



CLIENT NAME: TVA
PROJECT NAME: Kingston - Gypsum Disposal - Peninsula Site

JOB NO.: 51032301

STANDARD
CALCULATION
SHEET

SUBJECT: Settlement of Final stack

CALC NO.: FPGKIFFESC
X00030020050004

REVISION	0	1	2	3
ORIGINATOR:	Y. Shah			
REVIEWER:	F. Wood			
DATE:	12-08-05			

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1. BASIS FOR SETTLEMENT EVALUATION

For the purpose stated on Page 1, the settlement is evaluated herein where it's likely to be maximum, i.e., @ the crest of the stack at Point A as shown in Fig. 3. At the toe area of the stack the settlement will be the least and, hence, for the liner layout purpose, it may be assumed conservatively to be zero. Thus, the maximum required slope of the surface of the liner is then determined as follows:

Required Liner surface slope, i_L

$$= \frac{\text{Subgrade Settlement @ Crest, } S_{\text{max}}}{\text{Min. Horiz. Distance between Crest \& Perm. Drain, } L_{\text{min}}} + 0.005 \text{ (or } 1/2\%)$$

The 1/2% slope is assumed to be required for efficient drainage of leachate that will be collected into the blanket drain system that will drain the collected leachate into Pond No. 1 or Pond No's 1 and 2, depending on the option chosen (See Ref. 2).

The perimeter drain will be located some distance inside the stack from its toe. Thus, the distance L_{min} is assumed to be approximately 750' as shown in Fig. 2.