 3 mm long, minor biotite, some chlorite alteration of hornblende, abundant irregular orthoclase grains, (K-spar content approximately 10%), veinlet composed mainly of K-spar with lesser quartz and plagioclase occurs on end of specimen up to 11 mm wide. Slightly magnetic, trace of pyrite.

Field Rock Name: Slightly chloritized, hornblende - biotite granodiorite (cut by K-spar veinlets)

#### Thin Section Examination:

### Estimated Mode:

18% Quartz

34% Plagioclase

16% Orthoclase

15% Veinlet (Orthoclase with lesser quartz and plagioclase

9% Hornblende

2% Chlorite

6% Biotite

Trace Opaques

Trace Apatite

Many of the subhedral plagioclase grains are highly fractured (network) on a microscale and the fracture hairlines are often filled with an opaque material. This is in contrast to the adjacent less fractured quartz grains and nonfractured orthoclase grains. Some plagioclase grains have corroded grain boundaries by replacement with quartz. Commonly only the cores of the larger grains exhibit polysynthetic twinning. The composition of these core areas is about An<sub>45</sub>.

Hornblende and biotite are closely associated in mafic rich lenses. Both minerals appear to be in large part contemporaneous but in some cases large biotite flakes are replacing anhedral, rounded hornblende grains. Orthoclase replaces the edges of the larger plagioclase grains and is one of the latest minerals to form. Rare examples of minor perthite were noted.

Quartz usually occurs as rounded grains of variable size that occasionally coalesce into irregular lenses up to 1.7 mm long. One rare subcircle lense of quartz (3 mm in diameter) partially encloses an orthoclase mass. Quartz is commonly fractured and also forms lenses of small grains (metamorphic grain size reduction - granulation).

The veinlet is composed of about 70% orthoclase, 20% quartz and 10% plagioclase. The orthoclase grains are often euhedral to subhedral laths up to 2.4 mm long. Quartz grains are usually small (0.2 mm) and appear to be the product of stress related grain size reduction. Grain size reduction occurred to the quartz before the introduction of orthoclase. Very limited amounts of chloritized biotite are found in the veinlet. Therefor, the veinlet may not be an intrusive event but one of mafic mineral destruction (bleaching) along a minor shear fracture which was accompanied by secondary orthoclase development.

The opaques are only present in trace quantities and are composed mainly of small rounded pyrite crystals containing many angular gangue inclusions. Small grains of pyrrhotite and magnetite were also observed.

Rock Name: Slightly chloritized, hornblende - biotite granodiorite (cut by secondary orthoclase veinlets).

Specimen Number: 5#2

Hand Specimen Description:

Speckled light and dark grey weathering, minor buff weathering, medium crystalline, biotite flakes up to 4 mm long but average 1 mm in diameter, nonmagnetic, hornblende abundant, irregular quartz grains, less than 5 % potassium feldspar.

Field Rock Name: Biotite - hornblende quartz diorite

### Thin Section Examination:

Estimated Mode: 41% Plagioclase 27% Quartz 16% Biotite 6% Hornblende 3% Chlorite 3% Saussurite Trace Apatite

Trace Epidote

Plagioclase crystals are commonly strongly zoned. The cores of many large euhedral plagioclase grains have minor saussurite and chlorite development. Usually the saussurite is restricted to particular compositional zones. All of the plagioclase grains have a corroded appearance caused by irregular grain boundaries with both quartz and other plagioclase grains. Composition of the "latest" phase of the plagioclase is An<sub>32</sub>.

Quartz forms large irregular grains filling the interstitial space between euhedral plagioclase grains and replacing some adjacent plagioclase and hornblende grains. The quartz is not strained.

Orthoclase forms irregular grains within quartz lenses or between quartz and plagioclase grains. In places some of the orthoclase appears to replace original plagioclase grains.

Apatite forms small (0.1 mm) euhedral to rounded grains disseminated throughout the specimen but often along the contact between large hornblende - biotite clusters.

Hornblende grains often have a poikiloblastic texture due to small rounded plagioclase inclusions up to 0.2 mm in diameter. Hornblende and biotite are closely associated. The larger hornblende grains are replaced to varying degrees by small biotite patches. Biotite also forms large flakes (up to 0.8 mm). The larger mafic lenses apparent in the hand specimen are clusters of smaller biotite and hornblende grains.

Opaque grains (0.3 mm) are most commonly found within large biotite flakes in association with areas of chlorite alteration. Epidote is associated with the fine grained saussurite alteration of the zoned plagioclase crystals but also occurs as subhedral to rounded small grains up to 0.15 mm long within plagioclase and quartz.

Rock Name: Slightly saussuritized and chloritized biotite - hornblende quartz diorite

#### CONCLUSIONS

Both of the Rimy and H and J claim groups held by New Impact Resources Inc. and CanAlaska Resources Ltd. cover areas proximal to known gold bearing quartz veins. The geological environments of these claims are similar, if not identical, to those hosting precious metal mineralization throughout the Zeballos Camp. These claims have an excellent potential for holding the extensions of known gold bearing veins as well as parallel structures to the known veins, which occur in parallel sets, on adjacent claims.

#### RECOMMENDATIONS

Based on the conclusions stated, the following exploration programme is recommended. Due to the difficulty in accessing these claims it is advised that further exploration be carried out during summer months.

- accessible portions of the claims. Initially prospecting should start from the exposed veins on adjacent claims in an attempt to follow the veins along strike on to the Rimy 5/7 and 8 claims and parallel to strike on to the H and J No. 7 and 8 claims. Eventually all accessible areas of the claims should be prospected with special attention paid to east-west linear features which may host mineralized structures.
- 2) Geological mapping should be carried out over the property with special attention being paid to structure and alteration which may be related to the precious metal mineralization.
- 3) Soil sampling should be carried out at 10 metre stations along contour lines in a north-south direction to delineate mineralized veins geochemically.

Respectively on whited,

J.C. FREEZE

Soanne C. Freeze, Geologist.

### COST STATEMENT

# Period: February 1 to 12, 1989

Helicopter:	3 4 0 050/4	\$525.70
Truck Rental: Food:	1 day @ \$50/day 2.5 mandays @ \$25/day	\$ 50.00 \$ 62.50
Accommodation: Motel	1.5 days @ \$35/day	\$ 52.50
Administration	and Overhead @ 10%	\$135.95
	TOTAL COSTS	\$1,495.40

# Period: May 7 to 14, 1989

# Field Programme: (including travel from Vancouver)

Geologist: A.C. Freeze Helicopter:	3 days @ \$312.50/day	\$937.50 \$842.73
Food:	3 days @ \$25/day	\$ 75.00
Accommodation: Motel	2 days @ \$35/day	\$ 70.00
Truck Rental:	3 days @ \$50/day	\$150.00
Truck Fuel:		\$ 96.82
Report Writing:		
Geologist: J.C. Freeze	2 days @ \$312.50/day	\$625.00
Petrographic Analyses:	2 samples @ \$80/sample	\$160.00
Administration	and Overhead @ 10%	\$295.71

TOTAL COSTS

\$3,252.76

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,1950	Geology and Mineral Deposits of the Zeballos Mining Camp, B.C., Department of Mines Bulletin No.27.

## STATEMENT OF QUALIFICATIONS

NAME:

Freeze, J.C., (nee Ridley), F.G.A.C.

PROFESSION:

Consulting Geologist

EDUCATION:

1981 B. Sc. Geology - University of British Columbia

1978 B.A. Geography - University of Western Ontario

PROFESSIONAL ASSOCIATIONS:

Fellow of the Geological Association of Canada

EXPERIENCE:

1987 - Present: Consulting Geologist with Stillwater Enterprises Ltd. Directing exploration programmes and reviewing properties in Canada and U.S.A.

1985 - 1986: Project Coordinator - Geologist with White Geophysical Inc. Coordinating mineral exploration projects involving geology, geochemistry, geophysics and diamond drilling in B.C. and Yukon.

1981 - 1985: Project Geologist with Mark Management Ltd. Hughes-Lang Group. Responsible for precious metals exploration programmes involving geology, geochemistry, geophysics and diamond drilling in Western Canada.

1979 - 1981: Summer and part-time Geologist involved with coal exploration in N.E. B.C. with Utah Mines Ltd.

