3830 : RATIO ($^{Pb}/_{Zn}$)

RED → TOTAL OF 3830, 3870 & 3910

0 — 7 + 8 = 15

.35 — 14 + 41 = 55

.45 — 47 + 93 = 140

.55 — 138 + 113 = 251

.65 — 151 + 102 = 253

.75 — 257 + 113 = 370

.85 — 289 + 125 = 414

.95 — 184 + 95 = 279

1.05 — 47 + 48 = 95

1.15 — 9 + 15 = 24

1.25 — 3 + 4 = 7

1.35 — 2 + 3 = 5

1.45

1.55

1.65

1.75 — 2

1.85 — 3

1

$\bar{X}$ & s for Ratio

Cell Midpoint	f	d	fd	fd^2
1.4	5	+5	25	125
1.3	7	+4	28	112
1.2	24	+3	72	216
1.1	95	+2	190	380
1.0	279	+1	279	279
0.9	414	0	0	0
0.8	370	-1	-370	370
0.7	253	-2	-506	1012
0.6	251	-3	-753	2259
0.5	140	-4	-560	2240
0.4	55	-5	-275	1375
0.3	15	-6	-90	540
	$\Sigma f = 1908$		$\Sigma fd = -1960$	$\Sigma fd^2 = 8908$

$$\bar{X} = A + \frac{i \Sigma fd}{n}$$

$$= .9 + \frac{.1(-1960)}{1908}$$

$$= .9 + (-.102)$$

$$= .9 - .1$$

$$\therefore \bar{X} = .8$$

$$s = i\sqrt{\frac{n\Sigma fd^2 - (\Sigma fd)^2}{n(n-1)}}$$

$$= .1\sqrt{\frac{1908(8908) - (-1960)^2}{1908(1907)}}$$

$$= .1\sqrt{\frac{16,996,464 - 3,841,600}{3638,556}}$$

$$= .1\sqrt{3.615}$$

$$= .1(1.90)$$

$$s = .19$$

3&2C + 3&1C

.35 8

.45 41

.55 93

.65 113

.75 102

.85 113

.95 125

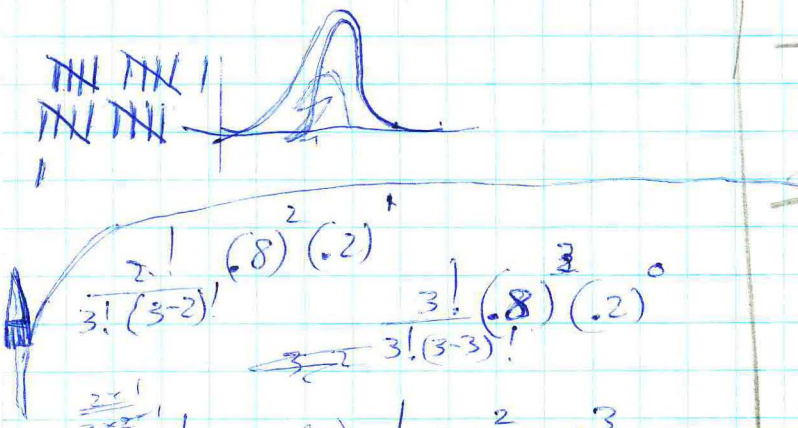
1.05

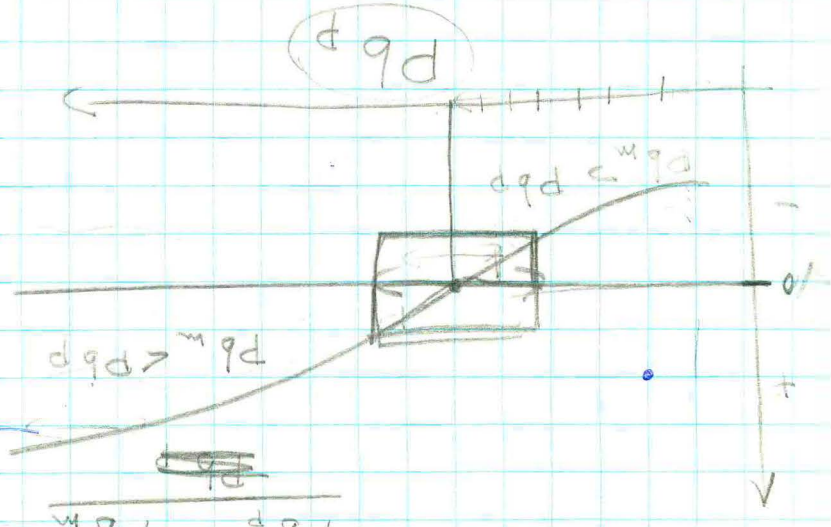
1.15 45

1.25 15

1.35 4

1.45 3





$$\frac{2!}{3!(3-2)!}(.8)^2(.2)^1 \qquad \frac{3!}{3!(3-3)!}(.8)^3(.2)^0$$

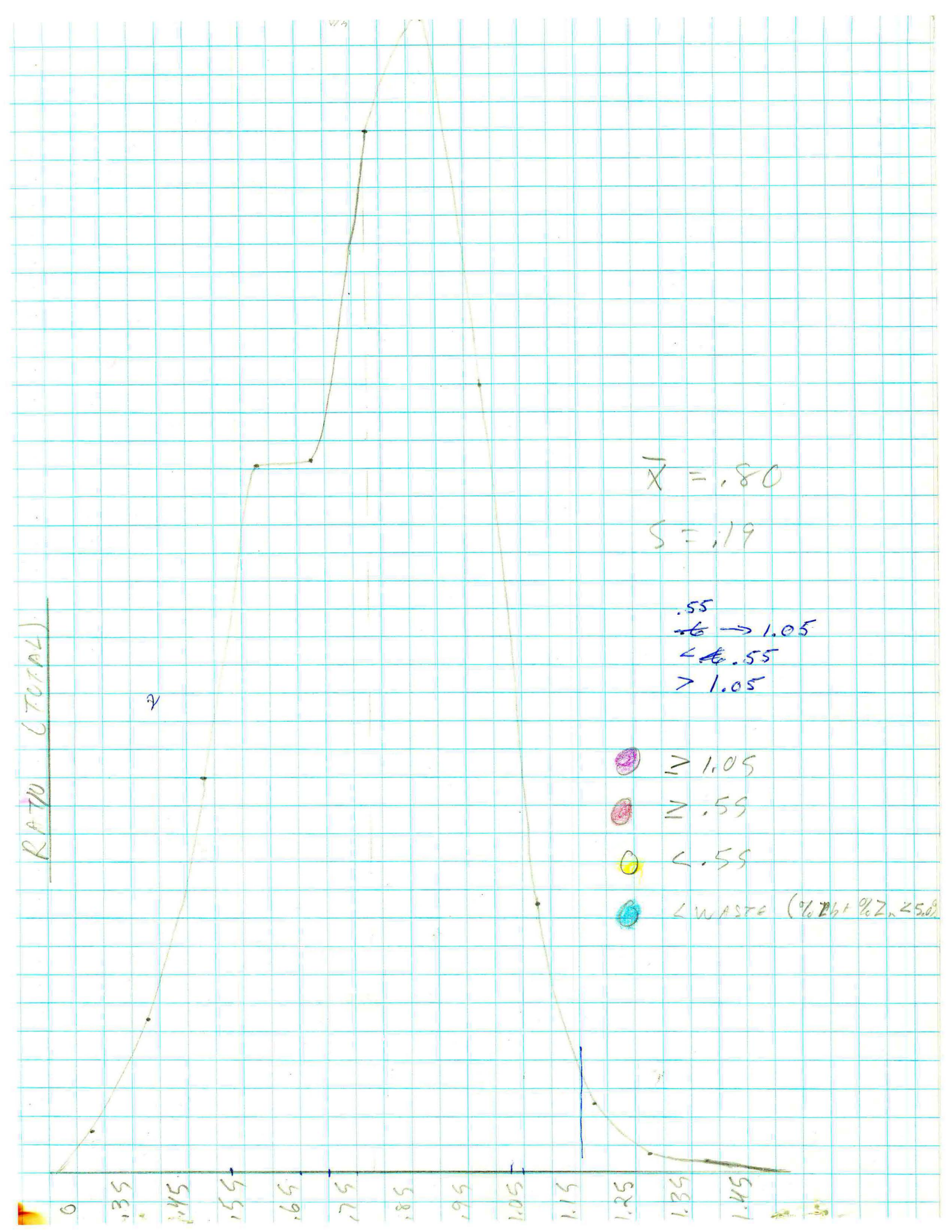
$$\frac{3!}{3!(3-3)!} \qquad \frac{2!}{3!(3-2)!}(.2)^2(.8)^3$$

$$\frac{2!}{3!(3-2)!}(.8)^1(.2)^2 \qquad .64$$

$$3(.8)^3 \qquad \frac{3!}{2!(3-2)!}\times(.8)^2(.2)^1$$

$$\frac{3\times2\times1}{2\times1\times1}$$

$$\frac{2}{3\times2\times1=3}(.2)^3(.8)$$


RATIO (TOTAL)
$\bar{X}$ = .80
S = .19
.55
.6 → 1.05
< .6 .55
> 1.05
≥ 1.05
≥ .55
< .55
< WASTE (%Zn + %Z... < 5.0)
0
.35
.45
.55
.65
.75
.85
.95
1.05
1.15
1.25
1.35
1.45