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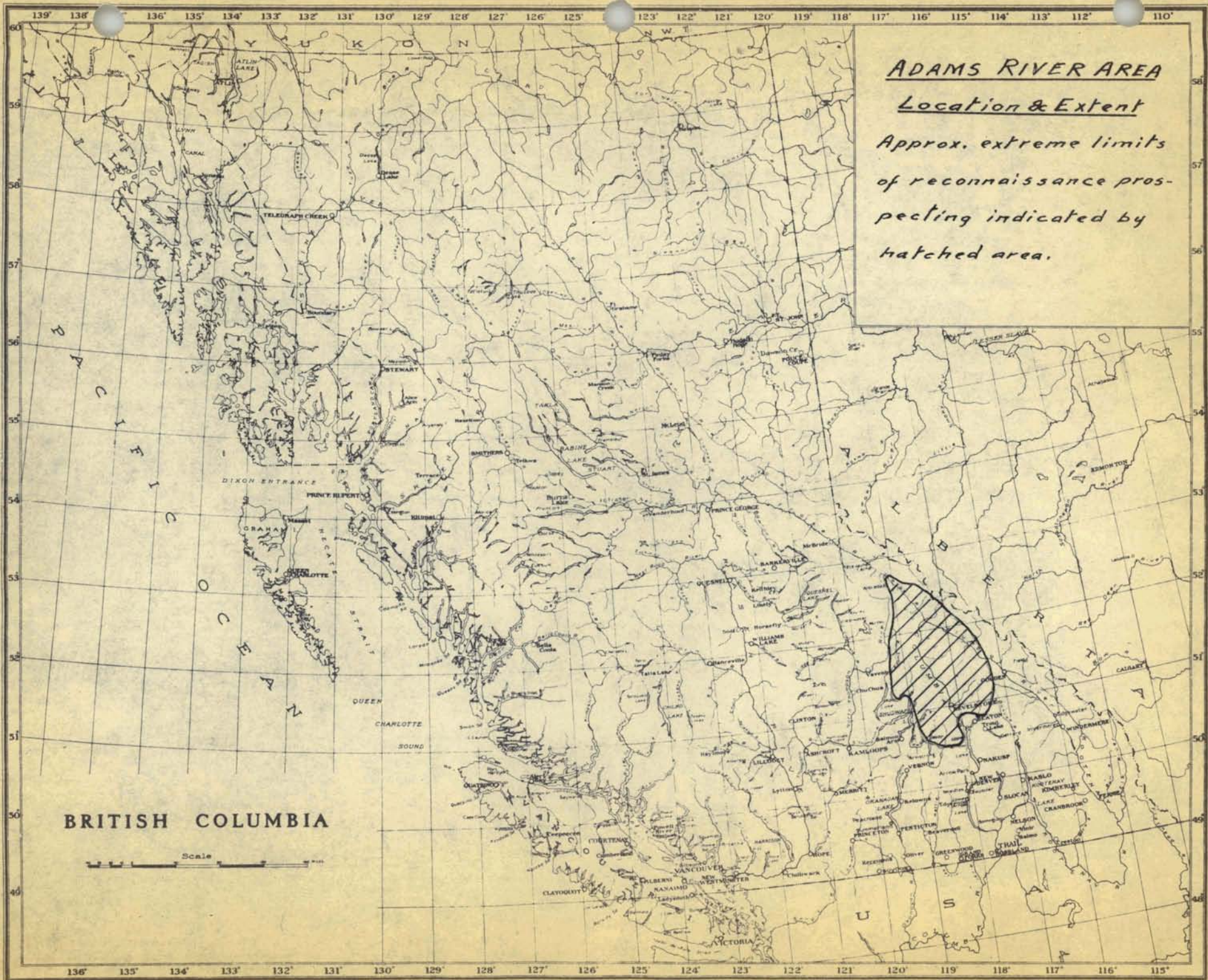
ADAMS RIVER  
PROSPECTING

1962

Revelstoke & Kamloops  
MINING DIVISION

Earl Dodson  
Geologist

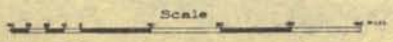




ADAMS RIVER AREA  
Location & Extent

*Approx. extreme limits  
of reconnaissance pros-  
pecting indicated by  
hatched area.*

BRITISH COLUMBIA





ADAMS RIVER PROSPECTING

1962 SEASON

Vancouver, B. C.  
October 16, 1962

Earl D. Dodson  
Geologist

C O N T E N T S

	<u>Page.</u>
Introductory Statement and Tabulated Recommendations .....	1.
Methods Employed .....	2.
Areas Covered .....	2.
Geology .....	2.
Mineralization .....	3.
Individual Discoveries	
1) OK Showing .....	4.
2) Bay Lake Showing .....	4.
3) Jordan River (East) .....	5.
4) Coursier Creek Pyrrhotite .....	5.
5) Odin Creek .....	6.
6) Begbie Creek Float .....	6.
7) Foster Creek Chalcocite .....	6.
8) Miscellaneous .....	7.
Summary .....	7.
Recommendations .....	8.
Appendix .....	9.

Pyrochlore Deposit - Kirbyville Creek

ADAMS RIVER PROSPECTING

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INTRODUCTORY STATEMENT

During the 1962 season the helicopter-supported prospecting program was continued in the Adams River Area. Prospecting filled in gaps in earlier work and was extended to the south and west.

It is suggested that a single formation may be the host of almost all the mineralization. Mineralization occurs primarily in extremely elongate bedded deposits associated with limy members of the formation. Sphalerite and galena are the chief ore-minerals but chalcopryrite may be important locally. Work is recommended on several showings as noted on the following tabulated recommendations:

<u>Property-Area</u>	
Ruddock	1963 - Deep drilling on the "E" zone. Pack sack drilling on other showings in an attempt to evaluate the need of keeping ground.
ZAN Group (Cottonbelt)	1963 - Cat road and trenching if lineations suggest a favourable plunge direction.
A M Group	1963 - Approximately three weeks trenching and ground sluicing by a two-man crew (July) in an attempt to ascertain the true worth of surface showings.
Jordan River East area	1963 - Approximately three weeks of prospecting in the vicinity of the showing by two-man crew, in an attempt to indicate whether the Jordan River showing re-occurs here.

Property-Area	
Foster Creek Area	1963 - Approximately three weeks prospecting along strike from the chalcocite showing in an effort to establish whether larger deposits of this type occur.
Adams River Area	1964-5 - Possible local intensive prospecting in the vicinity of such favourable structure and stratigraphy as is indicated by G.S.C. mapping.

METHODS EMPLOYED

A Hiller 12E Helicopter, six prospectors and a geologist were employed in the work for the major portion of the season. The helicopter was used both to transport men and supplies and to do reconnaissance prospecting. Prospecting parties of two men were set out in favourable areas for periods of several days duration, the exact period depending on favourability of the area concerned and on the weather conditions prevailing.

AREAS COVERED (See Fig. 1)

In area this season's work overlapped much of the previous two seasons' work. Prospecting of selected areas was, however, an increasingly important part of the work as a better understanding of the geology aided in delineating favourable sections.

Helicopter prospecting, severely limited by poor weather and mechanical difficulties, filled in gaps left in previous years and extended prospecting to both south and west.

GEOLOGY

For the first time it now appears possible to outline (in part at least) a favourable geological environment for the lead-zinc

bodies of the Monashee section. In areas not heavily intruded by pegmatite, three general rock groups are readily recognizable.

The first consists of a series of gneissic rocks varying greatly in appearance (Augen-gneiss, rodded gneiss, complexly-folded banded gneiss and occasionally quartzitic rocks of gneissic appearance.)

The second consists primarily of quartzite, locally somewhat gneissic, and part felspathized or feldspathic.

The third and economically most interesting consists of a series of micaceous schists containing variable amounts of aluminous silicates, kyanite, sillimanite, staurolite and andalusite, with interbeds of limestone or marble and then quartzite horizons.

The limestones vary greatly in purity, some are almost pure calcite containing only rare calc-silicates, phlogopite and graphite, whereas others seem to have been extremely impure and have been converted almost completely to solid masses of calc-silicate minerals.

#### MINERALIZATION

Mineralization is generally associated, spatially at least, with limestone horizons. The sulphides may occur either within the lime, on either of the walls or in quartzitic horizons adjacent to limestone.

In one instance it is difficult to see any evidence of limestone, the mineralization occurring in a complexly folded banded gneiss.

A prominent feature of all the lead-zinc deposits is the extreme length-width ratio. In one instance a deposit of copper-lead-zinc sulphides with an average width in the order of two to three inches has been traced almost continuously for approximately one mile. Snow

and talus intervene locally.

The ore minerals of these deposits vary somewhat; sphalerite is present in all known showings; galena is present in all but two; chalcopyrite, pyrrhotite and magnetite are common.

In addition to the lead-zinc deposits described above the Foster Creek chalcocite showing and the Downie Lake lead-zinc deposits are discussed separately in the ensuing descriptions of the showings.

#### INDIVIDUAL DISCOVERIES

1) OK Showing - M. A. Donahue and Alex Smith Jr. found a narrow mineralized band, mentioned earlier, traceable for approximately one mile. This showing, with an average width of only two or three inches and local thickenings to three feet, contains moderate to heavy chalcopyrite-sphalerite-galena mineralization. Assays of specimen material show very low values in gold and silver.

An attempt was made to follow the mineralized horizon to a possible intersection with a favourable structure in the hope that widths might increase in such an area. Unfortunately no such structure was encountered within the known length of the showing.

No further work is anticipated.

2) Bay Lake Showing - In 1960 showings of low-grade copper-zinc mineralization were discovered by M. A. Donahue and T. H. Cross near BayLake (Kirbyville Creek area) (See Dodson "1960 Exploration - Adams River Area.")

The showings were not in themselves of sufficient interest to warrant further work. However some good grade zinc float was found nearby. An attempt was made at that time to locate the float source



but without success.

During the 1962 season G. Lemieux and A. Smith Jr. made a further attempt and succeeded in locating many more float boulders. Unfortunately the float pattern leaves little doubt that the showing is beneath a nearby glacier. Further, it appears that the mineralization is probably low-grade overall and occurs in quartzite and limestone probably on a mutual contact. This suggests that the float is derived from a somewhat better grade section of the Bay Lake showing itself where it passes beneath the ice.

No further work is planned.

3) Jordan River (East) - A narrow rusty zone spotted from the helicopter and later investigated by W. Schwartz proved to be between six and eighteen inches of sulphides exposed for a vertical distance of approximately fifty feet. Assays are not yet available but samples are heavily mineralized with galena and sphalerite.

The location, east of the Jordan River Showing, and the geological environment suggest a possible reappearance of the Jordan River syncline. This and other easterly-trending folds appear to have been crossfolded on north south axes. The late folds are broad, open structures of sufficient amplitude to warp the Jordan River syncline back down at this point.

It is believed that further work in the area might lead to mineralization similar to that encountered on the Jordan River property.

This appears to be a fair geological bet worthy of perhaps three weeks intensive prospecting by a two-man crew.

4) Coursier Creek Pyrrhotite - A large gossan was spotted in the vicinity of the head of Coursier Creek. This, on investigation, turned

out to be a zone of disseminated pyrrhotite mineralization in and adjacent to a marble band. Assays indicated minor amounts of zinc and copper were present.

No further work is contemplated.

5) Odin Creek - A rusty stain on the precipitous north slopes of Mt. Odin at an elevation of approximately 6000 feet upon investigation proved to be the result of weathering of sphalerite-pyrrhotite-chalcopyrite mineralization. The host-rock appears to be a quartz-feldspar-biotite gneiss, banded and highly contorted. Float at the foot of a small alpine glacier shows widths of at least one foot of chalcopyrite-sphalerite-pyrrhotite mineralization. Assays indicate that the best material was approximately 6% zinc and 1% copper.

The present overall length of the deposit is not over 300 feet. The same rocks before folding would have had a length in the order of 900 to 1200 feet.

Good exposures and careful checking of rusty areas suggest little likelihood of any further extensions of the known deposit.

No further work is contemplated.

6) Begbie Creek Float - The helicopter party found small amounts of galena in float at the head of Begbie Creek. G. Lemieux spent a day checking the moraines and bedrock in this area. No further galena was found although similar rock containing pyrrhotite was not uncommon.

No further work is contemplated.

7) Foster Creek Chalcocite - Chalcocite float was found at the end of the 1961 season by W. Schwartz in the Foster Creek area. Snow conditions prevented locating the source at that time. During the 1962 season, however, the float was traced to a nearby source.

Unfortunately mineralization is confined to a narrow quartzose band, two to twelve inches wide, near the top of a chlorite schist underlying limestone. The total length of the showing is approximately fifty feet.

The showing itself deserves no further consideration but the possibility of more extensive mineralization of this type, particularly along the regional strike, should be investigated.

A two-man prospecting team flown in by helicopter and left for a period of three to four weeks could do at least a fair job of investigating the area.

Miscellaneous - In addition to the above, numerous amphibolitic bands carrying minor amounts of pyrrhotite and chalcopyrite were seen. In no instance did these deposits reach sufficient size and grade to be of economic interest.

Beryl was noted in pegmatite float from the Kirbyville Creek area but in very small quantity.

#### SUMMARY

In summary the following facts may be noted:

1. Certain broad geological horizons can be considered the most probable loci of zinc deposits in the Monashee rocks. These are primarily micaceous schists with interbeds of limestone and quartzite.
2. Several elongate mineralized zones have been discovered in association with the limy members of the above series.
3. Further prospecting is recommended on certain of the mineralized areas.

4. In the Appendix which follows the recommendations section are notes and recommendations on properties held in the general area.

#### RECOMMENDATIONS

At the present time there seems little to warrant continuance of a broad-scale exploration program in the Adams River area. There are, however, two areas deserving further work: Jordan River East and Foster Creek. A single two-man party could readily handle both areas in a six-week period. It is recommended that this prospecting be carried out in July-August of 1963 using W. Schwartz and a junior prospector. Geologic direction could be supplied by the Ruddock Creek staff when necessary. (The party could to advantage fill out the season working on the Downie Lake showing.)

As the Geological Survey is at present mapping a major portion of the Adams River area, information may be forthcoming which will aid in locating stratigraphically and structurally favourable areas deserving further detailed work, possibly in the 1964 or 1965 season.

October 15, 1962  
Vancouver, B. C.

E. D. Dodson.

## APPENDIX

Following are summaries of the writer's recommendations regarding properties held as a direct result of the Adams River Exploration program.

### RUDDOCK CREEK

This property, under the direction of H. R. Morris, has been subjected to limited shallow-hole drilling for the past two seasons. The results, while not as good as one might have hoped, certainly indicate that the property warrants complete investigation. It is the writer's opinion that the drill program should continue in the coming season for the following reasons:

1) At present we are forced to retain a great many mineral claims, at considerable cost, as we have not completely eliminated the potentialities of any of the mineralized zones.

2) It is not known which of the zones are of mineable dimensions. As a result, in the event of a favourable change in the market picture for zinc, the company would not be in position to proceed with planning development of the property. Further, should there be insufficient ore present to encourage mining, the claims would have been held unnecessarily for any inactive period, certainly not without some cost.

3) Re-opening the camp after an extended shutdown period would increase camp costs unnecessarily as the tent-frames and perhaps one of the buildings would no longer be useable.

4) At present there is little doubt that a reasonable servicing contract could be arranged with Okanagan Helicopters Ltd., who have a machine based in Revelstoke.



ZAN GROUP (See Fig. 2)

This group, staked in 1962 to cover the western end of the Cottonbelt mineral showings, comprises 32 claims. The reason for staking the claims was the suspected presence of an untested synclinal axis including at least one mineralized horizon.

At the time of staking there was good reason to assume that the axis would have a flat or very low easterly plunge. Recent work by the Geological Survey disclosed a relatively steeply plunging fold structure to the north. If the Cottonbelt has a similar plunge the axis will be extremely difficult to test. If, on the other hand, the axis is lying flat it would be relatively simple to test.

Unfortunately no lineation directions were noted in the field. As a result either direction of plunge remains possible. If weather conditions permit, a further attempt to establish the plunge direction will be made this fall, otherwise this will have to wait until 1963 field season.

Should the axial direction appear favourable, prospecting and trenching in the suspected axial area would seem to be in order.

Assessment work requirements (\$3200/annum) could be met during June and July by putting a cat road in to the property and if possible by cat-trenching the assumed axis at outcrop. This in the event that the plunge appears favourable.

A M GROUP

The A M Group of four claims is located near Downie Lake on the headwaters of Downie Creek in the Selkirk Mountains. This group was staked in 1961 to cover lead-zinc showings in limy rocks of the Badshot (?) formation.

The mineralization is located in or near the nose of a major overturned anticline. The surface showings are not impressive, but are extensive. Mineralization is generally rather diffuse but local sections of near massive sphalerite occur.

A light but persistent mantle of talus and alluvium masks the deposit and makes evaluation difficult.

Grades and widths are at the moment almost impossible to estimate, some exposures running below 1% zinc, with little lead, and others to as high as 15% over widths of two feet or greater.

The real hope of the property is that it will produce a pencil-like ore body following the plunge of the fold. There appears to be a possibility of developing such a zone running 4 to 8% zinc.

Geologically the setting is similar to that of producing properties of the Salmo and Duncan Lake camps. The ores also show a striking resemblance.

An unfortunate combination of weather and circumstance prevented the obtaining of more concrete information on the showings in 1962, although sufficient assessment work (trenching) was done to hold the claims for one year.

It is recommended that a two-man party spend early July trenching and ground sluicing on this showing in an attempt to ascertain its dimensions and overall grade.

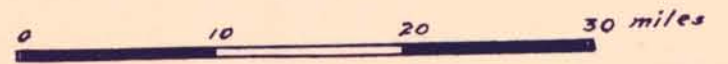
October 16, 1962  
Vancouver, B. C.

E. D. Dodson



# Adams River Area B.C.

Scale



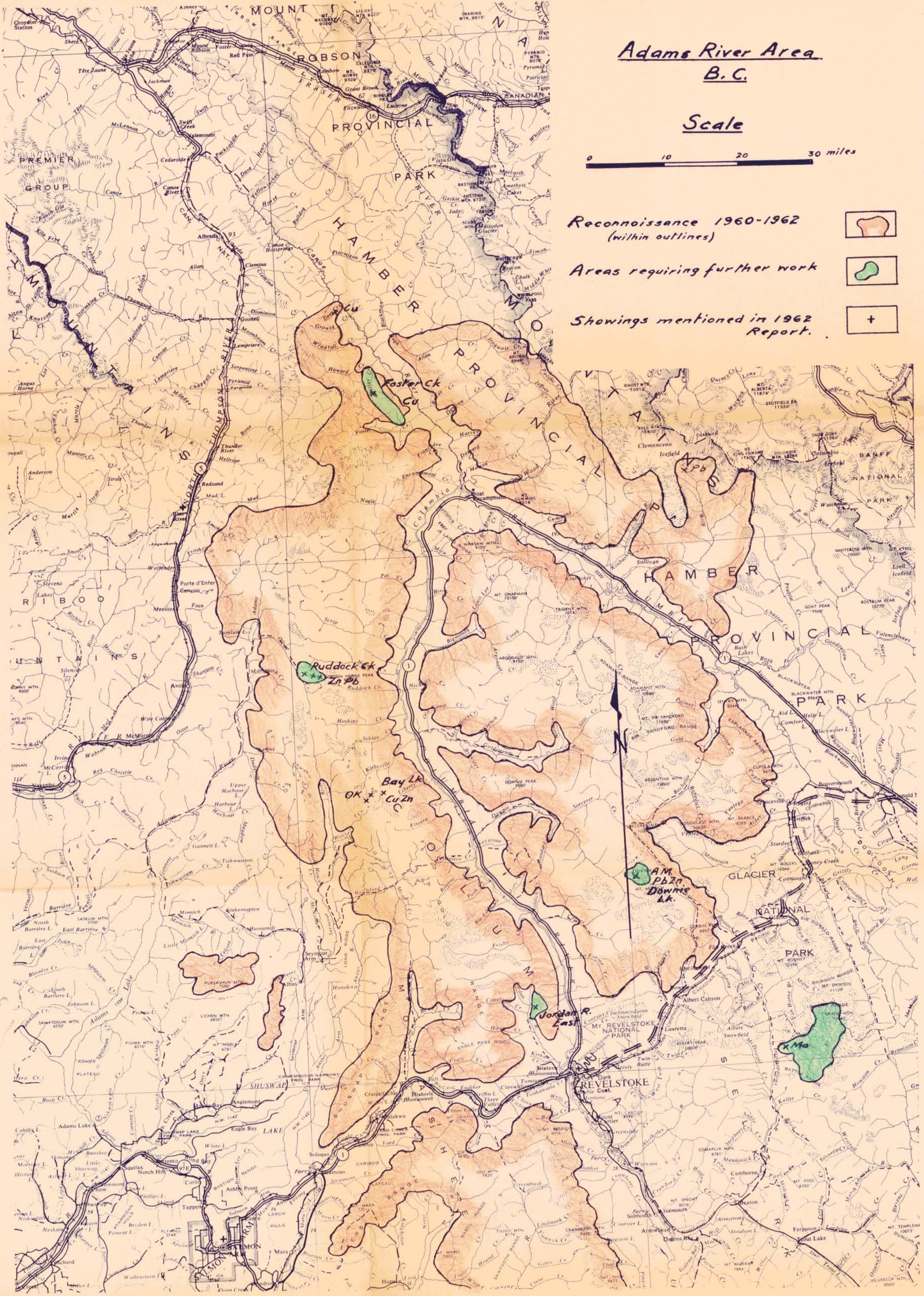
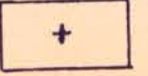
Reconnaissance 1960-1962  
(within outlines)



Areas requiring further work



Showings mentioned in 1962  
Report.





PYROCHLORE DEPOSIT - KIRBYVILLE CREEKADAMS RIVER AREA

During the 1962 prospecting season prospectors Tom Cross and Norman Anderson brought in specimens of carbonate rock containing magnetite from the headwaters of Kirbyville Creek (see attached index map.). A routine helicopter landing was made and the outcrops examined.

The outcrops indicate a body in the order of 20 to perhaps 50 feet thick dipping moderately to the west. This appears to be roughly conformable with the adjacent schists.

The rock is mainly calcite and dolomite containing fragments of the surrounding rocks and small masses up to a few pounds in weight of magnetite. Crystals of black lustrous amphibole and small masses of vermiculite are scattered throughout the mass.

As the writer was unsure of the nature of the rock it was submitted to Dr. R. M. Thompson for microscopic examination.

Thompson reported that it was essentially a carbonate rock containing sodic amphibole. At this point the writer requested a geiger check on the specimens. The result showed weak anomalous radioactivity. Further microscope work indicated the presence of pyrochlore crystals. In one instance a crystal 2 mm. across was observed.

RECOMMENDATIONS:

In view of the present lack of interest in carbonatite-type deposits no major work is proposed. However, a quick check should be made for possible extensions of the body either by a geologist of the Ruddock Creek crew or during the 1964-65 seasons as part of the follow-up work on the Adams River project.

The gravels at the mouth of Kirbyville Creek warrant a check for radioactive mineral content.

Vancouver, B. C.  
December 31, 1962

E. D. Dodson,  
Geologist.



# KIRBYVILLE CREEK CARBONATITE DEPOSIT

SCALE: 1:250,000 (4 miles = 1" approx.)

