Barrel Fillers Plain
1929

$55 - \frac{2}{26}$ 6

No information 1

$$Nu_1 = \frac{54}{26} = 2.076923$$

$$Nu_2 = \frac{192}{26} = 7.384615$$

$$(Nu_1)^2 = 4.313609$$

$$Pi_2 = 7.384615 - 4.313609$$

$$Sigma = 1.752429 \times 5 = 8.76$$

$$P.E._{sig.} = \frac{.67449 \times 8.762145}{\sqrt{52}}$$

$$= \frac{5.909979}{7.211102}$$

$$= \pm .819567$$

$$mean = 2.076923 \times 5 + 27.5$$

$$= 37.884615 \text{ years}$$

$$P.E._m = \frac{5.909979}{\sqrt{26}}$$

$$= \frac{5.909979}{5.099000}$$

$$= \pm 1.159046$$

mean = 37.885 ± 1.159 year

S.D. = 8.762 ± .820 years

$\frac{1}{27}$ 6

$$Nu_1 = \frac{63}{27} = 2.333331$$

$$Nu_2 = \frac{209}{27} = 7.740733$$

$$(Nu_1)^2 = 5.444434$$

$$Pi_2 = 2.296299$$

$$Sigma = 1.515354 \times 15 = 22.730$$

$$P.E._{sig.} = \frac{.67449 \times 22.730310}{\sqrt{54}}$$

$$= \frac{15.331367}{7.349469}$$

$$= \pm 2.086051$$

$$mean = 2.333331 \times 15 + 122.5$$

$$= 157.499965 \text{ lbs.}$$

$$P.E._m = \frac{.67449 \times 22.730310}{\sqrt{27}}$$

$$= \frac{15.331367}{5.196152}$$

$$= \pm 2.950523$$

$$mean = 157.500 \pm 2.951 \text{ lbs.}$$

$$S.D. = 22.730 \pm 2.086 \text{ lbs.}$$

70 - 70.9	4	7	2
71 - 71.9	2	8	1
72 -	3	9	2
	27		13

$$Nu_1 = \frac{131}{27} = 4.851847$$

$$Nu_2 = \frac{815}{27} = 30.185155$$

$$(Nu_1)^2 = 23.540419$$

$$Pi_2 = 4.851846$$

$$Sigma = 2.202691 \times 1 = 2.20269$$

$$P.E._{sig.} = \frac{.67449 \times 2.202691}{\sqrt{54}}$$

$$= \frac{1.485693}{7.349469}$$

$$= \pm .202150$$

$$mean = 4.851847 \times 1 + 63.5$$

$$= 68.351847 \text{ inches}$$

$$P.E._m = \frac{.67449 \times 2.202691}{\sqrt{27}}$$

$$= \frac{1.485693}{5.196152}$$

$$= \pm .285922$$

$$mean = 68.352 \pm .286 \text{ inches}$$

$$S.D. = 2.203 \pm .202 \text{ inches}$$

.05 - .059	5	5	
.06 - .069	3	6	
.07 - .079	5	7	
.08 - .089	1	8	
.09 - .099	3	9	
.10 -	1	10	
	27		

$$Nu_1 = \frac{143}{27} = 5.296296$$

$$Nu_2 = \frac{949}{27} = 35.148148$$

$$(Nu_1)^2 = 28.050751$$

$$Pi_2 = 35.148148 - 28.050751$$

$$= 7.097397 \times .01$$

$$= .071 \text{ mgs.}$$

$$P.E._{sig.} = \frac{.67449 \times .071}{\sqrt{54}}$$

$$= \frac{.048}{7.348}$$

$$= \pm .007$$

Wide variability. S. D. greater than the mean. Mean stable in spite of variability.

$$\text{mean} = 5.296296 \times .01 + .005$$

$$= .058 \text{ mgs. per liter ur}$$

$$P.E._m = \frac{.67449 \times .071}{\sqrt{27}}$$

$$= \frac{.048}{5.196}$$

$$= \pm .009$$

$$\text{mean} = .058 \pm .009 \text{ mgs. Pb pe}$$

$$S.D. = .071 \pm .007 \text{ mgs.}$$

.20 - .259 $\frac{1}{27}$ 5

$Nu_1 = \frac{67}{27} = 2.481479$

$Nu_2 = \frac{209}{27} = 7.740733$

$(Nu_1)^2 = 6.157738$

$Pi_2 = 1.582995$

Sigma = 1.258171 x .04 =

$P.E._{sig.} = \frac{.67449 \times .050327}{\sqrt{54}}$

$= \frac{.033945}{7.349469}$

$= \pm .004619$

mean = 2.481479 x .04 +

= .119259 mgs. Pb

$P.E._m = \frac{.67449 \times .050327}{\sqrt{27}}$

$= \frac{.033945}{5.196152}$

$= \pm .006533$

mean = .119 ± .007 mgs.

S.D. = .050 ± .005 mgs.

.20 - .239	1	5
.24 - .279	1	6
.28 - .319	0	7
.32 - .359	1	8
.36 - .399	0	9
.40 - .439	2	10
	27	

$$Nu_1 = \frac{79}{27} = 2.925925$$

$$Nu_2 = \frac{421}{27} = 15.592592$$

$$(Nu_1)^2 = 8.561037$$

$$Pi_2 = 15.592592 - 8.561$$

$$= 7.031555$$

$$Sigma = 2.651707 \times .04 =$$

$$P.E._{sig.} = \frac{.67449 \times .106}{\sqrt{54}}$$

$$= \frac{.071}{7.348}$$

$$= \pm .009$$

$$mean = 2.925925 \times .04 +$$

$$= .137 \text{ mgs. Pb per}$$

$$P.E._m = \frac{.67449 \times .071}{\sqrt{27}}$$

$$= \frac{.071}{5.196}$$

$$= \pm .014$$

$$mean = .137 \pm .014 \text{ mgs.}$$

$$S.D. = .106 \pm .009 \text{ mgs.}$$

.96 - 1.11	1	6
1.12 -	3	7
	27	

$$Nu_1 = \frac{66}{27} = 2.444442$$

$$Nu_2 = \frac{298}{27} = 11.037026$$

$$(Nu_1)^2 = 5.975297$$

$$Pi_2 = 5.061729$$

$$Sigma = 2.249829 \times .16 =$$

$$P.E._{sig.} = \frac{.67449 \times .359973}{\sqrt{54}}$$

$$= \frac{.242798}{7.349469}$$

$$= \pm .033036$$

$$mean = 2.444442 \times .16 +$$

$$= .471111 \text{ mgs. Pb}$$

$$P.E._{m} = \frac{.67449 \times .359973}{\sqrt{27}}$$

$$= \frac{.242798}{5.196152}$$

$$= \pm .046727$$

$$mean = .471 \pm .047 \text{ mgs.}$$

$$S.D. = .360 \pm .033 \text{ mgs.}$$

80 - 85	4	5
84 -	1	6
	26	

No information 1

$$Nu_1 = \frac{59}{26} = 2.269231$$

$$Nu_2 = \frac{213}{26} = 8.192308$$

$$(Nu_1)^2 = 5.149409$$

$$Pi_2 = 3.042899$$

$$Sigma = 1.744391 \times 4 = 6.$$

$$P.E._{sig.} = \frac{.67449 \times 6.977564}{\sqrt{52}}$$

$$= \frac{4.706297}{7.211102}$$

$$= \pm .652646$$

$$mean = 2.269231 \times 4 + 62$$

$$= 71.076921$$

$$P.E._{m} = \frac{.67449 \times 6.977564}{\sqrt{26}}$$

$$= \frac{4.706297}{5.099019}$$

$$= \pm .922981$$

mean = 71.077 ± .923% Hae

S.D. = 6.978 ± .653% Haer

110 - 119	2	5
120 - 129	0	6
130 -	1	7
	23	

No information 4

$$Nu_1 = \frac{60}{23} = 2.608696$$

$$Nu_2 = \frac{240}{23} = 10.434782$$

$$(Nu_1)^2 = 6.805295$$

$$Pi_2 = 3.629487$$

$$Sigma = 1.905121 \times 10 = 1$$

$$P.E._{sig.} = \frac{.67449 \times 19.0512}{\sqrt{46}}$$

$$= \frac{12.849851}{6.782330}$$

$$= \pm 1.894607$$

$$mean = 2.608696 \times 10 + 6$$

$$= 91.086960 \text{ Dynam.}$$

$$P.E._m = \frac{.67449 \times 19.0512}{\sqrt{23}}$$

$$= \frac{12.849851}{4.795831}$$

$$= \pm 2.679379$$

$$mean = 91.087 \pm 2.679 \text{ Dy}$$

$$S.D. = 19.051 \pm 1.895 \text{ Dy}$$

110 - 119	5	6
120 - 129	3	7
130 - 139	1	8
140 -	1	9
	23	

No information 4

$$Nu_1 = \frac{108}{23} = 4.695652$$

$$Nu_2 = \frac{632}{23} = 27.478268$$

$$(Nu_1)^2 = 22.049148$$

$$Pi_2 = 5.429120$$

$$Sigma = 2.330047 \times 10 = 2$$

$$P.E._{sig.} = \frac{.67449 \times 23.30047}{\sqrt{46}}$$

$$= \frac{15.715934}{6.782329}$$

$$= \pm 2.317188$$

$$mean = 4.695652 \times 10 + 5$$

$$= 101.956520$$

$$P.E._m = \frac{.67449 \times 23.30047}{\sqrt{23}}$$

$$= \frac{15.715934}{4.795831}$$

$$= \pm 3.276999$$

$$mean = 101.957 \pm 3.277 D$$

$$S.D. = 23.300 \pm 2.317 D$$

80 - 69 $\frac{2}{27}$ 3

$$Nu_1 = \frac{51}{27} = 1.888887$$

$$Nu_2 = \frac{139}{27} = 5.148143$$

$$(Nu_1)^2 = 3.567894$$

$$Pi_2 = 1.580249$$

Sigma = 1.257080 x 10 = 1

$$P.E._{sig.} = \frac{.67449 \times 12.570800}{\sqrt{54}}$$

$$= \frac{8.478879}{7.349469}$$

$$= \pm 1.153672$$

mean = 1.888887 x 10 + 3

= 53.888870 mms. Hg

$$P.E._m = \frac{.67449 \times 12.570800}{\sqrt{27}}$$

$$= \frac{8.478879}{5.196152}$$

$$= \pm 1.631761$$

mean = 53.889 $\pm$ 1.632 mm

S.D. = 12.571 $\pm$ 1.154 mm

$$\frac{}{27}$$

$$Nu_1 = \frac{52}{27} = 1.925924$$

$$Nu_2 = \frac{150}{27} = 5.555550$$

$$(Nu_1)^2 = 3.709183$$

$$Pi_2 = 1.846367$$

$$Sigma = 1.358811 \times 10 = 1$$

$$P.E._{sig.} = \frac{.67449 \times 13.5881}{\sqrt{54}}$$

$$= \frac{9.165044}{7.349469}$$

$$= \pm 1.247035$$

$$mean = 1.925924 \times 10 + 1$$

$$= 134.259240 \text{ mms. } H$$

$$P.E._m = \frac{.67449 \times 13.5881}{\sqrt{27}}$$

$$= \frac{9.165044}{5.196152}$$

$$= \pm 1.763814$$

$$mean = 134.259 \pm 1.764 \text{ m}$$

$$S.D. = 13.588 \pm 1.247 \text{ mm}$$

$$\frac{55 - 55}{27} = 0$$

$$Nu_1 = \frac{37}{27} = 1.370369$$

$$Nu_2 = \frac{103}{27} = 3.814811$$

$$(Nu_1)^2 = 1.877911$$

$$Pi_2 = 1.936900$$

$$Sigma = 1.391726 \times 5 = 6.$$

$$P.E._{sig.} = \frac{.67449 \times 6.958630}{\sqrt{54}}$$

$$= \frac{4.693526}{7.349469}$$

$$= \pm .638621$$

$$mean = 1.370369 \times 5 + 72$$

$$= 79.351845$$

$$P.E._m = \frac{.67449 \times 6.958630}{\sqrt{27}}$$

$$= \frac{4.693526}{5.196152}$$

$$= \pm .903270$$

mean = 79.352 ± .903 bea

S.D. = 6.959 ± .639 beat

$$Nu_1 = \frac{61}{27} = 2.259257$$

$$Nu_2 = \frac{169}{27} = 6.259253$$

$$(Nu_1)^2 = 5.104242$$

$$Pi_2 = 1.155011$$

$$Sigma = 1.074714 \times .5 = .537$$

$$P.E._{sig.} = \frac{.67449 \times .537357}{\sqrt{54}}$$

$$= \frac{.362442}{7.349469}$$

$$= \pm .0493154$$

$$mean = 2.259257 \times .5 + 97.2$$

$$= 98.379629$$

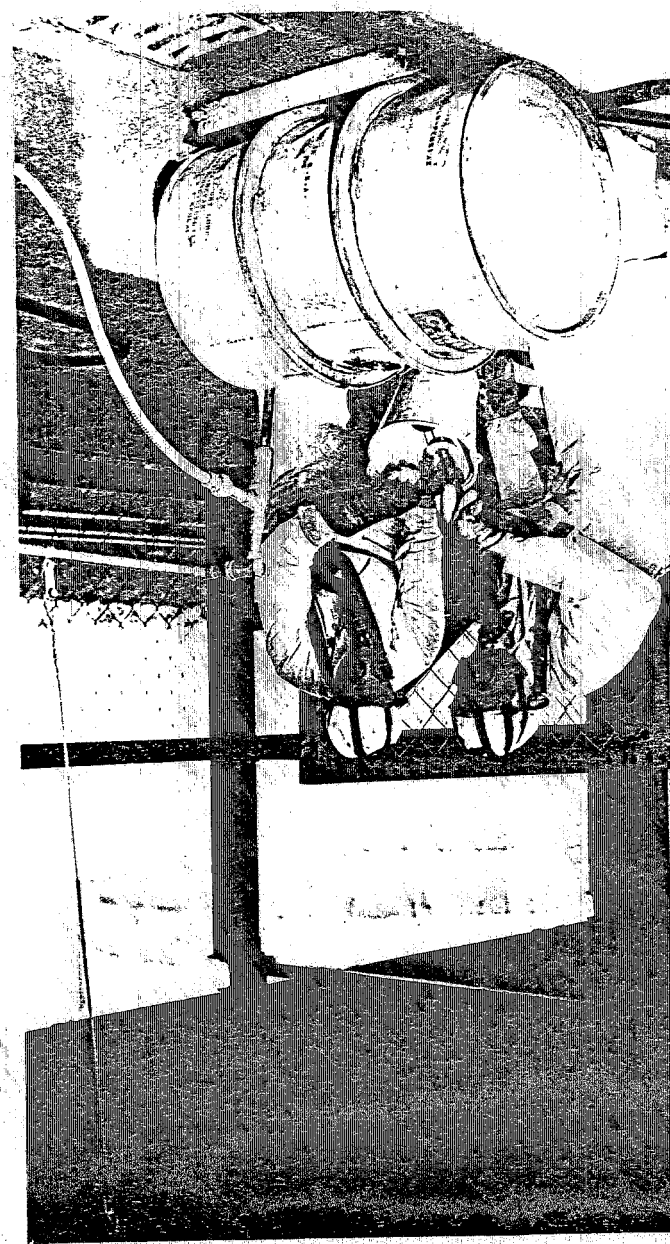
$$P.E._{m} = \frac{.67449 \times .537357}{\sqrt{27}}$$

$$= \frac{.362442}{5.196152}$$

$$= \pm .069752$$

$$mean = 98.380 \pm .074^{\circ} F.$$

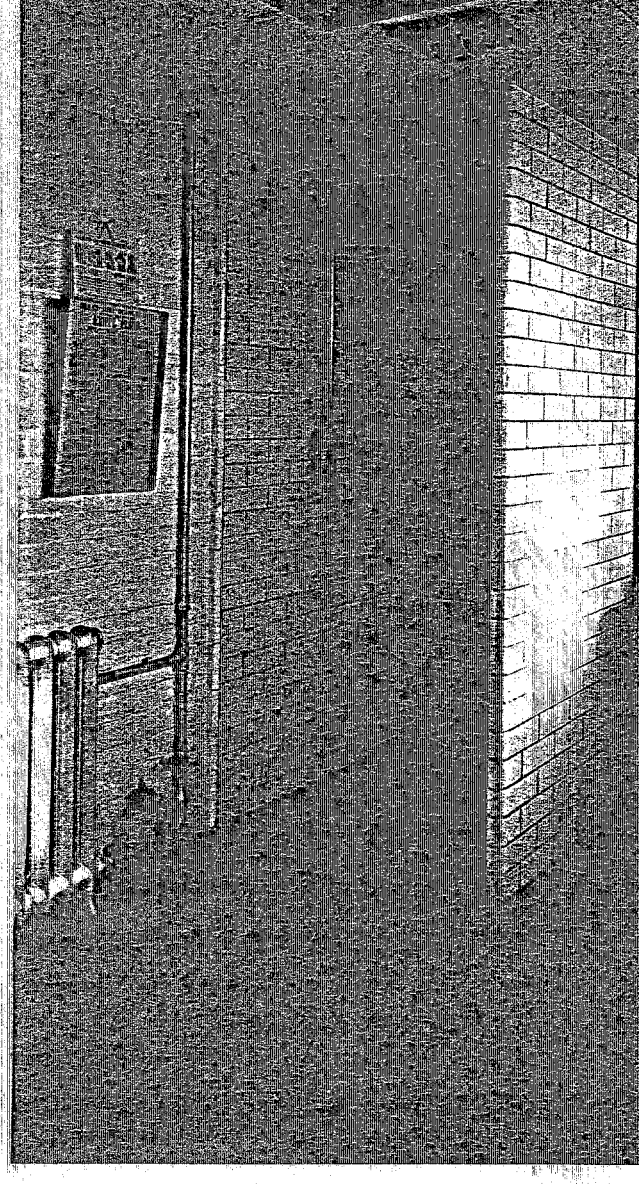
$$S.D. = .537 \pm .049^{\circ} F.$$



KE 0019002

KE 0019003

KE 0019004



KE 0019005

KE 0019006