

1) frequency diagram of blasthole assays. (Figure 1)
(bimodal)

$$\bar{X} = 4.77$$

$$S = 1.42$$

$$n = 1098$$

modes @ 3.0 & 5.5

002085

2) tonnage & grade block comparison (1973 Tonnage & Grade Estimate)

$$\text{tons predicted} = 1,321,523$$

$$\text{tons mined} = 1,422,739$$

$$\text{weighted average grade predicted} \quad \bar{X} = 4.85$$

$$S = 1.44$$

$$\text{weighted average grade mined} \quad \bar{X} = 4.72$$

$$S = 0.86$$

$$Pb(p) - Pb(m)$$

$$\bar{X} = +0.13$$

$$t_{17} = \frac{0.13}{1.32/\sqrt{178}} = 0.42$$

$$S = 1.32$$

accept H_0 that $\Sigma Pb(p) - Pb(m) = 0$

3) tonnage & grade block comparison (lead smoothed by ellipses)

Pb (predicted)

$$\bar{X} = 4.69$$

$$S = 0.81$$

Pb (mined)

$$\bar{X} = 4.72$$

$$S = 0.86$$

$Pb(p) - Pb(m)$

$$\bar{X} = -0.03$$

$$S = S$$

Pb distributions for 1973
 3830, ~~3840~~ & 3910 benches.

3830	BL	TONS (p)	PB (p)	PB (m)	PB (p) - PB (m)	TONS (m)
	66-44	56,769	5.3	4.1	1.2	
	66-32	55,591	2.4	4.5	-2.1	
	65-11	113,773	7.3	5.1	2.2	
	70-06	37,872	4.0	5.0	-1.0	
	70-05	33,280	4.3	3.8	0.5	
	70-01	10,836	3.0	3.3	-0.3	
	70-16	74,222	6.8	3.6	3.2	
	65-04	27,325	4.0	3.0	1.0	
	70-02	78,205	1.8	2.9	-1.1	
	70-03	11,307	3.2	3.0	0.2	
	70-09	16,018	1.5	4.4	-2.9	
	65-57	188,444	4.3	5.2	-0.3	
	66-15	140,197	4.0	4.6	-0.6	
	70-14	107,414	4.9	5.4	-0.5	
	66-23	57,947	6.4	5.6	0.8	weighted averages
	65-08	15,076	6.3	5.9	0.4	4.85 4.72 +0.13
	72-03	167,951	5.1	5.6	-0.5	S=1.44 S=0.86 1.32
	66-08	48,996	5.6	5.8	-0.2	

Adjusted Pb distributions for 1973 (3830 Bench)

BLOCK	TONS (p)	ADJUSTED * Pb (p)	Pb (m)	Pb (p) - Pb (m)
66-44	56,769	6.1	4.1	+2.0
66-32	55,591	4.2	4.5	-0.3
65-11	113,773	5.9	5.1	+0.8
70-06	37,872	4.6	5.0	-0.4
70-05	93,280	4.4	3.8	+0.6
70-01	10,836	3.5	3.3	+0.2
70-16	94,222	4.3	3.6	+0.7
70-02	78,205	3.2	2.9	+0.3
70-03	11,307	3.9	3.0	+0.9
70-09	16,018	2.3	4.4	-2.1
65-5A	188,444	4.1	5.2	-1.1
66-15	140,497	4.4	4.6	-0.2
70-14	107,414	5.4	5.4	0.0
66-23	57,947	5.4	5.6	-0.2
65-08	15,076	5.8	5.9	-0.1
72-03	167,951	5.3	5.6	-0.3
66-08	48,996	4.6	5.8	-1.2
65-04	27,325	3.8	3.0	+0.8

1,321,523

4.69

4.72

S = 0.81

S = 0.86

$\bar{x} = -0.03$

n = 18

S = 0.78

weighted averages

straight averages

$\bar{x} = 4.51$

S = 1.01

$\bar{x} = 4.49$

S = 1.03

$\bar{x} = 0.02$

S = 0.93

* smoothed by ellipses.

$$t = \frac{-0.03}{0.78/\sqrt{18}} = 0.16$$

accept H_0 that $Pb(p) - Pb(m) = 0$