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REPORT ON

GEOLOGY

OUTLAW 1-16 CLAIMS

YA45727-YA45742

WATSON LAKE MINING DISTRICT, Y.T.

CLAIM SHEET 105G/7

Latitude 61°16'N Longitude 130°34'W

FOR CHEVRON CANADA LTD.

U. Schmidt, B.Sc.

R.J. Cathro, B.A.Sc., P.Eng.

JANUARY, 1981

This report [illegible] mined by the Geologic[illegible] mended to [illegible] ered as [illegible] of $ 2400

[illegible] or
[illegible] gineer

Consid[illegible] ation work under Section [illegible] Quartz Mining Act.

Commissioner of Yukon Territory

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 2400.00

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

J. R. BAXTER
Acting Mining Recorder

Commissioner of Yukon Territory

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SUMMARY AND RECOMMENDATIONS

The Outlaw claims were staked in August 1979 by Archer, Cathro for Chevron Canada Ltd. The claims cover a copper-zinc massive sulphide occurrence previously known as the Pack Showing. The earliest recorded work was done by Conwest in 1961-62 and included two diamond drill holes totalling 161 metres. The 1980 work consisted only of mapping by D. Hamilton as part of a B.Sc. thesis and an examination by L. Dick of Chevron Minerals.

The Pack showing, which is exposed in a cliff-face, is a narrow sulphide zone 0.3 to 1.5 m thick that has given assays in the 1% Cu, 2 to 3% Zn and 0.5 oz/ton Ag range with only a trace of gold. The mineralization consists of sphalerite and chalcopyrite in a pyritic and siliceous zone that overlies chlorite schist and amphibolite. The showing is overlain by siliceous phyllonite and biotite quartzo-feldspathic-schist and gneiss.

The potential for a large tonnage of this grade appears to be low and no further work is recommended at this time.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LIMITED

U. Schmidt, B.Sc.

R.J. Cathro, B.A.Sc., P.Eng.

Professional Engineers of the Yukon Territory
J. CATHRO
GEOLOGICAL
ENGINEER

PROPERTY, LOCATION AND ACCESS

The Outlaw claims form a square contiguous group that are recorded in Watson Lake Mining District in the name of Archer, Cathro & Associates Limited as follows:

Claim Name	Grant Numbers	Expiry Date
Outlaw 1-16	YA45727-YA45742	March 14, 1982

The claims are located within NTS claim sheet 105G/7 at latitude 61°16'N and longitude 130°34'W, approximately 130 km southeast of Ross River. Access was by helicopter from a base camp located on the Boot claims 32 km to the northwest. The Campbell Highway, an all-weather gravel road which connects Ross River to Watson Lake is located 35 km to the north.

GEOLOGY (See Figure GP80-01)

The Outlaw claims are underlain by regionally metamorphosed sedimentary and volcanic rocks of unknown age. Recent GSC mapping by D.J. Tempelman-Kluit (Open File 486, 1977) interprets these rocks as unit PPk4.

Mapping in 1980 has subdivided the geology into two tectono-lithologic subdivisions. These are Nisutlin Allochthon and Allochthonous Schist Assemblage. The former is a tectonic subdivision used by D.J. Tempelman-Kluit (Paper 79-14) and the latter is a lithological and structural subdivision adopted by Archer, Cathro during regional exploration to include schist units that do not readily fit into Tempelman-Kluit's model. This interpretation is based on the geology of the Boot-Marmot claim group. As a result of this interpretation, the schist units of Nisutlin Allochthon on the Outlaw claims were assigned to unit PPkl.

Two schist units, Muscovite Schist and Siliceous Phyllonite, are included in Nisutlin Allochthon. Muscovite Schist unit is a distinctive light rusty brown

quartz-muscovite schist that may grade to micaceous quartzite and minor quartzo-feldspathic equivalents. Siliceous Phyllonite unit is a minor carbonaceous and sometimes pyritic equivalent of Muscovite Schist. Both units lack any appreciable carbonate component.

Allochthonous Schist Assemblage is divided into three mappable units: Chlorite Schist, Biotite Chlorite Schist and Biotite Gneiss. Chlorite Schist is easily distinguished from the other two units by its dark green lustrous colour and disseminated biotite porphyroblasts. The other two units are biotite and chlorite bearing quartzo-feldspathic schists and gneisses which grade into each other and may have a limy or pyritic component.

A sixth unit, Leucocratic Gneiss, is recognized on a smaller scale. Deformed sills and dykes of this leucocratic quartzo-feldspathic gneiss are found within other schist units. Most occurrences of this unit are not large enough to be mapped.

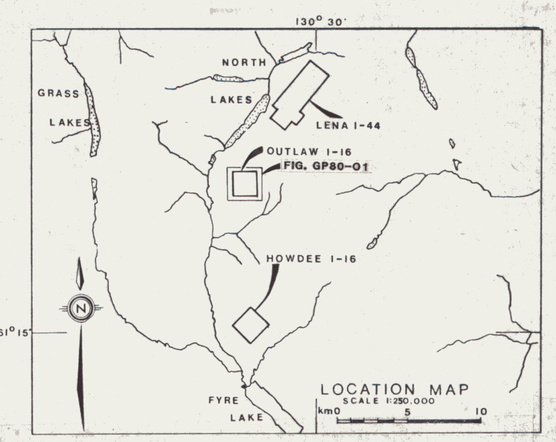
MINERALIZATION

The showing occurs in a northwest-facing cliff in a cirque valley located at the western limit of the claims. A narrow sulphide zone exposed at an elevation of 1860 m consists of 0.3 to 1.5 m of flat-lying, pyritic, siliceous mineralization that is traceable for about 21 m. Sphalerite and chalcopyrite content is variable within the pyritic rock. Previous surface sampling has given assays in the 1% Cu, 2 to 3% Zn, 0.5% Pb and 0.5 oz/ton Ag range with only a trace of gold.

The mineralization occurs within a siliceous zone overlying chlorite schist and amphibolite. A 7.6 m thick unit of dark grey siliceous phyllonite overlies the zone and is in turn overlain by biotite quartzo-feldspathic schist and gneiss to the limit of exposure.

Two holes drilled south of the showing in 1961 failed to intersect mineralization. However, the best potential for additional mineralization, which lies toward the east, has not been tested by drilling. No massive pyritic mineralization has been found in the valley to the east of the showing, but disseminated pyrite is present in bleached schist units that are exposed in creek outcrops.

Three soil samples collected near the main showing to test the geochemical expression of the showing returned anomalous values in all analyzed metals, Cu, Pb, Zn, Ag and Au.



LEGEND

Age and Relationship Unknown

Pln — Leucocratic Gneiss
Leucocratic quartzo-feldspathic gneiss with minor disseminated pyrite.

Allochthonous Schist Assemblage

Age and Relationship Unknown (Probably Paleozoic)

Pcs — Chlorite Schist
Dark green lustrous chlorite schist with biotite porphyroblasts.

Pbcs — Biotite-Chlorite Schist
Grey to brown weathering biotite chlorite schist and limy equivalents.

Pbcn — Biotite Gneiss
Biotite quartzo-feldspathic gneiss and limy, pyritic equivalents.

Age Unknown

Nisutlin Allochthon

PPK1

Pms — Muscovite Schist
Light brown rusty weathering muscovite quartzite and schist, grades to quartzo-feldspathic equivalents.

Psp — Siliceous Phyllonite
Black carbonaceous siliceous phyllonite, in part pyritic.

Symbols

- Geological Boundaries: defined, approximate, assumed
- Foliation: inclined
- Fold axis
- Outcrop
- Talus and felsenmeer
- Fault: defined, approximate, assumed
- Soil sample site with Cu, Pb, Zn, Ag, Au geochemistry by Chemex Labs Ltd., North Vancouver ppb Au, other metals in ppm
- 1961 Conwest drilling

FIG. GP80-01

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GEOLOGY, Cu, Pb, Zn, Ag, Au GEOCHEMISTRY PACK SHOWING

OUTLAW CLAIM GROUP
GRASS PROJECT

SCALE 1:5000

100 50 0 50 100 200 300 400 500 Yards
100 50 0 50 100 200 300 400 500 Metres

Association of Professional Engineers of the Yukon Territory
R. J. CATHRO
GEOLOGICAL
Jan/81
ENGINEER

To Accompany Report Dated Jan/81

5500 6000 6500 7000

44,38,255,0.1,1
56,16,192,0.1,1
510,470,310,2.4,14

Pack Showing
Py, Sph, Cpy
70X1-5 ft.

ABANDONED CAMP

OUTLAW CLAIM BOUNDARY
UNSTAKED