

APPENDIX

Assume that the average grade of Vangorda ore will be

Pb	-	3.0%
Zn	-	5.0%
Cu	-	0.3%
Ag	-	1.84 oss. per ton
Au	-	0.02 oss. per ton

50'

Further assume that 60% of the copper is recoverable in the lead concentrate, 90% of lead, 80% of zinc, 75% of silver and 80% of gold.

70

60.

Lead

Lead content of ore - 3.0%

Recovery in lead concentrate - 90%

Assume 65% lead concentrate

Ratio of concentration - $\frac{1300}{54}$

Lead paid for in concentrate $(.94 \times 1300)$

- 60 lbs.
- 54 lbs. per ton ore
- 1,300 lbs. per ton concentrate
- 24.07
- 1,222 lbs. per ton concentrate
- 50.8 lbs. per ton ore

Zinc

Zinc content of ore - 5.0%

Recovery in zinc concentrate - 80%

Assume 56% zinc concentrate

Ratio of concentration - $\frac{1120}{80}$

Zinc paid for in concentrate $(.84 \times 1120)$

- 100 lbs.
- 80 lbs. per ton ore
- 1,120 lbs. per ton concentrate
- 14
- 940.8 per ton concentrate
- 67.2 lbs. per ton ore.

Copper

Copper content of ore - 0.30%

Recovery in lead concentrate - 60%

Copper in lead concentrate (24.07×3.6)

Copper paid for in concentrate (less 1 unit?)

- 6 lbs.
- 3.6 lbs. per ton ore
- 86.7 lbs. per ton concentrate
- 66.7 lbs. per ton concentrate
- 2.8 lbs. per ton ore

Silver

Silver content of ore - 1.84 oss. per ton

Total recovery - 75%

Paid for in lead concentrate $(.95 \times 1.38 \times 24.07) - 1$
24.07

- 1.38 oss. per ton ore
- 1.27 per ton ore

Gold

Gold content of ore - 0.02 oss. per ton

Total recovery - 80%

Paid for in lead concentrate $(.95 \times 0.016)$

- 0.016 oss. per ton ore
- 0.0152 oss. per ton ore

- 2 -

Smelter, Transportation, etc.Lead

Treatment charge - \$15.00 - (35 x .10)	\$11.50 per ton concentrate
Refinery - 2.70¢ per lb.	32.99 " " "
Sampling and assaying	.30 " " "
Road transportation	15.75 " " "
Rail & ocean transport	27.50 " " "
	88.04
Credit 5 units silica @ 14¢	.70
	87.34 " " "
	3.63 per ton ore

Zinc

Treatment charge	\$12.00 per ton concentrate
Iron penalty - say 3 units @ 50¢	1.50 " " "
Refinery - 4¢ per lb.	37.63 " " "
Sampling & assaying	.30 " " "
Road transportation	15.75 " " "
Rail & ocean transport	27.50 " " "
	94.68 " " "
	6.76 per ton ore.

Total smelter, transportation, refinery charges, etc. \$10.39 per ton oreOre Valuation

In computing the value of the ore, the following metal prices have been taken:

Copper	30¢ per lb.
Lead	14, 15 and 16¢ per lb.
Zinc	11, 12 and 13¢ per lb.
Gold (\$34.50 - 1.25)	\$33.25 per oz.
Silver	82¢

	Recoveries Per Ton Ore	Value Per Ton of Ore			24°C 12.5 Pb 99 Zn
		14¢ Pb 11¢ Zn	15¢ Pb 12¢ Zn	16¢ Pb 13¢ Zn	
Copper	2.8 lbs.	\$.84	\$.84	\$.84	.67 - ?
Lead	50.8 lbs.	7.11	7.62	8.13	6.10
Zinc	67.2 lbs.	7.39	8.06	8.74	6.05
Gold	0.0152 ozs.	.51	.51	.51	.51
Silver	1.27 ozs.	1.04	1.04	1.04	1.04
		16.89	18.07	19.26	14.37
Smelting, Transport, etc.		10.39	10.39	10.39	10.39
Net Value		\$ 6.50	\$ 7.68	\$ 8.87	\$ 3.98

Write off?
Deduction?