Scranton – Prelim Ore Block Calcs July – 1975

on Various Samples/Assay Components.

801072

(A-1 Block)

5.3 × 0.11 = 0.583	× 19.0 = 101.00	× 23.85 = 126.50	× 15.47 = 82.00
5.2 × 0.06 = 0.310	× 18.7 = 97.30	× 21.79 = 113.40	× 12.00 = 62.40
5.2 × 0.02 = 0.104	× 18.4 = 95.80	× 19.73 = 102.90	× 8.42 = 43.80
4.2 × 0.22 = 0.924	× 10.6 = 44.00	× 24.50 = 103.00	× 7.51 = 31.50
3.2 × 0.18 = 0.576	× 31.2 = 99.80	× 15.62 = 50.00	× 5.46 = 17.50
3.0 × 0.08 = 0.240	× 5.4 = 16.20	× 6.57 = 19.71	× 2.60 = 7.80
2.7 × 0.08 = 0.226	× 8.5 = 22.95	× 10.85 = 29.30	× 14.38 = 38.80
28.8 Au 2.963	Ag 477.05	Pb 544.81	Zn 283.80
4.1' @ 0.103	16.30	18.56	9.85
(normal)			

(A-1 Block)

3.0' × 0.18 = 0.540	× 2.83 = 8.49	× 2.56 = 7.68	× 2.16 = 6.48
3.2 × 0.202 = 0.647	× 1.44 = 4.61	× 1.54 = 4.93	× 1.46 = 4.68
2.7 × 0.266 = 0.718	× 11.60 = 31.30	× 12.00 = 32.40	× 6.90 = 18.60
3.2 × 0.442 = 1.416	× 8.68 = 27.80	× 7.85 = 25.15	× 10.90 = 34.90
2.9 × 0.566 = 1.642	× 9.26 = 26.85	× 10.30 = 29.88	× 11.60 = 33.60
2.9' × 0.492 = 1.428	× 8.19 = 23.70	× 13.80 = 40.00	× 10.00 = 29.00
2.3' × 0.524 = 1.208	× 3.72 = 8.56	× 3.83 = 8.83	× 2.52 = 5.80
20.2 Au 7.599	Ag 131.31	Pb 148.87	Zn 133.06
2.9' @ 0.376	6.5	7.36	6.6
(normal)			

(A-2 Block)

2.0' × 0.192 = 0.384	× 8.22 = 16.44	× 8.15 = 16.30	× 2.95 = 5.90
2.8' × 0.242 = 0.678	× 14.14 = 39.65	× 11.20 = 31.40	× 9.90 = 27.40
4.2 × 0.410 = 1.725	× 15.08 = 63.20	× 9.80 = 41.20	× 18.60 = 78.00
3.0 × 0.074 = 0.222	× 12.91 = 38.73	× 13.60 = 40.80	× 15.20 = 45.60
12.0 Au 3.009	Ag 158.02	Pb 129.70	Zn 156.90
3.0" @ 0.252	13.20	10.82	13.10
(normal)			

(A-1 Block)

2.7' × 0.102 = 0.275	× 8.14 = 22.00	× 7.10 = 19.20	× 5.70 = 15.40
3.0' × 0.256 = 0.768	× 13.08 = 39.24	× 17.70 = 53.10	× 11.00 = 33.00
3.2' × 0.084 = 0.269	× 9.21 = 29.50	× 10.90 = 34.90	× 7.50 = 24.00
4.3 × 0.070 = 0.301	× 1.91 = 8.20	× 2.87 = 12.35	× 2.95 = 12.70
13.2 Au 1.613	Ag 98.94	Pb 119.55	Zn 85.10
3.4' @ 0.122	7.48	9.06	6.45
red. to			
2.6' @ 0.122	7.48	9.06	6.45
norm.			

JULY, 1975 - ⓪

SCRANTON - ORE BLOCK CALCULATIONS

"INDICATED" ORE

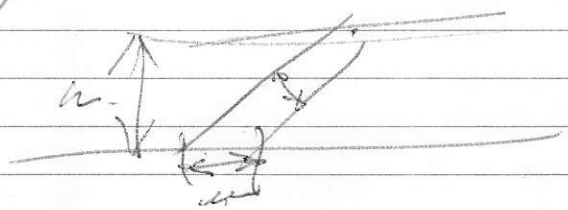
WEST SUNSET (Normal-vein widths used in following area calcs
" " " cvtd. to horiz. widths for vol/ton calcs.)

Hi-Si-granite w.rp @ G=2.6
has vol-ton factor of 12.3 c.ft.

A-1 Block:

(1) Component Sample/assay areas.

160 x 2.68'	=	439
75 x 2.80'	=	210
60 x 2.30'	=	138
35 x 4.10	=	143
130 x 3.00	=	390
35' x 2.90'	=	102
30' x 2.60'	=	78
525		1500 → Wtd-Avg Normal Width = 2.86'



or Equiv Wtd Avg - Hor. Width @ 55° dip = 3.5' *

(2) Weighted-Avg. Grade (weighted by component areas).

439 x 0.524 =	231.	x 10.77 = 4730	x 13.5 = 5930	x 16.6 = 7280
210 x 0.180 =	38	x 6.6 = 1388	x 9.4 = 1375	x 7.9 = 1660
138 x 0.180 =	25	x 4.5 = 621	x 5.8 = 800	x 5.7 = 785
143 x 0.10 =	14	x 16.3 = 2330	x 18.5 = 2640	x 9.9 = 1425
390 x 0.10 =	39	x 7.8 = 3040	x 8.3 = 3235	x 6.3 = 2450
102 x 0.376 =	38	x 6.5 = 662	x 7.3 = 744	x 6.6 = 672
78 x 0.122 =	9	x 7.5 = 585	x 9.1 = 710	x 6.4 = 500
1500 Au	394	Ag. 13356	Pb 1543.4	Zn 14772
= *3.5' (hor) @ 0.262 oz/ton		8.9 oz/ton	10.3%	9.8%

(3) Gross L.V.P. area = $\frac{160+188}{2}$ x 206 = 35,800 sq ft
Less cut-out = 60' x 64' = - 3,800
Net L.V.P. area = 32,000 sq ft

(4) Tonnage, no-dil. = $\frac{32{,}000 \times 3.5}{10}$ = 11,200 tons
(On 4' normal min-mining widths, Equiv. Horiz Widths = 4.7')
Vol.-Dilution = $\frac{4.0}{2.86} - 1.0 = .40\%$
Weight Dilution = $\frac{10}{12.3} \times 40\% = 32.5\%$, say 30%.

(5) Tonnage, @ 4' min width = 11,200 x 1.30 = 14,600 tons
* Net Tonnage @ 20% waste/pillars = 11,700 tons * *
Grade-Dilution Factor $\frac{1}{1.3}$ = 0.77, say 75%

BLOCK A-1 = 11,700 tons @ 0.20 Au oz/ton; 6.7 Ag oz/ton; 7.7% Pb; 7.4% Zn.

SCRANTON - ORE BLOCK CALCULATIONS

"INDICATED" ORE

WEST SUNSET (CONT'D)

A-2 BLOCK. Steep to vert., min. mining width 3.5'.

(1) Component Sample / Assay / Areas.

(70°)	10' x 2.2'	=	22.
(90°)	28 x 2.1	=	59
(60°)	60' x 2.0	=	120
(60°)	28 x 2.0	=	56.
(60°)	23 x 3.0	=	69.
	149		326 → Wtd. Avg. Normal Width = 2.2'

or Equiv. Wtd-Avg. Hor. Width 65° = 2.5'

(2) Wtd-Avg. Grade (wtd. by component areas)

22 x 0.18 =	3.96 x 3.1 =	68.20 x 1.2 =	26.40 x 2.0 =	44.00	
59 x 0.19 =	11.20 x 6.84 =	404.00 x 6.54 =	386.00 x 5.96 =	352.00	
120 x 0.39 =	46.80 x 6.90 =	826.00 x 11.0 =	1320.00 x 10.8 =	1296.00	
56 x 0.37 =	20.70 x 8.50 =	476.00 x 13.2 =	740.00 x 11.7 =	655.00	
69 x 0.252 =	17.40 x 13.20 =	912.00 x 10.82 =	748.00 x 13.10 =	905.00	
326	Au 100.06	Ag. 2686.20	Pb 3220.40	Zn 3252.00	
2.5' Hor. @ 0.308 oz/t.		8.24 oz/t.	9.90%	9.98%	

(3) Net L.V.P. Area = $86 \times 42 + 82 \times 48 + 84 \times 47 = 11{,}500$ □' (3612 □' + 3936 + 3948 □' 44)

(4) Tonnage, no dilution = $\frac{11{,}500 \times 2.5}{10}$ = 2870 tons.

(On a 3.5' "normal" mining width, Horiz. Width @ 70° = 3.7')

Vol.-Dilution Factor = $\frac{3.5}{2.2} - 1.0 = 60\%$

Weight Dil.-Factor = $\frac{10}{12.3} \times 60\% = 48.7\%$, say 48%.

Tonnage @ 3.5' min. mining width = 2870 x 1.48 = 4250 tons

Net Tonnage @ 30% waste/pillars 4250 x 70% = 2975 tons

Grade-Dilution Factor, w allowance for 30% not mined ± 1/4, say 70%

	Au.	Ag.	Pb	Zn
BLOCK A-2 = 2975 tons @	0.22 oz/ton;	5.8 g/ton	6.9%	7.0%

SCRANTON-ORE BLOCK CALCULATIONS

WEST SUNSET (CONT'D.) "INDICATED" ORE

A-3 BLOCK (5700 sill block) revised to 147' x 50' (L.V.P.)

(1) Wtd. Avg. 'Normal' Vein Width:

110 x 3.03' = 330.

37 x 2.10' = 778

147' 408 → Wtd. Avg. Normal Width = 2.8'

or Equiv. Wtd. Avg. Hor. Width @ 55° = 3.4'

(2) Wtd. Avg. Grade, no dilution.

110 x .09 = 9.900	x 7.88 = 86.8	x 8.32 = 916.	x 6.32 = 696.
37 x 0.33 = 12.200	x 5.50 = 204.	x 4.73 = 175.	x 5.80 = 214
147' @ Au. 22.100	Ag. 1072	Pb 1091	Zn 910
147' x 2.8' @ 0.150 oz/ton; 7.3 oz/ton		7.43%	6.2%

For a minimum 'normal' mining width = 3.5',

Equiv. " horiz. " " " = 4.3' @ 55°.

(3) Net L.V.P. Area - - - - - - 7350 □'

(4) Tonnage, no dilution = $\frac{7350 \times 3.4}{10}$ - - = 2500 tons.

Vol.-Diln. Factor = $\frac{3.5}{2.8} - 1. = 25\%$

Weight Diln Factor = $\frac{10}{12.3} \times 25\% = 20.3\%$, say 20%.

∴ Gross Tons @ 3.5' min. mining width = 2500 x 1.2 = 3000 tons.

With Contin. mining along 5700 sill, → no allowance for waste/pillars

Grade - Dilution Factor = $\frac{1}{1.2}$ (= 83% *.

	Au.	Ag.	Pb.	Zn.
BLOCK A-3 = 3000 tons @	0.125 oz/ton;	6.1 oz/ton	6.2%	5.1%

* Check: $\frac{2.8}{\frac{10}{12.3}(3.5-2.8)+2.8} = 83\%$

SCRANTON - ORE BLOCK CALCULATIONS

WEST SUNSET (CONT'D) "INDICATED" ORE

B-1 BLOCK (5900 sill block, dip 55°)

90' x 2.5 (hor.) @ 0.40 Au oz/ton; 6.0 Ag oz/ton; 6% Pb; 6% Zn. L.V.P. area = 7200 □'

Wtd-Avg. Horiz. Vein Width = 2.5'

Net Tons = $\frac{90 \times 80 \times 2.5}{10}$ = 1800 tons @ 0.40; 6.0; 6.0; 6.0

Estimated Min. Normal Mining Width = 3.5' (or as mineable)

" Equiv. Min. Horiz. " " " = 4.3' @ 55° dip.

Vol-Dil. Factor = $\frac{4.3}{2.5} - 1.$ = 0.72; say 70%

Equiv. Weight-Dil. Factor = $\frac{10}{12.3} \times 70\%$ = 57%; say 55%

* Grade-Dil'n Factor = $\frac{1}{1.55}$ = 64.4%, say 65%

	Au	Ag	Pb	Zn
∴ Dil. Grade =	0.26 oz/ton;	4.2 oz/ton;	4.2%	4.2%

Dil.-Tons = 1800 x 1.55 = 2800 tons

	Au	Ag	Pb	Zn
Gross Block = 2800 tons @	0.26 oz/ton	4.2 oz/ton	4.2%,	4.2%.

	Au	Ag	Pb	Zn
NET BLOCK B-1, w 20% waste/pillars = 2240 tons @	0.3	4.5	4.5	4.5

SCRANTON - ORE BLOCK CALCULATIONS

WEST SUNSET (CONT'D.)

B-2 BLOCK — Au / Ag / Pb / Zn — (55° up-dip to rollup-apex)

185' x 2.5' @ 0.40 oz/ton; 6.0 oz/ton; 6%; 6%

Gross L.V.P. Area = 85 x 40 = 3400 sq'

Block is based on same drift assay interval as B-1, hence compute Tonnage on basis of ratio of areas of B-2 & B-1.

Net Tons B-2 = $\frac{3400}{7200}$ = .47% net B-1 Tons = 1050 Tons.

NET BLOCK B-2 w. 20% waste/pillars

= 1050 Tons @ Au 0.3, Ag 4.5, Pb 4.5, Zn 4.5

Q - BLOCK " " " (57° pr 5700 & 5600 lev. data) - 71-1 outline revised

Avg. "Normal" Width = 2.25' Avg. "Horiz." Width = 2.8'

L.V.P. Area = 57' x 66' = 3762 sq. ft.

Net L.V.P. Tons = $\frac{3762 \times 2.8}{10}$ = 1050 Tons @ Au 0.175, Ag 4.37; Pb 3.7; Zn 4.15

at a 3.5' min. normal mining width,

Vol-Dil. Factor $\frac{3.5}{2.25} - 1.$ = 55%

Weight-Dil. Factor = $\frac{10}{12.3} \times 55\%$ = 45%

Grade. Dil. Factor = $\frac{1}{1.45}$ = .69%, say 70% w. specs. minima

Gross Tons @ 3.5' min. mining width = 1050 x 1.45 = 1520 Tons.

BLOCK-Q = 1520 Tons @ Au 0.122 oz/ton; 3.2 oz/ton; 2.6; 2.9
70% x

NOTE: RETAIN & INCORP. THIS BLOCK BECAUSE OF PROBABILITY THAT GRADE IS ACTUALLY CLOSER TO 5600 LEV. MINED GRADES.

* $\frac{2.25'}{\frac{10}{12.3}(3.5 - 2.25) + 2.25}$ = .69% V

SCRANTON - ORE BLOCK CALCULATIONS

SUNSET SECTION - : "INDICATED" ORE.

5554 SUB-LEV. SILL = 150' x 2.5 ⊥ @ Au 0.20; Ag 10.0; Pb 8.0; Zn 6.0 (55° (?))
Vol-Ton factor = 10. c.f./ton.

E - BLOCK :

Avg. Normal Width = 2.5'; Equiv. Avg. Horiz. Width = 3.2'
(and probably wider!)

L.V.P. Area = 150' x 60' = 9000 □'

Net L.V.P. Tons = $\frac{9000 \times 3.2'}{10}$ = 2900 Tons @ Au 0.20 Ag 10.0 Pb 8.0 Zn 6.0

AT a 3.5' min. normal mining width,

Vol-Dilution Factor = $\frac{3.5}{2.5} - 1. = 40\%$

Weight-Dil. Factor = $\frac{10}{12.3} \times 40\% = 32.6\%$, say 30%

Grade-Dil. Factor = $\frac{1}{1.3} = 77\%$, say 80% w.sp.w.r. mineln

Gross Tons @ 3.5' min. mining width = 2900 x 1.3 = 3770 Tons.

BLOCK-E = 3770 Tons @ Au 0.16 oz./ton; Ag 8.0 g/ton; Pb 6.4%; Zn 4.8%

SCRANTON. - ORE BLOCK CALCULATIONS.

"INDICATED" ORE

SUNRISE BASIN SECTION

BLOCK-C = 28,240 sq.ft. x 6.3' @ Au, 0.03 oz/ton; Ag, 6.9 oz/ton; Pb, 5.5%; Zn, 1.9%

assume vol-tonnage factor = 11 cu ft/ton

Note: No Vol. or Weight-Dil'n allowances warranted by reason of poor core recovery of bundy Pb/Zn/Fe in Qz.

	Au	Ag	Pb	Zn
BLOCK C - 16,000 Tons @	0.03 oz/ton,	6.9 g/ton;	5.5%	1.9%

S.W. SUNRISE SECTION

BLOCK-D

Per 1971 Calculations (area x dip-length x avg. normal width)

Avg 'normal' width = 2.3', vol-tonnage factor = 10 c.f.t. (rev. 1971)

Dip-Projected area = 56,562 sq. ft.

Net Vol. @ 2.3' normal width = 56,562 x 2.3 = 130,000 cu ft.

	Au	Ag	Pb	Zn
Net Tons, No Dil'n = 13,000 Tons @	0.092	3.27	9.1%	5.1%

On 60° avg. dip & firm walls, estim. min. mining width = 3.5'

Vol-Dilution Factor = $\frac{3.5}{2.3} - 1 = 52$, say 50%.

Weight-Dilution Factor = $\frac{10}{p.3} \times 50\% = 40.6$, say 40%

Grade-Dilution Factor = $\frac{1}{1.4} = 71.3\%$

Allowing 30% for waste/pillar & consequent up-grading

Estim. resulting Grade-Dil. factor = 80%.

Gross Tons. = 13,000 x 1.4 = 18,200 Tons.

Net Tons excl waste/pillar area @ 30% = 18,200 x 70% = 12,700 Tons

BLOCK-D @ 80% non-dil grade

= 12,700 Tons @ Au, 0.074 oz/ton; Ag, 2.6 g/ton; Pb, 7.3%; Zn, 4.1%

SCRANTON - ORE BLOCK CALCULATIONS

CLASS-A INFERRED ORE.

WEST SUNSET & SUNRISE BASIN SECTIONS (BLOCKS I, J, L, F)
COMPUTED ON SAME BASIS AS ADJOINING INDICATED ORE BLOCKS,
I.E. AS DIRECT EXTENSIONS OF SIMILAR WIDTH & GRADE:

BLOCK I:

Ratio of areas $\frac{\text{BLOCK I}}{\text{BLOCK A-2}} = \frac{10,680}{11,500} = 0.926$

BLOCK I = 0.926 x 2975
= 2760 tons @ Au 0.22 oz/ton; Ag 5.8 oz/ton; Pb 6.9%; Zn 7.0%

BLOCK J:

Ratio of areas $\frac{\text{Block J}}{\text{Block B-1}} = \frac{8500}{7200} = 1.18$

BLOCK J = 1.18 x 2240 tons
= 2640 tons @ Au 0.3 oz/ton; Ag 4.5 oz/ton; Pb 4.5%; Zn 4.5%

BLOCK L:

Ratio of areas $\frac{\text{Block L}}{\text{Block A-3}} = \frac{6,000}{7350} = 0.82.$

BLOCK L = 0.82 x 3000 tons
= 2460 tons @ Au 0.125 oz/ton; Ag 6.1 oz/ton; Pb 6.2%, Zn 5.1%

BLOCK F.:

Ratio of areas $\frac{\text{Block F}}{\text{Block C}} = \frac{30400}{28,240} = 1.075$ - reduce to 1.0

BLOCK F = 16,000 tons @ Au 0.03 oz/ton; Ag 6.9 oz/ton; Pb 5.5%; Zn 1.9%

GEOLOGICALLY-INFERRED ORE (INCL. 1971 CLASS B)

Delete computation of specific blocks G, H, & K. and estimate as the balance of possible ore reserves within the favoured S.W half of the lode remaining after the total tonnage of Indicated + Class-A Inferred ore blocks are deducted from *20% of $\frac{\text{Gross S.W lode area} \times 4.0'}{10}$ the limits of this segment being the surface, 5600-horizon, and the S.W. boundary of the property.

(* Avg. 25% Surf - 6040 and 15% for 6040 - 5600 = 20%)