

REPORT ON EXAMINATION
OF CRESCENT CLAIM GROUP
OCTOBER 11 - 15, 1983

SKEENA MINING DIVISION
103B/12W.

by
J.C. STEPHEN

J.C. Stephen Explorations Ltd.
1458 Rupert Street,
North Vancouver, B.C.

November 1, 1983

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION AND SCOPE OF INVESTIGATION	1
GEOLOGICAL MAPPING	3
ROCK UNITS	3
STRUCTURE	6
MINERALIZATION	7
ROCK GEOCHEMISTRY	9
ROAD DEVELOPMENT	10
CONCLUSIONS AND RECOMMENDATIONS	11
APPENDIX I	LIST OF PROPERTIES B.C. GOLD SYNDICATE
APPENDIX II	GEOCHEMICAL DATA SHEET

REPORT ON EXAMINATION
OF CRESCENT CLAIM GROUP
OCTOBER 11 - 15, 1983

INTRODUCTION AND SCOPE OF INVESTIGATION

The CRESCENT claim group of 77 units is located on central Moresby Island, the southern main island of the Queen Charlotte Islands and was staked on behalf of the B.C. Gold Syndicate during 1979. Geochemical sampling outlined extensive gold anomalies which were investigated by geological mapping, rock trenching and six diamond drill holes totalling 761 metres. No ore grade mineralization had been located and a drill program recommended for the year 1981 was not proceeded with. A comprehensive report entitled "Diamond Drilling Report on the CRESCENT GROUP" by J.T. Shearer dated January 30, 1981 summarized data to that time.

Heavy timber and relatively rugged topography made investigation of geochemical anomalies, especially those on lower slopes, difficult and expensive. It was recommended that this investigation be pursued after timber harvesting.

During September 1983 Falconbridge Limited made enquiries about the claim group in light of the closure of the Tasu iron mine which is located a short distance west of the CRESCENT group. Falconbridge has been conducting an appraisal of mineral prospects on the Queen Charlotte Islands.

Western Forest Products had extended logging roads into the central portion of the claim group and logging was proceeding in this area. Figure 1 shows location of roads in the area. It was decided an examination of new rock exposures should be made before possible negotiations with Falconbridge should proceed.

During the period October 11 - 15 J.C. Stephen accompanied by geologist Audrey Heagy and Falconbridge geologist Sandra McAllister visited the CRESCENT group. Stephen carried out pace and compass mapping of the new logging roads in the vicinity of geochemical anomalies while Heagy guided McAllister on examination of anomalous areas, drill core and road outcrops. Heagy also carried out some additional mapping and sampling on an anomalous zone in Co Linear Creek southwest of the active logging area.

001

001

insert
flags

map
XB

GEOLOGICAL MAPPING

Location of new logging roads in the central portion of the claim group was mapped by pace and compass. Locations should be considered as approximate with that shown on the 1:2500 geology map (Map I) probably being most accurate. The extent of logging roads mapped is shown on MAP I Geology at 1:5000 scale. The following rock units were noted: -

ROCK UNITS

- | | |
|----|---|
| 5 | Rhyolite dykes - pale creamy white, pyritic. |
| 5a | Rhyolite, banded - white to creamy banded rhyolite with dark gray patches and banding. |
| 5h | Dykes - dioritic, hornblende porphyry, feldspar porphyry. |
| 3 | Andesite - fine grained grey green, generally massive, includes diabasic varieties. Generally occurring as steeply dipping sykes. |
| 3x | Andesite Breccia - Crowded dark green angular to sub rounded fragments up to 3 cm diameter in more felsic f.g. groundmass. |
| 5f | Gabbro - Dark green, coarse grained, generally chloritic with patchy "globular" appearance. |
| 2b | Argillite - Black and gray carbonaceous to cherty thin bedded, well banded. |

ARGILLITE (Kunga Fm Unit 2b)

Road cuts have exposed relatively extensive argillite formations which are recessive weathering. This formation is much more

extensive than indicated by earlier mapping. It consists of black calcareous to carbonaceous beds interbanded with gray to creamy silty to chert beds. It is well bedded, dipping generally gently west or northwest but occasionally badly disrupted with abrupt changes in attitude.

On Co Linear Creek, in the southwest portion of the property, Heagy re-examined an anomalous area underlain by argillites cut by volcanics, porphyry dykes and rhyolite. Some of this argillite is highly silicified resulting in a dense fine bluish gray rock cut by narrow siliceous stringers.

GABBRO (Assigned to Unit 5f)

This is a massive dark green, generally chloritized rock with rounded aggregations of mafic minerals surrounded by more felsic material. Few contact relationships were observed.

ANDESITE (Designated Unit 3)

This designation has been used to denote a range of gray green to nearly black fine to very fine grained massive volcanic rocks. Isolated outcrops of fine diabasic texture are included. Occurrences vary from 15 cm wide, steeply dipping, very fine grained dykes to fine grained gray green rock with chilled margins against intruded sediments but with internal contacts which may be either flow contacts or intrusive contacts. Some outcrops are clearly steeply dipping dyke forms intruding sediments or gabbro but others show no contact exposure and attitudes are indefinite.

ANDESITE BRECCIA (Designated Unit 3x)

This rock consists of matrix supported, crowded, angular to subrounded dark green chloritic (andesite?) fragments in a lighter gray green more felsic matrix. Contact relations were observed in only

one area where this rock type is in contact with andesite. The relationship is unclear. The rock has the appearance of fine agglomerate or air fall volcanic breccia. Its relationship to other rocks suggests an intrusive breccia. In the more northerly exposures the rock is chloritized and contains a small amount of pyrite and rare chalcopyrite.

DYKES (Unit 5h)

Several dykes occur as isolated single exposures along road cuts. These vary from feldspar porphyry, hornblende porphyry to diorite. Some are fractured or well jointed parallel to contacts and some contain pyrite and rare chalcopyrite mineralization.

RHYOLITE, BANDED (Unit 5a)

One exposure of thinly banded white to rusty weathering rhyolite occurs near the north margin of the 1:2500 scale geology map. Some thin bands consist of dark gray siliceous material but for the most part the rock consists of aphanitic siliceous material. Disseminated pyrite mineralization is present. This is a single outcrop and no contact relations were observed.

RHYOLITE DYKES (Unit 5)

White to cream colored, generally aphanitic, pyritic dykes occur predominantly west of the Red Seam Zone. These dykes are vertical, or nearly so, and strike S30°W. They vary in width up to 3.5 metres. Pyrite occurs disseminated or as cubic crystals on joint and fracture planes.

STRUCTURE

Argillite of the Kunga Formation dips generally northwest but is locally complexly folded. It is recessive weathering and is sometimes indicated along road cuts by deposits of black clay with embedded argillite fragments. The argillite is cut by numerous dykes of varied composition, most commonly andesite, which are steep to vertically dipping. The majority of contacts between Kunga argillite and intruding andesites strike approximately south and dip 65° west to vertical. No clearly conformable sediment - volcanic contacts were observed, all appear to be intrusive though several could be interpreted as faulted contacts. The andesitic rocks are generally massive and relatively fresh in appearance in contrast to the folded, sheared and broken nature of the argillites.

No clear contact relationships of the gabbro with argillite were observed. The gabbro is thought to be a steeply dipping intrusive body probably arc shaped and relatively narrow as shown by the ground magnetometer survey, (Figure 10 Geological, Geochemical Geophysical Report dated August 15, 1980)

The rock termed andesite breccia is of uncertain origin. It is presumed to be of intrusive character.

The majority of narrow dykes including the pyritic rhyolites strike $S30^\circ W$ and dip vertically. Several zones of shearing and sets of strong fractures on the main road west of Red Seam Zone also strike $S30^\circ W$.

A topographic lineament trends $N30^\circ W$ through Red Seam Zone nearly parallel to the main road. Outcrops along this zone occur in two places where the rock is highly fractured and manganese stained.

It is thought the sets of S30°W dykes and fractures may be related to a fault passing through this topographic depression. Several branch shears are suspected to underlie local drainage systems.

MINERALIZATION

Pyrite occurs as fine disseminations within grey argillite beds and along bedding planes.

Pyrite is commonly associated with feldspar and hornblende porphyry dykes as disseminations and small patches.

The andesite breccia locally contains pyrite on fracture or shear zones together with rare chalcopyrite and small lenses of pyrrhotite.

Pyrite is relatively abundant as disseminations and on fracture planes within banded rhyolite and rhyolite dykes. Much of this pyrite is very pale in color and in one case, sample location 67329, arsenopyrite is associated with pyrite mineralization.

Manganese staining occurs on a few outcrops of highly fractured and altered rock of several types.

No quartz veining was observed although weak carbonate veining is fairly common mainly within andesites and gabbro. Several of these carbonate vein systems carry some pyrite mineralization.

The Co Linear Creek Zone, Figure 2, is located approximately 2 kilometres southwest of the current logging road area. Previous sampling of rock in this area returned gold values ranging from 20 to 5600 ppb. Silicification is locally well developed in this zone. Some further rock sampling was done.

ROCK GEOCHEMISTRY

The location of current logging roads is shown on Map III Gold Geochemistry and Map IV Arsenic Geochemistry.

As shown by Map III the new road construction does not intersect any significant soil geochemical gold anomalies. The Red Seam Zone is not indicated by gold geochemistry.

Map IV shows the logging road cutting through an arsenic anomaly immediately west of the lake. Only three small outcrops are exposed within this anomaly along the road. These outcrops of volcanics include minor dykes and some pyrite mineralization. Sample 48978.

At 500N 800E (approximately) one outcrop of argillite is exposed on the lower road. No indication of mineralization was noted in the few outcrops located within the anomaly between the roads.

The arsenic anomaly surrounding Red Seam Zone lies between the new roads and no further exposures are available.

Sampling of rhyolite dykes and sulphide mineralization along the new roads returned only two values of 90 and 100 ppb Au.

Silicified rocks from the Co Linear Creek Zone returned several rock geochem values up to 520 ppb Au together with a high value of 10,000 ppb Au (0.30 oz/t) from three very narrow quartz stringers. See Map III.

ROAD DEVELOPMENT

Road construction as shown by mapping has reached its maximum development for the 1983 season. Western Forest Products personnel tell us they average 8 to 10 miles of road per year at an average cost of \$120,000 per miles.

During our mapping, efforts were made to avoid conflict with active blasting, road building and logging activities and we were treated in cordial manner by the logging people.

Logging has only recently commenced in the area of interest but is proceeding rapidly. This area should be cleared by this time next year. Contrary to our assumption that overburden would be relatively deep it is apparent that bed rock is in reality only one to four feet below surface in large areas. Logging between roads will reveal more outcrop and mapping after completion of logging will be worthwhile.

It will be a year or two yet before logging clears the area of anomalous gold in Co Linear Creek.

CONCLUSIONS AND RECOMMENDATIONS

Rock exposures on new logging roads in the vicinity of the Red Seam Zone show several zones of very minor mineralization, intrusion of rhyolite, and rare quartz veining. A 40 cm wide zone of rhyolite with sparse quartz and minor pyrite, arsenopyrite mineralization returned 100 ppb Au. A 2 metre wide rhyolite dyke on the top South spur (Metric Main) returned 90 ppb gold. No mineralization or quartz veining similar to the Red Seam Zone has been exposed and the possibility of a large zone here is somewhat reduced. The area should be re-examined after logging has been completed.

Check sampling of limited exposure on Co Linear Creek returned anomalous values in silicified argillite with minor quartz veining and pyrite mineralization. One sample covering three 1 to 3 centimetre wide veins ran >10,000 ppb gold, equivalent to 0.3 oz Au/ton. This sample is to be assayed to get the actual assay value. A sample over 6 metres of silicified, veined, pyritic argillite and including the high grade sample section returned only 60 ppb gold. A sample of cherty material in argillite and of rhyolite each returned 520 ppb gold with the latter sample being over a width of 2 metres.

The Co Linear Creek zone would warrant detailed examination after logging which is assumed will be done within the next two years.

Falconbridge have indicated they do not wish to option the CRESCENT GROUP alone since no zone of significant mineralization has been defined. They propose, however, that consideration be given to formation of a company, partially financed on the public market, to amalgamate the Tasu mine plant, the Cinola gold deposit, the properties and data of B.C. Gold Syndicate and the properties and data of the JMT group on the Queen Charlottes.

It is our recommendation that no immediate work be done on the CRESCENT group but that detailed mapping and sampling be done in one to two years time on completion of logging in the Red Seam area and during logging of Co Linear Creek. We would recommend also that contact be maintained with Falconbridge with a view to co-operating in formation of a rather comprehensive new company to conduct further mineral exploration on the Queen Charlottes in hope of making use of the available mine plant.

Respectfully submitted,
J.C. Stephen Explorations Ltd.

J.C. Stephen

JCS/ms

APPENDIX I

LIST OF PROPERTIES
AS OF OCT. 31 1983

B.C. GOLD SYNDICATE

LIST OF PROPERTIES
AS OF OCT. 31 1983

SKEENA MINING DIVISION

<u>Group</u>	<u>Claims</u>	<u>Number of Units</u>	<u>Record Number</u>	<u>Expiry Date</u>	<u>Status</u>
CRESCENT	CRESCENT ONE	20	1411	July 6, 1987	Held for B.C. Gold Syndicate "
	CRESCENT TWO	20	1412	July 6, 1987	
	CRESCENT THREE	8	1413	July 6, 1987	
	CRESCENT FOUR	8	1414	July 6, 1987	
	CRESCENT FIVE	15	1607	July 30, 1987	
	CRESCENT 6	6	2346	June 4, 1987	
LOCKEPORT	LOCKEPORT 1-8	8	2391-98	June 27, 1985	Held for B.C. Gold Synd.
ALDER	ALDER ONE	20	1608	July 30, 1983	Lapsed
	ALDER GOLD 1	18	1609	July 30, 1984	Held for B.C. Gold Synd.
	ALDER GOLD 2	18	1610	July 30, 1982	Lapsed
	ALDER GOLD 3	20	1611	July 30, 1982	Lapsed
	RAMBLER PHOENIX	20	1612	July 30, 1982	Lapsed
	ABALONE 1-4	4	1457-60	June 29, 1986	Held for B.C. Gold Synd.
	ABALONE FR.	1	1683	July 29, 1986	Held for B.C. Gold Synd.
SWAN	SWAN 1-4	28	2463-66	July 28, 1983	Lapsed
TAR	TAR 1-4	4	1590-93	July 26, 1982	Lapsed
	T-ONE	18	2461	July 28, 1983	Lapsed
	T-TWO	18	2462	July 28, 1983	Lapsed
LYELL	LYELL 1-4	4	1407-10	July 6, 1983	Lapsed
SINGA	SINGA 1-6	6	2365-70	June 16, 1984	Held for B.C. Gold Synd.

HAWKS NEST	BLUEBELL	1	1239	April 25, 1985	Held for B.C.Gold Synd
HAWKS NEST	MAUD	1	1240	April 25, 1985	Held for B.C.Gold Synd
	LILLY	1	1241	April 25, 1985	Held for B.C.Gold Synd
	ANNIE FR.	1	1242	April 25, 1985	Held for B.C.Gold Synd
	HAWKS NEST FR.	1	1243	April 25, 1985	Held for B.C.Gold Synd

ALBERNI MINING DIVISION

EASY	EASY TWO	20	646	Nov. 23, 1982	Lapsed
	EASY THREE	20	1019	Sept. 4, 1982	Lapsed
	TOO EASY	1	1154	Sept. 4, 1984	Optioned to Falconbridge

GREENWOOD MINING DIVISION

TENDERLOIN	TENDERLOIN ONE	4	1755	Sept. 7, 1983	Lapsed
	TENDERLOIN TWO	2	1756	Sept. 7, 1983	Lapsed
	TENDERLOIN THREE	2	1757	Sept. 7, 1983	Lapsed
	TENDERLOIN FOUR	1	1758	Sept. 7, 1983	Lapsed
	WHITE BEAR	1	1709	Aug. 8, 1985	Held for B.C.Gold Synd

APPENDIX II

GEOCHEMICAL DATA SHEET

CRESCENT THIN SECTIONS
GROUPED BY LITHOLOGY

(A) QUARTZ ^{- pyroxene} DIORITE PORPHYRY

2 (1) DDH-80-1: 5.4m, (2) DDH-80-2: 19.5,

(B) DIABASE

4 (3) DDH-80-3: 36.2m,
(4) DDH-80-6: 51.3, (5) 120.2m
basalt.
(6) DDH-80-1: 24.1m

(D) DIORITE ✓

1 (7) DDH-80-5: 72.25m

(E) INTRUSIVE BRECCIA ✓
(quartz diorite)

1 (8) DDH-80-5, 106.02

✓ (F) QUARTZ VEIN, QUARTZ BRECCIA

2 (9) DDH-80-6: 35.9, (10) 37.3

(G) RHYOLITE BRECCIA ✓

9 (11) DDH-80-1: 35m, (12) DDH-80-2: 80.5, (13) 110m,
(14) DDH-80-3: 15.5,
(15) DDH-80-6: 17.5, (16) 18.5, (17) 25.6m, (18) 107.1m, (19) 117.1

(H) HYBRID TYPES ✓

(20) DDH-80-1: 6.2m, (21) DDH-80-2: 41.45m
(22) DDH-80-3: 22.2m, (23) 30.75m,
(24) DDH-80-4: 10.8m, (25) 87.2m
(26) DDH-80-5: 22.1m
(27) DDH-80-6: 39.0m, (28) 66.8m, (29) 71.9m

(I) FELDSPAR PORPHYRY ✓
(Quartz diorite porphyry)

6 (30) DDH-80-1: 57.1m (31) DDH-80-2: 56.8m
(32) DDH-80-3: 28.5 (33) DDH-80-4: 70.6m
(34) DDH-80-5: 28.3, (35) 53.9m

(J) RHYOLITE ✓

8 (36) DDH-80-1: 27.5m, (37) 29.1m, (38) 38m,
(39) DDH-80-2: 58.0m, (40) 59.7m, (41) 116.7m,
(42) DDH-80-4: 52.85m, (43) 61.1m

(K) DACITIC LAPILLI TUFF ✓

5 (44) DDH-80-1: 19.8m, (45) DDH-80-2: 7.6m, (46) 22m (PS)
(47) DDH-80-2: 39.6m
(48) DDH-80-6: 8.2m

(L) VARIOLITIC DACITE ✓

6 (49) DDH-80-1: 11.7m, (50) DDH-80-2: 15.2m, (51) 33m
(52) DDH-80-4: 45.9m, (53) 47.64, (54) 48.23

(M) MELANO GABBRO. ✓

(55) DDH-80-3: 83.7m, (56) DDH-80-4: 68.6m, (57) 71.6m
(58) DDH-80-5: 3.1m, (59) 11.0m, (60) 19.0m, (61) 111.9m

(N) Quartz Diorite ✓

(62) DDH-80-1: 23.9m, (63) 50.55m,
(64) DDH-80-3: 74.0m, (65) DDH-80-5: 43.7m, (66) 58m

(O) ANDESITE

(67) DDH-80-5: 43.4m

(P) ARGILLITE BRECCIA

(68) DDH-80-6: 68.2

CRESCENT THIN SECTIONS

~~Nov 11/80~~

~~872-1681~~

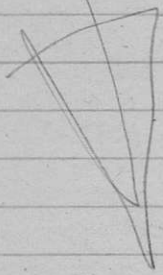
~~Label reject blocks~~

note - type from DDH-1 first

at END

14

		FIELD NAME
(1)	DDH-80-6, 8.2m	Dacitic Lapilli tuff
2	17.5m	Rhyolite Breccia
3	18.5m	Rhyolite Breccia
4	25.6m	Rhyolite breccia
5	35.9m	Qtz vein
6	37.3m	Qtz Breccia
7	39.0m	Argillite
8	51.3	Dacitic Lapilli tuff
9	66.8	Argillite
10	68.2	Argillite
11	71.9	Argillite HS Hornfels
12	107.1	Rhyolite
13	117.1	Rhyolite (wrong thin section)
14	120.2	Rhyolite hornfels DIABASE



15 DDH-80-5

	3.1	Melanogabbro
16	11.0	Melanogabbro
17	19.0	Melano, diss cpy
18	22.1	HYBRID DACITE
19	28.3	Fp Porphyry
20	43.4	diabase - Melanogabbro
21	43.7	Diorite
22	53.9	Fp porphyry
23	72.25	Melanogabbro
24	88	melanogabbro cpy
25	106.02	Intrusive BX - marked
26	111.9	melanogabbro

Polished thin sections
or polished block
+ polished block
if possible

27 DDH-80-4

	10.5	Melanogabbro
28	45.9	Variolitic dacite
29	47.64	Variolitic dacite
30	48.23	Bx - variolite
31	52.85	Rhyolite
32	61.1	Rhyolite
33	68.6	Hybrid Gabbro
34	70.6	Fp porphyry
35	71.6	Fp porphyry
36	87.2	Variolitic dacite

marked
marked.

10

CRESCENT THIN SECTIONS

37	DDH-80-3	15.5	Rhyolite Breccia
38		22.2	transition Rhy ^{dyke} - dacite
39		28.5	Fp Porphyry
40		30.75	Dacite
41		36.2	Diabase
42		74.0	Melanogabbro
43		83.7	Melanogabbro

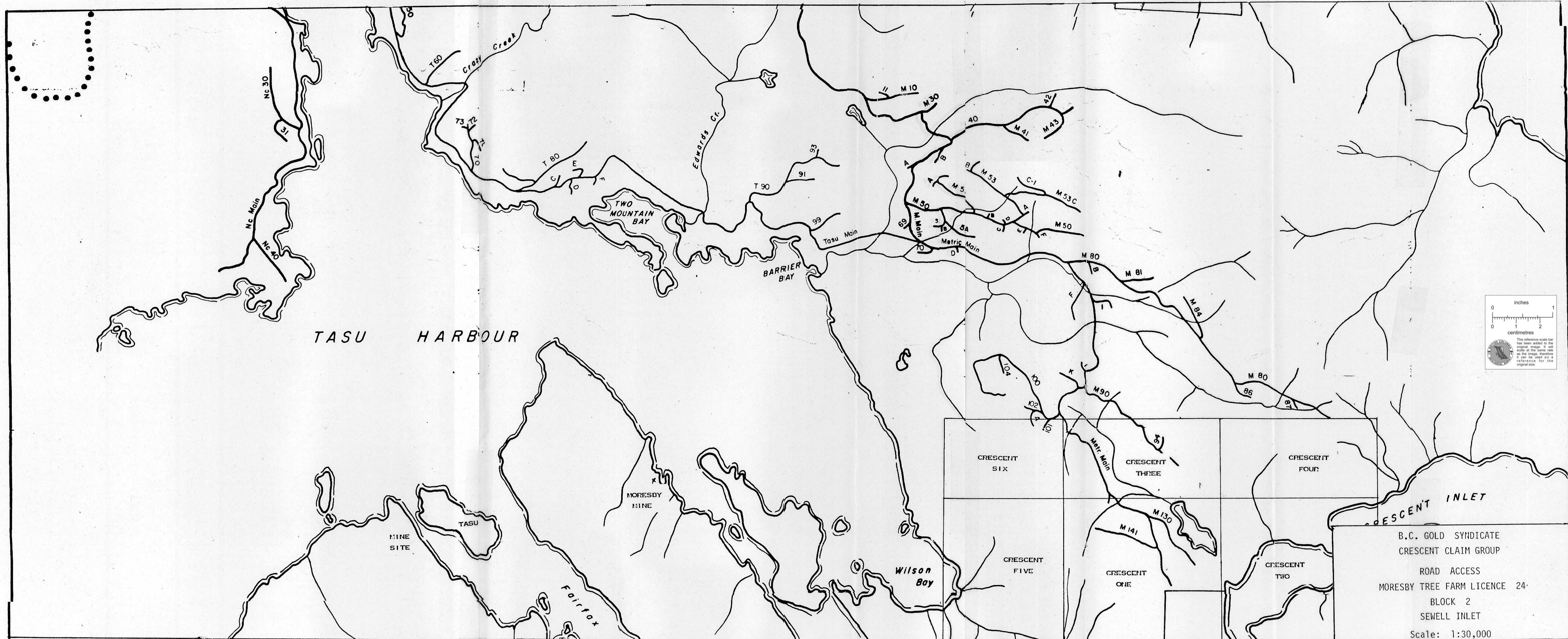
44	DDH-80-2	7.6	dacitic lapilli tuff
45		15.2	Variolitic dacite
46		20.5	qtz diorite dyke *
47		22	dacitic lap tuff
48		33	variolitic dacite
49		39.6	dacitic lapilli tuff
50		41.45	dacitic lapilli tuff
51		56.8	Fp porphyry
52		58.0	Rhyolite
53		59.7	chl Rhyolite
54		80.5	Rhy Breccia
55		110	Rhy breccia
56		116.7	Rhyolite + Po

Polished section ^{only} or block

Polished section
Polished section

57	DDH-80-1	5.4m	Quartz diorite Porphyry *
58		6.2	dac lap tuff + dyke
59		11.7	variolitic dacite
60		19.8	dacitic lapilli tuff
61		23.9	diabase
62		24.1	diabase/dacitic contact
63		27.5	Black shale
64		29.1	Rhy wt Po
65		35	Rhy Breccia
66		38	Rhyolite
67		50.55	Melanogabbro
68		57.1	Fp porphyry

Polished section



B.C. GOLD SYNDICATE
 CRESCENT CLAIM GROUP
 ROAD ACCESS
 MORESBY TREE FARM LICENCE 24
 BLOCK 2
 SEWELL INLET
 Scale: 1:30,000

FIGURE 1