

THIS PROSPECTUS CONSTITUTES A PUBLIC OFFERING OF THESE SECURITIES ONLY IN THOSE JURISDICTIONS WHERE THEY MAY BE LAWFULLY OFFERED FOR SALE AND THEREIN ONLY BY PERSONS PERMITTED TO SELL SUCH SECURITIES. NO SECURITIES COMMISSION OR SIMILAR AUTHORITY IN CANADA HAS IN ANY WAY PASSED UPON THE MERITS OF THE SECURITIES OFFERED FOR SALE BY THIS PROSPECTUS AND ANY REPRESENTATION TO THE CONTRARY IS AN OFFENCE.

# SURF INLET MINES LTD

(the "Issuer")  
(Incorporated in British Columbia)

**NEW ISSUE**  
**850,000 UNITS**

(each Unit consisting of one share and two Series "A" Share Purchase Warrants)

**RECEIVED**  
**SEP 25 1987**  
YORKTON SECURITIES INC.

	Price to Public <sup>(1)</sup>	Commission <sup>(2)</sup>	Net Proceeds to the Issuer <sup>(3)</sup>
Per Unit.....	\$1.00	\$0.075	\$0.925
Total .....	\$850,000	\$63,750	\$786,250

(1) The price to the public was established pursuant to negotiations between the Issuer and the Agent.

(2) Before deduction of the balance of costs of this Prospectus estimated at \$30,000.

(3) The Issuer has granted to the public Series "A" Share Purchase Warrants as described in the section captioned "Plan of Distribution".

THERE IS NO MARKET THROUGH WHICH THE UNITS OF THE ISSUER MAY BE SOLD AND A PURCHASE OF THE UNITS OFFERED BY THIS PROSPECTUS MUST BE CONSIDERED A SPECULATION. REFERENCE IS MADE TO THE SECTIONS CAPTIONED "RISK FACTORS" AND "DILUTION".

UPON COMPLETION OF THIS OFFERING (EXCLUDING THE SERIES "A" SHARE PURCHASE WARRANTS) THIS ISSUE WILL REPRESENT 27.37% OF THE COMMON SHARES THEN OUTSTANDING AS COMPARED TO 36.30% THAT WILL THEN BE OWNED BY THE CONTROLLING PERSONS, PROMOTERS, DIRECTORS AND SENIOR OFFICERS OF THE COMPANY. UPON THE COMPLETION OF THE OFFERING, THE PUBLIC WILL EXPERIENCE DILUTION OF \$0.633 PER SHARE OR 63.3%. REFERENCE IS MADE TO THE SECTION CAPTIONED "DILUTION".

NO PERSON IS AUTHORIZED BY THE ISSUER TO PROVIDE ANY INFORMATION OR TO MAKE ANY REPRESENTATION OTHER THAN THOSE CONTAINED IN THIS PROSPECTUS IN CONNECTION WITH THE ISSUE AND SALE OF THE SECURITIES OFFERED BY THE ISSUER.

CERTAIN DIRECTORS OF THE COMPANY HAVE AN INTEREST, DIRECT OR INDIRECT, IN OTHER NATURAL RESOURCE COMPANIES. REFERENCE SHOULD BE MADE TO THE HEADING "DIRECTORS AND OFFICERS" ON PAGE 5 FOR A COMMENT AS TO THE RESOLUTION OF POSSIBLE CONFLICTS OF INTEREST.

FOR COMPARISON OF THE SHARES BEING OFFERED TO THE PUBLIC FOR CASH AND THOSE ISSUED TO PROMOTERS, DIRECTORS AND OTHER INSIDERS, REFERENCE IS MADE TO THE SECTION CAPTIONED "PRINCIPAL SHAREHOLDERS".

AN APPLICATION HAS BEEN MADE TO CONDITIONALLY LIST THE UNITS OFFERED BY THIS PROSPECTUS ON THE VANCOUVER STOCK EXCHANGE. LISTING IS SUBJECT TO THE ISSUER FULFILLING ALL THE LISTING REQUIREMENTS OF THE EXCHANGE, INCLUDING PRESCRIBED DISTRIBUTION AND FINANCIAL REQUIREMENTS ON OR BEFORE MARCH 7, 1988.

THIS OFFERING IS SUBJECT TO A MINIMUM SUBSCRIPTION BEING RECEIVED BY THE ISSUER ON OR BEFORE MARCH 7, 1988. REFERENCE IS MADE TO THE SECTION CAPTIONED "PLAN OF DISTRIBUTION".

WE, AS AGENT, CONDITIONALLY OFFER THESE SECURITIES SUBJECT TO PRIOR SALE, IF, AS AND WHEN ISSUED BY THE ISSUER AND ACCEPTED BY US IN ACCORDANCE WITH THE CONDITIONS CONTAINED IN THE AGENCY AGREEMENT REFERRED TO IN THE SECTION CAPTIONED "PLAN OF DISTRIBUTION".

**YORKTON SECURITIES INC.**

Suite 1400, 609 Granville Street  
Vancouver, B.C. V7Y 1G5

EFFECTIVE DATE: SEPTEMBER 8, 1987

## PROSPECTUS SUMMARY

### The Offering

Issuer: SURF INLET MINES LTD.

Securities Offered: 850,000 Units (each Unit consisting of one share and two Series "A" Share Purchase Warrants).

Gross Proceeds: \$850,000

Net Proceeds: \$786,250

Price: \$1.00 per Unit

Commission: \$0.075 per Unit

Use of Proceeds: The net proceeds from this Offering will be used to pay the costs of this issue, all 1987 option payments on the Surf Inlet Property, all accounts payable to affiliated companies and to conduct Phase II of an exploration program on the Surf Inlet Property. The balance will be added to the working capital of the Issuer.

### The Issuer

The Issuer is in the business of acquiring, exploring and developing natural resource properties. Reference is made to the section captioned "Business and Property of the Issuer".

### Risk Factors

Investment in the Common Shares must be considered as speculation due to the nature of the Issuer's business and the present stage of its development. Other risks include variations in the price of gold and governmental, regulatory and environmental controls. Reference is made to the sections captioned "Risk Factors" and "Dilution".

THE FOREGOING IS A SUMMARY ONLY AND SHOULD BE READ IN CONJUNCTION WITH THE MORE DETAILED INFORMATION CONTAINED ELSEWHERE IN THIS PROSPECTUS.

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## NAME AND INCORPORATION OF THE ISSUER

The Issuer, SURF INLET MINES LTD., was incorporated on March 19, 1986, as a limited company pursuant to the laws of British Columbia by the registration of memorandum and articles with the British Columbia Registrar of Companies.

The registered, records and head office of the Issuer is located at Suite 1103, 1177 West Hastings Street, Vancouver, British Columbia, V6E 2K3.

## PLAN OF DISTRIBUTION

### Offering

The Issuer by its Agent hereby offers (the "Offering") to the public through the facilities of the Vancouver Stock Exchange (the "Exchange") 850,000 Units (each Unit consisting of one share and two Series "A" Share Purchase Warrants) (the "Units") at a price of \$1.00 per Unit (the "Offering Price"), which price was established pursuant to negotiations between the Issuer and the Agent.

Each two Series "A" Share Purchase Warrants entitle the holder to purchase one additional share of the Issuer at \$2.25 per share for 180 days from the date on which the Shares are conditionally listed on the Exchange, or one year from the date of this Prospectus, whichever is the earlier.

The Series "A" Share Purchase Warrants shall be transferrable and in bearer form and will contain, inter alia, anti-dilution provisions and provision for appropriate adjustment of the class, number and price of shares issuable pursuant to any exercise thereof upon the occurrence of certain stated events, including any subdivision, consolidation or reclassification of the shares of the Issuer, or the payment of stock dividends.

The Offering will be made in accordance with the rules and policies of the Exchange and on a day (the "Offering Day") determined by the Agent and the Issuer, with the consent of the Exchange, within a period of 180 days from the date on which the Shares are conditionally listed on the Exchange.

Those Directors and other insiders of the Issuer who are residents of British Columbia may purchase some of the Shares from the Offering. The Agents may offer some of the Shares to their clients in Great Britain and Europe.

### Appointment of Agent

By Agreement dated June 26, 1987 (the "Agency Agreement") the Issuer appointed its agent (the "Agent") to offer the Units through the facilities of the Exchange as follows:

<u>Agent</u>	<u>No. of Units</u>
Yorkton Securities Inc.	850,000

The Agent will receive a commission of \$0.075 per Unit.

The Agent reserves the right to offer selling group participation, in the normal course of the brokerage business, to selling groups of licensed broker-dealers, brokers and investment dealers, who may or may not be offered part of the commissions or bonuses derived from the Offering.

The obligations of the Agent under the Agency Agreement may be terminated prior to the opening of the market on the Offering Day at the Agent's discretion on the basis of its assessment of the state of the financial markets and may also be terminated upon the occurrence of certain stated events.

The Issuer has granted the Agent a right of first refusal to provide future public equity financing to the Issuer for a period of twelve months from the date of the Agency Agreement. The Agent has also been retained to act as the Issuer's fiscal agent for a period of 12 months from the Offering Day to seek such future funding as may be required for underground exploration of the Issuer's Surf Inlet Property.

There are no payments in cash, securities or other consideration being made, or to be made, to a promoter, finder or any other person or company in connection with the Offering.

### Minimum Subscription

The Offering is subject to a minimum subscription of all 850,000 Units being sold on the Offering Day. If the minimum subscription is not reached, all funds will be returned to the purchasers without deduction.

### Conditional Listing on the Exchange

An application has been made to conditionally list the Shares being offered pursuant to this Prospectus on the Exchange. Listing is subject to the Issuer fulfilling all the listing requirements of the Exchange, including prescribed distribution and financial requirements.

**USE OF PROCEEDS**

The net proceeds to be derived by the Issuer from the Offering will be \$786,250 which together with the Issuer's working capital of \$239,148, as at May 31, 1987, will be expended for the following purposes:

1.	To pay the balance of the estimated legal, report preparation, auditing and printing costs of this Prospectus.....	\$ 30,000
2.	To pay the 1987 option payments due in regard to the Matachewan Claims.....	\$ 35,000
3.	To pay the estimated costs of Phase II of the work program on the Surf Inlet Property as disclosed in the section captioned "Business and Property of the Issuer".....	\$ 549,780
4.	To pay accounts payable to affiliated companies.....	\$ 201,790
5.	To provide for working capital.....	\$ 208,828
	<b>TOTAL:</b>	<u><u>\$1,025,398</u></u>

The proceeds from the exercise of the Series "A" Warrants shall be added to the working capital of the Issuer.

The foregoing represents the Issuer's best estimate as to how the proceeds of the Offering will be expended. However, the Issuer reserves the right to redirect any portion of the funds, pursuant to the recommendations of a qualified engineer, to an alteration of the Phase II work program. In the event the Surf Inlet Property is abandoned or if arrangements are made for the performance of all or any portion of the Phase II work program by other parties, the Issuer may direct the funds so allocated to the acquisition or exploration of other natural resource properties acquired by the Issuer after the date of this Prospectus, based upon recommendations of a qualified engineer.

No part of the proceeds will be used to invest, underwrite or trade in securities other than those that qualify as investments in which trust funds may be invested under the laws of

the jurisdictions in which the Shares offered by this Prospectus may be lawfully sold except as may be permitted by the policies of the Superintendent of Brokers for British Columbia (the "Superintendent") and/or the Exchange should the shares of the Issuer become listed on the Exchange. Should the Issuer propose to use the proceeds to acquire other than trustee-type securities after the primary distribution of the Shares offered by this Prospectus, the consent of the Superintendent or the Exchange, as the case may be, and any other regulatory authority having jurisdiction over the sale of the Shares offered by this Prospectus, will be obtained.

### DILUTION

Based upon the balance sheet of the Issuer as at May 31, 1987, the following table reflects the dilution which will result from the purchase of the Shares offered pursuant to this Prospectus:

#### Dilution per Share

Offering price per share.....	\$ 1.00
Net tangible book value before the Offering.....	\$ <u>0.17</u>
Increase of net tangible book value attributable to the Offering.....	\$ 0.197(1)
Net tangible book value after the Offering.....	\$ <u>0.367</u>
Dilution to the public.....	\$ <u>0.633</u>
Percentage of dilution in relation to the Offering price.....	<u>63.3%</u>

- (1) After deduction of the Agent's commission and the balance of costs of this Prospectus.

### RISK FACTORS

The Shares offered hereby are considered speculative due to the nature of the Issuer's business and the present stage of its development. A prospective investor should consider carefully the following factors:

1. There is no current market for the shares of the Issuer and there can be no assurances given that one will develop.
2. Exploration for minerals is a speculative venture involving risk.
3. The marketability of the minerals acquired by the Issuer may be affected by numerous factors beyond the control of the Issuer. The exact effect of these factors, which include mineral market fluctuations, cost and availability of processing equipment and government regulation (including regulations pertaining to

royalties, importing, exporting and environmental protections) cannot be accurately determined.

#### DIRECTORS AND OFFICERS

The names and municipality of residence of all the Directors and Officers of the Issuer, as well as their respective principal occupations within the five preceding years, are as follows:

<u>Name, Municipality of Residence and Position with the Issuer</u>	<u>Principal Occupations</u>
TADEUSZ FRANCIS van WOLLEN M.Sc., P.Eng. 1103, 1177 West Hastings Street Vancouver, B.C. V6E 2K3  PRESIDENT AND DIRECTOR	Independent Consulting Engineer, 1980 to present; Project Engineer, Wright Engineers Ltd., 1978 to 1980; President, Director Trader Resource Corp., 1981 to present; President, TVW Engineering Ltd., 1983 to present; Director, Nevada Goldfields Corp., 1984 to 1985; President, Ace Developments Ltd., 1985 to present.
DONALD MOORE 311-44 Charles Street West Toronto, Ontario. M4Y 1R7  DIRECTOR	Independent Financial Consultant to mining industry, 1980 to present; Executive Vice-President, International Corona Resources Ltd., 1981 to 1982; President, Micham Resources Ltd., 1981 to present.
JOHN GJERVAN 2955 West 12th Ave. Vancouver, B.C.  DIRECTOR	Auditor, Coopers & Lybrand, 1981-1986; Controller, TVW Engineering Ltd., 1986 to present.
PETER MATTHEWS 1704 - 1850 Comox Street Vancouver, B.C. V6G 1R3  SECRETARY	Associate lawyer with Bourne Lyall, 1982 to 1985; sole practitioner from 1985 to present; Secretary, and director, Trader Resource Corp., and Ace Developments Ltd., 1986 to present.



The Directors serve as directors of other public companies and, to the extent that such other companies may participate in ventures in which the Issuer may participate, the Directors of the Issuer may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. From time to time several companies may participate in the acquisition, exploration and development of natural resource properties thereby allowing for their participation in larger programs, permitting involvement in a greater number of programs and reducing financial exposure in respect of any program. It may also occur that a particular company will assign all or a portion of its interest in a particular program to another of these companies due to the financial position of the company making the assignment.

In accordance with the laws of British Columbia, the Directors of the Issuer are required to act honestly, in good faith and in the best interests of the Issuer. In determining whether or not the Issuer will participate in a particular program and the interest therein to be acquired by it, the Directors will primarily consider the degree of risk to which the Issuer may be exposed and its financial position at that time.

#### **PROMOTER**

Tadeusz Francis van Wollen, President and a Director of the Issuer, is the promoter of the Issuer as that term is defined by the British Columbia Securities Act.

Mr. van Wollen has entered into transactions with the Issuer as disclosed in the sections captioned "Escrowed Shares" and "Executive Compensation", and has purchased 337,500 escrowed principals shares at a price of \$0.01 per share and 120,000 pooled shares at a price of \$0.25 per share.

#### **BUSINESS AND PROPERTY OF THE ISSUER**

The Issuer is engaged in the acquisition, exploration and development of natural resource properties. The Issuer owns an interest in the mining property described hereunder and intends to seek and acquire additional properties worthy of exploration and development.

Surf Inlet Property, Skeena Mining Division, British Columbia

##### General

The Surf Inlet Property is comprised of 21 Crown granted mineral claims, 11 reverted Crown granted mineral claims, 9 unpatented mineral claims, 4 surface leases, 2 water licences and 1 foreshore lease, located on Princess Royal Island near the head of Surf Inlet, Skeena Mining Division, Coast Land Title District,

Province of British Columbia, and is more particularly described as follows:

Crown Granted Mineral Claims

<u>Name</u>	<u>Lot#</u>	<u>Name</u>	<u>Lot #</u>
Bee	1915	Lake Fr.	32
Bench	35	Lakeview	229
Bluebell	2485	Marcia	2484
Bluff	34	Mountain Fr.	37
Cassie	228	Olive	227
DLS	31	Princess Royal	7
Excelsior	9	Sadie	8
Granite	1916	Sea Fr.	1914
Gulch	33	Twin Peaks	38
Independence Fr	222	Utah Fr.	36
La Quivree	39		

Unpatented Mineral Claims

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Bear 1	15	2221	April 16, 1988
Bear 2	15	2222	April 16, 1987*
Bear 3	20	2223	April 16, 1987*

\* was filed with the Mining Recorder's Office, Skeena Mining Division on July 2, 1987 and upon acceptance, the Bear 2 and 3 claims will be in good standing until April 16, 1988 and 1989 respectively.

Surface Leases

<u>Certificate of Title No.</u>	<u>Legal Description</u>
80162-1	Lot 7 (except 1.43 Ac.) and district lot 40, 2486, 2487 and 2488, all Range 4, Coast District.
9244-1	Lot 11, Range 4, Coast District, registered in name of Surf Inlet Power Co. Ltd.
14746-1	Lot 1966, Range 4, Coast District, registered in name of Surf Inlet Power Co. Ltd.
12251-1	1.43 Ac. of Lot 7, Range 4, Coast District, registered in the name of Surf Inlet Power Co. Ltd.

including all buildings and other assets situate thereon.

Water Licences

Number

9483

9482

Foreshore Lease

L2483

(the "Matachewan Claims")

Reverted Crown Granted Claims

<u>Claims</u>	<u>Lot No.</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Sheet Anchor Fr	2105	1979	Jan. 14, 1991
Summit	226	1980	Jan. 14, 1990
Bonanza	224	1981	Jan. 14, 1990
Anaconda	223	1982	Jan. 14, 1990
Turner Fr	221	1983	Jan. 14, 1988
Homestake	21	1984	Jan. 14, 1988
Seagull	2097	1985	Jan. 14, 1991
Little Tomy Fr	2098	1986	Jan. 14, 1991
Brown Bear	2099	1987	Jan. 14, 1991
Sunlight Fr	2103	1988	Jan. 14, 1991
Sea Lion Fr	2104	1989	Jan. 14, 1991

Unpatented Mineral Claims

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Jen 1	16	2693	Nov. 27, 1987
Jen 2	20	2694	Nov. 27, 1987
Jen 3	10	2695	Nov. 27, 1987
Jen 4	20	2696	Nov. 27, 1987

(the "Placer Claims")

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Cougar 1	6	2614	October 1, 1991
Cougar 2	2	2614	October 1, 1989

(the "Coastoro Claims")

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Surf One	1	5174	Feb. 28, 1991
Surf Two	1	5175	Feb. 28, 1991
Surf Three	6	5173	Feb. 28, 1989

(the "Surf Claims")

(collectively referred to as the "Surf Inlet Property")

The Surf Inlet Property is located in the Central Coastal area of British Columbia some 580 km northwest of Vancouver, British Columbia and is only accessible by sea or air.

By an agreement dated April 30, 1986, as amended on April 23, 1987 with Tadeusz Francis van Wollen of 1103 - 1177 West Hastings Street, Vancouver, B.C. and Murray McLaren of 701 - 744 West Hastings Street, Vancouver, B.C., (the "Vendors") the Issuer was assigned an option to acquire up to an 85% interest in the Matachewan Claims (the "Option") in consideration of assuming all of the obligations of the Vendors under the Option. The Option was granted to the Vendors by an agreement dated November 20, 1985 with Matachewan Consolidated Mines, Limited ("MCM") of 500 - 56 Temperance Street, Toronto, Ontario.

In order to exercise the Option, the Issuer must expend; on exploration and development of the Matachewan Claims, the sum of \$1,400,000 on or before January 2, 1991, at which point the Issuer shall have earned a 70% interest in the Matachewan Claims. Upon the exercise of the Option as aforesaid, MCM shall be entitled to maintain a 30% working interest in the Matachewan Claims by paying 15% of all further exploration and development costs on the Matachewan Claims. By an agreement dated January 1, 1987, with MCM the Issuer is entitled to require MCM to convert its 30% working interest to a 15% carried interest in consideration of the sum of \$1,000,000 payable as follows:

- a) \$ 5,000 execution of the agreement;
- b) \$ 35,000 on or before December 31, 1987;
- c) \$ 60,000 on or before December 31, 1988;
- d) \$200,000 on or before December 31, 1989; and
- e) \$700,000 on or before December 31, 1990.

By an agreement dated April 30, 1986 with Tadeusz Francis van Wollen of 1103 - 1177 West Hastings Street, Vancouver, B.C. and Murray McLaren of 701 - 744 West Hastings Street, Vancouver, B.C., (the "Vendors"), the Issuer was assigned an option to acquire a 100% undivided interest in the Placer Claims (the "Placer Option") in consideration of assuming all of the obligations of the Vendors under the Placer Option. The Placer Option was granted to the Vendors by an agreement dated March 1,

1986 with Placer Development Ltd. ("PDL") of 1600 - 1055 Dunsmuir Street, Vancouver, B.C.

In order to exercise the Placer Option, the issuer must keep the Placer Claims in good standing during the currency of the Placer Option and must provide PDL with proof satisfactory that the above-mentioned Option has been exercised. The Placer Option reserves to PDL a royalty equal to 3% of net proceeds of production from the Placer claims.

By an agreement dated April 24, 1987, with Fleet Developments Ltd. ("Fleet") of 701 - 744 West Hastings Street, Vancouver, B.C. the Issuer was assigned an option to acquire a 70% undivided interest in the Coastoro Claims (the "Coastoro Option") in consideration of the sum of \$44,458.93 (being all payments made to date in regard to the Coastoro Option) and the assumption of all of the obligations of Fleet under the Coastoro Option. The Coastoro Option was granted to Fleet by an agreement dated February 4, 1986 with Coastoro Resources Ltd. ("Coastoro") of 422 - 470 Granville Street, Vancouver, B.C.

In order to exercise the Coastoro Option, the Issuer must expend, on exploration and development of the Coastoro Claims, the sum of \$90,000 on or before April 1, 1990, at which point the Issuer shall have earned a 70% interest in the Coastoro Claims. Upon the exercise of the Coastoro Option as aforesaid, Coastoro shall be obliged to contribute 30% of all further expenditures on exploration and development of the Coastoro Claims, failing which its interest shall be reduced to a 15% carried interest. Tadeusz Francis van Wollen, President and a director of the Issuer, is President and a director of Fleet.

The Surf Claims were acquired by the Issuer from TRM Engineering Ltd. of Vancouver, B.C. by payment of staking costs. Tadeusz Francis van Wollen, President and a director of the Issuer is a principal of TRM Engineering Ltd.

#### Exploration/Development History

Gold was first discovered in the Surf Inlet area towards the end of the 19th century and by 1917 the Surf Inlet Property had commenced commercial production. During the period 1917 to 1926, 848,833 tonnes of ore were mined from the Surf Inlet Property with a maximum daily production of 400 tonnes. Production then lapsed until 1936 when it resumed at the reduced rate of 50 tonnes per day increasing to 100 tonnes per day by 1940.

By 1942, shortage of labour and wartime restrictions resulted in cessation of operations on the Surf Inlet Property. At that time, a total of 1,091,131 tonnes of ore had been mined producing some 382,351 ounces of gold, 200,752 ounces of silver and 6,314,341 pounds of copper. Development work conducted during

1946 and 1947 has indicated reserves of 14,000 tonnes grading 0.35 to 0.4 oz/ton Au together with 57,000 tonnes of probable ore. The Surf Inlet Property remained inactive until 1981 when Cominco and Placer Developments Limited carried out, without success, shallow surface diamond drilling and geochemical sampling to test large tonnage low grade gold deposits.

### Geology

The Surf Inlet Property is underlain primarily by moderately dark hornblende-biotite quartz diorite plutonic rocks of either massive or gneissic variety from early to middle Cretaceous Age. Ore deposits are in quartz-pyrite veins along a complex fault zone with a general north south strike and westerly dip between 45% and 60%. The fault zone is adjacent to or near the east side of a roof pendant or screen of metasediments and volcanics of the Coast Range batholith, composed mainly of quartz diorite and bordering gneisses.

On the flanks of the shears, subtle kaolinite, chlorite, epidote and silica alteration occurs, while host rocks display varying degrees of fracturing, aligning and mylonitization. Minor ankerite, calcite and siderite, restricted to fractures, are late stage introductions. Progressing to the heart of the alteration envelope, silica, sericite and ankerite increase at the expense of chlorite, calcite and epidote.

The fault zone of the Surf Inlet Property has been traced for 14,500 feet horizontally and 3,300 feet vertically. In the part containing the Surf and Pugsley ore zones, it is broadly convex towards the west, striking N23 degrees E at the north end, north-south in the central section and N18 degrees W at the south end. Dips range from 30 to 60 degrees W and average approximately 45 degrees W.

The veins are of various sizes and shapes ranging from 100 to 1,000 feet in length and 2 to 40 feet in thickness. Milky quartz is the main constituent, with pyrite forming up to 25% by volume. Two stages of vein formation are evident, with early quartz and pyrite locally seamed by later pyrite, chalcopyrite and quartz.

Underground workings on the site of the ore zones consist, in the case of the Surf Mine, of levels established at 100, 200, 320, 430, 550, 700, 800, 900, 1,000, 1,100, 1,200 and 1,400 feet and, in the case of the Pugsley Mine, of levels at 550, 700, 800, 900, 1,000 and 1,100 feet below a datum level of 1,100 feet above sea level. In addition, a winze at the Pugsley Mine was extended, with encouraging ore development, to the 1,300 foot level. In both mines, workings above and including the 900 level are accessible through adits, although most adits are caved in at the portals. All levels below the 900 foot level are flooded.

### Dump and Tailings

A review of dump material situated near the 550 level portal of the Surf Mine conducted by Cominco in 1981 determined that the dump contains 400,000 tonnes of material grading an average of 0.087 oz/ton Au.

A review of tailing material from past operations discharged into Bear Lake via Paradise Creek has also been conducted and indicates that a possible 500,000 tonnes of material is available for processing. Samples taken to date have assayed gold values ranging from 0.046 oz/ton Au to 0.084 oz/ton Au.

### Work Performed by the Issuer

To date, the Issuer has spent \$325,455 on exploration and development of the Surf Inlet Property inclusive of related administrative expenses. From March to September, 1986, a study of litho geochemistry and mineralogy was carried out to determine the occurrence of gold on the Surf Inlet Property and the presence consistent measurable compositional variations which could serve as indicators of gold mineralization. Mine and site engineering studies have also been conducted, together with computerization of sections and plans of the Pugsley Mine.

In August and September of 1986, field studies were carried out and consisted of road planning from the Surf Mine 550 portal to Bear Lake and from Surf Inlet to Cougar Lake, a millsite survey, a volume and plan survey of the Surf Mine 550 level dumps, a plan survey and preliminary volume estimate of tailings material, a plan survey of the Surf Mine 900 level portal, Pugsley Mine 900 level portal and dump, depth sounding of Surf River and Paradise Creek and sampling of dump and tailing material.

The report of DDH Geomanagement Ltd. dated May 30, 1986, as amended by a report dated May 13, 1987, copies of which are appended hereto and form part of this Prospectus, recommends that the Issuer undertake the second phase of a programme comprised of tailings material drilling, compilation and computerization of all assay and geological data, structural analysis of mine structure, a power study and study of the physical condition of the dam and mill foundations, underground rehabilitation, mapping and sampling, and camp and road construction at an estimated cost of \$549,780.

### **ACQUISITIONS**

The only material acquisitions made by the Issuer during the past two years were pursuant to the Option Agreement dated April 30, 1986, between Matachewan Consolidated Mines, Limited ("MCM") and the Issuer (the "Matachewan Option") and pursuant to

the option agreement dated April 30, 1986 between Placer Development Limited ("PDL") and the Issuer (the "Placer Option") and the agreement dated April 24, 1987, between Fleet Developments Ltd. ("Fleet") and the Issuer (the "Coastoro Option"). The Matachewan Option provides for the acquisition by the Issuer of up to an 85% interest in the Matachewan Claims and, thereafter, the joint exploration and development of the Matachewan Claims by MCM and the Issuer. The Placer Option provides for the acquisition of a 100% interest in the Placer Claims. The Castoro Option provides for the acquisition of up to a 70% interest in the Castoro Claims.

Reference is made to the section captioned "Business and Property of the Issuer" for particulars of the Matachewan Option, the Placer Option and the Castoro Option.

#### SHARE AND LOAN CAPITAL STRUCTURE

The authorized capital of the Issuer consists of 20,000,000 common shares without par value of which 2,256,000 shares have been issued as fully paid and non-assessable.

The common shares of the Issuer rank equally as to dividends, voting rights and as to any distribution of assets on winding-up or liquidation.

The share and loan capital structure of the Issuer is as follows:

Designation	Amount	Amount out- standing as at May 31 1987	Amount out- standing as at August 27, 1987	Amount out- standing if all Shares are Sold
<u>of Security</u>	<u>Authorized</u>	<u>Balance Sheet</u>		
Common Shares	20,000,000	2,016,000	2,256,000	3,106,000(1)

(1) Does not give effect to 310,000 common shares of the Issuer reserved for issuance pursuant to employee incentive stock options (155,000 shares) and Director incentive stock options (155,000 shares).

#### PRIOR SALES

##### Shares Issued for Cash

Since incorporation to the date of this Prospectus, the Issuer sold 2,256,000 common shares for cash as follows:



<u>Designation of Class</u>	<u>Number of Shares</u>	<u>Price Per Share</u>	<u>Commissions Paid</u>	<u>Net Proceeds to Issuer</u>
Common Shares	750,000(1)	\$0.01	Nil	\$ 7,500.00
Common Shares	1,506,000(2)	\$0.25	Nil	\$376,500.00
			TOTAL:	<u>\$384,000.00</u>

- (1) These shares are held in escrow and reference is made to the section captioned "Escrowed Shares" for further details.
- (2) These shares are held in pool and reference is made to the section captioned "Pooled Shares" for further details.

#### POOLED SHARES

Of the 1,506,000 common shares of the Issuer sold for \$0.25 per share 1,448,000 are to be held by Montreal Trust Company pursuant to the terms of a Pooling Agreement. The said Agreement provides for release of the shares on the following bases:

- (a) 25% of the shares on the listing date of the Issuer's shares on the Exchange (the "Listing Date");
- (b) 25% of the shares three months following the Listing Date;
- (c) 25% of the shares six months following the Listing Date;
- (d) the balance of the shares nine months following the Listing Date.

The Pooling Agreement also provides that the shareholder shall not sell, deal-in, assign or transfer in any manner whatsoever any of the said shares or beneficial ownership of or any interest in them, except with the written consent of the Superintendent or the Exchange.

#### ESCROWED SHARES

There are a total of 750,000 common shares of the Issuer held in escrow, as follows:

<u>Designation of Class</u>	<u>Number of Shares Held in Escrow</u>	<u>Percentage of Class</u>
Common Shares	750,000	33.24%

The 750,000 common shares of the Issuer (the "Principals' Shares") were issued for cash at \$0.01 per share to the persons ("Principals") as follows:

<u>Principals</u>	<u>Number of Principals' Shares Issued</u>
Taduesz Francis van Wollen	337,500
Donald Moore	337,500
John Gjervan	75,000
TOTAL:	<u>750,000</u>

These Shares are held in escrow by Messrs. van Wollen, Moore and Gjervan pursuant to a Principals' Shares Escrow Agreement dated for reference May 31, 1987.

The Principals' Shares are issued to the Principals as an incentive to them to give diligent support to the affairs of the Issuer in the prospect that there will be resultant accretion in the value of the Principals' Shares and to give the Principals some measure of control over the Issuer in order that the development of the Issuer may proceed in an orderly fashion.

The Principals' Shares are subject to the order of the Superintendent or the Exchange, should the shares of the Issuer become listed on the Exchange. The Principals' Shares Escrow Agreement provides that, if the Issuer becomes successful due in part to the efforts of the escrow shareholders, the escrow shareholders shall be entitled to a release of the Shares from time to time in accordance with the general policies of the Superintendent or the Exchange, as the case may be. Any Principals' Shares not released from escrow before the expiration of ten years from the date a receipt is issued for this Prospectus shall be cancelled.

Until the Principals' Shares are released from escrow, the Principals' Shares shall not be sold, assigned, hypothecated, alienated, released from or transferred within escrow or in any other manner dealt with without the written consent of the Superintendent or the Exchange, as the case may be.

#### PRINCIPAL SHAREHOLDERS

As at the date of this Prospectus, the number and

percentage of common shares of the Issuer owned of record or beneficially, directly or indirectly, by each person or company who owns of record or is known by the Issuer to own beneficially, directly or indirectly, more than 10% of the said shares are as follows:

<u>Name and Address</u>	<u>Designation of Class</u>	<u>Type of Ownership</u>	<u>Number of Shares Owned</u>	<u>Percentage of Class</u>
Tadeusz Francis van Wollen 1103, 1177 W. Hastings St. Vancouver, B.C. V6E 2K3	common	direct	457,500	20.27%
Donald Moore 311, 44 Charles Street, West Toronto, Ontario M4Y 1R7	common	direct	537,500	23.82%

The total number and percentage of common shares of the Issuer beneficially owned, directly or indirectly, by all the Directors and Senior Officers of the Issuer as a group are as follows:

<u>Group</u>	<u>Designation of Class</u>	<u>Number of Shares Owned</u>	<u>Percentage of Class Prior to Offering</u>	<u>Percentage of Class After Completion of Offering</u>
Directors and Senior Officers	Common Shares	1,127,500	49.97%	36.30%

The 850,000 common shares offered by this Prospectus represent 27.37% of the total common shares which will be issued if all Shares are sold pursuant to this Offering.

#### INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

Pursuant to the Principals' Shares Escrow Agreement, certain Directors of the Issuer purchased shares of the Issuer at \$0.01 per share as described in the section captioned "Escrowed Shares".

The insiders, directors and senior officers of the Issuer have no interest in any material transactions other than as

disclosed herein. Reference is made to the section captioned "Business and Property of the Issuer".

### EXECUTIVE COMPENSATION

#### Executive Officers of the Issuer and its Subsidiaries

Number: 2

Aggregate Cash Compensation Paid: Nil

Plans: Nil

Options Granted During the Year: 2 for 125,000 common shares each at \$1.00 per share.

Options Exercised During the Year: Nil

Other Compensation: Nil

Compensation or Termination of Employment or Change of Control:  
Nil

#### Directors of the Issuer

Arrangements re: Compensation: see above

Options Granted During the Year: 2 for 155,000 common shares @ \$1.00 per share.

Options Exercised During the Year: Nil

No pension plan or retirement benefit plans have been instituted by the Issuer and none are proposed at this time.

### OPTIONS TO PURCHASE SHARES

The Issuer has granted the following incentive stock options:

<u>Optionees</u>	<u>Number of Shares under Option</u>	<u>Exercise Price and Term</u>
Directors	130,000 )	
	25,000 )	
		)\$1.00 per share if exercisable
		)within a five year period from
		)the date a receipt is issued
Employees	100,000 )	)for this Prospectus
	25,000 )	
	17,500 )	
	12,500 )	

#### **AUDITORS, TRANSFER AGENT AND REGISTRAR**

The Auditors of the Issuer are Coopers & Lybrand, of 1111 West Hastings Street, Vancouver, British Columbia, V6E 3R2.

The Registrar and Transfer Agent for the Issuer is Montreal Trust Company, 510 Burrard Street, Vancouver, British Columbia, V6C 3B9.

#### **MATERIAL CONTRACTS**

Except for material contracts made in the ordinary course of the Issuer's business, the only material contracts entered into by the Issuer within the two years preceding the date of this Prospectus are as follows:

1. The Agency Agreement disclosed in the section captioned "Plan of Distribution".
2. The Matachewan Option disclosed in the section captioned "Business and Property of the Issuer";
3. The agreement of January 1, 1987 with Matachewan Consolidated Mines, Limited disclosed in the section captioned "Business and Property of the Issuer";
4. The Placer Option disclosed in the section captioned "Business and Property of the Issuer";
5. The Coastoro Option disclosed in the section captioned "Business and Property of the Issuer";
6. The Principals' Shares Escrow Agreement disclosed in the section captioned "Escrowed Shares".

7. The Pooling Agreement disclosed in the section captioned "Pooled Shares".

All material contracts herein described may be inspected at Suite 1103, 1177 W. Hastings Street, Vancouver, British Columbia, during normal business hours while primary distribution of the shares offered hereunder is in progress and for a period of thirty days thereafter.

#### **OTHER MATERIAL FACTS**

There are no other material facts relating to the shares offered by this Prospectus which are not disclosed under the foregoing captions.

#### **PURCHASER'S STATUTORY RIGHT OF WITHDRAWAL AND RESCISSION**

The Securities Act provides a purchaser with a right to withdraw from an agreement to purchase securities within two business days after receipt or deemed receipt of a prospectus and further provides a purchaser with remedies for rescission or damages where the prospectus and any amendment contains, a material misrepresentation or is not delivered to the purchaser prior to delivery of the written confirmation of sale or prior to midnight on the second business day after entering into the agreement, but such remedies must be exercised by the purchaser within the time limit prescribed. For further information concerning these rights and the time limits within which they must be exercised the purchaser should refer to Sections 66, 114, 118 and 124 of the Securities Act or consult a lawyer.

**SURF INLET MINES LTD.**

**FINANCIAL STATEMENTS  
FOR THE YEAR ENDED  
MAY 31, 1987**

| Coopers  
& Lybrand

AUDITORS' REPORT TO THE DIRECTORS

We have examined the balance sheet of Surf Inlet Mines Ltd. as at May 31, 1987 and the statements of deferred exploration and administrative costs and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the company as at May 31, 1987 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding period.

*Coopers & Lybrand*

Vancouver, B.C.

June 26, 1987

(except for note 6, which  
is as at August 27, 1987)



**SURF INLET MINES LTD.**

BALANCE SHEET AS AT MAY 31, 1987

	1987	1986
	\$	\$
<b>A S S E T S</b>		
<b>CURRENT ASSETS</b>		
Cash	25,068	114,250
Short-term investments	158,830	
Term deposits	8,000	
Notes receivable	<u>          </u>	<u>2,250</u>
	191,898	116,500
DEFERRED EXPLORATION AND ADMINISTRATIVE COSTS - per statement	325,455	70,875
MINERAL PROPERTIES (note 3)	20,000	5,000
INCORPORATION COST	<u>187</u>	<u>187</u>
	<u>537,540</u>	<u>192,562</u>

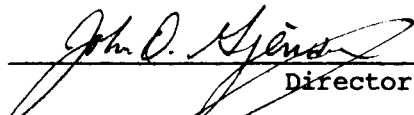
**L I A B I L I T I E S**

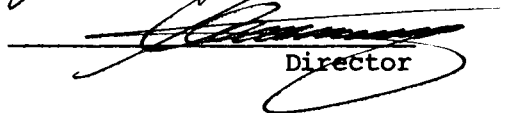
<b>CURRENT LIABILITIES</b>		
Accounts payable	12,750	
DUE TO AFFILIATED COMPANIES (note 5)	<u>200,790</u>	<u>76,062</u>
	213,540	76,062

**S H A R E H O L D E R S '    E Q U I T Y**

CAPITAL STOCK (note 4)	<u>324,000</u>	<u>116,500</u>
	<u>537,540</u>	<u>192,562</u>

APPROVED BY THE DIRECTORS

  
 \_\_\_\_\_  
 Director

  
 \_\_\_\_\_  
 Director

**SURF INLET MINES LTD.**

STATEMENT OF DEFERRED EXPLORATION AND ADMINISTRATIVE COSTS

FOR THE YEAR ENDED MAY 31, 1987

	Total to May 31, 1986 \$	Year ended May 31, 1987 \$	Total to May 31, 1987 \$
<b>EXPLORATION</b>			
Assaying	4,250	7,058	11,308
Communications		1,572	1,572
Consulting - geological		2,358	2,358
Contracting and equipment		550	550
Drafting, typing and printing	3,750	4,077	7,827
Engineering	38,500	80,271	118,771
Geological reports		4,870	4,870
Field salaries and wages		23,188	23,188
Field supplies	2,500	14,417	16,917
Lease payments and licences	1,000	1,685	2,685
Management fees		19,583	19,583
Transportation, room and board	<u>6,525</u>	<u>32,951</u>	<u>39,476</u>
<b>TOTAL EXPLORATION COSTS</b>	<u>56,525</u>	<u>192,580</u>	<u>249,105</u>
<b>ADMINISTRATIVE</b>			
Accounting and audit	750	8,090	8,840
Charitable donations		50	50
Legal	2,500	7,708	10,208
Licences and insurance		9,634	9,634
Promotion and public relations		7,959	7,959
Office and supplies	975	2,506	3,481
Rent	5,000	12,514	17,514
Secretarial services	3,925	4,200	8,125
Stock exchange and other fees		1,214	1,214
Telephone and facsimile	1,200	2,859	4,059
Transfer agent fees		1,050	1,050
Travel and accommodation		<u>4,216</u>	<u>4,216</u>
<b>TOTAL ADMINISTRATIVE EXPENSES</b>	<u>14,350</u>	<u>62,000</u>	<u>76,350</u>
<b>TOTAL DEFERRED EXPLORATION AND ADMINISTRATIVE COSTS</b>	<u>70,875</u>	<u>254,580</u>	<u>325,455</u>

**SURF INLET MINES LTD.**

STATEMENT OF CHANGES IN FINANCIAL POSITION

FOR THE YEAR ENDED MAY 31, 1987

	Year ended May 31, 1987 \$	Period from March 19, 1986 to May 31, 1986 \$
CASH PROVIDED FROM (USED FOR)		
OPERATING ACTIVITY		
Net change in operating working capital	(27,102)	
INVESTING ACTIVITY		
Mineral properties and related deferred exploration and administrative costs	(269,580)	
FINANCING ACTIVITY		
Issue of shares	<u>207,500</u>	<u>114,250</u>
(DECREASE) INCREASE IN CASH	(89,182)	114,250
CASH - BEGINNING OF PERIOD	<u>114,250</u>	<u>          </u>
CASH - END OF PERIOD	<u><u>25,068</u></u>	<u><u>114,250</u></u>

**SURF INLET MINES LTD.**

NOTES TO FINANCIAL STATEMENTS

FOR THE YEAR ENDED MAY 31, 1987

1. INCORPORATION AND NATURE OF OPERATIONS

The company is in the process of exploring its mineral properties and investigating possible claim acquisitions. As yet, it has not determined if the properties owned contain ore reserves that are economically recoverable. The recoverability of the amounts shown for mineral properties and deferred costs is dependent on the existence of economically recoverable reserves and upon future profitable production.

2. SIGNIFICANT ACCOUNTING POLICY

Mineral Properties and Deferred Costs

Mineral properties and exploration, development and administrative costs are deferred until the property to which they relate is placed into production, sold or abandoned. The deferred costs will be amortized over the useful life of the orebody following commencement of production or written off if the property is sold or abandoned.

3. MINERAL PROPERTIES

(a) Surf 1, 2 and 3

During the year ended May 31, 1987, the company acquired the Surf 1, 2 and 3 properties. Consideration paid was \$5,000 representing staking and related costs incurred on the claims.

(b) Matchewan Property

By agreement dated April 30, 1986, the company acquired an option to earn a 70% interest in the Matchewan claim group in the Skeena Mining District of British Columbia by spending a total of \$1,400,000 on exploration work on the claims prior to January 31, 1989.

Under the terms of the agreement, the optionor, Matchewan Consolidated Mines Limited (MCM), is entitled to the greater of a 15% carried net profit interest in the property or a specified minimum annual royalty and is entitled, at MCM's option, to a 15% working interest by contributing 15% of further exploration and development costs up to the commencement of commercial production from the property.

By a separate agreement dated January 1, 1987, the company may acquire MCM's 15% working interest by making option payments of \$1,000,000 in accelerating stages until July 31, 1990.

**SURF INLET MINES LTD.**

NOTES TO FINANCIAL STATEMENTS

FOR THE YEAR ENDED MAY 31, 1987

3. MINERAL PROPERTIES (continued)

(c) Placer Property

By agreement dated April 30, 1986, with two officers and directors of the company, the company acquired an option to earn up to a 100% working interest in the Placer Claims subject to a 3% net profit royalty. The option requires the company to maintain the claims in good standing until January 3, 1991 and to have earned a 70% interest in the Matchewan claims described in note 3(b).

(d) Cougar 1 and 2

By agreement dated April 24, 1987, the company acquired an option with Coastoro Resources Ltd. (Coastoro), to earn a 70% interest in these mineral claims. The option requires the company to expend \$90,000 on exploration and development of the Cougar 1 and 2 mineral properties prior to April 1, 1990. Coastoro's 30% working interest may revert to a 15% carried interest in net profits at Coastoro's option.

4. CAPITAL STOCK

	Number of shares	Price per share	
		\$	\$
Authorized -			
20,000,000 shares without par value			
Issued or allotted and fully paid -			
	750,000	.01	7,500
	<u>1,266,000</u>	.25	<u>316,500</u>
	<u>2,016,000</u>		<u>324,000</u>

(a) Options to purchase a total of 310,000 shares of the company at a price of \$1 per share have been granted to officers and directors of the company. The options are exercisable for five years from the date the company's shares are accepted for trading on the Vancouver Stock Exchange.

(b) Escrow agreements apply to 750,000 common shares. A further 1,266,000 shares are subject to pooling arrangements.

**SURF INLET MINES LTD.**

**NOTES TO FINANCIAL STATEMENTS**

**FOR THE YEAR ENDED MAY 31, 1987**

**5. RELATED PARTY TRANSACTIONS**

During the year, companies controlled by a director and an officer of the company advanced the company a total of \$200,790. These advances are without interest or fixed terms of repayment.

**6. SUBSEQUENT EVENT**

Subsequent to May 31, 1987, the company allotted 240,000 common shares for cash of \$60,000. These shares are subject to pooling arrangements.

**7. PRELIMINARY PROSPECTUS**

By preliminary prospectus dated August 27, 1987, the company intends to offer for share 850,000 units at a price of \$1 per unit to net the company \$786,250 after commissions. Each unit consists of a common share and two share purchase warrants. Every two warrants entitle the holder to purchase an additional share of the company at a price of \$2.25 per share on or before 180 days from the conditional listing of the stock on the Vancouver Stock Exchange.

REPORT ON THE  
SURF INLET PROPERTY  
(with particular reference  
to evaluation of tailing material)

CONSISTING OF  
9 Mineral Claims (118 Units),  
21 Crown granted mineral claims and  
11 reverted Crown granted mineral claims

LOCATED AT  
SURF INLET, PRINCESS ROYAL ISLAND  
SKEENA MINING DIVISION  
BRITISH COLUMBIA

Latitude 53° 05' North  
Longitude 128° 52' West  
N.T.S. 103H/2W

FOR  
SURF INLET MINES LTD.  
701 - 744 West Hastings Street  
Vancouver, British Columbia  
V6C 1A5

BY  
A.D. DRUMMOND, Ph.D., P.Eng.  
Geological Engineer

AND  
J.G.B. MICHELL, P.Eng.  
Mining Engineer

May 30, 1986

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## APPENDICES

### APPENDIX A

Summary taken from Shearer (1986), Hawthorn (1986) and Mouat (1986) pertaining to assessment of Dump Material on the Surf Inlet Mines Ltd. property.

### APPENDIX B

Delta Tailing Sample Results  
Assay Certificate

## SUMMARY

The Surf Inlet property is on Princess Royal Island approximately 160 km southeast of Prince Rupert and was once a major source of gold, silver and copper in British Columbia. Coordinates are 53° 05' North latitude and 128° 52' West longitude.

Gold mineralization is localized along an extensive, complicated shear system that has developed in intrusive and gneissic volcanics and metasediments of the Coast Plutonic Complex (early to middle Cretaceous age). Gold associated with pyrite occurs in quartz-ankerite-sericite-sulfide veins. Distribution of ore shoots within the veins depend on late stage fault adjustments and flexures during which veins along certain shear surfaces and zones were fractured and mineralized.

The two former ore-bodies on the property, the Surf and the Pugsley, produced a total of 1,091,131 tons from which were recovered 382,351 ounces of gold, 200,752 ounces of silver and 6,314,341 pounds of copper in the period 1917 to 1942 when the mine closed due to general war-time conditions. The period of major activity, 1917-1926, produced 848,883 tons of ore, of which 791,251 tons, or 93%, came from the Surf Mine. The Mine remained closed from 1926 until 1936, apart from intermittent work in 1934 and 1935, when milling started at about 50 tons per day gradually building up to 100 tons per day by 1940.

The 550 level at the Surf mine was started in 1914 and continuous production began in 1917. For at least the first 3 years of production the 550 level was the only production level tramming to surface. With head grades of 0.54 ounces per ton of gold and better and a cut off grade in the region of 0.25 ounces of gold per ton, it is expected that the large unexposed portions of the dumps from the 550 level contain what is now an attractive grade of gold.

The dumps at the Surf Mine 550 level were determined to contain 400,000 tons in 1981 (Freeze and Juras, 1981) and sampling at that time indicated a statistical mean grade of 0.102 ounces per ton gold on the west dump, 0.051 ounces per ton on the east dump. Recent sampling by Shearer (1986) averaged 0.151 ounces per ton gold on the west dump and 0.067 ounces per ton on the east dump.

An estimated 950,000 plus tons of tailings were discharged to Bear Lake via Paradise Creek. The ore in the early years (850,000 tons) was very finely ground to 90% minus 200 mesh. The ore from the 1936 to 1942 period received a coarser grind (45% to 55% minus 200 mesh). The grade of the tailings has been variously stated and calculated as ranging between 0.029 and 0.05 ounces per ton of gold. Recent surface tailing samples taken from the area of coarser deposition by Shearer (1986) averaged 0.061 ounces per ton of gold.

Mill recoveries averaged between 88% and 92%. During both periods of operation, bulk sulfide flotation-gravity concentrates were produced for sale to a smelter. The mineralization is refractory to cyanidation.

Samples collected by Shearer (1986) were subjected to metallurgical testing by Hawthorn and this testing indicates that weathering has not altered the metallurgical characteristics of the dump material and that flotation concentration is technically viable on both dump and tailings material.

The actual tonnage of tailing material available has not been determined to date and a Vibra core drilling program has been recommended. This program, done on a grid basis, will allow definition of the areal extent and depth of the former tailings deposited along Paradise Creek and in Bear Lake.

Included in the recommended program is an evaluation of (1) the former power site at the head of Surf Inlet, (2) the useability of the former mill foundations, and (3) the most reasonable access route to link the head of Surf Inlet to the former mine site. Underground potential for additional reserves is not addressed in this proposed work. Underground reserves should be evaluated later once the economic potential of all surface gold-bearing material has been assessed.

The recommended program in a single phase is estimated to cost \$99,000.00.

## INTRODUCTION

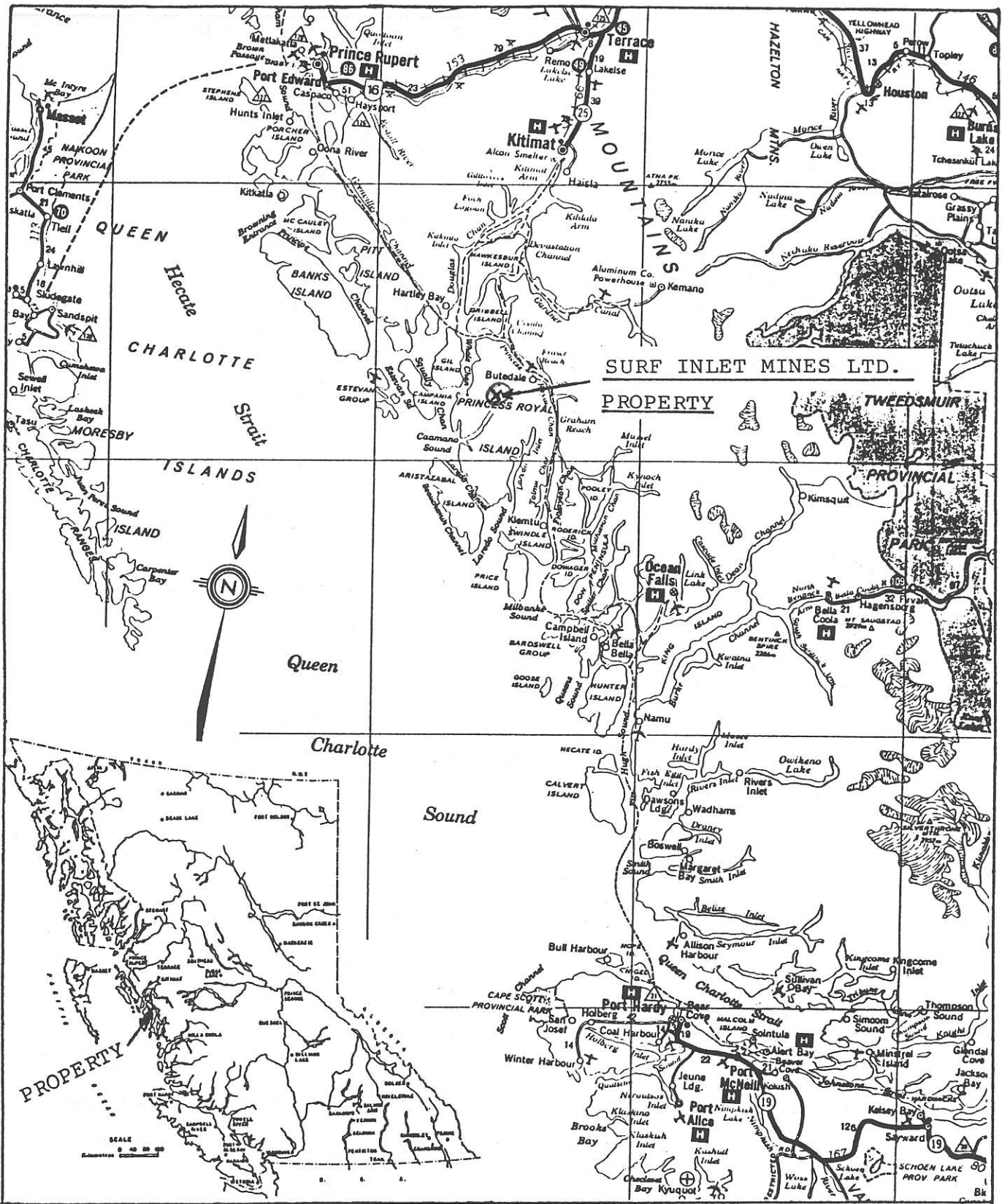
The firm of D.D.H. Geomanagement Ltd. was commissioned in May 1986 by the Directors of Surf Inlet Mines Ltd., 701 - 744 West Hastings Street, Vancouver, British Columbia, V6C 1A5, to appraise the exploration potential and to recommend an evaluation program on their Surf Inlet claims, with particular reference given to evaluation of the tailing material from the former operations. This assignment was accomplished by reviewing published and unpublished data, private and government reports and from a visit to the subject area on August 15, 1980. J.G.B. Michell, P.Eng., a consulting mining engineer, is a co-author of this report and has visited the property on February 17, 1986.

## LOCATION AND ACCESS

The Surf Inlet Mines Ltd. property is located on Princess Royal Island near the head of Surf Inlet in the central coastal area of the province, approximately 580 km (362 miles) northwest of Vancouver, British Columbia and 170 km (106 miles) southeast of Prince Rupert, British Columbia. Access is via boat to the head of Surf Inlet which is about 6.0 km (4 miles) south of the property or by float plane or helicopter to Bear Lake (see Figures 1 and 2).

Coordinates are 53° 05' North latitude and 128° 52' West longitude. The N.T.S. sheet is 103H/2W.

Topographic relief in the area is steep with timbered slopes rising from Bear Lake at 27 meters (90 feet) elevation to rounded ridges at elevations of about 910 meters (3,000 feet). (See Figure 2.)



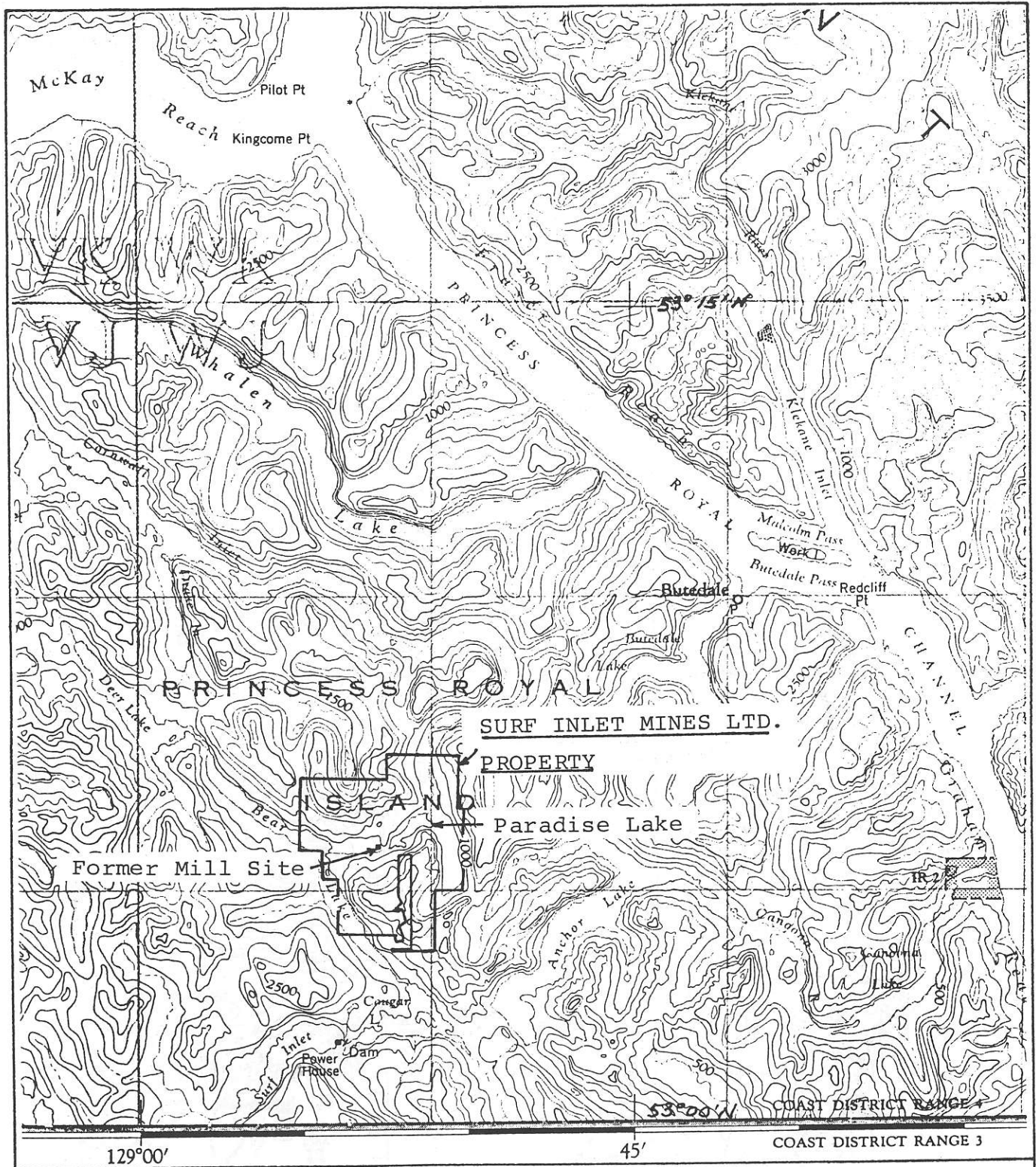
SURF INLET MINES LTD.

SURF INLET PROPERTY, B. C.

LOCATION MAP

FIGURE 1

Scale 1 : 2,400,000



SURF INLET MINES LTD.

SURF INLET PROPERTY, B. C.

DETAIL LOCATION MAP

FIGURE 2

Scale 1 : 200,000

(Topography after Douglas Channel B. C. Sheet - 103 H, Ed.1)

PROPERTY AND TITLE

Surf Inlet Mines Ltd. has accumulated by option and staking the following mineral claim property:

(a) Crown granted mineral claims (a total of 21 claims have been optioned from owner, Matachewan Consolidated Mines, Limited)

Bee	Lot 1915	Lake Fr.	Lot 32
Bench	35	Lakeview	229
Bluebell	2485	Marcia	2484
Bluff	34	Mountain Fr.	37
Cassie	228	Olive	227
DLS	31	Princess Royal	7
Excelsior	9	Sadie	8
Granite	1916	Sea Fr.	1914
Gulch	33	Twin Peaks	38
Independence Fr.	222	UTA Fr.	36
La Quivree	39		

(b) Optioned mineral claims (optioned from owner, Matachewan Consolidated Mines, Limited)

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Bear 1	15	2221	April 16, 1987
Bear 2	15	2222	April 16, 1987
Bear 3	<u>20</u>	2223	April 16, 1987

Total = 50 units

(c) Optioned mineral claims (optioned from owner, Placer Development Ltd.)

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Jen 1	16	2693	Nov. 27, 1986
Jen 2	20	2694	Nov. 27, 1986
Jen 3	10	2695	Nov. 27, 1986
Jen 4	20	2696	Nov. 27, 1986

Total = 66 units

(d) Optioned Reverted Crown granted mineral claims (a total of 11 claims have been optioned from owner, Placer Development Ltd.)

<u>Claims</u>	<u>Lot No.</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>
Sheet Anchor Fr	2105	1979	Jan. 14, 1987
Summit	226	1980	Jan. 14, 1987
Bonanza	224	1981	Jan. 14, 1987
Anaconda	223	1982	Jan. 14, 1987
Turner Fr	221	1983	Jan. 14, 1987
Homestake	21	1984	Jan. 14, 1987
Seagull	2097	1985	Jan. 14, 1987
Little Tomy Fr	2098	1986	Jan. 14, 1987
Brown Bear	2099	1987	Jan. 14, 1987
Sunlight Fr	2103	1988	Jan. 14, 1987
Sea Lion Fr	2104	1989	Jan. 14, 1987

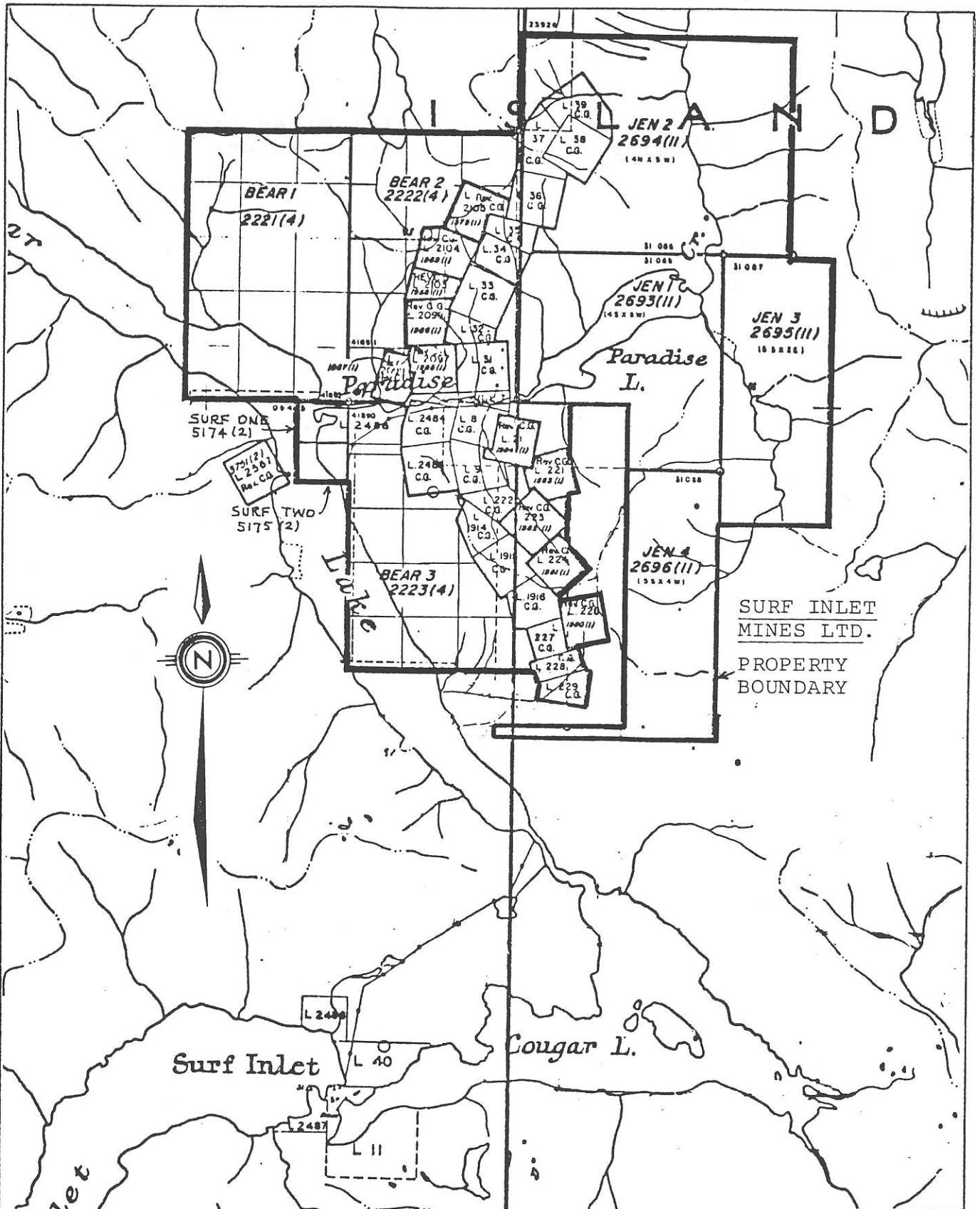
(e) Staked mineral claims (2 post mineral claims)

<u>Claims</u>	<u>Units</u>	<u>Rec. Numbers</u>	<u>Expiry Date</u>	<u>Registered in Name of</u>
Surf One	1	5174	Feb. 28, 1987	J.T. Shearer
Surf Two	1	5175	Feb. 28, 1987	J.T. Shearer

Total = 2 units

The relative position of these claims is shown in Figure 3. Terms and conditions of the various option agreements on the mineral claims comprising the property of Surf Inlet Mines Ltd. are beyond the scope of this report. In total, the Surf Inlet Mines Ltd. mineral property contains 118 units in 9 claims, 21 crown granted mineral claims and 11 reverted crown granted mineral claims.





SURF INLET MINES LTD.

FIGURE 3

PROPERTY MAP

SURF INLET PROPERTY, B.C.

Scale 1 : 50,000

In addition to the above, Surf Inlet Mines Ltd. has under option the following surface leases, water and timber rights.

(1) Surface Leases:

Owner: Matachewan Consolidated Mines, Limited

<u>Certificate of Title No.</u>	<u>Legal Description</u>
80162-1	Lot 7 (except 1.43 Ac.) and district lot 40, 2486, 2487 and 2488, all Range 4, Coast District.
9244-1	Lot 11, Range 4, Coast District, registered in name of Surf Inlet Power Co. Ltd.
14746-1	Lot 1366, Range 4, Coast District, registered in name of Surf Inlet Power Co. Ltd.
12251-1	1.43 Ac. of Lot 7, Range 4, Coast District, registered in name of Surf Inlet Power Co. Ltd.

including all buildings and other assets situated.

(2) Water rights for Cougar Lake Power:

	<u>Owner</u>
Final Water Licence 9483	Surf Inlet Power Co.
Final Water Licence 9482	Surf Inlet Power Co.
Foreshore Lease L2483	Matachewan Consolidated Mines, Limited

(3) Timber Rights:

Timber rights are associated with some of the crown granted mineral claims.

## HISTORY

The original discovery of gold in the Surf Inlet area was made in the late 1800's by tracing white quartz float from the bottom of the valley which enters Bear Lake from the east, up to where the vein outcrops on the north and south sides of the valley. The first claims were located in 1898 and are the oldest in the Skeena Mining Division exclusive of the Queen Charlotte Islands. (McConnell 1914, quoted by Shearer 1985).

In the early 1900's there were apparently shipments of crude ore but there is no record of tonnage or value produced.

The property, known initially as the "D.L.S. group", was formerly owned by Surf Inlet Mines Ltd. who optioned them in 1914 to the Belmont Canadian Mines Ltd., a subsidiary of the Tonopah-Belmont Development Company. The Belmont Canadian Mines later bought out the outstanding interest and re-organized the Company into the Belmont Surf Inlet Mines Ltd. The property produced continuously from 1917 to 1926, although initial mine development started with the Belmont Canadian Mines Ltd. in 1914 when the 550 level Surf Mine advanced 1200 feet (Report to the Minister of Mines 1915-1926).

Dolmage (1946) reports for the period ending June 30, 1926 that "...848,883 tons of ore were mined, of which 57,632 came from Pugsley. The average grade of this ore was 0.425 ounces of gold, 0.30 ounces of silver and 6 pounds of copper per ton. The maximum daily production was 400 tons and the average operating costs were \$5.20 per ton.<sup>(1)</sup> To the end of 1925, detailed records show that from 822,233 tons of ore mined, 307,452.9 ounces of gold; 169,348 ounces of silver and 5,083,530 pounds of copper were recovered. When the mine was closed down it was thought that all the profitable ore had been extracted." (Note: The above figures are taken (by Dolmage) from reports by Charles Mentzel.)

The Report of the Minister of Mines, 1918, stated "The recovery has been about 92 per cent." The figures quoted by Dolmage to the end of 1925 are equivalent to a recovery of 88 per cent assuming the average head grade of 0.425 ounces per ton.

During 1933 the price of gold continued to rise, with fluctuations, until it was fixed at \$35 per ounce early in 1935.

In 1933 a new company, the Princess Royal Gold Mines Ltd., was incorporated under the direction of J.B. Woodworth. Preliminary work started at the mine in 1933 and continued into 1934. Early in 1935 the company name was changed to Surf Inlet Consolidated Gold Mines Ltd., but the mine was closed later in the year due to lack of funds. The company was refinanced in 1936 and operations resumed under new leadership (Mentzel 1941).

In 1936 50 tons per day were being milled and this was increased to a little over 100 tons per day by 1940. Due to the scarcity of labour and wartime restrictions the mine closed December 1942 (Honsberger 1973, Minister of Mines 1942).

Up to the time of the 1942 closure total recorded production from the property amounted to 1,091,131 tons of which 169,886 tons came from Pugsley and the remaining 921,245 tons came from the Surf Mine. From this ore were recovered 382,351 ounces of gold, 200,752 ounces of silver and 6,314,341 pounds of copper (Dolmage 1946).

In 1946 the Pugsley mine was dewatered and drifting, raising and diamond drilling were carried out including considerable development on the 19th, 11th and 13th levels of the Pugsley. In 1947 a new heading was driven on the 1000 level to investigate the unexplored area to the south of the mine workings. The Surf mine was inactive since 1942. Reports of exploration and diamond drilling carried out between 1942 and 1947 were sketchy and incomplete. No work was reported on the property since 1947 (Report of Minister of Mines 1946, Honsberger 1973).

After the completion of development work in 1946 and 1947 reserves have been stated as 14,000 tons of 0.35 to 0.40 ounces per ton gold, calculated from exposed ore in the mine workings plus 57,000 tons of probable ore above the 1300 level all in the Pugsley Mine (Freeze 1986).

In December 1954 the name was changed to Surf Inlet Consolidated Mines Ltd. and again in 1959 the name was changed to Western Surf Inlet Mines Ltd. In May 1966 Western Surf Inlet Mines Ltd. merged with Matachewan Consolidated Mines Ltd. on the basis of 5 new shares for 4 old shares (Honsberger 1973).

In 1981 work was carried out on the property by Cominco under an agreement between Cominco, Placer Development Ltd.

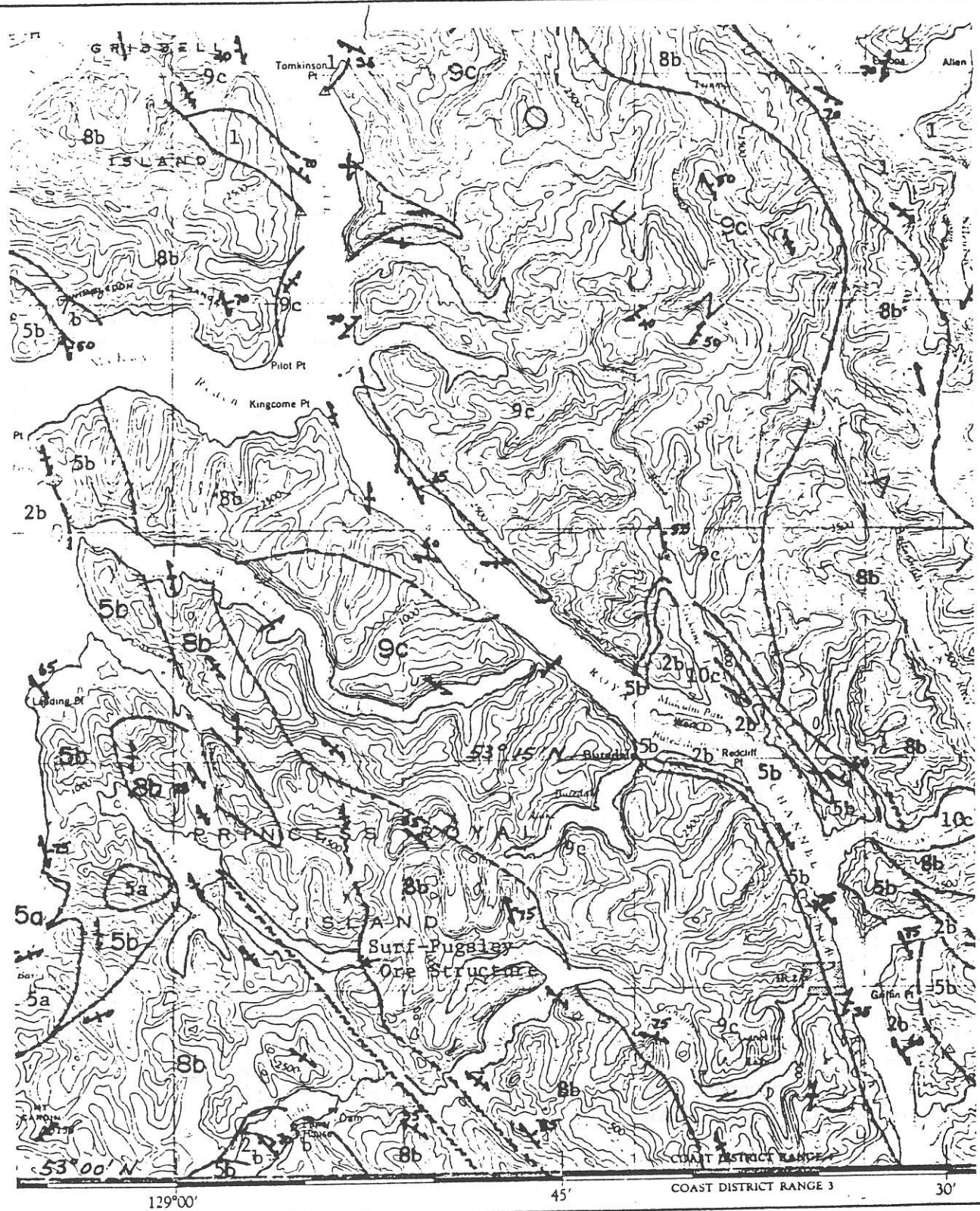
and Matachewan Consolidated Mines Ltd. The program consisted of shallow surface diamond drilling, the objective being to test the large tonnage low grade gold potential with a view to mining by open pit methods. At the same time the surface showings, with the exception of the Wells claims, and accessible underground workings were mapped and sampled. Also at the same time, geochemical samples were taken.

The program concluded that there was no possibility of creating a large tonnage deposit amenable to open pit mining (Freeze and Juras 1981). The total cost of the Cominco joint venture program to April 1982 was \$430,000 (Freeze 1982).

#### REGIONAL GEOLOGY

The regional geology has been taken from Roddick (1970) and Map 1385A, Skeena River sheet. Princess Royal Island lies near the western boundary of the 200 km wide Coast Crystalline Belt. The oldest rocks in the area are Permian or older metasediments comprised of thin-bedded impure quartzites with interlayers of quartz-feldspar-biotite schist or silty limestone, conglomerate, sandstone, and argillite (Unit 2b) which lie along the eastern shore of the Island (see Figure 4) and at the head of Surf Inlet. The oldest plutonic rocks are basic complexes that encompass the above metasediments: a gabbro-diorite-migmatite complex (Unit 5a), and a gneissic diorite-migmatite complex (with no gabbro) (Unit 5b).

Princess Royal Island is composed principally of a moderately dark hornblende-biotite quartz diorite pluton, either a massive or gneissic variety (Unit 8b) of early to middle Cretaceous age. Hornblende-biotite granodiorite (Unit 9c) comprises a younger Butedale pluton about 8 km northeast of Bear Lake.



SURF INLET MINES LTD.

SURF INLET PROPERTY, B. C.

FIGURE 4

REGIONAL GEOLOGY

Scale 1 : 250,000

(After Roddick, 1970)

(See Legend on following page)

# LEGEND

## STRATIFIED ROCKS

## PLUTONIC ROCKS (Age of formation and intrusion unknown)

- CENOZOIC**
- QUATERNARY  
PLEISTOCENE AND RECENT
- 12 Alluvium and glacial deposits
- UPPER MIOCENE (?)
- 11 Basalt flows (pillows common)
- MESOZOIC**
- JURASSIC  
MIDDLE JURASSIC  
HAZELTON GROUP
- 4 Greenstone, siliceous tuff, calcareous and micaceous quartzite, breccia, greywacke, argillite, slate
- LOWER JURASSIC (?) OR  
UPPER TRIASSIC (?)
- 3 Greenstone, chlorite schist
- PALEOZOIC**
- PERMIAN (?) AND/OR OLDER
- 2 Mainly metasediments: 2a, hornblende-biotite-plagioclase amphibolite and schist; biotite schist (locally garnetiferous), kyanite-staurolite-almandine mica schist, sericite-epidote schist, sillimanite-quartz-plagioclase gneiss, graphitic schist, quartzite, crystalline limestone; conglomerate; lit-par-lit gneiss, agmatite and minor granitic rock; 2b, mainly thinly laminated micaceous quartzite; crystalline limestone, skarn, schist; 2c, mainly massive to thick bedded crystalline limestone; 2d, mainly thin bedded crystalline limestone, skarn, intercalated quartzite and schist
- 1 Granitoid gneiss, gneissic quartz diorite, rusty fine grained gneiss and schist, migmatite; minor garnet-sillimanite-biotite schist, crystalline limestone, diopsidic skarn, garnet-staurolite-kyanite schist; 1a, agmatite

- 10 10a, mainly biotite quartz monzonite; 10b, biotite hornblende quartz monzonite; 10c, leucoquartz monzonite or granite; 10d, aplitic, garnetiferous quartz monzonite
- 9 Granodiorite: 9a, biotite only; 9b, biotite hornblende; 9c, hornblende biotite; 9d, sheared granodiorite and gneiss; 9e, fine-grained, even textured granodiorite
- 8 Quartz diorite: 8a, biotite hornblende; 8b, hornblende biotite; 8c, hornblende-chlorite; 8d, hornblende only; 8e, quartz diorite and abundant gneiss
- 7 Diorite: 7a, biotite hornblende; 7b, hornblende and hornblende-biotite
- 6 Gabbro
- 5 Basic complexes: 5a, gabbro-diorite-migmatite complex; 5b, gneissic diorite-migmatite complex

From: GSC Map 23-1970

J.A. Roddick

- Geological boundary (approximate or assumed) . . . . . - - - - -
- Limit of alluvium . . . . . - - - - -
- Bedding (horizontal, inclined, vertical) . . . . . + //
- Foliation (horizontal, inclined, vertical, dip unknown) . . . . . + // //
- Anticline . . . . . - - - - -
- Fault (approximate, assumed) . . . . . ~~~~~

## PROPERTY GEOLOGY

Geology in the vicinity of the Surf Inlet gold deposits is taken from Gill and Byers (1948), Dolmage (1921, 1947), Gill (1941), Honsberger (1973) and Freeze (1986).

### 1. General

The ore deposits of Surf Inlet on the north and Pugsley on the South (see Figure 5) are in quartz-pyrite veins along a complex fault zone with a general north-south strike and westerly dip between 45° and 60°. The fault zone is along or near the east side of a roof pendant (?) or screen (?) of metasediments and volcanics in the "Coast Range batholith", which is composed mainly of quartz diorite and bordering gneisses. The roof rocks are best preserved in the north Surf workings. Farther south they have been recrystallized and injected by material of the batholith to form paragneiss and injection gneiss.

Geological mapping by Cominco Ltd. (Freeze, 1986) outlined the following rock units, the distribution of which are shown in Figure 6 (after Freeze (1986), Plate 4).

#### Main Rock Units

These include predate shearing and mineralization and include:

- (i) quartz biotite feldspar gneiss;
- (ii) diorite gneiss assimilation zone;
- (iii) diorite - granodiorite.

#### Minor Rock Units

- (i) pegmatite;
- (ii) diabase.

#### Altered Host Rocks

On the flanks of the shears, subtle kaolinite, chlorite epidote and silica alteration occurs. Host rocks display varying degrees of fracturing, aligning and mylonitization. Minor ankerite, calcite and siderite, restricted to fractures, are late stage introductions. With progression to the heart of the alteration envelope; silica, sericite and ankerite increase at the expense of chlorite, calcite and epidote. Massive quartz veining with subordinate ankerite and sericite reflect the ultimate alteration zones.



## Quartz Vein and Mineralization

Throughout the shear zone there are many quartz + ankerite, sericite + sulfide veins. These veins vary in thickness from a few inches to 40 feet and commonly display a strong pinch and swell nature. The veins consist primarily of quartz with lesser ankerite, pyrite and chalcopyrite. Gold, in association with tellurium, occurs almost exclusively with pyrite. Little free gold has ever been detected although silver occurs in native form. Secondary copper minerals plus traces of molybdenite and scheelite are occasionally detected.

Pyrite and chalcopyrite are believed to have been deposited during at least four pulses of mineralization, not all of which contained gold. Sulfide minerals in general occur as massive seams on fractures and as disseminations of extremely fine to very coarse grain size throughout the shear.

### 2. The Fault Zone

The fault zone has been traced for 14,500 feet horizontally and 3,300 feet vertically. In the part containing the two ore zones, it is broadly convex toward the west, striking N 23° E at the north end, north-south in the central section, and N 18° W at the south end. Dips range from 30° to 60° W, averaging about 45° W. Internally it consists of two or more parallel or sub-parallel shear surfaces or zones from a few inches to 30 feet thick. In places there are two of these, 150 to 200 feet apart. More commonly, however, and particularly along the ore zones, there are several branch shear zones passing obliquely between these, or branching from and rejoining the same one to form loop structures (see Figure 5).

### 3. The Ore Zones

The Surf and Pugsley ore zones occur in complex parts of the fault zone developed at two prominent bends (Figure 5). The veins are of various sizes and shapes. Lengths range from less than 100 to 1,000 feet and thicknesses from 2 to 40 feet. Milky quartz is the main constituent, with pyrite forming up to 25 percent by volume. Two stages of vein formation are evident. The early quartz and pyrite are locally seamed by later pyrite, chalcopyrite and quartz. Assay tests show that

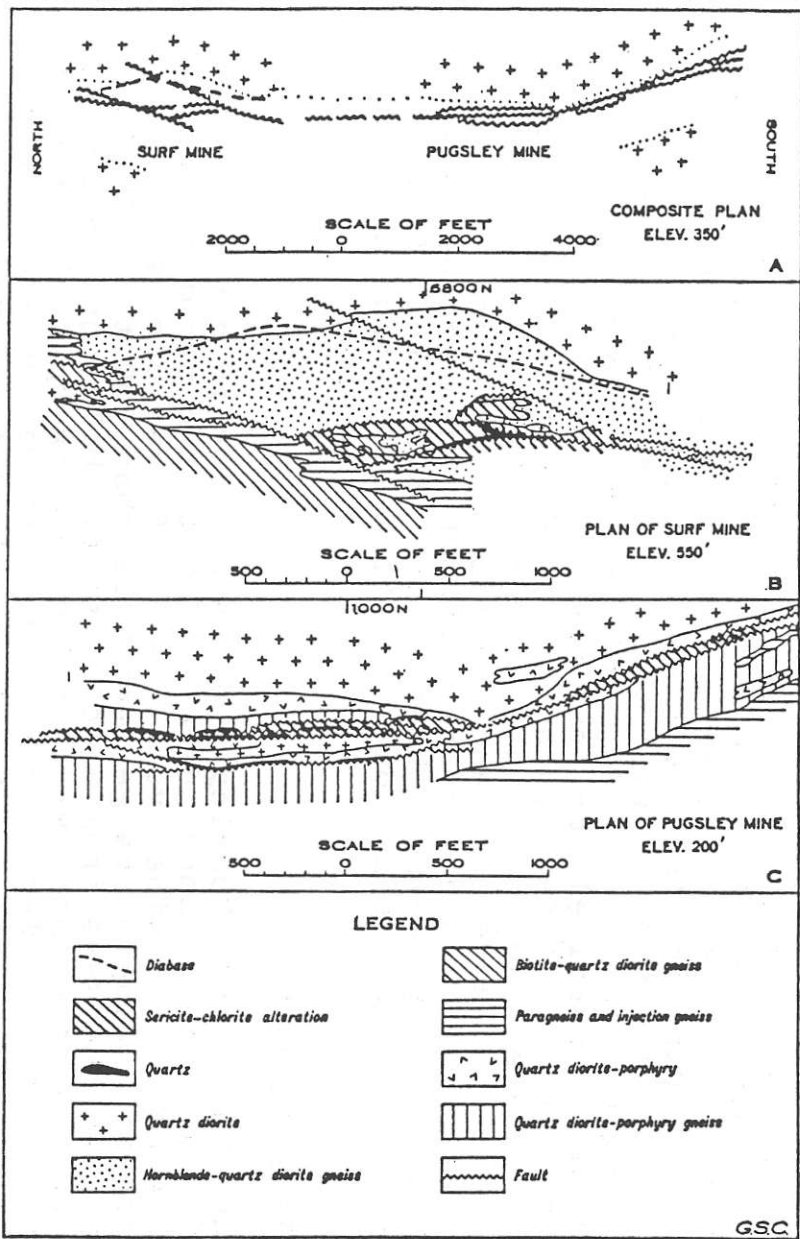


Fig. 1.—Geological plans, Surf Inlet and Pugsley mines.

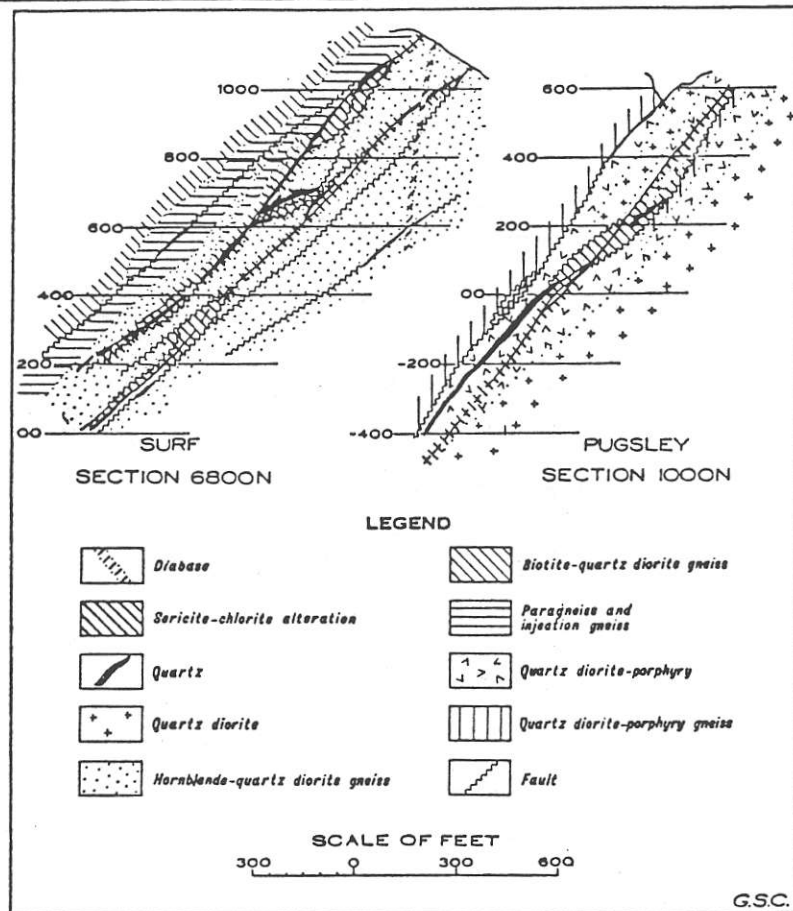


Fig. 2.—Geological cross-sections, Surf and Pugsley mines.

SURF INLET MINES LTD.

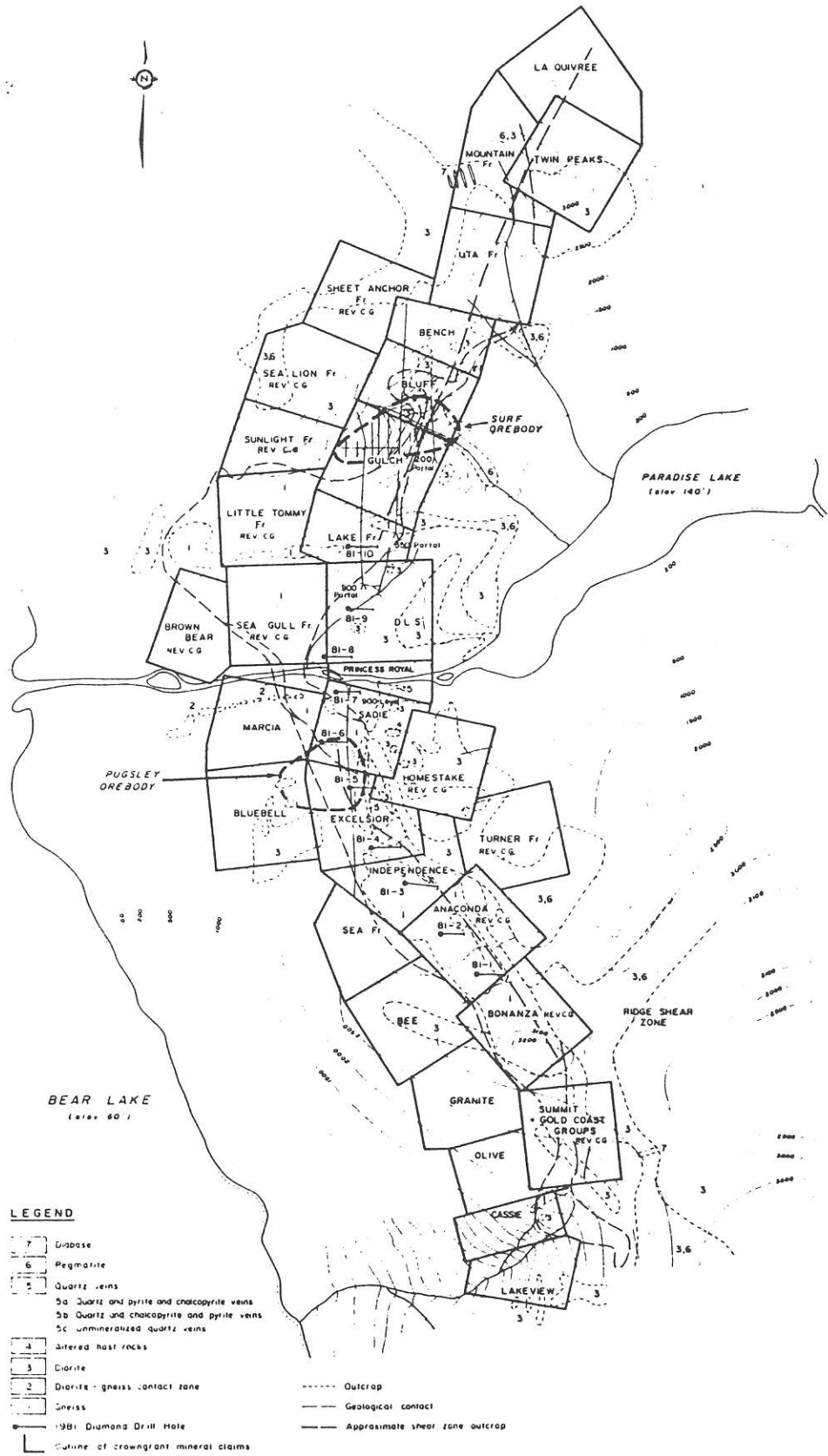
SURF INLET PROPERTY, B. C.

FIGURE 5

GEOLOGICAL PLAN AND SECTIONS OF  
SURF INLET AND PUGSLEY MINES

(After J.E. Gill and A.R. Byers (1948))

(To accompany a report by A.D. Drummond, P.Eng. and J.G.B. Michell, P.Eng.)



**SURF INLET MINES LTD.**

**FIGURE 6**



(After Freeze, 1986, Plate 4)

SURF INLET		GEOLOGY AND COMPILATION MAP	
Drawn by: ACF	Traced by:		
Checked by: [ ]	Checked by: [ ]		
Scale: 1" = 2500'		Date: March, 1986	Plate: 4

Mine development and exploration ceased when the down dip or plunge extension of the Surf ore zone approached the boundary of a north-south trending group of claims held by a man named Wells (Figure 7). The Surf shear zone extends on to these claims over a strike length of 5000 feet and to an average projected distance of 2500 feet down dip.

The former Wells claims comprising six contiguous crown grants are named: Sheet Anchor Fr., Sea Lion Fr., Sunlight Fr., Little Tomy Fr., Sea Gull Fr. and Brown Bear (Figure 6). These claims are currently within the Surf Inlet Mines Ltd. property. The down dip extension on the Surf mine onto the former Wells ground is illustrated in Figure 8. This ground has never been explored as a deal with Wells could not be completed. The nearest known ore development in relationship to the Wells claims lies on the 1400 level approximately 100 feet from the Sunlight Fr. claim boundary (see Figure 8).

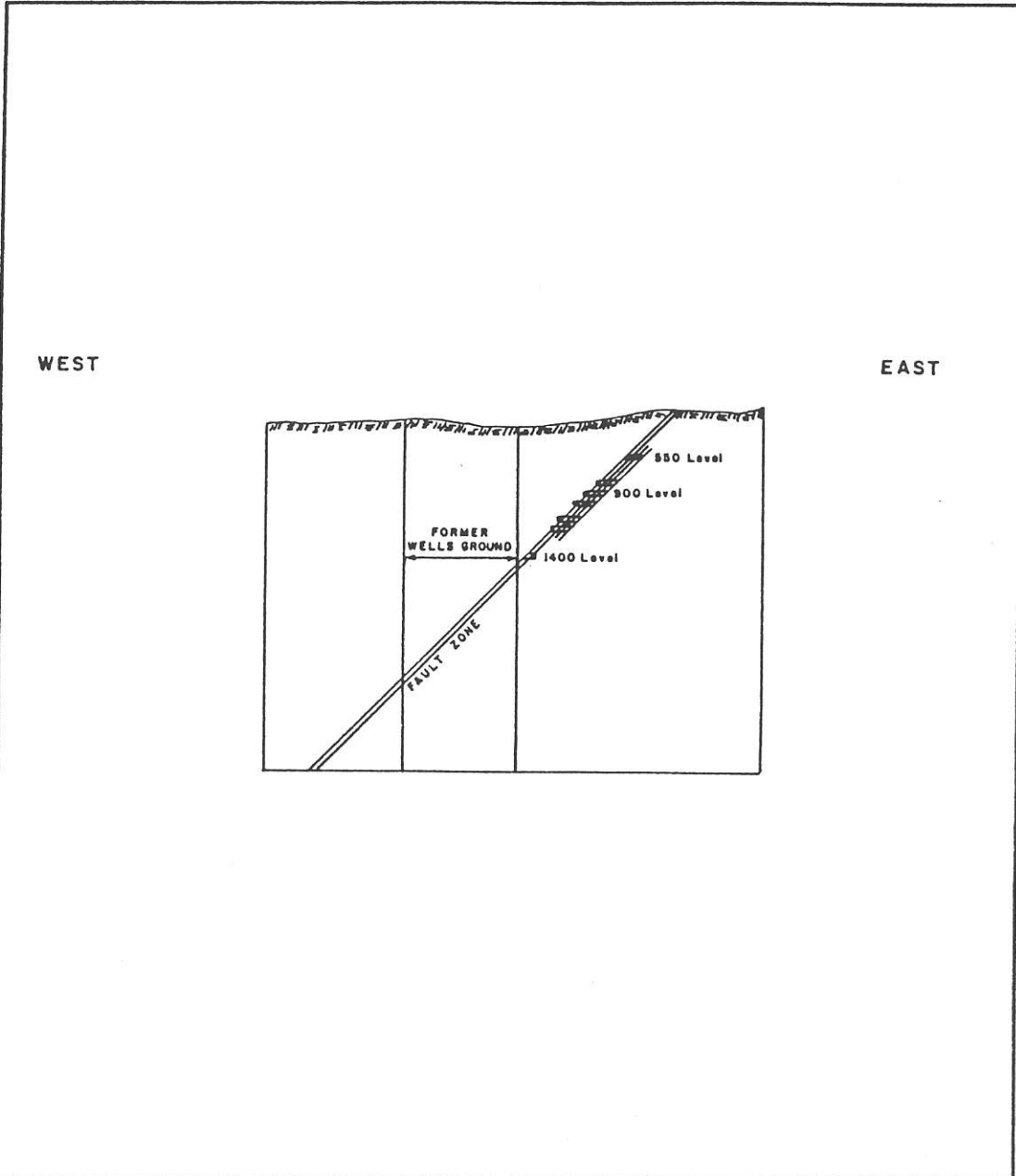
#### B. The Pugsley Mine

The Pugsley ore zone to the south of the Surf covers a strike distance of 1000 feet. Stated reserves from development in 1946 and 1947 are 14,000 tons firm at 0.35-0.40 oz/ton gold. This figure was calculated from mine workings which exposed ore. The estimate for reserves above the 1300 level is 57,000 tons (probable) and this figure is considered conservative as it is based on a yield of 50 percent of the historical productivity of the Pugsley and only 30 percent of the productivity between the 900 and 1000 levels (C. Mentzel, 1946, as reported by Freeze, 1987).

At the Pugsley the west vein varies between a few inches and 10 feet thick. The east vein is a shear-vein network that locally expands to 100 feet in thickness. Ore zones, as at Surf, lie entirely within quartz veins and are defined by assaying.

#### 4. Other Showings Within the Claims

Other gold quartz showings on the property from south to north include the following (comments on the shallow holes are taken from the Cominco Ltd. reports [Freeze, 1986]):



Drawn by:		Traced by:		<b>CROSS-SECTION THROUGH SURF MINE SHOWING FAULT ZONE ON FORMER WELLS CLAIMS</b>
Revised by	Date	Revised by	Date	
Scale: 1" = 2000'		Date: March, 1986		Plate: 6

SURF INLET MINES LTD.

FIGURE 8

(After Freeze (1986) Plate 6)

(To accompany a report by A.D. Drummond, P.Eng. and  
J.G.B. Michell, P.Eng.)

(A) Cassie

The Cassie showing is located on the Cassie claim, 1.5 miles south of the 900 level portal Pugsley Mine at an elevation of 1700 feet. A 215 foot adit has been driven on the showing, including an internal shaft and sub drift. Two shallow surface holes have been drilled to test the vein at depth with one hole encountering two - five foot quartz ankerite veins assaying 0.04 oz/ton gold.

Quartz vein samples at the portal assayed 0.12 oz/ton gold over 8 inches and 0.18 oz/ton gold over 1.5 feet. A select sulfide rich sample from the ore dump assayed 1.84 oz/ton gold. Old sample records revealed a best assay of 4.0 feet of 0.98 oz/ton gold from inside the tunnel.

(B) Summit

At approximately 1300 feet north of the Cassie showing, on the Summit claim between 2300 and 2400 feet elevation outcrop a series of quartz veins known as the Summit showings. The veins are narrow, varying between 0.5 feet and 2.5 feet thick. The best chip sample yielded 0.19 oz/ton gold over 2.5 feet. Old records revealed an assay of 3.5 feet grading 0.32 oz/ton gold. Three shallow drill holes picked up the shear, but no gold.

(C) Bonanza

This showing is located on the Bonanza claim north of the Summit showings at an elevation of 2600 feet. The showing consists of two mineralized quartz veins 40 feet apart. The upper or western vein is 2.0 feet wide and the eastern vein is 4.0 feet wide. These veins assay 0.12 oz/ton gold and 0.37 oz/ton gold respectively.

Three short holes have been drilled with one hole yielding 20.0 feet of vein grading 0.02 oz/ton gold with a hole to the north yielding 7.0 feet of 0.03 oz/ton gold.

(D) Diabase

This showing is located NW of the Bonanza showing, on the same claim at an elevation of 2540 feet. It is considered part of the hangingwall shear system and at this location is cut by a diabase dyke. The quartz vein assays 0.13 oz/ton gold over 2.3 feet.

(E) Hangingwall Shear East of DDH 81-1

At the 2300 foot elevation on the Anaconda claim a 1.0 foot quartz vein contains 10 percent pyrite. The sample assayed 0.12 oz/ton gold over the vein width. The drill hole did not intersect this vein at depth.

(F) Anaconda

The Anaconda adit is located at 2018 feet in the west bank of the footwall creek. It is 40 feet long.

The quartz vein is up to 3 feet wide and contains 4 percent pyrite. Four samples were collected, none of which returned significant gold values. DDH 81-2 returned two intersections yielding 2.0 feet at 0.3 oz/ton gold and 2.5 feet at 0.06 oz/ton gold down dip from the adit.

(G) Independence

The Independence showings are located in part on the Independence claim and in part on the Excelsior claim. The showings are located in the footwall creek between elevations 1020 feet and 1150 feet and represent the largest outcropping of quartz on the Pugsley side. Unfortunately, the showings are barren of sulfides and gold.

An adit 40 feet long was driven on one vein. Maximum vein width approaches 3.0 feet. Hole 81-4 intersected 5.2 feet of this vein projection yielding 0.04 oz/ton gold.

(H) Sadies Creek

Showings south of the Pugsley Portal occur in Sadies Creek at 640 foot, 540 foot, 475 foot, 410 foot, 345 foot and 310 foot elevations. These veins represent surface exposures of the Pugsley orebody.

Samples collected from the above veins yielded 2.5 feet at 0.55 oz/ton gold, 3.0 feet at 0.35 oz/ton gold, 2.0 feet at 1.3 oz/ton gold, 1.0 foot at 0.23 oz/ton gold, 3.0 feet at 0.05 oz/ton gold and 3.0 feet at 0.03 oz/ton gold respectively.

(I) Bluff

The Bluff showings are the surface expressions of the Surf orebody 700-1100 feet above sea level. Vein widths at this location are up to 13.0 feet wide. Samples collected assayed 3.0 feet at 0.88 oz/ton gold, 3.0 feet at 0.04 oz/ton gold, and 5.0 feet at 0.18 oz/ton gold.

## RECENT INVESTIGATIONS

### A. Dump Material

A review of the dump material from the former Surf mine was carried out by Cominco Ltd. (Freeze, 1981) and by Shearer (1985 and 1986). Cominco Ltd. in 1981 calculated that 400,000 tons of dump material is situated near the 550 level portal of the Surf mine at an average grade of 0.087 oz/ton gold. Shearer (1986) reported samples from the west and east dumps, taken in 1985, assayed 0.151 oz/ton gold and 0.067 oz/ton gold respectively (see Appendix A). Hawthorn (1986) performed preliminary metallurgical testing (both flotation and cyanidation) on these samples which testing indicated that flotation would concentrate the gold into a marketable product. Hawthorn tested three samples each from the east and west Surf dumps, the results of which are summarized below.

<u>Sample</u>	<u>Grade (oz/ton)</u>	
	<u>Gold</u>	<u>Silver</u>
B - East Surf composite	0.067	0.29
C - West Surf composite	0.151	0.20



Sample	Test	Tailing (oz/ton)		Recovery		Conc. Grade*		Tailing Sizing
		Au	Ag	Au	Ag	Au	Ag	% -200 M
A	F	.047	.03	23.5	27.3	1.10	0.85	10.0
A	C	.042	.084	61.1	10.6?	-	-	"
B	F	.018	.080	78.8	57.9	1.032	1.69	66.5
B	C	.047	.33	29.9	NIL	-	-	56.7
C	F	.031	.02	83.2	88.5	3.33	3.34	44.1

F = FLOTATION                      C = CYANIDATION

\* Rought flotation concentrate tests only.  
In all likelihood plant concentrates would grade 4-6  
oz/ton Au.

WEST SURF COMPO - FLOTATION CONCENTRATE ANALYSIS  
(Hawthorn, 1986)

LAB ROUGHER CONC.

S	43.26%
Cu	1.39%
Fe	19.10%
Au	3.33 oz/ton
Ag	3.34 oz/ton

A preliminary economic analysis pertaining to the processing of the dump material is outlined in Appendix A.

B. Infrastructure

John G.B. Michell, P.Eng., reviewed the power, camp and mill infrastructure on a February 17, 1986 site visit. The majority of the buildings of wooden construction have completely collapsed, a few of the buildings are partially standing. A few large pieces of machinery are visible. The two ore bins at the mill site are standing although the wood staves appear in very poor condition. Their concrete foundations appear to be in good condition and it is possible that these and other concrete foundations are still useable.

When the mine was in operation, power was obtained from an efficient low head hydro-electric plant constructed in 1916 using a reinforced concrete dam of the Ambursen patent type. The dam was 45 feet high and raised the level of the lower (Cougar) Lake to make a continuous waterway from the head of the dam to the foot of the mountain, about 1.6 km from the mine. The powerhouse developed about 930 kw. (Report of the Minister of Mines 1918).

The dam at the head of Surf Inlet has been inspected regularly by government inspectors. The frequency of inspection is now once every four years. The last inspection was November 28, 1985, at which time the dam was noted to be in "reasonable condition". Mention was made of dilapidated facilities such as the wharves and lack of safety features (Bugslag, Inspection Report D-630004 November 28, 1985).

It was noted on the February 17, 1986 site visit by Michell that the incline, wharves and power house need extensive repair or replacement and that all machinery has been removed.

### C. Tailing Material

During the period 1917-1926 a nominal 300 tpd gravity-flotation concentrator processed 850,000 tons of ore resulting in approximately 765,000 tons of flotation tailing. Reports by Dolmage (1946) and B.C. Minister of Mines indicate that the ore was ground to 90% - 200 mesh, and that the Au recovery was 88-92%. The calculated plant tailing will therefore grade between .03 and .05 oz/ton Au (Hawthorn, 1986).

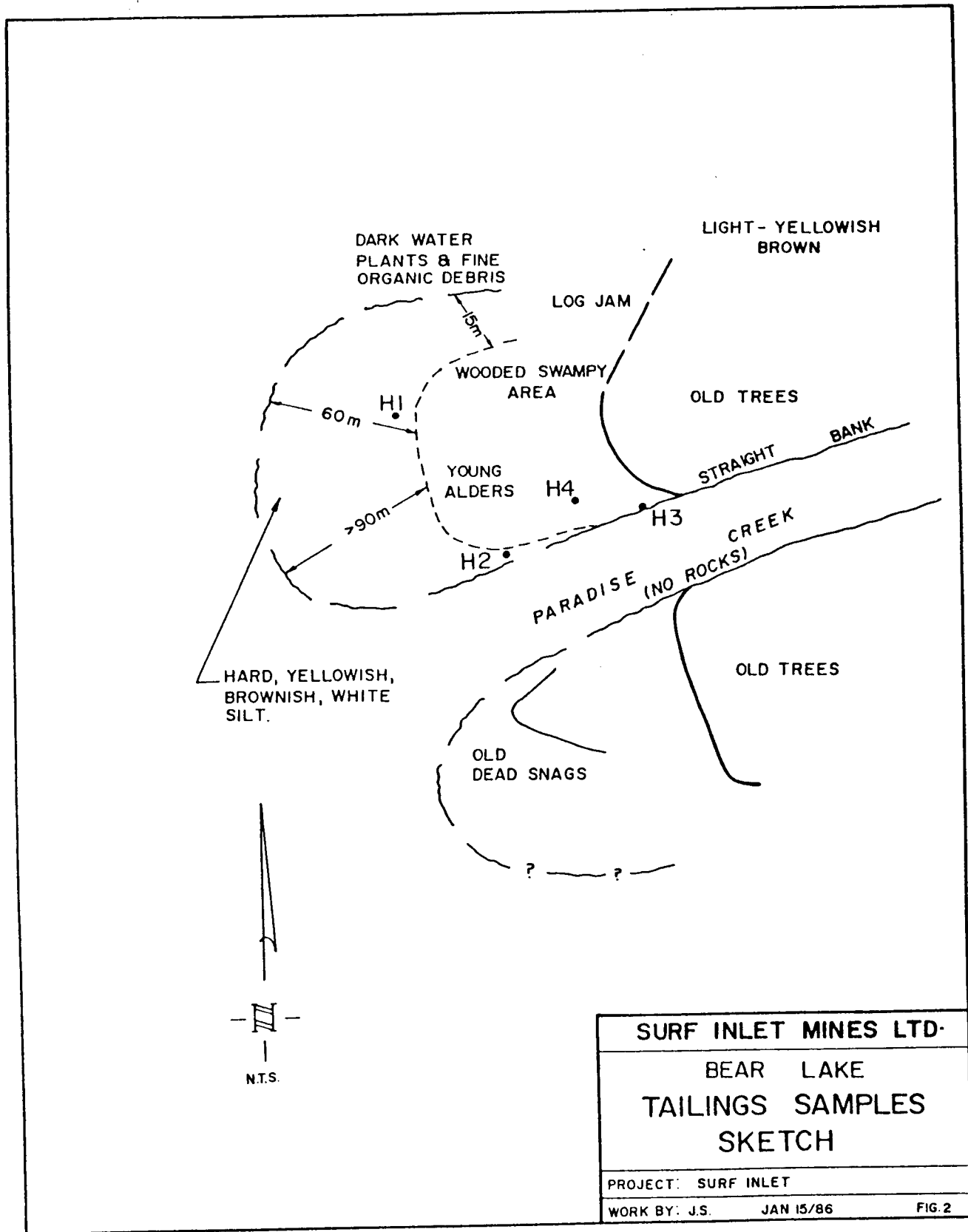
A new 115 tpd flotation concentrator was constructed for the second operating period between 1936 and 1940. This revised flowsheet appears to reflect technological advances which occurred during the intervening period. This plant processed 150,000 tons at a much coarser grind of 45-55% - 200 mesh. The plant tailing was reported by Maconachie to be .029 oz/ton Au.

The tailing from both plant operations was discharged either directly into Paradise Creek or to the point where it enters Bear Lake. Some of this tailing, the coarser fraction, is located above the highwater mark, but the majority of it is below the surface of the lake.

J.T. Shearer (1986) sampled the delta at the mouth of Paradise Creek during November, 1985. The delta has been built by the deposition of mill tailing material. Figure 9 illustrates the location of the sample sites and the resultant assays are shown below. Figure 10 illustrates the topography of the Bear Lake tailings site.

<u>Sample No.</u>	<u>Depth</u>	<u>Description</u>	<u>Assay Results</u>	
			<u>Gold</u> oz/ton	<u>Silver</u> oz/ton
H1 at northwest side of delta				
H1 A	10 cm	depth	0.049	0.09
B	25 cm	some orange banding	0.055	0.06
C	40 cm	some orange banding organic material	0.055	0.03
D	60 cm	in water table green-grey colour	0.053	0.09
E	75 cm	green-grey colour	0.055	0.06
F	80 cm	grey-white colour	0.055	0.06
G	90 cm	grey-white colour	0.052	0.03
H	100 cm	grey-white colour	0.052	0.06
I	110 cm	grey-white colour	0.055	0.06
H2 at southwest side north side of creek underwater				
A	0 cm		0.058	0.09
B	20 cm	grey	0.065	0.06
C	30 cm		0.064	0.06
D	40 cm		0.067	0.09
E	50 cm	white-grey with streaks	0.064	0.09
H3 60 meters upstream from H2				
A	0-15 cm		0.067	0.09
B			0.084	0.06
C		5 bags all from	0.064	0.06
D		same level	0.075	0.03
E			0.075	0.06
		average	0.061	
H4 near H3 but on land Dirt - perhaps 150 year old delta Large cedar trees			0.046	0.03

Assay certificate is appended (see Appendix B).

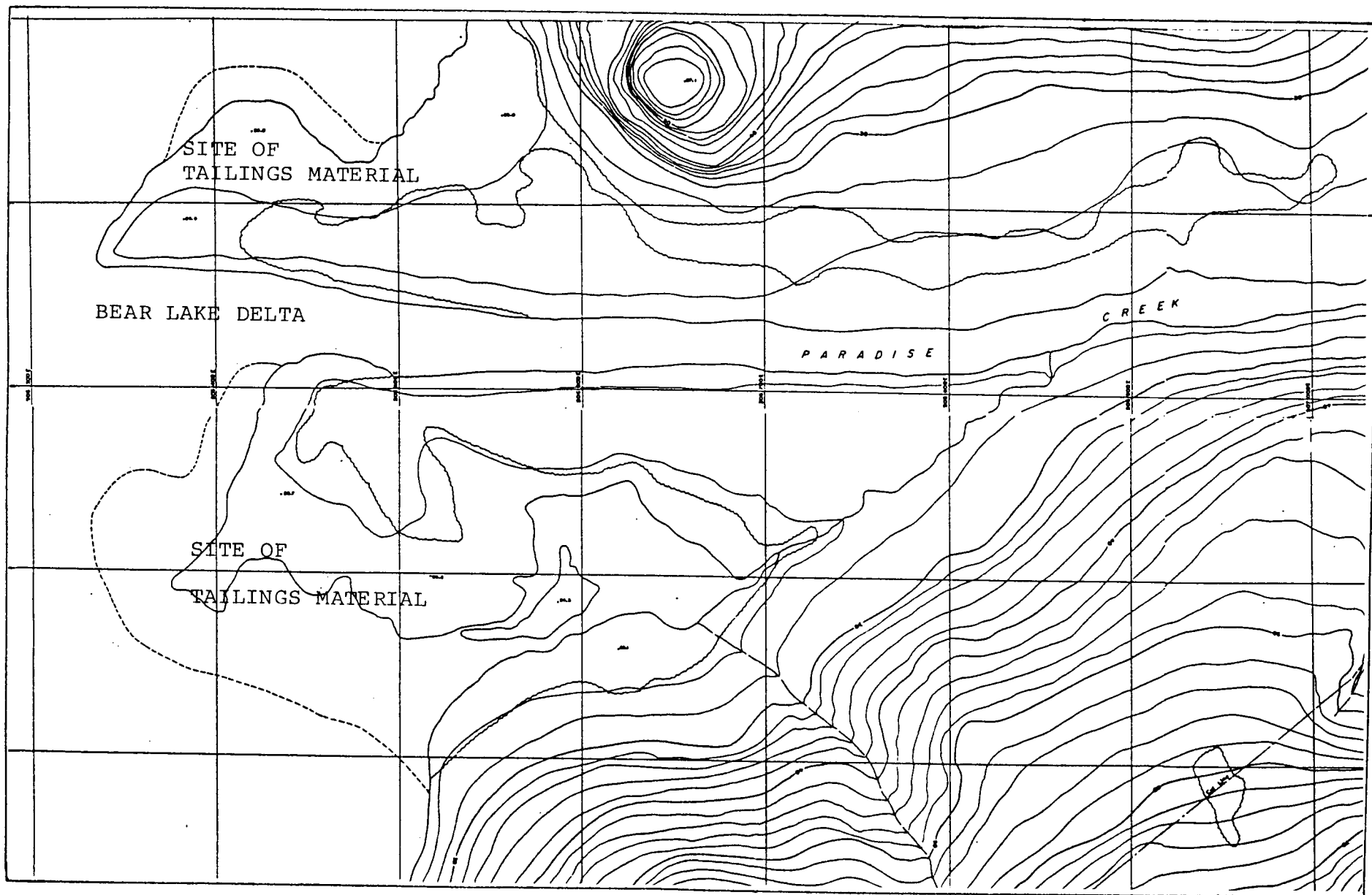


SURF INLET MINES LTD.

FIGURE 9

(After Shearer (1986))

(To accompany a report by A.D. Drummond, P.Eng. and  
J.G.B. Michell, P.Eng.)



SURF INLET MINES LTD.

FIGURE 10

TOPOGRAPHY OF SITE OF BEAR LAKE DELTA TAILING MATERIAL

Scale 1 : 3,000

Contour Interval 2 metres

Hawthorn (1986) conducted a preliminary flotation and cyanidation test on a composite of the twenty samples taken by Shearer (1986). The composite (Sample A below) head grade was 0.060 oz/ton gold and 0.063 oz/ton silver. Hawthorn reported that field sampling of the plant tailing in November 1985 (20 samples .046-.084 oz/ton, average .060 oz/ton Au) indicate that natural classification of the tailing in the disposal system has left an enriched coarse portion adjacent to the outfall.

Sample	Test	Tailing (oz/ton)		Recovery		Conc. Grade*		Tailing Sizing
		Au	Ag	Au	Ag	Au	Ag	% -200 M
A	F	0.47	.03	(23.5)	27.3	1.09	0.85	10.0
A	C	0.42	.084	(30.0)	NIL	-	-	10.0

F = FLOTATION

C = CYANIDATION

\* Note: (1) recoveries in this summary have been computed using assays of the composites and the test tailings (after Hawthorn, 1986).

### CONCLUSIONS ON EXPLORATION POTENTIAL

The Surf Inlet property of Surf Inlet Mines Ltd. is located on Princess Royal Island on the coast of British Columbia and covers two former gold producers, the Surf mine to the north and the Pugsley mine to the south. These mines occur along an extensive shear system in rocks of early to middle Cretaceous age.

There are three aspects of economic potential at the Surf Inlet Mines Ltd. property, namely:

1. economic significance of the gold-bearing dump material;
2. economic significance of the gold-bearing tailing material; and
3. economic significance of gold-bearing reserves on the down dip and lateral extensions of the former Surf and Pugsley mines.

### 1. Dump Material

A review of the former dumps has determined 400,000 tons with an average grade in the range of 0.087 oz/ton gold. Preliminary metallurgical testing has suggested that the dump material could be processed in a flotation mill to produce a saleable gold-bearing sulfide concentrate.

### 2. Tailing Material

Tailing material from the former operation could amount to an estimated 950,000 tons of tailings which have been discharged from the mill into Bear Lake via Paradise Creek. Of this amount, some 850,000 tons were finely ground (90% minus 200 mesh) to produce above 765,000 tons of flotation tailing (period 1917 to 1926). During 1936 to 1940, 150,000 tons were treated at a grind of 45-55% minus 200 mesh. The test by Hawthorn (1986) indicated 10% minus 200 mesh in the Bear Lake delta sampled by Shearer (1986) which indicates the winowing action of stream transport.

The configuration (areal extent and depth) of Bear Lake tailing delta and its consistency in grade below its upper surface as tested by Shearer (1986), remains unknown. It is possible that, at least, 500,000 tons of tailing material exists along Paradise Creek and in the Bear Lake delta, principally the latter. This possibility should be tested by using a Vibra core type of drill and drilling the delta area on a 10 to 20 metre grid both on land and off shore. Such drilling should penetrate to the botoom of the tailings.

### 3. Surf-Pugsley Mines Extension Possibilities

#### (a) Surf Mine

It is realistic to expect a fault zone of such great strike length will extend to much greater depths than the present limits of exploration and thus will extend through the Wells claims (see Figure 8). According to Freeze (1986), since the fault zone on the Wells ground at no place approaches surface nearer than 500 feet, and since all but 10 percent of it is beyond the reach of surface drills, it can only be prospected by:

- (i) sinking 1000 foot shaft on the Sea Gull claim and drifting;
- (ii) rehabilitate the 900 level and deepen the Surf Mine shaft past the 1400 level to facilitate exploration development headings;
- (iii) surface drilling a minimum length of 1500 feet for a test of the extreme southern extension of the Surf deposit.

Other areas of the Surf mine for further investigation include (1) a structure at the north end of the 550 level; (2) a structure on the 900 level that could extend to the Little Tomy claim; and (3) checking the north plunge theory could lead to additional underground targets.

(b) Pugsley Mine

The following exploration possibilities are taken from Freeze (1986) and include:

- (1) Deep drilling from surface to test beneath the 1400 level will confirm shear strength and hopefully gold continuity.
- (2) Between the 900 and 1000 level from 600 N to 1600 N ore reserves and continuity have not been completely established. The last round from 901A drift encountered 4.0 feet at 0.60 oz/ton gold.
- (3) Between the 1100 level and 1000 level around 750 N exploration is required to firm reserves. Drilling in this vicinity has intersected 8.5 feet at 0.16 oz/ton gold, 10.0 feet at 0.35 oz/ton gold and 9.0 feet at 0.91 oz/ton gold.
- (4) On the 1400 level, the ground between 1000 N and 2000 N has never been tested. This test could be adequately carried out from surface or underground.
- (5) The long drift to the south on the 900 level contains a section from 250 north to 1800 south with sporadic intervals containing sub economic mineralization. These anomalous sections possibly reflect the beginning of one or more new ore centers and in these regions there is much room in the back as well as at depth. Some minor rehabilitation on 901 Drift South and 935 South Drift is required.



The best section lies between 400 and 500 south which over 80 feet of strike averages 0.16 oz/ton gold over an average 4.5 foot width.

The 940 East Crosscut between 1200 and 1300 south possibly reflects a quartz shear zone exceeding 20 feet in width with pick and chip sample grades varying between 0.1 and 0.5 oz/ton gold.

Pugsley mine estimated mineral reserves above the 1300 level is 57,000 tons at the historical grade of 0.35 to 0.40 oz/ton gold.

#### C. Other Areas

The numerous gold quartz showings on the property are all from the same genesis as the Surf and Pugsley ore zones. Deep drill testing in the Cassie and Summit claim area is another possible exploration target.

### DISCUSSION

While there are several good possibilities for developing underground reserves along the Surf-Pugsley structure, especially on the down dip extension onto the unexplored former Wells ground, it is the writer's opinion that the type of underground exploration outlined above would involve a costly access stage. A road built to logging standards could cost in the range of \$100,000.00 per kilometre and the length of road from the head of Surf Inlet to Paradise Creek could be in the order of 10 kilometres. Consequently, a program for underground reserves should be postponed pending a complete evaluation of all readily available surface gold-bearing material.

To this end, the economic potential of the former dump material has been determined. The next steps would involve (1) the evaluation of the tailing material on the Bear Lake delta; (2) a detailed examination of the mill foundations and to assess the amount of rehabilitation necessary at the dam site with respect to the wharves, inclined railway, power house, dam foundation; and (3) to determine the most feasible route for road access between Surf Inlet and the former mill site.

Metallurgical testing of the tailing material samples should be undertaken to assess future milling techniques (Bell, 1986 and Hawthorn, 1986).

RECOMMENDATION

In light of the above discussion, it is recommended that a program of drilling be undertaken to define the areal extent and depth and hence, the tonnage of tailings material reasonably available in the Bear Lake delta and along Paradise Creek. Samples from this drill program should be metallurgically tested by flotation and any other appropriate process such as thiourea, bio-oxidation, cyanidation, etc. It is further recommended that a detailed evaluation (rehabilitation cost) of the useability of the former Surf Inlet power site and former mill foundations be undertaken. Such study to include the most feasible method of attaining land based access from the head of Surf Inlet to the former mill site on Paradise Creek.

ESTIMATED COST OF PROPOSED WORK PROGRAM

This program is proposed to be only one phase because the results of this program will have to be correlated with existing dump information before additional work is contemplated.

Phase I1. Drilling of Tailing Material

Mobilization/Demobilization of drill float platform, and crew to Prince Rupert, B.C.	\$ 6,000.00
Barge (purchase)	5,000.00
Vibra core type drill on rental basis with crew (Foundex Exploration Ltd. of Surrey, B.C. has suggested the following rates: Land based drilling \$100/hr for 10 hr day Standby - \$70/hr for 10 hr day Offshore drilling \$120/hr for 10 hour day Standby - \$80/hr for 10 hour day)	allow 25,000.00

Survey Control (both land and water sites)		2,000.00
Sample Handler (25 days @ \$200/day)		5,000.00
Supervision (25 days @ \$300/day)		7,500.00
Camp Cook (\$2,500/month)		2,500.00
Fixed-wing aircraft		
4 flights @ \$850.00 each		3,400.00
Camp (6 men @ \$50.00/day/man for		
30 days including fuel, camp		
and outboard on barge)		9,000.00
Assaying (allow 400 sample @ \$11.00 each)		4,400.00
Metallurgical Testing		2,500.00
2. Power Plant Evaluation	allow	7,000.00
3. Mill Foundation Evaluation	allow	3,000.00
4. Design access from head of		
Surf Inlet to former mill site	allow	5,000.00
5. Report	allow	<u>2,700.00</u>
	SUB-TOTAL	\$90,000.00
	CONTINGENCY 10%	<u>9,000.00</u>
	TOTAL	\$99,000.00

Respectfully submitted,

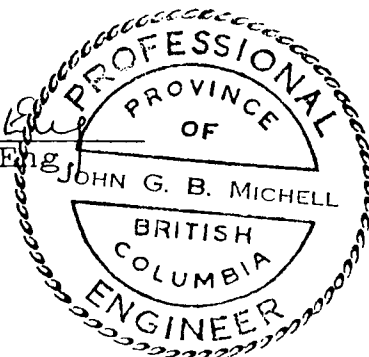
*A. D. Drummond*

A. D. Drummond, Ph.D., P. Eng.  
Geological Engineer



*J. G. B. Michell*

John G. B. Michell, P. Eng.  
Mining Engineer



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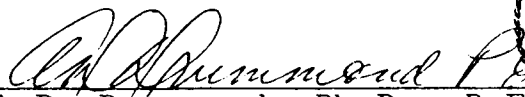
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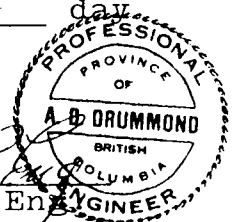
CERTIFICATION

I, Arthur Darryl Drummond of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a geological engineer residing at 3249 West 35th Avenue, Vancouver, British Columbia, and employed by D.D.H. Geomanagement Ltd., with an office at 422 - 470 Granville Street, Vancouver, British Columbia.
2. I am a registered Professional Engineer of the Province of British Columbia certificate no. 5778. I graduated from the University of British Columbia in 1959 with a B.A.Sc. in geological engineering, and in 1961 with a M.A.Sc. in geological engineering. I graduated from the University of California in 1966 with a Ph.D. in geology.
3. I have practiced my profession continuously for 24 years, primarily with the Placer Development Group of Companies at Craigmont, Endako and Gibraltar mines, and in mineral exploration in Canada, United States of America, Chile, Argentina, Mexico and the Philippines.
4. I am a co-author of this report which is based on published and private reports and on a field examination of the property on August 15, 1980.
5. I have no interest, direct or indirect, in the property discussed in this report or in the securities of Surf Inlet Mines Ltd., nor do I expect to receive any.
6. This report may be utilized for development of the property, providing that no portion may be used out of context in such a manner as to convey a meaning which differs from that set out in the whole.
7. Consent is hereby given to Surf Inlet Mines Ltd. to reproduce this report or any part of it for the purposes of development of the property, or facts relating to the raising of funds.

Dated at Vancouver, British Columbia, this 30<sup>th</sup> day of May, 1986.

  
 A.D. Drummond, Ph.D., P.Eng.  
 D.D.H. GEOMANAGEMENT LTD.  
 Geological Engineer





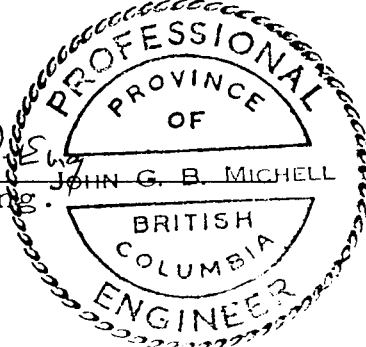
CERTIFICATION

I, John G.B. Michell of the District of North Vancouver, in the Province of British Columbia, do hereby certify:

1. I am a mining engineer residing at 2643 Fromme Road, North Vancouver, British Columbia.
2. I graduated from the Camborne School of Mines, Cornwall, England, in 1951.
3. I have practiced my profession as a mining engineer continuously since graduation in Canada, West Africa and the Philippines.
4. I am a Registered Professional Engineer in the Province of British Columbia. I am also a member of the Canadian Institute of Mining and Metallurgy and of the Society of Mining Engineers of the A.I.M.E.
5. I have no interest, direct or indirect, in the property described in this report or in Surf Inlet Mines Ltd. or in its affiliates, nor I do not expect to receive any interest.
6. The attached report is based on a site visit on February 17, 1986 and on a study of various reports relating to the property.
7. I consent to the use of this report in or in connection with a prospectus or in a statement of material facts relating to the raising of funds for this project.

Dated at Vancouver, British Columbia, this 30<sup>E</sup> day of May, 1986.

*J.G.B. Michell P.Eng.*  
 J.G.B. Michell, P.Eng.



APPENDIX A

Summary taken from Shearer (1986),  
Hawthorn (1986) and Mouat (1986)  
pertaining to Assessment of Dump Material  
on the Surf Inlet Mines Ltd. property

## APPENDIX A

### DUMPS

The dumps have been examined by Cominco in 1981 and by TRM Engineering in 1985 and 1986.

In 1981 it was determined by Cominco that there were 400,000 tons of dump material at the 550 level portal area of the Surf Mine with a value of 0.087 ounces of gold per ton (statistical mean grade). Samples taken in 1985 ran 0.151 and 0.067 ounces per ton of gold from the west and east dumps respectively. Metallurgical testing showed that flotation concentration was technically viable.

In November 1985 the dumps were sampled by Shearer, TRM Engineering Ltd., to obtain representative samples of the dumps for metallurgical testing and to confirm the results of the earlier Cominco sampling. Shearer (January 1986) reports:

"The samples in the present program were collected along the edge of the stockpile, Figure 4, as continuous chips of all rock types encountered in a 5 meter interval. The samples and corresponding assay values are described below:

	<u>Assay Results</u>	
	<u>Gold</u>	<u>Silver</u>
	oz/ton	oz/ton
East Surf I		
Mostly chloritic fine-grained altered rock		
minor medium crystalline diorite	0.067	0.29
relatively abundant white quartz		
one piece of pyrite + quartz		
one piece of pyrite + MoS <sub>2</sub> + quartz		

Chip along 5 meters at lip of dump

	<u>Assay Results</u>	
	<u>Gold</u>	<u>Silver</u>
	oz/ton	oz/ton
West Surf I		
20-30% abundant rusty pyritic quartz;		
white bull quartz common;	0.151	0.20
gneissic diorite - 50%		
chloritic alteration phase - 10%		

Chip along 5 meters of dump

Shearer's results of 0.151 oz/ton gold and 0.067 oz/ton for the West and East dumps respectively generally confirm the preliminary results obtained by Cominco.

Metallurgical test work has already been performed on samples from the dump and these tests show that flotation will concentrate the gold into a marketable product (Hawthorn 1986).

## ECONOMIC ANALYSIS

### DUMPS

No attempt has been made to determine the optimum processing rate. For calculation purposes 300 tpd has been selected as being achievable.

Hydro-electric power has been selected as opposed to diesel-electric. The capital cost presented in the KPL Hydro Power System report, Nov. 1985 for a 1250 kw hydro plant with no diesel standby, has been used in this comparison.

For the purposes of this preliminary economic analysis it is assumed that a plant and camp capable of processing 300 tons per day can be constructed for a cost of \$2,000,000, plus the hydro plant at an estimated cost of \$2,140,000 for a total cost of \$4,140,000.

In summary the break-even grade for processing the dumps are as follows:

<u>Tons</u>	<u>Grade</u>
300,000 tons	0.097 ounces per ton of gold
400,000 tons	0.087 ounces per ton of gold
500,000 tons	0.081 ounces per ton of gold

A breakdown of capital and operating costs are given in Tables 3 and 4.

TABLE 3

DUMP PROCESSING - CAPITAL COST

The following data has been used to prepare this analysis:

- Flot conc grade of 6 oz/t Au.
- Smelter return FOB minesite of \$2,057 ton of conc (see details)
- Flotation tailing of .025 oz/t Au.
- Au price of \$ C 450/oz.
- Production rate of 300 tpd.
- No allowance for sale of equipment on shutdown.
- Process stockpiles only ie. no tailing reprocessing

## Break Even Grade Calculation

Tons of Waste	300,000	400,000	500,000
Life-years	3	4	5
Capital cost - \$	4,120,000	4,120,000	4,120,000
-\$/ton	13.73	10.30	8.24
Operating cost-\$/ton	11.14	11.14	11.14
Total cost-\$/ton	24.87	21.44	19.38
<u>BREAK EVEN</u> -oz/t Au	.097	.087	.081
Revenue @.10 oz/t Au			
--\$/ton	25.82	25.82	25.82
Operating profit (1)			
--\$ @ 0.10 oz/t	285,000	1,752,000	3,220,000

(1) before taxes, head office charges, and interest.

Smelter Return

Payables	<u>\$C/ton conc</u>
-----Au-- 6 oz/t * \$450 * .91	2457.00
Deductions	
-----Treatment Charge	<u>200.00</u>
Net FOB Smelter	2257.00
Less	
----Transportation	<u>200.00</u>
Net FOB Minesite	2057.00

TABLE 4

DUMP PROCESSING - OPERATING COST

## DATA:

Milling Rate 300 T.P.D. or 9,000 T.P.M.

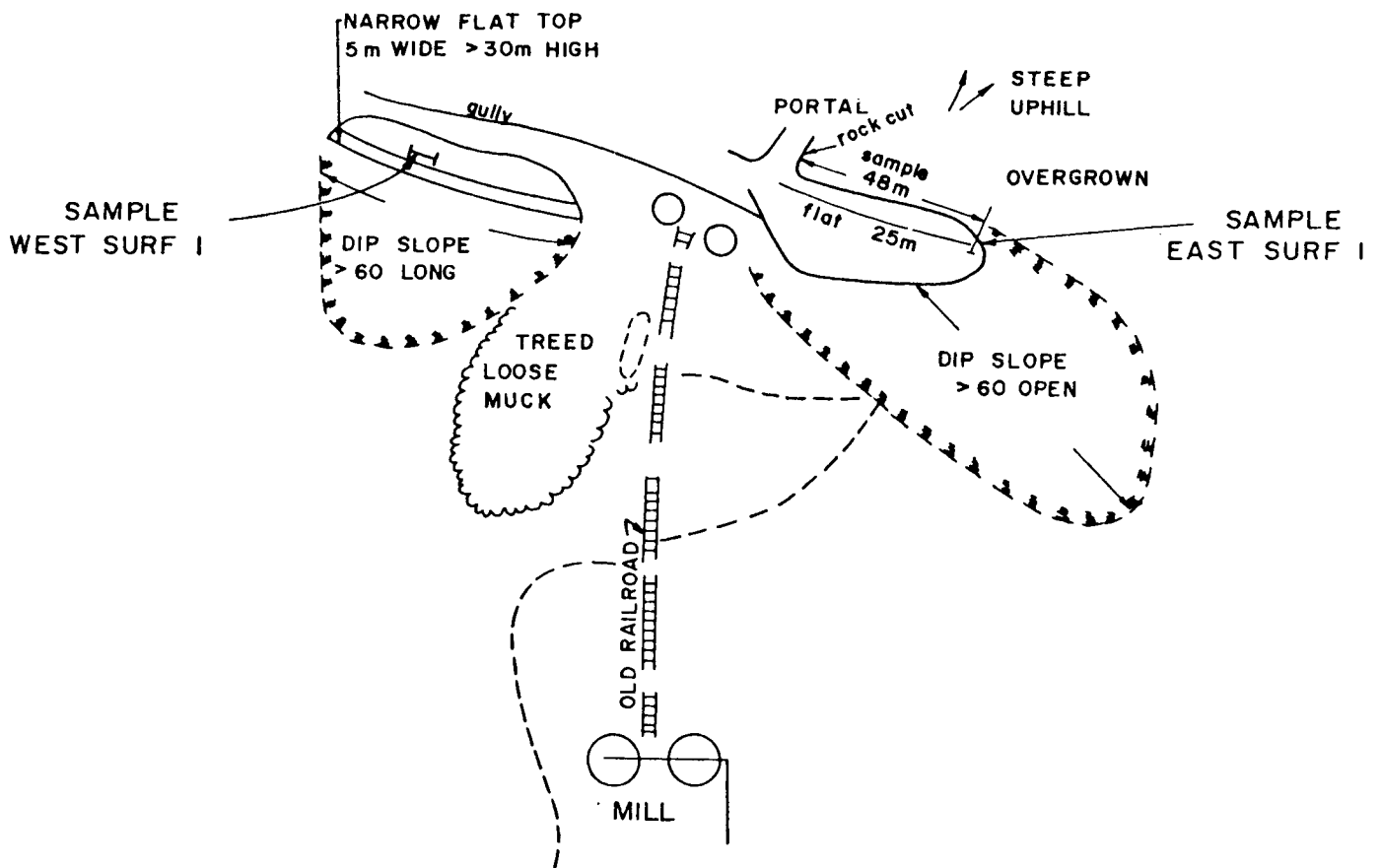
COSTS:	<u>\$/Ton</u>	<u>\$/Month</u>
Stockpile Reclamation: \$70 per hour	1.00	9,000
Labour (1)		
Supervision (mill supt.)	0.68	6,150
Wages - operating (6 operators)	2.90	26,100
Wages - maintenance	0.53	4,800
Wages - assaying	0.53	4,800
Wages - miscellaneous surface	<u>0.46</u>	<u>4,150</u>
Sub-Total Labour	5.10	46,000
Materials		
Liners - crushing	0.08	720
Liners - grinding	0.16	1,440
Grinding Balls	1.25	11,250
Reagents Flotation	0.20	1,800
Assaying Supplies	0.17	1,500
Maintenance Supplies	1.00	9,000
Misc. Operating Supplies	1.00	9,000
Tote Bags (\$20/ton concentrate)	<u>0.28</u>	<u>2,520</u>
Sub-Total Materials	4.14	37,230
Power		
Hydroelectric plant		
30 kwh/t @ \$0.03/kwh (2)	<u>0.90</u>	<u>8,100</u>
TOTAL	11.14	100,330

Notes:

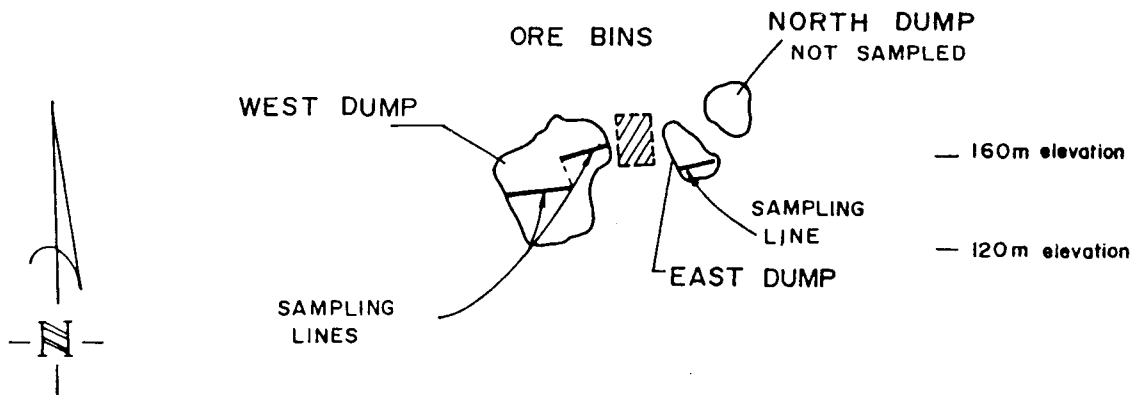
(1) Includes direct wages + 25% burden + camp costs of \$40 per man-day + 1 round trip flight per month to Vancouver @ \$550.

(2) Operating cost only.

# STOCKPILE DUMPS



SURF INLET MINES LTD.		
SURF MINE		
STOCKPILE SAMPLES		
PROJECT: SURF INLET		
WORK BY: JS	JAN. 15/1986	FIG. 3



**NOTE** SAMPLES WERE TAKEN AT 6m INTERVALS ALONG SAMPLING LINES

1. WEST DUMP SAMPLES: SR-81-125 (WESTERN FLANK) to SR-81-143 (EASTERN FLANK)

2. EAST DUMP SAMPLES: SR-81-144 (WESTERN FLANK) to SR-81-151 (EASTERN FLANK)

WEST DUMP			
SAMPLE N <sup>o</sup>	Cu (ppm)	Ag (ppm)	Au (ppb oz/ton)
SR 81 - 125	117	0.8	7170(0.209)
SR 81 - 126	577	0.8	130(0.004)
SR 81 - 127	290	0.7	690(0.020)
SR 81 - 128	1646	9.3	4280(0.125)
SR 81 - 129	2510	2.2	1820(0.053)
SR 81 - 130	1626	5.3	14800(0.432)
SR 81 - 131	272	0.7	560(0.016)
SR 81 - 132	259	1.0	1240(0.036)
SR 81 - 133	405	0.8	470(0.014)
SR 81 - 134	558	0.5	480(0.014)
SR 81 - 135	1094	4.8	10200(0.298)
SR 81 - 136	240	2.7	3600(0.105)
SR 81 - 137	160	0.9	860(0.025)
SR 81 - 138	1768	9.6	4900(0.143)
SR 81 - 139	394	1.0	2150(0.063)
SR 81 - 140	790	0.4	864(0.025)
SR 81 - 141	523	1.9	1140(0.033)
SR 81 - 142	3490	5.9	10,200(0.298)
SR 81 - 143	3460	1.7	1080(0.032)

$\bar{X}$  STRAIGHT 0.102 oz Au/ton  
 $\sigma = 0.119$   
 $\sigma^2 = 0.014$

EAST DUMP			
SAMPLE N <sup>o</sup>	Cu (ppm)	Ag (ppm)	Au (ppb oz/ton)
SR 81 - 144	202	0.4	980(0.029)
SR 81 - 145	13	<0.4	272(0.008)
SR 81 - 146	1459	4.6	5210(0.152)
SR 81 - 147	752	1.4	1680(0.049)
SR 81 - 148	200	1.2	690(0.020)
SR 81 - 149	270	0.4	4770(0.139)
SR 81 - 150	444	2.1	144(0.004)
SR 81 - 151	874	<0.4	124(0.004)

$\bar{X}$  STRAIGHT = 0.051 oz Au/ton  
 $\sigma = 0.057$   
 $\sigma^2 = 0.003$

COMBINED AVERAGES FOR BOTH DUMPS

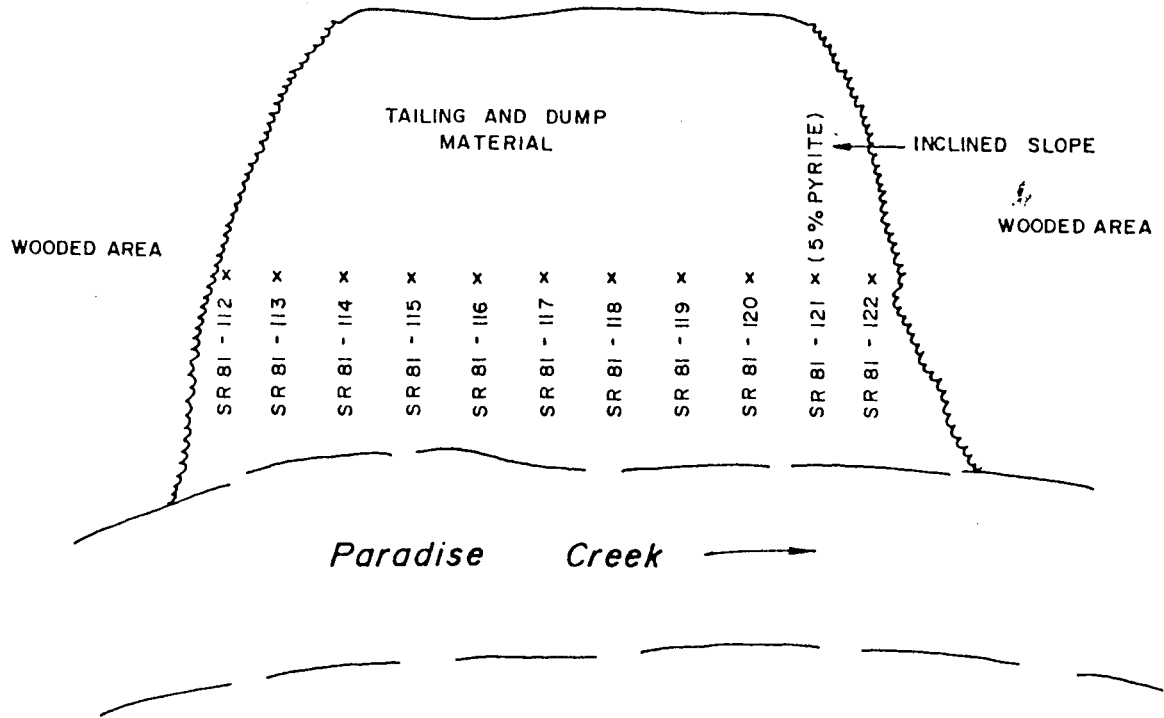
$\bar{X}$  STRAIGHT = 0.087 oz/ton  
 $\sigma = 0.0107$   
 $\sigma^2 = 0.011$

<b>SURF INLET MINES LTD.</b>	
SURF MINE	
<b>STOCKPILE SAMPLES</b>	
COMINCO 1981	
PROJECT:	SURF INLET
FROM:	FREEZE 1981
	FIG. 4



# FACING SOUTH

TOP OF OLD ELECTRIC GROUND RAILWAY



<u>SAMPLE N<sup>o</sup></u>	<u>Cu(ppm)</u>	<u>Ag(ppm)</u>	<u>Au(ppb oz/ton)</u>
SR 81-112	397	0.6	2540 (0.074)
SR 81-113	1244	1.2	1600 (0.047)
SR 81-114	689	0.9	580 (0.017)
SR 81-115	616	0.9	1620 (0.047)
SR 81-116	426	0.7	190 (0.006)
SR 81-117	98	0.4	230 (0.007)
SR 81-118	60	<0.4	230 (0.007)
SR 81-119	750	1.0	3250 (0.095)
SR 81-120	2500	1.8	1500 (0.044)
SR 81-121	8330	8.0	18000 (0.525)
SR 81-122	8660	2.4	3690 (0.108)

$\bar{X}$  = 0.089 oz/ton Au  
 $\sigma$  = 0.149  
 $\sigma^2$  = 0.022

<b>SURF INLET MINES LTD.</b>
<b>PARADISE CREEK</b>
<b>RAILBED SAMPLES</b>
<b>COMINCO 1981</b>
PROJECT: SURF INLET.
FROM: FREEZE 1981

FIG. 5

*Wright Eng<sup>s</sup>*

**SURF INLET MINES LTD.**

**PROJECT NO. 998-266**

**APRIL, 1986**



## 1.0 INTRODUCTION

This project has been valued using a discounted cashflow approach. This method of valuation requires projecting yearly cashflows (revenue) and subtracting yearly cash outflows (operating costs, capital costs, interest, taxes, etc.). Each of the components of the cashflow is discussed below, followed by a summary and explanation of results.

## 2.0 ASSUMPTIONS

### 2.1 Reserves

Base Case:	400,000 tons
Sensitivities:	300,000 tons
	500,000 tons

### 2.2 Milling Rate

300 tons per day starting January 1, 1987.

### 2.3 Gold Grade

The gold grade varies between .06 ounces per ton and .10 ounces per ton. Sensitivity analysis has been performed on this range.

### 2.4 Gold Recovery

Testing to date indicates recoveries of between 78.8% and 83.2% on grades varying from .067 ounces per ton to .151 ounces per ton. An average recovery rate of 80% has been assumed.



**2.5 Pay Factor**

Pay factor of 91% (pay for 93% at 98% of price)

**2.6 Smelter Charges**

Smelter charges of \$150/ton were used which assumes the iron content is not too high and there are no other penalties or credits.

**2.7 Freight**

Barge from Surf Inlet to Vancouver  
\$8,000/barge = \$ 57 /ton

Truck from Vancouver to Trail \$ 34 /ton

Insurance and miscellaneous \$ 9 /ton

\$100 ton

**2.8 Price**

Base Case \$350 US/ounce

Sensitivity \$400 US/ounce

**2.9 Exchange Rate**

\$.72 US/Cdn.

**2.10 Operating Costs**

\$11.14/ton (as outlined in Table 4 of the report)



**2.11 Capital Costs**

Plant           \$ .867 million  
Camp           \$1.133 million  
Hydro           \$2.140 million

\$4.140 million (as outlined on Page 15 of the report)

**2.12 Working Capital**

\$300,000 (or about 3 months of operating costs.)

**2.13 Taxes**

Federal and B.C. income tax and B.C. mineral resources tax. (Detailed tax calculations will be provided upon request.)

**2.14 Debt and Interest**

None, 100% equity.

**2.15 Inflation**

None on price, operating cost or capital cost.

**2.16 Discount Rate**

5%, 10%, 15% and 20% are shown on the cashflow output. However, the appropriate discount for this project would be the after tax weighted average cost of capital (debt plus equity) which would probably be between 5% and 10% real, depending on the debt/equity ratio.



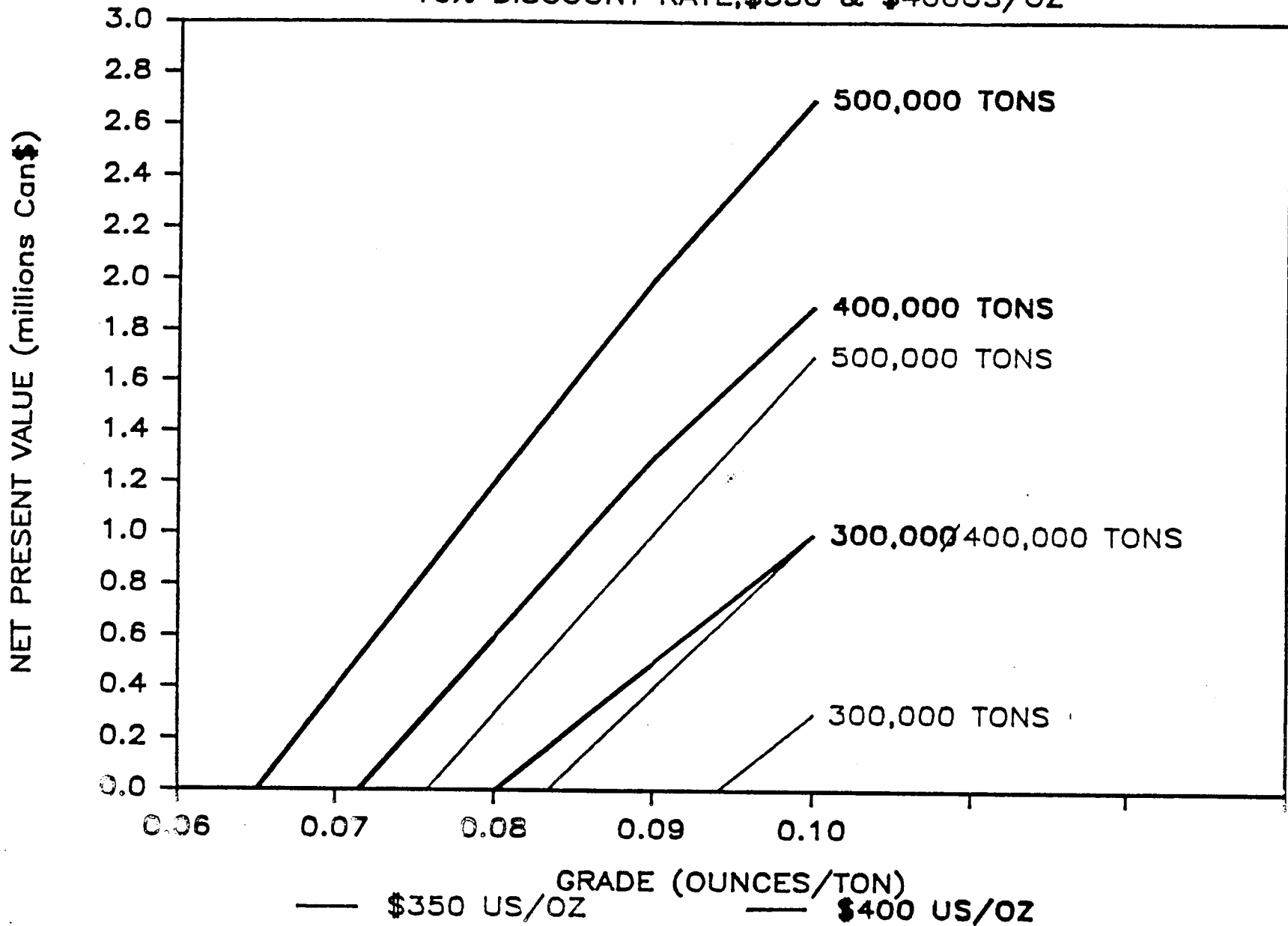
3.0 RESULTS

<u>Reserves (tons)</u>	<u>Grade (%)</u>	<u>Price of Gold (US \$/Ounce)</u>	<u>Net Present Value (million Cdn.\$) at real discount rates of</u>		
			<u>5%</u>	<u>10%</u>	<u>15%</u>
300,000	.09	\$ 350	0.1	-0.2	-0.5
	.10	\$ 350	0.6	0.3	-0.1
	.09	\$ 400	0.9	0.5	0.1
	.10	\$ 400	1.4	1.0	0.6
400,000	.07	\$ 350	-0.4	-0.8	-1.1
	.08	\$ 350	0.3	-0.2	-0.5
	.09	\$ 350	0.9	0.4	0.0
	.10	\$ 350	1.6	1.0	0.6
	.07	\$ 400	0.4	-0.1	-0.4
	.08	\$ 400	1.1	0.6	0.2
	.09	\$ 400	1.8	1.3	0.8
	.10	\$ 400	2.6	1.9	1.4
500,000	.05	\$ 350	-2.2	-2.5	-2.7
	.06	\$ 350	-0.9	-1.3	-1.6
	.07	\$ 350	0.1	-0.4	-0.8
	.08	\$ 350	0.9	0.3	-0.1
	.09	\$ 350	1.7	1.0	0.5
	.10	\$ 350	2.4	1.7	1.1
	.05	\$ 400	-1.1	-1.5	-1.8
	.06	\$ 400	0.1	-0.4	-0.8
	.07	\$ 400	1.0	0.4	0.0
	.08	\$ 400	1.8	1.2	0.7
	.09	\$ 400	2.7	2.0	1.4
	.10	\$ 400	3.5	2.7	2.0



# NET PRESENT VALUE vs GRADE & TONS

10% DISCOUNT RATE, \$350 & \$400 US/OZ



#### 4.0 CONCLUSIONS

This project has a net present value of \$1.0 million at \$350 US/ounces and 10% real discount rate assuming 400,000 tons of reserves and an average grade of .10 ounces per ton.

The breakeven grade at \$350 US/ounce and a 10% real discount rate varies depending on the reserves as shown below:

<u>Reserves</u>	<u>Breakeven Grade</u>
300,000 tons	.094 ounces/ton
400,000 tons	.083 ounces/ton
500,000 tons	.075 ounces/ton

It should be noted that even at breakeven the capital cost is recovered plus a 10% return on this capital. No allowance has been made either for future production or for salvage value.







CERTIFICATE OF AUTHOR

I, Robert Lawrence Mouat, hereby certify that:

- (1) My residence address is 221 Maple Lane, West Vancouver, B.C. V7V 4R4.
- (2) I am the Manager-Valuations with Wright Engineers Limited, 1444 Alberni Street, Vancouver, B.C. V6G 2Z4.
- (3) I hold a B.A.Sc. in Geological Engineering from the University of British Columbia.
- (4) I have a Masters Degree in Business Administration from the University of British Columbia.
- (5) I have been a financial analyst for about the past seven years with Cominco and currently with Wright Engineers Limited.
- (6) This report is based on data provided to me by Surf Inlet Mines Ltd. and by Wright Engineers Limited.
- (7) I hold no, nor expect to receive any direct or indirect beneficial interest in Surf Inlet Mines Ltd. or in any affiliated company.
- (8) I give my consent for this report to be used in or in connection with the prospectus or in a statement of material facts relating to the raising of funds for this project.

ROBERT MOUAT



May 7, 1986.

APPENDIX B

Delta Tailing Sample Results  
Assay Certificate

# CDN RESOURCE LABORATORIES LTD.

#8, 7550 RIVER ROAD, DELTA, B.C. V4G 1C8 / TEL. (604) 946-4448

## ASSAY REPORT

TO: Gary Hawthorn  
3650 Emerald Drive  
North Vancouver, B.C.  
V7R 3B8

FILE NO.: 86-2

DATE: January 8, 1986

ATTENTION: Gary Hawthorn

PROJECT:

Sample Description	Au oz/ton	Ag oz/ton
H1A	0.049	0.09
H1B	0.055	0.06
H1C	0.055	0.03
H1D	0.053	0.09
H1E	0.055	0.06
H1F	0.055	0.06
H1G	0.052	0.03
H1H	0.052	0.06
H1I	0.055	0.06
H2A	0.058	0.09
H2B	0.065	0.06
H2C	0.064	0.06
H2D	0.064	0.09
H2E	0.064	0.09
H3A	0.067	0.09
H3B	0.084	0.06
H3C	0.064	0.06
H3D	0.075	0.03
H3E	0.075	0.06
H4	0.046	0.03

Rejects retained one month,  
pulp one year, unless  
specific arrangements made.

  
Certified Assayer of British Columbia

D.D.H. GEOMANAGEMENT LTD.

May 13, 1987

Mr. Tadeusz F. van Wollen, President  
Surf Inlet Mines Ltd.  
1103 - 1177 West Hastings Street  
Vancouver, BC  
V6E 2K3

Dear Mr. van Wollen:

Re: Addendum to the "Report on the Surf Inlet Property"  
(with particular reference to evaluation of tailing  
material) by A.D. Drummond, Ph.D., P.Eng., and J.G.B.  
Michell, P.Eng., dated May 30, 1986

---

INTRODUCTION

The following is a description of the activities of Surf Inlet Mines Ltd. on the Surf Inlet property which have been completed since the submission of the prospectus dated May 30, 1986.

A total of \$310,000 has been spent to date on work programs (\$295,000) and property payments (\$15,000). This total includes a cost of \$45,000 for work done on the holdings described in Part A-7.

A work program costing \$549,780 is proposed. This program includes:

- (a) the work remaining to be done from Phase I as proposed by Drummond and Michell in the initial report of May 30, 1987;
- (b) the work remaining to be done from that proposed by Drummond in the amendment of November 26, 1986;
- (c) additional work which has been recommended as a result of work programs and evaluations of the property carried out thus far.

## PART A - REPORT OF ACTIVITIES

### 1. Lithogeochemistry and Mineralogy

A study of the lithogeochemistry and mineralogy of the Surf Inlet shear zone was carried out by J. Harris from March to September, 1986. The purpose of the study was to determine the mode of occurrence of gold in the Surf property and whether consistent measurable compositional variations are present that can be used as indicators of gold mineralization.

Results show that molybdenum or lead may be indicative of Surf Inlet Mine mineralization and enrichment in mercury and molybdenum is present in the Pugsley mineralized zones.

### 2. Mine Engineering

J.G.B. Michell evaluated the costs involved in re-opening the 900 Levels of the Pugsley and Surf Mines for mapping and sampling. His recommendations have been adapted in the work proposed in Part B.

### 3. Site Engineering

A preliminary study of sites for tailings disposal was done by Steffen, Robertson and Kirsten in December 1986.

Three possible sites - one on land and two underwater - were proposed. Further discussions with government agencies and environmental consultants was recommended.

### 4. Field Studies and Testwork

(a) In August and September, a major field project was carried out by TRM Engineering Ltd. This work included:

- (i) road planning from the Surf Mine 550 Portal to Bear Lake. A trail was cut and surveyed along the route;
- (ii) millsite survey;

- (iii) volume and plan survey of the Surf Mine 550 Level dumps. Approximately 150,000 tons of material is contained in the stockpiles;
  - (iv) plan survey and preliminary volume estimate of the tailings;
  - (v) plan survey of the Surf Inlet Mine 900 Level portal, Pugsley Mine 900 Level portal area and dump;
  - (vi) road planning from Surf Inlet to Cougar Lake. A trail was cut and surveyed along the route;
  - (vii) depth soundings of the Surf River and Paradise Creek;
- (b) In October, samples of the Surf Mine Dump were sent to Ore Sorters (Canada) Limited for testing. It was found that of the material supplied, neither photometric or conductance/magnetic properties could be used to distinguish between rock types and separate gold bearing vein quartz from the other constituents of the sample. Further testing using a newly developed photometric system was recommended.

Samples of the tailings material were examined and assessed by Canadian Centre for Mineral and Energy Technology for the potential to recover and market the contained quartz. Results indicate that the material is not suitable as a silica product.

This information is summarized in a report by Burton et. al., May 1987. Further sampling programs have been recommended.

## 5. Environmental Studies

Norecol Environmental Consultants completed a preliminary environmental review in December 1985. Initial environmental monitoring began in August 1986 and has been ongoing.

A prospectus report, completed by TRM Engineering Ltd. and Norecol, was presented to the Mine Development Steering Committee of the B.C. Ministry of Energy, Mines and Petroleum Resources in late September. A Stage One submission for the property has been requested by the Committee.

6. Computerization of Data

Sections and plans of the Pugsley Mine were submitted to H.A. Simons (International) Ltd. for entry into the Computer Assisted Drafting and Design System in late 1986. New mine plans and sections have been generated from the system and isometric diagrams of the Pugsley Mine produced.

This work is the preliminary stage of that proposed in the program of November 26, 1986.

7. Mineral Tenure

As of April 30, 1987, three claims have been added to the holdings disclosed on the prospectus. They are:

(a) Optioned mineral claims (optioned from owner, Coastoro Resources Ltd.):

<u>Claims</u>	<u>Units</u>	<u>Rec. Number</u>	<u>Expiry Date</u>
Cougar 1	6	2614	October 1, 1991
Cougar 2	2	2615	October 1, 1989

Total = 8 units

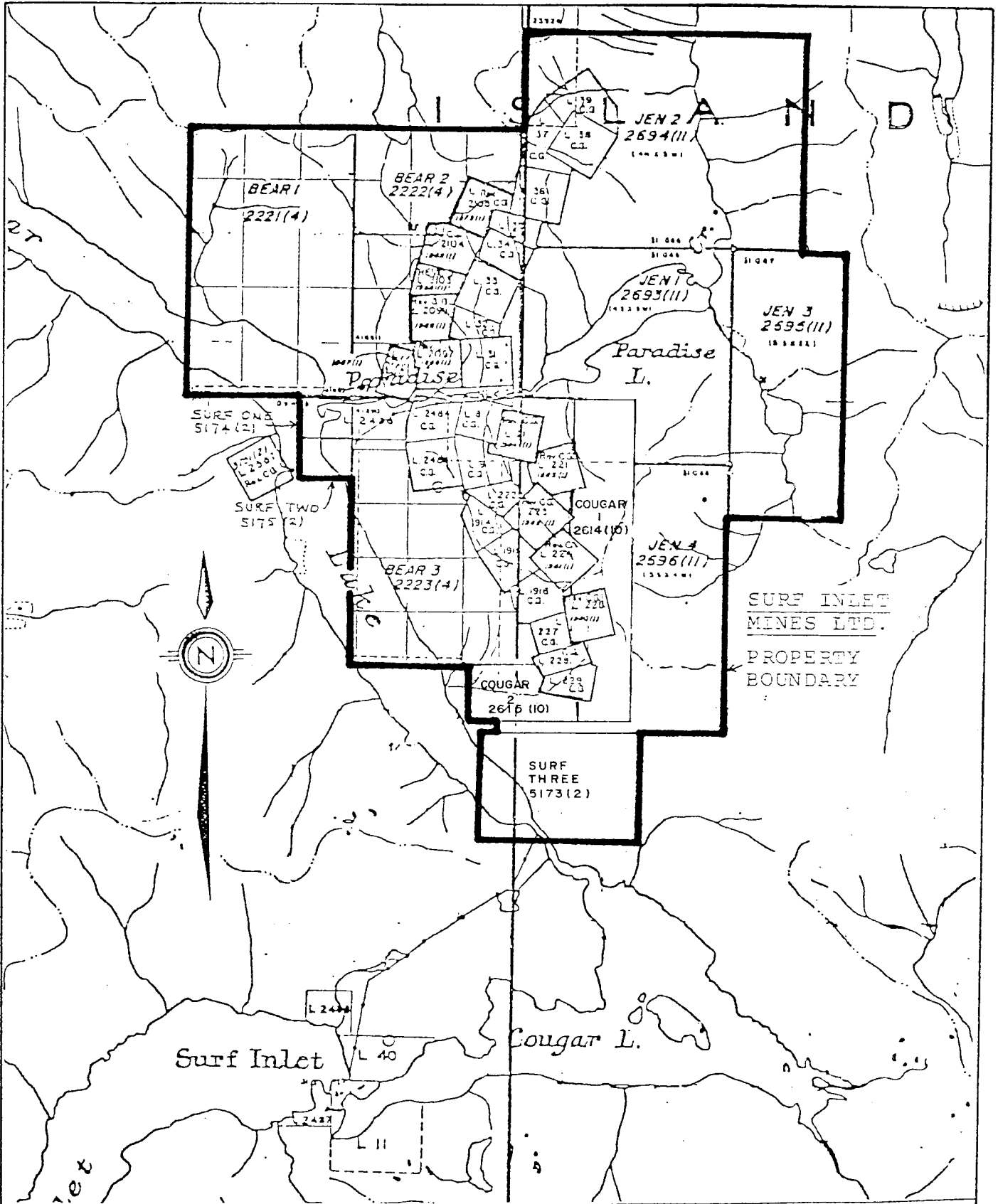
(b) Staked mineral claims:

<u>Claims</u>	<u>Units</u>	<u>Rec. Number</u>	<u>Expiry Date</u>	<u>Registered in name of</u>
Surf Three	6	5173	Feb. 28/89	J.T. Shearer

An amended property map, Figure 3a, is attached.

The property now consists of 9 modified grid system mineral claims, 11 reverted Crown grants and 21 Crown grants optioned from Matachewan Consolidated Mines, Limited, Placer Development Limited and Coastoro Resources Limited and 3 claims owned by Surf Inlet Mines Ltd. All claims are presently in good standing.





SURF INLET MINES LTD.

FIGURE 3 A

PROPERTY MAP

SURF INLET PROPERTY, B.C.

Scale 1 : 50,000

PART B - PROPOSED WORK PROGRAM

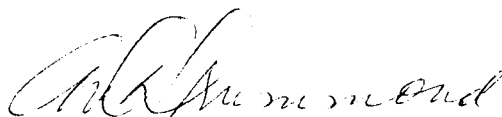
1. Drilling of Tailing Material (revised from May 30, 1986)

Mobilization/Demobilization of drill float platform, and crew from Prince Rupert, B.C.	\$ 6,000
Barge (purchase)	5,000
Vibra core type drill on rental basis with crew (Foundex Exploration Ltd. of Surrey, B.C. has suggested the following rates: Land based drilling \$100/hr for 10 hr day Standby - \$70/hr for 10 hr day Offshore drilling \$120/hr for 10 hr day Standby - \$80/hr for 10 hour day)	25,000
Survey Control (completed)	
Sample Handler (25 days @ \$200/day)	5,000
Supervision (25 days @ \$300/day)	7,500
Camp Cook (\$2,500/month)	2,500
Fixed-wing aircraft 4 flights @ \$850.00 each	3,400
Camp (6 men @ \$50.00/day/man for 25 days including fuel, camp and outboard on barge) (reduced due to work completed)	7,500
Assaying (allow 400 sample @ \$11.00 each)	4,400
Metallurgical Testing	2,500
Power Plant Evaluation	
Mill Foundation Evaluation (included in item 3 on page 6)	
Design road access from head of Surf Inlet to former mill site (completed)	
Report	<u>2,700</u>
Sub-Total 1	\$ 68,800

2.	Assay and Geological Data (revised from November 26, 1986)	\$
	The compilation and computerization of all data	54,000
	Structural analysis of the mine structure as proposed by Dr. A. Sutherland Brown	<u>25,000</u>
	Sub-Total 2	79,000
3.	Power Study, Physical Condition of Dam and Mill Foundations	
	Recommendations regarding power requirements and the generating capacity of the dam	5,000
	Physical inspection including core drilling of the dam and mill foundations	40,000
	Reports and recommendations	<u>5,000</u>
	Sub-Total 3	50,000
4.	Underground Rehabilitation, Mapping and Sampling	
	Pugsley:	
	Clean up the presently open 900 level	8,000
	Ventilate and wash the south drift	36,000
	Map and sample the south drift	10,000
	Surf:	
	Re-open the 900 and 550 level portals	18,000
	Mapping and sampling	<u>10,000</u>
	Sub-Total 4	82,000
5.	Mobilization and Demobilization Costs	
	Barge in and out of Surf Inlet	24,000
	Helicopter transport	18,000
	Float-plane transport	12,000
	Regular airfares	<u>6,000</u>
	Sub-Total 5	60,000

6. Set up Camp at Bear Lake and Establish Road to Pugsley and Surf	\$
Establish camp at Bear Lake, including purchase of Weatherports	50,000
Clear passable road over former railroad bed and bridge over Paradise Creek	<u>110,000</u>
Sub-total 6	160,000
TOTAL	499,800
+ contingency (10%)	<u>49,980</u>
GRAND TOTAL FOR REVISED PHASE I	549,780 =====

Respectfully submitted,



A.D. Drummond, Ph.D., P.Eng.  
DDH GEOMANAGEMENT LTD.  
Geological Engineer



cc: John Michell, P.Eng.

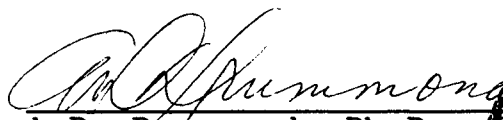



CERTIFICATION

I, Arthur Darryl Drummond of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a geological engineer residing at 3249 West 35th Avenue, Vancouver, British Columbia, and employed by D.D.H. Geomanagement Ltd., with an office at 422 - 470 Granville Street, Vancouver, British Columbia.
2. I am a registered Professional Engineer of the Province of British Columbia certificate no. 5778. I graduated from the University of British Columbia in 1959 with a B.A.Sc. in geological engineering, and in 1961 with a M.A.Sc. in geological engineering. I graduated from the University of California in 1966 with a Ph.D. in geology.
3. I have practiced my profession continuously for 24 years, primarily with the Placer Development Group of Companies at Craigmont, Endako and Gibraltar mines, and in mineral exploration in Canada, United States of America, Chile, Argentina, Mexico and the Philippines.
4. I am a co-author of this report which is based on published and private reports and on a field examination of the property on August 15, 1980.
5. I am Vice-President of Coastoro Resources Ltd., therefore I have a direct interest in the Congar 1 and Cougar 2 claims. I have no interest in the securities of Surf Inlet Mines Ltd.
6. This report may be utilized for development of the property, providing that no portion may be used out of context in such a manner as to convey a meaning which differs from that set out in the whole.
7. Consent is hereby given to Surf Inlet Mines Ltd. to reproduce this report or any part of it for the purposes of development of the property, or facts relating to the raising of funds.

Dated at Vancouver, British Columbia, this 13<sup>th</sup> day of May, 1986.

  
A.D. Drummond, Ph.D., P.Eng.  
D.D.H. GEOMANAGEMENT LTD.  
Geological Engineer



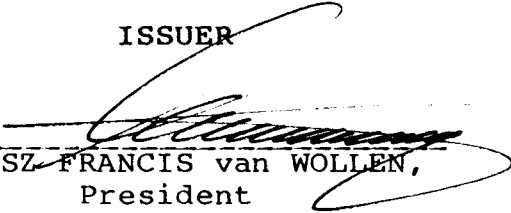
The seal is circular with a double-line border. The outer ring contains the text 'PROFESSIONAL ENGINEER' at the top and 'BRITISH COLUMBIA' at the bottom. The inner circle contains the text 'PROVINCE OF' at the top and 'A. D. DRUMMOND' at the bottom. A handwritten signature is scrawled across the seal.

CERTIFICATES

The foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Prospectus as required by Part 7 of the Securities Act and its regulations.

DATED: August 27, 1987

ISSUER

  
TADEUSZ FRANCIS van WOLLEN,  
President

ON BEHALF OF THE BOARD OF DIRECTORS

  
DONALD MOORE  
Director

  
JOHN GJERVAN  
Director

PROMOTER

  
TADEUSZ FRANCIS van WOLLEN

AGENT

To the best of our knowledge, information and belief, the foregoing constitutes full, true and plain disclosure of all material facts relating to the securities offered by this Prospectus as required by Part 7 of the Securities Act and its regulations.

DATED: August 27 1987

YORKTON SECURITIES INC.

Per:   
Authorized Signatory