3370

ASSESSMENT REPORT

GEOLOGICAL SURVEY

(JULY 7TH, 1971 TO SEPTEMBER 27TH, 1971)

R, BAT, BALL, BEST, BETA, BERG, EE MINERAL CLAIMS

SALAL CREEK MOLYBDENUM PROPERTY

LATITUDE 50° 45'N LONGITUDE 123° 30' W

NTS 92 J 14W

LILLOOET MINING DIVISION

BRITISH COLUMBIA

FOR

SALAL MOLYBDENUM MINES LTD., (N.P.L.)

CERRO MINING COMPANY OF CANADA LIMITED

BY

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&

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ILLUSTRATIONS

INTRODUCTION:

From July 7th to September 27th, 1971, a program of Geological Mapping on a scale of 1" to 1,000' was carried out on the Salal Creek Molybdenum Property. The 1971 program extended detailed mapping, begun in 1970, to cover the entire Salal Stock and included reconnaissance geological mapping of ground acquired in 1970 to the South and Southwest of the Salal Stock. In all, an area of approximately 40 square miles was mapped during the season, covering mineral claims R1-32, Bat 1-6, Bat 7fr, Bat 8-14, Bat 15fr, 16fr, Ball 1-15, Ball 16fr, Best 1-116, Beta 1-74, Berg 1fr 2-40 and including ground within the EE 1-15, 17-47 48fr, 49fr mineral claims which was not mapped during the 1970 field season.

Two crews of two men each were engaged in the mapping program. The number of personnel engaged was increased from time to time as the need arose. (See Appendix 2)

Tent camps were established at a number of localities during the summer to allow access to various parts of the property. The camps were supplied and moved by chartered helicopter.

Rock samples for petrographic examination, grab and continuous chip samples for assay and bulk samples from the various phases of the stock were collected during the mapping program.

LOCATION & ACCESS (See Fig. 1)

The Salal Molybdenum Property is located on Salal Creek, a tributary of the Lillooet River, approximately 40 miles by air northwest of Pemberton, B.C. It lies within typically rugged terrain of the Coast Range Mountains. Elevations within the property vary from 3,500' to 8,200'.

The lower parts of the property are heavily timbered to approximately 4,500'. From 4,500' dense bush is present but thins out until at approximately 6,000' only lichen, moss and occasional stretches of alpine grass are present. Above 6,000' much of the ground is covered by glacial debris and moraine. Numerous glaciers and permanent snowfields exist on the property.

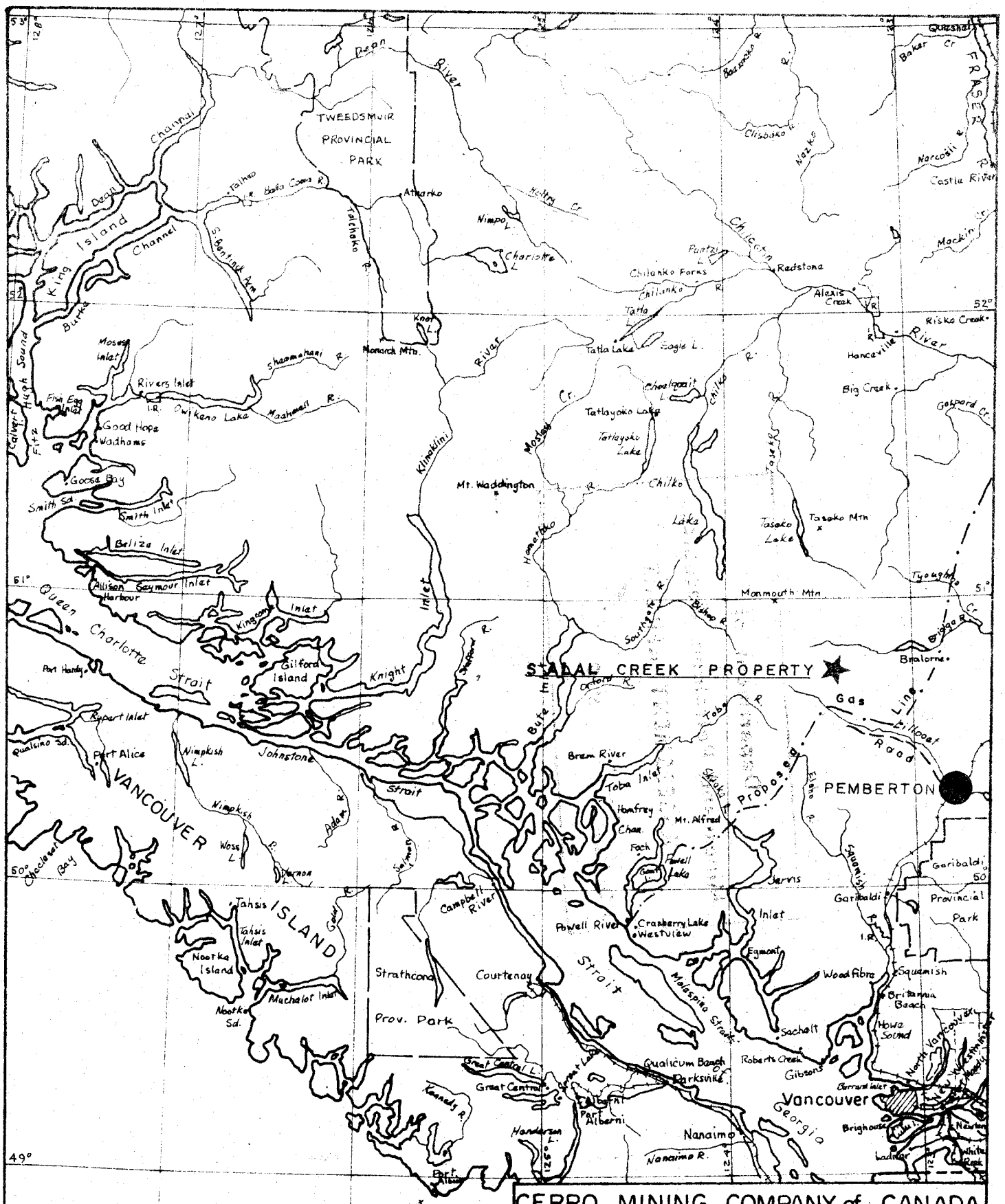
Outcrops within the property are mainly confined to the deeply incised creeks, prominent ridges and the steep southern face of the stock from Trail Creek to Cornice Creek.

Movement within the property is generally slow and at times hazardous due to the strong relief and fractured nature of the rock.

Access to the property is by helicopter from Pemberton Meadows. As in the past, the Van Loon farm was used as a staging area for operations at Salal Creek. Movement of personnel and supplies was carried out using a Bell Jet Ranger chartered from Okanagan Helicopters.

COMMUNICATIONS

Communication was maintained with the Van Loon farm by



CERRO MINING COMPANY of CANADA
TORONTO CANADA

INDEX MAP

NTS ref.
92 E,F,G,J,K,L,M,N,O.
93 B,C,D.

BRITISH COLUMBIA & ALBERTA

Scale 1:2 000 000 1" = 32 m | JUNE 1970

Drawn

means of Spilsbury Tindall SBX11 single sideband battery operated radios. Within the property walkie-talkie hand sets were used for a limited period. Their usefulness was, however, limited to direct line of sight communication.

PREVIOUS WORK

Work prior to 1970 within the Salal Creek Stock has been summarized in earlier reports (Mustard, 1966; Stephens, 1970a). During the winter of 1970 a preliminary petrographic report was prepared from a limited number of rock samples collected from the major rock types encountered during the 1970 mapping program (Stephens, 1970b). In addition, other samples were used in a geochemical program by Barringer Research Ltd. in order to attempt to trace the differentiation history of the Salal Creek pluton and to aid in locating a hidden ore body (Smee, 1971; Bradshaw, 1971).

Also during 1970, a 1" to 1,000' topographic map which includes most of the area of the Salal Creek stock was prepared for Cerro Mining Company of Canada Limited by Lockwood Surveys Ltd. from aerial photographs and a previous claim survey.

During the summer of 1970, silt and talus samples were collected from all of the major streams within the area of the Salal Creek stock. Subsequent analyses of these samples indicated several areas with anomalously high Mo and Cu concentrations.

PROPERTY (See Fig. 2)

The Salal Creek Molybdenum Property consists of the

following 345 full size and 7 fractional Mineral Claims, all located in the Lillooet Mining Division.

Claim Name	Record Number
R 1-32	24121-24152
EE 1-15	24419-24433
EE 17-30	24435-24448
EE 31-47	24746-24762
EE 48 Fr.	27632
EE 49 Fr.	27633
Plug 9-12	25667-25670
Plug 19-24	25677-25682
Bat 1-6	33454-33459
Bat 7 Fr.	33460
Bat 8-9	33461-33462
Bat 10-14	34151-34155
Bat 15 Fr.	34156
Bat 16 Fr.	34157
Ball 1-15	33463-33477
Ball 16 Fr.	33478
Best 1-14	34056-34069
Best 15-51	33937-33973
Best 52-68	34070-34086
Best 69-88	33974-33993
Best 89-104	34087-34102
Best 105-116	33994-34005
Beta 1-6	34006-34011
Beta 7-11	34103-34107
Beta 12-27	34012-34027
Beta 28-32	34108-34112
Beta 33-44	34028-34039
Beta 45-46	34113-34114
Beta 47-50	34040-34043
Beta 51-56	39115-34120

Beta 57-68	34044-34055
Beta 69-74	34121-34126
Berg 1 Fr.	34127
Berg 2-16	34128-24142
Berg 17-32	33921-33936
Berg 33-40	34143-34150

REGIONAL GEOLOGY

Little is known about the regional geology in the vicinity of the Salal Creek Stock. Regional mapping of the Pemberton 1:250,000 map sheet (N.T.S. 92 J) is currently underway by the Geological Survey of Canada as part of the Coast Mountain Mapping Project, and is due to be completed in 1973. The Salal Creek area is shown on the Geologic Map of Canada (1968) as undivided Coast Range Intrusives.

A report by C. E. Cairnes (1924) on the geology of the Pemberton area describes the Coast Range Intrusives as hornblende-bearing granodiorites, quartz diorites, and diorites. There is evidence that the Lillooet River is located along a large shear zone which is also a zone of earthquake epicenters. In addition, the Bridge River, located to the north of Salal Creek provides another linear element parallel to the Lillooet Lineament.

Recently a paper was presented at the CIMM Annual Western meeting in which the significance of the junctions of thermal zones and major faults was discussed. It was pointed out that the Britannia Beach Mines is located at the south end of the Squamish Thermal Zone, where it is intersected by the Axial Thermal Zone, and that the north end of the Squamish Thermal Zone is crossed by the Lillooet Thermal Line at Bridge Glacier. The Salal Creek Stock is approximately 3 miles S.W. of Bridge Glacier. (Thermal Zones of the Coast Mountains - Their

Tectonic and Economic Significance, by Dr. R. R. Guilbert).

A line of Tertiary to Recent volcanic centers which extends 70 miles from Squamish to the north of Salal Creek, passes through the property. A recently published paper states:.. "there is an association of most major molybdenum deposits of all ages with Miocene or younger volcanic centers (Adanac, British Columbia Molybdenum, Boss Mountain, Salal Creek)" (Brown, et al 1971).

The Coast Range Intrusive Complex, into which the Salal Creek Stock was emplaced, is probably Jurassic to Upper Cretaceous in age (Cairnes, C. E., 1924; Roddick, J. O., 1965). Many of the young plutons, which have been determined as Upper Cretaceous to Early Tertiary in age, have been intruded along the east margin of the complex. The Salal Stock, which also lies along the east margin of the complex, is therefore assumed to be Upper Cretaceous to Lower Tertiary in age.

Most, if not all, of the Salal Creek Stock was covered by ice during the Pleistocene glaciation. Glacial striae have been found at elevations up to 7,900 feet. The area has undergone active erosion since the time of maximum ice coverage and glacial sediments are found at present only along the major valley floors and beneath the volcanic flows at the head of Float Creek.

PROPERTY GEOLOGY (See Figs. 3, & 4)

The Salal Creek stock which intrudes the Coast Range Plutonic Complex is a roughly circular body, 35 square miles in area, composed essentially of a coarse grained marginal phase surrounding a fine grained core phase. Other differentiated phases locally occur within the stock.

In places volcanics and glacial sediments form a capping to the stock.

Granitic Rocks - Salal Creek Stock

The granitic rocks of the Salal Creek Stock are divided into four major types. These are:

1) Coarse-Grained Phase
2) Medium-Grained Phase
3) Fine-Grained Phase
4) Fine-Grained Quartz Feldspar Porphyry

For distribution of these types refer to Fig. #3.

Coarse-Grained Phase (Unit 2)

Around the border of the stock is a rim of coarse-grained biotite (and hornblende) bearing quartz monzonite. The average grain size of this coarse-grained phase is 2.0 - 2.5 mm. The rock varies in texture from equigranular to porphyritic. Average phenocryst length in the porphyritic areas is 3.0 - 3.5 mm. The approximate modal composition of the coarse-grained phase is:

Quartz	33.0%
K-Feldspar	32.0%
Plagioclase	32.0%
Biotite	3.0 - 5.0%

The plagioclase is oligoclase in composition (Ab_{76}). The biotite content is variable and seems to increase slightly toward the contact with the surrounding Coast Range rocks. In addition, minor amounts of hornblende are encountered toward the margin of the stock.

Mafic rich inclusions are locally abundant in the coarse-

grained phase. They are sub-rounded, have an average size of 1 ft x 2 ft and are usually found in the vicinity of the Coast Range contact. Numerous inclusions are, however, found in two areas closer to the core of the stock:

a) at Lost Creek at 6,800 ft. elevation in the Coarse-Grained Phase,
b) in the S.E. corner of Windy Glacier at 7,300 ft elevation in the Fine-Grained Phase.

Medium-Grained Phase (Unit 3)

A medium-grained equigranular to porphyritic quartz monzonite phase is intermittently present at the contact between the coarse-grained rim facies and the fine-grained core facies of the stock. The medium-grained phase, when present, seems to be transitional between the coarse and fine-grained phases. A large area of medium-grained rock is present in the vicinity of Lost Creek. On the basis of a single thin section, this medium-grained phase seems to be closely related to the coarse-grained quartz monzonite. The average grain size is 1.0mm and the modal composition is:

Quartz	33.0%
K-Feldspar	31.0%
Plagioclase	33.0%
Biotite	2.0%

The plagioclase is oligoclase (Ab_{76}) in composition.

Further thin section study is needed to adequately resolve the relations between the medium-grained phase and the adjacent rock types.

Fine-Grained Phase (Unit 4)

The core of the Salal Creek stock is composed almost

entirely of fine-grained equigranular to porphyritic biotite granite. The average grain size of the fine grained phase is approximately 0.5mm. Rounded quartz phenocrysts with an average grain size of 1.0 to 1.5 mm are present at many localities.

The average modal composition of the fine-grained phase is:

Quartz	42.0%
K-Feldspar	37.0%
Plagioclase	20.0%
Biotite	1.5%

The plagioclase has a composition of Ab_{76} (oligoclase).

Fine-Grained Quartz Feldspar Porphyry (Unit 5)

Irregularly distributed within the stock are lenses and pods of a very fine-grained, light blue to light grey, porphyritic phase which contains plagioclase, orthoclase and quartz phenocrysts. This lithology is especially well exposed near the contact of the stock with the Coast Range Complex northwest of the junction of the East and West Forks of Salal Creek. It has a composition similar to that of the Quartz-Feldspar Porphyry Dykes. These lenses and pods vary in width from less than 1 ft to tens of feet and are traceable along strike for tens and, rarely, hundreds of feet.

The groundmass has an average grain size of less than 0.25 mm and the average phenocryst size varies from 2-5 mm. The quartz and feldspar phenocrysts are often perfectly euhedral. The modal composition is:

Quartz	45.0%
K-Feldspar	34.0%

Plagioclase	20.0%
Biotite	Less than 1.0%

Berg Stock (Unit 4a)

In the Berg and Beta ground 2 miles to the south and southwest of the Salal Stock a fine-grained to coarse-grained grey equigranular granite, referred to in this report as the 'Berg Stock', intrudes the Coast Range rocks (see Fig. 4). Its composition is similar to that of the fine-grained phase of the Salal Creek Stock. The contact between the Berg Stock and the Coast Range rocks was observed at several localities west of Salal Creek. It is sharp and transgresses the foliation of the Coast Range rocks. Pods of quartz and potash feldspar pegmatite are abundant within the granite near its contact with the Coast Range rocks. Dykes and pods of granitic material (similar to the quartz-feldspar porphyry phase of the Salal Creek Stock) are exposed in stream valleys within the Coast Range rocks north of the Berg Stock. These dykes have chilled borders and cross-cut foliation of the Coast Range. In the Beta group of claims, pods of fine-grained granitic rock form scattered outcrops in the Coast Range. Their contacts are gradational over 1' - 2' and near the contact show crystal lineation parallel to the foliation in surrounding Coast Range rocks.

COAST RANGE ROCKS (Unit 1)

The Salal Creek Stock is located near the eastern edge of the Coast Range Complex and is intrusive into it. The Coast Range rocks near the contact of the Salal Creek Stock are medium to coarse grained, moderately to well foliated, with a composition which varies from granodiorite to quartz diorite. The mafic minerals present in the Coast Range rocks are biotite and horn-

blende with biotite comprising approximately 75% of the total mafic content. A small area of gabbro and diorite is located at the contact of the Salal Creek Stock in the northwest corner of the map area. These rocks are unfoliated. Contact relations between these rocks and the foliated quartz diorites are unexposed.

Coast Range rocks in Berg and Beta ground to the south are medium to coarse grained varying in composition from quartz-diorite to amphibolite. They are moderately well foliated.

Foliation in the Coast Range swings from approximately E - W near the contact with Salal Creek Stock to NW - SE at the southern end of the property. Small mafic rich lenses and inclusions occur within the Coast Range rocks, generally aligned parallel to the foliation.

The estimated modal composition of the quartz diorities, which are the most prevalent rock type in the Coast Range Complex, is:

Quartz	25.0%
Plagioclase	45.0%
K-Feldspar	10.0%
Biotite	15.0%
Hornblende	5.0%

These rocks would be classified as 'b-Quartz Diorite' in the classification system developed by Roddick (1965).

VOLCANICS (Units 8, & 9)

Overlying the Salal Creek Stock in several areas are lava flows and associated volcanogenic fragmental rocks (agglomerates and tuffs). Two major types of volcanic rocks are present. The dominant type is aphanitic, vesicular to massive, basalt. Two smaller areas of more silicic volcanics

(possibly dacites) are exposed on the western edge of the pluton and in a very small area in Trail Creek. In addition, several basalt and dacite (?) plugs are also present within the stock. These plugs vary in size from 25 to 300 feet in diameter.

A small plug exposed in Trail Creek at 5,200 feet has partially melted the surrounding granitic rocks. These granitic rocks show relict unmelted fragments, vesicles, and "columnar jointing" which seems to indicate a vertical movement of the plug through the partially melted granite.

A thick sequence of poorly sorted glacial sediments is present beneath the volcanics at the head of Float Creek. Rounded boulders, up to 3 feet in diameter, of the Coast Range lithology, are interspersed within a silty and sandy matrix. These glacial sediments are poorly indurated and very friable. The basalt volcanics overlying this sequence are clearly post-glacial in age. A thin section from the sedimentary sequence exposed beneath the lava flows northwest of Windy Pass shows that at least some of this material is a vitric tuff rather than a glacial sequence, as formerly believed.

The volcanic sequence exposed about Float Creek consists of two major units. The lower unit is composed of flows and volcanic fragmental rocks and is dark brown in colour. The upper group consists of black, aphanitic, mostly massive, flows with minimum dimensions of 1,000 x 2,000 feet and a thickness of approximately 400 feet. Because of its highly irregular contact with the underlying volcanics, the possibility that this upper sequence is a large intrusive plug has been considered. However, at one poorly exposed locality, flattened vesicles were found which are perpendicular to columnar jointing and which dip 40-45° to the horizontal. In addition, the

very fine grain size and the lack of phenocrysts seems to indicate that these rocks are extrusive rather than intrusive. Magnetic anomalies over these volcanics are much smaller than the anomalies over other large volcanic areas on the property and this also tends to rule out the possibility of the existence of a very large plug within these volcanic rocks.

A pronounced escarpment occuring in the central portion of the Berg Group of claims is composed of volcanic flows and volcanic agglomerates. These rocks are probably related to and of the same age as the volcanic rocks overlying the Salal Creek Stock.

DYKES

Several varieties of mafic and silicic dykes are represented within the map area. Two varieties of aplite dykes are present. They are particularly abundant in the Float Creek to Big Creek area. These white to light grey and blue-grey aplite dykes typically vary in width from ¼ inch to 12 inches. Rarely, wider aplite dykes are found.

Light grey to blue-grey Quartz-Feldspar Porphyry dykes are also common. The porphyry dykes tend to be wider (6" to 3') than the aplite dykes. A few of the porphyry dykes are tens of feet in width. They typically have chilled border zones which lack phenocrysts and commonly display a planar flow structure parallel to the borders of the dyke. These dykes are thought to be similar in composition to the blue-grey aplite dykes. Some of the aplite and porphyritic dykes have been traced along strike for distances up to 150 feet.

The fourth type of dyke encountered in the area is the younger basalt dykes which are related to the Recent volcanism. These dykes commonly vary from 1 to 8 feet in width, and are dark brown to black in colour. They are aphanitic, although at one locality within the Coast Range south of Salal Creek a basalt dyke containing feldspar phenocrysts was observed. The dykes commonly exhibit columnar joints perpendicular to their walls.

To the south of the Salal Stock at two localities basic dykes from 20' to 80' wide were observed. These dykes are fine-grained dark grey phaneritic rocks of apparent dioritic composition. They are unmetamorphosed. These dykes may or may not be related to the Recent volcanism.

In the northwest portion of the Berg Group of claims two pre-metamorphic, foliated, basalt dykes occur. The foliation in these dykes is parallel to the foliation in the surrounding Coast Range rocks.

Specimens of each of the dyke types were collected during the 1971 field season for thin section examination.

AGE RELATIONS WITHIN THE SALAL CREEK PLUTON

Age relations between the various phases of the Salal Creek Stock are difficult to assess. Contacts are typically unexposed or non-diagnostic. However from examination of the map pattern of the entire pluton it seems reasonable that the coarse-grained border phase has been intruded by the fine-grained core phase and that the coarse grained phase is the oldest of the granitic rock types. Preliminary petrographic examination indicates that the medium-grained phase is compositionally very similar to the coarse-grained phase and thus is approximately the same age or slightly younger (Stephens,1970b).

In the Windy Pass - Red Hill area, the medium-grained phase is gradational with the coarse-grained phase and probably formed simultaneously with the coarse-grained phase (Stephens, 1970a). The fine-grained phase constitutes the majority of the core of the pluton. Locally it is intruded by lenses and pods of the fine-grained quartz-feldspar porphyry, as is the coarse-grained marginal phase. Therefore the fine-grained porphyry is the youngest of the major plutonic phases.

Cross-cutting relations between the white, and blue-grey aplite dykes and the quartz-feldspar porphyry dykes have been observed in numerous localities and their age relations determined. In general, the following order of dyke emplacement is valid although rare exceptions have been observed.

The white aplite dykes are cut by both the blue-grey aplite and the quartz-feldspar porphyry dykes and therefore are the oldest of the silicic dykes. Cross-cutting relations between the blue-grey aplite dykes and the quartz-feldspar porphyry dykes have not been observed but they are thought to be contemporaneous and to have a common magmatic origin. The porphyry dykes tend to be larger than the blue-grey aplites and are thought to have cooled more slowly. The quartz-feldspar porphyry dykes show chill margins which lack phenocrysts and sometimes show flow banding parallel to the border of the dyke.

As mentioned previously lenses and pod-like masses of quartz-feldspar porphyry occur within the stock - these bodies are not dykes - the percentage of phenocrysts increases from the center of these bodies toward their margin. The borders of these quartz-feldspar porphyry masses are gradational over a few inches with the surrounding country rock.

The basalt dykes cross-cut all of the silicic dyke types and are much younger.

The aplite and quartz-feldspar porphyry dykes are concentrated chiefly in the coarse-grained phase of the pluton and were probably emplaced simultaneously with or slightly later than the fine-grained core phase. They may therefore be petrologically related to the fine-grained core phase. The basalt dykes are directly related to the Tertiary to Recent volcanism.

PETROLOGY - DISCUSSION

Based on the field and laboratory investigations to date the following relations betweeen the various rock types within the Salal Creek Stock are proposed.

The coarse-grained marginal phase was the earliest phase to crystallize within the stock. It has the composition of quartz monzonite. The coarse-grained phase becomes more mafic-rich toward the contact with the Coast Range Complex. In addition, hornblende is present in minor amounts along the outer edge of the coarse-grained phase.

As this phase crystallized the remaining melt was depleted in calcium and became relatively more potassium-rich. The fine-grained core phase which crystallized from this alkali enriched magma has the composition of a biotite granite. The fine-grained phase also contains significantly less biotite than the coarse-grained phase. To date, no differentiation trends have been found in the plagioclase of these two phases, rather the percentage of potash feldspar increases at the expense of the plagioclase.

The geochemical study undertaken by Barringer Research Ltd. (Smee, 1971; Bradshaw, 1971) confirms the enrichment of potassium relative to calcium in successively crystallizing magmatic fractions.

The Barringer Study also indicates that the medium-grained phase of the pluton is fractionated more than the coarse-grained phase. This result is at variance with the current field and thin section interpretation of the medium-grained phase. Additional petrologic work is necessary to resolve this problem.

The fact that the aplite and quartz-feldspar porphyry dykes occur chiefly within the coarse-grained phase indicates that they are most likely petrologically related to the fine-grained phase. Only rarely had the core phase crystallized sufficiently for the silicic dykes to invade it and be preserved.

The quartz-feldspar porphyry masses and fine-grained equigranular masses which occur in both the fine and coarse grained phases are believed to originate from very late-stage magmatic fractions which have crystallized slowly at first and then rapidly, due to a release of vapor pressure.

The volcanic rocks and related dykes within the map area are much younger than the plutonic rocks and are unrelated, either to the pluton or to the mineralization (although some minor remobilization of sulphides may have taken place locally near these volcanic rocks).

The "granitic" complex located to the north of Tongue Glacier consists of all textural varieties from fine to coarse-grained, equigranular to porphyritic. In this resepct it is similar to the area in the vicinity of Float Creek. Boundaries between the various rock types are gradational generally over 3" or less and no consistent pattern of emplacement is evident. These areas are believed to have crystallized slowly giving rise to the coarse-grained varieties and then again due to a release of the vapor phase, to have cooled more quickly yielding the medium and fine-grained phases. The release of the vapor phase was probably caused by minor tectonic (?) movements which ruptured the outer, semi-solidified shell of the pluton.

The fine-grained granitic complex at Windy Pass possibly had a somewhat similar origin. After nearly complete crystallization of the typical fine-grained phase this semi-consolidated mass was profoundly fractured due to a sudden release in pressure and a silica-rich, highly differentiated, magmatic material was injected along the fractures yielding the "silicified breccia" seen at this locality. The quartz vein stockwork observed here is thought to have formed shortly after the "breccia", with the quartz veins being emplaced along unfilled and incipient fractures within the host rock.

STRUCTURE

As in 1970, considerable emphasis was placed on the study of minor, relatively small, structures. This approach was taken for two reasons: 1) major structures (faults, shear zones, lithologic contacts, etc.) are seldom observed, and 2) a precise chronology of formation can be established for the minor structures. By studying pre-mineralization and post-mineralization features a prob-

able stress field can be established for the time of mineralization. The molybdenite mineralization seems, for the most part, to be very strongly controlled by these stress conditions (since most occurrences are in veins and shear zones). Therefore by studying the orientation of minor structures, possible mineral occurrences and orientations can be established.

Contact Relations with the Coast Range Complex

A notable feature of the Salal Creek Pluton and of the Berg Stock is the lack of features usually associated with intrusive igneous contacts. No chilled border zone is present at the contact between the Salal Creek Stock and the Coast Range rocks. Likewise no protoclastic border or flow structures are present near the boundary of the stock. The contact is unquestionably discordant, the stock sharply truncating the pre-existing foliation of the Coast Range at numerous localities. In addition, off-shoots from the stock (in the form of numerous silicic dykes) are present in great abundance in the Coast Range rocks surrounding the stock.

The foliation within the Coast Range Complex generally trends within ten degrees of E-W and dips steeply either north or south, although significant deviations from this general trend have been observed in several localities, particularly at the southern end of the property. The foliation is formed by parallel arrangement of biotite flakes (or less commonly hornblende needles). The Coast Range rocks are typically well jointed (fractured?) parallel to the foliation direction.

Faults and Shears

Large faults and shears are seldom seen directly in the Salal Creek Stock because of a lack of suitable "marker horizons" (dykes, etc.). These large features are best recognized by their low linear topographic relief. Where suitable "markers" are available, faults are abundant. Many have apparent displacements measured in inches, but a few show feet or occasionally tens of feet of displacement. Topographic lows are developed on Glacier Island and on Logan Ridge at the contact between the coarse-grained and fine-grained phases of the stock. Exposures along the contact are largely non-existent. Some shearing has, however, probably occurred along the contact at these localities as the fine-grained phase was emplaced.

Examination of air photos reveals 4 to 6 parallel lineaments in the northwest corner of the stock which trend approximately N 20 W. These lineaments cut the fine and coarse-grained phases of the stock as well as the rocks of the Coast Range. Ground examination showed evidence of shearing and/or faulting along the largest of these lineaments. A heavily iron-stained fracture zone is present to the southeast of these lineaments and is parallel to them.

Likewise, a series of parallel lineaments striking northeast and dipping northwest occurs in the area between Trail Creek and Cornice Creek. These were investigated on the ground and found to be a set of fractures and shears, most of which are mineralized and some of which are heavily iron stained.

MINERALIZED VEINS

The mineralized veins within the stock exhibit a strong preferred orientation. In general they trend N40-70E, with those in the southern portion of the stock dipping steeply northwest, and those in the northern portion of the stock dipping steeply southeast. The long dimension of the pluton also trends northeast and may reflect a major structural control during both emplacement of the pluton and its subsequent mineralization.

Basalt Dykes

A total of 52 basalt dykes were observed within the Salal Creek Pluton. In general they trend either N15 - 35E and dip 40-60° NW or trend N-S and dip 70-85° E. The NE orientation is the most common.

Aplite Dykes

Aplite dykes occur chiefly in the southern portion of the property and are most abundant within the area of extensive molybdenite mineralization. The aplite dykes are not co-planar with the mineralized veins, but are orientated in a more easterly direction. In the area between Waterfall Creek and Cornice Creek the major dyke trend is N 82 E with a dip of 60° NW. In the Cornice Creek - Big Creek area, the dykes have a preferred orientation of N 74 E and dip 65° NW. In the area NE of Big Creek and below Red Hill the dykes are more randomly oriented. Their preferred attitudes are N 74 E dipping vertically and N 42 W dipping vertically.

The co-occurrence of the aplite dykes and molybdenite mineralization is due to a combination of structural and petrologic controls. The aplites and mineralizing solutions are probably genetically related - that is they represent the last, most highly fractionated phases of the original magma. In addition, a well developed fracture system and other favourable structural conditions must

have been present within the Waterfall Creek - Lost Creek area, and the emplacement of both the dykes and the later mineralization was very strongly controlled by this structural environment.

Joints

Preliminary analysis of joint orientations indicates that two major joint sets and several minor sets are present within the Salal Creek Stock. The two major sets are radial and concentric to the center of the stock. The pluton is highly fractured in most exposures by intersecting joint sets with spacings of six inches or less.

GEOMETRY AND MODE OF EMPLACEMENT OF THE SALAL CREEK PLUTON

The Salal Creek Stock is a small epizonal pluton, which was most likely emplaced at a depth of 5 miles or less below the earth's surface (Buddington, 1959). The geometry of the stock, as deduced from its contact relations with the Coast Range rocks, is that of a vertical body which widens moderately at depth. The vertical extent of the body is, at present, unknown. The presence of 'pendants' of the coarse-grained granitic phase within the fine-grained phase as well as the presence of rounded 'mafic inclusions' (which are presumably recrystallized xenoliths of Coast Range rocks) indicate that the present erosion surface is still relatively close to the top of the pluton.

On the basis of lithology, alteration and mineralization the Salal Creek molybdenum deposit can be best classified as a 'plutonic porphyry deposit'. This class of deposit is defined as follows:

> "Plutonic porphyry deposits are gradational to complex. They share with all porphyry deposits the common ore and alteration mineralogy and, like complex deposits, are associated with plutons of moderately large size and show a relation between ore distribution and faults. They differ in that they are associated with scarcely-porphyritic or non-porphyritic granitic plutons, and breccia zones and pipes are unknown or unimportant. However, they have associated porphyritic phases or dike swarms. Mineralization is largely confined to a fairly regular vein set and alteration tends to be weakly developed and concentrated as envelopes to the veins. Pyrite halos are generally sparsely mineralized." (Brown, et al, 1971).

The lack of certain contact features within the Salal Creek stock, (i.e., the lack of a protoclastic border or a foliation) coupled with the sharp, cross-cutting nature of its contact with the Coast Range rocks indicates that the pluton was emplaced by magmatic stoping while largely in a fluid state.

The lithologic zonation within the Salal Creek Stock is similar to that of other small, zoned, plutons within the western Cordillera. For example, the similarity between the Salal Creek Stock and the Rocky Hill Stock in Tulare County, California, (Putnam and Alfors, 1969) is especially striking.

Other small granitic plutons have been discovered within the Bridge River - Lillooet River areas. These stocks seem to be similar in composition to the Salal Creek Stock and at least some of them contain copper and/or molybdenite mineralization. These stock are thought to be approximately contemporaneous with the Salal Creek Stock and may have originated from the same magmatic source.

ALTERATION

The most obvious feature of the Salal Creek Property is the strong reddish-brown gossan which can be seen from the air at distances of up to 20 miles. The gossan is developed from breakdown of pyrite and hematite which occur extensively within the property. Much black manganese stain is also present and may be the result of oxidation of secondary manganese minerals.

Alteration effects within the exposed rocks at Salal Creek are weak to moderate in intensity. Hydrothermal alteration is most intense in the mineralized area between Lost Creek and Trail Creek. Within this area, the biotite is partially to completely chloritized and the plagioclase is generally weakly to moderately kaolinized. The characteristic pale greenish colour of the altered plagioclase is indicative of kaolinization (Drummond and Kimura, 1969).

Within the area from Trail Creek to Big Creek, a bright pink alteration product of plagioclase phenocrysts was occasionally encountered. This pink material has been identified as illite (Mustard and Fox, 1966; Stephens, 1970b). Also present within this same area are sparse, thin, veinlets of pink manganese epidote/K-feldspar. These veinlets, which cross-cut the host rocks, are most probably hydrothermal in origin.

Sericite occurs along joint planes within this southern mineralized area. Sericite also occurs in 1/2" - 1" quartz-sericite veins on Logan Ridge in the vicinity of the coarse-grained - fine-grained contact.

Thin envelopes of secondary potash feldspar were seen surrounding quartz veins in several fine-grained float blocks along the east side of Mud Lake.

In the Mud Lake - Glacier Island locale, biotite shows partial chloritization and plagioclase phenocrysts have been altered to illite in several outcrops.

Within the Trail Creek - Lost Creek area an alteration zoning pattern is evident. Chlorite is developed widely within the Cornice Creek - Lost Creek area. Kaolinization of the plagioclase is limited to a smaller area and is most intense between Cornice Creek and Big Creek. Within this same area, manganese epidote/K-feldspar veinlets, sericite along joint planes, secondary illite, and silicification of wall rock occur in very restricted areas.

Wall rock alteration effects are very pronounced immediately adjacent to the quartz-pyrite-molybdenite veins within the claims area. Biotite is completely absent within these border zones. The altered rock has been kaolinized and silicified and is generally fine to medium-grained regardless of the original grain size of the parent rock.

No alteration effects were observed in outcrops of the Berg stock to the south.

The major secondary minerals and alteration products within the rocks of the Coast Range Complex are epidote and chlorite. The chlorite typically occurs as an alteration product of the mafic minerals within the rocks, and the epidote occurs as thin (1/16") veinlets which typically cross-cut the foliation of the Coast Range rocks. The Coast Range rocks show only weak alteration effects.

MINERALIZATION

Molybdenite is chiefly located within the coarse-grained phase near the contact with the fine-grained phase. Significant concentrations occur at Glacier Island, Mud Lake, and in the Trail Creek - Lost Creek area.

Molybdenite mineralization is of three major types: 1) in veins and shears - associated with quartz and/or pyrite; 2) as 'dry' joint and vein fillings, and 3) as disseminated molybdenite within the host rock. By far the most dominant type observed is the vein development. Molybdenite occurring as joint coatings and disseminations is much less abundant than the vein-type mineralization.

The larger molybdenite veins generally exhibit a "ribbon-type' development. They consist of alternating 1/16" - 1/8" quartz and molybdenite stringers. Pyrite, when present, is often confined to the center of the vein.

Disseminated molybdenite has been observed by the writer at only one locality in the south-central area of Glacier Island.

Other minerals present within the map area are chalcopyrite, galena, specular hematite, pyrite, magnetite, bornite, malachite, and azurite. In addition relatively high concentrations of lead, zinc, and silver have been determined by geochemical analysis in the Glacier Island, Mud Lake and Red Hill areas.

A small occurrence of malachite was noted in the northwest corner of the large volcanic field east of Trail Creek. The malachite occurs as vesicle fillings over a 2-3 foot area. No primary copper minerals were observed.

Small amounts of malachite and azurite were also observed in a non-foliated 'gabbroic' phase of the Coast Range Complex directly below the volcanics near the northwestern corner of the pluton. Again no primary copper minerals were discernible. Minor malachite was observed in the coarse-grained phase of the Salal Creek Stock in the vicinity of Tongue Glacier and Mud Lake. The malachite occurs as very thin and discontinuous fracture coatings.

In the Coast Range rocks to the south of Salal Creek Stock, mapping of the ground staked in 1970 disclosed little mineralization. In the Berg Group of claims, malachite was observed with pyrite in narrow (6"-24" shear zones in Coast Range rocks. The shears trend between N 05° E and N 20° E and dip steeply to the southeast. The mineralized zones are believed to occur irregularly around the perimeter of the Berg Stock and to be genetically related to the stock.

Within the Coast Range rocks in the Beta group of claims pyrite occurs disseminated and along planes in narrow (1'-10') shears and fracture zones. Narrow (1/8"-1/2") veins and fracture fillings of hematite and magnetite were also observed at a few localities. No primary or secondary copper or molybdenum minerals were seen.

Within the Berg Stock no copper or molybdenum minerals were seen. The only metallic mineral observed was magnetite which occurs as an accessory mineral.

CONTROL OF MINERALIZATION

The molybdenite mineralization within the Salal Creek Stock is both structurally and chemically controlled. The mineralized veins have a strong preferred orientation. In general they strike NE-SW. Veins in the southern portion of the stock dip steeply (60° or more) to the southeast. The chemical control of the mineral zoning is not yet understood. All observed occurrences of pyrite, magnetite and hematite were recorded and from the data, zones delineated for each mineral. The major mineral zones are generally concentric to the core of the stock and exhibit a high degree of overlap (see Fig. 9). Hematite and magnetite zones are confined to the south and west. The pyrite zone wraps entirely round the stock. At this stage mineral zoning does not show any consistent pattern related to molybdenite occurrence.

SAMPLING

In the course of the mapping program a number of grab and continuous chip samples were collected. The most extensive sampling was carried out be a prospector and assistant on outcrop in creeks flowing south into the West Fork of Salal Creek. The 1970 geochemical silt

sampling disclosed a number of highly anomalous copper and molybdenum values in silts. Examination of the ground, while disclosing a few scattered occurrences of molybdenite in quartz + pyrite veins, showed no primary copper minerals. A trace of malachite (along a fracture plane) was seen in float at one locality.

Samples were collected from 50' sections within the most intensely fractured and mineralized zones. Chips were collected every two to three inches along the section and surface weathering removed. The samples were assayed for copper and molybdenite content.

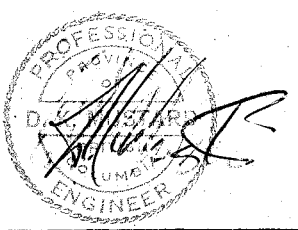
The results are shown in Fig. 5. The average of all the samples is as follows:

No. of Samples	Distance Sampled	Cu %	MoS_2 %
22	1100 ft.	< 0.01	0.003

CONCLUSIONS AND RECOMMENDATIONS

The mapping program at Salal Creek has thus far been concerned with determining the nature of and inter-relations between the various granitic phases and examining the orientation of numerous minor structures as an aid to understadning the structural history, and determining the most promising areas of mineralization. Broad areas containing significant amounts of molybdenite have been outlined.

The ground to the south and southwest of the Salal Stock locally contains minor amounts of copper minerals but nowhere in sufficient concentration to be of economic interest. Additional work on the property should be confined to the most promising areas in the Salal Stock.



D.K. Mustard, B. Sc., P. Eng.

C.B. Campbell, B. Sc.

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Brown, A.S., et al, 1971, Metallogeny of the Canadian Cordillera: CIMM Bulletin, May 1971, pp 37-61.

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Stephens, G.C., 1970b, Petrography and Petrology of a Portion of the Salal Creek Stock: 16 p.

APPENDIX I

TIME & COST DISTRIBUTION

APPENDIX I

TIME & COST DISTRIBUTION

WAGES:		
D.K. Mustard, B.Sc., P. Eng., Division Geologist August 5, 1971 - 1 day @ $150.00 per day		$ 150.00
C.B. Campbell, B.Sc., Project Geologist July 7th to 26th, August 4th to 25th, September 23rd to 27th, 1971. 47 days @ $75.00 per day		3,525.00
J.S. Pomeroy, Field Geologist July 7th to 26th, August 4th to 25th, September 23rd to 27th, 1971 47 days @ $40.00 per day		1,880.00
A.R. Findlay, Senior Geologist July 21st to 26th, 1971 6 days @ $50.00 per day		300.00
J. Wilfert, Field Assistant July 13th to 31st, August 1st to 31st, September 1st to 5th, 1971 55 days @ $25.00 per day		1,375.00
FIELD CAMP MAINTENANCE		
C.B. Campbell, J.S. Pomeroy, A.R. Findlay, J. Wilfert:	155 man days	
G.Stephens-Alrae Engineering	61 man days	
M. Hartman-Contract Sampling	5 man days	
L. Tattersall-Contract Sampling	5 man days	
Each man day@ $10.00 x	226 man days	2,260.00
TRANSPORTATION		
2 Wheel drive - 7 trips Pemberton Meadows to Vancouver return - 7 x 240 mi = 1680 mi @ 12¢/mi		201.60
Helicopter (Okanagan Helicopters) 20 1/3 hrs @ $250.00 per hour		5,084.19
PROFESSIONAL CONSULTANTS		
G.C. Stephens, M.Sc., Geologist (Alrae Engineering) Services for 2 months July 7th to September 5th, 1971		2,750.00
Contract Prospecting & Sampling:		
L. Tattersall - September 23rd to 27th, 1971		357.00
M. Hartman - September 23rd to 27th, 1971		356.91

Continued Page 2

CHEMICAL ANALYSES:	
Vangeochem Labs. Ltd.	$ 35.70
Barringer Research	8.00
Bondar Clegg	149.60
COMMUNICATIONS: Rental, Insurance	
Spilsbury Tindall - rental 2-SBX11	771.54
Alrae Engineering - rental 2-WalkieTalkies	20.00
DRAFTING & REPRODUCTIONS:	106.51
REPORT PREPARATION:	
Cerro Mining Company of Canada Limited	375.00
	$19,706.05

#

APPENDIX II

PERSONNEL

APPENDIX II

PERSONNEL

D.K. Mustard, B.Sc., P.Eng. Division Geologist 1430 - 9th St., West Vancouver	August 5, 1971
C.B. Campbell, B.Sc., Project Geologist, #701 - 2145 Bellevue Ave., West Vancouver, B.C.	July 7th to 26th, August 4th to 25th, September 23rd to 27th,1971
G.C. Stephens, M.Sc., Department of Geological Sciences, Lehigh University, Bethlehem, Pennsylvania.	July 7th to September 5th, 1971.
J.S. Pomeroy, Assistant Geologist, 2436 West 8th Ave., Vancouver, B.C.	July 7th to 26th, August 4th to 25th, September 23rd to 27th,1971
J. Wilfert, Field Assistant. 13585 Cedarway, Maple Ridge, B.C.	July 13th to 31st, August 1st to 31st, September 1st to 5th,1971
Lloyd Tatersall, Apt. # 1, 1305 - 104th Ave., Surrey, B.C.	September 23rd to 27th, 1971
M. Hartman, c/o Box 819, Williams Lake, B.C.	September 23rd to 27th, 1971.
A.R. Findaly, B.A., Graduate Student, Dept. of Geology, Carleton University, Ottawa 1, Ontario.	July 21st to 26th, 1971

CERRO MINING COMPANY OF CANADA LIMITED

DIVISION: WESTERN PROVINCE: B.C.

SALAL CREEK MOLYBDENUM PROPERTY
ASSAY AND GEOCHEMICAL PLAN

SCALE: 1" = 1000'		N.T.S. 92 J 14 W
DRAWN:	CHECKED:	PROJ. NO. 2116
REVISED:	DATE: Nov. 17, 1971	DWG. NO.

TO ACCOMPANY - GEOLOGICAL REPORT Salal Creek Molybdenum Property, Lillooet, M.D. Mineral Claims R 1-32, Ball 1-16, Bat 1-16, EE 1-15, EE 17-49, Best 1-116, Beta 1-74, Berg 1-40.

D.K. Mustard
C.B. Campbell
Nov. 19, 1971

LEGEND

QUATERNARY

10 — VALLEY FILL

TERTIARY RECENT

9 — LAVAS, NECKS, DYKES, PREDOMINANTLY BASIC, BUT INCLUDES SOME ACID TYPES, AGGLOMERATES, TUFFS

DYKES, MAINLY BASIC, BUT INCLUDES SOME ACID TYPES

8 — GLACIAL SEDIMENTARY SEQUENCE

UPPER CRETACEOUS - PALEOCENE

7 P — QUARTZ-FELDSPAR PORPHYRY DYKES

A — ACID DYKES

6 — FINE GRAINED LEUCOGRANITE

5 — FINE GRAINED PORPHYRITIC BIOTITE GRANITE

4 — FINE GRAINED BIOTITE GRANITE

3 — MEDIUM GRAINED EQUIGRANULAR AND PORPHYRITIC QUARTZ MONZONITE

2 — COARSE GRAINED EQUIGRANULAR AND PORPHYRITIC QUARTZ MONZONITE

xxxx — MAFIC INCLUSIONS

CRETACEOUS - COAST RANGE PLUTONIC COMPLEX

1 — QUARTZ DIORITE, DIORITE, GRANODIORITE, GABBRO, AMPHIBOLITE

PRE-METAMORPHIC BASALT DYKES

OUTCROP, OUTCROP NUMBER

GEOLOGICAL CONTACT (DEFINED, APPROXIMATE, ASSUMED)

SHEAR ZONE (VERTICAL, INCLINED)

FAULT

BEDDING

FOLIATION (VERTICAL, INCLINED)

BAT 8 — CLAIM NAME, BOUNDARY

6000 — TOPOGRAPHIC CONTOUR (CONTOUR INTERVAL 250')

GLACIER BOUNDARY

VALLEY FILL BOUNDARY

+ STAR 49-56 — CLAIM POST

PROPOSED DIAMOND DRILL HOLE

GEOCHEMICAL SAMPLES

□CR-7(-,-,54) ROCK SAMPLE LOCATION, NUMBER (-, ppm Mo, ppm Cu).

ASSAY SAMPLES

○CR-8(-,0.006,-) ROCK GRAB SAMPLE LOCATION, NUMBER (% MoS2, % Mo, % Cu).

□HR-30(0.001,-, 0.01) ROCK CHIP SAMPLE LOCATION, NUMBER (% MoS2, % Mo, % Cu).

Note: All sample nos. prefixed with 40009

FIG 5

TO ACCOMPANY - GEOLOGICAL REPORT Salal Creek Molybdenum Property, Lillooet M.D.
Mineral Claims R 1-32, Ball 1-16, Bat 1-16, EE 1-15, EE 17-49, Best 1-116, Beta 1-74, Berg 1-40
D.K. Mustard Nov. 19,1971
C.B. Campbell

FIG. 9

CERRO MINING COMPANY OF CANADA LIMITED
DIVISION WESTERN PROVINCE B.C.

SALAL CREEK MOLYBDENUM PROPERTY
MINERAL ZONING MAP
BASED ON FIELD OBSERVATIONS

SCALE 1" = 2000' N.T.S. 92J/NW
DRAWN A.R. CHECKED PROJ. NO. 208
REVISED DATE NOV. 1971 DWG. NO.

BRIDGE

RIVER

5000

5000

7500

RED HILL GL

WINDY GL

PLUG MINERAL CLAIMS

SALAL GLACIER

BAT MINERAL CLAIMS

BEST MINERAL CLAIMS

BALL MINERAL CLAIMS

EE MINERAL CLAIMS

TOVGUE GL

R MINERAL CLAIMS

5000

BERG MINERAL CLAIMS

Salal Creek

BETA MINERAL CLAIMS

TO ACCOMPANY - GEOLOGICAL REPORT Salal Creek Molybdenum Property, Lillooet, M.D. Mineral Claims R 1-32, Ball 1-16, Bat 1-16, EE 1-15, EE 17-49, Best 1-116, Beta 1-74, Berg 1-40.

D.K. Mustard
C.B. Campbell Nov. 19, 1971

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA D. K. MUSTARD

LEGEND

- Claim boundary, approximate
- 5000' Topographic contour (contour interval 500')
- Creek
- Lake
- Glacier boundary

3370 M-2

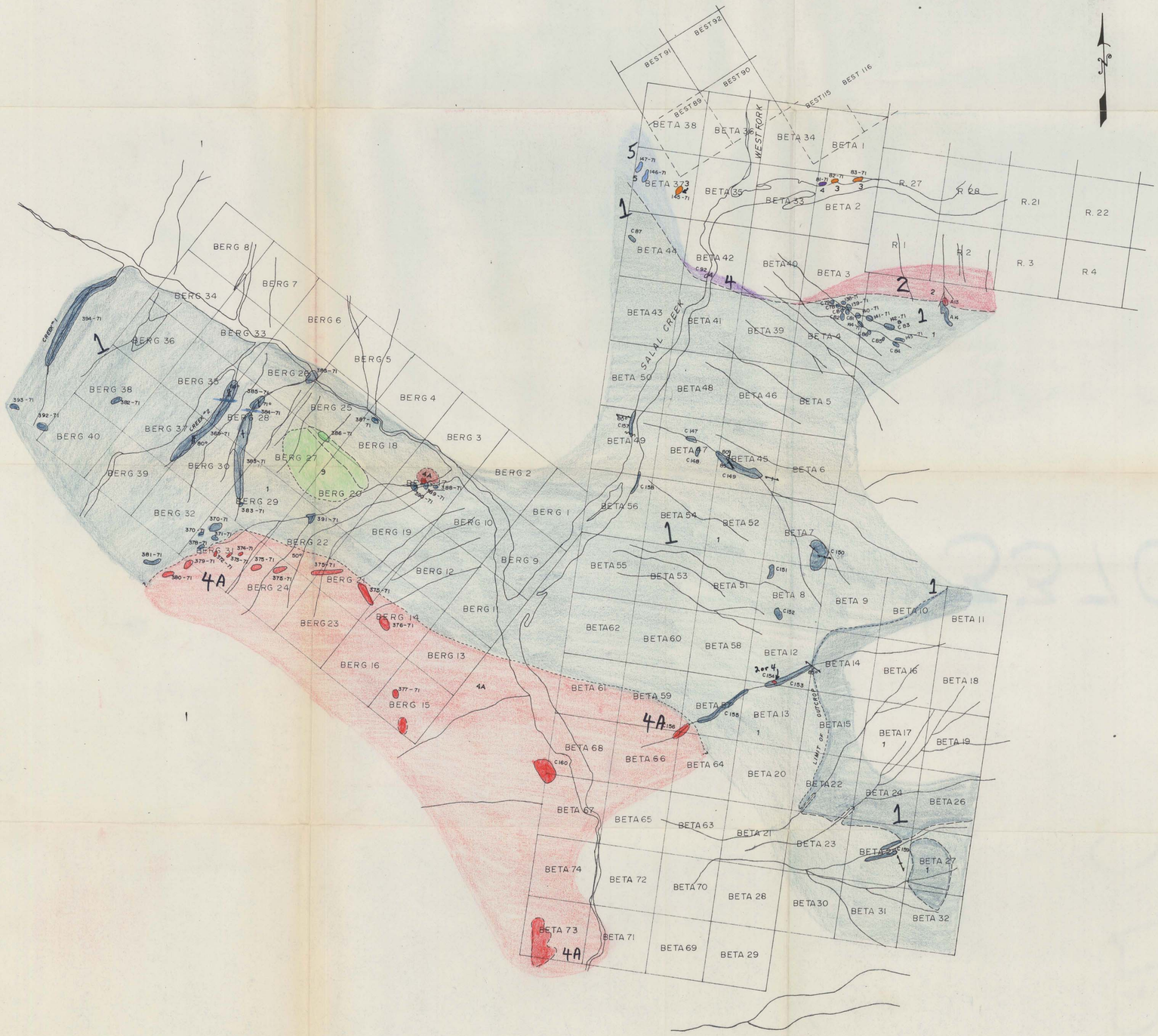
Fig. 2

CE MINING CO. COMPANY OF CANADA LIMITED
SION WESTERN PROVINCE B.C.

SALAL CREEK MOLYBDENUM PROPERTY

CLAIM MAP

SCALE 1:50000 NTS 92 J 14W
DRAWN CHECKED No. 40009
AHS 1/2/71



LEGEND

QUATERNARY

10 — VALLEY FILL

TERTIARY RECENT

9 — LAVAS, NECKS, DYKES, PREDOMINANTLY BASIC, BUT INCLUDES SOME ACID TYPES, AGGLOMERATES, TUFFS

DYKES, MAINLY BASIC, BUT INCLUDES SOME ACID TYPES

8 — GLACIAL SEDIMENTARY SEQUENCE

UPPER CRETACEOUS - PALEOCENE

7P — QUARTZ-FELDSPAR PORPHYRY DYKES

A — ACID DYKES

6 — FINE GRAINED LEUCOGRANITE

5 — FINE GRAINED QUARTZ-FELDSPAR PORPHYRY

BERG STOCK

4 — FINE GRAINED EQUIGRANULAR AND PORPHYRITIC BIOTITE GRANITE

4A — FINE TO COARSE GRAINED EQUIGRANULAR BIOTITE GRANITE

3 — MEDIUM GRAINED EQUIGRANULAR AND PORPHYRITIC QUARTZ MONZONITE

2 — COARSE GRAINED EQUIGRANULAR AND PORPHYRITIC QUARTZ MONZONITE

XXXX — MAFIC INCLUSIONS

CRETACEOUS - COAST RANGE PLUTONIC COMPLEX

1 — QUARTZ DIORITE, DIORITE, GRANODIORITE, GABBRO, AMPHIBOLITE

PRE-METAMORPHIC BASALT DYKES

C152 / 142-71 — OUTCROP, OUTCROP NOMBER

GEOLOGICAL CONTACT (DEFINED, APPROX., ASSUMED)

SHEAR ZONE (VERTICAL, INCLINED)

BEDDINGS

FOLIATION (VERTICAL, INCLINED)

BETA 5 — CLAIM NAME, BOUNDARY

3 None

M-4

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA D. K. MUSTARD

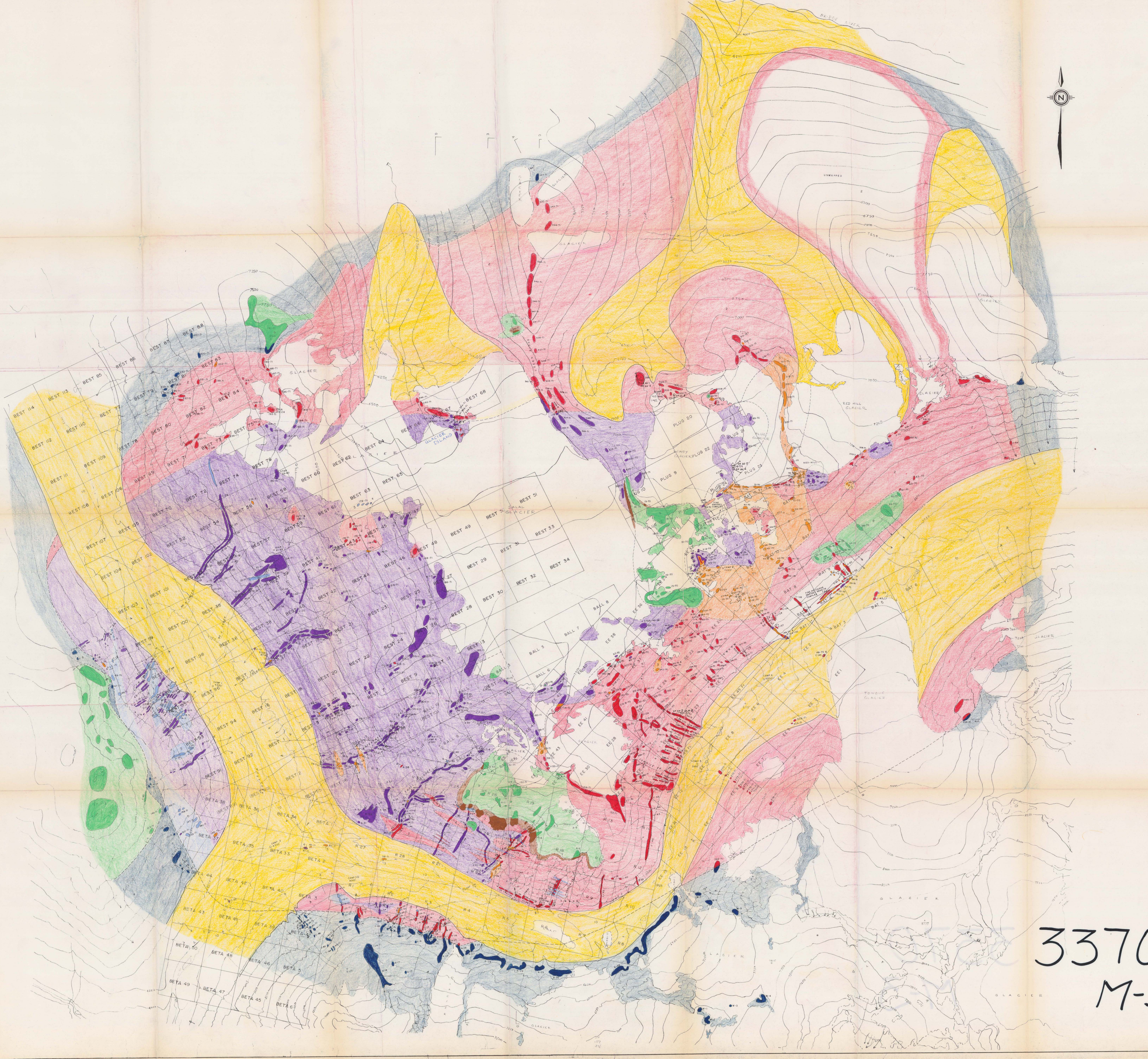
TO ACCOMPANY- GEOLOGICAL REPORT Salal Creek Molybdenum Property, Lillooet M.D. Mineral Claims R 1-32, Ball 1-16, Bat 1-16, EE 1-15, EE 17-49, Best 1-116, Beta 1-74 Berg 1-40.
D.K. Mustard
C.B. Campbell Nov. 19, 1971

FIG. 4

CERRO MINING COMPANY OF CANADA LIMITED		
DIVISION: WESTERN		PROVINCE: B.C.
SALAL CREEK MOLYBDENUM PROPERTY		
GEOLOGICAL PLAN		
SCALE: 1 Inch = 1/4 Mile		N.T.S. 92 J / 14W
DRAWN: J.S.P.	CHECKED:	PROJ. NO: 2116
REVISED:	DATE: 11/15/71	DWG. NO:

3370

SKETCH PLAN BASED ON B.C. GOVERNMENT AIR PHOTOGRAPHS No's. B.C. 5146-023, 024.



3370
M-3

LEGEND

QUATERNARY

- 10 — VALLEY FILL

TERTIARY RECENT

- 9 — LAVAS, NECKS, DYKES, PREDOMINANTLY BASIC, BUT INCLUDES SOME ACID TYPES, AGGLOMERATES, TUFFS
- (dyke symbol) — DYKES, MAINLY BASIC, BUT INCLUDES SOME ACID TYPES
- 8 — GLACIAL SEDIMENTARY SEQUENCE

UPPER CRETACEOUS - PALEOCENE

- 7 P — QUARTZ-FELDSPAR PORPHYRY DYKES
- A — ACID DYKES
- 6 — FINE GRAINED LEUCOGRANITE
- 5 — FINE GRAINED QUARTZ-FELDSPAR PORPHYRY
- 4 — FINE GRAINED EQUIGRANULAR AND PORPHYRITIC BIOTITE GRANITE
- 3 — MEDIUM GRAINED EQUIGRANULAR AND PORPHYRITIC QUARTZ MONZONITE
- 2 — COARSE GRAINED EQUIGRANULAR AND PORPHYRITIC QUARTZ MONZONITE
- XXXX — MAFIC INCLUSIONS

CRETACEOUS - COAST RANGE PLUTONIC COMPLEX

- 1 — QUARTZ DIORITE, DIORITE, GRANODIORITE, GABBRO, AMPHIBOLITE
- (dyke symbol) — PRE-METAMORPHIC BASALT DYKES
- 21-70, 291-71, C 11, J5, W 3 — OUTCROP, OUTCROP NUMBER
- GEOLOGICAL CONTACT (DEFINED, APPROXIMATE, ASSUMED)
- SHEAR ZONE (VERTICAL, INCLINED)
- FAULT
- BEDDING
- FOLIATION (VERTICAL, INCLINED)
- BAT 8 — CLAIM NAME, BOUNDARY
- 6000 — TOPOGRAPHIC CONTOUR (CONTOUR INTERVAL 250')
- GLACIER BOUNDARY
- VALLEY FILL BOUNDARY
- + STAR 49-66 — CLAIM POST
- PROPOSED DIAMOND DRILL HOLE
- SM 66-1 — SOUTHWEST POTASH CORP. D. D. H.
- NORPAX NICKEL D. D. H. (LOCATION APPROXIMATE)

TO ACCOMPANY - GEOLOGICAL REPORT Salal Creek Molybdenum Property, Lillooet, M.D. Mineral Claims R 1-32, Ball 1-16, Bat 1-16, EE 1-15, EE 17-49, Best 1-116, Beta 1-74, Berg 1-40.
D.K. Mustard Nov. 19,1971
C.B. Campbell

FIG. 3

CERRO MINING COMPANY OF CANADA LIMITED	
DIVISION: WESTERN	PROVINCE: B.C.
SALAL CREEK MOLYBDENUM PROPERTY	
GEOLOGICAL PLAN	
SCALE: 1" = 1000'	N.T.S: 92J/14W
DRAWN: A.S. / CHECKED:	PROJ. NO: 2116
REVISED: / DATE: NOV. 1971	DWG. NO: