0.17046

Rough Calculations of Tonnage @ $\rho_o = 4.3$

$\rho_{c.r.} = 2.7$.

$\Sigma \Delta M_{(excess)} = 3838.3 \; \Sigma \Delta g \Delta x \Delta y$ $\quad \Delta g$ in g.u. $\quad \Delta x \Delta y$ in 100's ft.

$\Sigma \Delta M_{(excess)} = 3838.3$ [redacted] $(560) \approx 2.1 \times 10^6$ T

$(960) \approx 3.6 \times 10^6$ T

$\bar{z} = 0.75 \dfrac{\Delta g_{max}}{\Delta g'_{max}} = 750$ ft.

Let $X = 3700$ $Y = \cancel{1600}\ 800$ ($2X, 2Y$ = width, length)

$M_{(excess)} = \left\{ \tan^{-1} \dfrac{3700\,(800)}{750\sqrt{3700^2 + 800^2}} \right\} \Sigma \Delta M = 1.5\,(2.1) \times 10^6 \text{ T} = 3.15 \times 10^6$ T

$(3.6) \times 10^6 \text{ T} = 5.40 \times 10^6$ T

This is excess mass $= (\rho_o - \rho_{c.r.})V$

Ore mass $\doteq \rho_o V = \dfrac{\rho_o}{\rho_o - \rho_{cr}} M_{excess} = \dfrac{4.3}{4.3 - 2.7}$ $(3.15 \times 10^6) = 8.46 \times 10^6$ T

$(5.40 \times 10^6) = 14.5 \times 10^6$ T

Discussion:

① $8\frac{1}{2}$ M.T. is assuming 4.3 background but ceasing calculations at the 5.0 contours; $14\frac{1}{2}$ M.T. results from ceasing calc. @ 4.7.; ≈ 18 M.T. would result from calc. to background area

The reason for different calc. is due to the fact that much of confusion is on the borders of the anomaly is due to outside disturbance modifying the anomaly in question.

② If this were assumed in modifying the profile (for $\bar{z}$ calc.) then the depth might be decreased to as little as 300 ft. This would tend to slightly decrease the tonnage (by approx 10%)

③ The deep overburden to the N. tends to shadow the anomaly and this consideration might increase tonnage by up to 20%.

④* The slant correction will change by a consideration of what is background.

⑤ Whole damn trouble is background = outside disturbances shadow

P.S. might all be B.S. due to basement effects and overburden.

G. F. Fairley

$\Sigma \Delta M.$

3.00			
48.45			
60.80			
32.50			
126.65			
288.00			
559.40	560 (3838)	=	2,148,280 T
402			
961.40	960 (3838)	=	3,684,480 T

} 2.1 $\times 10^6$ T, 3.6 $\times 10^6$ T excess mass.

$\bar{Z}$ $\quad \bar{Z} = 0.75 \frac{1}{\frac{1}{1000}} = 750$ ft.

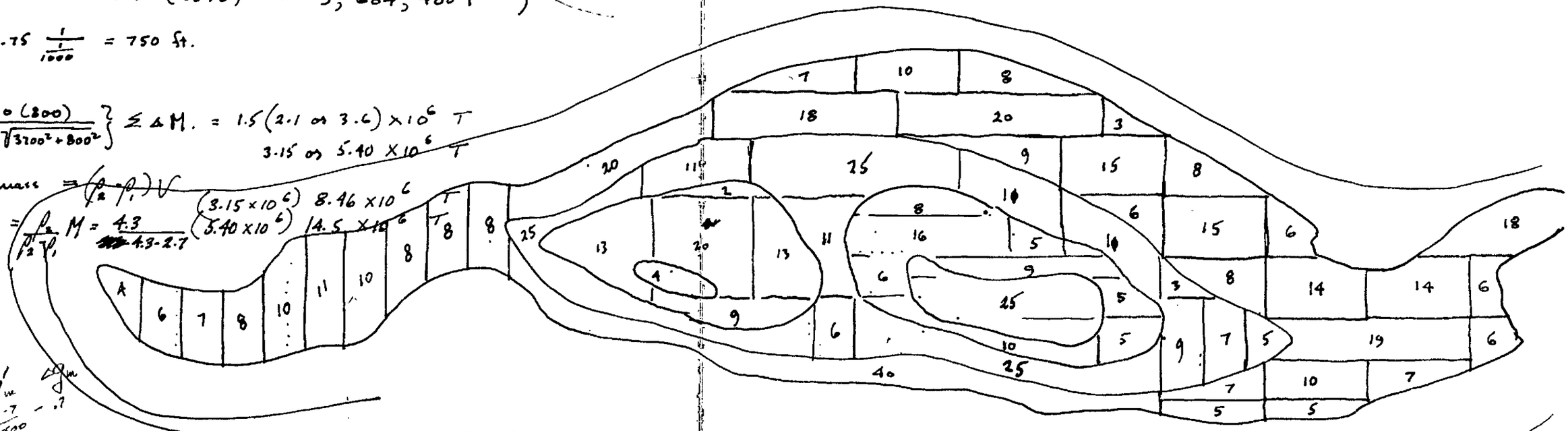
$M = \left\{ \frac{1}{\tan^{-1} \frac{3700(800)}{750\sqrt{3700^2+800^2}}} \right\} \Sigma \Delta M. = 1.5(2.1 \text{ or } 3.6) \times 10^6 \text{ T}$

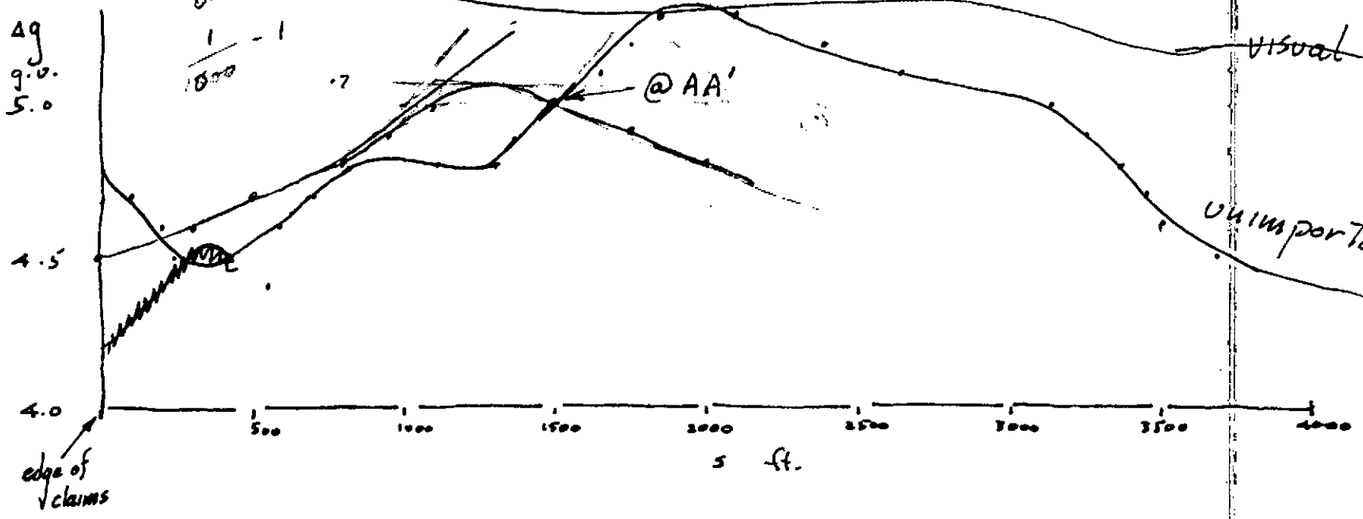
3.15 or 5.40×10^6 T

This is excess mass $= (\rho_2 - \rho_1)V$

Ore mass $= \rho_2 V = \frac{\rho_2}{\rho_2 - \rho_1} M = \frac{4.3}{4.3-2.7} (3.15 \times 10^6) \; 8.46 \times 10^6$ T

$(5.40 \times 10^6) \; 14.5 \times 10^6$ T





Visual Smoothing 4.7

Unimportant, though much above assumed background.