# 021629

# TULSEQUAH AREA PROPERTIES

# Atlin Mining Division

Preliminary Evaluation Report

for

Island Mining and Explorations Co. Ltd.

Vancouver, B.C.

Prepared by:

Herb Wahl & Associates Ltd. R.R. #4 Gower Point Road Gibsons, B.C. VON 1VO

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#### SUMMARY

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This report is prepared at the request of Mr. Ernie Bergvinson, President of Island Mining and Explorations Co. Ltd., Vancouver, B.C. Covered by the evaluation, are unsurveyed mining claims located in the Atlin Mining Division of northwestern British Columbia. None of the properties are sufficiently developed to allow the calculation of ore reserves. Geological estimates of possible mineralization that might be developed by competent exploration are based upon existing measurements and inferences regarding deposit geometry.

During the past year, Island Mining has identified through its prospecting activities in the Tulsequah area, a number of attractive precious/base metal mineral prospects. The Tulsequah Camp is well known for its past production of gold which has aggregated over 320,000 ounces plus important amounts of silver and base metals.

Holdings described herein include the <u>Ericksen-Ashby</u>, <u>Zohini Vein</u>, <u>Spring Ag-Zn Gossan</u> and <u>Ace-King Claims</u>. The Zohini is a vein-type deposit with maximum values of 48 oz/T Ag and 0.31 oz/T Au. The weighted average of all trench sampling (27 metres) reported as 1.82% Pb, 2.70% Zn, 0.74% As, 6.53 oz/T Ag, and 0.06 oz/T Au. The majority of these samples were cut over widths of 1-3 metres. The vein has a strike length of some 350 metres, open for extensions.

The <u>Ericksen-Ashby</u> is a massive sulphide zone with some 12 Ag-Pb-Zn occurrences located along 1500 metres of favourable acid volcanic stratigraphy. A mineralization potential exists for developing around one million tons of material that would likely average-out to 6% PbZn combined and 6 oz/T silver. The potential for more restricted, but higher grade silver zones has not been tested.

<u>The Spring Ag-Zn Gossan</u> is a new prospecting discovery and consists of a large gossan in acidic Stuhini volcanics from which prospecting grab samples have returned values to 10% Zn and 10 oz/T Ag. A program of grid work is required to further evaluate this discovery.

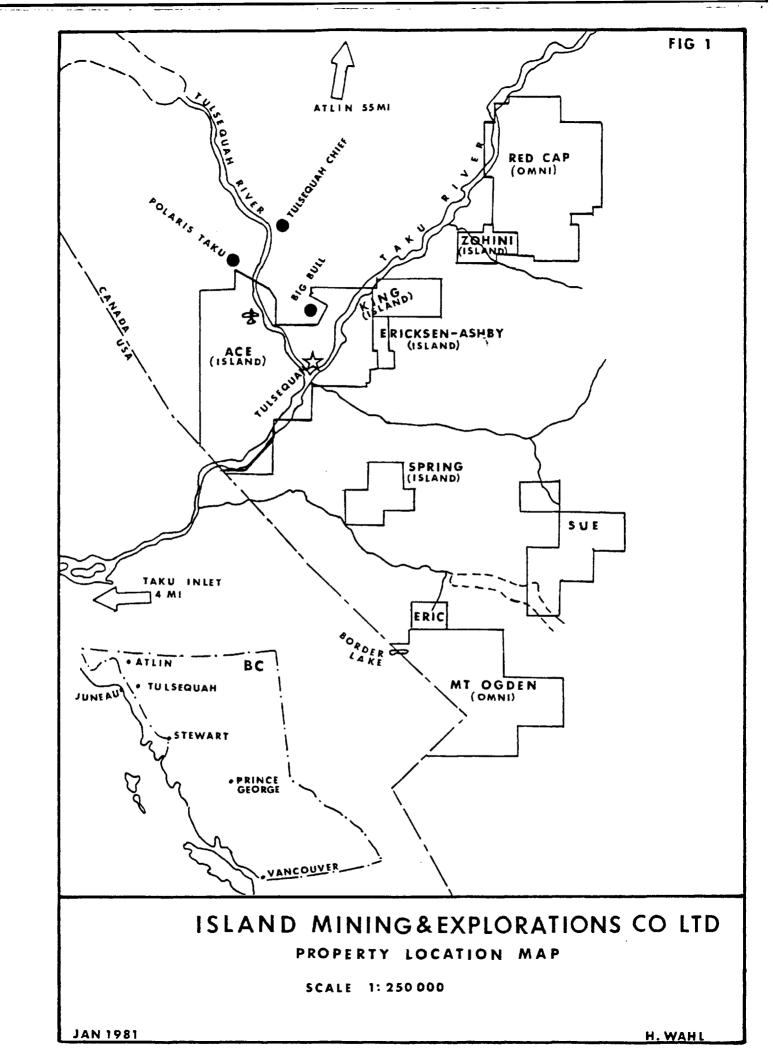
The <u>Ace-King</u> Property covers some potentially very favourable geology in the immediate area of the former Tulsequah producing mines (Polaris-Taku, Tulsequah Chief, Big Bull). The known characteristic of massive sulphide districts to form clusters of orebodies, suggests a very good chance for deposit repetitions under the covered ground proximal to these past producers.

Given below is a recapitulation of the recommended 1981 exploration budget:

- **\$ 14,000** Zohini Surface Program
- 123,250 Zohini Drilling (420 m)
- 92,500 Ace-King Airborne Survey
- 288,300 Ericksen-Ashby Phase I
- 155,000 Ericksen-Ashby Phase II
- 92,700 Spring Ag-Zn Gossan Surface Work
- 90,000 Spring Ag-Zn Contingent Drilling
- \$855,750 Grand Total

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#### INTRODUCTION

During the past year, Island Mining and Explorations Co. Ltd. has assembled a large land position in the Tulsequah area of northwestern B.C., through its own exploration efforts, and by option of existing claims.

At the request of Mr. Ernie Bergvinson (President of Island Mining and Explorations Co. Ltd., 900, 475 Howe Street, Vancouver, B.C. V6C 2B3), the writer was engaged to prepare a geological appraisal of the subject properties, to include preparation of a 1981 operating budget consistent with this evaluation. Following a review of the regional geology and mineral potential, the four Island properties (Ace, Ericksen-Ashby, Zohini and Spring) will be discussed independently.

This report is based in part upon actual field examinations performed by the writer and upon data furnished by Island Mining and Explorations Co. Ltd., which is considered to be essentially correct.

The properties described herein constitute unsurveyed mineral claims, some parts of which are covered by option agreements not examined by the writer.

# LOCATION AND ACCESS (Figures 1 and 2)

All the properties discussed in this report are located in the Tulsequah area of far northwestern B.C., within NTS blocks 104-K-11, 104-K-12 and 104-K-14. This area can be further specified as lying between latitudes 58°30' - 58°45' and longitudes 133°15' - 133°45'.

Access from Vancouver is via the town of Atlin and charter air service from that point (130 km), or via Juneau, Alaska, and a 40 minute plane trip to the gravel air strip at Tulsequah.

Within the general area, local transportation is best accomplished by helicopter due to the steep and rugged terrain.

# GENERAL GEOLOGY (Figure 2)

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The region contains in large part, a Triassic-Jurassic island-arc assemblage of volcano-sedimentary formations which overlie uncomformably an older Paleozoic basement of higher rank regionally metamorphosed units. The layered Mesozoic rocks are bounded to the east by the Atlin horst, and on the west, by the Coast Plutonic complex.

The above rocks show fairly close similarities with other trough-like assemblages in southern B.C., namely the Quesnel and Nechako Trough tectonic subdivisions. The Mesozoic rocks of the Tulsequah region are considered to represent the southern extension of the Whitehorse Trough.

Following the Tahltanian Orogeny, which strongly deformed and metamorphosed all pre-upper Triassic rocks, extensive volcanism occurred resulting in thick accumulations of volcanic and volcaniclastic rocks forming the Stuhini Group. This group hosts most of the principal mineral deposits and prospects found in the area.

The interval between the upper Jurassic and Cretaceous marks another interval of major folding and uplift which resulted in development of the Atlin Horst.

The Late Cretaceous period saw renewed explosive volcanic activity developed over a strongly dissected pre-Cretaceous surface. Accompanying the renewed Cretaceous volcanic activity, was the emplacement of significant numbers of small quartz monzonite stocks and quartz porphyry dikes. The felsite bodies show strong hydrothermal alteration including pyritization and dolomitization of both intrusive and country rock. It could be significant that these late stage intrusives are found proximal to many of the known mineral deposits, especially the more significant occurrences. Block faulting and subsequent erosion continued through the Cretaceous. The final volcanic event, the outpouring of plateau basalt flows, occurred in late Tertiary and continued through the Pleistocene.

# REGIONAL MINERAL POTENTIAL (Figure 3)

Gold was discovered along the Taku River as early as 1875. The first significant lode discovery, the Tulsequah Chief, was made in 1923. Other notable discoveries were made in 1929 including the Big Bull, Polaris Taku and Ericksen-Ashby.

In a period spanning 14 years from 1937 to 1951, the Polaris Taku Mine milled 719,336 tons of ore valued at \$8,000,000 in gold. This would be the equivalent of some 229,000 troy ounces at \$35/oz gold. After the closure of this operation, it was leased to Cominco Ltd., who started production from the Big Bull and Tulsequah Chief Mines. This operation continued from 1951 until 1957, and resulted in ore production of 1,029,089 tons containing 94,254 ounces of gold, 3,400,773 ounces of silver, 13,603 tons of copper, 13,463 tons of lead, 62,346 tons of zinc, and 227 tons of cadmium.

All of the above deposits are contained within Triassic volcanic rocks of the Stuhini Group, particularly where these rocks are cut by younger felsite intrusions which have hydrothermally altered the invaded rocks (silica, carbonate, albite, pyrite). Shear zones exert a strong control on ore localization within the altered areas.

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Cretaceous or Early Tertiary quartz monzonites appear to exert some control on copper and molybdenum occurrences, especially where these intrusives have invaded Stuhini volcanic rocks with accompanying hydrothermal alteration and tectonic preparation.

In the context of current geological thoughts about sulphide deposits, the mineralization at Tulsequah could very easily be accommodated within the designation of "massive sulphides" associated with island-arc volcanism.

In summary, the Tulsequah area is a well mineralized area with a record of past successful metal production. It is situated within an island-arc volcanic assemblage contained within the Triassic Takla stratigraphic interval, which contains an exceptionally large number of productive mineral deposits throughout its extent in the Province of British Columbia.

#### ZOHINI PROPERTY (Figures 1 and 2)

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Location: 104-K-11W; latitude 58°43'; longitude 133°20'. The prospect is located between the headwaters of the first two north-south flowing tributaries of Zohini Creek, just east of the Taku River, at an elevation above sea level of 1380 metres.

<u>Claims</u>: The property consists of the undernoted 20 unit mineral claims: <u>Cap 6</u>: Record No. 1102 recorded Atlin 21 July 1980 <u>OBI</u>: Record No. 1179 recorded Atlin 18 October 1980

<u>History</u>: The only record of the Zohini vein consists of a sampling map by New Taku Mines Ltd. dated 23 September 1964. Workings existent on the property consist of shallow pits and hand trenches, sunk along portions of the exposed vein structure.

<u>Description</u>: The writer spent one day (22 August 1980) inspecting the vein, its enclosing rocks, and sampling of the existing workings. The vein is situated on a steep southwest facing slope of 37° average inclination.

According to the regional geological map, the vein occurs within unit 14, a Cretaceous-Tertiary rhyo-dacite volcanic sequence. This is in accord with the observed wall rocks containing the vein structure.

The vein itself varies from 0.25 metres to 11 metres in width, and is traceable for some 375 metres before entering cover. The vein strikes 073<sup>o</sup> and appears to have a steep southerly dip. The vein structure consists of

silicified, fractured dacites and rhyolites, with oblique cross fractures, which are sometimes mineralized. The principal mineralization of the vein is open space sulphide fillings of galena, sphalerite, pyrite, arsenopyrite, and minor chalcopyrite. Associated with the sulphides are variable values of gold and silver.

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<u>Sampling</u>: A total of 17 chip samples were collected from the main trenches. These varied from 0.25 metres to 11 metres in total width, with a maximum sample width of 3 metres. The weighted average of this sampling yields the following result: 1.82% Pb, 2.704% Zn, 0.738% As, 6.528 oz/T Ag, 0.063 oz/T Au.

The best gold assay was 1.8 m @ 0.31 oz/T (Z0-5), which also included the highest silver result of 48.54 oz/T.

Using a deposit geometry of 350 metres for length, 1.60 metres for width, and a depth extent of 50 metres, a possible 90,000 metric tons of mineralized material could be present in the more exposed portion of the vein, subject to confirmation by drilling.

<u>Possibilities</u>: In excess of 300 metres of the probable vein extension occurs in covered ground. During the course of the field examination, massive pyrite-arsenopyrite-sphalerite-bearing float was found in a small drainage about 125 metres west of the inferred trend of the Zohini vein. While this material may have originated in the main vein, the presence of additional mineralized structures should be considered. The vein also has likely extensions to the east where a chocolate brown gossan was observed from the air in felsenmeer on the ridge top.

All in all, the possibilities of extending the vein structure and perhaps improving the grade are considered good.

<u>Recommendations</u>: To locate vein extensions and definitively test for grade, the undernoted program is recommended.

- Install picket grid between stations P-1 and C-2 (covered area) with X-lines spaced 50 m apart and extending 200 metres either side of base line. Also extend a similar grid east of station A-1 to cover gossan not yet tested.
- 2. Conduct soil sampling (10 m intervals) and VLF survey.
- 3. Sink test pits on resultant anomalies.

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4. <u>Core Drilling</u>: Drill two short (60 m/ea) angle holes to cut the known vein 30 metres below surface in the area of stations C-1 and G-1. Budget for an additional 300 metres drilling to test targets located by surface exploration.

# ACE (KING) CLAIMS (Figures 1 and 2)

Location: 104-K-11W, 12E; latitude 58°35'-40'; longitude 133°25' - 133°40'. This property occupies the covered area at the confluence of the Taku and Tulsequah river systems. The elevation of this plain is some 200 to 300 feet above sea level, and consists in large part of meandering tributaries of the main rivers, and swamps. This wet lowland supports a thick vegetation of brush, with more mature timber (poplar, spruce and firs) along the principal river channels.

<u>Claims</u>	Record Numbers	Record Date
Ace 1, 3 and 4 (48 units)	1171, 1172, 1173	6 October 1980
Ace 5-16 (228 units)	1180 - 1191	28 October 1980
King 1-6 (93 units)	*	12 December 1980

\*Record numbers not available at this time.

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<u>Description</u>: Previous exploration in the Tulsequah area has been entirely by visual surface prospecting and mapping. This is obviously the most effective technique for the well exposed uplands, but has resulted in a large area of very favourable geology in immediate proximity to past massive sulphide gold-silver and base metal producers, being totally unexplored.

Previous massive sulphide producers are all located within Upper Triassic Stuhini volcanics, which are in contact with a pre-Triassic (basement??) to the west. The trend of local faulting and geologic contacts is northsouth, right through the centre of the Ace claims. The tendency for volcanic sulphide districts to have multiple ore bodies is well documented (Skelleftea, Brunswick, Noranda, Flin Flon), thus the expectation for repetitions in the immediate proximity of Tulsequah is very high.

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The only unknown factor, is the depth of flood plain gravels over the bedrock; this can only be ascertained by geophysical survey.

<u>Recommendations</u>: A detailed (1/8 mile line spacing) helicopter borne magnetic-EM survey is recommended to test for conductor-linked sulphide zones within the limits of the Ace-King claim group. A survey of some 1,100 line miles will be required to provide the required coverage. An eighth mile line spacing is required because potential targets are normally of short strike length and a more precise airborne fix will limit the amount of pre-drilling ground follow-up in view of the thick ground vegetation.

### ERICKSEN-ASHBY (Figures 1 and 2)

Location: 104-K-11W; latitude 58<sup>0</sup>36'; longitude 133<sup>0</sup>30'. The property is located on the north slope of Mt. Ericksen, just south of the Taku River Valley, at elevations of 2,500 to 4,500 feet above sea level, immediately west of Ericksen Creek.

### Claims:

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<u>EA-1</u> (4 units) EA-2 (8 units)

The claims are owned by G.H. Rayner and Associates of 626 Duchess Avenue, West Vancouver, B.C. The property is currently optioned to Island Mining and Explorations Co. Ltd.

<u>Description</u>: The property has not been examined directly in the field by the writer. Some of its general features were observed from the air enroute to the Omni Red Cap prospect. The present evaluation is based upon the records and results of other engineers and geologists, the reliability of which appears to be essentially correct.

<u>Description</u>: The most recent engineering report on the Ericksen-Ashby is dated 31 January 1980, by Vancouver consultant Dr. R.H. Seraphim, for Anglo-Canadian Mining Corp. Subsequent to this report, SEMCO conducted a summer (1980) drilling program which was inconclusive due to operational problems. The property has been explored at varying intervals since its discovery in 1929 until the present. This work has consisted of drilling both from surface and from underground stations cut into a 140 metre long adit driven by Ericksen-Ashby Mining Co. in 1963-65.

The geological situation and mineralization has been described as follows:

# Geology

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"The claim group is underlain by a pile of andesitic and rhyolitic flows and pyroclastics cut by a large tabular body of fine grained quartz monzonite. Massive sulphide mineralization is confined to a north/south trending stratiform, 400 ft. thick unit of interbedded flows and breccias. Mineralization occurs intermittently in at least twelve discrete zones over a horizontal distance of approximately 5,000 ft. and a vertical (change in) elevation difference of about 1,500 ft."

# Mineralization

"Massive sulphides consisting of pyrrhotite, sphalerite, galena, wurtzite, tetrahedrite, argentite and pyrite form lenticular zones up to 1,000 ft. in length and 40 ft. in width. Downdip extension is not known, however, from topographical relief it is reasonable to expect that the zones may extend downdip at least 50% of their strike length. Mining of similar zones at the Polaris-Taku and the Tulsequah Chief indicates the zones may extend downdip for 100% of the strike length."

On the basis of the geometry of the sulphide lenses as presently defined, surface trenching and winkie drilling, and limited underground drilling, it is possible to infer a reserve potential of some 1 million tons grading 6 oz/T Ag, and 6% Pb-Zn combined to a vertical depth range of 500 feet.

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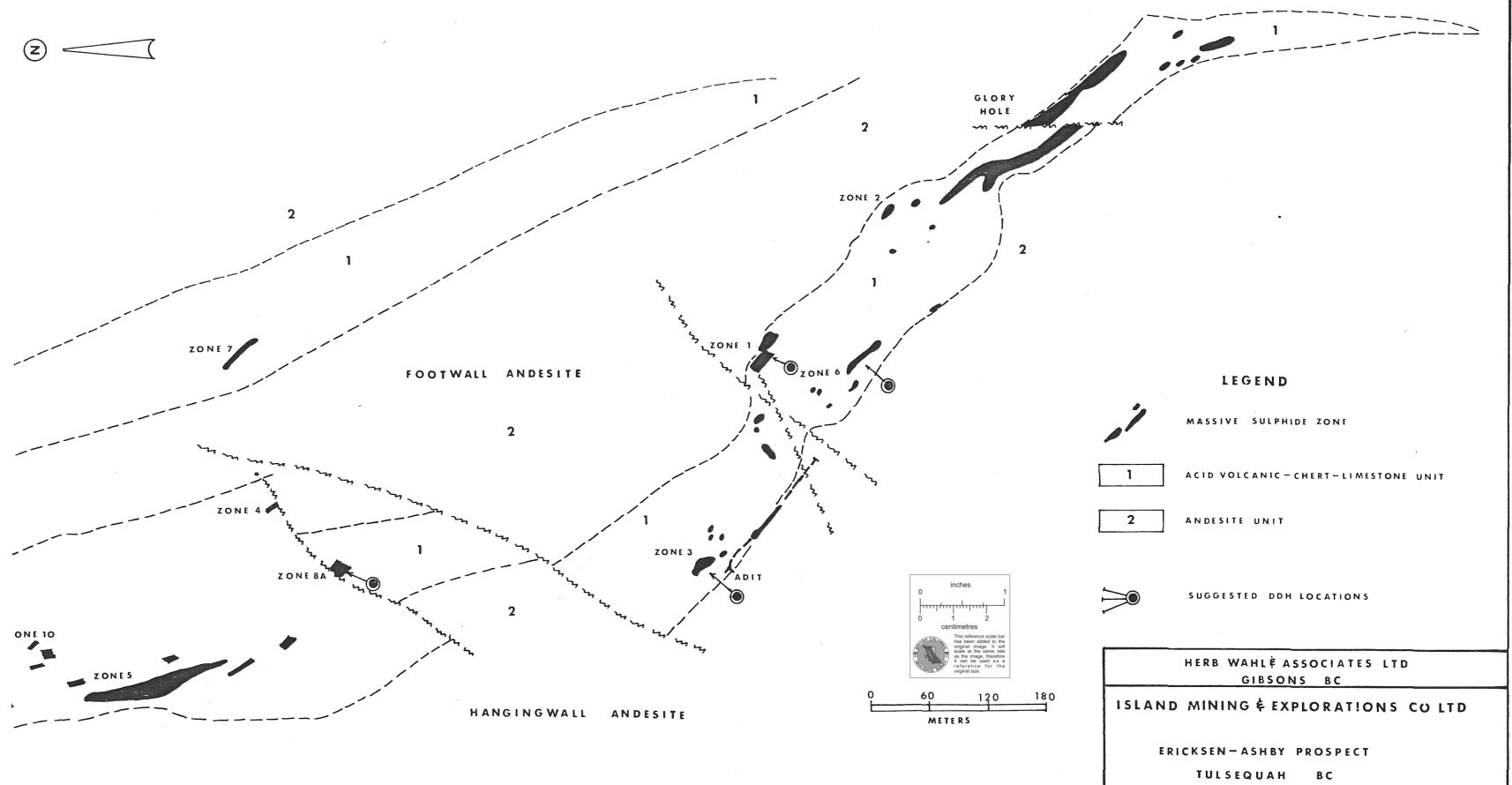
Preliminary microscope evaluation indicates that the Ericksen-Ashby sulphides should be amenable to standard concentration procedures (Reference 3).

Table I gives a tabulation of surface assay results for the known zones, where these have been accessible to sampling efforts. Table II outlines results of previous drilling efforts.

<u>Recommendations</u>: There is little doubt that the sulphide prospects at Ericksen-Ashby belong to the massive sulphide class pf mineral deposits. These deposits are generally lensoidal to cigar-shaped in cross-section and may have considerable downdip extension.

The property warrants further drilling to investigate the subsurface extent of several of the better mineralized zones. This effort should concentrate initially on indicated zones numbers 1, 3, 6, and 8A, where some of the better silver assays have been obtained (Figure 3). Acute attention should be directed toward drill site preparation and logistical support, since the work will be performed over very difficult terrain with a short field season. With this in mind, each site should be utilized to drill several deflection holes.

An initial 3,000 feet (915 m) of BQ core drilling is recommended, with a Phase II Program of an additional 2,000 feet contingent on the results of Phase I.





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JAN 1981

# TABLE I

# SURFACE SAMPLING

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Area	Sample Length	Ag oz/ton	Pb %	<u>Zn %</u>
Glory Hole	30.0' 46.0' 120.0' 125.0'	2.58 9.4 11.3 6.0	1.68 1.90 1.90 1.0	2.0 2.0 1.7 0.6
Zone 1	35.0' 34.0' 10.0' 8.0' 8.0'	11.6 7.8 7.79 7.7 61.6	4.88 4.3 0.65 5.5 23.2	17.6 16.2 0.57 0.6 3.6
Zone 2	17.3' 8.0'	3.6 3.4	2.8 2.9	5.7 8.6
Zone 3	15.0' 19.0'	35.1 4.76	20.24 1.86	23.23 1.08
Zone 4 NOT SA	MPLED			
Zone 5	5.0' 11.5' 20.0' 13.5'	4.18 3.2 2.74 1.2	1.01 1.10 2.83 0.1	1.42 2.3 1.95 0.5
Zone 6	5.0'	24.2	11.8	1.6
Zone 7 NOT SA	MPLED			
Zone 8	22.5'	6.1	2.67	5.92
Zone 8A	10.0' 18.0'	19.7 12.0	2.1 4.76	1.35 2.6
Zone 10	22.0'	1.98	1.29	2.3
Zone 11	8.0'	2.62	1.49	1.6
Zone 12	64.0'	0.38	0.24	0.87

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In 1964 Winkie drilling (holes S1 - S8) was attempted on the surface by Ericksen-Ashby Mines. The highly silicious wall rock was found to be too hard for the capacity of the drill, resulting in low bit life. Eight holes (U1 - U8) were drilled underground from the drill station at the end of the adit. Mineralized intercepts from the drilling are as follows:

DDH	Length	Ag oz/ton	РЬ %	Zn	Au	<u>Cd</u>	<u>Sb</u>
S1	4.2'	17.7	4.6	2.0	-	-	-
S2	9.0'	3.7	1.9	1.6	-	-	-
S3	12.0'	8.4	3.5	5.1	-	-	-
S4	7.0'	10.2	2.27	5.1	-	-	-
S5	13.1'	4.9	1.7	3.6	-	-	-
S6	No Signi	ficant Values					
S7	19.5'	4.63	-	-	-	-	-
S8	No Signi	ficant Values					
U1	No Signi	ficant Values					
U2	No Signi	ficant Values					
U3	0.7'	10.8	5.48	9.98	0.10	-	-
U4	0.9'	7.4	0.94	0.30	0.05	-	-
U5	3.3'	5.3	1.93	15.40	0.02	-	-
U6	3.8'	28.1	12.63	21.21	0.02	0.36	0.54
U7	No Signi	ficant Values					
U8	No Signi	ficant Values					

# SPRING AG-ZN GOSSAN (Figures 1 and 2)

<u>Location</u>: 104-K-11W/12E; latitude 58<sup>0</sup>34'; longitude 133<sup>0</sup>29'. This prospect is located at elevations of 5,000 feet above sea level on the slopes of Sittakany Mountain between the Sittakany River and Stuhini Creek.

Claims	Claim/Record No.	Date Recorded
Reto #1 (20 units)	1103	21 July 1980
Reto #2 (12 units)	1104	21 July 1980
Spring #1 (5 units)	604 (4)	3 April 1980
Spring #2 (20 units)	603 (4)	3 April 1980

<u>Description</u>: This property has not been examined directly in the field. Island Mining personnel report that pyrite, non-magnetic pyrrhotite, and sphalerite occur as stringers within a very large gossan area developed in rhyo-dacites of the Stuhini Group.

Grab samples have assayed as high as 10% Zn and 10 oz/T Ag.

<u>Recommendations</u>: The Spring property represents an attractive prospecting find about which little can be said until some systematic mapping and grid work has been completed. With this in mind, it is recommended that a survey grid with a 200 metre line spacing be installed, and that rock geochemical sampling and mapping be performed over the subject grid. A geophysical allowance covering VLF and magnetic surveys for the covered lower elevations should be included. Further work would be contingent on this first-step appraisal, and would consist of anomaly drilling. A contingent program of 1,000 feet (300 m) of core drilling is included in the cost estimate.

### RECOMMENDED 1981 EXPLORATION BUDGET

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# Zohini Vein

- \$ 2,400 5 km grid construction, soil sampling, and VLF/Mag survey @ \$480/km all inclusive
  - 3,500 Assays: 300 humic soil samples for Au, Ag, Pb, Zn @ \$10/ea plus allowance for rock samples
  - 2,500 Allowance for test pitting
  - 3,600 Transportation: Charter Helo, 8 hours @ \$450/hr all inclusive
- 2,000 Supervision and miscellaneous
- \$ 14,000 Sub-Total
- \$ 70,000 1,400 feet (427 m) BQ core drilling @ \$164/m (\$50/ft) all inclusive contract rate including consumables
  - 5,000 Mobilization and demobilization
  - 10,000 Contract drill support, site preparation, water supply maintenance
  - 15,000 Contract helicopter support, ± 30 hrs @ \$450/hr all inclusive
  - 2,000 Assays: ± 150 @ \$12/ea (Cu, Pb, Zn, Ag, Au)
  - 1,250 Petrographic: 25 thin sections @ \$50/ea
  - 5,000 Supervision: 1 month
  - 9,000 Camp Costs: 5 men @ \$60/man day (1 month)
- <u>1,000</u> Miscellaneous: Communications, freight
- \$118,250 Sub-Total Drilling
- 5,000 Contingency
- \$123,250 Total Drilling
- \$137,250 Grand Total Surface and Drilling

# Ace-King Project

- \$ 90,000 Contract Helicopter-borne AEM Survey (EM-33): 1,100 line miles (1771 km) @ \$81/mi (\$51/km)
- 2,500 Supervision and coordination
- \$ 92,500 Grand Total

# Ericksen-Ashby

# Phase I Drilling

- \$150,000 Core Drilling: 3,000 ft (915 m) @ \$50/ft (\$164/m) all inclusive contract rate including consumables
  - 6,000 Mobilization Demobilization
  - 25,000 Contract drill support, site preparation, mountaineering, water supply maintenance
  - 30,000 Contract helicopter support, 65/hrs @ \$450/hr all inclusive
  - 3,000 Assays: ± 200 @ \$12/ea (Cu, Pb, Zn, Ag, Au) plus allowance for extra elements
  - 2,500 Petrographic: 50 thin sections @ \$50/ea
  - 10,000 Supervision: 2 months
  - 28,800 Camp Costs: 8 men @ \$60/man day (2 months)
- 3,000 Miscellaneous: Communications, freight
- \$258,300 Total

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- 30,000 Contingency for adverse location and uncertainties of water supply
- \$288,300 Grand Total

# Phase II

\$155,000 Allowance for additional 2,000 feet/610 m BQ core drilling

Spring Prospect

\$ 45,000	Grid establishment, 200 m line spacing, 50 m stations ± 80,000 m in total plus allowance for detail @ \$480/km including soil sampling, VLF/Mag survey
13,500	Helicopter support 30 hrs @ \$450/hr all inclusive
7,200	Camp Costs: 4 men @ \$60/man day (1 month)
20,000	Assays: 2,000 samples @ \$10/ea for Ag, Pb, Zn
5,000	Supervision: 1 month
2,000	Miscellaneous: Communications, freight
\$ 92,700	Sub-Total
90,000	<pre>Contingent Drilling: 300 m (1,000 ft) BQ core drilling @ \$300/m (\$91/ft) all inclusive</pre>
\$182,700 855.750	Grand Total Herebe 11 Fab '81
\$ <del>8</del> 74,630	Total All Projects (Phase I and Phase II)

# Recapitulation

- \$ 14,000 Zohini Surface Program
- 123,250 Zohini Drilling
- 92,500 Ace-King Airborne Survey
- 288,300 Ericksen-Ashby Phase I
- 155,000 Ericksen-Ashby Phase II
- 92,700 Spring Claims Surface Survey
- 90,000 Spring Claims Contingent Drilling
- \$855,750 Grand Total

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Prepared by:

Herb Wahl, P.Eng., B.C.

# CERTIFICATION

This is to certify that:

- I, Herbert J. Wahl, am a resident of British Columbia and live at R.R. #4, Gibsons, B.C. VON 1VO.
- 2. I am a graduate of Dartmouth College, Hanover, New Hampshire, with the degree of Bachelor of Arts with Honours in Geology (1957).
- 3. I am a member of the Association of Professional Engineers of British Columbia and have practiced my profession continuously from 1961 to the present.
- 4. I have not, directly or indirectly, received or expect to receive any interest, direct or indirect in the property of Island Mining and Explorations Co. Ltd., or of any affiliate, or beneficially own, directly or indirectly, any securities of the company or of any affiliate.
- 5. This report is based upon field work performed entirely by myself and upon data furnished by Island Mining and Explorations Co. Ltd., which I judge to be accurate within the limitations of any technology employed.

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Herb Wa**N**, P.Eng., B.C.

January, 1981

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