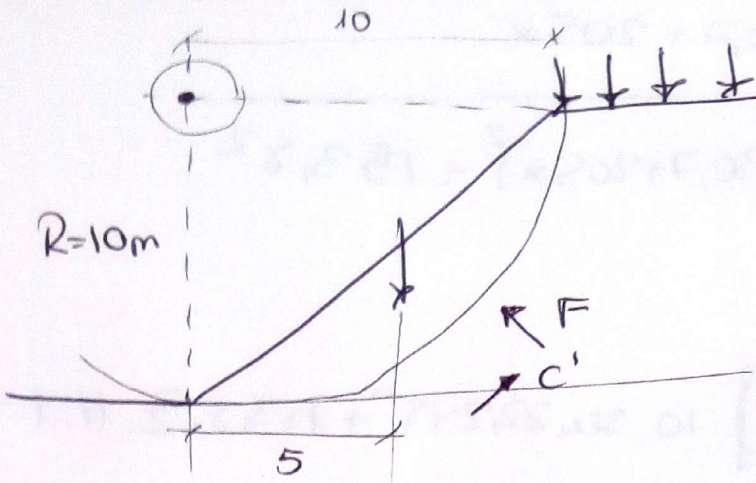


ESTABILIDAD DE TALUDES

ANA LOPEZ NAVARRO



$c' = 20 \text{ kN/m}^2$
 $\phi = 28^\circ$
 $\gamma_{ap} = 17 \text{ kN/m}^3$
 $FS = 1,3$

$\Sigma \Pi_{res} = \Sigma \Pi_{mov.}$

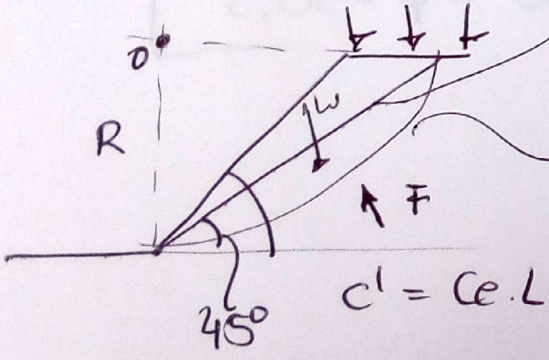
$\gamma_{ap} = 17 \text{ kN/m}^3$
 $c' = 20 \text{ kN/m}^2$
 $\phi = 28^\circ$
 $FS = FS_c = FS_\phi$

$\phi_e = \text{arctg} \frac{\text{tg} \phi}{FS} = \text{arctg} \frac{\text{tg} 28^\circ}{1,3} =$

$\phi_e = 22,245^\circ$

$C_e = \frac{c'}{FS} = \frac{20}{1,3} = 15,3 \text{ kN/m}^2$

Círculo de fricción:



$L' = \sqrt{R^2 + R^2} = 10\sqrt{2} = 14,14$

$L = \frac{\pi}{2} \cdot R = 5\pi = 15,7$

$c' = C_e \cdot L$

$\Sigma \Pi_0 = 0$

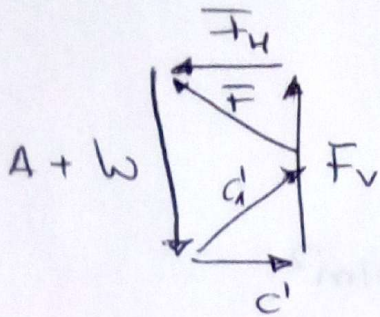
$T = \dots = W \cdot R/2 + 120x \left(\frac{R-x}{2} \right)$

Cartagena99

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$W = (A_1 + A_2) \gamma = (28,5 + 5x) 17$



$$A + W = c' \operatorname{sen} 45 + F_v$$

$$F_v = (W + A) - \operatorname{sen} 45 \cdot c'$$

$$F_v = 330,7 + 205x$$

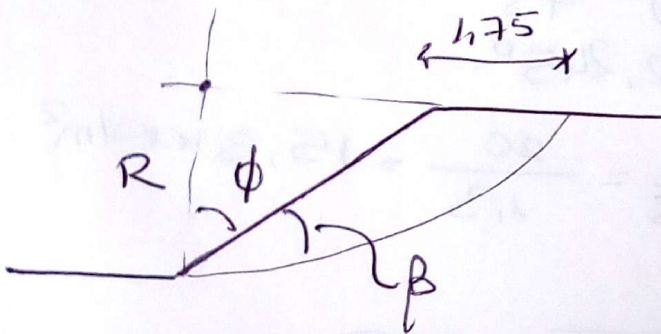
$$\vec{F} = \sqrt{(330,7 + 205x)^2 + 153,8^2}$$

$$F_H = c' \cos 45 = 153,8$$

$$\left[\sqrt{(330,7 + 205x)^2 + 153,8^2} \right] \cdot 10 \cdot \operatorname{sen} 22,245^\circ + 153,8 \sqrt{2} \cdot 11,1 =$$

$$= 3,8 \sqrt{(330,7 + 205x)^2 + 153,8^2} - 11,58 = 1625x - 60x^2$$

$$x = 1,75 \text{ m}$$



$$\phi = \operatorname{arctg} \frac{R_x}{R} = 39,5^\circ$$

$$\boxed{\beta = 90^\circ - \phi = 50,5^\circ}$$

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