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RIO MOLY PROJECT

for

Rio Tinto Canadian Exploration Ltd.

by

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SUMMARY

The Rio Moly project covered selected areas in many parts of map sheets 82F and 82K. Most of this work was directed to finding exploration targets for porphyry molybdenite deposits; however, targets for other metals which could be investigated with a minimal amount of work also received some attention.

The main target for molybdenite exploration, that at Aylwin Creek, has been mapped and prepared for a drill program. The work on this prospect is described under a separate report.

In the remainder of the area targets which merit varying amounts of additional attention might be grouped under the following metallic or genetic types:

(a) Targets for strata bound lead-zinc (e.g. Boyd Creek and Zwicky)

(b) Targets for porphyry molybdenite (e.g. Slocan Target and Ymir Creek area).

(c) Precious metal targets (e.g. Nelson Mining Camp).

In most of these cases the compilation and reappraisal of the field data and geochemical results in the post season work has indicated a necessity for additional amounts of field follow-up.

The strata bound lead-zinc bets include the Zwicky Target which is essentially a manganese-rich horizon near camps of silver-lead-zinc deposits. The 1979 work failed to locate the old trenches or turn up any geochemical anomalies. Post season compilation and reconsideration leave the author dissatisfied with the amount of work done. Therefore, recommendations have been made for an additional few days of investigation. Similarly the data from the Boyd Target are not conclusive enough to completely eliminate the possibility of some lead-zinc mineralization within the phyllitic strata. Although no specific recommendation has been made for additional work, one additional day of investigation is warranted if it can be conveniently done in conjunction with other work.

The writer is also not satisfied that the Slocan Target has been adequately investigated for porphyry molybdenite deposits. This target is in the same geological setting as the Aylwin Creek Target and, in view of the success outlining a drill target at Aylwin Creek, additional work should be done at Slocan. This work would occupy a two-man crew for three or four days.

The most intruging area for porphyry molybdenite exploration is that at Huckleberry Creek northeast of Ymir. The Bismuth Study has detected very high bismuth in the ore from the veins in this area and it also indicated similar targets to the south in the Porcupine Creek drainage basins. The limited amount of investigation did reveal some hornfelsed sediments, some of which carry anomalous molybdenum. Thus these targets warrant some additional field ob-

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servations by J.R. Woodcock and at least one week of additional sampling by a two-man crew.

No good targets for molybdenite exploration were found in the Nelson Mining Camp. However, there are still some bets for precious metals. Three such targets have been briefly examined and are discussed. Recommendations are made for the collection, compilation and appraisal of data on all prior work to determine how much and what kind of field work is warranted.

In addition isolated samples of altered or pyritic rock (e.g. Beavervale Creek; along highway east of Keno Creek) have returned anomalous molybdenum or copper. These rock exposures should be examined to determine if further geochemical work is warranted.

J.R. Woodcock

January 29, 1980

J.R. Woodcock

INTRODUCTION

The Rio Moly Project was instigated as a search for molybdenum deposits for Rio Tinto Canadian Exploration Ltd. Initially portions of the map sheet 82 F and 82 K were selected for exploration for several reasons:

a) Trout Lake deposit appears to be the highest grade molybdenite deposit in British Columbia; it has focused attention on the southeastern part of British Columbia as a potential area.

b) This region of British Columbia has the infrastructure established so that development costs would be relatively low compared to the remote parts of western Canada. Also access roads extend to much of the area of interest. These access roads are especially important when considering exploration by deep drilling.

c) The geology is permissive for molybdenite deposits with the added attraction of having some known prospects and having the only major negative gravity anomaly of British Columbia. The major portion of this gravity anomaly is elongated in the vicinity of the Rocky Mountain Trench where it is coextensive with the regions of Windermere and Palaeozoic strata. However, on its southern end it bulges westerly to include the Nelson batholith and several smaller batholiths to the east of the Nelson batholith .

The Nelson batholith and its vicinity were considered particularly attractive because of the presence of a number of lead-zinc veins which are not strata form. These are epigenetic and could be related to mineralizing heat centers.

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The selection of specific target areas was based largely on geology. If these targets were in vegetated areas, detailed silt sampling, along with some soil samples where drainages are sparse, was the first tool to be applied.

In addition to selecting geological targets in covered areas, the geology around old prospects was examined with a view to finding significant stockwork or hydrothermal alteration. It is this technique that led to the Aylwin prospect.

Another important tool used in selecting targets was aerial reconnaissance and the search for gossan zones. During this aerial reconnaissance additional data was noted including the areas that could be eliminated because of extensive and well exposed barren areas with no gossans whatsoever.

During this work more samples were selected from veins especially, within the Nelson Batholith. These were analyzed both for bismuth and for lead with a view to finding high bismuth/lead ratios. Nearly every major stockwork molybdenite deposit of North America does have a number of lead-bismuth sulpho-salts in the late polymetallic veins.

In addition to search for porphyry molybdenite deposits, exploration targets for other types of metals were investigated if they occurred within the area of search. Such a target included the strata bound manganese mineralization near Zwicky.

The work on the project was done largely by four people including J.R. Woodcock, a second geologist - Dennis Gorc, a prospector - Paul Stanneck and a university student - Dave Miller. In addition some casual employment was hired locally for short periods of time. The field work commenced in about mid June and continued throughout the summer till the end of September.

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In the presentation of data, separate maps have been made for most of the geological targets. These target areas shown on the index map (figure 1), include Boyd, Poplar Creek, Payne Creek, Zwicky, Sandon, Slocan, Doctor Creek, Nelson Mining Camp, Keno Creek, Beavervale and the Nelson and Salmo Areas. The results of the bismuth research are given on separate maps (scale 1:125,000) and the results of the work at Aylwin Creek are presented in a separate report. The Aylwin Creek property was the most significant prospect found in the program and entailed much of the work in the latter part of the summer and in the post field work report compilation.

After completion of the work in southeastern British Columbia and a brief period of office work in Vancouver, some aerial reconnaissance work was done near Taseko Lake. This aerial work plus some literature studies indicated interesting targets and two of these were staked in October. No work has been done in 1979 on these two claim groups (the Tas and the Vic) and so the targets will not be discussed in this report.

BOYD TARGET

INTRODUCTION

In 1976, a geochemical reconnaissance program directed by J.R. Woodcock revealed lead-zinc anomalies in the basin of Boyd Creek. Follow-up work indicated that these anomalous values came largely from an overburden area and that this overburden was probably underlain by rocks of the Badshot Formation and the Hamill or Lardeau Group. Claims were staked and the source of the anomalous geochemistry was defined by a soil survey.

Prospecting and sampling along a creek at one end of the soil anomaly indicated that much of the anomalous metal was coming from pyllitic rocks. One rock sample taken over a stratigraphic interval of 1.5 feet returned 1% zinc and 0.23% lead. This indicated the potential for some disseminated lead and zinc in the pyllites of the area. Previous investigations of the region have all concentrated on the small scattered veinlets or pods of galena associated with irregular dolomitized zones in the Badshot limestone. Old crown-granted claims covering such showings extend from the head waters of Boyd Creek in a south-southeasterly direction almost to Duncan Lake.

In 1979 a one day trip to Silver Creek, on strike with and 2.5 miles southeast of the Boyd Claims, returned a number of anomalous silt samples. This prompted a second visit to the area, more detailed silt sampling along one of the anomalous streams and rock chip sampling across the anomalous stratigraphic interval.

The results of this two days of work are described in this report and illustrated in Figures 2 to 7.

LOCATION AND ACCESS

The work area is located about 12 miles NWE of the village of Trout Lake on map sheet 82K-14W. The work area covers the upper basin of Silvertip Creek, a tributary of the Westfall River. The topography of the region is very rugged and access to the area can only be achieved by helicopter. Elevations range from 5100 feet to 8500 feet with much of the region above treeline.

GENERAL GEOLOGY

The area of interest lies within a northwest trending belt of sediments of the Lardeau Group (Lower Cambrian to Lower Mississippian or older) near the northern contact of this belt with the underlying Badshot Formation (Lower Cambrian) and Hamill Group (Hadrynian and/or Lower Cambrian). The Badshot Formation, a limestone unit often dolomitized, provides an excellent marker horizon in the area and is the upper limit of the stratigraphic interval of interest. Underlying the Badshot Formation (to the east) are phyllites, quartzites and minor limestones of the Hamill Group. Overlying the Badshot Formation to the west is a thick phyllitic member of the

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Lardeau Group, containing lesser amounts of limestone, phyllitic limestone and greenstone.

Small sphalerite and galena showings are a common feature of the Badshot Formation and crown grants staked by prospectors are commonly found along the Badshot Formation. In fact, several such crown grants are located between the work area and the Boyd property.

LOCAL GEOLOGY

The present work did not include a detailed study of the stratigraphy. However, observations of the lithology were made and noted during the rock chip sampling.

The description of the sequence will begin at the Badshot limestone and proceeds stratigraphically upwards to the southwest. For convenience of reference, the various lithologic units are labelled A to F (Figure 2). Thickness of the units were not measured; however, good estimates can be obtained from the geological map as dips within the area are near vertical.

The Badshot Formation consists of three units. The lower unit is a foliated, greyish-weathering limestone. This is followed by a more resistant foliated brownish-weathering limestone, which in turn is overlain by white limestone, laminated with greyish streaks. Within the Badshot Formation are local dolomitized pockets.

Unit A of the overlying Lardeau Group is grey phyllite with minor interbedded limestone. This includes a 10-foot to 20-foot transition unit, near the contact with the Badshot, which contains a significant proportion of limestone.

Unit B consists of interbedded white laminated limestone, dark brown limestone and/or dolomite and grey limestone; the laminated white limestone is dominant. Near the upper contact of this unit is a small 6-foot long pocket of pyrite-sphalerite-galena mineralization. This material assayed 260 ppm lead and 30,000 ppm zinc. The remainding 30 feet of this member is cut by several small quartz veins containing small amounts of galena. This sample assayed 120 ppm lead and 1860 ppm zinc.

Unit C is a well foliated grey phyllite containing only very minor limestone. One 2-foot limestone bed stands out sharply and could probably be used as a marker bed.

Unit D is a relatively thin unit of white and grey laminated limestone. Small quartz veins, containing minor but noticeable galena, are found near the base of the member.

Unit E is another well foliated grey phyllite unit. Some calcareous horizons are found within the member.

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Unit F, also a well foliated phyllite unit, is noticeably different in appearance from the grey phyllite members previously described. It has a black colour due to the abundant graphitic material. This graphite is not concentrated along bedding places, but is disseminated throughout the phllite. The contact with underlying Unit E is very sharp. The upper contact of Unit F is obscured by the debris of the valley.

GEOCHEMISTRY

Stream Geochemistry

Drainage patterns within this region can be very irregular because streams can disappear through sink holes and remain underground for significant distances. These characteristics therefore must be taken into consideration when interpreting the stream geochemistry results.

Lead Geochemistry

Two zones of anomalous lead values stand out on the map. The main anomaly, north of Silvertip Creek, cuts across the stratigraphic sequence. Almost every sample taken along two streams is highly anomalous with values ranging up to 640 ppm lead. The rock sampling was done along one of these streams. Note that the anomalous silt values continue beyond the Badshot Limestone into the phyllites of the Hamill Group.

The second area lies south of Silvertip Creek (sample No's M22, M23 303, 304). This is on strike with the north anomalous area. Note that the higher lead values come from streams draining areas underlain by the Hamill Group.

One should note that few streams to the west and to the east of this zone are anomalous. This suggests a fairly distinct stratigraphic interval anomalous in lead. This interval would comprise the lower part of the Lardeau Group, the Badshot Formation and the Upper part of the Hamill Group.

The source for some of the lead is certainly the lead-zinc mineralization previously described but this mineralization is found primarily along the lower part of streams and does not account for the anomalous values stratigraphically below the Badshot Formation.

Zinc Geochemistry

The zinc geochemical map shows a similar pattern to that of lead and defines a similar stratigraphic interval which is anomalous, with one important exception. In the northern anomalous area the traversing terrain underlain by the Hamill Group are anomalous in

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lead but not in zinc. Anomalous zinc values on these streams are only found over strata of the Lardeau Group.

In the south anomaly, however, the two sampled streams underlain by the Hamill Group are anomalous in zinc as well as lead. The reason for this difference is not known.

Copper Geochemistry

Copper values are low except for a value of 107 ppm for a stream located at the headwaters of Silvertip Creek.

Molybdenum Geochemistry

Within the stratigraphic interval, anomalous in lead and zinc, four silt samples had somewhat high molybdenum values (7 ppm to 11 ppm). Another stream further to the west returned a value of 13 ppm. This range of values is not unusual in black slates.

Rock Geochemistry

The rock geochemical values for lead and zinc were disappointing with no anomalous intervals being defined within the phyllites. The only anomalous values were from samples of the carbonate units. It is interesting to note that these anomalous values and mineralization were, for the most part, limited to the upper parts of each carbonate unit, very close to the upper contact. This is especially true of the anomalous lead values.

CONCLUSIONS AND RECOMMENDATIONS

(1) Preliminary field work indicated that the cold THM field geochemical kit is useless in defining the area of interest as all samples, especially the black phyllites, yield anomalies. Total zinc and lead values, however, do define an anomalous band of strata adjacent to the Badshot limestone.

(2) The rock chips from the small sampled area did not return any values approaching economic grades. The source of the anomalous zinc and much of the anomalous lead could be the small sulfide lenses within the dolomite and limestone. However, the anomalous lead values do persist upstream to the northeast of the Badshot Formation and the area of the rock chip samples. The anomalous lead values south of Silvertip Creek are also on strike with the unsampled anomalous strata east of the Badshot Formation.

(3) Further work should include additional chip samples from the phyllitic strata lying northeast of the sampled area. If some significant values of lead and zinc can be found in this strata further work in the area would be justified. Even this small amount of work can only be justified if done in con-

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junction with other work in the region.

J. R. Woodcock

January 29, 1980

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PAYNE CREEK

INTRODUCTION

During aerial reconnaissance flights, the geologists noted some bright red gossans north of Payne Creek adjacent to the western contact of the Kuskanax Batholith. Because of the location of the Trout Lake molybdenite deposit, 15 kilometers to the east, several mining companies were actively exploring the contact area of this batholith for similar deposits. This activity, combined with the shortage of readily available helicopters during this high risk fire season, prompted the geologists to stake the gossan and then explore it. The crew staked the Payne 1 Claim (20 units) on July 12th, 1979 and recorded it on July 26th, 1979.

While staking, the crew collected a few silt and soil samples and on July 31, the crew, under the direction of Dennis Gorc, returned to the area to take additional geochemical samples and to examine the gossan area. The soil and silt samples are from the base of the slopes near Payne Creek and the rock samples are from the ridge running through the middle of the property near the gossan zone.

The Payne 1 Claim is located on map sheet 82-12W. Although a major highway is located only 7 kilometers to the west, access to the property can only be by helicopter. Topography is extremely rugged and movement on the property is difficult because of the steep terrain. Elevations range from about 3,000 feet to 7,200 feet over a horizontal distance of 3 kilometers. Upper slopes of the property are above timberline while the lower slopes have very thick forests with considerable undergrowth.

GEOLOGY

The property lies on the northwestern contact of the Kuskanax Batholith with the Milford Group. The Milford Group of this region is metamorphosed to biotite schist and paragneiss and the Kuskanax Batholith is composed of foliated leucocratic quartz monzonite. No mineral prospects are known near the property.

The geological traverse down the ridge started at the contact of the Batholith, crossed a very coarse-grained and well-foliated biotite-amphibole gneiss and some foliated metavolcanics and phyllites, then a thick dyke of leucocratic quartz monzonite containing a fine-grained matrix and quartz phenocrysts. This dyke also contains small amounts of epidote, biotite and hornblende and a trace of pyrite. On the southwest side of the dyke biotite-amphibolite gneiss occurs with slates and phyllites but with an increase in proportion of slate and phyllite to the southwest. Additional small dykes of quartz monzonite also occur in this section.

Although this traverse did not cross the gossan, it is believed that the gossan itself is affiliated with hornfels adjacent to the

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Kuskanax Batholith (Figure 8).

GEOCHEMISTRY

A total of 23 soil and silt samples and 12 rock samples were taken and analyzed for copper, molybdenum, lead, zinc and manganese. One anomalous lead value was obtained for a gully sample. The results of the geochemistry are discouraging.

CONCLUSIONS AND RECOMMENDATIONS

(1) The gossan zones were not as striking on the ground as when observed from the air. Also they were somewhat smaller than had been expected. It is unfortunate that the traverse did not cross one of these zones; however, the traverse did come very close to the edge of them.

(2) The geology is not interesting, the geochemistry is discouraging and the property warrants no further work.

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J.R. Woodcock

POPLAR CREEK

INTRODUCTION

Several gold-quartz and silver-lead-zinc prospects lie along a linear trend just west of the Lardeau River between Trout Lake and Poplar Creek. This mineralization, combined with the easy access and proximity to the Trout Lake deposit, prompted search for a molybdenite deposit.

As a preliminary investigation, a two man crew took a series of soil and silt samples near the base of the slope west of the Lardeau River and west of Highway 31. This line of samples extended from a point four kilometers southeast of Poplar Creek northward to Trout Lake (map sheet 82K-6E). The crew collected 88 samples over a distance of 22 kilometers in 3½ days. Subsequently J.R. Woodcock and D. Gorc spent part of one day checking the area and collecting nine additional samples at a higher elevation.

GENERAL GEOLOGY AND ECONOMIC GEOLOGY

The Kuskanax Batholith crops out about 15 kilometers to the west of the Lardeau River. Between the Batholith and the Lardeau River, lie northwestly trending sediments and volcanics belonging to the Milford Group on the west and the Lardeau Group on the east (Figure 14).

The Milford Group is Upper Mississippian to Jurassic in age and consists of clastic sediments with lesser limy clastics and limestone. The pre Upper Mississippian Lardeau Group consists of altered volcanics, schistose limestone, phyllite, meta-grit and limy chlorite schist.

Adjacent to the Kuskanax Batholith are several stocks with composition similar to the Batholith. The majority of these stocks are within a six kilometer-wide belt adjacent to the batholith and most intrude strata of the Milford Group. These intrusives are post Lower Jurassic to Lower Jurassic in age and consist of leucocratic monzonite and syenite. A number of lead-zinc-silver veins are found in the zone adjacent to the Batholith.

The Lardeau Group is intruded by sills and dykes of Lower Jurassic or older age. These intrusives are found mainly as sills and are generally very altered. The great majority of these relatively basic intrusives lie within a predominantly volcanic member consisting of altered intermediate to basic volcanics. This volcanic member with its associated sills forms a belt up to seven kilometers wide lying west of Lardeau River.

Within this volcanic belt are alteration zones of limy chlorite schists with many associated precious metal veins. Both gold-quartz and silver-lead-zinc veins are found. However, in some places, the mineralogy is graduational between the two types.

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The gold-quartz veins are characterized by their close association with the basic sills and dykes and the abundant carbonate alteration of the wall rock. The quartz veins contain pyrite, arsenopyrite and occassional traces of galena and sphalerite. The gold is free or associated with the pyrite.

The lead-zinc veins contain pyrite, sphalerite, galena, argentiferous tetrahedrite and small amounts of chalcopyrite.

EXPLORATION HISTORY

The old townsite of Poplar Creek near the confluence of Poplar Creek and the Lardeau River was at one time the centre of a very active mining camp. Activity began in 1898 but it was not until 1903, when spectacular free gold was found on the Lucky Jack claim, that the rush began. Although some spectacular pockets of free gold were found, significant gold values were spotty and erratic and, activity in the area quickly diminished.

During the late sixties several companies including Canex Aerial Exploration Ltd. examined several of the silver-lead-zinc veins adjacent to the Kuskanax Batholith between the headwaters of Mobbs Creek and Poplar Creek. Work consisted primarily of geophysics with some geological mapping.

GEOCHEMISTRY

Molybdenum Geochemistry (Figure 16)

The molybdenum results are low. The one anomalous value (17 ppm) is an organic-rich gully sample. This was taken in the vicinity of the Mobbs silver-lead-zinc prospect.

Copper Geochemistry (Figure 17)

There are a few moderately high copper values (122 ppm and 140 ppm) which lie just northwest of the anomalous molybdenum sample. Other relatively high, but not anomalous, values include a value of 97 ppm south of the gold-quartz showings near Poplar Creek, a value of 84 ppm near the showings near Tenderfoot Creek and a value of 91 ppm near Trout Lake.

Lead and Zinc Geochemistry (Figure 18)

No significant lead and zinc values are indicated.

Fluorine Geochemistry (Figure 19)

Only a few fluorine analyses were obtained and none of these are anomalous.

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CONCLUSIONS AND RECOMMENDATIONS:

(1) No good molybdenite targets resulted from this survey and further search for such a target within the area is not warranted. Possibly the data could be of use if one wished to explore this belt for gold prospects.

(2) The belt of silver-lead zinc prospects adjacent to the Kuskanax Batholith might be better hunting ground. Much of it is, however, well exposed and it has been the object of exploration by other companies since the discovery of the Trout Lake deposit.

January 29, 1980

J.R. Woodcock

REFERENCES

Read, P.B., 1973; Petrology and Structure of Poplar Creek Map Area, British Columbia: Geol. Surv. of Canada, Bull. #193

Read, P.B., 1975; Lardeau Group, Lardeau Map Area West Half (82K W), British Columbia: Geol. Surv. Canada, Paper #75-1, Pt. A, p. 29-30

Read, P.B., Wheeler, J.O., 1975; Lardeau West Half Geology: Geol. Surv. Canada, Open File #228

Walker, J.F., Bancroft, M.F., Gunning, H.C., 1929; Lardeau Map Area, British Columbia; Geo. Surv. Canada, Memoir #161

SANDON AREA

INTRODUCTION

In the past, the Sandon Mining Camp was one of British Columbia's most active silver producing areas. Although activity has since greatly diminished, there is still one extensive mining operation run by Silvana Mines Ltd. and several small scale operations run by local prospectors. For the most part ore mineralization has consisted of lead-zinc-silver quartz veins within the Slocan sediments. The area was briefly examined for the present project in the hope that some of these lead-zinc veins would be related to an underlying or nearby molybdenum-bearing intrusion.

This work was confined to a small area located about one kilometer west of Cody, near the central part of the Sandon Mining Camp. Some encouraging observations were made including the presence of a porphyry pluton and the presence of highly sericitized acidic dike rock in some old dumps. The lead-bismuth study also indicated values which, at the beginning of the study, seemed to be anomalous (target A of the Lead-Bismuth study).

Access is easily achieved by highway and gravel road from New Denver. Topography in the area is quite rugged with elevations ranging from 4,000 feet to 7,000 feet.

GENERAL GEOLOGY

The area of interest lies in a belt of Slocan Group sediments about 3 ½ kilometers north of the northern margin of the Nelson Batholith. The Slocan Group, of Triassic age, consists of slate, argillite, limestone, quartzite and tuffaceous sediments.

Several relatively small intrusions crop out in the general vicinity. In published reports these intrusions are labelled granite, granodiorite or quartz diorite. The intrusion of present interest is an elongate one lying about a half mile east of Cody.

GEOCHEMISTRY

The few samples taken in this area were mainly rock with only a few silts and soils. In addition, ore samples were taken from several of the abandoned mines as part of the Lead-Bismuth study. The locations of these are also shown on Figure 20, but the geochemical results are only on the maps for the Lead-Bismuth study.

Talus of altered granitic rock occurs along a road cut (W79-157R). This rock contains some quartz veinlets and a few specks of galena. A grab sample returned 2 ppm Mo, 2600 ppm F and 110 ppm Pb. Some rusty float of pyritic gneissic quartzite in the same area returned 8 ppm Mo.

One soil sample (W 79-1558) returned 26 ppm Mo, 20,000 ppm Zn, 235 ppm Cu, and 4300 ppm Pb. It is obvious that this soil sample has

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been contaminated by some dumped ore.

Additional high lead and zinc values (e.g. W79-290R) are also due to the presence of adjacent lead-zinc lodes and ore float.

Because of the altered granitic float along the main access road, a second traverse was made higher on the slope along an old water flume, across exposures of the granitic pluton. The samples (W79-293 to 298) collected from this traverse were not anomalous in anything.

CONCLUSIONS AND RECOMMENDATIONS

The data obtained in appraising this target are of value in appraising other targets in the region. The target itself, however, does not warrant further work.

January 29, 1980

J.R. Woodcock

REFERENCES

Cairnes, C.E., 1934; Slocan Mining Camp: Geol. Surv. Canada, Memoir #173

Hedley, M.S., 1952; Geology and Ore Deposits of Sandon Area, Slocan Mining Camp, B.C.: B.C. Dept. of Mines and Petroleum Resources, Bulletin #29

Sinclair, R.W., 1967; Trend Surface Analysis of Minor Elements in Sulphides of the Slocan Mining Camp, British Columbia, Canada: Economic Geology, Vol. #62, pp. 1095, 1011

ZWICKY

INTRODUCTION

Descriptions of manganese deposits in old Geological Survey and British Columbia Minister of Mines reports sparked the interest in this target. These suggested the possibility of a stratiform massive sulfide deposit.

In this preliminary work, silt and soil samples were taken at 300-foot intervals along access roads which are sub-parallel to the general strike of the strata. A total of 133 soil, silt and rock samples were taken and analyzed for copper, lead, zinc and molybdenum.

LOCATION AND ACCESS

The area of interest is located on map sheet 82F-15W beginning approximately 2.5 miles west of Kaslo and extending 3 miles to the north and northwest along the Kaslo-New Denver highway (31A). The highway parallels the Kaslo River in this area. A gravel road, parallel to the highway, lies along the eastern slope of the valley 300 to 400 feet above the highway.

Elevations range from about 2,200 feet at the Kaslo River to 6,262 feet on Blue Ridge to the east and 7,500 feet on True Blue Mountain to the south. The slopes of this valley are smooth and steep, but not precipitous. The village of Zwicky, mentioned in early geological reports of the area, no longer exists, but was most likely located at the intersection of Keen Creek and Kaslo River. This site is presently marked by a grassy clearing and some old log buildings.

GENERAL GEOLOGY

The area of Blue Ridge is underlain by a belt of Paleozoic to Triassic sediments and volcanics of the Slocan Group, Kaslo Formation and Milford Group. This belt strikes north to northwest and dips steeply to the west or southwest.

The Triassic Slocan Group crops out in the western part of this belt and consists of well-bedded fine-grained clastic sediments. This unit is underlain unconformably by the pre Mississipiean Kaslo Formation, which consists of lavas, volcanic arenites and breccias. The Kaslo-Slocan contact extends along the eastern slope of the valley of Kaslo River 300-400 feet above the valley floor.

Further to the east, rocks of the Mississipian Milford Group crop out about 900 feet to 1,000 feet above the valley floor. The formation is about 1,500 feet thick. However, this is just a nose of sedimentary strata that terminates about 4 miles to the north. The Milford Group consists of shale, argillite, impure limestone, arkose and quartzite. The basal contact with the Kaslo Formation is tectonic.

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Further to the east the Kaslo volcanics again crop out and underlie the remainder of the east slope and Blue Ridge.

An unpublished geological map of Blue Ridge by Read also indicates several small intrusives of meta-diorite, meta-gabbro and serpentinite, most of which crop out within the Milford Group, and also a small stock of quartz-hornblende monzonite that occurs just north of the Manganese Crown Grants.

A survey of geological literature indicates that manganese wad is commonly found within the Lardeau area. One such area is near the Ajax zinc-lead gold prospect. A sample of this wad assayed 9.36% manganese (Walker, 1929).

Read (1973) reports that ferroan dolomite is commonly found in the Lardeau area. He reports a sample which assayed 15% FeO plus MnO. He also reports that pale pink garnets are commonly found in the Lardeau area. These garnets are most commonly found within the Lardeau Group but are sometimes also found within the Milford Group.

MINERALIZATION AND EXPLORATION HISTORY

Interest in the immediate area has been limited to the period 1917-1918 during which time two separate claim groups were staked covering manganese showings.

These were the Manganese and Harp Groups. The Manganese Group included the Manganese and Manganese #1 Crown Grants and four additional claims located about two miles north of Zwicky. They extended from the Kaslo River to an elevation 600 feet above the bottom of the valley. Only the Manganese #1 Crown Grant is currently owned.

The Manganese Group covered two deposits of manganese. The manganese is the bog manganese type and occurs in layers varying from 1 to 33 inches thick. The more extensive area covers 5½ acres on the Manganese Crown Grant at an elevation of 375 feet above the valley. The only production from the area consisted of 1,000 tons of ore grading 45% - 50% manganese, mined from the Manganese Crown Grant. Reserves were estimated at 700-800 tons grading 30% manganese. The second deposit covers 2.58 acres on the Manganese #1 Crown Grant. Reserves here were estimated at 2,500 tons.

Another showing occurs at an elevation of 1,600 feet above the old railway. This showing is near the contact of the Milford Group with the overlying greenstones of the Kaslo Formation. The showing was exposed in a trench 60 feet long. Quartzites contain varying amounts of manganese and iron oxides, manganiferous garnets. A sample from the showing is reported to have 14% manganese.

The other claim group, the Harp Group, was located less than one mile to the southeast of and 350 feet above Zwicky. The manganese

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on this property occurs along a series of quartz veins or along contacts of sediments with greenstone schists. The veins consist of vitreous to smoky quartz with sercite, pyrite, pyrrhotite and chalcopyrite.

A more complete description of mineralization on the Harp claims is given by C.E. Cairnes (1935, p. 221):

> "The Harp group of three claims, held by location, is the property of W. J. Murphy of Kaslo. It lies less than a mile east of, and about 350 feet above, Zwicky. Some work has been done on a series of quartz veins striking northwest to north and dipping steeply to the west. The veins occur in sedimentary rocks or along contacts of sediments with greenstone schists and consist of vitreous to smoky quartz containing considerable sericite and mineralized with pyrrhotite, pyrite, and chalcopyrite. One vein exposed at an elevation of 2,630 feet is 3 to 4 feet wide and has been explored by an open-cut and a short adit for about 35 feet. It consists of vitreous, smoky quartz carrying pyrrhotite, pyrite and chalcopyrite. The hanging-wall rock is banded quartzitic argillite, very similar to that occuring on the Manganese No. 4 claim of the Manganese group (See report). A thin section of this rock, studied microscopically, revealed a mosaic chiefly of quartz and a manganiferous garnet, the latter partly altered to oxide of manganese. The foot-wall rock is mostly a greenish schist forming a band about 2 feet wide underlain by sediments. Immediately beneath the quartz vein, however, is a close succession of narrow lenses of pink, rhodonite-bearing rock which, at one time, may have formed a nearly continuous band varying from an inch or 2 to 18 inches wide. Under the microscope the rhodonite-bearing rock much resembles a siliceous limestone and is composed of quartz, calcite, a little garnet, considerable pyrolusite, and abundant rhodonite. The latter occurs in masses, streaks, and disseminations through the rock, in places reaching a width of several inches. A considerable amount of float of similar rhodonite-bearing rock has been found at a number of points along the slope of the hill to the north of this property. Mr. A.J. Curle of Kaslo, B.C., reports that an analysis of a specimen of this rhodonite gave 27.43 per cent manganese, whereas theoretically pure rhodonite would carry 42 per cent. A specimen examined by E. Poitevin of the Geological Survey was reported by him as "calciferous rhodonite, that is, impure rhodonite, due to the presence of calcium and iron carbonate." These blocks of float are commonly partly coated with manganese oxide and some specimens carry a little pyrolusite smeared along fracture planes in the rock. Aside from the abundant rhodonite, the float boulders and the specimens from the Harp group much resemble a siliceous limestone forming part of a thick band of limestone near the base of the Milford group and conspicuously exposed in bluffs above the railway and highway about 2 miles southeast of Zwicky.

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> The same limestone band is believed to extend through the Harp group a short distance above the workings, where outcrops of limestone were noticed and may also form part of the tongue of Milford rocks exposed on Manganese No. 4 claim of the Manganese group. In places this limestone carries considerable graphite and a few, scattered, small, pinkish, fine-grained masses of a mineral, either rhodonite or rhodochrosite. The inference from such associations and resemblances is that the rhodonite on the Harp group is secondary after some primary manganese mineral, probably rhodochrosite, deposited as a carbonate during the formation of these siliceous limestones and subsequently, by metamorphism, converted to rhodonite and, to a lesser degree, manganese-bearing garnet."

One should note the resemblence of these showings with the upper showings on the Manganese claims (1,600' elevation). Both occur along sedimentary-greenstone contacts and, although exact positions of each showing are not known, their approximate positions suggest that they could be on or near the same stratigraphic horizon.

A third property, the Contact or the Black Prince, has similarities to the above two areas. It is located 18 miles northwest of Kaslo on the southwest slope of the valley of Kaslo River. The mineralization is hosted by a 150-foot limestone member of the Slocan Group. It consists of manganiferous siderite containing some galena, sphalerite and pyrite which has extensively "replaced" the limestone member.

GEOCHEMISTRY

Introduction

The sampling included soil, silt, gully and water samples. Silts were taken from all creeks; "gully" samples were taken in small drainage depressions; and soil samples were taken at 300-foot intervals between drainage samples. Water samples were only collected from the springs.

Caution must be exercised when interpreting results from gully samples. These are essentially soil samples taken in bottoms of gullies which were formed by drainage but not by active creeks. Results reflect metal conditions adjacent to the sample site and also in the drainage basin uphill from the site. Sample material can have more organic and clay content than other types and so can result in abnormal metal concentration.

Mineral springs have been suggested as the source of the bog manganese deposits of this area. Two of these occur in the ditch beside highway 31 (see detailed sketch of Fiugre 27). Another is located further to the north (sample site 213). Both of these were characterized by very iron-rich muds at the vents. Samples of these muds were anomalous in manganese (3,400 and 3,300 ppm) but other metals were background.

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Manganese Geochemistry

The gravel road, which parallels the highway, is about the same elevation as the old manganese workings so that some high manganese values were expected. High manganese values (up to 34,000 ppm) were encountered on the Manganese #1 Crown Grant and the Manganese Crown Grant further to the south.

The Harp Group does not show up as well with only a few high manganese values (up to 8,500 ppm). This could be anticipated because of the more restricted form of the Harp showings.

There are several isolated marginally anomalous values. These may be due to the above normal background manganese or to nearby mineral springs.

Copper Geochemistry

For the most part results were disappointing. There are, however, a few isolated high values. A gully sample from the southern part of the work area contains 400 ppm copper (2,100 ppm manganese). Another gully sample, located about 1.5 kilometers south of Seven Mile Creek, contains 121 ppm copper and 1,550 ppm manganese. Values of 136 ppm copper and 34,000 ppm manganese were found in a gully further to the north on the Manganese Crown Grants. Two gully samples taken still further north contained 190 ppm copper, 3,300 ppm manganese and 122 ppm copper, 2,600 ppm manganese.

Lead Geochemistry

Only two lead geochemical values were of any significance. A gully sample taken near the Harp Group in the south part of the work area contained 52 ppm lead; a nearby soil sample contained 57 ppm lead.

Zinc Geochemistry

These results were also disappointing although, there are a few more high values relative to other base metals. Most of these high values are located in the south part of the work area with values ranging to 400 ppm. A sample from the Manganese Crown Grants contains 320 ppm zinc.

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CONCLUSIONS AND RECOMMENDATIONS

(1) Manganese minerals are commonly associated with silver-rich lead-zinc veins in many parts of the world. They are also associated with a number of strataform base metal deposits. Examples of this association include the strataform Goldstream deposit and the replacement deposits of the Ainsworth Camp where a manganese olivine mineral (knebelite) and pyrrhotite occur with the lead-zinc. This association is prevalent enough to create an exploration allure of strata which contain some syngenetic manganese minerals.

(2) The limited geochemical survey done in 1979 was not guided by definitive geology. Moreover good stream drainages are rare along the sides of the valley. The soil geochemistry would only detect mineralization close to the sample sites. Thus the results of the 1979 work, although not positive, are also not conclusive.

(3) The subsequent more detailed studies of the published literature and the acquisition of some additional unpublished geological data might help allocation of the trenches in the lode manganese deposits. The bog manganese deposits themselves merely indicate deposition by springs and, as such, are of little consequence in the investigation.

(4) The senior author recommends that some prospecting be done to find the old exploration pits and that some geological mapping be done in an attempt to define manganese-rich strata. If this can be accomplished, then some soil sampling along the strata should be done in an attempt to find some anomalous base metals. This work would involve a two-man crew for approximately one week.

January 29, 1980

J.R. Woodcock

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REFERENCES

Cairnes, C.E., 1935; Description of Properties, Slocan Mining Camp, B.C.: Geo. Surv. Canada, Memoir #184, pp. 221, 222, 231-234

Hanson, G., 1932; Manganese Deposits of Canada: Geol. Surv. Canada, Econ. Geol., Ser. #12

Johnston, A.G., McCartney W.D., 1964; Manganese Occurrences in Canada, Geol. Surv. Canada, Paper #64-37

Read, P.B.; Unpublished Geological Map, Blue Ridge Area

Rice, H.M.A., 1941; Nelson Map Area, East Half, British Columbia: Geo. Surv. Canada, Memoir #228

Ross, J.V. Kellerhals, P. 1968; Evolution of the Slocan Syncline in South Central British Columbia: Can. Journal of Earth Sciences, #5, pp. 851-872

DOCTOR CREEK

INTRODUCTION

Doctor Creek was selected for exploration because of known, but inadequately explained, high lead geochemistry plus the occurrence of a number of small batholithic intrusives. An aerial reconnaissance over this region revealed a number of conspicuous gossan zones in addition to some more subdued rusty areas immediately northwest of Doctor Creek.

In early July, 1979, a two man crew sampled Doctor Creek and its drainages from a rough access road along Doctor Creek. On completion of this work, J.R. Woodcock and Paul Stanneck used a helicopter to sample some of the outlying streams west of Doctor Creek and to make observations on the geology.

LOCATION AND ACCESS

The Doctor Creek area is located about 28 kilometers ESE of Canal Flats on map sheet 82K-1E. The area can be reached using a four-wheel drive vehicle but much of the road is in very poor condition. Elevations range from 3300 feet on the lower section of Doctor Creek to 9,000 feet on Doctor Peak. Much of the area is above tree line with thick forest cover only along the creek valleys and the lower part of Doctor Creek.

GENERAL GEOLOGY

The geology of the area is dominated by the Precambrian clastic sediments of the Lower Purcell Series and several younger intrusives (Figure 32).

The Lower Purcell series consists of the Siyeh, Kitchener, Creston and Aldridge Formations. The Siyeh and Kitchener Formations consisting of argillites, calcareous argillites and quartzites crop out to the north of Findlay Creek. The Creston Formation (grgillaceous quartzite and quartzite) crops out in a broad belt which extends into the north part of the map area.

The Middle and Upper Aldridge Formations (quartzites) lie to the south dominating the geology of the area worked in 1979. To the south of the sampled area this quartzite belt abuts against the White Creek Batholith along Skookumchuck Creek.

The Lower Aldridge Formation crops out south of Doctor Creek continuing southward until it too terminates against the Batholith.

The intrusive history in the area began with the Moyie intrusions (meta-diorite, meta-quartz diorite) which are found mainly as sills within the Aldridge Formation. A younger intrusion, the White Creek Batholith, covers an extensive area (Figure 32). The northern contact of this batholith lies mainly south of the sampled area.

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TABLE I

DOCTOR CREEK - MINERAL PROSPECTS

Map No.	Property Name	Metals Present	Owner or Former Owner
1	Imp	Mo	(Esso Minerals Ltd.)
2	Doc	Pb	(Kerr Addison Mines Ltd.)
3	St. Anthony	Ag, Pb, Zn, Cu	(Northern Pacific Mining Corp.)
4	Echo (Ace)	Pb, Zn, Cu, W	Cominco Ltd. (Texasgulf Inc.)
5	Silver Key	Ag, Pb, Zn	Can-Blake Mines Ltd.
6	MOB (MC)	Pb, Zn	Amax Minerals Exploration (Kerr Addison Mines Ltd.)
7	MOB	Be	Amax Minerals Exploration (Kerr Addison Mines Ltd.)
8	MOB	Cu	
9	MOB (Pico) (Star, Nine Lake)	W, Pb, Zn, Cu, Mo	Amax Minerals Exploration (Kerr Addison Mines Ltd.)
10	H.R.P.L. 1-5 (Pimaco, Cas) (Sko and Chuck) (Val)	Sn, W	Placer Development (Kerr Addison Mines Ltd.) (Arrow Inter-America Corp.) (Newconex Holdings)
11	Molly	W, Mo	Cominco
12		Be	
13	EEL	Mo	Esso Minerals
14	H.R.P.L. 6-11 (Hilo)	Pb, Zn, Ag Cu, W	Placer Development
15	Vulcan	Pb, Zn	(Texasgulf Inc.)

Former Property Name in brackets.

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A few smaller stocks associated with the White Creek Batholith are found between Doctor and Skookumchuck Creeks in the Greenland Creek area. These intrusions are of pegmatitic composition and have associated tin, tungsten, lead, zinc and beryllium showings.

The Fry Creek Batholith lies west of Findlay Creek and the White Creek Batholith. It is composed of leucocratic quartz monzonite.

The Frying Pan Stock is a smaller intrusion which crops out just to the north and west of Findlay Creek. It is composed of hornblende-biotite granodiorite.

Few faults are mapped in the area. One such fault is near Doctor Peak and another is just south of Doctor Creek near the White Creek Batholith-Aldridge contact. Both trend NNE.

EXPLORATION HISTORY

The focus of exploration activity in the area has been divided between the search for massive sulfide deposits of the Sullivan type within the Aldridge Formation and for tin-tungsten deposits associated with the pegmatite intrusives south of Doctor Creek. A sequential summary of the exploration history is presented here. Figure 32 and Table II provide information on the various mineral prospects in the area. Each prospect is given a number and these will be referred to in the report.

In 1958 Cominco, Ltd. evaluated a quartz-scheelite vein located north of Skookumchuck Creek (No. 9). This vein is 70 feet long and averages 6.5 feet in width. Average grade is 0.13% WO_3.

In 1959 Cominco also did trenching and 815 feet of diamond drilling on the Molly prospect (W, Mo) located south of Doctor Creek near the headwaters of Skookumchuck Creek (No. 11).

In 1965 Northern Pacific Mining Corporation did 1800 feet of diamond drilling on the Saint Anthony silver-lead-zinc-copper prospect located along Doctor Creek approximately five kilometers from its confluence with Findlay Creek (No. 3).

In 1966 Newconex Holdings, Ltd. staked 36 claims over some wolframite-cassiterite showings. The mineralization is in narrow quartz veins. The property was dropped and subsequently picked up by Arrow Inter-America Corp. in 1970 (No. 10). This company did 600 feet of diamond drilling.

In 1968 Cominco did 100 feet of diamond drilling on the Pico (Star, Nine Lake) tungsten prospect located just south of Doctor Creek in the vicinity of the pegmatite intrusives (No. 9). Tungsten, lead, zinc and copper mineralization were discovered. The property was dropped by Cominco and picked up by Kerr Addison Mines, Ltd. and this company in 1971, 1972 did a soil geochemical survey and a

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magnetometer survey. Several zinc, copper, and lead soil geochemical anomalies were defined as well as two strong magnetic anomalies. Some molybdenum mineralization was also discovered. This property plus additional ground has since been acquired by Amax Minerals, Ltd., the current owners of the claims in the area (Mob 1 to 7, 140 units).

In 1970 Texasgulf, Inc. staked the Hilo claim group (12 claims) covering lead-zinc-copper-silver-tungsten mineralization within the Aldridge Formation (No. 14). This claim group is located near the southern edge of the White Creek Batholith, a few kilometers west of White Creek. The crews returned to the property in 1973 for soil sampling and geophysical work. Soil samples were tested for zinc and mercury but showed no significant anomalies. Geophysical results are not known. This property plus additional ground has been acquired by Placer Development.

In 1970 Texasgulf also staked the Ace claims (30 claims) near the headwaters of Doctor Creek hoping for a massive sulfide deposit within the Aldridge Formation (No. 4). Some minor copper-zinc mineralization was found; however, a soil survey in 1973 revealed no anomalies so the property was dropped.

This property plus additional ground was then acquired by Cominco and named the Echo claims (28 units, since increased to 43 units). In 1977 Cominco did extensive prospecting and geological mapping on the property. A number of types of mineralization were discovered but nothing of significance. Numerous chlorite-quartz-tourmaline veins with minor galena and iron sulphides were found in the Lower and Middle members of the Aldridge Formation. A concentration of such veins was discovered on the ridge just west of the Doctor Creek basin in the vicinity of some diorite sills. Lead and zinc mineralization in carbonate-cemented breccia was found in two localities, two and four kilometers south of Doctor Creek. Veins with muscovite, tourmaline, actinolite, calcite and scheelite were found about four kilometers south of Doctor Creek.

A vein containing scheelite was found about a kilometer south of Doctor Creek, west of the Silver Key Mine.

Another type of vein mineralization is chalcopyrite-pyrite-quartz, often found in the Lower Aldridge near diorite intrusives.

In 1971 Kerr Addison Mines, Ltd. staked the six Doc claims (No. 2), about four kilometers west of Doctor Creek (near sample site P-347) on the basis of high geochemical values obtained in a regional survey. Soil sampling and mapping in 1972 indicated small lead-quartz veins within the Aldridge Formation with associated high geochemical lead values in the nearby soils. However, copper and zinc values were only background. In 1973 Kerr Addison returned to the property adding three additional claims and doing geophysical work.

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In 1971 Esso Minerals did work on two properties both of which were located along the edge of the Fry Creek Batholith and both of which had molybdenum mineralization along fractures and veins. One was called the EEL Group (No. 13) located on map sheet 82F-15E and the other was the IMP Group (No. 1) located on map sheet 82K-1W.

Other mineral prospects in the area include a beryllium showing near Cominco's Molly prospect (No. 1). Additional prospects are located near the pegmatite intrusives located south of Doctor Creek. These prospects include a beryllium prospect (No. 7), the Pinaco-Cas tin-tungsten prospect (No. 10) and a copper prospect (No. 8) all located on the MOB claims belonging to Amax.

CLAIM DATA

Claims held in the Doctor Creek area include six 2-post claims surrounding the Silver Key Mine which are held by Can-Blake Mines, Ltd. and an additional 2-post claim held by Joe Blake. Surrounding this claim group are the Echo 1,2,3,4,5 claims comprising 43 units which are currently held by Cominco, Ltd. Adjoining to the south are the MOB 1 to 7 claims comprising 140 units which control all the ground between the Echo claims and Skookumchuck Creek. The MOB claims are currently held by Amax Minerals. In 1979 Placer Development staked five claim groups (100 units) to the west of the Echo and MOB claims. This company also staked an additional six claims (110 units) over the Hilo Lead-Zinc prospect formerly owned by Texasgulf, Inc. One should also note the large area of mineral reserve in the area. The Purcell Wilderness Conservancy covers a large part of the map sheet 82F-16.

GEOCHEMISTRY

Molybdenum

High molybdenum values were obtained along a 4 kilometer stretch of Doctor Creek starting at the tributary draining the Silver Key Mine and proceeding eastward. The White Creek Batholith underlies this area which would seem to indicate that the batholith is the source of the molybdenum.

Lead-Zinc

Anomalous lead occurs along the northernmost tributary of Doctor Creek. This area is adjacent to the Doc lead prospect previously staked by Kerr Addison Mines, Ltd. These quartz-galena veins therefore account for the lead values below the showings.

Other areas of high lead and zinc values include the headwaters of Doctor Creek near Cominco's Echo lead-zinc prospect, where several types of mineralized veins occur. High values were also obtained below the Silver Key Mine.

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Manganese

Some anomalous manganese values occur at the head of the northern tributary of Doctor Creek. These lie west of the area of quartz-galena veins or lenses.

Anomalous manganese occurs at the headwaters of Doctor Creek, in the vicinity of the Echo prospect and also in the creek that drains Silver Key prospect.

Copper

Slightly anomalous values are associated with the Ecko prospect.

Slightly anomalous values also occur in a tributary of Doctor Creek in the center of the sampled area. No explanation is offered.

CONCLUSIONS AND RECOMMENDATIONS

(1) J.R. Woodcock examined the quartz-galena lenses that cause the lead anomalies of the northern tributary of Doctor Creek. That such sparse and small veins can yield good lead anomalies is impressive. However, nothing of exploration potential was noted.

(2) The White Creek Batholith appears to be a major metalliferous intrusion. However, it does occur in well exposed high country and many companies have and are still exploring it. It is a target worthy of consideration; however, no specific recommendations are made at this time.

J.R. Woodcock

January 29, 1980

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REFERENCES:

Deighton, J.R., 1973: Geochemical Report on Ace Mineral Claims Golden Mining Division: Ass. Report #4705, Texasgulf Inc.

Deighton, J.R., Boonstra, B., Gifford, R.G., 1973: Geochemical and Geophysical Survey, Hilo Claim Group, Fort Steele Mining Division: Ass. Report #4713, Texasgulf Inc.

Dirks, N.J., 1970; Combined Geological and Geochemical Report on Vol. #1-6 Mineral Claims: Ass. Report #3109, Arrow-Inter-America Corp.

Lancaster, D.H., Heddle, D.W., 1972; Report on Geochemical Survey on the W.D. Group - Fort Steele Mining Division: Ass. Report #3498, Cominco

Lund, J.C., 1972; Report on Geochemical and Magnetic Survey - McGroup - Nine Lake Group, Fort Steele Mining Division: Ass. Report #3927, Kerr Addison Mines Ltd.

Lund, J.C., 1973; Report on Geophysical Survey - Doc. Nos. 1-9 Mineral Claims; Golden Mining Division: Ass. Report #4658, Kerr Addison Mines Ltd.

Lund, J.C., Gruenwald, W., 1972; Report on Geological and Geochemical Survey - Doc. Nos. 1-6 Mineral Claims Golden Mining Division: Ass. Report #3924, Kerr Addison Mines Ltd.

Lund, J.C., Tetu, G., 1975; Geochemical Survey Report, Nine Lake Mineral Claim Group, Fort Steele Mining Division: Ass. Report #5831, Kerr Addison Mines Ltd.

Lund, J.C., Tetu G., 1975: Report on Diamond Drilling on the Nine Lake Mineral Claim Group, Fort Steele Mining Division: Ass. Report #5832, Kerr Addison Mines Ltd.

MacKenzie, D.E., Gifford, R.G., 1971; Geological Survey, Ace Claim Group - Golden Mining Division: Ass. Report #3287, Texasgulf, Inc.

.../32

MacKenzie, D.E., Gifford, R.G., 1971;
Geological Survey, Hilo Claim Group, Fort Steele Mining Division: Ass. Report #3300, Texasgulf Inc.

Reesor, J.E., 1953; Preliminary Report on the Geology of Dewar Creek Area: Geol. Surv. Canada, Paper 53-25

Reesor, J.E., 1954; Findlay Creek Map Area, British Columbia: Geol. Surv. Canada, Paper 53-34

Reesor, J.E., 1957; Lardeau 82K (East Half) Preliminary Series, Geology Map

Reesor, J.E., 1973; Geology of the Lardeau Map Area, East Half British Columbia: Geol. Surv. Canada, Memoir #369

Webber, G.L., McCartney, I.D., 1977;
Geological Report, Echo Group of 1,2,3 and 4 Claims, Golden Mining Division: Ass. Report #6413, Cominco Ltd.

SLOCAN TARGET

INTRODUCTION

The Slocan City Mining Camp, located on map sheets 82F-14 and 82F-11, was at one time one of British Columbia's most active silver mining camps. The majority of the veins contain silver-lead-zinc mineralization.

The history of the Slocan City Mining Camp began in 1893 with the staking of the Dayton claim near Dayton Creek and with the subsequent rapid development of mining operations in the area. After World War I, mining operations decreased in number and in size.

Interest in this area was prompted by the hope that some of these silver-lead-zinc veins might be related to a molybdenum bearing intrusion. Interest increased when gossans were observed in the area just east of Slocan and anomalous bismuth was obtained in ore samples from the old dump east of Cameronian Creek.

As a preliminary investigation, lines of silt and soil samples were taken along the base of the slope east of the town of Slocan, along Chapleau Creek and along Cameronian Creek.

After the results from this survey were received some follow-up work was done with a series of samples taken up two of the streams which had produced interesting initial geochemical results.

LOCATION AND ACCESS

The area of the interest is located just to the east of the town of Slocan and is bounded by Springer Creek to the north, Lemon Creek to the South and Chapleau Creek to the east. The topography is quite rugged with elevations ranging from 2000 feet to 6800 feet. The region is traversed by several old roads but unfortunately only a few of them are passable. Good gravel roads do follow Springer and Lemon Creeks. Forest cover is very heavy in the area but fortunately the forest is quite mature and movement is generally not difficult. Outcrops are scarce.

GENERAL GEOLOGY

Most of the area is underlain by granites and granodiorites of the Nelson Batholith with small areas underlain by paragneiss of the Slocan Group and metamorphosed greenstone of the Rossland Formation. A belt of augen gneiss and hornblende-biotite feldspar gneiss with minor limestone and skarn lies just to the west of the area of interest. The contact between this gneiss and the Nelson Batholith extends along the base of the slope east of Slocan. The age of this geological unit is estimated to be Early Mesozoic.

GEOCHEMISTRY

Several things are apparent from the geochemical maps; these are

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enumerated as follows:

(1) The gossan zone mentioned in "Introduction" is cut by the creek and occurs upstream from sample site P79-387L. This sample returned anomalous lead (106 ppm) and slightly anomalous molybdenum (7 ppm). The sampler noted survey thread running up the creek indicating that the area had been checked by other companies. No follow-up work was done by the present crew.

(2) Two small streams had anomalous silt samples. These included P79-380 and P79-381 which were anomalous in zinc (1150 ppm and 1130 ppm) and slightly above background in copper (62 ppm and 51 ppm). These are the two streams that should have received the detailed sampling done on the two streams further to the north.

(3) The detailed sampling on the two northern most creeks returned background or slightly anomalous values in all metals. The samples taken on these traverses were inadvertently analyzed for fluorine; and this indicates little of interest.

The northernmost creek had some gully samples which are slightly anomalous in lead (160 ppm and 92 ppm). However, there is no continuity upstream for these anomalous values and, since they are gully samples, the values probably represent absorption on organic or clay-rich soil.

Slightly anomalous molybdenum values occur in the lower part of the northern stream and also in the upper parts of the second stream.

A soil sample from the head of the stream which drains northward into Spinner Creek from the same general area also has slightly anomalous molybdenum (7 ppm), slightly anomalous zinc (900 ppm) and anomalous fluorine (1150 ppm).

(4) Anomalous zinc values are found in several places on the east side of Cameronian Creek and anomalous soil samples are found near its junction with Chapleau Creek. Some slightly high lead values accompany a few of these anomalous zincs. This is an area in which prospects have been mined and contamination probably accounts for most of these anomalous values.

(5) The ore sample collected from the old mine dump east of Cameronian Creek returned one of the highest bismuth values found in any of the sampling done in the area of the Nelson Batholith. This does add some attraction to this small target area.

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CONCLUSIONS AND RECOMMENDATIONS

(1) This area of the so-called Slocan target has widespread overburden with very few outcrops, even along the bulldozed access roads.

(2) Although the limited amount of detailed follow-up work was inadvertantly done on the wrong creeks, it did add slightly to the anomalous target, especially when taken in conjunction with the anomalous stream that drains northward into Springer Creek. The target has not been adequately investigated and a small amount of additional work is warranted.

(3) The two small anomalous streams, as represented by samples P380 and P381, should be sampled in detail with samples spacing approximately 100 meters.

The stream which cuts the gossan zone (represented by P387) should also be sampled in detail and chip samples taken across the gossan zone for further analyses.

The anomaly represented by soil sample G395 and the area between this small stream and the northern most sampled creek should be investigated by some more soil and silt samples. Possibly detailed silt and gully samples along this stream and Dayton Creek, in addition to soil samples along the road, will suffice for a first pass.

(4) One anomalous copper value was obtained for soil sample P391. This is accompanied by slightly high lead. However, it is merely an isolated value in soil and warrants investigation only if other recommended work in the area returns encouraging results.

(5) Some fluorine analysis on the few remaining silt samples of the target area might add important information.

January 29, 1980

J. R. Woodcock

NELSON MINING CAMP

INTRODUCTION

Four separate targets were visited or briefly investigated south and southwest of Nelson. These included the Silver King Mine, a former copper-silver producer; the Star and Alma prospects, west of Sandy Creek; the Cottonwood prospect, a zone of pyritic schists which are highly anomalous in copper; and Red Mountain which is underlain by a conspicuous gossan.

Work on the Silver King property in the 1979 program was limited to a preliminary examination, collection of a few character samples and specimens from the old workings and, subsequently, a compilation of the prior history of production and exploration. The data in this report will be mainly a summary of this history.

The fairly impressive strike length of the workings on the Silver King Mine, almost parallel to the stratification of the region, and the very high silver content of the ore makes one ponder the possibilities of finding additional ore zones along the zone and also to wonder how much prior exploration work has been done along the zone, especially under the valley to the west.

The old gold prospects in the Eagle Creek drainage are on strike with the Silver King zone, but several miles distant. The uppermost of these prospects has some white alteration and some tourmaline alteration. This indicates the possibility of something larger than the typical few auriferous quartz veins that occupy small faults or fractures within the Nelson Batholith. For this reason, Dennis Gorc spent one day in detailed sampling of all little drainages entering the adjacent portion of Sandy Creek, to the east of the Sar and Alma properties.

Only one visit was made to the area of the Cottonwood property, at which time a few rock and silt samples were taken. The results from this work are included on the map of the Nelson Mining Camp. Several companies, including Quintana Minerals Ltd., have examined the Cottonwood prospect as a target for possible massive sulfide deposit. Exploration work appeared to be in progress on the property when visited in October, 1979.

The Red Mountain area was chosen as a target because of the bright gossan. The few silt, soil and rock samples from the area returned some anomalous molybdenum values. The lead-bismuth study also indicated this as a suitable target area.

LOCATION AND ACCESS

The Silver King Mine is located about six kilometers south of Nelson and is accessible by four wheel drive vehicle. Additional gravel roads extend up Gold Creek, Eagle Creek and Fortymine Creek and these provide access to the Cottonwood Prospect, Sandy Creek and Red Mountain respectively. Elevations range from 2800 feet to 6300

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feet. While there are a few steep slopes the topography is not extremely rugged. Except for the top of Red Mountain, the entire region is covered by forest.

GENERAL GEOLOGY

The geology of the area, as shown on the geological map by H.W. Little, is dominated by a pluton related to the Nelson Batholith. This pluton, composed of fine-grained porphyritic syenite to quartz diorite, crops out along the ridge east of the Silver King Mine. This pluton separates the Silver King and Cottonwood prospects.

To the east and west of this pluton, volcanics and minor shales of the Rossland Formation crop out. A large area to the north is underlain by granodiorites of the Nelson Batholith, again surrounded by volcanics of the Rossland Formation. South of the Silver King Mine, the strata include argillites and sandstones of the Hall Formation and volcanics of the Rossland Formation.

SILVER KING MINE - GEOLOGY

Before reviewing the history of mining and exploration on this property, it is necessary to present a summary picture of the geology. Published geological data found thus far is somewhat sparse; probably the report by R. Mulligan (1952) is the best summary. The section on history will make references to a number of claim groups including the Dandy to the northwest and the Kootenay Bonanza to the southeast of the Silver King.

The Silver King Lode lies in the "schist zone" of a dominantly volcanic sequence of rocks belonging to the Rossland Formation. Mulligan suggested the schists along this zone are clastic in origin, unlike the augite porphyries closer to Toad Mountain. Sericite schist is sheared Silver King porphyry, remnants of which are seen in the unmined parts of the lode at surface. In some reports, this Silver King porphyry is considered an important part of the mineralization control. J.R. Woodcock noticed the similar sericite schist, containing quartz-eyes, on the north ridge of Toad Mountain (along strike to the northwest).

The Silver King ore zone strikes 130° azimuth and dips about 75° southwest. This is parallel or subparallel to the general stratification of the area.

"Compact magnesian limestone" is mentioned in early reports; however, Mulligan did not note this. The abundance of the metallic manganese coating on the surface of the weathered carbonate layer would indicate a possibility of manganese limestone. This is somewhat substantiated by the quote of 14% manganese in some of the ore.

The ore minerals include pyrite, chalcopyrite, bornite, tetrahedrite, galena, stromeyerite, and a submetallic lamellar black mineral which

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Mulligan suggests is probably manganite. The chalcopyrite appears to replace the bornite. Also, there is a vertical zonation with galena more abundant in the lower workings. The sulfides occur as massive lodes and as disseminations in the adjacent altered wall rock.

The main Silver King lodes are parallel to the schistosity and have been traced nearly 3000 feet. The lodes range up to 50 feet in thickness.

SILVER KING HISTORY

Activity in the area began in 1886 when the Hall brothers staked the Silver King, Kootenay Bonanza and American Flag crown grants over the silver-copper mineralization. By 1886, 228 claims were recorded for the camp. By 1896, Hall Mines Company Ltd. had eighteen claims in the area and had built a smelter at Nelson.

To the end of 1896, 31,220 tons of ore had been produced containing 803,391 ozs. silver, and 2,583,840 lbs. copper. Development by this time was quite extensive and access to the workings was from tunnels 1, 2, 4, and 5. Number 4 adit or tunnel was the main access and extended southeasterly for about 900 feet, the last 200 feet of which was on property of Kootenay Bonanza. In late 1896, the Number 5 tunnel was started, 300 feet northwest and 200 feet below the Number 4 tunnel.

Development of the Kootenay Bonanza was more limited than that on the Silver King. This included a 65-foot shaft with 120 feet of crosscuts in which good ore was indicated. On the Dandy claim northwest of the Silver King, small amounts of development work were done on the extension of the Silver King structure. A 70-foot tunnel was driven on a 4-foot vein about 400 feet vertically below the Number 5 tunnel of the Silver King. Mineralization of the vein included quartz, chalcopyrite, bornite, and galena. Also, another 80 feet to the northwest a 47-foot shaft was sunk on copper-lead mineralization. And, below this shaft the Number 2 tunnel was driven for 170 feet along the lode.

On the Iroquois crown grant, 500 feet southwest of the Silver King property, another lode was discovered similar to the Silver King lode; however, it was not developed.

Work along the Silver King structure on the various properties continued to the turn of the century. In 1900, the company was reorganized and renamed the Hall Mining and Smelting Company. Mining and development continued with additional emphasis placed on smelting and refining. In 1902, an attempt was made to develop the property to a depth of 1,000 feet but the results were unsatisfactory and operations were suspended.

From 1902 to 1907, Mr. M.S. Davys leased the property and the mine and produced some ore from various parts of the accessible workings.

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From 1908 until 1910, the Kootenay Development Syndicate, headed by Mr. Davys, leased the property and produced ore, after which the mine was closed.

Apparently a fire destroyed the surface facilities and closed operations in 1909.

In 1910, after closure of the operations, R.S. Lennies consolidated all the properties on Toad Mountain and made plans to develop a known low grade ore body at depth by driving a crosscut to drain the Silver King. The feasibility of this operation was tested in 1911.

In 1912, Cominco Ltd. bought 75% interest in the Silver King Company and began to rebuild the surface facilities that had been destroyed by the fire. In 1913, a 2000 foot drift was driven on the vein from the Andy property. This stage of development opened up considerably more ore. The additional work included 5000 feet of diamond drilling; however, production was limited to removal of ore from the old workings.

In 1914, 1080 feet of development work were completed and some ore shipped; however, the commencement of World War I suspended operations.

In 1916, development of the mine resumed with completion of another 173 feet of underground development. In 1917, an additional 734 feet of drifting was completed. In 1918, 6180 feet of diamond drilling was completed and, in 1919, 305 feet of diamond drilling was done.

Very little work was done until 1937 when J. Pavich leased the property from Cominco and shipped 28 tons of ore. In 1938 and 1939, development work and mining were mainly on the Daylight and Victoria-Jessie crown grants adjoining the Silver King Mine.

No further work was done on the properties until 1946 when P. Rollick leased the Daylight and the Silver King and produced a limited amount of ore.

In the period 1946 to 1949, leasers produced ore from the Daylight, the Silver King, and the Victoria-Jessie crown grants. Leasers also operated between 1954 and 1957.

At the same time Cominco did 1078 feet of diamond drilling in 1956, about 0.5 miles west of the old workings. This was done to investigate geophysical anomalies.

In 1965, New Cronin Babine Mines Ltd. acquired a large interest in 22 crown grants and 8 mineral claims in the area and renewed activity. The Number 4 and 5 levels of the Silver King Mine were rehabilitated and 6596 feet of diamond drilling done to try and find

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an extension of the Silver King structure. In 1966, New Cronin Babine continued work by opening up the Dandy level from the portal to the shaft (2000 feet from the portal). Work also included 3000 feet of diamond drilling and the engineering feasibility study done by Hill, Manning and Associates.

In 1967, New Cronin Babine continued work and made an agreement with Cominco Ltd. concerning 32 claims. At this time, 2591 feet of surface diamond drilling were also completed. New Cronin Babine reported almost enough ore to support a 100-ton per day operation. However, no development occurred and the option was relinquished. Some time after this Cominco also dropped its interest in the property.

In 1973, Silver King Mines Ltd. optioned the property to Sprout Silver Mines and this company did geophysical work and soil geochemical sampling. This appears to have been the last active interest or exploration work on the property.

Total production from the Silver King from 1889 to 1948 was reported at 222,246 tons containing 14,946,235 lbs. of copper; 4,441,051 ozs. silver; 280 ozs. gold; 30,798 lbs. of lead; and 7,397 lbs. of zinc.

THE COTTONWOOD AREA

The Cottonwood zone of mineralization lies on the northeast flanks of Toad Mountain, west of highway 6. In 1947, the property was known as the Pactolus Group and it was examined by consultant engineer, Mr. A. Smith. In this area a 300-foot wide zone of pyritic schists, containing small amounts of gold, was discovered in the late 1890's. This zone has been traced for a distance of about three claim lengths and has been described as "irregularly silicified".

Overburden appears to be deep in this area, timber is thick and outcrops are scarce

In 1974, interest in the area renewed when Ducanex Resources Ltd. carried on a limited program of percussion drilling. At this time the property was called Kena claims and was owned by Mr. O. Janout. Results of this drilling are not known.

In 1975, Lacanex Mining Company Ltd., a company related to Ducanex carried on a much more extensive program, outlining a zone of anomalous copper 6000 feet long and up to 800 feet wide.

In 1977, Quintana Mineral Corporation became interested in the property and did geophysical work over a large area. This survey detected several small anomalies but did not indicate a large massive sulfide deposit.

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The work done for the Rio Moly Project in 1979 was limited to a trip along the logging roads to observe any exposed rocks and the physiography and to take a few silt samples. The results of this sampling is discusses under the section on "Gold Geochemistry".

RED MOUNTAIN

Introduction

Past interest in the Red Mountain appears to have been mainly directed toward the small gold-bearing quartz veins that occur south of the peak (sample site W254). In more recent years trenches have been placed on the sparse stringers of galena that occur east of the peak. None of this mineralization is impressive.

Sulfide samples were collected from the old storage bin at the old workings (W254) and from other scattered mineralization near the peak of Red Mountain. These samples yielded good values for the bismuth study. However, the geology of the area leaves a lot to be desired as an exploration target for molybdenite.

Geology

The southern part of Red Mountain is underlain by granodiorite, related to the Nelson Batholith. This granodiorite is unaltered and unmineralized. On the east side of Red Mountain lies a sequence of argillites striking northerly and dipping steeply to the east. Intercolated in these argillites are a few basic sills or volcanics of a light greenish-grey colour. The iron sulfide mineralization within the argillites gives Red Mountain its conspicuous red gossan.

Intruded between the granodiorite and the argillite is a small pluton of feldspar porphyry, about 600 feet wide. This is exposed on the east side of the peak. This intrusion could be the source of the iron sulfides that occur in the argillites to the east of the porphyry. The porphyry itself contains very little iron sulfide and is relatively unaltered.

Geochemistry

The limited number of samples were taken in three places, including a number of silt samples at the upper reaches of Fortynine Creek (P616 to P618, G790 to G792), some soil and rock samples along the foot of the cliffs, north of the peak (G631 to G637, P614 to P615) and rock chip samples and a few soils along the ridge and top of Red Mountain (G793 to G802).

The few geochemical results from the Red Mountain area are somewhat encouraging. The two silt samples taken to the northwest in a small stream that drains the hornfels area returned values of 10 to 13 ppm Mo plus values of 68 and 54 ppm Pb. Copper values were

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also slightly anomalous.

The most outstanding anomalous values are from two soil samples taken at the foot of the cliffs. These samples (P615 and G635) are anomalous in molybdenum, copper, lead and zinc. The sample sites are below the area of the contact hornfels and pyritic argillite.

The rock chip sample taken along the ridge top did give some slightly anomalous molybdenum values (up to 10 ppm). However, the samples of the pyritic argillite and the porphyry taken near the contact have merely background values.

GOLD GEOCHEMISTRY

The silt samples taken in a detailed survey down Sandy Creek did not yield any anomalous Cu, Pb, Zn, Mn or Ag. However, gold values are in general higher than background values found in other regions, a number are quite anomalous. Many of the higher values (up to 580 ppm) are clustered ESE of the white alteration and the tourmaline mentioned in "INTRODUCTION".

Two samples were taken from the trenches in the altered rock. Sample G738 is a rusty weathering altered rock with considerable quartz and sericite and abundant pyrite. Sample G739 also has abundant quartz and pyrite and probably tourmaline. Analytical results for the samples are as follows: G738 -- 7 ppm Mo, <5 ppm Sn, 825 ppb Au; and sample G739 -- 10 ppm Mo, < 5 ppm Sn, and 2400 ppb Au.

Many of the silt samples obtained in the Cottonwood zone, especially from the head waters of Gold Creek, have anomalous Au and Cu, but only background values in Ag, Mo, Zn and Pb. One sample however, is anomalous in Mo. Sample G757 has 20 ppm Mo, 160 ppm Cu and 157 ppb Au. This sample was taken near the road where abundant pyrite occurs in an exposure of intrusive rock (G754) and in a banded sedimentary rock (G755). Samples of two rocks were analyzed for Cu, Pb, Zn and Mo; the results are not anomalous.

CONCLUSIONS AND RECOMMENDATIONS

The potential targets in this area would include silver in the Silver King zone, gold in the area of Sandy Creek and the Star and Alma properties, porphyry molybdenite on Red Mountain and possibly auriferous pyrite zones in the Cottonwood area. Comments on each of these separate zones are as follows:

(1) Exploration in the Silver King area for additional silver lodes might be warranted in view of the increased price for silver. However, additional compilation work is needed to determine what has been done along the zone, to acquire data from companies that have done work in more recent years, and to determine if any reasonable exploration bets remain. This additional compilation

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work is only warranted under this project if Riocanex is interested in pursuing an exploration program for high grade silver lodes within this persistent zone.

(2) The Sandy Creek area and the Star and Alma properties should, in view of the alteration obtained in the southern most prospects, warrant additional investigation for gold mineralization. The fact that the anomalous gold values are associated with alteration and not with the usual quartz vein or lens is intriguing.

(3) Several companies have been pursuing an exploration program for strata bound sulfide deposits in the Cottonwood area. The fact that the silt samples along this zone are anomalous in gold and the fact that abundant disseminated pyrite occurs in these sericitic schists indicates exploration for auriferous disseminated pyrite might be warranted.

It is necessary to verify that the recent exploration was for massive sulfide bodies rather than disseminated auriferous pyrite. Also the claim ownership and the status of the most recent exploration must be investigated.

Initial field work would include more detailed silt sampling of the seepages and drainages on the northeast side of Toad Mountain in an attempt to delimit an auriferous zone or to find the uphill cutoff values for the anomalous gold.

Precious metal search is not the prime function of the Rio Moly Project. Whether or not such preliminary investigations are carried out, depends on Riocanex's policy as well as exploration merits of such a program.

(4) In spite of the widespread pyrite and the few anomalous geochemical results at Red Mountain, J.R. Woodcock could find nothing encouraging in the geology of the target to warrant exploration for molybdenite. Hydrothermal alteration in both the porphyry and the argillite is practically nonexistent.

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REFERENCES

Cottonwood

Johnson, D., 1974; Report on Percussion Drilling, Kena Claims, Toad Mountain Area, Nelson Mining Division, B.C.: Ducanex Resources Ltd., Ass. Report #5222

Johnson, D., 1975; Report on Geological, Geochemical, and Geophysical Work, Kena Claims, Toad Mountain Area, Nelson Mining Division, B.C.: Lacanex Mining Co. Ltd., Ass. Report #5665

Smith, A., 1947; Report on Pactolus Group Nelson M.D., British Columbia, Ass. Report #8

Phoenix Geophyics Ltd., 1977; Report on the Induced Polarization and Resistivity Survey on the Kena Claim Group, Nelson Mining Division, B.C.: Quintana Minerals Corporation, Ass. Report #6520

Silver King

B.C. Minister of Mines Reports: 1896 - 1977

Dawson, C.W., 1980; On a Portion of the West Kootenay District, British Columbia: Geo. Surv. Canada, Annual Report 1888, 1889, Vol. #4 pp. 57B - 60B

LeRoy, O.E., 1912: Geology of Nelson Map Area, B.C.: Geo. Surv. Canada, pp. 139, 146, 156

Little, H.W., 1960; Nelson Map Area West Half, B.C.: Geo. Surv. Canada, Memoir #308

Mulligan, R., 1952; Bonnington Map Area, B.C.: Geo. Surv. Canada, Paper 52 - 13

Paxton, J., 1974; Diamond Drilling Report on the Palmer Option Project: Granby Mining Company Ltd., Ass. Report #5074

White, G.E., 1973; Geophysical, Geochemical Report, Silver King Property: Sprout Silver Mines, Ltd., Ass. Report #4701

KENO CREEK

INTRODUCTION

During an aerial reconnaissance flight over this area, a conspicuous gossan was noted near the headwaters near Keno Creek. This corresponds to the Mammoth property which contains molybdenum, copper, gold and silver. Dennis Gore, in a visit to the property, noted disseminated flakes and pockets of molybdenite along with copper mineralization in skarn near an old shaft. This prompted additional investigation of the property, mainly to check for tungsten and for bedding controls. A few rock, soil and silt samples were taken from the mineralized skarn and the surrounding area.

LOCATION AND ACCESS

The property is on map sheet 82F-6, about two kilometers west of highway 6. The property is easily reached from Nelson via highway 6 and by the gravel road which follows Barrett Creek for a short distance before bending northward to extend up the mountain side to Lost Lake. A four wheel drive vehicle is needed for access.

The property is on top of the ridge most of which is above timberline. Elevations range from about 2700 feet near highway 6, to 6000 feet near the old workings and to 7000 feet on the mountain to the west.

EXPLORATION HISTORY

Sometime before 1917, molybdenum-copper mineralization, hosted by skarn, was discovered near the headwaters of Keno Creek. A 40-foot shaft was sunk on the showing; but little further work was done. A sample from the shaft was reported to contain trace gold, 1.6 oz. silver, and 0.6% copper.

Interest in the property did not revive until 1917, when the Monarch group of seven claims was staked to cover the skarn and showings of molybdenum-copper mineralization. This mineralization occurs as fracture fillings and disseminations in hornfels. The hornfels showing is located about 1600 feet from and 600 feet below the molybdenum bearing skarn. During this second exploration period a 79-foot tunnel was driven through diorite porphyry to get under the mineralization; however, it was driven in the wrong direction.

Exploration activity in the area was revived in 1967 when Weland Mining Ltd. acquired the Mammoth #2 Crown Grant and Mineral Lease 112. At this time three short holes were drilled in the molybdenum bearing skarn. In 1968, Weland drilled an additional nine diamond drill holes to test the extent to the molybdenum bearing skarn. Also five 200-foot holes were drilled on copper mineralization found to the east of the Mammoth #2 Crown Grant on the ATS claims. In addition, 15 holes totalling 5000 feet were drilled on the molybdenum-copper showing in the hornfels. Further work included 10 trenches and 4000 square feet of stripping.

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No further work was done until 1972, when Welland Consolidated Mining Ltd. and Pechiney Development Ltd. did some soil geochemistry and some geophysics over the property.

GENERAL GEOLOGY

Between Hall and Barrett Creeks several small diorite stocks of the Nelson Batholith intrude a north trending belt of argillites, sandstones and conglomerates that belong the Hall Formation. This belt is bounded on either side by volcanics of the Rossland Formation.

Detailed geological mapping was not done over the property but a good general geological picture of property was obtained. The property is bounded on the east by a large body of granodiorite -- an outlier of the Nelson Batholith.

To the east of this large intrusion is a band of augite porphyry basalt in which several local pockets of skarn occur. Also within this volcanic horizon is a peculiar very coarse-grained quartz-feldspar dyke. This dyke, which strikes perpendicular to the strike of the strata, has a width of 20 to 30 feet and a length of about 250 feet.

The unit with the molybdenum-bearing skarn lies east of the augite basalt. The skarn band is approximately 100 feet thick. It consists of epidote, actinolite and potassium feldspar in a multicoloured mixture. The sulfide mineralization includes disseminated molybdenite, chalcopyrite, pyrite and pyrrhotite. Several small pits and trenches as well as an abandoned shaft have been placed in the mineralized skarn.

The strata east of the skarn consist of alternating diorite dykes or small intrusive bodies and bands of very iron stained hornfels. The hornfels strikes northerly to northeasterly and dips steeply east. The hornfels characteristically contains small amounts of disseminated pyrite and weathers to a rusty colour. Soils overlying the hornfels are generally very rusty.

Mineralization was also noted along highway 6. Several quartz veins with noticeable amounts of pyrite and chalcopyrite occur near sample site G 644. Further to the south, near sample site 671, several very rusty road cuts stand out sharply.

GEOCHEMISTRY

Although the mineralized area of skarn is well exposed, the lower slopes of the valleys to the south, east and north are largely covered by overburden. Silt samples were taken from readily accessible creeks. In addition, some rock and soil samples were taken from the area of mineralization.

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Within the mineralized horizon both rock and soil samples were taken from sites for comparison. Note that in such places the sample numbers starting with "P" and the corresponding metal value are for the soil samples.

The results of this limited amount of geochemistry are enumerated as follows:

(1) The silt samples draining the valley side west of the highway have high zinc values and are quire anomalous in comparison to the silts of Keno Creek and other creeks which drain the area of mineralized skarn. Corresponding copper values are slightly higher than those in other parts of the area, but one would not consider them anomalous. The molybdenum and lead values for these silt samples along the highway are background.

(2) The copper, molybdenum and tungsten values in the skarn areas are erratic with low background values and with geochemically anomalous values. None of the samples returned values that would even approach economic grades. Zinc and lead values in the area of skarn are low.

(3) One rock chip sample (G 671) taken from a very rusty argillaceous outcrop adjacent to the highway returned a value of 430 ppm zinc, 53 ppm copper, 7 ppm lead and 34 ppm molybdenum.

CONSLUSIONS AND RECOMMENDATIONS

(1) The soil and rock samples taken in the skarn area have added little of importance to this mineralized area.

(2) The high zinc values in the silts taken west of the highway are probably contributed by some black organic-rich strata striking northerly parallel to the bedding noted in the skarn area.

(3) The rusty rock adjacent to the highway is quite anomalous in molybdenum (34 ppm). An examination of this outcrop and the area around it should be made in conjunction with other work in the region.

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REFERENCES

Nicolet, J.R., 1972; Geological and Geochemical Survey on the Mammoth Leases and Grace Claims Located 9 Miles South of Nelson: Nelson Mining Division, British Columbia, Ass. Report #4035

Walcott, P.E., 1972; A Report on a Ground Magnetic Survey, Nelson Area, B.C.: Welland Consolidated Mining Ltd., Ass. Report #4034

BEAVERVALE CREEK

INTRODUCTION

The geology map of map sheet 82F shows an east-west trending line of Coryell intrusions. At least two molybdenum prospects are located along this line of intrusions. Just to the east of Erie Creek, Amax Exploration Inc. holds ground over a molybdenum bearing rhyolite porphyry. Further to the east, near Stewart Creek, Shell Canada Resources holds a large block of claims covering another intrusion. Air reconnaissance flights over the region indicated thick forest cover and few outcrops in the vicinity of Beaverdale Creek. Such cover would have hindered any previous exploration. Beaverdale Creek lies partly within this corridor of intrusions and was therefore selected for limited exploration.

As a preliminary investigation, a series of silt and soil samples were taken along the gravel road which extends up the valley of Beavervale Creek. Unfortunately, much of the area is a broad plateau with little topographical relief. Few major drainages were traversed, thus limiting the effectiveness of geochemical programs. A second series of silt and soil samples were taken further to the east in the vicinity of Benton Creek. This area has more topographical relief and several major streams were crossed.

Very little outcrop is exposed along Beavervale Creek, the one exception being the Coryell intrusion which has a noticeable topographic expression.

GENERAL GEOLOGY

The region is underlain by the granodiorites and granites of the Nelson Batholith with small areas of metamorphosed greenstone which could be Rossland Formation. Because of the thick cover there are likely additional unmapped areas underlain by the Rossland Formation. The Reliance gold-silver property is the only mineral prospect in the map area. Attempts to find the old workings were unsuccessful.

GEOCHEMISTRY

Most of the samples taken along the Beavervale Creek road are soils, with only a few silt or gully samples. In contrast, the samples taken along the Benton Creek road included a larger portion of silts.

The molybdenum, copper, lead and zinc are plotted on three maps. A perusal of these maps shows generally low values. One anomalous copper value was found in the soils (P692 with 102 ppm copper). This sample was taken beside an outcrop of altered volcanics which contain considerable disseminated pyrite. A rock chip sample from this outcrop (G-705) returned 91 ppm copper, 8 ppm molybdenum, 2 ppm lead and 86 ppm zinc. One must stress that this is an isolated outcrop in an area of widespread overburden. Although the lead and zinc

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values from this rock chip sample are merely background, one should note that some of the soils in the general vicinity do have higher than background zinc and/or lead values.

Two other slightly anomalous molybdenum samples stand out on the map of the molybdenum geochemistry. These are silt samples running 7 ppm and 13 ppm. The higher value is probably from Iron Creek which drains one of the Coryell intrusions.

CONCLUSIONS AND RECOMMENDATIONS

(1) The area along Beavervale was selected because of the widespread overburden. However, most of the geochemical samples taken along this road are soil samples which are not too effective in such overburden. Therefore, only positive results can be considered meaningful. The very low values do not eliminate the potential of the valley.

(2) The outcrop of altered volcanic rock with its disseminated pyrite is anomalous in copper and molybdenum and a few of the soil samples taken in the vicinity have almost anomalous zinc and/or lead values. This outcrop warrants an examination with a view to determining whether further work is needed.

(3) In conjunction with the examination of the altered outcrop, the field man should take a few additional silt samples at the head of Iron Creek and possibly a few silt samples in other drainages from this Coryell intrusion.

January 29, 1980

J.R. Woodcock

NELSON AND SALMO MAP SHEETS -- MISCELLANEOUS

INTRODUCTION

Only selected portions of the Nelson (82F-6) and Salmo (82F-4) map sheets were selected for molybdenum exploration and only limited time was spent in this exploration. The work included visits to abandoned mines, some limited soil and silt sampling, and collection of ore samples for the bismuth study.

Target areas on the Nelson sheet included Snowwater - Rover Creek area, the Nelson Mining Camp, the Keno Creek area, and the Ymir and Porcupine Creek area, on the Nelson sheet and Active Creek, Keystone Mountain, Archibald Creek, Sheep Creek, Iron Mountain and Beavervale Creek, on the Salmo sheet. The data obtained in the Nelson Mining Camp, the Keno Creek area, and Beavervale Creek are presented on separate maps and reports. The remaining data is presented on topographical maps (Scale 1:50,000) for each of the Salmo and the Nelson map sheets.

The region of both map sheets has a large number of silver-zinc prospects, most of which are inactive. Some, within the Kootenay Arc are strata bound and formed by some sort of sedimentary control. Others occur within the batholithic rock and have been mobilized into their present position. Hopefully, some of the veins will be related to porphyry intrusive centers and some of these centers will carry molybdenite.

In the section on "BEAVERVALE CREEK" mention is made of an east-west line of Coryell intrusions which extends westerly from Ymir. Two similar Coryell intrusive centers occur further south on the Salmo map sheet.

Two intrusions west of Ymir have been staked for molybdenum exploration. These two prospects include a quartz rhyolite porphyry stock on Erie Creek which is held by Amax Minerals Exploration. This prospect does contain some molybdenite along fractures. It was drilled in the early seventies by McIntyre Mines Ltd. The second intrusion lies between Erie Creek and Ymir and is the center of a hugh claim block owned by Shell Canada Ltd.

MINING HISTORY AND ACTIVITY

Several substantial mining operations of quite recent activity occur in the Salmo area. These include the Reeves MacDonald Mine (Zn, Pb, Cd, Ag) near Remac, the Jersey Mine (Zn, Pb, Cd, Ag) the Emerald Mine (W) and H.B. Mine (Zn, Pb, Ag, Au) along Sheep Creek.

In addition, the Sheep Mining Camp was also a very active camp at one time. Between 1934 and 1941 it was one of British Columbias most productive gold camps, ranking sixth in 1941. Another much smaller gold camp is located north of Salmo near Keystone Mountain. Although gold is the most valuable vein constituent, in these gold camps, lead and zinc mineralization do occur.

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Activity in the Ymir area began in 1896 and, except for a depression during the period 1899 - 1901, this interest continued until 1904 when attention shifted southward to the Salmo Creek Mining Camp. An increase in the price of gold revived the camp between 1934 and 1940.

Another major mining center is the Nelson Mining Camp. The history of this camp and the Silver King Mine is included in the section "NELSON MINING CAMP".

SNOWWATER - ROVER CREEK AREA

During an air reconnaissance flight over the region, a large gossan was noted in the forested area near Snowwater Creek wouthwest of Nelson. The Snowwater gold prospect is located in the vicinity of the gossan area. This property has a history of production of 1200 tons. In 1975, J. Barakso examined the property for the Cordilleran Engineering Ltd.

In 1979, J.R. Woodcock examined the gossan area and collected some silt and rock samples. The gossan occurs in hornfels adjacent to an unaltered granodiorite intrusion. Mn, Pb and Zn values of rock and silt samples from the area are low. One rock sample has anomalous Mo (15 ppm) another rock sample has high Cu (260 ppm).

KEYSTONE MOUNTAIN AREA

The Keystone Mine workings east of Erie Creek are hosted by well-bedded slates which show no signs of hornfels or alteration that would indicate proximity stocks. One silt sample from the area did return 7 ppm Mo and 460 ppm Zn.

A few additional samples were obtained in an area lacking outcrops on the east side of Keystone Mountain. Some slightly anomalous Mo values were obtained in some silt and soil samples (7 and 8 ppm) accompanied by anomalous Pb and Zn. In both places, mine workings are located some distance above the sample sites; these may account for the high values.

ARCHIBALD CREEK

A Coryell intrusion has been mapped in the water shed at the head of Archibald Creek. A visit was made to this area; however, the intrusion was not seen. Results from the silt and soil samples taken in the area are not anomalous.

YMIR CREEK - PORCUPINE CREEK

Samples from the Huckleberry Creek, north of Ymir Creek contain the highest bismuth found in any ore samples collected during the 1979 season. A possible zoning of the Bi and Mo in the ore samples is mentioned under "BISMUTH STUDY". Some of the sedimentary rocks in

.../53

the area have a slight brownish tint and may be partially metamorphosed to hornfels.

Several rock and silt samples were analyzed. However, the geochemical results are low. Mo values are merely background with one stream silt having 5 ppm. Cu, Pb, Zn and Ag values are also low. Mn is slightly anomalous with values up to 1656 ppm. Silt samples were also taken along Oscar and Porcupine Creeks, south of Ymir. All Mo and Cu values are background. Although some of the Pb values and many of the Zn values are anomalous, they are not significant in view of the widespread lead-zinc mining activity in the area.

Active Creek and Howard Creek are tributaries at the head of Porcupine Creek. The Howard silver-lead-zinc prospect is located near Active Creek.

Rocks in the vicinity of the Howard Mine are Nelson granodiorite. This rock consisting of coarse-grained granitoid rock with feldspar phenocrysts, is fresh in appearance and shows no alteration or pyrite. Adjacent to the intrusion are some brown to grey hornfels containing noticeable disseminated pyrite. Away from the intrusive contact the rock is predominantly rusty weathering slate.

A sample of the granodiorite contains only 3 ppm Mo, whereas a sample of the adjacent hornfels has values of 34 ppm Mo, 750 ppm Mn, 910 ppm Zn, and 49 ppm Cu. A sample of nearby slates had values of 29 ppm Mo, 70 ppm Mn, 345 ppm Zn and 99 ppm Cu.

SHEEP CREEK AREA

The Reno Mine is located on Reno Mountain north of Sheep Creek. This mine at one time was a producer of gold and silver. The mine is located beside the Black Bluff Fault which separates the argillites, slates and minor limestones of the Active Formation on the west from the quartzite, limestones, and argillites of the Laib, Reno and Quartzite Range Formations on the east.

The Bismuth Study yielded highly anomalous values from the prospects in this area and therefore the area was revisited to collect additional samples and to observe the geology. In the vicinity of the Reno Mine, some slightly brownish sedimentary rocks occur and may be a biotite hornfels. These contain some disseminated pyrite which appears to be associated with intrusive dykes of a basic rock. Samples from the mine were anomalous only in lead and zinc.

In Bennet Creek area south of Sheep Creek, a few silt samples were taken. One of these has a value of 21 ppm Zn and 5 ppm Mo. This sample site is not located below known workings.

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CONCLUSIONS AND RECOMMENDATIONS

This section merely describes the miscellaneous data that has not been incorporated into targets described elsewhere. The area which lies in the drainage of Ymir Creek, extending southward almost to Sheep Creek, has returned some interesting results and parts of this area warrant additional field investigation. In particular, the Bismuth Study has outlined a number of targets which warrant some additional field examination, possibly followed by additional geochemistry. The best target is that in the drainage basin of Huckleberry Creek and in some of the tributaries of Porcupine Creek. In addition to the Bismuth anomalies found in the ore, some of the rock samples have slightly anomalous molybdenum and some of the rock displays hornfels alteration.

J.R. Woodcock

January 29, 1980

REFERENCES

Barakso, J.J., 1975; Snowwater Gold Prospect - Geochemical Orientation Survey: Cordilleran Engineering Ltd., Ass. Report #5558

THE BISMUTH STUDY

INTRODUCTION

Most of the major porphyry molybdenite camps of western North America have some late stage polymetalic veins which contain an assortment of lead-bismuth-sulfo salts. Although such sulfo salts occur in other environments, the writer believes that the unique association with porphyry molybdenite deposits is universal enough to justify some molybdenite exploration in the vicinity of veins that contain these lead-bismuth-sulfo salts. Therefore, in an attempt to help sort out the many lead bearing veins of the Slocan, Nelson and Salmo areas, a study of the bismuth content of some of the lead-zinc and precious metal veins was initiated.

The results of the first few shipments of samples were very encouraging in that the old precious metal mine at the Trout Lake deposit returned the highest Bi values. However, with subsequent sampling and data, the picture became more complex. One of the complexities is that bismuth tellurides occur in many of the gold-bearing polymetalic veins. In an attempt to resolve this problem, Te geochemical analysis were obtained for samples which had anomalous Bi and the ratio Bi/Te was added to the maps.

There is also the problem of representative samples from any one mine. In most cases the metal-bearing vein material was collected off old dumps or chutes at the old mine sites. Just how representative this is of the ore is not known. Also, within the individual veins, the sulfide content is highly variable. In an attempt to resolve this sampling problem, Pb assays were obtained for samples that had anomalous Bi and the ratio Bi/Pb, (10^{-4}) was added to the maps.

In some molybdenite camps the late polymetalic veins carry some molybdenite; however, in many camps they are completely devoid of molybdenite. Therefore, the samples were analyzed for geochemical amounts of Mo and this was added to another map.

Thallium is reported to be zoned around the stockwork molybdenite deposits of Colorado. Studies by the writer at Alice Arm indicate that this element is associated with lead. In the preliminary samples, Tl geochemical analysis were obtained. However, these did not yield any important information and so this practice was discontinued. Since the results are not informative and not complete, they have not been plotted on the maps.

ANALYTICAL RESULTS

In general the Bi and the Bi/Te ratio for samples obtained south of Nelson are considerably higher than any for the samples obtained in the regions to the north. The regions to the north, with the generally lower values, include the important Trout Lake deposit. This indicates that one must compare and appraise the relative results for a number of geological regions rather than

.../56

use only absolute values for appraisal.

Most of the analytical results and sample sites are included on one set of maps (Scale 1:125,000). Anomalous targets on this map have been labelled A to G inclusive and will be discussed in that order. A few samples were taken outside of this map area and will be subsequently discussed separately.

Note that, on the geochemical map, a low Te value is considered a plus factor and therefore, the color scheme for Te is in reverse order compared to the other metals.

Target A: The samples north of Nelson are mainly from within or near the Nelson Batholith and are all part of the Slocan Mining Camps. Only three with anomalous Bi were obtained and one of these (12 ppm) is at Sandon. This sample also has low Te. However, because the Bi value is only slightly anomalous the Bi/Te value is low. This sample is spacially associated with a small granitic intrusion. The limited amount of work done around this intrusion has been described under the section on "SANDON AREA".

Target B: Late in the season Dennis Gorc, accompanied by Robert Long and Dana Dirgen visited two precious metal prospects near the mouth of Enterprise Creek. Mineralization at the Kalispell prospect consists of galena, ruby silver, sphalerite and pyrite in a breccia which is cemented by milky quartz. The second sample was from stibnite veins. This sample also contains 2040 ppm tin. These prospects belong to Mr. Peter Leontowicz and come under the area of influence of the Aylwin option agreement. The sample from the Kalispell prospect did give anomalous bismuth (23 ppm); however, the Bi/Pb ratio is merely background.

Target C: The sample, from an old mine dump, was massive sulfides, including considerable pyrite. The sample is anomalous in Bi (41 ppm). It is also anomalous in Te; however, the Bi/Te ratio is still somewhat anomalous. Work done in this area is more fully described under section on "SLOCAN TARGET".

Target D: Quartz veins carrying precious metals, occur in the granites at Red Mountain. Samples from the dumps carry some of the highest Bi values obtained and also some anomalous Bi/Pb. These samples have low Te and, therefore, also anomalous Bi/Te. The samples appropriately occur on Red Mountain, west of a porphyry intrusion. Observations in the area by J.R. Woodcock did not reveal any encouraging geology. The target is more fully described in the section on "NELSON MINING CAMP".

Target E: The most outstanding anomalous Bi values accompanied by anomalous Bi/Pb ratios occur in the samples collected from Huckleberry Creek, a northerly branch of Ymir Creek. Six samples collected from this area are anomalous in Bi. Samples with the high Bi also have relatively low Te. Lower parts of this drainage

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are in a basin of fairly widespread overburden and outcrop exposures are sparse.

One could extropolate on inadequate data, and note that the Mo values appear somewhat zoned with 31 ppm near Ymir Creek and decreasing to background values in the northern upstream samples. Correspondingly the Bi contents are highest in the northern samples and merely background in the high Mo sample at Ymir Creek.

J.R. Woodcock made one trip through the area and did note some insipient hornfels and disseminated pyrite in some of the rock exposures. Rock chip samples, however, were quite low in Mo. (2-3 ppm) with only one value of 6 ppm.

Target F: Target F is on Reno Mountain at the old Reno Mine. This mine had substantial workings with adits at two levels. However, there is not much ore on the dumps and it was difficult to even get a sample for this study. Mineralization was hosted by quartzite, limestones, and phyllites of the Laib, Reno and Quartzite Range Formations. The exposures at the mine are abundant and form the rim of a broad valley. There is lots of outcrop near the mine and there are no obvious gossans for several miles around the rim. At the mine site, Dennis Gorc observed some brownish rock which might be biotite hornfels; it contains some disseminated pyrite. There are some associated basic dykes but no intrusive granitic plugs.

Bi values are very high and Bi/Pb ratios are also anomalous. Te values are low.

Target G: Some anomalous values were also obtained south of Sheep Creek with values of 160 ppm Bi and 125 ppm Bi from the Queen and Ore-Hill Mines respectively. The Te values are low and the Bi/Pb and Bi/Te ratios are also anomalous. The geology of these mines is similar to that found in Reno Mountain to the north.

Trout Lake: The values obtained for some precious metal high-graded ore (G79-324) from the polymetalic quartz veins yielded the following: 13 ppm Mo, 25 ppm Bi, 4.5 ppm Te and Bi/Te = 5.6, Bi/Pb = 2.07. One must note, that, although Bi content of this ore is anomalous the Bi/Pb and the Bi/Te ratios are not anomalous.

Christina Lake: To the east of Christina Lake is a very old gold mining camp. A sample (W79-229) off the dump yielded the following values: 165 ppm Bi, 0.2 % Pb, 10 ppm Mo, and Bi/Te = 0.7, Bi/Pb = 825. While this sample is anomalous in Bi and in Bi/Pb ratio, the high Te value (230 ppm) results in a very low Bi/Te ratio.

Nancy Green Lake: Dr. Harry Warren informed J.R. Woodcock that he had found lead-bismuth-sulfo salts in a quartz vein north of the highway and east of Nancy Green Lake. Search in this area revealed only a few quartz veinlets with sparse sulfides; however, the mineral inventory for British Columbia does show a tungsten

.../58

prospect along the road and the claim maps do show some claim holdings. The sample by Paul Stanneck from this unimpressive quartz vein (P79-537) returned the following values: 130 ppm Mo, 50 ppm Bi, 3.3 ppm Te, 0.8% Pb and Bi/Te = 15.2, Bi/Pb = 62.5.

CONCLUSIONS AND RECOMMENDATIONS

(1) The bismuth study was a small side line in the search for molybdenite deposits in this region of many lead-silver prospects. Whether or not it is a legitimate tool in such exploration remains to be seen.

More data is needed for other types of lead mineralization, especially the polymetalic veins associated with known porphyry molybdenite deposits. Those of the Alice Arm area and of Colorado have very high bismuth values as lead-bismuth sulfo salts are quite conspicuous in places. However, the tellurium contents are unknown.

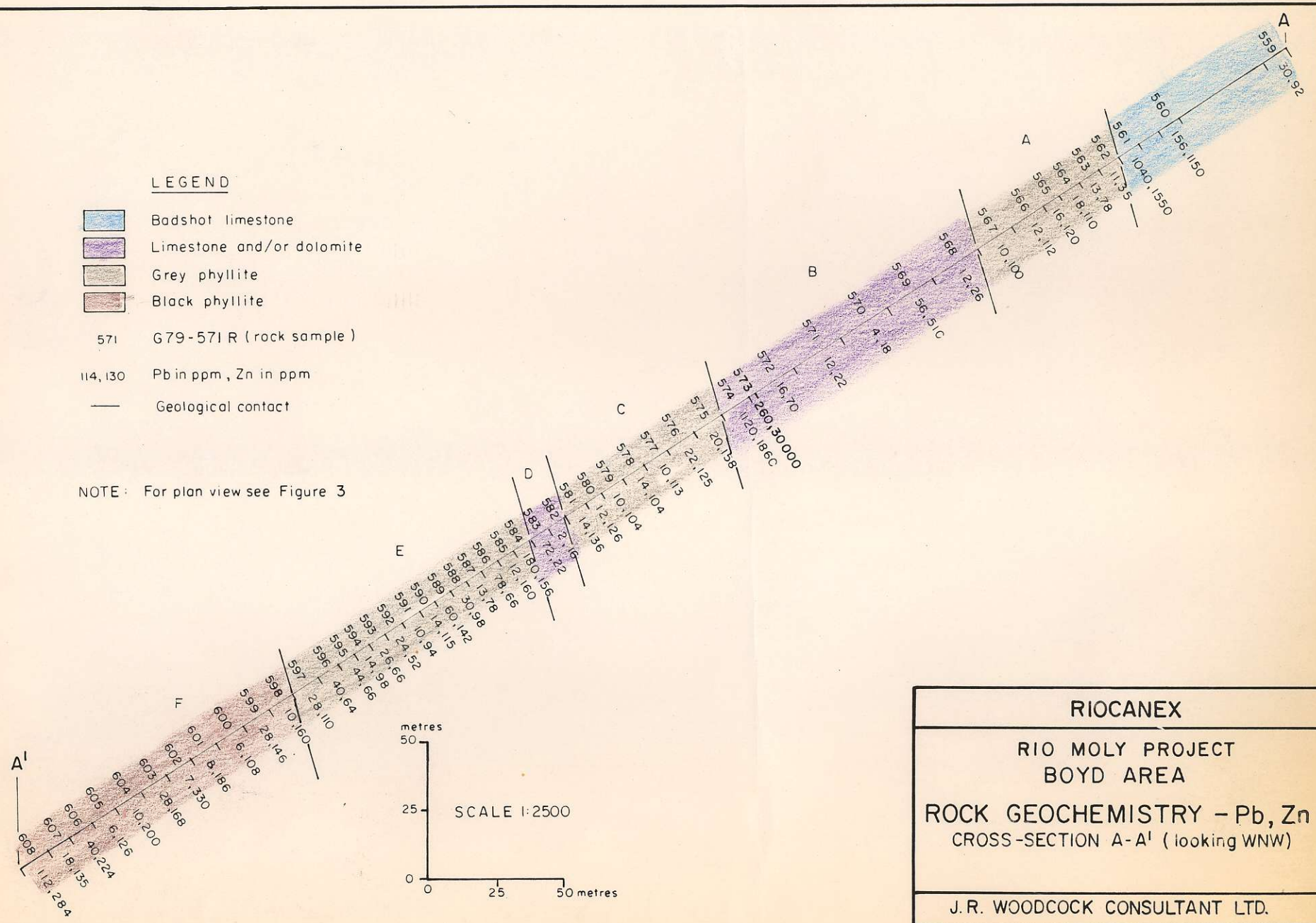
(2) Target E is by far the outstanding anomaly obtained in this molybdenite study. Further work is needed in the vicinity of this target, including geological observation, possibly some petrographic work to determine if hornfels is present, rock geochemistry, analyses for additional prospects in the general area and some silt and soil geochemistry. The amount of work done along each of these lines will depend on further field examination.

(3) Targets F and G should also be investigated, especially if the work in Target E is encouraging.

J.R. Woodcock

January 29, 1980

J.R. Woodcock



RIOCANEX

RIO MOLY PROJECT
BOYD AREA

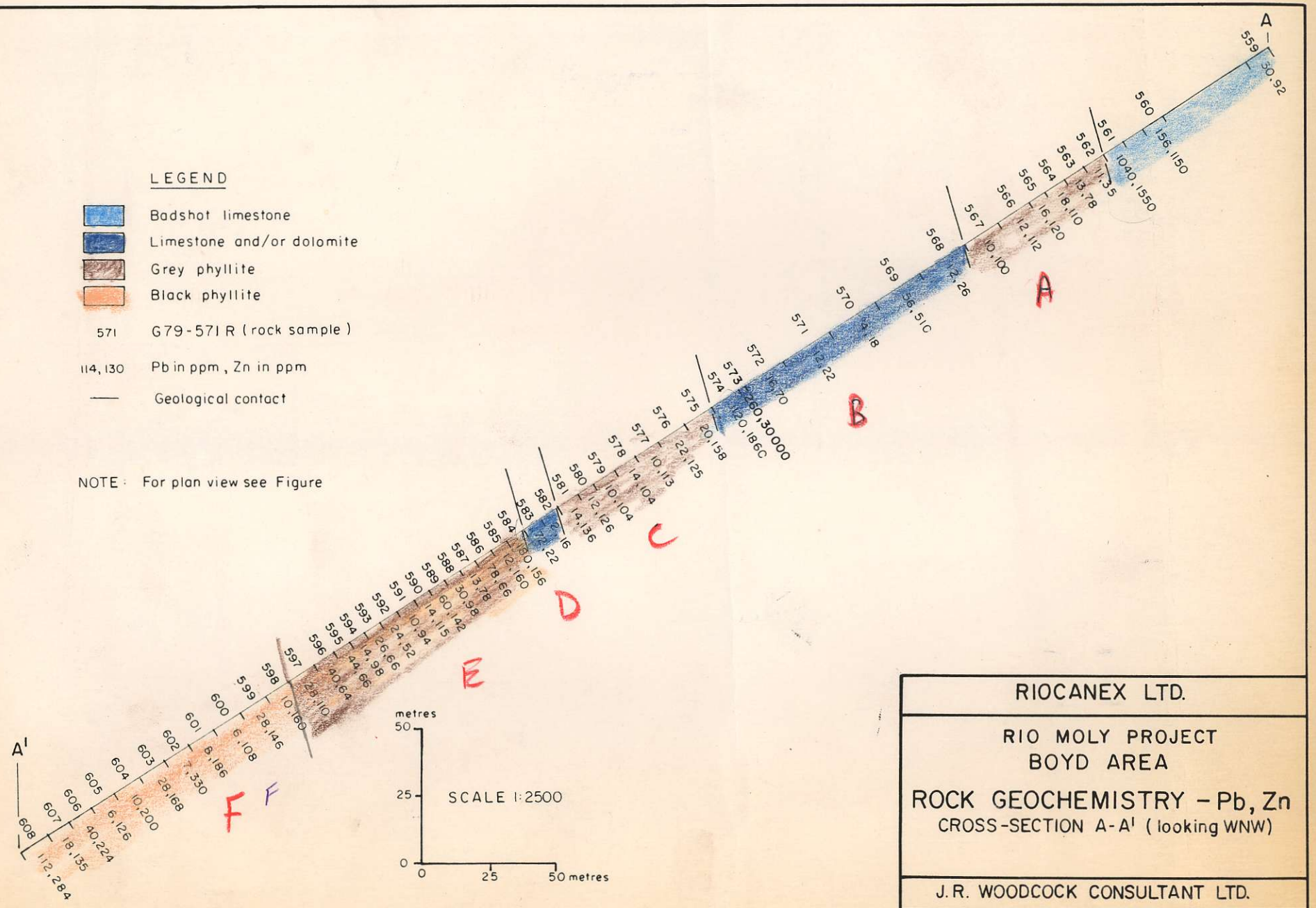
ROCK GEOCHEMISTRY – Pb, Zn

CROSS-SECTION A-A' (looking WNW)

J. R. WOODCOCK CONSULTANT LTD.

NOVEMBER 1979

FIGURE Nº. 2



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RIO MOLY PROJECT
BOYD AREA

ROCK GEOCHEMISTRY – Pb, Zn
CROSS-SECTION A-A' (looking WNW)

J. R. WOODCOCK CONSULTANT LTD.

NOVEMBER 1979 FIGURE Nº.

ROCK SAMPLES SEE FIGURE

SILVERTIP CREEK

To Westfall River

SYMBOLS

- Sink hole
- Stream
- Geological contact-defined, inferred
- X Rock sample
- ○ Silt "
- △ Gully "

LEGEND

- 0 - 30 ppm
- 31 - 100
- >100

inches
0 1 2
0 1 2 3 4 5
centimetres

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

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RIO MOLY PROJECT
BOYD AREA
Cu GEOCHEMISTRY

FROM A 20-CHAIN AIR PHOTO (BC-7031-213) BLOWN UP 2x.

0 500 Metres

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº.

ROCK SAMPLES SEE FIGURE

SILVERTIP CREEK

To Westfall River

SYMBOLS

- Sink hole
- Stream
- Geological contact-defined, inferred
- X Rock sample
- ○ Silt "
- △ Gully "

LEGEND

- 0 - 3 ppm
- 4 - 6
- 7 - 12
- 13 - 25
- >25

inches
0 1 2
0 1 2 3 4 5
centimetres

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RIOCANEX LTD.

RIO MOLY PROJECT
BOYD AREA
Mo GEOCHEMISTRY

FROM A 20-CHAIN AIR PHOTO (BC-7031-213) BLOWN UP 2x.

0 500 Metres

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº

ROCK SAMPLES SEE FIGURE

SILVERTIP CREEK

To Westfall River

SYMBOLS

- Sink hole
- Stream
- Geological contact-defined, inferred
- X Rock sample
- ○ Silt "
- △ Gully "

LEGEND

- 0 - 30 ppm
- 31 - 60
- 61 - 90
- 91 - 120
- 121 - 150
- >150

inches 0 1 2

centimetres 0 1 2 3 4 5

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BRITISH COLUMBIA GEOLOGICAL SURVEY

RIOCANEX LTD.

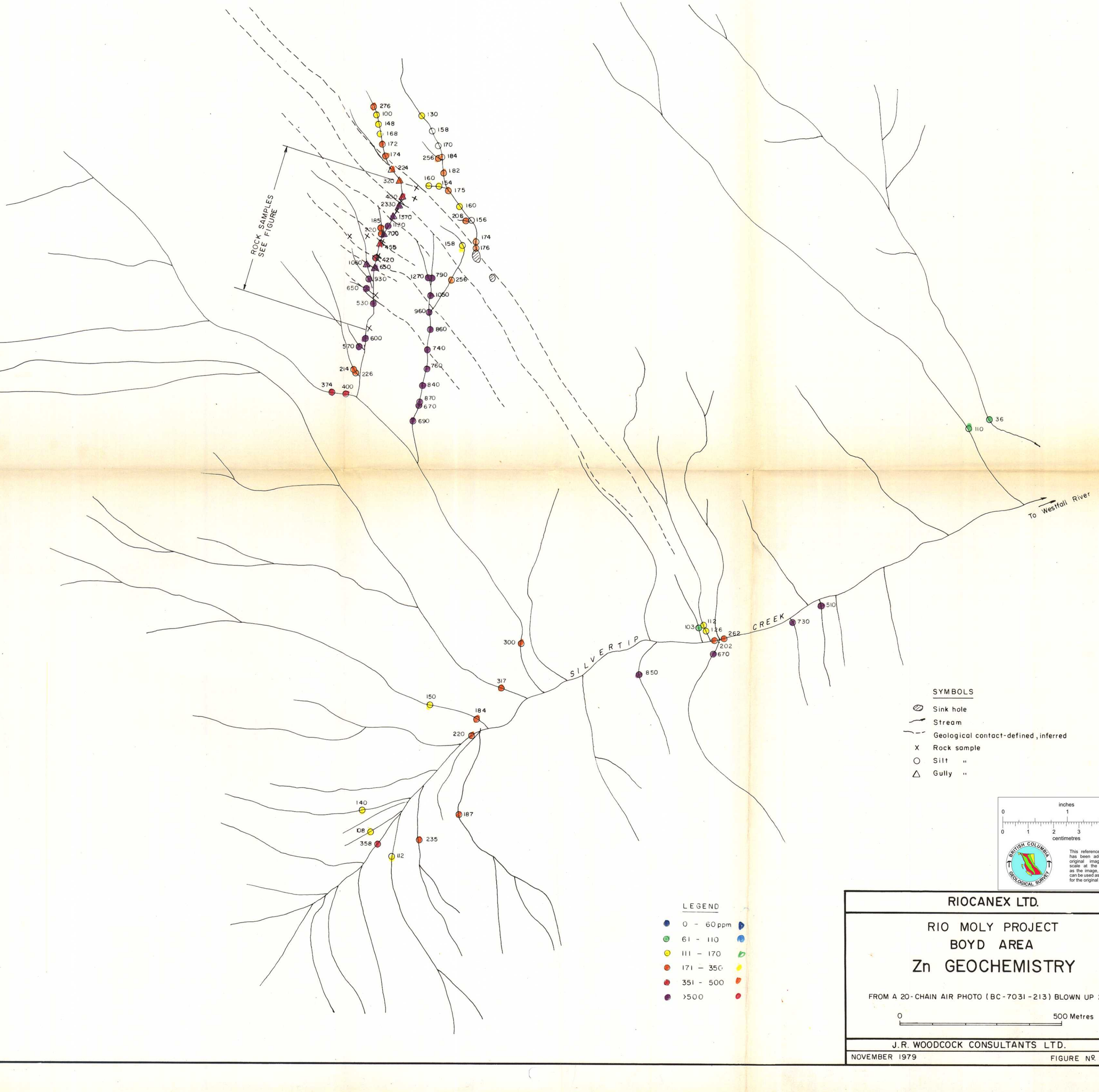
RIO MOLY PROJECT
BOYD AREA
Pb GEOCHEMISTRY

FROM A 20-CHAIN AIR PHOTO (BC-7031-213) BLOWN UP 2x.

0 500 Metres

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº



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RIO MOLY PROJECT
BOYD AREA
Zn GEOCHEMISTRY

FROM A 20-CHAIN AIR PHOTO (BC-7031-213) BLOWN UP 2x.

0 500 Metres

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº.

82 F/6 1:50,000 CANADA EDITION 3 82 F/6

LARDEAU PROVINCIAL FOREST

Nelson

L 1240

L 1241

L 2381

L 1239

SEE NELSON MINING CAMP MAPS

SEE KENO CREEK MAPS

L 1238

L 1242

L 1243

L 1237

S L A R D E A U P R O V I N C I A L F O R E S T

N E L S O N

S E L K I R K M O U N T A I N S

(C O L U M B I A M O U N T A I N S)

S A L M O P R O V I N C I A L F O R E S T

R A N G E

SYMBOLS

- Coryell intrusives
- Quartz porphyry
- Soil sample
- Silt "
- Gully "
- Rock "
- Rock specimen
- Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- 0 - 3 ppm
- 4 - 6
- 7 - 12
- 13 - 25
- >25

inches 0 1 2 centimetres 0 1 2 3 4 5

This reference scale bar has been added to the original image. It will change if the image is used as the image, therefore it can be used as a reference for the original size.

RIOCANEX LTD.

RIO MOLY PROJECT

NELSON AREA

Mo GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº. 58

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NELSON

KOOTENAY LAND DISTRICT

BRITISH COLUMBIA

WEST OF FIFTH MERIDIAN OUEST DU CINQUIEME MERIDIEN

Scale 1:50,000 Échelle

82 F/6 1:50,000 CANADA EDITION 3 82 F/6

LARDEAU PROVINCIAL FOREST

KOOTENAY LAKE

Nelson

SLOCAN

LARDEAU PROVINCIAL FOREST

WESTSLOCAN

SEE NELSON MINING CAMP MAPS

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

SEE KENO CREEK MAPS

SALMO PROVINCIAL FOREST

SYMBOLS

- Coryell intrusives
- Quartz porphyry
- Soil sample
- Silt "
- Gully "
- Rock "
- Rock specimen
- Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- 0 - 70 ppm
- 71 - 140
- >140

inches 0 1 2

centimetres 0 1 2 3 4 5

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RIOCANEX

RIO MOLY PROJECT

NELSON AREA

Cu GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE NR. 59

NELSON

KOOTENAY LAND DISTRICT

BRITISH COLUMBIA

WEST OF FIFTH MERIDIAN, OUEST DE CINQUIEME MERIDIEN

Scale 1:50,000 Echelle

LARDEAU PROVINCIAL FOREST

KOOTENAY RIVER

Nelson

L 1240 SL 5

L 1241 SL 9

L 2381 SL 1

L 1239 SL 8

L 1238 SL 9

L 1237

L 1242 SL 23

L 1243

LARDEAU PROVINCIAL FOREST

SALMO PROVINCIAL FOREST

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

SEE NELSON MINING CAMP MAPS

SEE KENO CREEK MAPS

Mount Loomis

Copper Mountain

Red Mountain

Toad Mountain

Mount Verdun

Mount Venus

Bonanza Peak

Colony Peak

Simpson Mountain

Bumpton Mountain

Mount Elise

Bluff Mountain

Mount Dundee

Quinn Mountain

Bluff Mountain

Bluff Creek

Eagle Creek

Keno Creek

Qua Lake

Hall Creek

Erie Creek

Granite Creek

Fairview Creek

Fairview Mine

Bonanza Mine

Nelson Mine

Rambler Mine

Rambler Rambler Mine

Lardeau Provincial Forest

Kootenay Gold Provincial Park

Kootenay River

Lardeau River

Duncan River

Salmo River

Salmo 5 mi 8 km

Contour 45 m 72 ft

Contour 4 m 20 ft

SYMBOLS

- Coryell intrusives
- Quartz porphyry
- Soil sample
- Silt "
- Gully "
- Rock "
- Rock specimen
- Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- 0 - 25 ppm
- 26 - 50
- 51 - 100
- 101 - 200
- > 200

inches 0 1 2

centimetres 0 1 2 3 4 5

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RIOCANEX LTD.

RIO MOLY PROJECT

NELSON AREA

Pb GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE NR. 6.0

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NELSON
KOOTENAY LAND DISTRICT
BRITISH COLUMBIA
WEST OF FIFTH MERIDIAN - OUEST DU CINQUIÈME MÉRIDIEN
Scale 1:50,000 Échelle

Miles 1 0 1 2 Miles
Metres 1000 0 1000 2000 3000 4000 Metres
Yards 1000 0 1000 2000 3000 4000 Yards

CONTOUR INTERVAL 100 FEET
Équidistance des courbes de niveau 100 pieds
Intervalle de courbes de niveau 100 pieds
Equidistancia de las curvas de nivel 100 pies
Equidistance des courbes de niveau 100 pieds

ELEVATIONS ARE IMPERIAL (SEA LEVEL)
Les altitudes sont en pieds (au niveau de la mer)
Elevaciones en pies (sobre el nivel del mar)
Altitudes en pieds (au-dessus du niveau de la mer)

CANADA

SCALE 1:50,000 EDITION 3 SHEET

LARDEAU PROVINCIAL FOREST

KOOTENAY RIVER

Nelson

L 1240

L 1241

L 2381

L 1239

SEE NELSON MINING CAMP MAPS

L 1238

L 1237

L 1242

L 1243

SEE KENO CREEK MAPS

SALMO PROVINCIAL FOREST

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

BONNINGTON RANGE

SYMBOLS

- Coryell intrusives
- Quartz porphyry
- Soil sample
- Silt "
- Gully "
- Rock "
- Rock specimen
- Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- 0 - 50 ppm
- 51 - 100
- 101 - 200
- 201 - 400
- > 400

inches 0 1 2

centimetres 0 1 2 3 4 5

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RIO MOLY PROJECT

NELSON AREA

Zn GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE NR. 61

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Surveys, mapping and photography current as of 1978

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NELSON
KOOTENAY LAND DISTRICT
BRITISH COLUMBIA
WEST OF FIFTH MERIDIAN · OUEST DU CINQUIEME MERIDIEN
Scale 1:50 000 Échelle

Miles 0 1 2 3 Statute Miles
Marines 1000 0 1000 2000 3000 4000 Marines
Terrestres 1000 0 1000 2000 3000 4000 Terrestres

Produit par la DIVISION DES LEVÉS ET DE LA CARTOGRAPHIE
Ministère de l'Énergie, des Mines et des Ressources
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CANADA

EDITION 3

SERIES

LARDEAU PROVINCIAL FOREST

KOOTENAY LAKE

Nelson

WEST ARM

Balfour

Ainsworth

Blewett

ST. 11279P

L 1239

SEE NELSON MINING CAMP MAPS

L 1238

SEE KENO CREEK MAPS

L 1240

L 1241

L 2381

L 1242

L 1243

L 1237

L 1232

L 1238

SALMO PROVINCIAL FOREST

NEW DENVER

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

BONNINGTON RANGE

RANGE

Mount Verde

Mount Cromwell

Red Mountain

Copper Mountain

Kokanee Glacier Provincial Park

Kokanee Creek Provincial Park

Slocan River

Slocan Lake

Evening Ridge

Mount Elise

Bluff Mountain

Bluff Creek

Mount Dundee

Gravity Mountain

Dominion Mountain

Stevens Mountain

Coffee Peak

Kingfisher Peak

Purcell Rock

Ymir Mountain

Judge Lake

Judge Creek

Judge Mountain

Kokanee Mine

Kokanee Mine No. 2

Kokanee Mine No. 3

Kokanee Mine No. 4

Kokanee Mine No. 5

Kokanee Mine No. 6

Kokanee Mine No. 7

Kokanee Mine No. 8

Kokanee Mine No. 9

Kokanee Mine No. 10

Kokanee Mine No. 11

Kokanee Mine No. 12

Kokanee Mine No. 13

Kokanee Mine No. 14

Kokanee Mine No. 15

Kokanee Mine No. 16

Kokanee Mine No. 17

Kokanee Mine No. 18

Kokanee Mine No. 19

Kokanee Mine No. 20

Kokanee Mine No. 21

Kokanee Mine No. 22

Kokanee Mine No. 23

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Kokanee Mine No. 995

Kokanee Mine No. 996

Kokanee Mine No. 997

Kokanee Mine No. 998

Kokanee Mine No. 999

Kokanee Mine No. 1000

220

90

240

280

70

90

930

1650

1980

1850

1250

1150

650

140

380

1050

1500

SYMBOLS

Coryell intrusives

Quartz porphyry

Soil sample

Silt "

Gully "

Rock "

Rock specimen

Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

0 - 500 ppm

501 - 1000

1001 - 2000

2001 - 4000

> 4000

inches

centimetres

This reference scale bar should measure 5 cm on the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

RIOCANEX LTD.

RIO MOLY PROJECT

NELSON AREA

Mn GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979

FIGURE NR. 69

NELSON

KOOTENAY LAND DISTRICT

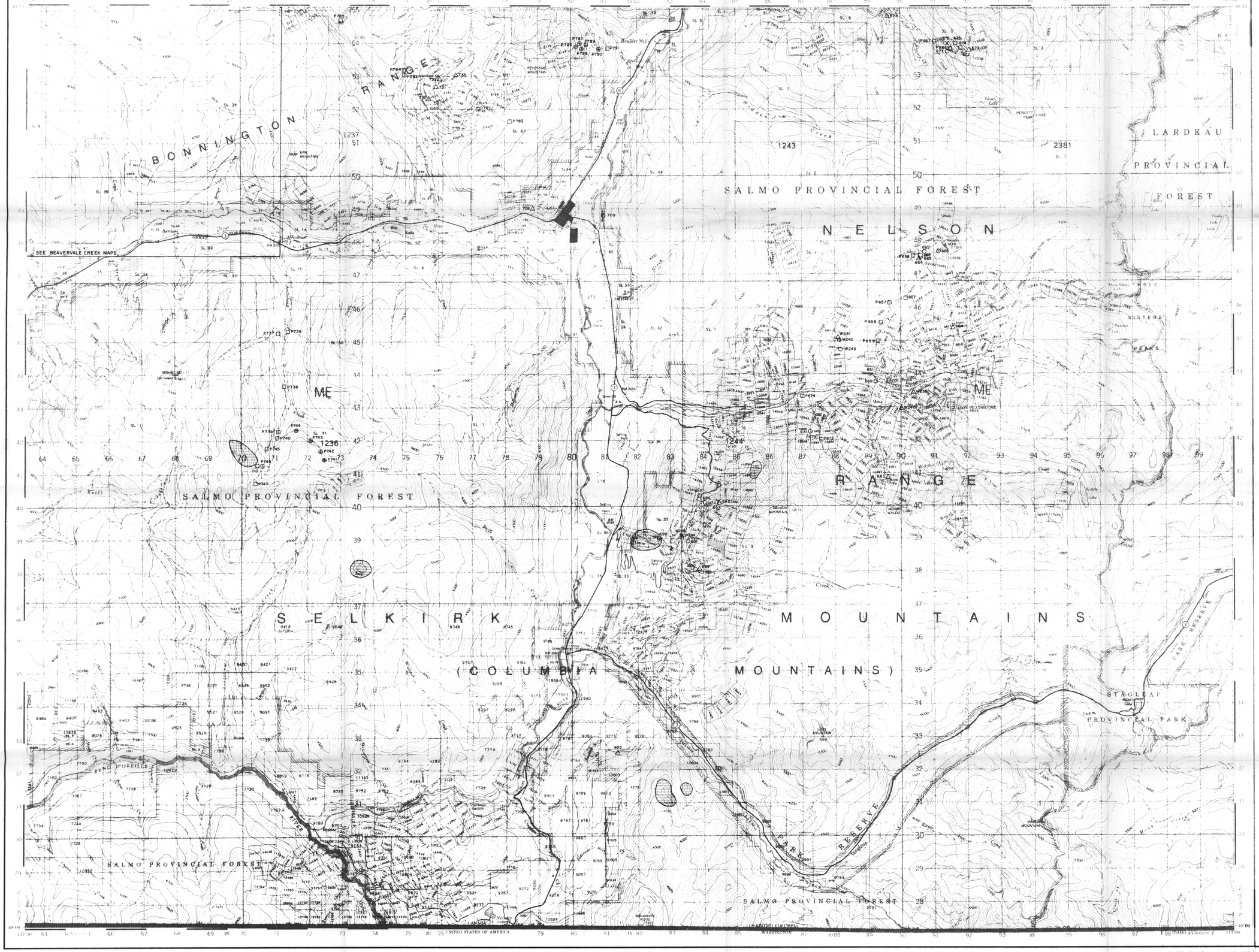
BRITISH COLUMBIA

WEST OF FIFTH MERIDIAN - OUEST DU CINQUIEME MERIDIEN

Scale 1:50,000 Echelle


CANADA
Nelson
KOOTENAY
LARDEAU PROVINCIAL FOREST
SEE NELSON MINING CAMP MAPS
SEE KENO CREEK MAPS
SELKIRK MOUNTAINS
(COLUMBIA MOUNTAINS)
SALMO PROVINCIAL FOREST
NELSON RANGE
BONNINGTON RANGE
SYMBOLS
Coryell intrusives
Quartz porphyry
Soil sample
Silt "
Gully "
Rock "
Rock specimen
Rock sample (ore - generally high percentage of galena)
NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.
LEGEND
Ag
0 - .25 ppm
.26 - .5
51 - 1.0
1.01 - 2.0
›2.0
Au
0-10 ppb.
11-20
21-40
41-80
>80
RIOCANEX LTD.
RIO MOLY PROJECT
NELSON AREA
Ag GEOCHEMISTRY
SCALE 1:50,000
J.R. WOODCOCK CONSULTANTS LTD.
NOVEMBER 1979
FIGURE Nº. 63
NELSON
BRITISH COLUMBIA
inches
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY

CANADA



SYMBOLS

- Coryell intrusives
- ⊕ Soil sample
- □ Silt "
- ○ Rock "
- × Rock specimen
- △ Rock sample (ore - generally high percentage of galena)

NOTE: No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

There are three series of sample numbers on this map. They are the G79, P79 and W79 series. The sample numbers in each series have been abbreviated.

e.g. G79-694 R to 694
P79-657L to P657
W79-240R to W240

inches
centimetres

This reference scale bar is correct when the original image is not scale at the same ratio as the image, therefore it can be used as a reference for the original size.

RIOCANEX LTD.

RIO MOLY PROJECT
SALMO AREA

SAMPLE NUMBERS

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº. 68

SALMO
KOOTENAY LAND DISTRICT
BRITISH COLUMBIA
Scale 1:50,000 Echelle


CANADA
BONNINGTON RANGE
SALMO PROVINCIAL FOREST
NELSON RANGE
LARDEAU PROVINCIAL FOREST
SELKIRK MOUNTAINS
(COLUMBIA MOUNTAINS)
SALMO PROVINCIAL FOREST
STAGLEAP PROVINCIAL PARK
SEE BEAVERVALE CREEK MAPS
UNITED STATES OF AMERICA
SYMBOLS
Coryell intrusives
Soil sample
Silt "
Rock "
Rock specimen
Rock sample (ore - generally high percentage of galena)
NOTE: No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.
LEGEND
0 - 3 ppm
4 - 6
7 - 12
13 - 25
>25
inches
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
RIOCANEX LTD.
RIO MOLY PROJECT
SALMO AREA
Mo GEOCHEMISTRY
SCALE 1:50,000
J.R. WOODCOCK CONSULTANTS LTD.
NOVEMBER 1979
FIGURE Nº. 69
SALMO
BRITISH COLUMBIA
Scale 1:50,000 Échelle

CANADA

BONNINGTON RANGE

SALMO PROVINCIAL FOREST

NELSON

LARDEAU PROVINCIAL FOREST

SEE BEAVERVALE CREEK MAPS

SALMO PROVINCIAL FOREST

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

SALMO PROVINCIAL FOREST

PEND D'OREILLE RIVER

SALMO PROVINCIAL FOREST

ME

ME

RANGE

PARK RESERVE

STAGLEAP PROVINCIAL PARK

PARK RESERVE

SALMO

KOOTENAY LAND DISTRICT

BRITISH COLUMBIA

Scale 1:50,000 Échelle

SYMBOLS

- Coryell intrusives
- ⊕ Soil sample
- □ Silt "
- ○ Rock "
- × Rock specimen
- △ Rock sample (ore - generally high percentage of galena)

NOTE: No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- ○ 0 - 70 ppm
- ○ 71 - 140
- ○ >140

inches / centimetres

This reference scale bar is applicable to the original image. It will scale at the same ratio when the original image is copied as a reference for the original size.

RIOCANEX LTD.

RIO MOLY PROJECT

SALMO AREA

Cu GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979

FIGURE Nº 70

CANADA

SEE BEAVERVALE CREEK MAPS

BONNINGTON RANGE

SALMO PROVINCIAL FOREST

NELSON

LARDEAU PROVINCIAL FOREST

SALMO PROVINCIAL FOREST

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

SALMO PROVINCIAL FOREST

SALMO PROVINCIAL FOREST

STAGLEAP PROVINCIAL PARK

PARK RESERVE

RANGE

ME

ME

SYMBOLS

- Coryell intrusives
- Soil sample
- Silt "
- Rock "
- Rock specimen
- Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- 0 - 25 ppm
- 26 - 50
- 51 - 100
- 101 – 200
- >200

inches 0 1 2

0 1 2 3 4 5 centimetres

This reference scale bar has been added to the original image. It will change if the image is resized as the image, therefore it can be used as a reference for the original size.

RIOCANEX LTD.

RIO MOLY PROJECT

SALMO AREA

Pb GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979 FIGURE Nº 7

SALMO

KOOTENAY LAND DISTRICT

BRITISH COLUMBIA

Scale 1:50 000 Echelle


CANADA
BONNINGTON RANGE
SEE BEAVERVALE CREEK MAPS
SALMO PROVINCIAL FOREST
NELSON RANGE
LARDEAU PROVINCIAL FOREST
THREE SISTERS PEAKS
SELKIRK MOUNTAINS
(COLUMBIA MOUNTAINS)
STAGLEAP PROVINCIAL PARK
PARK RESERVE
UNITED STATES OF AMERICA
WASHINGTON
IDAHO
SALMO
KOOTENAY LAND DISTRICT
BRITISH COLUMBIA
Scale 1:50,000 Échelle
SYMBOLS
Coryell intrusives
Soil sample
Silt "
Rock "
Rock specimen
Rock sample (ore - generally high percentage of galena)
NOTE: No geochemical values are given for ore samples.
For geochemical data on the ore samples see the
Lead - Bismuth Study maps.
LEGEND
0 - 50 ppm
51 - 100
101 - 200
201 - 400
>400
inches
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
RIOCANEX LTD.
RIO MOLY PROJECT
SALMO AREA
Zn GEOCHEMISTRY
SCALE 1:50,000
J.R. WOODCOCK CONSULTANTS LTD.
NOVEMBER 1979
FIGURE Nº. 72

CANADA

EDITION 3

82 F/3

BONNINGTON RANGE

SALMO PROVINCIAL FOREST

LARDEAU PROVINCIAL FOREST

NELSON

SEE BEAVERVALE CREEK MAPS

ME

SALMO PROVINCIAL FOREST

RANGE

SELKIRK MOUNTAINS

(COLUMBIA MOUNTAINS)

SALMO PROVINCIAL FOREST

STAGLEAP PROVINCIAL PARK

PARK RESERVE

SALMO PROVINCIAL FOREST

UNITED STATES OF AMERICA

BRITISH COLUMBIA

WASHINGTON

IDAHO

SALMO

KOOTENAY LAND DISTRICT

BRITISH COLUMBIA

Scale 1:50,000 Echelle

SYMBOLS

- Coryell intrusives
- Soil sample
- Silt "
- Rock "
- Rock specimen
- Rock sample (ore - generally high percentage of galena)

NOTE : No geochemical values are given for ore samples. For geochemical data on the ore samples see the Lead - Bismuth Study maps.

LEGEND

- 0 - 500 ppm
- 501 - 1000
- 1001 - 2000
- 2001 - 4000
- >4000

inches

centimetres

This reference scale bar has been added to the original image. It will shrink or expand as the image is resized and can be used as a reference for the original size.

RIOCANEX LTD.

RIO MOLY PROJECT

SALMO AREA

Mn GEOCHEMISTRY

SCALE 1:50,000

J.R. WOODCOCK CONSULTANTS LTD.

NOVEMBER 1979

FIGURE Nº 7.3