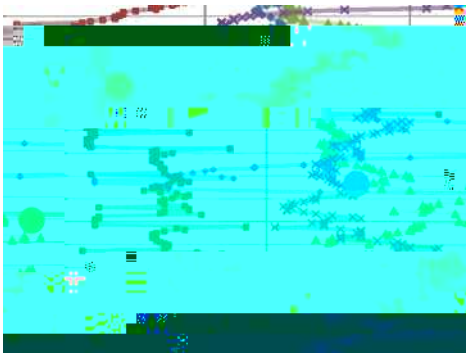

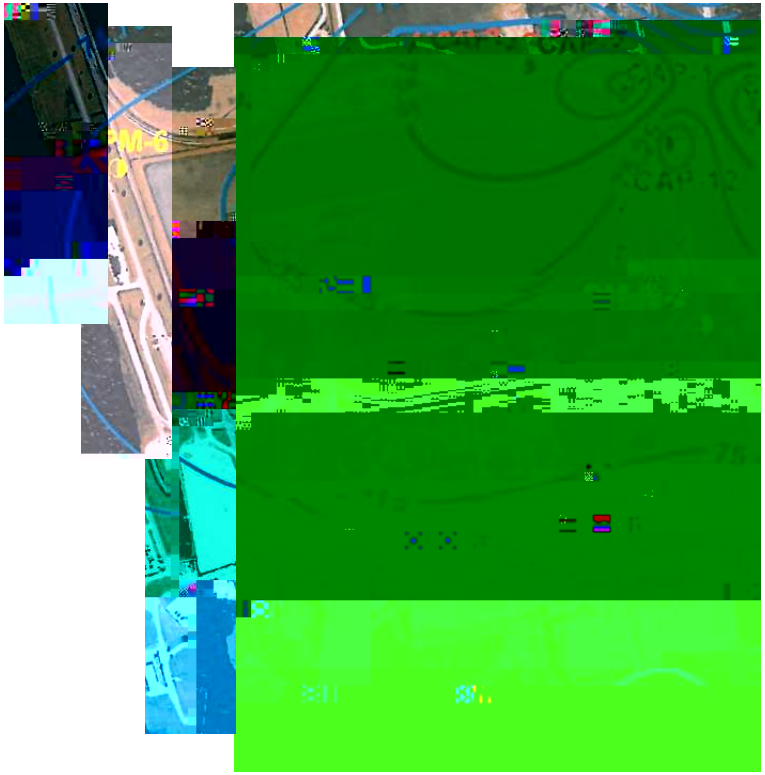

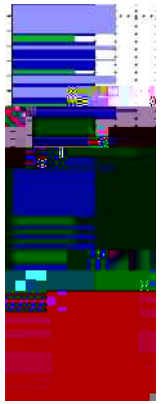

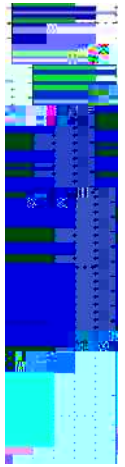


Ave. per interval
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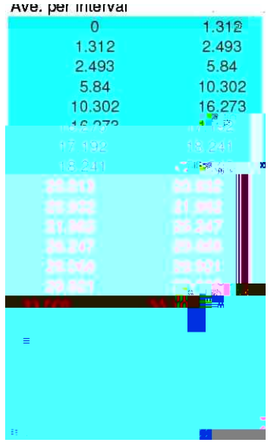
2.1
3.74
9.514
11.024


Ave. per interval
0 1.312
1.312 2.493
2.493 5.84
5.84 10.302
10.302 16.273

5	72.80	70.63
6	76.73	69.90
7	80.73	69.69
8	84.71	70.00
9	88.63	70.82
10	92.40	72.14
11	95.98	73.94
12	99.29	76.18
13	102.28	78.84
14	104.91	81.85
15	107.12	85.18
16	108.89	88.77
17	109.65	91.00

Circle Center At X = 80.3 ; Y = 100.6 and Radius, 30.9

*** 1.779 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.84	78.90
2	59.67	76.07
3	62.85	73.64
4	66.32	71.65
5	70.02	70.13
6	73.88	69.11
7	77.85	68.60
8	81.85	68.62
9	85.81	69.17
10	89.67	70.23
11	93.35	71.79
12	96.80	73.82
13	99.95	76.28
14	102.75	79.14
15	105.15	82.33
16	107.12	85.82
17	108.60	89.53
18	108.97	91.00

Circle Center At X = 79.7 ; Y = 98.9 and Radius, 30.4

*** 1.793 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.84	78.90
2	59.93	76.36
3	63.29	74.19
4	66.89	72.43
5	70.66	71.10
6	74.56	70.22
7	78.54	69.79
8	82.54	69.83
9	86.50	70.34
10	90.39	71.30
11	94.13	72.71
12	97.69	74.54
13	101.01	76.77
14	104.04	79.38
15	106.76	82.32
16	109.11	85.55
17	111.07	89.04
18	111.89	91.00

Circle Center At X = 80.2 ; Y = 104.1 and Radius, 34.4

*** 1.795 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	58.95	78.30
2	62.07	75.80
3	65.46	73.68
4	69.07	71.96
5	72.86	70.69
6	76.78	69.86

11	91.18	68.35
12	95.01	69.51
13	98.69	71.08
14	102.18	73.03
15	105.44	75.35
16	108.43	78.00
17	111.12	80.96
18	113.48	84.20
19	115.48	87.66
20	116.95	91.00

Circle Center At X = 82.3 ; Y = 104.5 and Radius, 37.2

*** 1.845 ***

**** STABL6H ****
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 2/11/2016
Time of Run: 06:53AM
Run By: B. Gordon, WorleyParsons
Input Data Filename: Z:cross734normalconditionsblock.in
Output Filename: Z:cross734normalconditionsblock.OUT
Plotted Output Filename: Z:cross734normalconditionsblock.PLT
PROBLEM DESCRIPTION Cross BA Pond
Section 734, Normal Conditions, Block

BOUNDARY COORDINATES
8 Top Boundaries
11 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	80.00	32.00	80.00	2
2	32.00	80.00	53.00	80.00	2
3	53.00	80.00	60.00	78.00	2
4	60.00	78.00	67.00	78.00	2
5	67.00	78.00	106.00	91.00	2
6	106.00	91.00	121.00	91.00	2
7	121.00	91.00	130.00	88.00	2
8	130.00	88.00	225.00	88.00	1
9	130.00	88.00	167.00	76.00	2
10	167.00	76.00	225.00	75.00	2
11	0.00	74.00	225.00	74.00	3

ISOTROPIC SOIL PARAMETERS
3 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	90.0	95.0	0.0	0.0	0.00	0.0	1
2	130.0	135.0	50.0	30.0	0.00	0.0	1
3	102.0	107.0	0.0	22.0	0.00	0.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED
Unit Weight of Water = 62.40
Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	78.00
2	106.00	78.00
3	130.00	88.00
4	225.00	88.00

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Sliding Block Surfaces, Has Been
Specified.
20 Trial Surfaces Have Been Generated.
2 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of
Sliding Block Is 20.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	75.00	72.00	90.00	72.00	15.00
2	105.00	72.00	125.00	72.00	20.00

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.
* * Safety Factors Are Calculated By The Modified Janbu Method * *
Failure Surface Specified By 5 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	60.15	78.00
2	67.19	71.58
3	86.76	67.44
4	111.29	81.11
5	120.92	91.00

2	77.90	72.09
3	117.85	73.48
4	123.52	90.16
***	2.833	***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.24	80.00
2	42.52	74.77
3	62.33	72.01
4	82.18	69.57
5	106.67	70.75
6	111.19	90.23
7	111.30	91.00
***	2.888	***

14	104.91	81.85
15	107.12	85.18
16	108.89	88.77
17	109.65	91.00

Circle Center At X = 80.3 ; Y = 100.6 and Radius, 30.9

*** 1.779 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.84	78.90
2	59.72	76.12
3	62.87	73.66
4	66.26	71.54
5	69.86	69.80
6	73.63	68.45
7	77.52	67.51
8	81.48	66.99
9	85.48	66.89
10	89.47	67.21
11	93.40	67.96
12	97.23	69.12
13	100.91	70.68
14	104.41	72.62
15	107.68	74.92
16	110.69	77.56
17	113.40	80.50
18	115.78	83.71
19	117.81	87.16
20	119.46	90.80
21	119.53	91.00

Circle Center At X = 84.4 ; Y = 104.5 and Radius, 37.6

*** 1.787 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.84	78.90
2	59.67	76.07
3	62.85	73.64
4	66.32	71.65
5	70.02	70.13
6	73.88	69.11
7	77.85	68.60
8	81.85	68.62
9	85.81	69.17
10	89.67	70.23
11	93.35	71.79
12	96.80	73.82
13	99.95	76.28
14	102.75	79.14
15	105.15	82.33
16	107.12	85.82
17	108.60	89.53
18	108.97	91.00

Circle Center At X = 79.7 ; Y = 98.9 and Radius, 30.4

*** 1.793 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.84	78.90
2	59.93	76.36
3	63.29	74.19
4	66.89	72.43
5	70.66	71.10
6	74.56	70.22
7	78.54	69.79
8	82.54	69.83
9	86.50	70.34
10	90.39	71.30
11	94.13	72.71
12	97.69	74.54

13	101.01	76.77
14	104.04	79.38
15	106.76	82.32
16	109.11	85.55
17	111.07	89.04
18	111.89	91.00

Circle Center At X = 80.2 ; Y = 104.1 and Radius, 34.4

*** 1.795 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	58.95	78.30
2	62.07	75.80
3	65.46	73.68
4	69.07	71.96
5	72.86	70.69
6	76.78	69.86
7	80.76	69.49
8	84.76	69.60
9	88.72	70.17
10	92.58	71.19
11	96.30	72.67
12	99.83	74.56
13	103.10	76.86
14	106.09	79.52
15	108.74	82.51
16	111.03	85.79
17	112.92	89.31
18	113.59	91.00

Circle Center At X = 81.9 ; Y = 103.7 and Radius, 34.2

*** 1.801 ***

3	88.60	65.80
4	102.37	66.65
5	116.02	81.27
6	123.34	90.22
***	2.177 ***	

Failure Surface Specified By 5 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	68.98	78.66
2	69.27	78.41
3	87.11	69.37
4	121.85	74.65
5	132.59	88.00
***	2.229 ***	

Point No.	X-Surf (ft)	Y-Surf (ft)
1	80.00	82.33
2	85.70	76.72
3	92.05	71.86
4	98.96	67.82
5	106.32	64.68
6	114.01	62.48
7	121.91	61.25
8	129.91	61.01
9	137.87	61.78
10	145.68	63.52
11	153.21	66.23
12	160.34	69.85
13	166.97	74.34
14	172.98	79.61
15	178.30	85.59
16	179.95	88.00

Factor Of Safety For The Preceding Specified Surface =-17.915

The Factor Of Safety For The Trial Failure Surface Defined
By The Coordinates Listed Below Is Misleading.

Failure Surface Defined By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	80.00	82.33
2	85.92	76.95
3	92.39	72.24
4	99.32	68.26
5	106.65	65.05
6	114.28	62.65
7	122.13	61.09
8	130.10	60.40
9	138.10	60.56
10	146.03	61.60
11	153.81	63.48
12	161.33	66.20
13	168.52	69.71
14	175.28	73.98
15	181.54	78.96
16	187.23	84.59
17	190.00	88.00

Factor Of Safety For The Preceding Specified Surface =-10.732

1

Following Are Displayed The Ten Most Critical Of The Trial

Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 26 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.00	80.00
2	6.83	74.52
3	13.01	69.45
4	19.53	64.80
5	26.34	60.61
6	33.42	56.88
7	40.74	53.65
8	48.25	50.91
9	55.94	48.69
10	63.76	46.99
11	71.67	45.83
12	79.65	45.20
13	87.65	45.12
14	95.63	45.57
15	103.57	46.56
16	111.42	48.09
17	119.16	50.15
18	126.73	52.72
19	134.12	55.80
20	141.27	59.37
21	148.18	63.42
22	154.79	67.92
23	161.08	72.86
24	167.03	78.21
25	172.59	83.96
26	176.02	88.00

Circle Center At X = 84.9 ; Y = 163.4 and Radius, 118.3

*** 1.663 ***

Failure Surface Specified By 25 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	5.16	80.00
2	10.88	74.41
3	17.00	69.25
4	23.48	64.56
5	30.28	60.35
6	37.37	56.65
7	44.72	53.48
8	52.28	50.86
9	60.00	48.79
10	67.86	47.30

18	126.89	54.45
19	134.21	57.69
20	141.29	61.42
21	148.09	65.63
22	154.59	70.29
23	160.76	75.39
24	166.56	80.89
25	171.97	86.79
26	172.94	88.00

Circle Center At X = 83.3 ; Y = 162.8 and Radius, 116.7

*** 1.690 ***

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	17.63	80.00
2	23.37	74.42
3	29.51	69.30
4	36.02	64.65
5	42.88	60.52
6	50.02	56.93
7	57.42	53.89
8	65.03	51.43
9	72.81	49.55
10	80.71	48.27
11	88.68	47.60
12	96.68	47.54
13	104.66	48.09
14	112.58	49.25
15	120.38	51.01
16	128.03	53.36
17	135.47	56.29
18	142.67	59.78
19	149.58	63.81
20	156.17	68.35
21	162.39	73.38
22	168.20	78.88
23	173.58	84.80
24	176.08	88.00

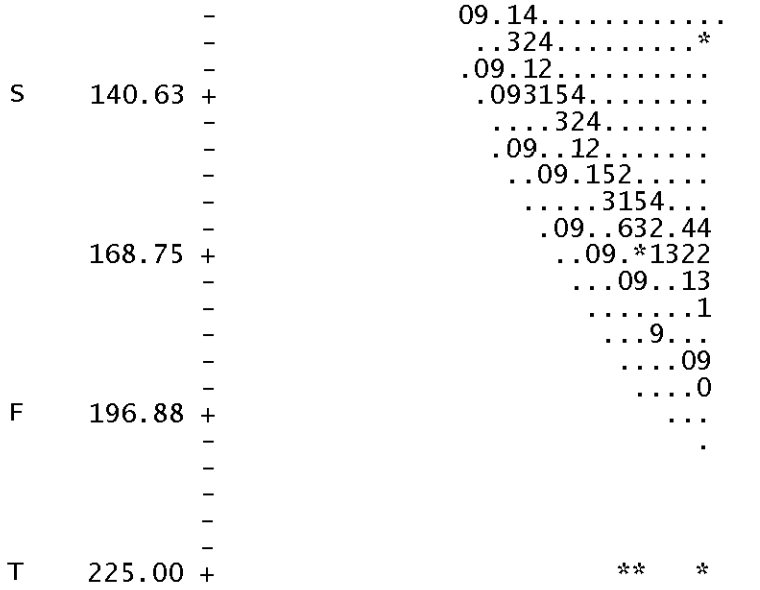
Circle Center At X = 93.5 ; Y = 152.2 and Radius, 104.7

*** 1.704 ***

1

Failure Surface Specified By 25 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	5.16	80.00


S
140.63
168.75
F
196.88
T
225.00

No.	(ft)	(ft)
1	25.95	80.00
2	31.61	74.34
3	37.80	69.28
4	44.47	64.87
5	51.55	61.14
6	58.96	58.13
7	66.64	55.89
8	74.51	54.42
9	82.48	53.74
10	90.48	53.87
11	98.42	54.79
12	106.24	56.51
13	113.84	58.99
14	121.16	62.23
15	128.12	66.18
16	134.64	70.80
17	140.68	76.05
18	146.16	81.88
19	150.85	88.00

Circle Center At X = 85.2 ; Y = 133.6 and Radius, 79.9

*** 1.280 ***

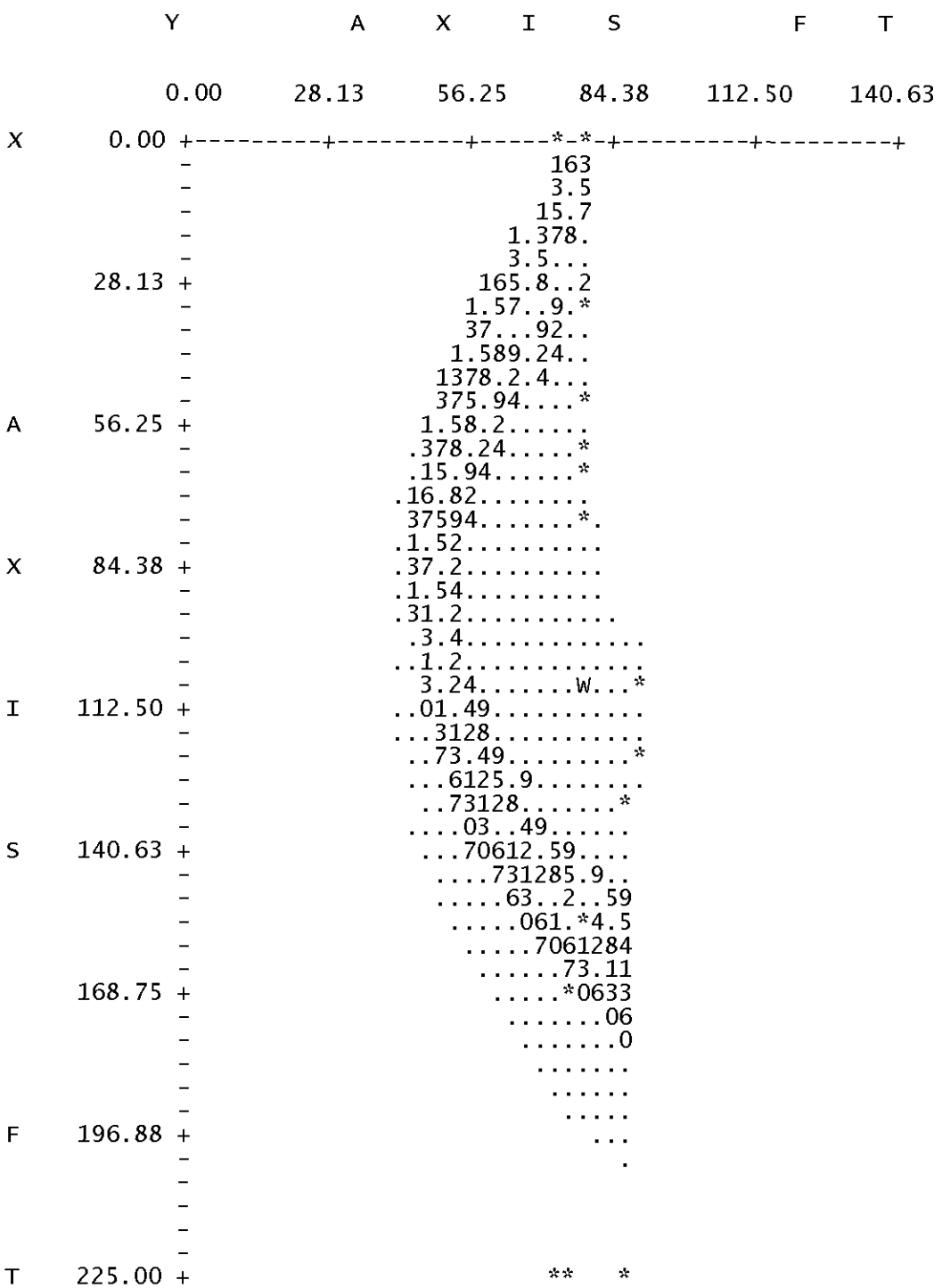
Failure Surface Specified By 26 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	1.00	80.00
2	6.83	74.52
3	13.01	69.45
4	19.53	64.80
5	26.34	60.61
6	33.42	56.88
7	40.74	53.65
8	48.25	50.91
9	55.94	48.69
10	63.76	46.99
11	71.67	45.83
12	79.65	45.20
13	87.65	45.12
14	95.63	45.57
15	103.57	46.56
16	111.42	48.09
17	119.16	50.15
18	126.73	52.72
19	134.12	55.80
20	141.27	59.37
21	148.18	63.42
22	154.79	67.92
23	161.08	72.86
24	167.03	78.21
25	172.59	83.96
26	176.02	88.00

Circle Center At X = 84.9 ; Y = 163.4 and Radius, 118.3

*** 1.285 ***

1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X 0.00
28.13
A 56.25
X 84.38
I 112.50
S 140.63
168.75
F 196.88
T 225.00

**** STABL6H ****
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 2/11/2016
Time of Run: 07:20AM
Run By: B. Gordon, WorleyParsons
Input Data Filename: Z:cross734seismicconditions_lower bound2block.in
Output Filename: Z:cross734seismicconditions_lower bound2block.OUT
Plotted Output Filename: Z:cross734seismicconditions_lower bound2block.PLT
PROBLEM DESCRIPTION Cross BA Pond
Section 734, Lower Bound Seismic, Block

BOUNDARY COORDINATES
9 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	80.00	32.00	80.00	3
2	32.00	80.00	53.00	80.00	3
3	53.00	80.00	60.00	78.00	3
4	60.00	78.00	67.00	78.00	3
5	67.00	78.00	73.00	80.00	3
6	73.00	80.00	106.00	91.00	2
7	106.00	91.00	121.00	91.00	2
8	121.00	91.00	130.00	88.00	2
9	130.00	88.00	225.00	88.00	1
10	130.00	88.00	154.00	80.00	2
11	73.00	80.00	154.00	80.00	3
12	154.00	80.00	167.00	76.00	3
13	167.00	76.00	225.00	75.00	3
14	0.00	74.00	225.00	74.00	4

ISOTROPIC SOIL PARAMETERS
4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	90.0	95.0	0.0	0.0	0.00	0.0	1
2	130.0	135.0	1440.0	0.0	0.00	0.0	1
3	130.0	135.0	500.0	0.0	0.00	0.0	1
4	102.0	107.0	200.0	0.0	0.00	0.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED
Unit Weight of Water = 62.40
Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	0.00	78.00
2	106.00	78.00
3	130.00	88.00
4	225.00	88.00

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Sliding Block Surfaces, Has Been
Specified.
20 Trial Surfaces Have Been Generated.
2 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of
Sliding Block Is 12.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	75.00	72.00	90.00	72.00	15.00
2	105.00	72.00	125.00	72.00	30.00

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.
* * Safety Factors Are Calculated By The Modified Janbu Method * *
Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	64.06	78.00