

B O D G R O U P

G E O L O G I C A L R E P O R T

B Y

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Vancouver, B.C.
June 21, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. **3529** MAP

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~~MAPS~~ MAPS IN POCKET

BOD CLAIMS

SUMMARY

Phelps Dodge Corporation of Canada Limited examined the Bod claims from March 1 to June 20, 1971 with a crew of five men. Geological mapping and bulldozer trenching was done over the claim block; which is located on the west side of the Thompson River, 8 miles north of Lytton.

Cache Creek quartzites, schists and volcanics have a complex fault relationship with the Lytton batholith rocks and are covered by Spences Bridge rocks.

Pyrite, chalcopyrite, chalcocite and magnetite are erratically distributed in the older rocks.

LOCATION

Latitude: 50°17' North
Longitude: 121°28' West
Elevation: 600 to 5,000 Feet

The claims are north and west of the Thompson River, 8 miles north of Lytton and 2 to 6 miles east of Botanie Creek.

They can be reached by a suspension foot bridge across the Thompson River from the trans-Canada Highway No. 1 or by Canadian National Railway to Pitquah Station. They are best examined by helicopter from Lytton.

TOPOGRAPHY

The Thompson River, at elevation 600 feet, forms a canyon on the south and east sides of the claims. The claims extend north and west of this canyon to elevation 5,000 feet, 2½ miles from the River. The main claim area is a series of very narrow ridges separated by precipitous narrow canyon walls and steep walled fan shaped creek valleys. It is a vertically exaggerated dissected plateau.

CLIMATE

The property is in the dry belt of British Columbia and the area is particularly dry. Shushten Creek, an intermittant stream, has the only water on the claims with the exception of one small pond at the headwaters of a dry creek on Bod No. 65 claim.

GENERAL GEOLOGY

The Lytton area is along the east side of the Fraser River graben and fault system. It is underlain by a thick series of Cache Creek sediments and volcanics

deposited in the Tyaughton Trough, a former geosyncline along the east side of the Coast Mountains. These are overlain unconformably by the Spences Bridge Group of Lower Cretaceous Age. The rocks are along the east contact of the Mount Lytton batholith; a composite intrusion which extends from Washington through the Similkameen District to the Fraser and Thompson Rivers. Gabbro, diorite and syenogabbro intrusives are found in several areas along this contact.

Mineralization on the east contact of the Coast Ranges has been extensively explored for bulk copper and molybdenum deposits. They generally occur as chalcopyrite, pyrite and molybdenum deposits in intrusives or in Triassic volcanics and sediments in brecciated, faulted, sheared and altered areas.

CLAIM GEOLOGY

The main section of the Bod claims are extensively faulted and underlain by a breccia composed of gabbro, diorite, porphyritic volcanic fragments with some quartz diorite younger intrusions. The fragments are variable in size with mappable areas of each rock type in some places and with all types of fragments in a single outcrop in others.

Cache Creek rocks; quartzite, feldspathic quartzite, gneiss and schist, outcrop across the

southern part of the property along the Thompson River and C. N. R. tracks. These rocks extend over the lower slopes north of the River. They extend to high elevations at the west end of the claims. North of these porphyritic volcanics overlie them and may be of the same age. Some andesites are interbedded with them at Pitquah Station.

Spences Bridge volcanics and carbonaceous rocks outcrop along the southeast claims and along the C. N. R. tracks. Similar rocks underlie a high plateau on the northern Bod claims. They outcrop along scarps and cliffs and generally strike northwest and dip flatly north. In some places they are in tilted fault blocks and in others are folded in open folds. They have a narrow conglomerate and some sandstones and agglomerates at their base. Quartz diorite, porphyritic lamprophyre and andesite dikes intrude these and older rocks.

Alteration is extensive with propylitic epidote, chlorite and quartz widespread in the brecciated rocks. Albite is widespread in the Cache Creek rocks and potash feldspars are found in some areas. These are especially noticeable in a number of centres of intense hydrothermal alteration where circular areas are bleached and contain quartz, kaolin, sericite and potash feldspars.

Faulting and crushing are widespread with numerous displacements of the rock units; especially those older than the Spences Bridge group. Air photographs show a major northwest linear along Shushten Creek and numerous strong northwest and northeast ones throughout the property. Minor north and east striking linears can be seen.

MINERALIZATION

Magnetite occurs in most of the basic intrusives and brecciated older volcanics. Pyrite occurs in large zones in the Cache Creek rocks. Chalcopyrite, some metallic chalcocite and widespread malachite occurs in the brecciated rocks as fracture fillings and disseminations over small areas in many places.

The original discoveries occurred along a ridge where most outcrops showed epidote and quartz with extensive malachite and some chalcopyrite. This area was trenched during 1971 and showed chalcopyrite over widths of 50 to 100 feet following faint northerly striking linears. Copper values in the fresh rock with no malachite were low.

Malachite was found on Bod No. 13 mineral claim at the top of a cliff in diorite and gabbro breccia. This was trenched across the cliff face and low grade disseminated chalcopyrite was found over narrow widths.

On Bod No. 4 claim pyrite and chalcopyrite occurred near an old tunnel in brecciated diorite and volcanics cut by andesite dikes. Values were low. In 1971 a switchback road was cut above the tunnel and brecciated volcanics, gabbro and diorite, cut by many dikes, showed sparse chalcopyrite over a width of 100 feet and better grade material over a 10 foot width.

In 1970 chalcopyrite was found on Bod No. 125 mineral claim in a diorite outcrop. In 1971 the extension was found on a cliff face to the north west where some fracture fillings of chalcopyrite were found in talus below the cliff. The outcrop area was inaccessible.

Lytton Minerals Limited have trenched and drilled a chalcopyrite deposit west of Shushten Creek and are reported to have outlined a small copper deposit.

GEOPHYSICS

An aeromagnetic survey, published by the Province of British Columbia, covers part of the claim group and shows 4,000 plus gamma high anomalous readings over the Lytton Mines and Bod deposits. It shows magnetic lows over the Cache Creek and Spences Bridge rocks.

The Shushten Creek fault is marked by the magnetic readings.

CONCLUSION

The property covers a very large gabbro, diorite, porphyritic andesite, quartz diorite breccia zone with widespread alteration and chalcopryrite mineralization. The property is attractive geologically but it is extremely difficult to explore and copper values are sub marginal.

Report by



D.C. Malcolm

D.C. MALCOLM B.A.Sc., P. ENG.,
Consulting Geologist

June 21, 1971
Vancouver, B.C.

CLAIM LIST

<u>Claim</u>	<u>Record No.</u>	<u>Expiry Date</u>
Bod 1 to 16	87732-87747	March 23, 1972
Bod 17 to 30	87875-87888	March 31, 1972
Bod 33 to 36	87889-87892	March 31, 1972
Bod 38 to 40	87894-87896	March 31, 1972
Bod 41 to 84	88419-88462	May 4, 1972
Bod 85	88729	May 13, 1972
Bod 86 to 98	88907-88919	May 13, 1972
Bod 111 to 142	88920-88951	May 13, 1972
Bod 143 to 158	89070-89085	May 21, 1972
Bod 200	88952	May 21, 1972
Rainbow No. 3 Fraction	88953	May 13, 1972
Rainbow Fraction	87897	March 31, 1972
Rainbow No. 2 Fraction	87898	March 31, 1972
Rainbow 5 to 8 Fractions	89086-89089	May 21, 1972
Bod 1 to 4 Fractions	89146-89149	May 21, 1972
Bod 5 to 14 Fractions	89500-89509	June 12, 1972
Bod 37 Fraction	87893	March 31, 1972

REFERNCES

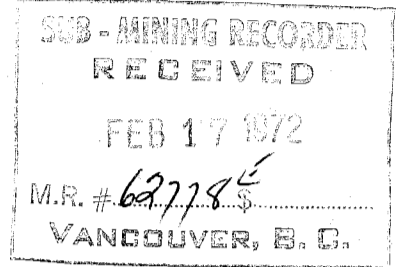
Ashcroft Map Area by S. Duffell
and K.C. McTaggart, Memoir 262,
Geological Survey of Canada.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
To Wit:

In the Matter of

Project 111 - Kalco Valley,
Lytton Area, Southeastern British
Columbia, Kamloops Mining Division

I, M. E. (Tim) Coates, P.Eng.
of 22 - 1245 Nelson Street, Vancouver 5, B.C.



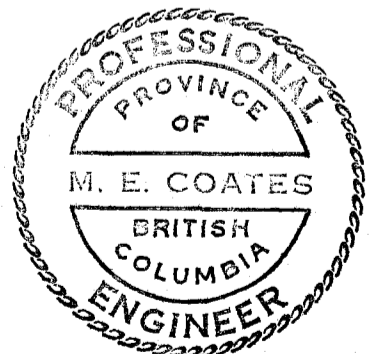
in the Province of British Columbia, do solemnly declare that

Certificate of Expenditure for Assessment Purposes for the
period February 1, 1971 to June 15, 1971 under Joint Venture
agreement dated February 1, 1971

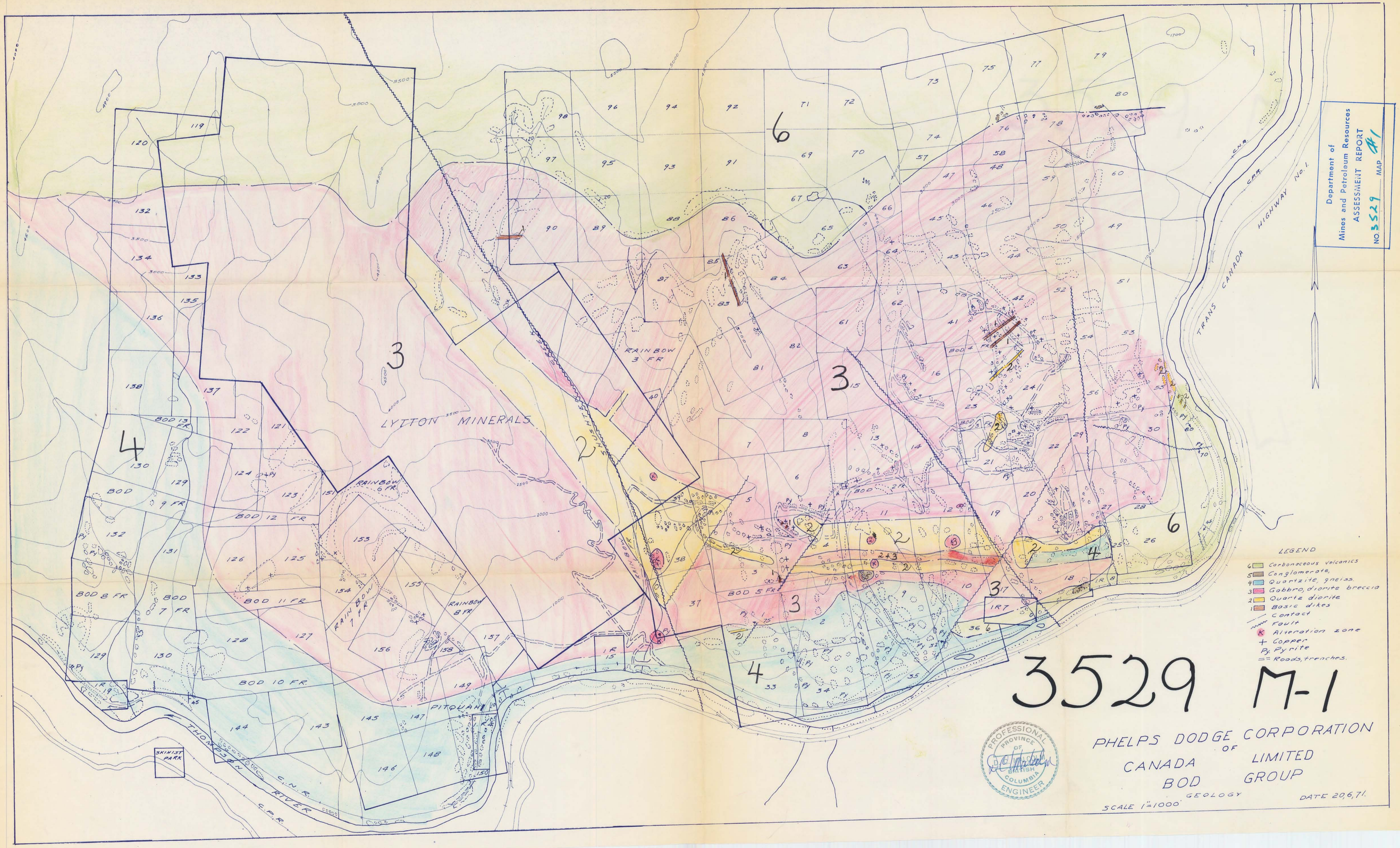
Labour: Geological and Engineering	\$ 9,463.60
Bulldozer Trenching	<u>22,640.11</u>
	\$32,103.71
Less: Previously allocated to Bod groups 1, 2, 3, 4, and 5 (166 claims)	<u>13,100.00</u>
	\$19,003.71

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of
the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Vancouver, in the
Province of British Columbia, this 17th day of Feb. 1972, A.D.



A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3529 MAP #1

- LEGEND
- 6 Carbonaceous volcanics
 - 5 Conglomerate
 - 4 Quartzite, gneiss
 - 3 Gabbro, diorite breccia
 - 2 Quartz diorite
 - 1 Basic dikes
 - Contact
 - Fault
 - * Alteration zone
 - + Copper
 - Py Pyrite
 - = Roads, trenches.

3529 M-1



PHELPS DODGE CORPORATION
OF
CANADA LIMITED
BOD GROUP

SCALE 1"=1000' GEOLOGY DATE 20, 67.