

**FIGURE 4-2**  
**VANGORDA GEOLOGICAL RESERVES**

CUT-OFF GRADE (Pb + Zn)	3.5%	4.0%	4.5%	5.0%
Tonnage (tonnes 000's)	7,090	6,751	6,473	6,134
Lead (% Pb)	3.4	3.6	3.6	3.7
Zinc (% Zn)	4.6	4.6	4.7	4.8
Silver (Ag g/tonne)	49.6	50.7	51.7	52.8

Revised Vangorda Estimates	Tonnage (tonnes 000's)	5,676	5,209	4,847
	% Pb	3.2	3.3	3.4
	% Zn	4.1	4.3	4.5
	Ag (g/MT)	46.1	47.8	49.3

Difference @ 4.0% Pb+Zn

$$\text{TONS} \quad \left( \frac{6,751 - 5,209}{6,751} \right) \times 100 = 22.8\%$$

$$\text{Pb} \quad \left( \frac{3.5 - 3.3}{3.5} \right) \times 100 = 5.7\%$$

$$\text{Zn} \quad \left( \frac{4.6 - 4.3}{4.6} \right) \times 100 = 6.5\%$$

$$\text{Ag} \quad \left( \frac{50.7 - 47.8}{50.7} \right) \times 100 = 5.7\%$$

Feasibility Model T.F. = 4.20 MT/M<sup>3</sup>

Engineering Model Volume weighted average T.F. = 3.77 MT/M<sup>3</sup>

$$\Delta \quad \left( \frac{4.20 - 3.77}{4.20} \right) \times 100 = 10.2\%$$

FIGURE 4-3

VANGORDA PIT DILUTION FACTORS

YEAR	1	2	3	4
Lead	-5%	-3%	-2%	-2%
Zinc	-3%	-3%	-2%	-2%
Silver	-5%	-3%	-2%	-2%

FIGURE 4-4

VANGORDA ANNUAL PRODUCTION SCHEDULE

A. Cut-off grade = 4.0%

YEAR	1	2	3	4	TOTAL
Waste (000's m <sup>3</sup> )	2920	2920	659	0	6499
Ore (000's tonnes)	1701	1701	1701	1031	6134
Lead (% Pb)	3.5	3.6	3.6	3.2	3.5
Zinc (% Zn)	4.9	4.8	4.7	3.6	4.6
Silver (Ag g/tonne)	47.3	52.6	53.0	46.6	50.2
Gold (Au g/tonne)					N/A

N/A: Not available at this time.

B. Cut-off grade = 4.5%

YEAR	1	2	3	4	TOTAL
Waste (000's M <sup>3</sup> )	2920	2920	696	0	6536
Ore(000's tonnes)	1701	1701	1701	877	5980
Lead (% Pb)	3.5	3.6	3.6	3.2	3.5
Zinc (% Zn)	5.0	4.8	4.7	3.7	4.6
Silver(Ag g/tonne)	47.5	52.7	53.9	47.0	50.7

Rock M<sup>3</sup>/MT S.G. MT/M<sup>3</sup>

Rock	M <sup>3</sup> /MT	S.G. MT/M <sup>3</sup>
4G	3	0.243
4EFH	4	0.243
4GE	5	0.241
4CE	6	0.268
4BCD	7	0.282
4A	8	0.331

### 4.0% Pb+Zn Comparison

4G	1269333 × 0.243 =	308,448 M <sup>3</sup>	
4EFH	1479111 × 0.243 =	359,424 M <sup>3</sup>	
4GE	595120 × 0.241 =	143,424 M <sup>3</sup>	
4CE	151522 × 0.268 =	40,608 M <sup>3</sup>	
4BCD	772085 × 0.282 =	217,728 M <sup>3</sup>	
4A	942308 × 0.331 =	311,904 M <sup>3</sup>	
		<u>1,381,536 M<sup>3</sup></u>	MT @ 4.2 MT/M <sup>3</sup>
			× 4.2 = 5,802,451 MT
			(c.f. 5,209,479)

### Volume weighted S.G.

308,448 × 4.12 =	1,270,806	
359,424 × 4.12 =	1,480,827	
143,424 × 4.15 =	595,210	
40,608 × 3.73 =	151,468	AV. MT/M <sup>3</sup> OR S.G.
217,728 × 3.55 =	772,934	5,213,195 ÷ 1,381,536
311,904 × 3.02 =	941,950	= <u>3.773 MT/M<sup>3</sup>, S.G.</u>
1,381,536	5,213,195	

$\Delta$  between  $3.77 \text{ MT/M}^3$  Av. S.G. 8  $4.20 \text{ MT/M}^3$

$$5,802,451 - 5,209,479 = 592,972$$

$$\frac{592,972}{5,802,451} \times 100 = 10.2\%$$

$\therefore$  10.2% reduction in tonnage\* due to overestimation  
of T.F. ~~\* increase~~

OR

11.4% overestimation in tonnage due to  
over-estimation of T.F. =  $\left( \frac{592,972}{5,209,479} \times 100 \right)$

# Faro S.G.'s

Rock	SG
2A	3.20
2BCD	3.48
2CE	3.78
2EF	4.33
2H	4.02
2G	4.45

Vargorda 4.0% Pb+Zn Reserves if Faro S.G.'s used

4G = 2G	SG = 4.45
4EFH = 2EF	SG = 4.30 (4.33 → 4.30 due to H component)
4GE = 2EF/2G	SG = 4.39
4CE = 2CE	SG = 3.78
4BCD = 2BCD	SG = 3.48
4A = 2A	SG = 3.20

4G vol	x 4.45 =	1,372,594
4EFH vol	x 4.30 =	1,545,523
4GE vol	x 4.39 =	629,631
4CE vol	x 3.78 =	153,498
4BCD vol	x 3.48 =	772,934
4A vol	x 3.20 =	<del>998,093</del>
		5,472,273

5% increase over vargorda developed S.C. figures.