82E/12W
NW-48
+14

000961

Same Report as in prospectus dated May 15/72

REPORT ON CRUMP GROUP, OSOYOOS M. D.
Property of Austro-Can Exploration Ltd.

INTRODUCTION

The writer has been requested by officers of Austro-Can Exploration Ltd. to prepare this second report to discuss work done on the property in the two years since his first report was written at which time he recommended an expenditure of up to $50,000. It is understood that sufficient monies to complete this program were not raised but in the meantime some very useful and rewarding work has been done. Further work is well justified and a program to determine the extent of interesting mineralization now uncovered is herewith recommended. Two days, October 26 and 27, 1970 were spent examining the property. Studies of the prospects continue.

SUMMARY

Since the writer's previous examination of the Crump Group in 1968, work done on the property has consisted of bulldozing, geological mapping, soil sampling and ground magnetics on the F.A.P.#1 and #2 claims. Three steep drill holes were also drilled. An airborne magnetic survey was also done over the whole property.

This work has succeeded in exposing some copper mineralization of ore grade if continuity and width can be demonstrated. It has also brought to light other areas in which similar mineralization may be found.

The field geology backed by laboratory examination by microscope X-ray diffractometer, and X-ray spectrograph has established the presence of a well mineralized carbonatite rock which particularly warrants further investigation.

A program to cost an estimated $75,000 has been recommended to further investigate this property in the light of findings to date. Studies continue. An additional $10,000 has been recommended for work to be done on the Mission Group at Hedley, B. C.

PROPERTY

The property now consists of those 23 claims held at the time of the previous report, plus 38 since staked under the names Apia, Upola, Octo and Sieben. The names, record numbers and expiry dates of all claims currently held are:

Claim Names	Record Numbers	Expiry Dates
Group I		
F.A.P.#1 & F.A.P.#2	8754 & 8755	March 13, 1973
Sun #1 & Sun #2	18972 & 18973	February 9, 1973
Sig #1 to Sig #11	18961 to 18971	February 9, 1973
Dan #1 to Dan #8	22309 to 22316	June 6, 1973
Apia #1 to Apia #12	23872 to 23883	November 14, 1973
Octo #1 to Octo #4	24624 to 24628	May 5, 1971 **
Group II		
Upola #1 to Upola #20	24446 to 24465	March 31, 1971**
Sieben #1 & Sieben #2	24629 & 24628*	May 5, 1971 **

The majority of the work done since 1968 has been on the F.A.P.#1 and F.A.P.#2 claims which cover the principal zone of mineralization.

LOCATION AND ACCESSIBILITY

The claims are centered at latitude 49°37' N and longitude 119°57' W which puts them in map 82E/12 of the National Topographic system of mapping some 109air miles west of downtown Summerland. They can be reached by about 15 speedometer miles of good paved and gravelled roads from Summerland and straddle the Summerland-Princeton road.

The main showing of mineralization lies immediately north of the common post of the F.A.P. and Sun claims which is at the edge of the Kettle Valley line of the C.P.R. right-of-way at the 20th rail east of milepost 20 west of Penticton. It can be reached if necessary by a rough

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*The reversal of numbers as on records.

** These claims are now in good standing till their anniversary dates in 1972.

road alongside the track, but is only about 600 feet south of and 300 feet below a much better road which crosses the railroad on the western portion of the property.

As a powerline passes through the property in addition to the road, railroad and creek, and as all necessary facilities are readily available via Penticton, the property is well located.

PHYSIOGRAPHY

The property is on a gently rolling landscape north of and on steeper ground south of Trout Creek which has been deeply incised by the valley of Trout Creek into which there are frequent north south draws often directly across from each other. The valley of Trout Creek and these transverse lineaments may be an expression of the major breaks in the underlying rocks.

The maximum relief is about 1500 feet from valley bottom at 2200 feet m.s.l. to the top of nearby hills, but farther back the hills rise to elevations of 6000 feet or more.

The area was obiously glaciated as evidenced by deep glacial till over part of it and it is possible that the ice was partly instrumental in crushing the surface of the mineralized zone so that it could be readily decomposed by acids developed from the breakdown of pyrite.

The climate is typical Interior Dry Belt with warm summers and moderately crisply cold winters with little rain or snow. Year round operation would be no problem and the generally pleasant climate should attract a plentiful supply of labor.

GEOLOGY AND MINERALIZATION

As mapped by the Geological Survey of Canada, the predominant rocks of the area are granodiorites, quartz diorites and related rocks of Cretaceous age belonging to the Nelson Batholith (G.S.C. Map #15-1661).

Rock outcrops are scarce over much of the property but in the general vicinity of the workings there are outcrops of rocks other than as described on the foregoing page. A much crushed and altered zone of

rocks is sandwiched between granitic rocks and a body of Ultrabasic rocks. This zone has been studied in detail by a well qualified geologist from the United States with academic interest in the property and who believes it to be the top of a carbonatite plug bordered by fenite which the writer had previously called a chloritic schist of unknown origin. Having the necessary knowledge, skill, equipment and other facilities at his command he made a very exhaustive and detailed study of the rock types involved in the mineralized zone. His report is confidential at present.

It is readily apparent, however, from the exposed portion of unaltered rock that the mineralization is in a silica-carbonate rock at least 100 feet in width. It is further apparent that chalcopyrite mineralization occurs in veinlets and as disseminations between the veinlets and that it is associated with magnetite, ilmenite and pyrite. The chalcopyrite favors the central portion of the zone. The fresh rock is capped by over 20 feet of crushed limonitic material in which copper carbonates are to be seen, particularly along the more prominent crisscrossing fractures. It is bordered by a chloritic rock (fenite).

Besides the main zone which is some 600 feet long as exposed there are other outcrops of limonitic rocks to the north and on both sides of the main zone. These do not appear to be of major proportions and little or no work has been done on them but much of the area is covered by deep glacial till which may hide further zones along the granodiorite-ultrabasic contact.

SAMPLING AND ASSAY RESULTS

The writer took a continuous chip sample across thirty-one feet of hard fresh rock of the zone in which the transition from copper rich to iron rich rock was apparent. This had been exposed by bulldozing. He also took two samples of the overlying limonitic mass of decomposed zone rock. It is possible that more of the hard fresh zone rock could have been exposed for sampling on the west end by pck and shovel but this had not been done and tools were not available. This should be done and the fresh unaltered rock could be drilled and blasted in such a manner

as to make it easier to obtain accurate samples. A series of drill holes across the zone at regular intervals along strike would provide a reliable average assay across the entire width of the zone. In this manner the horizontal dimensions of the zone could be determined. Some vertical drill holes down the center of the zone would then provide information whereby tonnage and grade could be determined to practical open-pit depths if the width and grade characteristics would permit of open-pitting.

The samples taken by the writer averaged 0.80% copper across 23 feet of the copper-rich portion of the zone and 0.19% copper across the fringing pyrite-rich portion. The first eight feet of limonitic capping above the zone, including copper carbonate streaks, assayed 0.45% copper and the next 10 1/2 feet, 0.17% copper. There is no point in further sampling of the overlying gossan as it is obviously leached. This is very obvious when one sees the fresh underlying rock. The chalcopyrite occurs in small quartz-carbonate stringers and as dissemination outward from the stringers in sufficient amount to make ore if sufficient tonnage can be proved. There is some gold and silver proportional to the copper in amount but of lesser importance and assays were not run for it.

Two grab samples of fines along the bottom of the trench made up of material that had sloughed off the 25 foot high north bank were tested by atomic absorption for copper lead and zinc. These samples were each 25 feet long, and were taken after the slough at the foot of the bank was well stirred so they should be pretty well representative of the crumbly oxidized capping. The lower or westerly sample was below the best part of the zone sampled but this zone was so hard and silicified it is unlikely that any of it had spalled off, even as fine dust. The easterly of two samples assayed 4500 ppm. Cu, 330 ppm. Pb, 14 ppm. Zn. The westerly 25 feet assayed 1225 ppm. Cu, 170 ppm. Pb, 11 ppm. Zn.

GEOPHYSICAL AND GEOCHEMICAL INVESTIGATION

Both airborne and ground magnetometer surveys have been completed and both have produced anomalies which require further study

and investigation by test drilling before they can be properly interpreted. It may not be necessary to do this at this time, however, if drilling below the main gossan so far discovered proves up an orebody on which development work can commence. With this understanding provision will be made for testing some anomalous highs and lows. The aeromagnetics show a general low along the valley bottom.

A limited amount of soil sampling has revealed anomalous copper in the area of the main gossan and another anomalous area on the opposite contact of the ultrabasics where some old trenching revealed a little copper mineralization across from an aeromagnetic high on the south side of the river. It is believed that some further soil sampling should be done, particularly southeast from the main gossan where the lowest magnetic readings were recorded and along the valley bottom to the west where aeromagnetics indicated another zone of potential future interest at the west end of the property and south of the river. Soil sampling should also be done, regardless of possible deep glacial till around the aeromagnetic high to the north of the known mineralization as it appears that the bordering fenites have a high magnetite content. Any window or shallow area of till would probably permit passage of mobilized copper if it is present. All depressions, particularly at intersections should be soil or silt sampled as they may be the surface expression of important fractures or faults which would permit the passage of minerals of economic interest now known to be present in the area.

DIAMOND DRILLING

Three diamond drill holes totalling about 1100 feet of hole have been drilled, but all appear to have been on the eastern margin of the mineralized zone on the assumption it was dipping east. Surface indications suggest this but it is also noticeable that the east wall steps back at intervals down the north slope of Trout Creek near the bottom so that the overall effect is a vertical contact.

These holes were all in rocks that were predominantly schists with some bands of fenite and very narrow bands of dolomitic rocks. A few sections were sampled, the best being at 152.6 to 163.3 in hole C1 which was drilled for 507 feet going south at -80° from a point 300 feet

northeast of the cut samples. This section averaged 0.04 ozs. Au, 0.80 ozs. Ag, 1.30% Pb., 0.33% Cu. Zinc was noted in the core but no assay was made for it. This section did not resemble the main zone in the bottom trench and was obviously on the eastern wall of it.

BULLDOZING

About 5 trenches were cut across the limonitic capping but this was not penetrated to solid rock except at the bottom trench. No further bulldozing is contemplated in the vicinity of the main zone. Requirements elsewhere on the property have not been considered at this time, but some may be required to facilitate diamond drilling or to check on geophysical or geochemical anomalies.

RECOMMENDATIONS

It is obvious to the writer that a series of diamond drill holes should be located and directed to cut across the mineralized carbonatite. These holes should be spaced about 100 feet apart along the strike of the zone and should cut across it at about 45° from either the east or the west side, depending on which side it is easiest to set up. The holes should be collared at least fifty feet back from the edge of the gossan, and should be of sufficient length to pass completely through the zone. If the first hole is drilled under the bottom trench it will take 7 holes and about 1400 feet of drilling to check out the exposed 600 foot length of zone at sufficient depth to insure it is penetrated for its full width and below the limonitic cap. When these have proved up a zone its depth may be probed to the limit of possible open pitting by 2 vertical holes. One of these may be in the lower third of the zone and the other in the upper third.

A radioactive survey has been suggested because of the trace amounts of uranium and thorium that may be found in carbonatite zones. A scintillometer may be tried over the known zone and if it works satisfactorily, it could be used to search for and delimit other zones that may occur. A number of outcrops of the border phase of the carbonatite occur along the margin of the ultrabasics beyond the main

zone. It would cost very little to check these with a scintillometer to see how extensive they may be.

If, however, the scintillometer is not effective, the more expensive I.P. technique could be used to locate the sulphides which appear to be present in sufficient amount to be detectable.

If results of any such tests are favorable, particularly if they are in areas showing a low magnetic susceptibility adjacent to a steep magnetic gradient or in areas showing anomalous soils they should be checked by diamond drilling. So far there appears to be 3 particularly interesting magnetic situations on the property which seem to warrant investigation (see Geo X., fig. 4). Magnetic high #1 about 2000 feet north and slightly west of the exposed mineralization was also found by ground magnetics and there is a slight increase in copper content and some small outcrops of the carbonatite border rocks in the vicinity of it. It may be the buried extension of the main zone.

Magnetic high #2 is about 2 1/2 miles west of the mineralized zone on the south edge of a persistent east-west low which follows the valley bottom and is particuarly low at this point. There is no ground magnetics or soil sampling in this area as yet.

Magnetic high #3 is about 3000 feet east of the mineralization on the north flank of a low. This area was not quite reached by the ground magnetics or soil sampling but some high soils up to 400 ppm. copper are recorded at about 1000 feet to the south west and downhill at the eastern extremity of the soil sampling program.

The airborne magnetics did not pick up a high-low situation at the site of the mineralization but ground magnetics did. Hence there may be other possibilities on the property but the above three areas should receive first attention by some further ground geophysics soil sampling and drilling.

ESTIMATED COST OF PROPOSED PROGRAM

(see next page)

ESTIMATED COST OF PROPOSED PROGRAM

A program designed to follow up on these recommendations is divided into 2 parts.

In the first part the presently known zone may be partially tested by three drill holes or numbers 2, 4 and 6 of those recommended. At the same time procedures that may be adopted for surface testing elsewhere should be tested over the known zone to determine how efficaceous they may be. If these tests indicate that they would be useful as a tool to further test the magnetic highs and lows on the property they could then be applied under part two. Soil sampling, scintillation and the latest electromagnetic reconnaissance techniques could be tested in this manner. An estimate of the possible cost of stage two is given along with the estimate on stage one at this time with the understanding that it may need modification in the light of information obtained from stage one. Estimated costs are as follows :

Stage I

1.	Three BX holes across main zone, allow for 800' at $12.50	$10,000.00
2.	Geophysical investigations and soil sampling over all areas allow	5,000.00
3.	Follow up test holes to help in preliminary evaluation of the geophysics and geochemistry allow	5,000.00
4.	Engineering, mapping, logging cores, assaying, allow	3,000.00
5.	Transport and Communications allow	2,000.00
		25,000.00
	Contingencies @ 15%	3,750.00
		28,750.00

Say a maximum of $30,000.00.

Stage II (If warranted by results of Stage I)

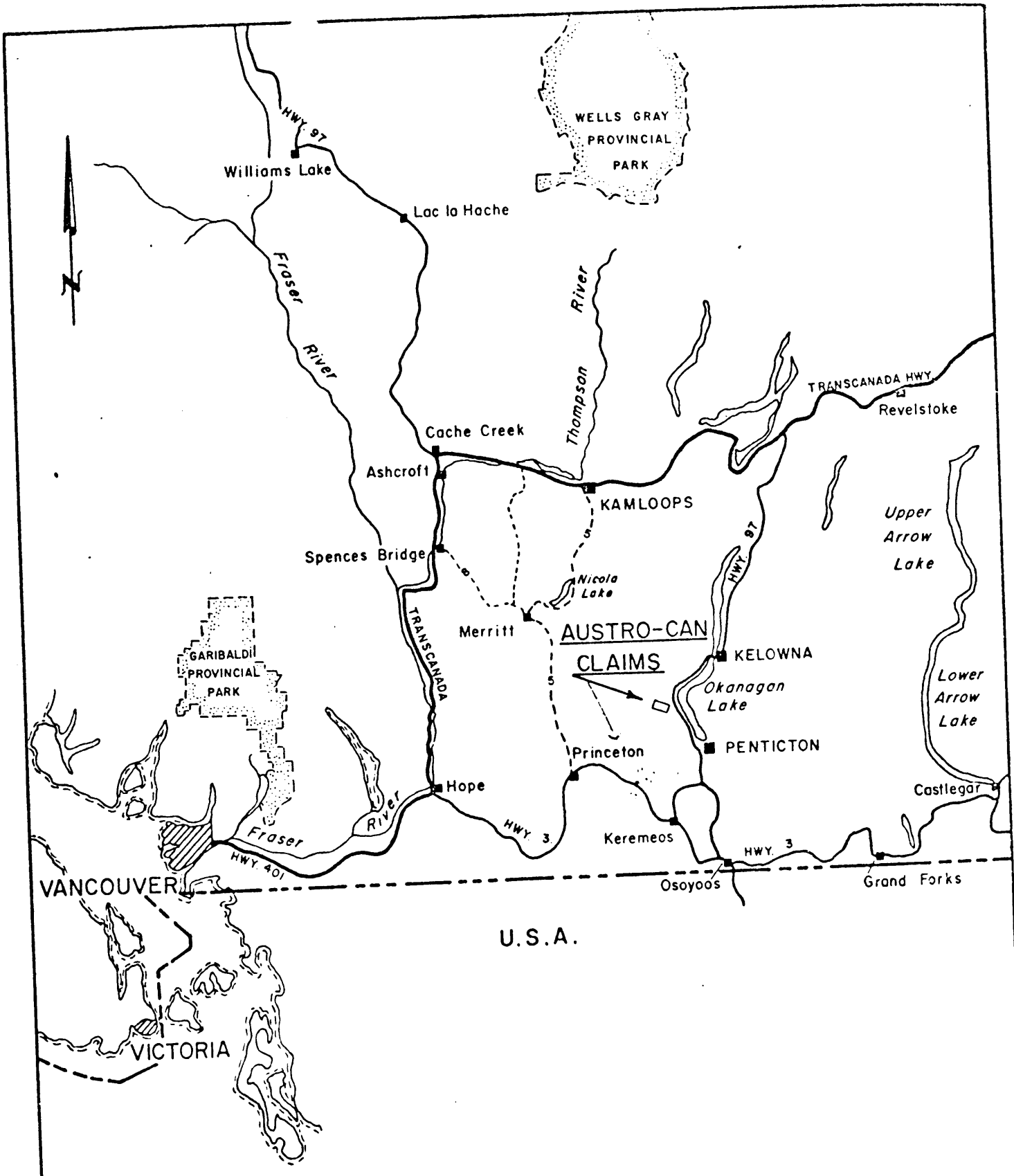
1.	Complete diamond drilling on main zone, allow for 1800 feet of BX holes @ $12.50	$22,500.00
2.	Complete geophysical and geochemical investigation over rest of property allow	5,000.00
3.	Follow up drilling on anomalous geophysics and geochemistry of either stage I or stage II allow for 1000 feet with the understanding that unused portions of drilling recommended under item 2 of stage II may be also used	12,500.00
4.	Engineering, mapping, logging core and assaying	5,000.00
5.	Transport and Communication allow	3,000.00
		48,000.00
	Contingencies @ 15%	7,200.00
		55,200.00
	Say	$55,000.00

Respectfully submitted,

J. A. Mitchell.

West Vancouver, B. C.
November 16, 1970

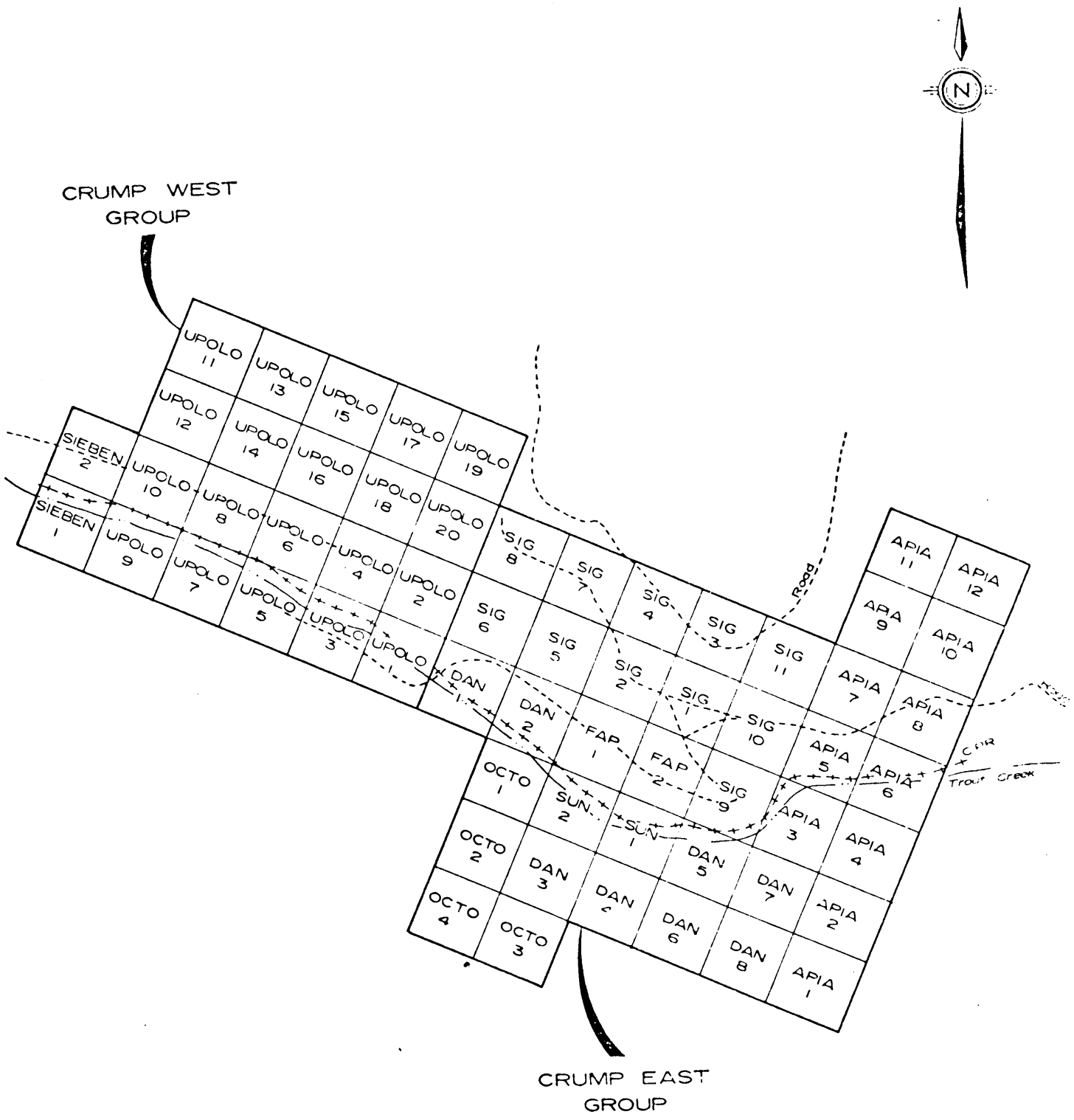
as amended February 17, 1972



AUSTRO-CAN EXPLORATIONS LTD
W. SUMMERLAND AREA-OSOYOOS M.D.
BRITISH COLUMBIA

LOCATION MAP

DRAWN T.M.	DATED APR 23/69	FIG. NO. 1



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CRUMP GROUP

CLAIM MAP

TROUT CREEK

OSOYOOS M.D.

BRITISH COLUMBIA