Province of British Columbia — Ministry of Energy, Mines and Petroleum Resources

MEMORANDUM

676491

To: All Geological Staff/Mineral Policy

Date: 20 January 1986

Our File: Golden Bear 104K/079

From: T. G. Schroeter, P. Eng., Senior Regional Geologist

Re: MEG MEETING, January 15, 1986 - MUDDY LAKE GOLD DEPOSIT

SPEAKER: Helmut Wober, Chevron Res.

LOCATION: 137 km west of Dease Lake; 10 km south of Tatsamenie Lake. (Lat.58°13'N Long. 132°17'W)

POTENTIAL ACCESS: 90 km access road from Telegraph Creek road.

DISCOVERY: 1981 - geochem plus rock assay .25 oz/t Au.
1982 to 1985 - approximately 20,000m ddh in 117 holes.

MODEL FOR EXPLORATION:
1) Structure (N-S faulting)
2) Chemically reactive host rocks
3) Brecciation (especially in the tuff package)
4) Contrasting rock units
5) Assemblage - pyrite, arsenopyrite, carbonate, silica

STRATIGRAPHY:

		Property	Region
youngest ↑	3	tuff package	- ultramafics
	2	siltstones	- intrusives
	1	limestones	- dykes/flows

[Note: See TGS write-ups - Geological Fieldwork, 1984 and 1985]

AGE: Jurassic? - Chevron date on sericite from mineralized breccia ~177 Ma
(further age dating by TGS in progess)

ALTERATION: Not mentioned during talk
(see TGS - Geological Fieldwork 1984 and 1985)

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MINERALIZATION:

- 3 zones: Bear Main, Fleece Bowl, Totem Silica
- 'no-seeum' native gold, pyrite, arsenopyrite
- oxidized vs refractory (sulphide) ore
- Au:Ag 3:1
- Au in py (~33-40%), rest in solid solution

Bear Main - 175m long x 5m wide (av.)- open pit

Fleece Bowl - ~100m long-underground

Totem Silica - good exploration target

STRUCTURE:

- North-south faulting
- northwest cross faults
- fault slivers or slices
- didn't mention 2 phases or folding
  (see TGS Geological Fieldwork write-ups)

GEOCHEMICAL SIGNATURES:

- Fl (e.g. 800ppm) and Hg
- As and Sb present but not always associated with Au

GEOPHYSICS:

VLF worked best

GEOLOGICAL RESERVES:

(Based On:
- wide drill hole spacing
- continuity between holes
- continuity across rock types
- drill hole grades vs bulk sample grades)

	Short Tons	Grade	Cut Off
Bear Main: oxide	198,000	.47	.2
refractory	531,000	.44	.2
	729,000	.45	.2
Fleece Bowl:	304,000	.23	.1
Total	1,033,000		

Total Undiluted Reserves: 1,130,000 tons @ .38 oz/t Au

Total Diluted Reserves: 1,302,000 tons @ .34 oz/t Au

Total Resource (Gold): ~ 450,000 oz
(or 350,000 in Bear Main and 100,000 in Fleece Bowl)

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METALLURGICAL SAMPLING:	48% 'Greenstone', 42% silica breccia, 10% greenstone + silica breccia + fault material, 7% sulphides.
MILLING STUDY:	Conventional cyanide treatment
ACADEMIC STUDIES:	Oxygen isotope study at University of Alberta under Bruce Nesbitt. Preliminary indications = mesothermal environment.
GENETIC MODEL: (Chevron)	Hydrothermal (mesothermal) system via deep seated faults.
COMMENT:	Good geological environment. Therefore, potential to increase reserves and possibly locate new deposits.

104K 079

MUDDY LAKE
IF
1024910TM

19860115

AU 13 2 GT

TOTAL RESERVES DILUTED 1302000 TONS @ .34 OZ/T

MEG TALK PRESENTED BY H WOBER CHEVRON RES, JAN 15, 1986

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BEAR MAIN. ZONE
IF
661203TM

19860115
WOBER, H

AU 15 6 GT 69

MEG TALK PRESENTED BY H WOBER CHEVRON RES JAN 15, 1986

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FLEECE BOWL ZONE
IF
275728TM

19860115
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~~AU~~ GT 3 ~~4~~ 4

AU 80 GT 34

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