GEOLOGICAL AND GEOCHEMICAL REPORT

- ON THE -

RELAY CLAIMS
CLINTON MINING DIVISION
BRITISH COLUMBIA

- FOR -

BARRIER REEF RESOURCES LTD., #904-675 West Hastings Street, Vancouver, B.C. V6B 1N2.

COVERING: RELAY #1 (20 UNITS); RELAY #2 (18 UNITS); RELAY #3 (20 UNITS).

WORK PERFORMED: JULY 5, 1980 TO JANUARY 10, 1981.

Location: (1). 51°11'N; 122° 56'W.

(2). NTS MAP 92 0/2W.

(3). 90 km. NORTHWEST OF LILLOOET, B. C.

PREPARED BY

KERR, DAWSON & ASSOCIATES LTD.

1 - 219 Victoria Street Kamloops, B.C. Dawson, P. Er

J. M. Dawson, P. Eng., January 13, 1981.

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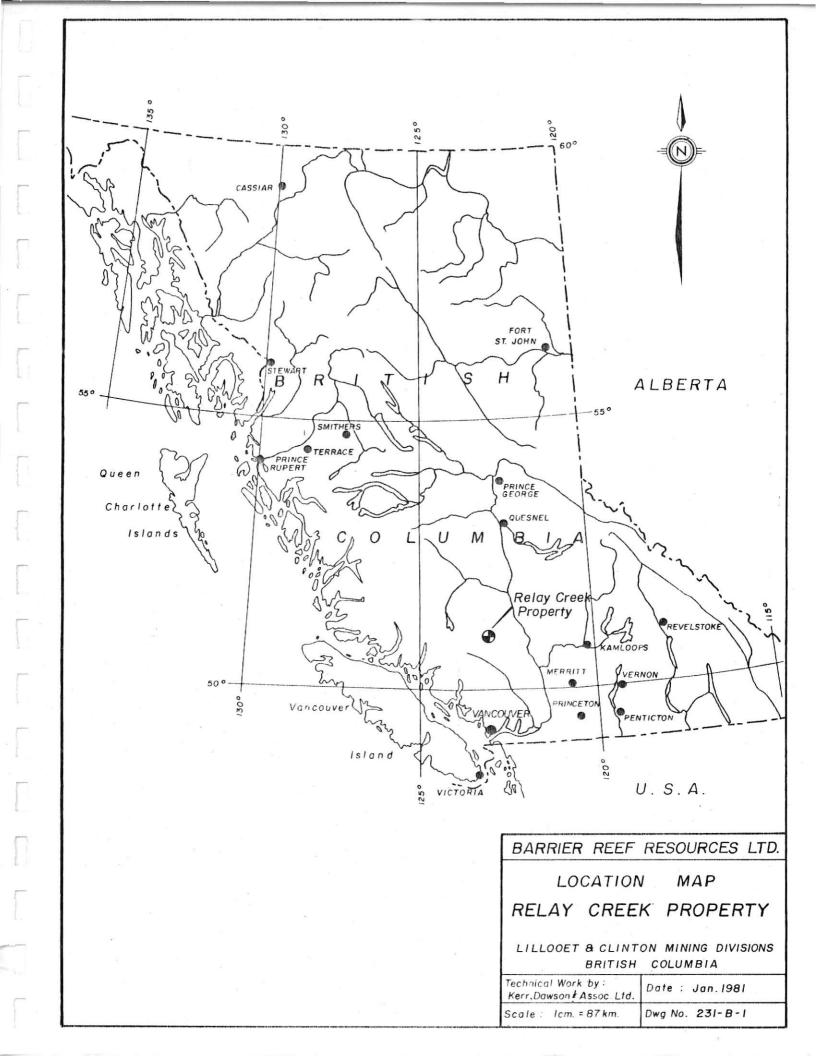
PREPARED BY:

KERR, DAWSON & ASSOCIATES LTD., #1-219 Victoria Street, KAMLOOPS, B. C.

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TABLE OF CONTENTS

| | | | | | | | | | | Page No. |
|-------------|-----------|--------|--------------------------------------|--------|------------|------------------|--------|--------------------------------------|---------------------------|----------|
| INTRODUCT | ION | | | | | | | | | 1 |
| SUMMARY AN | ND CONCLU | SIONS | | | | | | | • | 2 |
| PROPERTY . | | | | | | | | | | 4 |
| LOCATION A | AND ACCES | ss | | | | • | | | | 5 |
| PHYSIOGRAI | PHY AND V | EGETAT | ION . | | | | | | | 6 |
| PREVIOUS V | WORK | | | | | | | | | 7 |
| CURRENT PI | ROGRAMME | | | | | | | | | 8 |
| GEOLOGY | | | | | | | | | | 9 |
| MINERALIZA | ATION . | | | | | | | | • | 13 |
| GEOCHEMIS' | TRY . | | | | | | | | • | 14 |
| EXPLORATION | ON POTENT | CIAL . | | | | | | | • | 17 |
| RE COMMENDA | ATIONS . | | | | | | | | • | 18 |
| | | | | | | | | | | |
| APPENDI X | A: | - Per | sonnel | | | | | | | |
| APPENDI X | B: | - Sta | tement o | of Exp | enditu | ıres | | | | |
| APPENDI X | C: | - Wri | ter's Co | ertifi | cate | | | | | |
| APPENDIX | D: | - Map | s | | | | | | | |
| | | | Figu Figu Figu Figu Figu | re 231 | B-5 B-6 | - - - - | Copper | Map y Maj eoch c Geo Geo | p emis oche chen | emistry |



INTRODUCTION

This report describes a preliminary exploration programme on the Relay claims, Clinton and Lillooet mining divisions, British Columbia.

A regional stream sediment programme picked up several anomalous gold values in creeks draining this area. The ground was acquired in April, 1980, when claims held by other interests expired.

Geological and geochemical surveys were performed and the results are detailed on a series of maps accompanying this report.

SUMMARY AND CONCLUSIONS

- (1). The Relay Creek property consists of three, contiguous metric claims totalling 58 units, located in moderate to steep terrain in the Yalakom River district of southern British Columbia. Access is by dirt road from the Lillooet-Goldbridge highway via Tyaughton Lake and Relay Creek to the claims.
- (2). Previous work dates back to 1970 when the property was first staked by Home Oil and partners. Geological and geochemical surveys and limited diamond drilling were done during 1971 73 on porphyry type copper-molybdenum mineralization. In 1979, the property was acquired by Clear Mines and extensive geochemical and geophysical surveys were carried out. This work was not recorded and the claims lapsed in March, 1980. Barrier Reef Resources Ltd. staked the ground in April, 1980.
- (3). The claims are underlain by late Mesozoic clastic sedimentary rocks intruded by a swarm of feldspar porphyry sills. Two areas of weak, porphyry type

copper-molybdenum mineralization are present but
do not seem to be associated with 2 or more
northwest-trending, linear zones of anomalous goldarsenic values in soils and talus fines.

(4). The nature of the gold mineralization is not well understood but is thought to be related to quartz veining and shear zones in and near some of the feldspar porphyry sills. The extent and grade of such zones is not known; however, the large area of highly anomalous values suggests that potentially large volumes of significantly mineralized material could be outlined. Further exploration is certainly warranted to fully evaluate this potential.

PROPERTY

The property consists of three contiguous metric claims totalling 58 units as follows:

| Claim Name | Record No. | Tag No. | Expiry Date |
|------------|------------|---------|-------------|
| Relay #1 | 822 | 58398 | April 23/81 |
| Relay #2 | 648 | 58396 | April 21/81 |
| Relay #3 | 649 | 58397 | April 21/81 |

Disposition of these claims is shown on Figure #231B-2.

LOCATION AND ACCESS

The property is located in south-central British Columbia, approximately 90 km. northwest of Lillooet, B. C. Approximate geographic center of the claims is at 51°11' north latitude and 122°56' west longitude.

Access is gained by road from the Lillooet-Goldbridge highway, via the Tyaughton Lake road and the Relay Creek road. Road distance is about 60 km. from Goldbridge, the last half of which is mostly four-wheel drive only.

PHYSIOGRAPHY AND VEGETATION

The property consists of a northwest-trending block covering parts of the steep-walled valley of upper Relay Creek. This valley swings from northwesterly to westerly towards its upper reaches and the bulk of the claims cover south facing slopes. These slopes are steep but not precipitous and can be easily negotiated on foot.

Most of the south facing slopes are bare to lightly forested with pine and poplar. North facing slopes are densely treed with mature fir, spruce, and pine.

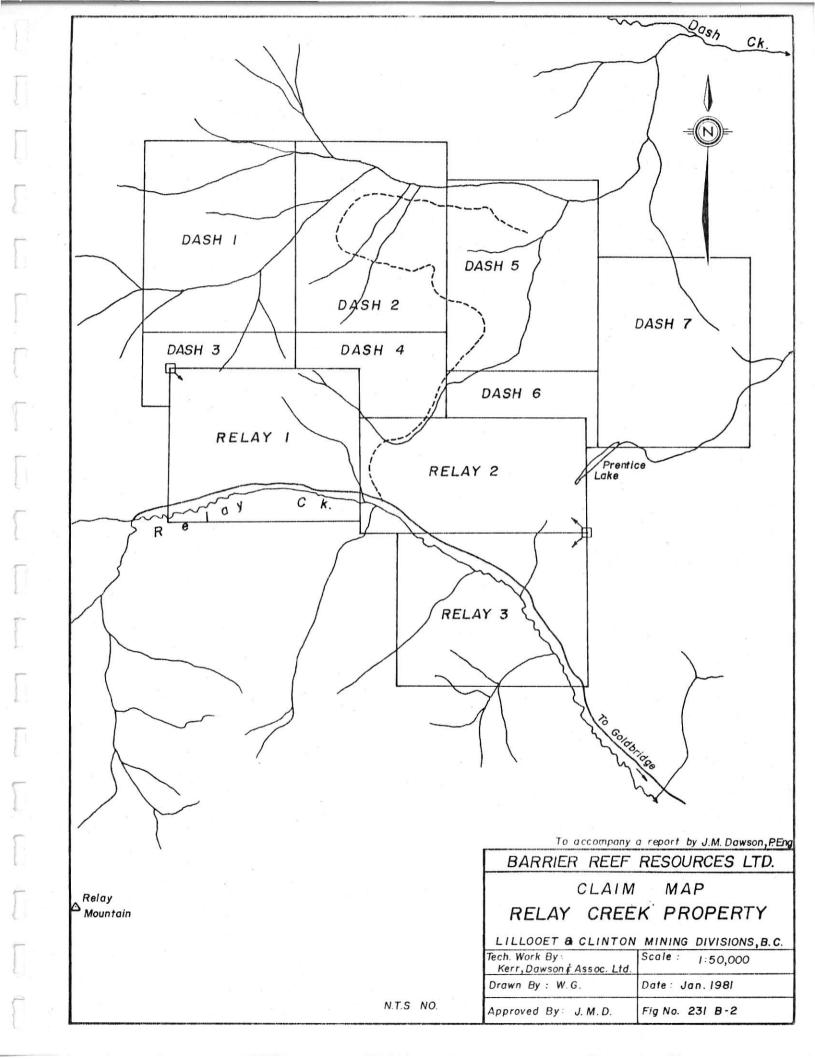
Elevations vary from +7,700 feet near the north edge of Relay #1 claim to about 5,500 feet a.s.l. in Relay Creek valley.

PREVIOUS WORK

The subject ground was first staked in 1970 by Sheba Syndicate (Home Oil Ltd.) to cover a porphyry type copper-molybdenum occurrence. From 1971 to 1973 geological and geochemical surveys and a limited magnetometer survey were carried out. In 1974 four shallow diamond drill holes aggregating about 1,500 feet were drilled.

The property was restaked by Clear Mines Ltd.

in 1979 and this company did extensive work including
geological mapping, geochemical soil sampling and
magnetometer and induced polarization surveys. This work
was not recorded and the claims lapsed in the spring of
1980.



CURRENT PROGRAMME

The work carried out in 1980 consisted of reconnaissance to detail soil and stream silt sampling, prospecting and geological mapping.

A road was constructed from Relay Creek to the Dash Creek property and passes through the west end of Relay #2 claim.

GEOLOGY

The property is underlain by late Mesozoic clastic sediments intruded by a swarm of feldspar porphyry sills. Most rocks are relatively unaltered except for hornfelsed screens adjacent and between intrusive bodies, and local areas of intense pyritization.

The oldest rocks exposed are correlated with the Taylor Creek group of Lower Cretaceous age. This unit consists typically of black to green gray shale siltstone, graywacke and poorly sorted, volcanic conglomerate and breccia. Most fragments found in the coarser units are of dark green andesite.

Within the zone of felspar porphyry sills,

Taylor Creek rocks are thermally altered to some degree.

This alteration can vary from minor silicification to

areas where the rocks are converted to a dense, hard

very pyritic hornfels.

The northeastern third of the claim block is underlain by rocks of the sedimentary sequence of Kingsvale

Group of upper Cretaceous age. It appears to be separated from the Taylor Creek rocks by a prominent northwest trending fault; however, further to the north on the Dash claims the Kingsvale rocks unconformably (?) overlie the Taylor Creek package.

The Kingsvale rocks consist of a distinctive series of light brown, polymictic, moderately well sorted pebble conglomerates with intercalated sandy beds and lenses.

These rocks strike northwesterly and dip steeply northeast and southwest.

A swarm of feldspar porphyry sills intrudes the Taylor Creek sediments and forms a northwesterly-trending zone about 1,500 meters wide parallel to the fault contact between Taylor Creek and Kingsvale rocks. Within this zone, the sills make up about 50% of the rock volume. The feldspar porphyry bodies vary from a few meters to more than 100 meters wide. They pinch and swell and in places are faulted off. No feldspar porphyry bodies were found in Kingsvale rocks on the Relay claims. However on the Dash claims, adjoining the Relay property on the north, a narrow northeasterly trending dike of this material was found.

The feldspar porphyry sills are compositionally similar though they vary greatly in grain size. Typically these rocks consist of a dense, fine grained felsitic ground mass with about 20 to 30% potash feldspar phenocrysts up to 1 cm. in length. Smaller euhedral biotite books and/or hornblende needles are sometimes present.

Most of the feldspar porphyry bodies are buff white on weathered surface; however, a number weather to a prominent, rusty, orange brown colour. This latter condition is due to weathering of disseminated pyrite. Locally some of the sills or adjacent hornfelsed sediments may contain up to 10% disseminated pyrite.

Zones of faulting and fracturing are common within or near many of feldspar porphyry bodies. These zones sometimes contain narrow lenses of black graphitic material, probably pieces of wallwork stoped into sills as they intruded along zones of weakness. Irregular, vein-like bodies of calcite or ankerite are found in prominent shear zones or adjacent to feldspar porphyry sills. These bodies of carbonate may be as much as 5-6 meters wide and can be traced intermittently over long distances.

Along the north side of Relay Creek and the Relay Creek road, several outcrops of orange-brown carbonate-quartz rock with minor mariposite was seen.

Minor quartz stringers are found in several outcrops of feldspar porphyry occurring along Relay Creek. These stringers are rarely more than 2 cm. wide and occasionally contain minor pyrite.

MINERALIZATION

Disseminated pyrite is common within some feldspar porphyry sills and adjacent hornfelsed wall rock. This is particularly common in places along the south side of Relay Creek. Locally there may be as much as 10% disseminated pyrite and some talus slopes are now cemented by a ferricrete gossan.

Minor chalcopyrite and sphalerite were noted in intensely hornfelsed sediments in the southwest corner of Relay #2 claim.

Minor chalcopyrite and molybdenite was noted as fracture coatings in pyritic, feldspar porphyry in 2 locations. (See Figure 231B-3). These occurrences correspond with the known areas of weak, porphyry type Cu-Mo mineralization known from previous work.

The source of the high gold-arsenic values in soils was not determined definitively; however, it is suspected that some of these values are contained in quartz stringers within and adjacant to some feldspar porphyry sills. One selected sample of unmineralized vein material taken from a feldspar porphyry outcrop along the south margin of Relay Creek reported 2,740 PPB gold and > 1,000 PPM arsenic.

GEOCHEMISTRY

Reconnaissance stream sediment samples taken during the 1979 regional programme gave mildly anomalous values from some creeks on the Relay claims.

To further define these anomalies, a programme of detailed stream sediment sampling and contour talus fines sampling was conducted during August, 1980. A total of 112 stream sediment and 472 soil or talus fine samples were taken. Stream sediment samples were taken at 100 to 200 meter intervals along all tributaries draining into Relay Creek. Locations were marked by yellow flagging bearing the appropriate sample number.

Soil or talus fines samples were taken at 100 meter intervals along contour traverses situated at every 500 foot elevation level (See Figure 231B-4). Sample stations were marked with flagging and the appropriate sample number.

After collection, samples were stored and shipped in waterproof, kraft envelopes.

In this alpine terrain, there are no well-defined soil horizons although material gathered from grassy meadows at the lower elevations looked to be typical red-brown "B"

horizon material. In the higher elevations, most of the "soil" is strictly talus fines material.

All soil and silt samples were analysed for copper, molybdenum, gold, and arsenic in the Vancouver laboratories of Bondar-Clegg and Company. For gold, extraction was attained using fire assay and hot aqua regia with analysis by atomic absorption spectrophotometry. For arsenic, extraction was accomplished by perchloric-nitric acid with analysis by colorimetry. For copper and molybdenum, extraction was by hot lefort aqua regia with analysis by atomic absorption.

Statistical analyses for all four metals were performed similarly by calculating the mean and standard deviation and classifying the data into the following categories:

Background 0 - Mean
Possibly Anomalous Mean - (Mean + 1 Std. Dev.)
Probably Anomalous (Mean + 1 Std. Dev.) - (Mean + 2 Std. Dev.)
Definitely Anomalous > (Mean + 2 Std. Dev.)

The values were plottted on 1:10,000 scale base maps of the property and definitely anomalous, probably anomalous and possibly anomalous areas were outlined.

Two discrete areas of coincident, anomalous, copper, molybdenum values were outlined in the eastern half of Relay #1 and near the southeast corner of Relay #2. These correspond with known areas of weak porphyry type copper-molybdenum mineralization.

Results for gold and arsenic show a strong coincidence with areas of anomalous values clustered in 2 irregular, elongate areas which seem to parallel some of the northwest-trending sills and associated shear zones. (See Figures 231B-4 and 231B-5). The areas of Cu-Mo and Au-As anomalous values seem to be unrelated except for some slightly higher than background gold-arsenic values in the area of highest copper-molybdenum results.

EXPLORATION POTENTIAL

The Relay claims were acquired because the presence of known, albeit weak copper-molybdenum, porphyry type mineralization and anomalous gold values in some stream sediments suggested an environment similar to the Poison Mountain property.

From the results to date, copper-molybdenum and gold mineralization seem to be entirely separate and the occurrence of gold mineralization is not understood. It seems to be related to some of the feldspar porphyry sills but not necessarily those which are most altered or contain the heaviest concentrations of pyrite.

One highly anomalous gold analysis was obtained from a selected sample of a quartz veinlet within a feldspar porphyry sill. It is possible, therefore, that significant gold mineralization related to quartz stockworks within or adjacent to some feldspar porphyry sills could be located on the subject property.

Further exploration to fully test this potential is certainly warranted.

RECOMMENDATIONS

- (1). Detailed prospecting and geological mapping should be carried out in the area of known, gold-arsenic geochemical anomalies.
- (2). The presently known gold anomalies should be delineated in detail by further geochemical soil and talus fines sampling.
- (3). Limited bulldozer trenching of anomalous zones should be carried out.
- (4). A budget of \$42,000.00 as outlined in the December

 1, 1980, Memo of A.F. Reeve to Taseko Project

 participants should be allocated for this work.

RESPECTFULLY SUBMITTED BY:

KERR, DAWSON AND ASSOCIATES LTD.,

James M. Dawson, P. Eng., GEOLOGIST

KAMLOOPS, B. G. January 15, 1981. DAWSON
BRITISH

J. M. DAW

APPENDIX A

PERSONNEL

PERSONNEL

| J. M. Dawson, P. Eng. | Geologist - | June 26 July 25, 26, July 27 August 1-10 inclusive November 12, 13,14 January 3,13 | - 3 -10 - 3 | days days | - 19 days |
|-----------------------|-----------------|---|-------------------|--------------|-----------|
| M. Dawson | Field Superviso | r June 26 July 26 - August 10 | | day days | - 16 days |
| R. Henderson | Fieldman | July 26 - August 10 | - 15 | days | - 15 days |
| B. Cross | Fieldman | August 5 - August 10 | - 6 | days | - 6 days |

APPENDIX B

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES

| (1). IABOUR: | |
|---|-----------------------|
| J. M. Dawson, P. Eng., 19 days @ \$200.00/day \$ 3,800.0 |)0 |
| M. Dawson, 16 days @ \$115.00/day | 00 |
| R. Henderson, 15 days @ \$115.00/day | 00 |
| B. Cross, 6 days @ \$115.00/day | <u>00</u> \$ 8,055.00 |
| (2). EXPENSES AND DISBURSEMENTS: | |
| (a). 56 man days @ \$25.00/man/day \$ 1,400.0 | 00 |
| (b). Helicopter Charter: 2.5 hrs. @ \$380.00/hr | 00 |
| (c). Geochemical Analyses: 4,763.3 | 30 |
| (d). Drafting: | 10 |
| (e). Truck Rental: 16 days @ \$30.00/day \$480.00 970 mi. @ 30¢/mile 291.00 . 771.0 | 00 |
| (f). Road Construction: 3,172.0 | 69 |
| (g). Miscellaneous field equipment, maps, sample bags, flagging, etc | 40 |
| (h). Xerox, secretarial, telephone, freight, base maps, blue prints, etc: 347.6 | 12,019.44 |
| TOTAL COSTS | \$20,074.44 |

APPENDIX C

WRITER'S CERTIFICATE

JAMES M. DAWSON, P. ENG.

Geological Engineer

#1 - 219 VICTORIA STREET • KAMLOOPS, B.C. V2C 2A1 • TELEPHONE (604) 374-0544

CERTIFICATE

I, JAMES M. DAWSON, OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY THAT:

- (1). I am a geologist employed by Kerr, Dawson and Associates Ltd., of Suite #1-219 Victoria Street, Kamloops, B. C.
- (2). I am a graduate of the Memorial University of Newfoundland B. Sc. (1960), M. Sc. (1963), a fellow of the Geological Association of Canada and a member of the Association of Professional Engineers of British Columbia. I have practised my profession for 17 years.
- (3). I am the author of this report which is based on an exploration programme carried out on the Relay claims under my supervision.



January 13, 1981, KAMLOOPS, B. C.

KERR, DAWSON AND ASSOCIATES LTD.,

James M. Dawson, M. Sc., P. Eng.,

GEOLOGIST

