

Waagrechter Wasserdruck

$$\underline{W_{Hu} = 12,40 \cdot 2,13^2 \cdot \frac{1}{2} = 28,1 \text{ t}}$$

$$\underline{e = \frac{2,13}{3} = 0,71 \text{ m}}$$

$$\text{Drehpunktstand: } e - (0,50 - 0,13) = 0,34 \text{ m (s. S. 3 und 11)}$$

	<u>Auflast</u>	x_s	$A \cdot x_s$
2	$A_2 = 12,4 \cdot 0,09 \cdot 1,89 = 2,11$	0,945	2,00
3	$A_3 = 12,4 \cdot 1,62 \cdot 0,85 = 17,70$	0,44	7,79
4	$A_4 = 12,4 \cdot \frac{1}{2} \cdot 1,62 \cdot 1,01 = 10,15$	1,215	12,33
5	$A_5 = 12,4 \cdot 1,92 \cdot \frac{2}{3} \cdot 0,215 = 4,36$	1,475	6,44
6	$A_6 = 12,4 \cdot \frac{1}{2} \cdot 0,42 \cdot 0,88 = 2,30$	0,29	0,67
	<u>$A = 36,62$</u>		<u>29,23</u>

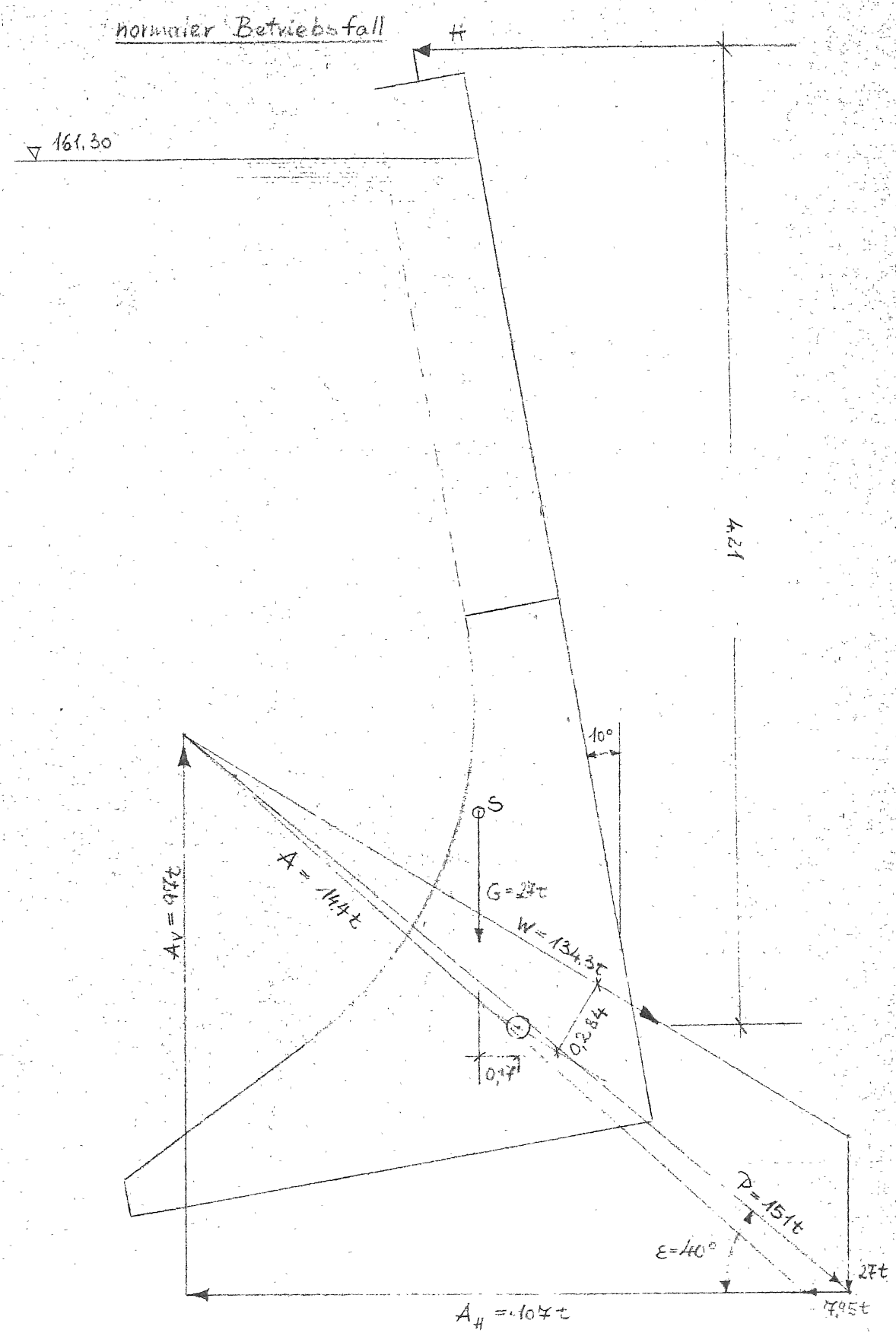
$$\underline{x_s = \frac{29,23}{36,62} = 0,80 \text{ m}}$$

$$\text{Drehpunktstand } 1,80 - x_s = 1,00 \text{ m (s. Seite 3)}$$

$$\begin{aligned} H_{4,22} &= 137 \cdot 0,226 + 36,62 \cdot 1,00 - 28,1 \cdot 0,34 \\ &= 31,0 + 36,62 - 9,57 = 58,05 \text{ m} \end{aligned}$$

$$\underline{H = \frac{58,05}{4,22} = 13,7 \text{ t}}$$

c) Torstellung: $\alpha = 10^\circ$, Oberwasser: 161.30m, Unterwasser: 155.15m



$$H \cdot 4.21 = 134.3 \cdot 0.284 - 27 \cdot 0.17$$

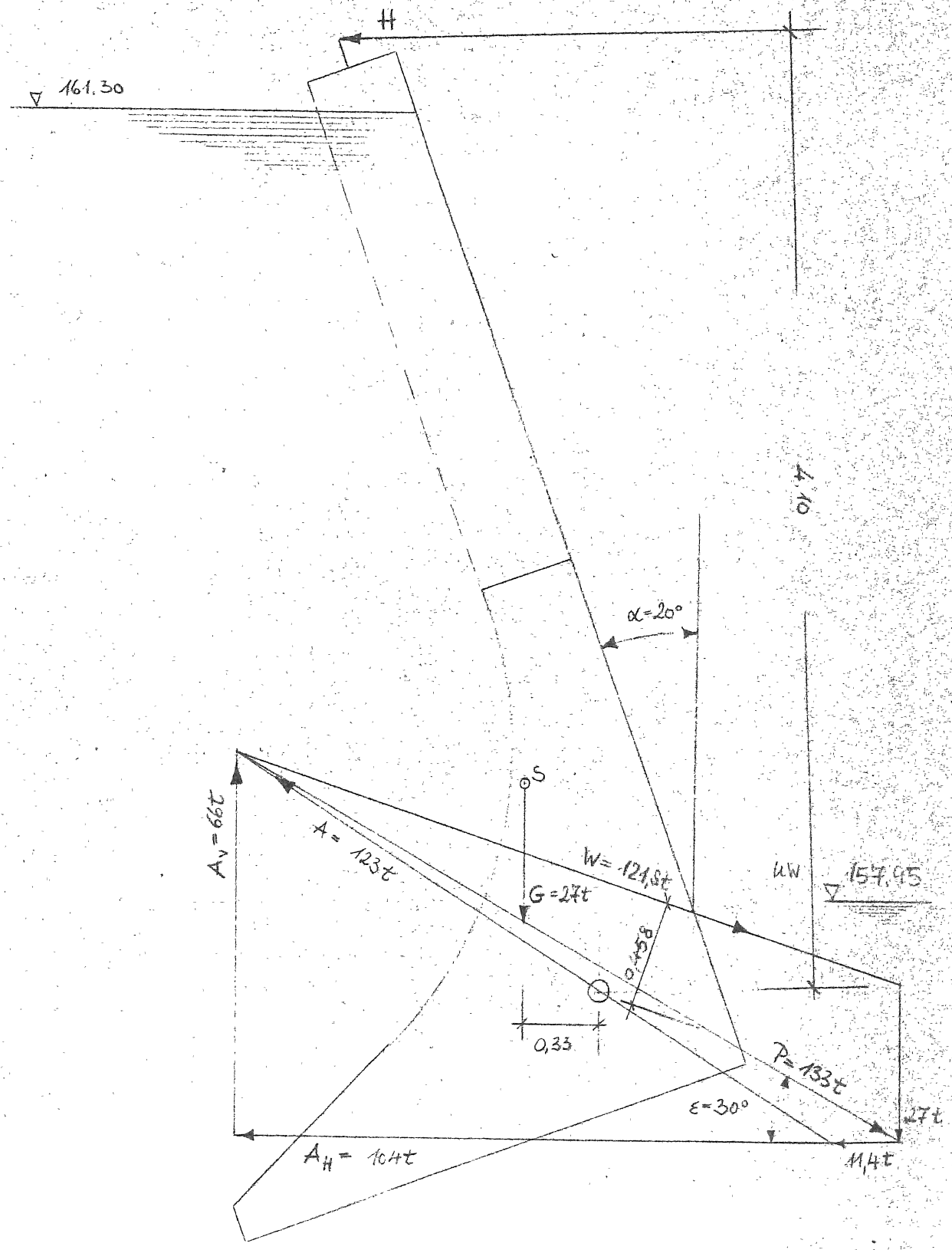
$$H = \frac{38.1 - 4.59}{4.21} = \frac{33.51}{4.21}$$

$$H = 7.95t$$

155.15

d) Torstellung: $\alpha = 20^\circ$, Oberwasser: 161.30 m, Unterwasser: 157.95

normaler Betriebsfall



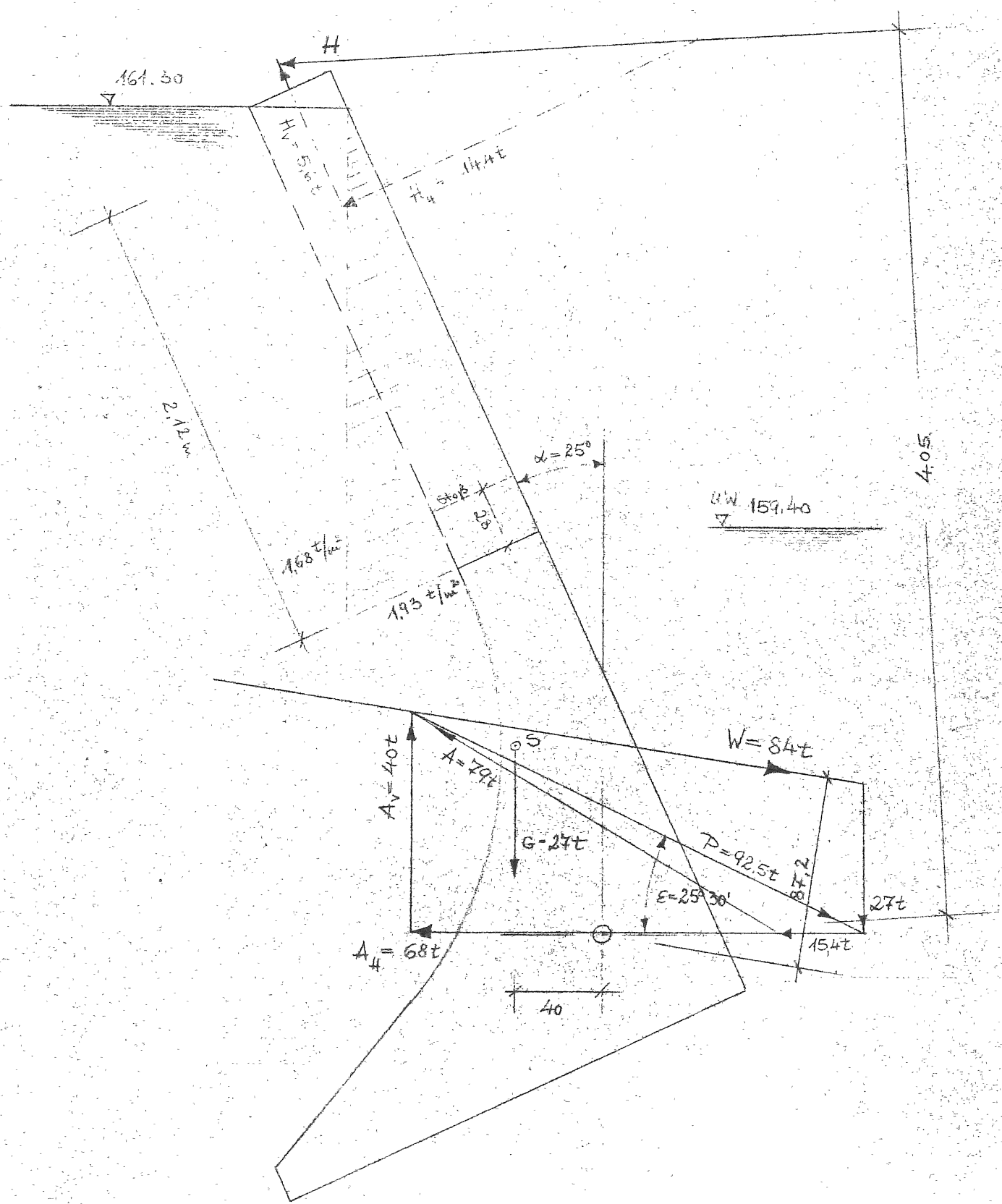
$$H \cdot 4.10 = 121.8 \cdot 0.458 - 27 \cdot 0.33$$

$$H = \frac{55.7 - 8.9}{4.10} = \frac{46.8}{4.10}$$

$$H = 11.4t$$

e) Torstellung: $\alpha = 25^\circ$, Oberwasser: 161.30m, Unterwasser: 159.40m

normaler Betriebsfall



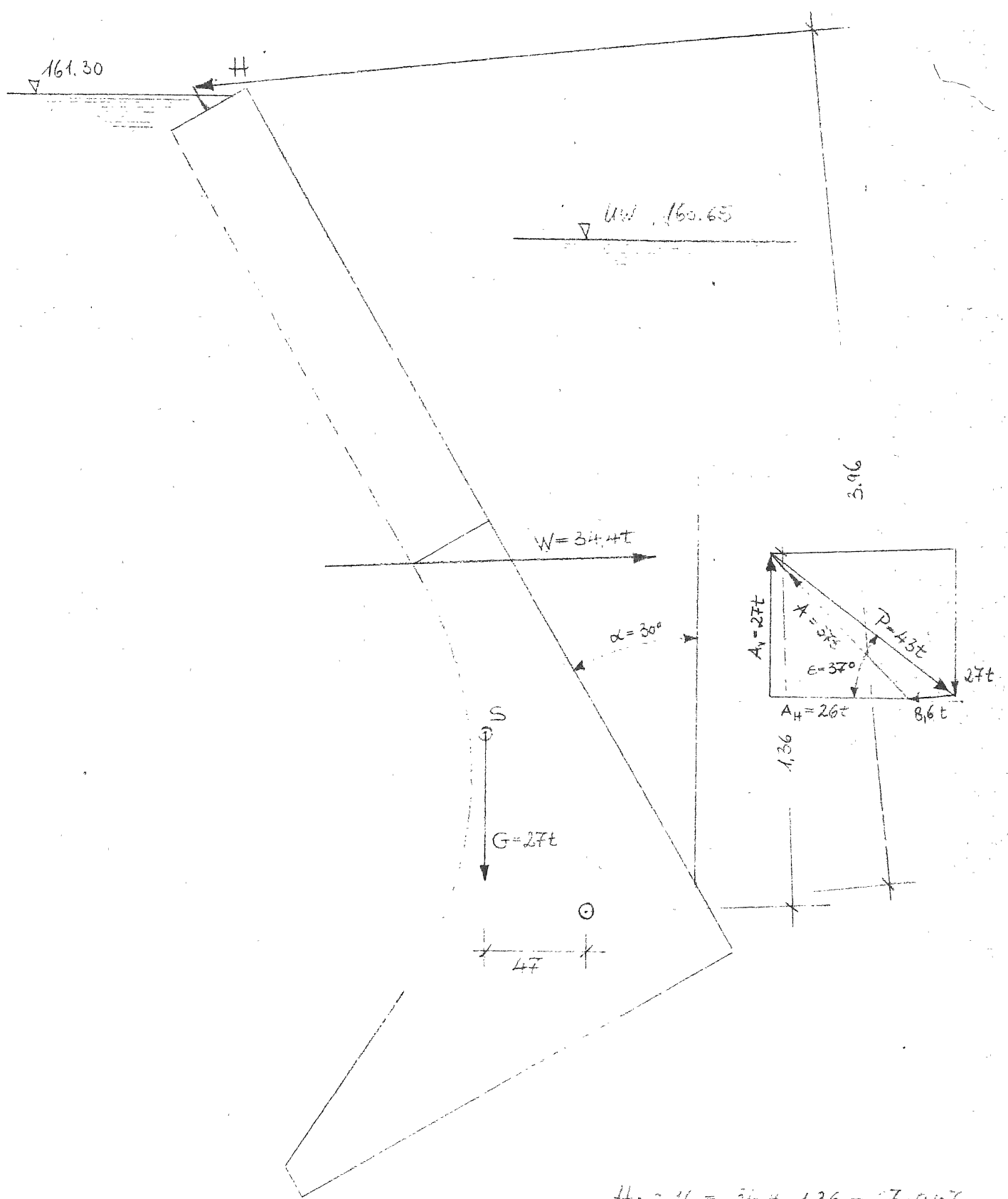
$$H \cdot 4.05 = 84 \cdot 0.872 - 27 \cdot 0.40$$

$$H = \frac{73.2 - 10.8}{4.05} = \frac{62.4}{4.05}$$

$$\underline{H = 15.4 \text{ t}}$$

f) Torstellung: $\alpha = 30^\circ$, Oberwasser: 161.30 m, Unterwasser: 160.65 m

normaler Betriebsfall



$$H \cdot 3,16 = 34 \cdot 1,36 - 27 \cdot 0,47$$

$$H = \frac{46,7 - 12,7}{3,16} = \frac{34,0}{3,16}$$

$$H = 8,6 \text{ t}$$