# BC. SIC 1 CLAIM <br> GEOCHEMISTRY 1981 <br> N.T.S. $94 \mathrm{~L} / 1 \mathrm{E}$ <br> Liard Mining Division <br> $58^{\circ} 14 \quad 126^{\circ} 07$ 

G.D. Hodgson, October 1981

Claim Name: Sic 1
Owner \& Operator: RIOCANEX.INC.


## SUMMARY

Bedded barite with pyrite in Devonian black shales was discovered by prospecting. These rocks are known elsewhere to host important occurrences of lead, zinc, and silver; e.g. Driftpile Creek, the Cirque deposit, etc.

A 16 unit claim was staked, and subsequently a soil geochemical survey implemented. Soil samples were analyzed for $\mathrm{Cu}, \mathrm{Pb}, \mathrm{Zn}$ and Ag . Results indicate one major zone of anomalous values running NW-SE across the claim, and several subsidiary peaks. The major anomalous zone corresponds to outcropping bedded barite.

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ILLUSTRATIONS

| LOCATION MAP | L-6732 |  |
| :--- | ---: | ---: |
| CLAIM MAP | $\mathrm{C}-6733$ |  |
| SOIL SAMPLE LOCATIONS | GC-6734 | $1: 10,000$ |
| Ppm Pb | GC-6737 | $1: 10,000$ |
| Ppm Zn | GC-6738 | $1: 10,000$ |
| Ppm Ag | GC-6735 | $1: 10,000$ |
| Ppm Cu | GC-6736 | $1: 10,000$ |

## 1. INTRODUCTION

Both the Cirque deposit and the mineralization at Driftpile Creek are hosted by Devonian black shale. The rocks north of Driftpile Creek were prospected by Riocanex Inc. in 1981 and bedded barite was discovered. Although no lead or zinc mineralization was seen, pyrite is present and the ground was staked. A fly camp was established and a soil geochemical survey implemented.

## 2. LOCATION AND ACCESS

The Sic 1 claim is situated in the western ranges of the Rocky Mountains of northern British Columbia. It lies west of the Gataga River near the headwaters of its tributary, Through Creek (Dwg. L-6732).

$$
\begin{array}{lc}
\text { Latitude } & 58^{\circ} 14^{\prime} \mathrm{N} \\
\text { Longitude } & 126^{\circ} 07^{\prime} \mathrm{W} \\
\text { N.T.S. } & 94 \mathrm{~L} / 1 \mathrm{E} \\
\text { Liard Mining Division }
\end{array}
$$

The nearest major centres are Fort Nelson, B.C., 210 km to the northeast, and Watson Lake, Y.T., 250 km to the northwest. The Alaska Highway passes within 75 km of the property at Muncho Lake.

Access to the property is by helicopter. Helicopters are permanently based at both Fort Nelson and Watson Lake. In 1981 Riocanex had a contract machine at their base camp at Pretzel Lake, 115 km to the southeast.

## 3. TOPOGRAPHY AND VEGETATION

From the broad valley of the Gataga River, less than 1000 m above sea level, the ground rises abruptly to northwest-trending ridges over 2400 m high. Limestone forms the highest, craggy peaks; shale underlies more recessive, subdued ridges and valley bottoms. Most of the property is above treeline and is covered by talus and alpine meadow. Scrub brush occupies the valley bottoms.

## 4. HISTORY AND PREVIOUS WORK

Mineralization was discovered in 1973 at Driftpile Creek, 25 km southeast of the Sic 1 claim. The shale belt to the north and south of the original discovery was subsequently staked by several parties, but some of this ground was later allowed to lapse. No work is known to have been done in the immediate area of what
is now staked as the Sic 1 claim. Adjacent, and on strike to the northwest, are the Rough claims which are known to overlie several small sphalerite showings and bedded barite. A minor anount of trenching has been done on these showings.
5. WORK PERFORMED IN 1981

The 1981 Riocanex programme comprised geochemical soil sampling, whereby soil samples were collected at 40 m intervals on lines 200 m apart.

## 6. GEOLOGY

The property geology was not mapped in 1981.

Rocks ranging in age from Proterozoic to early Triassic are exposed regionally. The various formations have been folded into northwest-trending linear belts bounded by sub-parallel thrust faults.

Hadrynian to early Cambrian metasedimentary rocks are exposed in the Gataga River valley and the ranges to the east. They comprise a

1500 m thick sequence of phyllite, slate, schist and quartzite (Taylor \& Stott, 1973) forming a structurally complex package that MacIntyre (1980a) reported was unconformably overlain by the prominent cliff-forming rocks of the lower and middle Cambrian Atan Group.

According to Cathro \& Carne (1978) the lower member of the Atan Group is a thicklybedded to massive, well sorted white quartzite. The upper member largely comprises massive grey micritic limestone, locally interbanded with forereef breccia and debris flow material; capped by thickly-bedded, grey dolomite and argillaceous limestone.

Ordovician to Silurian rocks are represented by a graptolitić, carbonaceous shale of the Road River Formation below, and an unnamed flaser-bedded siltstone above. The Road River rocks include siltstone, black chert and limestone but are dominated by black shale deposited in the long-lived Kechika Trough, a southern tectonic extension of the Selwyn Basin. A relatively competent brown-weathering Silurian dolomitic siltstone commonly outcrops along ridges. MacIntyre (1980a) believed the unit rests unconformably on the Road River shale.

Resting conformably to disconformably
(MacIntyre, 1980a) on the Silurian beds are black clastic rocks of Devonian and possibly Mississippian age. Generally recessive and poorly exposed, these mudrocks host the stratiform lead-zinc-silver deposts at Driftpile Creek (Cathro \& Carne, 1978) and Cirque (Roberts, et al 1980, MacIntyre, 1980b). In the Driftpile Creek area diamond drilling has helped define a broad two-fold subdivision: the lower unit comprises a moderately siliceous, silty shale with siltstone, minor sandstone, thin limestone and local chert; the upper unit consists of wedges of poorly sorted sandstone and polymictic pebble conglomerate, interpreted as being westerly-derived submarine fan sequences (Cathro \& Carne, 1978). MacIntyre (1980a) reported that these rocks also interfinger with and in places overlie the upper unit of the Devonian shale package. The upper unit comprises mainly black, pyritic, siliceous shale and chert and at least one major baritic member. Mineralization is associated with the barite, which occurs either as a massive, fine-grained bed or as small nodules within the black shale. Cathro \& Carne (1978) applied the name "Gunsteel Formation" to the Devonian and Devono-Mississippian rocks, but MacIntyre (1980a) used the term in reference to the upper unit only. He correlated the lower unit with the Besa River Formation of the eastern Rockies (Taylor \& Stott, 1973, Taylor, 1979).


#### Abstract

Above the Gunsteel Formation in the Driftpile Creek area Cathro \& Carne (1978) mapped a Mississippian unit of brown-weathering calcareous siltstone. This was not recognized by either Gabrielse (1962, 1977) or MacIntyre (1980b), but they did report a Triassic siltstone unit in the Mt. Holben area, 55 km S.E. of Driftpile Creek. Gabrielse (1980, pers. comm.) has also mapped a local Triassic black shale.


## 7. GEOCHEMISTRY

Four hundred and ninety two soil samples were collected on the Sic 1 claim in 1981: (Dwg. GC-6734). Soil samples were taken at 40 m intervals along lines, 200 m apart. Where possible the 'B' soil horizon was sampled, care being taken to avoid coarse detritus and organic material. The samples were collected in Kraft paper bags and sent to the Riocanex laboratory in North Vancouver for analysis.

The $\mathrm{Cu}, \mathrm{Pb}, \mathrm{Zn}$ and Ag analyses were done as follows: Each sample was prepared by drying and sieving to -80 mesh, 0.6 gm of which was placed in a test tube with 2 ml of conc. nitric acid. After heating in a hot water bath at $95^{\circ} \mathrm{C}$ for $1 / 2$ hour, and subsequent cooling, lml conc. hydrochloric acid was added and the solution, heated in a hot water bath at $95^{\circ}$ for $11 / 2$ hours, allowed to cool, and diluted with
deionized water to a final volume of 12 ml . The sample solutions were than analyzed by atomic absorption.

Results of the soil sampling are displayed in Dwgs. GC-6735 to GC-6738.

Lead A broad zone of anomalous values extends northwest-southeast across the property. The highest value is 1275 ppm Pb and a number of others are in excess of 500 ppm Pb . There is another, less distinct, zone of high values in the southwest corner of the property.

Zinc Although high values tend to be scattered, there is a general correlation with the zone of anomalous lead, running northwest to southeast across the property (highest value $17,290 \mathrm{ppm} \mathrm{Zn}$ in the N.W. corner), and again in the south and the southwest corner of the property.

Silver Values correlate reasonably well with the lead geochemistry. However, the best result, 8.4 ppm Ag, occurs in the southeast corner of the property.

Copper Results are inconclusive and are probably not significant.
8. CONCLUSIONS

High lead, zinc and silver soil geochemistry correlates with surface exposures of bedded barite. The Devonian shale package in which the barite occurs is known to host important deposits of lead, zinc and silver southeast of the Sic 1 claim.

## 9. REFERENCES

Cathro, R.J., \& Carne, R.C., 1978: B.C. Ministry of Energy, Mines \& Petroleum Resources, Assessment Rept. 6666.

Gabrielse, H., 1962: Kechika map-area. Geol. Surv. Can. Map 42-1962.

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Paper 1980-1, p. 55-67.

MacIntyre, D.G., 1980b: Cirque barite-zinc-lead-silver deposit. B.C. Ministry of Energy, Mines \& Petroleum Resources, Paper 1980-1, p. 68-74.

Roberts, W., Kilby, D., Jefferson, C.W., 1980: The Cirque Deposit. (Abs.) C.I.M., Kimberly.

Taylor, G.C., 1979: Ware east half and Trutch map-areas. Geol. Surv. Can. O.F. 606.

Taylor, G.C. \& Stott, D.F., 1973: Tuchodi Lakes map-area, British Columbia. Geol. Surv. Can. Mem. 373.

## GEOCHEMISTRY COSTS

SALARIES AND WAGES
10 men, 16 Man days @ \$56 /man day \$ 896
BENEFITS
@ $20 \%$
ROCK ASSAYS
Chemex Lab
$3 \mathrm{Cu}, \mathrm{Mo}, \mathrm{Pb}, \mathrm{Zn}$, Wo3, $\mathrm{Ag}, \mathrm{Au} @ \$ 36 .=\$ 108$
${ }_{2} \mathrm{Cu}, \mathrm{Pb}, \mathrm{Zn}, \mathrm{Ag} \quad$ @ $\$ 19.50=39$
5 Sample pulverized @\$ $3.50=17$
SOIL ANALYSIS
Riocanex Lab
$545 \mathrm{Ag}, \mathrm{Cu}, \mathrm{Pb}, \mathrm{Zn}$ @ $\$ 4.50=\$ 2,453$
36 Ba @ $\$ 1.75=63$ $\qquad$
REPORT PREPARATION
GENERAL COSTS
$16 / 93 \times \$ 38,862$
6,686
TOTAL GEOCHEMISTRY COSTS

COSTS APPORTIONED
TO CLAIMS

| $\frac{\text { CLAIMS }}{\text { SIC } 1}$ | $\frac{\text { UNITS }}{16}$ | $\frac{\text { GEOCHEMISTRY }}{}$ |
| :--- | :---: | :---: |
| $\$ 10,991$ |  |  |




N.T.S. 94 L/IE,LIARD M.D

SCALE $1: 10,000$

RIO TINTO CANADIAN EXPLORATION LTD.
SIC I CLAIM

SOIL SAMPLE LOCATIONS




AMNERA: RUCOURCES ERANCH

N.T.S. 94 L/IE, LIARD M.D

SCALE $1: 10,000$

| RIO TINTO CANADIAN EXPLORATION LTD. |  |  |
| :---: | :---: | :---: |
| SIC I CLAIM |  |  |
| SOIL | SAMPLE RE Pb ppm | SULTS. |
| DATE <br> NOV. 1981 | DRAWN BY G.D.H./d.a.g | TDWG. $\text { GC } 6737$ |



