

676715

RON

Some preliminary estimates —
Mt. Milligan project.

Highlights

1. With moderate success in currently defined zone can see \approx 100 million tons.
2. Open at both ends
3. Significant targets elsewhere in circular system.
4. Additional IP required to evaluate other geochem targets.
5. Rock has recoverable payable
Value of \$13.26 / ton milled (\$US 1/lb copper)
 - must mine + mill + treat conc.
in \$6.00 - \$7.00 / ton milled
 - need 35000 tpd or
13000000 tpy operation
 - need 175000000 →
225000000 tons reserves
6. Production estimated at 35000 tpd
200,000 ounces gold
41000 tons copper metal

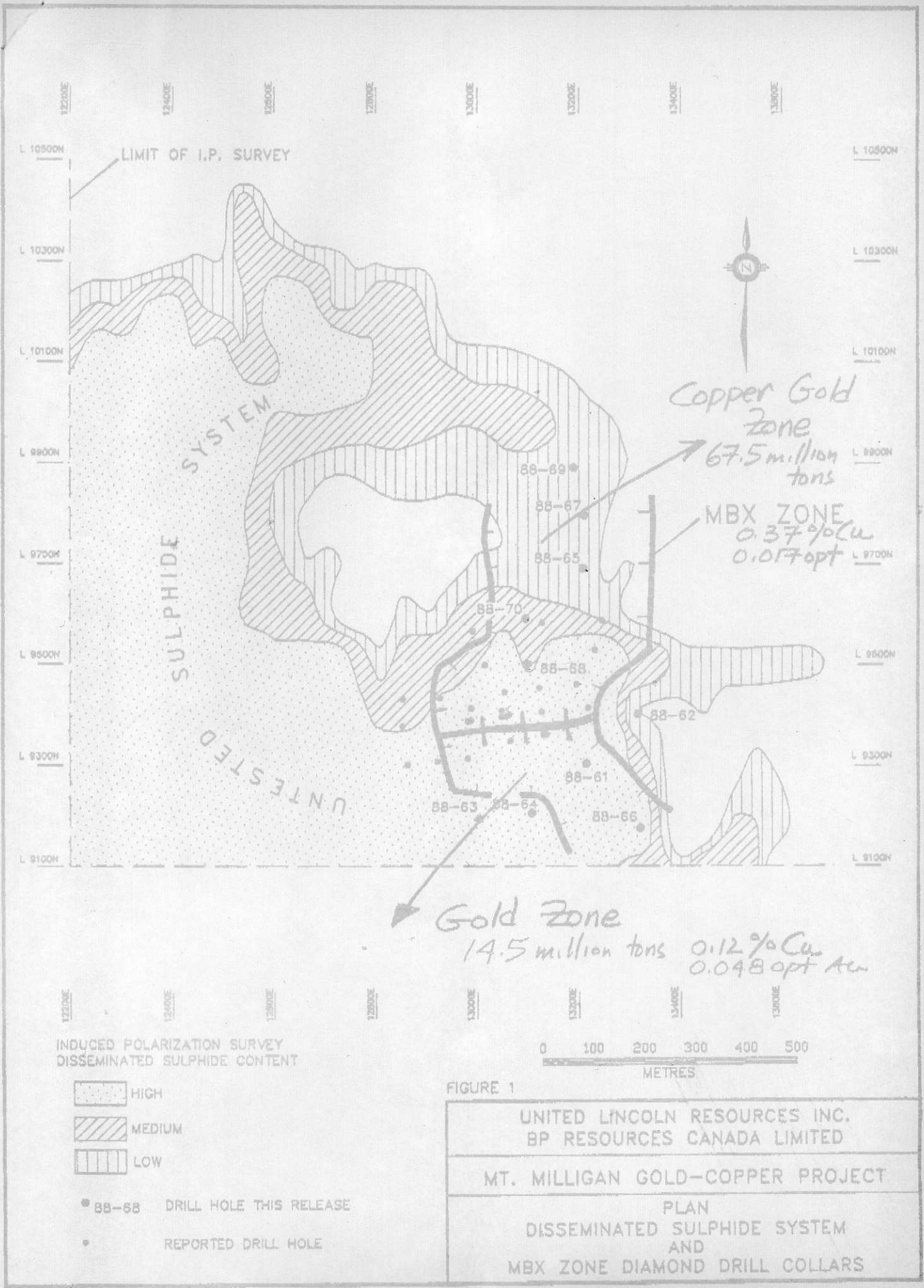
~~TRP~~ 11/1/89

Mt. Milligan Inventory

<u>See from Hole</u>	<u>Tons</u>	<u>Cu %</u>	<u>Au opt</u>	<u>Remarks</u>
67	11,000,000	0.29	0.013	open to east end at depth (+25%)
65	15,700,000	0.41	0.013	open to east end at depth (+75%)
70	12,000,000	0.38	0.016	open to east end at depth (+75%)
68	16,500,000	0.39	0.017	open to east
50	6,100,000	0.35	0.021	open to east end at depth (+75%)
62	5,800,000	0.32	0.034	closed to east - open at depth (+25%)
44	2,400,000	0.17	0.038	open to east end at depth (+50%)
61	9,500,000	0.13	0.047	open to east (+25%)
66	2,200,000	0.05	0.060	open (+100%)
<u>TOTAL</u>	<u>82,000,000</u>	<u>0.32</u>	<u>0.022</u>	

100,000,000 IF DRILLING (+%)

JPF
24/12/88



12200E 12400E 12600E 12800E 13000E 13200E 13400E 13600E

L 10500N L 10300N L 10100N L 9900N L 9700N L 9500N L 9300N L 9100N

LIMIT OF I.P. SURVEY

SULPHIDE SYSTEM UNTESTED



Copper Gold Zone

67.5 million tons

MBX ZONE
0.37% Cu
0.017 opt

Gold Zone

14.5 million tons 0.12% Cu
0.048 opt Au

0 100 200 300 400 500 METRES

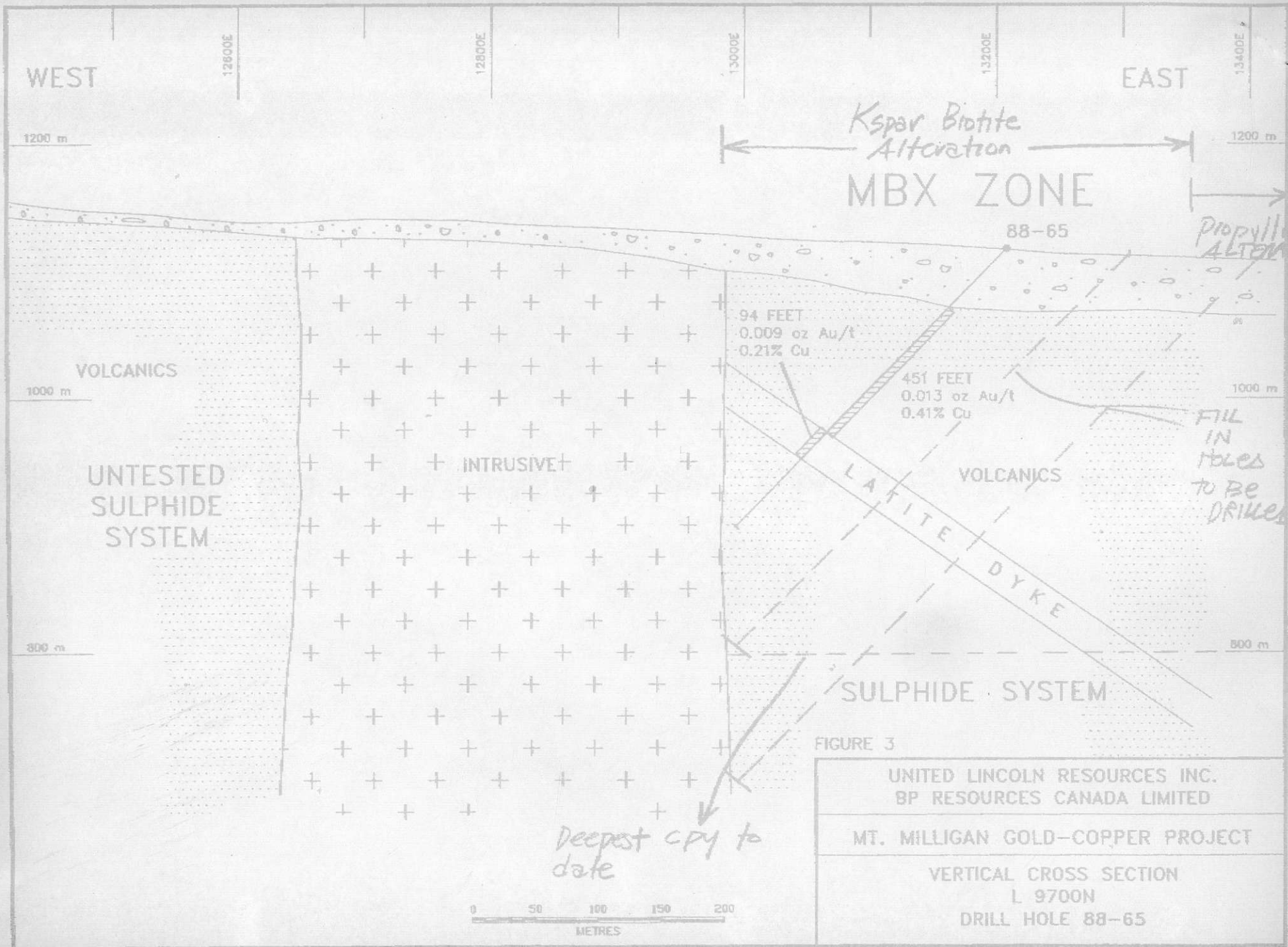


FIGURE 3

UNITED LINCOLN RESOURCES INC. BP RESOURCES CANADA LIMITED
MT. MILLIGAN GOLD-COPPER PROJECT
VERTICAL CROSS SECTION L 9700N DRILL HOLE 88-65

Prepared by: RWF MINERAL GRAPHICS LTD.

Mt Milligan Model

35,000 tpd 13,000,000 tpy
 To date "reserves" say:

	% Cu	opt Au
67,500,000	0.37	0.017
14,500,000	0.12	0.048

Need another 100,000,000 tons to
 justify 35,000 tpd.

Copper Conc Revenue

$$13,000,000 \text{ tpy} \times \frac{2000 \text{ lb}}{\text{ton}} \times \frac{0.37}{100} \times \frac{85}{100} = 8,177,000 \text{ lbs Cu/year}$$

recovery 85% probably OK -

$$13,000,000 \text{ tpy} \times 0.017 \times \frac{70}{100} = 154,700 \text{ ounces Au/year}$$

10% recovery optimistic maybe 50%?

$$\text{Cu Conc} = 26\% \text{ Cu or } \frac{520 \text{ lb}}{\text{ton conc}}$$

$$\therefore \text{produce } 8,177,000 \div 520 = 15,725 \text{ tons conc}$$

$$\text{Grade} = 26\% \text{ Cu}$$

$$= 0.984 \text{ ounces Au/ton}$$

Payable Metals Conc

$$\text{Cu} = \left(\frac{26-1}{100} \right) \left(\frac{2000 \text{ lb}}{\text{ton}} \right) \left(\frac{\$1.20}{\text{lb}} \right) = \frac{\$600}{\text{ton conc}}$$

$$\text{Au} = \frac{90}{100} (0.984 - 0.029) \left(\frac{\$494}{\text{ounce}} \right) = \frac{\$425}{\text{ton conc}}$$

$$\text{TOTAL} = \overset{\text{Cu}}{\$600} + \overset{\text{Au}}{\$425} = \$1025$$

$$\begin{aligned} \text{TOTAL REVENUE} &= 157250 \text{ tons conc} \times \frac{\$1025}{\text{ton}} \\ &= \$161,180,000 \end{aligned}$$

$$\text{TOTAL TONS MINED} = 13,000,000$$

$$\frac{\text{TOTAL REVENUE}}{\text{TON}} = \frac{\$161,180,000}{13,000,000 \text{ tons}}$$

$$\boxed{\text{Chalcopyrite Reserves} = \frac{\$12.40}{\text{ton}}}$$

Assume Pyrite-Au ore treated on-site CID plant.

Make py flotation: Assume recover

90% OF pyrite
FROM WHICH RECOVER
80% OF gold.

$$\text{Grade} = 0.048 \text{ opt Au}$$

$$\frac{80}{100} \times \frac{90}{100} \times 0.048 = 0.035$$

$$0.035 \text{ opt} \times \frac{\$494}{\text{ounce}} = \frac{\$17.29}{\text{ton}} \text{ py reserves}$$

Assume mill feed \propto to current "reserves"

$$\left[\frac{14.5}{82} \times \frac{\$17.29}{\text{ton}} \right] + \left[\frac{67.5}{82} \times \frac{\$2.40}{\text{ton}} \right]$$

= Average blended revenue / ton

$$= \$3.06 + \$10.20$$

$$= \$13.26 / \text{ton}$$

Projected Costs

\$5/ton milled (site)

Conc Freight, Smelter, Refining
= \$200/ton

Gibraltar = \$4.00
Brenda = \$4.19
Similkameen = \$4.62

$$\therefore \text{TOTAL COSTS} = 13,000,000 \text{ tons} \times \frac{\$5}{\text{ton}} = \$65,000,000$$

$$157,250 \text{ tons} \times \frac{\$200}{\text{ton}} = \$31,450,000$$

$$\text{TOTAL} = \$96,450,000$$

$$\text{COSTS/TON} = \$96,450,000 \div 13,000,000$$

$$= \$7.42 \text{ Chalcopyrite ore}$$

\$10/ton milled
gold-pyrite ore

Leach CIP Plant

TOTAL COSTS

$$\boxed{\text{gold-py}} = 2,299,000 \frac{\text{tons}}{\text{year}} \times \frac{\$10}{\text{ton}}$$

$$= \$22,990,000$$

$$\boxed{\text{chalcopyrite-gold}} = 10,701,000 \frac{\text{tons}}{\text{year}} \times \frac{\$7.42}{\text{ton}}$$

$$= \$79,401,000$$

$$\boxed{\text{TOTAL}} = \$102,390,000$$

$$\frac{\text{TOTAL COST}}{\text{TON MILLED}} = \frac{\$102,390,000}{13,000,000 \text{ tons}} = \frac{\$7.88}{\text{ton}}$$

$$\text{CAPITAL COST} = \$200,000,000$$

$$\frac{\text{OPERATING PROFIT}}{\text{YEAR}} = 13,000,000 \frac{\text{tons}}{\text{year}} \left[\frac{\$13.26 - 7.88}{\text{ton}} \right]$$

$$= \$69,940,000$$

$$\text{Pay BACK} = \frac{\$200,000,000}{\$69,940,000} = 2.9 \text{ years}$$

Annual Gold Production

13000 000 TPY

$$\text{Assume } \frac{14.5}{82.0} \times 13,000,000 = \text{py-gold milling} \\ = 2,299,000 \text{ tons/year}$$

$$\text{and } \frac{67.5}{82.0} \times 13,000,000 = \text{chalcopyrite - gold millin} \\ = 10,701,000 \text{ tons/year}$$

$$\text{Tons Conc in 1 year} = \frac{67.5}{82.0} \times 157,250 \frac{\text{tons conc}}{\text{year}} \\ = 129,444 \frac{\text{tons}}{\text{year}}$$

$$\text{Conc Payable gold} = 111,257 \frac{\text{ounces}}{\text{year}}$$

$$\text{CIP Gold Payable} = 2,299,000 \times 0.035 \text{ opt} = 80,465 \frac{\text{ounces}}{\text{year}}$$

$$\text{TOTAL PAYABLE GOLD} = 191,722 \frac{\text{ounces}}{\text{year}}$$

Cost to produce 1 ounce gold

TOTAL ANNUAL OPERATING COST

$$= 13,000,000 \text{ TPY} \times \frac{\$7.88}{\text{ton}} = \$102,440,000/\text{year}$$

TOTAL COPPER REVENUE

$$= 157,250 \frac{\text{TONS CONC}}{\text{YEAR}} \times \frac{\$600}{\text{ton}} = \$94,350,000/\text{year}$$

OPERATING COST - COPPER REVENUE


$$= \$102,440,000 - \$94,350,000$$

$$= \$8,090,000$$

TOTAL OUNCES GOLD = 191,722

TOTAL COST = \$8,090,000

$$\frac{\text{COST}}{\text{OUNCE}} = \$42.20$$


9/11/89