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REPORT
ON
1960 EXPLORATION
ADAMS RIVER AREA

Revelstoke & Kamloops

MINING DIVISION

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Geologist

~~XXENGINEER~~

EXPLORATION PROGRAM 1960 SEASON

ADAMS RIVER AREA

REVELSTOKE AND KAMLOOPS MINING DIVISIONS

BRITISH COLUMBIA

by

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Vancouver, B. C.
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INTRODUCTION:

During the fall of 1959 some preliminary aerial reconnaissance was done in the Adams River area (defined below). As a result of the indications observed a prospecting program was proposed for the 1960 season. (1)

In April, food caches, each containing ample dried food and supplies for two men for a period of nine days, were distributed through the southeastern portion of the area. These caches were to support the two parties (each of two men) who would work out of lakes accessible by Super-Cub aircraft.

Early in the season, due to low snowfall and good weather, it appeared that work could commence about July 1st, but extremely high precipitation, coupled with low temperatures during the month of May, delayed the snow melt. Prospecting in this area actually commenced on July 20th, although the base camp was set up before this date.

Prospecting, using the Super-Cub for support, continued through an extremely wet August to September 13, when the helicopter arrived.

(1) Proposed Exploration Program, Adams River Area, E. D. Dodson, November 17th, 1959.

The helicopter portion of the program continued until October 6th when snow and poor flying weather combined to make further use of the machine unprofitable.

The final stage of the program involved the prospectors using the Super-Cub, checking the geology and float in several of the creeks for the first two or three miles from their mouths.

Field work ceased at the end of October.

LOCATION AND ACCESS:

The area under investigation lies between the Columbia and Canoe Rivers on the east and the North Thompson River on the west, the Momich-Humamilt Valley on the south and the junction of the Canoe and North Thompson River valleys on the north.

The margins of the area are readily accessible. The western boundary is paralleled by the main line of the Canadian National Railway and the eastern boundary through half its length by the Big Bend portion of the Trans-Canada Highway. Immediate access was by Super-Cub aircraft flying out of Downie Creek, a stopping point 40 miles north of Revelstoke on the Columbia River.

TOPOGRAPHY:

The area is extremely rugged with a local relief in excess of 6000 feet and maximum elevations in the order of 10,000 feet. The valleys are pronouncedly U-shaped. The ridges in the southeast portion of the area

are relatively flat-topped. Elsewhere the upland surface is rugged to an extreme.

CLIMATE:

The area is within the interior wet-belt of British Columbia and has high precipitation both summer and winter. Snow depths probably range from twelve to twenty feet in the summit area. In 1960 an unusually late runoff, combined with persistent rain in August, hindered prospecting greatly.

VEGETATION:

Heavy forests of spruce, fir, cedar, hemlock and balsam fir cover the mountain slopes to elevations of 6000 to 7000 feet. Below timberline a heavy growth of underbrush makes travel extremely difficult and unpleasant.

GEOLOGY:

The rocks of the area are Precambrian(?) gneissic and schistose sediments. They appear to be the northward extension of Jones' Monashee group.⁽²⁾ The rock types range through quartzite (more or less micaceous), quartz-mica schist, quartz-felspar mica gneisses, various augen-gneisses, sillimanite-gneiss, kyanite-garnet schist and crystalline limestone.

Limestones occupy an extremely small fraction of the rock column, but are present in many parts of the area.

(2) Jones, A. G. The Vernon Map Area G.S.C. Memoir 296, 1959.

Where they do occur, in beds from a few inches to approximately 200 feet thick, they are remarkably persistent. Several beds are traceable for a number of miles.

Aplites and pegmatites are common. The pegmatites are simple and for the most part composed of varying amounts of quartz and feldspar, although occasionally black tourmaline, hornblende, garnet and kyanite are present. In one instance a crystal of beryl about one-quarter inch in length was seen.

There are two ages of basic intrusives: The older Three-Valley intrusions consist of variations between altered diorite and amphibolite and predate at least a portion of the regional metamorphism. These intrusions are irregular to sill-like bodies usually only several tens to hundreds of feet long and a few inches to one hundred feet thick. The younger intrusives are dykes mostly vertical or near-vertical in dip. These dykes are basaltic to andesitic in composition (south of the area similar dykes of rhyolitic composition were seen). It is believed that they represent feeders to Tertiary volcanic flows which once overlay the gneissic rocks.

Granitic rocks are rare. What appears to be a granite mass, as yet unseen on the ground, occurs in the vicinity of Cedar Creek. In reconnaissance observation from a Super-Cub in 1959, a large area adjacent to Oliver Creek was mapped as granite with many inclusions. This, on closer observation is, in part at least, a zone of extreme metamorphism and pegmatite development. The result-

ing rocks have granitic to gneissic textures and weather as extremely massive units.

STRUCTURE:

Structural interpretation is extremely difficult due to the often complex folding. In several areas the beds lie flat and appear almost undisturbed, but within a short distance folds of several hundred feet amplitude may occur. In view of the minor amount of mapping done to date, it can only be suggested that the rocks represent a series of low-angle thrust or glide sheets.

Crossing the entire area are a series of northerly-trending faults of steep dip. These are similar to faults occurring to the south and ascribed to Tertiary movement. The faults where actually seen contain drusy to chalcedonic quartz, dolomitic carbonate, minor pyrite, occasional chalcopryite and fragments of country rock.

ORE DEPOSITS:

Generally the country is not heavily mineralized. Most gossans are the result of weathering of pyritic zones or of pyrrhotitic schists. Although sometimes large these zones do not carry precious metals nor economic quantities of the base metals.

The limestone areas, however, merit careful checking. The River Jordan lead-zinc deposit and the showings of the Cotton-Belt are both extensive and at least near-economic.

Major showings were discovered at the head of Ruddock Creek by our prospectors, Tom Cross and Mike Donahue, late in the 1960 season. These showings consist of lead-zinc-fluorite replacements of limestones. They are both extensive and of good grade. (3)

In addition, a second area could become a worthwhile drilling bet if the first showing proves economic.

This second showing, referred to by the field crews as the Bay Lake showing, is located on a tributary of Kirbyville Creek. It consists of a mineralized zone adjacent to the hanging wall of a limestone horizon enclosed in gneiss. The mineralization, chalcopyrite, sphalerite, galena, pyrrhotite and magnetite, is sub-economic in grade, and is thought to be localized along the crest of a gentle anticline. An estimated 300 to 500 feet lower in the sequence is a second limestone band which, it is presumed, is similarly folded. Underlying this lower limestone are two hundred feet or more of impure limy rocks.

It is suggested that if indications warrant an effort be made to test the lower horizon in the crestral area of the fold. This could be done with a single drill-hole approximately 600 feet in depth. The cost should not be prohibitive providing a helicopter and crew are working in the adjacent area.

(3) Subject of special report - Ruddock Creek.

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New
Sketch?

RECOMMENDATIONS:

In view of the very encouraging aspect of the already known lead-zinc showing, a further exploration program is warranted in the Adams River area. Such a program would require helicopter support and should place its emphasis on prospecting the limestones.

In conjunction with the follow-up on the Adams River area, helicopter prospecting could be carried out in the Big Bend area to the east, where preliminary aerial reconnaissance has already been done.

The central section of the Big Bend area is underlain by Proterozoic rocks of the Kootenay Arc, in part similar and possibly identical to the Lardeau rocks. The limestone members of the Lardeau series have been the host of many silver-lead orebodies in the Lardeau, Bluebell and Ainsworth mining camps southward along the regional strike. It is believed that there is a good chance of locating similar mineralization in this extension of the belt, particularly as limestone is extremely common in this section.

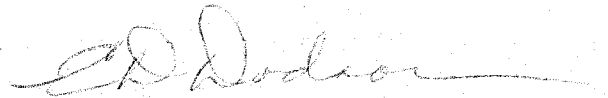
A combined Adams River - Big Bend program, utilizing the helicopter - one or two geologists and three ground parties of two prospectors each, is therefore recommended for the period June 15th to October 15th. Cost is estimated at \$35,000., including helicopter charter.

It is further recommended that a concurrent program of detailed mapping and sampling be undertaken on the Ruddock Creek showing. Such a program, if done in conjunction with shallow diamond drilling, should provide the

information required for further property-exploration in
1962.

Vancouver, B. C.

January 4th, 1961

A handwritten signature in cursive script, appearing to read "Earl D. Dodson".

Earl D. Dodson



1. Looking North up the Valley of the Columbia River. High peak to left of center is Mt. Gordon Horne.



2. Hiller 12E helicopter at cache-site near the Head of Seymour River.



3. Typical Food and Supply Cache - located at Head of Horne Creek.

4. U-shaped Valley of Fissure Creek. The Topography is Characteristic of the Southeast section of Adams River Area.





5. Limestone Horizons up-dip from Bay Lake Showing. The limestone horizons are outlined in red.



6. Highly Metamorphosed rocks near head of Kirbyville Creek. The large knots are abnormally large garnets in mica-amphibole-kyanite rock.