

Nick pages 3-4 have some information on the "M" Anomaly area & the Appendix
COMINCO LTD. *JWS*
EXPLORATION has *Brake's* geochem report on "M"
NTS: 92N/2 WESTERN DISTRICT
23 JANUARY 1980

1979 YEAR-END REPORT

830668

JEAN PROPERTY (JEAN AND JW CLAIMS)

N.B.C. SYNDICATE, NATION LAKES AREA

OMINECA M.D., B.C.

55°05'N; 124°45'W

INTRODUCTION

The Jean property is a copper-molybdenum porphyry prospect situated in the Omineca Mining Division about 88 air km NNW from Fort St. James and 192 air km northwest from the City of Prince George. The property is owned jointly by a group of prospectors and senior mining companies under terms of the N.B.C. Syndicate Agreement. This report discusses the results of the geochemical and geological surveys conducted in 1979.

References to earlier work on the property are to be found in the year-end reports for 1973 through 1975, 1977 and 1978.

OWNERSHIP AND AGREEMENT

- (a) Through an agreement dated February 15, 1968, the N.B.C. Syndicate comprised of Cominco, Conwest Exploration Co. Ltd., Granby Mining Corporation, Duval International Corporation and Messrs. W. Bacon and J. Crowhurst, managed exploration activity in various parts of B.C. during the period of 1968-1970.
- (b) As per agreement terms, the Manager could designate any particular property as a "specific project" when at least \$10,000 had been spent on it. Each of the four companies were entitled to maintain a 20% equity in the property by contribution equally to subsequent expenditures, or withdraw totally at any time and accept a lesser equity based on its pro rata contributions to total expenditures on the property.
- (c) The Jean group became a "specific project" in 1970, and each company contributed equally to expenditures that year. Conwest withdrew from further expenditure contributions on the Jean in early 1971, and Duval assigned half of its interest to Standard Oil of B.C. (Chevron Canada Ltd.).
- (d) Cominco became Manager of the Jean group "specific project" in 1972.
- (e) A Memorandum of Agreement leading to company formation was executed in 1979. The process of company formation is being handled by Jurgen T. Lau of the firm Bull, Housser & Tupper.
- (f) The Vendor interest to be distributed to the various partners on new company formation, by mutual agreement, will be based on expenditures to December 31, 1974. The first 750,000 shares in a new company (the proposed capitalization is 5,000,000 shares) would be distributed as follows:-

	<u>%</u>	<u>Common Shares</u>
Conwest Exploration Co. Ltd.	13.7166	102,874
Cominco Ltd.	22.0944	165,709
Granby Mining Corporation	22.0944	165,709
Duval International Corp.	11.0472	82,854
Chevron Canada Ltd.	11.0472	82,854
W.R. Bacon	4.7500	35,625
J.J. Crowhurst	4.7500	35,625
J.C. Stephen	5.0000	37,500
John D. Clarke	2.0000	15,000

	<u>%</u>	<u>Common Shares</u>
J. Paul Stevenson	2.0000	15,000
S.B. McBeth	0.5000	3,750
C.P. Harivel	0.5000	3,750
W.G. Bacon	0.5000	3,750
	<u>100.0000%</u>	<u>750,000</u>

(g) The remaining shares would be reserved for financing further development.

TENURE

At the time of this report the Jean property consists of a total of 231 units (two-post and modified grid staking included) in 199 claims. No key claims are due in 1980. From June to August 1981, 14 key claims and April to September 1982 a further 72 key claims are due. The number of key claims involved with 1981 and 1982 due dates dictate the need for assessment work in 1981 in order to avoid large cash in lieu payments to maintain the ground through 1982.

In 1980 a total of 40 units in the non-key category come due. It is felt that no basis exists for further work on these claims and that the ground should be abandoned on the due dates. The claims involved are principally JW claims situated to the north of the main body of key JW claims.

ACCESS

During 1979 the B.C. Forest Service extended the Kazchek logging road to within 8 air km of the "M" anomaly on the Jean property. This road will ultimately link the southwestern corner of the Jean property to Fort St. James and B.C. Rail at Takla Lake. According to the projections of the B.C. Forest Service, this logging road, which is being built to all weather standards at a cost of about \$63,000/km, will cross the southwestern part of the property in 1982. The nearest point of this road to the "M" anomaly is about 2.5 km.

Important due dates for key claims commence in 1981. However, it is important that the construction of the present logging road extend an additional 5 km beyond the present before the Syndicate tackle the construction of a road to the "M" anomaly. In 1981 a total of 14 key claims come due and in 1982 a further 72 key claims. In order to avoid paying cash in lieu to maintain key claims at a time when percussion drilling is the logical next step, it is advisable to construct an access road to the "M" anomaly along the shortest route from the proposed logging road. Some additional road would be required to provide access for a percussion drill within the "M" anomaly. While the construction work on the main logging road is taking place in 1981 it should be possible to construct adequate access for men and equipment to the starting point of the proposed side road to the "M" anomaly. Such road work would eliminate the need for cash in lieu of work in 1982 and might enable us to start percussion drilling in the 1982 field season.

SUMMARY OF 1979 WORK

Soil Sampling

A total of 121 soil samples were collected and analysed for Cu, Mo, Pb, Zn, Mn and W. These samples were taken at 200 foot intervals along lines 16W, 8W, OE/W, 8E and 16E on the JEAN claims. In all, 4.5 miles of grid lines were sampled.

An assessment report covering this work was written by D. Brabec, Geochemist and forms an appendix to the 1979 Year-End Report.

Geological Work

The soil sample lines were traversed in search for outcrop. A number of traverses were run between the grid lines in search for outcrops, claim posts and to firm up the position of the grid. The attached Plate #3, (Scale 1"=200') is a compilation of the known geology, geo-physical anomalies and geochemical information of the "M" anomaly area.

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Geochemical Survey (Reference: D. Brabec, 1979)

Based on a 130 ppm anomaly threshold for Cu, an anomaly 1200 feet (370 m) by 1000 feet (300 m), is indicated on lines 8W and 16W. If one considers an earlier survey which covered line 20W, this anomaly can be inferred as 1900 feet (580 m) by 1000 feet (300 m). The basis for the comparison of the two surveys is the general similarities in values between the 1979 data from line 16E and the old line marked "line A" on Plate 79-3. In general, values for Cu and Mo that are anomalous are much higher for the old data than the new. In the case of Mo, anomalous sites occur generally within the main copper anomaly. Tungsten highs are isolated and few in number. High values in Pb and Zn occur generally with Cu-Mo anomalies, but no definite pattern is indicated.

GENERAL GEOLOGY

The property covers a differentiated pluton of Lower Cretaceous age and the intruded Upper Triassic Takla volcanics. Cu-Mo mineralization occurs in fractures and veins along a northwest trending normal fault where the volcanic roof rocks (south side) are in contact with the acid core of the pluton (north side). About 30 million tons of Cu-Mo mineralization grading 0.305% Cu and 0.02% Mo is indicated by percussion and diamond drilling carried out in 1974 and 1975 in the "A" and "B" zones in the western part of the property. This mineralization occurs in two shallow tabular zones astride the fault and hosted by both volcanic and intrusive rocks. There is potential for further mineralization along this structure. Indications are that the fault extends for 12 km and there are a number of I.P. responses along it which remain to be tested. Previous work has indicated that the favourable geology located in the western part of the property on the J.W. claims extends eastward onto the JEAN claims. The 1979 field work has improved the potential for Cu-Mo mineralization.

GEOLOGY SURVEY

Only a few outcrops occur in the grid area. These are mainly exposures of fine-grained layered Takla volcanics situated near the southern edge of the grid on lines 16W, 8W and 8E. Layering dips gently to steeply in the southern direction. Minor feldspar porphyry outcrops in the area. Float and outcrop of this material are fairly abundant southwest of the grid and are probably related to a dyke swarm or separate intrusion centred south of the contact fault. The porphyritic character of this intrusive differs from the more equigranular texture that characterize the phases of the Jean stock. The intrusive is fresh to weakly altered.

Ian A. Paterson of Cominco has examined five thin sections from outcrops noted on Plate 78-2 attached. He finds the volcanics to be generally fine-grained, non-schistose, metamorphosed basic volcanics which originally contained phenocrysts of augite or hornblende in places. The metamorphic mineral assemblage is hornfelsic in texture and belong to the hornblende hornfels facies. In 1976, Paterson examined thin sections from the "A" and "B" zones located 7 to 8 km in the northwesterly direction along the contact fault. The material studied in the latter area included drill core and outcrop samples. Takla volcanics and sediments are found to be fine-grained and generally non-schistose. They contain metamorphic mineral assemblages characteristic of the hornblende hornfels facies. There is no obvious change in metamorphic grades noted outwards from the southern contact of the Jean stock. This and the absence of the pyroxene hornfels facies after the Takla rock at the contact lead Paterson to the conclusion that the southern contact of the Jean stock is probably faulted. Diamond drilling in the "B" zone confirms the existence of a faulted contact.

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Trace amounts of chalcopyrite occur in outcrops of volcanics on the 1979 grid and mineralization occurs mainly in the form of disseminated and fracture controlled sulphide. A few quartz veins containing chalcopyrite are sometimes present and pyrite is ubiquitous in amounts usually less than half.

The volcanics are typically strongly chloritized and silicified and occasionally contain fine-grained biotite reminiscent of the hanging wall volcanic and mineralized zones situated astride the contact fault in the western parts of the property.

The contact fault which appears to be a fundamental control of Cu-Mo mineralization in the "A", "B" and "C" zones (Plate 79-1) is projected into the "M" anomaly area on the basis of physiographic considerations. In the "B" and "C" zone areas the contact fault lies near the inflection point of the prominent northeast facing hillside on the south side of the valley of Jean (Airline) Creek. Outcrops of silicified Takla volcanics occur on the steep hillside and outcrops of granodiorite occur in the flats near the base of the hillside. The granodiorite is typically strongly fractured and is often well altered as well; the granodiorite weathers recessively. Differential erosion along the contact has given rise to the present topography. The topography in the "M" anomaly area indicates the probable position of the contact fault (Plate 79-3).

CONCLUSION

1. Copper-molybdenum soil geochemical anomalies in the 1979 survey area coincide partially with IP anomaly "M".
2. Strong similarities in type and metamorphic grade between the untested "M" anomaly and the "A" and "B" zones to the west indicate that the theories of structure and intrusion formulated in the "A" and "B" zones may also apply in the "M" anomaly area. Cu-Mo potential, therefore, is also indicated in the "M" anomaly area.
3. Preliminary testing of the "M" anomaly should make use of a percussion drill. This method proved very useful in the western part of the property.
4. An access road linking the proposed logging road with the "M" anomaly, and access and drill sites within the anomaly should be built in 1981. This would permit percussion drilling to start in early 1982.

Report by:

R.U. Bruaset
R.U. Bruaset, Project Geologist

Distribution:

Cominco (2)
Duval (2)
Noranda (1)
Chevron (1)
Bacon (1)

Endorsed by:

F.L. Wynne
F.L. Wynne, Senior Geologist

Approved for
Release by:

G. Harden
G. Harden, Manager
Exploration, Western District

RUB:gk

References:

Paterson, I.A., 1980; Petrographic Study of Hornfels from "M" anomaly Jean property.

" 1976; Petrographic Study of Hornfels from Jean Property.

Attachments:

Plate 79-1 Location Map Scale 1"=4 miles
Plate JP74-1 Claim Map Scale 1"=1600 feet
Plate 79-3 Compilation "M" Anomaly Area Scale 1"=200 feet
Appendix Assessment Report: Geochemical Survey on the Jean Property
by: D. Brabec., Claim List.