886466

Mar. 3/96

ROCK TALK IV (Smithers)

PREMIER – Dale Ginn

Prod. – pulling Glory Hole @ 500 tpd @ .07 opt Au, plus 200 tpd from new u/G areas

– 3 km strike length to 'system'

Plan: to increase u/G reserves (tonnage)

– key to understand structure (faulting)

100 km u/G devel.; > 200 stopes; > 3000 ddh ⟹ 3-D modelling

MESSAGE

~195 Ma (210-186)

Date .... Time .... Oct 31/03

To ....

WHILE YOU WERE OUT

– spatially assoc. with Premier Por. dykes – esp. @ contact of Texas Ck pluton

From .... D. Alldrick

TELEPHONE ....

Telephoned		Please call	
Called to see you		Will call again	
Wants to see you		Returned your call	

MESSAGE ....

"early" Jurassic

Texas Ck. – 195 Ma Premier dyke – both assoc.

Operator .... URGENT ☐

Hilroy

46-501 pink
46-502 yellow

Dec. 7/89
NWMA

~~New Reserves~~

PREMIER

PREMIER

Big Missouri
Groundhog 'market' = megacrystic Premier (extrusive) for equiv.
- units dip westerly
- sig. thrust faults (from west to east)
i.e. has caused shortening eg. Cascade Ck. fault,
at Dago zone
S-1 zone; stratiform! (+ Dago + Province)

→ min. occurs above the Mt. Dilworth rhyolite
(above Groundhog marker)

Min. upper volcs.
Groundhog } middle volcs
Dilworth } lower volcs.

Premier - subvolc. epigenetic
(same time as Big Missouri)

Big Missouri - immed. or sub-sea floor level
- FW bx + stringer zone, - incl. 'cherty tuff'
- FW - sometimes - chloritic

PREMIER - westerly dip
- pit will come down to 3-level
- intense k-spar altn (cf. at Big Missouri)

Contained Oz.: 612,700 Au + 20,686,000 Ag
Capital cost: $3,170,000 or 3.7% over budget
Silver recovery: 66.8% } Oct. 89
Gold " : 91.6% }

OVER

EXPLORATION — look u/g at Premier (beneath open pit) + Power Zone + 46 Zone + 609 Zone + 602 Zone ('existing')

46 Zone — complex — lenses (mainly near + above 4-level)
- 35 ddh
- initial mine permitting (extension)

Res. (diluted mineable) 213,755 tonnes @ 6.3 g/t Au + 32.36 g/t Ag
(grades cut to 17.1 g/t Au)
→ most advanced u/g target

609 Zone — extension of West Zone Trend
(prob. geol.) - 56 ddh
321,231 tonnes @ 5.82 g/t Au + 18.04 g/t Ag

602 Zone — at + below 6-Level.

Reserves (prob. geol.) 254,751 tonnes @ 6.58 Au + 29.12 Ag
→ need to drift into HW to explore!
'Existing'
eg. 25.9 m of 7.34 Au + 36 Ag — ddh

Power Zone — near 6 level + below
Res. (dil. geol.) 38,150 tonnes @ 9.77 Au + 93.4 Ag
(will increase) — 14 infill ddh
- mine planning + permitting
→ could provide high grade + rapid cash flow

Total u/g Reserves: ~827,887 tonnes @ 6.36 g/t + 28.62 g/t
(.186 opt) (0.83 oz/t)
- possible into mining Fall '90

PREMIER - Mar. 14/88 - CIMM - Smithers

Alf ~~Stewart~~ Randall

① Groundhog Marker

= extrusive equiv. of Premier por. at Big Missouri prop.

↳ extends southwards to Premier from BM

Premier - new zone 'POWER' zone - drilled to test for power source

Northern Lights Zone (hanging wall) may represent the upper part of an as-yet undiscovered Premier

O.B. due to topo + no expl'n above Northern Lts.

2 Types of Ore ① Epigenetic ~ 75%

② Syngenetic, volc. ~ 25% - H.W., esp West Zone (high sulf ore)

.03 Au equiv. ~~cut off~~

BIG MISSOURI

- mineralized 'troughs' (topography)

- M.S. underlying chert + tuff 'horizons' underlain by stringer zone (i.e. feeder)

HISTORY cut-off @ .2Au equiv.

.372 Au } new reserves contained metals

13.8 m Ag }

1953-1968 - 26,000 ~~tonnes~~ @ .57opt Au + 8opt Ag

opercost ~ US$25/tonne US$160/oz Au

payback 2½ yrs.

SILBAK PREMIER - BIG MISSOURI PROJECT - MEG - Apr. 6/88

Intro - Myron Oseredczuk

Wodjak:

Sphene - important element in Premier porphyry
i.e oxidized magma = good Au source

- intrusive to flow varieties of porphyry.
  - ↳ ore assoc. with
- ex. dip to west
- siliceous bx incl. intense kspar alt'n (sericite) → overprinted by qtz + kspar veining (+ore) (mainly groundmass)
  - ↓ - up to 10 m wide
  - qtz stkwk - up to 50 m wide
- ore near contact of andesite (FW) + porphyry (HW)

* high sulphide ore later than low sulphide ore

late veins - qtz-chl-cal with comb texture
- barite locally
- arsenopy - rare - above + peripheral to ore zones

- ore along FW side of lower, or + crosses over upwards to HW side near surface

- in lower sections - banded veins more common (+chl) + alt'n is weak (i.e sharp contacts)
  - ↳ cf. upper sections - stronger alt'n (sericite) → carbonate halo
  - ⟹ à la LAWYERS (Cliff Ck)

[600 m bench plan slide]

5% net profits - Tournigan

Randall - (Direct shipping ore) 1933 change in gold price from $20/oz to $35/oz.
Rec. = 0.38 Au / 8.03 Ag — ~4.7 m tonnes

Grade Premier
- dilution est. @ 14%

Total Reserves (Premier) 6,888,420 t @ .068 Au + 2.5 Ag
cut-off = 0.03 opt

Big Missouri reserves = geol 3.3 m tons .082 Au, .63 Ag
= mineable 1.8 m t .105 Au, .86 Ag

(OVER)

- higher grade Au at BM (+ less Ag)
- 35 ton trucks
- plan to backfill old stopes to preserve integrity of ore on walls.
- Recoveries by cyanide: 92% Au / 75% Ag

Capital Costs $0.35 m

Oper. Costs est $26.11/ton

Payback 3 yrs. (@ $400 UG Gold)

Costs 169 us-Au 274 us-Ag

Production- ~~[illegible]~~ Apr. '89

Future: - more from Big Missouri!

Thanx: Soregaroli

EXPO 86

Pacific Western

Feb. 14/86

PREMIER

- 'stratabound' with later epigenetic (epithermal) influence.
- best mineralization at contact (both footwall + H.W.) of Premier porphyry. - possibly remobilized
- age dating on min. in progress by Aldrick + Derek Brown

BLACKDOME

- H/G results much more 'impressive' than surface ddh (similar to Lawyers!)
- 'barren gap' present.

Oct. 4/86
CIM (Victoria)

(1)

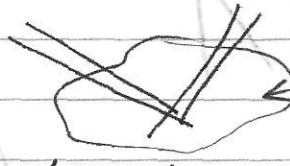
PREMIER - Paul Wodjak

210–186 Ma - dates on Hazelton volcs. (Derek Brown)
i.e. Lower Jurassic

- distinctive lapilli tuff unit = marker

Porphyries - apophyses from Texas Ck. pluton
- dacitic in comp.
- 3 dykes + 1 sill converge near Glory Hole
- large K-spar phenox.

Mineralization NE + NW zones



- most of 'Main' zone does not otcp.
- Northern Light orebody - also 'blind'

Cut-off at Premier est.: 25 oz/t Au (1914 → 1937) - concluded from price of gold + production figs.

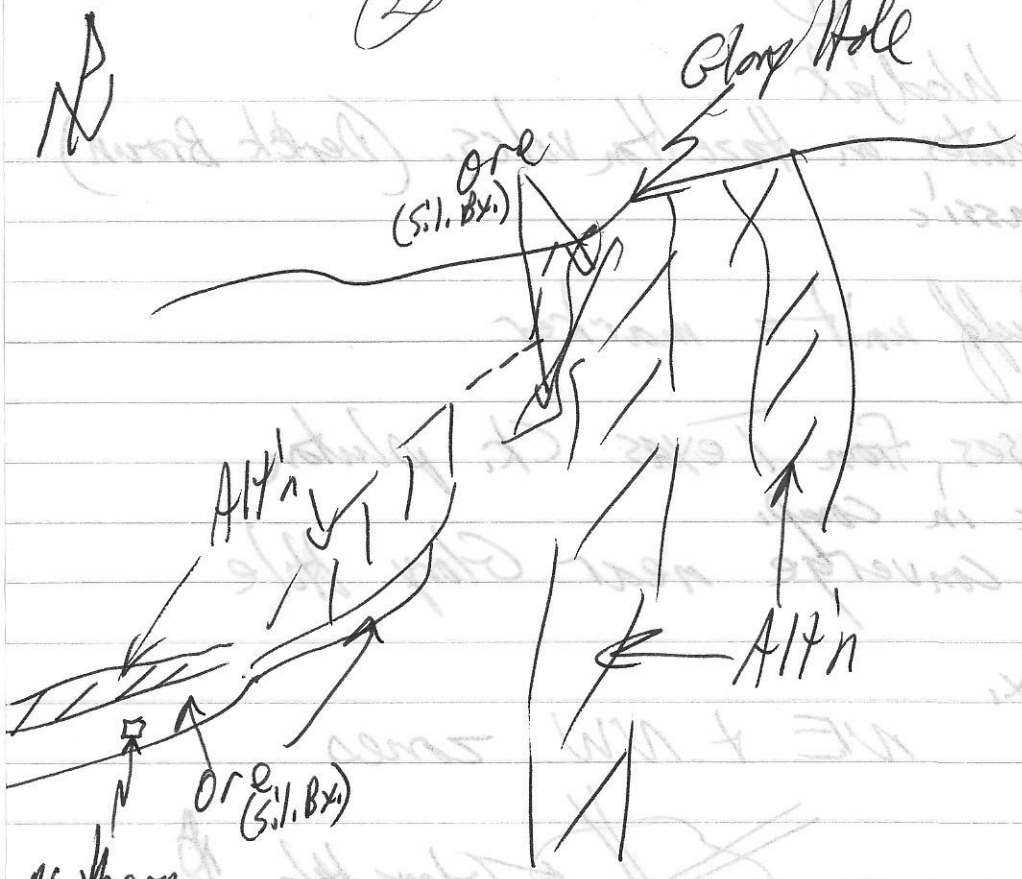
Alt'n - adularia → multiple brecciat.
+ Level + Below - only weakly silicified bx.
→ Bx. zones - loci of high grade ore
Sul. content varies eg. above 2 Level - very low (<3%)
Bonanza ore ~ ½% (Pb+Zn) for each oz of Au

2 Level Plan - good section thru porphyries
ore - occurs at contacts esp. with porphyry + silicification

4 Level Plan - based mainly on old mine workings
- on lower contact

(2)

— Good, go over slides



Note: ore goes from being on footwall at No. 4 + 6 Levels to HW at No. 2 level.

→ dips appear to be to west.

Fault zone - bleached clay + hematite gouge

MINERALOGY - py, ZnS, PbS - electrum, tetra, polybasite, Pyrarg.)
- multiphase qtz-cal-sul ± barite
- open space filling; cockade texture; crustiform banding
Ag : Au decreases to depth + towards west zone. (East)
i.e. West <10 to 10-40 to 40-90 to 90-180 to >180
- increase in base metals to depth

PREMIER

Altn
- qtz + kspar (adularia) envelped by pervasive sericite
- kspar replacement of plagioclase
- qtz veining superimposed on sericitized rx.
  (eg. veins nucleated on frag. edges)
- Flanking kspar - calcite altn.
  (boundary with sericite zone often abrupt)

4 to 7% K_2O in sericite zone

~~.01 to Na_2O~~

3 to 5% Cl_3,
25% calcite in T.S.

K_2O/Na_2O diagrams

ORE GENESIS
- structurally controlled into steeply dipping rx.
- intrusion of Texas Ck. pluton
- transition from sub-marine to marine conditions
- potassium conc. - genetic link with ppr.
- porphyry related - youngest event
- recurring fault movement along porphyry-andesite contacts
- redox boundary - greenands./maroon volcs.
  → important boundary!

Question: Dani Aldrich - conflict dips East (DA) vs West (Westmin)

PREMIER

Jan. 20/86

- talk with Harlan Meade

'New' Reserves
Probable + Possible

5, 118, 400 s. tons @ 0.061 oz/t Au
2.65 oz/t Ag

Open-pittable — above No. 3 Level (475 m elev.)

Plus 'potential' 1, 248, 000 s. tons @ 0.056 oz/t Au
1.98 oz/t Ag

Open along strike + at depth.

~~Less~~ Stripping Ratio ~ 4.5:1

Underground 'Reserves'

602 X-Cut area (6 Level) = 127,000 s. tons
@ .13 oz/t Au
0.94 oz/t Ag

Northern Lites = 383, 000 s. tons
@ .118 oz/t Au
1.15 oz/t Ag
1.5% Pb
4.9% Zn

Plus
BC SILVER DUMP
50 - 100,000 s. tons

Harlan Meade
mar. 1982

PREMIER

John Greg
Vestor
278-3028

June '81

82,[illegible] TN .25 Au
2.52 Ag

81,561 TN .06 Au
1.78 Ag
6 Level

66,000 TN .25 Au
1.68 Ag
4.17 Pb
6.2 Zn
North Lite

Potential
+200,000 TN

.2 (Au + Ag)

Old
Production
4,722,413 @ .384 Au
8.03 Ag
2.5 Pb
3.0 Zn
[1.9 Cu]

Total 500,000 tons

(4)

PREMIER

History: Disc. - 1911

Geology: host rx. - cataclastic zone in Haz. green volc. epiclastics + tuffs overlain by Bowser & intruded by Texas Ck pluton.

- 'Premier' por - highly altd
- mylonites.
- rx, frac., sheared, silic. & chloritized. fissure system

Mineralization: py, ZnS, PbS, cpy mainly

- near surface (up to 300 ft - 600 ft) = bonanza - gold, electrum, argentite, pyrargyrite, polybasite, native Ag.

→ min. consisted of an extensive qtz-vein replacement zone enclosing or partially enclosing a consid. no. of sulphide-rich oreshoots

- oreshoots contain av. 20% sulphides + up to 80% in 'bonanza' ore.

→ elongate, irreg., qtz-carb-py system localized along system of complex intersec. shear fracs → 5500 ft long x 600 ft

- overlapping en echelon pipe-like lenses.
- uniform plunges to west,

Alteration: chlorite + silica

Production: (1918-68) = $506.4 million

@ $1/60 Au .32 Zn
4.50 Ag .32 Pb
.60 Cu $3.00 Cd

291,562,560 Au
185,038,790 Ag
2,580,300 Cu
20,002,216 Pb
6,588,440 Zn
590,646 Cd.

Reserves: (1956) 47,243 tons av. .35 g/ton Au = 2,645,605
3.42 g/ton Ag = 727,070
1.9% Pb = 28,724
2.6% Zn = 39,306

= $3.5 m. + Cu

1919-1920 av. grade 4.24 g/ton Au + 74 g/ton Ag
1922 " " 1.2 " 40 "
1932 " " 0.34 " 7 "

GOOD POTENTIAL !!