DACIAN RESOURCE CONSULTANTS LTD.
4604 W. 12th AVENUE, VANCOUVER 8, B.C. TELEPHONE (604) 224-6667

104M/1E

4996

REPORT ON THE RESULTS OF THE 1973 EXPLORATION PROGRAMME on the LOON GROUP (Atlin Mining Division, B.C.)

BEAR #1

4996

for

RIO PLATA SILVER MINES LTD. (N.P.L.)

104M/1E

by

ARPAD FUSTOS, P.Eng.
Geologist

March 1974. Vancouver, B.C.

4996

104M/1E

ITS LTD.
(604) 224-6667

on the

LOON GROUP

(Atlin Mining Division, B.C.)

BEAR #1

4996

for

RIO PLATA SILVER MINES LTD. (N.P.L.)

104M/1E

by

ARPAD FUSTOS, P.Eng.

Geologist

March 1974.

Vancouver, B.C.

4996

TABLE OF CONTENTS

	Page
INTRODUCTION	1
DIAMOND DRILLING	2
GEOLOGICAL LOG	5
PETROLOGICAL REPORT	20
MINERALIZATION & ASSAY RESULTS	39
CONCLUSIONS & RECOMMENDATIONS	47
CERTIFICATE	51

MAPS

#1 LOCATION MAP

#2 INDEX MAP

#3 CORE FROM DDH 2-73.

#4 DIAMOND DRILL HOLE 2-73.

#5 PLAN OF DIAMOND DRILLING

INTRODUCTION

Rio Plata Silver Mines Ltd. (N.P.L.) carried out a multi-faceted exploration program on the Loon Group during the year 1973. In accordance with the proposed plan, discussed in the writer's previous report dated May 22, 1973, the following steps were taken:

1. A topographic map of 1 inch to 1000 feet scale was completed by a mapping service, utilizing the existing aerial photographs of the area.

2. An aeromagnetic survey was carried out over the property and its vicinity by Nielsen Geophysics Ltd. of Vancouver, B.C.

3. Diamond drill holes were drilled both in the intrusive area and in the surrounding metasediments to confirm the mineralized nature of both of these rock types.

This interim report is written to summarize the results of the 1973 exploration campaign, fit them into the context of the plan which was outlined in the May '73 report, and to suggest the steps necessary for the satisfactory completion of the overall exploration program.

For information pertinent to the Loon Group's location, description, physiography, general geology and history, the reader is referred to the above-mentioned report:

"Evaluation and recommendation
of an exploration program
on the
Loon Group
(Atlin Mining Division, B.C.)
for
Rio Plata Silver Mines Ltd. (N.P.L.)
by: Arpad Fustos, P.Eng., Dacian Resource Consultants Ltd., May 22, 1973.

DIAMOND DRILLING

During the 1973 field season two diamond drilling projects were completed on the Loon Group of mineral claims.

The first drilling campaign employed two machines and concentrated on the metasedimentary formations.

A long, southerly-trending, shallow angle hole, drilled with a BBS 1 Wireline machine, explored the metasediments below the level of the Hoboe Creek Valley, in the area of the previous drilling. The hole, #1-73, had shown extensive carbonate formations, skarn and magnetite mineralization. All of these features are necessary for the existence of the contact-metasomatic copper mineralization which forms the original discovery on the property.

At the inclined depth of 871 feet, the hole intersected the metasedimentary - intrusive interface. The core below this mark had shown respectable mineralization, hosted in a rock which could be called monzonite. The mineralization was definitely porphyritic. The core was submitted to

Dr. J. A. Chamberlain, P.Eng., Consulting Mineralogist. The petrological and mineralogical results of the examination are discussed in Dr. Chamberlain's report dated August 17, 1973.

A small "X-Ray" type machine was utilized during the same drilling program to reconfirm the existence of the contact-metasomatic high-grade copper mineralization in the Laverdiere adit area in a vertical dimension. (The mineralization was outlined in the horizontal dimension by the 1971 drilling program).

The results of the spring drilling campaign were so encouraging that the company initiated a second drilling program in the fall. This second program produced #2-73 drill hole. The purpose of this hole was to confirm the persistence of porphyry copper mineralization in the Mount Caplice intrusive at depth.

From the economic-geological point of view, the hole was an unqualified success! It had shown that the intrusive rocks over the entire length of the hole were mineralized to an extent which surpasses by several orders of magnitude the copper content of felsic igneous rocks, expressed by their world-wide average. Signs of hydrothermal alteration over the entire length of the hole were intensive and associated structural features - fracturing, shearing and incipient brecciation,were omnipresent. In other words, all physio-chemical features which are prerequisites of a porphyry type mineralization of an intrusive complex, together with the highly anomalous copper content, are present in a drill core of over one thousand feet in length.

No less significant is that the hole was drilled outside the previously drilled area and investigated the rocks in a vertical plane, while the previous holes in the intrusive were essentially in the horizontal plane and the location of the hole was picked randomly, the only prerequisite being that it collars in the Mount Caplice intrusive.

There follows on pages 5 to 19 inclusive, the geological log of hole #2-73.

Fourteen selected specimens of the core were submitted to Dr. H. T. Carswell, Consulting Petrologist. His report on these specimens follows on pages 20 to 38 inclusive of this report.

GEOLOGICAL LOG

0 - 3' Casing to bedrock.

Box #1; 3 - 28.5'

Footage

3 - 22 Medium grained quartz monzonite. Potassium feldspar is subhedral, zoned. Quartz in rounded grains. Texture: much healed fracturing (kataclastic?), minute irregular fractures filled with chlorite. Less than 1% of light clay minerals in lamellae, arranged in horse tail patterns. From 6'to 7.5' core broken to pebbles. At 10.5' 2mm wide quartz vein @ 45° to core; 16'-17' clean fracturing generally parallel to core. The second half of this section has many finger-size, aphanitic silica gobs which are nearly fresh coloured. Intermittent minute chalcopyrite specs in texture over entire length.

22 - 27.5 Dominated by light brown to flesh coloured, aphanitic, silicified zones; within them many healed, irregular micro-fractures. Between 23' and 24.5' greenish, bleached and fractured section with kaolin-like coating on the fracture surfaces. In the silicified parts no visible Cu; in the greenish part minute magnetite was observed in the texture.

27.5-28.5 Chloritized, broken up zone with kaolinitic coating on fracture surfaces, minute cris-crossing calcite-filled fractures.

Box #2; 28.5 - 53'

28.5-29.5 Porphyritic monzonite, much fractured, the fractures are filled with chloritic seams, in some fractures chalcopyrite stringers, also some fine chalcopyrite specs in the texture. Minor clay-mineral laths.

29.5-31 Silicified zone with very thin, discontinuous seams of chlorite generally @ 45° to core. The core-texture is aphanitic, light brown to flesh coloured. At 30' there is very minor fine pyrite.

31 - 33.5 Porphyry. Zoned potassium-feldspar in a chloritic groundmass. The rock is green, has frequent fine sericite, also dense, healed micro-

fracturing, mostly irregular. Another set chlorite-filled fractures regularly @ 45° to core. These later fractures are up to 3 mm wide. Some extremely fine sulphide specs were observed.

33.5-51 Very fine grained to aphanitic textured core with dark green to black colour; occasionally magnetic and about 1% calcite porphyroblasts up to 5mm in diameter but most of them less than 1 mm. Infrequent calcite-filled microfractures about 65° to core. No visible sulphides.

51 - 53 Much fractured (kataclastic) porphyry rock which is dark green due to the abundant chlorite. Good fine chalcopyrite-filled fractures.

Box #3; 53 - 76'

53 - 62 Potassium-feldspar porphyry, fine to medium grained, fleshy colours of the potassium-feldspar dominate. Some of the potassium-feldspars seem to be hydrothermally induced or products of recrystallization. Minor chalcopyrite both in the texture and in chlorite-filled fractures @ 70-80° to core. Second half of this section more intensively chloritized, the chlorite seams generally @ 45° to core. Minor chalcopyrite.

62 - 65 Zone of possible phyllic alteration. The feldspars are light green and dominate the composition. No sulphides. The entire core has a faded light-green colour. At 63' sinuous 1 cm wide seam with calcite and chlorite filling generally 25° to core.

65 - 67 Dominated by mostly introduced potassium-feldspar, pink in colour. Some fine chalcopyrite. At 66' bent seam, nearly parallel to the core, filled with 3 to 5 mm thick calcite.

67 - 76 Chloritized zone dominated by dark-green colour; at 73.3-73.6' good very thin chalcopyrite-filled fractures at various angles to core. The entire section seems to be kataclased, healed then again refractured. Some of these latest fractures are also healed with chlorite.

Box #4; 76 - 100'

76 - 81.6 Kataclastic zone with much secondary potassium feldspar. The fractures are filled with chlorite. At 80', three inch wide, fine-grained dark green chloritic seam with fine chalcopyrite; also fine intratextural chalcopyrite over the entire length. A few irregular, very thin, calcite-filled fractures.

81.6 - 95 Similar to previous section, much potassium feldspar and continuous minor chalcopyrite in the texture. At 93.5', two inch wide reddish, aplitic vein which is aphanitic. Several thin calcite-filled fractures nearly parallel to core. Many irregular, discontinuous chlorite-filled fractures with fine chalcopyrite.

95 - 100 Section as above. At 91' broken-up, pink aplite vein. Fine, intratextural chalco over the entire length of this section. In the aplite vein irregular, thin, chloritic seams, some of them with good chalcopyrite.

Box #5; 100 - 123'

100 - 107 Potassium-feldspar porphyry, kataclastic, fine, chlorite-and occasionally calcite-filled irregular fractures. Minor fine intratextural chalcopyrite. At 102' fine grained, one inch size chloritic gob, in its vicinity the microfractures show chalcopyrite filling.

107 - 112 Section similar to above. Somewhat less potassium-feldspar and increased amount of chlorite. A few irregular calcite-filled fractures. Minor fine chalcopyrite.

112 - 117 Increasingly porphyritic and silicified, along some fractures epidote. Irregular, wavy openings, up to 1 cm wide and filled with calcite. Some fine, intratextural and also along-fracture chalcopyrite. The sulphide is associated with chlorite. At 113' good chalcopyrite along kataclasis-caused microfractures.

117 - 123 Light, dominantly flesh-coloured rock. Potassium-feldspar forms 50%

or more of the core, fine feathery particles in the texture, probably light-coloured clay produced by hydrothermal alteration.

Box #6; 123 - 147'

123 - 131 Silicified, almost totally leucocratic zone, very few chloritic specs chalcopyrite is associated with the latter. Calcite veinlets @ 126' and 127' at 30-35° to core. The vicinity of these veins is leached.

131 - 140 Much-fractured and healed quartz monzonite. Good chalcopyrite is associated with chloritic fracture fillings. At 134' a three inch wide light-coloured silicified band. Thin, calcite-filled fractures @ 30° to core in this silicified area.

140 - 144 Light-coloured section, entire length is dominated by probably induced potassium-feldspar. Some of the feldspar shows faint zoning. Irregular, calcite-filled thin fractures at several places.

144 - 147 Similar to above but the amount of chlorite increases in the second half of the section. Some fine chalcopyrite. The last half foot has about 5% hydrothermal light-coloured clays in small, bent lath-like forms.

Box #7; 147 - 170'

147 - 170 Mainly light, leucocratic, silicified core. Local accumulations of biotite in incipient shear zones with very good chalcopyrite along the shear-fractures (149'-151.5'). Some thin fractures at flat angles to the core have calcite filling in them. From 162' on the kataclastic-type fracturing increases; all irregular fracturing has chlorite-biotite filling with some respectable chalcopyrite in them. Over the entire length the chalcopyrite seems to be co-genetic with the chlorite-filled microfractures but there are some fine specs of chalcopyrite in the texture also.

Box #8; 170 - 194'

170 - 174 Potassium-feldspar-rich kataclastic rock with the feldspar possibly introduced later. All microfractures are filled with chlorite seams and there is chalcopyrite in them. A few sinuous epidote veinlets, up to 5 mm in width, with chalcopyrite grains in them; nearly parallel to the core. The potassium-feldspar seems to be zoned.

174 - 179.5 Fine grained rock, entirely clouded to a dark green colour due to the great amount of fine chlorite. Very fine grained chalcopyrite in the latter. Some short horse-tail-like fractures filled with quartz.

179.5 - 185 Kataclastic zone, the disseminated chlorite gives a dark green colour tone to the rock. On some chlorite-coated fracture surfaces signs of shearing and good chalcopyrite.

185 - 190 Extremely fractured core but all fractures are healed with chlorite. Within the chlorite very thin intermittent seams of epidote. Some chalcopyrite.

190 - 194 As above with round, medium-size quartz grains (phenocrysts) much in evidence. The chlorite shows also extremely fine-grained quartz everywhere.

Box #9; 194 - 216.5'

194 - 216.5 The entire section is densely fractured to kataclastic quartz monzonite porphyry. The dominating potassium feldspar a fleshy colour, darkened by the ever present chlorite, both finely disseminated and in the fractures. Chalcopyrite, if present, always in the chlorite. Some irregular, light-green epidote in veinlets. Between 214' and 214'5' light, fine grained aplitic area with a few thin fractures. The chlorite invaded these fractures also.

Box #10; 216.5 - 241'

216.5 - 218 Pink quartz potassium-feldspar porphyry (quartz monzonite?). Many irregular thin fractures healed by chlorite and occasionally epidote.

218 - 227 Transition from potassium-feldspar dominated rock to a light-coloured plagioclase feldspar dominated one. This latter one is quartz-plagioclase-feldspar rock with a medium grained texture; solid; biotite takes the place of chlorite. Chalcopyrite is present only in the texture and very rarely even there. At 225.5' locally fractured area, richer in chlorite and potassium-feldspar. Here is also some chalcopyrite in the fracture fillings. The rest of the core has some fine hematite in the fractures.

227 - 232 Light coloured quartz-biotite granite, medium-grained texture; unfractured, healthy; very minor chalcopyrite and it is only present intra-texturally. The last half foot has plagioclase-feldspar phenocrysts in a dark green aphanitic groundmass. At 231.5' a possible porphyritic dyke at right-angle to the core (sill?). In it extremely fine chalcopyrite.

232 - 241 Quartz-biotite granite, medium-grained in texture and light in colour. Few irregular fractures with some epidote filling.

Box #11; 241 - 264.5'

241 - 246 Light, flesh-coloured rock, heavily enriched by potash-feldspar. The structure (or texture?) is kataclastic, the fracturing is healed by chlorite. Later fractures filled by light green epidote.

246 - 251 Quartz-biotite granite with some potassium-feldspar enrichment. Medium to medium-coarse grained in texture. Relatively unfractured. At 250' a potassium-feldspar enriched band with some epidote about 50° to core.

251 - 257 Quartz-biotite granite, somewhat more fractured than the previous sections. The fractures cross the core at irregular angles, all filled with chlorite and have some potassium-feldspar induced in their vicinity.

257 - 264.5 As above, but numerous aphanitic flesh-coloured veins (?) up to two inches in width, cris-crossing it. Some of these "veins" have epidote on their margins.

Box #12; 264.5 - 265.5'

264.5-265.5 Potassium-feldspar and epidote band with irregular borders.

265.5 - 271 Quartz-feldspar porphyry with moderate potassium-feldspar enrichment, medium to coarse grained in texture. At 268' and 270' fine grained, chloritic areas with some chalcopyrite.

271 - 275 Similar to above with numerous potassium-feldspar and epidote enriched areas. Some chalcopyrite.

275 - 280 As above. At least half of this section is potassium feldspar enriched.

280 - 288 Kataclased section. Many chlorite-filled irregular microfractures. The potassium-feldspar - plagioclase-feldspar ratio is about 50:50.

Box #13; 288 - 310'

288 - 297 Quartz-biotite granite, medium to medium-coarse grained in texture, with potassium-feldspar enrichment. At 289.5' a one-inch wide potassium-feldspar and epidote band at 50° to core. Several, about one centimeter wide aplitic veins at irregular angles and with hazy borderlines.

297 - 305 As the previous section, but there are numerous irregular, chlorite-filled fractures.

305 - 310 Quartz-biotite granite with coarse-grained texture. The dark minerals show a somewhat linear arrangement. A few signs of incipient shearing probably contemporary with the emplacement of the intrusive hostrock.

Box #14; 310 - 335.5

310 - 320.5 Quartz-biotite granite, medium-grained texture, the dark minerals are in a rudimentarily linear alignment. A few chloritic bands, possibly signs of shear. Some late pyrite in fine grains.

320.5 - 327 As above, but some potassium-feldspar enriched areas. At least two irregular aplitic bands with epidote. Signs of shear-fracturing about 20° to core.

327 - 335.5 Leached zone with frequent shearing at 20° to core. The plagioclase-feldspars are all bleached, the potash-feldspars are relatively healthier. Clay and lime-coating on many parts of the core. Shadows of sinuous partings, most of them muddy.

Box #15; 335.5 - 359'

335.5 - 347 Quartz-biotite granite with potassium-feldspar enrichment. The rock shows a "jumbled" texture. At 342.5' a half-foot wide chloritic band. Irregular thin fractures, filled with epidote or occasionally with quartz, cris-cross the core at various angles.

347 - 359 Numerous aplitic and potash enriched areas in rock similar to the previous section. Many epidote filled shear fractures are in the light coloured parts. At 353' a half-foot wide aphanitic fleshy aplite vein. The last half-foot of this section is a fine-grained chloritic zone.

Box #16; 359 - 383'

359 - 367 Quartz-biotite granite with occasional secondary potash-feldspar enrichment. The biotite at several instances shows a rudimentarily linear arrangement. A few thin, epidote filled fractures at 60° to core.

367 - 373 Similar to the previous section. Many areas are potash feldspar enriched or aplitic.

373 - 382 Potassium-feldspar and epidote enriched zone. The core is mostly broken up and recovered as pebbles. All pebbles are leached.

382 - 383 Kataclased area, some tight but unhealed hairline fractures. Core is dark due to fine chloritic staining.

Box #17; 383 - 406'

383 - 392 Quartz feldspar biotite porphyry, dark fleshy or green in colour. Much evidence of shearing but all healed now. Cris-crossing thin fractures offsetting each other an are filled with quartz and calcite. At 390' small aplite vein parallel to core and offset by later fracture; this in turn filled with calcite.

392 - 397 Fleshy, kataclased quartz monzonite. Fine pyrite and some chalcopyrite. Fractures are subparallel to core, are anastomosing and are filled with epidote.

397 - 402 Rock similar to previous section but the potassium feldspar content is increased; the fracturing is relatively dense and filled with epidote. Some fine, visible pyrite.

402 - 406 Potassium feldspar content decreases, the rock consequently shows a light grey colour. At 405' sheared.

Box #18; 406 - 428'

406 - 412 Light grey coloured core, most of the feldspar is plagioclase. Greenish, probably chloritic stains. Some areas have increased potassium feldspar content and show incipient shearing.

412 - 417 Potash feldspar - plagioclase feldspar ratio is about 50:50. The rock has a medium grained texture and the biotite in it is in a rudimentary alignment. At 415.5' there is an aplitic vein which for two inches runs subparallel to the core. Small haematite stains are seen on some fracture surfaces.

417 - 423 Similar to previous section but many clean fractures at 10° to 30° to core. Some of the fracture surfaces are slickensided. Occasional potash feldspar enriched spots and sinuous hairline epidote stringers.

423 - 428 Darker and more healthy core; fractures are rare. If present, they cross the core at right angles and are filled with calcite. At 426' five millimeter wide chlorite-filled shear is at 10° to core.

Box #19; 428 - 453'

428 - 453 Potassium feldspar porphyry. Texture is medium grained, much disturbed and at several places kataclastic. Sheared and mylonitized zones, which are light green, soft and chloritic and up to half-foot wide, cross the core at frequent intervals around 15° to core. Occasional fine chalcopyrite, always associated with chlorite, both on fractures and in the

texture of the rock.

Box #20; 453 - 477'

453 - 477 The entire section is heavily altered ("cooked"). The fragment surfaces are dull and rough surfaced due to the leaching; much carbonate and chlorite, at many places sheared and crumbly. Most of the shears are at flat angles or subparallel to the core. Occasional fine chalcopyrite and thin haematite coatings.

Box #21; 477 - 500.5'

477 - 483 Leached ("cooked") zone, similar to the previous one.

483 - 485 Feldspar-biotite porphyry, light coloured.

485 - 493 As above but due to the dark green aphanitic matrix the colour is darker. The phenocrysts are up to 3 mm in diameter, near white in colour. Good chalcopyrite.

493 - 500.5 Originally light coloured, now kataclased and chloritized feldspar biotite rock. Good chalcopyrite on the fractures. Toward the end of the section signs of leaching.

Box #22; 500.5 - 526'

500.5-507.5 Feldspar porphyry, dark green and flesh coloured. Much fractured and sheared. Very good fine chalcopyrite.

507.5-512.5 As above, good chalcopyrite. Many chlorite filled and a few carbonate filled irregular fractures.

512.5-517 Similar to above. Much induced potassium feldspar. Signs of shearing are diminishing.

517 - 522 Dark green, nearly mylonitized rock, extremely fine chalcopyrite in significant amounts. A few thin, carbonate-filled fractures are criscrossing the core.

522 - 526 Leached section. Dull, dark green core, haematitic stains; at many places shearing.

Box #23; 526 - 548.5'

526 - 531 Chloritized and sheared dull, dark green core, chunky, introduced potassium feldspar with very fine chalcopyrite in its vicinity in several areas.

531 - 541 Generally a feldspar-biotite rock with green chloritic alteration in several places. Some fine chalcopyrite.

541 - 548.5 Similar to above, very tight, healthy. There are a few hairline fractures, subparallel to core, filled with secondary potassium feldspar.

Box #24; 548.5 - 573'

548.5 - 561 Kataclased, occasionally potassium feldspar-rich, medium grained feldspar-biotite rock. Irregular fracturing and some shearing. Very fine in texture, chalcopyrite specs.

At 561' INTRUSIVE - METASEDIMENT CONTACT

561 - 568 Chloritized carbonate rock, possibly recrystallized limestone. Its aphanitic areas are impregnated with fine grained magnetite.

568 - 573 Fine grained magnetite with haematite staining. Calcite-filled irregular veinlets nearly parallel to core. No visible chalcopyrite.

Box #25; 573 - 596.5'

573 - 575 Fine grained solid magnetite, a few carbonate veinlets.

575 - 590 Coarse grained solid magnetite with chalcopyrite.

590 - 596.5 Alternating magnetite and skarn over entire section.

Box #26; 596.5 - 621'

596.5 - 603 Badly fractured skarn with secondary carbonate.

603 - 608.5 Mainly fine grained magnetite with skarn interspliced in it.

608.5 - 611 Fine, aphanitic, dark green skarn and chlorite. Irregular fractures filled with carbonate.

611 - 621 Medium to coarse grained magnetite with fine, interstitial chalcopyrite. Skarny and carbonate stringers.

Box #27; 621 - 645.5'

621 - 645.5 Medium to coarse grained, nearly solid magnetite with fine, interstitial chalcopyrite. Patches of skarn. Fine, carbonate-filled stringers at various angles to core.

Box #28; 645.5 - 669'

645.5 - 658 Skarn, contaminated with fine to medium grained magnetite.

658 - 669 Skarn - chlorite rock with chalcopyrite in several places.

Box #29; 669 - 692.5'

669 - 680 Crystalline limestone, dark grey-green in colour, aphanitic in texture. Considerable amounts of magnetite and good chalcopyrite at several sections. Occasional haematitic stains.

680 - 681 Leached, fragmented zone. Only fragments (pebbles) were recovered. Most of these fragments have a limey coating.

681 - 692.5 Medium to light grey, aphanitic limestone. A few secondary calcite veins. The last foot of this section has open fractures with lime on their surfaces.

Box #30; 692.5 - 718'

692.5 - 699 Crystalline limestone grading to marble. Partings at 45° to core, aphanitic texture, medium green in colour; calcite veins parallel to the partings.

At 699' METASEDIMENT - INTRUSIVE CONTACT.

699 - 718 Quartz biotite granite. Medium grained texture with considerable amount of at least partly secondary potassium feldspar. Frequent thin calcite veins at various angles to the core. At 714' and 718' signs of leaching.

Box #31; 718 - 741'

718 - 741 Potassium enriched quartz feldspar biotite granite. A tight rock, only a few calcite filled veinlets and also a few epidote veinlets intersect it at 20° to 40° to core.

Box #32; 741 - 767'

741 - 767 Same rock as in the previous section but fractured and fragmented in many places. A light green coloured and aphanitic textured section, about one foot wide at 760'. A similar one but one one inch wide, at 765'.

Box #33; 767 - 789.5'

767 - 775 Potassium-enriched feldspar porphyry. Vague signs of slight leaching.

775 - 776 Fine grained, dark green section with hairline potash feldspar veinlets.

776 - 785 Fractured and altered porphyry; numerous epidote veinlets.

785 - 786.5 Fine grained, dark green band.

786.5-789.5 Chloritized feldspar porphyry.

Box #34; 789.5 - 812'

789.5-796.5 Light coloured feldspar porphyry. Some secondary potash enrichment. Tight; haematite stains.

796.5 - 803 This section is abundantly enriched with secondary potassium feldspar. There are signs of incipient shearing. Fine chalcopyrite.

803 - 812 The amount of potassium feldspar is reduced; incipient leaching at 806'.

Box #35; 812 - 836'

812 - 818 Light grey, medium grained feldspar-biotite rock (monzonite?). Areas of potash enrichment.

818 - 824 The potash enrichment is quite pronounced. At 824' a three inch wide porphyry band with up to 5 mm size white feldspar phenocrysts in a dark, aphanitic matrix.

824 - 836 Potash feldspar amount is somewhat reduced. At 829' a gob of quartz with haematite stains. At 832.5' feldspars are concentrated.

Box #36; 836 - 860'

836 - 860 The entire section shows a contorted structure. In many places the rock is sheared and potassium feldspar enriched. The core is occasionally crumbling. Gobs of quartz, irregular calcite veinlets and toward the end of the section signs of leaching. There are several 2 to 3 inch wide porphyry bands.

Box #37; 860 - 883'

860 - 883 Light grey coloured, medium to coarse grained feldspar - quartz - biotite rock which is tight and relatively poor in potassium feldspar except for a few short sections. Leaching signs and primitive shearing; at 882.5' possible free gold (?).

Box #38; 883 - 907'

883 - 907 Similar or same as previous section but between 885' and 889' quite well enriched by introduced potassium feldspar. Around 903' fragmented core, possibly caved during drilling.

Box #39; 907 - 931'

907 - 931 Light grey coloured, medium grained feldspar biotite quartz rock (quartz monzonite?). Unfractured. Fine specs of magnetite in the texture. Potassium feldspars are only primary (rockforming). Texture somewhat porphyritic in several bands, up to three inches in width, which cut the rock up to 80° to core. The last five feet show some potassium feldspar enrichment.

Box #40; 931 - 955'

931 - 955 Section similar to the previous one. At 949' a half-foot wide porphyry dyke (?). Some localized areas are potassium feldspar enriched and leached. Incipient shearing at about 45° to core observed over almost the entire length of the core. The second half of this section shows uniform slight chloritization. There are some thin porphyry bands and in their vicinity chalcopyrite.

Box #41; 955 - 977'

955 - 977 Light grey quartz monzonite, tight textured and structured. Minor areas showing potash-feldspar enrichment. Some clean, infrequent jointing at 45° to core.

Box #42; 977 - 1001.8'

977 - 989 Quartz monzonite with potassium feldspar enrichment and some epidote the last foot.

At 989' IGNEOUS - METASEDIMENTARY CONTACT.

989 -1001.8 Skarn and magnetite intermixed with medium green aphanitic cryptocrystalline limestone. Many calcite-filled fractures.

Box #43; 1001.8 - 1025'

1001.8-1025 Crystalline limestone skarnified. Local accumulations of fine grained magnetite. Some haematite or jasper (?). The last four foot section is a very light green coloured rock, possibly skarn. (Petrologic investigations suggest that this rock is an altered lava (?)).

Box #44 & #45; 1025 - 1052'

1025-1052 Impure fractured light green rock (1st?). Definitely skarny between 1036' and 1046'. Below 1046' several core fragments show induced potassium feldspar. There is a possibility of these fragments not being in situ, but products of caving from above.

1052' END OF HOLE.

PETROGRAPHY, ORE MICROSCOPY

H. T. CARSWELL Ph.D.

136 - 3263 BLENHEIM STREET,
VANCOUVER 8, B.C.
Telephone (604) 733-8217

Feb. 18, 1974

Mr. Sustos
4604 W12 th Ave
Vancouver, B.C.

Dear Mr, Sustos:

Enclosed please find two copies of my report on your rocks from Atlin. I retain the specimens and Chamberlains reports.

Having had some success with ratios of alteration minerals related to ore before, I have estimated carbonate/clay for monzonitic specimens for correlation with ore grade, although the figures prove that the two alterations are almost mutually exclusive. In my spare time I will try to work out some other mineral ratios for you.

Best regards,

Yours sincerely,

H.T. Carswell

PETROGRAPHY, ORE MICROSCOPY

H. T. CARSWELL Ph.D.

136 - 3263 BLENHEIM STREET,
VANCOUVER 8, B.C.
Telephone (604) 733-8217

PETROGRAPHY OF FOURTEEN ROCKS FROM ATLIN

Prepared for Mr. Sustos

February 1974

CONTENTS

	Page
Introduction	1
Summary	1
Conclusions	2
Petrography	3

INTRODUCTION

1.

Fourteen rocks from near Atlin were examined during the winter of 1973-74. The specimens, mainly of igneous rocks, were stained for K-feldspar in slab and section. The result of this work are incorporated herein.

Grain size designations are as follows:

Coarse-grained	- cg.	more than 5 mm
Medium-grained	- mg.	5 - 1 mm
Fine-grained	- fg.	1 - 0.05 mm
Very fine-grained	- vfg.	less than 0.05 mm

In an attempt to tie some numerical characteristics of the plutonic rock to distance from mineralization, ratios of carbonate to clay (?) in large plagioclase crystals were tried. These were simple to calculate by counting the alteration products on a 0.01 mm grid. The results are shown in the summary.

SUMMARY

Specimen no.	Carb./clay (?)	Name
229	0	Quartz Monzonite
231.5	0	Hornblende-plagioclase porphyry
361.3	10/90	Altered quartz Monzonite
486	unaltered	Hornblende-feldspar Porphyry
507.5	N/A	Crushed Syenite
600.5		Monzonite
803	3/97	Quartz Monzonite
969	0	" "
1020	0	Altered Rock
1025	0	Lava (?)
2-73-64	5/95	Altered Quartz Diorite
2-73-115	12/88	Quartz Monzonite
19831-151	10/90	Crushed Quartz Diorite
19839-187.5	15/85	Quartz Monzonite
W-73-372	10/90	Arkose

CONCLUSIONS

2.

1. The argillic alteration common in these rocks is found at great depth, and therefore not the result of weathering. It is probably due to hydrothermal alteration.

2. Some K-feldspar has replaced the matrix of hornblende - feldspar porphyry (486) but most orthoclase looks primary in the rocks of the suite.

3. Some quartz has been introduced into the rocks.

4. One specimen (1020) consists of a red clay (?) as well as introduced chlorite.

5. The fracturing and crushing are generally post-ore, but a few fractures control metallic minerals (507.5).

6. "Crushing" is a misleading term, the texture being the result of extensional forces.

7. The presence of small amygdules (?) in the altered matrix of specimen (1025) indicates that it may be a lava.

PETROGRAPHY 3.

229 - Quartz Monzonite

35% Plagioclase altered to vfg., rare epidote and clay(?) albitized (Ano) has a slightly brown tint.

0.1 Sphene - 0.02 mm in diameter; subhedral; extreme biref. high pos. relief.

1 Epidote - vfg. to fg.; in plagioclase or chlorite; anomalous, low interference.

30 Orthoclase - mg. interstitial; stained yellow; low neg. relief.

15% Quartz - mg. to fg.; interstitial; sutured where clustered and fg.; clear.

15 Hornblende - high neg. 2V; weak green pleochroism; mod. pos. relief; euhedral; less than 3 mm long; perp to Y, Z/c-17 deg.

0.5 Opaques - vfg. anhedral.

1 Chlorite - Fills mg. rectangular outlines; cleavages contain abundant metallics; probably pseudomorphic after biotite; less than 3 mm long.

Also minor, fg. clay (?)

The texture is granitic, mg. and not obviously directed with euhedral to subhedral, altered plagioclase; euhedral pseudomorphs after biotite; and euhedral hornblende crystals set in orthoclase and quartz. Most quartz is clustered, fg., and sutured, but some are single crystals.

Opaques are associated with sphene, hornblende; some opaques are contained in cleavaves in chlorite. Sphene lenses also occur in the same fashion in chloritized biotite. Tiny quartz-carbonate-epidote veinlets merge where they cut mg. quartz, then continue beyond.

Plagioclase is strongly altered to vfg., flaky clay (?).

231.5 - Hornblende Plagioclase Porphyry 4.

5% Plagioclase phenocrysts - perp. to a X/c-12 deg.; Carlsbad-albite 14, 12 deg.; (An30); mod. zoned in places; euhedral; less than 3 mm slightly altered to clay (?) measuring less than 1 micron.

1 Hornblende-high (-) 2V green pleochroic; subhedral; less than 4 mm phenocrysts to very fine groundmass grains.

-- Clay (?) - parallel ext.; length-slow.

Remainder - fine-grained groundmass containing:

2 Brown pleochroic chlorite - low biref. After biotite.

35 Plagioclase of same composition as phenocrysts; altered as phenocrysts; subhedral.

35% Hornblende as phenos, seriate; subhedral.

1 Opaques - vfg.; anhedral.

20 Orthoclase - mainly interstitial, but some mg. anhedral. Fresh, also vfg. minor sphene, biotite, epidote (pistacite).

In hand specimen the rock shows black hornblende and white plagioclase phanocrysts in a fg. matrix that under the microscope proves to be an undirected mass of elongate hornblende and plagioclase crystals. Minor, vfg. opaques, sphene, and biotite occur here.

361.3 - Altered Quartz Monzonite 5.

35% Plagioclase- moderately altered to clay (?) with carbonate; subhedral; less than 5 mm long. Albitezed; most twinned grains have ext. angles close to 0 deg. Perp. to a, X/c-5 deg. (An25).

15 Quartz - anhedral; less than 1 mm; interstitial to plagioclase.

20 Orthoclase - stained yellow; mg.; interstitial.

10 Chlorite - stubby, rectangular crystals - after biotite (?); euhedral; less than 3 mm.

15 Hornblende - subhedral; less than 4 mm some clusters 6 mm in diameter contain fine grains; high neg. 2V; low ext. angle; fresh.

0.5 Sphene - subhedral; less than 0.05 mm long

-- Clay (?) less than 1 micron long; low biref.; flakes.

1 Opaques - some subhedral, associated with orthoclase, hornblende and chlorite, generally anhedral, vfg.

Also fg., minor rutile, apatite, zircon, white mica.

The texture of the rock is markedly granitic, with rectangular plagioclase "prismatic", hornblende, rectangular chlorite, pseudomorhs after biotite (?) in interstitial quartz and orthoclase. Minute beads of quartz lie along plagioclase mutual borders like beads on a string. Interstitial quartz is usually mg., but in places the interstitial spaces are filled with aggregates of fg., sutured quartz. One flake of white mica occurs along the mutual contact of plagioclase grains.

Biotite contains a myriad of tiny opaque veinlets along cleavage. Opaques are also abundant near or in amphibole.

486 - Hornblende-Feldspar Porphyry 6.

5% Orthoclase-stains yellow; porhyroblastic; loaded with inclusions of matrix minerals; euhedral to anhedral; less than 1 mm; high 2V. argillized.

15 Plagioclase phenocrysts - poorly twinned; less than 3 mm; subhedral; ome crystals have been altered to a vfg. clay (?); albitized.

1 Epidote - anomalous blue; high (-) 2V; less than 0.5 mm; disseminated or in veinlets.

5 Hornblende phenocrysts - slow biref.; 2V-90; colorless; ext. angle low but not parallel.

Remainder fg. matrix containing:

10 Fine g.; anhedral orthoclase.

35 Fine g. Plagioclase of same composition as phenocrysts; less than 0.5 mm elongate; subhedral; aligned also vfg., needle-like rutile (?), stubby apatite.

30 Fine g. hornblende-seriate; euhedral; aligned; anhedral opaques.

The rock contains phenocrysts of plagioclase and hornblende in a fg., oriented matrix of hornblende, plagioclase, with mg. porphyroblasts of orthoclase. The K-feldspar also occurs as fg., anhedral crystals in the matrix.

Eubedral 3 mm long plagioclase phenocrysts are moderately to strongly replaced by flakes of clay minerals 1 micron long. Rare opaques occur in veinlets, are anhedral and are fg.

Very fg. epidote veinlets contain also hornblende, veinlets, which are 0.01 mm thick and spaced at intervals of 1 mm to 0.5 mm.

507.5 - Crushed Syenite 7.

55% Orthoclase -- stains yellow; low relief; anhedral;

15 Plagioclase-albite; relief as orthoclase; fresh; vfg. veins in orthoclase; as aggregates of very fine, euhedral crystals.

2 Sphene-high relief; high biref.; anhedral less than 2 mm.

5 Carbonate - high relief (variable) high biref.; lamellar twinning.

20 Hornblende - low biref.; low ext. angle; as euhedral phenocrysts or as cg. clusters of fine grains.

1 Chlorite - aggregates of vfg. grains with anomalous interference.

3% Opaques.

Hornblende occurs as phenocrysts, or as felted masses less than 2 mm across in an almost monomineralic mass of mg. to cg. orthoclase. Smaller, irregular patches of plagioclase occur with considerable opaques along linear zones shaped like tufts of horsetail . Veinlets of carbonate less than 0.01 thick cut the plagioclase zones. Hornblende is fresh. Orthoclase shows signs of incipient crushing but no shearing. Carbonate veinlets are barren; most of the opaques are along fractures subparallel to the length of the slide.

600.5 - Monzonite 8.

65% Plagioclase - perp. to a, X/c-15 (An0) relief as orthoclase; mod. pos 2V. subhedral, less than 3mm.

30 (?) Orthoclase - stains yellow; interstitial, less than 2 mm.

1% Leucoxene - white in reflected light, dusky in transmitted light; isotropic; less than 1 mm.

1 Opaques - anhedral; vfg.; with leucoxene along veinlets and disseminated.

-- Carbonate - high variable relief; high biref.; as vfg., thin veinlets (0.01 mm).

1 Chlorite - fg. anhedral; localized in crushed zones.

0.5 Sphene - scattered vf. grains; also minor zircon, apatite, rutile (?).

Three phases are present; mg. monzonite, fg. monzonite and crushed monzonite, but the rock is unsheared. Uncrushed monzonite has an interlocking texture characteristic of igneous rocks, and is similar in grain size to the crushed phase. In some patches orthoclase is the dominant feldspar. Both feldspars are very slightly altered to vfg. carbonate, which also forms minute veinlets in the rock.

803 - Quartz Monzonite 9.

55% Plagioclase - albitized and altered to clay (?) and saussurite minor replacement by carbonate; euhedral to anhedral; less than 5 mm accross.

30% Orthoclase - low relief; stained yellow; interstitial; less than 5 mm across. Replaced by carbonate in places; some is perthitic.

10 Quartz - as aggregates of weakly sutured fine grains, clumps less than 5 mm across; round to interstitial.

1 Sphene - euhedral to anhedral; less than 0.1 mm across; dusky.

0.1 Zircon - oval; high relief; high biref. colorless, less than 0.01 mm.

2 Hornblende - low ext. angle; low biref.; colorless;

-- Carbonate - vfg.; high relief; v. high biref. as pervasive alteration.

-- Clay (?) - flakes less than 0.05 mm low biref.

0.1 Opaques - anhedral; vfg.; associated with orthoclase, hornblende.

The texture of the rock is mg., granitic and slightly directed. Numerous subparallel fractures carry carbonate but no opaques where they cut orthoclase. No shearing has occured along the fractures.

969 - Quartz Monzonite 10.

55% Plagioclase - slightly altered to vfg. clay (?) and saussurite, slight oscill; zoning; perp. to a, X/c+20 deg. (An39) where fresh, albitized where altered.

10 Quartz - as mg., interstitial clusters of fine, sutured grains; some sheared.

20 Orthoclase - interstitial to poikilitic; contains inclusions of all minerals except quartz.

15 Hornblende - strong brown pleochroism; pale biref.; parallel ext. altered to green, isotropic chlorite and sphene; 2 cleavages at acute angles; subhedral to euhedral; less than 3 mm.

0.5 Sphene - anhedral, intergranular; less than 0.5 mm; included in chlorite;most is as lenses less than 0.02 mm along chlorite cleavages.

-- Chlorite - Pale green; isotropic; altered hornblende.

-- Clay (?) - less than 0.01 mm; alteration of plagioclase; length-slow; low biref.; parallel ext.

0.5 Opaques - vfg. anhedral; in and associated with hornblende and orthoclase.

0.5 Carbonate - occurs as a vfg. network of veinlets in hornblende.

The texture of the rockis granitic, with euhedral to subhedral plagioclase, biotite pseudomorphs, and hornblende in anhedral orthoclase and quartz.

One hairline fracture widens to a 1 x 10 mm crushed zone.

1020 - Altered Rock 11.

Chlorite 1 - mod. pos. relief; colorless, clear; uniaxial pos.; low, muddy brown interference; radiating micaceous flakes; length-fast; less than ½ mm.

Clay (?) - very low biref.; low relief; length-slow; parallel ext.; megascopically red; less than 0.02 mm.

Carbonate - dark, high biref.; high relief; anhedral; usually clustered.

Opaques - anhedral; less than 1 mm; some grains have 3 cleavages; in many places concentrated in carbonate.

Irregular, mg.patches of carbonate are in places surrounded by a 1 mm thick zone of chlorite, which also occurs as flakes in carbonate, or as veinlets cutting opaques. These bodies lie in a host rock of reddish clay mineral.

1025 - Lava (?) 12.

The cut slab is bounded on two sides by fractures along which lie 5 mm wide, fg. dark green zones. These border a mg. granitic-looking rock. The green zones are rich in epidote. The rock contains:

40%	Pigeonite - (?) low pos. 2V; ext. angle; lamellar twinning; rare square cleavages.
2	Spene - round drops at contacts of altered plagioclase with pigeonite (?); some euhedral; less than 5 mm.
1	Analcite (?) - strong neg. relief; isotropic; as round bodies less than 0.5 mm (vesicles?)
2	Epidote - anomalous interference; generally in veinlets, but some alone in (Clinozoiste) clinopyroxene; high pos. 2V; veinlets less than 0.2 mm wide.
55	All in a formerly felspathic (?) matrix now completely altered to vfg. clay (?);also clay (?), rare opaques.

Pigeonite crystals are slightly oriented in an altered feldpathic matrix. Possible vesicles (?) were filled with analcite. The clinopyroxene remains fresh. Opaques are rare. The presence of mygdules indicates that the rock was originally a lava.

2-73-64 - Altered Quartz Diorite (?) 13.

20% Quartz - interstitial to round, poikilitic to clear; stress has caused undulatory ext., incipient granulation.

75 Plagioclase - completely altered to clay (?) measuring less than 1 micron, and to patches of carbonate, not albitized; subhedral less than 4.

-- White mica - parallel ext.; length-slow; mod. biref. vfg.

-- Carbonate high relief; high biref.; vfg.; has altered plag. and matrix.

-- Clay (?) - mod. pos. relief; parallel ext. length-fast; low biref.; elongate, vfg.

1 Opaques - contain some poikilitic matrix inclusions.

1 Pseudomorphs after a mafic mineral now replaced by low biref. clay (?) and opaques, euhedral, less than 3 mm; euhedral.

Also vfg. minor epidote.

The texture is granitic but poorly developed and slightly porphyritic. Euhedral phenocrysts of plagioclase are present with interstitial quartz and anhedral, carbonatized, fg. feldspar.

Epidote and the more abundant carbonate occur in plagioclase or in microscopic veinlets. Matrix feldspar is completely altered to flakes of clay measuring less than 1 micron in length. Minor patchy carbonate occurs here. Some mafic pseudomorphs have been altered to streaks of fg. clay (?).

Mafic carbonate in feldspar phenocrysts 1/99.

2-73-115 - Quartz Monzonite 14.

50 Plagioclase - strongly altered to carbonate and clay (?); some relict albite twinning - perp. to a X/c-0 deg. (An20) albitized euhedral; less than 4mm.

20 Quartz - equant to irregular grains; some introduced late; less than 3 mm.

30 Orthoclase - strongly altered to 0.01 mm grains of carbonate; subhedral to interstitial; associated with opaques.

-- Carbonate - anhedral; less than 1 mm; generally less 0.01 mm.

1 Clay (?) - flakes less than 0.01 mm across.

2 Opaques -fg. to vfg., anhedral; less than 0.5 mm; associated with K-felspar also minor, fg. zircon, rutile (?); apatite.

Medium-grained quartz monzonite showing signs of incipient crushing is transected by sharply defined, fg. crushed zones of shearing. Some quartz grains show sutured mutual boundaries. Some quartz contains fg. inclusions of altered albite.

Thin carbonate veinlets cut the rock. Carbonate replaced plagioclase and, to a lesser extent, K-feldspar. Only a small part of the alteration grains are clay (?) in plagioclase, whereas in K-feldspar more clay occurs.

Dusty brown saussurite stains most plagioclase.

The structure may be that of a monzonite pebble in an arkosic matrix.

19831 - 151 - Crushed Quartz Diorite 15.

30% Orthoclase - stains yellow; biaxial; low relief; anhedral; less than 5 mm long.

50 Plagioclase - anhedral to euhedral mg., relief as quartz; slightly to moderately altered to vfg. carbonate and clay (?); perp. to a, X/c-0 deg. ca, (An20)

10 Quartz - anhedral; less than 1 mm in diameter; clear; slightly crushed.

1 White Mica - parallel ext.; length-slow; high biref.; as tiny veinlets.

-- Clay (?) - low biref.; most less than 1 micron.

-- Carbonate - most less than 10 microns.

1 Opaques - vfg., anhedral orthoclase occurs with interstitial to round quartz and plagioclase.

The poorly developed granitic texture gives way to a crushed zone in the centre of the slide. Here, strong alteration of the mortar to carbonate has taken place, elongate grains are aligned parallel with the shearing. Quartz shows signs of strain in both undulatory extinction and incipent granulation.

Alteration of the plagioclase is even and pervasive where the feldspar contains clay (?), but patchy where it is carbonatized. Typically, carbonatized plagioclase is converted to albite.

19839-187.5 - Quartz Monzonite 16.

55% Plagioclase - generally untwinned; in most places subhedral; relief is mod. pos.; perp. to a, X/c-21 deg. (An40) (single determination).

30 Orthoclase - stains yellow; low neg., relief; interstitial; less than 2 mm.

15 Quartz - less than 2 mm; anhedral; clustered or in tiny veinlets; interstitial.

-- Carbonate - replaces plagioclases lightly and mafic pseudomorphs strongly; vfg. aggregates also as a persistent thin veinlet.

10 Mafic pseudomorphs - completely altered to chlorite and carbonate; aggregates are subhedral; less than 4 mm across.

-- Chlorite - green to colorless, anomalous interference.

-- Clay mineral - parallel ext. length-slow; less than 1 micron; low biref.

1 Opaques - vfg., anhedral, ir egular; associated with epidote and carbonate also vfg., minor epidote.

The texture of the rock is roughly granitic and undirected with many crushed zones cutting the fabric. Epidote also occurs in opaques. Crushed zones are sub-parallel.

Some opaques have replaced pseudomorphs.

H.T. Carswell, Ph.D.
Petrography, Ore Microscopy.

PETROGRAPHY, ORE MICROSCOPY

H. T. CARSWELL Ph.D.

136 - 3263 BLENHEIM STREET,
VANCOUVER 8, B.C.
Telephone (604) 733-8217

Feb. 27. 1974

Dear Mr. Sustos:

Herewith some mineral calculations based on actual Rosivall analyses of your monzonite specimens. This could show primary zoning in the pluton.

In the classic example of the White Creek Batholith the proportion of K-feldspar over plagioc lase decreases outward. Results follow:

Quartz is probably primary, partly secondary.
K-feldspar is showing no sign of secondary introduction.

MINERAL RATIOS IN ROCKS

Specimen no	K-feldspar/ Plagioclase	Quartz/K-feldspar plus plagio.
2-73-64	----------	1.6
2-73-115	0.42	0.67
19831-151	0.50	1.20
19839-187.5	2.80	0.23
229	0.41	0.28
231.5	4.3	----
361.5	0.62	0.20
460.5	0.21	0.08
486	----	---
507.5	0.02	0.25
803	0.78	0.37
969	2.4	0.22
1020	-----	-------
1025	-----	-----

I hope this information will be of some value to you in projecting the outline of your pluton.

Best regards,

Yours sincerely,

Hank Carswell

H. T. Carswell.

MINERALIZATION AND ASSAY RESULTS

Hole #2-73 was sampled and assayed for copper over its entire length. Sample intervals were selected according to the type of the rock and the "tenor" of the mineralization as far as these features are establishable by visual examination. This "tenor" cannot be considered as an absolute value, but it seems to be a more realistic approach than the commonly used preset sample interval method. Averages over extended lengths are more reliable since the sample lengths, used as weighting factors, are not preset arbitrary values, but at least qualitatively are functions of the assay values. This method eliminates, in the writer's opinion, the "cutting" of higher assays to some pre-accepted arbitrary maximum and the weighted average over the entire mineralized zone is more realistic.

Development or exploitation drilling can be evaluated by the scholastic method (pre-set, equal assay intervals) quite satisfactorily, but in the present situation the drilling was exploratory, merely a "stab in the dark" and in such case it is imperative that the true nature and the exact "tenor" of the mineralization is well established. In this way the drill hole will not only give an economic measure, easily fitted into an eventual development drilling evaluation pattern, but a good theoretical one too, which in turn can be utilized to compare later-to-be-found copper content values, as well as alteration patterns and structural features with this initial hole. This will be extremely useful in the defining of petrological and alteration

features, very important in the clarification of the fundamental parameters of an ore deposit.

The following table shows the visually estimated copper content of the core in #2-73 diamond drill hole:

#	Footage	Ft	Cu	Ft x Cu
19801	3 - 8	5	0.01	0.05
802	8 - 12	4	.04	.16
803	12 - 17	5	.05	.25
804	17 - 22	5	.08	.40
805	22 - 27.5	5.5	.03	.17
806	27.5 - 29.5	2	.03	.06
807	29.5 - 31	1.5	.02	.03
808	31 - 33.5	2.5	.03	.08
809	33.5 - 44	10.5	.01	.11
810	44 - 51	7	Tr	-
811	51 - 53	2	.05	.10
812	53 - 62	9	.10	.90
813	62 - 65	3	Tr	-
814	65 - 67	2	.02	.04
815	67 - 72	5	.01	.05
816	72 - 76	4	.03	.12
817	76 - 81.6	5.6	.05	.28
818	81.6 - 87	5.4	.03	.16
819	87 - 95	8	.05	.40
820	95 - 100	5	.01	.05
821	100 - 107	7	.10	.70
822	107 - 112	5	.05	.25
823	112 - 117	5	Tr	-
824	117 - 123	5	.16	.80
825	123 - 131	8	.11	.88
826	131 - 136	5	.16	.80
827	136 - 140	4	.23	.92
828	140 - 144	4	.14	.56
829	144 - 147	3	.13	.39
830	147 - 149	2	Tr	-
831	149 - 151.5	2.5	.01	.03
832	151.5 - 156	4.5	.07	.32
833	156 - 161	5	.10	.50
834	161 - 167	6	.09	.54
835	167 - 170	3	.31	.93
836	170 - 174	4	.24	.96
837	174 - 179.5	5.5	.33	1.82

#	Footage	Ft	Cu	Ft x Cu
19838	179.5 - 185	5.5	0.17	0.94
839	185 - 190	5	Tr	-
840	190 - 194	4	.03	.12
841	194 - 197	3	.13	.39
842	197 - 202	5	.03	.15
843	202 - 207	5	.01	.05
844	207 - 212	5	.04	.20
845	212 - 216.5	4.5	.01	.05
846	216.5 - 218	1.5	.01	.02
847	218 - 227	9	.06	.54
848	227 - 231.5	4.5	.01	.05
849	231.5 - 232	0.5	Tr	-
850	232 - 241	9	.01	.09
851	241 - 246	5	.02	.10
852	246 - 251	5	.03	.15
853	251 - 257	6	.01	.06
854	257 - 264.5	7.5	.01	.08
855	264.5 - 265.5	1	Tr	-
856	265.5 - 271	5.5	.01	.06
857	271 - 275	4	.01	.04
858	275 - 280	5	.01	.05
859	280 - 288	8	.01	.08
860	288 - 297	9	.03	.27
861	297 - 305	8	.05	.40
862	305 - 310	5	.03	.15
863	310 - 320.5	10.5	.04	.42
864	320.5 - 327	6.5	.03	.18
865	327 - 335.5	8.5	.05	.43
866	335.5 - 347	11.5	.08	.92
867	347 - 359	12.0	.02	.24
868	359 - 367	8	.01	.08
869	367 - 373	6	.04	.24
870	373 - 382	9	.02	.18
871	382 - 383	1	.01	.01
872	383 - 392	9	.03	.27
873	392 - 397	5	.01	.05
874	397 - 402	5	.10	.50
875	402 - 406	4	.01	.04
876	406 - 412	6	.08	.48
877	412 - 417	5	.01	.05
878	417 - 423	6	.11	.66
879	423 - 428	5	.01	.05
880	428 - 441	13	.02	.26
881	441 - 453	12	.04	.48
882	453 - 467	14	.10	1.40
883	467 - 477	10	.03	.30
884	477 - 483	6	.01	.06

#	Footage	Ft	Cu	Ft x Cu
19885	483 - 485	2	0.06	0.12
886	485 - 493	8	Tr	-
887	493 - 500.5	7.5	.34	2.55
888	500.5 - 507.5	7	1.41	9.87
889	507.5 - 512.5	5	.58	2.90
890	512.5 - 517	4.5	.18	.81
891	517 - 522	5	.28	1.40
892	522 - 526	4	.16	.64
893	526 - 531	5	.44	2.20
894	531 - 541	10	.12	1.20
895	541 - 548.5	7.5	.16	1.20
896	548.5 - 561	12.5	.20	2.50
897	561 - 568	7	.49	3.43
898	568 - 573	5	Tr	-
899	573 - 575	2	.12	.24
19900	575 - 583	8	2.15	17.20
901	583 - 590	7	1.61	11.27
902	590 - 596.5	6.5	.51	3.32
903	596.5 - 603	6.5	.07	.46
904	603 - 608.5	5.5	.11	.61
905	608.5 - 611	2.5	.17	.43
906	611 - 616	5	1.07	5.35
907	616 - 621	5	.01	.05
908	621 - 626	5	.73	3.65
909	626 - 631	5	2.03	10.15
910	631 - 636	5	1.35	6.75
911	636 - 641	5	.03	.15
912	641 - 645.5	4.5	.34	1.53
913	645.5 - 651	5.5	.09	.50
914	651 - 658	7	.27	1.89
915	658 - 663	5	.21	1.05
916	663 - 669	6	.58	3.48
917	669 - 672	3	.63	1.89
918	672 - 675	3	4.14	12.42
919	675 - 680	5	.08	.40
920	680 - 685	5	.06	.30
921	685 - 692.5	7.5	.14	1.05
922	692.5 - 699	6.5	.25	1.63
923	699 - 704	5	.27	1.35
924	704 - 709	5	.05	.25
925	709 - 718	9	.01	.09
926	718 - 722	4	.01	.04
927	722 - 727	5	.01	.05
928	727 - 732	5	.04	.20
929	732 - 737	5	.10	.50
930	737 - 741	4	.01	.04
931	741 - 746	5	.01	.05

#	Footage	Ft	Cu	Ft x Cu
19932	746 - 751	5	0.01	0.05
933	751 - 755	4	.01	.04
934	755 - 760	5	.04	.20
935	760 - 765	5	.01	.05
936	765 - 767	2	.01	.02
937	767 - 772	5	.02	.10
938	772 - 777	5	.01	.05
939	777 - 782	5	.01	.05
940	782 - 789.5	7.5	.23	1.73
941	789.5 - 795	5.5	.03	.17
942	795 - 800	5	.01	.05
943	800 - 805	5	Tr	-
944	805 - 812	7	.01	.07
945	812 - 817	5	.01	.05
946	817 - 822	5	.04	.20
947	822 - 827	5	.01	.05
948	827 - 832	5	.01	.05
949	832 - 836	4	.01	.04
950	836 - 840	4	.01	.04
951	840 - 845	5	.02	.10
952	845 - 850	5	.10	.50
953	850 - 855	5	.01	.05
954	855 - 860	5	.02	.10
955	860 - 865	5	.01	.05
956	865 - 870	5	.06	.30
957	870 - 875	5	.01	.05
958	875 - 880	5	.01	.05
959	880 - 883	3	Tr	-
960	883 - 887	4	.01	.04
961	887 - 893	6	.01	.06
962	893 - 895	2	.02	.04
963	895 - 903	8	.11	.88
964	903 - 907	4	.07	.28
965	907 - 912	5	.01	.05
966	912 - 917	5	.01	.05
967	917 - 922	5	.01	.05
968	922 - 927	5	.01	.05
969	927 - 931	4	.01	.04
970	931 - 935	4	.01	.04
971	935 - 940	5	.22	1.10
972	940 - 945	5	.15	.75
973	945 - 950	5	.05	.25
974	950 - 955	5	.07	.35
975	955 - 960	5	.03	.15
976	960 - 965	5	.06	.30
977	965 - 970	5	Tr	-
978	970 - 977	7	.01	.07

#	Footage	Ft	Cu	Ft x Cu
19979	977 - 980	3	0.01	0.03
980	980 - 989	9	.08	.72
981	989 - 995	6	.21	1.26
982	995 - 1001.8	6.8	.01	.07
983	1001.8 - 1010	8.2	.01	.08
984	1010 - 1015	5	.01	.05
985	1015 - 1022	7	Tr	-
986	1022 - 1025	3	Tr	-
987	1025 - 1036	11	.07	.77
988	1036 - 1046	10	.07	.70
19989	1046 - 1052	6	Tr	-

Weighted Average of the Total Hole:

Length: 1043 ft. (from 3 ft. to 1046 ft.)

Sum of the copper values, weighted with corresponding core lengths:

$\sum$ Ft x Cu% = 154.75

$$\frac{\sum \text{Ft x Cu\%}}{\sum \text{Ft}} = \frac{154.75}{1043} = 0.14837$$

Weighted average: 0.15% Cu for 1043 feet

The hole was divided according to the rock type, into four principal sections. The weighted averages of these four sections are the following:

Section I:

From surface to 561 feet, the section is in intrusive rock.

Length: 558 ft. (from 3 ft. to 561 ft.)

Sum of the copper values, weighted with corresponding core lengths:

$$\Sigma \text{ Ft x Cu\%} = 50.54$$

$$\frac{\Sigma \text{ Ft x Cu\%}}{\Sigma \text{ Ft}} = \frac{50.54}{558} = 0.09057$$

Weighted average: 0.09% Cu for 558 feet

Section II:

From 561 feet to 699 feet, the section is in partly mineralized contact-metamorphosed carbonatic metasediments.

Length: 138 ft. (from 561 ft. to 699 ft.)

Sum of the copper values, weighted with corresponding core lengths:

$$\Sigma \text{ Ft x Cu\%} = 89.20$$

$$\frac{\Sigma \text{ Ft x Cu\%}}{\Sigma \text{ Ft}} = \frac{89.20}{138} = 0.64638$$

Weighted average: 0.65% Cu for 138 ft.

Section III:

From 699 feet to 989 feet, the section is in intrusive rock.

Length: 290 ft. (from 699 ft. to 989 ft.)

Sum of the copper values, weighted with corresponding core lengths:

$$\Sigma \text{ Ft x Cu\%} = 12.08$$

$$\frac{\Sigma \text{ Ft x Cu\%}}{\Sigma \text{ Ft}} = \frac{12.08}{290} = 0.04165$$

Weighted average: 0.04% Cu for 138 ft.

Section IV:

From 989 feet to 1046 feet, the section is in metasediments.

Length: 57 ft. (from 989 ft. to 1046 ft.)

Sum of the copper values, weighted with corresponding core lengths:

Σ Ft x Cu% = 2.93

$$\frac{\Sigma \text{ Ft x Cu\%}}{\Sigma \text{ Ft}} = \frac{2.93}{57} = 0.05140$$

Weighted average: 0.05% Cu for 57 ft.

For future statistical evaluations and correlative studies, the copper values of the four sections of #2-73 drill hole were treated as populations of undimensioned geochemical observations. No value was weighted, since the only available weighting factor - core length - is a dependent variable of the direction and dip of the hole. Both of these factors could be considered arbitrary and in no possible way correlatable with any mineralogical, alteration, petrological or structural zoning of the hostrocks. The mean, variance and standard deviation was calculated for all four sections. These statistical parameters are tabulated hereunder:

	Section I	Section II	Section III	Section IV
Mean	0.096	0.663	0.038	0.042
Variance	0.030	0.853	0.003	0.004
Standard Deviation	0.174	0.923	0.056	0.065

These values, at the present initial stage of the exploration of the Mount Caplice pluton, have little apparent meaning but as the investigation progresses and the collected data increases, they could shed light on hidden inter-relations with the mineralization pattern of the property. The same is true of the alteration values and mineral ratios calculated by Dr. Carswell and tabulated in his attached report. In the writer's opinion, the future collection of this type of data will give us extremely good means of comparing the property with other well-investigated porphyry copper orebodies in the Western Cordillera, and if our expectations prove to be right and the prospect becomes a mine, they will become invaluable tools, from the initial pit design to the daily ore-control of the mine.

CONCLUSIONS AND RECOMMENDATIONS

The exploration activities of 1973 on the Loon Group of mineral claims contributed significantly to the clarification of the property's future prospects. It has been definitely established that the intrusive rocks of the Mount Caplice pluton in the Laverdiere adit area contain copper mineralization of the porphyry type. While the copper content is not of ore grade, it is extremely highly anomalous compared with the world-wide average copper content of felsic intrusive rocks. This fact alone is a very strong argument in favour of continuing investigations in the area.

The good grade copper mineralization encountered in the second section of diamond drill hole #2-73, indicates that contact-metasomatic mineralization is not restricted to the area of the Laverdiere showing either laterally or at depth.

The airborne geophysical examinations had led to conclusions which reinforced the promising results of geological investigations of the past several seasons.

These conclusions clearly define the path which the next phase of investigations must follow.

The next step should be a systematic prospecting and sampling campaign over the Mount Caplice pluton. Utilizing the topographic map already prepared, a dense net of sampling points must be established. From each point, structural (fracturing), petrological (rock type) and mineralogical (alteration, copper mineralization) data should be collected. At the same time a small (pack-sack type) diamond drill should be utilized to collect rock samples from below the weathered surface (2 to 5 feet depth). These sampling points should reach the density of at least five per mineral claim, or in other words, one per ten acres. The samples should be subjected to rock-geochemical analysis and selected ones should be examined by a petologist.

This program can be carried out by a small 2 to 3-man crew of competent geologists. The logistical costs of such an operation would be

moderate, probably not more than $3,000 per month for three months, but the laboratory, drill rental and petrological costs could easily double this figure. With three months of operation, considering ancillary expenditures, a figure of $20,000 would be realistic.

Parallel to the above program, a small diamond drill should be operated along the eastern contact of the pluton to investigate further the already known high-grade metasomatic lenses and attempt to discover new ones where possibilities for their presence exist (carbonate metasediments). A sum of $30,000 would give a drill footage of 3,000 ft. more or less; taking an average length of 150 feet per drill hole, or 20 holes during the season. This amount of drilling would give a definite quantitative range within which the tonnage of the high-grade copper mineralization could be expected on the property.

The systematic geological prospecting in the area underlain by intrusive rocks, when evaluated, will give a very dependable data, on the basis of which an economical exploratory diamond drilling program could be outlined for the 1975 season. This program will give an unequivocal answer to questions about the property's value.

In summary, I recommend for the 1974 exploration season on the property, an exploration programme as follows:

Geological mapping, sampling and prospecting campaign with an expenditure of:	$ 20,000.00
Diamond drilling programme of x-ray holes for ± 3,000 feet:	$ 30,000.00
	$ 50,000.00

I trust that my propositions will meet with the approval of Rio Plata Silver Mines Ltd. (N.P.L.).

Respectfully submitted,

Arpad Fustos, P.Eng.

Arpad Fustos, P.Eng.

AF:jlc

CERTIFICATE

I, ARPAD FUSTOS, hereby certify that:

1. I am a graduate of the University of British Columbia and hold the following degrees:-

   1. Bachelor of Science of Forestry-Graduate Forest Engineer.
   2. Bachelor of Science (Geology).

2. I have taken post-graduate studies in Mineral Exploration at the University of British Columbia, Department of Geology, and directed studies in Application of Soil Sciences to Mineral Exploration at the University of British Columbia, Department of Soil Sciences.

3. I have taken the following courses at the British Columbia Institute of Technology:-

   1. Introduction to Geophysical Prospecting Methods.
   2. Geophysical Prospecting Tutorial.

4. I am a Registered Professional Engineer of the Province of British Columbia.

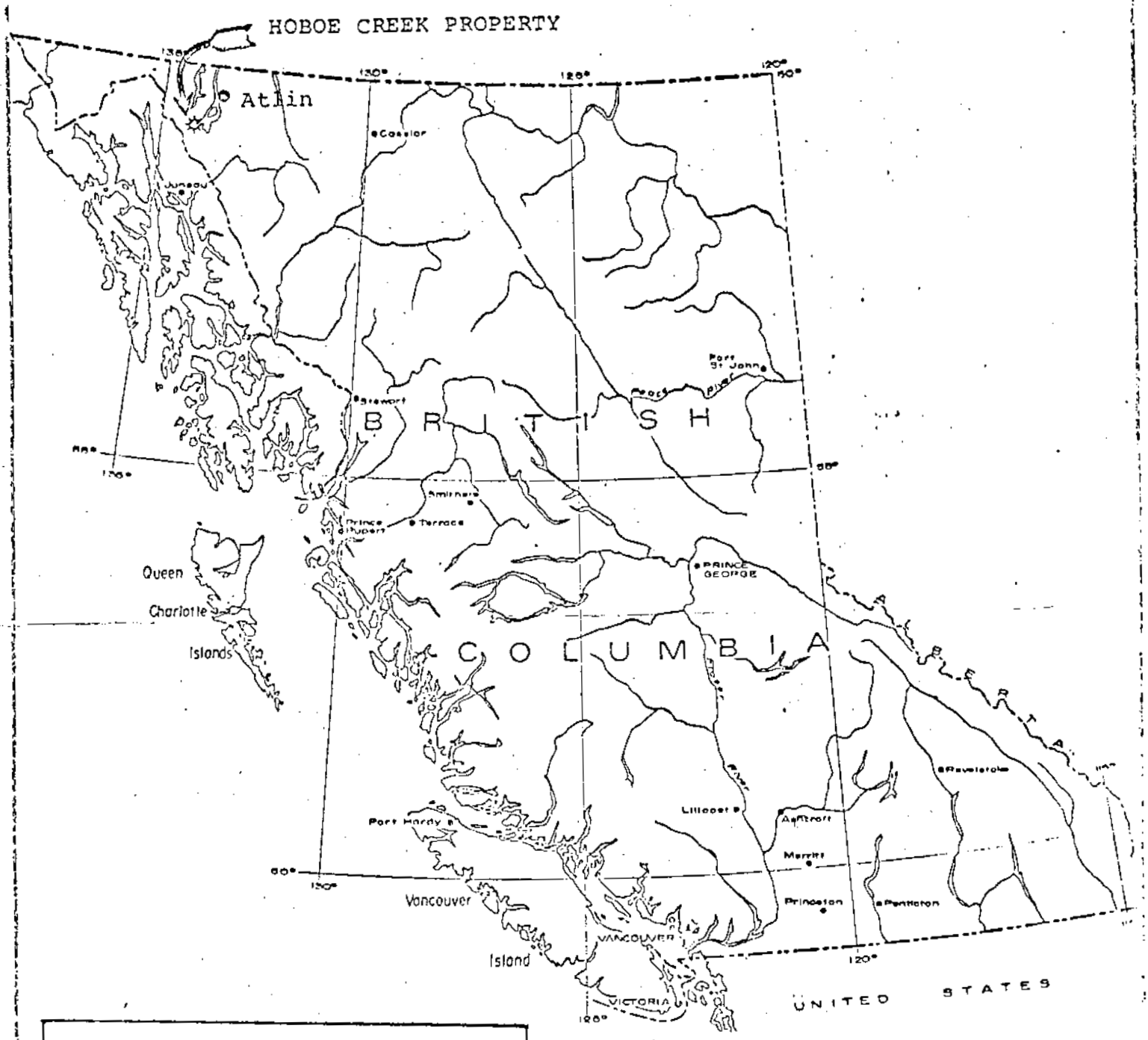
5. I have been active in mineral exploration and mine development for the past twenty years.

6. I have no interest either in the claims of Rio Plata Silver Mines Ltd. (N.P.L.) or in the Company itself.

Arpad Fustos, P.Eng.

Arpad Fustos, P.Eng.,
Geologist,
Vancouver, B.C.

Dated: March 1974.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4996 MAP #1

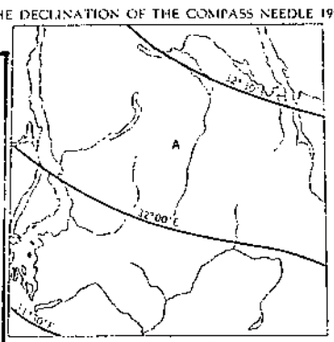
4996
M1

RIO PLATA SILVER MINES LTD. (N.P.L.)

LOCATION MAP
Scale: 1" = 100 miles

INDEX MAP
SCALE 1:250,000

THE DECLINATION OF THE COMPASS NEEDLE 1950



The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the north

Produced by the Surveys and Mapping Branch and Technical Surveys 1953, from air photos
Printed by the Army Survey Establishment, Department of National Defence, 1954

REFERENCE

Road, Hard Surface, All Weather	More than 2 Lanes
Road, Loose Surface, All Weather	2 Lanes or More
Wagon Road, Cart Track, etc	
Boundary, International	
Boundary, Provincial	
Boundary, County or District	
Boundary, Indian Reserve, Park etc	
Lot and Lot Number	2091
Power Transmission Line	
Railway, Standard Gauge	Multiple Track / Station

4996

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4996 M#2

[illegible] Mining Service LTD
Box 250 Wells B.C.
Invoice: Rio Plata Silver Mines LTD
420-475 Howe St. Vancouver B.C.
Job # 73-6, Loon Claims, Hobson Creek, Atlin B.C.

Dec 11 - 73

changed to #16 G.D.R.

Fare to Atlin: Charter Truck		$ 2000.00	
Load + Unload 26 hrs	@ $ 20.00	$ 520.00	
2 tickets CP Air	@ $ 83.00	$ 166.00	
Whitehorse Hotel Rooms		$ 45.25	
Atlin Hotel Rooms		$ 331.45	
		$ 3065.70	$3065.70
Atlin to Property: Local Boat			
Travel to Beach, Unload +			
Fly to Camp + Drill site 131.5 hr	@ $ 20.00	$ 2630.00	
Boat Rental		$ 978.60	
TNT Bill # 2417-3		$ 1231.84	
		$ 4840.44	$4840.44
Camp: Tents, Pots, Stoves, Cook utensils		$ 1337.66	
Lumber, Plywood, Poly.		$ 739.85	
Groceries		$ 750.00	
Set up camp 42 hr	@ $ 20.00	$ 840.00	
		$ 3667.51	$3667.51
1052' AQ Drilling	@ $ 8.00	$ 8416.00	$8416.00
Seven Flights Whitehorse to Property			
TNT Bill # 2662-3 -		$ 642.64 -	
TNT Bill # 2870-3 -		$ 894.75 -	
	Total	$ 1537.39	
Extra trips for Drill Motor + Head Parts		$ 500.00	
		$ 1037.39	$1037.39
Winterize Camp + Clean up 40 hrs	@ $ 20.00	$ 800.00	
Ret to Van 2 tickets CP Air	@ $ 83.00	$ 166.00	
		$ 966.00	$ 966.00
73-9-12 $ 4,500.00		Total	$ 21,993.04
73-9-11 $ 6,000.00		Less Advances	$ 16,000.00
		Balance Due	$ 5993.04
			978.00
			$ 5015.04

Approved G.D. Rowe
W. Hoy
LOON CLAIMS

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4996 MAP

[illegible] Mining Services LTD
Box 250 Wells B.C.
Invoice: Rio Plata Silver Mines LTD
420-475 Howe St. Vancouver B.C.
Job # 73-6, Loon Claims, Hobo Creek, Atlin B.C.

Dec 11 - 73

changed to #16 C.D.R.

Van. to Atlin: Charted Truck		$ 2000.00	
Load + Unload 26 hrs	@ $ 20.00	$ 520.00	
2 Man CP Air	@ $ 83.00	$ 166.00	
Whitehorse Hotel Rooms		$ 48.25	
Atlin Hotel Rooms		$ 331.45	
		$ 3065.70	$3065.70
Atlin to Property: Load Boat			
Travel to Beach, Unload +			
Fly to Camp + Drill site 131.5 hr	@ $ 20.00	$ 2630.00	
Boat Rental		$ 978.60	
TNT. Bill # 2417-3		$ 1231.84	
		$ 4840.44	$4840.44
Camp: Tents, Beds, Stoves, Cook Utensils		$ 1337.66	
Lumber, Plywood, Poly.		$ 739.85	
Groceries		$ 750.00	
Set up camp 42 hr	@ $ 20.00	$ 840.00	
		$ 3667.51	$3667.51
1052' AQ Drilling	@ $ 8.00	$ 8416.00	$8416.00
Sierra Flights Whitehorse to Property			
TNT Bill # 2662-3 -		$ 642.64 -	
TNT Bill # 2870-3 -		$ 894.75 -	
	Total	$ 1537.39	
Extra trips for Drill Motor + Head Parts		$ 500.00	
		$ 1037.39	$1037.39
Winterize Camp + Clean up 40 hrs	@ $ 20.00	$ 800.00	
Ret to Van 2 Man CP Air	@ $ 83.00	$ 166.00	
		$ 966.00	$ 966.00
		Total	$21,993.04
73-9-12 $ 4,000.00		Less Advances	$16,000.00
73-9-11 $ 6,000.00		Balance Due	$ 5,993.04
			992.00
			$ 5015.04

Approved D. Ross
W. Hoy
LOON CLAIMS

COSTS

The following is a statement of the charges by Nielsen Geophysics Ltd. to conduct the Aeromagnetic Survey on the Hoboe Creek property.

The cost of photo-mosaic and controlled topographic map preparations was borne by Rio Plata Silver Mines Ltd. and is not included herein.

1.	Professional Services and Instrument Rental (Includes: Aeromagnetometer installation, operation, navigation, data compilation and consulting.)	$ 2,500.00
2.	Transportation	
	(a) Mobilization and Demobilization	306.55
	(b) Local (Helicopter) charter	730.36
3.	Food and Accommodation	60.00
4.	Final Report	400.00
		$ 3,996.91

COST PER MILE.....$ 36.33

499L

INVOICE

McELHANNEY SURVEYING & ENGINEERING LTD.

Please remit to:
- [x] 1200 West Pender St., Vancouver 1, B.C. — Phone 683-8521
- [ ] 7832 - 120th St., Surrey, B.C. — 596-0391
- [ ] 4650 Lakelse Ave., Terrace, B.C. — 635-7163
- [ ] 631 - 7th Ave. S.W., Calgary, Alta. — (403) 265-3840

In account with: Rio Plata Silver Mines Ltd.,
1101 - 1775 Bellevue Avenue,
West Vancouver, B.C.

Invoice No. 73-069

Date 31 July 1973

Your Order No.

Attention: Mr. A. D. Ross

Our Job No. 05968-0

FOR PROFESSIONAL SERVICES IN RESPECT TO:

Photogrammetric mapping in vicinity of Willison Bay per our letter of 18 June 1973.

Our fee	$2,300.00
Federal sales tax at 1.2%	27.60
Total, this invoice	$2,327.60

O.K. A.D. Ross

RAB/ps

Terms: Net 30 days. Interest at 1½% per month will be charged on overdue accounts

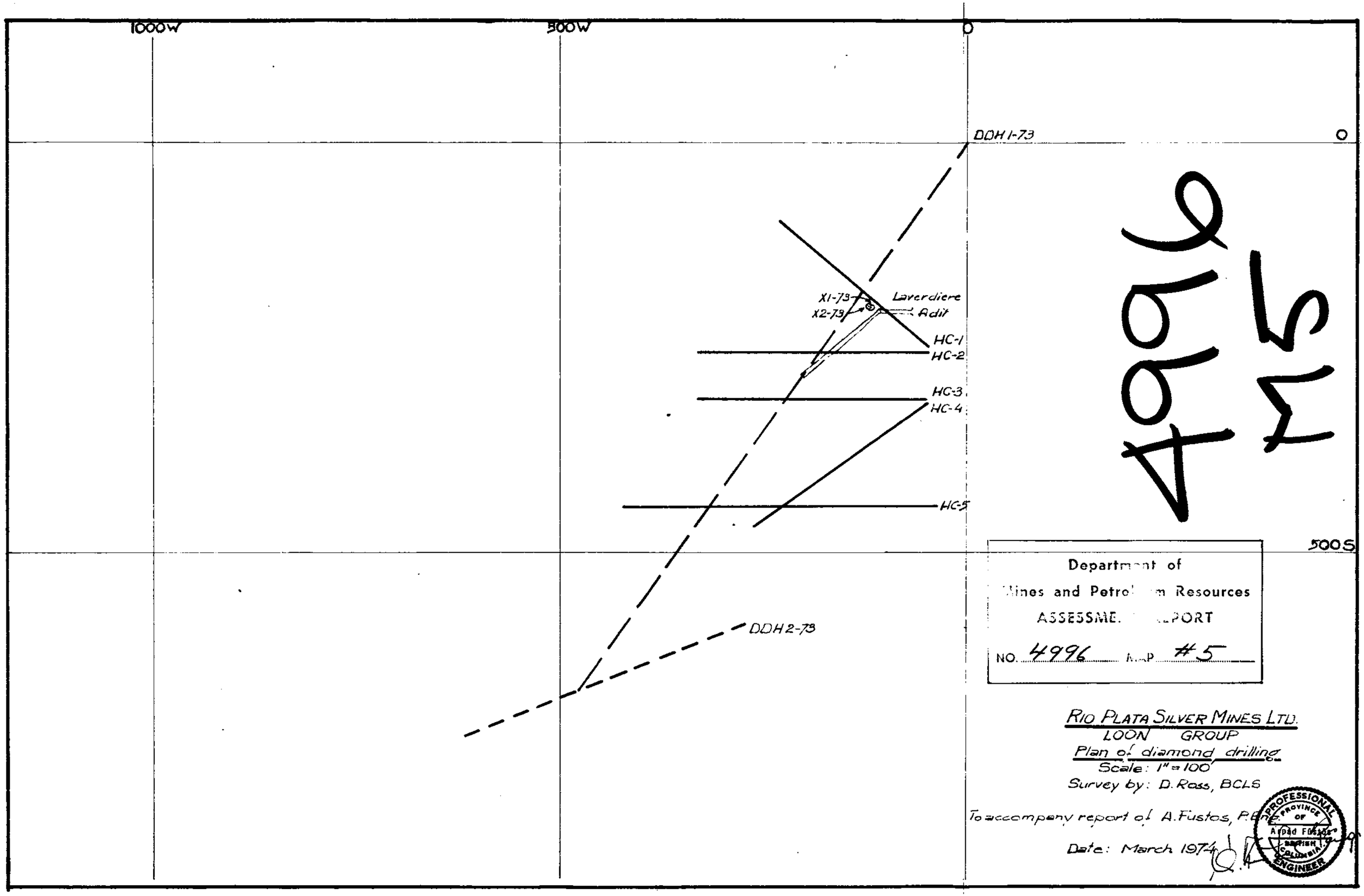
[illegible] Mining Co. LTD
Box 252 Wells B.C.
Consultant: Rio Plata Silver Mines LTD
420-475 Howe St. Vancouver B.C.
Loon # 75-6, Loon Claims, Hobson Creek. Atlin B.C.

Dec 11 - 73

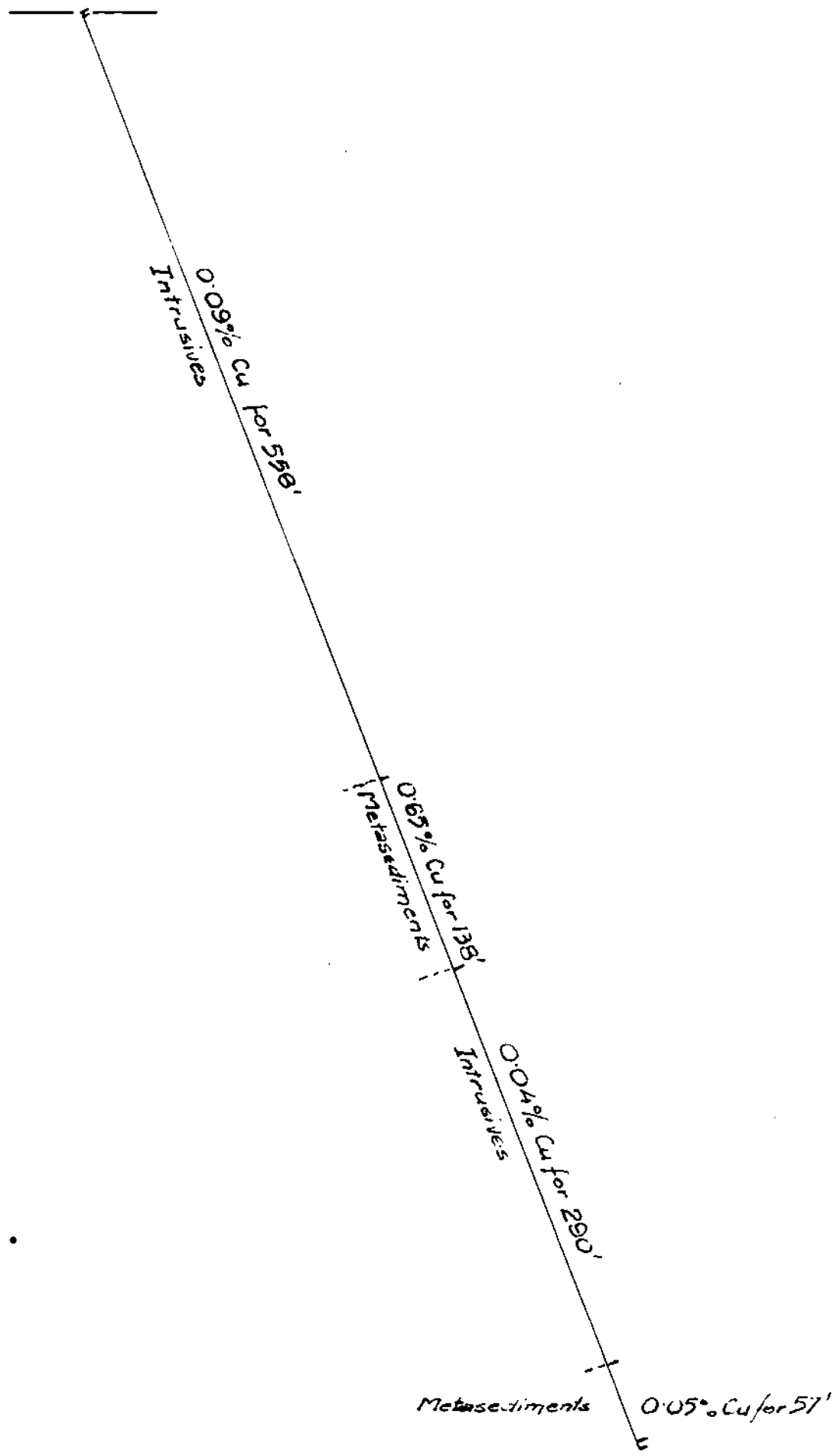
charged to #16 C.D.R.

Ferry to Atlin: Charter Truck		$ 2000.00	
Load + Unload 26 hrs	@ $ 20.00	$ 520.00	
2 Pax CP Air	@ $ 83.00	$ 166.00	
Whitehorse Hotel Rooms		$ 48.25	
Atlin Hotel Rooms		$ 331.45	
		$ 3065.70	$ 3065.70
Atlin for Property: Load Boat			
Crane for Beach, Unload +			
Fly for Camp + Drill site 131.5 hr	@ $ 20.00	$ 2630.00	
Boat Rental		$ 978.60	
T.N.T. Bill # 2417-3		$ 1231.84	
		$ 4840.44	$ 4840.44
Camp: Tents, Beds, Stoves, Cook Utensils		$ 1337.66	
Lumber, Plywood, Poly.		$ 739.85	
Freight		$ 750.00	
Scrap camp 42 hr	@ $ 20.00	$ 840.00	
		$ 3667.51	$ 3667.51
1052' AQ Drilling	@ $ 8.00	$ 8416.00	$ 8416.00
Scout Flights Whitehorse for Property			
T.N.T. Bill # 2662-3		$ 642.64 -	
T.N.T. Bill # 2870-3		$ 894.75 -	
	Total	$ 1537.39	
Tent Tarps for Drill Motor + Hand Pumps		$ 500.00	
		$ 1037.39	$ 1037.39
Helicopter Camp + Cleanup 40 hrs	@ $ 20.00	$ 800.00	
Return 2 Men CP Air	@ $ 83.00	$ 166.00	
		$ 966.00	$ 966.00
[illegible] 9-12 $ 4,000.00			
[illegible] - 11 $ 6,000.00		Total	$ 21,993.04
		Less Advances	$ 16,000.00
		Balance Due	$ 5,993.04
			978.00
			$ 5015.04

Approved [illegible]
W. [illegible]
LOON CLAIMS


1000W
500W
0
DDH 1-73
0
X1-73
X2-73
Laverdiere
Adit
HC-1
HC-2
HC-3
HC-4
HC-5
500S
DDH 2-73
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4996 MAP #5
RIO PLATA SILVER MINES LTD.
LOON GROUP
Plan of diamond drilling
Scale: 1" = 100'
Survey by: D. Ross, BCLS
To accompany report of A. Fustos, P.Eng.
Date: March 1974
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
Arpad Fustos

4996



4996

M4

RIO PLATA SILVER MINES LTD.
LOON GROUP
Diamond drill hole 2-73
Scale: 1" = 100'

To accompany report of A. Fiustos, P.Eng.

Date: March 1974

4996
M3

CORE FROM DDH 2-73
IS STORED AT THE HOME
OF JOE FLORENCE IN ATLIN B.C.