

INFINITE SLOPE ANALYSES

Restored Ngau Tam Mei Land fill Slope Stability Analysis by Infinite Slope Method

Objective: The objective is to analyze the existing restored Ngau Tam Mei Landfill slopes using the infinite slope method considering both static conditions and dynamic (vibration) conditions during tunnel formation by Tunnel Boring Machine (TBM) and during operations.

Geometry: Refer of the plan view (Figure 1) and cross-section (Figure 2) of the restored Ngau Tam Mei Landfill attached.

Assumptions:

1. The slope is an “infinite slope”.
2. The strength properties of the materials within the slope are summarized in Table 1 (Ref. 1).

Table 1: Summary of Slope Material Properties

Material	Density (kN/m ³)	Cohesion (kPa)	Friction Angle (degrees)
Cover Soil	19	8	36
Waste	14	0	30

3. From the materials presented in Table 1, the “Waste” is more critical, with a lower Friction Angle and no cohesion. Assume the slope is constructed of Waste.
4. The restored landfill slopes can be modeled as:
 - a.) The slope from the landfill toe to the Lower Platform
Height=8m, Slope Inclination (effective) = 4.0 horizontal:1 vertical;
 - b.) The slope from the Lower Platform to the Upper Platform Height=6m,
Slope Inclination (effective) = 2.6 horizontal:1 vertical; and
 - c.) The overall slope, from the landfill toe to the Upper Platform
Height=16m, Slope Inclination (effective) = 4.9 horizontal:1 vertical.
The most conservative is the steepest slope angle: 2.6 horizontal:1 vertical, (21.2°) is selected for consideration.
5. The maximum ground acceleration resulting from construction of the tunnels using TBM and operation of the trains through the tunnels is no greater than that resulting from an earthquake. The design standard for earthquake loading in accordance with the People’s Republic of China guidelines; is $A=0.10g$ (Ref. 3) for the city of Shenzhen (the Ngau Tam Mei Landfill site is located approximately 2.5 km from the boundary with Shenzhen). Note that this is likely very conservative, as the ground-borne vibrations generated by the TBM and train operation are likely considerably less.

Solution: Static Conditions

The Factor of Safety against potential slope failure by the Infinite Slope method is: [Ref. 2 (Page 193)]

$$FS = \frac{\tan\phi}{\tan\alpha}$$

Where: FS = Safety Factor
 ϕ = Friction angle of the waste (proposed soil layer)
 α = Slope angle

Friction angle of the proposed soil layer (waste) is 30° and
the slope angle is 21.2° , hence
 $\phi = 30^\circ$, $\alpha = 21.2^\circ$ therefore;

$$FS = \tan 30^\circ / \tan 21.2^\circ$$
$$FS = 1.5$$

which is a more conservative result than the $FS=1.7$ obtained by more detailed analyses performed by others (Ref 1). Note that, based on the simplified analytical approach of the Infinite Slope method, this result is not unexpected.

Dynamic Conditions

Assume the maximum ground acceleration coefficient is (Ref. 3):

$$A = 0.10g$$

From Ref. 2 (Page 236), the maximum upslope acceleration coefficient for the slope (waste) is given by:

$$A' = \cos\theta \tan\phi - \sin\theta$$

Similarly, the maximum downslope acceleration coefficient for the slope is given by:

$$A' = \cos\theta \tan\phi + \sin\theta$$

Where: A' = acceleration coefficient
 θ = slope angle
 ϕ = friction angle

The friction angle of the proposed soil layer (waste) is 30° and
the slope angle is 21.2° ($\phi = 30^\circ$, $\theta = 21.2^\circ$);

Therefore the maximum up slope acceleration coefficient of the slope is:

$$A' = \cos 21.2^\circ \tan 30^\circ - \sin 21.2^\circ$$
$$\underline{A' = 0.18g}$$

$$0.10g < 0.18g, \text{ O.K.}$$

$A < A'$, therefore the ground surface and the slope will move together without relative displacement.

Similarly, for the maximum downslope acceleration coefficient of the slope:

$$A' = \cos 21.2^\circ \tan 30^\circ + \sin 21.2^\circ$$
$$\underline{A' = 0.90g}$$

0.10g < 0.90g, O.K.

$A < A'$, therefore, the ground surface and the slope will move together without relative displacement.

Conclusion: Based on the Infinite Slope analyses performed, the Factor of Safety of the restored Ngau Tam Mei Landfill slope is 1.5 under static conditions.

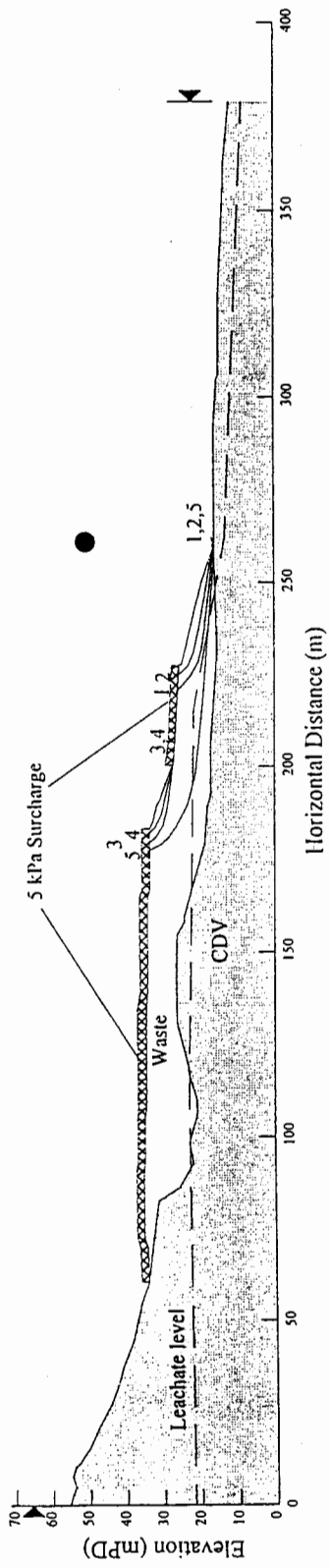
The maximum allowable acceleration coefficients for the slope (considering both up slope (0.18g) and down slope (0.090g) directions) are greater than the assumed maximum ground acceleration coefficient of 0.10g. As a result, the slope and the surrounding ground will move together under the induced vibrations, without relative displacement.

- References:**
1. Binnie Black & Veatch HK Ltd.; "Ngau Tam Mei Formation Design Submission"; Contract No. EP/SP/30/95 – North-West New Territories Landfills and Gin Drinkers Bay Landfill Restoration; NTM/STE/SUB/001/Issue 1, March 1999.
 2. T. William Lambe and Robert V. Whitman "Soil Mechanics, SI Version"; John Wiley & Sons, Inc; 1979.
 3. Code for Seismic Design of Buildings, Peoples Republic of China - GB500011-2001 (partially revised in 2008).

Slip No.	Factor of Safety
1	2.48
2	2.24
3	1.99
4	1.73
5	2.78

Material	Density (kN/cu.m)	Cohesion (kPa)	Friction Angle (degree)
Waste	14	0	30 (SD=5)
CDV	19	8	36

Leachate levels are the compliance levels



NGAU TAM MEI
Stability After Restoration
SECTION NTM-1

NTM-1T1.SLP
CKK
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FIGURE 2

FORCE-MOMENT EQUILIBRIUM ANALYSES

Description: Ngau Tam Mei Landfill Slope Stability Analysis

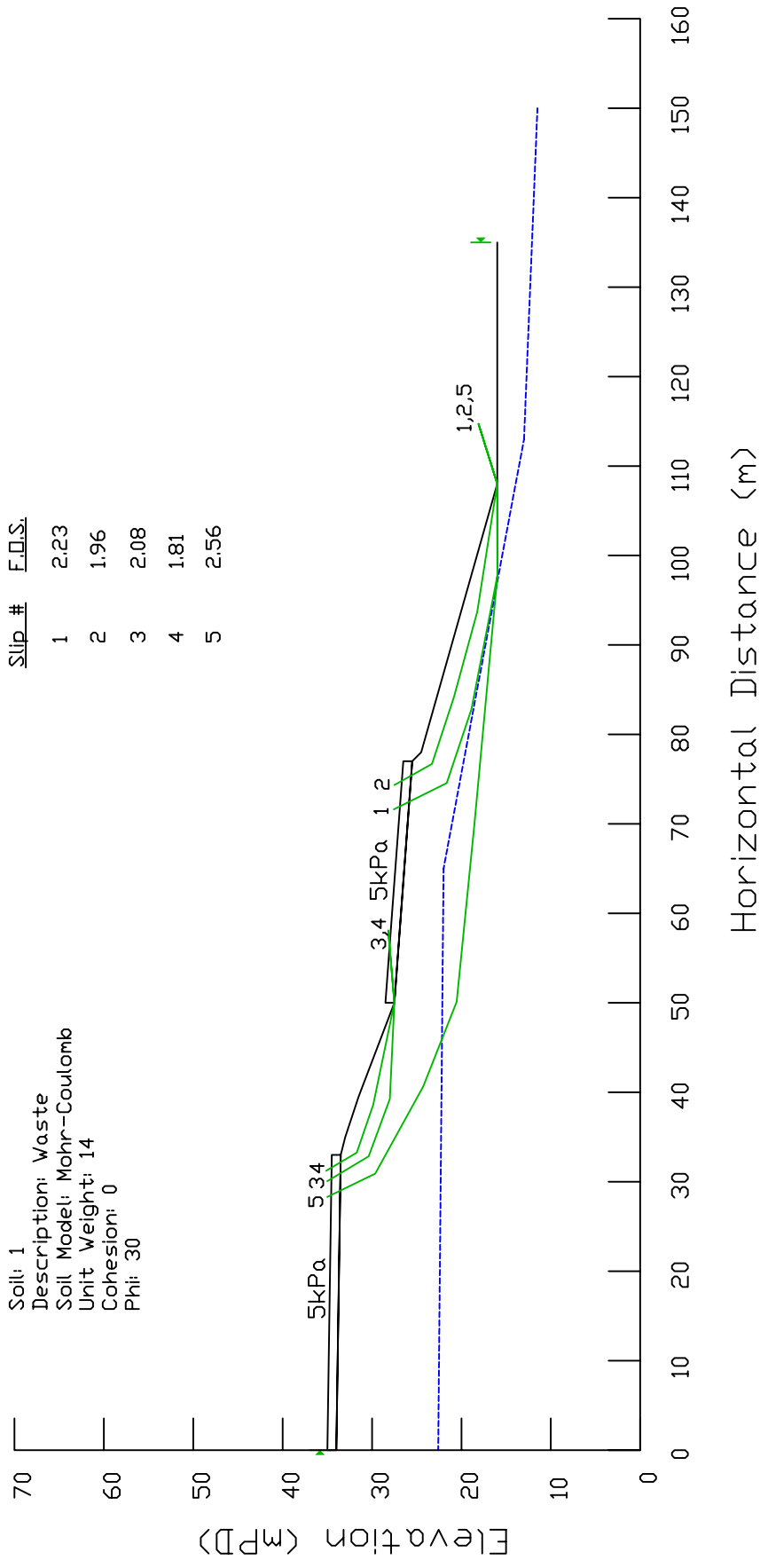
Analysis Method: Morgenstern-Price

P.W.P. Option: Piezometric lines with Ru

'STATIC' CONDITION

Soil: 1
 Description: Waste
 Soil Model: Mohr-Coulomb
 Unit Weight: 14
 Cohesion: 0
 Phi: 30

Slip #	F.O.S.
1	2.23
2	1.96
3	2.08
4	1.81
5	2.56



Ngau Tam Mei (static)_fac.txt

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3=METHOD	5=NO. OF SLIP SURFACES			1=NO. OF RADII		2=SIDE FUNCTION TYPE	
SLIP NO.	X-COORD.	Y-COORD.	RADIUS	ITERATION NO.	LAMBDA	FACTOR OF SAFETY (MOMENT)	FACTOR OF SAFETY (FORCE)
1	107.910	74.526	60.218	1	0.0000	2.3295798	2.5328248
1	107.910	74.526	60.218	4	0.0000	2.2155855	2.1548189
1	107.910	74.526	60.218	3	0.3715	2.2250769	2.2258866
2	107.910	74.526	58.730	1	0.0000	2.0268816	2.1320155
2	107.910	74.526	58.730	4	0.0000	1.9632444	1.9261069
2	107.910	74.526	58.730	3	0.4232	1.9567846	1.9568270
3	107.910	74.526	87.196	1	0.0000	1.7435742	2.3575792
3	107.910	74.526	87.196	4	0.0000	1.9858237	1.9387454
3	107.910	74.526	87.196	3	0.3966	2.0777501	2.0784770
4	107.910	74.526	86.126	1	0.0000	1.7304751	1.9735503
4	107.910	74.526	86.126	5	0.0000	1.7939166	1.7689166
4	107.910	74.526	86.126	3	0.4482	1.8061078	1.8045536
5	107.910	74.526	88.914	1	0.0000	2.3376590	2.7132776
5	107.910	74.526	88.914	4	0.0000	2.6268536	2.4883615
5	107.910	74.526	88.914	3	0.2781	2.5551699	2.5541093

| SUMMARY OF MINIMUM FACTORS OF SAFETY |

MOMENT EQUILIBRIUM: FELLENIUS OR ORDINARY METHOD							
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.7304751=F.S.	4=SLIP#			
MOMENT EQUILIBRIUM: BISHOP SIMPLIFIED METHOD							
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.7939166=F.S.	4=SLIP#			
FORCE EQUILIBRIUM: JANBU SIMPLIFIED METHOD (NO fo FACTOR)							
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.7689166=F.S.	4=SLIP#			
MOMENT AND FORCE EQUILIBRIUM: MORGENSTERN-PRICE METHOD							
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.8061078=F.S.	4=SLIP#			

NORMAL TERMINATION OF SLOPE

Ngau Tam Mei (static)_frc.txt

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Center_X	Center_Y	Radius	Slip_Surface	Method
1.079100e+002	7.452600e+001	8.612551e+001	4	3

SL#	X_Left Mid_Height	Y_L_Top	Y_L_Bottom	X_Right	Y_R_Top	Y_R_Bottom
1	3.217696e+001	3.351247e+001	3.351247e+001	3.300000e+001	3.350000e+001	3.212424e+001
2	3.300000e+001	3.350000e+001	3.212424e+001	3.324500e+001	3.343875e+001	3.171100e+001
3	3.324500e+001	3.343875e+001	3.171100e+001	3.383000e+001	3.329250e+001	3.150989e+001
4	3.383000e+001	3.329250e+001	3.150989e+001	3.441500e+001	3.314625e+001	3.130878e+001
5	3.441500e+001	3.314625e+001	3.130878e+001	3.500000e+001	3.300000e+001	3.110767e+001
6	3.500000e+001	3.300000e+001	3.110767e+001	3.560100e+001	3.279967e+001	3.090106e+001
7	3.560100e+001	3.279967e+001	3.090106e+001	3.620200e+001	3.259933e+001	3.069445e+001
8	3.620200e+001	3.259933e+001	3.069445e+001	3.680300e+001	3.239900e+001	3.048783e+001
9	3.680300e+001	3.239900e+001	3.048783e+001	3.740400e+001	3.219867e+001	3.028122e+001
10	3.740400e+001	3.219867e+001	3.028122e+001	3.800500e+001	3.199833e+001	3.007461e+001
11	3.800500e+001	3.199833e+001	3.007461e+001	3.860600e+001	3.179800e+001	2.986800e+001
12	3.860600e+001	3.179800e+001	2.986800e+001	3.905300e+001	3.164900e+001	2.977510e+001
13	3.905300e+001	3.164900e+001	2.977510e+001	3.950000e+001	3.150000e+001	2.968220e+001
14	3.950000e+001	3.150000e+001	2.968220e+001	4.008333e+001	3.127778e+001	2.956097e+001
15	4.008333e+001	3.127778e+001	2.956097e+001	4.066667e+001	3.105556e+001	2.943973e+001
16	4.066667e+001	3.105556e+001	2.943973e+001	4.125000e+001	3.083333e+001	2.931850e+001
17	4.125000e+001	3.083333e+001	2.931850e+001	4.183333e+001	3.061111e+001	2.919727e+001
18	4.183333e+001	3.061111e+001	2.919727e+001	4.241667e+001	3.038889e+001	2.907603e+001
19	4.241667e+001	3.038889e+001	2.907603e+001	4.300000e+001	3.016667e+001	2.895480e+001
20	4.300000e+001	3.016667e+001	2.895480e+001	4.358333e+001	2.994444e+001	2.883357e+001
21	4.358333e+001	2.994444e+001	2.883357e+001	4.416667e+001	2.972222e+001	2.871233e+001
22	4.416667e+001	2.972222e+001	2.871233e+001	4.475000e+001	2.950000e+001	2.859110e+001
23	4.475000e+001	2.950000e+001	2.859110e+001	4.533333e+001	2.927778e+001	2.846987e+001
24	4.533333e+001	2.927778e+001	2.846987e+001	4.591667e+001	2.905556e+001	2.834863e+001
25	4.591667e+001	2.905556e+001	2.834863e+001	4.650000e+001	2.883333e+001	2.822740e+001
26	4.650000e+001	2.883333e+001	2.822740e+001	4.708333e+001	2.861111e+001	2.810617e+001
27	4.708333e+001	2.861111e+001	2.810617e+001	4.766667e+001	2.838889e+001	2.798493e+001
28	4.766667e+001	2.838889e+001	2.798493e+001	4.825000e+001	2.816667e+001	2.786370e+001
29	4.825000e+001	2.816667e+001	2.786370e+001	4.883333e+001	2.794444e+001	2.774247e+001
30	4.883333e+001	2.794444e+001	2.774247e+001	4.941667e+001	2.772222e+001	2.762123e+001
31	4.941667e+001	2.772222e+001	2.762123e+001	5.000000e+001	2.750000e+001	2.750000e+001

SL#	L_Load_X	L_Load_Y	A_Load_X	A_Load_Y	P_Load_X	P_Load_Y	A_Modifier
AS_Load_X	AS_Load_Y						

Ngau Tam Mei (static)_frc.txt

6	1.5948e+001	0.0000e+000	1.8972e+001	5.6756e-001	0.0000e+000	0.0000e+000	0.0000e+000
7	1.6001e+001	0.0000e+000	1.8972e+001	6.5144e-001	0.0000e+000	0.0000e+000	0.0000e+000
8	1.6054e+001	0.0000e+000	1.8972e+001	7.2801e-001	0.0000e+000	0.0000e+000	0.0000e+000
9	1.6107e+001	0.0000e+000	1.8972e+001	7.9642e-001	0.0000e+000	0.0000e+000	0.0000e+000
10	1.6160e+001	0.0000e+000	1.8972e+001	8.5590e-001	0.0000e+000	0.0000e+000	0.0000e+000
11	1.6213e+001	0.0000e+000	1.8972e+001	9.0578e-001	0.0000e+000	0.0000e+000	0.0000e+000
12	1.1902e+001	0.0000e+000	1.1741e+001	9.3632e-001	0.0000e+000	0.0000e+000	0.0000e+000
13	1.1551e+001	0.0000e+000	1.1741e+001	9.6106e-001	0.0000e+000	0.0000e+000	0.0000e+000
14	1.4433e+001	0.0000e+000	1.1741e+001	9.8435e-001	0.0000e+000	0.0000e+000	0.0000e+000
15	1.3608e+001	0.0000e+000	1.1741e+001	9.9724e-001	0.0000e+000	0.0000e+000	0.0000e+000
16	1.2784e+001	0.0000e+000	1.1741e+001	9.9959e-001	0.0000e+000	0.0000e+000	0.0000e+000
17	1.1959e+001	0.0000e+000	1.1741e+001	9.9139e-001	0.0000e+000	0.0000e+000	0.0000e+000
18	1.1134e+001	0.0000e+000	1.1741e+001	9.7272e-001	0.0000e+000	0.0000e+000	0.0000e+000
19	1.0309e+001	0.0000e+000	1.1741e+001	9.4377e-001	0.0000e+000	0.0000e+000	0.0000e+000
20	9.4845e+000	0.0000e+000	1.1741e+001	9.0485e-001	0.0000e+000	0.0000e+000	0.0000e+000
21	8.6598e+000	0.0000e+000	1.1741e+001	8.5638e-001	0.0000e+000	0.0000e+000	0.0000e+000
22	7.8350e+000	0.0000e+000	1.1741e+001	7.9886e-001	0.0000e+000	0.0000e+000	0.0000e+000
23	7.0103e+000	0.0000e+000	1.1741e+001	7.3290e-001	0.0000e+000	0.0000e+000	0.0000e+000
24	6.1856e+000	0.0000e+000	1.1741e+001	6.5920e-001	0.0000e+000	0.0000e+000	0.0000e+000
25	5.3608e+000	0.0000e+000	1.1741e+001	5.7853e-001	0.0000e+000	0.0000e+000	0.0000e+000
26	4.5361e+000	0.0000e+000	1.1741e+001	4.9176e-001	0.0000e+000	0.0000e+000	0.0000e+000
27	3.7113e+000	0.0000e+000	1.1741e+001	3.9979e-001	0.0000e+000	0.0000e+000	0.0000e+000
28	2.8866e+000	0.0000e+000	1.1741e+001	3.0360e-001	0.0000e+000	0.0000e+000	0.0000e+000
29	2.0619e+000	0.0000e+000	1.1741e+001	2.0420e-001	0.0000e+000	0.0000e+000	0.0000e+000
30	1.2371e+000	0.0000e+000	1.1741e+001	1.0264e-001	0.0000e+000	0.0000e+000	0.0000e+000
31	4.1237e-001	0.0000e+000	1.1741e+001	2.6698e-008	0.0000e+000	0.0000e+000	0.0000e+000

Ordinary_Method_Fm= 1.7304751 Applied_Lambda= 0.0000

SL#	Normal_M	ShearMob	Phi_Angle	Cohesion
1	6.1409e+000	-2.0488e+000	3.0000e+001	0.0000e+000
2	2.7144e+000	-9.0562e-001	3.0000e+001	0.0000e+000
3	1.3594e+001	-4.5355e+000	3.0000e+001	0.0000e+000
4	1.4019e+001	-4.6772e+000	3.0000e+001	0.0000e+000
5	1.4444e+001	-4.8190e+000	3.0000e+001	0.0000e+000
6	1.5082e+001	-5.0320e+000	3.0000e+001	0.0000e+000
7	1.5132e+001	-5.0486e+000	3.0000e+001	0.0000e+000
8	1.5182e+001	-5.0653e+000	3.0000e+001	0.0000e+000
9	1.5232e+001	-5.0820e+000	3.0000e+001	0.0000e+000
10	1.5282e+001	-5.0986e+000	3.0000e+001	0.0000e+000
11	1.5332e+001	-5.1153e+000	3.0000e+001	0.0000e+000
12	1.1653e+001	-3.8880e+000	3.0000e+001	0.0000e+000
13	1.1310e+001	-3.7733e+000	3.0000e+001	0.0000e+000
14	1.4131e+001	-4.7146e+000	3.0000e+001	0.0000e+000
15	1.3324e+001	-4.4452e+000	3.0000e+001	0.0000e+000
16	1.2516e+001	-4.1758e+000	3.0000e+001	0.0000e+000
17	1.1709e+001	-3.9064e+000	3.0000e+001	0.0000e+000
18	1.0901e+001	-3.6370e+000	3.0000e+001	0.0000e+000
19	1.0094e+001	-3.3676e+000	3.0000e+001	0.0000e+000
20	9.2861e+000	-3.0982e+000	3.0000e+001	0.0000e+000
21	8.4786e+000	-2.8288e+000	3.0000e+001	0.0000e+000
22	7.6711e+000	-2.5594e+000	3.0000e+001	0.0000e+000
23	6.8636e+000	-2.2900e+000	3.0000e+001	0.0000e+000

Ngau Tam Mei (static)_frc.txt

24	6.0562e+000	-2.0206e+000	3.0000e+001	0.0000e+000
25	5.2487e+000	-1.7511e+000	3.0000e+001	0.0000e+000
26	4.4412e+000	-1.4817e+000	3.0000e+001	0.0000e+000
27	3.6337e+000	-1.2123e+000	3.0000e+001	0.0000e+000
28	2.8262e+000	-9.4293e-001	3.0000e+001	0.0000e+000
29	2.0187e+000	-6.7352e-001	3.0000e+001	0.0000e+000
30	1.2112e+000	-4.0411e-001	3.0000e+001	0.0000e+000
31	4.0374e-001	-1.3470e-001	3.0000e+001	0.0000e+000

Bishop_Method_Fm= 1.7939166
 SL# Normal_M ShearMob

Applied_Lambda= 0.0000
 Phi_Angle Cohesion SideLeft ShearLeft SideRight

SL#	Normal_M	ShearMob	Phi_Angle	Cohesion	SideLeft	ShearLeft	SideRight
1	1.5315e+001	-4.9289e+000	3.0000e+001	0.0000e+000	0.0000e+000	0.0000e+000	-1.0566e+001
2	6.7694e+000	-2.1787e+000	3.0000e+001	0.0000e+000	1.0566e+001	0.0000e+000	-1.5237e+001
3	1.3689e+001	-4.4057e+000	3.0000e+001	0.0000e+000	1.5237e+001	0.0000e+000	-1.5461e+001
4	1.4117e+001	-4.5434e+000	3.0000e+001	0.0000e+000	1.5461e+001	0.0000e+000	-1.5693e+001
5	1.4545e+001	-4.6811e+000	3.0000e+001	0.0000e+000	1.5693e+001	0.0000e+000	-1.5932e+001
6	1.5188e+001	-4.8880e+000	3.0000e+001	0.0000e+000	1.5932e+001	0.0000e+000	-1.6181e+001
7	1.5238e+001	-4.9042e+000	3.0000e+001	0.0000e+000	1.6181e+001	0.0000e+000	-1.6431e+001
8	1.5288e+001	-4.9203e+000	3.0000e+001	0.0000e+000	1.6431e+001	0.0000e+000	-1.6682e+001
9	1.5339e+001	-4.9365e+000	3.0000e+001	0.0000e+000	1.6682e+001	0.0000e+000	-1.6934e+001
10	1.5389e+001	-4.9527e+000	3.0000e+001	0.0000e+000	1.6934e+001	0.0000e+000	-1.7186e+001
11	1.5439e+001	-4.9689e+000	3.0000e+001	0.0000e+000	1.7186e+001	0.0000e+000	-1.7440e+001
12	1.1396e+001	-3.6677e+000	3.0000e+001	0.0000e+000	1.7440e+001	0.0000e+000	-1.6118e+001
13	1.1060e+001	-3.5595e+000	3.0000e+001	0.0000e+000	1.6118e+001	0.0000e+000	-1.4836e+001
14	1.3819e+001	-4.4475e+000	3.0000e+001	0.0000e+000	1.4836e+001	0.0000e+000	-1.3233e+001
15	1.3029e+001	-4.1933e+000	3.0000e+001	0.0000e+000	1.3233e+001	0.0000e+000	-1.1722e+001
16	1.2240e+001	-3.9392e+000	3.0000e+001	0.0000e+000	1.1722e+001	0.0000e+000	-1.0302e+001
17	1.1450e+001	-3.6850e+000	3.0000e+001	0.0000e+000	1.0302e+001	0.0000e+000	-8.9745e+000
18	1.0660e+001	-3.4309e+000	3.0000e+001	0.0000e+000	8.9745e+000	0.0000e+000	-7.7382e+000
19	9.8707e+000	-3.1768e+000	3.0000e+001	0.0000e+000	7.7382e+000	0.0000e+000	-6.5935e+000
20	9.0810e+000	-2.9226e+000	3.0000e+001	0.0000e+000	6.5935e+000	0.0000e+000	-5.5403e+000
21	8.2914e+000	-2.6685e+000	3.0000e+001	0.0000e+000	5.5403e+000	0.0000e+000	-4.5787e+000
22	7.5017e+000	-2.4143e+000	3.0000e+001	0.0000e+000	4.5787e+000	0.0000e+000	-3.7087e+000
23	6.7121e+000	-2.1602e+000	3.0000e+001	0.0000e+000	3.7087e+000	0.0000e+000	-2.9303e+000
24	5.9224e+000	-1.9061e+000	3.0000e+001	0.0000e+000	2.9303e+000	0.0000e+000	-2.2434e+000
25	5.1328e+000	-1.6519e+000	3.0000e+001	0.0000e+000	2.2434e+000	0.0000e+000	-1.6482e+000
26	4.3431e+000	-1.3978e+000	3.0000e+001	0.0000e+000	1.6482e+000	0.0000e+000	-1.1445e+000
27	3.5534e+000	-1.1436e+000	3.0000e+001	0.0000e+000	1.1445e+000	0.0000e+000	-7.3235e-001
28	2.7638e+000	-8.8949e-001	3.0000e+001	0.0000e+000	7.3235e-001	0.0000e+000	-4.1182e-001
29	1.9741e+000	-6.3535e-001	3.0000e+001	0.0000e+000	4.1182e-001	0.0000e+000	-1.8287e-001
30	1.1845e+000	-3.8121e-001	3.0000e+001	0.0000e+000	1.8287e-001	0.0000e+000	-4.5488e-002
31	3.9482e-001	-1.2707e-001	3.0000e+001	0.0000e+000	4.5488e-002	0.0000e+000	3.1000e-004

Janbu_Method_Ff= 1.7689166
 SL# Normal_F ShearMob

Applied_Lambda= 0.0000
 Phi_Angle Cohesion SideLeft ShearLeft SideRight

Ngau Tam Mei (static)_frc.txt

ShearRight

```

=====
=====
1  1.5228e+001 -4.9702e+000  3.0000e+001  0.0000e+000  0.0000e+000  0.0000e+000 -1.0566e+001
0.0000e+000
2  6.7310e+000 -2.1969e+000  3.0000e+001  0.0000e+000  1.0566e+001  0.0000e+000 -1.5237e+001
0.0000e+000
3  1.3667e+001 -4.4608e+000  3.0000e+001  0.0000e+000  1.5237e+001  0.0000e+000 -1.5461e+001
0.0000e+000
4  1.4094e+001 -4.6002e+000  3.0000e+001  0.0000e+000  1.5461e+001  0.0000e+000 -1.5693e+001
0.0000e+000
5  1.4521e+001 -4.7396e+000  3.0000e+001  0.0000e+000  1.5693e+001  0.0000e+000 -1.5932e+001
0.0000e+000
6  1.5163e+001 -4.9491e+000  3.0000e+001  0.0000e+000  1.5932e+001  0.0000e+000 -1.6181e+001
0.0000e+000
7  1.5213e+001 -4.9654e+000  3.0000e+001  0.0000e+000  1.6181e+001  0.0000e+000 -1.6431e+001
0.0000e+000
8  1.5264e+001 -4.9818e+000  3.0000e+001  0.0000e+000  1.6431e+001  0.0000e+000 -1.6682e+001
0.0000e+000
9  1.5314e+001 -4.9982e+000  3.0000e+001  0.0000e+000  1.6682e+001  0.0000e+000 -1.6934e+001
0.0000e+000
10 1.5364e+001 -5.0146e+000  3.0000e+001  0.0000e+000  1.6934e+001  0.0000e+000 -1.7186e+001
0.0000e+000
11 1.5414e+001 -5.0310e+000  3.0000e+001  0.0000e+000  1.7186e+001  0.0000e+000 -1.7440e+001
0.0000e+000
12 1.1384e+001 -3.7157e+000  3.0000e+001  0.0000e+000  1.7440e+001  0.0000e+000 -1.6118e+001
0.0000e+000
13 1.1049e+001 -3.6061e+000  3.0000e+001  0.0000e+000  1.6118e+001  0.0000e+000 -1.4836e+001
0.0000e+000
14 1.3805e+001 -4.5057e+000  3.0000e+001  0.0000e+000  1.4836e+001  0.0000e+000 -1.3233e+001
0.0000e+000
15 1.3016e+001 -4.2483e+000  3.0000e+001  0.0000e+000  1.3233e+001  0.0000e+000 -1.1722e+001
0.0000e+000
16 1.2227e+001 -3.9908e+000  3.0000e+001  0.0000e+000  1.1722e+001  0.0000e+000 -1.0302e+001
0.0000e+000
17 1.1438e+001 -3.7333e+000  3.0000e+001  0.0000e+000  1.0302e+001  0.0000e+000 -8.9745e+000
0.0000e+000
18 1.0650e+001 -3.4759e+000  3.0000e+001  0.0000e+000  8.9745e+000  0.0000e+000 -7.7382e+000
0.0000e+000
19 9.8607e+000 -3.2184e+000  3.0000e+001  0.0000e+000  7.7382e+000  0.0000e+000 -6.5935e+000
0.0000e+000
20 9.0718e+000 -2.9609e+000  3.0000e+001  0.0000e+000  6.5935e+000  0.0000e+000 -5.5403e+000
0.0000e+000
21 8.2830e+000 -2.7034e+000  3.0000e+001  0.0000e+000  5.5403e+000  0.0000e+000 -4.5787e+000
0.0000e+000
22 7.4941e+000 -2.4460e+000  3.0000e+001  0.0000e+000  4.5787e+000  0.0000e+000 -3.7087e+000
0.0000e+000
23 6.7052e+000 -2.1885e+000  3.0000e+001  0.0000e+000  3.7087e+000  0.0000e+000 -2.9303e+000
0.0000e+000
24 5.9164e+000 -1.9310e+000  3.0000e+001  0.0000e+000  2.9303e+000  0.0000e+000 -2.2434e+000
0.0000e+000
25 5.1275e+000 -1.6736e+000  3.0000e+001  0.0000e+000  2.2434e+000  0.0000e+000 -1.6482e+000
0.0000e+000
26 4.3387e+000 -1.4161e+000  3.0000e+001  0.0000e+000  1.6482e+000  0.0000e+000 -1.1445e+000
0.0000e+000
27 3.5498e+000 -1.1586e+000  3.0000e+001  0.0000e+000  1.1445e+000  0.0000e+000 -7.3235e-001
0.0000e+000
28 2.7610e+000 -9.0115e-001  3.0000e+001  0.0000e+000  7.3235e-001  0.0000e+000 -4.1182e-001
0.0000e+000
29 1.9721e+000 -6.4367e-001  3.0000e+001  0.0000e+000  4.1182e-001  0.0000e+000 -1.8287e-001
0.0000e+000
30 1.1833e+000 -3.8620e-001  3.0000e+001  0.0000e+000  1.8287e-001  0.0000e+000 -4.5488e-002
0.0000e+000
31 3.9442e-001 -1.2873e-001  3.0000e+001  0.0000e+000  4.5488e-002  0.0000e+000  3.1000e-004
0.0000e+000

```

```

M-P_Method_Fm= 1.8061078 Applied_Lambda= 0.4482
SL# Normal_M ShearMob Phi_Angle Cohesion SideLeft ShearLeft SideRight
ShearRight

```

```

=====
=====
1  1.4504e+001 -4.6365e+000  3.0000e+001  0.0000e+000  0.0000e+000  0.0000e+000 -1.0113e+001
6.5535e-001
2  6.0808e+000 -1.9438e+000  3.0000e+001  0.0000e+000  1.0113e+001 -6.5535e-001 -1.4356e+001
1.2043e+000
3  1.3045e+001 -4.1702e+000  3.0000e+001  0.0000e+000  1.4356e+001 -1.2043e+000 -1.4649e+001
1.8864e+000
4  1.3466e+001 -4.3047e+000  3.0000e+001  0.0000e+000  1.4649e+001 -1.8864e+000 -1.4952e+001
2.5760e+000

```

Ngau Tam Mei (static)_frc.txt

5	1.3894e+001	-4.4414e+000	3.0000e+001	0.0000e+000	1.4952e+001	-2.5760e+000	-1.5265e+001
3.2661e+000							
6	1.4527e+001	-4.6438e+000	3.0000e+001	0.0000e+000	1.5265e+001	-3.2661e+000	-1.5592e+001
3.9667e+000							
7	1.4595e+001	-4.6655e+000	3.0000e+001	0.0000e+000	1.5592e+001	-3.9667e+000	-1.5920e+001
4.6488e+000							
8	1.4672e+001	-4.6901e+000	3.0000e+001	0.0000e+000	1.5920e+001	-4.6488e+000	-1.6250e+001
5.3029e+000							
9	1.4758e+001	-4.7175e+000	3.0000e+001	0.0000e+000	1.6250e+001	-5.3029e+000	-1.6582e+001
5.9198e+000							
10	1.4852e+001	-4.7478e+000	3.0000e+001	0.0000e+000	1.6582e+001	-5.9198e+000	-1.6916e+001
6.4901e+000							
11	1.4956e+001	-4.7808e+000	3.0000e+001	0.0000e+000	1.6916e+001	-6.4901e+000	-1.7253e+001
7.0049e+000							
12	1.1689e+001	-3.7366e+000	3.0000e+001	0.0000e+000	1.7253e+001	-7.0049e+000	-1.5969e+001
6.7024e+000							
13	1.1410e+001	-3.6475e+000	3.0000e+001	0.0000e+000	1.5969e+001	-6.7024e+000	-1.4716e+001
6.3397e+000							
14	1.4341e+001	-4.5844e+000	3.0000e+001	0.0000e+000	1.4716e+001	-6.3397e+000	-1.3142e+001
5.7985e+000							
15	1.3600e+001	-4.3473e+000	3.0000e+001	0.0000e+000	1.3142e+001	-5.7985e+000	-1.1648e+001
5.2070e+000							
16	1.2836e+001	-4.1033e+000	3.0000e+001	0.0000e+000	1.1648e+001	-5.2070e+000	-1.0239e+001
4.5878e+000							
17	1.2052e+001	-3.8528e+000	3.0000e+001	0.0000e+000	1.0239e+001	-4.5878e+000	-8.9157e+000
3.9621e+000							
18	1.1251e+001	-3.5964e+000	3.0000e+001	0.0000e+000	8.9157e+000	-3.9621e+000	-7.6804e+000
3.3488e+000							
19	1.0433e+001	-3.3351e+000	3.0000e+001	0.0000e+000	7.6804e+000	-3.3488e+000	-6.5349e+000
2.7646e+000							
20	9.6023e+000	-3.0695e+000	3.0000e+001	0.0000e+000	6.5349e+000	-2.7646e+000	-5.4806e+000
2.2229e+000							
21	8.7614e+000	-2.8007e+000	3.0000e+001	0.0000e+000	5.4806e+000	-2.2229e+000	-4.5187e+000
1.7346e+000							
22	7.9134e+000	-2.5296e+000	3.0000e+001	0.0000e+000	4.5187e+000	-1.7346e+000	-3.6498e+000
1.3069e+000							
23	7.0612e+000	-2.2572e+000	3.0000e+001	0.0000e+000	3.6498e+000	-1.3069e+000	-2.8745e+000
9.4432e-001							
24	6.2079e+000	-1.9845e+000	3.0000e+001	0.0000e+000	2.8745e+000	-9.4432e-001	-2.1928e+000
6.4795e-001							
25	5.3562e+000	-1.7122e+000	3.0000e+001	0.0000e+000	2.1928e+000	-6.4795e-001	-1.6047e+000
4.1614e-001							
26	4.5086e+000	-1.4412e+000	3.0000e+001	0.0000e+000	1.6047e+000	-4.1614e-001	-1.1096e+000
2.4460e-001							
27	3.6674e+000	-1.1723e+000	3.0000e+001	0.0000e+000	1.1096e+000	-2.4460e-001	-7.0693e-001
1.2669e-001							
28	2.8343e+000	-9.0603e-001	3.0000e+001	0.0000e+000	7.0693e-001	-1.2669e-001	-3.9569e-001
5.3849e-002							
29	2.0109e+000	-6.4282e-001	3.0000e+001	0.0000e+000	3.9569e-001	-5.3849e-002	-1.7487e-001
1.6006e-002							
30	1.1982e+000	-3.8303e-001	3.0000e+001	0.0000e+000	1.7487e-001	-1.6006e-002	-4.3278e-002
1.9911e-003							
31	3.9684e-001	-1.2685e-001	3.0000e+001	0.0000e+000	4.3278e-002	-1.9911e-003	3.1000e-004
-3.7099e-012							

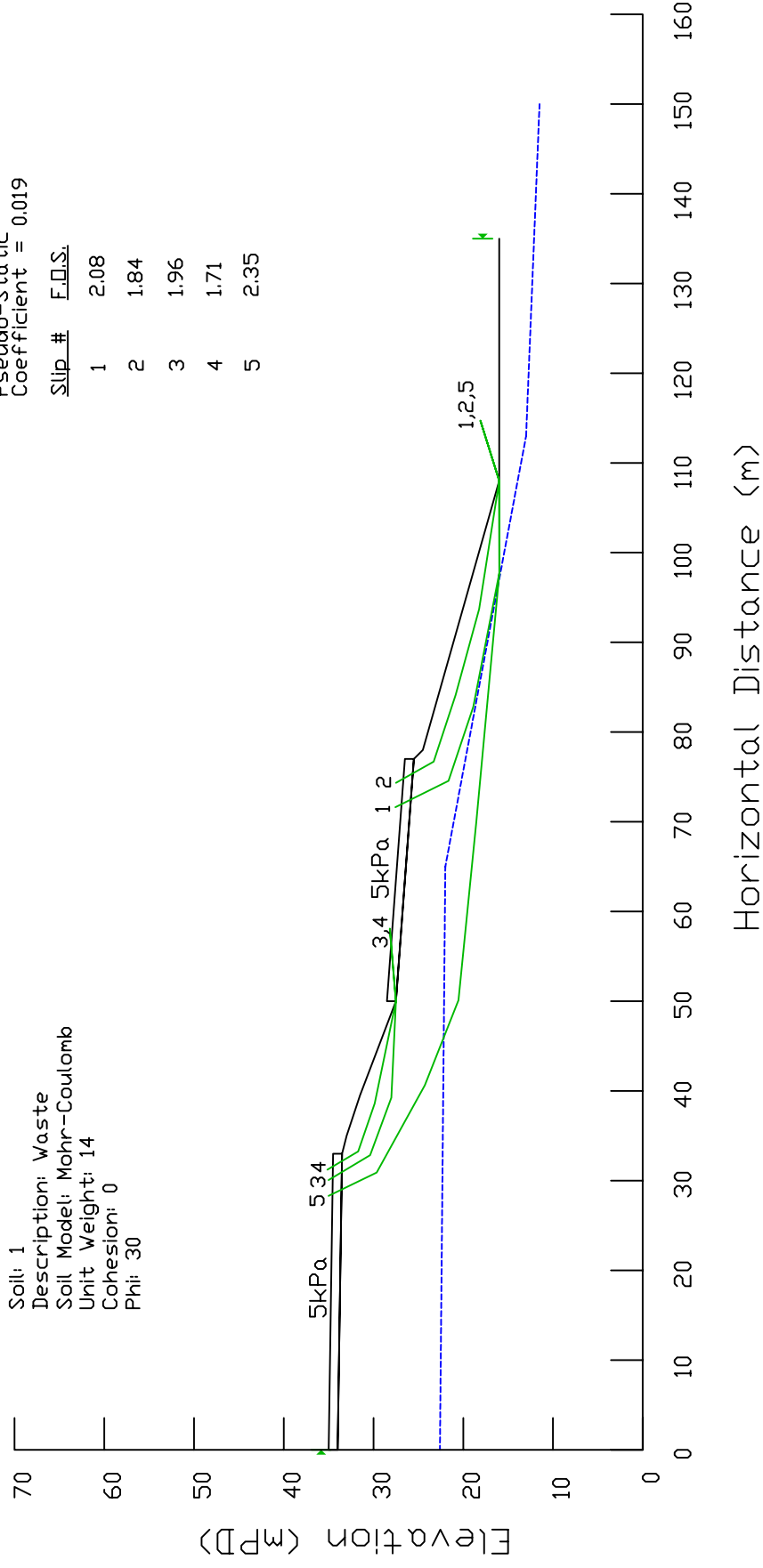
Slip_Surface_Summary

Analysis	Volume	Weight	Res_Moment	Act_Moment	Res_Force	Act_Force
FOS						
===== Ordinary Method	2.2233e+001	3.1127e+002	1.0558e+004	6.1013e+003		
1.7304751						
Bishop Method	2.2233e+001	3.1127e+002	1.1137e+004	6.2081e+003		
1.7939166						
Janbu Method	2.2233e+001	3.1127e+002			1.6456e+002	9.3026e+001
1.7689166						
M-P Method	2.2233e+001	3.1127e+002	1.1083e+004	6.1366e+003	1.6518e+002	9.1533e+001
1.8061078						

Description: Ngau Tam Mei Landfill Slope Stability Analysis

Analysis Method: Morgenstern-Price

P.W.P. Option: Piezometric lines with Ru



DATESTAMP 23/2/2009

TIMESTAMP 13:26:43

3=METHOD			5=NO. OF SLIP SURFACES		1=NO. OF RADII		2=SIDE FUNCTION TYPE	
SLIP NO.	X-COORD.	Y-COORD.	RADIUS	ITERATION NO.	LAMBDA	FACTOR OF SAFETY (MOMENT)	FACTOR OF SAFETY (FORCE)	
1	107.910	74.526	60.218	1	0.0000	2.1640890	2.3338291	
1	107.910	74.526	60.218	4	0.0000	2.0742005	2.0169195	
1	107.910	74.526	60.218	3	0.4006	2.0825823	2.0836495	
2	107.910	74.526	58.730	1	0.0000	1.8959302	1.9859596	
2	107.910	74.526	58.730	4	0.0000	1.8448687	1.8104698	
2	107.910	74.526	58.730	3	0.4440	1.8386496	1.8387966	
3	107.910	74.526	87.196	1	0.0000	1.6458697	2.1829954	
3	107.910	74.526	87.196	4	0.0000	1.8730479	1.8278686	
3	107.910	74.526	87.196	3	0.4299	1.9616894	1.9628333	
4	107.910	74.526	86.126	1	0.0000	1.6323327	1.8464019	
4	107.910	74.526	86.126	5	0.0000	1.6940968	1.6700500	
4	107.910	74.526	86.126	3	0.4786	1.7053209	1.7036763	
5	107.910	74.526	88.914	1	0.0000	2.1598969	2.4653154	
5	107.910	74.526	88.914	4	0.0000	2.4144290	2.2863242	
5	107.910	74.526	88.914	3	0.3050	2.3478135	2.3468643	

| SUMMARY OF MINIMUM FACTORS OF SAFETY |

MOMENT EQUILIBRIUM: FELLENIUS OR ORDINARY METHOD				
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.6323327=F.S.	4=SLIP#
MOMENT EQUILIBRIUM: BISHOP SIMPLIFIED METHOD				
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.6940968=F.S.	4=SLIP#
FORCE EQUILIBRIUM: JANBU SIMPLIFIED METHOD (NO fo FACTOR)				
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.6700500=F.S.	4=SLIP#
MOMENT AND FORCE EQUILIBRIUM: MORGENSTERN-PRICE METHOD				
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.7053209=F.S.	4=SLIP#

NORMAL TERMINATION OF SLOPE

Ngau Tam Mei (0019).frc

DATESTAMP 23/2/2009
 TIMESTAMP 13:26:43

Center_X	Center_Y	Radius	Slip_Surface	Method
1.079100e+002	7.452600e+001	8.612551e+001	4	3

SL#	X_Left Mid_Height	Y_L_Top	Y_L_Bottom	X_Right	Y_R_Top	Y_R_Bottom
1	3.217696e+001	3.351247e+001	3.351247e+001	3.300000e+001	3.350000e+001	3.212424e+001
2	3.300000e+001	3.350000e+001	3.212424e+001	3.324500e+001	3.343875e+001	3.171100e+001
3	3.324500e+001	3.343875e+001	3.171100e+001	3.383000e+001	3.329250e+001	3.150989e+001
4	3.383000e+001	3.329250e+001	3.150989e+001	3.441500e+001	3.314625e+001	3.130878e+001
5	3.441500e+001	3.314625e+001	3.130878e+001	3.500000e+001	3.300000e+001	3.110767e+001
6	3.500000e+001	3.300000e+001	3.110767e+001	3.560100e+001	3.279967e+001	3.090106e+001
7	3.560100e+001	3.279967e+001	3.090106e+001	3.620200e+001	3.259933e+001	3.069445e+001
8	3.620200e+001	3.259933e+001	3.069445e+001	3.680300e+001	3.239900e+001	3.048783e+001
9	3.680300e+001	3.239900e+001	3.048783e+001	3.740400e+001	3.219867e+001	3.028122e+001
10	3.740400e+001	3.219867e+001	3.028122e+001	3.800500e+001	3.199833e+001	3.007461e+001
11	3.800500e+001	3.199833e+001	3.007461e+001	3.860600e+001	3.179800e+001	2.986800e+001
12	3.860600e+001	3.179800e+001	2.986800e+001	3.905300e+001	3.164900e+001	2.977510e+001
13	3.905300e+001	3.164900e+001	2.977510e+001	3.950000e+001	3.150000e+001	2.968220e+001
14	3.950000e+001	3.150000e+001	2.968220e+001	4.008333e+001	3.127778e+001	2.956097e+001
15	4.008333e+001	3.127778e+001	2.956097e+001	4.066667e+001	3.105556e+001	2.943973e+001
16	4.066667e+001	3.105556e+001	2.943973e+001	4.125000e+001	3.083333e+001	2.931850e+001
17	4.125000e+001	3.083333e+001	2.931850e+001	4.183333e+001	3.061111e+001	2.919727e+001
18	4.183333e+001	3.061111e+001	2.919727e+001	4.241667e+001	3.038889e+001	2.907603e+001
19	4.241667e+001	3.038889e+001	2.907603e+001	4.300000e+001	3.016667e+001	2.895480e+001
20	4.300000e+001	3.016667e+001	2.895480e+001	4.358333e+001	2.994444e+001	2.883357e+001
21	4.358333e+001	2.994444e+001	2.883357e+001	4.416667e+001	2.972222e+001	2.871233e+001
22	4.416667e+001	2.972222e+001	2.871233e+001	4.475000e+001	2.950000e+001	2.859110e+001
23	4.475000e+001	2.950000e+001	2.859110e+001	4.533333e+001	2.927778e+001	2.846987e+001
24	4.533333e+001	2.927778e+001	2.846987e+001	4.591667e+001	2.905556e+001	2.834863e+001
25	4.591667e+001	2.905556e+001	2.834863e+001	4.650000e+001	2.883333e+001	2.822740e+001
26	4.650000e+001	2.883333e+001	2.822740e+001	4.708333e+001	2.861111e+001	2.810617e+001
27	4.708333e+001	2.861111e+001	2.810617e+001	4.766667e+001	2.838889e+001	2.798493e+001
28	4.766667e+001	2.838889e+001	2.798493e+001	4.825000e+001	2.816667e+001	2.786370e+001
29	4.825000e+001	2.816667e+001	2.786370e+001	4.883333e+001	2.794444e+001	2.774247e+001
30	4.883333e+001	2.794444e+001	2.774247e+001	4.941667e+001	2.772222e+001	2.762123e+001
31	4.941667e+001	2.772222e+001	2.762123e+001	5.000000e+001	2.750000e+001	2.750000e+001

SL#	L_Load_X	L_Load_Y	A_Load_X	A_Load_Y	P_Load_X	P_Load_Y	A_Modifier
	AS_Load_X	AS_Load_Y					

Ngau Tam Mei (0019).frc

1	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	-5.4935e-008	-4.1152e+000	1.0000e+000
2	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
3	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
4	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
5	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
6	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
7	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
8	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
9	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
10	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
11	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
12	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
13	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
14	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
15	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
16	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
17	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
18	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
19	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
20	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
21	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
22	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
23	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
24	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
25	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
26	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
27	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
28	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
29	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
30	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000
31	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	0.0000e+000	1.0000e+000

SL#	Weight	Pore_Water	Alpha	Force Fn.	Seismic_F	Seismic_Y	Pore_Air
Phi_B		Liquified					
1	8.0768e+000	0.0000e+000	5.9337e+001	1.4457e-001	1.5060e-001	3.3162e+001	0.0000e+000
2	5.4236e+000	0.0000e+000	5.9337e+001	1.8715e-001	1.0113e-001	3.2693e+001	0.0000e+000
3	1.4648e+001	0.0000e+000	1.8972e+001	2.8727e-001	2.7312e-001	3.2488e+001	0.0000e+000
4	1.5106e+001	0.0000e+000	1.8972e+001	3.8434e-001	2.8166e-001	3.2314e+001	0.0000e+000
5	1.5564e+001	0.0000e+000	1.8972e+001	4.7732e-001	2.9020e-001	3.2141e+001	0.0000e+000

Ngau Tam Mei (0019).frc

6	1.6252e+001	0.0000e+000	1.8972e+001	5.6756e-001	3.0302e-001	3.1952e+001	0.0000e+000
0.0000e+000	0						
7	1.6305e+001	0.0000e+000	1.8972e+001	6.5144e-001	3.0403e-001	3.1749e+001	0.0000e+000
0.0000e+000	0						
8	1.6359e+001	0.0000e+000	1.8972e+001	7.2801e-001	3.0503e-001	3.1545e+001	0.0000e+000
0.0000e+000	0						
9	1.6413e+001	0.0000e+000	1.8972e+001	7.9642e-001	3.0603e-001	3.1342e+001	0.0000e+000
0.0000e+000	0						
10	1.6467e+001	0.0000e+000	1.8972e+001	8.5590e-001	3.0704e-001	3.1138e+001	0.0000e+000
0.0000e+000	0						
11	1.6521e+001	0.0000e+000	1.8972e+001	9.0578e-001	3.0804e-001	3.0935e+001	0.0000e+000
0.0000e+000	0						
12	1.2129e+001	0.0000e+000	1.1741e+001	9.3632e-001	2.2615e-001	3.0773e+001	0.0000e+000
0.0000e+000	0						
13	1.1771e+001	0.0000e+000	1.1741e+001	9.6106e-001	2.1948e-001	3.0652e+001	0.0000e+000
0.0000e+000	0						
14	1.4707e+001	0.0000e+000	1.1741e+001	9.8435e-001	2.7423e-001	3.0505e+001	0.0000e+000
0.0000e+000	0						
15	1.3867e+001	0.0000e+000	1.1741e+001	9.9724e-001	2.5856e-001	3.0334e+001	0.0000e+000
0.0000e+000	0						
16	1.3026e+001	0.0000e+000	1.1741e+001	9.9959e-001	2.4289e-001	3.0162e+001	0.0000e+000
0.0000e+000	0						
17	1.2186e+001	0.0000e+000	1.1741e+001	9.9139e-001	2.2722e-001	2.9990e+001	0.0000e+000
0.0000e+000	0						
18	1.1346e+001	0.0000e+000	1.1741e+001	9.7272e-001	2.1155e-001	2.9818e+001	0.0000e+000
0.0000e+000	0						
19	1.0505e+001	0.0000e+000	1.1741e+001	9.4377e-001	1.9588e-001	2.9647e+001	0.0000e+000
0.0000e+000	0						
20	9.6647e+000	0.0000e+000	1.1741e+001	9.0485e-001	1.8021e-001	2.9475e+001	0.0000e+000
0.0000e+000	0						
21	8.8243e+000	0.0000e+000	1.1741e+001	8.5638e-001	1.6454e-001	2.9303e+001	0.0000e+000
0.0000e+000	0						
22	7.9839e+000	0.0000e+000	1.1741e+001	7.9886e-001	1.4887e-001	2.9131e+001	0.0000e+000
0.0000e+000	0						
23	7.1435e+000	0.0000e+000	1.1741e+001	7.3290e-001	1.3320e-001	2.8960e+001	0.0000e+000
0.0000e+000	0						
24	6.3031e+000	0.0000e+000	1.1741e+001	6.5920e-001	1.1753e-001	2.8788e+001	0.0000e+000
0.0000e+000	0						
25	5.4627e+000	0.0000e+000	1.1741e+001	5.7853e-001	1.0186e-001	2.8616e+001	0.0000e+000
0.0000e+000	0						
26	4.6223e+000	0.0000e+000	1.1741e+001	4.9176e-001	8.6186e-002	2.8445e+001	0.0000e+000
0.0000e+000	0						
27	3.7819e+000	0.0000e+000	1.1741e+001	3.9979e-001	7.0515e-002	2.8273e+001	0.0000e+000
0.0000e+000	0						
28	2.9414e+000	0.0000e+000	1.1741e+001	3.0360e-001	5.4845e-002	2.8101e+001	0.0000e+000
0.0000e+000	0						
29	2.1010e+000	0.0000e+000	1.1741e+001	2.0420e-001	3.9175e-002	2.7929e+001	0.0000e+000
0.0000e+000	0						
30	1.2606e+000	0.0000e+000	1.1741e+001	1.0264e-001	2.3505e-002	2.7758e+001	0.0000e+000
0.0000e+000	0						
31	4.2021e-001	0.0000e+000	1.1741e+001	2.6698e-008	7.8350e-003	2.7586e+001	0.0000e+000
0.0000e+000	0						

Ordinary_Method_Fm= 1.6323327 Applied_Lambda= 0.0000

SL#	Normal_M	ShearMob	Phi_Angle	Cohesion
1	6.0881e+000	-2.1534e+000	3.0000e+001	0.0000e+000
2	2.6790e+000	-9.4754e-001	3.0000e+001	0.0000e+000
3	1.3764e+001	-4.8681e+000	3.0000e+001	0.0000e+000
4	1.4194e+001	-5.0203e+000	3.0000e+001	0.0000e+000
5	1.4624e+001	-5.1724e+000	3.0000e+001	0.0000e+000
6	1.5270e+001	-5.4010e+000	3.0000e+001	0.0000e+000
7	1.5321e+001	-5.4189e+000	3.0000e+001	0.0000e+000
8	1.5371e+001	-5.4368e+000	3.0000e+001	0.0000e+000
9	1.5422e+001	-5.4547e+000	3.0000e+001	0.0000e+000
10	1.5472e+001	-5.4726e+000	3.0000e+001	0.0000e+000
11	1.5523e+001	-5.4905e+000	3.0000e+001	0.0000e+000
12	1.1829e+001	-4.1838e+000	3.0000e+001	0.0000e+000
13	1.1480e+001	-4.0604e+000	3.0000e+001	0.0000e+000
14	1.4344e+001	-5.0733e+000	3.0000e+001	0.0000e+000
15	1.3524e+001	-4.7834e+000	3.0000e+001	0.0000e+000
16	1.2704e+001	-4.4935e+000	3.0000e+001	0.0000e+000
17	1.1885e+001	-4.2036e+000	3.0000e+001	0.0000e+000
18	1.1065e+001	-3.9137e+000	3.0000e+001	0.0000e+000
19	1.0246e+001	-3.6238e+000	3.0000e+001	0.0000e+000
20	9.4259e+000	-3.3339e+000	3.0000e+001	0.0000e+000
21	8.6062e+000	-3.0440e+000	3.0000e+001	0.0000e+000
22	7.7866e+000	-2.7541e+000	3.0000e+001	0.0000e+000
23	6.9670e+000	-2.4642e+000	3.0000e+001	0.0000e+000

Ngau Tam Mei (0019).frc

24	6.1473e+000	-2.1743e+000	3.0000e+001	0.0000e+000
25	5.3277e+000	-1.8844e+000	3.0000e+001	0.0000e+000
26	4.5080e+000	-1.5945e+000	3.0000e+001	0.0000e+000
27	3.6884e+000	-1.3046e+000	3.0000e+001	0.0000e+000
28	2.8687e+000	-1.0147e+000	3.0000e+001	0.0000e+000
29	2.0491e+000	-7.2476e-001	3.0000e+001	0.0000e+000
30	1.2295e+000	-4.3486e-001	3.0000e+001	0.0000e+000
31	4.0982e-001	-1.4495e-001	3.0000e+001	0.0000e+000

Bishop_Method_Fm= 1.6940968
 SL# Normal_M ShearMob

Applied_Lambda= 0.0000
 Phi_Angle Cohesion SideLeft ShearLeft SideRight

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1	1.5192e+001	-5.1775e+000	3.0000e+001	0.0000e+000	0.0000e+000	0.0000e+000	-1.0479e+001
2	6.7583e+000	-2.3032e+000	3.0000e+001	0.0000e+000	1.0479e+001	0.0000e+000	-1.5175e+001
3	1.3868e+001	-4.7263e+000	3.0000e+001	0.0000e+000	1.5175e+001	0.0000e+000	-1.5423e+001
4	1.4302e+001	-4.8740e+000	3.0000e+001	0.0000e+000	1.5423e+001	0.0000e+000	-1.5679e+001
5	1.4735e+001	-5.0217e+000	3.0000e+001	0.0000e+000	1.5679e+001	0.0000e+000	-1.5942e+001
6	1.5386e+001	-5.2436e+000	3.0000e+001	0.0000e+000	1.5942e+001	0.0000e+000	-1.6217e+001
7	1.5437e+001	-5.2610e+000	3.0000e+001	0.0000e+000	1.6217e+001	0.0000e+000	-1.6493e+001
8	1.5488e+001	-5.2784e+000	3.0000e+001	0.0000e+000	1.6493e+001	0.0000e+000	-1.6769e+001
9	1.5539e+001	-5.2957e+000	3.0000e+001	0.0000e+000	1.6769e+001	0.0000e+000	-1.7047e+001
10	1.5590e+001	-5.3131e+000	3.0000e+001	0.0000e+000	1.7047e+001	0.0000e+000	-1.7326e+001
11	1.5641e+001	-5.3305e+000	3.0000e+001	0.0000e+000	1.7326e+001	0.0000e+000	-1.7605e+001
12	1.1570e+001	-3.9430e+000	3.0000e+001	0.0000e+000	1.7605e+001	0.0000e+000	-1.6271e+001
13	1.1229e+001	-3.8267e+000	3.0000e+001	0.0000e+000	1.6271e+001	0.0000e+000	-1.4976e+001
14	1.4030e+001	-4.7814e+000	3.0000e+001	0.0000e+000	1.4976e+001	0.0000e+000	-1.3358e+001
15	1.3228e+001	-4.5082e+000	3.0000e+001	0.0000e+000	1.3358e+001	0.0000e+000	-1.1833e+001
16	1.2426e+001	-4.2349e+000	3.0000e+001	0.0000e+000	1.1833e+001	0.0000e+000	-1.0400e+001
17	1.1625e+001	-3.9617e+000	3.0000e+001	0.0000e+000	1.0400e+001	0.0000e+000	-9.0595e+000
18	1.0823e+001	-3.6885e+000	3.0000e+001	0.0000e+000	9.0595e+000	0.0000e+000	-7.8115e+000
19	1.0021e+001	-3.4153e+000	3.0000e+001	0.0000e+000	7.8115e+000	0.0000e+000	-6.6559e+000
20	9.2196e+000	-3.1421e+000	3.0000e+001	0.0000e+000	6.6559e+000	0.0000e+000	-5.5927e+000
21	8.4179e+000	-2.8688e+000	3.0000e+001	0.0000e+000	5.5927e+000	0.0000e+000	-4.6221e+000
22	7.6162e+000	-2.5956e+000	3.0000e+001	0.0000e+000	4.6221e+000	0.0000e+000	-3.7438e+000
23	6.8145e+000	-2.3224e+000	3.0000e+001	0.0000e+000	3.7438e+000	0.0000e+000	-2.9580e+000
24	6.0128e+000	-2.0492e+000	3.0000e+001	0.0000e+000	2.9580e+000	0.0000e+000	-2.2647e+000
25	5.2111e+000	-1.7759e+000	3.0000e+001	0.0000e+000	2.2647e+000	0.0000e+000	-1.6638e+000
26	4.4094e+000	-1.5027e+000	3.0000e+001	0.0000e+000	1.6638e+000	0.0000e+000	-1.1553e+000
27	3.6077e+000	-1.2295e+000	3.0000e+001	0.0000e+000	1.1553e+000	0.0000e+000	-7.3929e-001
28	2.8060e+000	-9.5627e-001	3.0000e+001	0.0000e+000	7.3929e-001	0.0000e+000	-4.1572e-001
29	2.0043e+000	-6.8305e-001	3.0000e+001	0.0000e+000	4.1572e-001	0.0000e+000	-1.8460e-001
30	1.2025e+000	-4.0983e-001	3.0000e+001	0.0000e+000	1.8460e-001	0.0000e+000	-4.5921e-002
31	4.0084e-001	-1.3661e-001	3.0000e+001	0.0000e+000	4.5921e-002	0.0000e+000	3.1000e-004

Janbu_Method_Ff= 1.6700500
 SL# Normal_F ShearMob

Applied_Lambda= 0.0000
 Phi_Angle Cohesion SideLeft ShearLeft SideRight

ShearRight

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1  1.5101e+001 -5.2206e+000  3.0000e+001  0.0000e+000  0.0000e+000  0.0000e+000 -1.0479e+001
0.0000e+000
2  6.7177e+000 -2.3224e+000  3.0000e+001  0.0000e+000  1.0479e+001  0.0000e+000 -1.5175e+001
0.0000e+000
3  1.3844e+001 -4.7860e+000  3.0000e+001  0.0000e+000  1.5175e+001  0.0000e+000 -1.5423e+001
0.0000e+000
4  1.4277e+001 -4.9356e+000  3.0000e+001  0.0000e+000  1.5423e+001  0.0000e+000 -1.5679e+001
0.0000e+000
5  1.4710e+001 -5.0852e+000  3.0000e+001  0.0000e+000  1.5679e+001  0.0000e+000 -1.5942e+001
0.0000e+000
6  1.5360e+001 -5.3099e+000  3.0000e+001  0.0000e+000  1.5942e+001  0.0000e+000 -1.6217e+001
0.0000e+000
7  1.5410e+001 -5.3275e+000  3.0000e+001  0.0000e+000  1.6217e+001  0.0000e+000 -1.6493e+001
0.0000e+000
8  1.5461e+001 -5.3451e+000  3.0000e+001  0.0000e+000  1.6493e+001  0.0000e+000 -1.6769e+001
0.0000e+000
9  1.5512e+001 -5.3627e+000  3.0000e+001  0.0000e+000  1.6769e+001  0.0000e+000 -1.7047e+001
0.0000e+000
10 1.5563e+001 -5.3803e+000  3.0000e+001  0.0000e+000  1.7047e+001  0.0000e+000 -1.7326e+001
0.0000e+000
11 1.5614e+001 -5.3979e+000  3.0000e+001  0.0000e+000  1.7326e+001  0.0000e+000 -1.7605e+001
0.0000e+000
12 1.1557e+001 -3.9955e+000  3.0000e+001  0.0000e+000  1.7605e+001  0.0000e+000 -1.6271e+001
0.0000e+000
13 1.1216e+001 -3.8776e+000  3.0000e+001  0.0000e+000  1.6271e+001  0.0000e+000 -1.4976e+001
0.0000e+000
14 1.4015e+001 -4.8449e+000  3.0000e+001  0.0000e+000  1.4976e+001  0.0000e+000 -1.3358e+001
0.0000e+000
15 1.3214e+001 -4.5681e+000  3.0000e+001  0.0000e+000  1.3358e+001  0.0000e+000 -1.1833e+001
0.0000e+000
16 1.2413e+001 -4.2912e+000  3.0000e+001  0.0000e+000  1.1833e+001  0.0000e+000 -1.0400e+001
0.0000e+000
17 1.1612e+001 -4.0144e+000  3.0000e+001  0.0000e+000  1.0400e+001  0.0000e+000 -9.0595e+000
0.0000e+000
18 1.0811e+001 -3.7375e+000  3.0000e+001  0.0000e+000  9.0595e+000  0.0000e+000 -7.8115e+000
0.0000e+000
19 1.0010e+001 -3.4607e+000  3.0000e+001  0.0000e+000  7.8115e+000  0.0000e+000 -6.6559e+000
0.0000e+000
20 9.2095e+000 -3.1838e+000  3.0000e+001  0.0000e+000  6.6559e+000  0.0000e+000 -5.5927e+000
0.0000e+000
21 8.4087e+000 -2.9070e+000  3.0000e+001  0.0000e+000  5.5927e+000  0.0000e+000 -4.6221e+000
0.0000e+000
22 7.6079e+000 -2.6301e+000  3.0000e+001  0.0000e+000  4.6221e+000  0.0000e+000 -3.7438e+000
0.0000e+000
23 6.8071e+000 -2.3533e+000  3.0000e+001  0.0000e+000  3.7438e+000  0.0000e+000 -2.9580e+000
0.0000e+000
24 6.0062e+000 -2.0764e+000  3.0000e+001  0.0000e+000  2.9580e+000  0.0000e+000 -2.2647e+000
0.0000e+000
25 5.2054e+000 -1.7995e+000  3.0000e+001  0.0000e+000  2.2647e+000  0.0000e+000 -1.6638e+000
0.0000e+000
26 4.4046e+000 -1.5227e+000  3.0000e+001  0.0000e+000  1.6638e+000  0.0000e+000 -1.1553e+000
0.0000e+000
27 3.6037e+000 -1.2458e+000  3.0000e+001  0.0000e+000  1.1553e+000  0.0000e+000 -7.3929e-001
0.0000e+000
28 2.8029e+000 -9.6899e-001  3.0000e+001  0.0000e+000  7.3929e-001  0.0000e+000 -4.1572e-001
0.0000e+000
29 2.0021e+000 -6.9213e-001  3.0000e+001  0.0000e+000  4.1572e-001  0.0000e+000 -1.8460e-001
0.0000e+000
30 1.2012e+000 -4.1528e-001  3.0000e+001  0.0000e+000  1.8460e-001  0.0000e+000 -4.5921e-002
0.0000e+000
31 4.0041e-001 -1.3842e-001  3.0000e+001  0.0000e+000  4.5921e-002  0.0000e+000  3.1000e-004
0.0000e+000

```

M-P_Method_Fm= 1.7053209 Applied_Lambda= 0.4786
SL# Normal_M ShearMob Phi_Angle Cohesion SideLeft ShearLeft SideRight

```

=====
=====
1  1.4351e+001 -4.8585e+000  3.0000e+001  0.0000e+000  0.0000e+000  0.0000e+000 -1.0018e+001
6.9311e-001
2  6.0382e+000 -2.0443e+000  3.0000e+001  0.0000e+000  1.0018e+001 -6.9311e-001 -1.4274e+001
1.2785e+000
3  1.3183e+001 -4.4632e+000  3.0000e+001  0.0000e+000  1.4274e+001 -1.2785e+000 -1.4607e+001
2.0082e+000
4  1.3605e+001 -4.6062e+000  3.0000e+001  0.0000e+000  1.4607e+001 -2.0082e+000 -1.4951e+001
2.7501e+000

```


Ngau Tam Mei (0019).frc

5	1.4035e+001	-4.7515e+000	3.0000e+001	0.0000e+000	1.4951e+001	-2.7501e+000	-1.5306e+001
6	1.4672e+001	-4.9672e+000	3.0000e+001	0.0000e+000	1.5306e+001	-3.4964e+000	-1.5676e+001
7	1.4738e+001	-4.9898e+000	3.0000e+001	0.0000e+000	1.5676e+001	-4.2580e+000	-1.6048e+001
8	1.4815e+001	-5.0157e+000	3.0000e+001	0.0000e+000	1.6048e+001	-5.0031e+000	-1.6420e+001
9	1.4902e+001	-5.0451e+000	3.0000e+001	0.0000e+000	1.6420e+001	-5.7211e+000	-1.6795e+001
10	1.4998e+001	-5.0778e+000	3.0000e+001	0.0000e+000	1.6795e+001	-6.4014e+000	-1.7170e+001
11	1.5105e+001	-5.1138e+000	3.0000e+001	0.0000e+000	1.7170e+001	-7.0333e+000	-1.7548e+001
12	1.1884e+001	-4.0234e+000	3.0000e+001	0.0000e+000	1.7548e+001	-7.6068e+000	-1.6248e+001
13	1.1606e+001	-3.9292e+000	3.0000e+001	0.0000e+000	1.6248e+001	-7.2811e+000	-1.4978e+001
14	1.4593e+001	-4.9406e+000	3.0000e+001	0.0000e+000	1.4978e+001	-6.8892e+000	-1.3379e+001
15	1.3845e+001	-4.6872e+000	3.0000e+001	0.0000e+000	1.3379e+001	-6.3030e+000	-1.1861e+001
16	1.3072e+001	-4.4257e+000	3.0000e+001	0.0000e+000	1.1861e+001	-5.6609e+000	-1.0426e+001
17	1.2278e+001	-4.1567e+000	3.0000e+001	0.0000e+000	1.0426e+001	-4.9878e+000	-9.0779e+000
18	1.1463e+001	-3.8809e+000	3.0000e+001	0.0000e+000	9.0779e+000	-4.3071e+000	-7.8183e+000
19	1.0631e+001	-3.5992e+000	3.0000e+001	0.0000e+000	7.8183e+000	-3.6396e+000	-6.6498e+000
20	9.7848e+000	-3.3127e+000	3.0000e+001	0.0000e+000	6.6498e+000	-3.0035e+000	-5.5742e+000
21	8.9274e+000	-3.0224e+000	3.0000e+001	0.0000e+000	5.5742e+000	-2.4139e+000	-4.5930e+000
22	8.0621e+000	-2.7295e+000	3.0000e+001	0.0000e+000	4.5930e+000	-1.8824e+000	-3.7072e+000
23	7.1924e+000	-2.4351e+000	3.0000e+001	0.0000e+000	3.7072e+000	-1.4173e+000	-2.9173e+000
24	6.3215e+000	-2.1402e+000	3.0000e+001	0.0000e+000	2.9173e+000	-1.0233e+000	-2.2235e+000
25	5.4524e+000	-1.8460e+000	3.0000e+001	0.0000e+000	2.2235e+000	-7.0147e-001	-1.6255e+000
26	4.5879e+000	-1.5533e+000	3.0000e+001	0.0000e+000	1.6255e+000	-4.5007e-001	-1.1229e+000
27	3.7304e+000	-1.2629e+000	3.0000e+001	0.0000e+000	1.1229e+000	-2.6426e-001	-7.1457e-001
28	2.8818e+000	-9.7566e-001	3.0000e+001	0.0000e+000	7.1457e-001	-1.3672e-001	-3.9951e-001
29	2.0438e+000	-6.9193e-001	3.0000e+001	0.0000e+000	3.9951e-001	-5.8048e-002	-1.7635e-001
30	1.2173e+000	-4.1212e-001	3.0000e+001	0.0000e+000	1.7635e-001	-1.7234e-002	-4.3595e-002
31	4.0300e-001	-1.3644e-001	3.0000e+001	0.0000e+000	4.3595e-002	-2.1415e-003	3.1000e-004

Slip_Surface_Summary

Analysis	Volume	Weight	Res_Moment	Act_Moment	Res_Force	Act_Force
Ordinary Method	2.2233e+001	3.1127e+002	1.0693e+004	6.5508e+003		
Bishop Method	2.2233e+001	3.1127e+002	1.1272e+004	6.6540e+003		
Janbu Method	2.2233e+001	3.1127e+002			1.6675e+002	9.9848e+001
M-P Method	2.2233e+001	3.1127e+002	1.1217e+004	6.5775e+003	1.6743e+002	9.8274e+001

Description: Ngau Tam Mei Landfill Slope Stability Analysis

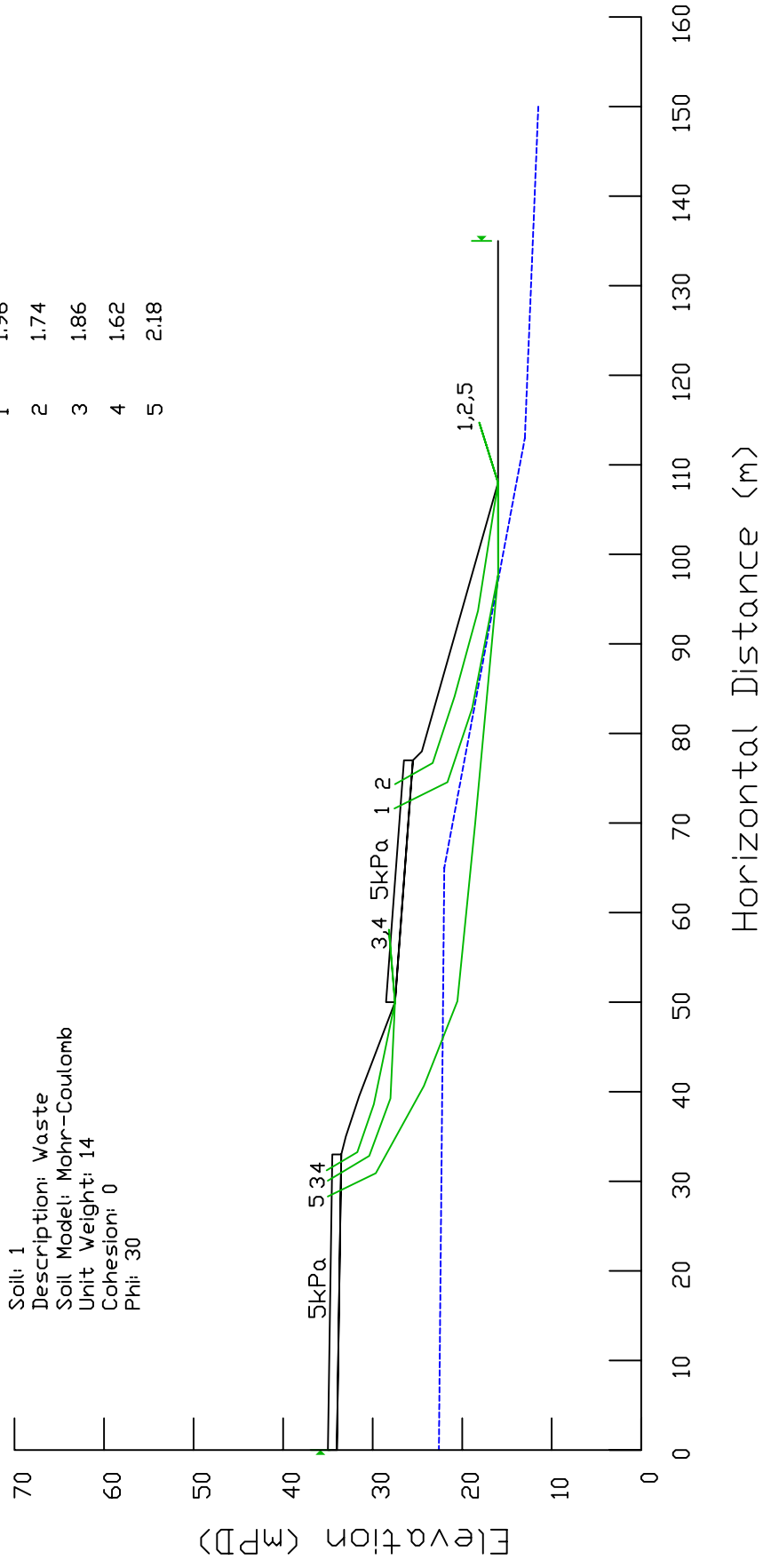
Analysis Method: Morgenstern-Price

P.W.P. Option: Piezometric lines with Ru

'DYNAMIC' CONDITION

Pseudo-Static
Coefficient = 0.038

Slip #	F.O.S.
1	1.96
2	1.74
3	1.86
4	1.62
5	2.18



DATESTAMP 23/2/2009

TIMESTAMP 13:34:35

3=METHOD 5=NO. OF SLIP SURFACES				1=NO. OF RADII		2=SIDE FUNCTION TYPE	
SLIP NO.	X-COORD.	Y-COORD.	RADIUS	ITERATION NO.	LAMBDA	FACTOR OF SAFETY (MOMENT)	FACTOR OF SAFETY (FORCE)
1	107.910	74.526	60.218	1	0.0000	2.0242701	2.1683052
1	107.910	74.526	60.218	4	0.0000	1.9528349	1.8985037
1	107.910	74.526	60.218	3	0.4291	1.9603201	1.9616449
2	107.910	74.526	58.730	1	0.0000	1.7837449	1.8618528
2	107.910	74.526	58.730	4	0.0000	1.7424626	1.7103332
2	107.910	74.526	58.730	3	0.4643	1.7364620	1.7367060
3	107.910	74.526	87.196	1	0.0000	1.5606083	2.0364132
3	107.910	74.526	87.196	4	0.0000	1.7748264	1.7313052
3	107.910	74.526	87.196	3	0.4622	1.8606559	1.8621774
4	107.910	74.526	86.126	1	0.0000	1.5467955	1.7374081
4	107.910	74.526	86.126	5	0.0000	1.6068712	1.5836602
4	107.910	74.526	86.126	3	0.5077	1.6172705	1.6155498
5	107.910	74.526	88.914	1	0.0000	2.0118664	2.2653294
5	107.910	74.526	88.914	4	0.0000	2.2393693	2.1197467
5	107.910	74.526	88.914	3	0.3312	2.1768903	2.1761099

| SUMMARY OF MINIMUM FACTORS OF SAFETY |

MOMENT EQUILIBRIUM: FELLENIUS OR ORDINARY METHOD			
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.5467955=F.S. 4=SLIP#
MOMENT EQUILIBRIUM: BISHOP SIMPLIFIED METHOD			
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.6068712=F.S. 4=SLIP#
FORCE EQUILIBRIUM: JANBU SIMPLIFIED METHOD (NO fo FACTOR)			
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.5836602=F.S. 4=SLIP#
MOMENT AND FORCE EQUILIBRIUM: MORGENSTERN-PRICE METHOD			
107.9100=X-COOR.	74.5260=Y-COOR.	86.1255=RADIUS	1.6172705=F.S. 4=SLIP#

NORMAL TERMINATION OF SLOPE

DATESTAMP 23/2/2009
 TIMESTAMP 13:34:35

Center_X	Center_Y	Radius	Slip_Surface	Method			
1.079100e+002	7.452600e+001	8.612551e+001	4	3			
SL#	X_Left	Y_L_Top	Y_L_Bottom	X_Right	Y_R_Top	Y_R_Bottom	
1	3.217696e+001	3.351247e+001	3.351247e+001	3.300000e+001	3.350000e+001	3.212424e+001	
2	3.300000e+001	3.350000e+001	3.212424e+001	3.324500e+001	3.343875e+001	3.171100e+001	
3	3.324500e+001	3.343875e+001	3.171100e+001	3.383000e+001	3.329250e+001	3.150989e+001	
4	3.383000e+001	3.329250e+001	3.150989e+001	3.441500e+001	3.314625e+001	3.130878e+001	
5	3.441500e+001	3.314625e+001	3.130878e+001	3.500000e+001	3.300000e+001	3.110767e+001	
6	3.500000e+001	3.300000e+001	3.110767e+001	3.560100e+001	3.279967e+001	3.090106e+001	
7	3.560100e+001	3.279967e+001	3.090106e+001	3.620200e+001	3.259933e+001	3.069445e+001	
8	3.620200e+001	3.259933e+001	3.069445e+001	3.680300e+001	3.239900e+001	3.048783e+001	
9	3.680300e+001	3.239900e+001	3.048783e+001	3.740400e+001	3.219867e+001	3.028122e+001	
10	3.740400e+001	3.219867e+001	3.028122e+001	3.800500e+001	3.199833e+001	3.007461e+001	
11	3.800500e+001	3.199833e+001	3.007461e+001	3.860600e+001	3.179800e+001	2.986800e+001	
12	3.860600e+001	3.179800e+001	2.986800e+001	3.905300e+001	3.164900e+001	2.977510e+001	
13	3.905300e+001	3.164900e+001	2.977510e+001	3.950000e+001	3.150000e+001	2.968220e+001	
14	3.950000e+001	3.150000e+001	2.968220e+001	4.008333e+001	3.127778e+001	2.956097e+001	
15	4.008333e+001	3.127778e+001	2.956097e+001	4.066667e+001	3.105556e+001	2.943973e+001	
16	4.066667e+001	3.105556e+001	2.943973e+001	4.125000e+001	3.083333e+001	2.931850e+001	
17	4.125000e+001	3.083333e+001	2.931850e+001	4.183333e+001	3.061111e+001	2.919727e+001	
18	4.183333e+001	3.061111e+001	2.919727e+001	4.241667e+001	3.038889e+001	2.907603e+001	
19	4.241667e+001	3.038889e+001	2.907603e+001	4.300000e+001	3.016667e+001	2.895480e+001	
20	4.300000e+001	3.016667e+001	2.895480e+001	4.358333e+001	2.994444e+001	2.883357e+001	
21	4.358333e+001	2.994444e+001	2.883357e+001	4.416667e+001	2.972222e+001	2.871233e+001	
22	4.416667e+001	2.972222e+001	2.871233e+001	4.475000e+001	2.950000e+001	2.859110e+001	
23	4.475000e+001	2.950000e+001	2.859110e+001	4.533333e+001	2.927778e+001	2.846987e+001	
24	4.533333e+001	2.927778e+001	2.846987e+001	4.591667e+001	2.905556e+001	2.834863e+001	
25	4.591667e+001	2.905556e+001	2.834863e+001	4.650000e+001	2.883333e+001	2.822740e+001	
26	4.650000e+001	2.883333e+001	2.822740e+001	4.708333e+001	2.861111e+001	2.810617e+001	
27	4.708333e+001	2.861111e+001	2.810617e+001	4.766667e+001	2.838889e+001	2.798493e+001	
28	4.766667e+001	2.838889e+001	2.798493e+001	4.825000e+001	2.816667e+001	2.786370e+001	
29	4.825000e+001	2.816667e+001	2.786370e+001	4.883333e+001	2.794444e+001	2.774247e+001	
30	4.883333e+001	2.794444e+001	2.774247e+001	4.941667e+001	2.772222e+001	2.762123e+001	
31	4.941667e+001	2.772222e+001	2.762123e+001	5.000000e+001	2.750000e+001	2.750000e+001	
SL#	L_Load_X	L_Load_Y	A_Load_X	A_Load_Y	P_Load_X	P_Load_Y	A_Modifier
	AS_Load_X	AS_Load_Y					

Ngau Tam Mei 0038).frc

6	1.6555e+001	0.0000e+000	1.8972e+001	5.6756e-001	6.0604e-001	3.1952e+001	0.0000e+000
7	1.6609e+001	0.0000e+000	1.8972e+001	6.5144e-001	6.0805e-001	3.1749e+001	0.0000e+000
8	1.6664e+001	0.0000e+000	1.8972e+001	7.2801e-001	6.1006e-001	3.1545e+001	0.0000e+000
9	1.6719e+001	0.0000e+000	1.8972e+001	7.9642e-001	6.1206e-001	3.1342e+001	0.0000e+000
10	1.6774e+001	0.0000e+000	1.8972e+001	8.5590e-001	6.1407e-001	3.1138e+001	0.0000e+000
11	1.6829e+001	0.0000e+000	1.8972e+001	9.0578e-001	6.1608e-001	3.0935e+001	0.0000e+000
12	1.2355e+001	0.0000e+000	1.1741e+001	9.3632e-001	4.5229e-001	3.0773e+001	0.0000e+000
13	1.1990e+001	0.0000e+000	1.1741e+001	9.6106e-001	4.3895e-001	3.0652e+001	0.0000e+000
14	1.4981e+001	0.0000e+000	1.1741e+001	9.8435e-001	5.4845e-001	3.0505e+001	0.0000e+000
15	1.4125e+001	0.0000e+000	1.1741e+001	9.9724e-001	5.1711e-001	3.0334e+001	0.0000e+000
16	1.3269e+001	0.0000e+000	1.1741e+001	9.9959e-001	4.8577e-001	3.0162e+001	0.0000e+000
17	1.2413e+001	0.0000e+000	1.1741e+001	9.9139e-001	4.5443e-001	2.9990e+001	0.0000e+000
18	1.1557e+001	0.0000e+000	1.1741e+001	9.7272e-001	4.2309e-001	2.9818e+001	0.0000e+000
19	1.0701e+001	0.0000e+000	1.1741e+001	9.4377e-001	3.9175e-001	2.9647e+001	0.0000e+000
20	9.8449e+000	0.0000e+000	1.1741e+001	9.0485e-001	3.6041e-001	2.9475e+001	0.0000e+000
21	8.9889e+000	0.0000e+000	1.1741e+001	8.5638e-001	3.2907e-001	2.9303e+001	0.0000e+000
22	8.1328e+000	0.0000e+000	1.1741e+001	7.9886e-001	2.9773e-001	2.9131e+001	0.0000e+000
23	7.2767e+000	0.0000e+000	1.1741e+001	7.3290e-001	2.6639e-001	2.8960e+001	0.0000e+000
24	6.4206e+000	0.0000e+000	1.1741e+001	6.5920e-001	2.3505e-001	2.8788e+001	0.0000e+000
25	5.5645e+000	0.0000e+000	1.1741e+001	5.7853e-001	2.0371e-001	2.8616e+001	0.0000e+000
26	4.7085e+000	0.0000e+000	1.1741e+001	4.9176e-001	1.7237e-001	2.8445e+001	0.0000e+000
27	3.8524e+000	0.0000e+000	1.1741e+001	3.9979e-001	1.4103e-001	2.8273e+001	0.0000e+000
28	2.9963e+000	0.0000e+000	1.1741e+001	3.0360e-001	1.0969e-001	2.8101e+001	0.0000e+000
29	2.1402e+000	0.0000e+000	1.1741e+001	2.0420e-001	7.8350e-002	2.7929e+001	0.0000e+000
30	1.2841e+000	0.0000e+000	1.1741e+001	1.0264e-001	4.7010e-002	2.7758e+001	0.0000e+000
31	4.2804e-001	0.0000e+000	1.1741e+001	2.6698e-008	1.5670e-002	2.7586e+001	0.0000e+000

Ordinary_Method_Fm= 1.5467955 Applied_Lambda= 0.0000

SL#	Normal_M	ShearMob	Phi_Angle	Cohesion
1	6.0354e+000	-2.2528e+000	3.0000e+001	0.0000e+000
2	2.6436e+000	-9.8672e-001	3.0000e+001	0.0000e+000
3	1.3933e+001	-5.2006e+000	3.0000e+001	0.0000e+000
4	1.4369e+001	-5.3631e+000	3.0000e+001	0.0000e+000
5	1.4804e+001	-5.5257e+000	3.0000e+001	0.0000e+000
6	1.5458e+001	-5.7699e+000	3.0000e+001	0.0000e+000
7	1.5509e+001	-5.7890e+000	3.0000e+001	0.0000e+000
8	1.5561e+001	-5.8081e+000	3.0000e+001	0.0000e+000
9	1.5612e+001	-5.8272e+000	3.0000e+001	0.0000e+000
10	1.5663e+001	-5.8463e+000	3.0000e+001	0.0000e+000
11	1.5714e+001	-5.8654e+000	3.0000e+001	0.0000e+000
12	1.2004e+001	-4.4806e+000	3.0000e+001	0.0000e+000
13	1.1650e+001	-4.3485e+000	3.0000e+001	0.0000e+000
14	1.4556e+001	-5.4333e+000	3.0000e+001	0.0000e+000
15	1.3725e+001	-5.1228e+000	3.0000e+001	0.0000e+000
16	1.2893e+001	-4.8123e+000	3.0000e+001	0.0000e+000
17	1.2061e+001	-4.5018e+000	3.0000e+001	0.0000e+000
18	1.1229e+001	-4.1914e+000	3.0000e+001	0.0000e+000
19	1.0397e+001	-3.8809e+000	3.0000e+001	0.0000e+000
20	9.5656e+000	-3.5704e+000	3.0000e+001	0.0000e+000
21	8.7338e+000	-3.2600e+000	3.0000e+001	0.0000e+000
22	7.9021e+000	-2.9495e+000	3.0000e+001	0.0000e+000
23	7.0703e+000	-2.6390e+000	3.0000e+001	0.0000e+000

Ngau Tam Mei 0038).frc

24	6.2385e+000	-2.3285e+000	3.0000e+001	0.0000e+000
25	5.4067e+000	-2.0181e+000	3.0000e+001	0.0000e+000
26	4.5749e+000	-1.7076e+000	3.0000e+001	0.0000e+000
27	3.7431e+000	-1.3971e+000	3.0000e+001	0.0000e+000
28	2.9113e+000	-1.0867e+000	3.0000e+001	0.0000e+000
29	2.0795e+000	-7.7618e-001	3.0000e+001	0.0000e+000
30	1.2477e+000	-4.6571e-001	3.0000e+001	0.0000e+000
31	4.1590e-001	-1.5524e-001	3.0000e+001	0.0000e+000

Bishop_Method_Fm= 1.6068712
 SL# Normal_M ShearMob

Applied_Lambda= 0.0000
 Phi_Angle Cohesion SideLeft ShearLeft SideRight

SL#	Normal_M	ShearMob	Phi_Angle	Cohesion	SideLeft	ShearLeft	SideRight
1	1.5082e+001	-5.4188e+000	3.0000e+001	0.0000e+000	0.0000e+000	0.0000e+000	-1.0407e+001
2	6.7508e+000	-2.4256e+000	3.0000e+001	0.0000e+000	1.0407e+001	0.0000e+000	-1.5133e+001
3	1.4047e+001	-5.0471e+000	3.0000e+001	0.0000e+000	1.5133e+001	0.0000e+000	-1.5403e+001
4	1.4486e+001	-5.2048e+000	3.0000e+001	0.0000e+000	1.5403e+001	0.0000e+000	-1.5682e+001
5	1.4925e+001	-5.3626e+000	3.0000e+001	0.0000e+000	1.5682e+001	0.0000e+000	-1.5970e+001
6	1.5585e+001	-5.5995e+000	3.0000e+001	0.0000e+000	1.5970e+001	0.0000e+000	-1.6270e+001
7	1.5636e+001	-5.6181e+000	3.0000e+001	0.0000e+000	1.6270e+001	0.0000e+000	-1.6571e+001
8	1.5688e+001	-5.6366e+000	3.0000e+001	0.0000e+000	1.6571e+001	0.0000e+000	-1.6873e+001
9	1.5739e+001	-5.6552e+000	3.0000e+001	0.0000e+000	1.6873e+001	0.0000e+000	-1.7177e+001
10	1.5791e+001	-5.6737e+000	3.0000e+001	0.0000e+000	1.7177e+001	0.0000e+000	-1.7481e+001
11	1.5843e+001	-5.6923e+000	3.0000e+001	0.0000e+000	1.7481e+001	0.0000e+000	-1.7786e+001
12	1.1744e+001	-4.2195e+000	3.0000e+001	0.0000e+000	1.7786e+001	0.0000e+000	-1.6438e+001
13	1.1397e+001	-4.0950e+000	3.0000e+001	0.0000e+000	1.6438e+001	0.0000e+000	-1.5130e+001
14	1.4240e+001	-5.1166e+000	3.0000e+001	0.0000e+000	1.5130e+001	0.0000e+000	-1.3495e+001
15	1.3427e+001	-4.8242e+000	3.0000e+001	0.0000e+000	1.3495e+001	0.0000e+000	-1.1954e+001
16	1.2613e+001	-4.5319e+000	3.0000e+001	0.0000e+000	1.1954e+001	0.0000e+000	-1.0507e+001
17	1.1799e+001	-4.2395e+000	3.0000e+001	0.0000e+000	1.0507e+001	0.0000e+000	-9.1525e+000
18	1.0985e+001	-3.9471e+000	3.0000e+001	0.0000e+000	9.1525e+000	0.0000e+000	-7.8917e+000
19	1.0172e+001	-3.6547e+000	3.0000e+001	0.0000e+000	7.8917e+000	0.0000e+000	-6.7242e+000
20	9.3580e+000	-3.3623e+000	3.0000e+001	0.0000e+000	6.7242e+000	0.0000e+000	-5.6502e+000
21	8.5443e+000	-3.0700e+000	3.0000e+001	0.0000e+000	5.6502e+000	0.0000e+000	-4.6695e+000
22	7.7305e+000	-2.7776e+000	3.0000e+001	0.0000e+000	4.6695e+000	0.0000e+000	-3.7823e+000
23	6.9168e+000	-2.4852e+000	3.0000e+001	0.0000e+000	3.7823e+000	0.0000e+000	-2.9884e+000
24	6.1030e+000	-2.1928e+000	3.0000e+001	0.0000e+000	2.9884e+000	0.0000e+000	-2.2879e+000
25	5.2893e+000	-1.9005e+000	3.0000e+001	0.0000e+000	2.2879e+000	0.0000e+000	-1.6809e+000
26	4.4756e+000	-1.6081e+000	3.0000e+001	0.0000e+000	1.6809e+000	0.0000e+000	-1.1672e+000
27	3.6618e+000	-1.3157e+000	3.0000e+001	0.0000e+000	1.1672e+000	0.0000e+000	-7.4688e-001
28	2.8481e+000	-1.0233e+000	3.0000e+001	0.0000e+000	7.4688e-001	0.0000e+000	-4.1999e-001
29	2.0343e+000	-7.3094e-001	3.0000e+001	0.0000e+000	4.1999e-001	0.0000e+000	-1.8650e-001
30	1.2206e+000	-4.3856e-001	3.0000e+001	0.0000e+000	1.8650e-001	0.0000e+000	-4.6396e-002
31	4.0686e-001	-1.4619e-001	3.0000e+001	0.0000e+000	4.6396e-002	0.0000e+000	3.1000e-004

Janbu_Method_Ff= 1.5836602
 SL# Normal_F ShearMob

Applied_Lambda= 0.0000
 Phi_Angle Cohesion SideLeft ShearLeft SideRight

ShearRight

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1  1.4987e+001 -5.4636e+000  3.0000e+001  0.0000e+000  0.0000e+000  0.0000e+000 -1.0407e+001
0.0000e+000
2  6.7082e+000 -2.4456e+000  3.0000e+001  0.0000e+000  1.0407e+001  0.0000e+000 -1.5133e+001
0.0000e+000
3  1.4021e+001 -5.1116e+000  3.0000e+001  0.0000e+000  1.5133e+001  0.0000e+000 -1.5403e+001
0.0000e+000
4  1.4459e+001 -5.2714e+000  3.0000e+001  0.0000e+000  1.5403e+001  0.0000e+000 -1.5682e+001
0.0000e+000
5  1.4897e+001 -5.4311e+000  3.0000e+001  0.0000e+000  1.5682e+001  0.0000e+000 -1.5970e+001
0.0000e+000
6  1.5556e+001 -5.6711e+000  3.0000e+001  0.0000e+000  1.5970e+001  0.0000e+000 -1.6270e+001
0.0000e+000
7  1.5607e+001 -5.6899e+000  3.0000e+001  0.0000e+000  1.6270e+001  0.0000e+000 -1.6571e+001
0.0000e+000
8  1.5659e+001 -5.7087e+000  3.0000e+001  0.0000e+000  1.6571e+001  0.0000e+000 -1.6873e+001
0.0000e+000
9  1.5710e+001 -5.7275e+000  3.0000e+001  0.0000e+000  1.6873e+001  0.0000e+000 -1.7177e+001
0.0000e+000
10 1.5762e+001 -5.7463e+000  3.0000e+001  0.0000e+000  1.7177e+001  0.0000e+000 -1.7481e+001
0.0000e+000
11 1.5813e+001 -5.7651e+000  3.0000e+001  0.0000e+000  1.7481e+001  0.0000e+000 -1.7786e+001
0.0000e+000
12 1.1730e+001 -4.2763e+000  3.0000e+001  0.0000e+000  1.7786e+001  0.0000e+000 -1.6438e+001
0.0000e+000
13 1.1384e+001 -4.1502e+000  3.0000e+001  0.0000e+000  1.6438e+001  0.0000e+000 -1.5130e+001
0.0000e+000
14 1.4224e+001 -5.1855e+000  3.0000e+001  0.0000e+000  1.5130e+001  0.0000e+000 -1.3495e+001
0.0000e+000
15 1.3411e+001 -4.8892e+000  3.0000e+001  0.0000e+000  1.3495e+001  0.0000e+000 -1.1954e+001
0.0000e+000
16 1.2598e+001 -4.5929e+000  3.0000e+001  0.0000e+000  1.1954e+001  0.0000e+000 -1.0507e+001
0.0000e+000
17 1.1785e+001 -4.2966e+000  3.0000e+001  0.0000e+000  1.0507e+001  0.0000e+000 -9.1525e+000
0.0000e+000
18 1.0973e+001 -4.0003e+000  3.0000e+001  0.0000e+000  9.1525e+000  0.0000e+000 -7.8917e+000
0.0000e+000
19 1.0160e+001 -3.7040e+000  3.0000e+001  0.0000e+000  7.8917e+000  0.0000e+000 -6.7242e+000
0.0000e+000
20 9.3471e+000 -3.4076e+000  3.0000e+001  0.0000e+000  6.7242e+000  0.0000e+000 -5.6502e+000
0.0000e+000
21 8.5343e+000 -3.1113e+000  3.0000e+001  0.0000e+000  5.6502e+000  0.0000e+000 -4.6695e+000
0.0000e+000
22 7.7215e+000 -2.8150e+000  3.0000e+001  0.0000e+000  4.6695e+000  0.0000e+000 -3.7823e+000
0.0000e+000
23 6.9087e+000 -2.5187e+000  3.0000e+001  0.0000e+000  3.7823e+000  0.0000e+000 -2.9884e+000
0.0000e+000
24 6.0959e+000 -2.2224e+000  3.0000e+001  0.0000e+000  2.9884e+000  0.0000e+000 -2.2879e+000
0.0000e+000
25 5.2831e+000 -1.9261e+000  3.0000e+001  0.0000e+000  2.2879e+000  0.0000e+000 -1.6809e+000
0.0000e+000
26 4.4703e+000 -1.6297e+000  3.0000e+001  0.0000e+000  1.6809e+000  0.0000e+000 -1.1672e+000
0.0000e+000
27 3.6576e+000 -1.3334e+000  3.0000e+001  0.0000e+000  1.1672e+000  0.0000e+000 -7.4688e-001
0.0000e+000
28 2.8448e+000 -1.0371e+000  3.0000e+001  0.0000e+000  7.4688e-001  0.0000e+000 -4.1999e-001
0.0000e+000
29 2.0320e+000 -7.4079e-001  3.0000e+001  0.0000e+000  4.1999e-001  0.0000e+000 -1.8650e-001
0.0000e+000
30 1.2192e+000 -4.4447e-001  3.0000e+001  0.0000e+000  1.8650e-001  0.0000e+000 -4.6396e-002
0.0000e+000
31 4.0639e-001 -1.4816e-001  3.0000e+001  0.0000e+000  4.6396e-002  0.0000e+000  3.1000e-004
0.0000e+000

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M-P_Method_Fm= 1.6172705 Applied_Lambda= 0.5077
SL# Normal_M ShearMob Phi_Angle Cohesion SideLeft ShearLeft SideRight

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=====
=====
1  1.4212e+001 -5.0735e+000  3.0000e+001  0.0000e+000  0.0000e+000  0.0000e+000 -9.9389e+000
7.2949e-001
2  6.0010e+000 -2.1423e+000  3.0000e+001  0.0000e+000  9.9389e+000 -7.2949e-001 -1.4214e+001
1.3506e+000
3  1.3321e+001 -4.7555e+000  3.0000e+001  0.0000e+000  1.4214e+001 -1.3506e+000 -1.4588e+001
2.1277e+000
4  1.3744e+001 -4.9066e+000  3.0000e+001  0.0000e+000  1.4588e+001 -2.1277e+000 -1.4974e+001
2.9219e+000

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Ngau Tam Mei 0038).frc

5	1.4175e+001	-5.0604e+000	3.0000e+001	0.0000e+000	1.4974e+001	-2.9219e+000	-1.5372e+001
6	1.4816e+001	-5.2890e+000	3.0000e+001	0.0000e+000	1.5372e+001	-3.7252e+000	-1.5786e+001
7	1.4880e+001	-5.3122e+000	3.0000e+001	0.0000e+000	1.5786e+001	-4.5490e+000	-1.6202e+001
8	1.4956e+001	-5.3393e+000	3.0000e+001	0.0000e+000	1.6202e+001	-5.3588e+000	-1.6619e+001
9	1.5044e+001	-5.3704e+000	3.0000e+001	0.0000e+000	1.6619e+001	-6.1429e+000	-1.7037e+001
10	1.5142e+001	-5.4056e+000	3.0000e+001	0.0000e+000	1.7037e+001	-6.8891e+000	-1.7456e+001
11	1.5252e+001	-5.4447e+000	3.0000e+001	0.0000e+000	1.7456e+001	-7.5855e+000	-1.7875e+001
12	1.2078e+001	-4.3119e+000	3.0000e+001	0.0000e+000	1.7875e+001	-8.2205e+000	-1.6559e+001
13	1.1801e+001	-4.2128e+000	3.0000e+001	0.0000e+000	1.6559e+001	-7.8717e+000	-1.5269e+001
14	1.4845e+001	-5.2996e+000	3.0000e+001	0.0000e+000	1.5269e+001	-7.4505e+000	-1.3644e+001
15	1.4090e+001	-5.0300e+000	3.0000e+001	0.0000e+000	1.3644e+001	-6.8187e+000	-1.2098e+001
16	1.3309e+001	-4.7511e+000	3.0000e+001	0.0000e+000	1.2098e+001	-6.1251e+000	-1.0635e+001
17	1.2503e+001	-4.4636e+000	3.0000e+001	0.0000e+000	1.0635e+001	-5.3971e+000	-9.2581e+000
18	1.1676e+001	-4.1683e+000	3.0000e+001	0.0000e+000	9.2581e+000	-4.6600e+000	-7.9714e+000
19	1.0830e+001	-3.8662e+000	3.0000e+001	0.0000e+000	7.9714e+000	-3.9368e+000	-6.7774e+000
20	9.9681e+000	-3.5585e+000	3.0000e+001	0.0000e+000	6.7774e+000	-3.2475e+000	-5.6782e+000
21	9.0940e+000	-3.2465e+000	3.0000e+001	0.0000e+000	5.6782e+000	-2.6086e+000	-4.6757e+000
22	8.2114e+000	-2.9314e+000	3.0000e+001	0.0000e+000	4.6757e+000	-2.0330e+000	-3.7710e+000
23	7.3240e+000	-2.6146e+000	3.0000e+001	0.0000e+000	3.7710e+000	-1.5295e+000	-2.9649e+000
24	6.4353e+000	-2.2973e+000	3.0000e+001	0.0000e+000	2.9649e+000	-1.1033e+000	-2.2576e+000
25	5.5487e+000	-1.9808e+000	3.0000e+001	0.0000e+000	2.2576e+000	-7.5558e-001	-1.6487e+000
26	4.6672e+000	-1.6662e+000	3.0000e+001	0.0000e+000	1.6487e+000	-4.8428e-001	-1.1376e+000
27	3.7934e+000	-1.3542e+000	3.0000e+001	0.0000e+000	1.1376e+000	-2.8403e-001	-7.2311e-001
28	2.9293e+000	-1.0457e+000	3.0000e+001	0.0000e+000	7.2311e-001	-1.4678e-001	-4.0380e-001
29	2.0765e+000	-7.4131e-001	3.0000e+001	0.0000e+000	4.0380e-001	-6.2242e-002	-1.7802e-001
30	1.2363e+000	-4.4135e-001	3.0000e+001	0.0000e+000	1.7802e-001	-1.8456e-002	-4.3955e-002
31	4.0915e-001	-1.4606e-001	3.0000e+001	0.0000e+000	4.3955e-002	-2.2906e-003	3.1000e-004

Slip_Surface_Summary

Analysis	Volume	Weight	Res_Moment	Act_Moment	Res_Force	Act_Force
Ordinary Method	2.2233e+001	3.1127e+002	1.0828e+004	7.0004e+003		
Bishop Method	2.2233e+001	3.1127e+002	1.1409e+004	7.0999e+003		
Janbu Method	2.2233e+001	3.1127e+002			1.6895e+002	1.0668e+002
M-P Method	2.2233e+001	3.1127e+002	1.1351e+004	7.0186e+003	1.6968e+002	1.0503e+002