

# Grum Yearly Schedule.

Trial II.

cut-off = 4.0 % Pb + Zn

018330

@ 4660 Tonnes/Day; ore. : diluted grades

YEAR	1	2	3	4	5	6	7	8	9	10
waste (000's m <sup>3</sup> )	4010	4,010	4,010	4,010	4,010	4,010	4,010	4010	2,001	0
ore (000's MT)	1701	1,701	1,701	1,701	1,701	1,701	1,701	1,701	1,701	274
%Pb	3.91	2.93	2.94	3.06	3.27	3.19	2.76	2.67	2.75	2.88
%Zn	6.38	4.92	4.82	5.01	5.40	4.96	4.47	4.34	4.49	4.67
Ag ( $\frac{g}{MT}$ )	58. <sup>5</sup> <del>4</del>	45.3 <del>48.2</del>	44.8	46.5	50.4	48.5	42.6	42.1	44.1	46.3

- 1) dilution factors  
 \*no tonnage increase\*  
 Pb = -6 %  
 Zn = -6 %  
 Ag = -6 %

- 3) totals: 15,583,000 tonnes.  
 3.05 % Pb  
 4.97 % Zn  
~~47.3~~ 46.97 g/MT Ag.

- 2) 12,000,000 m<sup>3</sup> pre-prod.

Table IV.

Drum Yearly Schedule. Trial II.

cut-off = 4.0 % Pb+Zn

@ 4660 Tonnes/Day; ore. : diluted grades

YEAR	1	2	3	4	5	6	7	8	9	10
waste (000's m <sup>3</sup> )	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	2,321	0
ore (000's MT)	1701	1701	1701	1701	1701	1701	1701	1701	1701	274
%Pb	3.91	2.93	2.94	3.06	3.27	3.19	2.76	2.67	2.75	2.88
%Zn	6.38	4.92	4.82	5.01	5.40	4.96	4.47	4.34	4.49	4.67
Ag ( $\frac{g}{MT}$ )	58.5	45.3	44.8	46.5	50.4	48.5	42.6	42.1	44.1	46.3

1) dilution factors.

Pb = -6%

Zn = -6%

Ag = -6%

totals : = 15,583,000 tonnes ore

3.05% Pb

4.97% Zn

46.97 g/MT Ag.

2) 6,000,000 m<sup>3</sup> pre-prod.

# GRUM PHASE SUMMARY

-from mine model

TRIAL II

cut-off = 4 % Pb+Zn

Phase #	ST file	SB file	Ore Tonnes (000's)	Waste $m^3$ (000's)	S.R. : 1	%Pb	%Zn	Ag $\frac{g}{MT}$
1	GMTOP	GMP06	1,711	6,812	13.6	4.16	6.79	62.20
2	GMP06	GMP07	1,016	2,676	8.6	3.12	5.29	48.48
3	GMP07	GMP08	2,088	5,230	8.0	3.11	5.11	47.54
4	GMP08	GMP09	1,662	5,623	10.9	3.21	5.22	48.42
5	GMP09	GMP10	1,855	4,556	8.1	3.49	5.79	53.82
6	GMP10	GMP11	1,784	5,488	10.5	3.42	5.31	51.98
7	GMP11	GMP12	2,136	5,414	8.0	2.94	4.76	45.34
8	a) GMP12	GMP13	1,112	3,866	11.2	2.81	4.59	44.68
	b) GMP12		<del>2,224</del>	<del>7,732</del>				
			1,112	3,866				
9	GMP13	GMP15	1,107	2,550	7.8	3.06	4.97	49.29
total	GMTOP	GMP15	15,583	46,081	9.7	3.25	5.29	49.97

Table I

# Grum Yearly Schedule.      Trial II.

cut-off = 4.0 % Pb+Zn

@ 4660 Tonnes/Day, ore.

: no dilution

YEAR	1	2	3	4	5	6	7	8	9	10
waste (000's m <sup>3</sup> )	4,010	4,010	4,010	4,010	4,010	4,010	4,010	4,010	2,001	0
ore (000's MT)	1,701	1,701	1,701	1,701	1,701	1,701	1,701	1,701	1,701	274
%Pb	4.16	3.12	3.13	3.26	3.48	3.39	2.94	2.84	2.93	3.06
%Zn	6.79	5.23	5.13	5.33	5.74	5.28	4.76	4.62	4.78	4.97
Ag ( $\frac{g}{MT}$ )	62.2	48.2	47.7	49.5	53.6	51.6	45.3	44.8	46.9	49.3

~~to cut~~

total = 15,583,000 tonnes.

3.25% Pb

5.29% Zn

49.97 g/MT Ag.

- 12,000,000 m<sup>3</sup> pre-prod stripping.

= 34,081,000 m<sup>3</sup> stripping, to be done in 8.5 years

= 4,010,000 m<sup>3</sup>/year.

Strum Yearly Schedule Trial II

cut-off = 4.0 % Pb + Zn

@ 4660 Tonnes/Day; ore.

YEAR	1	2	3	4	5	6	7	8	9	10
waste (000's m <sup>3</sup> )	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	2,321	0
ore (000's MT)	1701	1701	1701	1701	1701	1701	1701	1701	1701	274
%Pb	4.16	3.12	3.13	3.26	3.48	3.39	2.94	2.84	2.93	3.06
%Zn	6.79	5.23	5.13	5.33	5.74	5.28	4.76	4.62	4.78	4.97
Ag ( $\frac{g}{MT}$ )	62.2	48.2	47.7	49.5	53.6	51.6	45.3	44.8	46.9	49.3

total = 15,583,000 tonnes  
3.25% Pb  
5.29% Zn  
49.97 g/MT Ag.

- 6,000,000 m<sup>3</sup> pre-production stripping.  
= 40,081,000 m<sup>3</sup> waste stripping to be done in 8.5 years  
= 4,720/year

- phone Siman Holding.

- John C. - about grades in blocks.

Grum Yearly Feed Grades.

4% Pb + Zn

1,701,000 tonnes/year

1701

Year 2.  
Phase.

1	10	4.16	6.79	62.20
2	1016	3.12	5.29	48.48
3	675	3.11	5.11	47.54
	<u>1,701</u>	3.12	5.23	48.19

Year 3

3	1413	3.11	5.11	47.54
4	288	3.21	5.22	48.42
	<u>1,701</u>	3.13	5.13	47.69

Year 4.

4	1374	3.21	5.22	48.42
5	327	3.49	5.79	53.82
	<u>1,701</u>	3.26	5.33	49.46

Year 5.

5	1528	3.49	5.79	53.82
6	173	3.42	5.31	51.98
	<u>1701</u>	3.48	5.74	53.63

### Year 6

Phase.

6	1,611	3.42	5.31	51.98
7	<u>90</u>	<u>2.94</u>	<u>4.76</u>	<u>45.34</u>
	1701	3.39	5.28	51.63

### Year 7

7	1701	2.94	4.76	45.34
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### Year 8

7	345	2.94	4.76	45.34
8	1356	2.81	4.59	44.68
	<u>1701</u>	<u>2.84</u>	<u>4.62</u>	<u>44.81</u>

### Year 9

8	868	2.81	4.59	44.68
9	<u>833</u>	<u>3.06</u>	<u>4.97</u>	<u>49.29</u>
	1,701	2.93	4.78	46.94

### Year 10

9	<u>274</u>	<u>3.06</u>	<u>4.97</u>	<u>49.29</u>
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GRUM PHASE SUMMARY

-from mine model

TRIAL II  
cut-off = 4 % Pb+Zn

Phase #	ST file	SB file	Ore Tonnage (800's)	Waste (200's)	S.R.:1	%Pb	%Zn	Ag $\frac{g}{MT}$
1	GMTOP	GMP06	1,711	6,812	13.6	4.16	6.79	62.20
2	GMP06	GMP07	1,016	2,676	8.6	3.12	5.29	48.48
3	GMP07	GMP08	2,088	5,230	8.0	3.11	5.11	47.54
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9	GMP13	GMP15	1,107	2,550	7.8	3.06	4.97	49.29
total	GMTOP	GMP15	15,583	46,081	9.7	3.25	5.29	49.97

Klu Bench #2 - 1325 ton

Bottom Bench 1059 ton

cut-off = 4.0 % Pb+Zn

@ 4660 Tonnes/Day; ore.

: diluted grades

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waste (000's m <sup>3</sup> )	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	2,321	0
ore (000's MT)	1701	1701	1701	1701	1701	1701	1701	1701	1701	274
%Pb	3.91	2.93	2.94	3.06	3.27	3.19	2.76	2.67	2.75	2.88
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Ag ( $\frac{g}{MT}$ )	58.5	45.3	44.8	46.5	50.4	48.5	42.6	42.1	44.1	46.3

1) dilution factors.

$$Pb = -6\%$$

$$Zn = -6\%$$

$$Ag = -6\%$$

2) 6,000,000 m<sup>3</sup> pre-prod.

totals: = 15,583,000 tonnes ore

3.05 % Pb

4.97 % Zn

46.97 g/MT Ag.

# Grum Yearly Schedule.

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YEAR	1	2	3	4	5	6	7	8	9	10
waste (000's m <sup>3</sup> )	4010	4,010	4,010	4,010	4,010	4,010	4,010	4010	2,001	0
ore (000's MT)	1701	1,701	1,701	1,701	1,701	1,701	1,701	1,701	1,701	274
%Pb	3.91	2.93	2.94	3.06	3.27	3.19	2.76	2.67	2.75	2.88
%Zn	6.38	4.92	4.82	5.01	5.40	4.96	4.47	4.34	4.49	4.67
Ag ( $\frac{g}{MT}$ )	58. <sup>5</sup> <del>4</del>	45.3 <del>48.2</del>	44.8	46.5	50.4	48.5	42.6	42.1	44.1	46.3

1) dilution factors

\*no tonnage increase\*

Pb = -6 %

Zn = -6 %

Ag = -6 %

2) 12,000,000 m<sup>3</sup> pre-prod.

3) totals: 15,583,000 tonnes.

3.05 % Pb

4.97 % Zn

~~47.3~~ g/MT Ag.

46.97

# GRUM PHASE SUMMARY.

TRIAL II.

from "dipper model"

5.25

Pb+Zn+Ag  
cut-off.

Phase #	ST file	SB file	Ore Tonnes (000's)	Waste m <sup>3</sup> (000's)	S.R.	av. grade (Pb+Zn+Ag equiv.)	<del>Phase</del> Partial's file	bottom bench.	av S.G. ore.
1	GMTOP	GMP06	1,646	6,829	14.1	13.15	<del>PHSE01.DAT</del> PRT01	# 19	3.41
2	GMP06	GMP07	955	2,694	9.2	10.22	<del>PHSE02.DAT</del> PRT02	18 16	3.26
3	GMP07	GMP08	1,952	5,270	8.6	10.02	<del>PHSE03.DAT</del> PRT03	<del>20</del> 18	3.18
4	GMP08	GMP09	1,550	5,658	11.7	10.27	<del>PHSE04.DAT</del> PRT04	<del>22</del> 20	3.22
5	GMP09	GMP10	1,798	4,570	8.4	11.12	<del>PHSE05.DAT</del> PRT05	<del>24</del> 22	3.31
6	GMP10	GMP11	1,717	5,507	10.9	10.58	<del>PHSE06.DAT</del> PRT06	24	3.40
7	GMP11	GMP12	2,016	5,451	8.6	9.37	<del>PHSE07.DAT</del> PRT07	26	3.17
8	GMP12	GMP13	2,026	7,792	12.4	9.18	<del>PHSE08.DAT</del> PRT08	28	3.21
9	GMP13	GMP15	1,062	2,562	8.1	9.81	<del>PHSE09.DAT</del> PRT09	30	3.37
total	GMTOP	GMP15	14,722	46,333	10.3	10.39			3.27

\* - 5.25 is probably too high for a 4% Pb+Zn cutoff

$$\% \text{Pb} + .85 \times \% \text{Zn} + .047 \times \frac{\text{g}}{\text{MT}} \text{Ag}$$

1.62 + 202 + 1.91  
2.38  
30