

**STANDARD  
CALCULATION  
SHEET**

SUBJECT: Settlement of Final stack

CALC NO.: **FP6KIFFESCD  
X00030020D50004**

REVISION	0	1	2	3
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DATE:	12-08-05			

Page 9  
Of 18

P<sub>0</sub>

$$\begin{aligned} \bar{P}_{0(1)} &= (761.7' - 750') 117.5 \text{pcf} \quad \text{--- Exist. GS @ CPT-5} \\ \text{Elev. 750'} &= \underline{1.38} \text{ ksf} \quad \text{is @ Elev. 761.7'} \end{aligned}$$

$$\begin{aligned} \bar{P}_{0(2)} &= 1.38 \text{ ksf} + (750' - 730') (117.5 \text{pcf} - 62.4 \text{pcf}) \\ \text{Elev. 730'} &= \underline{2.48} \text{ ksf} \end{aligned}$$

Δσ

The stack is a conical mass consisting of a particulate medium that is conservatively assumed to be a cohesionless material, having a friction angle of 36°.

As the subgrade surface settles more below the crest than in the outer areas, arching in the stack material will tend to reduce the pressure on the surface @ Point A and also, cause the pressure to be more or less uniform over the vicinity areas surrounding Point A. This average pressure is estimated considering, conservatively, a cylindrical central area of the stack around its crest, bounded by the inner edge of the bench @ Elev. 740' as shown in Fig's 1 and 3. This pressure, Δp @ the subgrade surface (Elev. 760') is obtained as follows.