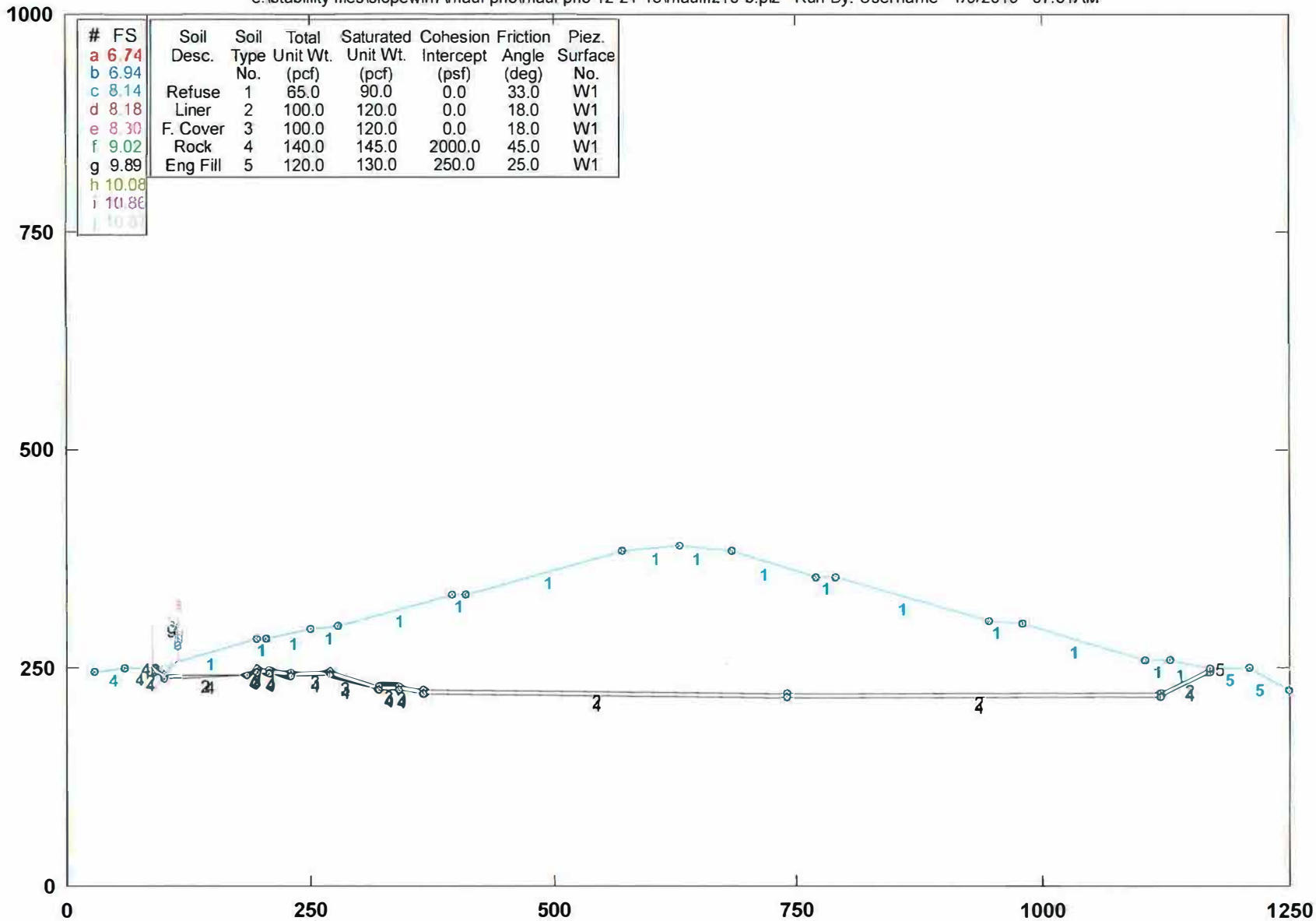
CML - ph III Slope Stab. Section III-S2 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf210-b.pl2 Run By: Username 1/9/2019 07:31AM

#	FS
a	6.74
b	6.94
c	8.14
d	8.18
e	8.30
f	9.02
g	9.89
h	10.08
i	10.86
j	10.87

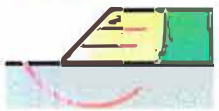
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=6.74

Safety Factors Are Calculated By The Modified Janbu Method

STED

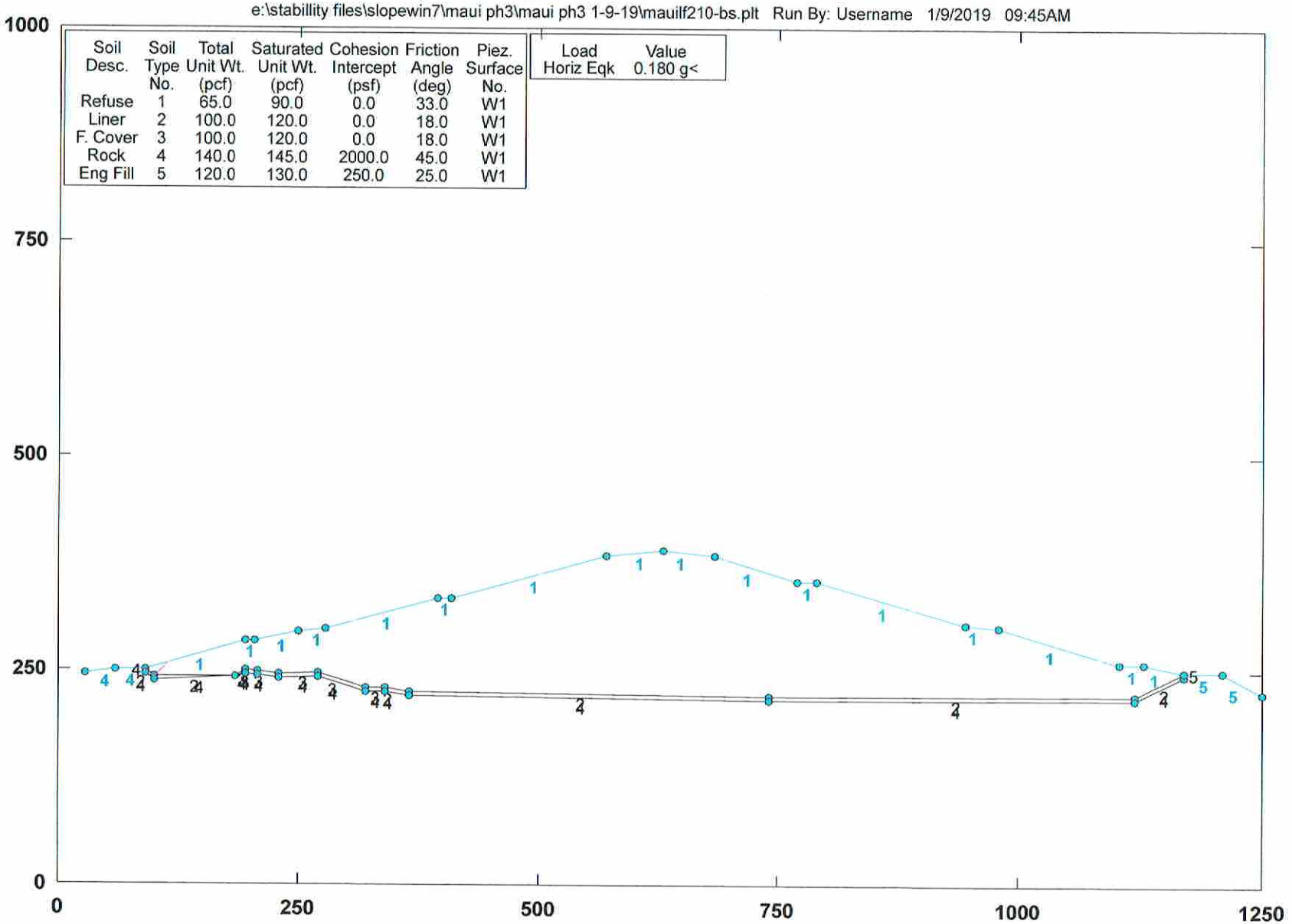


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf210-bs.plt Run By: Username 1/9/2019 09:45AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

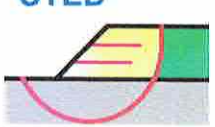
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=4.08

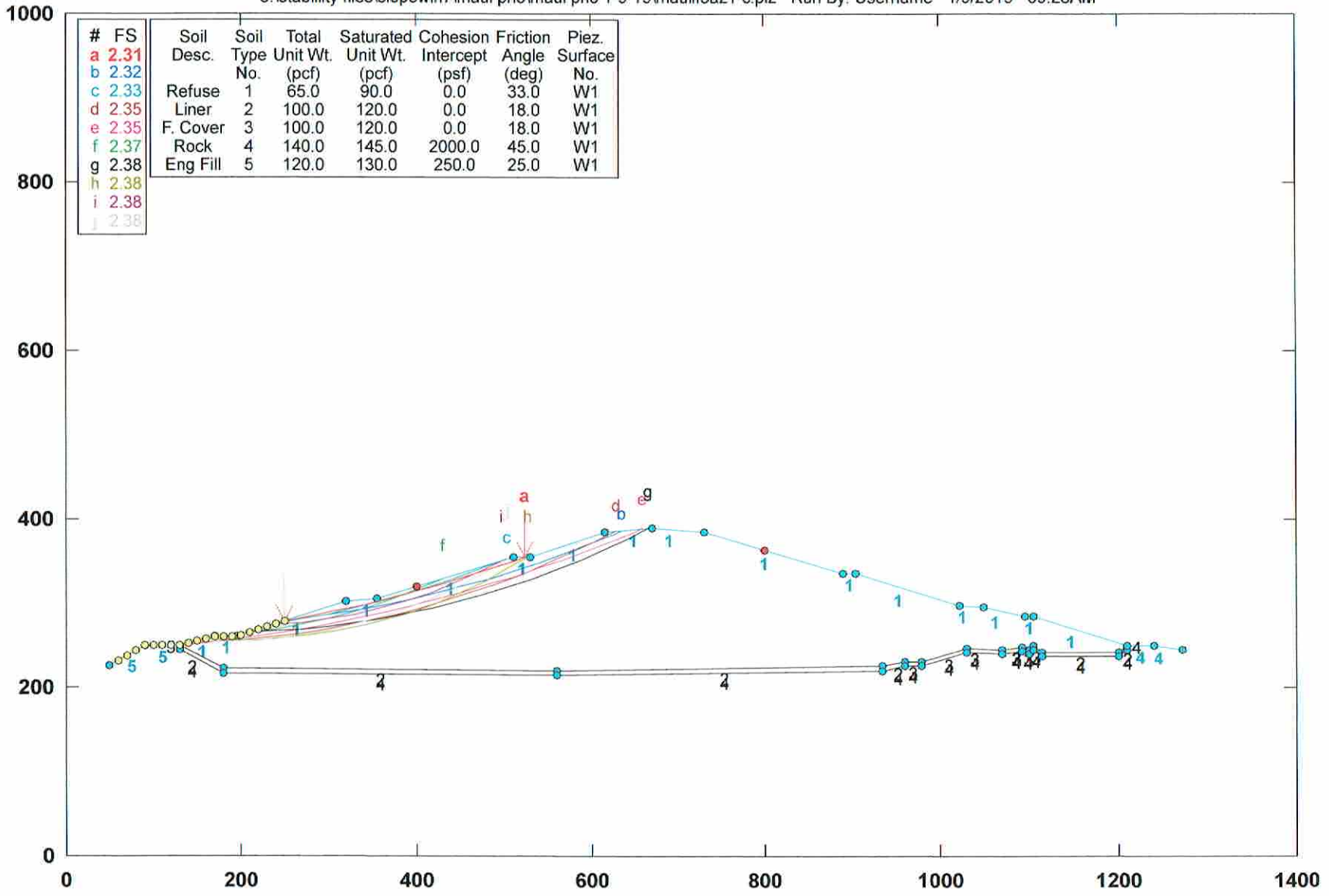
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a21-c.pl2 Run By: Username 1/9/2019 09:28AM



#	FS
a	2.31
b	2.32
c	2.33
d	2.35
e	2.35
f	2.37
g	2.38
h	2.38
i	2.38
j	2.38

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=2.31

Safety Factors Are Calculated By The Modified Bishop Method

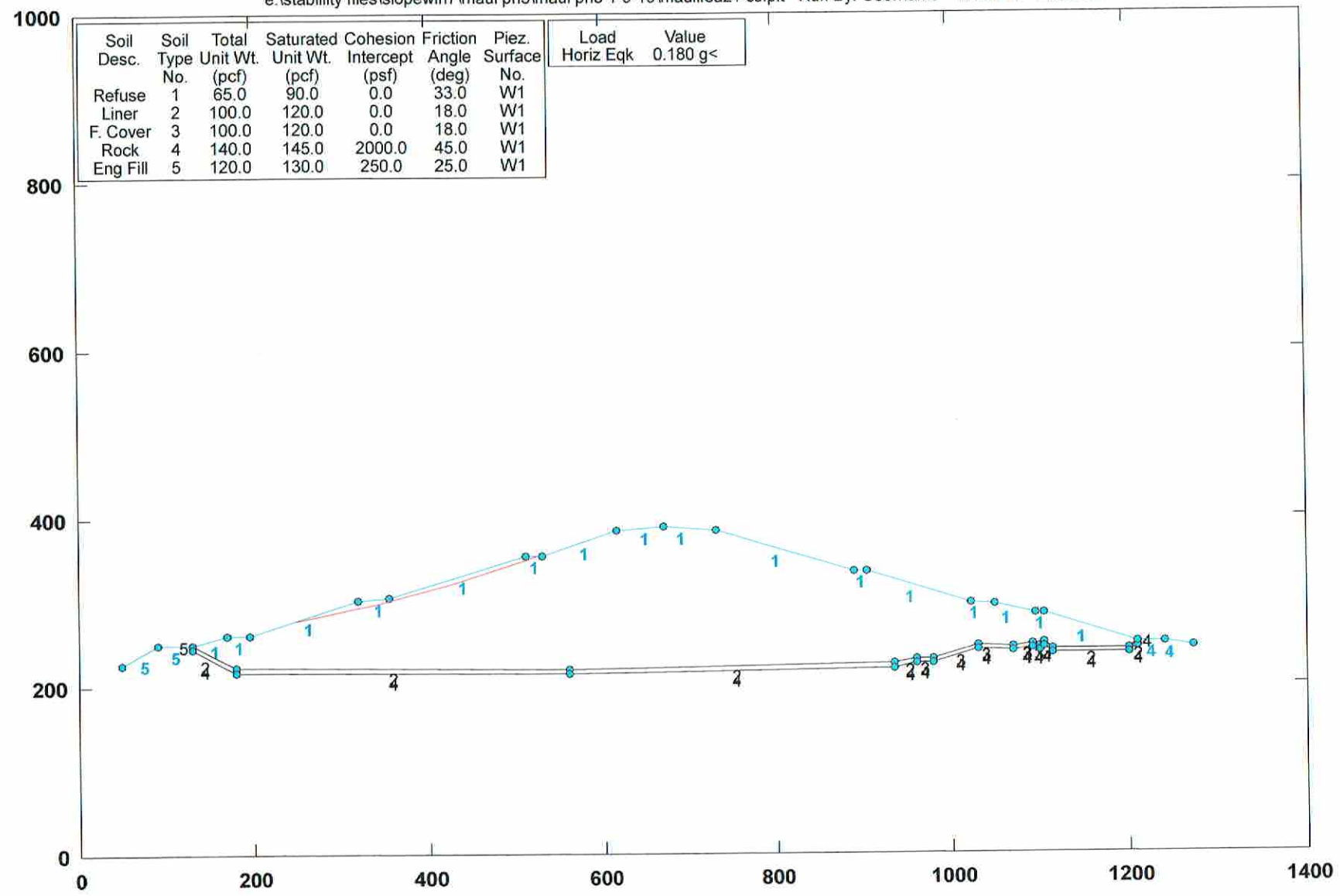
STED

CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a21-cs.plt Run By: Username 1/9/2019 09:38AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

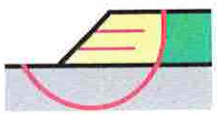
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.34

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

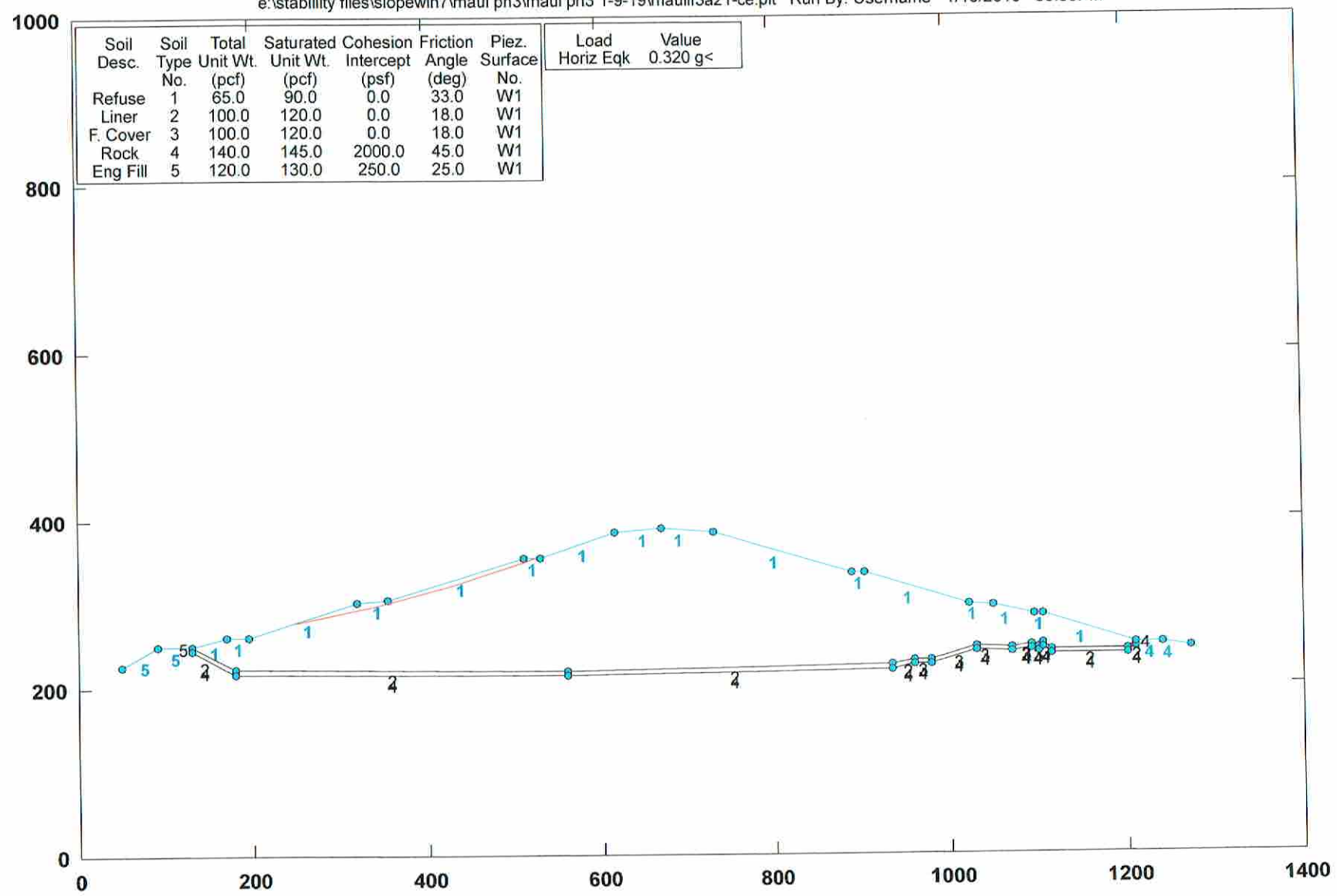


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a21-ce.plt Run By: Username 1/10/2019 03:36PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

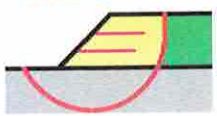
Load	Value
Horiz Eqk	0.320 g<



PCSTABL5M/si FSmin=0.99

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

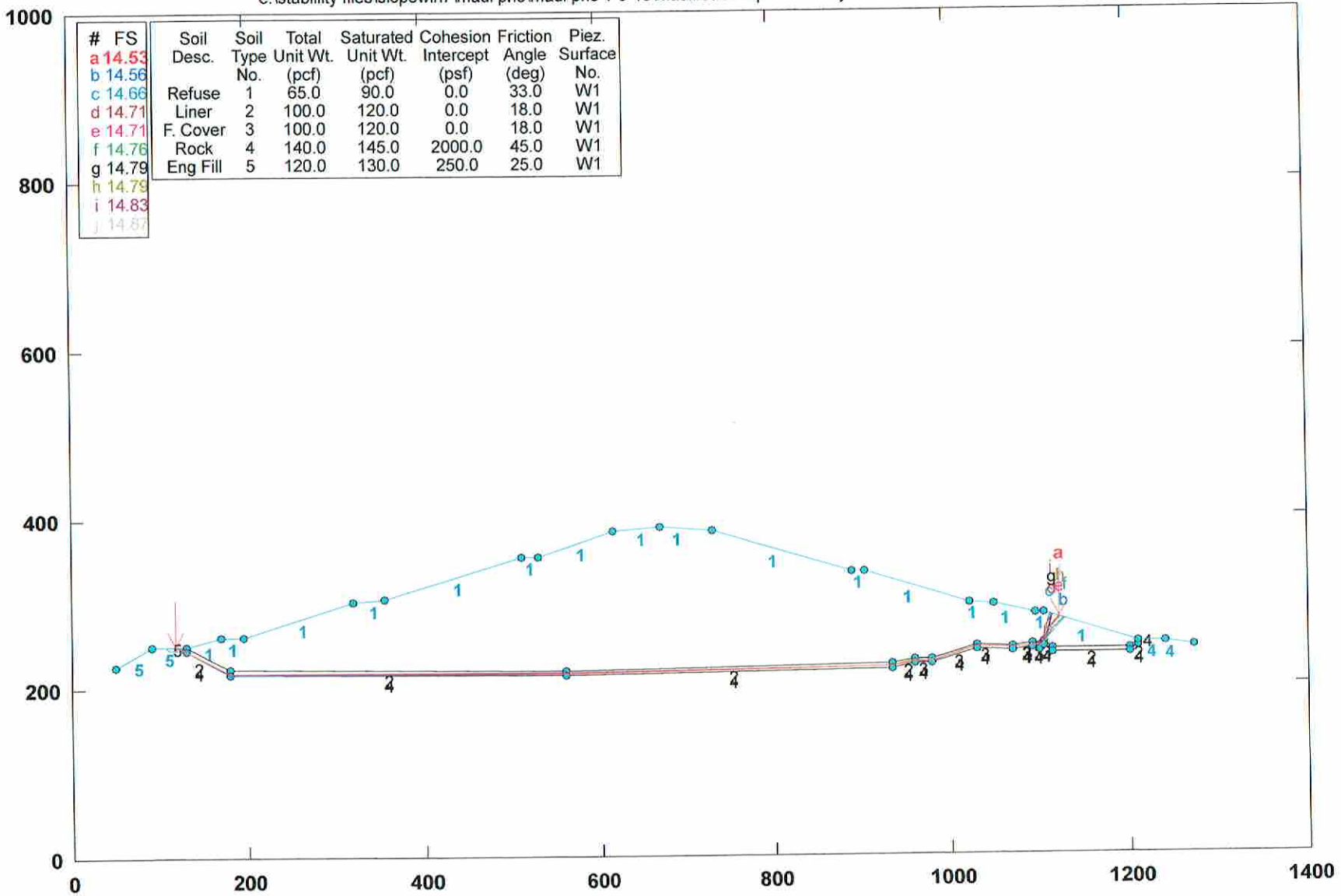


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a21-b.pl2 Run By: Username 1/9/2019 09:15AM

#	FS
a	14.53
b	14.56
c	14.66
d	14.71
e	14.71
f	14.76
g	14.79
h	14.79
i	14.83
j	14.87

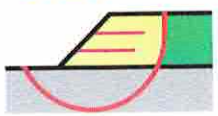
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=14.53

Safety Factors Are Calculated By The Modified Janbu Method

STED

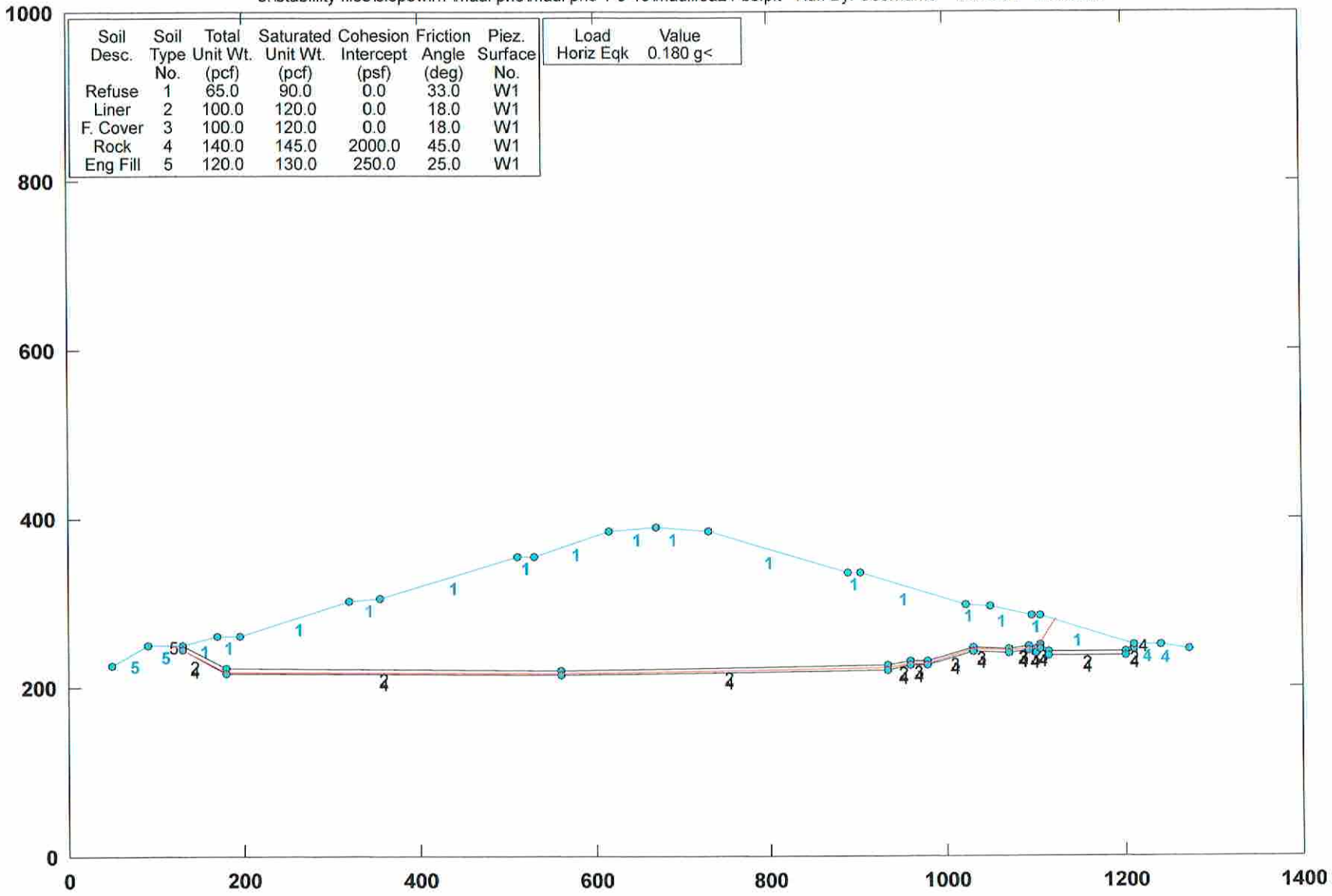


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a21-bs.plt Run By: Username 1/9/2019 10:23AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

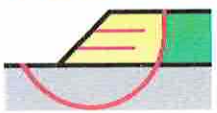
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.63

Factors of Safety Calculated by Janbu Method

STED

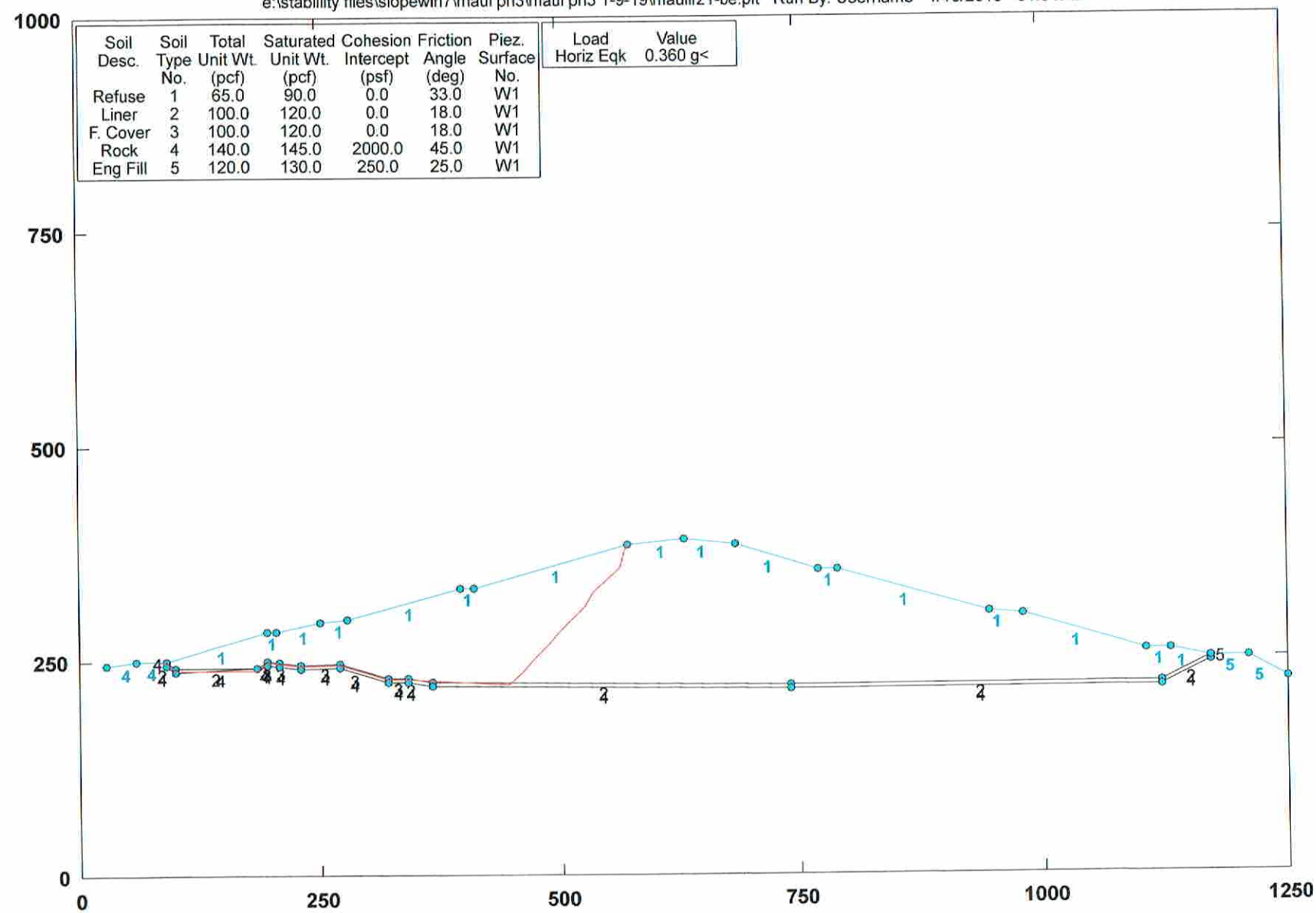


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf21-be.plt Run By: Username 1/10/2019 01:54PM

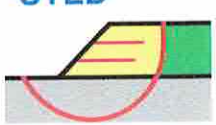
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.360 g<



PCSTABL5M/si FSmin=1.00
Factors of Safety Calculated by Janbu Method

STED

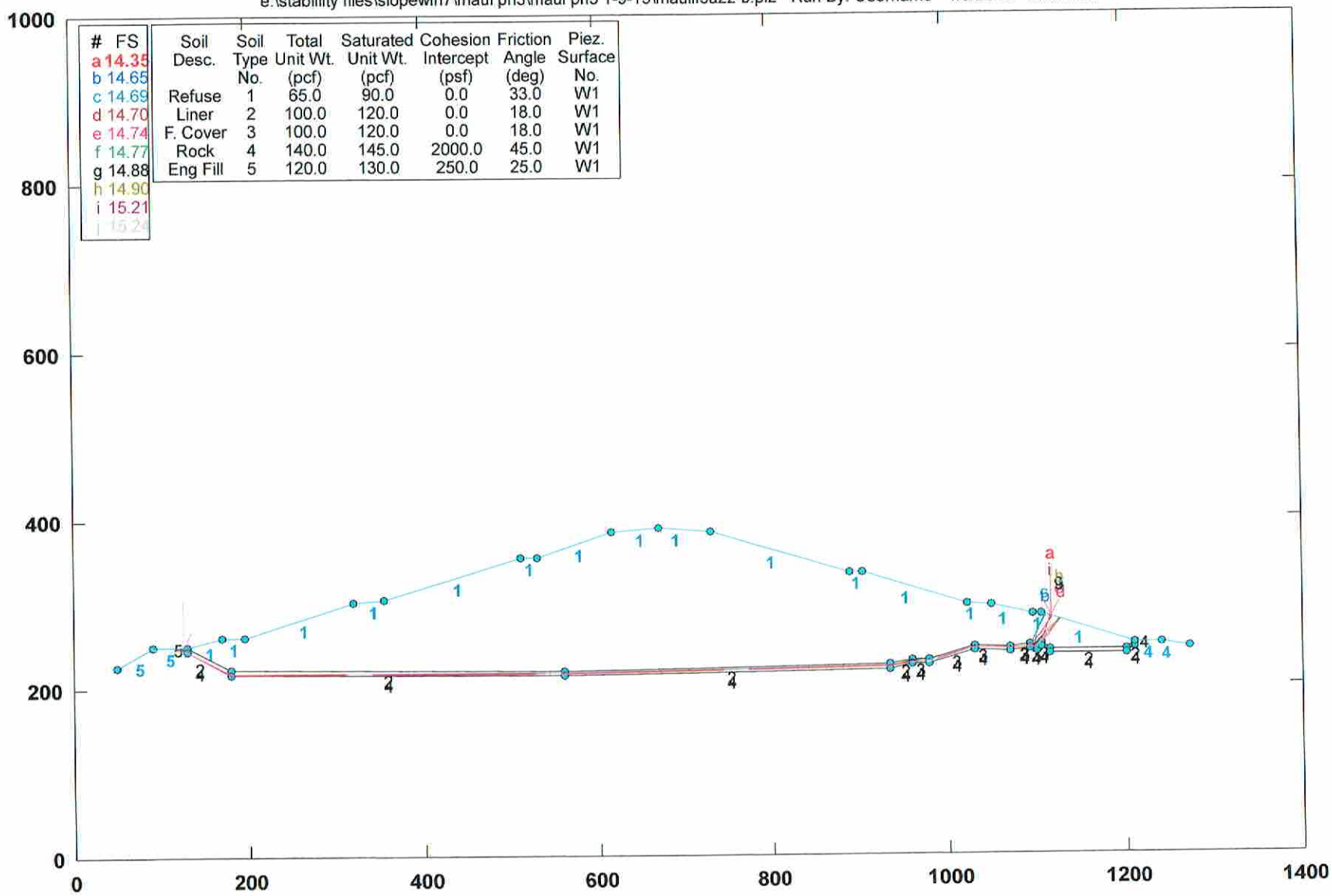


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a22-b.pl2 Run By: Username 1/9/2019 09:18AM

#	FS
a	14.35
b	14.65
c	14.69
d	14.70
e	14.74
f	14.77
g	14.88
h	14.90
i	15.21
j	15.24

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=14.35

Safety Factors Are Calculated By The Modified Janbu Method

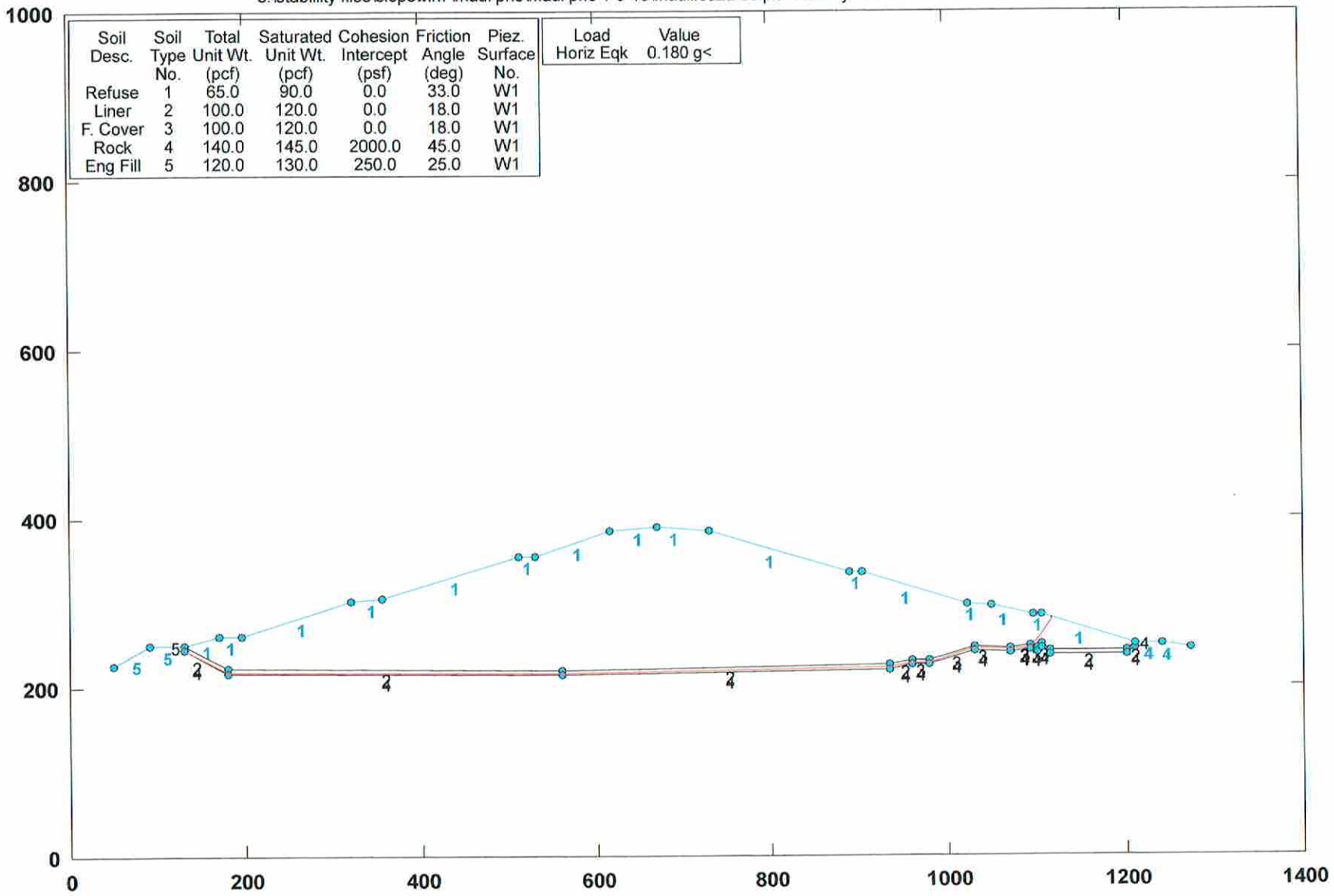
STED

CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a22-bs.plt Run By: Username 1/9/2019 10:24AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

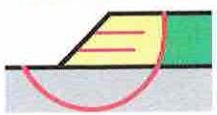
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.63

Factors of Safety Calculated by Janbu Method

STED

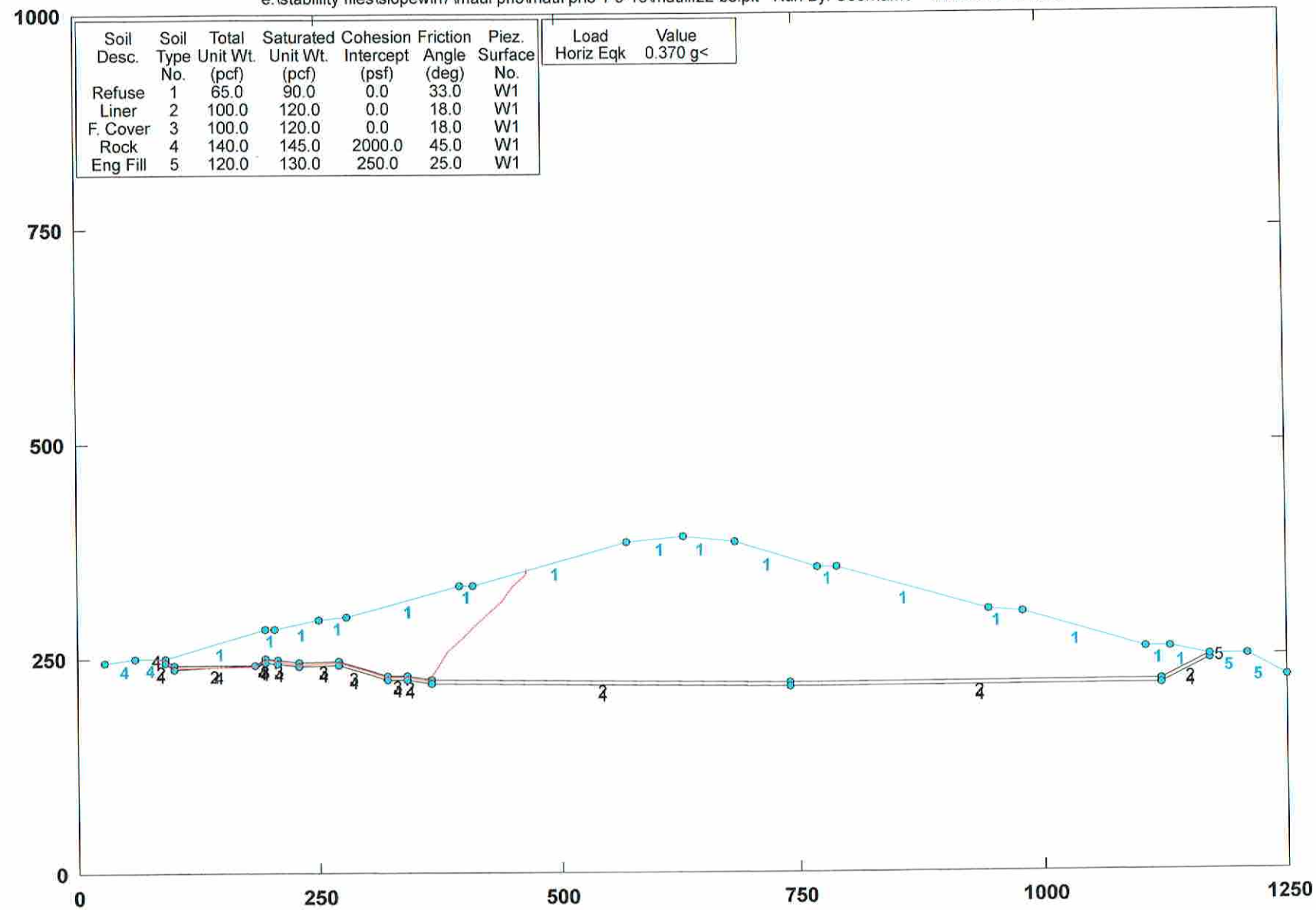


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf22-be.plt Run By: Username 1/10/2019 01:56PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.370 g<



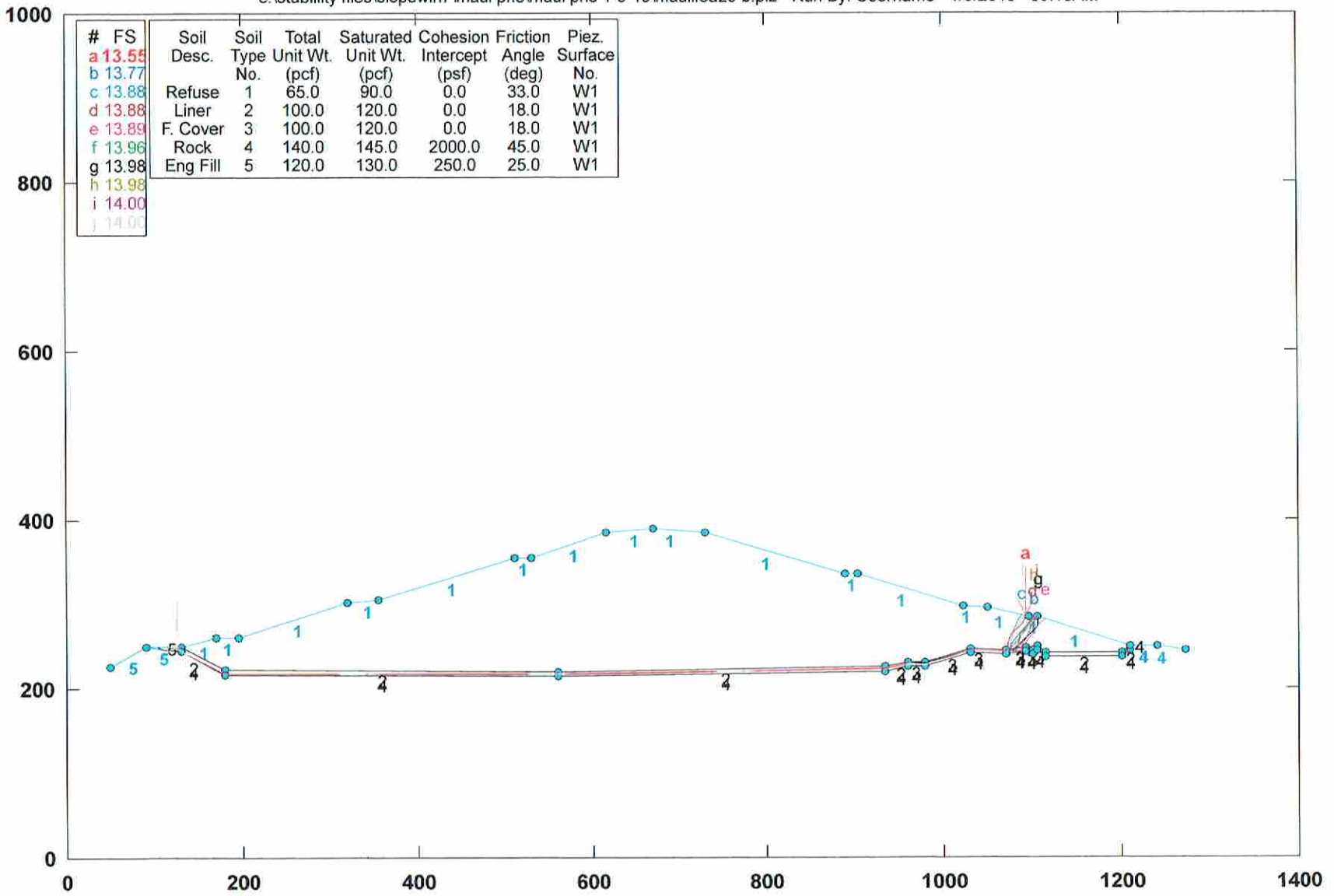
PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a23-b.pl2 Run By: Username 1/9/2019 09:18AM



#	FS
a	13.55
b	13.77
c	13.88
d	13.88
e	13.89
f	13.96
g	13.98
h	13.98
i	14.00
j	14.06

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=13.55

Safety Factors Are Calculated By The Modified Janbu Method

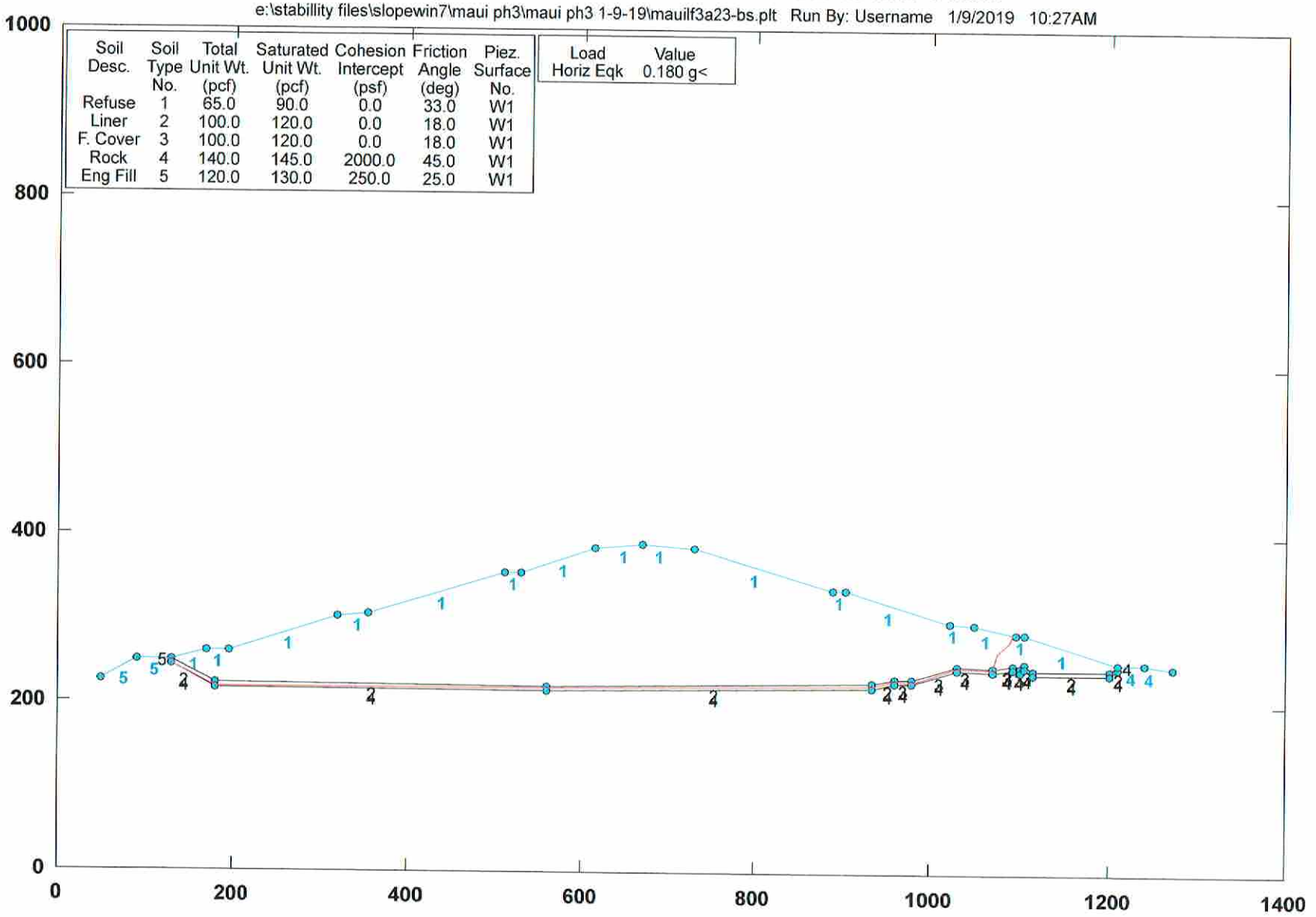
STED

CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a23-bs.plt Run By: Username 1/9/2019 10:27AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

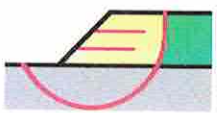
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.64

Factors of Safety Calculated by Janbu Method

STED

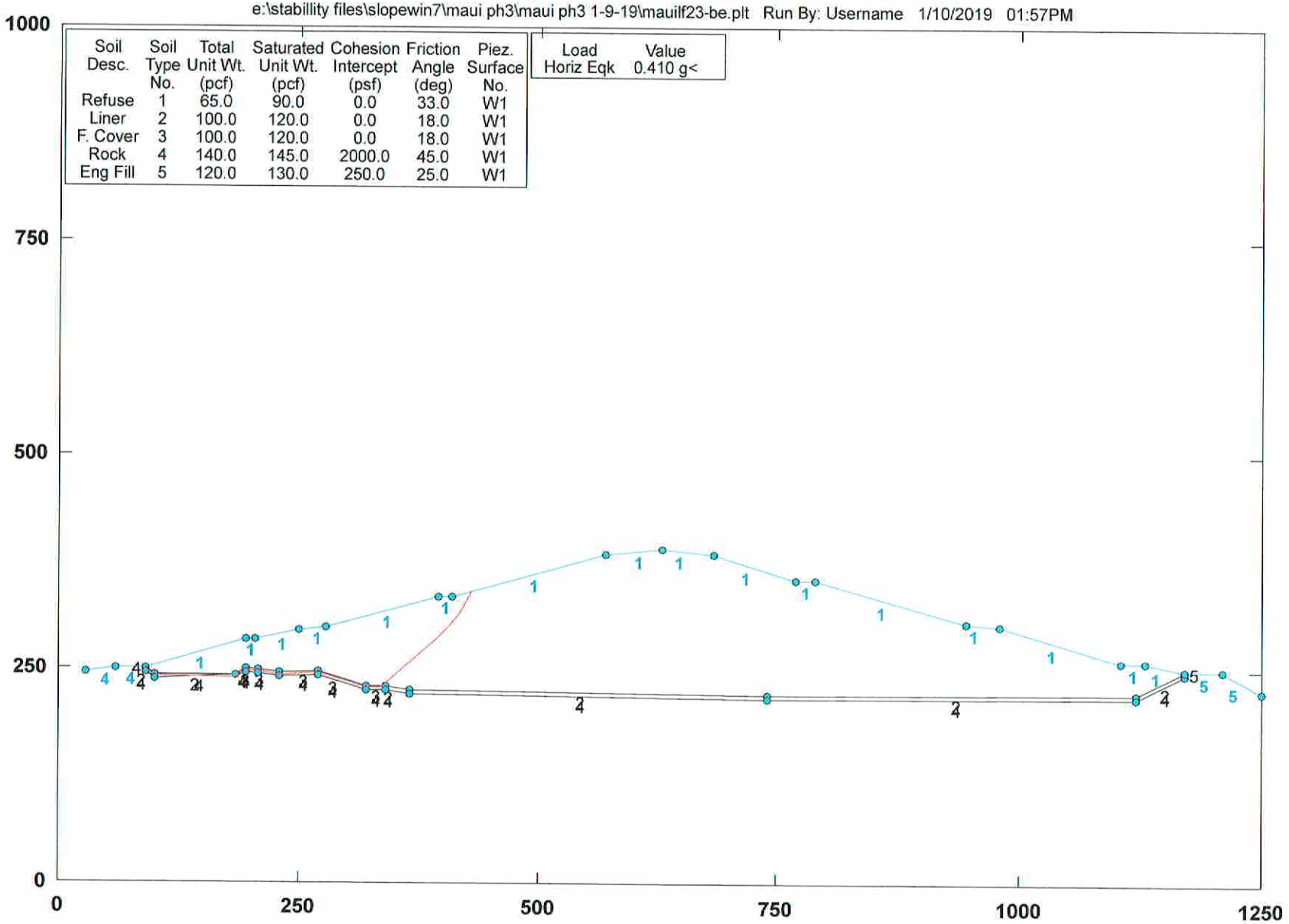


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf23-be.plt Run By: Username 1/10/2019 01:57PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

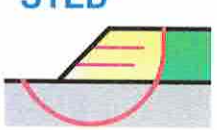
Load	Value
Horiz Eqk	0.410 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

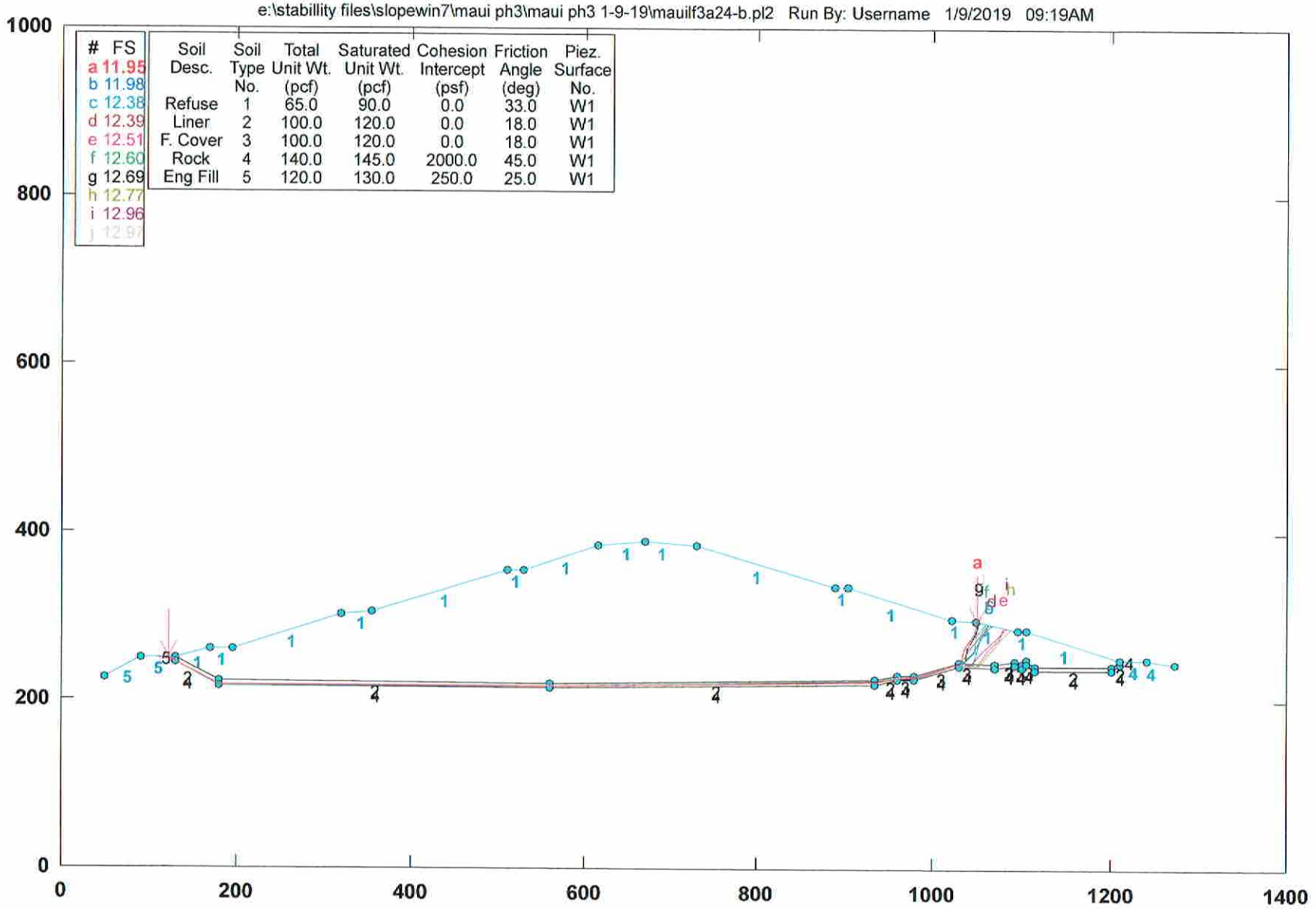


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a24-b.pl2 Run By: Username 1/9/2019 09:19AM

#	FS
a	11.95
b	11.98
c	12.38
d	12.39
e	12.51
f	12.60
g	12.69
h	12.77
i	12.96
j	12.97

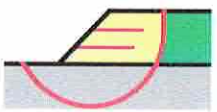
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=11.95

Safety Factors Are Calculated By The Modified Janbu Method

STED

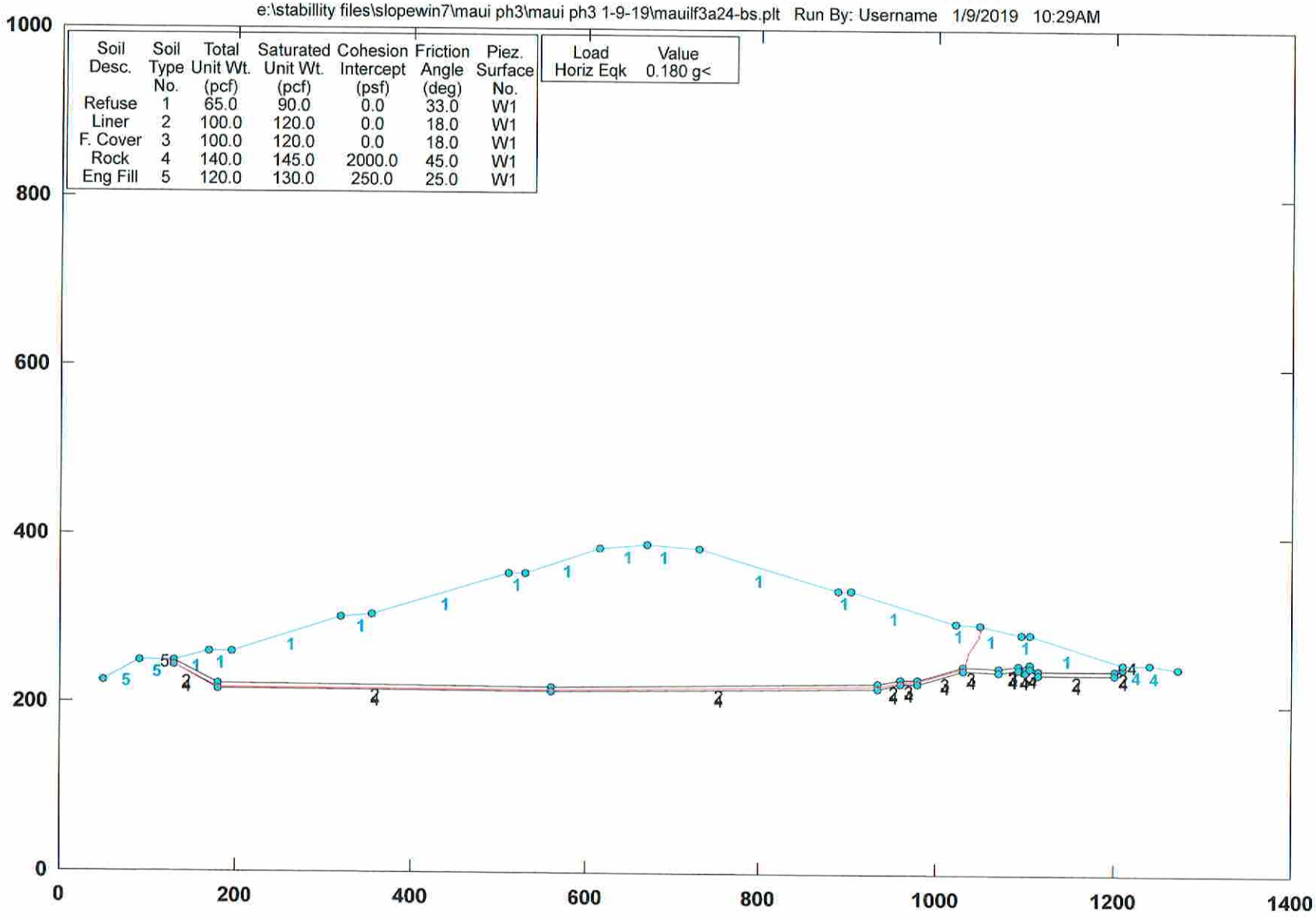


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a24-bs.plt Run By: Username 1/9/2019 10:29AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

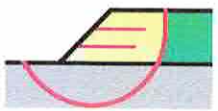
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.63

Factors of Safety Calculated by Janbu Method

STED

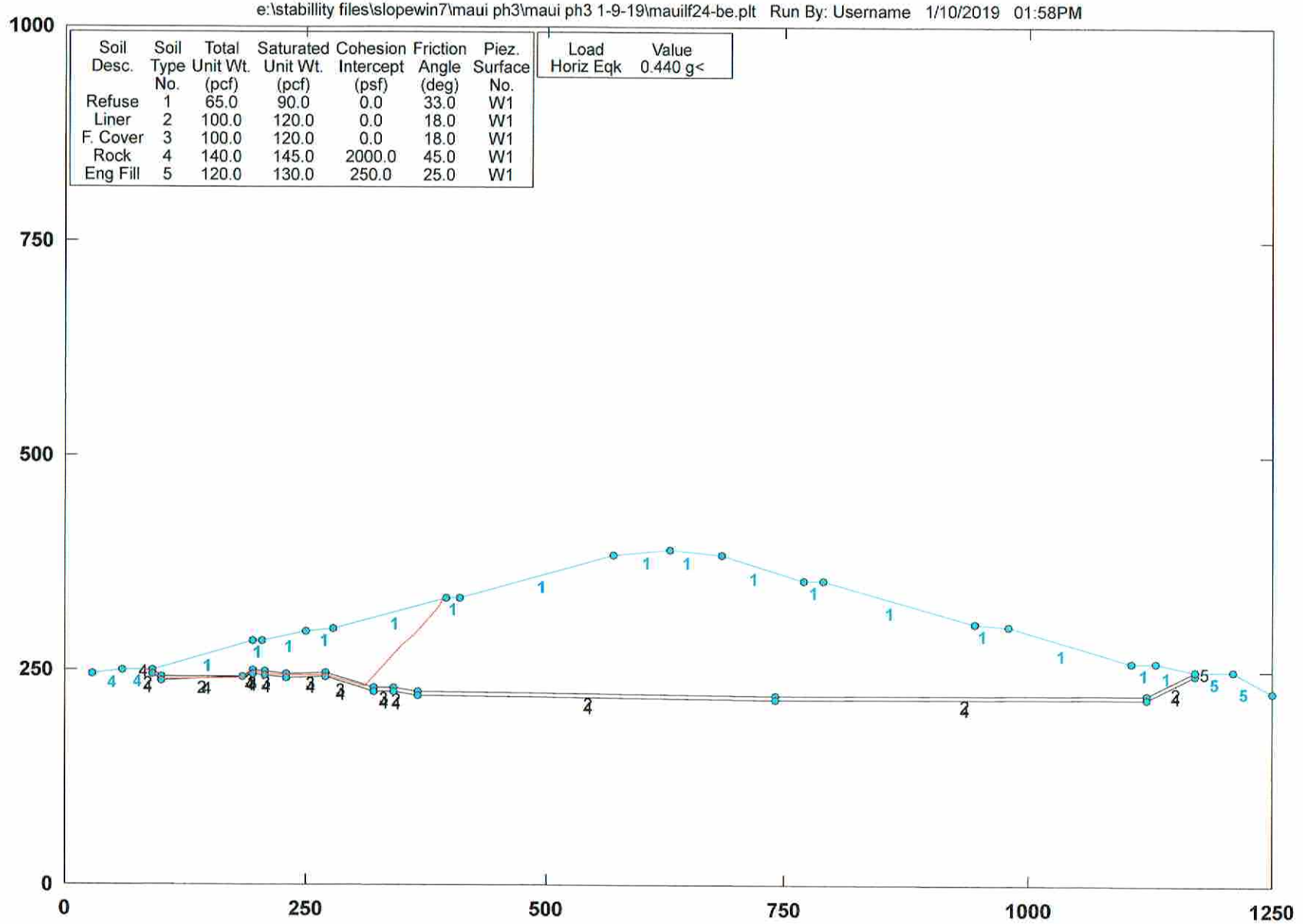


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf24-be.plt Run By: Username 1/10/2019 01:58PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

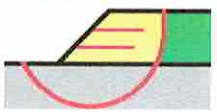
Load	Value
Horiz Eqk	0.440 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

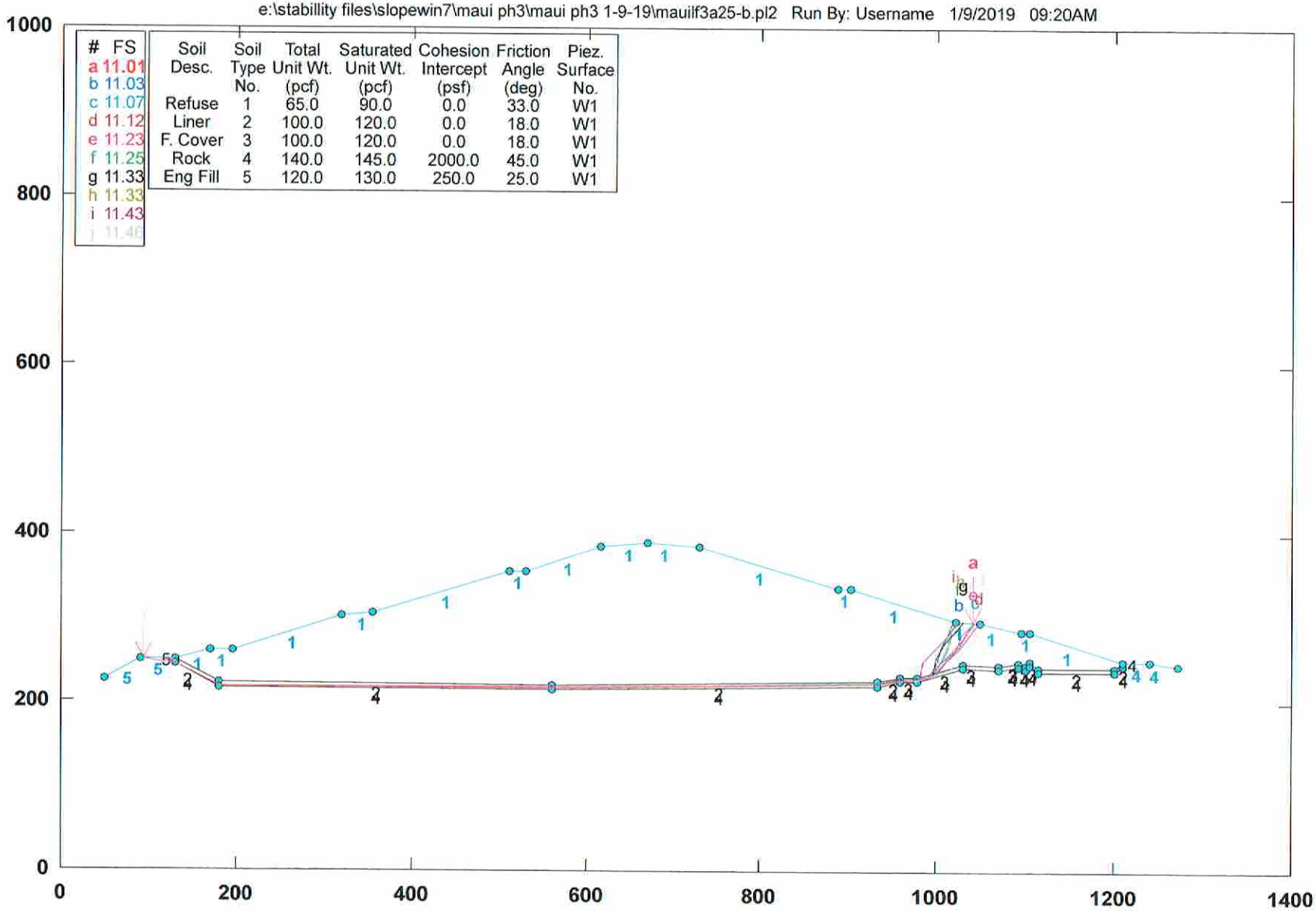


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a25-b.pl2 Run By: Username 1/9/2019 09:20AM

#	FS
a	11.01
b	11.03
c	11.07
d	11.12
e	11.23
f	11.25
g	11.33
h	11.33
i	11.43
j	11.46

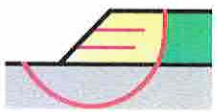
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=11.01

Safety Factors Are Calculated By The Modified Janbu Method

STED

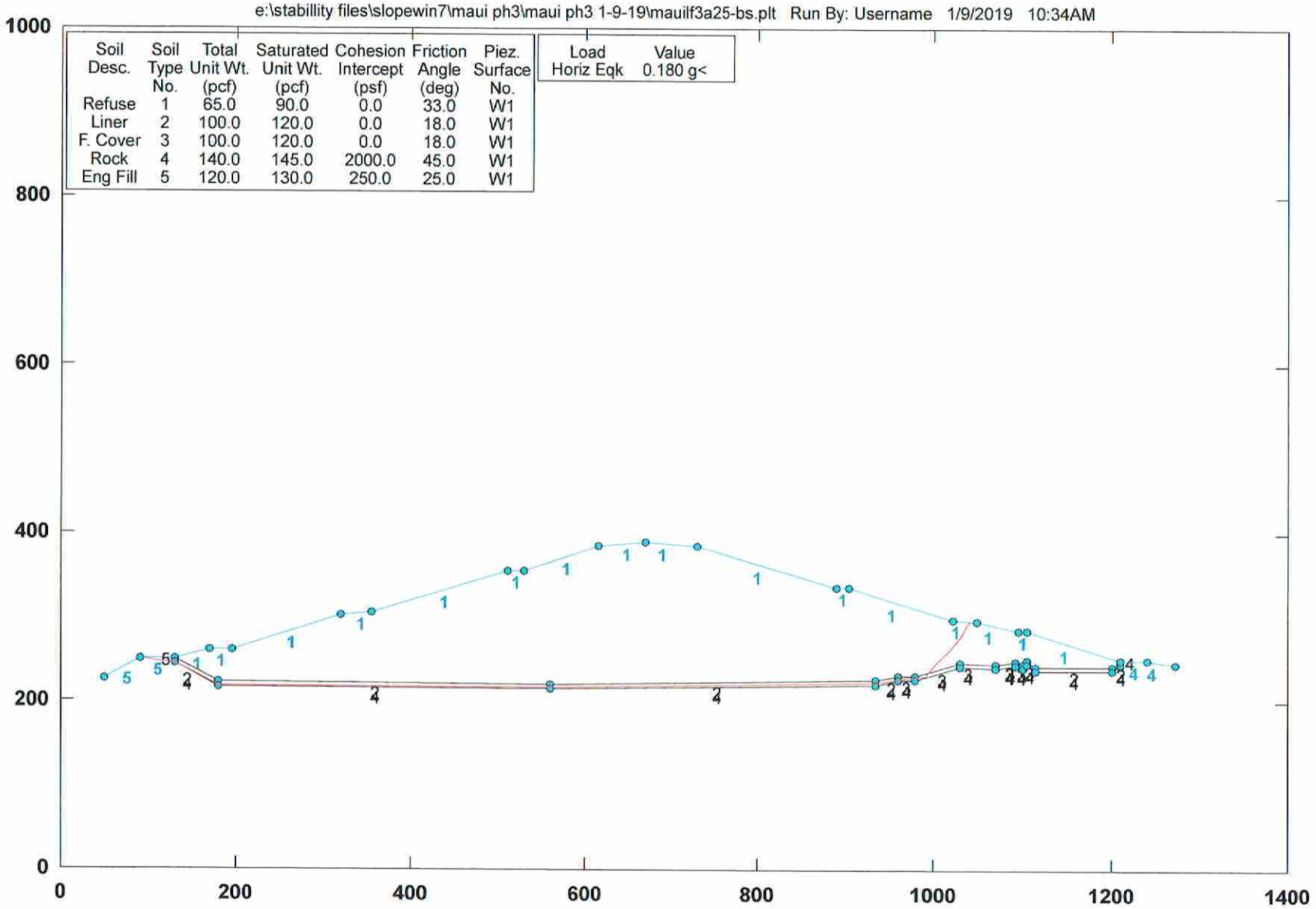


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a25-bs.plt Run By: Username 1/9/2019 10:34AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

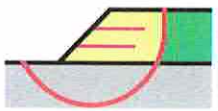
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.62

Factors of Safety Calculated by Janbu Method

STED

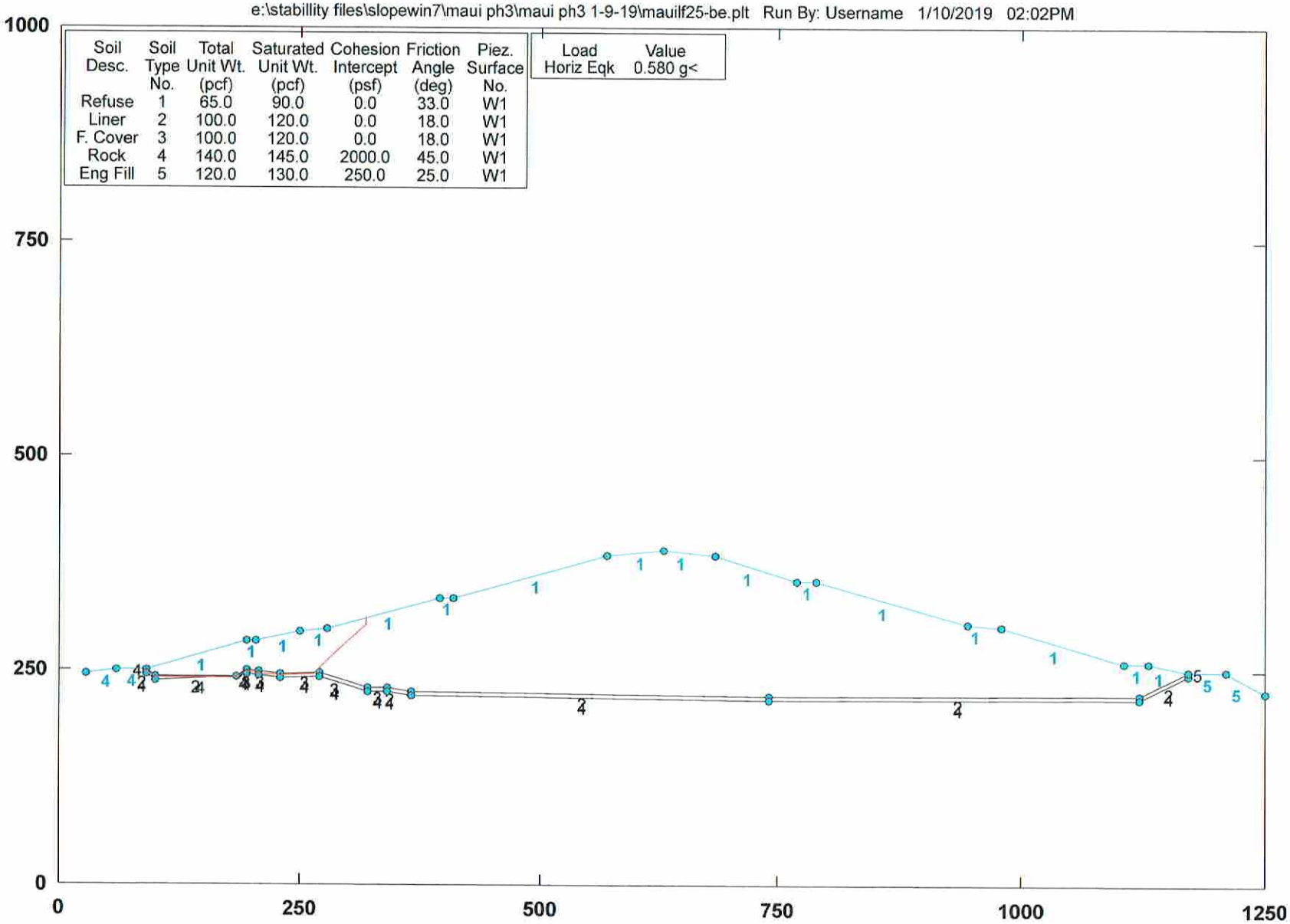


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf25-be.plt Run By: Username 1/10/2019 02:02PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

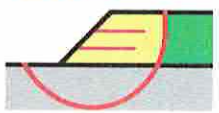
Load	Value
Horiz Eqk	0.580 g<



PCSTABL5M/si FSmin=0.95

Factors of Safety Calculated by Janbu Method

STED

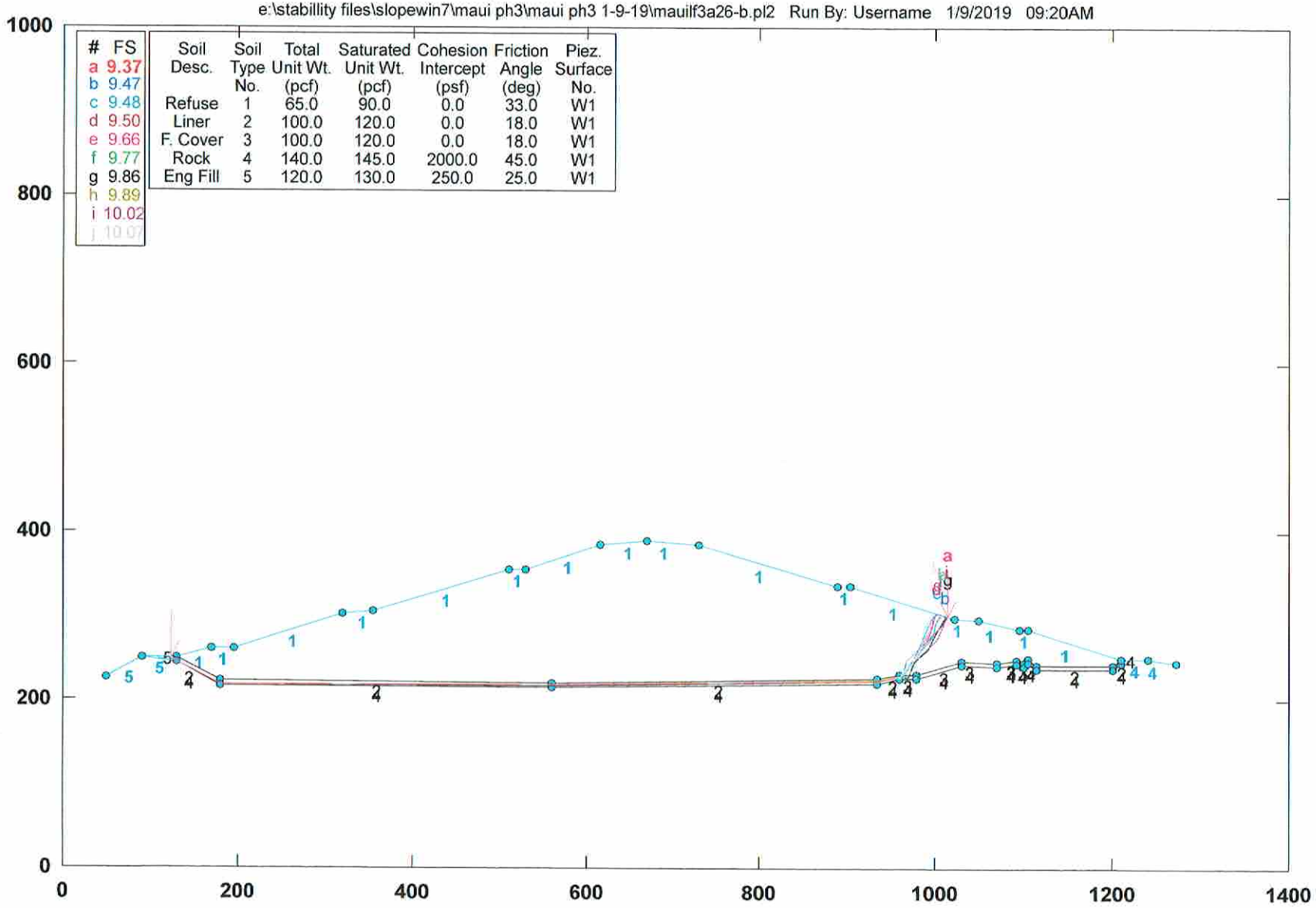


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a26-b.pl2 Run By: Username 1/9/2019 09:20AM

#	FS
a	9.37
b	9.47
c	9.48
d	9.50
e	9.66
f	9.77
g	9.86
h	9.89
i	10.02
j	10.07

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=9.37

Safety Factors Are Calculated By The Modified Janbu Method

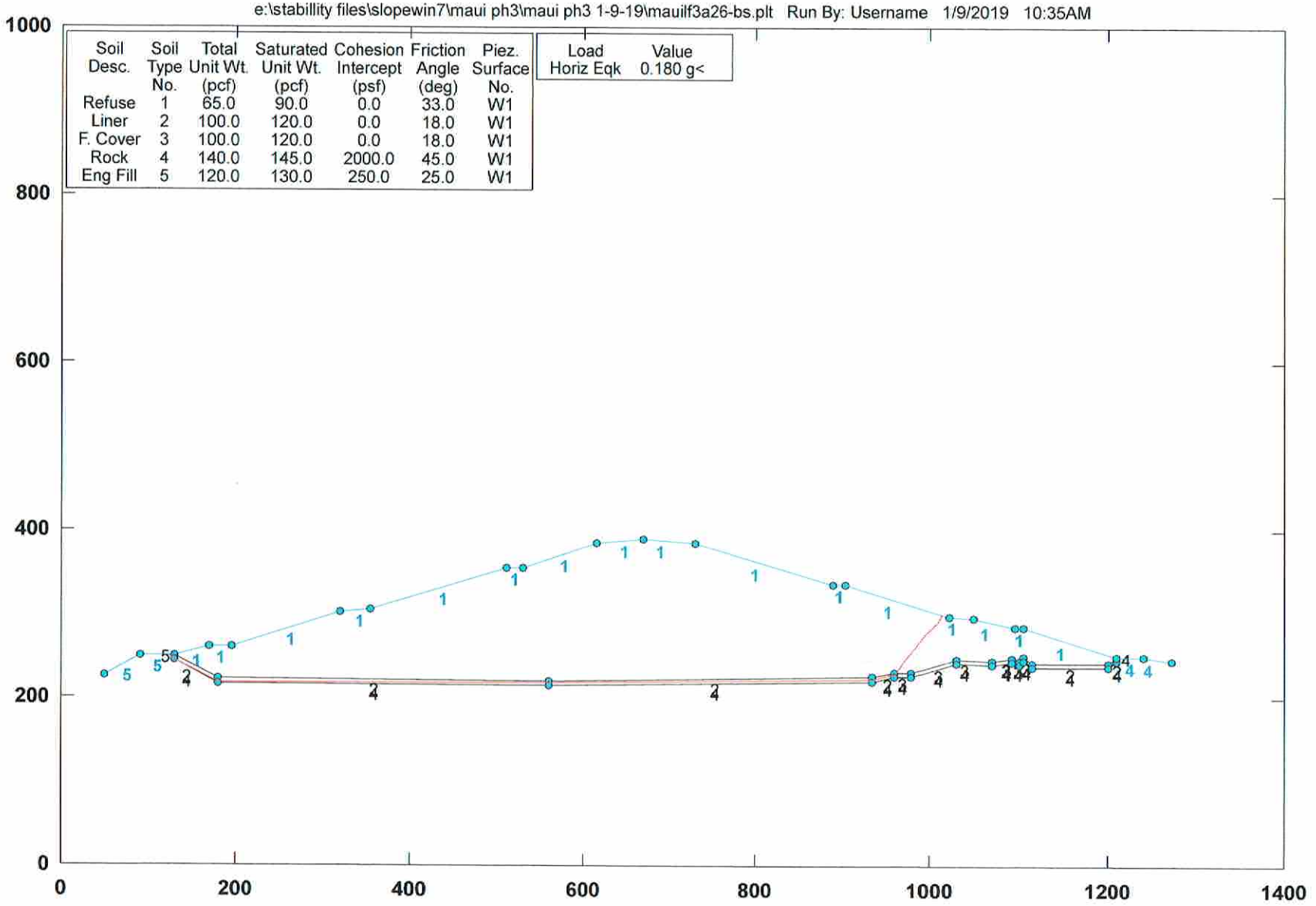
STED

CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a26-bs.plt Run By: Username 1/9/2019 10:35AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.59

Factors of Safety Calculated by Janbu Method

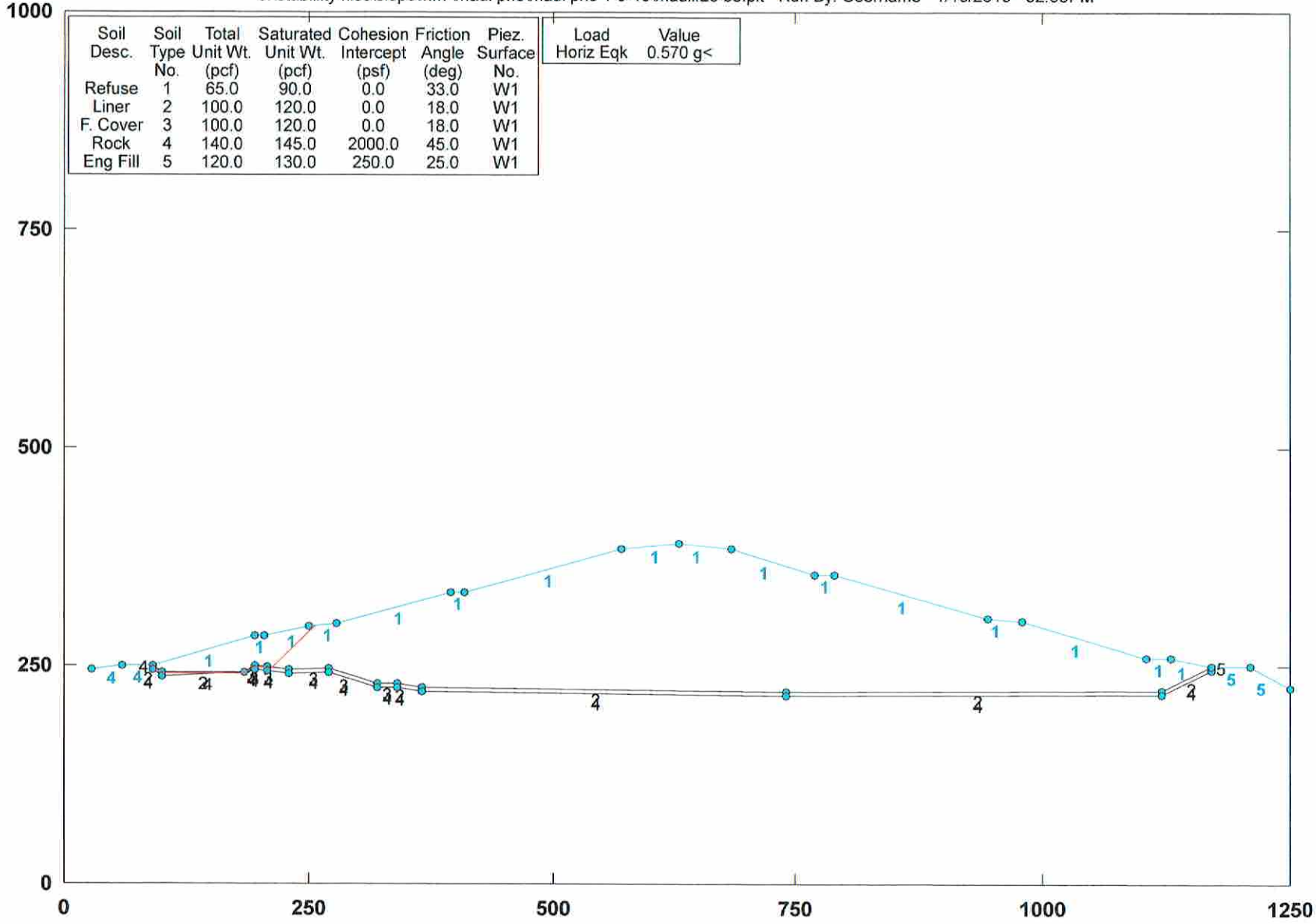
STED

CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf26-be.plt Run By: Username 1/10/2019 02:06PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

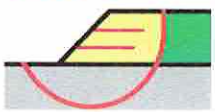
Load	Value
Horiz Eqk	0.570 g<



PCSTABL5M/si FSmin=1.18

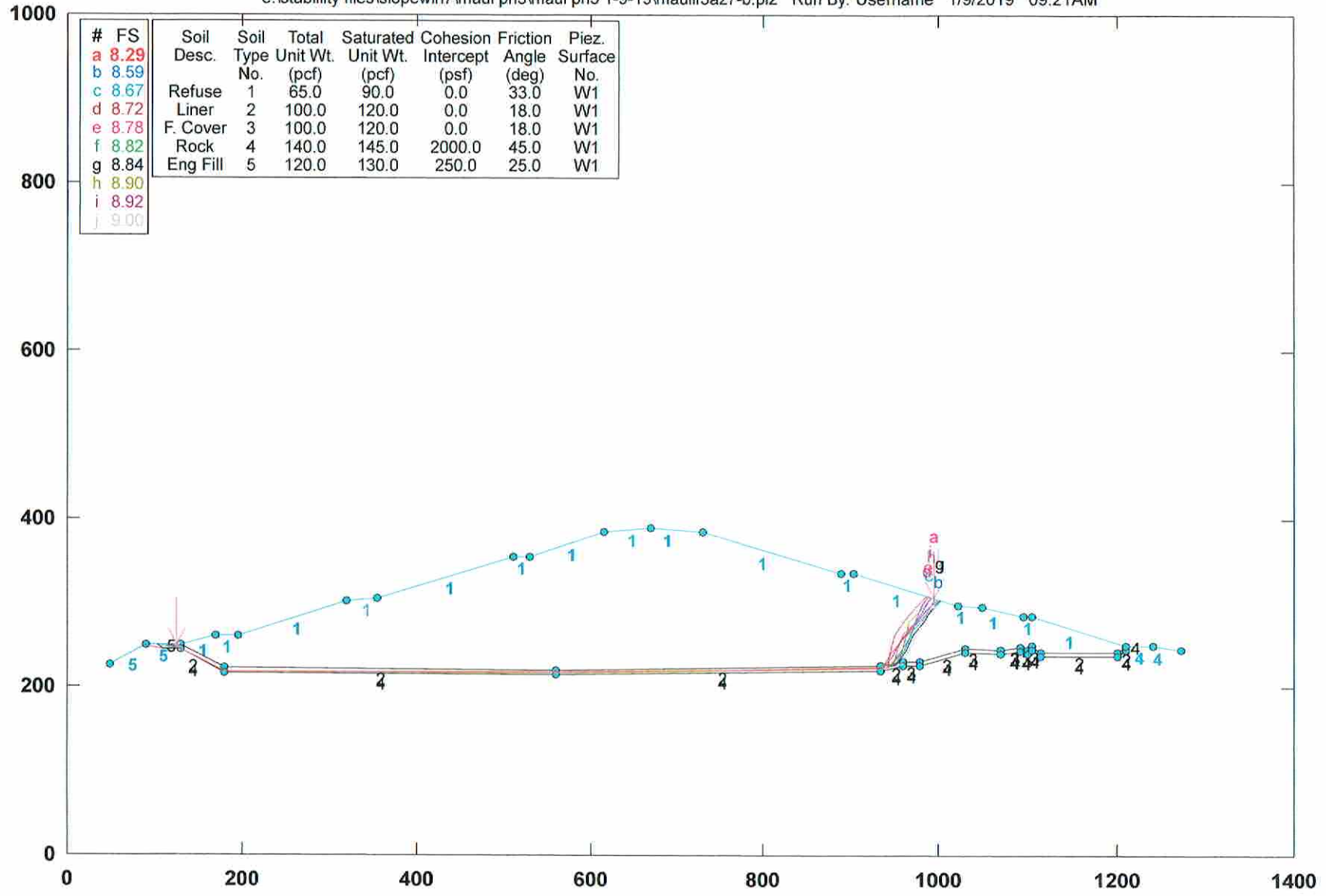
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a27-b.pl2 Run By: Username 1/9/2019 09:21AM



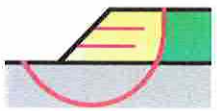
#	FS
a	8.29
b	8.59
c	8.67
d	8.72
e	8.78
f	8.82
g	8.84
h	8.90
i	8.92
j	9.00

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=8.29

Safety Factors Are Calculated By The Modified Janbu Method

STED

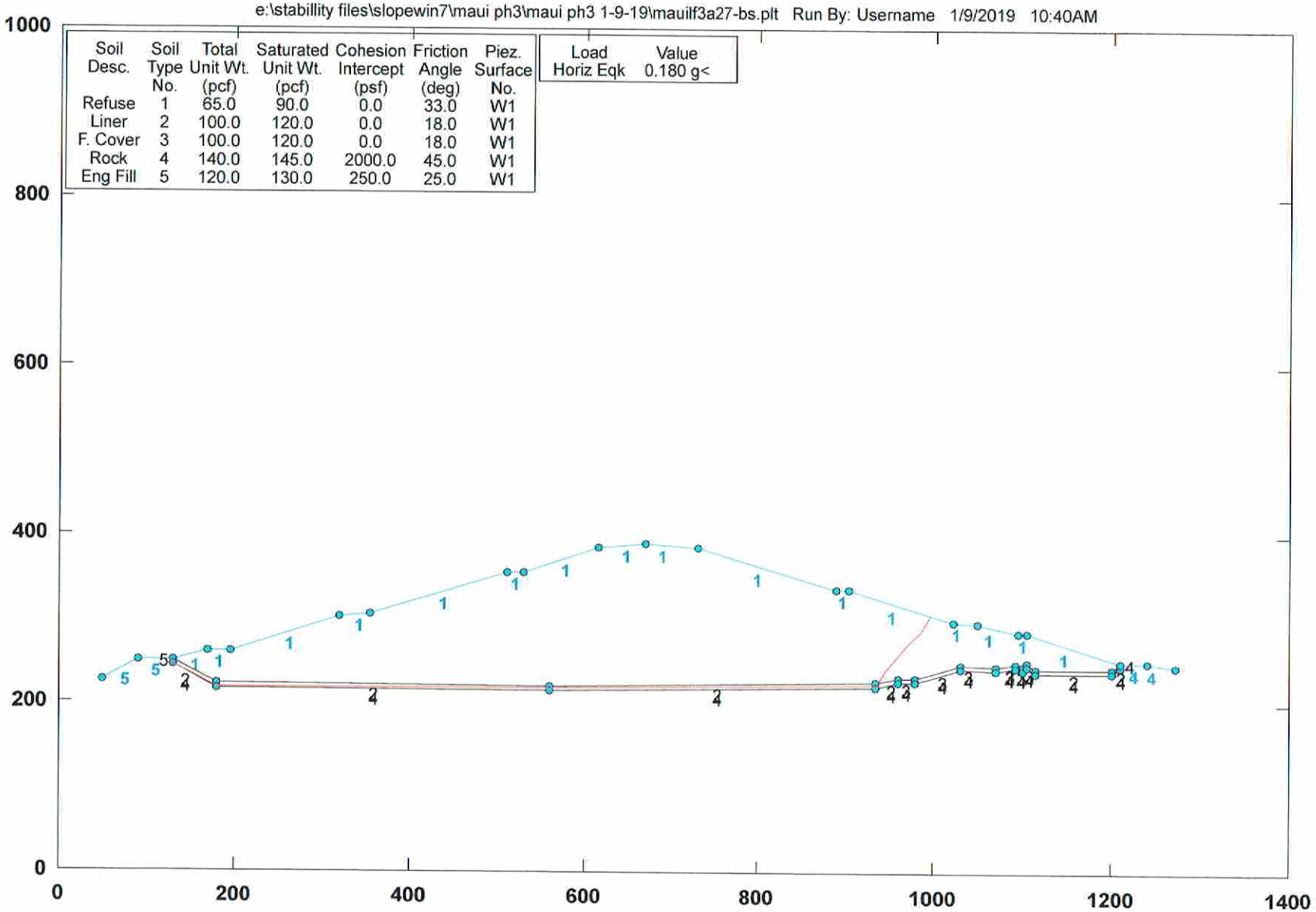


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a27-bs.plt Run By: Username 1/9/2019 10:40AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.58

Factors of Safety Calculated by Janbu Method

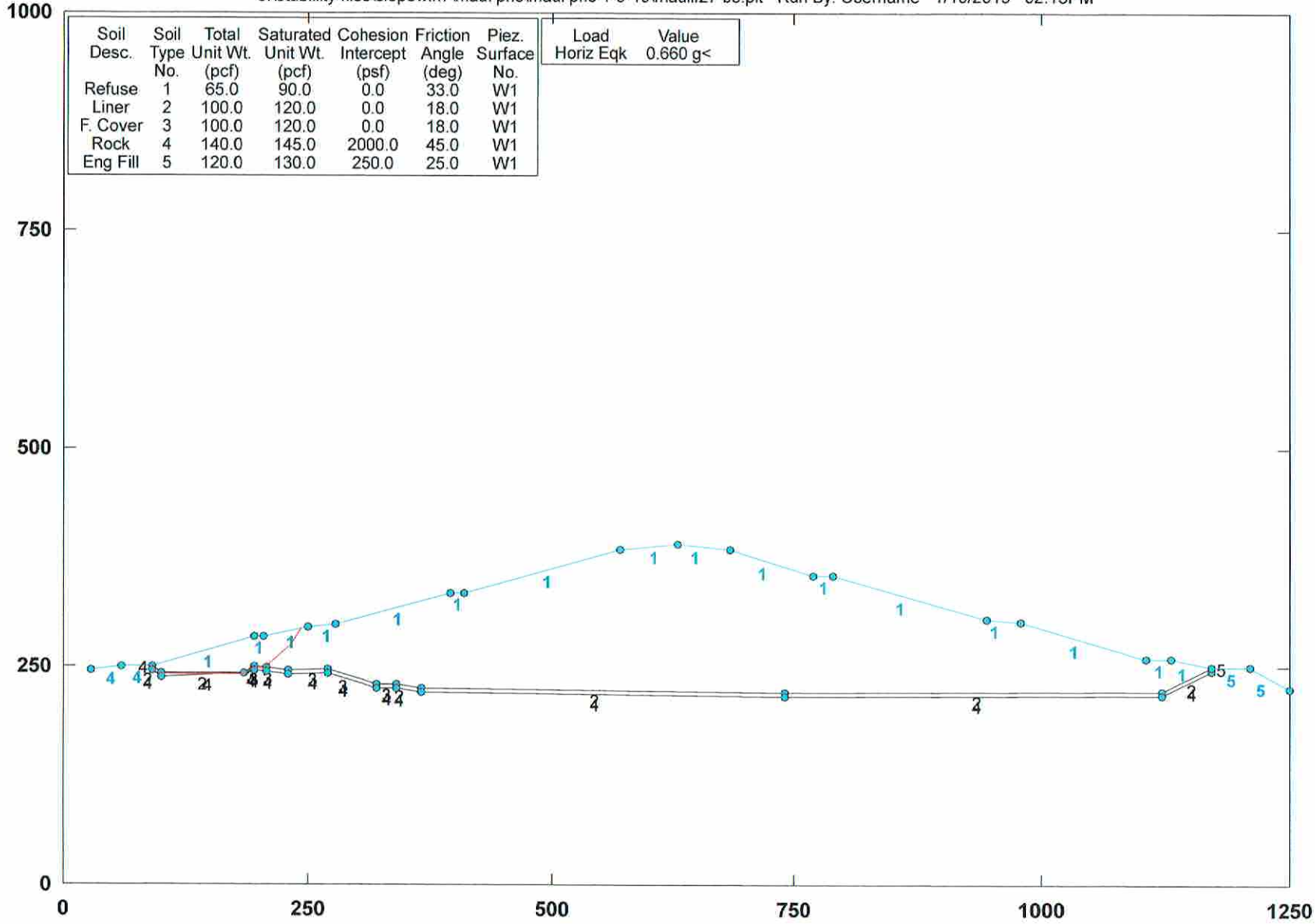
STED

CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf27-be.plt Run By: Username 1/10/2019 02:13PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

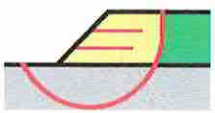
Load	Value
Horiz Eqk	0.660 g<



PCSTABL5M/si FSmin=1.14

Factors of Safety Calculated by Janbu Method

STED

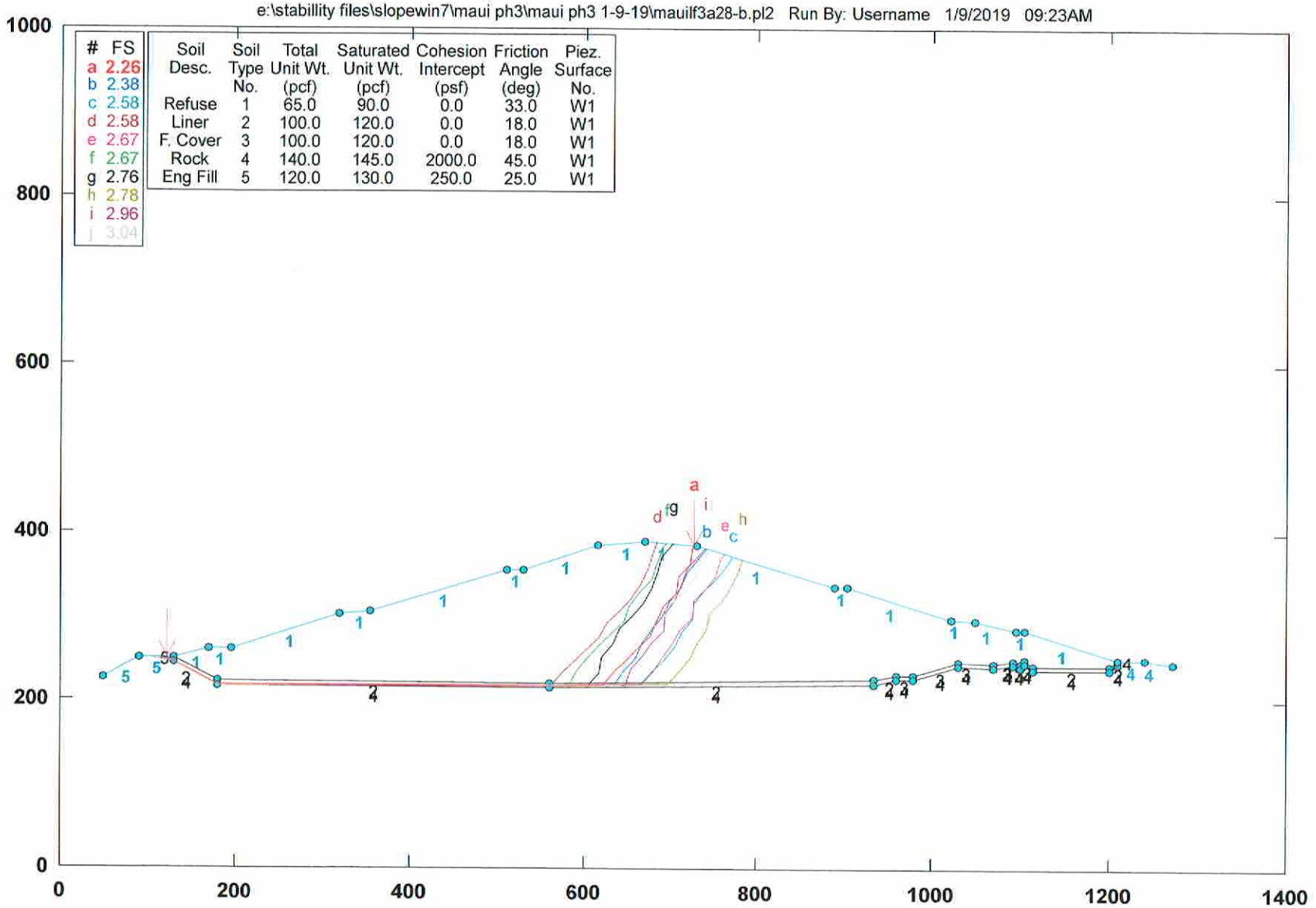


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a28-b.pl2 Run By: Username 1/9/2019 09:23AM

#	FS
a	2.26
b	2.38
c	2.58
d	2.58
e	2.67
f	2.67
g	2.76
h	2.78
i	2.96
j	3.04

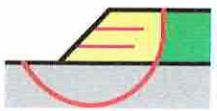
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=2.26

Safety Factors Are Calculated By The Modified Janbu Method

STED

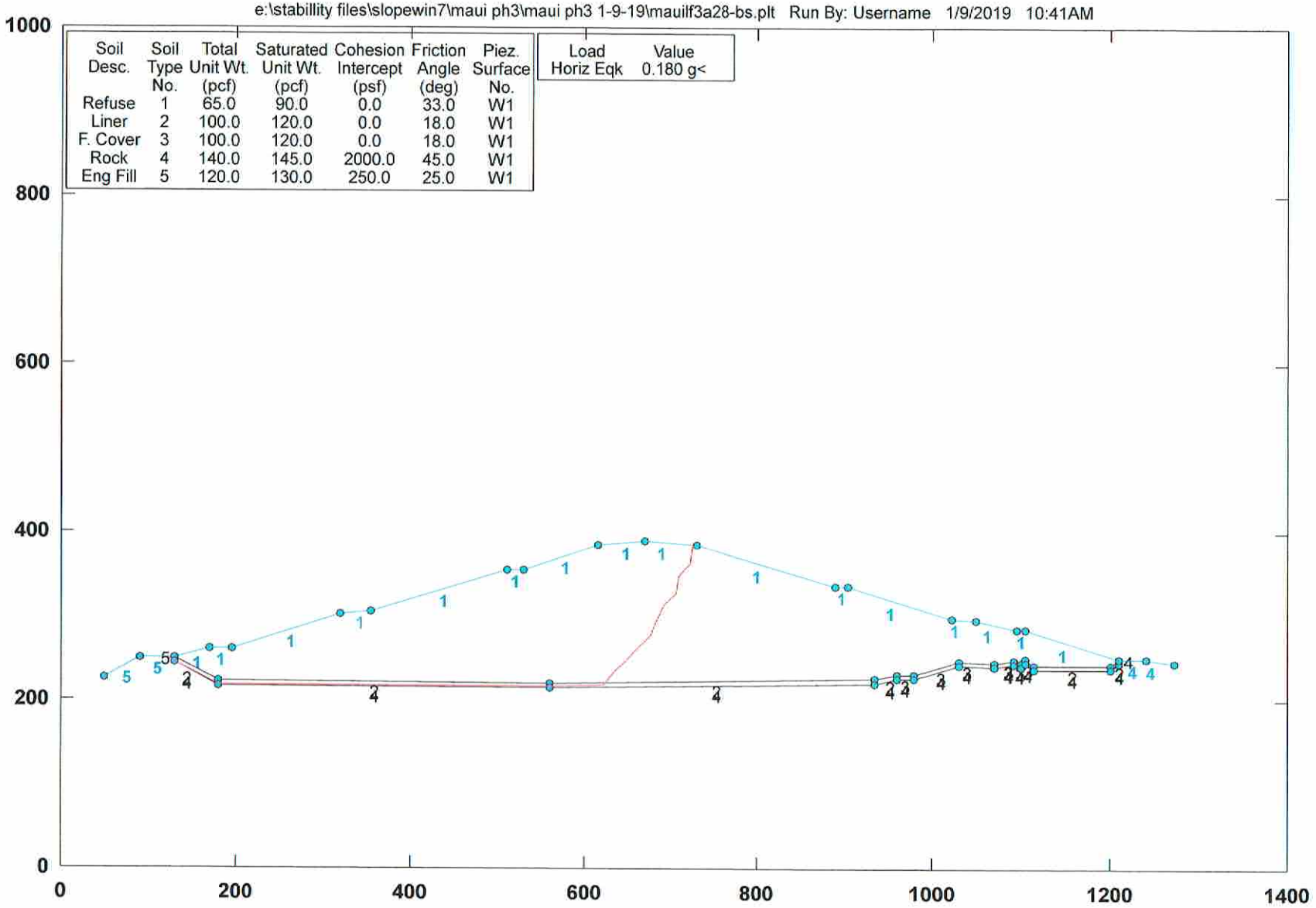


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a28-bs.plt Run By: Username 1/9/2019 10:41AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

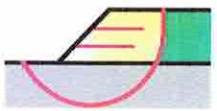
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.13

Factors of Safety Calculated by Janbu Method

STED

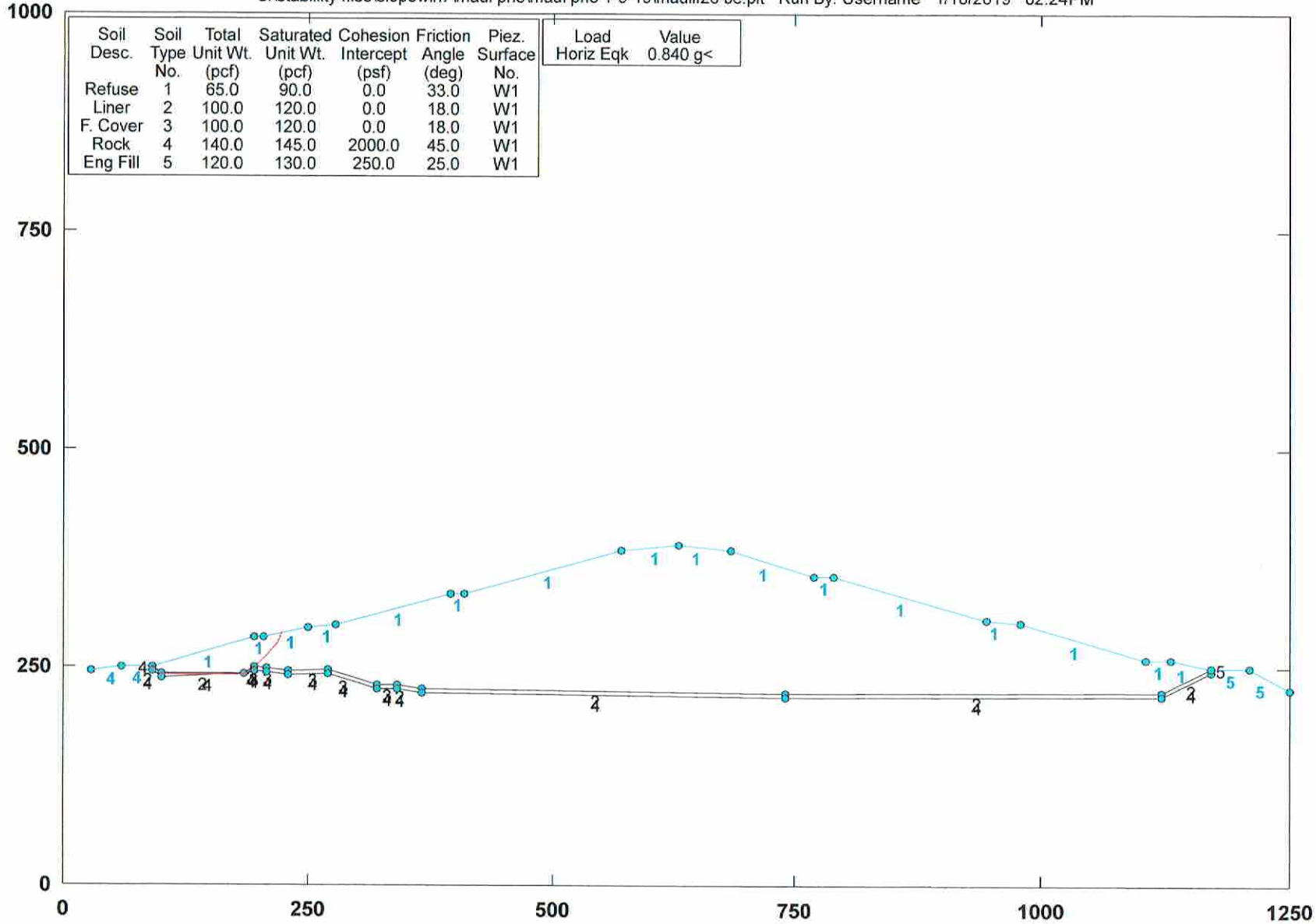


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf28-be.plt Run By: Username 1/10/2019 02:24PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

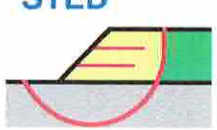
Load	Value
Horiz Eqk	0.840 g<



PCSTABL5M/si FSmin=1.00

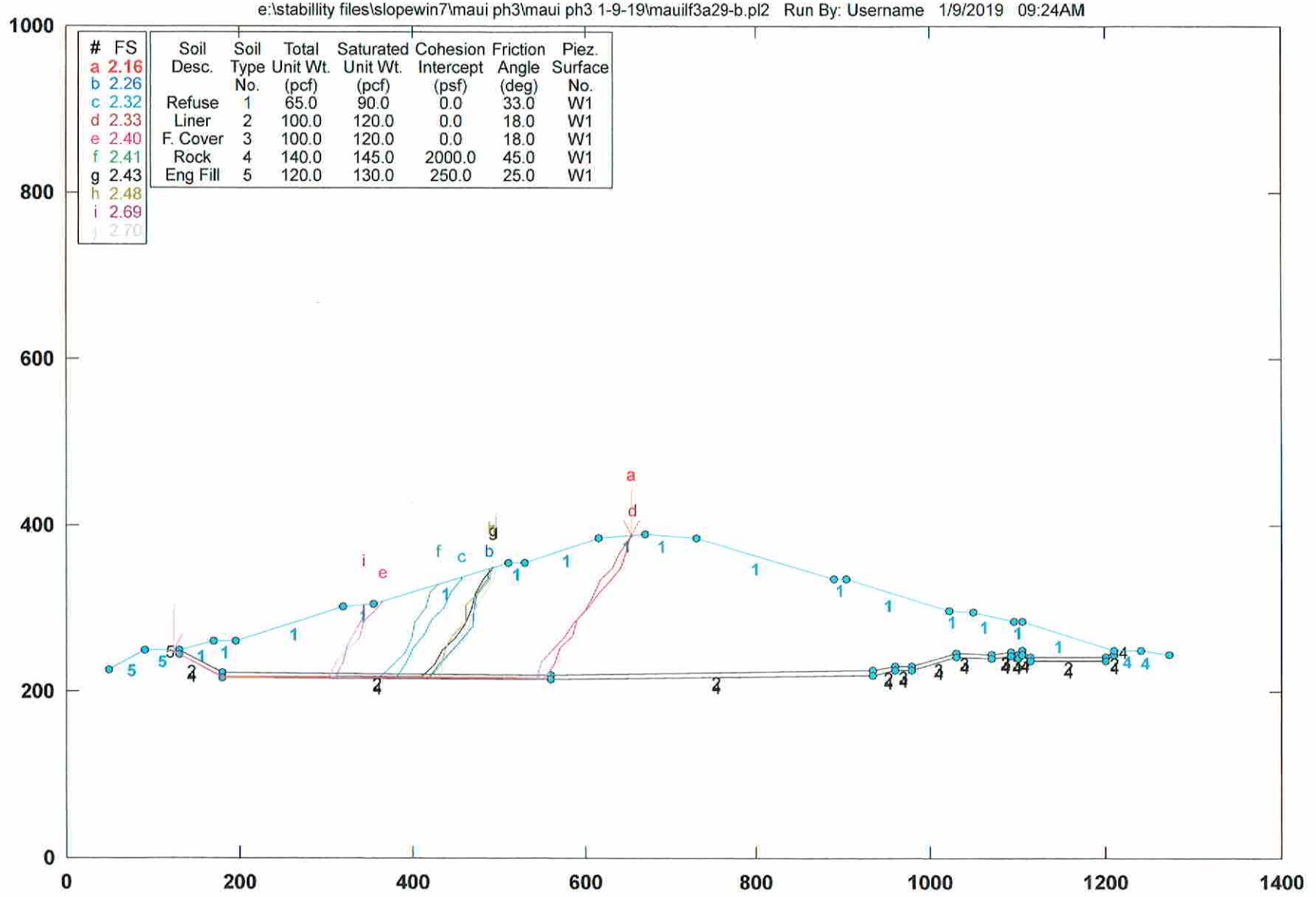
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a29-b.pl2 Run By: Username 1/9/2019 09:24AM



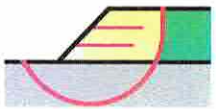
#	FS
a	2.16
b	2.26
c	2.32
d	2.33
e	2.40
f	2.41
g	2.43
h	2.48
i	2.69
j	2.70

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=2.16

Safety Factors Are Calculated By The Modified Janbu Method

STED

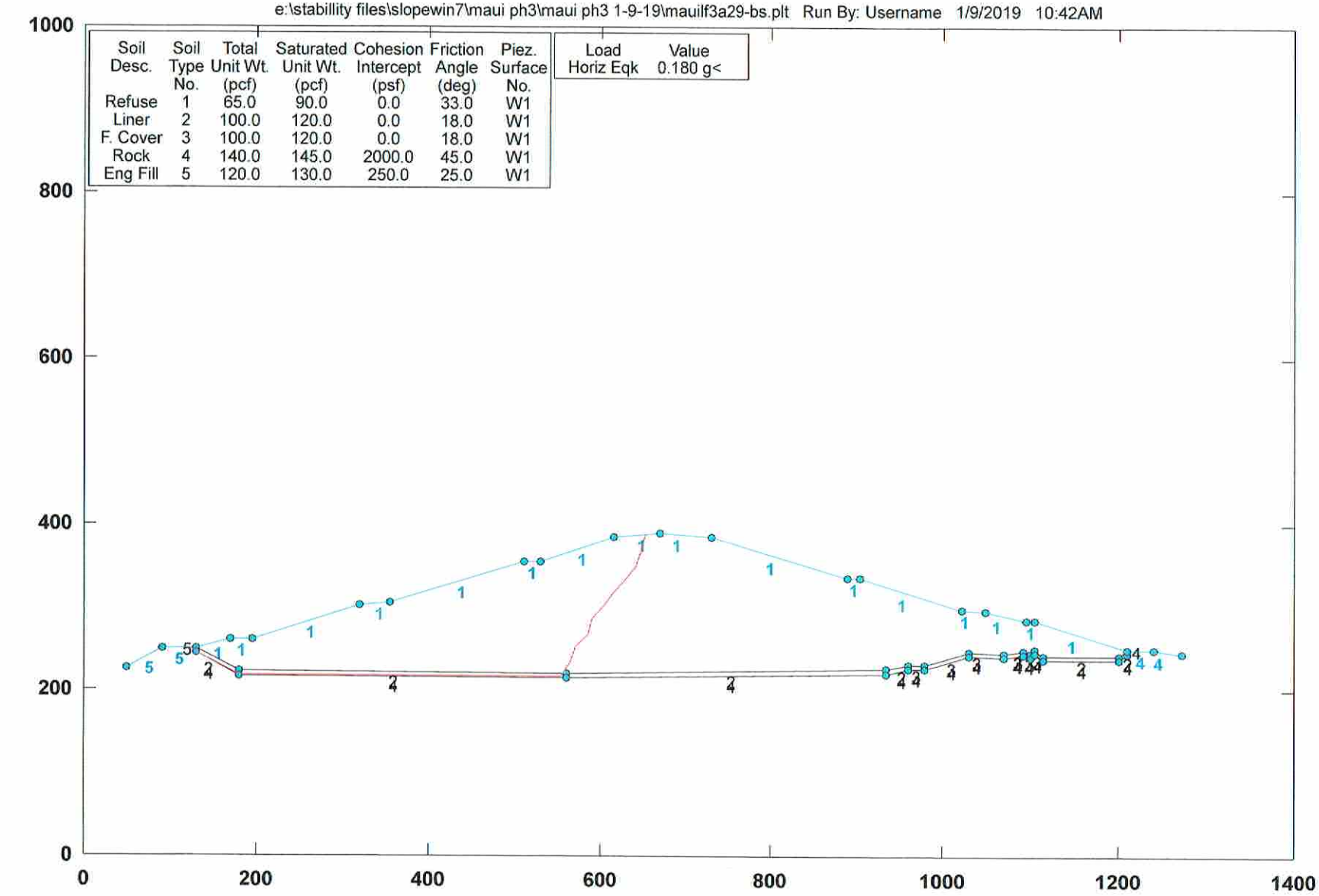


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a29-bs.plt Run By: Username 1/9/2019 10:42AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

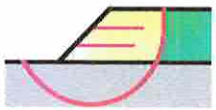
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.15

Factors of Safety Calculated by Janbu Method

STED

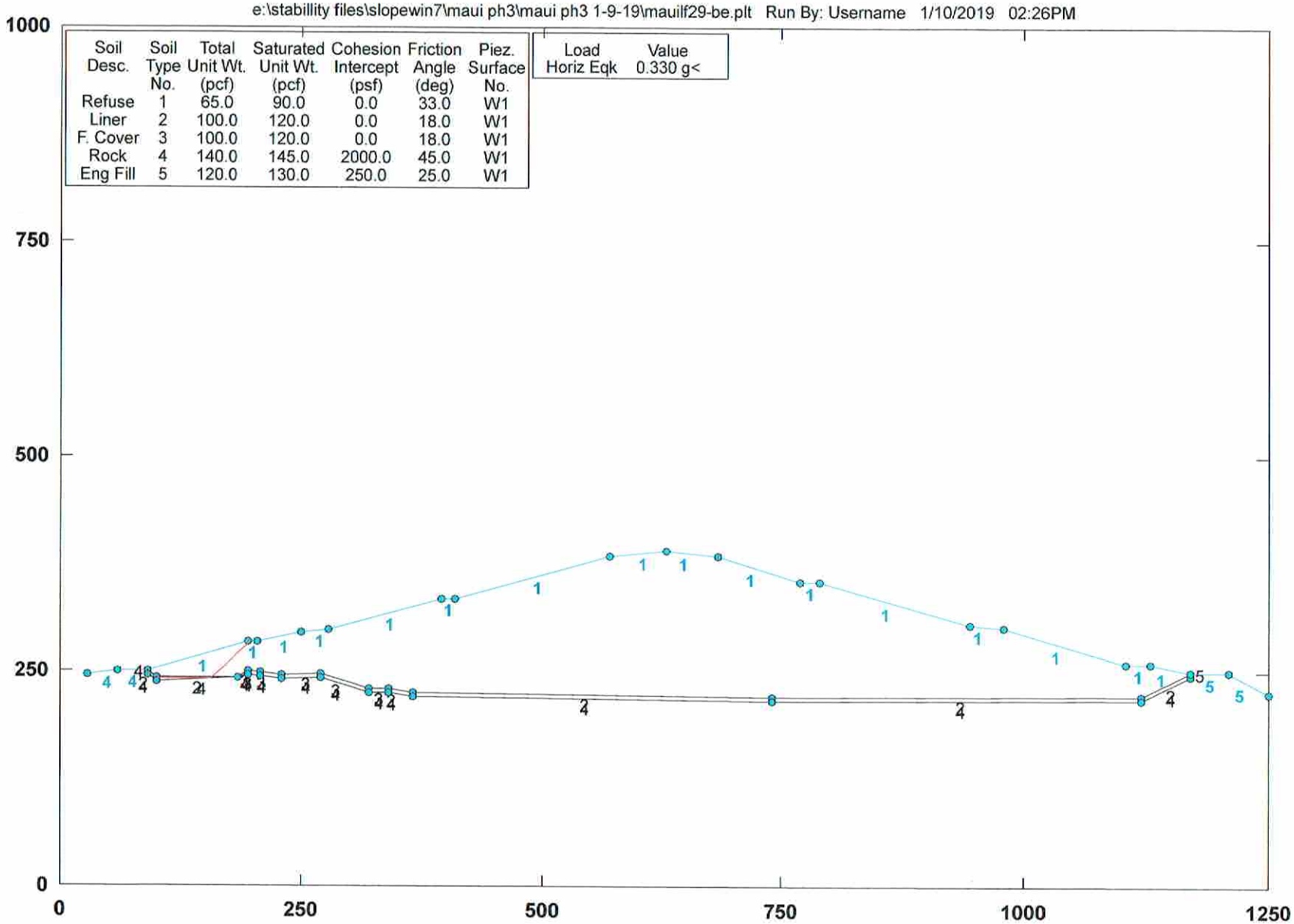


CML - ph III Slope Stab. Section III-S2 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf29-be.plt Run By: Username 1/10/2019 02:26PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

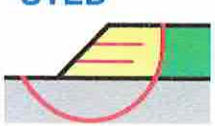
Load	Value
Horiz Eqk	0.330 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

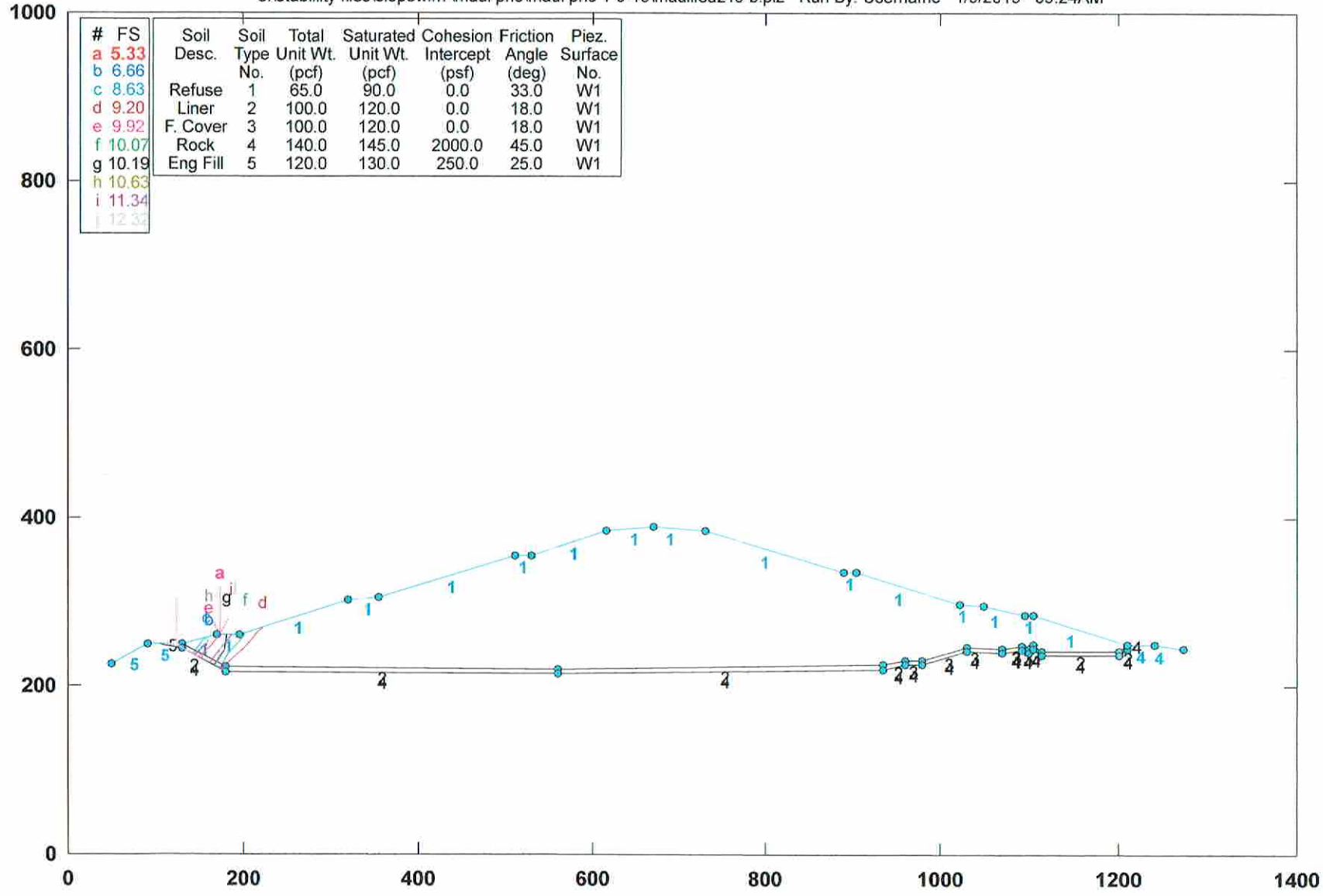


CML - ph III Sl. Stab. Section III-S2-3AStatic

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a210-b.pl2 Run By: Username 1/9/2019 09:24AM

#	FS
a	5.33
b	6.66
c	8.63
d	9.20
e	9.92
f	10.07
g	10.19
h	10.63
i	11.34
j	12.32

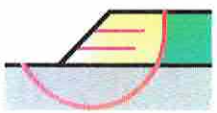
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=5.33

Safety Factors Are Calculated By The Modified Janbu Method

STED

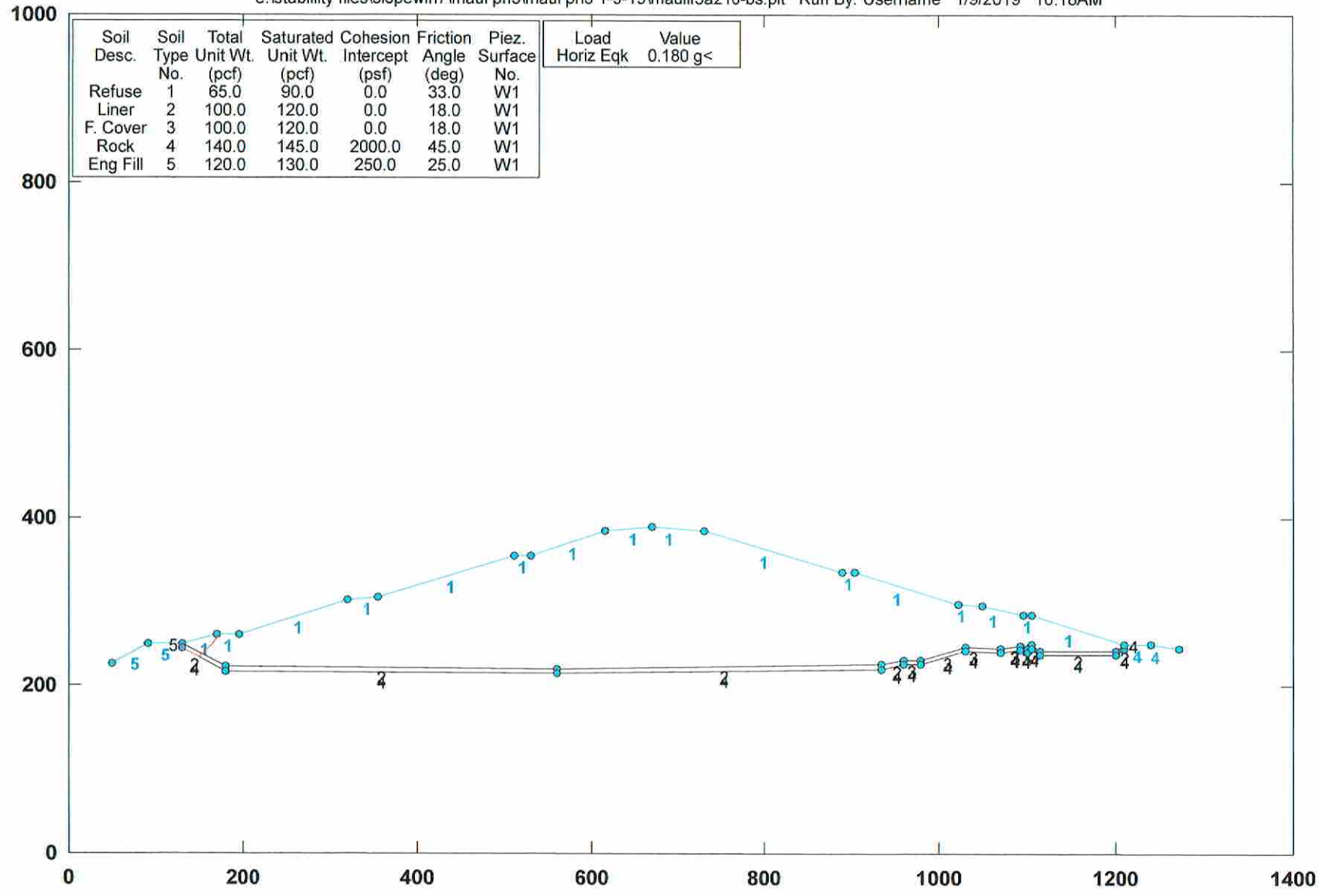


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a210-bs.plt Run By: Username 1/9/2019 10:18AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

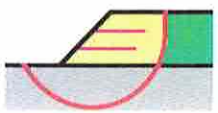
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=2.36

Factors of Safety Calculated by Janbu Method

STED

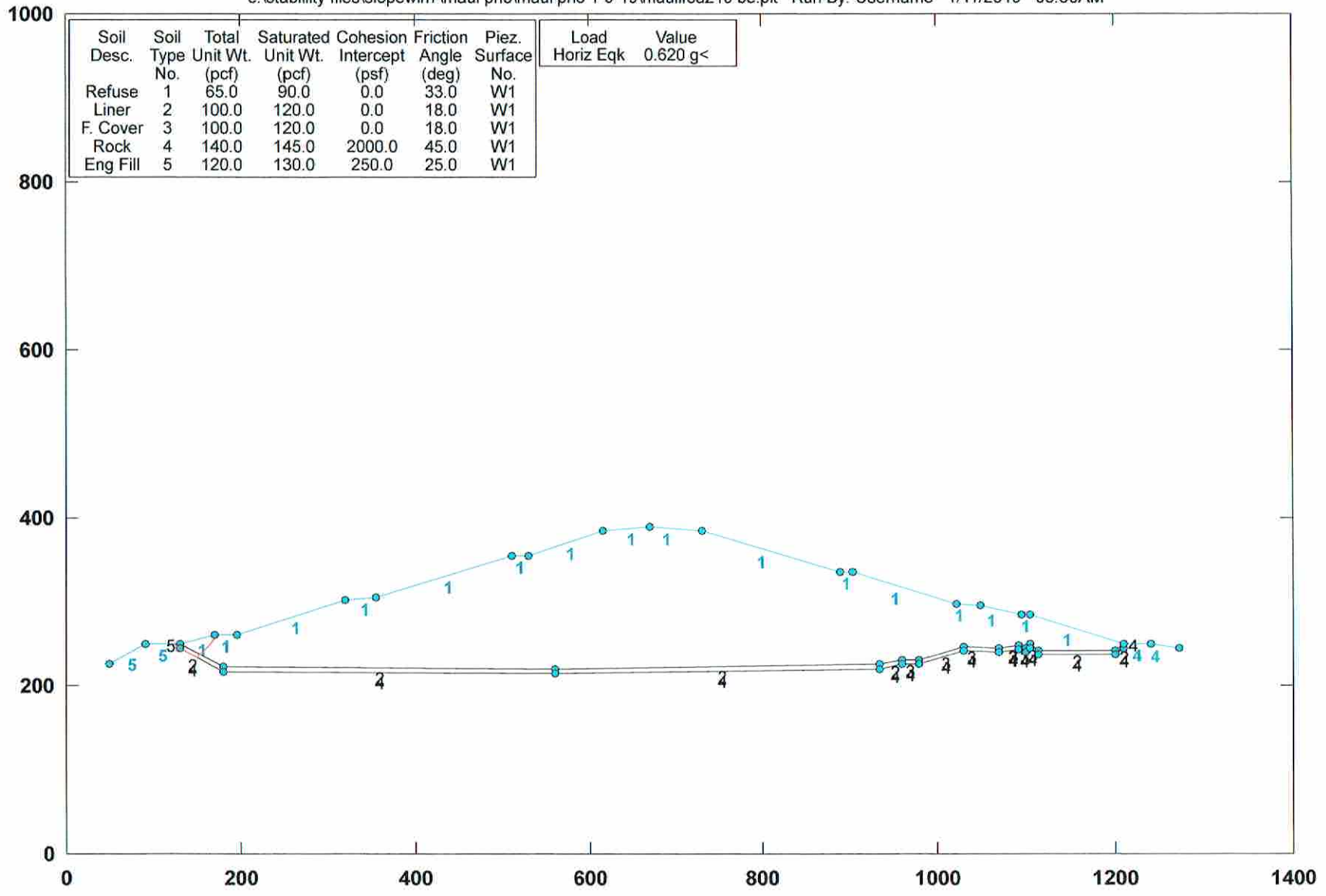


CML - ph III Sl. Stab. Section III-S2-3APseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf3a210-be.plt Run By: Username 1/11/2019 08:30AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

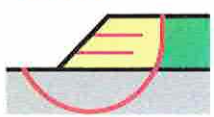
Load	Value
Horiz Eqk	0.620 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED



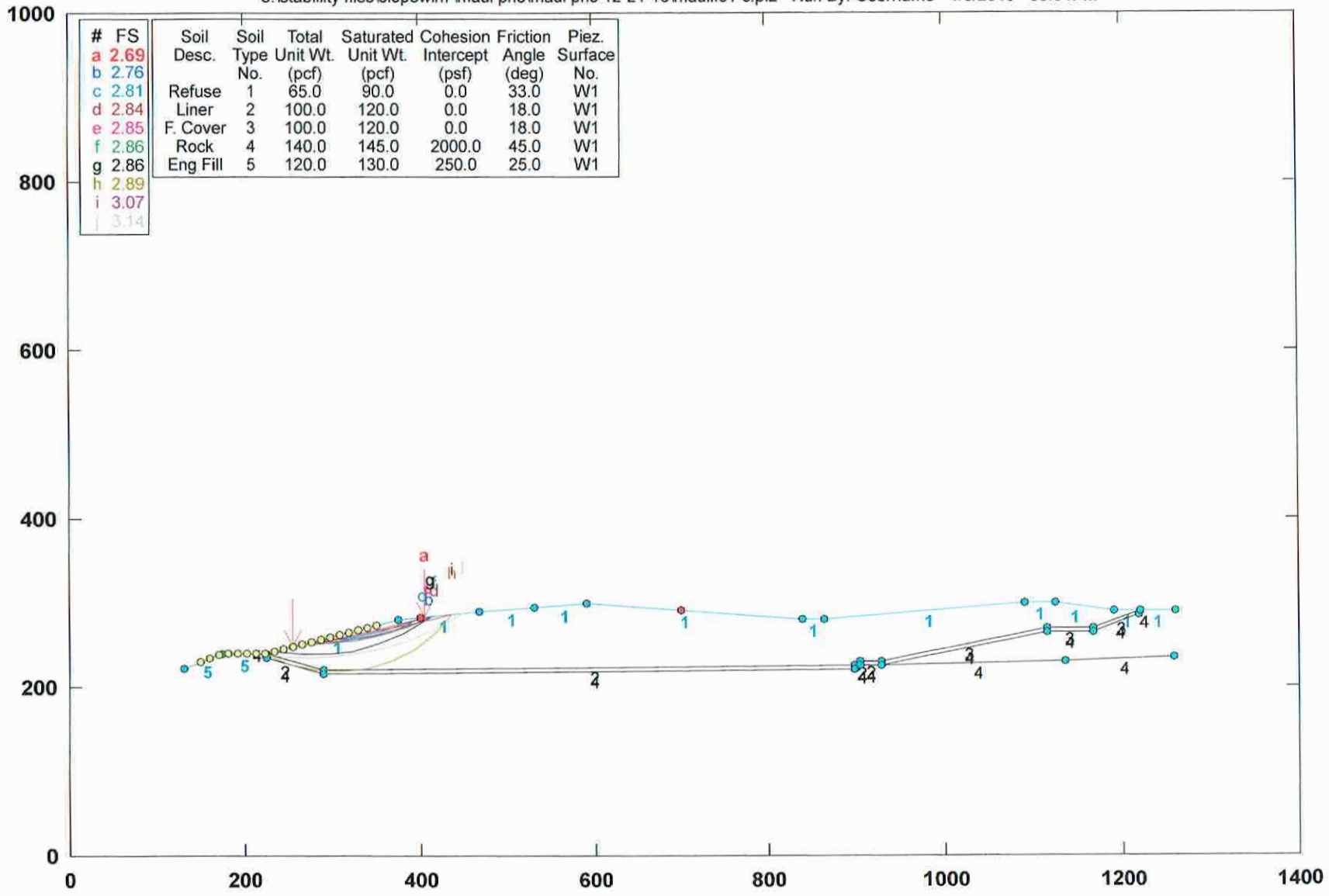
CROSS SECTION
III-S3

CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf31-c.pl2 Run By: Username 1/8/2019 03:04PM

#	FS
a	2.69
b	2.76
c	2.81
d	2.84
e	2.85
f	2.86
g	2.86
h	2.89
i	3.07
j	3.14

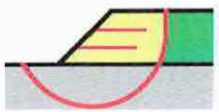
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=2.69

Safety Factors Are Calculated By The Modified Bishop Method

STED

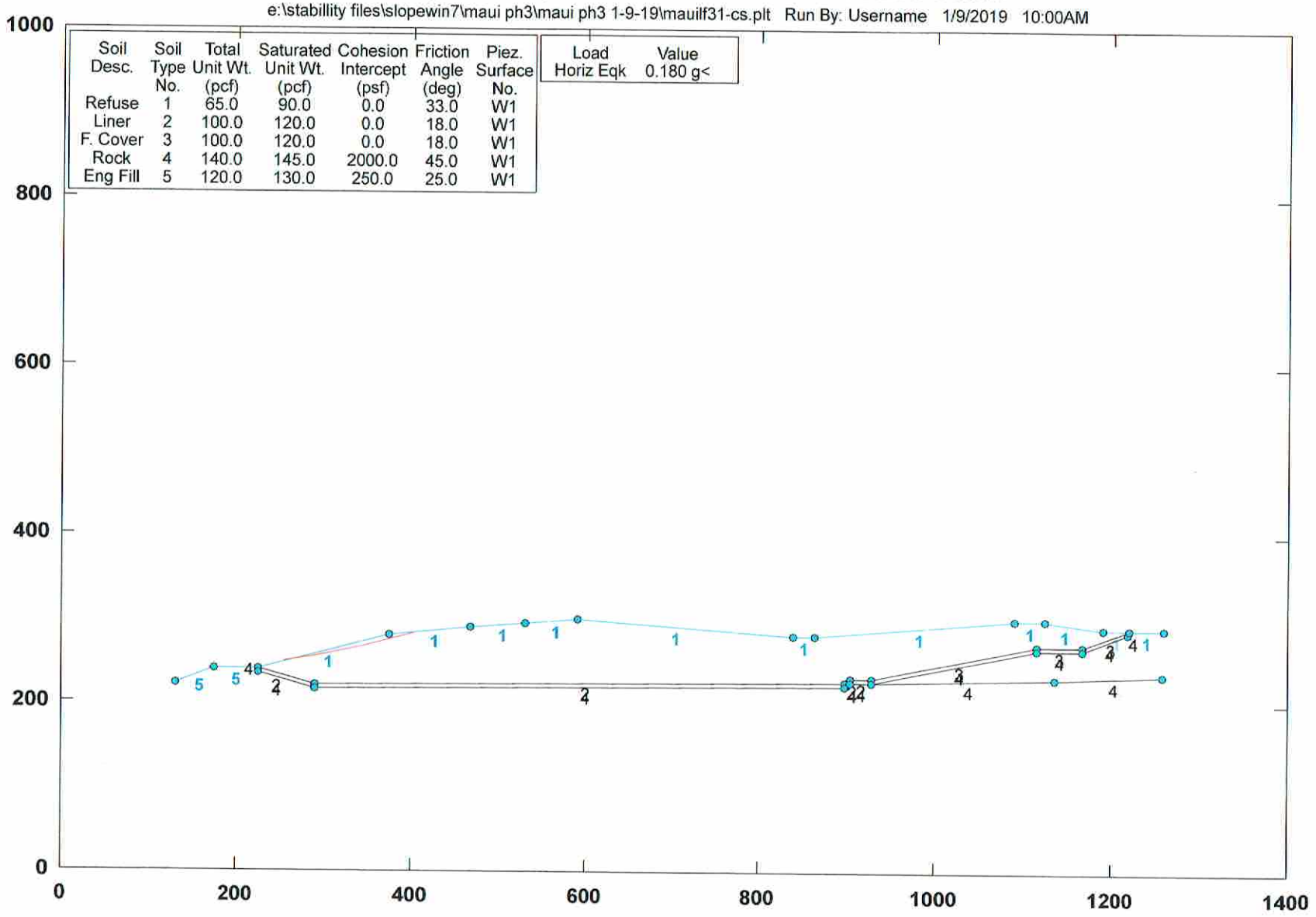


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf31-cs.plt Run By: Username 1/9/2019 10:00AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

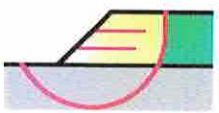
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.48

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

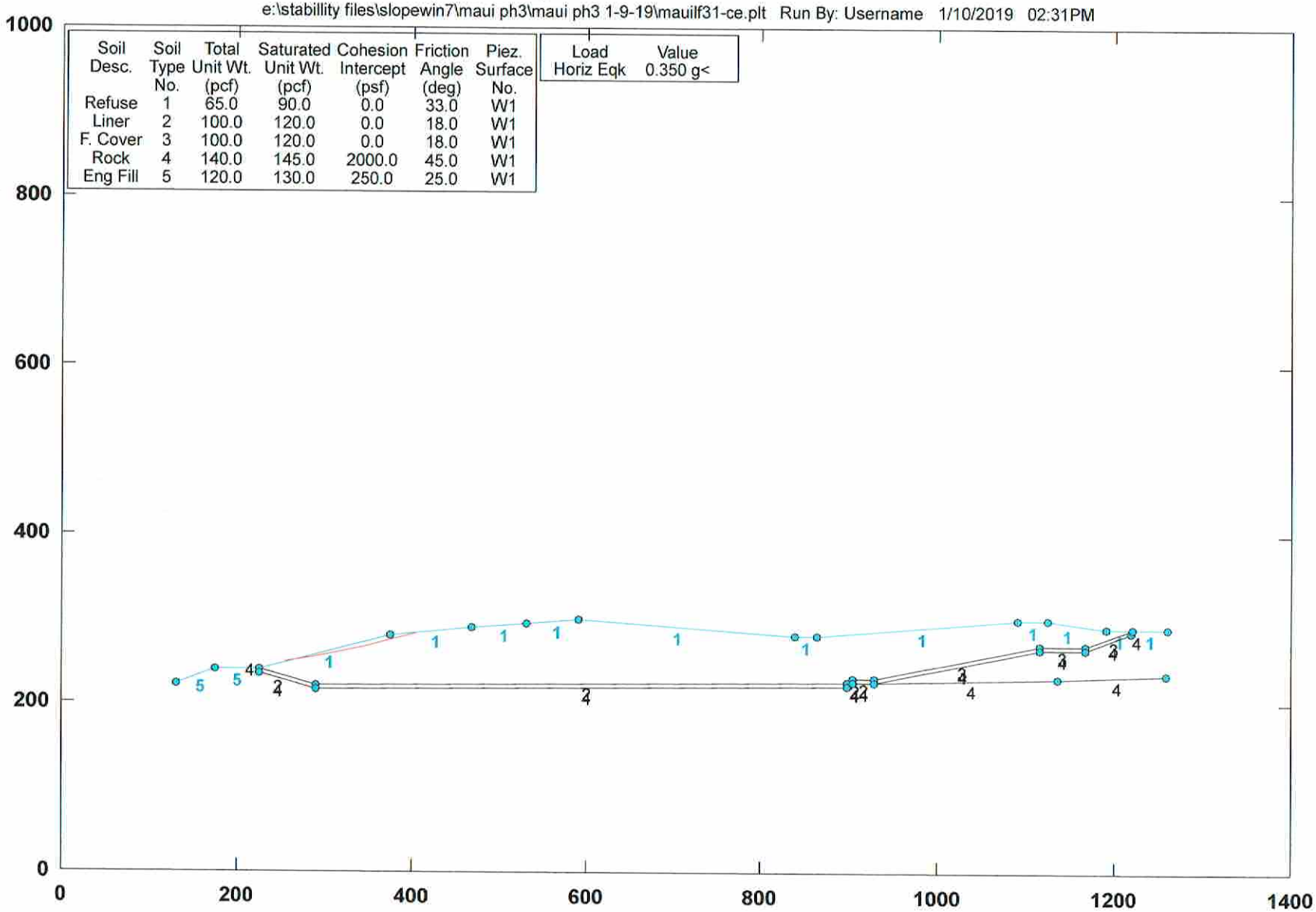


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf31-ce.plt Run By: Username 1/10/2019 02:31PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

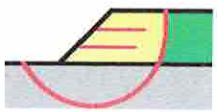
Load	Value
Horiz Eqk	0.350 g<



PCSTABL5M/si FSmin=1.01

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

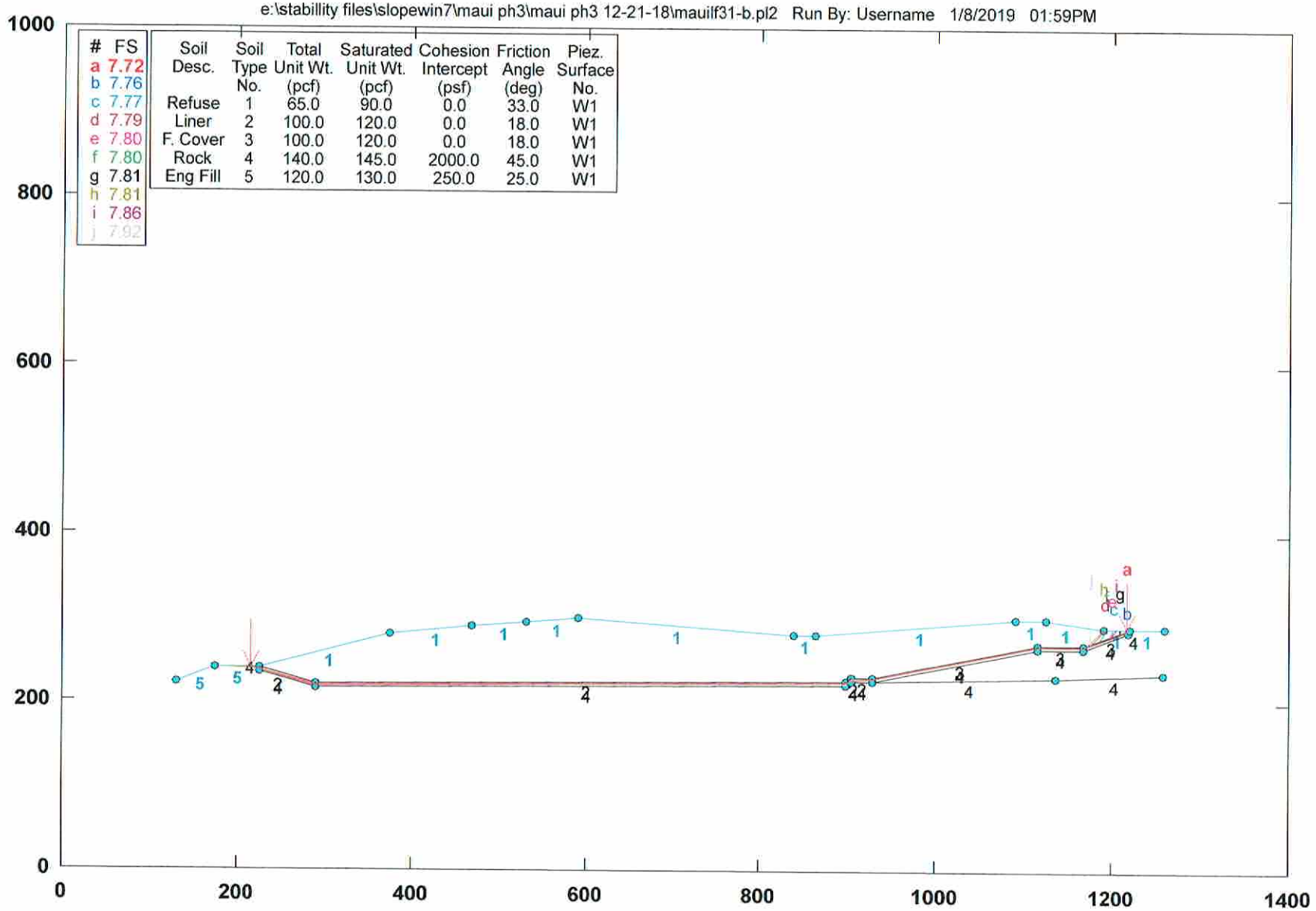


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf31-b.pl2 Run By: Username 1/8/2019 01:59PM

#	FS
a	7.72
b	7.76
c	7.77
d	7.79
e	7.80
f	7.80
g	7.81
h	7.81
i	7.86
j	7.92

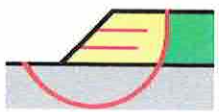
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=7.72

Safety Factors Are Calculated By The Modified Janbu Method

STED

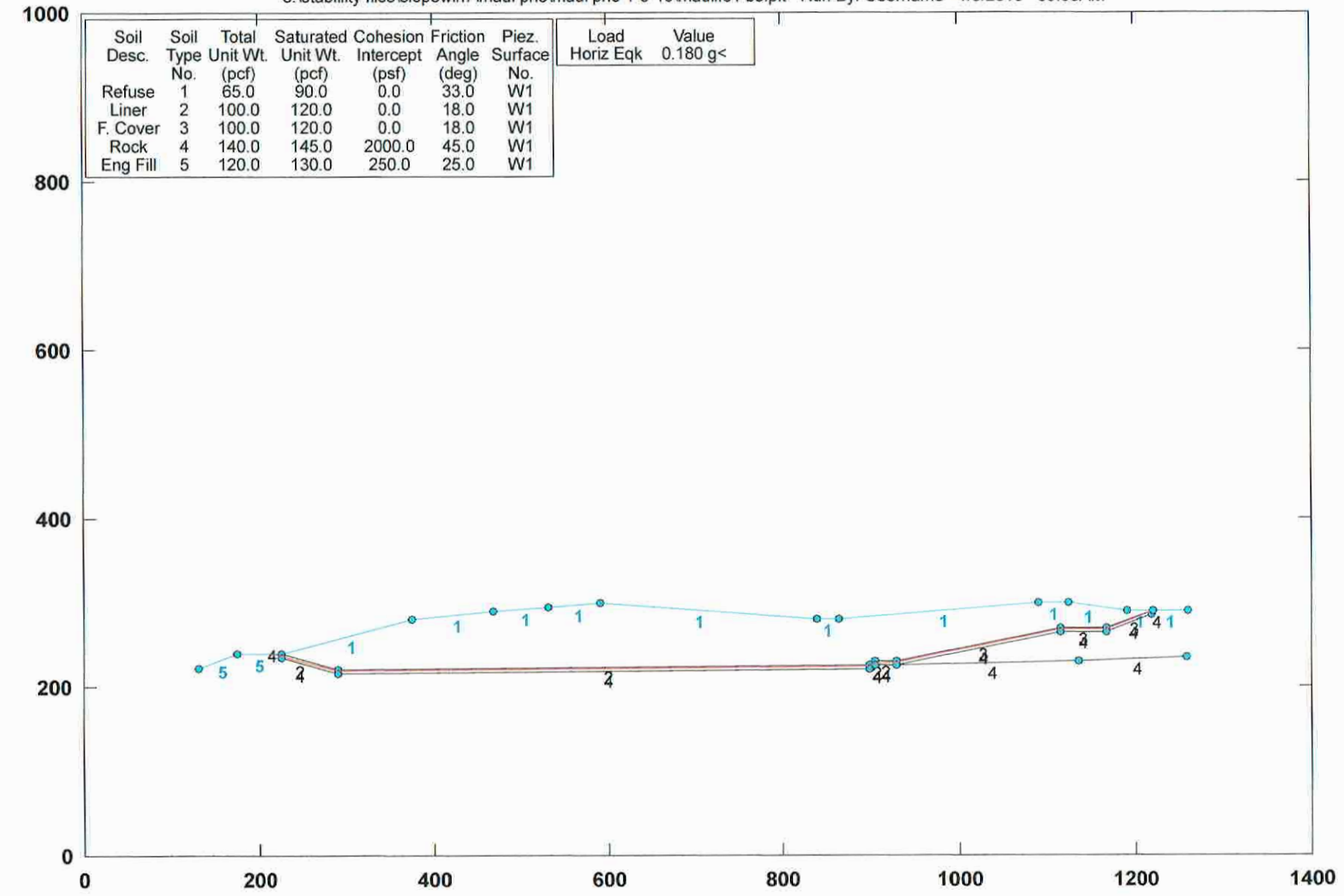


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf31-bs.plt Run By: Username 1/9/2019 09:59AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

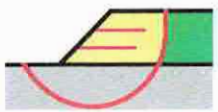
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.47

Factors of Safety Calculated by Janbu Method

STED

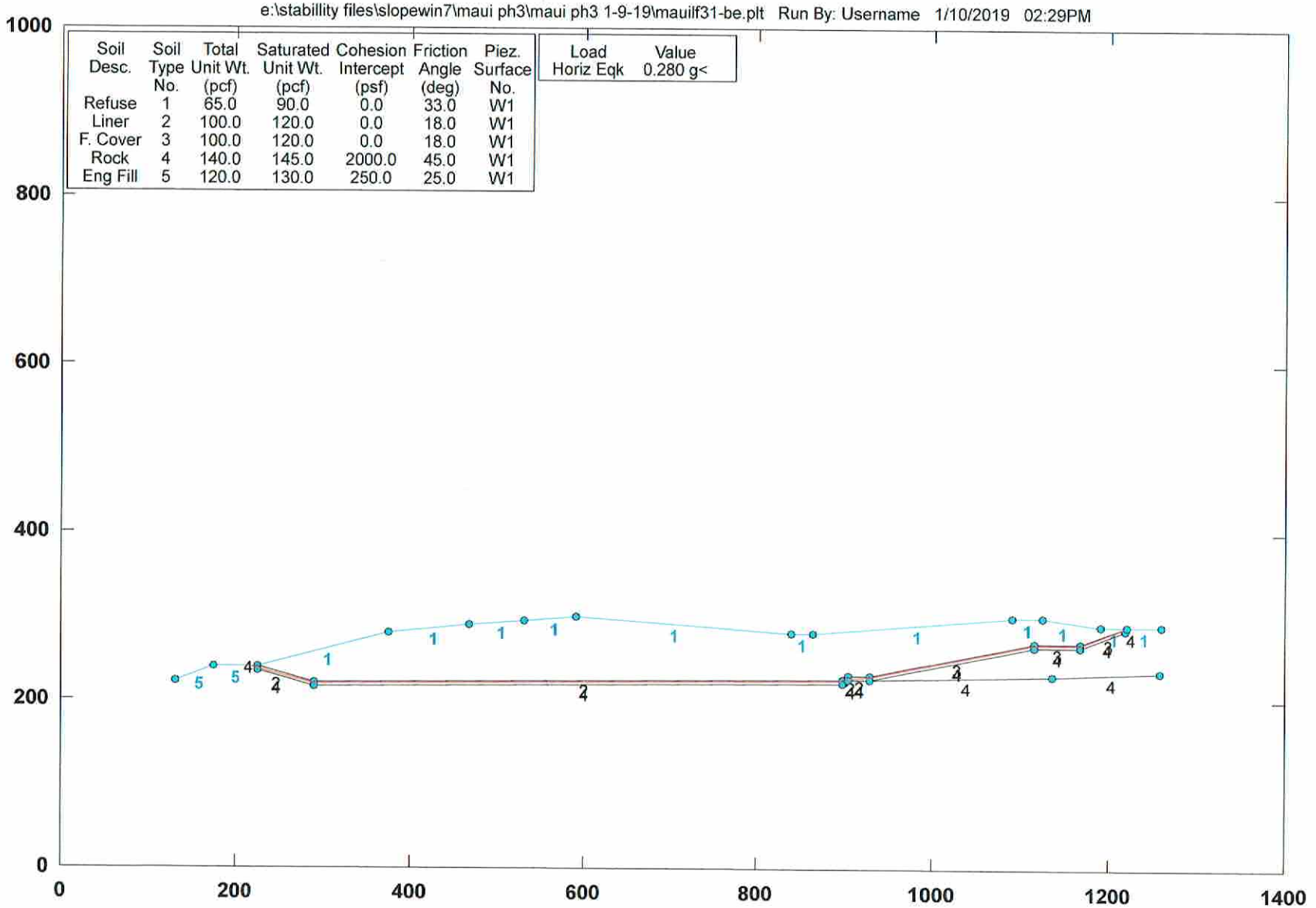


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf31-be.plt Run By: Username 1/10/2019 02:29PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

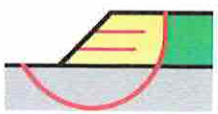
Load	Value
Horiz Eqk	0.280 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

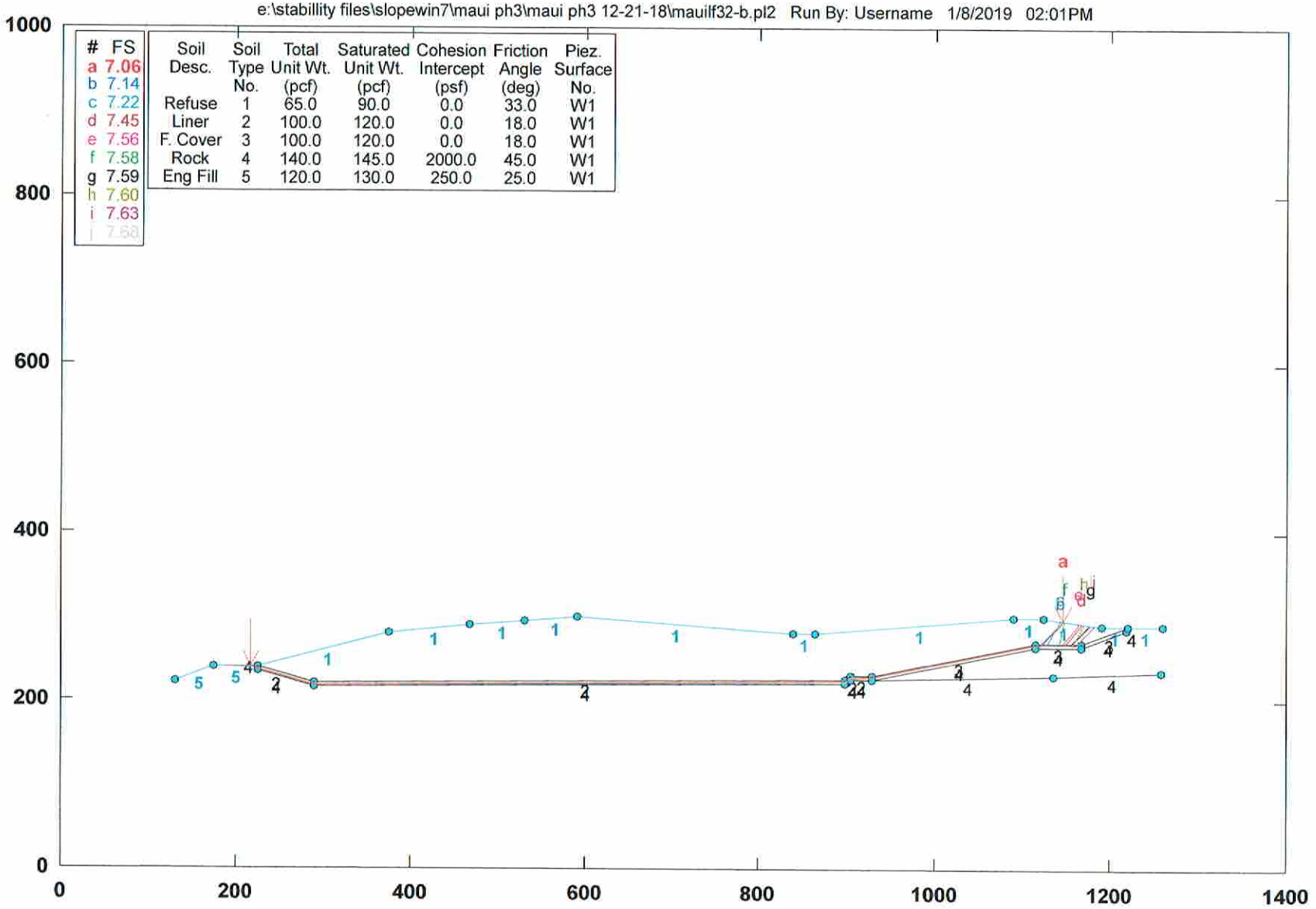


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf32-b.pl2 Run By: Username 1/8/2019 02:01PM

#	FS
a	7.06
b	7.14
c	7.22
d	7.45
e	7.56
f	7.58
g	7.59
h	7.60
i	7.63
j	7.68

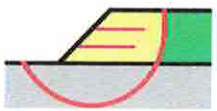
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=7.06

Safety Factors Are Calculated By The Modified Janbu Method

STED

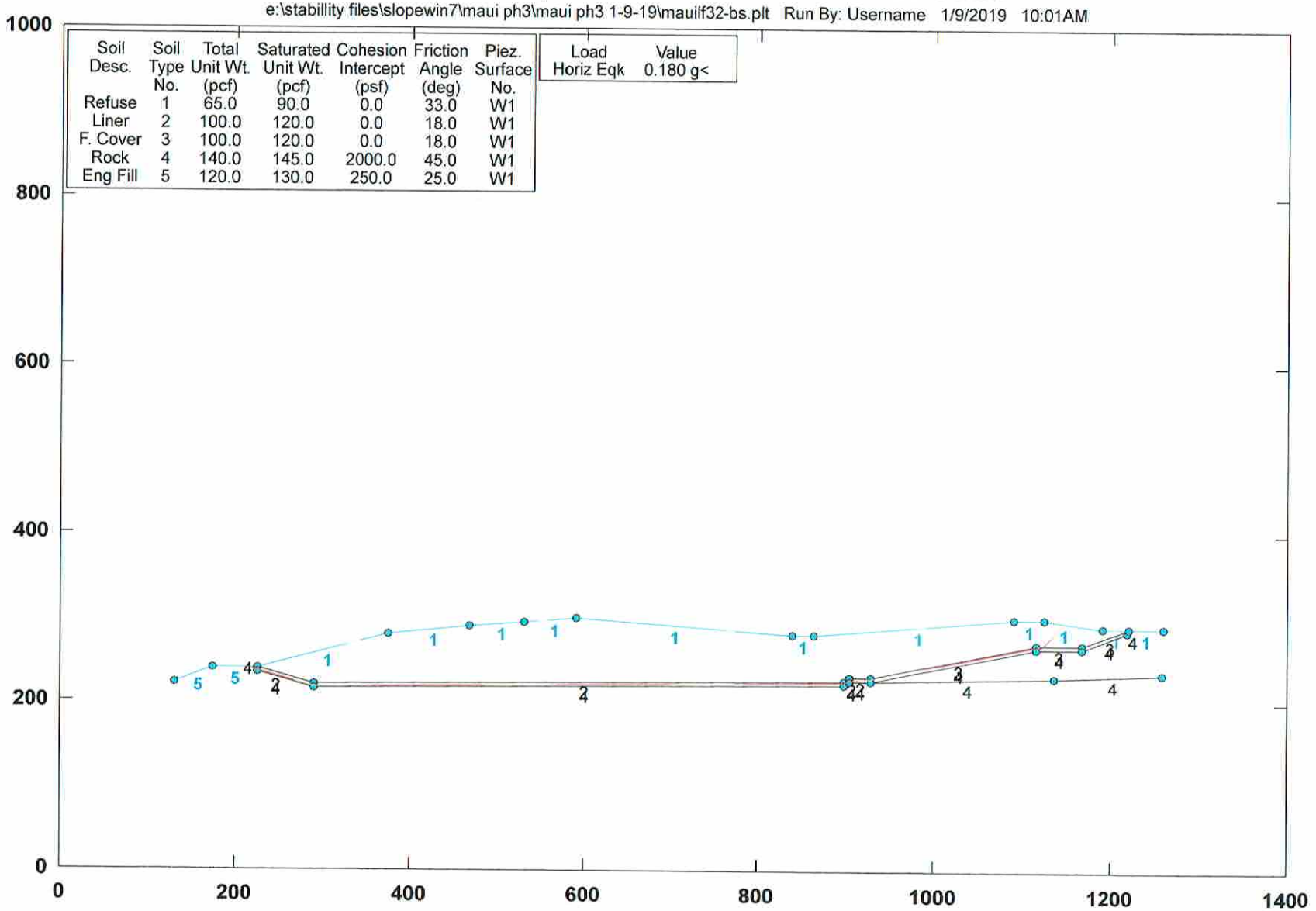


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf32-bs.plt Run By: Username 1/9/2019 10:01AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.46

Factors of Safety Calculated by Janbu Method

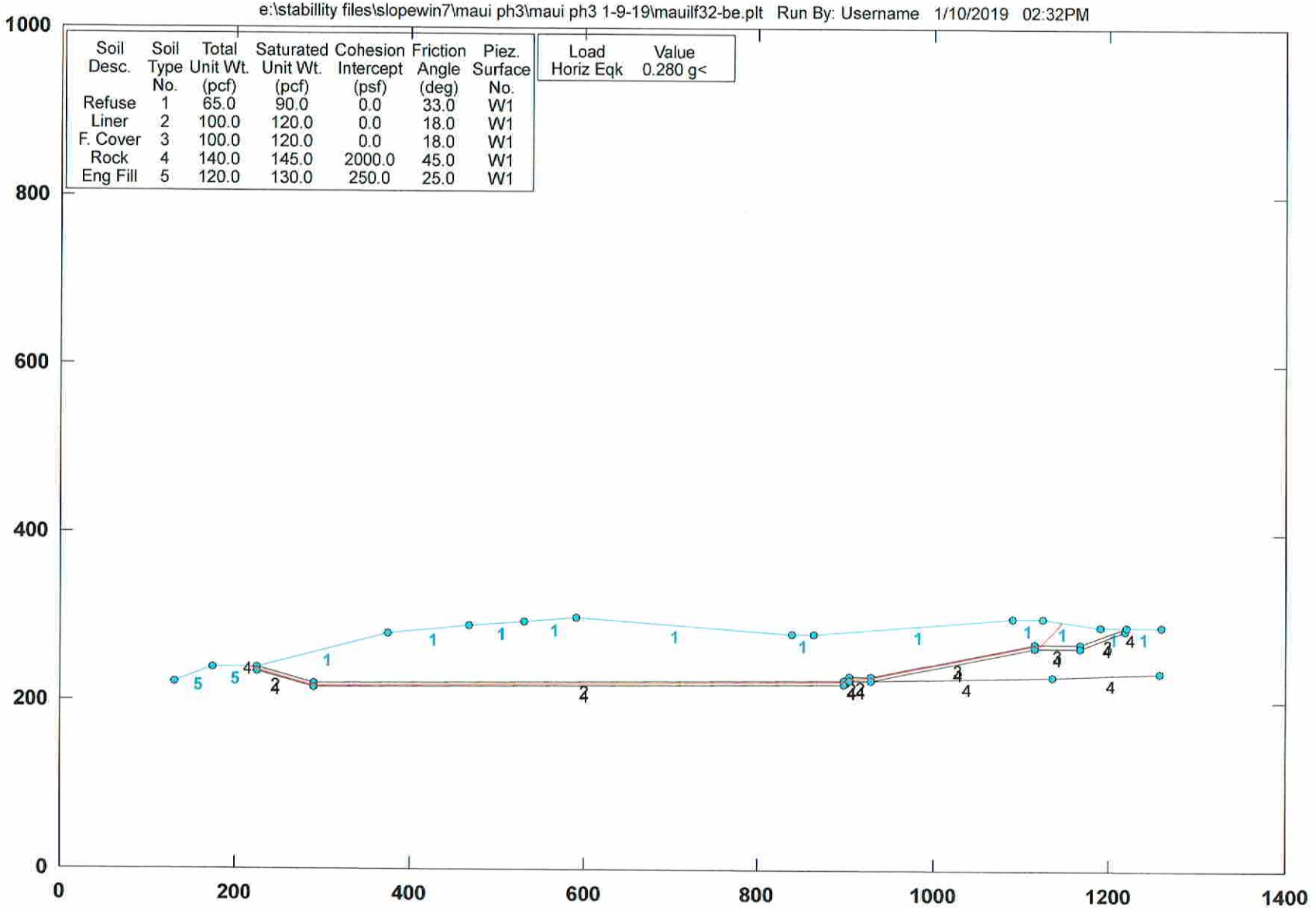
STED

CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf32-be.plt Run By: Username 1/10/2019 02:32PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

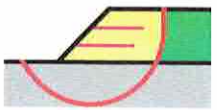
Load	Value
Horiz Eqk	0.280 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

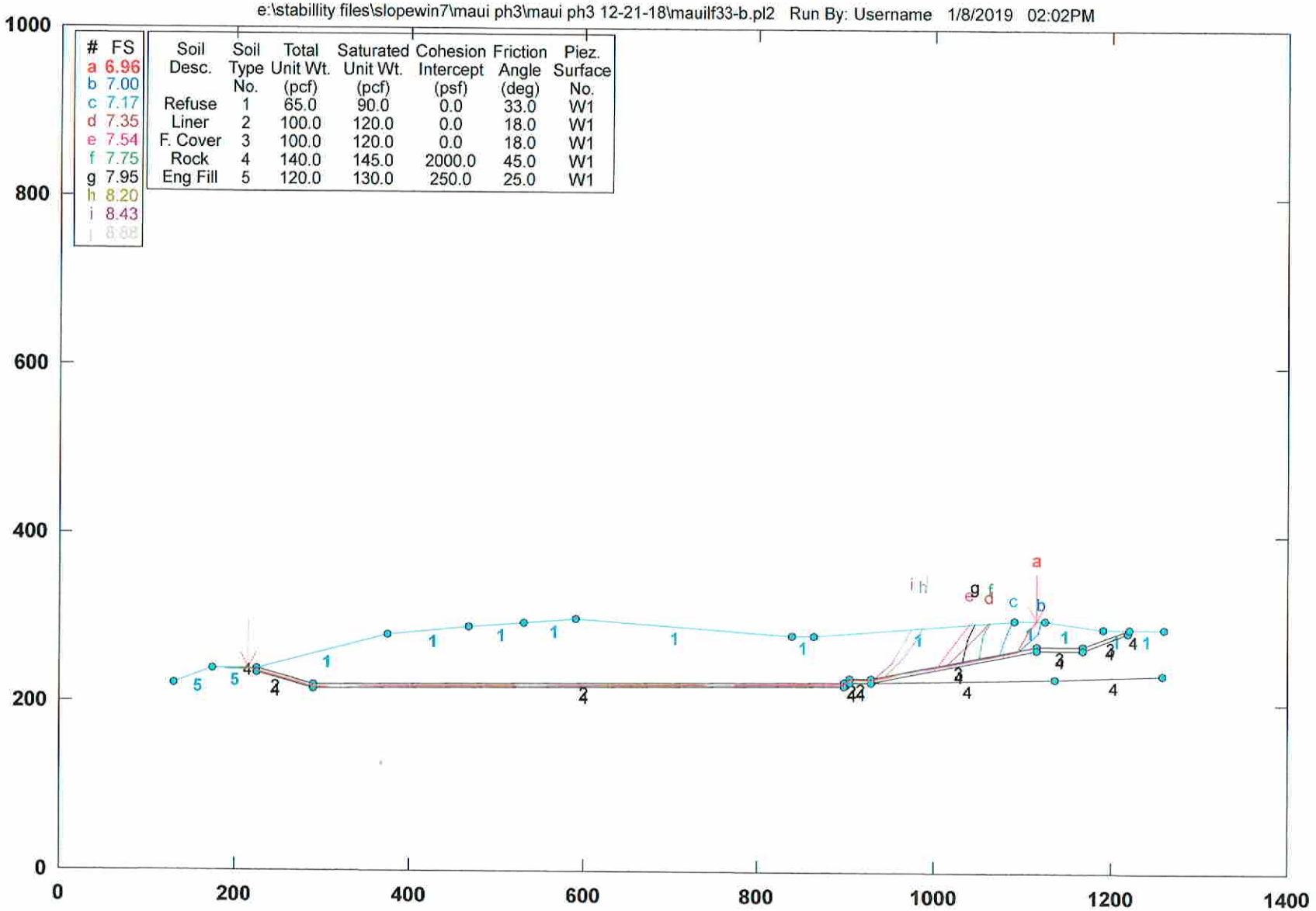


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf33-b.pl2 Run By: Username 1/8/2019 02:02PM

#	FS
a	6.96
b	7.00
c	7.17
d	7.35
e	7.54
f	7.75
g	7.95
h	8.20
i	8.43
j	8.68

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=6.96

Safety Factors Are Calculated By The Modified Janbu Method

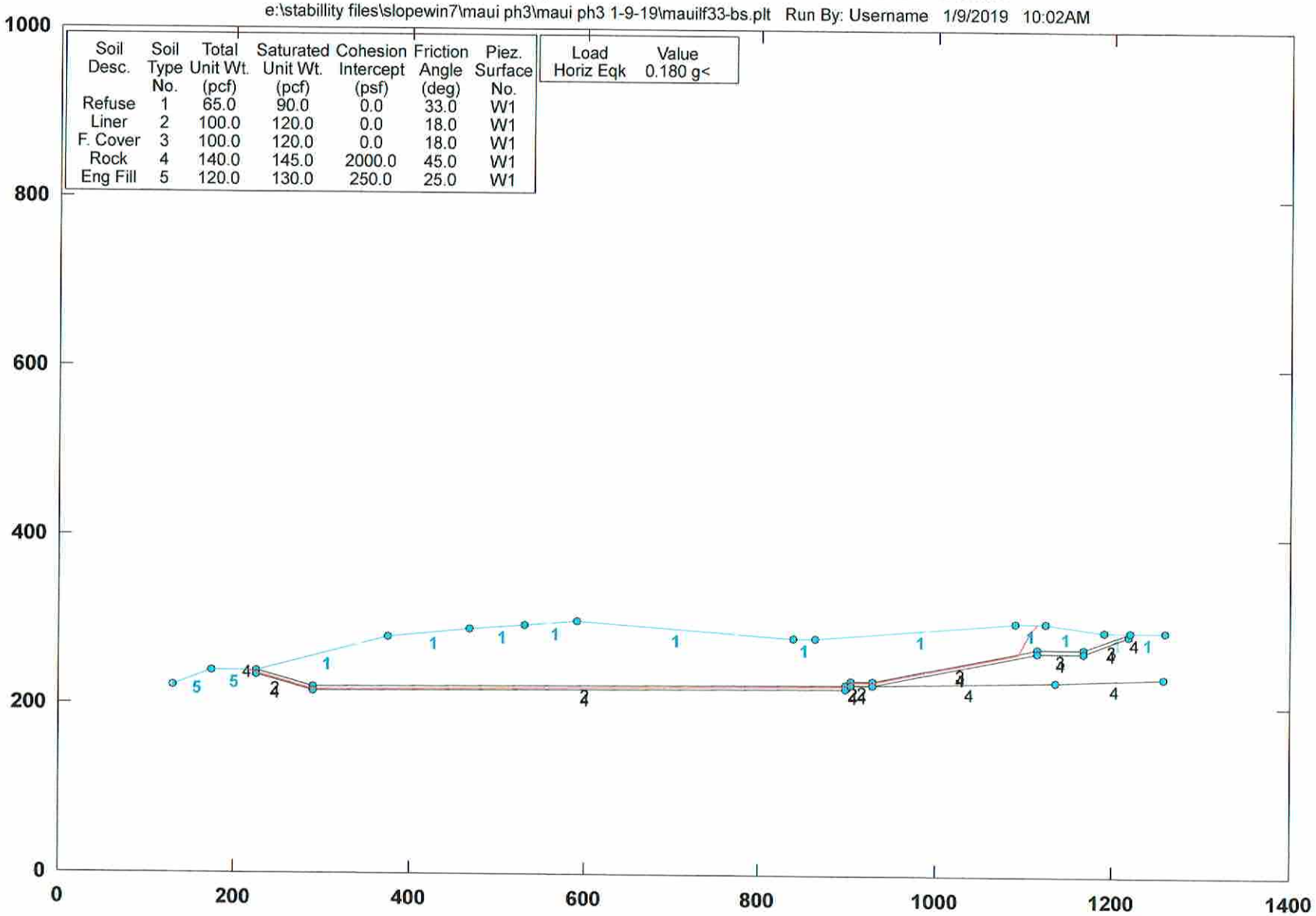
STED

CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf33-bs.plt Run By: Username 1/9/2019 10:02AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

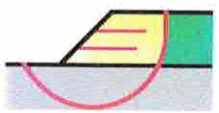
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.47

Factors of Safety Calculated by Janbu Method

STED

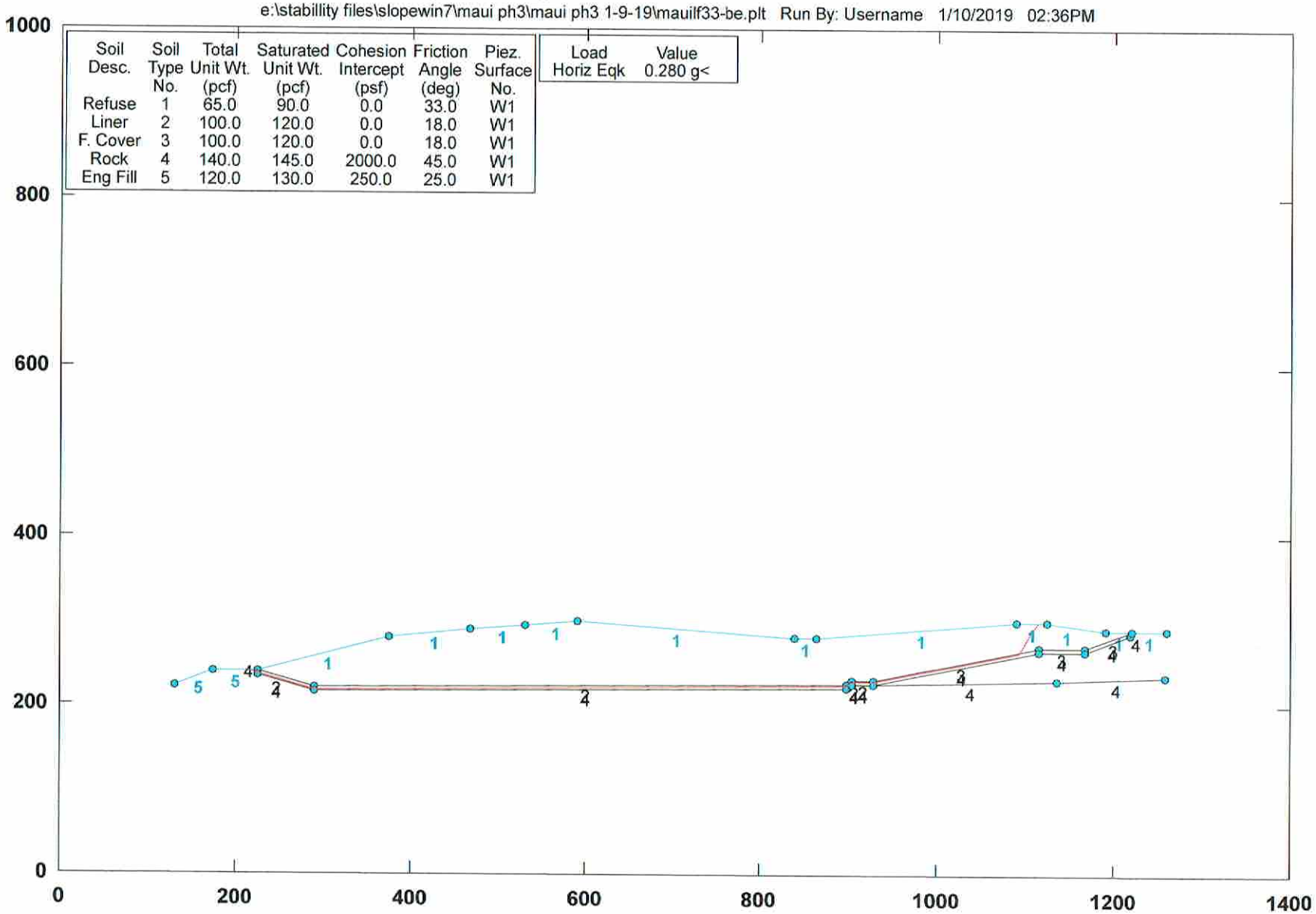


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf33-be.plt Run By: Username 1/10/2019 02:36PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

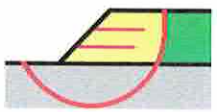
Load	Value
Horiz Eqk	0.280 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

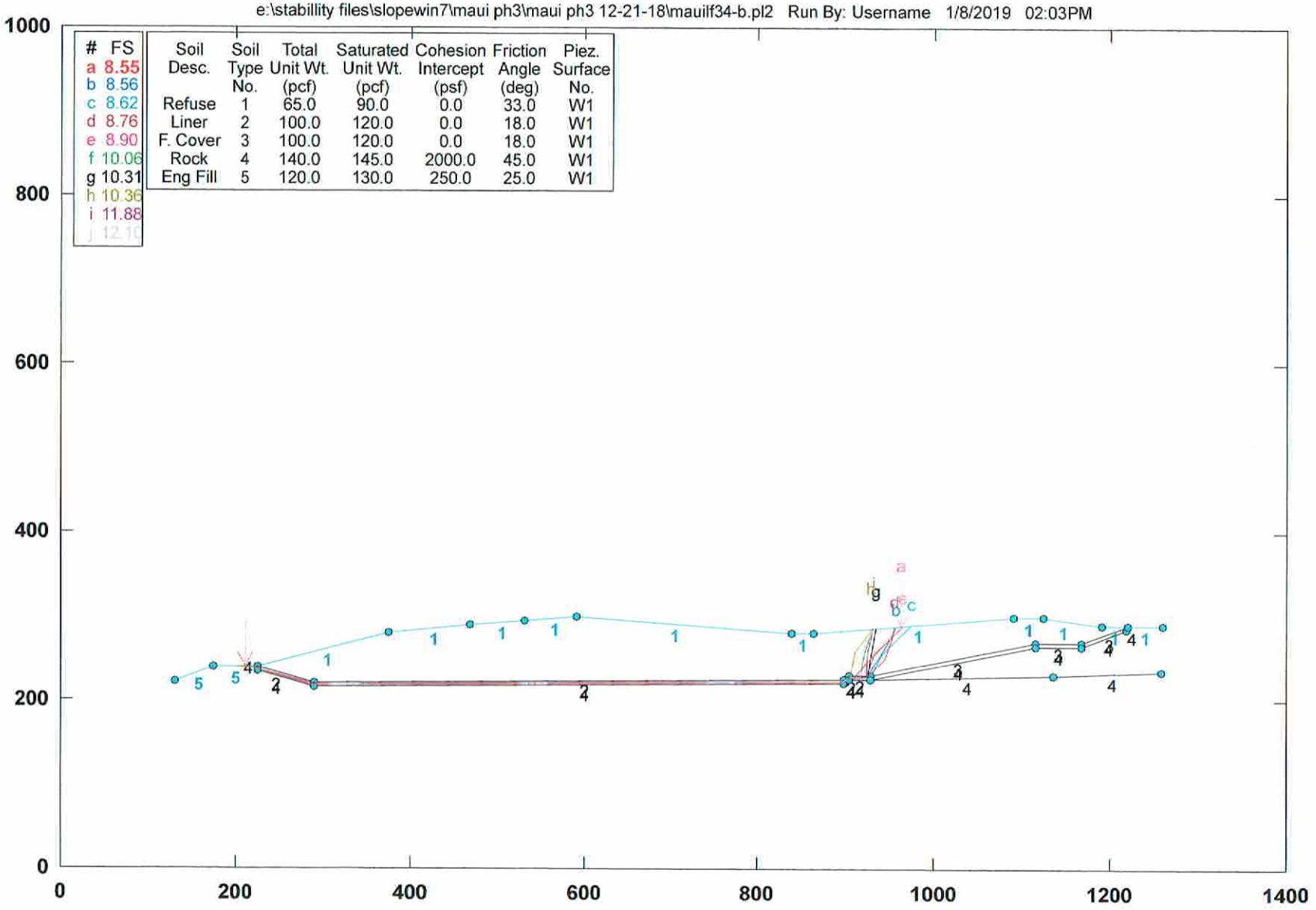


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf34-b.pl2 Run By: Username 1/8/2019 02:03PM

#	FS
a	8.55
b	8.56
c	8.62
d	8.76
e	8.90
f	10.06
g	10.31
h	10.36
i	11.88
j	12.10

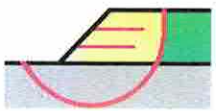
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=8.55

Safety Factors Are Calculated By The Modified Janbu Method

STED

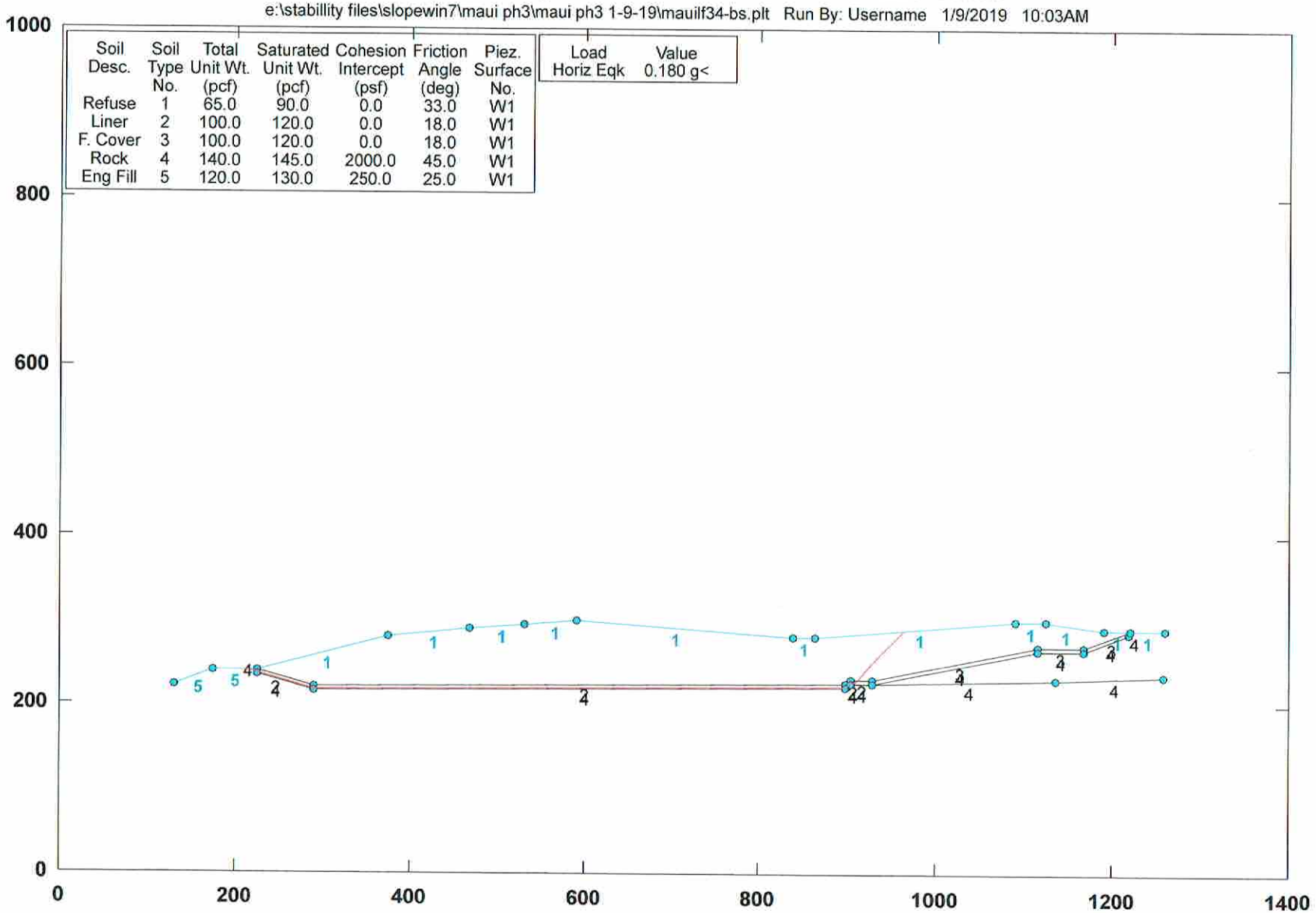


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf34-bs.plt Run By: Username 1/9/2019 10:03AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

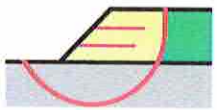
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.58

Factors of Safety Calculated by Janbu Method

STED

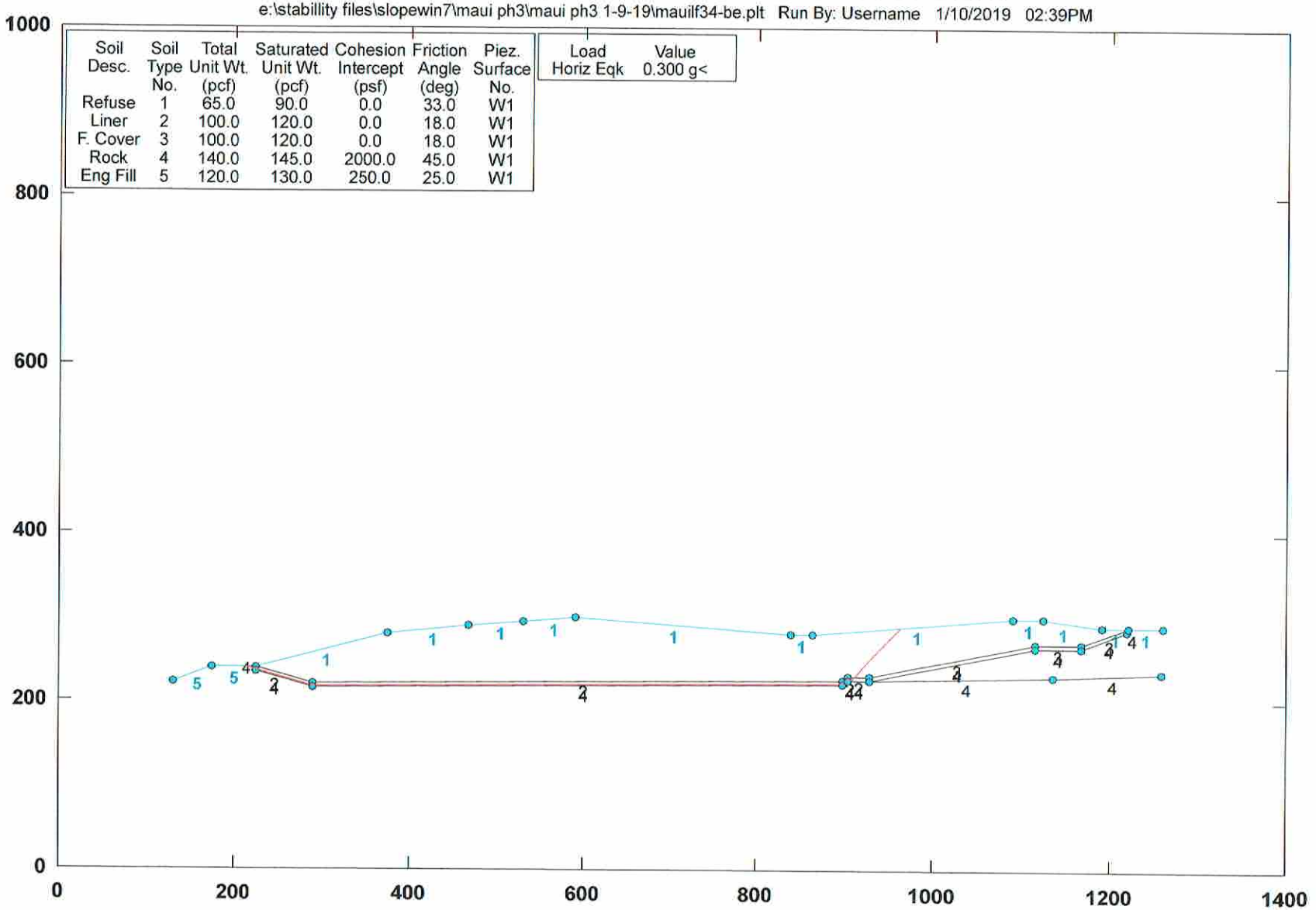


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf34-be.plt Run By: Username 1/10/2019 02:39PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

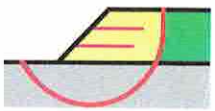
Load	Value
Horiz Eqk	0.300 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

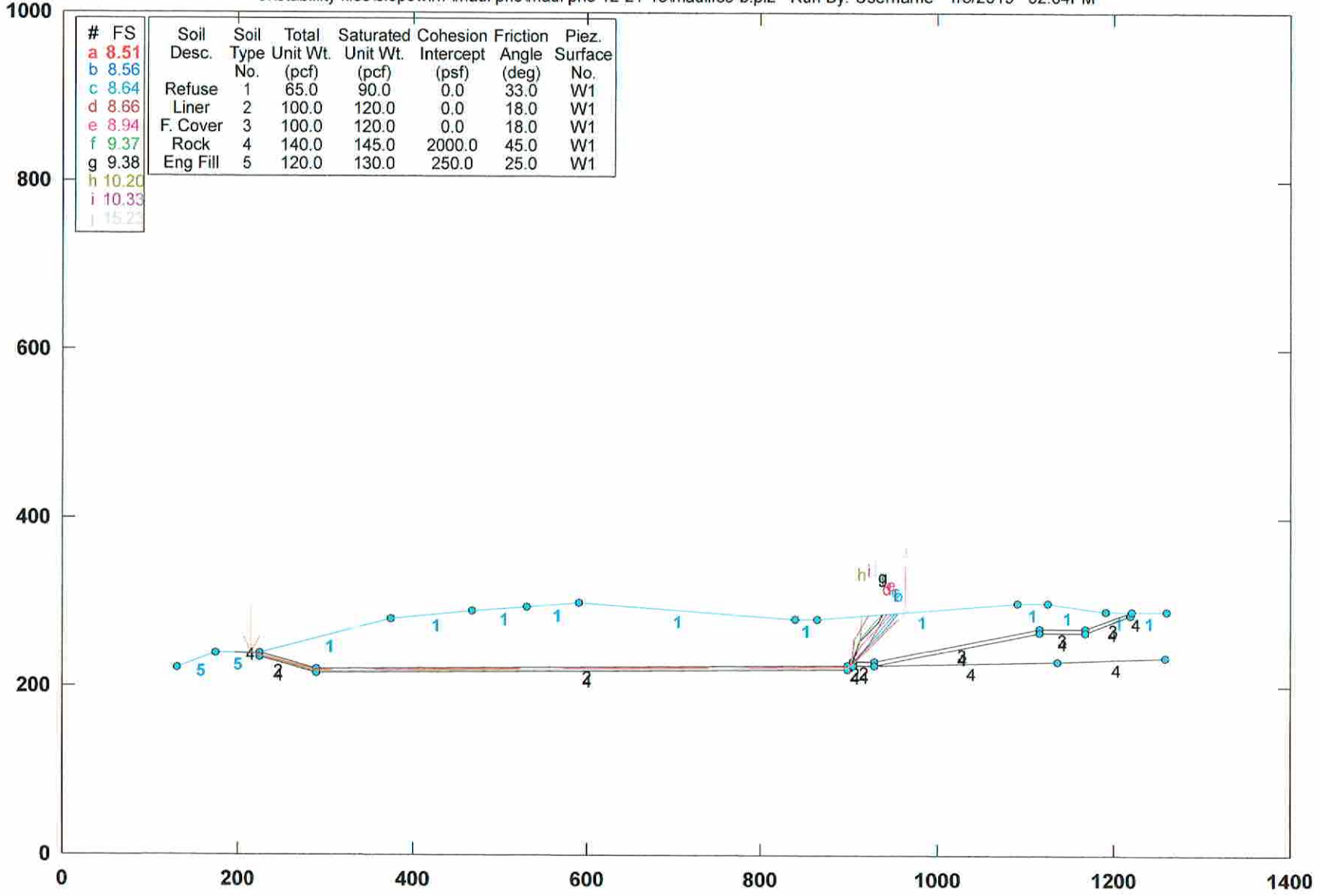


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf35-b.pl2 Run By: Username 1/8/2019 02:04PM

#	FS
a	8.51
b	8.56
c	8.64
d	8.66
e	8.94
f	9.37
g	9.38
h	10.20
i	10.33
j	15.23

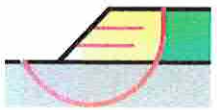
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=8.51

Safety Factors Are Calculated By The Modified Janbu Method

STED

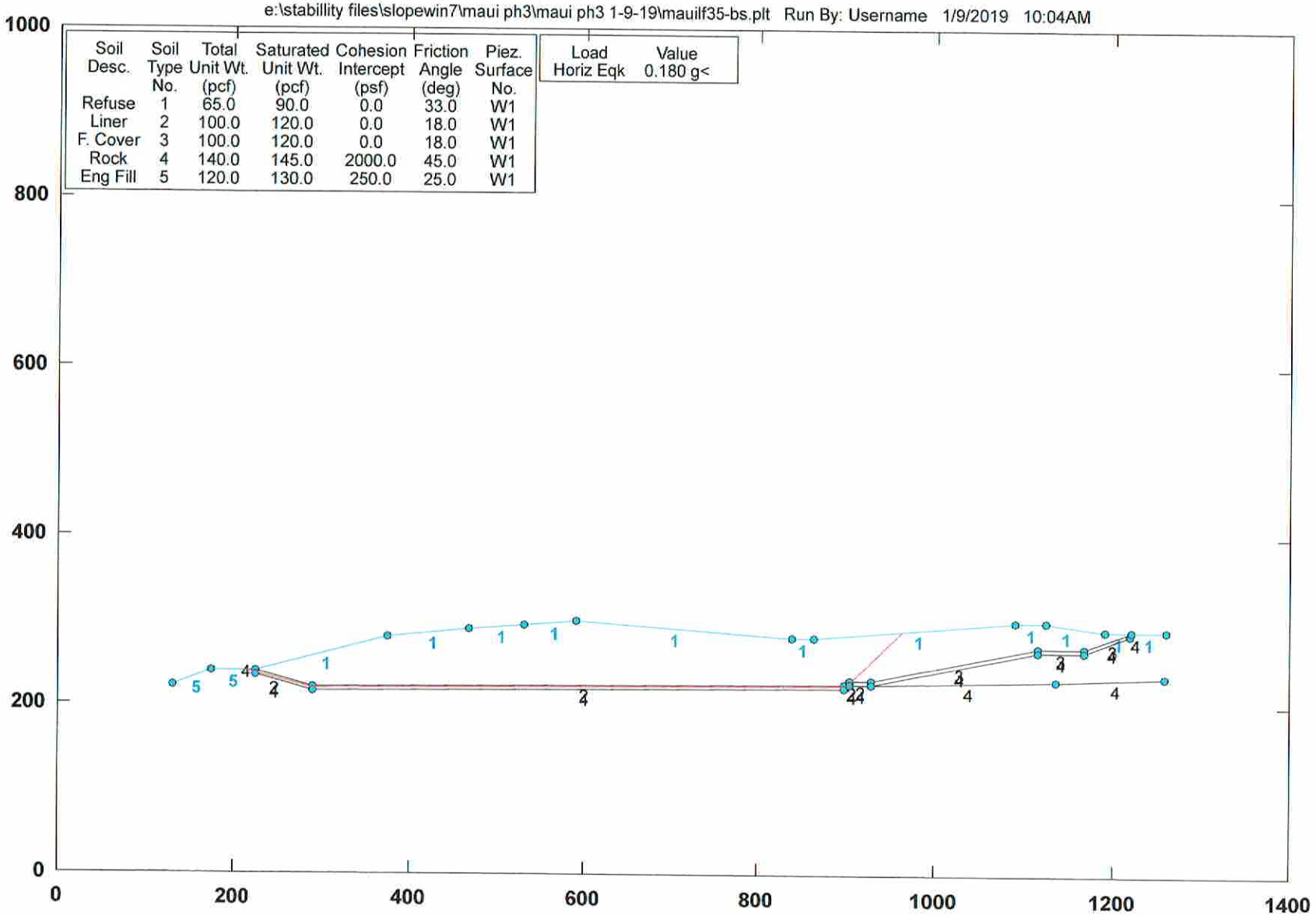


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf35-bs.plt Run By: Username 1/9/2019 10:04AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

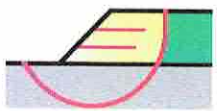
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.58

Factors of Safety Calculated by Janbu Method

STED

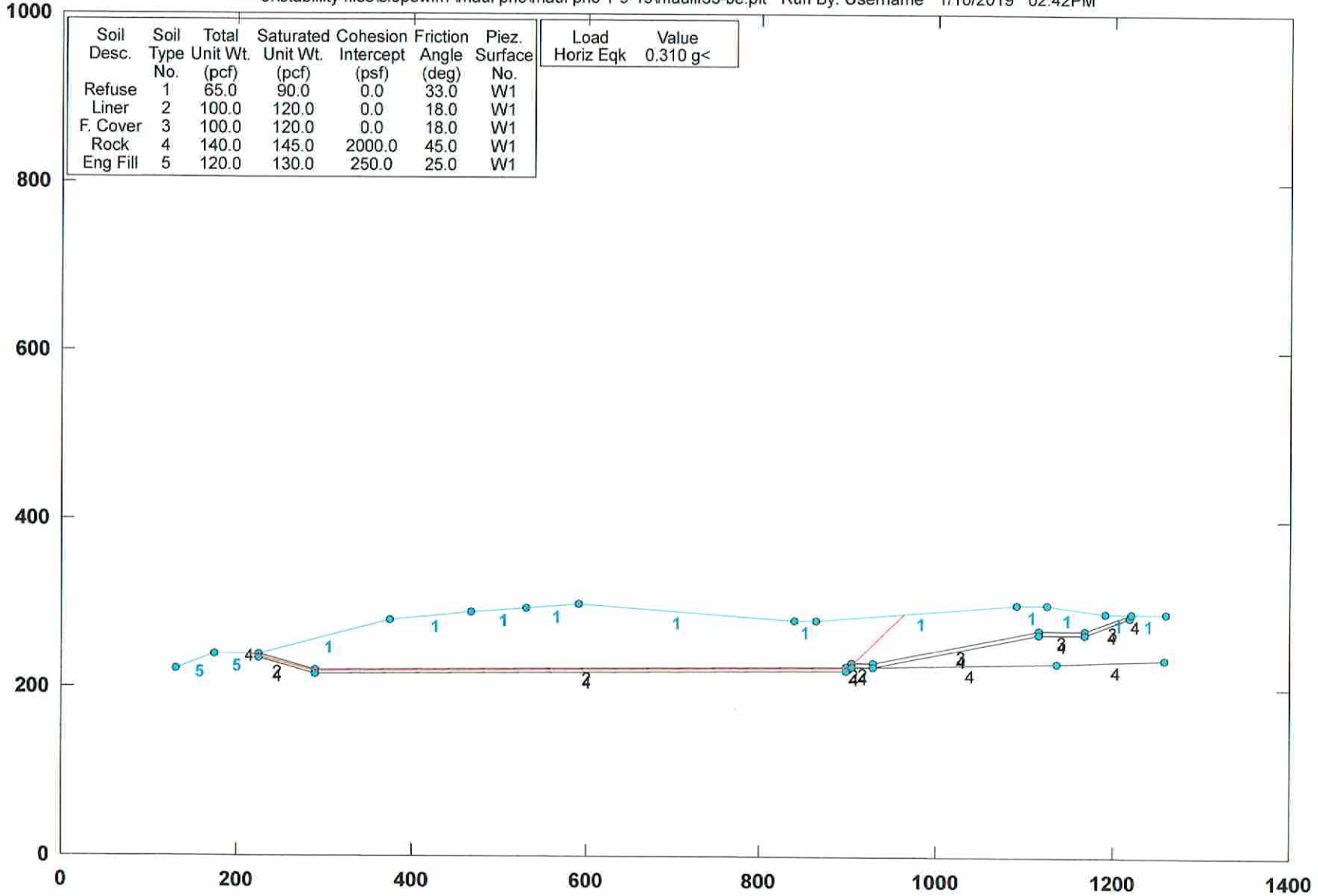


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf35-be.plt Run By: Username 1/10/2019 02:42PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

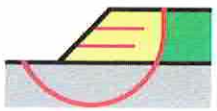
Load	Value
Horiz Eqk	0.310 g<



PCSTABL5M/si FSmin=0.98

Factors of Safety Calculated by Janbu Method

STED

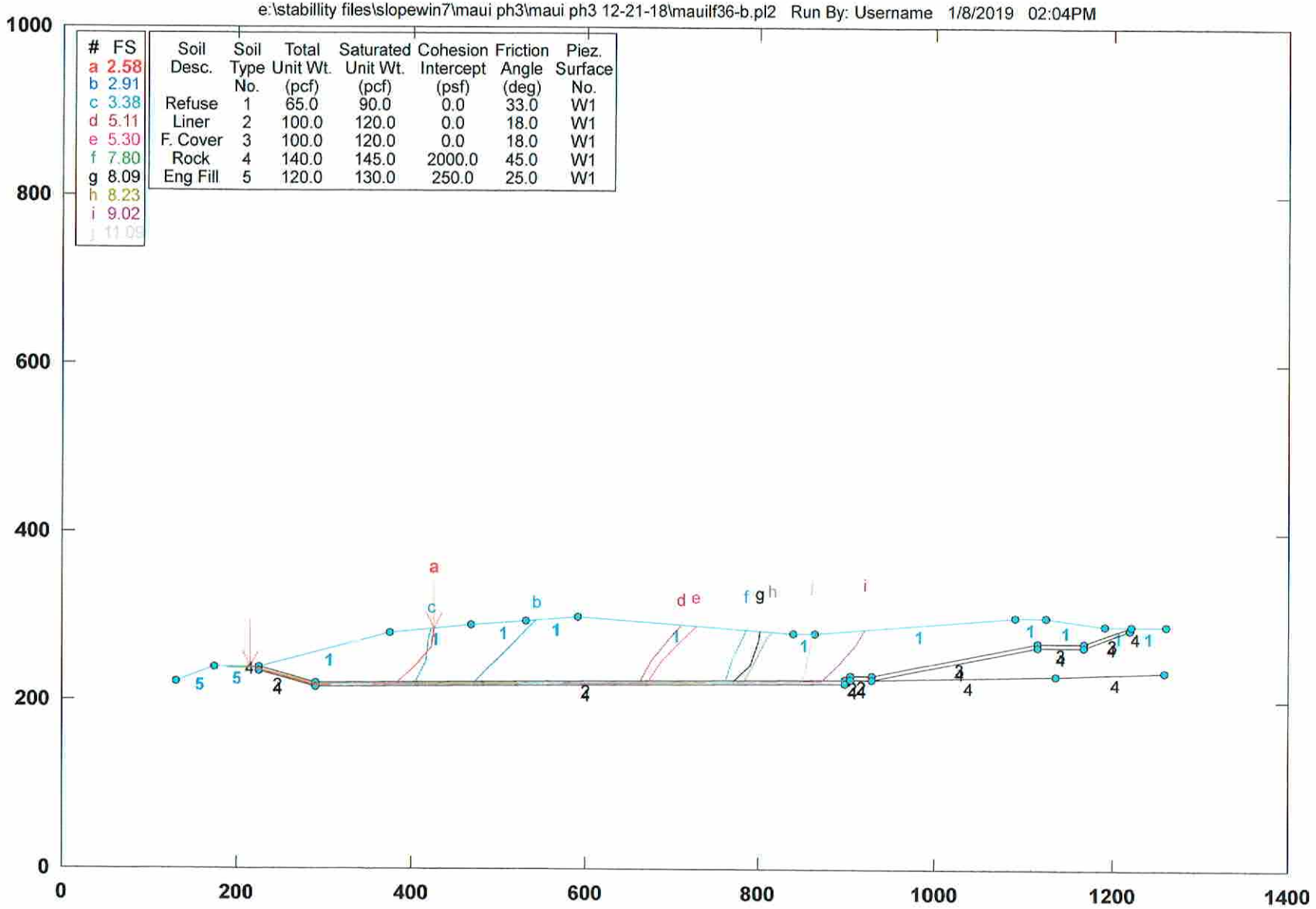


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf36-b.pl2 Run By: Username 1/8/2019 02:04PM

#	FS
a	2.58
b	2.91
c	3.38
d	5.11
e	5.30
f	7.80
g	8.09
h	8.23
i	9.02
j	11.09

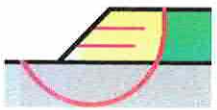
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=2.58

Safety Factors Are Calculated By The Modified Janbu Method

STED

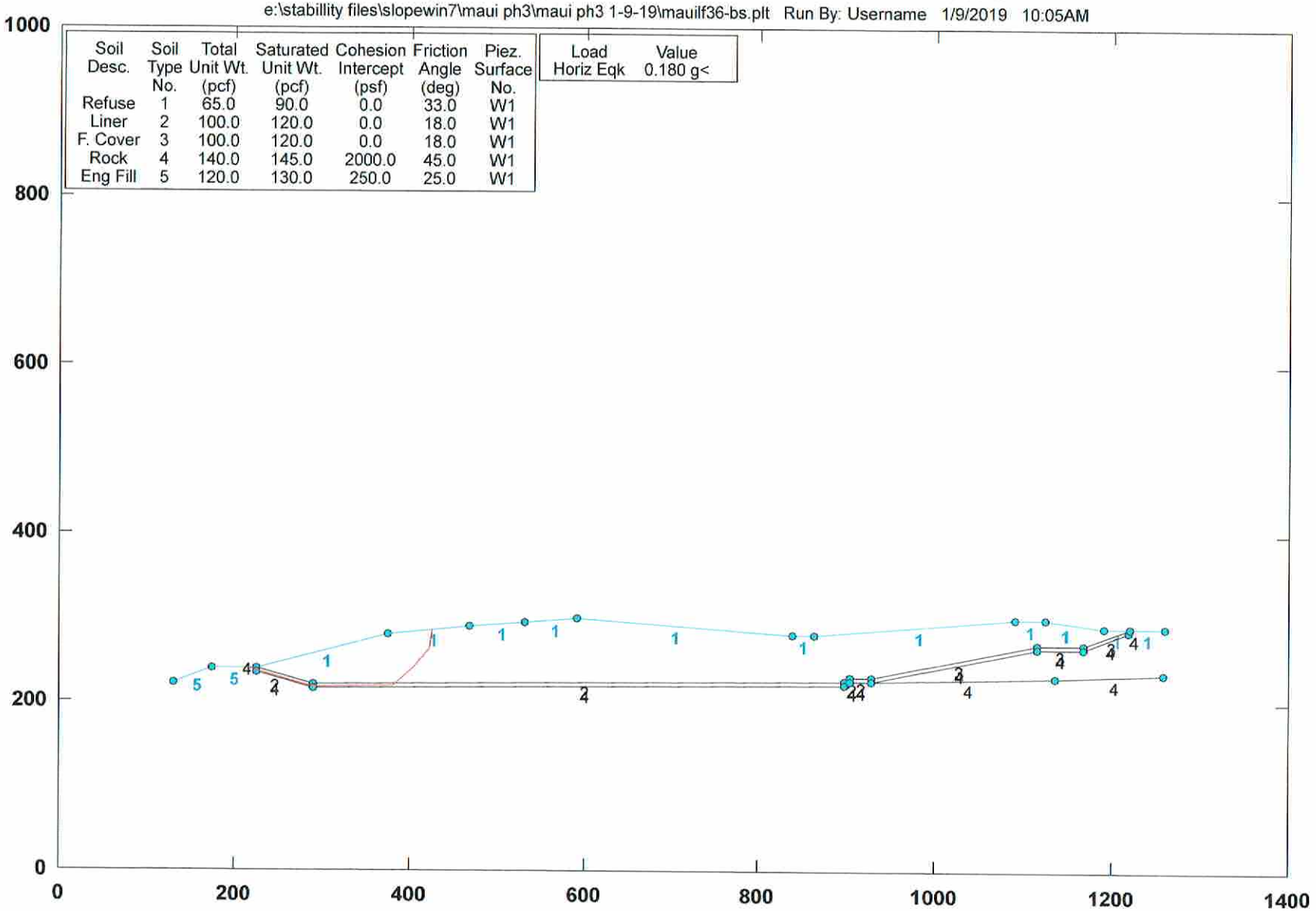


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf36-bs.plt Run By: Username 1/9/2019 10:05AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

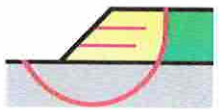
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.25

Factors of Safety Calculated by Janbu Method

STED

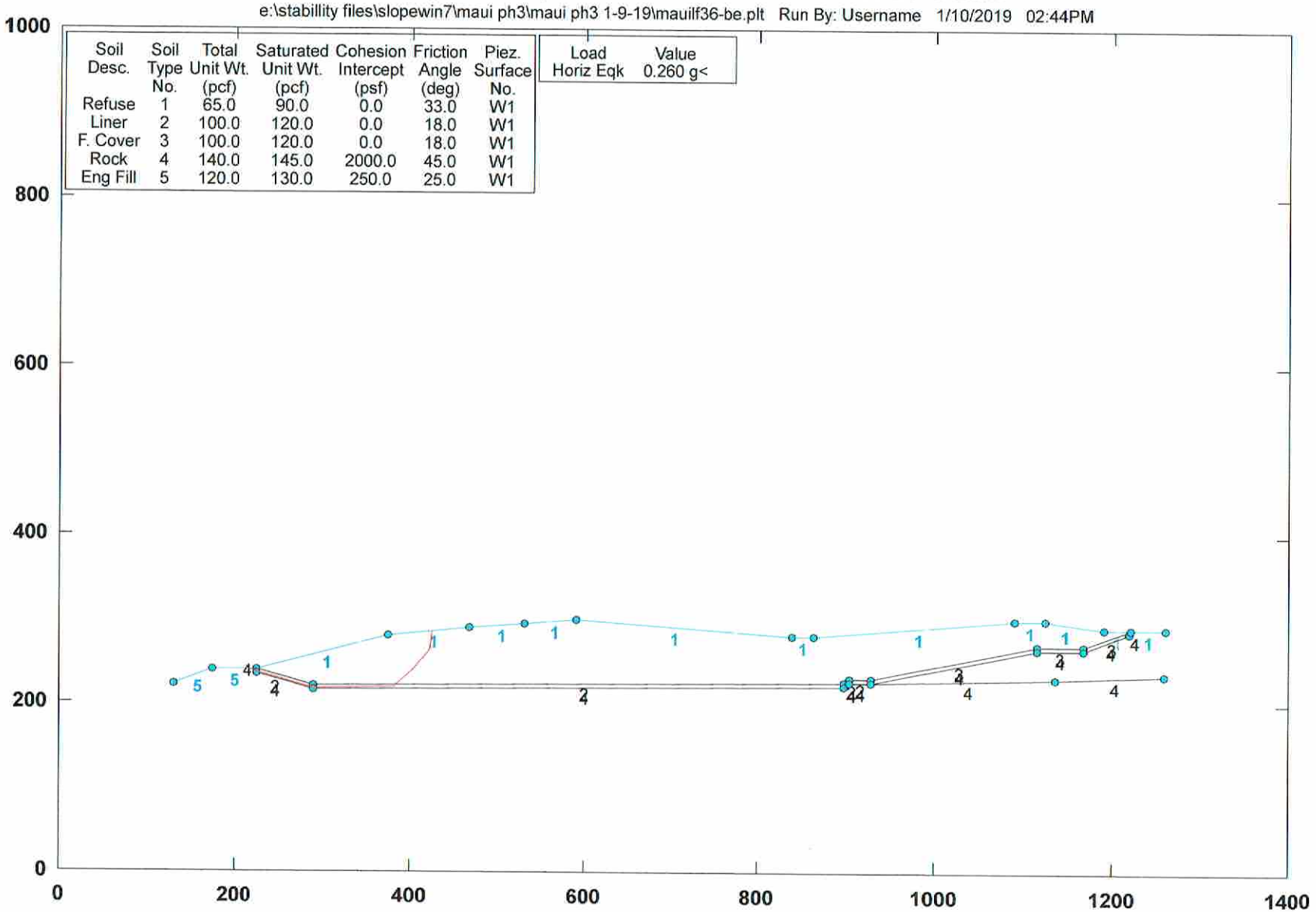


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf36-be.plt Run By: Username 1/10/2019 02:44PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

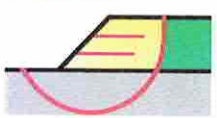
Load	Value
Horiz Eqk	0.260 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

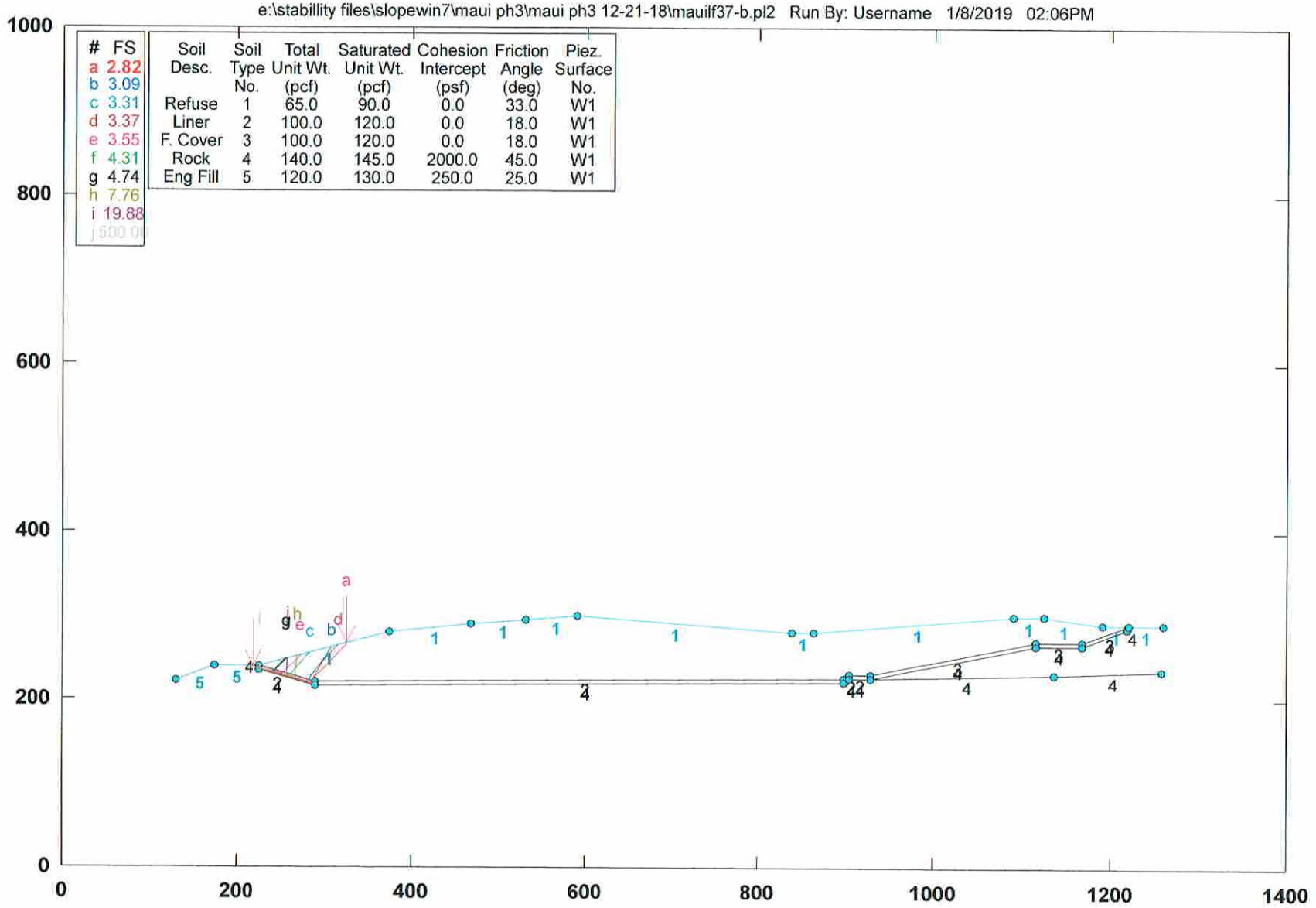


CML - ph III Slope Stab. Section III-S3 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf37-b.pl2 Run By: Username 1/8/2019 02:06PM

#	FS
a	2.82
b	3.09
c	3.31
d	3.37
e	3.55
f	4.31
g	4.74
h	7.76
i	19.88
j	500.0

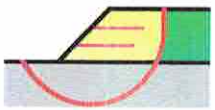
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=2.82

Safety Factors Are Calculated By The Modified Janbu Method

STED

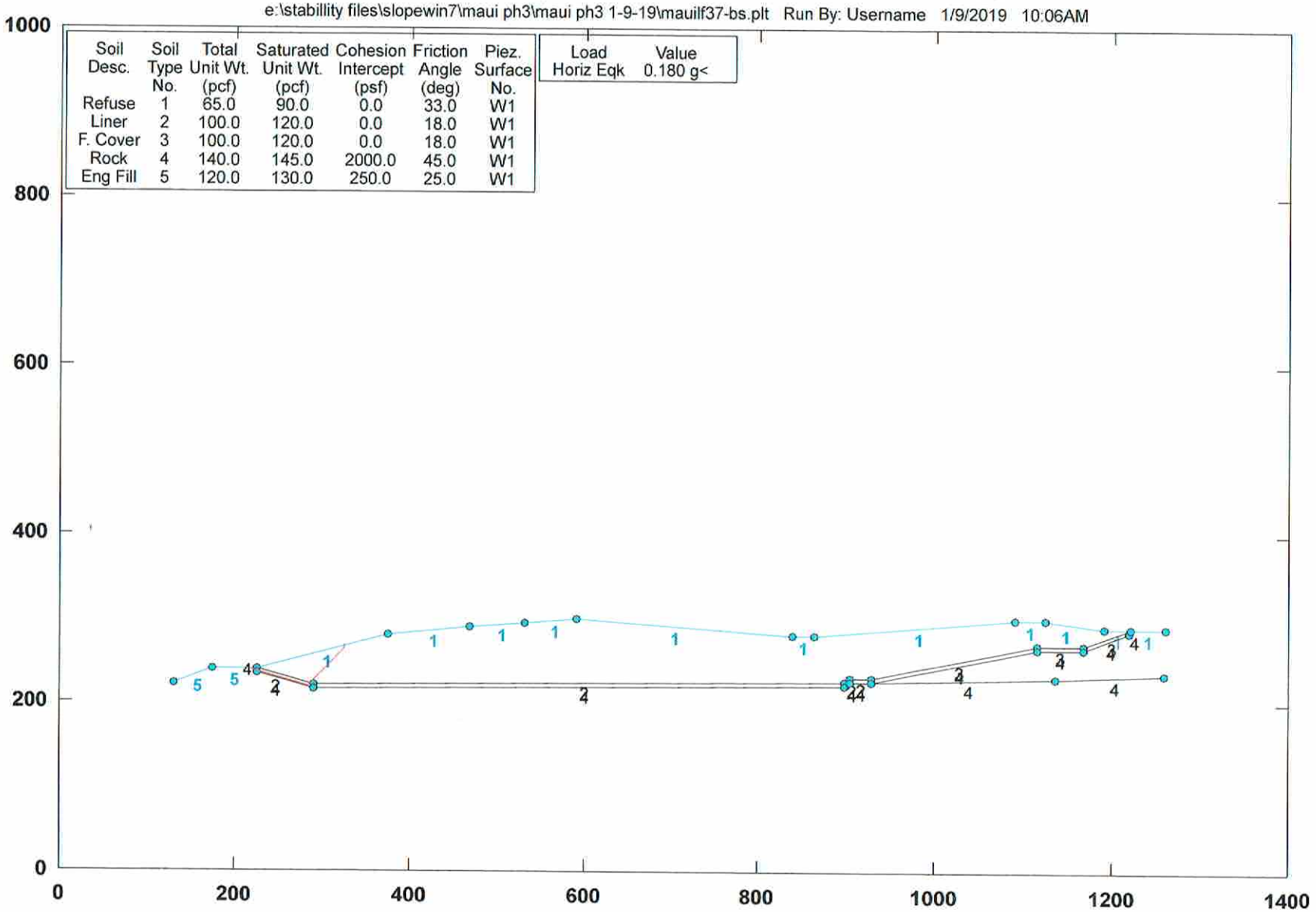


CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf37-bs.plt Run By: Username 1/9/2019 10:06AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.47

Factors of Safety Calculated by Janbu Method

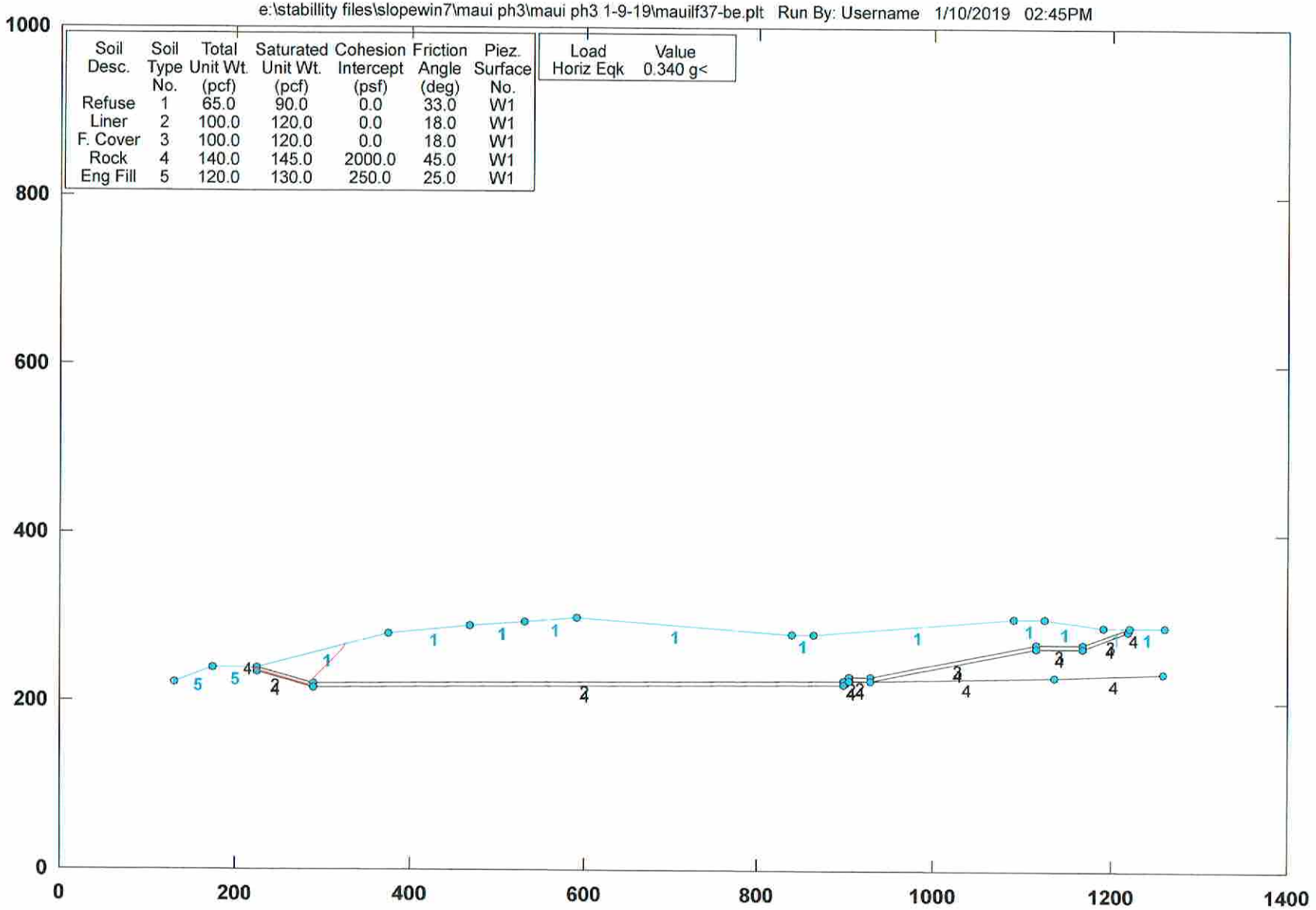
STED

CML - ph III Slope Stab. Section III-S3 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf37-be.plt Run By: Username 1/10/2019 02:45PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

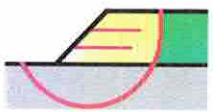
Load	Value
Horiz Eqk	0.340 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

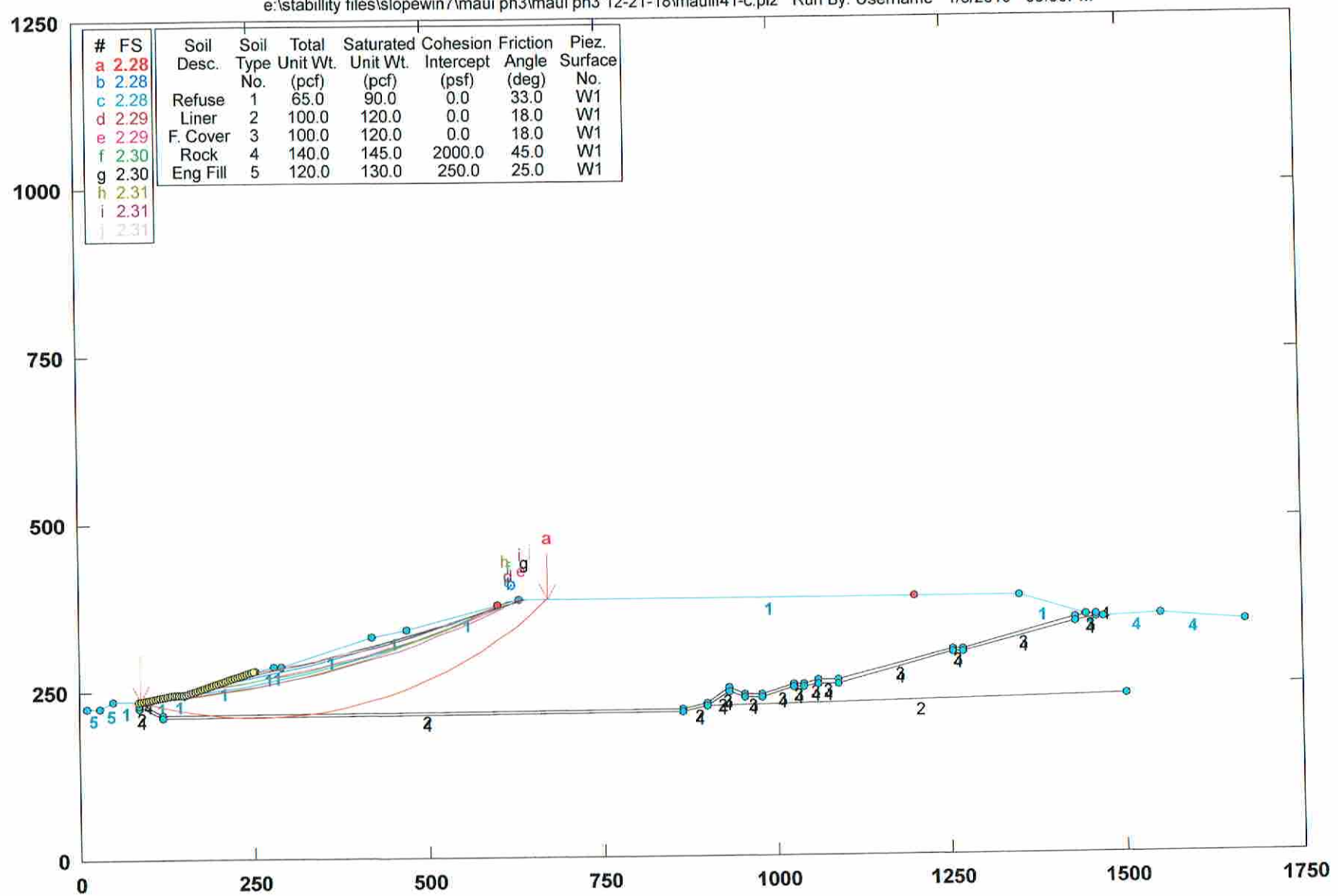
STED



CROSS SECTION
III-S4

CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf41-c.pl2 Run By: Username 1/8/2019 03:50PM

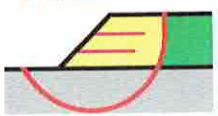


Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=2.28

Safety Factors Are Calculated By The Modified Bishop Method

STED

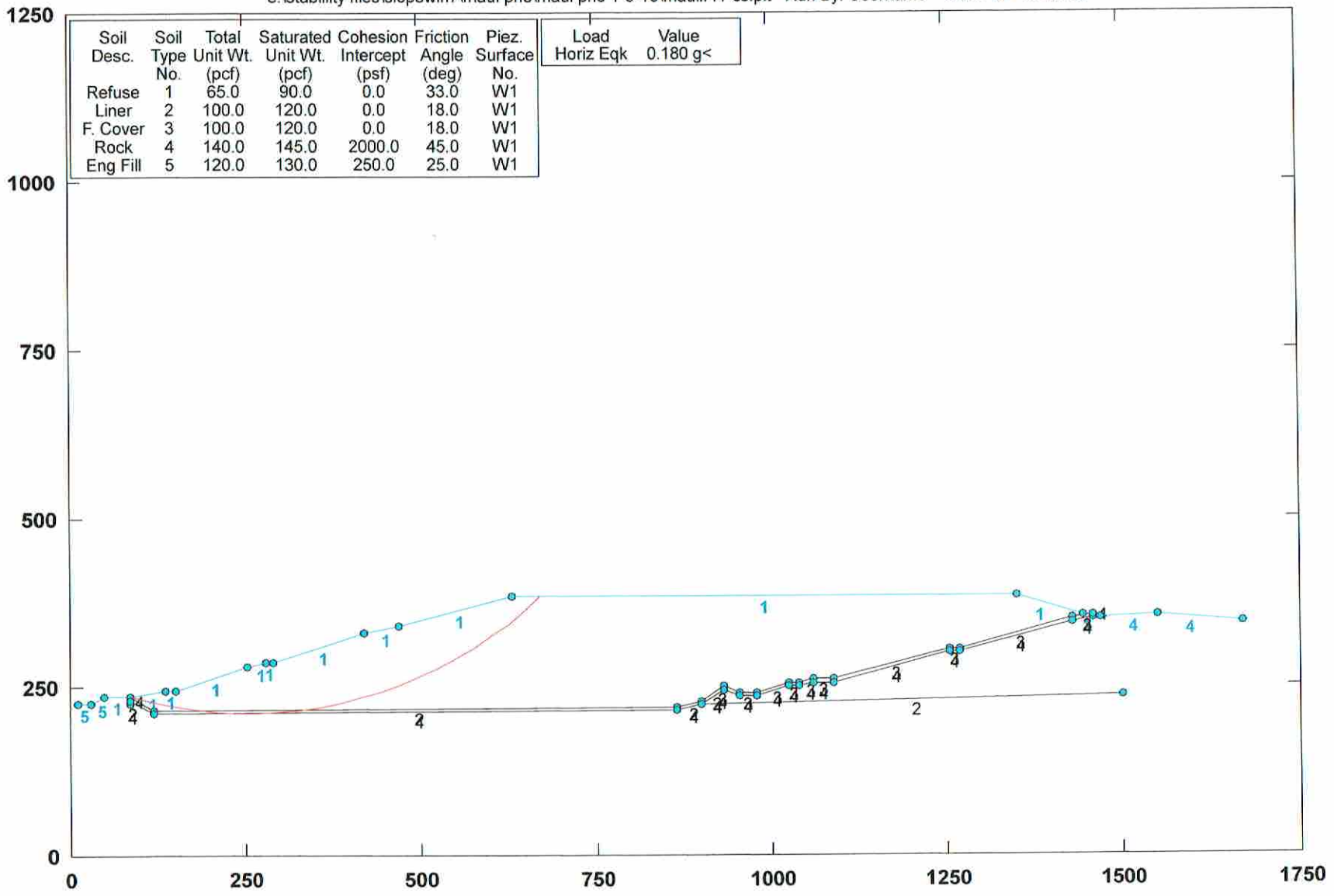


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf41-cs.plt Run By: Username 1/9/2019 10:46AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

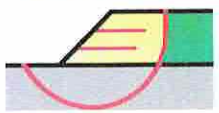
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.31

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

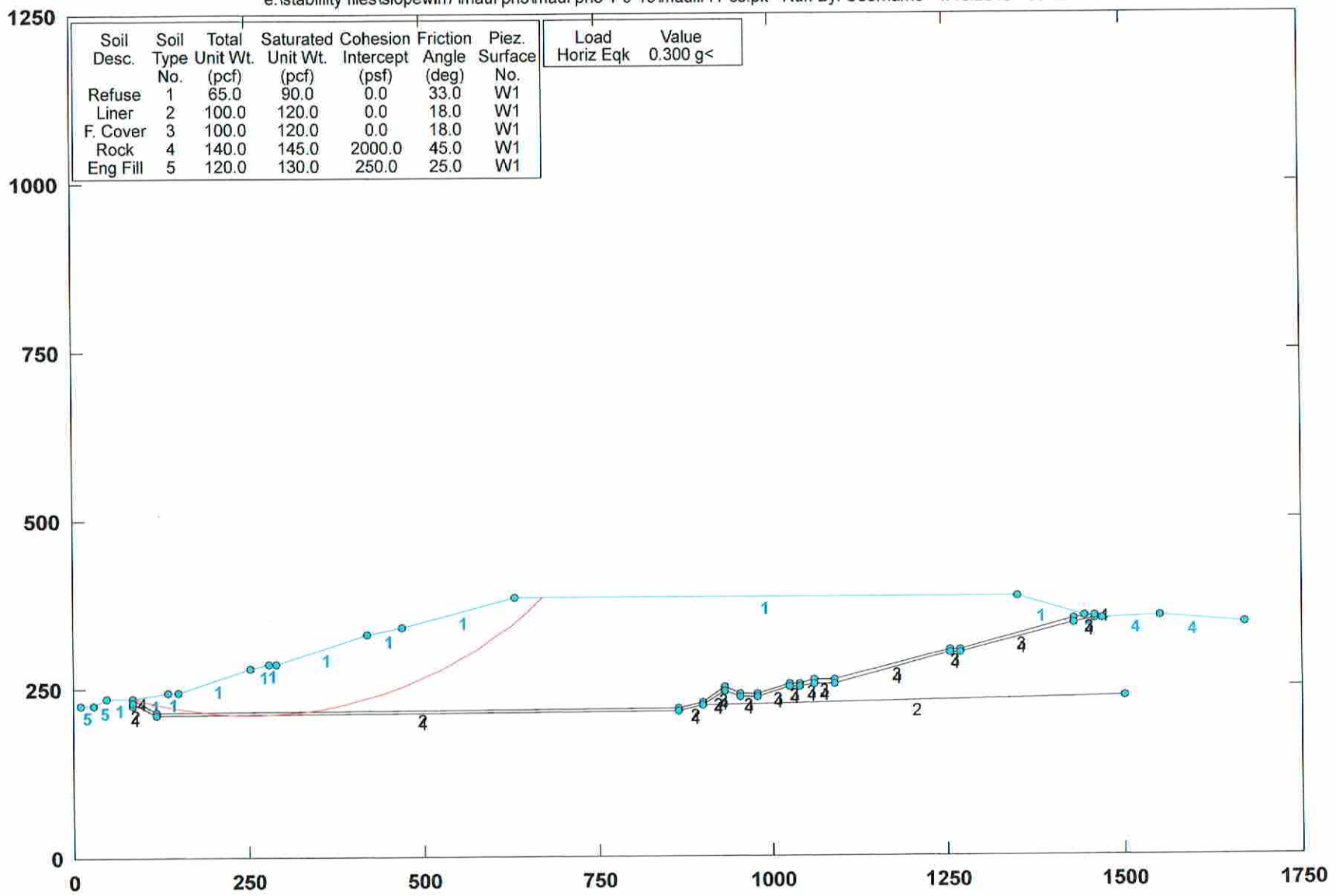


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf41-ce.plt Run By: Username 1/10/2019 03:58PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

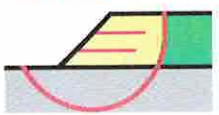
Load	Value
Horiz Eqk	0.300 g<



PCSTABL5M/si FSmin=1.00

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

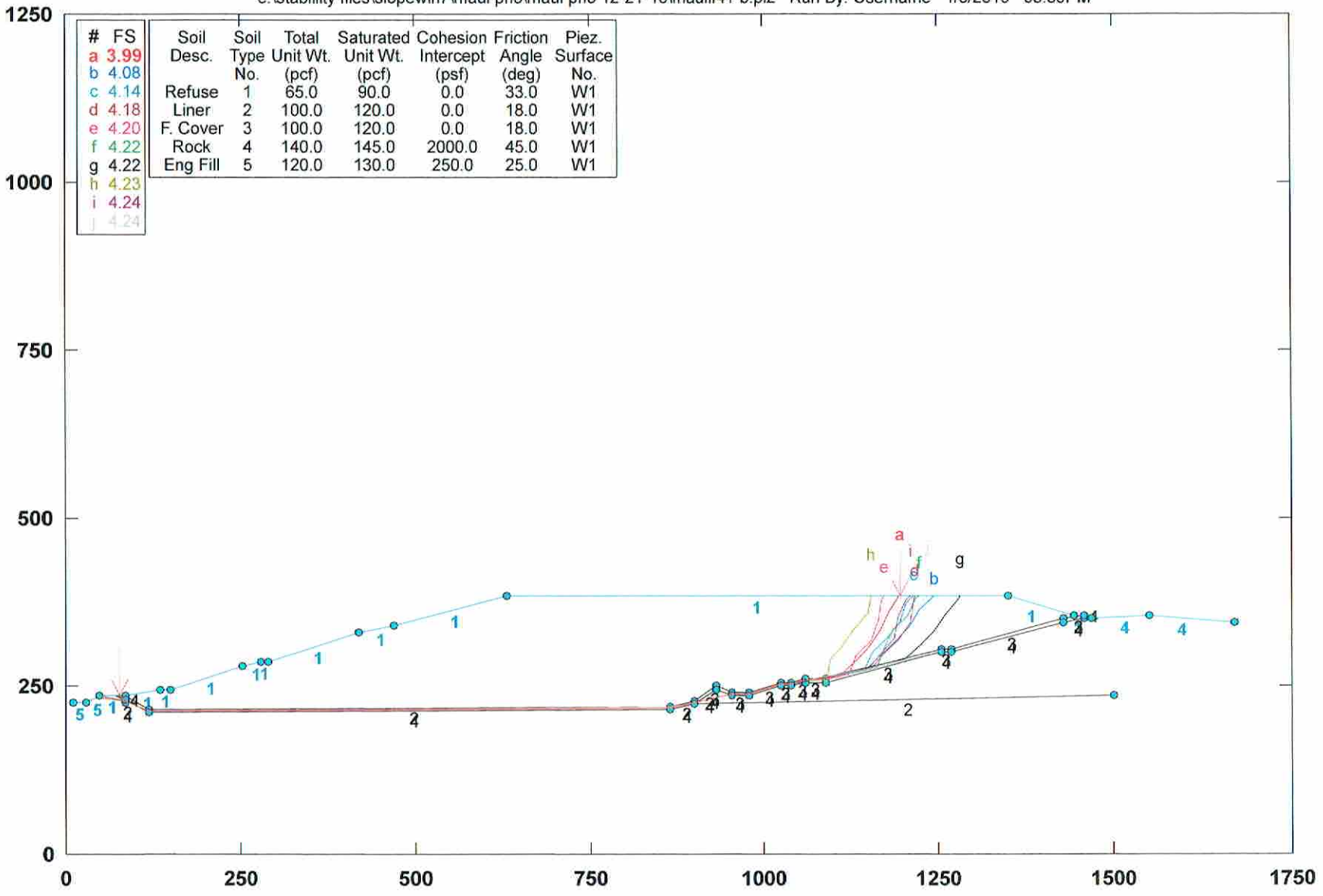


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf41-b.pl2 Run By: Username 1/8/2019 03:39PM

#	FS
a	3.99
b	4.08
c	4.14
d	4.18
e	4.20
f	4.22
g	4.22
h	4.23
i	4.24
j	4.24

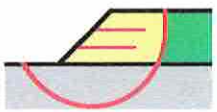
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.99

Safety Factors Are Calculated By The Modified Janbu Method

STED

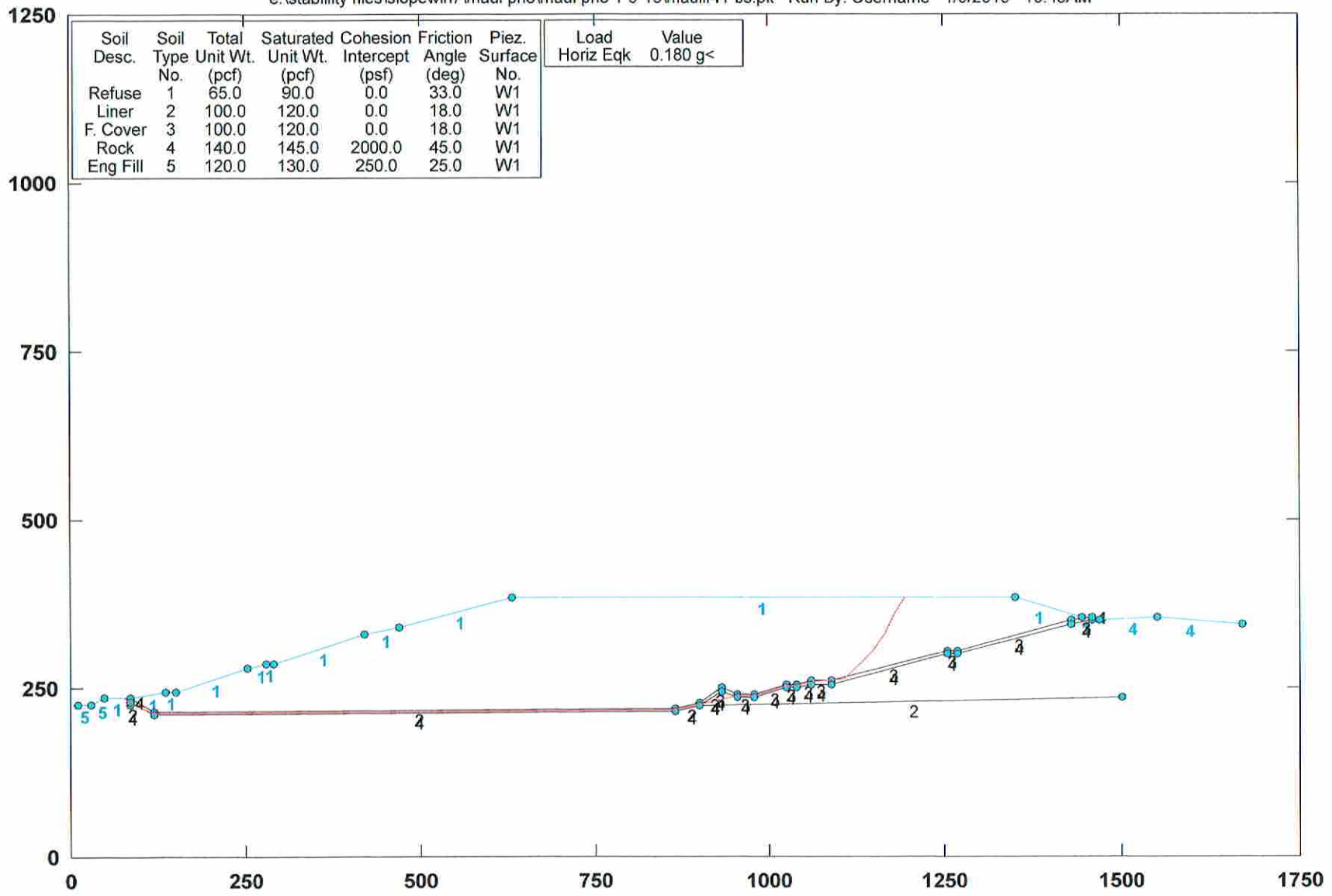


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf41-bs.plt Run By: Username 1/9/2019 10:45AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

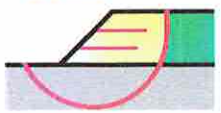
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.43

Factors of Safety Calculated by Janbu Method

STED

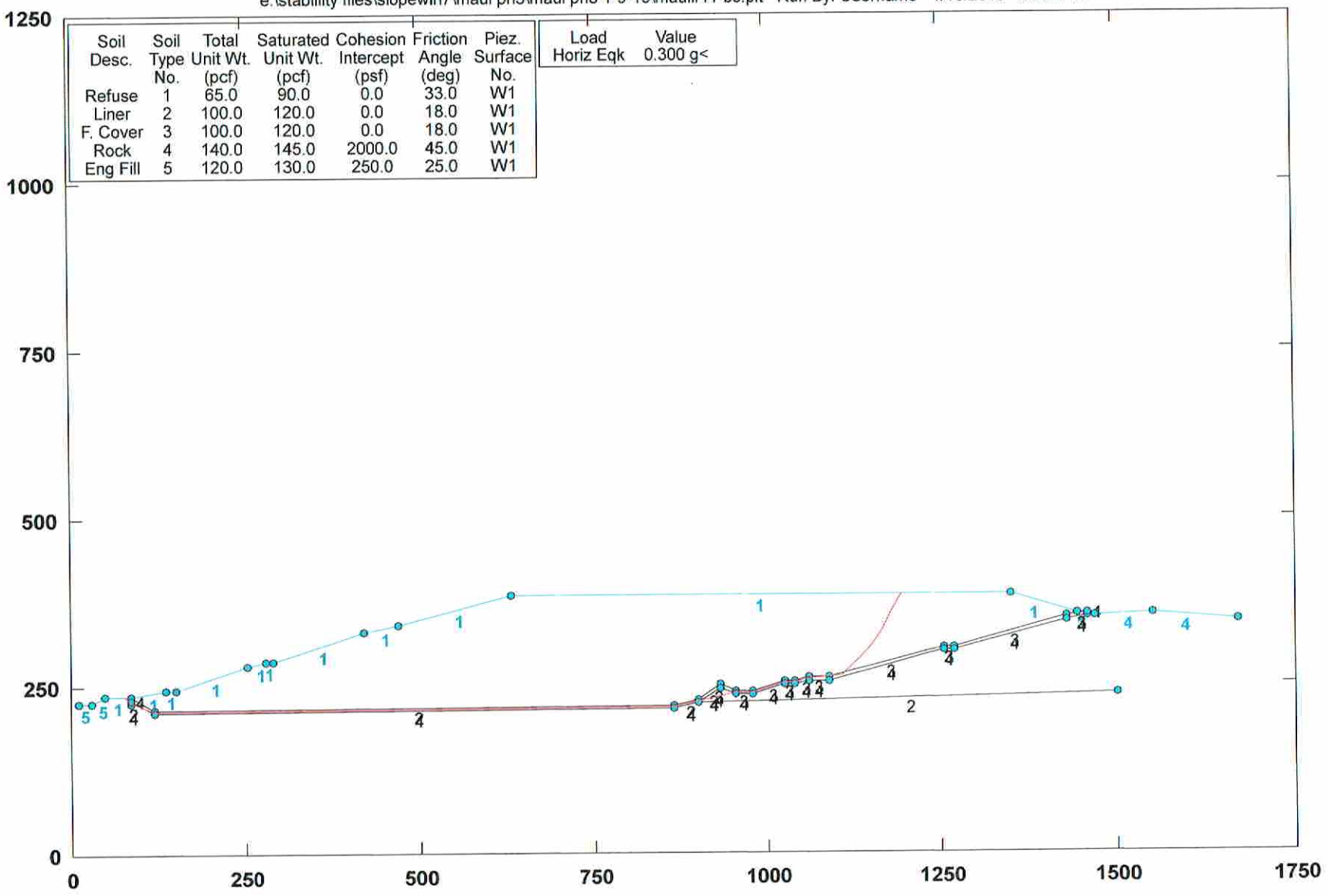


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf41-be.plt Run By: Username 1/10/2019 03:57PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

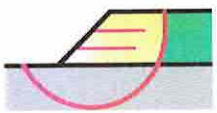
Load	Value
Horiz Eqk	0.300 g<



PCSTABL5M/si FSmin=0.99

Factors of Safety Calculated by Janbu Method

STED

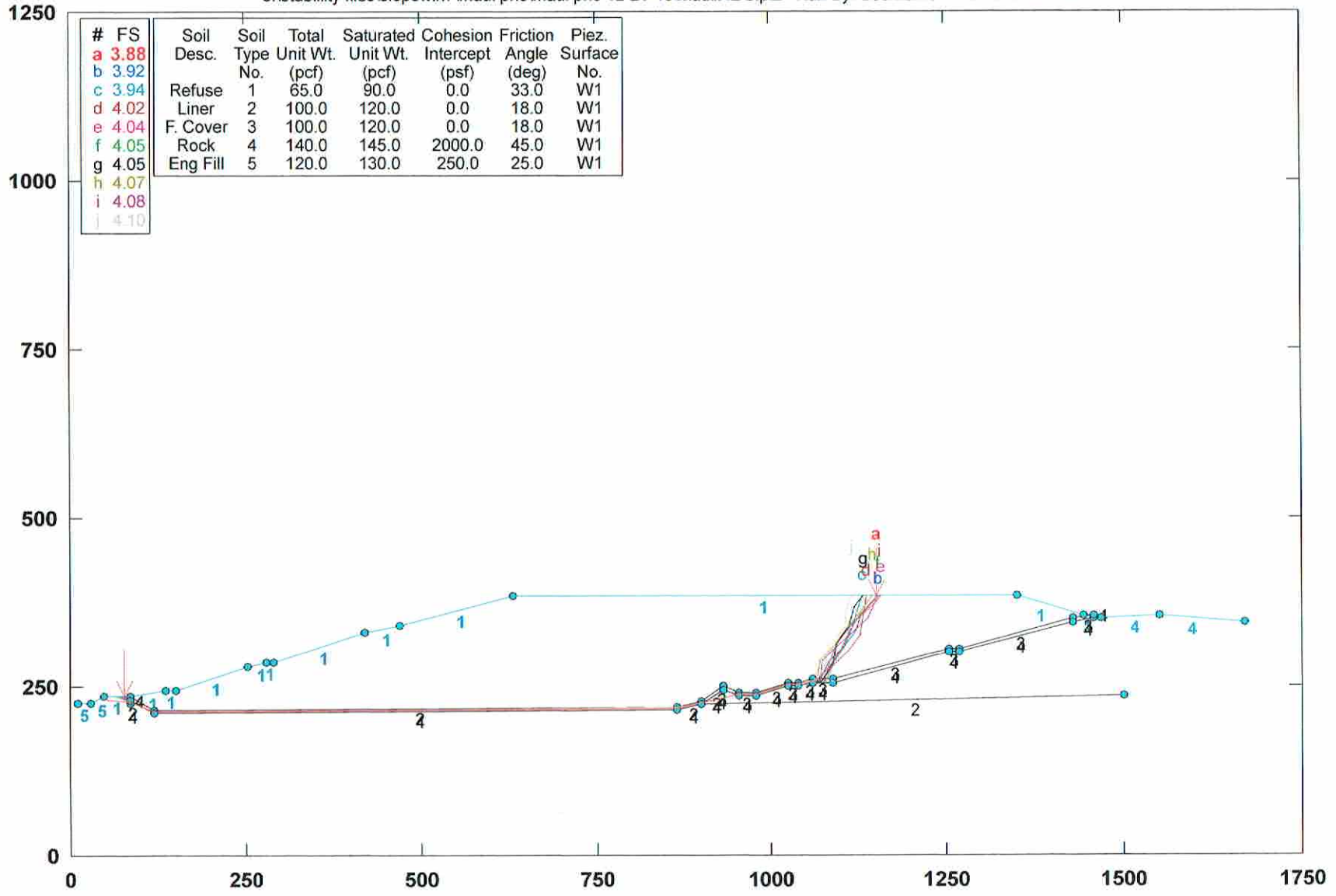


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf42-b.pl2 Run By: Username 1/8/2019 03:41PM

#	FS
a	3.88
b	3.92
c	3.94
d	4.02
e	4.04
f	4.05
g	4.05
h	4.07
i	4.08
j	4.10

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.88

Safety Factors Are Calculated By The Modified Janbu Method

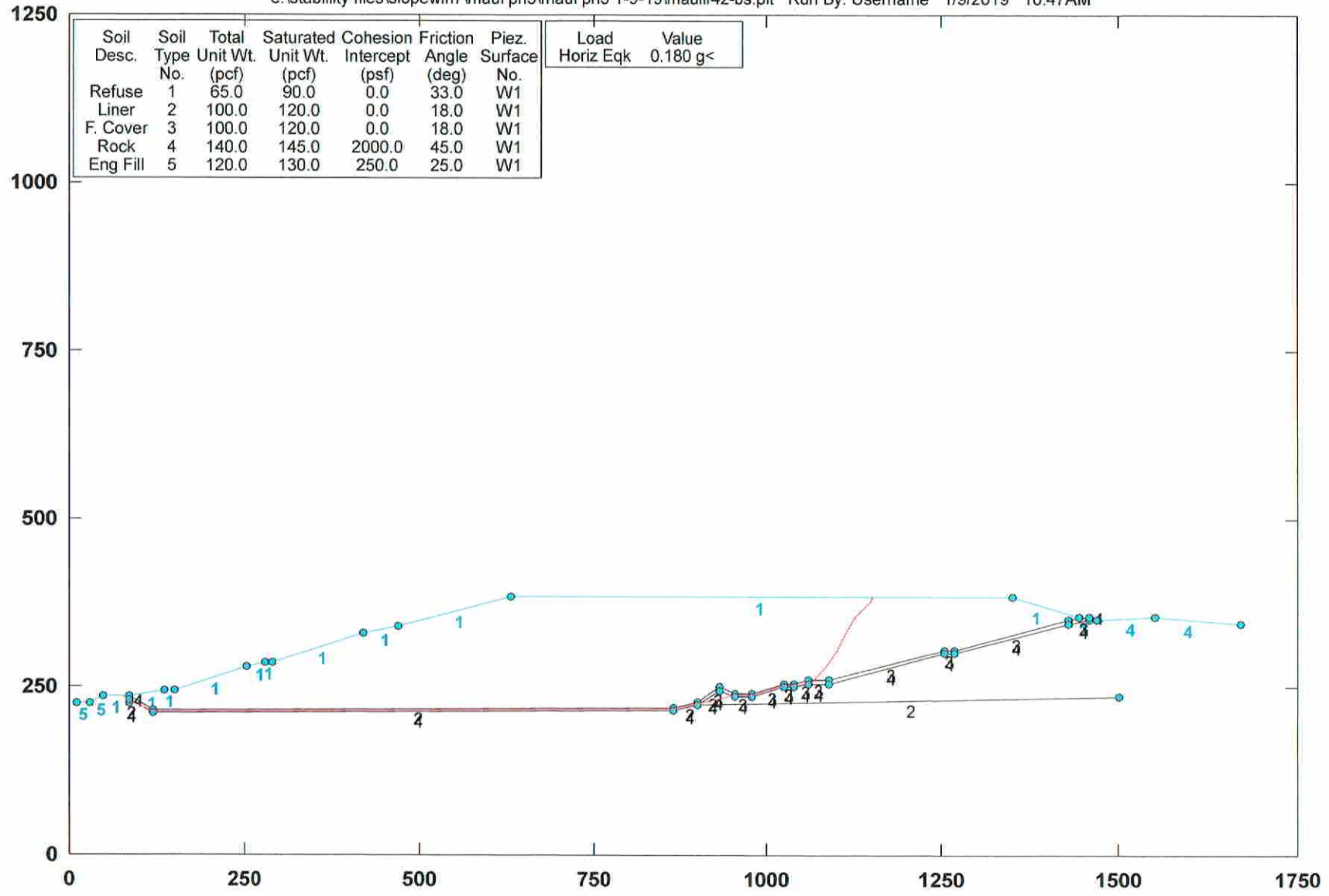
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf42-bs.plt Run By: Username 1/9/2019 10:47AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

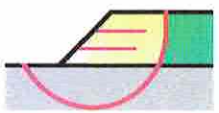
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.42

Factors of Safety Calculated by Janbu Method

STED

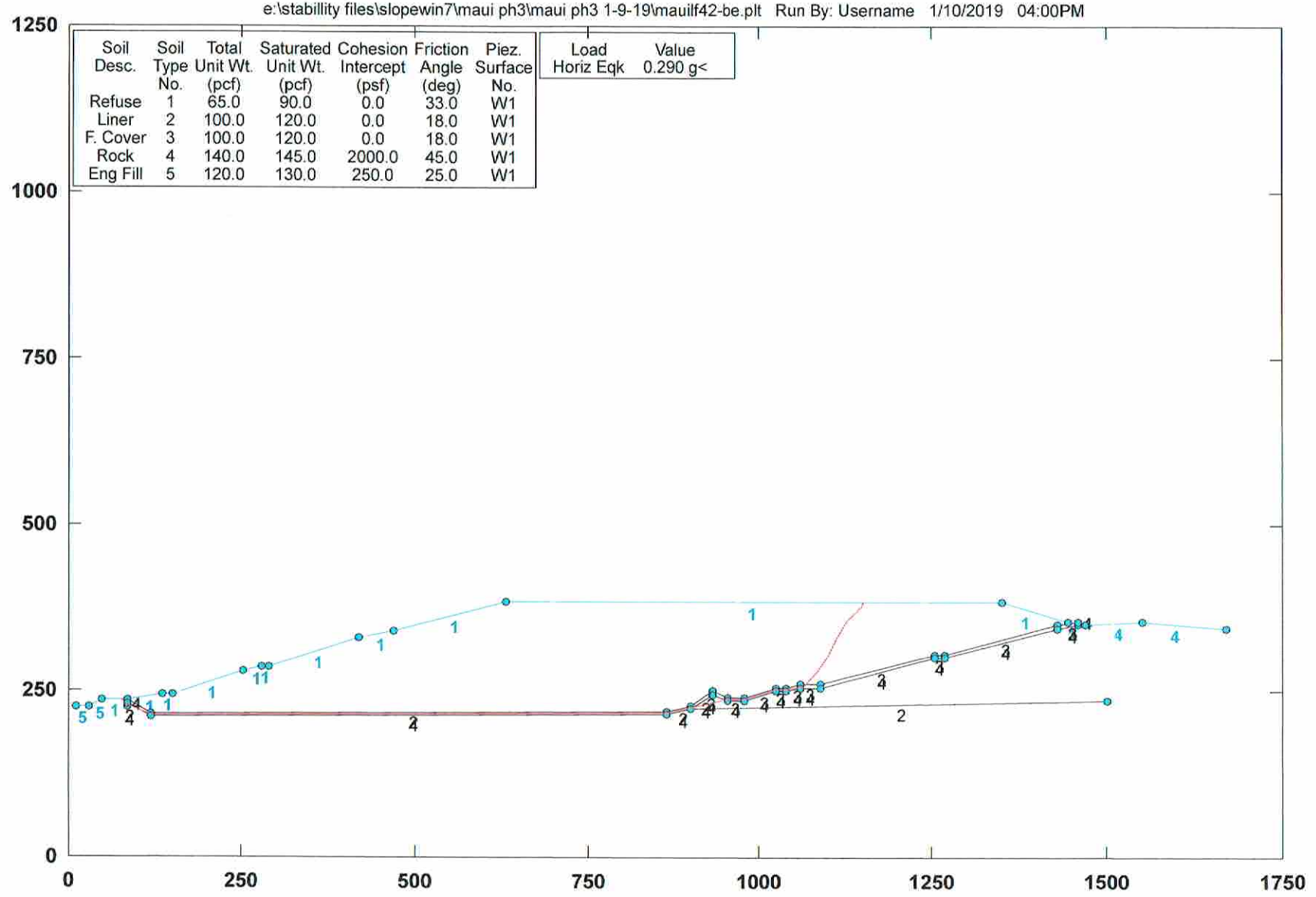


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf42-be.plt Run By: Username 1/10/2019 04:00PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

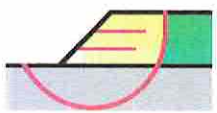
Load	Value
Horiz Eqk	0.290 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

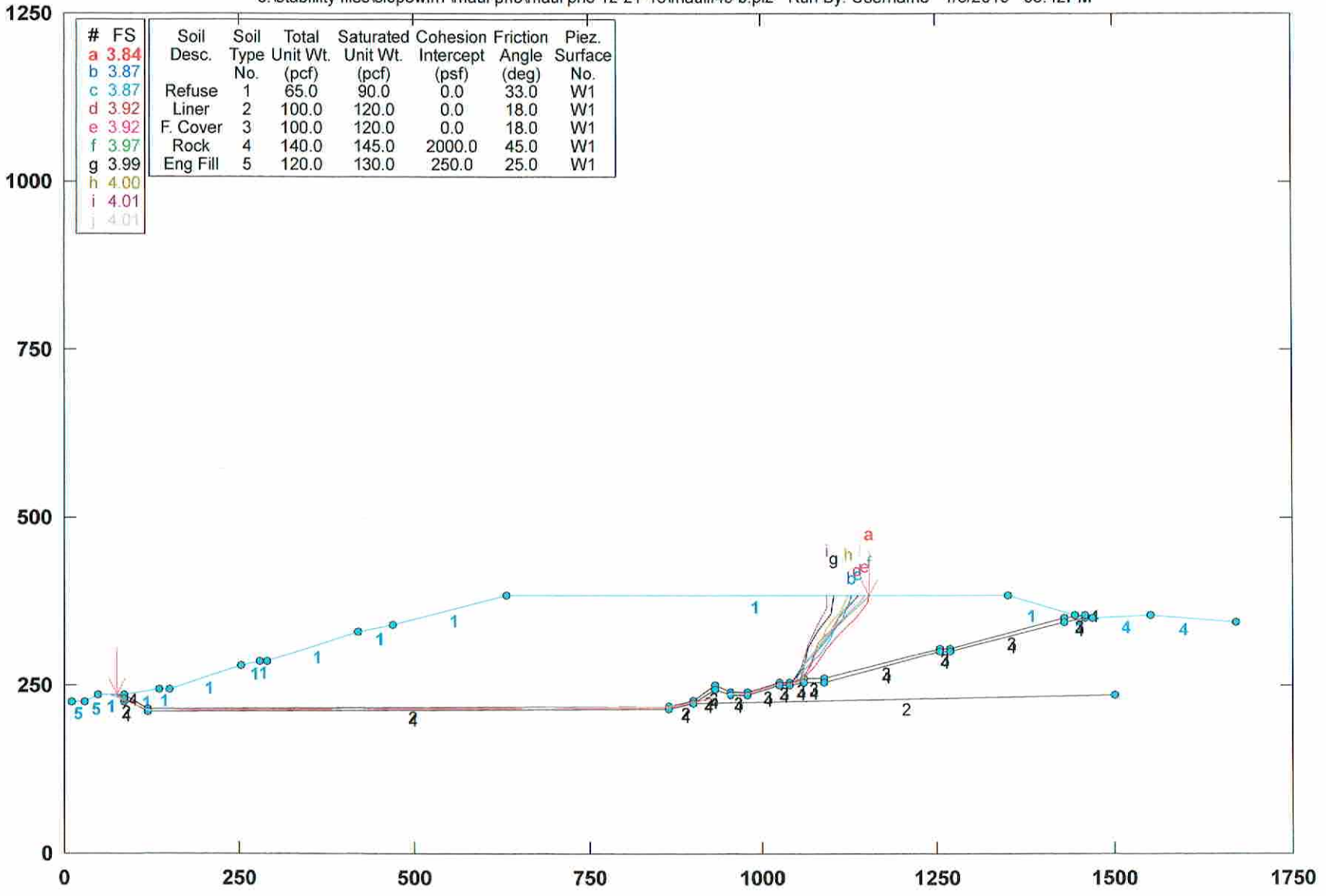


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf43-b.pl2 Run By: Username 1/8/2019 03:42PM

#	FS
a	3.84
b	3.87
c	3.87
d	3.92
e	3.92
f	3.97
g	3.99
h	4.00
i	4.01
j	4.01

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.84

Safety Factors Are Calculated By The Modified Janbu Method

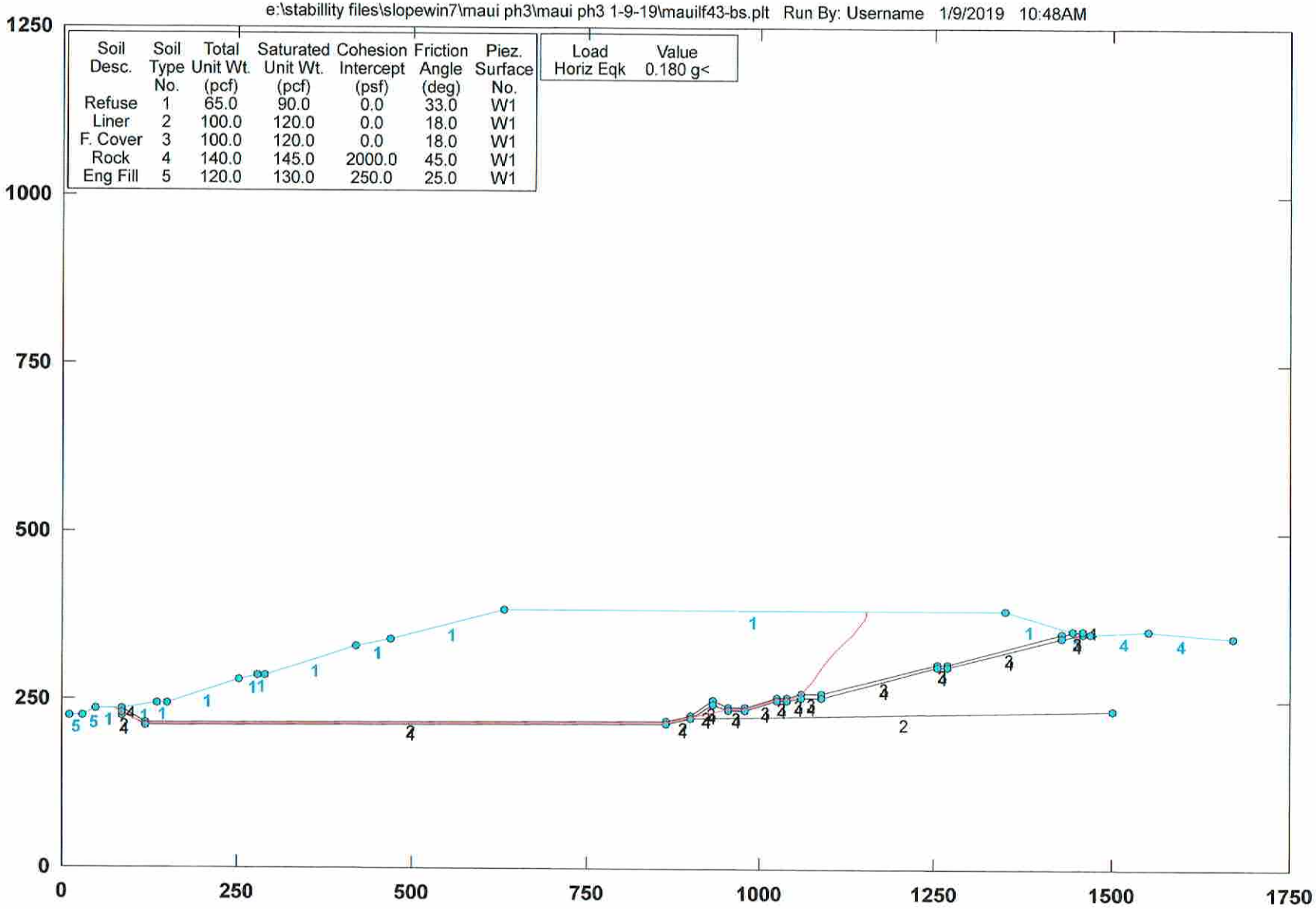
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf43-bs.plt Run By: Username 1/9/2019 10:48AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

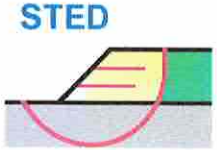
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.41

Factors of Safety Calculated by Janbu Method

STED

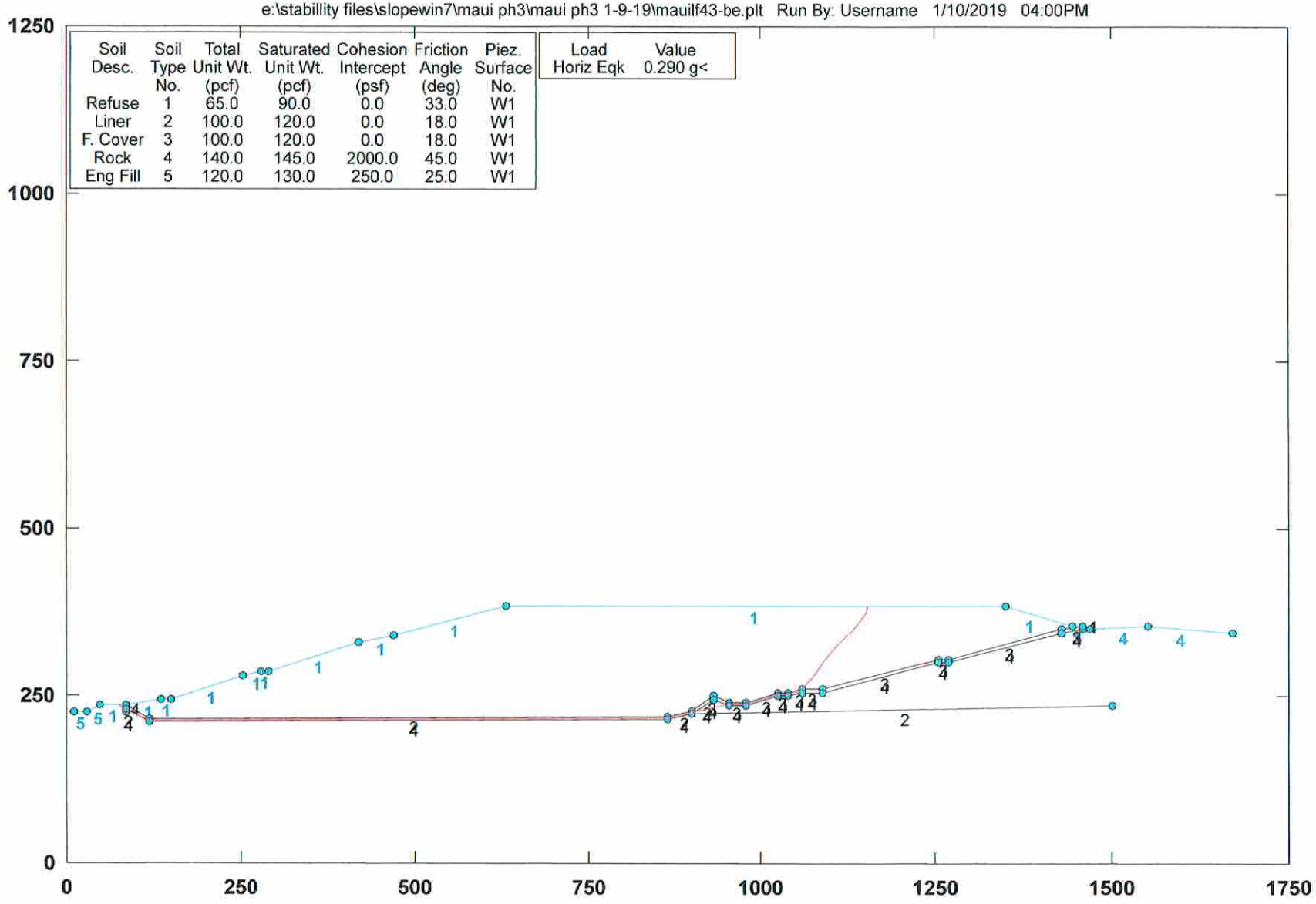


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf43-be.plt Run By: Username 1/10/2019 04:00PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

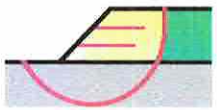
Load	Value
Horiz Eqk	0.290 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

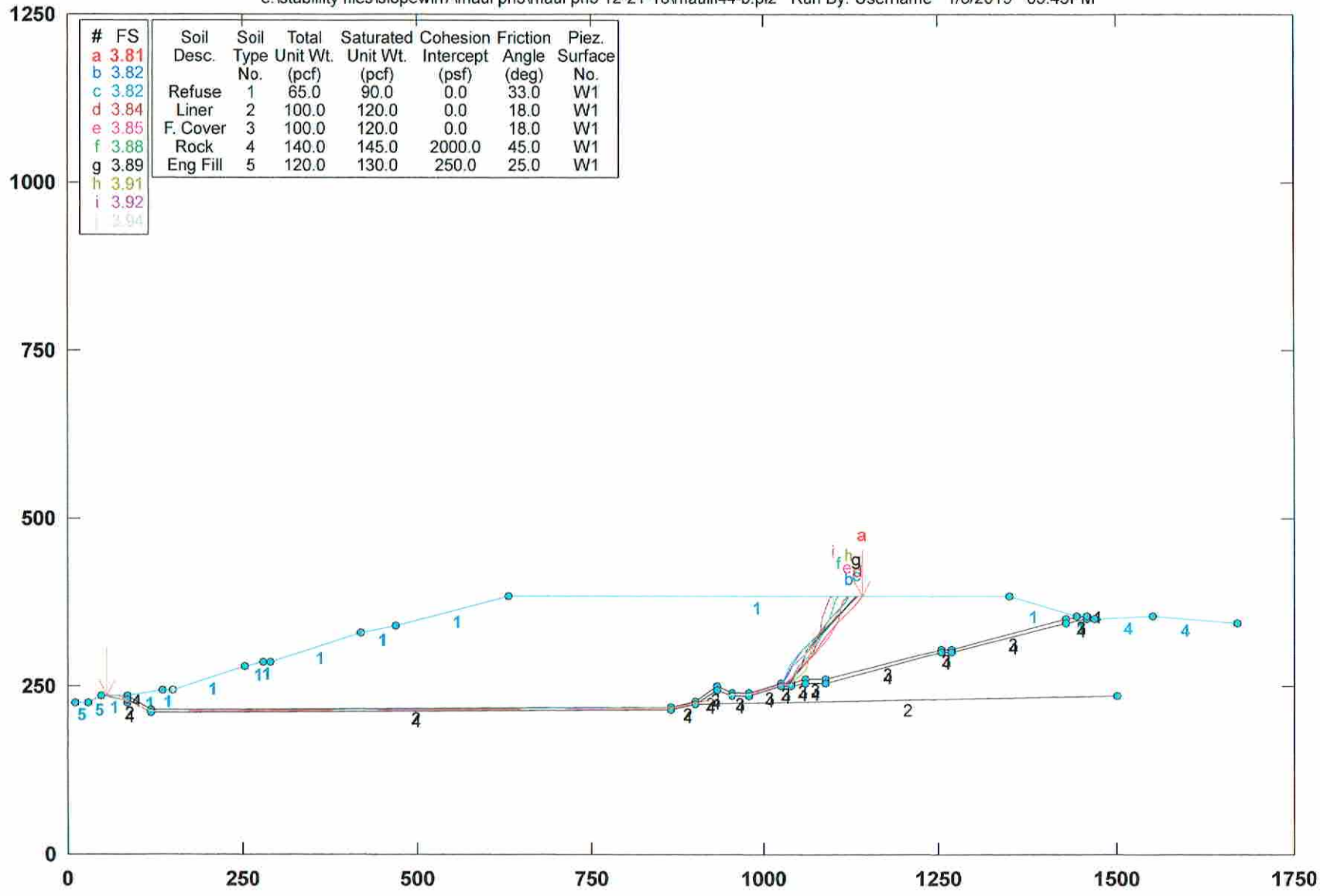


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf44-b.pl2 Run By: Username 1/8/2019 03:43PM

#	FS
a	3.81
b	3.82
c	3.82
d	3.84
e	3.85
f	3.88
g	3.89
h	3.91
i	3.92
j	3.94

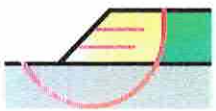
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.81

Safety Factors Are Calculated By The Modified Janbu Method

STED

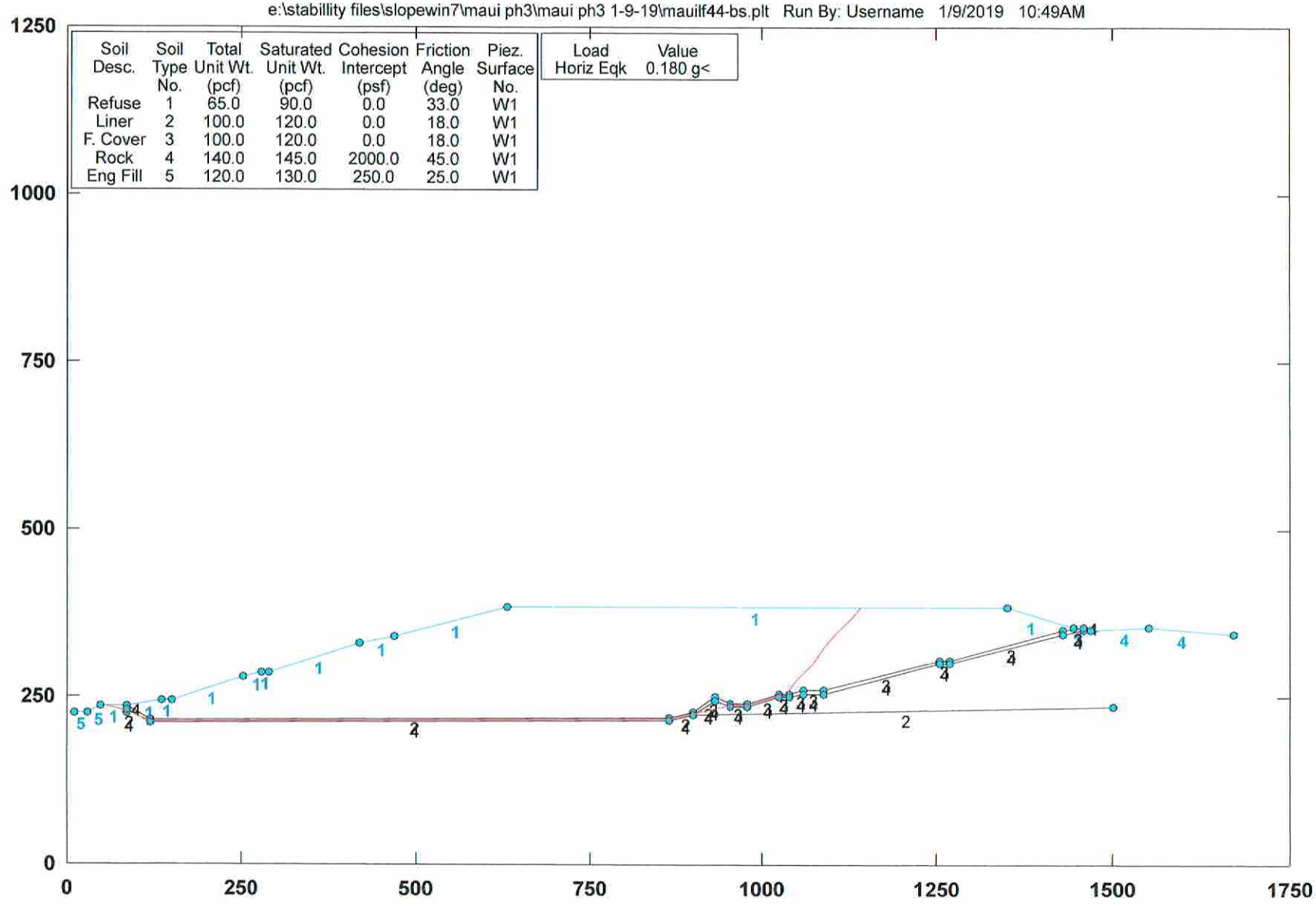


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf44-bs.plt Run By: Username 1/9/2019 10:49AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.41

Factors of Safety Calculated by Janbu Method

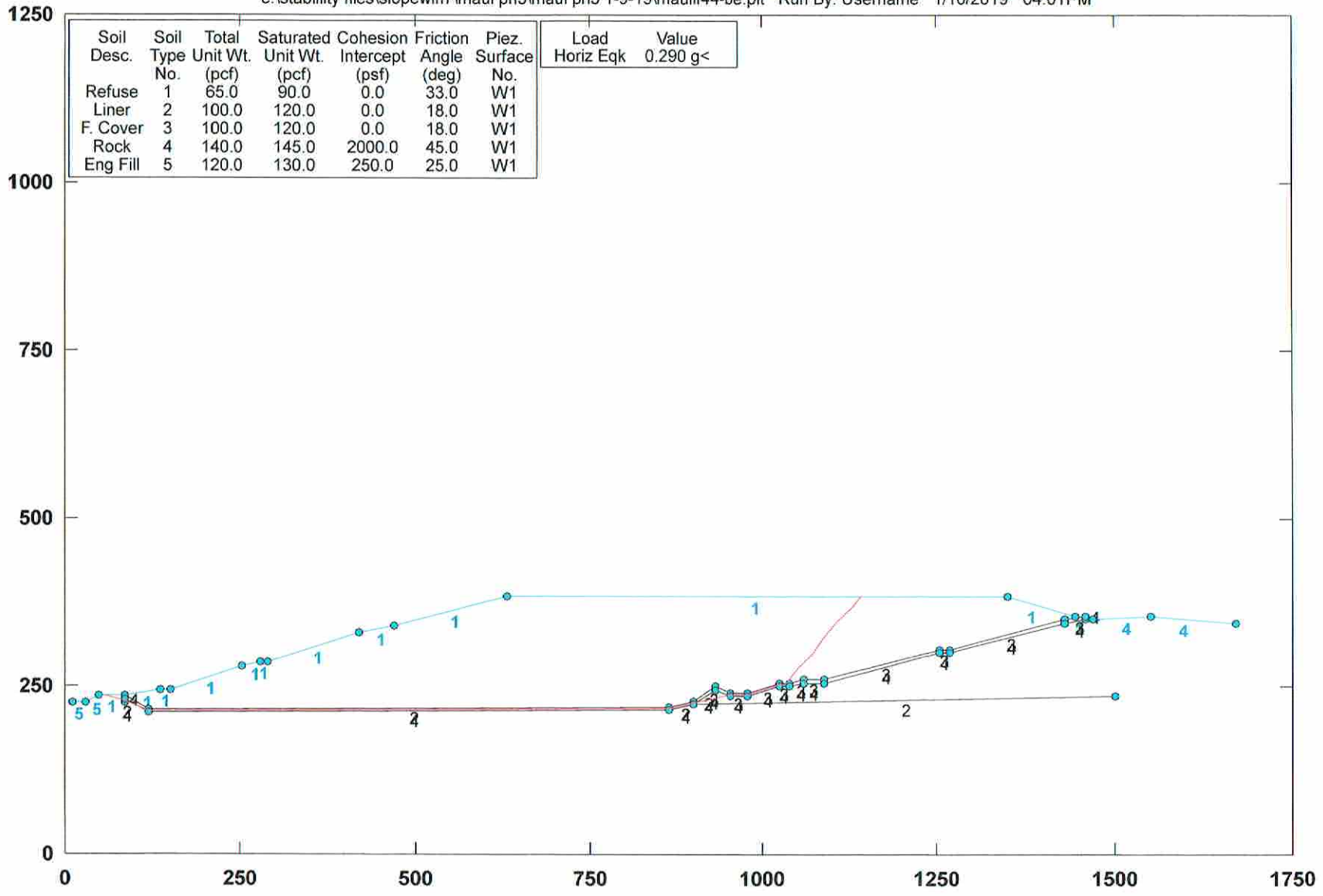
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf44-be.plt Run By: Username 1/10/2019 04:01PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

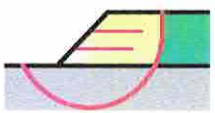
Load	Value
Horiz Eqk	0.290 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

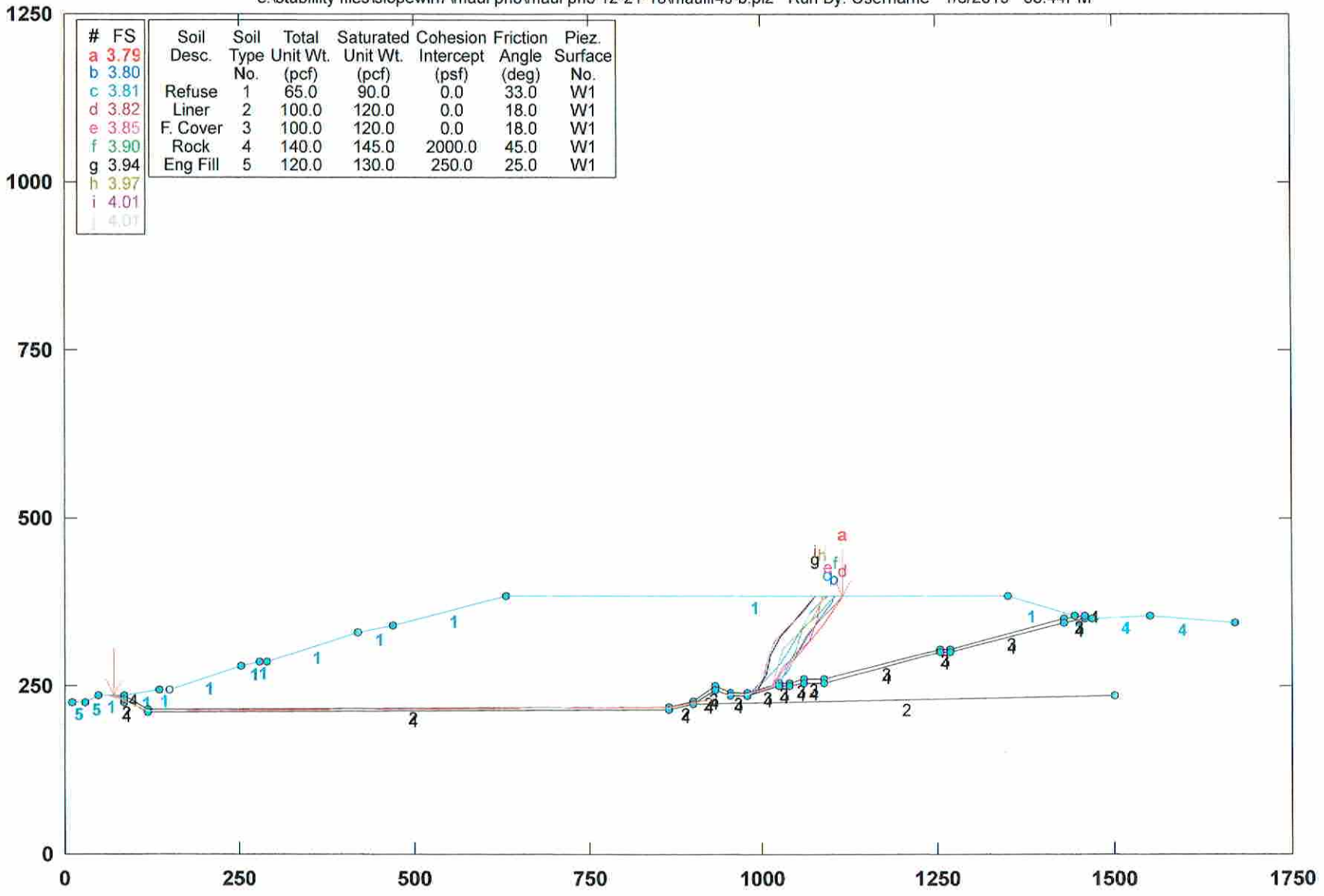


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf45-b.pl2 Run By: Username 1/8/2019 03:44PM

#	FS
a	3.79
b	3.80
c	3.81
d	3.82
e	3.85
f	3.90
g	3.94
h	3.97
i	4.01
j	4.01

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.79

Safety Factors Are Calculated By The Modified Janbu Method

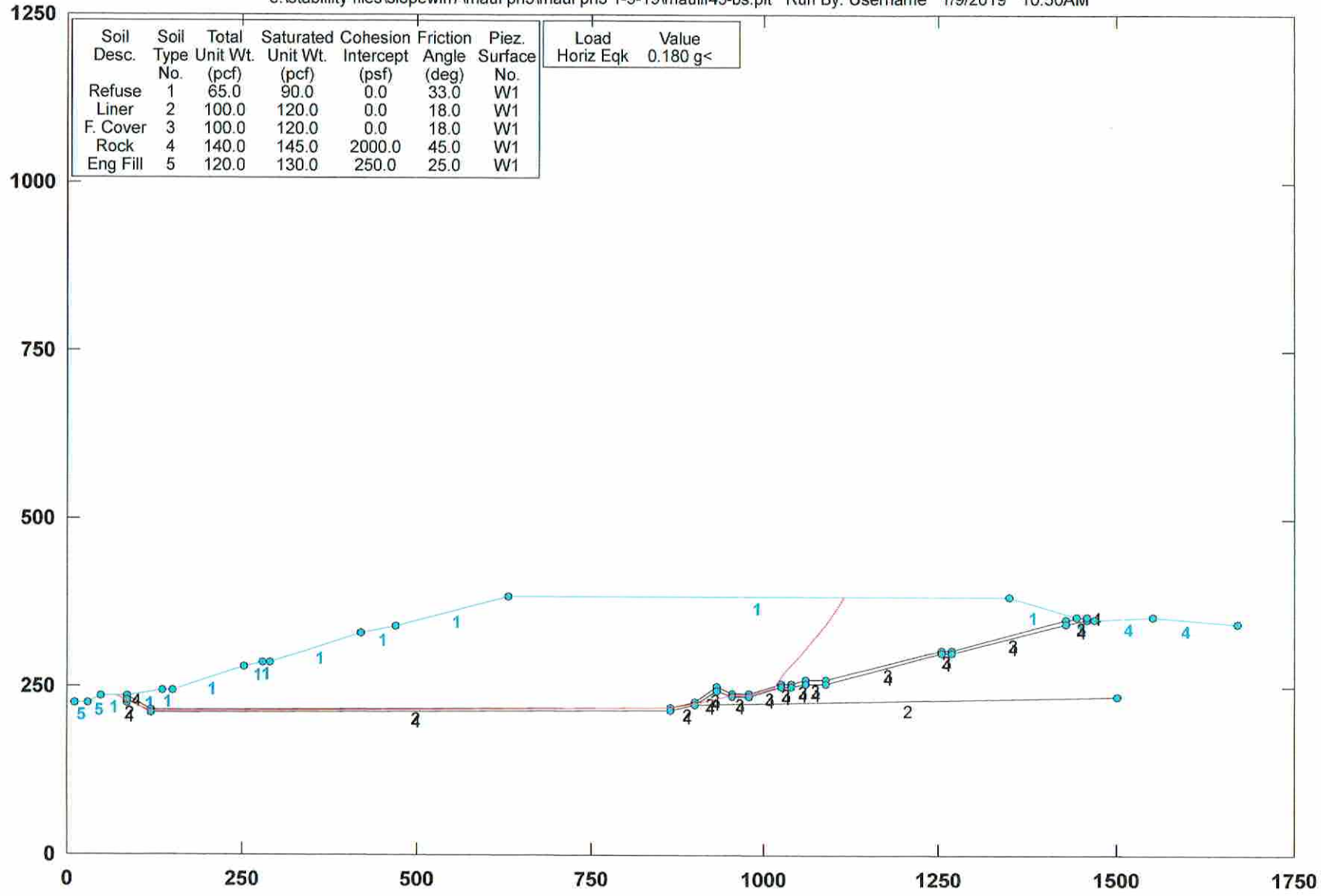
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf45-bs.plt Run By: Username 1/9/2019 10:50AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.42

Factors of Safety Calculated by Janbu Method

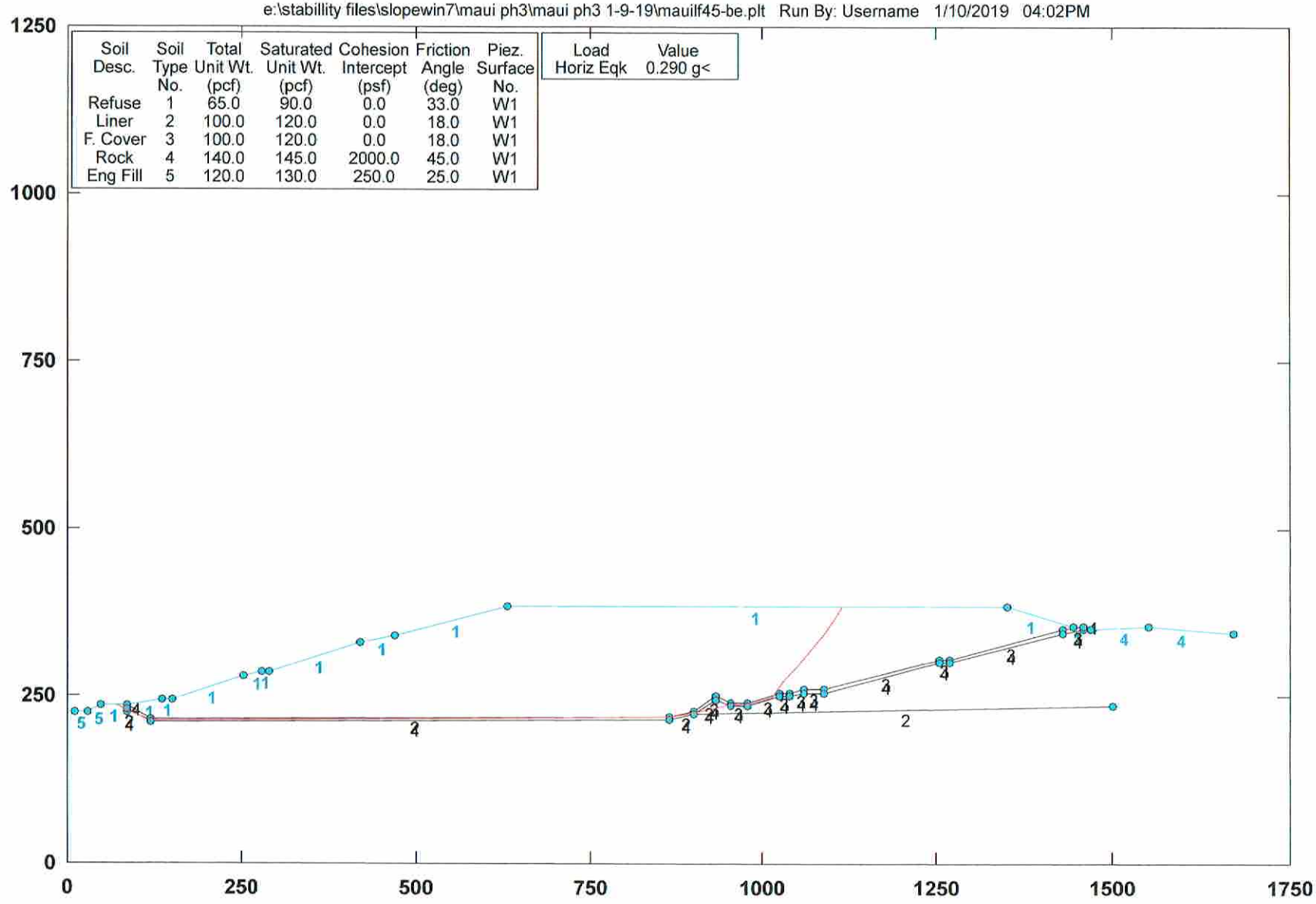
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf45-be.plt Run By: Username 1/10/2019 04:02PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

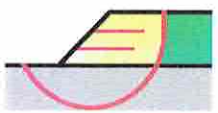
Load	Value
Horiz Eqk	0.290 g<



PCSTABL5M/si FSmin=1.01

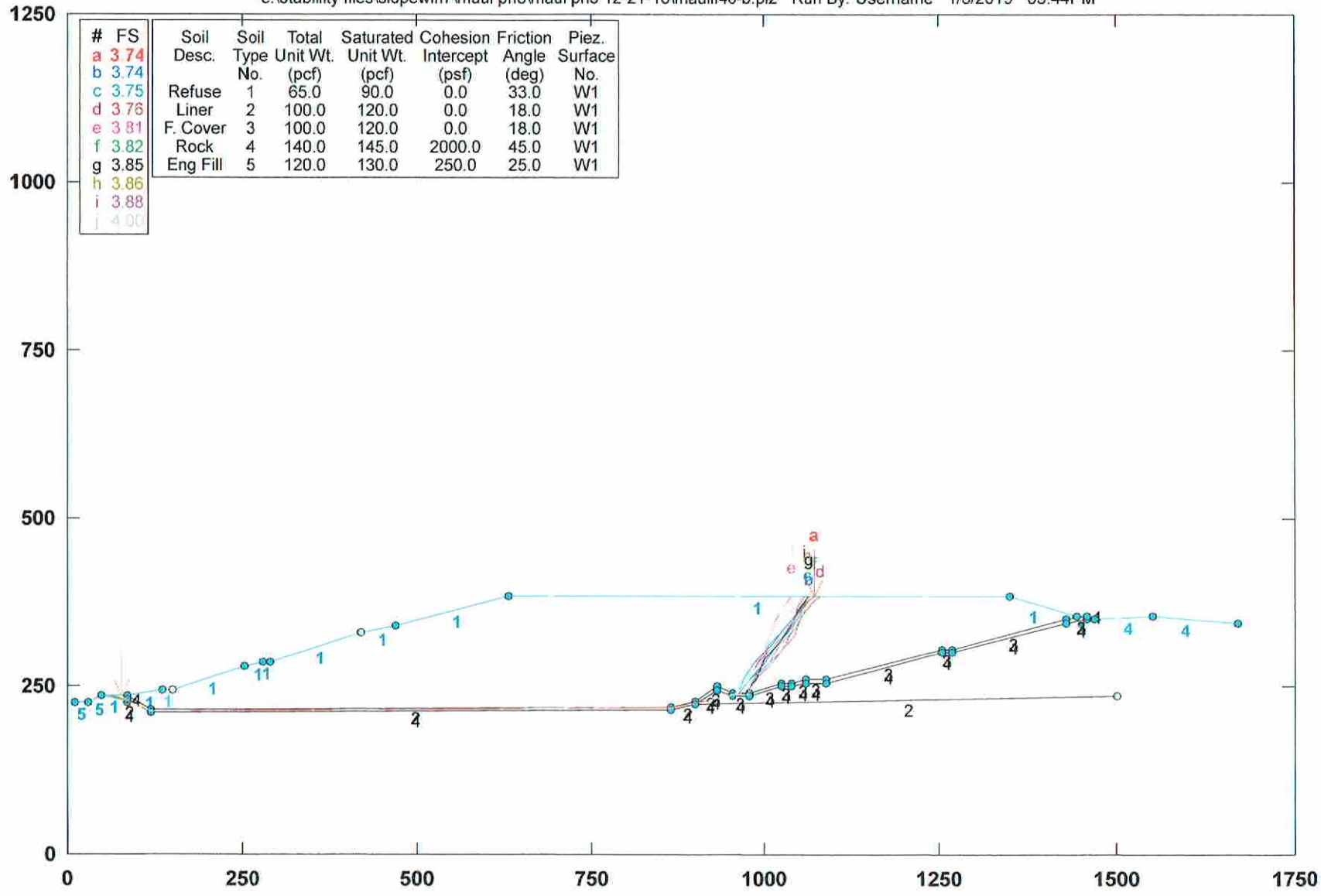
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf46-b.pl2 Run By: Username 1/8/2019 03:44PM



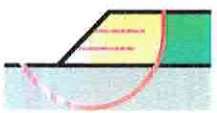
#	FS
a	3.74
b	3.74
c	3.75
d	3.76
e	3.81
f	3.82
g	3.85
h	3.86
i	3.88
j	4.00

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=3.74

Safety Factors Are Calculated By The Modified Janbu Method

STED

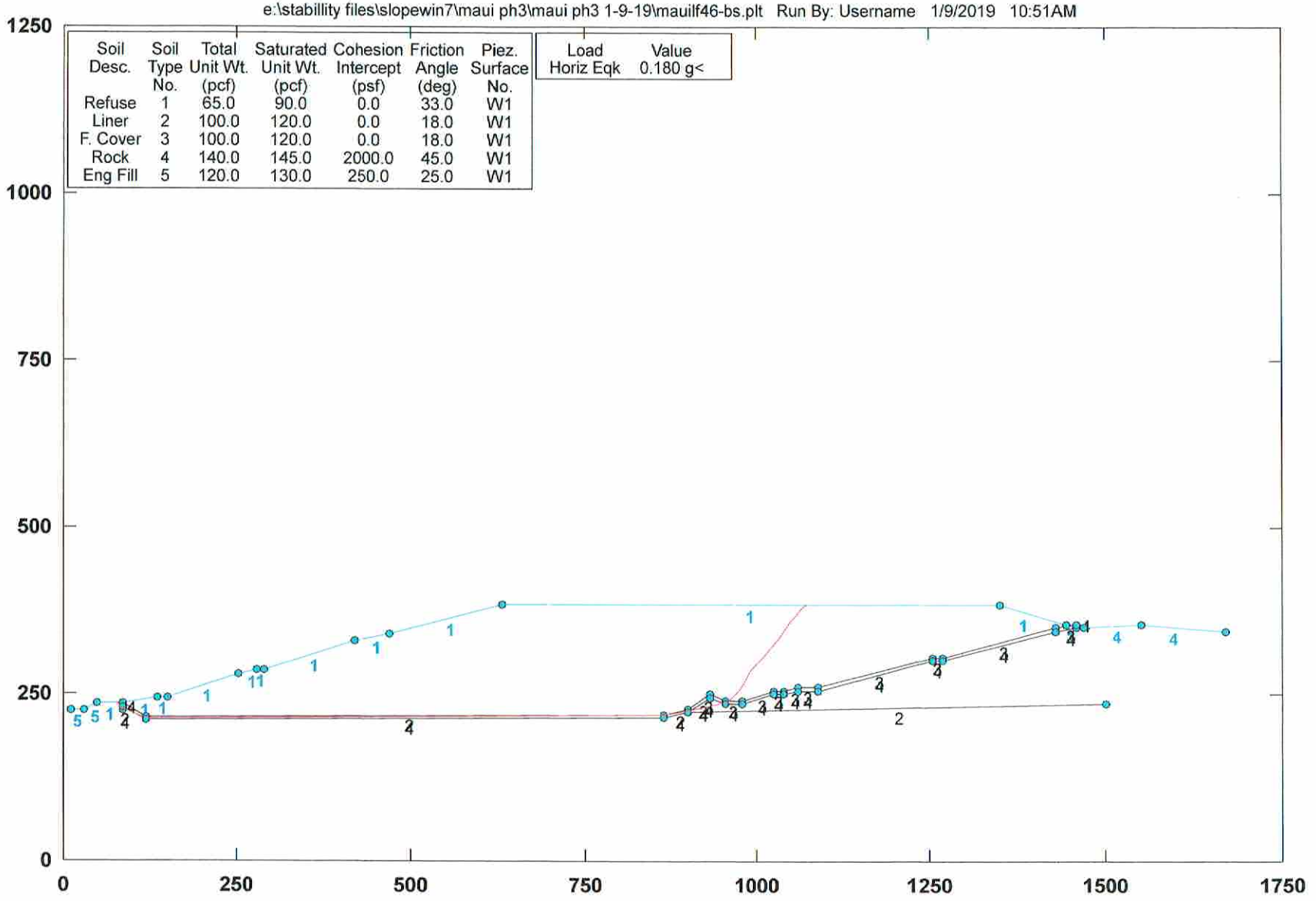


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf46-bs.plt Run By: Username 1/9/2019 10:51AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

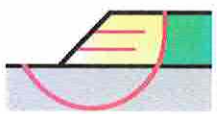
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.44

Factors of Safety Calculated by Janbu Method

STED

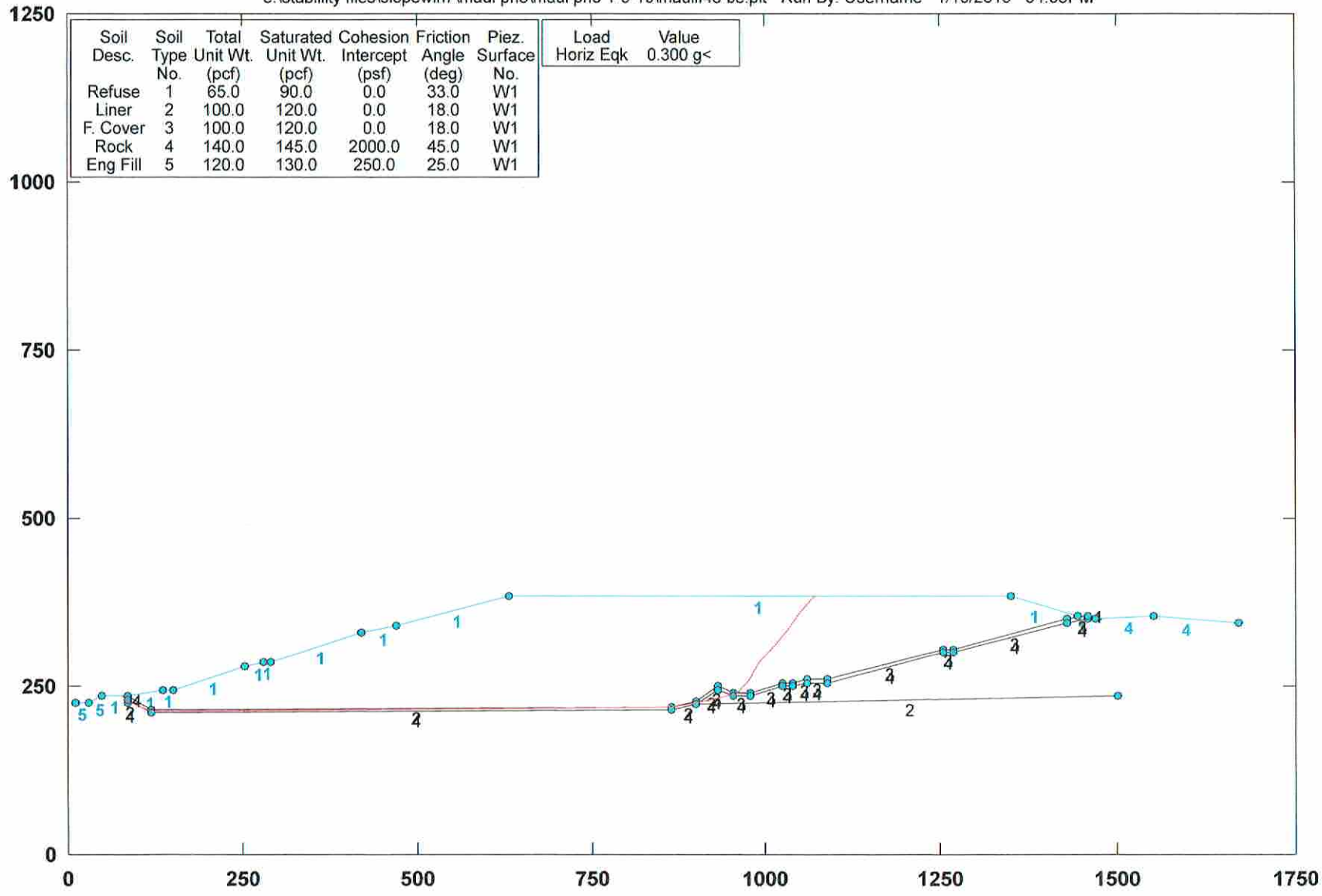


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf46-be.plt Run By: Username 1/10/2019 04:03PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

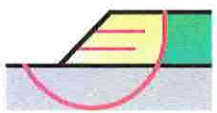
Load	Value
Horiz Eqk	0.300 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

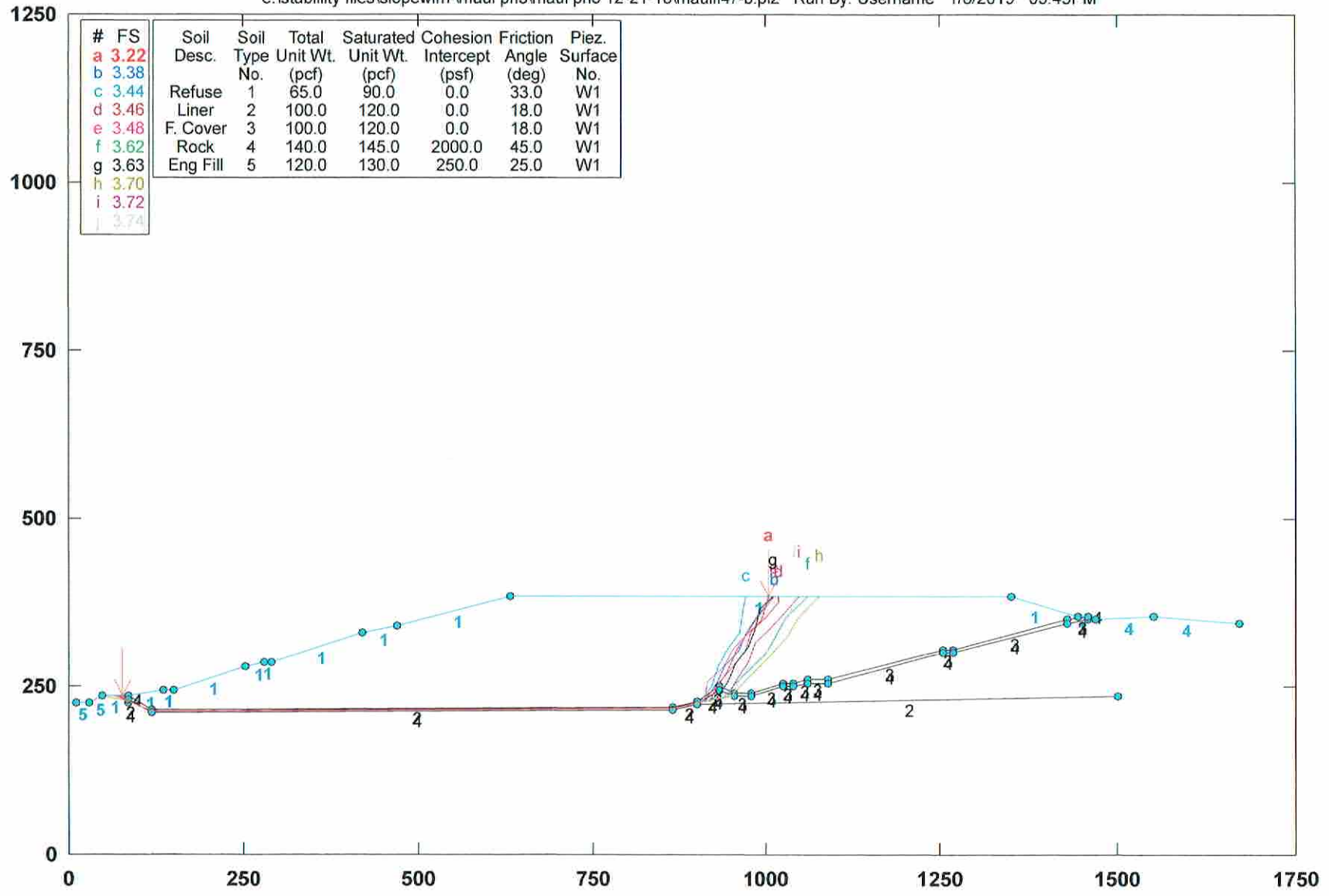


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf47-b.pl2 Run By: Username 1/8/2019 03:45PM

#	FS
a	3.22
b	3.38
c	3.44
d	3.46
e	3.48
f	3.62
g	3.63
h	3.70
i	3.72
j	3.74

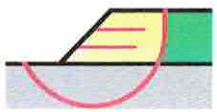
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.22

Safety Factors Are Calculated By The Modified Janbu Method

STED

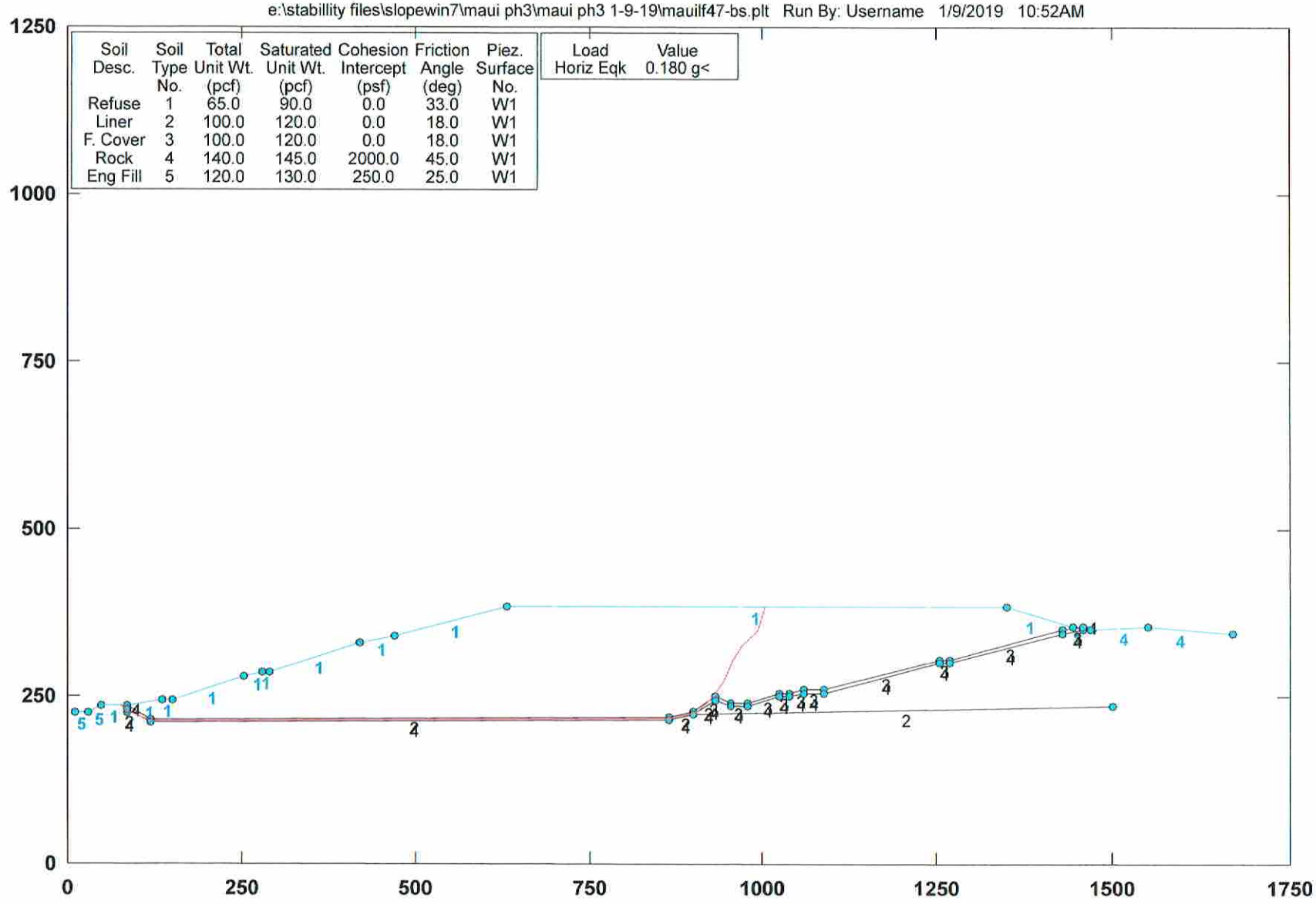


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf47-bs.plt Run By: Username 1/9/2019 10:52AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

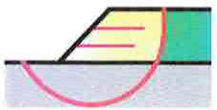
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.28

Factors of Safety Calculated by Janbu Method

STED

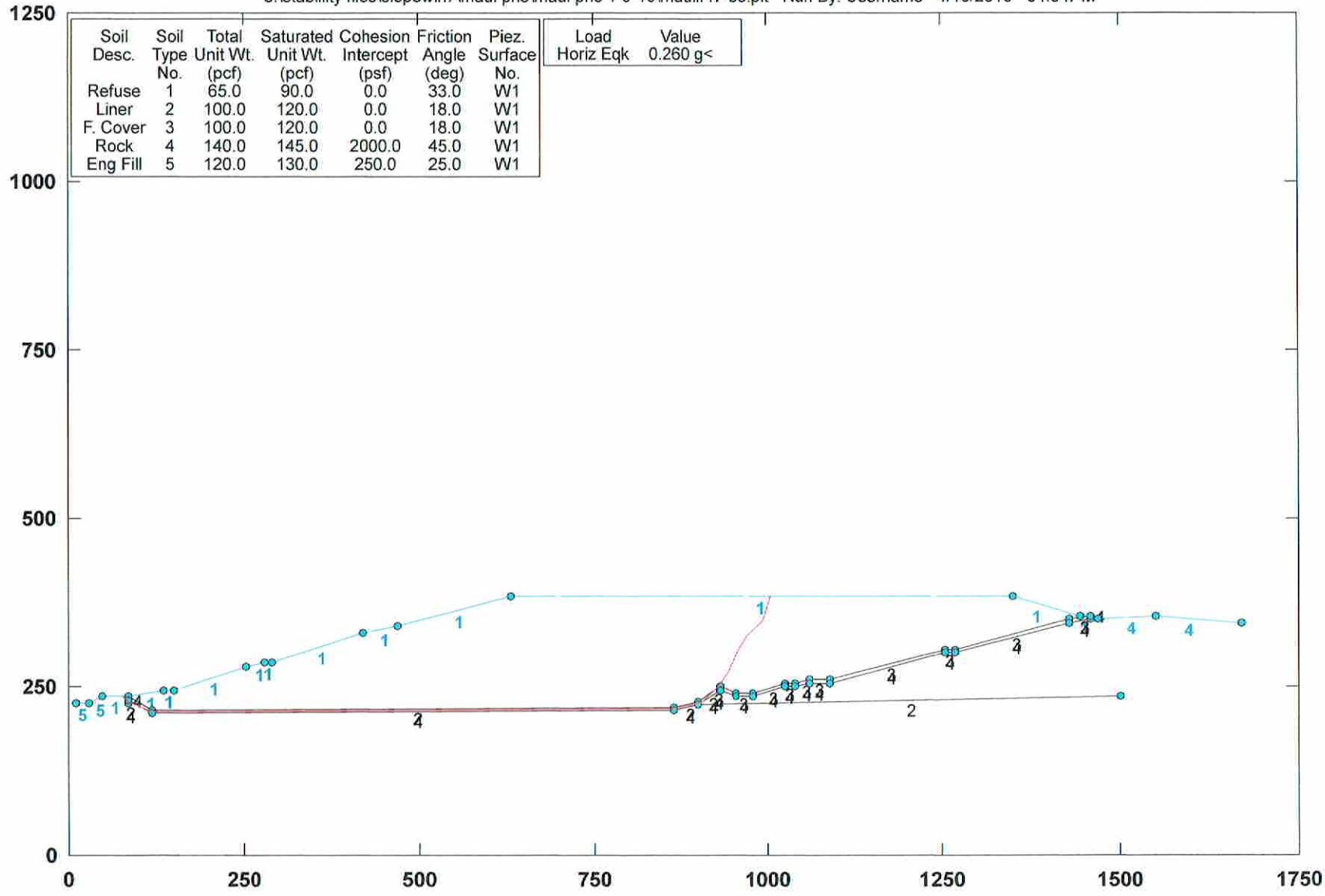


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf47-be.plt Run By: Username 1/10/2019 04:04PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

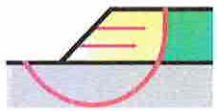
Load	Value
Horiz Eqk	0.260 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

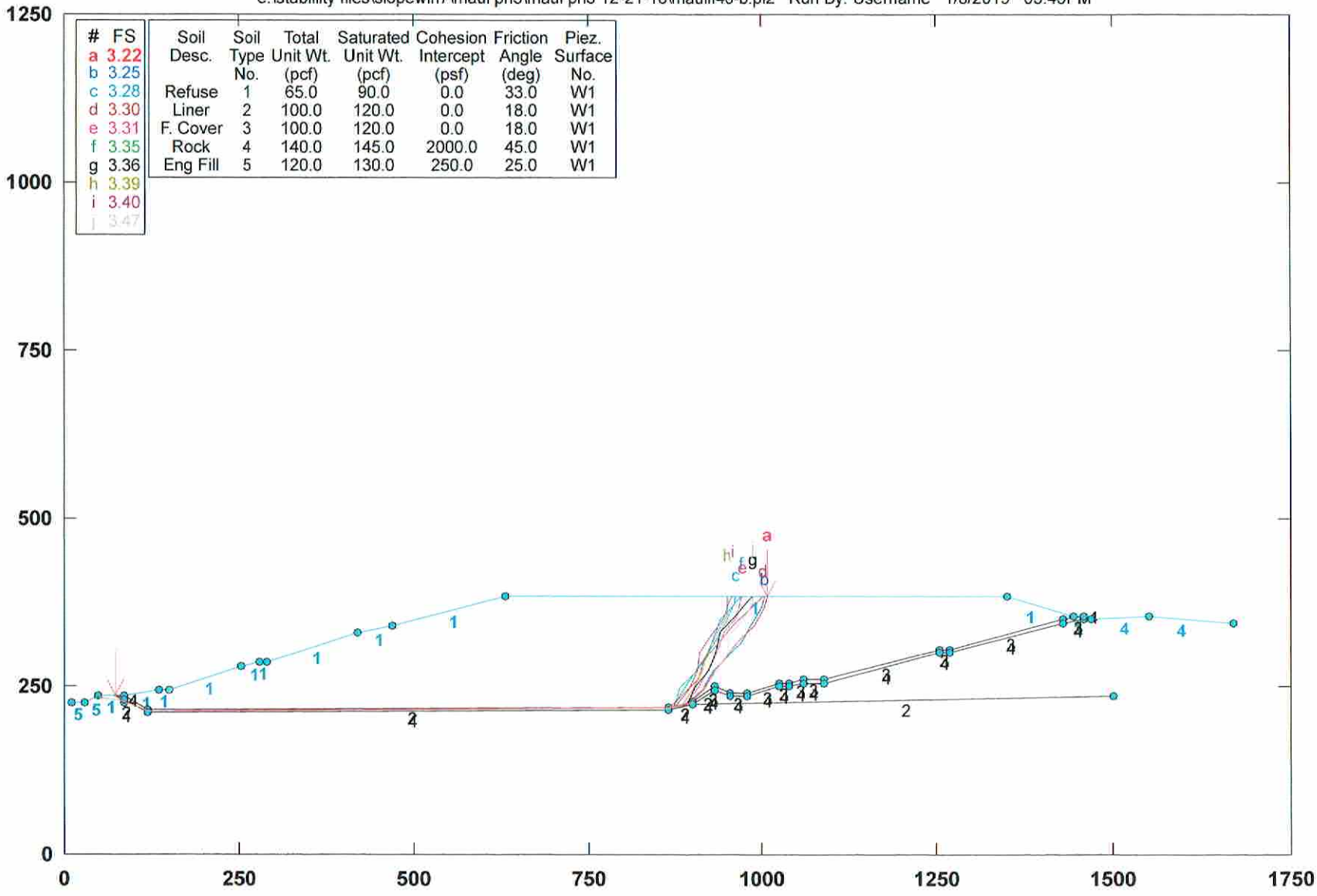


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf48-b.pl2 Run By: Username 1/8/2019 03:46PM

#	FS
a	3.22
b	3.25
c	3.28
d	3.30
e	3.31
f	3.35
g	3.36
h	3.39
i	3.40
j	3.47

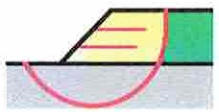
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.22

Safety Factors Are Calculated By The Modified Janbu Method

STED

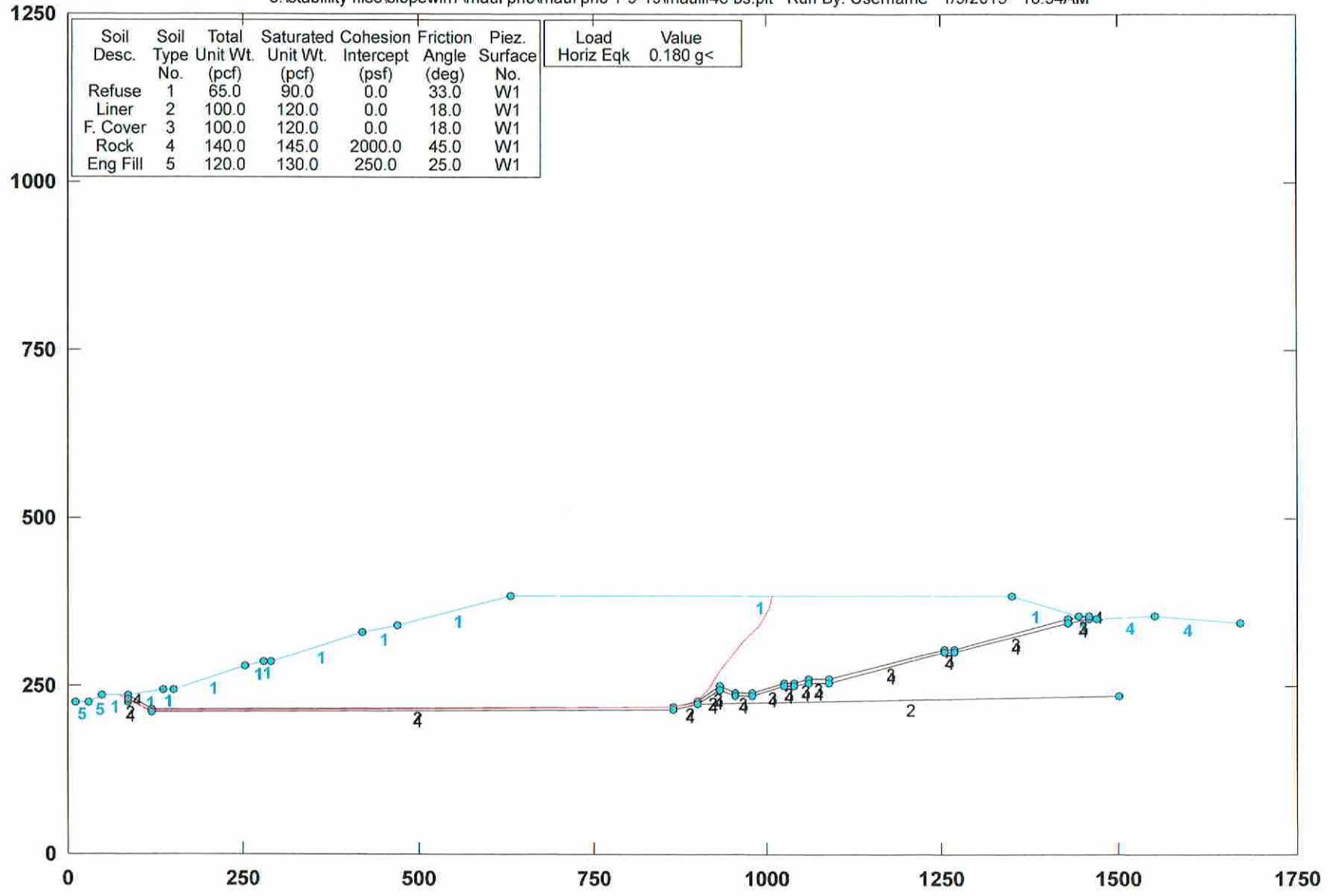


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf48-bs.plt Run By: Username 1/9/2019 10:54AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

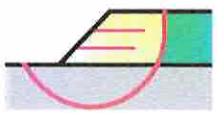
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.28

Factors of Safety Calculated by Janbu Method

STED

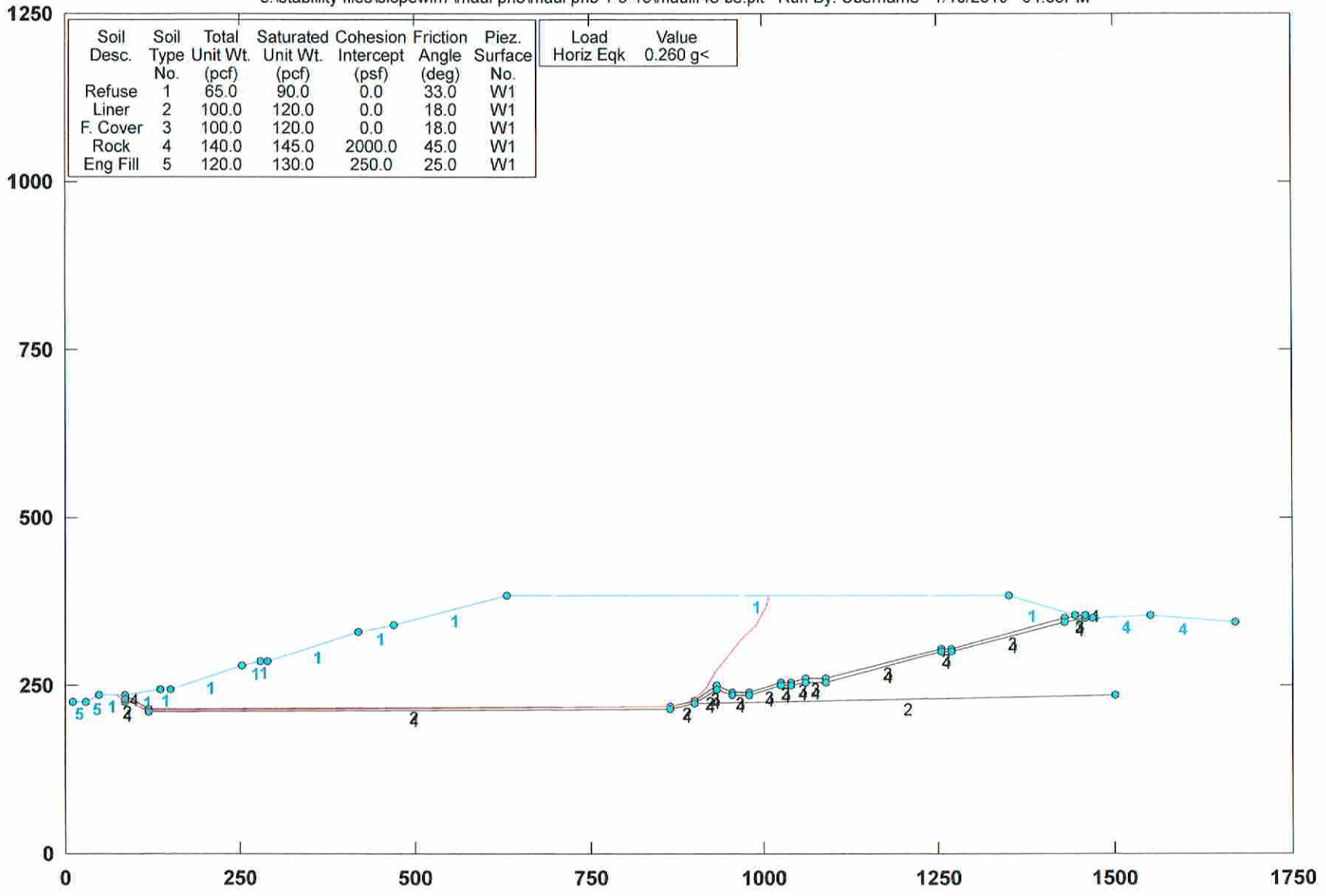


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf48-be.plt Run By: Username 1/10/2019 04:05PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

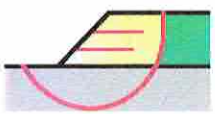
Load	Value
Horiz Eqk	0.260 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

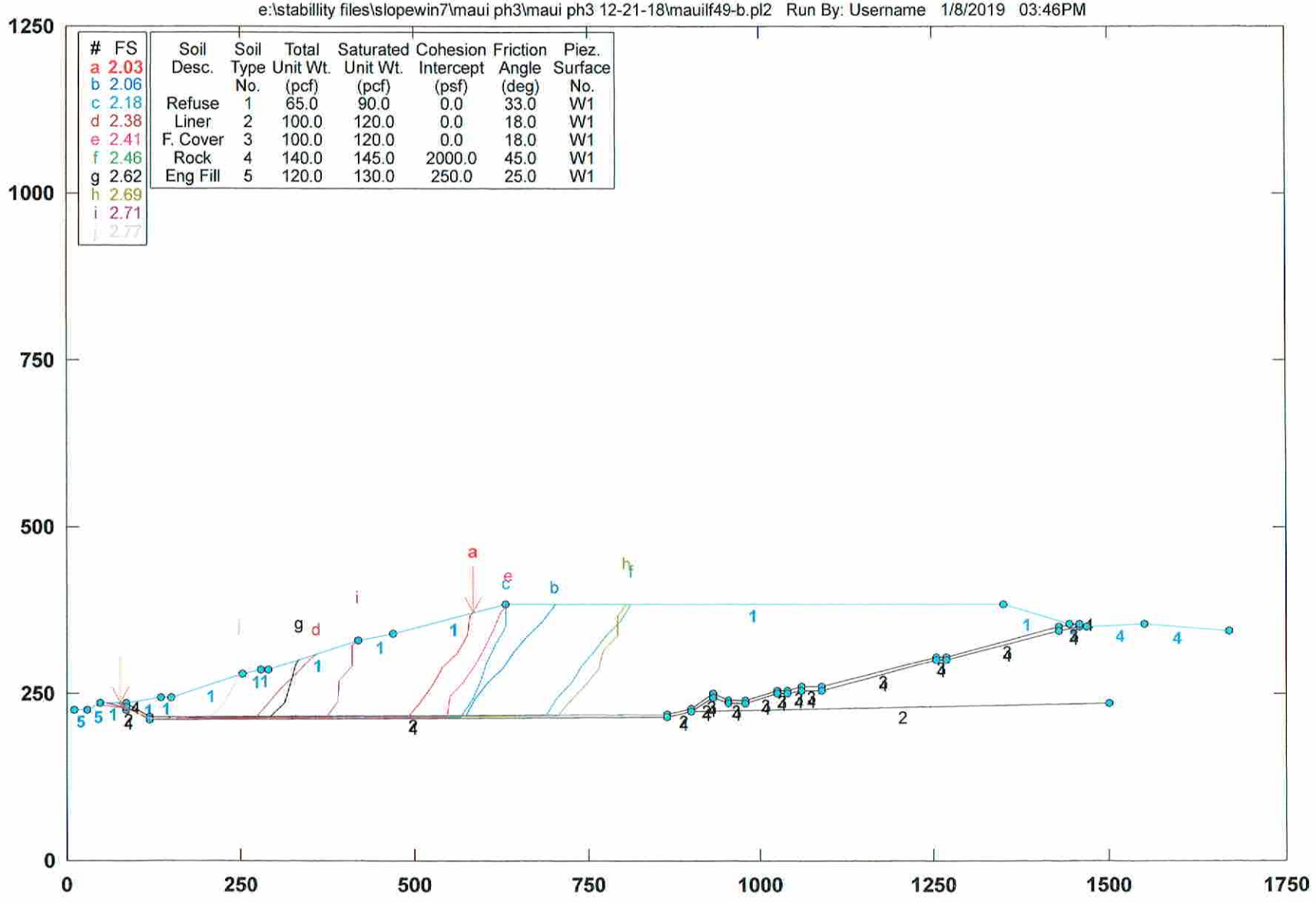


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf49-b.pl2 Run By: Username 1/8/2019 03:46PM

#	FS
a	2.03
b	2.06
c	2.18
d	2.38
e	2.41
f	2.46
g	2.62
h	2.69
i	2.71
j	2.77

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=2.03

Safety Factors Are Calculated By The Modified Janbu Method

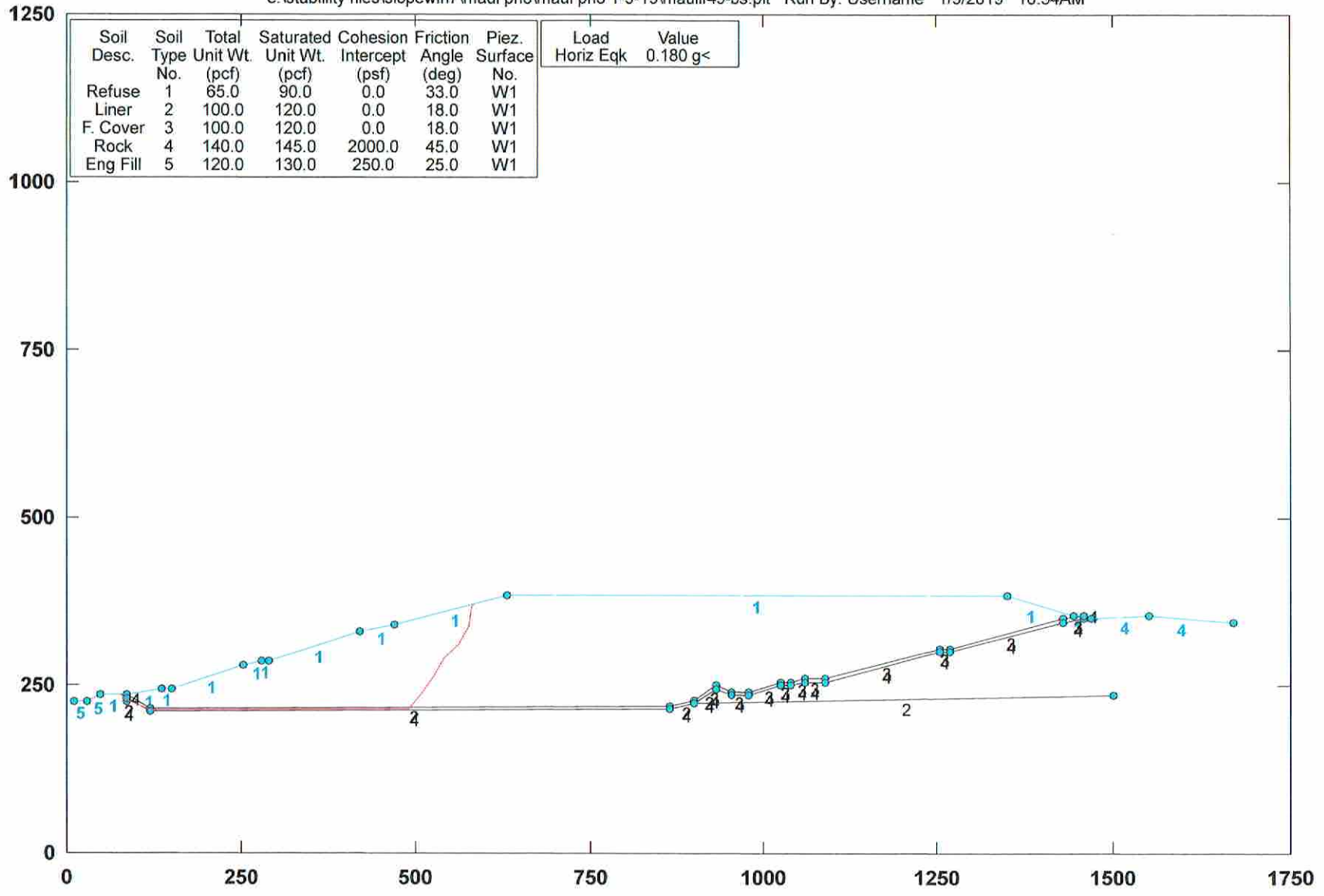
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf49-bs.plt Run By: Username 1/9/2019 10:54AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

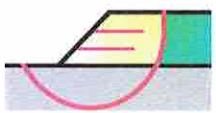
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.11

Factors of Safety Calculated by Janbu Method

STED

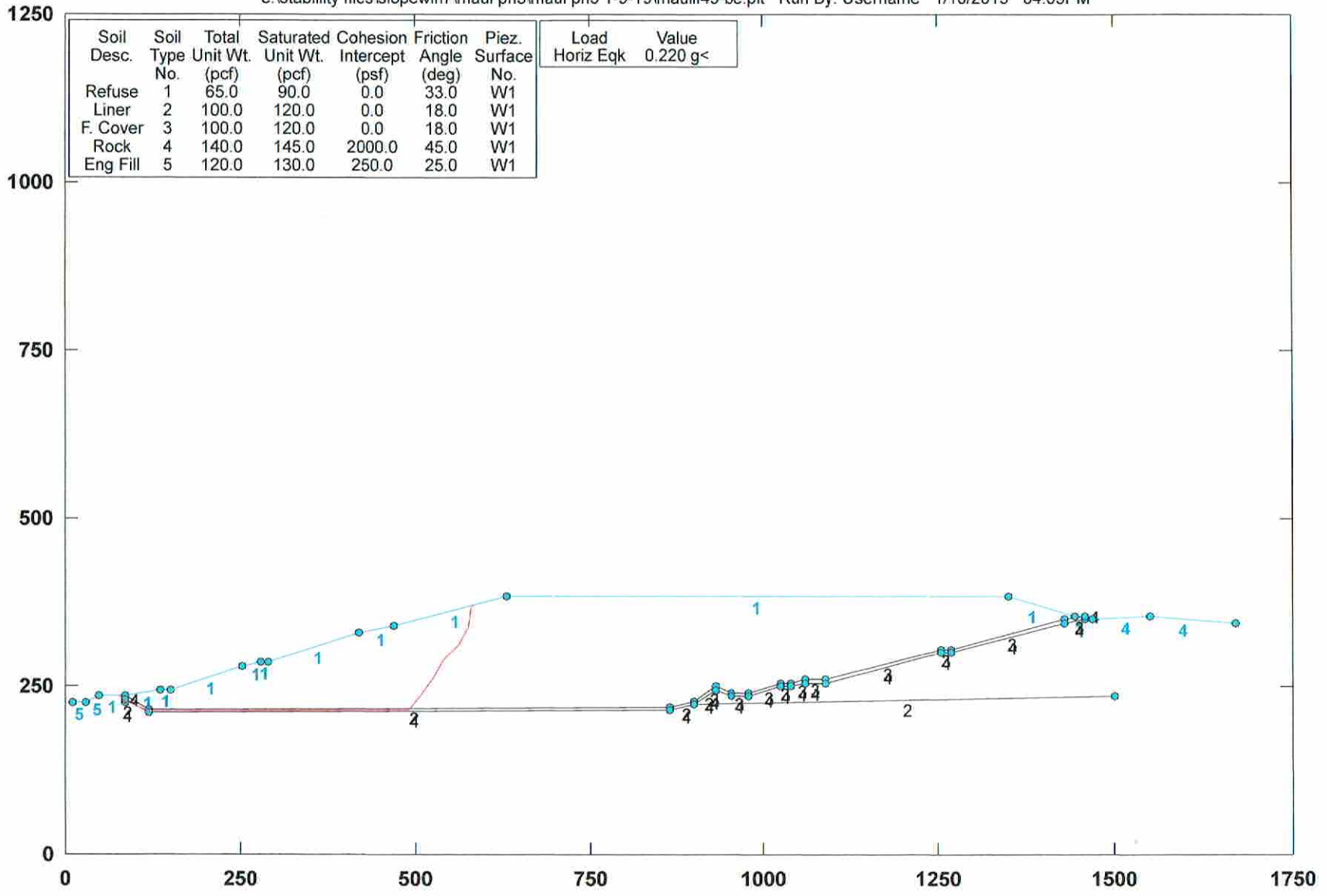


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf49-be.plt Run By: Username 1/10/2019 04:05PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

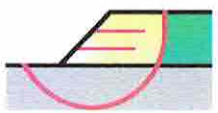
Load	Value
Horiz Eqk	0.220 g<



PCSTABL5M/si FSmin=1.01

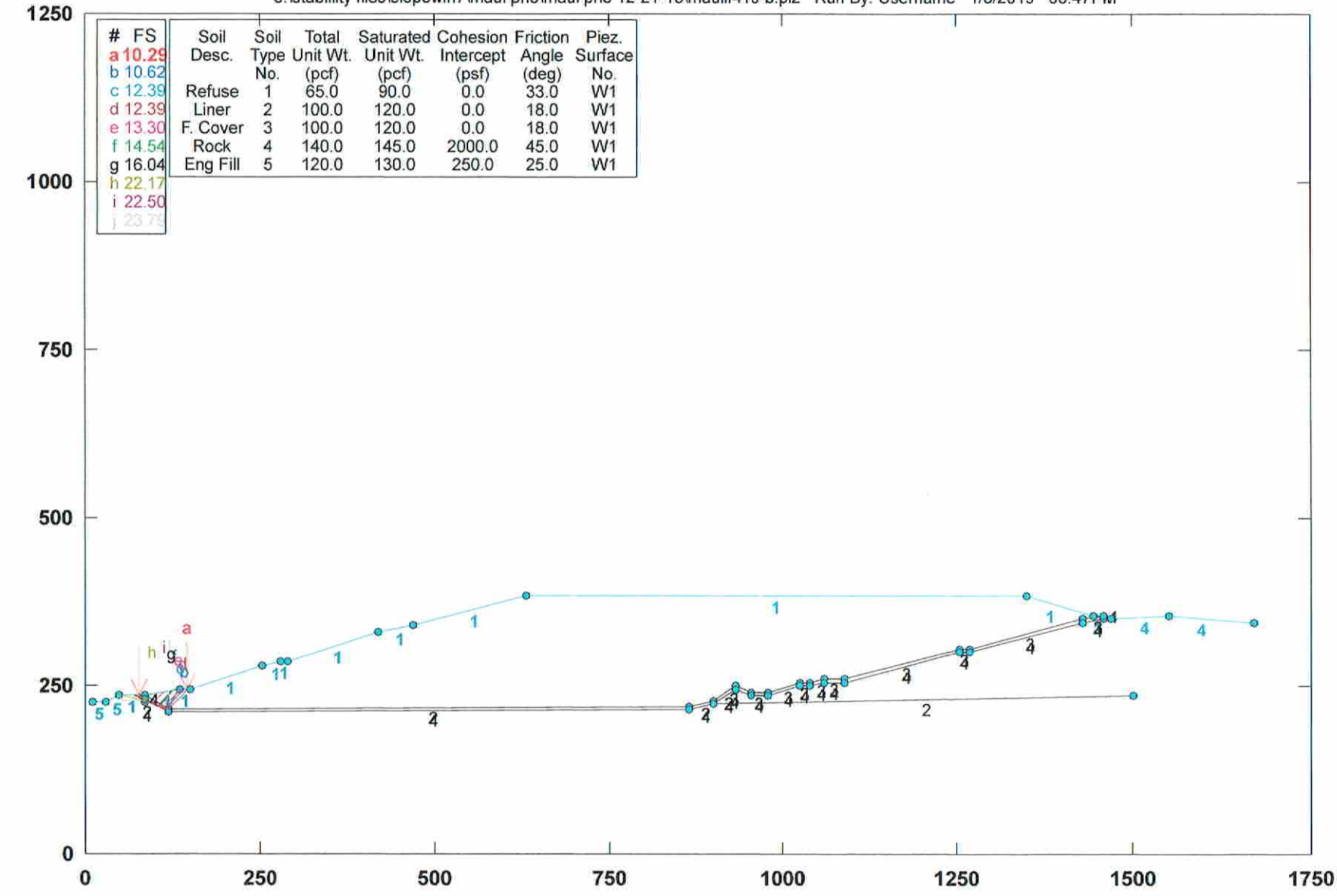
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf410-b.pl2 Run By: Username 1/8/2019 03:47PM

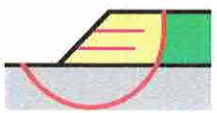


Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=10.29

Safety Factors Are Calculated By The Modified Janbu Method

STED

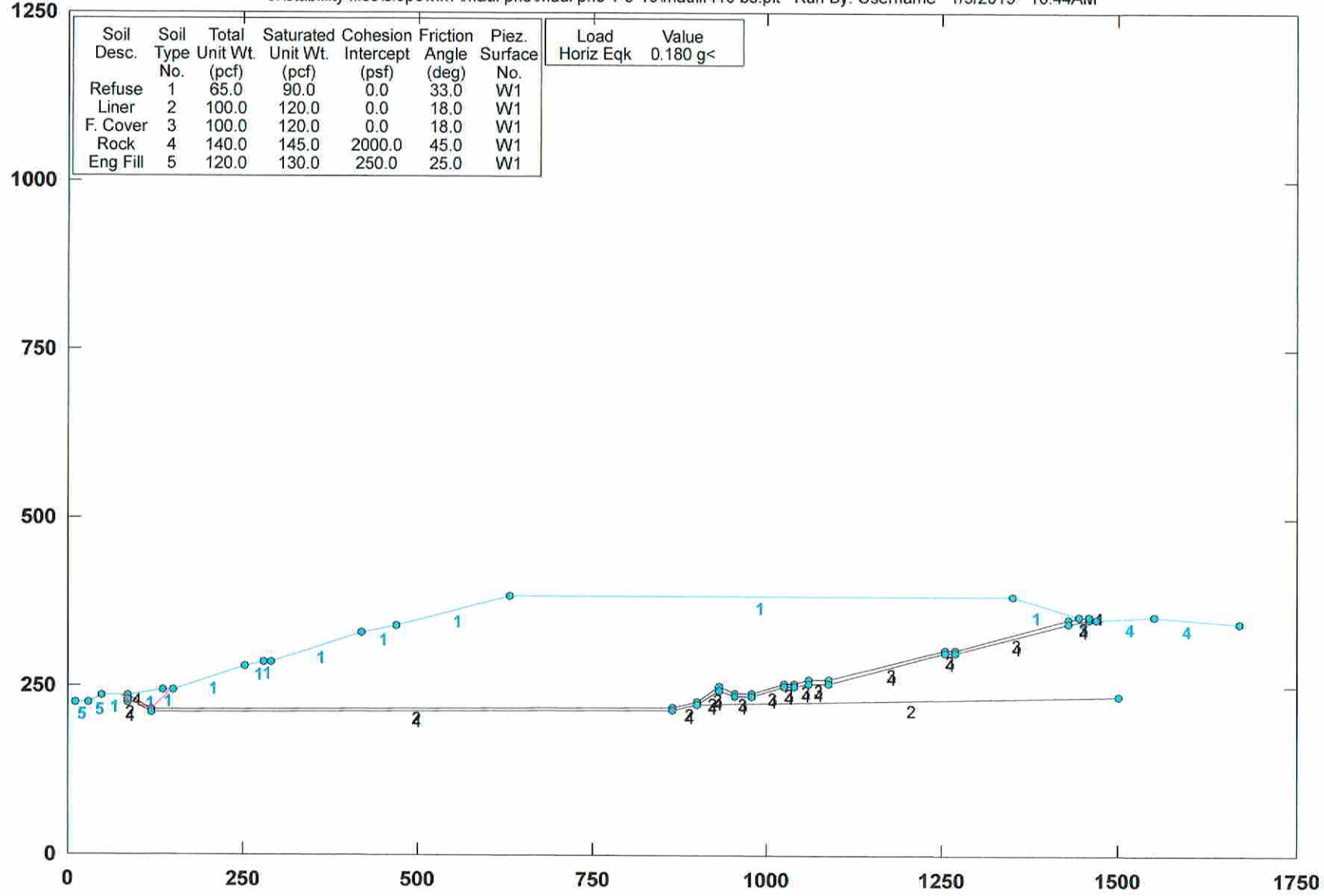


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf410-bs.plt Run By: Username 1/9/2019 10:44AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=4.37

Factors of Safety Calculated by Janbu Method

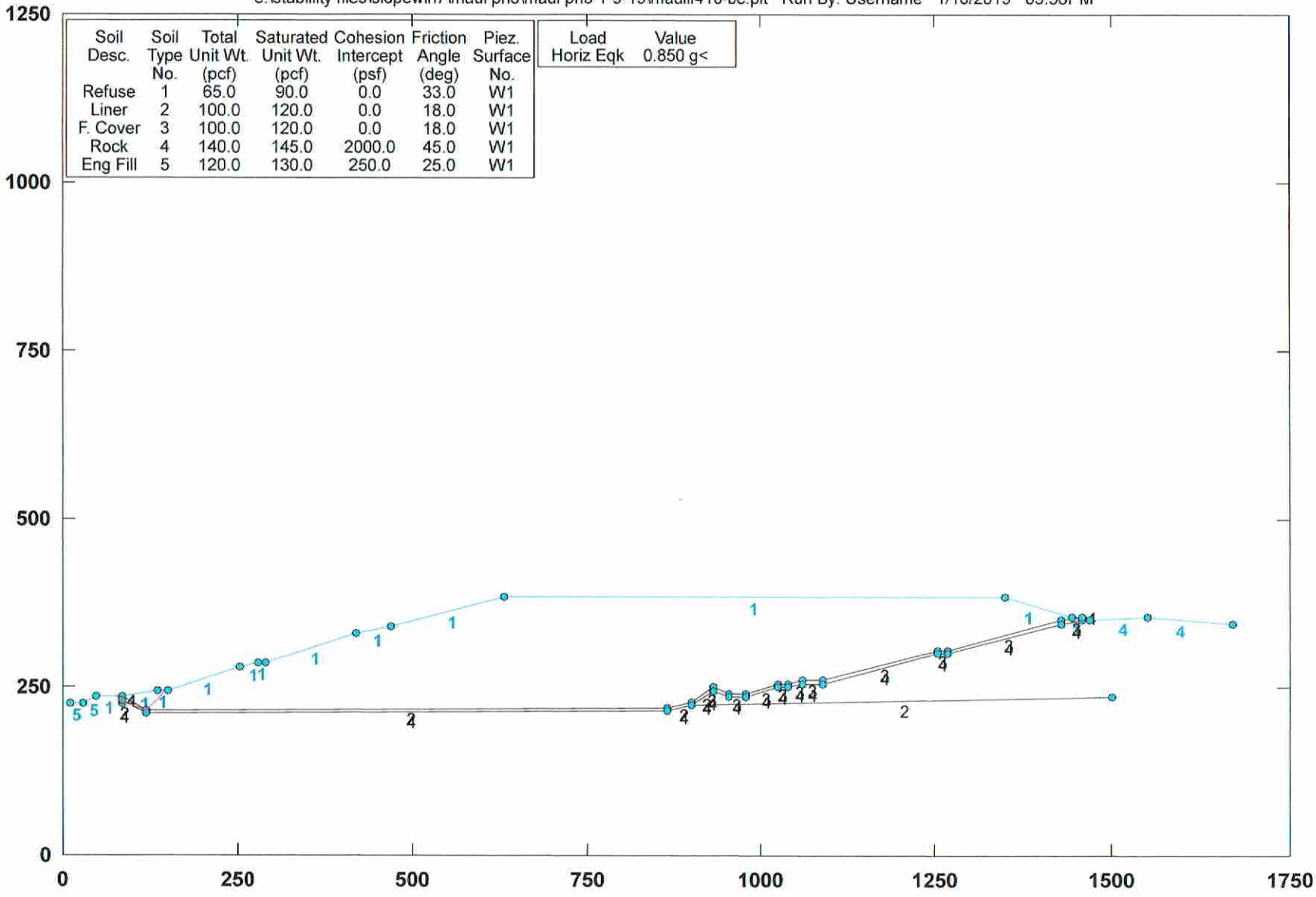
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf410-be.plt Run By: Username 1/10/2019 03:56PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

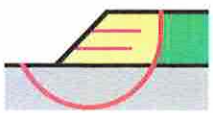
Load	Value
Horiz Eqk	0.850 g<



PCSTABL5M/si FSmin=1.51

Factors of Safety Calculated by Janbu Method

STED

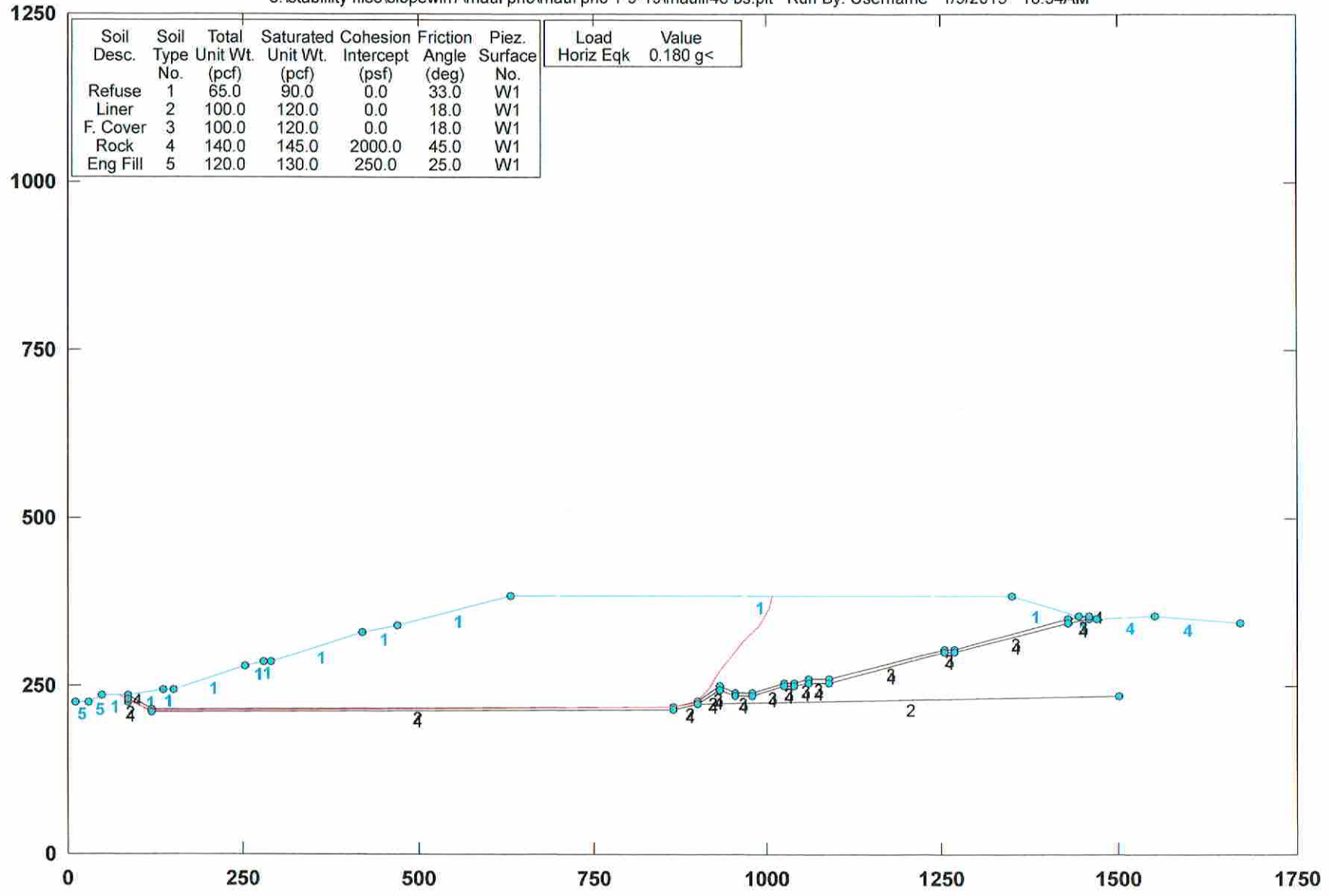


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf48-bs.plt Run By: Username 1/9/2019 10:54AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

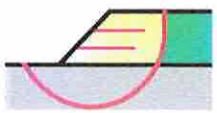
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.28

Factors of Safety Calculated by Janbu Method

STED

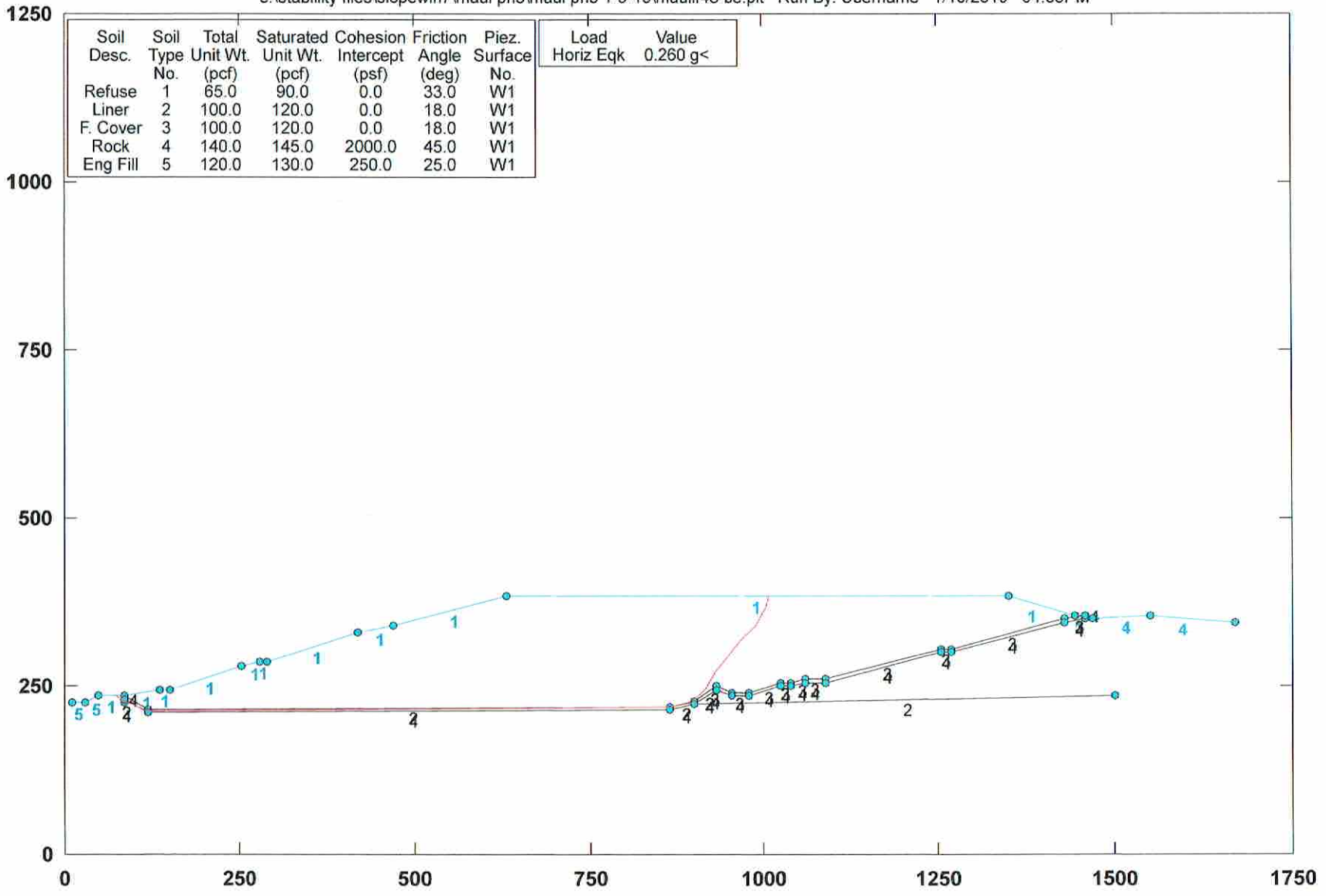


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf48-be.plt Run By: Username 1/10/2019 04:05PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

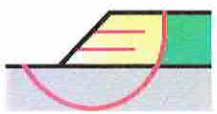
Load	Value
Horiz Eqk	0.260 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

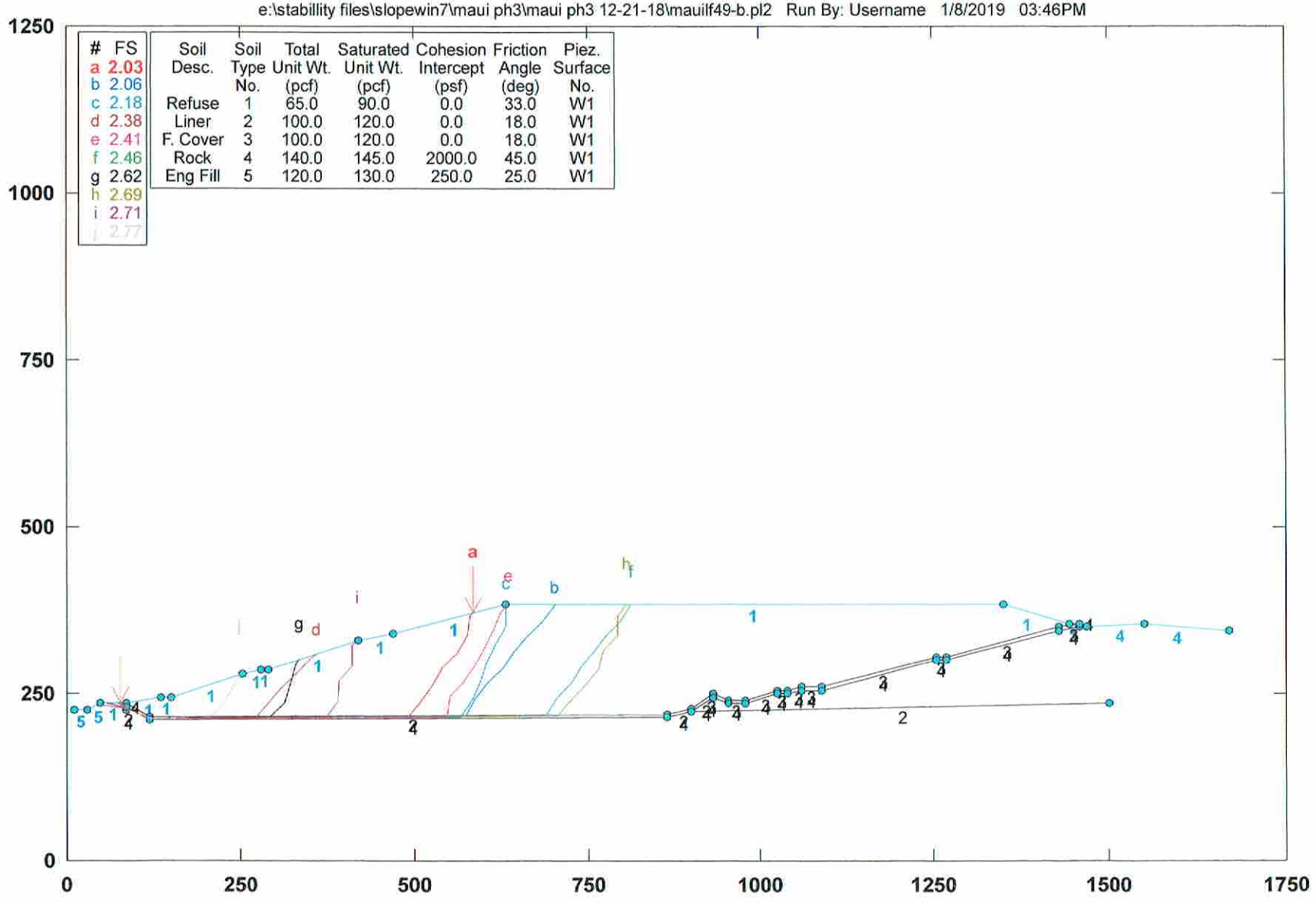


CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf49-b.pl2 Run By: Username 1/8/2019 03:46PM

#	FS
a	2.03
b	2.06
c	2.18
d	2.38
e	2.41
f	2.46
g	2.62
h	2.69
i	2.71
j	2.77

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=2.03

Safety Factors Are Calculated By The Modified Janbu Method

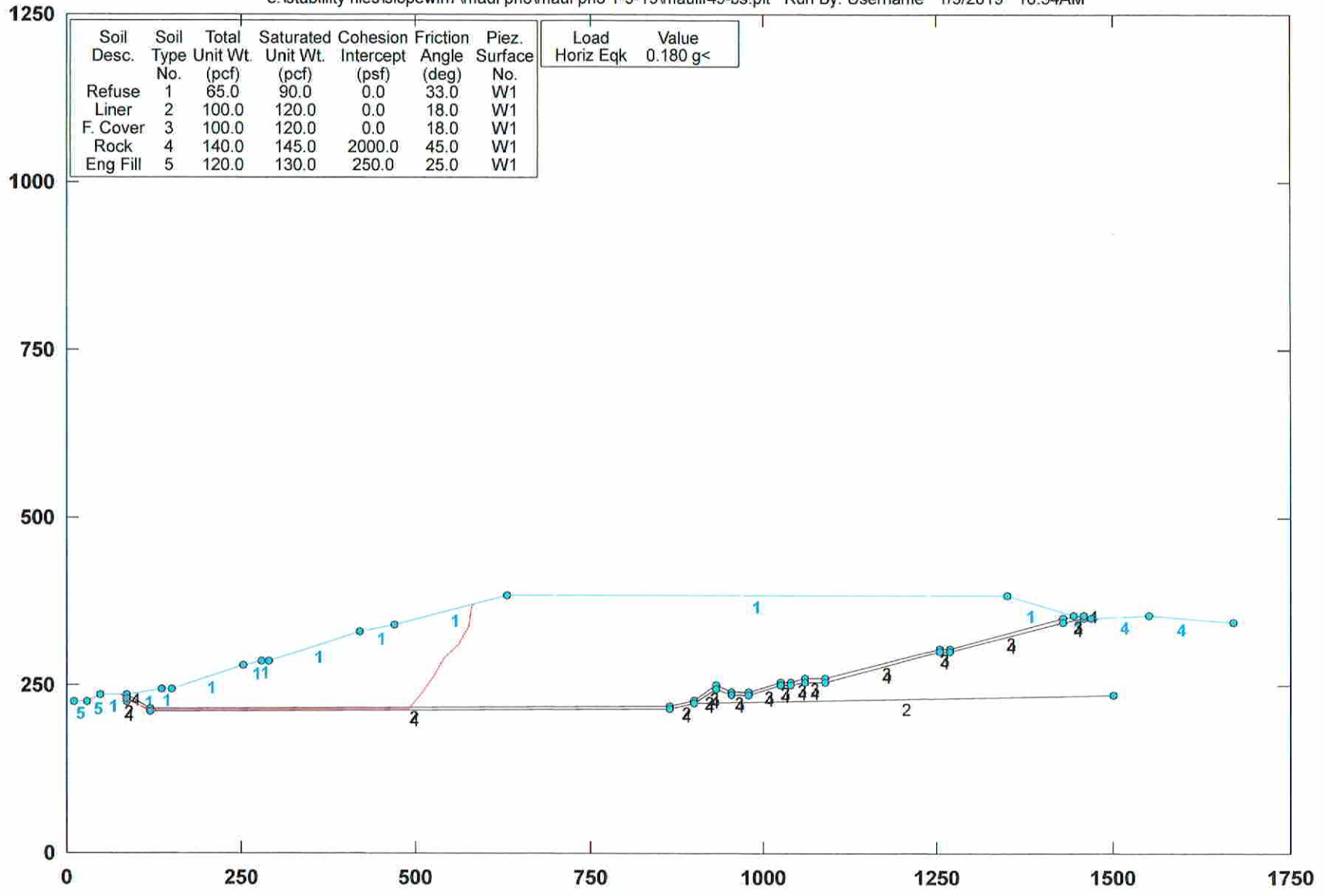
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf49-bs.plt Run By: Username 1/9/2019 10:54AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

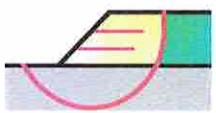
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.11

Factors of Safety Calculated by Janbu Method

STED

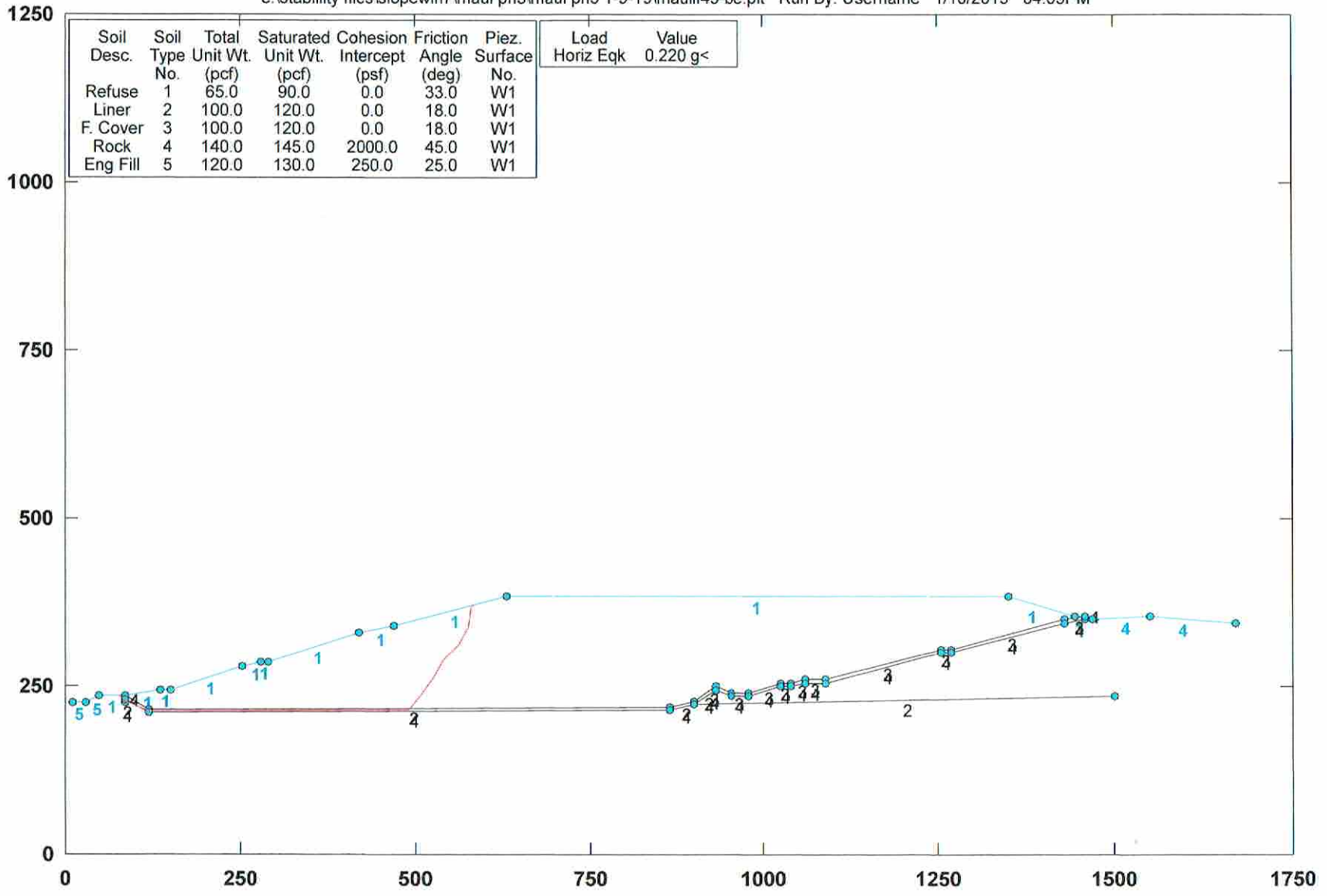


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf49-be.plt Run By: Username 1/10/2019 04:05PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

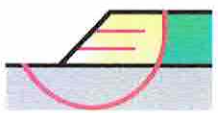
Load	Value
Horiz Eqk	0.220 g<



PCSTABL5M/si FSmin=1.01

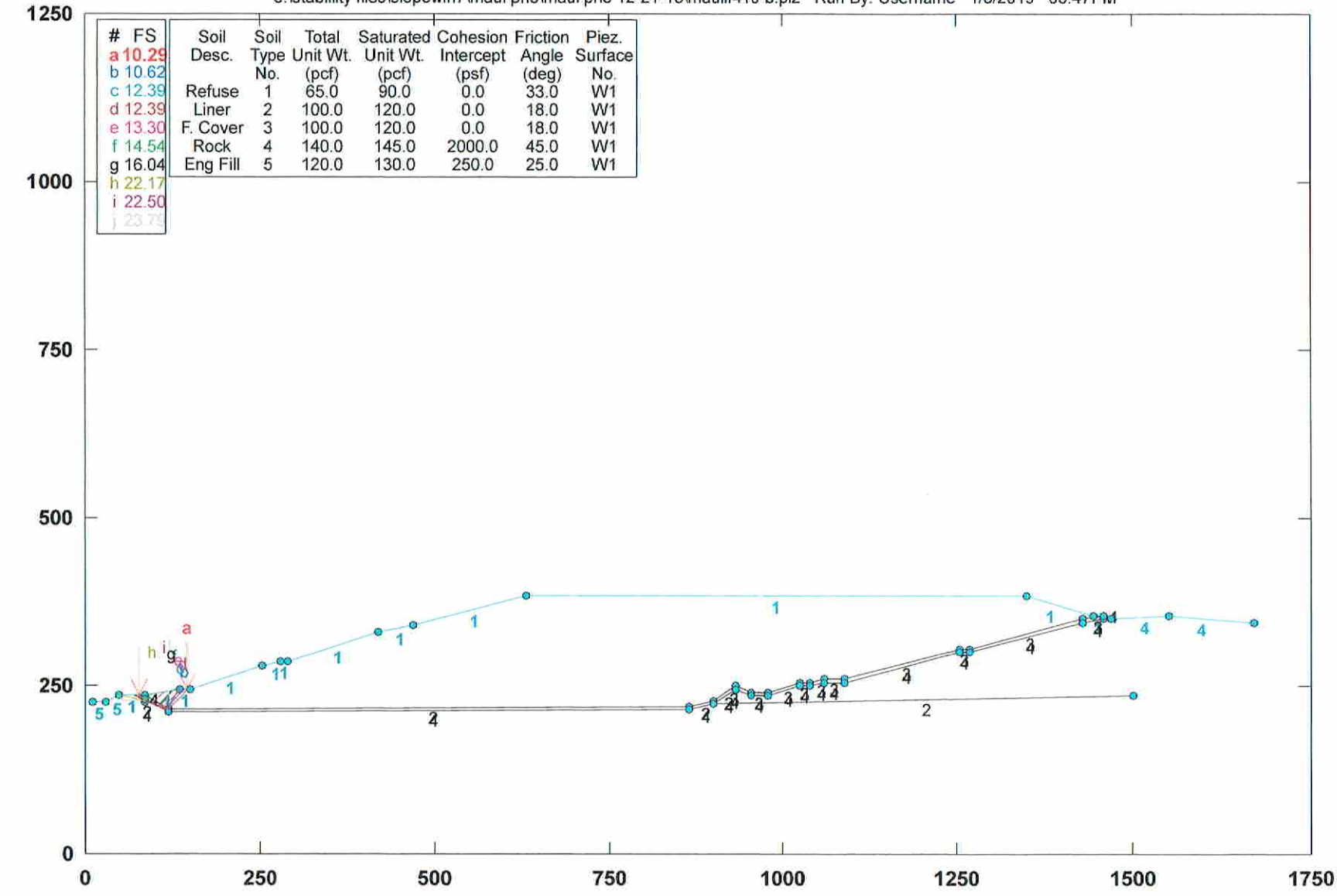
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S4 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf410-b.pl2 Run By: Username 1/8/2019 03:47PM

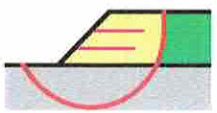


Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=10.29

Safety Factors Are Calculated By The Modified Janbu Method

STED

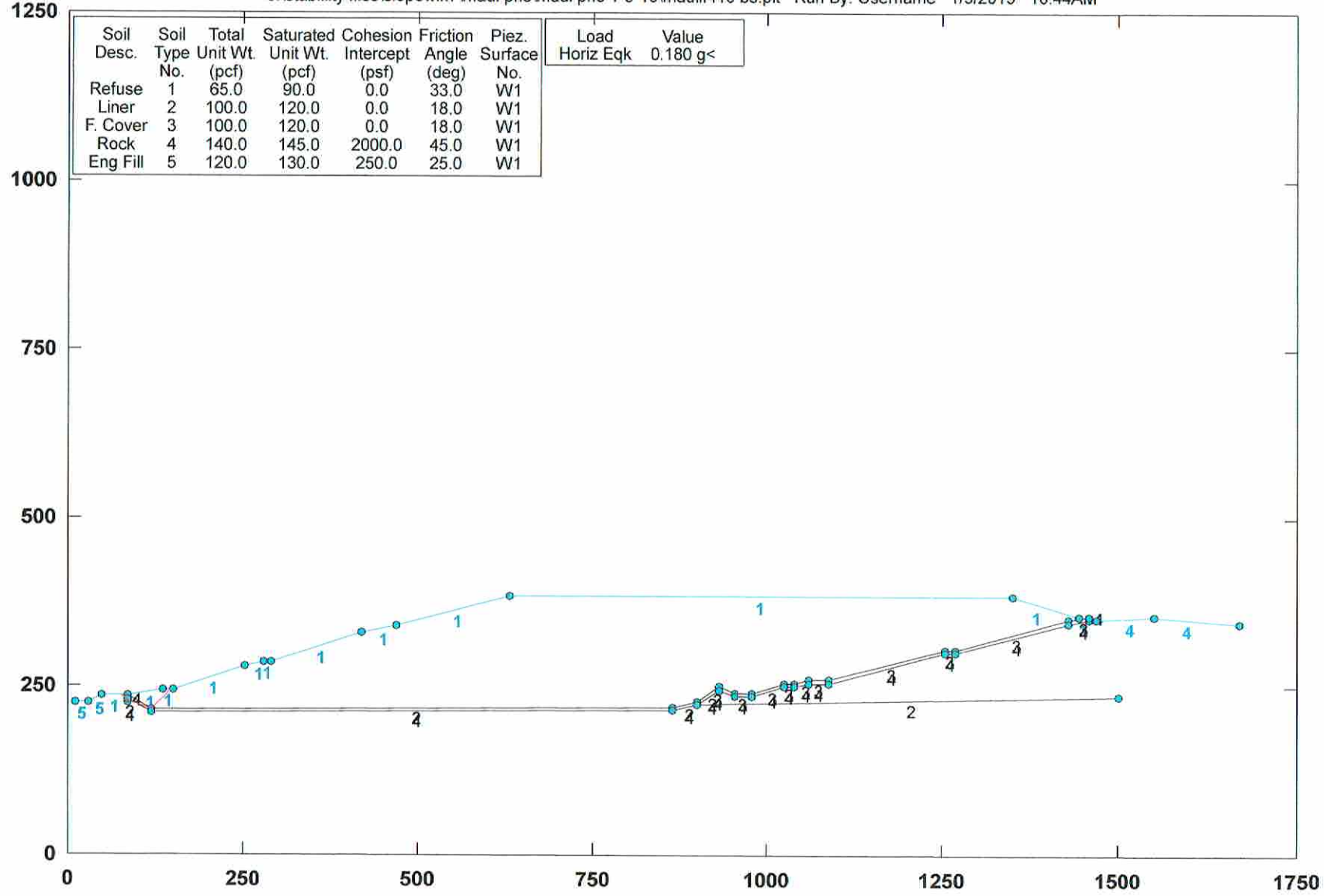


CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf410-bs.plt Run By: Username 1/9/2019 10:44AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=4.37

Factors of Safety Calculated by Janbu Method

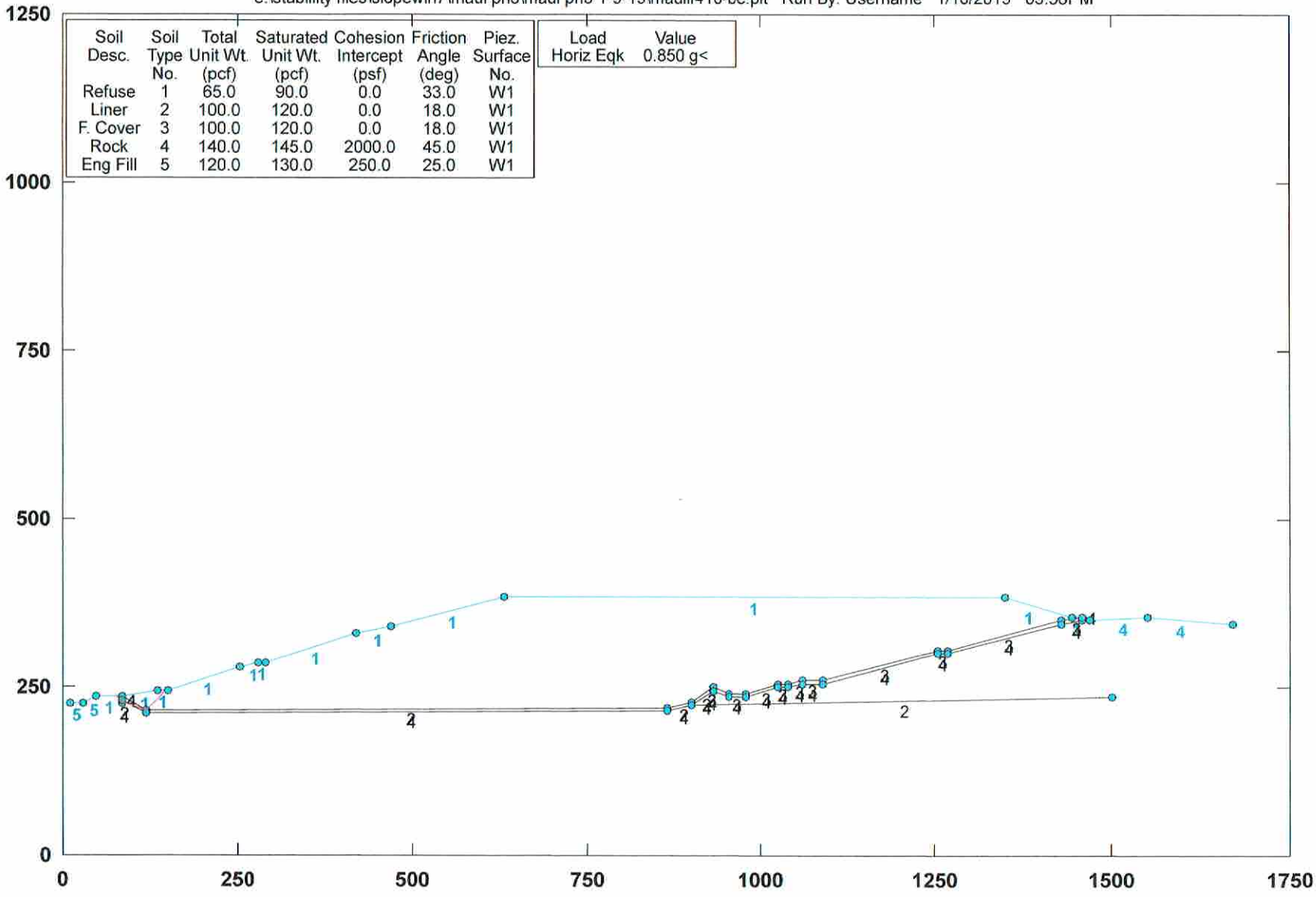
STED

CML - ph III Slope Stab. Section III-S4 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf410-be.plt Run By: Username 1/10/2019 03:56PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

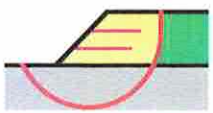
Load	Value
Horiz Eqk	0.850 g<



PCSTABL5M/si FSmin=1.51

Factors of Safety Calculated by Janbu Method

STED



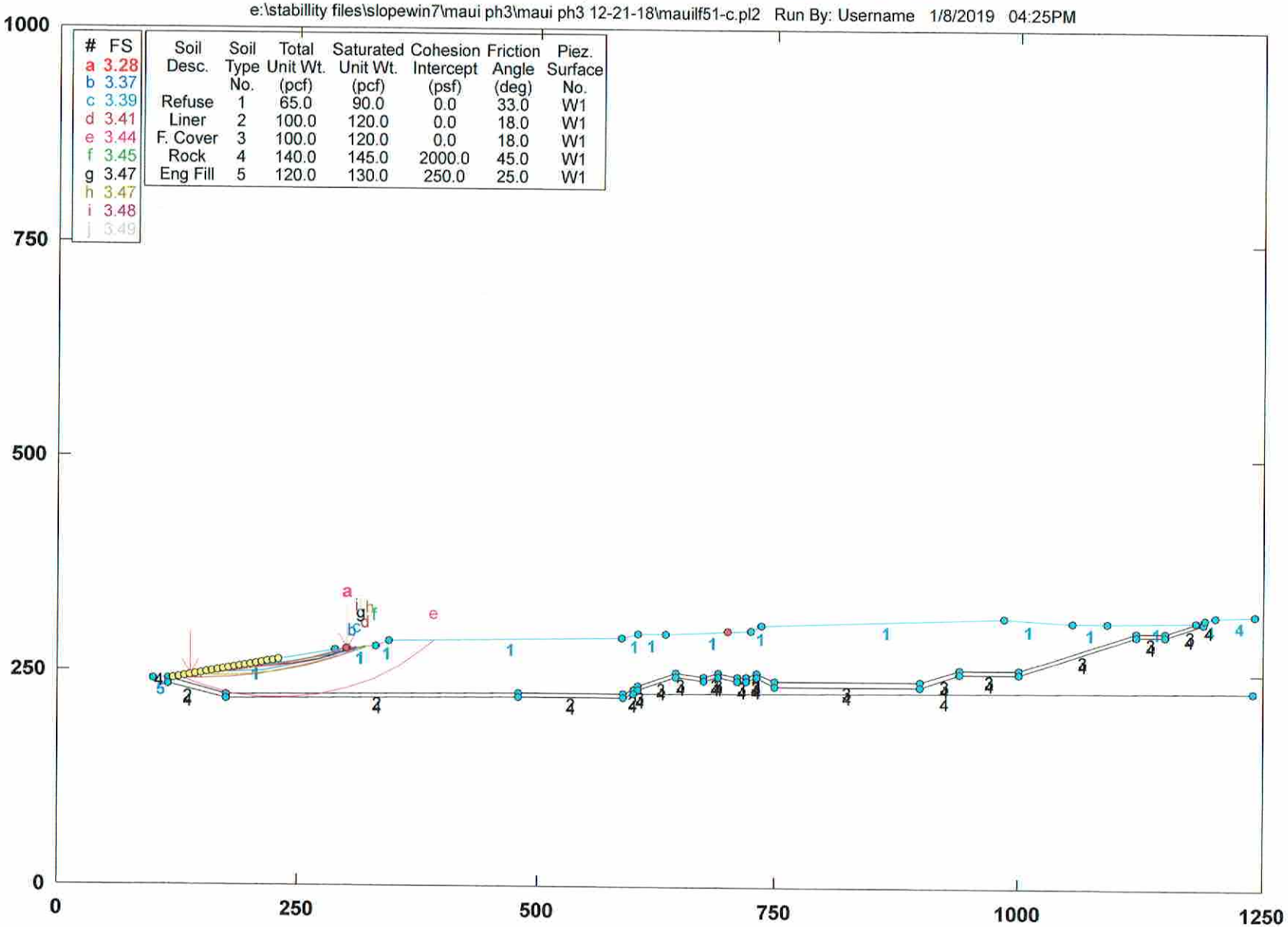
CROSS SECTION
III-S5

CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf51-c.pl2 Run By: Username 1/8/2019 04:25PM

#	FS
a	3.28
b	3.37
c	3.39
d	3.41
e	3.44
f	3.45
g	3.47
h	3.47
i	3.48
j	3.49

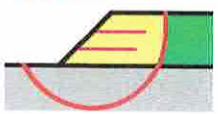
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=3.28

Safety Factors Are Calculated By The Modified Bishop Method

STED

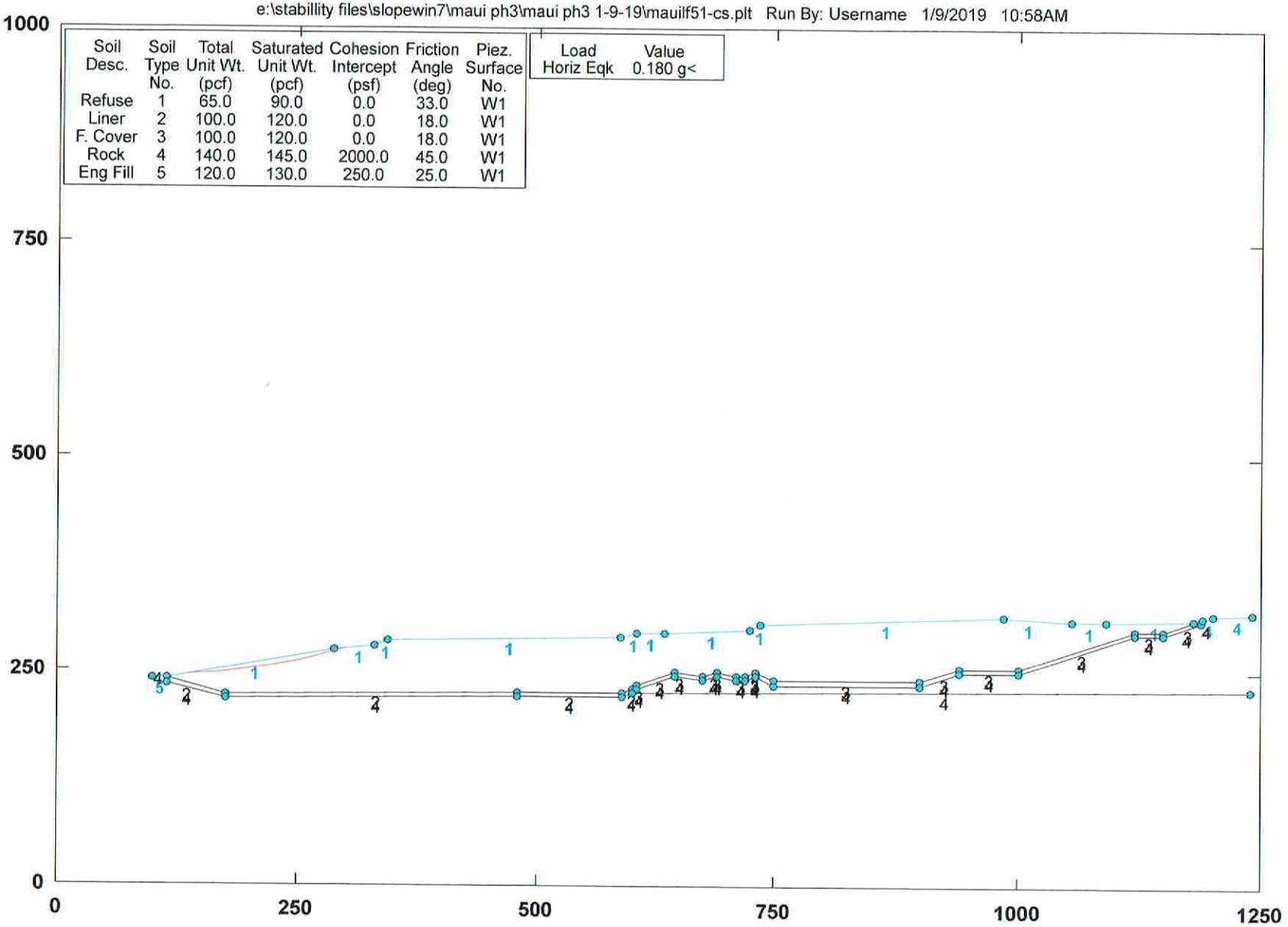


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf51-cs.plt Run By: Username 1/9/2019 10:58AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

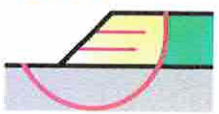
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.66

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

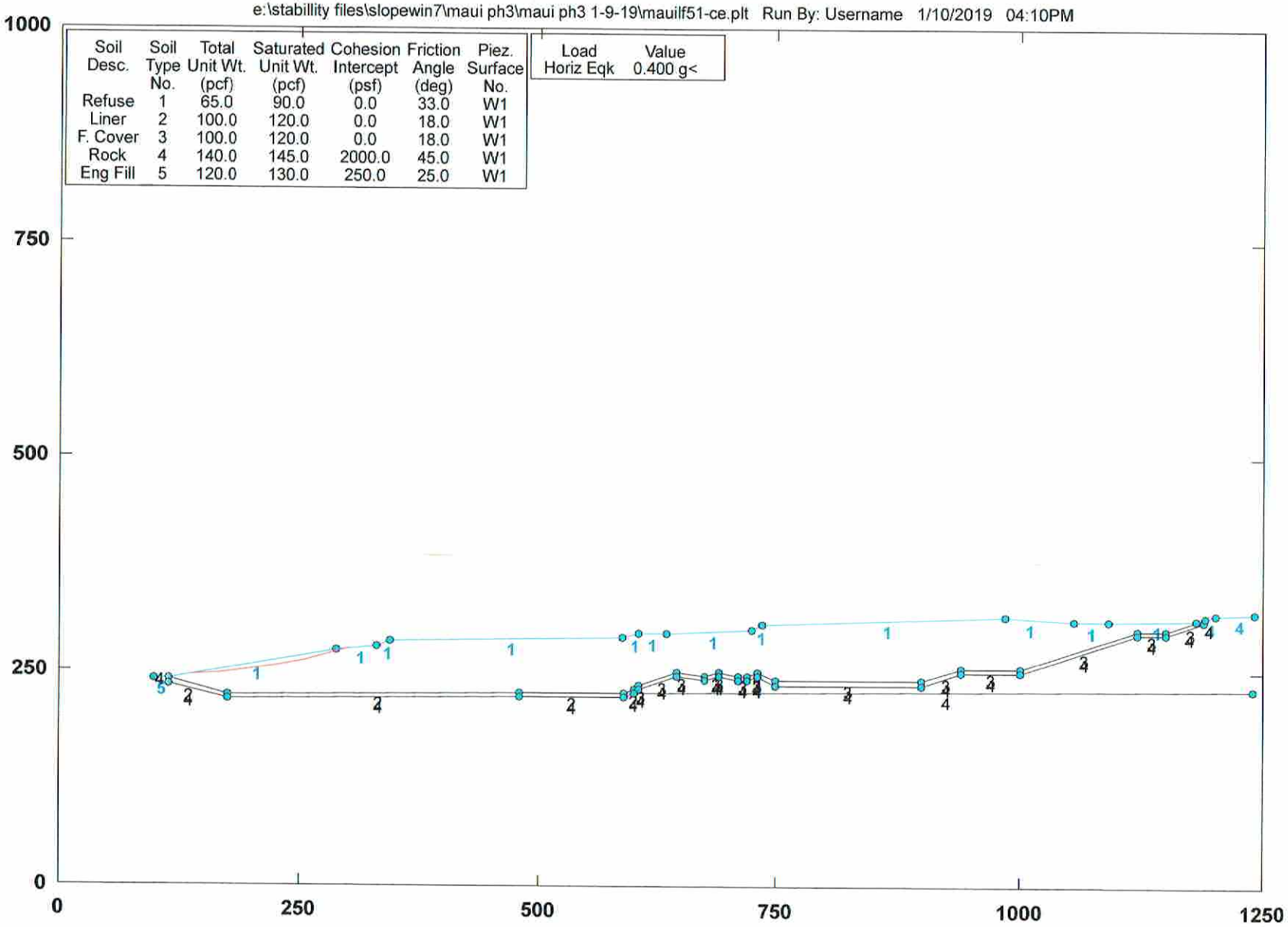


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf51-ce.plt Run By: Username 1/10/2019 04:10PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

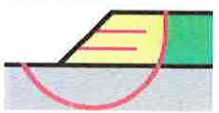
Load	Value
Horiz Eqk	0.400 g<



PCSTABL5M/si FSmin=1.01

Factor Of Safety Is Calculated By The Modified Bishop Method

STED

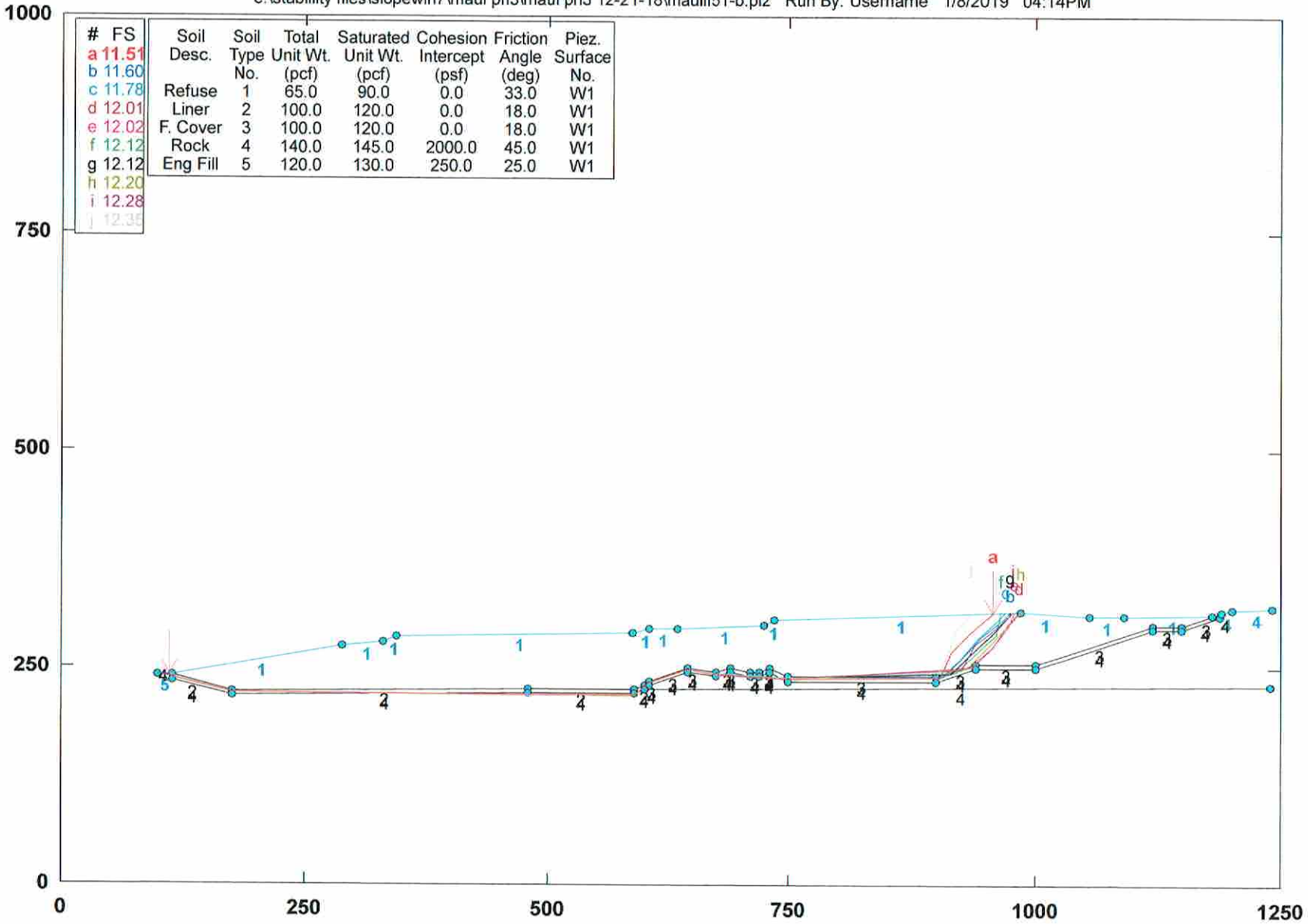


CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf51-b.pl2 Run By: Username 1/8/2019 04:14PM

#	FS
a	11.51
b	11.60
c	11.78
d	12.01
e	12.02
f	12.12
g	12.12
h	12.20
i	12.28
j	12.35

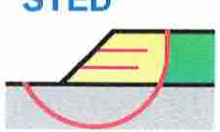
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=11.51

Safety Factors Are Calculated By The Modified Janbu Method

STED

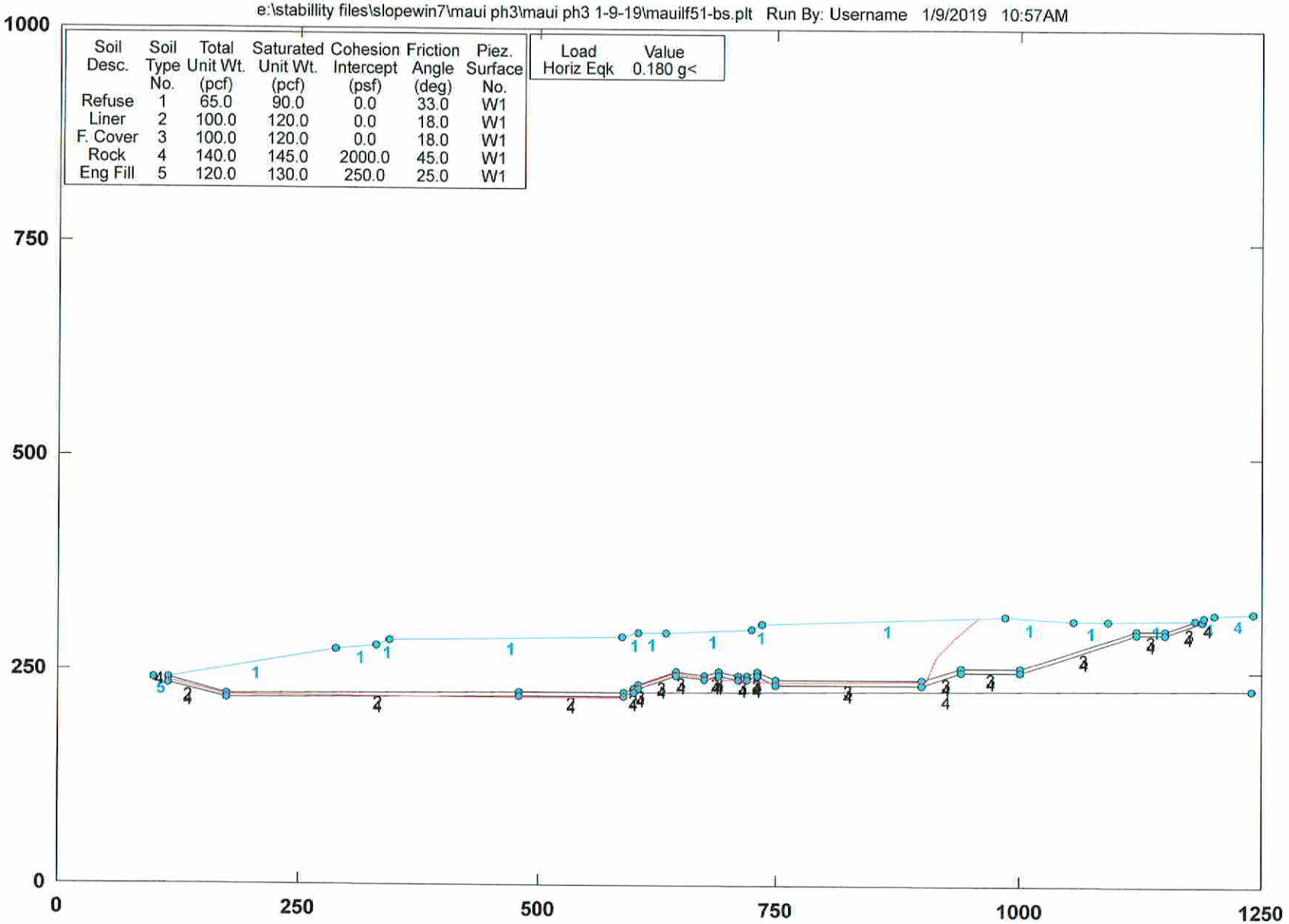


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf51-bs.plt Run By: Username 1/9/2019 10:57AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

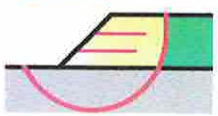
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.23

Factors of Safety Calculated by Janbu Method

STED

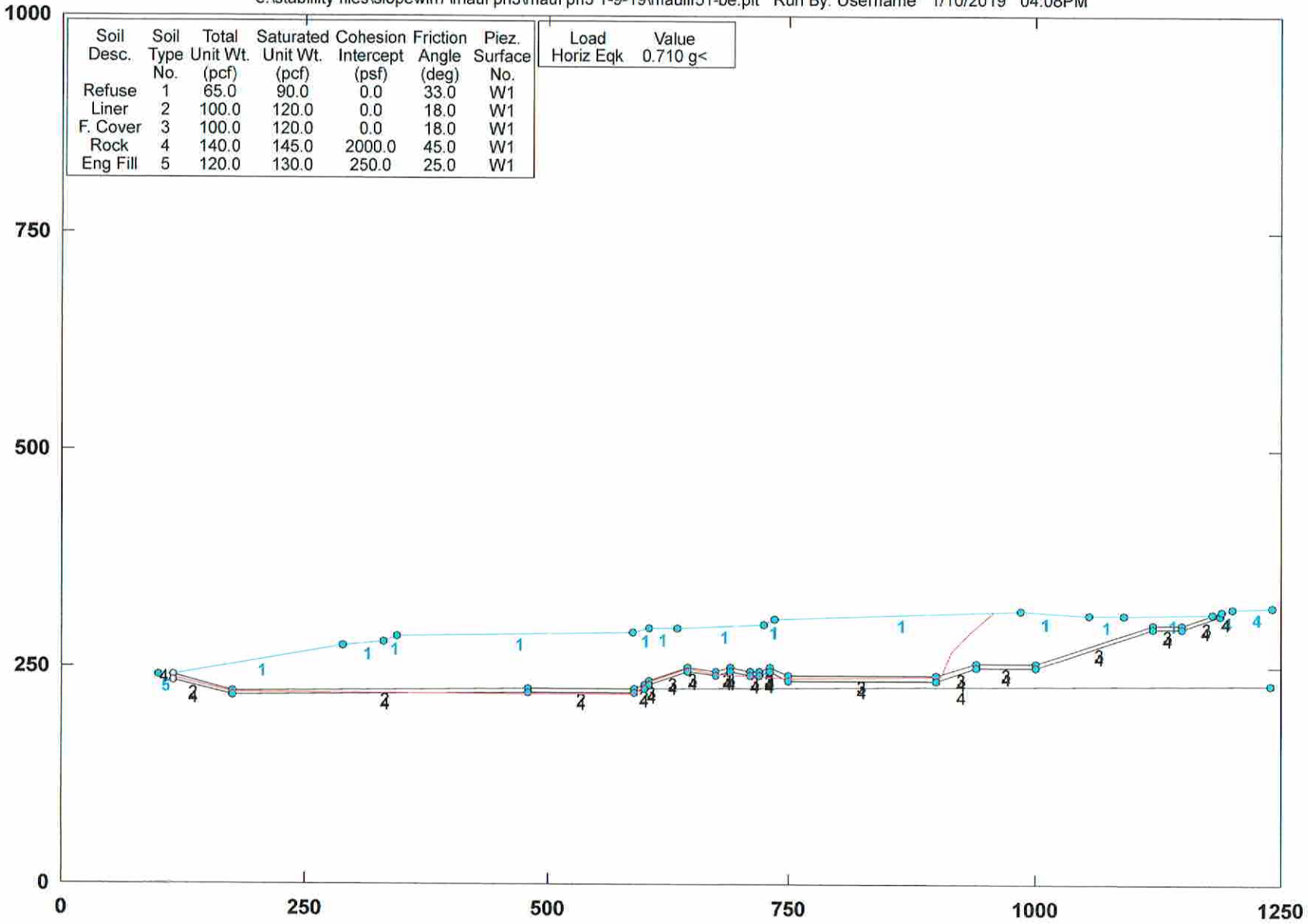


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf51-be.plt Run By: Username 1/10/2019 04:08PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

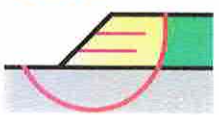
Load	Value
Horiz Eqk	0.710 g<



PCSTABL5M/si FSmin=1.01

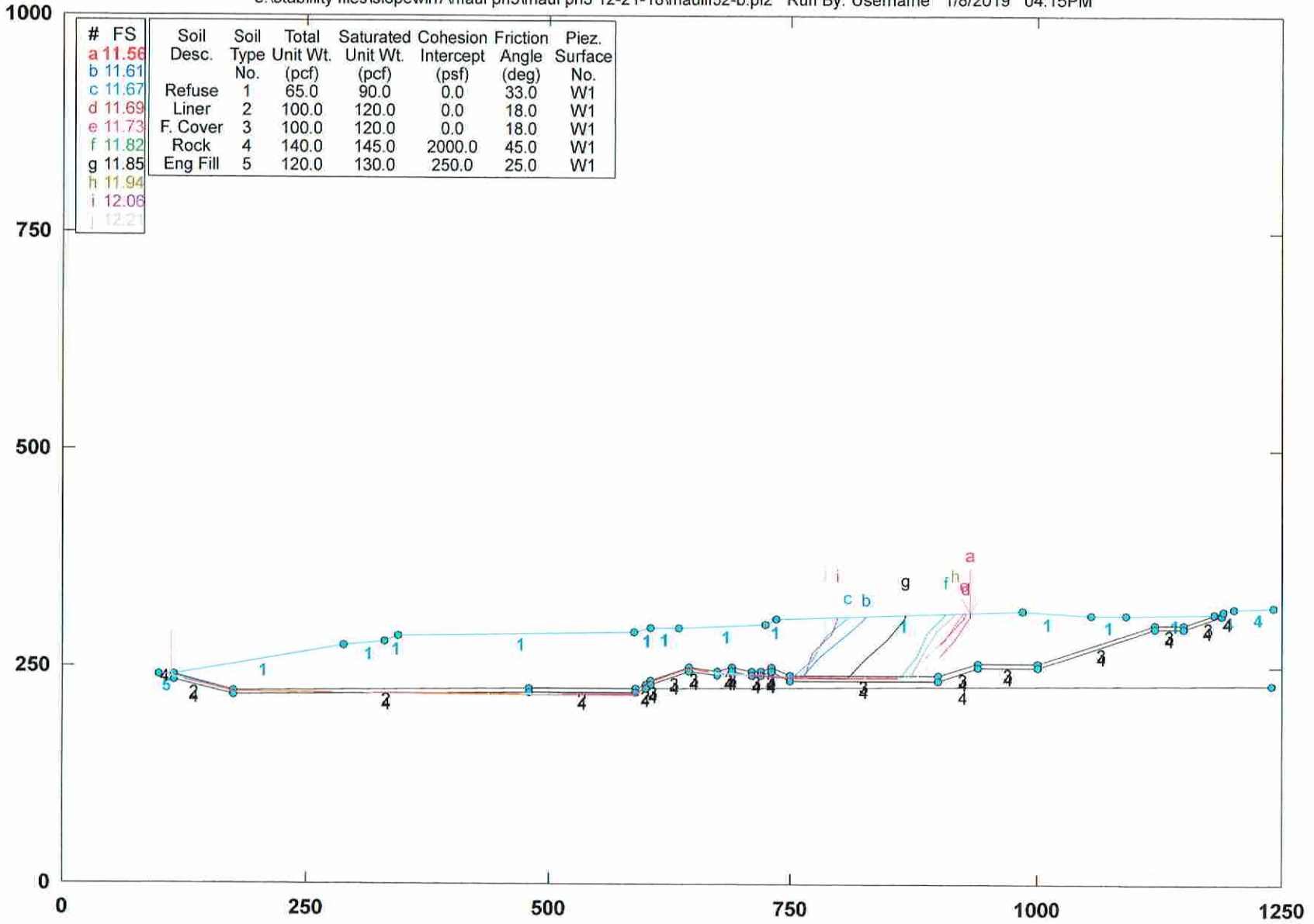
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf52-b.pl2 Run By: Username 1/8/2019 04:15PM



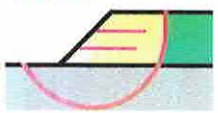
#	FS
a	11.56
b	11.61
c	11.67
d	11.69
e	11.73
f	11.82
g	11.85
h	11.94
i	12.06
j	12.21

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=11.56

Safety Factors Are Calculated By The Modified Janbu Method

STED

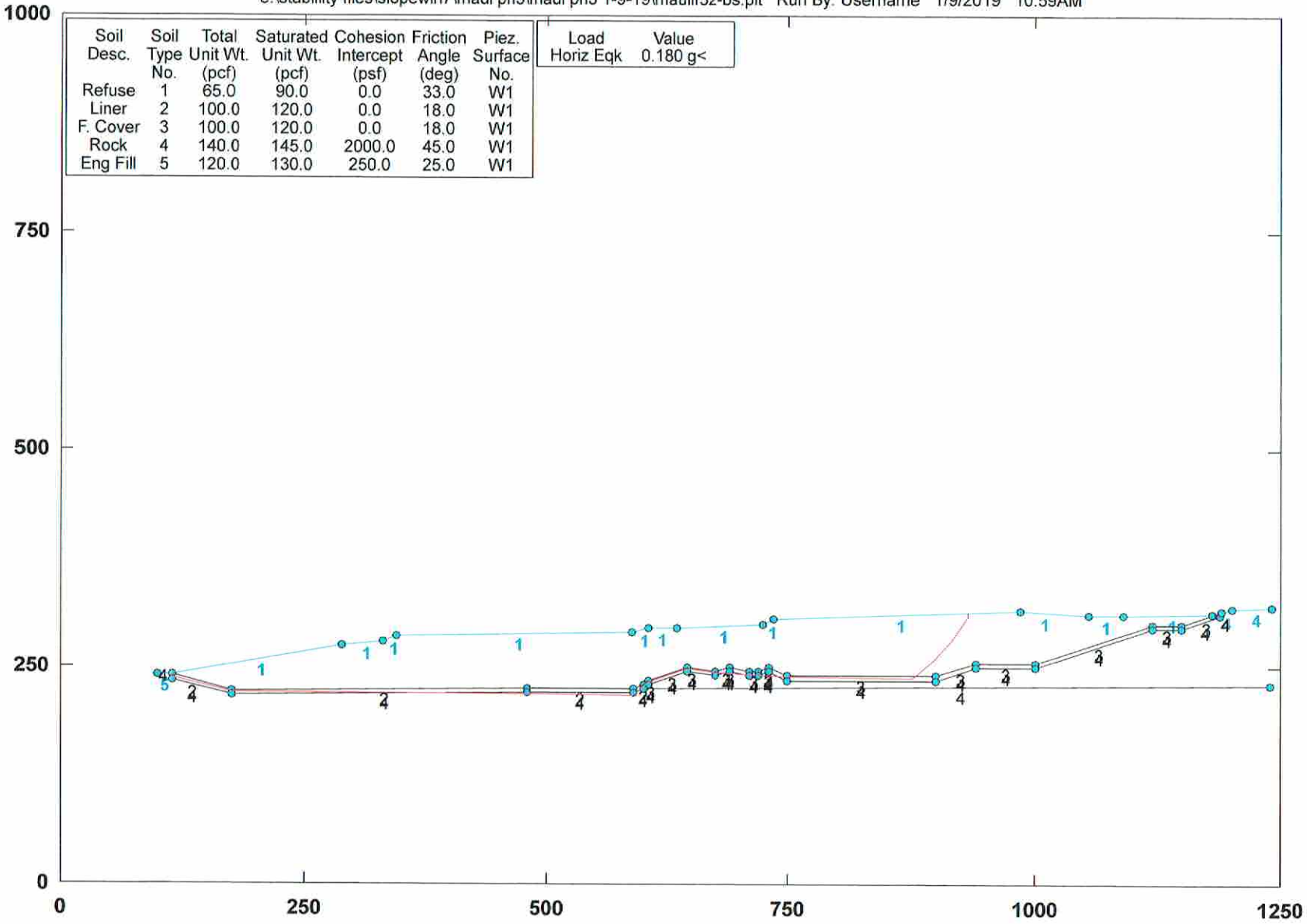


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf52-bs.plt Run By: Username 1/9/2019 10:59AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

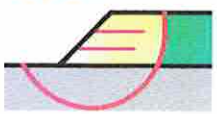
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.31

Factors of Safety Calculated by Janbu Method

STED

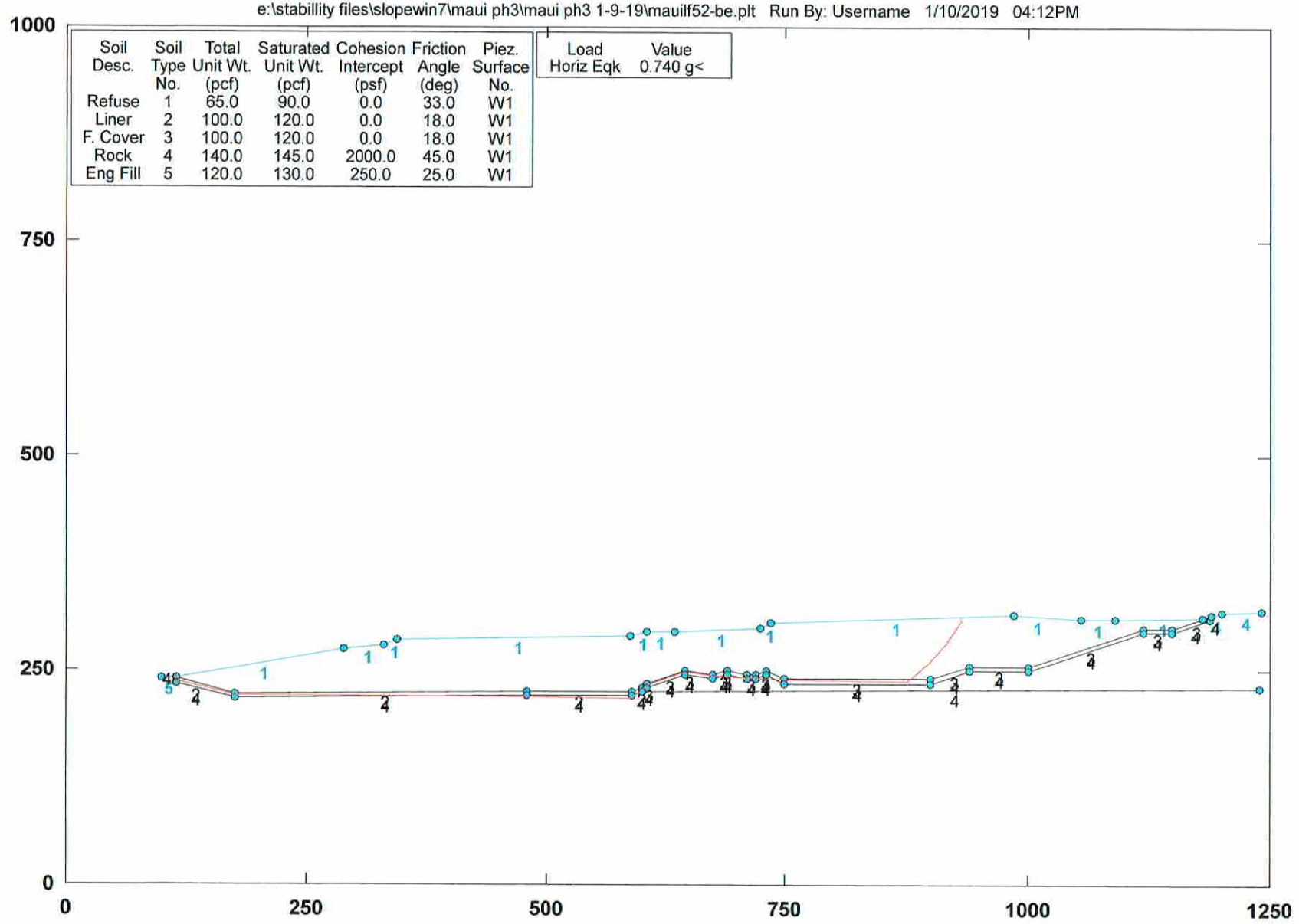


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf52-be.plt Run By: Username 1/10/2019 04:12PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

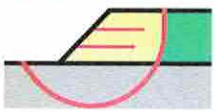
Load	Value
Horiz Eqk	0.740 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

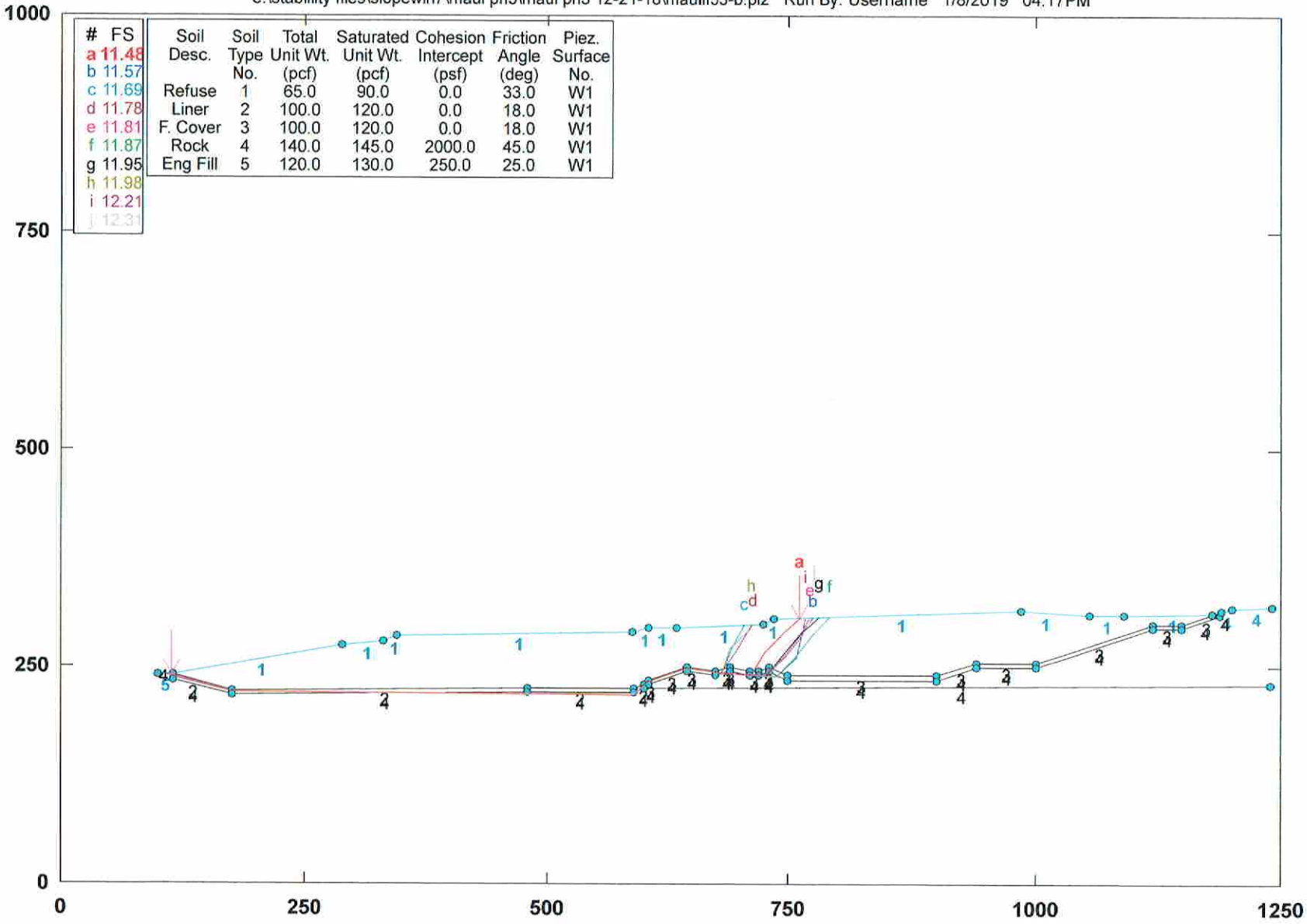


CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf53-b.pl2 Run By: Username 1/8/2019 04:17PM

#	FS
a	11.48
b	11.57
c	11.69
d	11.78
e	11.81
f	11.87
g	11.95
h	11.98
i	12.21
j	12.31

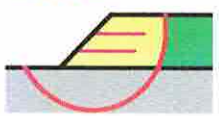
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=11.48

Safety Factors Are Calculated By The Modified Janbu Method

STED

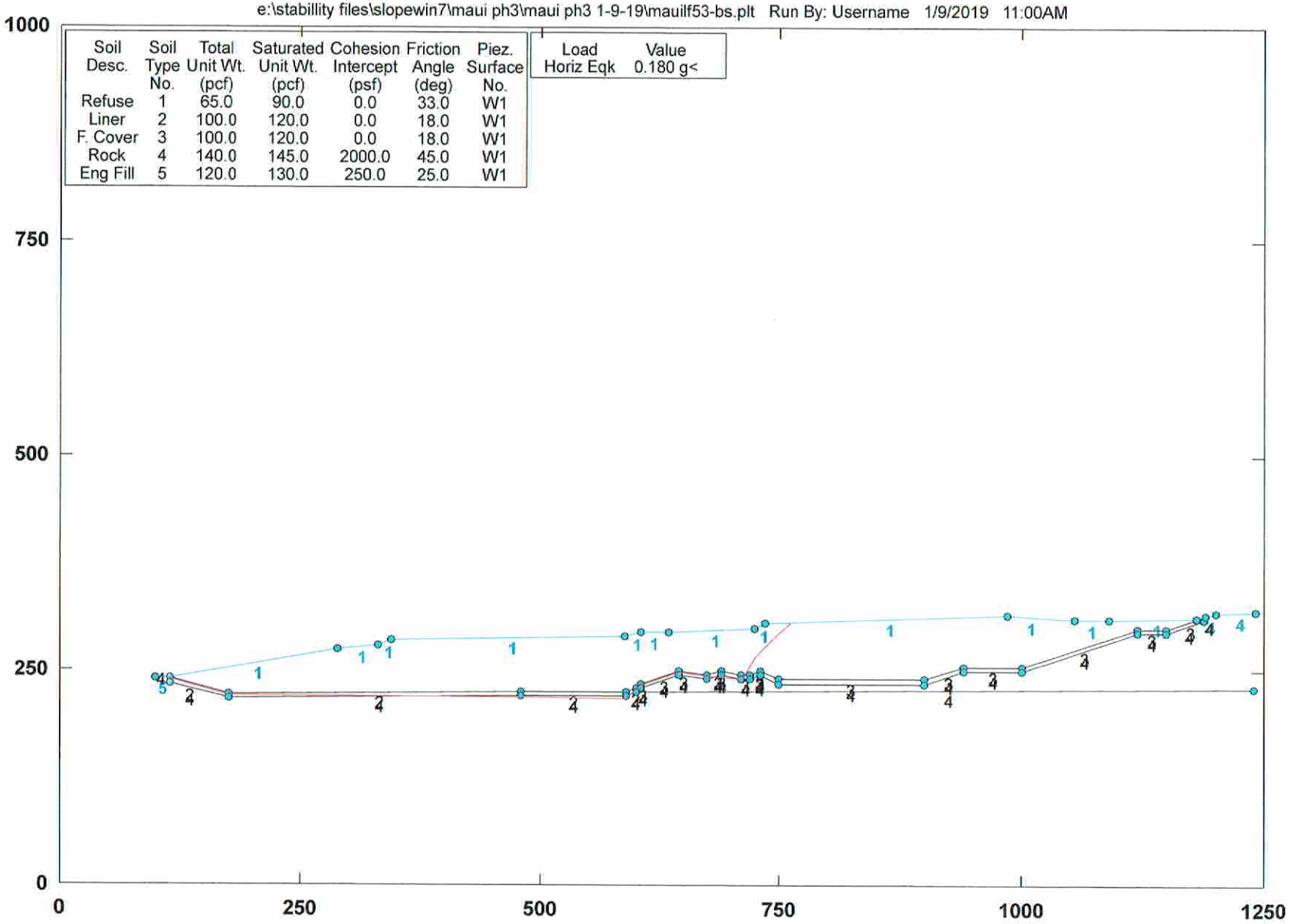


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf53-bs.plt Run By: Username 1/9/2019 11:00AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

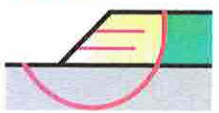
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.54

Factors of Safety Calculated by Janbu Method

STED

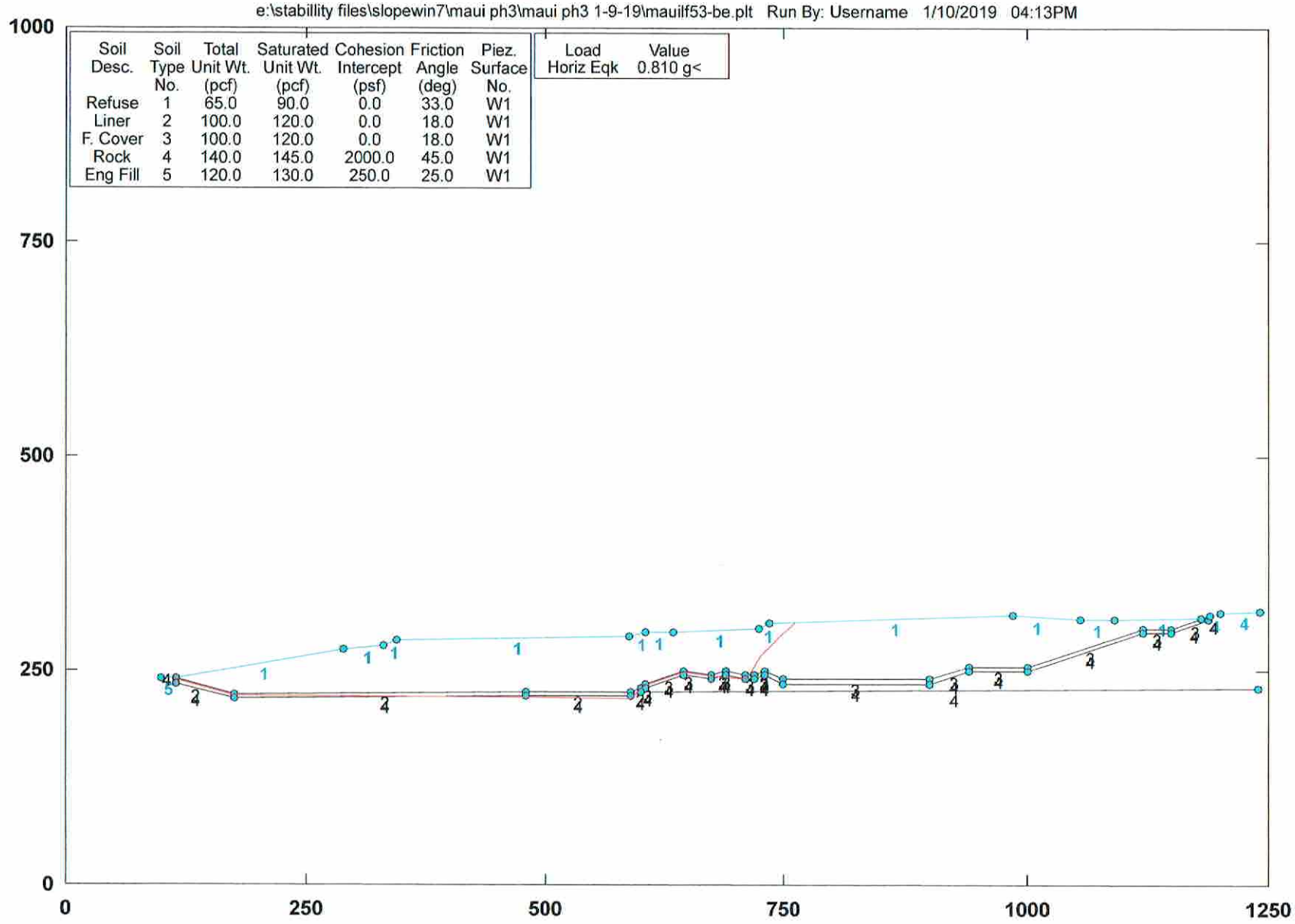


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf53-be.plt Run By: Username 1/10/2019 04:13PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

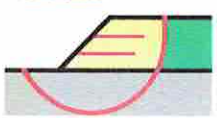
Load	Value
Horiz Eqk	0.810 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

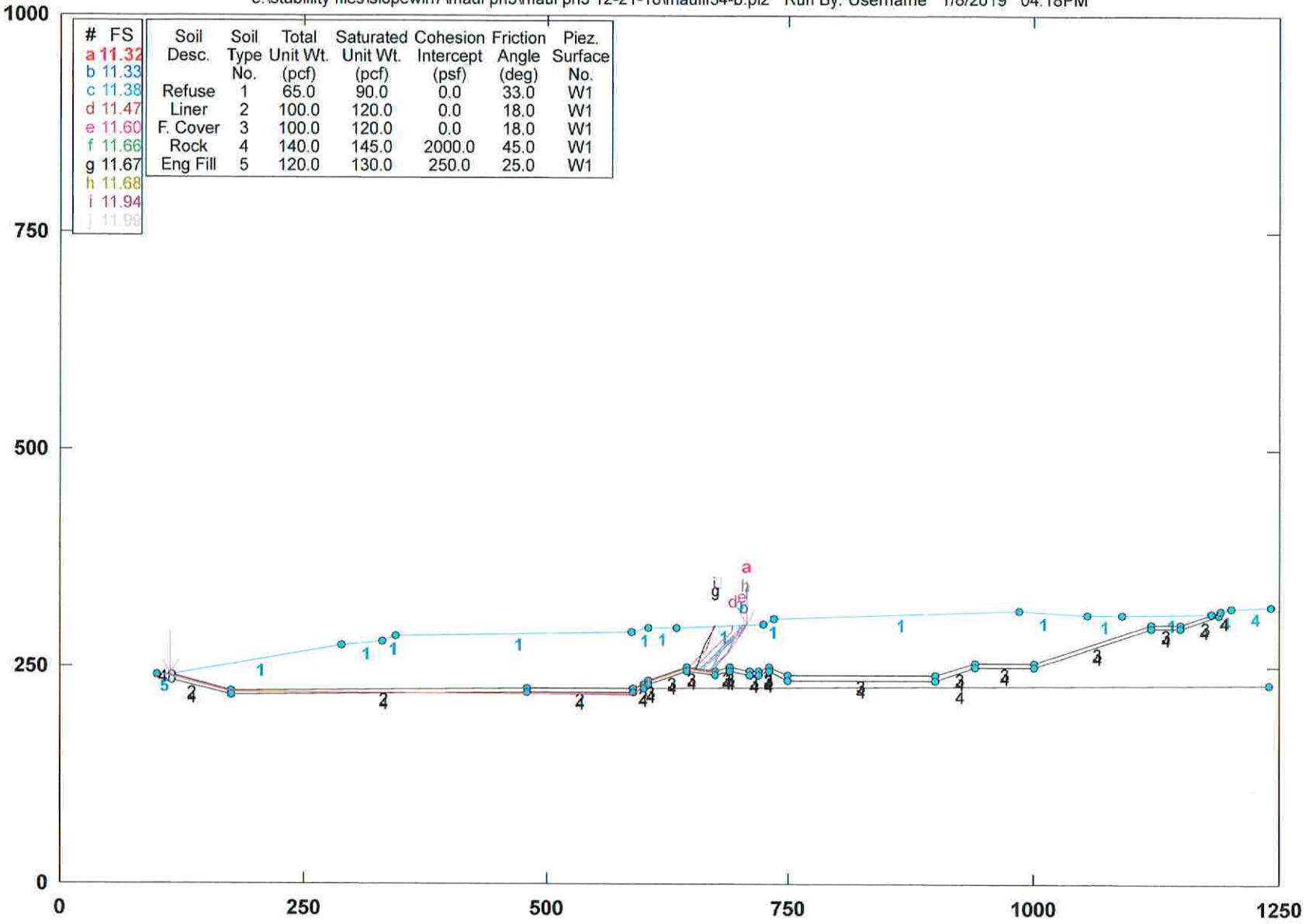


CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf54-b.pl2 Run By: Username 1/8/2019 04:18PM

#	FS
a	11.32
b	11.33
c	11.38
d	11.47
e	11.60
f	11.66
g	11.67
h	11.68
i	11.94
j	11.99

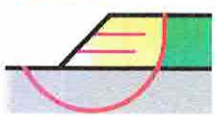
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=11.32

Safety Factors Are Calculated By The Modified Janbu Method

STED

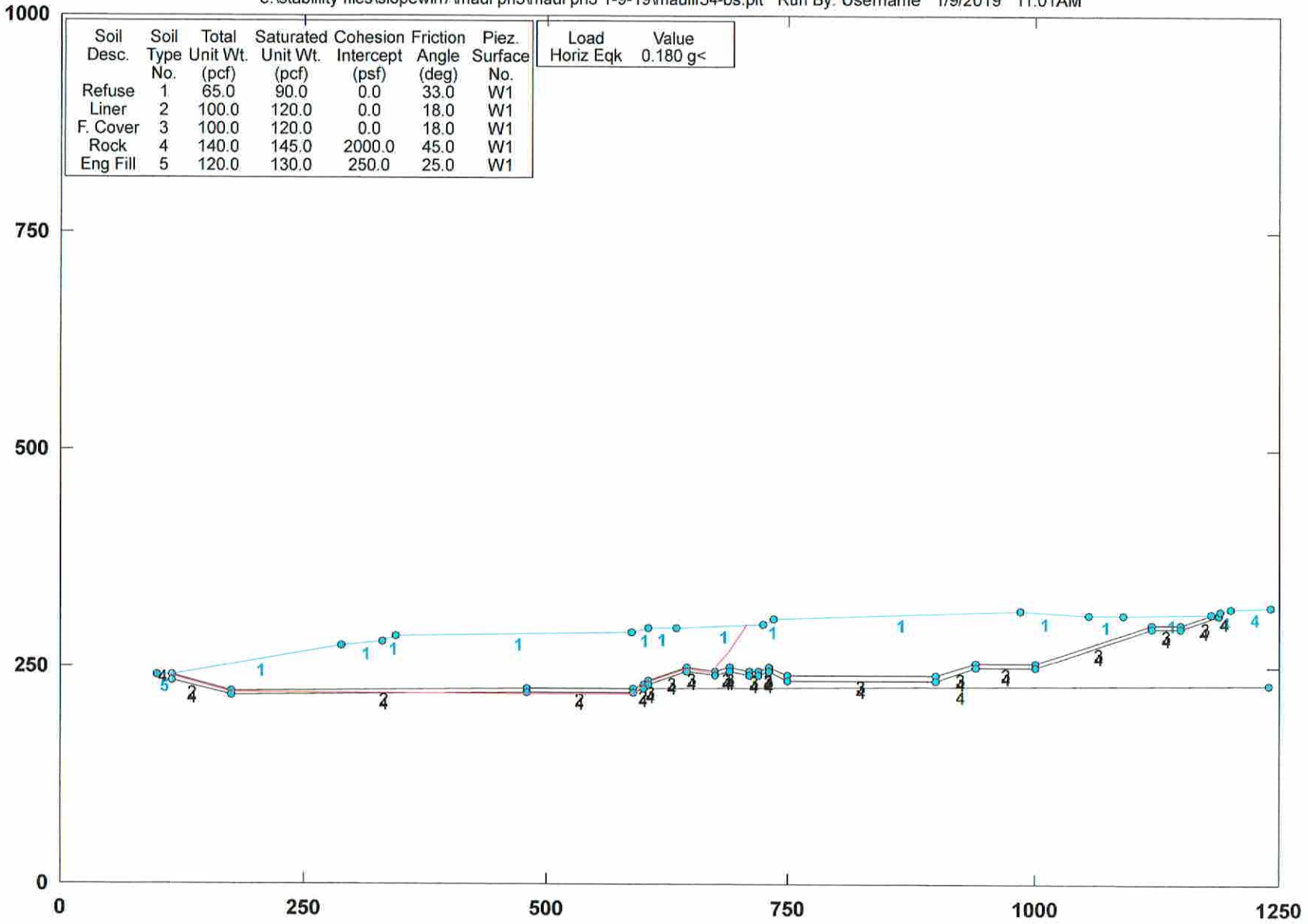


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf54-bs.plt Run By: Username 1/9/2019 11:01AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

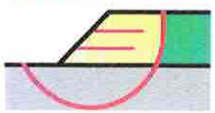
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.45

Factors of Safety Calculated by Janbu Method

STED

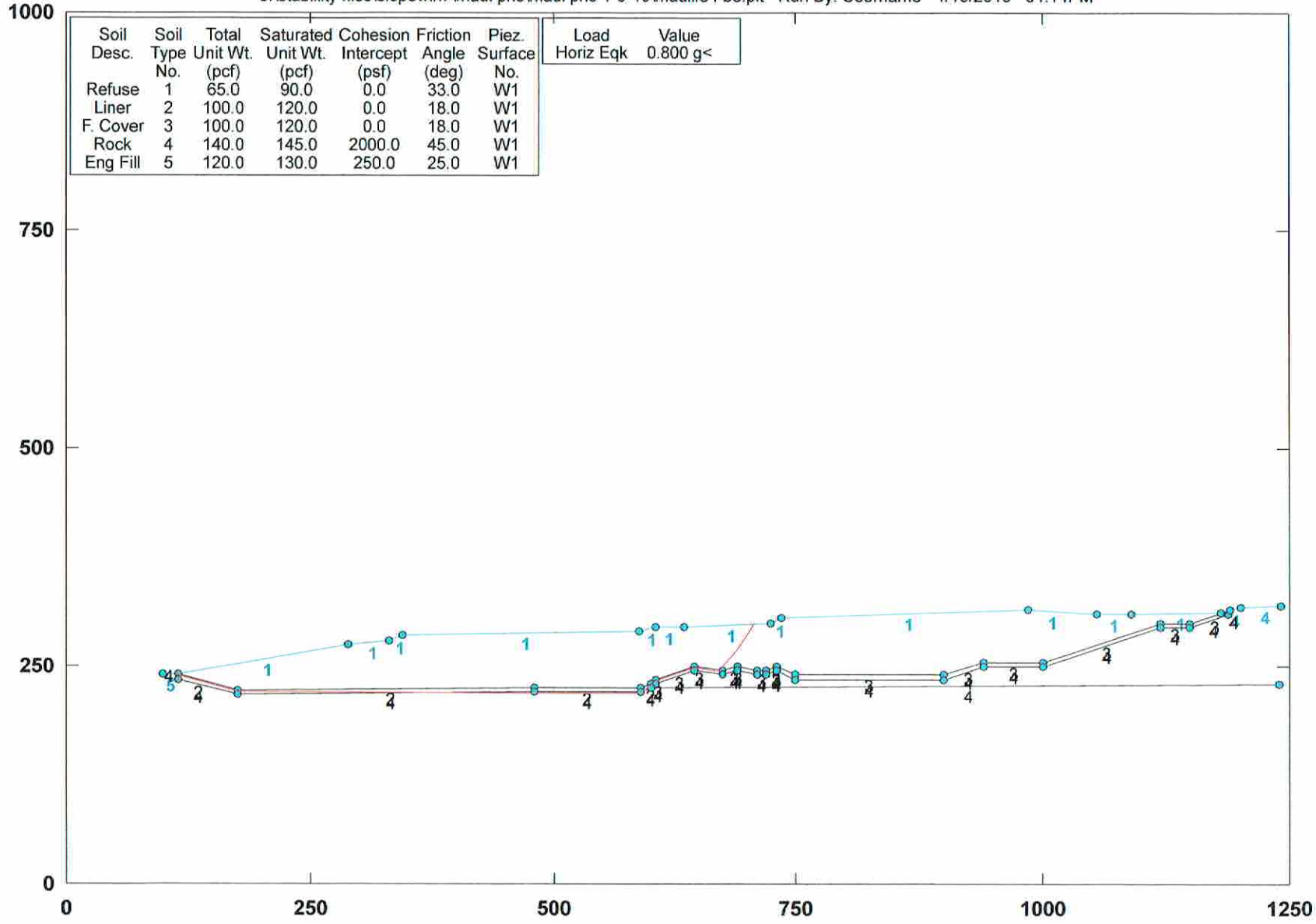


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf54-be.plt Run By: Username 1/10/2019 04:14PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

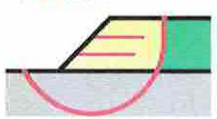
Load	Value
Horiz Eqk	0.800 g<



PCSTABL5M/si FSmin=1.00

Factors of Safety Calculated by Janbu Method

STED

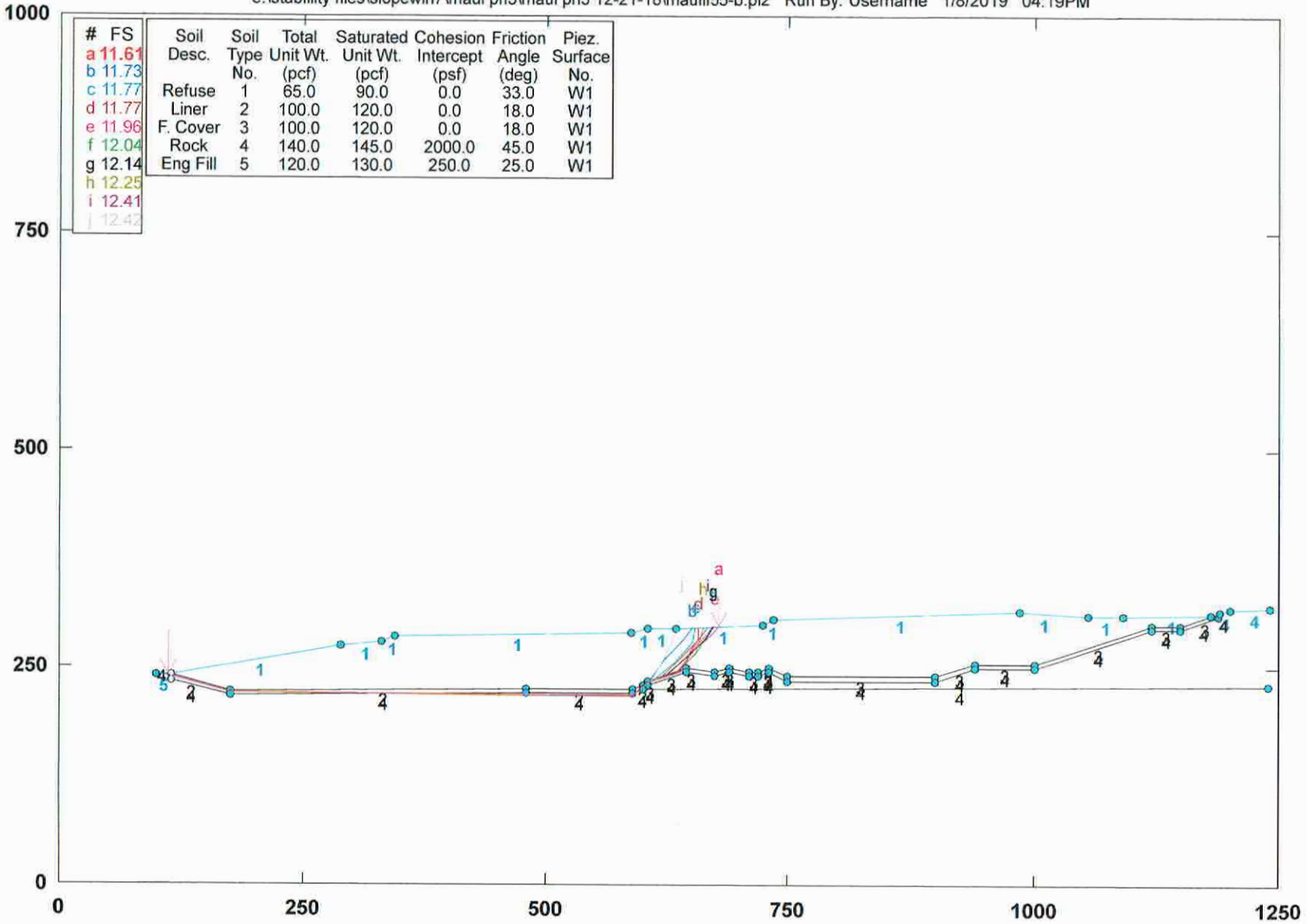


CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf55-b.pl2 Run By: Username 1/8/2019 04:19PM

#	FS
a	11.61
b	11.73
c	11.77
d	11.77
e	11.96
f	12.04
g	12.14
h	12.25
i	12.41
j	12.42

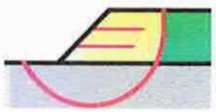
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=11.61

Safety Factors Are Calculated By The Modified Janbu Method

STED

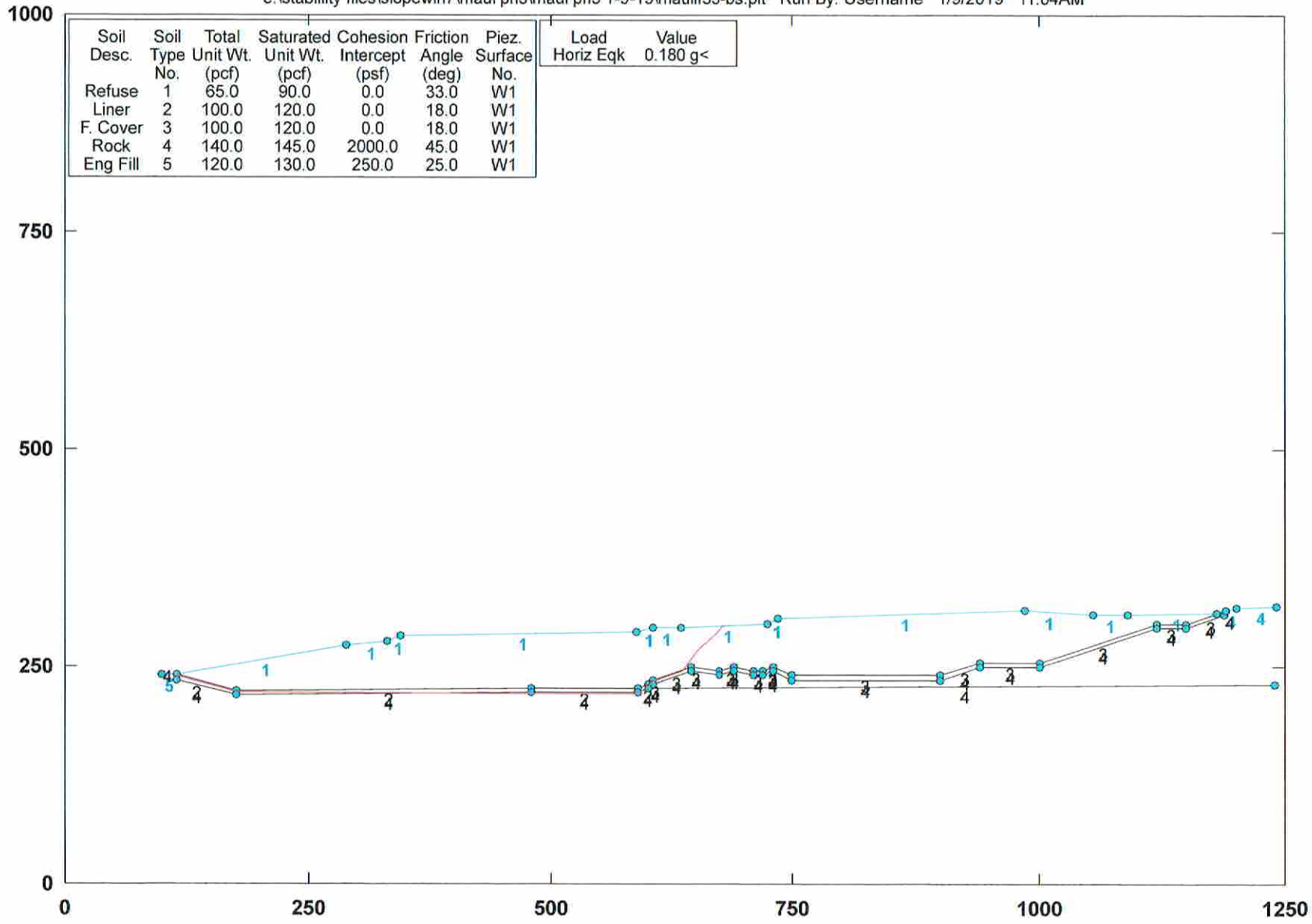


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf55-bs.plt Run By: Username 1/9/2019 11:04AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

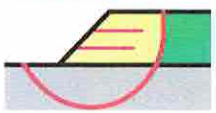
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.60

Factors of Safety Calculated by Janbu Method

STED

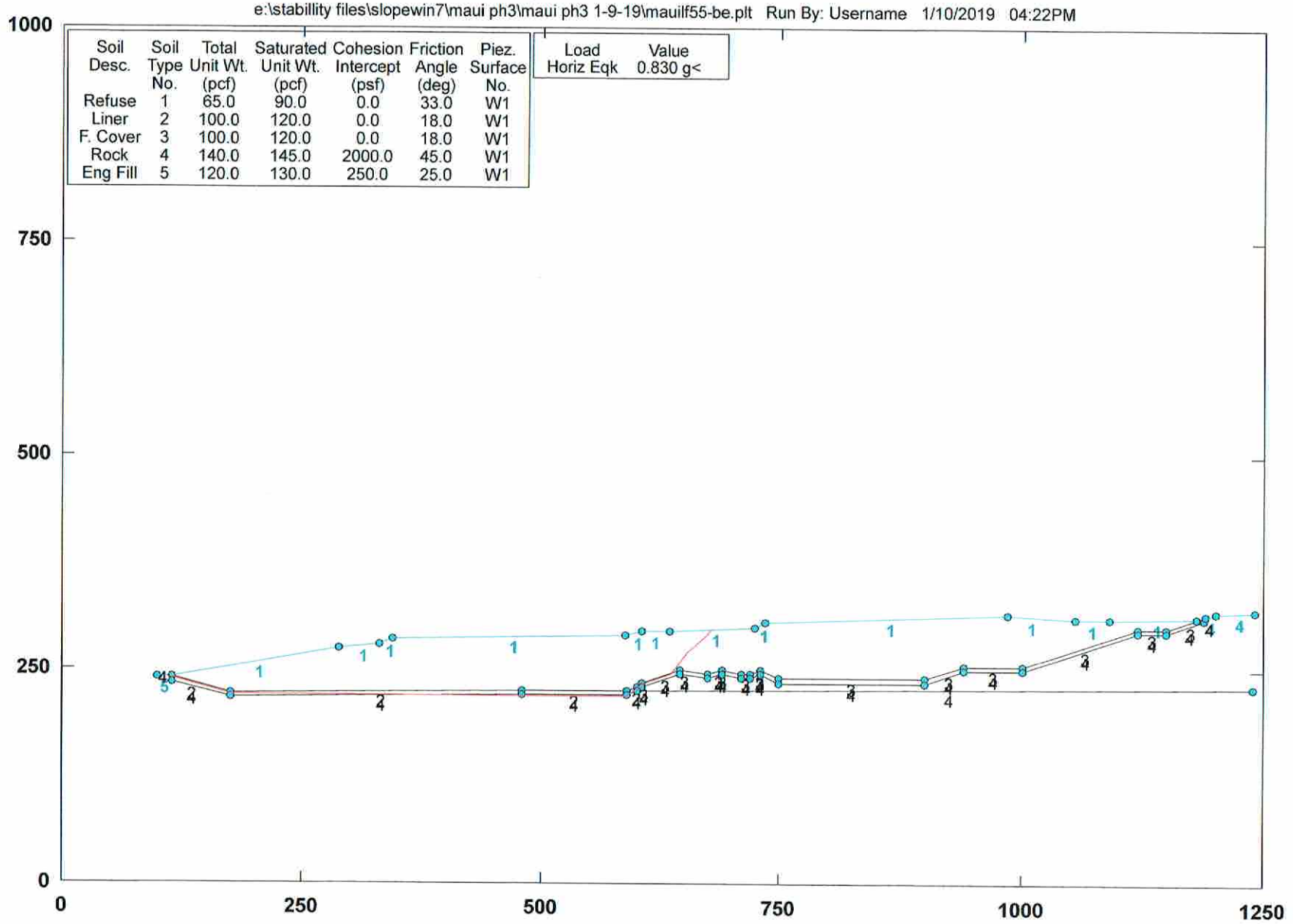


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf55-be.plt Run By: Username 1/10/2019 04:22PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

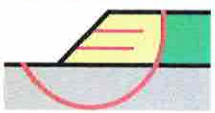
Load	Value
Horiz Eqk	0.830 g<



PCSTABL5M/si FSmin=1.01

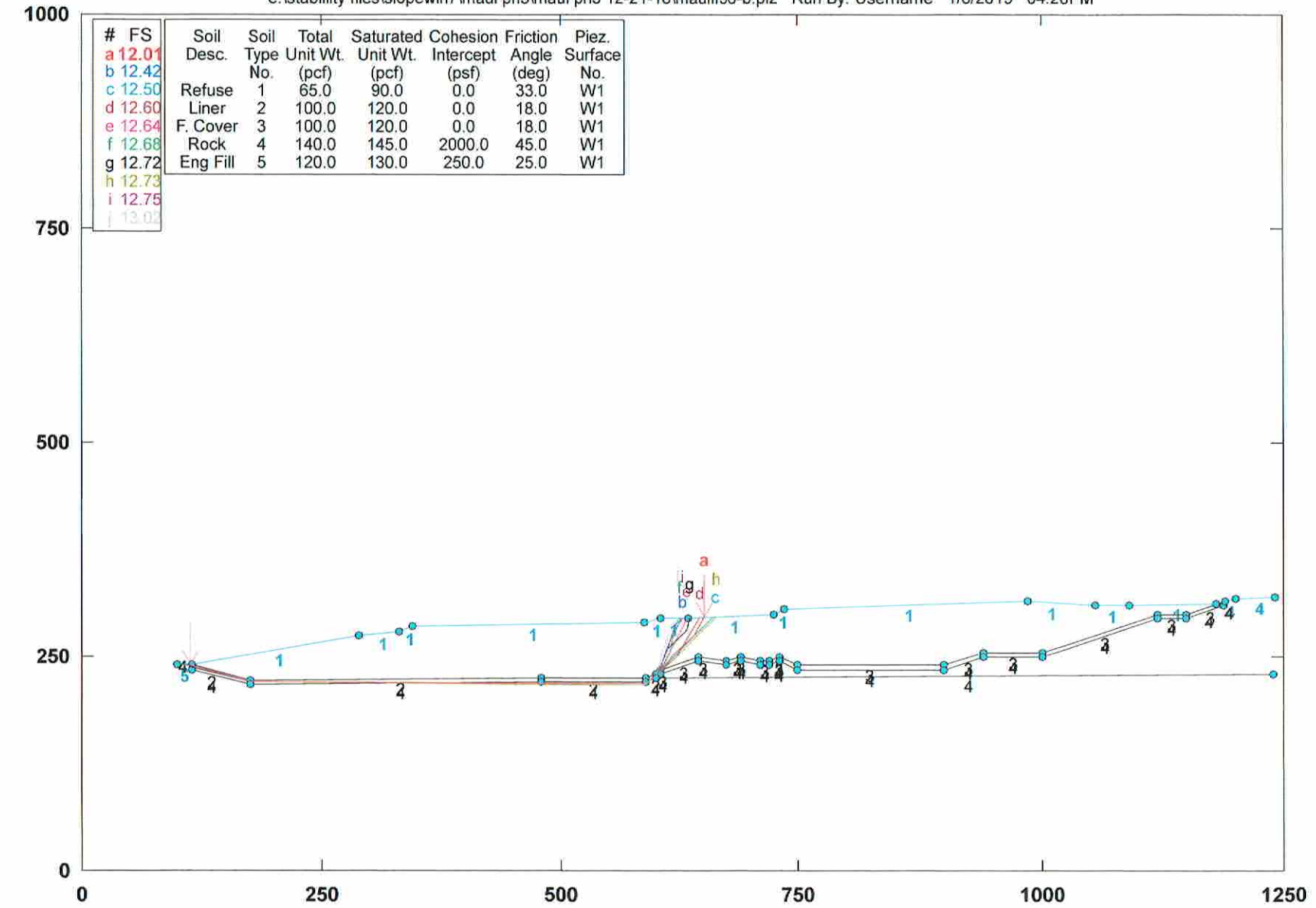
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf56-b.pl2 Run By: Username 1/8/2019 04:20PM



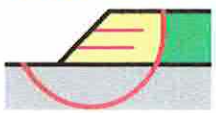
#	FS
a	12.01
b	12.42
c	12.50
d	12.60
e	12.64
f	12.68
g	12.72
h	12.73
i	12.75
j	13.03

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=12.01

Safety Factors Are Calculated By The Modified Janbu Method

STED

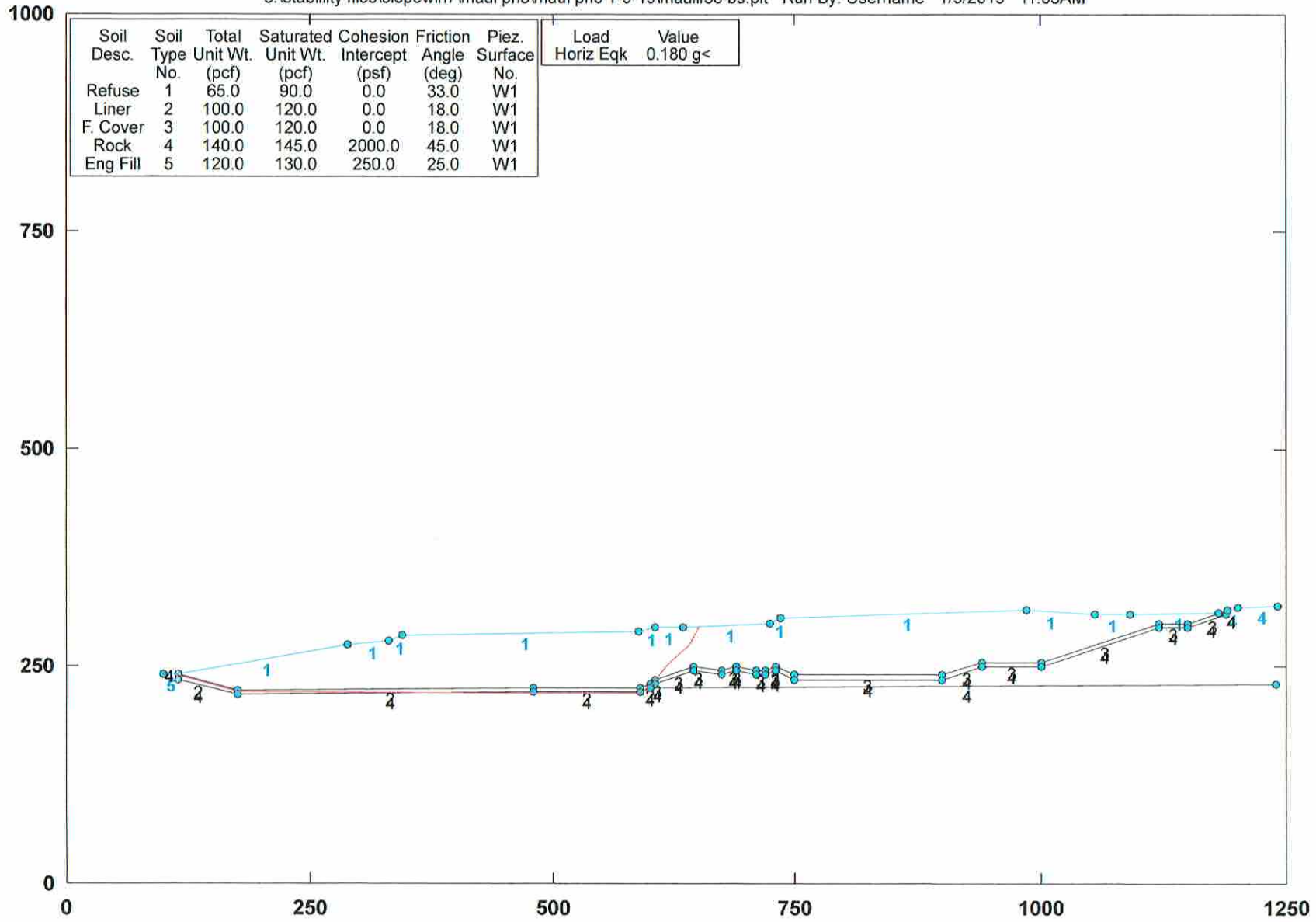


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf56-bs.plt Run By: Username 1/9/2019 11:05AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

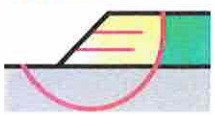
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.75

Factors of Safety Calculated by Janbu Method

STED

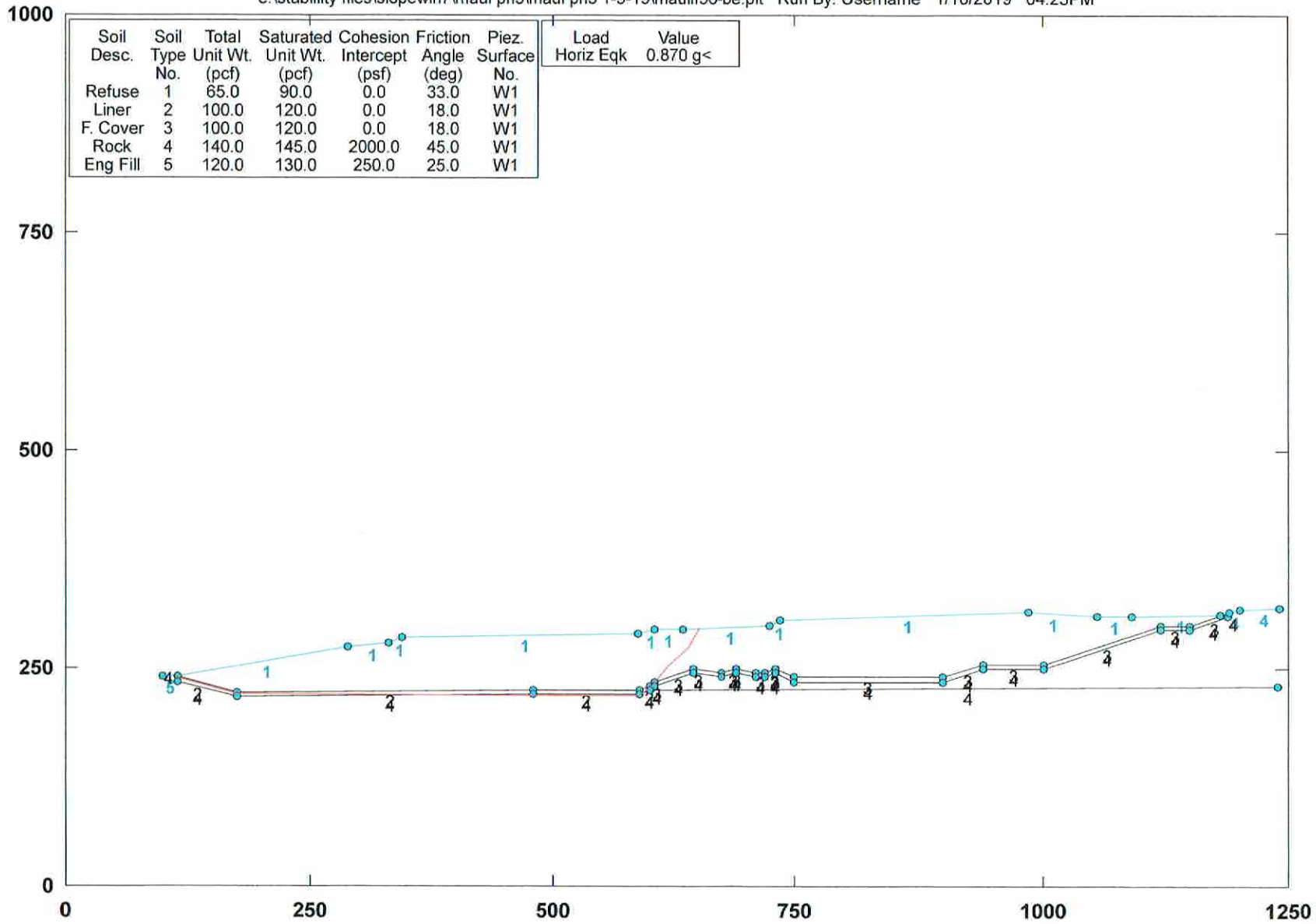


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf56-be.plt Run By: Username 1/10/2019 04:23PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

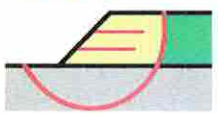
Load	Value
Horiz Eqk	0.870 g<



PCSTABL5M/si FSmin=1.01

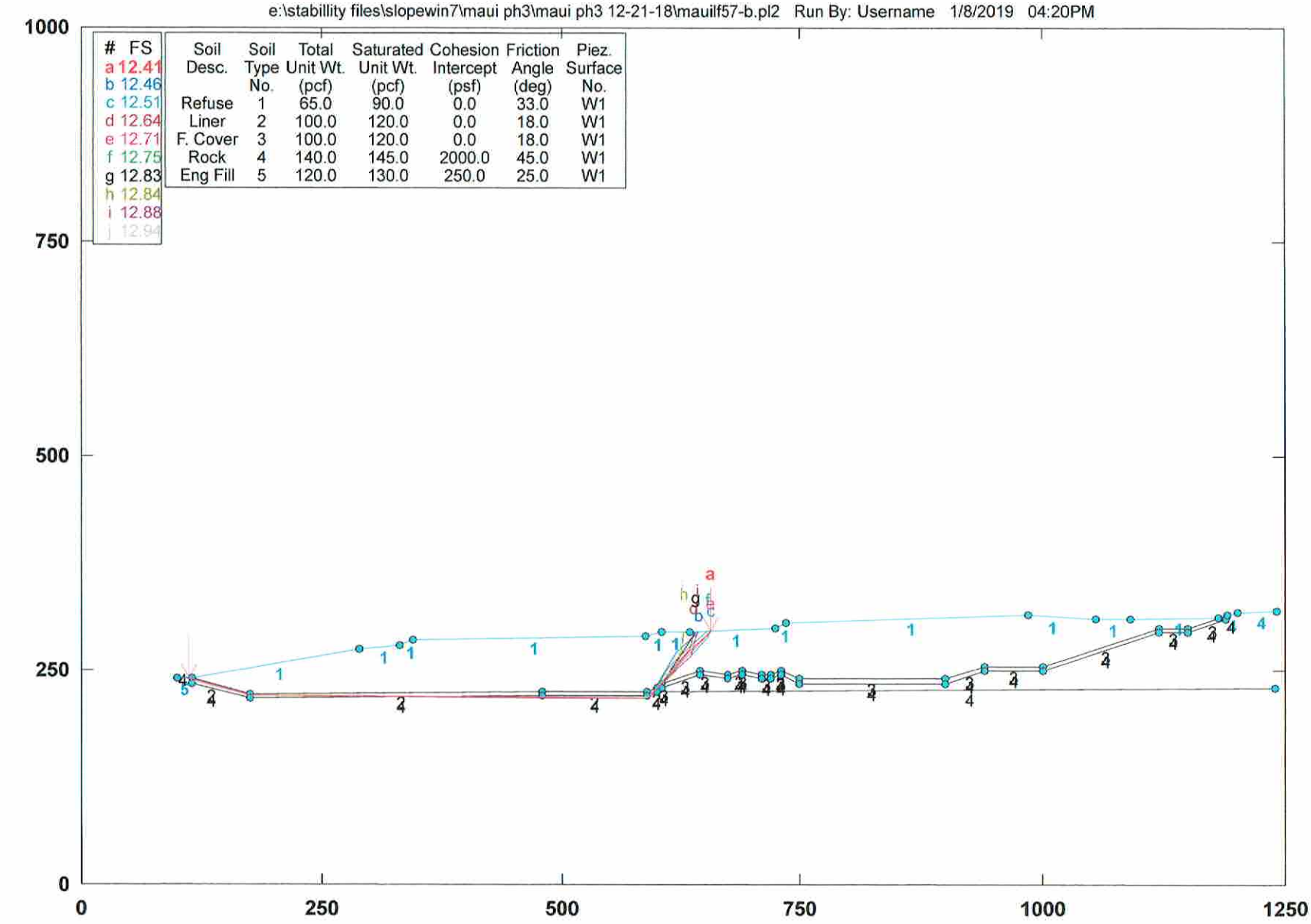
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf57-b.pl2 Run By: Username 1/8/2019 04:20PM



#	FS
a	12.41
b	12.46
c	12.51
d	12.64
e	12.71
f	12.75
g	12.83
h	12.84
i	12.88
j	12.94

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=12.41

Safety Factors Are Calculated By The Modified Janbu Method

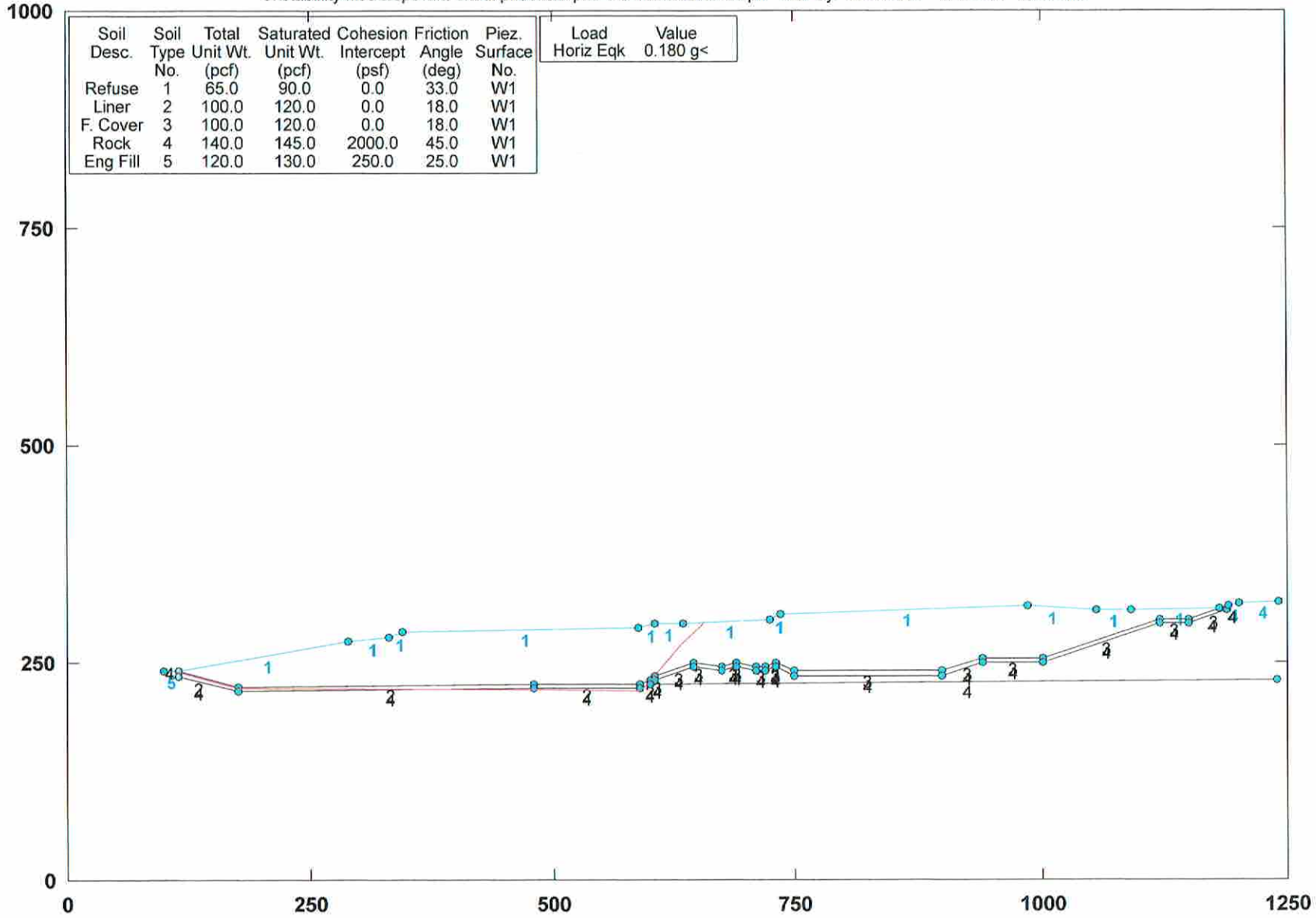
STED

CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf57-bs.plt Run By: Username 1/9/2019 11:06AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

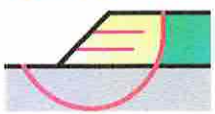
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.88

Factors of Safety Calculated by Janbu Method

STED

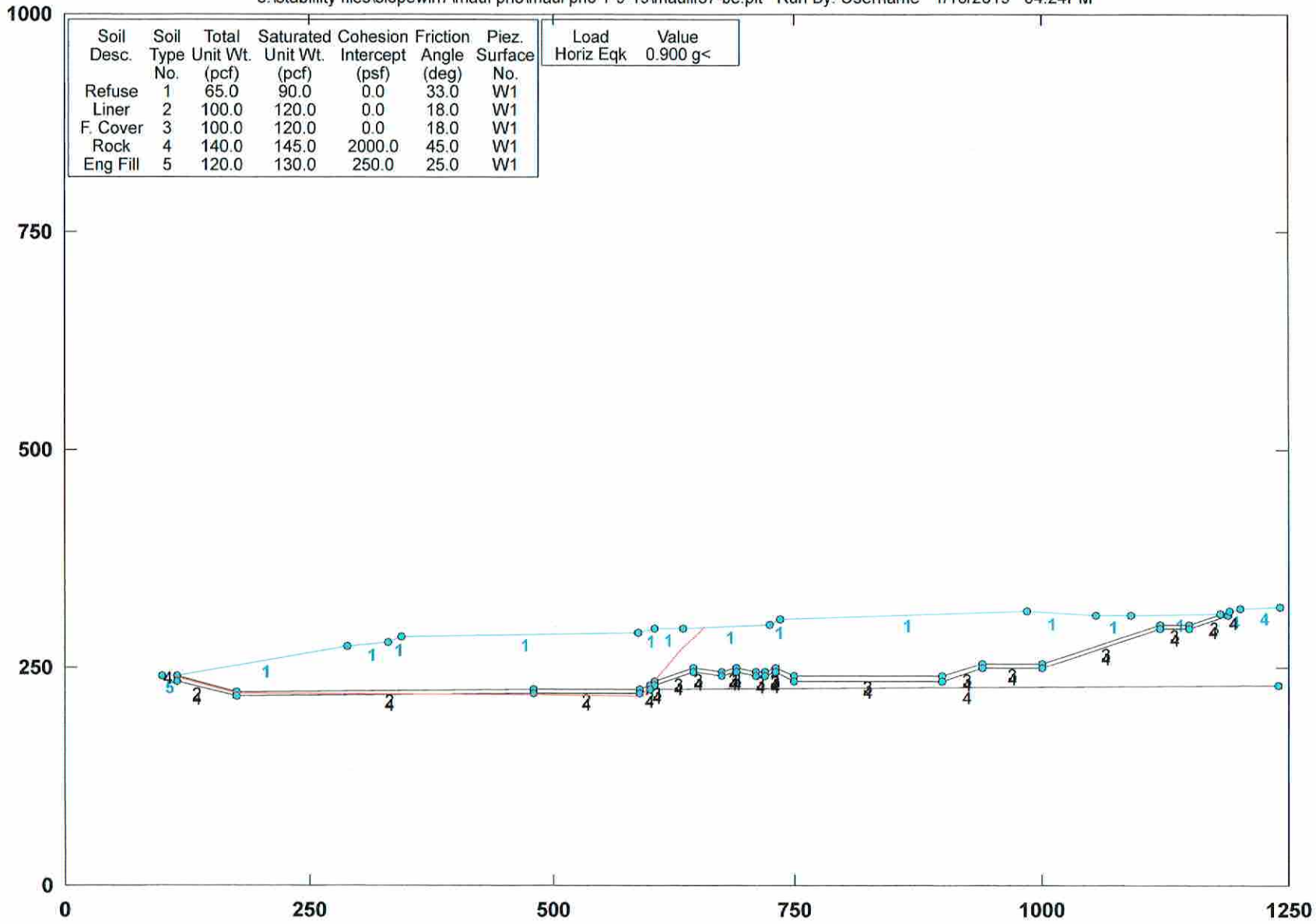


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf57-be.plt Run By: Username 1/10/2019 04:24PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

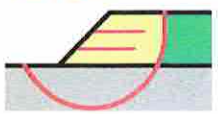
Load	Value
Horiz Eqk	0.900 g<



PCSTABL5M/si FSmin=1.01

Factors of Safety Calculated by Janbu Method

STED

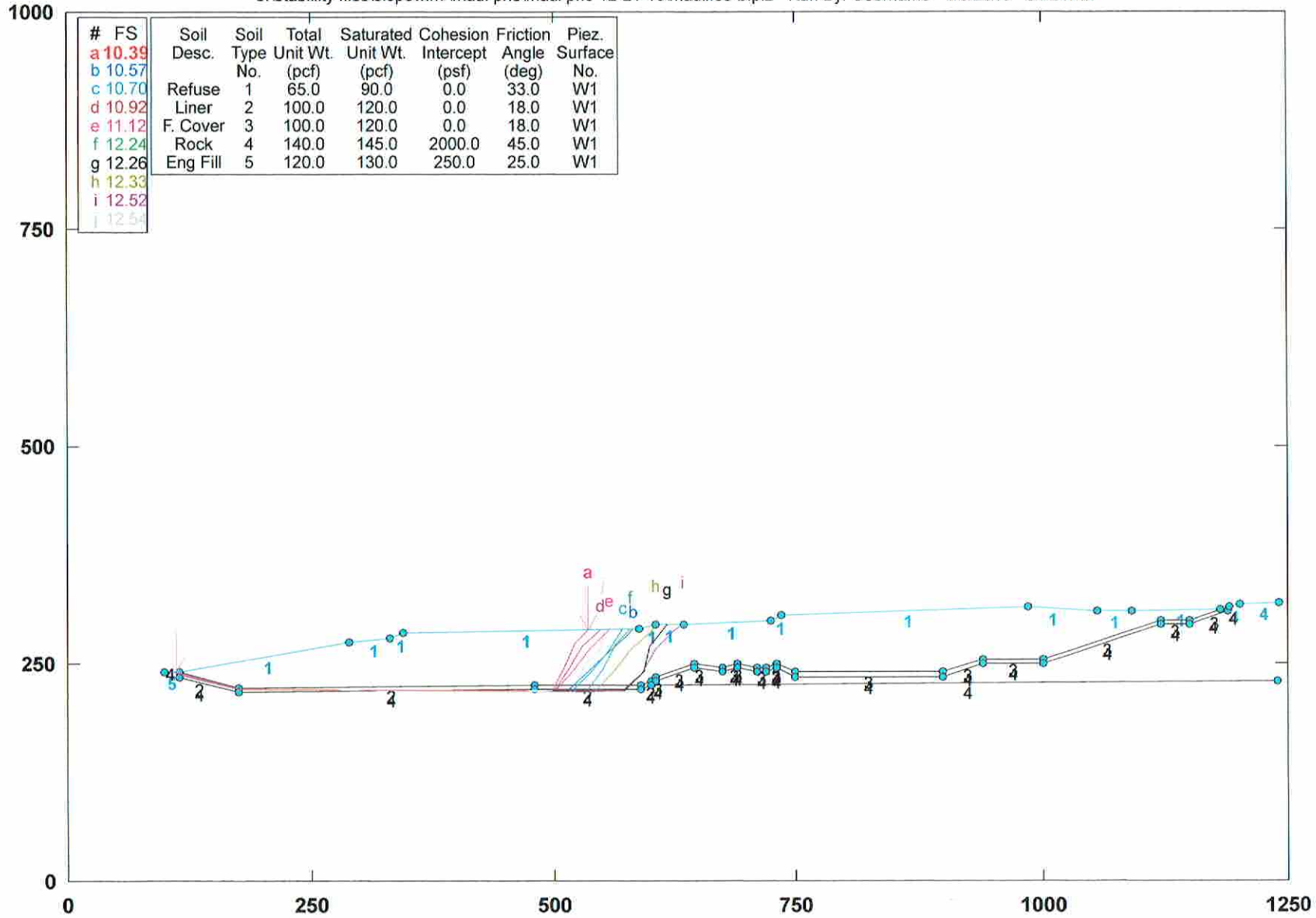


CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf58-b.pl2 Run By: Username 1/8/2019 04:21PM

#	FS
a	10.39
b	10.57
c	10.70
d	10.92
e	11.12
f	12.24
g	12.26
h	12.33
i	12.52
j	12.54

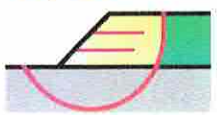
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



PCSTABL5M/si FSmin=10.39

Safety Factors Are Calculated By The Modified Janbu Method

STED

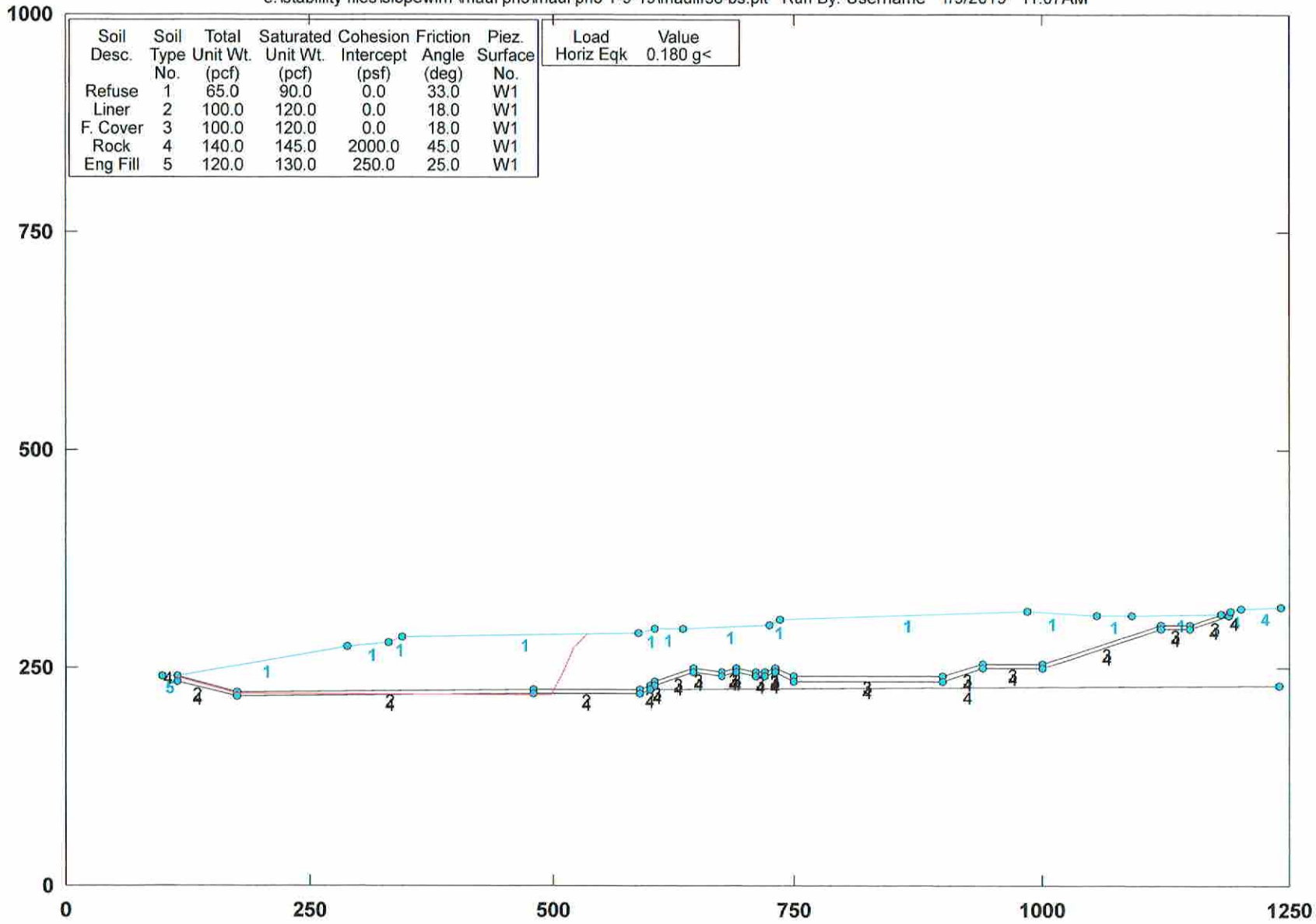


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf58-bs.plt Run By: Username 1/9/2019 11:07AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

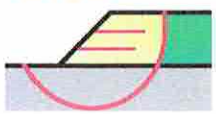
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=3.42

Factors of Safety Calculated by Janbu Method

STED

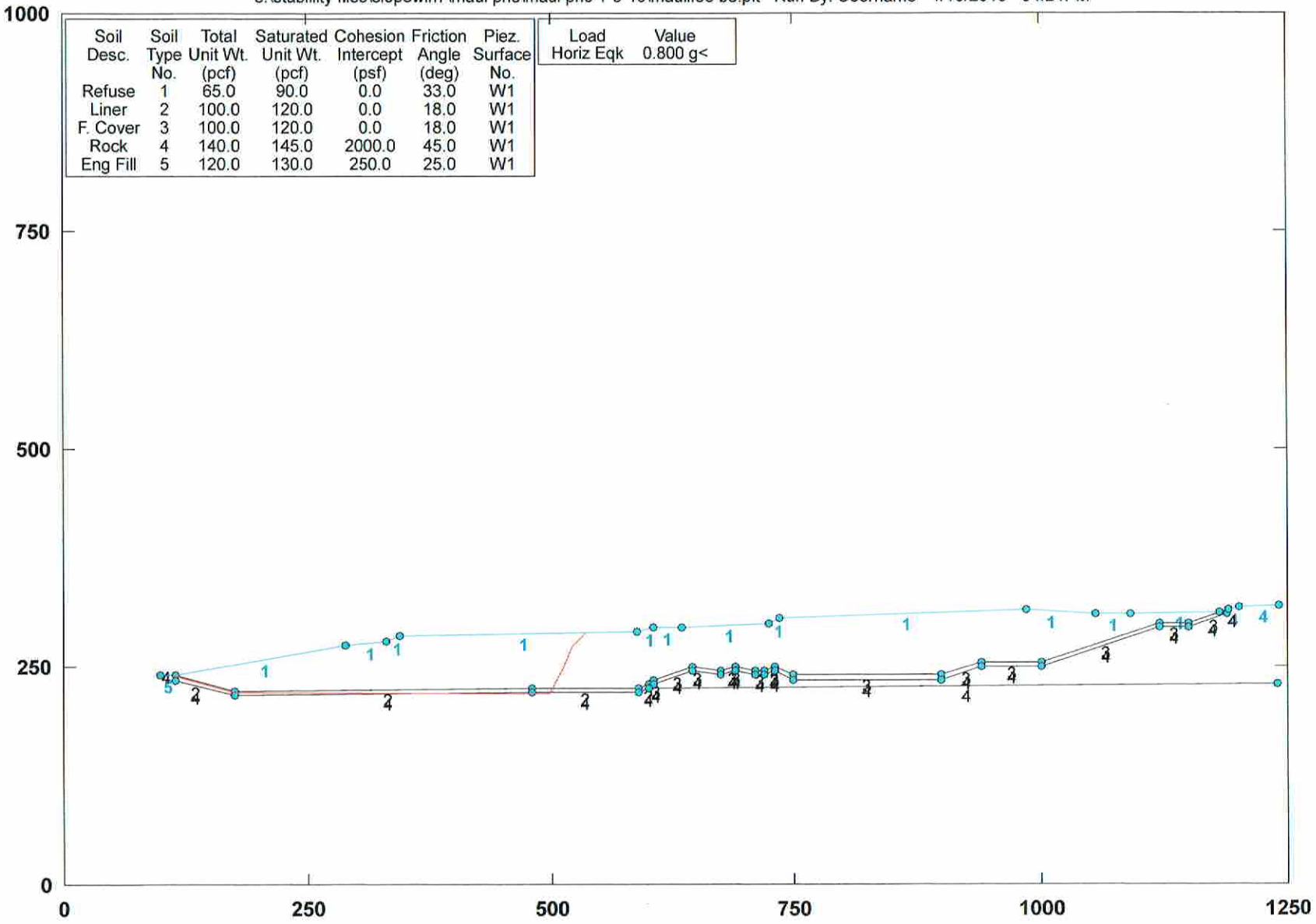


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf58-be.plt Run By: Username 1/10/2019 04:24PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

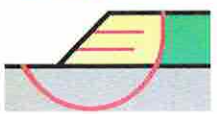
Load	Value
Horiz Eqk	0.800 g<



PCSTABL5M/si FSmin=0.99

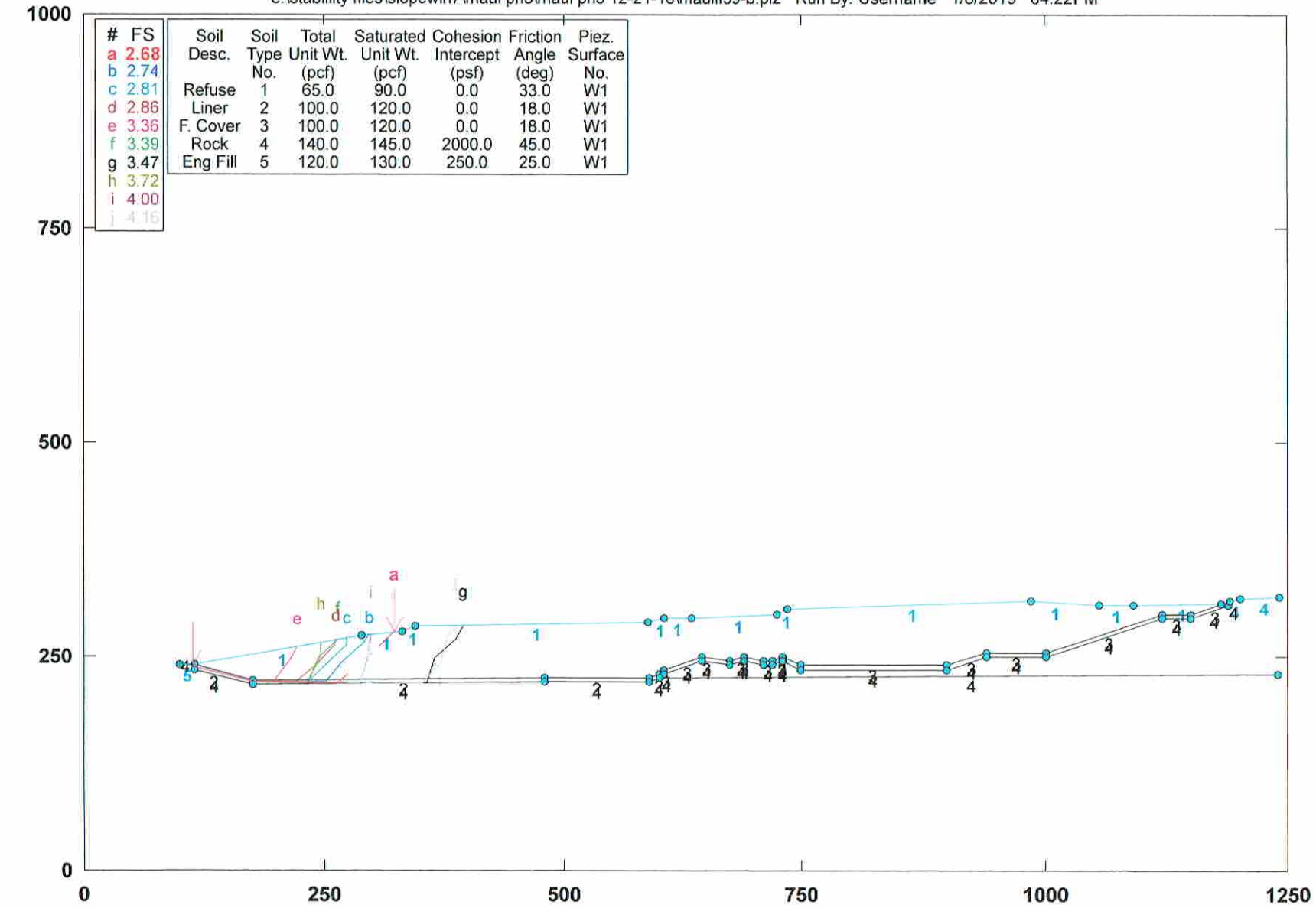
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 12-21-18\mauilf59-b.pl2 Run By: Username 1/8/2019 04:22PM



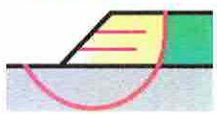
#	FS
a	2.68
b	2.74
c	2.81
d	2.86
e	3.36
f	3.39
g	3.47
h	3.72
i	4.00
j	4.16

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

PCSTABL5M/si FSmin=2.68

Safety Factors Are Calculated By The Modified Janbu Method

STED

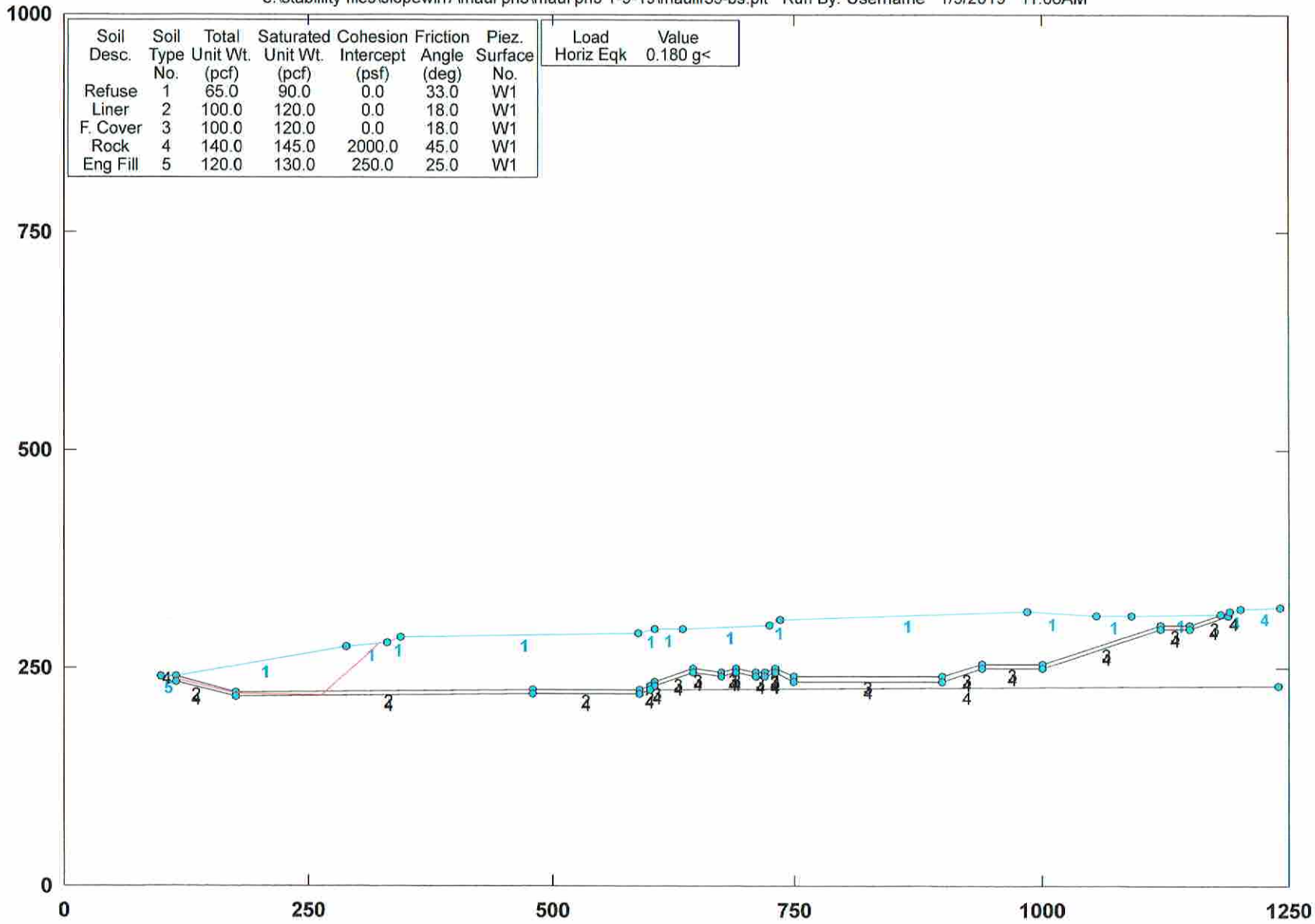


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf59-bs.plt Run By: Username 1/9/2019 11:08AM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

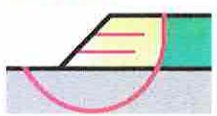
Load	Value
Horiz Eqk	0.180 g<



PCSTABL5M/si FSmin=1.26

Factors of Safety Calculated by Janbu Method

STED

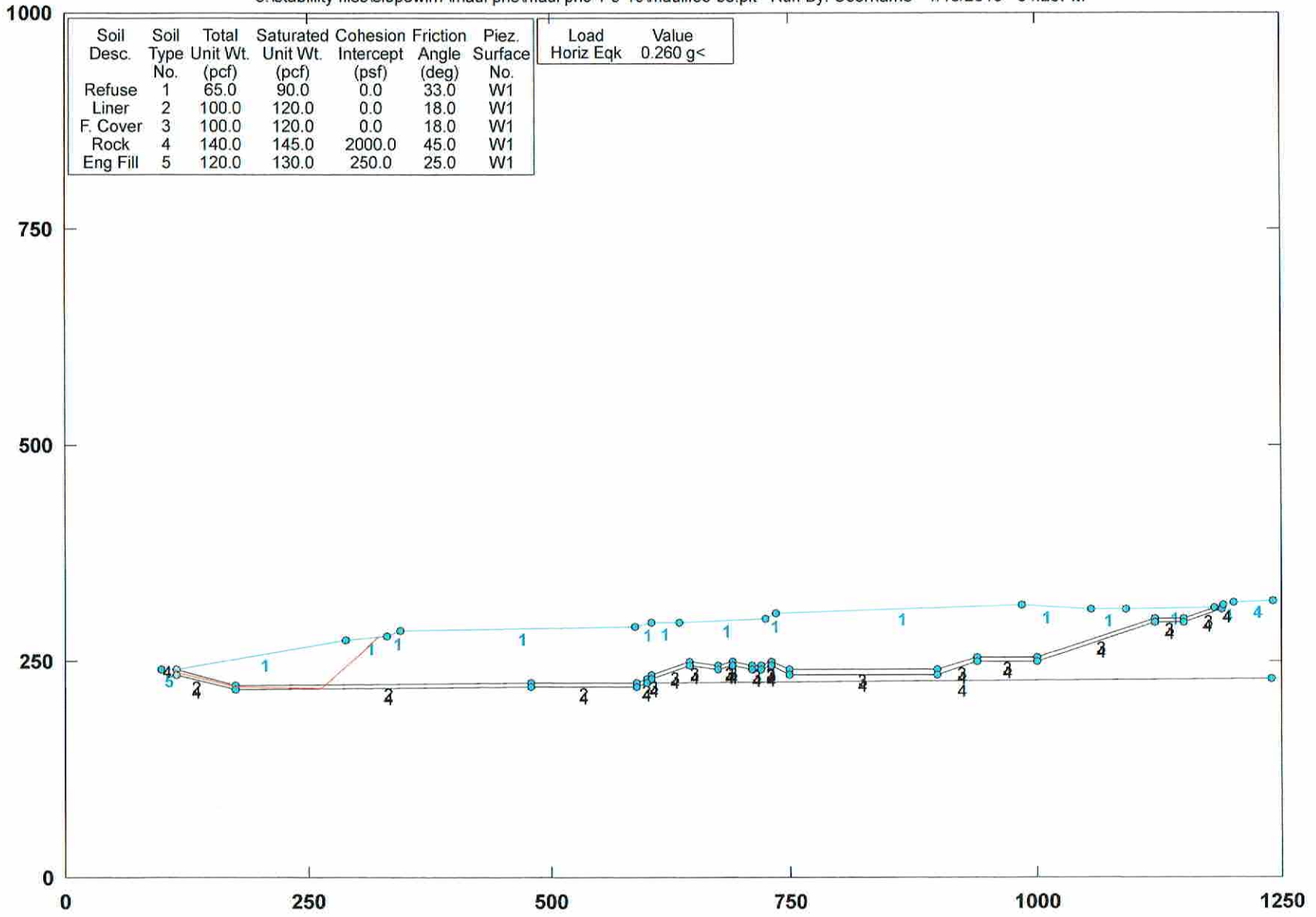


CML - ph III Slope Stab. Section III-S5 Pseudo-Static

e:\stabillity files\slopewin7\maui ph3\maui ph3 1-9-19\mauilf59-be.plt Run By: Username 1/10/2019 04:26PM

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.260 g<



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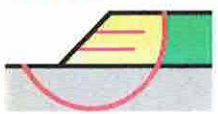
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Static

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#	FS
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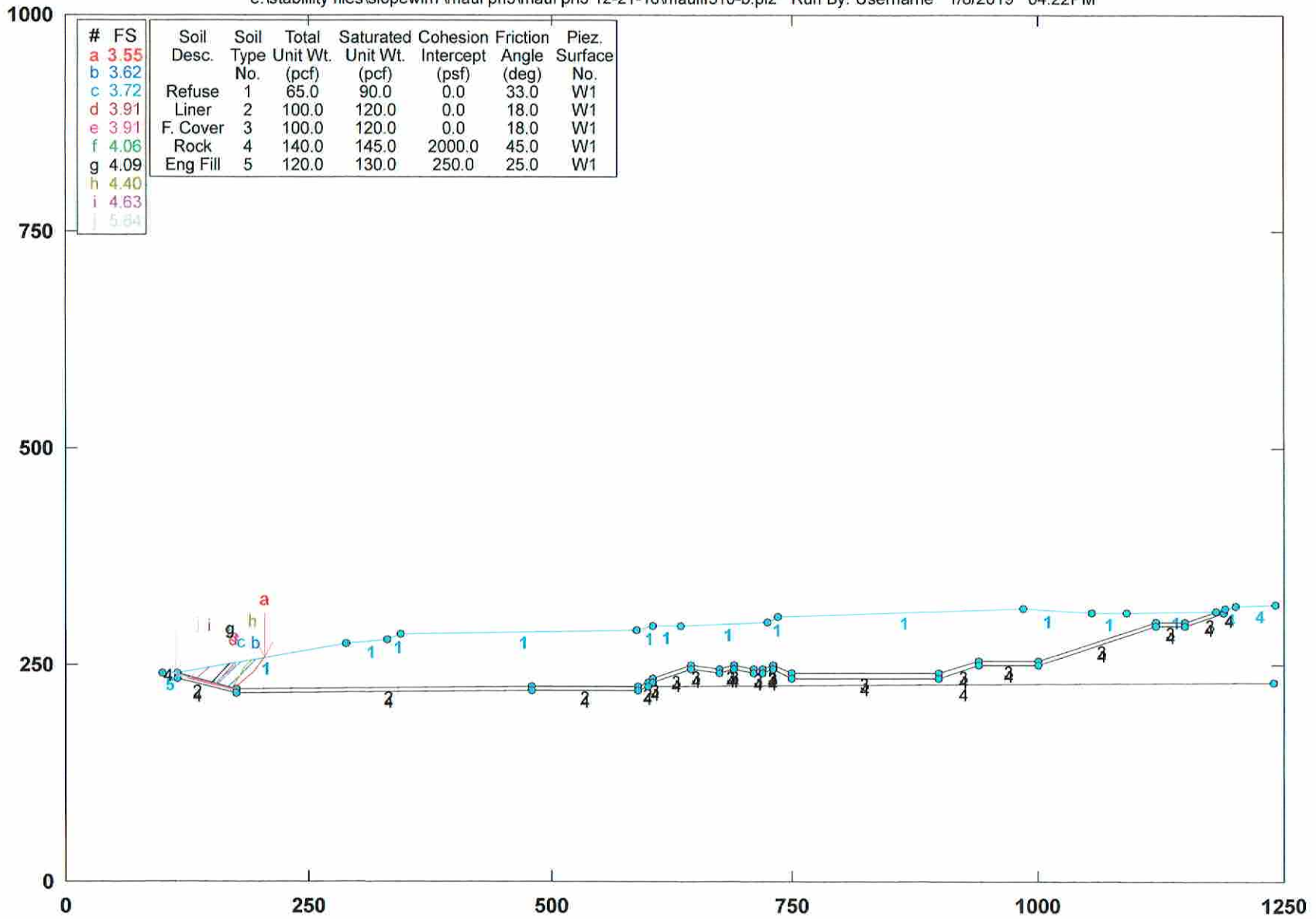
b	3.62
c	3.72
d	3.91
e	3.91
f	4.06
g	4.09
h	4.40
i	4.63
j	5.64

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1



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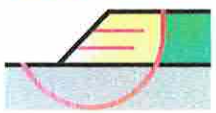
Safety Factors Are Calculated By The Modified Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Pseudo-Static

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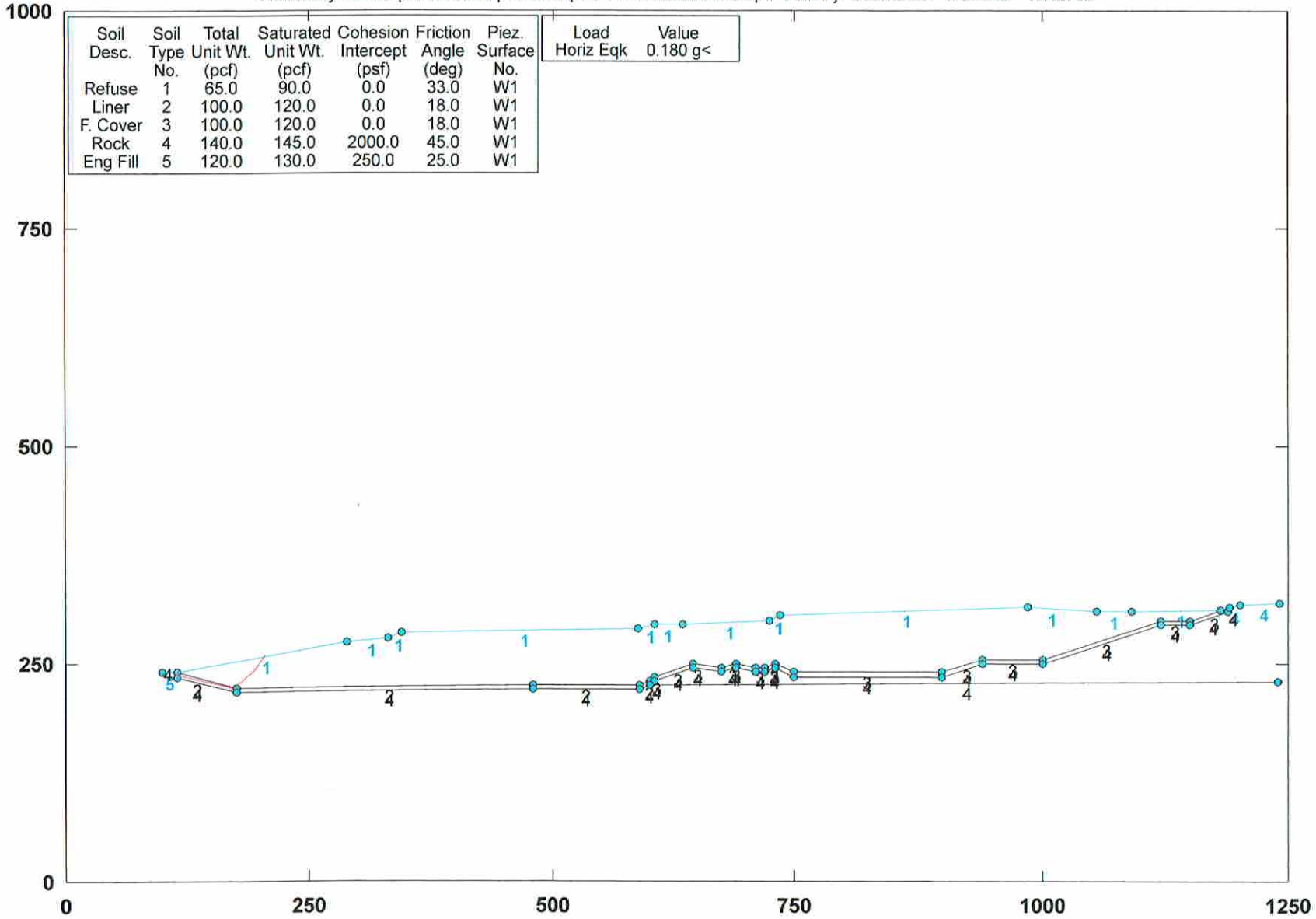
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.180 g<



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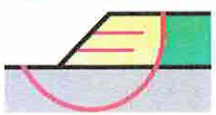
Factors of Safety Calculated by Janbu Method

STED



CML - ph III Slope Stab. Section III-S5 Pseudo-Static

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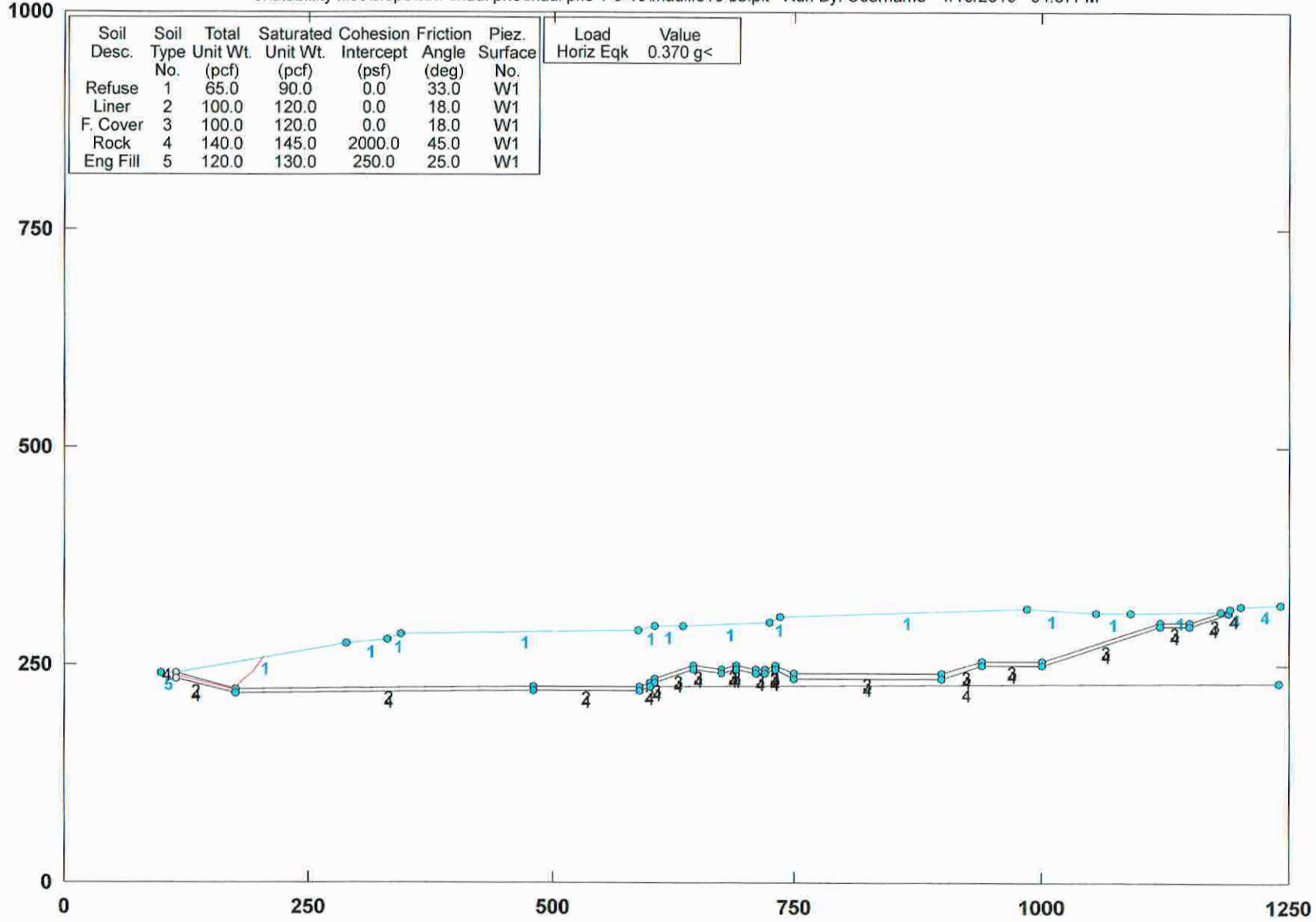
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Refuse	1	65.0	90.0	0.0	33.0	W1
Liner	2	100.0	120.0	0.0	18.0	W1
F. Cover	3	100.0	120.0	0.0	18.0	W1
Rock	4	140.0	145.0	2000.0	45.0	W1
Eng Fill	5	120.0	130.0	250.0	25.0	W1

Load	Value
Horiz Eqk	0.370 g<



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Factors of Safety Calculated by Janbu Method

STED

APPENDIX E

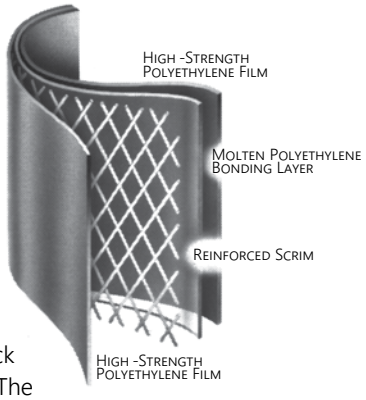
RAIN CAP MATERIAL

DURA·SKRIM® 8BB, 8WB, 12BB & 12WB

FOUR-LAYER REINFORCED EXTRUSION LAMINATE

RAVEN

PRODUCT DESCRIPTION



DURA♦SKRIM® 8BB, 8WB, 12BB and 12WB consist of two sheets of high-strength polyethylene film laminated together with a third layer of molten polyethylene. The white outer layer (DURA♦SKRIM® 8WB and 12WB) contains UV inhibitors and thermal stabilizers and the black outer layer(s) contains carbon black to enhance outdoor life. The white outer layer is also designed to reduce heat build up and condensation. A heavy scrim reinforcement placed between these plies greatly enhances tear resistance and increases service life. DURA♦SKRIM®'s heavy-duty diamond reinforcement responds to tears immediately by surrounding and stopping the tear.

PRODUCT USE

DURA♦SKRIM® 8 and 12 are used in more demanding applications requiring high tear resistance. Please inquire about DURA♦SKRIM® R8BV and R12BV for long-term applications up to 5 years, meeting GRI-GM22 Standard Specifications for scrim reinforced geomembranes used in exposed, temporary applications.

SIZE & PACKAGING

DURA♦SKRIM® 8BB, 8WB, are available in a variety of widths up to 125,000 square feet and up to 80,000 square feet in 12BB and 12WB. All panels are accordion folded and tightly rolled on a heavy-duty core for ease of handling and time-saving installation.

DURA·SKRIM®

Temporary Rain Shed Cover

PRODUCT	PART #
DURA♦SKRIM® 8BB	R8BBR
DURA♦SKRIM® 8WB	R8WBK
DURA♦SKRIM® 12BB	R12BBR
DURA♦SKRIM® 12WB	R12WBK

APPLICATIONS

- Cargo Coverings
- Interim Landfill Covers
- Daily Landfill Covers
- Temporary Erosion Control
- Divider Curtains
- Remediation Covers or Liners
- Pit/Pond Liners
- Underslab Vapor Retarders
- Temporary Earthen Liners
- Temporary Rainshed Covers

DURA·SKRIM® 8BB, 8WB, 12BB & 12WB

FOUR-LAYER REINFORCED EXTRUSION LAMINATE

		DURA♦SKRIM 8BB & 8WB		DURA♦SKRIM 12BB & 12WB	
PROPERTIES	TEST METHOD	IMPERIAL	METRIC	IMPERIAL	METRIC
Appearance		Black/Black or White/Black		~~Black/Black~~ or White/Black	
Thickness, Nominal		8 mil	0.20 mm	12 mil	0.30 mm
Weight		34 lbs/MSF 4.9 oz/yd²	166 g/m²	55 lbs/MSF 7.9 oz./yd²	269 g/m²
Construction		Extrusion laminated with scrim reinforcement			
[2] 1" Tensile Strength	ASTM D7003	62 lbf/in	108 N/cm	76 lbf/in	133 N/cm
[2] Elongation at Film Break	ASTM D7003	500 %	500 %	578 %	578 %
[2] Elongation at Scrim Break	ASTM D7003	15 %	15 %	14 %	14 %
[2] Grab Tensile	ASTM D7004	84 lbf	374 N	100 lbf	445 N
[3] Tongue Tear	ASTM D5884	39 lbf	173 N	54 lbf	240 N
CBR Puncture Resistance	ASTM D6241	208 lbf	925 N	276 lbf	1228 N
Mullen Burst	ASTM D751	80 psi	552 kPa	107 psi	738 kPa
[1] Trapezoid Tear	ASTM D4533	50 lbf	222 N	59 lbf	262 N
Maximum Static Use Temperature		180° F	82° C	180° F	82° C
Minimum Static Use Temperature		-70° F	-57° C	-70° F	-57° C
WVTR	ASTM E96 Procedure B	0.016 grains/(ft²·hr)	0.268 g/(m²·day)	0.010 grains/(ft²·hr)	0.161 g/(m²·day)
Perm Rating	ASTM E96 Procedure B	0.037 Perms grains/(ft²·hr·in Hg)	0.024 Perms g/(24hr·m²·mm Hg)	0.023 Perms grains/(ft²·hr·in Hg)	0.015 Perms g/(24hr·m²·mm Hg)

[1] Tests are an average of diagonal directions.
[2] Tests are an average of primary reinforcement directions.
[3] Tests are an average of machine and transverse directions.

Hydraulic conductivity values are dirived from permeability data. R8BBK = 3.14 x 10^{-10} cm/sec, R8WBK = 3.14 x 10^{-10} cm/sec, R12WBK = 1.85 x 10^{-10} cm/sec, and R12BB = 1.85 x 10^{-10} cm/sec.

DURA·SKRIM®

DURA♦SKRIM® 8BB, 8WB, 12BB and 12WB are four-layer reinforced extrusion laminates. The black outer layers consist of a high-strength polyethylene film containing carbon black. The white sides contain UV and thermal stabilizers. DURA♦SKRIM® 8 and 12 mil are reinforced with a heavy-duty scrim laid in a diagonal pattern with an additional machine direction scrim every 3" across the width. The individual plies are laminated together with molten polyethylene.

Scan QR Code to download technical data sheets.

RAVEN ENGINEERED FILMS
P.O. Box 5107 Sioux Falls, SD 57117-5107
Ph: +1 (605) 335-0174 • TF: +1 (800) 635-3456
efdsales@ravenind.com
www.ravenefd.com

RAVEN

RAVEN INDUSTRIES INC.
EXPOSED GEOMEMBRANE LIMITED WARRANTY

Warranty No:_____SAMPLE_____

Effective Date:_____

PURCHASER NAME:_____ PROJECT NAME:_____ _____

ADDRESS:_____ _____ ADDRESS/LOCATION:_____ _____ _____

CITY, STATE, ZIP, COUNTRY_____ CITY, STATE, ZIP, COUNTRY_____

GEOMEMBRANE TYPE/DESCRIPTION_____ DuraSkrim R12BV_____

Raven Industries Inc. warrants each Raven geomembrane to be free from manufacturing defects (as defined by the contract's material specifications) and to be able to withstand normal weathering for a period of 5 years from the above effective date for normal use in approved applications.

This Limited Warranty does not include damages or defects in the Raven geomembrane resulting from acts of God, casualty or catastrophe including but not limited to: earthquakes, floods, piercing hail, tornadoes or force majeure. The term "normal use" as used herein does not include, among other things improper handling during transportation, unloading, storage or installation, the exposure of Raven geomembranes to harmful chemicals, atypical atmospheric conditions, weather abuse of Raven geomembranes by machinery, equipment or people; improper site preparation or covering materials, excessive pressures or stresses from any source or improper application or installation. Raven geomembrane material warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson Moss Warranty or any similar federal, state, or local statues. The parties expressly agree that the sale hereunder is for commercial or industrial use only.

Should defects or premature loss of use within the scope of the above Limited Warranty occur, Raven Industries Inc. will, at its option, repair or replace the Raven geomembrane on a pro-rata basis at the then current price in such manner as to charge the Purchaser/User only for that portion of the warranted life which has elapsed since purchase of the material. Raven Industries Inc. will have the right to inspect and determine the cause of any alleged defect in the Raven geomembrane and to take appropriate steps to repair or replace the Raven geomembrane if a defect exists which is covered under this warranty. This Limited Warranty extends only to Raven's geomembrane, and does not extend to the installation service of third parties nor does it extend to materials furnished or installed by others in connection with the intended use of the Raven geomembranes.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the General Manager of Engineered Films Division of Raven Industries Inc. within ten (10) days of becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have any rights under this warranty. Raven Industries Inc. shall not be obligated to perform repairs or replacements under this warranty unless and until the area to be repaired or replaced is clean, dry, and unencumbered. This includes, but is not limited to, the area made available for repair and/or replacement of Raven geomembrane to be free from all water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this Limited Warranty, Purchaser shall reimburse Raven Industries Inc. for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the material as Raven Industries Inc. determines to have violated the warranty provided herein. Raven Industries Inc. shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to, damages for loss of production, lost profits, personal injury or property damage. Raven Industries Inc. shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser unless Raven Industries Inc. specifically authorized, in writing, said repairs, replacements, modifications or alteration in advance of them having been made. Raven Industry's liability under this warranty shall in no event exceed the replacement cost of the material sold to the Purchaser for the particular installation in which it failed.

Raven Industries Inc. neither assumes nor authorizes any person other than the undersigned of Raven Industries Inc. to assume for it any other or additional liability in connection with the Raven geomembrane made on the basis of the Limited Warranty. The Limited Warranty on the Raven geomembrane herein is given in lieu of all other possible material warranties, either expressed or implied, and by accepting delivery of the material; Purchaser waives all other possible warranties, except those specifically given. This Limited Warranty may only be modified by written document mutually executed by Owner and Raven Industries Inc.

Limited Warranty is extended to the purchaser/owner and is non-transferable and non-assignable; i.e., there are no third-party beneficiaries to this warranty.

Purchaser acknowledges by acceptance that the Limited Warranty given herein is accepted in preference to any and other possible materials warranties.

THIS LIMITED WARRANTY SHALL BE GOVERNED BY SOUTH DAKOTA LAW AND VENUE FOR ALL LEGAL PROCEEDINGS IN CONNECTION WITH THIS LIMITED WARRANTY SHALL BE IN MINNEHAHA COUNTY, SOUTH DAKOTA. RAVEN INDUSTRIES INC. MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN ABOVE AND HEREBY DISCLAIMS ALL WARRANTIES, BOTH EXPRESSED OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS IS THE ONLY WARRANTY THAT APPLIES TO THE MATERIALS REFERRED TO HEREIN AND RAVEN INDUSTRIES INC. DISCLAIMS ANY LIABILITY FOR ANY WARRANTIES GIVEN BY ANY OTHER PERSON OR ENTITY, EITHER WRITTEN OR ORAL.

RAVEN INDUSTRIES' WARRANTY BECOMES AN OBLIGATION OF RAVEN INDUSTRIES INC. TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT AND EXECUTION BY A DULY AUTHORIZED OFFICER OF RAVEN INDUSTRIES INC.

I hereby state that I have read and understand the above and foregoing and agree to such by signing hereunder and agree that but for the warranties provided herein, no other warranties or representatives of Raven Industries Inc. have been made by agents or representatives of Raven Industries Inc. and this Limited Warranty supercedes all other documents or agreements concerning the warranty of the geomembrane.

PURCHASER NAME: _____RAVEN INDUSTRIES INC: _____

(Authorized Representative)

SIGNATURE: _____ DATE _____SIGNATURE: _____DATE_____

TITLE: _____

RAVEN

INSTALL GUIDELINES

Installation Guidelines for Interim Landfill Covers

Dura♦Skrim® R8BV, R12BV and R20BDV

RAVEN

INSTALLATION GUIDELINES FOR INTERIM LANDFILL COVERS DURA♦SKRIM® R8BV, R12BV AND R20BDV

TABLE OF CONTENTS

RAVEN

Part 1 – General

1.01 Guideline Scope

This document is an installation guideline for factory fabricated Dura♦Skrim® R8BV, R12BV and R20BDV reinforced interim landfill covers. This guideline is designed to provide a minimum set of standards for site installation. However, depending on the complexity and project specific requirements, a qualified design engineering firm may be required for design and installation specifications of the geomembrane. All work shall be in accordance with the project drawings, specifications and QC requirements.

Applications

Typical applications for Dura♦Skrim® R8BV, R12BV and R20BDV include but are not limited to:

- Daily Landfill Covers
- Interim Landfill Covers
- Temporary Rainshed Covers
- Remediation Covers or Liners
- Temporary Erosion Control

Dura♦Skrim® R8BV, R12BV and R20BDV are used in more demanding applications requiring high tear resistance. They are designed to withstand longer term outdoor applications requiring up to 5 years of exposure or more depending upon geographical location. When Dura♦Skrim® R12BV and R20BDV are covered with the Wind Defender ballast system, a 10 year limited warranty may be available depending upon the final application.

Dura♦Skrim® R8BV, R12BV and R20BDV are designed to meet the requirements of the Geosynthetics Research Institute; GRI-GM22 Standard Specification, categories 2 & 3.

1.02 References

American Society for Testing and Materials (ASTM)

1. ASTM Standards D751, "Standard Test Methods for Coated Fabrics". ASTM International, West Conshohocken, PA.
2. ASTM Standards D7003, "Standard Test Method for Strip Tensile Properties of Reinforced Geomembranes". ASTM International, West Conshohocken, PA.
3. ASTM Standards D7004, "Standard Test Method for Grab Tensile Properties of Reinforced Geomembranes". ASTM International, West Conshohocken, PA.
4. ASTM Standards D5884, "Standard Test Method for Determining Tearing Strength of Internally Reinforced Geomembranes". ASTM International, West Conshohocken, PA.
5. ASTM Standards D6241, "Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile Related Products Using a 50-mm Probe. ASTM International, West Conshohocken, PA.

Other References

1. Geosynthetic Research Institute (2012). "Test Methods, Required Properties and Testing Frequencies for Scrim Reinforced Polyethylene Barriers Used in Exposed Temporary Applications". GRI GM22. Geosynthetic Institute, Folsom, PA.

1.03 Submittals

Documents to be included in a submittal to the owner / engineer:

1. Example of the material warranty and geomembrane installation warranty.
2. Sample of the geomembrane to be installed including the technical data sheet.
3. Product Certification shall be prepared and submitted to the Owners Representative.
4. Shop drawings / panel layout for geomembranes with panel numbers, field seam locations, corresponding to shipping labels.
5. Submit resumes or qualifications of the installation supervisor.
6. The documentation to be submitted by the fabricator varies depending on the Owner's requirements. These may include copy of tested seams, certifications, or any other document related to the quality of the geomembranes and their installation.
7. Fabricator and Installer QC Manuals.

Part 2 – Products

2.01 Geomembrane Materials

Geomembranes included:

This document is an installation guideline for factory fabricated Dura♦Skrim® R8BV, R12BV and R20BDV reinforced polyethylene geomembranes. The top and bottom lamination layer of the geomembranes included in this guideline will be comprised of a linear low density polyethylene (LLDPE).

Geomembranes that are included in this Guideline are the following:

- Scrim Reinforced Geomembranes: These geomembranes have a scrim reinforcement with an open grid of greater than one-quarter (1/4" or 8 mm) between fibers. The finished Dura♦Skrim® R8BV, R12BV and R20BDV sheet shall be capable of being sewn in the field.

2.02 Quality Control

a. Manufacturer Qualifications

The manufacturer of the specified geomembrane or similar product shall have at least five years of continuous experience in the manufacture of the geomembrane. Additionally, the Manufacturer shall have produced a minimum of 2,000,000 m^2 (21,527,820 ft^2) of the specified type or similar geomembranes.

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b. Fabricator Qualifications

The fabricator of the geomembrane shall have fabricated a minimum of 250,000 m^2/year (2,691,000 ft^2/year) of the specified type or similar geomembranes.

c. Installer Qualifications

The Geomembrane Installer shall be the Fabricator, approved Fabricator's Installer, or an installer/contractor approved by the Owner's Representative. The installer shall have a minimum experience level of 50,000 m^2 (538,200 ft^2) using the specified geomembrane.

It is the responsibility of any of the aforementioned parties to select a Geomembrane Installer with the appropriate degree of experience, personnel, and equipment to accomplish the required quality standards.

2.03 Geomembrane Arrival at Project Site

a. Geomembrane Unloading

Inspect fabricated geomembrane panels prior to unloading from vehicle at project site (e.g. type of material, conditions, etc.). Make any claims for damage directly with the carrier prior to unloading or shortly after geomembrane unloading. Document any damage with photos if possible.

Materials delivered to site should be off-loaded (using forklift or similar equipment) in a location where minimum handling steps will be required.

While unloading or transferring the fabricated panels from one location to another, prevent damage to the wrapping and the fabricated panel itself.

Any damage during offloading and transferring should be documented by the contractor unloading the material and the installer.

b. Geomembrane Storage

Leave the panels packaged in UV protected wrap until the day that the panels are to be installed. If extremely hot or cold temperatures are present, keep the panels inside at a moderate temperature. This reduces the force required to unfold the panels.

Fabricated panels, when possible, should be stored on pallets off the ground. The storage area should be dry, level, and with a firm base to facilitate lifting; so the panels are not damaged, do not become dirty, and remain dry externally and internally.

Part 3 – Execution

3.01 Installation

a. Subgrade Preparation

A pre-installation inspection shall be requested by the geomembrane installer and ALL interested parties before moving panels from the storage location to the placement area. If the subgrade is deemed to be inappropriate for any reason, it should be remediated prior to geomembrane movement and placement.

Subgrade surfaces should be free of loose rock fragments (>10 mm or 0.4 inches), sticks, sharp objects, or debris of any kind. The surface should provide a smooth, flat, firm, un-yielding foundation for the geomembrane with no sudden, sharp or abrupt changes or breaks in the grade that can tear or damage the geomembrane.

No standing water, mud, vegetation, snow, frozen subgrade, or excessive moisture is allowed before geomembrane placement. All pipes, drains, fittings, etc., which are to be installed beneath the geomembrane, should be in place, backfilled, and ready to be covered with the geomembrane before panel deployment.

An anchor trench in the shape of a "U" or "V" can be used as a perimeter termination point for the geomembrane. Installation of the geomembrane shall be started from the anchor trench.

b. Unfolding and Deploying Prefabricated Panels

The geomembrane shall be supplied as a continuous panel with factory seams in the panel to reduce the amount of field seaming and testing.

All large panels are accordion folded into a stack and rolled onto a heavy-duty 6" I.D. core then packaged in two separate outer wrap materials. When the panels are unloaded on site, they should be positioned per the deployment instructions. Each panel should contain a deployment instruction sheet detailing how to roll out the panel to length and pull from the accordion folded stack to cover the width of the area. Confirm that the area to be covered is free of any materials that could damage the cover.

While unrolling and/or unfolding the geomembrane, inspect the fabricated panel for proper material type and thickness, damage, and/or defects. Repair any damage found.

Check weather conditions prior to starting installation and do not try to deploy covers in windy conditions. Site personnel should be spaced the length of the cover about every 15' to 30' depending on the weight or thickness of the material being deployed. The site supervisor should coordinate the deployment of the cover material making sure the entire crew is pulling the cover material in equal proportions evenly across the entire length of the cover. Depending on the wind conditions, the crew should be able to take advantage of a slight breeze by pumping a layer of air under the cover material to help float the material while deploying. If at any time the air underneath becomes excessive, the deployment crew should pull the material closer to ground level to help push out some of the air. If a large wind gust comes up during deployment the crew should hold the material down to the ground temporarily until the wind gust passes.

Only material that is to be immediately joined with sewn seams, i.e., during that work-day, should be deployed.

The deployment crew should ballast the leading edge at any point they stop to prevent wind damage. The material should be loosely laid out and never pulled tight or tensioned. Wrinkles or folds in the cover material should be worked throughout the overall area to prevent any stress points in the cover. Laying the material out loosely will allow for the expansion and contraction properties that are inherent to polyethylene.

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Normally, about 3% slack is recommended in each direction. Upon completion of the deployment process, the entire area should be inspected to insure that the 3% slack is evenly dispersed.

Once the cover has been completely inspected, the perimeter of the cover should be temporarily secured either with ballast or in an anchor trench. In most installations the cover is deployed and left out overnight, with weather conditions permitting, to assure the cover will not be shrinking any further due to cool weather after anchoring the perimeter. Once the cover has been determined to have sufficient slack, the cover can be anchored permanently. Attach to structure or placed into the trench and secure with backfill or other ballast materials.

Typically sandbags are used as ballast and should be placed as required in the specifications per the actual site layout. However, new and cost effective ballast systems such as knitted reinforced geotextiles like Wind Defender®, have been proven to be an effective longer term solution compared to ropes and sand bags.

If sandbags are chosen for ballast, they are normally spaced approximately 10' on center across the width direction and 5' on center the length direction. If used on perimeter, place bags end to end. When placing sandbags on slopes, it may be advantageous to run a rope up the slope anchoring each sandbag accordingly. When material must be deployed on windy days it is suggested to pull out short sections and immediately place ballast on the material prior to moving on to the next sections.

When installing multiple panels, the additional panels should be deployed following the same procedures as listed above. The additional panels should be deployed and positioned to achieve the necessary overlap for sewn seams.

Once the geomembrane is properly placed, the material should be seamed as soon as practical.

c. Field Seaming

An advantage of factory fabricated geomembranes is mill rolls of material can be fabricated into large panels in the factory before shipment to the project site. This minimizes the amount of field seaming and maximizes the amount of factory seaming which results in higher quality seams. The individual widths of the manufactured geomembrane rolls shall be assembled into large panels that are custom-designed for the specific project and correspond to the panel layout diagram. If factory seaming is maximized, field seaming can be reduced by 80 to 95 %. In other words, only 5 to 20% of all seams need to be made in the field depending on the unit weight of the geomembrane material. This reduction in field seaming improves seam quality, accelerates construction eliminates destructive field seam tests, reduces

Due to the thickness and construction of Dura♦Skrim® R8BV, R12BV and R20BDV, hot wedge or hot air welding are not a requirement for field seaming. The preferred method is a sewn "J-style" prayer seam which requires stitching through four layers of material.

Sewing is a simple procedure and can be accomplished with minimal instruction. Please keep in mind that this seaming process will not be totally watertight due to the stitching involved. Always review project drawings, specifications and QC requirements. Raven recommends using a 2 thread (401 stitch type), single needle machine (a Union Special 2200 series portable hand held or equal), using F or FF thread with 3 stitches per inch and no more than 5 stitches per inch. Polyester or polyester/cotton tread with the expected longevity of the interim cover should be used.

RAVEN

Seam Preparation

After the panels are initially placed in the proper position, remove as many wrinkles as practical. If possible, allow the panels to "relax" by allowing the panel to warm in the sun. The edges to be sewn need to be smooth and free of wrinkles to ensure good field seams and no "fish mouths."

Sewn field seams cannot be overlapped during the sewing process and require positioning the panel edges in a J-folded prayer configuration slightly above the surface. An SSn-1 or SSn-2 "J" seam type configuration is recommended for maximum seam strength as noted below:

Once the panels are joined, pull the seamed area flat to the ground, allowing for 3% slack. For most projects, field seams should be run perpendicular to the slope to shed water and minimize stress.

Unless rechargeable battery operated sewing machines are used, properly functioning portable electric generators must be available within close proximity of the sewing region and with adequate extension cords to complete the entire seam. The generator must have rubber tires, or be placed on a smooth plate such that it is completely stable and it does not damage the geomembrane. Fuel (gasoline or diesel) for the generator must be stored away from the geomembrane, and if accidentally spilled on the geomembrane it must be removed immediately. The areas should be inspected for damage to the geomembrane and repaired if necessary.

d. Field Seaming Inspection

Inspection should be performed as the sewing / seaming progresses, not at the completion of all field seaming, unless agreed to in advance by the Owner's Representative. All defects found should be repaired and remarked to indicate acceptable completion of repair.

Identification of Defects

Seams shall be visually inspected by the geomembrane installer and the owner's representative before, during, and after field seaming to assure a continuous sewn seam.

Evaluation of Defects

i. Each suspect location marked, numbered, measured, and posted on the daily installation drawings and subsequently repaired.

ii. Defective seams shall be repaired by cutting out the defective seam and re-seaming. If stitches are missing in seam areas, repairs can be made by sewing a section 24" before and after the defect. Single seams in excess of 20% of their total length requiring repair should be entirely removed and re-sewn.

e. Field Acceptance

The Geomembrane will be accepted by the Owner's Representative when all of the following have been completed:

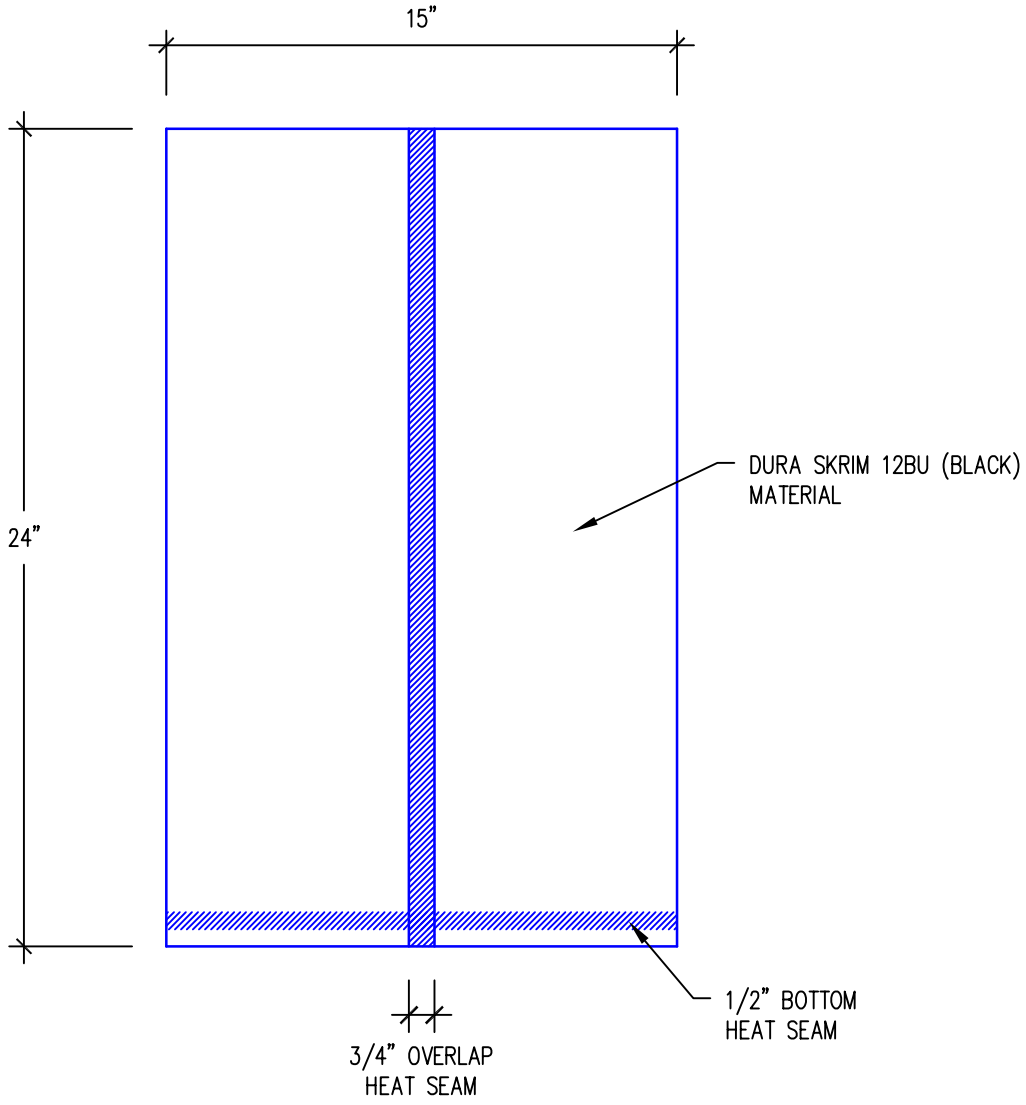
1. The entire installation is finished or on agreed upon subsections of the installation are finished.
2. All Installer's QC documentation is complete and submitted to the Owner.
3. Verification of the adequacy of all field seams and repairs are complete.

f. Site Clean Up and Demobilization

On completion of installation, the geomembrane installer shall dispose of all waste and scrap material in a location provided and approved by the owner. The installer should also remove all equipment used in connection with the work herein, and shall leave the premises in a neat and acceptable manner. No scrap material shall be left on the completed surface of the geomembrane nor in the anchor trenches.

Raven Engineered Films
Ph: +1 (605) 335-0174 • TF: +1 (800) 635-3456
efdslaes@ravenind.com
www.ravenefd.com

062216 EFD



SAND BAG DETAIL

NTS

SHEET NO.	DETAIL

NORTHWEST LININGS &
GEOTEXTILE PRODUCTS, Inc.
www.northwestlinings.com
21000 77TH AVE. SOUTH
KENT, WA. 98032
(253) 872-0244 (253) 872-0245 FAX

JOB NAME:			
JOB NO.			
DATE:	2 07 18	CHECKED:	
BY:		SCALE:	

APPENDIX F

DRAINAGE REPORT

A-Mehr Inc.

Professional Engineers and Scientists Specializing in Landfills

23016 Mill Creek Drive
Laguna Hills, CA 92653

Phone(949) 206-0157
Fax (949) 206-9157

DRAINAGE REPORT
Central Maui Landfill
Master Plan and Related Improvements
January 4, 2017

SCOPE

This report presents an analysis of surface water management features provided in the design of Central Maui Landfill Master Plan and related improvements. Specifically, it evaluates provisions for drainage at the perimeter of the Phase IV-VI, and Phase I-III areas. The analytical methods and content meet or exceed requirements of applicable County of Maui Department of Public Works regulations set forth Title MC-15, Subtitle 1, Chapter 4, "Rules for the Design of Storm Drainage Facilities in the County of Maui".

Figure 1 is an overall site plan showing the location of the Phase IV-VI, and Phase I-III areas.

PHASE IV-VI, AND PHASE I-III AREAS

Drainage Facilities

Runoff from the Phase IV-VI and Phase I-III disposal areas is collected in paved perimeter channels and discharged to the stormwater basin located at the northeast corner of Phase IV. Stormwater collected in the stormwater basin is discharged primarily by infiltration through the fractured bedrock in which the basin is constructed. An emergency spillway is provided for overflow into the Kalialinui Gulch in the event of a major storm in which the storage capacity of the basin, approximately 7.4 acre-feet, is exceeded. There has not been an overflow event since initial construction of the basin in 1999.

Hydrologic Runoff Computations

The design of drainage structures for the completed landfill is based on the final landfill grades shown in Figure 2, which includes Phase IV-VI and Phase I-III areas which will be constructed during the next 20 years. Consistent with the State of Hawaii and County drainage regulations, the design runoff quantity for the completed landfill is based on a design storm of 1 hour duration and a recurrence interval of 50 years. From Plate 7 in Appendix A, the applicable one-hour rainfall amount for the Puunene area is 2.5 inches.

The design peak flow rate is based on the rational method formula

$Q = CIA$ where Q = flow, cubic feet/second (cfs)

C = runoff coefficient, dimensionless
I = rainfall intensity, inches per hour
A = drainage area

The rational method formula variables are evaluated as follows.

Runoff coefficient: C = 0.65 is assumed based on the sum of four watershed factors listed in Table 1 of Appendix A:

Negligible infiltration	0.20	
Steep slopes	0.08	
No vegetal cover	0.07	
Development type	0.30	(approximately midway between residential and agricultural)

Time of concentration (T_c) is based on a conservative analysis of the final landfill grades. As indicated, in the conceptual final grading plan (Figure 2), benches will be constructed to provide access and drainage on the landfill side slopes as filling progresses in the future. As a conservative means of designing the perimeter drainage system, the effect of these benches, which will generally intercept runoff from the landfill top deck and slopes, and convey it on the benches toward the northerly end of the landfill, will be neglected. The hydrologic analysis will assume direct runoff down sideslopes to the perimeter channel, thus maximizing the flow for design purposes.

The total area of Phase IV-VI is approximately 62 acres, and Phase I-III is approximately 60 acres. Assuming the runoff is directed equally to the east and west perimeter channels, the time of concentration for runoff to reach the perimeter channel is calculated using Plate 1 in Appendix A, assuming a flow length of 450 feet (the average half-width of the cell times a slope factor of 1.05) and slope of 33% (3:1). The resulting T_c value is 7.5 minutes.

Rainfall intensity I is determined from Plate 2 in Appendix A. For the 1-hour rainfall of 2.5 inches and T_c value of 7.5 minutes, the charted intensity is 7.2 inches per hour.

Phase IV-VI Area for the runoff tributary area to each perimeter channel is (west and east channels) assumed to be one-half of the 62-acre area of the Phase IV-VI which is 31 acres.

Phase IV-VI Area
Based on these values the design peak flow is conservatively calculated as:

$Q = CIA$

$C = 0.65$
$I = 7.2$ inch/hour $= 1.67 \times 10^{-4}$ ft/sec
$A = 31$ acres $= 1.35 \times 10^{6}$ ft^2

$Q = 0.65 \times 1.67 \times 10^{-4}$ ft/sec $\times 1.35 \times 10^{6}$ ft^2 = 146.6 cfs for each channel

Total flow (Q) from Phase IV-VI Area is estimated to be 294 cfs.

In actuality, peak flow will be less than this value due to the delay in peak concentrations in the channel due to flow travel time in the perimeter channels and intermediate benches on the landfill sideslopes.

Phase I-III Area for the runoff tributary area to each perimeter channel is (west and east channels) assumed to be one-half of the 60-acre area of the Phase I-III which is 30 acres.

Phase I-III Area
Based on these values the design peak flow is conservatively calculated as:

$Q = CIA$

$C = 0.65$
$I = 7.2$ inch/hour $= 1.67 \times 10^{-4}$ ft/sec
$A = 30$ acres $= 1.31 \times 10^{6}$ ft^2

$Q = 0.65 \times 1.67 \times 10^{-4}$ ft/sec $\times 1.31 \times 10^{6}$ ft^2 $= 142.2$ cfs for each channel

Total flow (Q) from Phase I-III Area is estimated to be 284.4 cfs

Drainage Channel Evaluation Phase IV-VI

The east and west perimeter channels are asphalt paved roadways with a width of 30 feet, depressed a minimum of 10 inches below the adjacent ground. The west channel has a minimum slope along the flow line of 0.8 percent and the east channel has a minimum slope of 0.53 percent. Analysis using Manning's formula as contained in the Flowmaster computer program (Haestad Methods) demonstrates the channel has a capacity of 172 cfs at a slope of 0.5 percent. Thus it can carry the peak flow of 147 cfs. The results of the Flowmaster analysis are contained in Appendix A.

Drainage Channel Evaluation Phase I-III

The east and west perimeter channels are asphalt paved roadways with a width of 20 feet, depressed a minimum of 10 inches below the adjacent ground. The west channel has a minimum slope along the flow line of 1.8 percent and the east channel has a minimum slope of 1.4 percent. Analysis using Manning's formula as contained in the Flowmaster computer program (Haestad Methods) demonstrates the channel has a capacity of 189 cfs at a slope of 1.4 percent. Thus it can carry the peak flow of 142 cfs. The results of the Flowmaster analysis are contained in Appendix A.

ADMINISTRATION AND PUBLIC FACILITIES AREAS

These areas consisting of approximately 6 acres in northwest of the site area and has a slope of 4.0 percent toward the existing west channel and sedimentation basin area. Drainage channel is

graded along the north and east sides of the area to collect and convey runoff to the basin. Peak runoff volumes and required ditch dimensions are computed below.

Hydrologic Runoff Computations

Runoff coefficient: C = 0.57 is assumed based on the sum of four watershed factors listed in Table 1 of Appendix A:

Negligible infiltration	0.20	
Flat slopes	0.00	
No vegetal cover	0.07	
Development type	0.30	(approximately midway between residential and agricultural)

Time of concentration (T_c) is based on an average flow length of 210 feet across the 4 percent slope. The resulting T_c value is 10.9 minutes as shown on Plate 1 in Appendix A.

Rainfall intensity I is determined from Plate 2 in Appendix A. For the 1-hour rainfall of 2.5 inches and T_c value of 10.9 minutes, the charted intensity is 4.9 inches per hour.

Administration and Public Facilities Areas is 6 acres.

Based on these values the design peak flow is calculated as:

$Q = CIA$

$C = 0.57$

$I = 4.9$ inch/hour $= 1.13 \times 10^{-4}$ ft/sec

$A = 6$ acres $= 2.61 \times 10^{5}$ ft^2

$Q = 0.57 \times 1.13 \times 10^{-4}$ ft/sec $\times 2.61 \times 10^{5}$ ft^2 = 17 cfs

Q (Total) = 294 cfs (Phase IV-VI Areas) + 285 cfs (Phase I-III Areas) + 17 cfs

(Administration Area) = 596 cfs

Infiltration Basin Evaluation

The infiltration basin located on northeast side of Phase IV-A area will have approximately 13.54 acre-feet (21,845 cy) of capacity and have a spillway to overflow into the Kalialinui Gulch in the event of major storm.

The required basin capacity (VS) is calculated as the total peak runoff times T_c.
Phase IV-VI Areas

$VS = Q\ Total \times T_c$

$= 294$ cfs $\times$ 7.5 min x 60sec /27

= 4,900 cy (approximately 3.04 acre-feet)

Phase I-III Areas

VS= Q Total x T_c
= 285 cfs x 7.5 min x 60sec /27
= 4,750 cy (approximately 2.94 acre-feet)

Administration Area

VS= Q Total x T_c
= 17 cfs x 10.9 min x 60sec /27
= 412 cy (approximately 0.26 acre-feet)

VS (Total) = 4,900 cy + 4,750 cy + 412 cy
= 10,062 cy (approximately 6.24 acre-feet)

Using a safety factor of 2 the required basin capacity will be 12.48 acre-feet. The proposed designed stormwater basin will meet or exceed the required basin capacity.

CONCLUSION

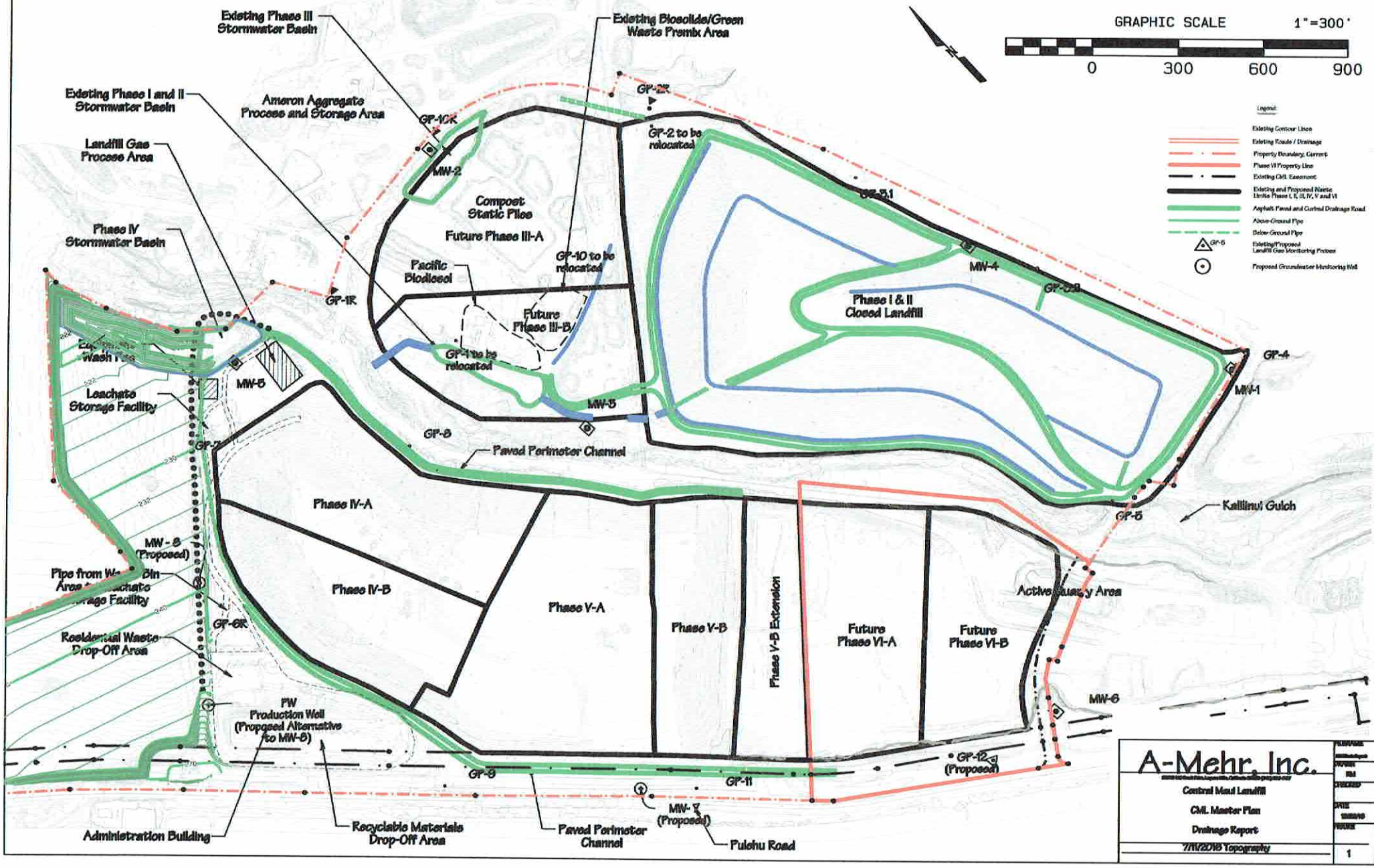
The perimeter drainage channels as designed for the Phase IV-VI and Phase I-III disposal areas are adequately sized to manage the peak runoff from the landfill at final development.

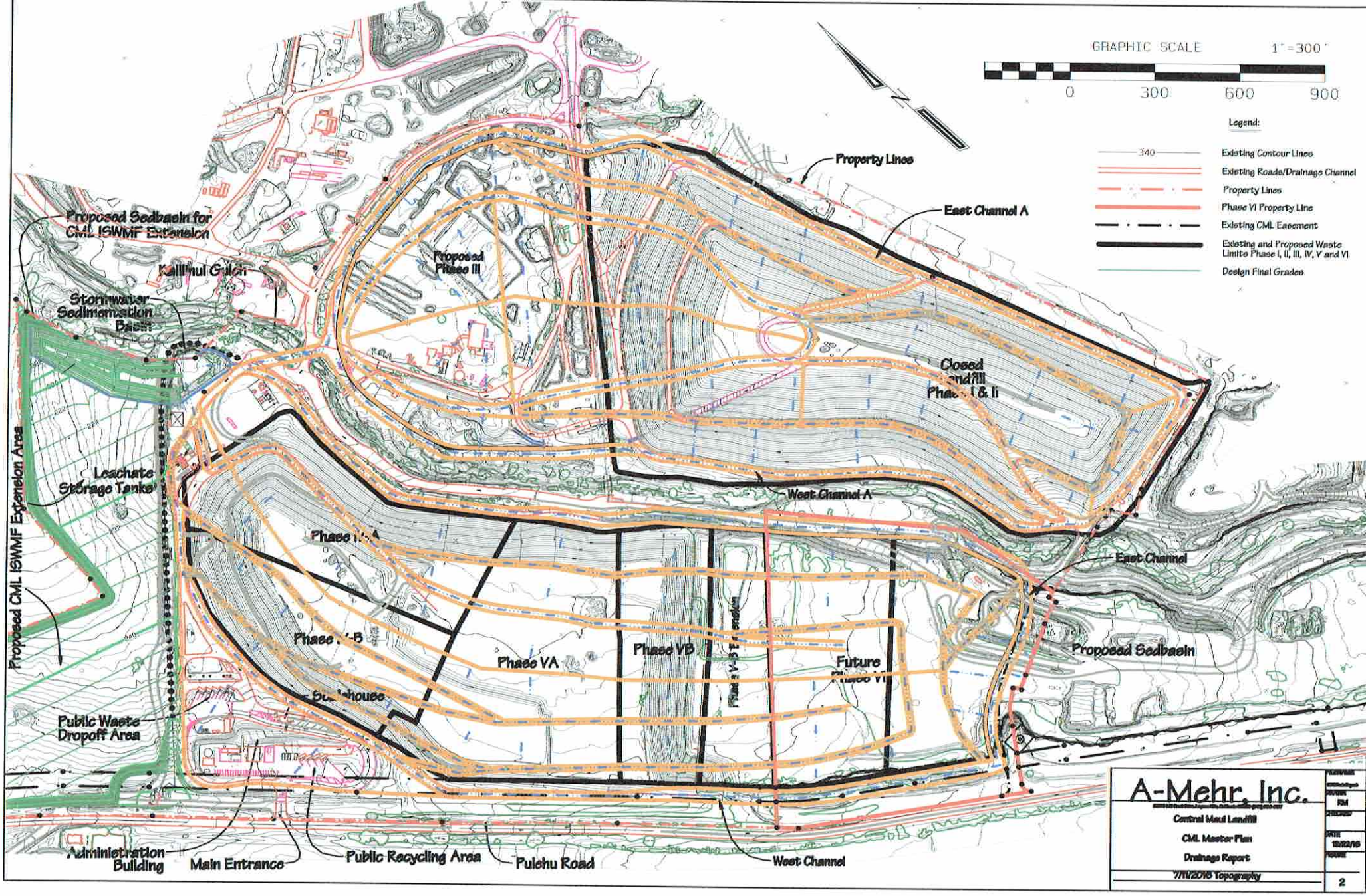
Respectfully Submitted,

M. Ali Mehrazarin, P.E.
Principal Engineer

APPENDIX A

COMPUTATION EXHIBITS AND RESULTS


Existing Phase III Stormwater Basin
Existing Biosolids/Green Waste Premix Area
GRAPHIC SCALE 1"=300'
0 300 600 900
Existing Phase I and II Stormwater Basin
Ameron Aggregate Process and Storage Area
GP-2R
GP-1CR
GP-2 to be relocated
Landfill Gas Process Area
MW-2
Compost Static Pile
Future Phase III-A
Phase IV Stormwater Basin
Pacific Biodiesel
GP-10 to be relocated
GP-1R
Future Phase III-B
GP-1 to be relocated
MW-5
Leachate Storage Facility
GP-7
GP-8
Paved Perimeter Channel
Phase I & II Closed Landfill
MW-4
GP-3R
GP-4
MW-1
Phase IV-A
Phase IV-B
Phase V-A
Phase V-B
Phase V-B Extension
Future Phase VI-A
Future Phase VI-B
Kalilinui Gulch
GP-5
MW-6
MW-8 (Proposed)
GP-6R
Residential Waste Drop-Off Area
PW Production Well (Proposed Alternative to MW-8)
GP-9
GP-11
GP-12 (Proposed)
MW-7 (Proposed)
Administration Building
Recyclable Materials Drop-Off Area
Paved Perimeter Channel
Pulehu Road
Legend
Existing Contour Lines
Existing Roads / Drainage
Property Boundary, Current
Phase VI Property Line
Existing CML Easement
Existing and Proposed Waste Limits Phase I, II, III, IV, V and VI
Asphalt-Paved and Curbed Drainage Road
Above-Ground Pipe
Below-Ground Pipe
Existing/Proposed Landfill Gas Monitoring Probes
Proposed Groundwater Monitoring Well
A-Mehr, Inc.
Central Maui Landfill
CML Master Plan
Drainage Report
7/11/2018 Topography
1



A-Mehr, Inc.

Central Maui Landfill

CML Master Plan

Drainage Report

7/11/2018 Topography

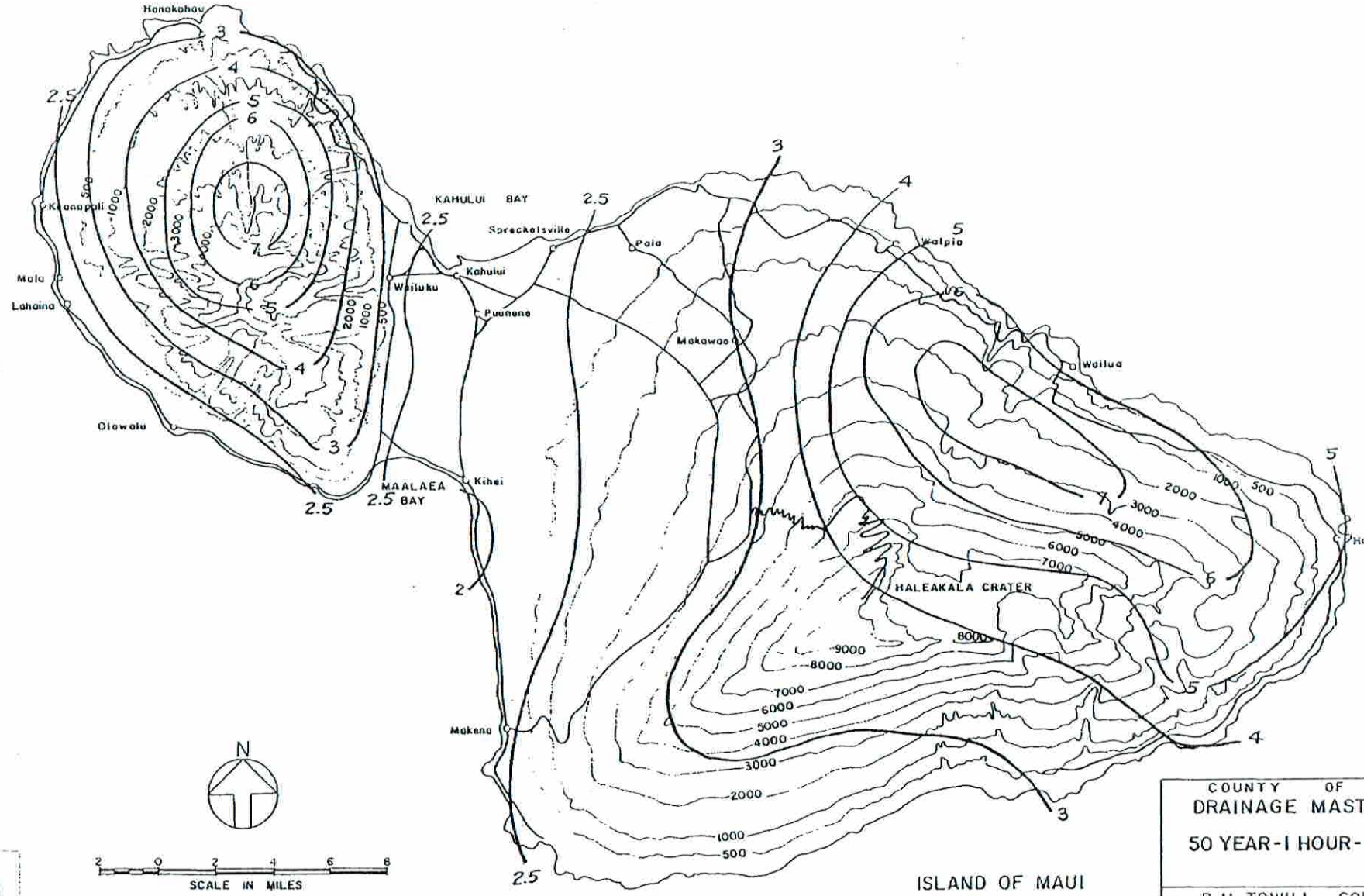
RM

12/22/18

2

APPENDIX A

COMPUTATION EXHIBITS AND RESULTS



COUNTY OF MAUI

DRAINAGE MASTER PLAN

50 YEAR-1 HOUR-RAINFALL

R.M. TOWILL CORPORATION
CIVIL ENGINEERS - SURVEYORS

PLATE 7

Table 1

GUIDE FOR THE DETERMINATION OF RUNOFF COEFFICIENTS FOR BUILT-UP AREAS*

WATERSHED CHARACTERISTICS	EXTREME	HIGH	MODERATE	LOW
INFILTRATION	NEGLIGIBLE 0.20	SLOW 0.14	MEDIUM 0.07	HIGH 0.0
RELIEF	STEEP (> 25%) 0.08	HILLY (15-25%) 0.06	ROLLING (5-15%) 0.03	FLAT (0-5%) 0.0
VEGETAL COVER	NONE 0.07	POOR (< 10%) 0.05	GOOD (10-50%) 0.03	HIGH (50-90%) 0.0
DEVELOPMENT TYPE	INDUSTRIAL & BUSINESS 0.55	HOTEL-APARTMENT 0.45	RESIDENTIAL 0.40	AGRICULTURAL 0.15

**NOTE: The design coefficient "c" must result from a total of the values for all four watershed characteristics of the site.*

Table 2

RUNOFF COEFFICIENTS

Type of Drainage Area	Runoff Coefficient C
Business:	
Downtown areas	0.95
Neighborhood areas	0.70
Residential:	
Single-family areas	0.50
Multi-units, detached	0.60
Multi-units, attached	0.75
Suburban	0.40
Apartment dwelling areas	0.70
Industrial:	
Light areas	0.80
Heavy areas	0.90
Parks, cemeteries	0.25
Playgrounds	0.35
Railroad-yard areas	0.40
Unimproved areas	0.30
Streets:	
Asphaltic	0.95
Concrete	0.95
Brick	0.85
Drive and walks	0.85
Roofs	0.95
Lawns:	
Sandy, soil, flat, 2%	0.10
Sandy, soil, avg., 2-7%	0.15
Sandy, soil, steep, 7%	0.20
Heavy soil, flat, 2%	0.17
Heavy soil, avg., 2-7%	0.22
Heavy soil, steep, 7%	0.35

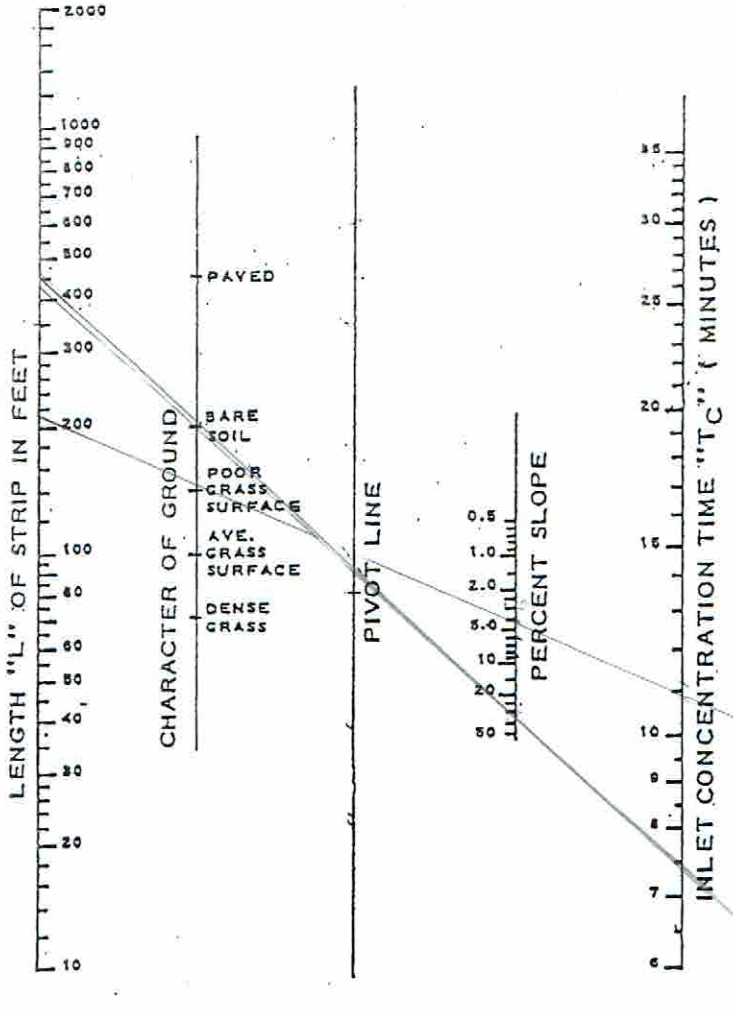
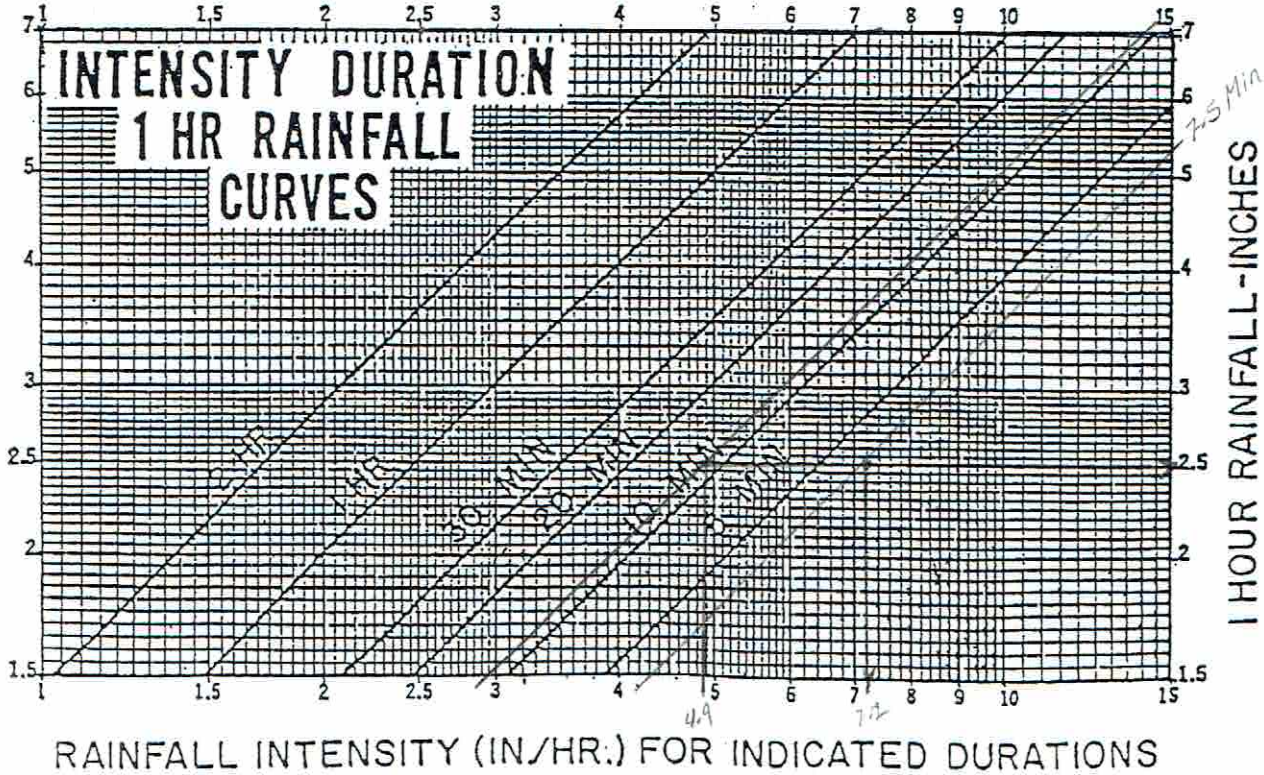


Plate 1

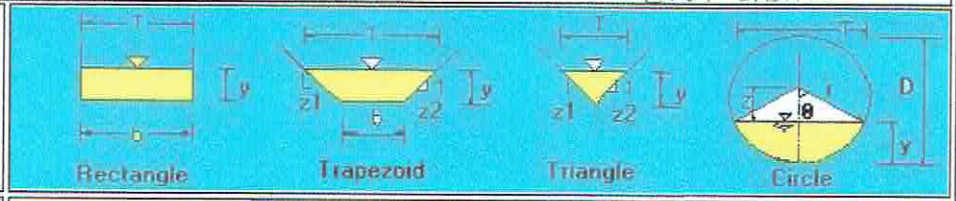
Overland Flow Chart

Plate 2



The open channel flow calculator (phase IV-VI) East channel

Select Channel Type: Rectangle

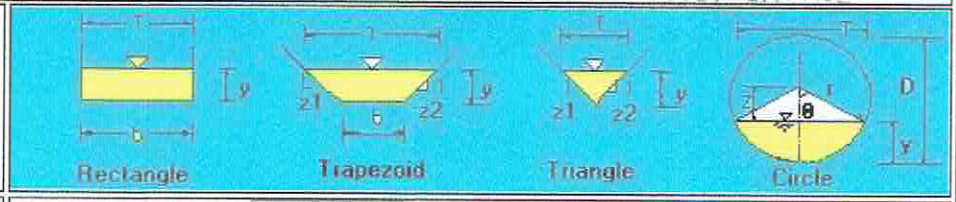


Velocity(V)&Discharge(Q) | Select unit system: Feet(ft)

Channel slope: 0.005 ft/ft	Water depth(y): .833 ft	Bottom W(b) 30 ft
Flow velocity 6.9025 ft/s	LeftSlope (Z1): 0 to 1 (H:	RightSlope (Z2): 0 to 1 (H:V
Flow discharge 172.4946 ft^3/s	Input n value .013 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 31.67 ft	Flow area 24.99 ft^2	Top width(T) 30 ft
Specific energy 1.57 ft	Froude number 1.33	Flow status Supercritical flow
Critical depth 1.01 ft	Critical slope 0.0027 ft/ft	Velocity head 0.74 ft

The open channel flow calculator (phase IV-VI) west channel

Select Channel Type: Rectangle

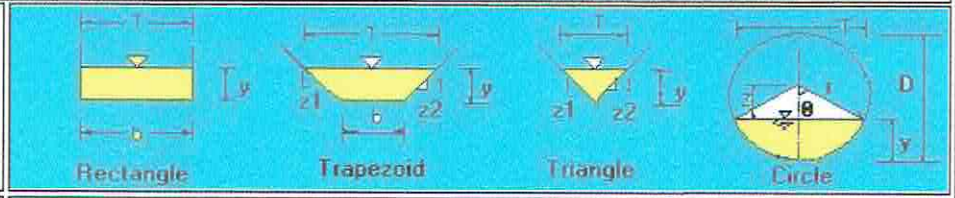


Velocity(V)&Discharge(Q) | Select unit system: Feet(ft)

Channel slope: 0.008 ft/ft	Water depth(y): .833 ft	Bottom W(b) 30 ft
Flow velocity 8.7311 ft/s	LeftSlope (Z1): 0 to 1 (H:	RightSlope (Z2): 0 to 1 (H:V
Flow discharge 218.1903 ft^3/s	Input n value .013 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 31.67 ft	Flow area 24.99 ft^2	Top width(T) 30 ft
Specific energy 2.02 ft	Froude number 1.69	Flow status Supercritical flow
Critical depth 1.18 ft	Critical slope 0.0026 ft/ft	Velocity head 1.18 ft

The open channel flow calculator (phase I-III) East channel

Select Channel Type: Rectangle

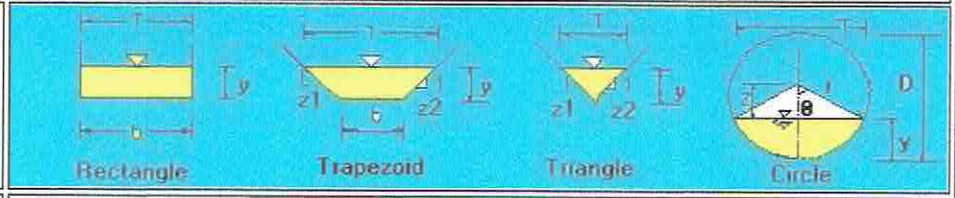


Velocity(V)&Discharge(Q) | Select unit system: Feet(ft)

Channel slope: 0.014 ft/ft	Water depth(y): .833 ft	Bottom W(b) 20 ft
Flow velocity 11.3519 ft/s	LeftSlope (Z1): 0 to 1 (H:	RightSlope (Z2): 0 to 1 (H:V
Flow discharge 189.1234 ft^3/s	Input n value .013 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 21.67 ft	Flow area 16.66 ft^2	Top width(T) 20 ft
Specific energy 2.83 ft	Froude number 2.19	Flow status Supercritical flow
Critical depth 1.41 ft	Critical slope 0.0026 ft/ft	Velocity head 2 ft

The open channel flow calculator (Phase I-III) west channel

Select Channel Type: Rectangle



Velocity(V)&Discharge(Q) | Select unit system: Feet(ft)

Channel slope: 0.018 ft/ft	Water depth(y): .833 ft	Bottom W(b) 20 ft
Flow velocity 12.8719 ft/s	LeftSlope (Z1): 0 to 1 (H:'	RightSlope (Z2): 0 to 1 (H:V
Flow discharge 214.4458 ft^3/s	Input n value .013 or select r	
Calculate!	Status: Calculation finished	Reset
Wetted perimeter 21.67 ft	Flow area 16.66 ft^2	Top width(T) 20 ft
Specific energy 3.41 ft	Froude number 2.49	Flow status Supercritical flow
Critical depth 1.53 ft	Critical slope 0.0026 ft/ft	Velocity head 2.57 ft

APPENDIX G

MULTIMED EVALUATION

APPENDIX G
MULTIMED EVALUATION

CENTRAL MAUI LANDFILL
PHASE III
PUUNENE, HAWAII

1. INTRODUCTION AND PURPOSE

This document presents the results of contaminant fate and transport modeling performed by A-Mehr, Inc. (A-Mehr) for the additional refuse to be placed over the improved north-facing slope of the existing Phase II landfill as part of the proposed Phase III disposal area development at the Central Maui Landfill (CML).

The Phase II slope improvements design is addressed in detail in the Central Maui Landfill Phase III Design Report (Design Report), and the reader is referred to that report for additional specifics of the planned slope improvements and the larger Phase III disposal area design.

The contaminant fate and transport modeling activities were conducted to demonstrate the combination of the existing Phase II final cover system, the overall positive slope of the Phase II area, and the planned improvements to the Phase II slope prior to placement of refuse (as described in the referenced Design Report), coupled with the lack of observed leachate generation in the closed Phase I/II areas, evaluation of current site groundwater conditions, and the arid environment of the site will provide protection of the underlying groundwater resources in a manner that is equivalent to or exceeds that of an impermeable liner as defined by HAR 11-58.1-3.

The remainder of the document is organized in four parts, as follows:

- Model General Approach
- Model Inputs
- Model Results, and
- References.

2. GENERAL APPROACH

The contaminant fate and transport model simulations were completed using Version 1.51 of the commercially-available software package MULTIMED for Windows (Allison Geosciences, Inc., 2005). The modeling activities for the CML Phase II slope

incorporated MULTIMED's Subtitle D restrictions and settings. This was done to facilitate subsequent evaluation of the modeling results by allowing general comparison of modeling procedures and results to other landfill facilities. The following model settings and restrictions were therefore utilized:

- Only the saturated and unsaturated modules were used;
- Only steady-state transport simulations were used, no decay of the landfill leachate concentrations entering the aquifer system were allowed, and the contaminant pulse was assumed to be continuous and constant for the duration of the simulation;
- The receptor wells were assumed to lie directly downgradient of the facility;
- The contaminant concentrations were calculated at the top of the aquifer; and
- A Gaussian source geometry was utilized;

As with all modeling efforts, the work performed involved the use of several assumptions regarding site conditions and processes affecting contaminant fate and transport in subsurface environments. Any use of the modeling results should be tempered with an understanding of the assumptions involved.

3. MODEL INPUTS

Table 1 lists the facility-specific settings and values utilized in the modeling effort. It also includes a brief description or reference describing how the value or setting was selected. The remainder of this section provides additional information regarding several of the model inputs and settings.

3.1 Phase II Slope Characteristics

Sections 2 and 4.2 of the Design Report provide detailed descriptions of the existing Phase II slope and the proposed improvements to be made prior to placement of Phase III refuse that will overly the existing Phase II slope.

3.2 Infiltration Rates

The infiltration rate used for improved Phase II slope in the modeling effort was derived using the HELP model. Appendix C of the Design Report presents the results of the HELP modeling performed for the Phase II slope.

3.3 Initial Leachate Concentrations

Tables 2A and 2B presents the historical leachate analytical data for the two currently active landfill leachate collection sumps from which leachate samples have been collected: IV-A sump and IV-B sump. Sampling and analysis of Phase I/II leachate has not been possible due to lack of leachate. Leachate sump IV-A has been sampled and analyzed 17 times and sump IV-B has been sampled and analyzed 19 times. Table 3 presents the maximum recorded concentrations for each of the monitored analytes for the two sumps and summarizes the maximum recorded site concentration for each analyte.

3.4 Potential Contaminants

The potential contaminants included in the MULTIMED modeling effort are listed in Table 4. These contaminants were included in the modeling because the USEPA/State of Hawaii has established a maximum contaminant level (MCL) for drinking water for each. Table 4 presents the MCL, both primary and secondary, for each contaminant analyzed by CML for which a MCL has been established.

Leachate constituents, for which the maximum recorded concentration for the site occur at concentrations below the respective MCL for drinking water, were not considered in the modeling efforts.

Although no MCLs have been established for ammonia-nitrogen, this reduced nitrogen form was included in the modeling effort given that they can, to some extent, be expected to convert to nitrate during migration through oxidized portions of the unsaturated zone. However, as a conservative step, all of the nitrogen reported for the ammonia-nitrogen was assumed to be converted to nitrate for purposes of the modeling effort. Given that these “assumed” nitrate concentrations exceeded the MCL for nitrate, this parameter was included in the modeling effort.

3.5 Receptor Wells

For purposes of this modeling effort, it was assumed that the relevant Point of Compliance (POC) monitoring well would be located no more than 150 meters from the Phase II waste boundary; consistent with the Design Criteria of Subtitle D. The liner limits of the proposed Phase III area precludes placement of wells within 150 meters from the northern edge of the Phase II disposal area. Monitoring wells MW-2 and MW-9 will be the closest downgradient monitoring points for the existing Phase I/II refuse. These wells are located approximately 213 meters (MW-2) and 259 meters (MW-9) from the northern edge of the Phase II disposal area.

3.6 Hydraulic Conductivity

Based on review of data from slug tests and constant-rate pumping tests conducted at CML wells, an average hydraulic conductivity for the aquifer underlying the site of 2,030 ft/day (2,578 cm/hr) is estimated (CH2M, May 2018).

3.7 Groundwater Gradient

Recent calculation of the groundwater gradient for the site is 0.000097 ft/ft (CH2M, May 2018).

3.8 Contaminant Fate and Transport Processes

Input with regard to subsurface flow and transport modules were estimated from information presented in the USEPA's (1995) MULTIMED guidance manual.

4. MODEL RESULTS

Table 5 summarizes the results of the MULTIMED modeling. Complete MULTIMED program input and output is presented following Table 5. For the POC well (well located 150 meters from the waste footprint) the dilution attenuation factor (DAF) was 132.3 and the calculated concentrations for the modeled parameters were less than their MCLs.

5. REFERENCES

Allison Geosciences, Inc., 2005, "MULTIMED for Windows, Groundwater Fate and Transport Model", version no. 1.51.

CH2M, Inc., 2018, "Groundwater and Leachate Monitoring Plan, Central Maui Landfill".

United States Environmental Protection Agency (USEPA), 1995, "A Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (Multimed 2.0)".

Waterloo Environmental, Inc., 2003, "Visual HELP", version 2.2.

TABLES

TABLE 1
MULTIMED INPUT PARAMETERS
CENTRAL MAUI LANDFILL, PHASE III

PARAMETER	UNIT	VALUE	NOTES/EXPLANATION
General			
Application Type	--	Subtitle D	MULTIMED for Windows, Version 1.51 software was employed. The model settings shown for application type, run type, source type, and aquifer source plane geometry are consistent with Subtitle D requirements outlined in EPA (1995).
Run Type	--	Deterministic	
Source Type	--	Steady State	
Aquifer Source Plane Geometry	--	Gaussian	
Active Models	--	Saturated & Unsaturated Zones	Consistent with depth to groundwater at CML.
Number of Monte Carlo Iterations	--	--	Not required for Subtitle D applications.
Monte Carlo Confidence Interval	%	--	
Source			
Source Length	m	137.2	Average source length per Phase III design drawings.
Source Width	m	322.4	Source width is width of Ph II slope at base.
Source Area	m^2	45,000	Source area is measured value.
Source Infiltration Rate	m/yr	0.0001658	Ph II Slope, 30 Year Post Closure Period, HELP model generated value.
Outside Recharge Rate	m/yr	0	Conservative Assumption - Model results do not account for potential concentration decrease associated with recharge by surface precipitation along transport path.
Initial Concentration	mg/L	1	The initial concentration was set 1.0 to allow calculation of the dilution-attenuation factor (DAF).
Source Duration	yr	--	Not Applicable - Subtitle D applications require a steady state source (i.e., no decay of the source concentration over time).
Source Decay Coefficient	1/yr	--	
Initial Spread of Source	m	Derived	Calculated by model.
Chemical			
Chemical Name	--	Generic	Not required for calculation of dilution-attenuation factor (DAF).

	Normalized Distribution Coefficient	mL/g	0	Conservative Assumption - Model results do not account for potential concentration decrease associated with sorption to, or reaction with, soild phase materials during saturated flows.
	Dissolved Decay Coefficient	1/yr	0	
	Sorbed Decay Coefficient	1/yr	0	
	Overall Aquifer Decay Coefficient	1/yr	0	
	Acid Hydrolysis Rate	L/mole-yr	--	
	Neutral Hydrolysis Rate	L/mole-yr	--	
	Base Hydrolysis Rate	L/mole-yr	--	
	Aquifer Distribution Coefficient	mL/g	0	
	Hydrolysis Reference Temperature	degrees C	--	
Unsaturated Zone				
	Flow Layer Thickness	m	63.4	Ph II refuse base elevation - GW elevation below PH II slope area.
	Saturated Hydraulic Conductivity	cm/hr	2578	CH2M (2018)
	Effective Porosity	unitless	0.15	Mink & Lau (1980)
	Air Entry Pressure Head	m	0	Estimated from values provided in EPA (1995).
	Residual Water Content	unitless	0.4	Estimated.
	van Genuchten Alpha	1/cm	0.145	Estimated from values provided in EPA (1995).
	van Genuchten Beta	unitless	2.68	Estimated from values provided in EPA (1995).
	Transport layer Thickness	m	63.4	Same as flow layer thickness (above).
	Longitudinal Dispersivity	m	1	Maximum default value in model for deep unsaturated zones.
	Percent Organic Matter	%	0	Conservative assumption - no sorption of chemicals to solids.
	Bulk Density	g/cc	2.65	Estimated.
	Biological Decay Coefficient	1/yr	0	Conservative assumption - no decay.
Unsaturated Zone				
	Aquifer Thickness	m	200	Assumed.
	Mixing Zone Thickness	m	--	Derived by model.
	Effective Porosity	unitless	0.15	Mink & Lau (1980)

	Particle Diameter	cm	--	Not required for Subtitle D application.
	Bulk Density	g/cc	2.5	Estimated.
	Saturated Hydraulic Conductivity	cm/hr	2578	CH2M (2018)
	Hydraulic Gradient	unitless	0.000097	CH2M (2018)
	Seepage Velocity	m/yr	--	Derived by model.
	Longitudinal Dispersivity	m	--	Derived by model.
	Vertical Dispersivity	m	--	Derived by model.
	Aquifer Temperature	degrees C	25	Estimated.
	Aquifer pH	std units	7	Estimated.
	Fraction of Organic Carbon	unitless	--	Not required for Subtitle D application.
	Retardation Factor	unitless	1	Conservative Assumption - Model results assume no retardation or decay of containment concentrations during transport.
	Aquifer Biological Decay Coefficient	1/yr	0	
Well Location and Time				
	Radial Distance to Well	m	150	Maximum offset from waste to well per Subtitle D.
	Angle Off Plume Axis	degrees C	0	For Subtitle D applications, the MULTIMED model automatically assumes the well is directly downgradient from center line of landfill source and calculates contaminant concentrations at top of water table.
	Well Screen Depth Factor	unitless	0	
	Time Step Option	--	--	Not required for Subtitle D application.
	Start Time	--	--	
	End Time	--	--	

TABLE 2A
HISTORICAL LEACHATE ANALYTICAL DATA, IV-A SUMP
CENTRAL MAUI LANDFILL

HAWAII LANDFILL GROUNDWATER MONITORING GUIDANCE DOCUMENT TABLE 4.1		Sampling Date																
MAJOR LEACHATE INDICATORS (mg/L)	**Units**	03/24/06	07/05/06	02/27/08	01/22/09	03/22/10	09/28/10	03/14/13	09/25/13	03/10/14	07/29/14	03/30/15	04/19/16	11/02/16	06/19/17	11/14/17	05/08/18	11/7/2018
Total Dissolved Solids (TDS)	mg/L	NA	NA	NA	NA	NA	3,402	3,300	3,070	3,290	3,598	3,100	3500	3800	3700	4308	4388	4300
Total Organic Carbon (TOC)	mg/L	980	250	70	29	55.5	85.0	91	87.0	62.0	106.0	13.0	110	130	120	177	310	180
Total Alkalinity (as CaCO3)	mg/L	1,020	1,450	2,300	333	1,540	1,216	1,800	1,897.5	1,710.0	1,696.0	1,700.0	1700	1800	2000	187	1500	1900
Nitrogen, Ammonia	mg/L	7.24	22.0	5.99	0.56	6.72	8.51	12	15.3	18.7	24.7	16	29	49	N/A	24.9	80.4	81
Chlorine (Total Residual)	mg/L	0.2	ND	0.16	0.05	<0.02	0.10	0.0660	0.245	0.426	0.418	0.096	ND	ND	N/A	0.547	0.605	ND
Iron	mg/L	10.1	6.18	11.9	3.10	1.01	0.986	4	3.5	4.1	3.7	3.6	2.8	3.9	3.7	1.671	4.7	4.2
Magnesium	mg/L	180	176	430	211	224	334	380	342	420	476	380	410	400	380	477	546	420
Sodium	mg/L	339	360	634	402	339	630	580	574	625	679	570	680	730	650	925	1090	880
Calcium	mg/L	170	117	41.9	72.1	37.3	40.2	22	23.7	23.2	17.34	18	18	20	20	29.4	35.5	20
Potassium	mg/L	53.2	62.8	32.5	21.6	21.1	30.6	28	26.9	29.8	33.8	29	43	54	52	68.9	91.2	74
Alkalinity (as Carbonate)	mg/L	NA	NA	NA	NA	NA	56.2	ND	ND	2.9	1.9	ND	1700	1800	2000	ND	ND	1900
Sulfate (SO4)	mg/L	129	28.8	<200	5.0	<2	<2	ND	ND	1.68	1.24	84	ND	ND	ND	ND	7.59	ND
Alkalinity (as Bicarbonate)	mg/L	NA	NA	NA	NA	NA	14,725	1,800	2,313.5	2,080.9	2,065.9	1,700.0	1700	1800	2000	228.4	182.9	1900
Chloride	mg/L	235	220	690	515	370	1,040	1,000	975	822	919	720	1100	1300	1200	1388	1080	1400
40 CFR PART 258 APPENDIX I PARAMETERS																		
CONSTITUENTS FOR DETECTION MONITORING																		
INORGANIC CONSTITUENTS (mg/L)																		
Antimony	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.001	ND
Arsenic	mg/L	NA	NA	NA	NA	NA	0.014	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.009	ND
Barium	mg/L	NA	NA	NA	NA	NA	0.758	0.95	0.55	0.51	0.54	0.45	0.57	0.61	0.59	0.784	1.06	0.83
Beryllium	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND
Cadmium	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND
Chromium	mg/L	NA	NA	NA	NA	NA	0.056	ND	0.018	0.025	0.038	ND	ND	ND	ND	0.004	0	0.0053
Cobalt	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.013	0	0.014
Copper	mg/L	0.0118	ND	ND	ND	<0.020	<0.010	0.0300	0.0720	0.1900	0.0460	0.0180	ND	0.0120	0.0110	0.0160	0.0000	0.0150
Lead	mg/L	NA	NA	NA	NA	NA	<0.010	0.0073	ND	ND	ND	ND	ND	ND	ND	0.001	0	ND
Nickel	mg/L	0.0184	0.0136	ND	0.0160	<0.020	0.0190	0.0140	0.0280	0.0180	0.0220	0.0110	0.0250	0.0270	0.0260	0.0470	0.0000	0.0570
Selenium	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0	ND
Silver	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0	ND
Thallium	mg/L	NA	<0.020	<0.020	<0.0050	<0.010	<0.010	ND	ND	ND	0.0	ND	ND	ND	ND	ND	0.0	ND
Vanadium	mg/L	NA	0.0	<0.020	<0.010	<0.010	<0.010	ND	ND	ND	0.0	ND	ND	ND	ND	0.005	0.000	0.008
Zinc	mg/L	0.0570	<0.020	<0.020	<0.100	0.0200	<0.020	0.0610	0.0200	ND	0.0000	0.0500	ND	ND	ND	0.0470	0.0000	ND
40 CFR PART 258 APPENDIX I PARAMETERS																		
CONSTITUENTS FOR DETECTION MONITORING																		
ORGANIC CONSTITUENTS (ug/L)																		
Acetone	ug/L	208	902	42.6	ND	<10.0	10.4	16	ND	ND	ND	ND	ND	ND	ND	156	13	ND
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	<10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/L	1.94	ND	ND	ND	<1.00	<1.00	0.98	2.3	2.1	ND	3.2	ND	ND	4	ND	ND	ND
Bromochloromethane	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/L	ND	0	0	0	0	0	0	ND	0	0	0	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND
Chloroethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
1,2-Dibromoethne (EDB)	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
o-Dichlorobenzene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene	ug/L	0	0	0	0	0	0	ND	ND	0	0	0	ND	ND	ND	ND	ND	ND
trans-1, 4-Dichloro-2-butene	ug/L	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	0	0	ND	ND
1,1-Dichlorethane	ug/L	8.62	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
1,2-Dichloroethane	ug/L	1.79	ND	ND	1.11	0.75	<0.500	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
1,1-Dichloroethylene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	0	ND
cis-1,2-Dichloroethylene	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	2.8	0	ND
trans-1,2-Dichloroethylene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	0	ND
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
Ethylbenzene	ug/L	6.13	ND	ND	1.67	<1.00	<1.00	ND	ND	ND	ND	13	ND	ND	20	ND	ND	ND
2-Hexanone	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
Methyl Bromide	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	0	0	ND
Methyl Chloride	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	88	ND
Methylene Bromide	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
Methylene Chloride	ug/L	372	ND	ND	ND	<2.50	<2.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone (MEK)	ug/L	467	1220	36.2	ND	<5.00	<5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ug/L	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

4-Methyl-2-Pentanone	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND	0	ND	0	ND
Styrene	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND
1,1,1,2-Tetrachloroethane	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
Tetrachloroethylene	ug/L	10.7	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND
Toluene	ug/L	62.8	10.4	ND	ND	<1.00	<1.00	1.2	ND	ND	ND	ND	ND	ND	16	ND	2.3	ND
1,1,1-Trichloroethane	ug/L	<1.00	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
1,1,2-Trichloroethane	ug/L	<1.00	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	0	#REF!	ND	ND
Trichloroethylene	ug/L	10.4	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	#REF!	0	ND
Trichlorofluoromethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	0	0	ND	ND
Vinyl Acetate	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/L	ND	ND	1.16	0.94	0.77	<0.500	2.2	5.9	2.9	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ug/L	33.9	ND	2.46	3.85	7.76	1.38	7.9	3.2	ND	2.12	2.2	3.9	3.4	32	ND	20	1.7
40 CFR PART 258 APPENDIX II PARAMETERS LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS (ug/L)																		
Acenaphthene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Acenaphthylene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Acetone	ug/L	208	902	42.6	ND	<10.0	10.4	16.0	ND	ND	ND	ND	ND	ND	ND	156	13	ND
Acetonitrile	ug/L							ND	ND				ND	ND		ND	ND	ND
Acetophenone	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2-Acetylaminofluorene; 2-AAF	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Acrolein	ug/L												ND	ND	ND	ND	ND	ND
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	<10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ug/L							ND	ND						ND	ND	ND	ND
Allyl Chloride	ug/L							ND	ND				ND	ND		ND	ND	ND
4-Aminobiphenyl	ug/L							ND	ND				ND	ND	ND	ND		ND
Anthracene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Antimony	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.001	ND
Arsenic	mg/L	NA	NA	NA	NA	NA	0.014	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.009	ND
Barium	mg/L	NA	NA	NA	NA	NA	0.758	0.950	0.55	0.51	0.54	0.45	0.57	0.61	0.59	0.784	1.06	0.83
Benzene	ug/L	1.9	ND	ND	ND	<1.00	<1.00	0.98	2.3	2.1	ND	3.2	ND	ND	4	ND	2.6	1.3
Benzo(a)anthracene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Beryllium	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
alpha-BHC (Lindane)	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
beta-BHC (Lindane)	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
delta-BHC (Lindane)	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
gamma-BHC (Lindane)	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Bis(2-chloro-1-methylethyl) ether	ug/L							ND	ND				ND					
Bis(2-ethylhexyl) phthalate	ug/L							ND	ND				ND	ND	ND	ND	88	7
Bromochloromethane	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Butyl Benzy Phthalate	ug/L							ND	ND				ND	ND	ND	ND		ND
Cadmium	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
Carbon Disulfide	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachlroide	ug/L	ND	ND	ND	ND	<0.500	<0.500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ug/L	ND							ND				ND	ND	ND	ND	ND	ND
p-Chloroaniline	ug/L							ND	ND							ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzilate	ug/L							ND	ND							ND	ND	
p-Chloro-m-cresol	ug/L							ND	ND				ND	ND				
Chloroethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2-Chlorophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Chloroprene	ug/L							ND	ND				ND	ND			ND	
Chromium	mg/L	NA	NA	NA	NA	NA	0.056	ND	0.018	0.025	0.038	ND	ND	ND	ND	0.004		0.0053
Chrysene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Cobalt	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.013		0.014
Copper	mg/L	0.0118	ND	ND	ND	<0.020	<0.010	0.03	0.072	0.19	0.046	0.018	ND	0.012	0.011	0.016		0.015
m-Cresol	ug/L							ND	ND				ND	ND		ND		
o-Cresol	ug/L							ND	ND				ND	ND		ND		
p-Cresol	ug/L							ND	ND				ND	ND		ND		
Cyanide	mg/L							ND	ND				ND	ND		0.001		ND
2,4-Dichlorophenoxyacetic acid	ug/L							ND	0.6				ND	ND				
4,4-DDD	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
4,4-DDE	ug/L							ND	ND				ND	ND	ND	ND	ND	ND

4,4-DDT	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Diallate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Dibenzofuran	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1,2-Dibromoethne (EDB)	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Di-n-butyl phthalate	ug/L							ND	ND				ND	ND	ND	ND		
o (1, 2)-Dichlorobenzene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m (1, 3)-Dichlorobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
p (1, 4)-Dichlorobenzene	ug/L	2.03	ND	ND	ND	<1.00	<1.00	ND	2.0	ND	ND	2.4	ND	2.0	ND	ND	3.1	2.7
3,3'-Dichlorobenzinide	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
trans-1, 4-Dichloro-2-butene	ug/L	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND
Dichlorodifluoromethane	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
1,1-Dichlorethane	ug/L	8.62	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1,2-Dichloroethane	ug/L	1.79	ND	ND	1.11	0.750	<0.500	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1, 1-Dichloroethylene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND		ND
cis-1,2-Dichloroethylene	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND		2.8		ND
trans-1, 2-Dichloroethylene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND		ND
2,4-Dichlorophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2,6-Dichlorophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1,3-Dichloropropane	ug/L							ND	ND				ND	ND		ND	ND	ND
2,2-Dichloropropane	ug/L							ND	ND				ND	ND		ND	ND	ND
1,1-Dichloropropene	ug/L							ND	ND				ND	ND		ND	ND	ND
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Dieldrin	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
O,O-Diethyl O-2-pyrazinyl Phosphorothioate	ug/L							ND	ND				ND	ND			ND	
Dimethoate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
p-(dimethylamino)azobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
7,12-Dimethylbenz(a)anthracene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
3,3'-Dimethylbenzidine	ug/L							ND	ND				ND	ND	ND	ND		ND
alpha, alpha-Dimethylphenethylamine	ug/L							ND	ND				ND	ND	ND		ND	ND
2,4-Dimethylphenol	ug/L							ND	ND				ND	ND	ND	ND	4.3	ND
Dimethyl phthalate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
m (1, 3) -Dinitrobenzene	ug/L							ND	ND				ND	ND		ND	ND	ND
4,6-Dinitro-o-cresol	ug/L							ND	ND				ND	ND				
2,4-Dinitrophenol	ug/L							ND	ND				ND	ND		ND	ND	ND
2,4-Dintrotolulene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2,6-Dinitrotolulene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Dinoseb (DNBP)	ug/L							ND	ND				ND	ND			ND	ND
Di-n-octyl phthalate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Diphenylamine	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Disulfoton	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Endosulfan I	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Endosulfan II	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Endrin	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Endrin Aldehyde	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	6.13	ND	ND	1.67	<1.00	<1.00	ND	ND	ND	ND	13.0	ND	ND	20	ND	ND	ND
Ethyl Methacrylate	ug/L							ND	ND				ND	ND			ND	ND
Ethyl Methanesulfonate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Fampur	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Fluoanthene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Fluorene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Heptachlor	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Hexachloroethane	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Hexachloropropene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2-Hexanone	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Isobutyl Alcohol	ug/L							ND	ND							ND		
Isodrin	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Isophorone	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Isosafrole	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Kepone	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Lead	mg/L	NA	NA	NA	NA	NA	<0.010	0.007	ND	ND	ND	ND	ND	ND	ND	0.001		ND
Mercury	mg/L							ND	ND				ND	ND	ND	0		ND
Methacrylonitrile	ug/L							ND	ND				ND	ND			ND	ND
Metapyrilene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Metaxychlor	ug/L							ND	ND				ND	ND	ND	ND	ND	
Methyl Bromide	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND				ND
Methyl Chloride	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND				ND
3-Methylcholanthrene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND

Methyl Ethyl Ketone (MEK)	ug/L	467	1,220	36.2	ND	<5.00	<5.00	ND	ND	ND	ND	ND	ND	ND	ND			ND
Methyl Iodide	ug/L	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND
Methyl Methacrylate	ug/L							ND	ND				ND	ND		ND	ND	ND
Methyl Methanesulfonate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2-Methylnapthalene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Methyl Parathion	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Methylene Bromide	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND				ND
Methylene Chloride	ug/L	372	ND	ND	ND	<2.50	<2.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/L							ND	ND				ND	ND	ND	ND	4.9	2.6
1,4-Naphthoquinone	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
1-Naphthylamine	ug/L							ND	ND				ND	ND	ND		ND	ND
2-Naphthylamine	ug/L							ND	ND				ND	ND	ND		ND	ND
Nickel	mg/L	0.0184	0.0136	ND	0.016	<0.020	0.019	0.014	0.028	0.018	0.022	0.011	0.025	0.027	0.026	0.047		0.057
o-Nitroaniline	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
m-Nitroaniline	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
p-Nitroaniline	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Nitrobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
o-Nitrophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
p-Nitrophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-butylamine	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
N-Nitrosodiethylamine	ug/L							ND	ND				ND	ND	ND		ND	ND
N-Nitrosodimethylamine	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
N-Nitrosodipropylamine	ug/L							ND	ND				ND	ND				ND
N-Nitrosomethylethalamine	ug/L							ND	ND				ND	ND	ND		ND	ND
N-Nitrosopiperidine	ug/L							ND	ND				ND	ND	ND		ND	ND
N-Nitrosopyrrolidine	ug/L							ND	ND				ND	ND	ND		ND	ND
5-Nitro-o-toluidine	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Parathion	ug/L							ND	ND							ND	ND	
Pentachlorobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Pentachlorophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Phenacetin	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Phenanthrene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Phenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
p-Phenylenediamine	ug/L							ND	ND							ND	ND	ND
Phorate	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCBs)	ug/L							ND	ND							ND		
Pronamide	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Propionitrile	ug/L							ND	ND					ND			ND	ND
Pyrene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Safrole	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
Selenium	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.002		ND
Silver	mg/L	NA	NA	NA	NA	NA	<0.010	ND	ND	ND	ND	ND	ND	ND	ND	0.001		ND
Silvex	ug/L							ND	ND				ND	ND		ND	ND	ND
Styrene	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sulfide	ug/L							ND	ND				ND	ND				ND
2,4,5-Trichlorophenolxyacetic (Acetic Acid)	ug/L							ND	ND					ND			ND	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ug/L													ND		ND		
1,2,4,5-Tetrachlorobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Tetrachloroethylene	ug/L	10.7	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
2,3,4,6-Tetrachlorophenol	ug/L							ND	ND				ND	ND	ND		ND	ND
Thallium	mg/L	NA	<0.020	<0.020	<0.0050	<0.010	<0.010	ND	ND	ND		ND	ND	ND	ND	ND		ND
Tin	mg/L							ND	ND				ND	ND		0.001	0.002	ND
Toluene	ug/L	62.8	10.4	ND	ND	<1.00	<1.00	1.2	ND	ND	ND	ND	ND	ND	16	3.1	2.3	ND
o-Toluidine	ug/L							ND	ND								ND	ND
Toxaphene	ug/L							ND	ND					ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	6.83	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Trichloroethylene	ug/L	10.4	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
Trichlorofluoromethane	ug/L	ND	ND	ND	ND	<1.00	<1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ug/L							ND	ND				ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/L	NA	NA	NA	NA	NA	<1.00	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
O,O,O-Triethyl Phosphorothioate	ug/L							ND	ND				ND	ND			ND	ND
sym-Trinitrobenzene	ug/L							ND	ND					ND			ND	ND
Vanadium	mg/L	NA	0.027	<0.020	<0.010	<0.010	<0.010	ND	ND	ND		ND	ND	ND	ND	0.005		0.0082
Vinyl Acetate	ug/L	NA	NA	NA	NA	NA	<5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/L	ND	ND	1.16	0.940	0.770	<0.500	2.2	5.9	2.9	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ug/L	33.9	ND	2.46	3.85	7.76	1.38	7.90	3.20	ND	2.12	2.20	3.90	3.40	32	37	20	1.7
Zinc	mg/L	0.057	<0.020	<0.020	<0.100	0.020	<0.020	0.061	0.02	ND		0.05	ND	ND	ND	0.047		ND

TABLE 2B
HISTORICAL LEACHATE ANALYTICAL DATA, IV-B SUMP
CENTRAL MAUI LANDFILL

HAWAII LANDFILL GROUNDWATER MONITORING GUIDANCE DOCUMENT TABLE 4.1		Sampling Date																		
MAJOR LEACHATE INDICATORS (mg/L)	**Units**	12/21/09	06/23/10	12/15/10	06/21/11	12/22/11	06/19/12	12/18/12	06/20/13	12/18/13	05/14/14	12/18/14	06/30/15	11/16/15	04/19/16	11/02/16	05/09/17	12/12/17	05/08/18	11/7/2018
Total Dissolved Solids (TDS)	mg/L	2,750	1,942	1,370	2,130	2,180	1,900	2,300	2,400	2,411	2,424	2,900	3,100	3,900	3,900	4,100	3200	5136	4864	5200
Total Organic Carbon (TOC)	mg/L	72.5	3.6	27.0	34.0	48	35	43	48	31	49	39	74	100	94	130	100	148	160	240
Total Alkalinity (as CaCO3)	mg/L	1,860	1,246	774	1,500	1,300	1,100	1,400	1,500	107	1,188	1,100	1,400	1,600	1,400	1,600	1700	1690	2406	1900
Nitrogen, Ammonia	mg/L	5.12	7.84	9.46	8.01	7.3	6.5	8.4	7.6	7.7	8.1	7.3	8.2	9.5	8.5	17		18.8	42.1	75
Chlorine (Total Residual)	mg/L	<0.02	<0.02	0.02	0.125	0.0220	0.0630	0.0760	0.0780	0.2200	0.248	0.032	0.078	ND	ND	ND	ND	ND	0.649	ND
Iron	mg/L	0.962	2.34	3.317	14.000	7.800	9.7	18.0	23.000	1.7	1.9	5.6	3	4.1	6.4	4.3	4.5	1.39	5.04	6.5
Magnesium	mg/L	341.0	153	88.8	190	210	190	260	220.000	207	224	270	290	370	330	390	290	463	501	500
Sodium	mg/L	470	267	192	340	450	320	460	420.000	435	433	590	520	670	630	740	780	894	953	1100
Calcium	mg/L	40.2	74.4	49.5	130	120	110	130	120.000	92.6	92.9	96	120	130	110	130	87	158	13	110
Potassium	mg/L	21.5	25.5	<20.0	27	36	29	34	36.000	34	37.9	43	43	51	49	63	57	88.7	8	100
Alkalinity (as Carbonate)	mg/L	NA	0.9	0.2	<2.0	<2.0	<20	1400	1,200	ND	1.4	ND	ND	ND	1400	ND	1700	ND	ND	1900
Sulfate (SO4)	mg/L	13.5	<2	30.0	0.59	<1.0	<1.0	ND	ND	ND	1.96	ND	ND	ND	ND	ND	2.6	3.85	8.1	ND
Alkalinity (as Bicarbonate)	mg/L	NA	1,518.6	314.4	1,500	1,300	1,100	1,400	1,500	134	1,447	1,100	1,400	1,600	1,400	1,600	1700	218.2	180.4	1900
Chloride	mg/L	470	330	170	350	550	460	570	580	728	676	900	910	ND	1,100	1,600	930	1917	1188	1900
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING INORGANIC CONSTITUENTS (mg/L)																				
Antimony	mg/L	NA	<0.02	<0.02	<0.01	<0.01	<0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.001	ND
Arsenic	mg/L	<0.01	<0.01	<0.01	<0.05	<0.2	<0.2	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	0.005	0.008	ND
Barium	mg/L	0.267	0.109	0.08	0.274	0.22	0.24	0	0.31	0.16	0.18	0.23	0.56	0.31	0.28	0.37	0.32	0.483	0.56	1.2
Beryllium	mg/L	NA	<0.02	<0.02	<0.0025	<0.004	<0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	<0.001	ND
Cadmium	mg/L	<0.01	<0.02	<0.02	<0.005	<0.005	<0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	<0.001	ND
Chromium	mg/L	NA	0.026	<0.02	<0.01	<0.005	<0.005	ND	ND	0.21	ND	ND	ND	ND	ND	ND	ND	0.006	0.011	0.024
Cobalt	mg/L	NA	<0.02	<0.02	<0.005	<0.01	<0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	0.019	0.022
Copper	mg/L		<.02	<.02	<0.01	0.012	<0.01	0.015	0.016	0.041	0.04	0.039	0.023	ND	ND	0.041	0.022	0.006	0.024	0.029
Lead	mg/L	<0.01	<0.02	<0.02	<0.005	<0.005	<0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.003	ND
Nickel	mg/L		<.02	<.02	<0.01	0.011	<0.01	0.018	0.012	0.027	0.02	0.035	0.03	0.039	0.042	0.051	0.037	0.076	0.103	0.14
Selenium	mg/L	0.011	<0.02	<0.02	<0.01	<0.01	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	0.007	ND
Silver	mg/L	<0.01	<0.02	<0.02	<0.005	<0.01	<0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.001	ND
Thallium	mg/L	NA	<0.02	<0.02	<0.005	<0.01	<0.01	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	<.001	ND
Vanadium	mg/L	NA	0.027	<0.02	<0.01	<0.01	<0.01	ND	ND	0.06	ND	ND	ND	ND	ND	ND	0.01	0.005	0.01	0.01
Zinc	mg/L	0.057	<0.02	<0.02	<0.01	0.02	<0.02	0.024	ND	0.024	0.031	0.061	0.02	ND	ND	0.05	ND	0.017	0.039	0.041
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING ORGANIC CONSTITUENTS (ug/L)																				
Acetone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	0	ND	ND	ND	ND	ND	ND
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0	ND	0	ND	ND	ND	<4.9	ND	ND
Benzene	ug/L	3.78	<1.0	1.68	2	<2.0	<2.0	ND	0.76	ND	ND	ND	ND	ND	ND	ND	2.9	2.8	1.4	1.6
Bromochloromethane	ug/L	NA	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.38	ND	ND
Bromodichloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND
Bromoform	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	ND	ND
Carbon Disulfide	ug/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.37	ND	ND
Carbon Tetrachloride	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	0	ND	ND	ND	<0.061	ND	ND
Chlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.34
Chloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.44	0	ND
Chloroform	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.46	ND	ND
Dibromochloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.13	ND	ND
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	NA	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	ND	ND
1,2-Dibromoethne (EDB)	ug/L	NA	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.24	ND	ND
o-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND
p-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	<0.16	ND	ND
trans-1, 4-Dichloro-2-butene	ug/L	NA	NP	<1.0	<1.0	<10.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0J	0	ND
1,1-Dichlorethane	ug/L	<1.0	1.4	<1.0	1.6	<2.	<2.0	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	ND	ND
1,2-Dichloroethane	ug/L	1.3	3.84	8.58	8.8	<2.0	<2.0	5.2	7.7	ND	ND	ND	ND	ND	ND	ND	ND	0.61J	ND	ND
1,1-Dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	0	ND
cis-1,2-Dichloroethylene	ug/L	NA	4.81	8.54	<1.0	2.12	<2.0	2.6	1.6	ND	ND	ND	ND	2.6	ND	ND	ND	3.3	0	0.65
trans-1,2-Dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND
1,2-Dichloropropane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.62	ND	ND
cis-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<0.5	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	ND	ND
trans-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<0.5	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	ND	ND
Ethylbenzene	ug/L	2.62	2.82	3.52	4.8	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	5.2	3.2	1.6
2-Hexanone	ug/L	NA	<5.0	<5.0	<10	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.5	ND	ND
Methyl Bromide	ug/L	NA	<0.5	<0.5	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5	0	ND

Methyl Chloride	ug/L	NA	<0.5	<0.5	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1	0	ND
Methylene Bromide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	0	ND	ND	ND	0	ND	ND
Methylene Chloride	ug/L	<2.5	<0.5	<0.5	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	<1.2	ND	ND
Methyl Ethyl Ketone (MEK)	ug/L	12.5	<5.0	66.8	<10	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0	ND
Methyl Iodide	ug/L	NA	NP	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0J	ND	ND
4-Methyl-2-Pentanone	ug/L	NA	<5.0	5.27	<5.0	<5.0	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	ND
Styrene	ug/L	NA	<1.0	1.25	<2.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65J	ND	ND
1,1,1,2-Tetrachloroethane	ug/L	NA	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	ND	ND
Tetrachloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	ND	ND
Toluene	ug/L	5.47	2.24	14	4.7	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.5	1.4	1.3	2.1
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.15	ND	ND
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	ND	ND
Trichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	ND	ND
Trichlorofluoromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.13	ND	ND
1,2,3-Trichloropropane	ug/L	NA	<1.0	<1.0	<10.	<10.0	<10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.66	ND	ND
Vinyl Acetate	ug/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5	ND	ND
Vinyl Chloride	ug/L	1.85	<0.5	<0.5	<5.0	<1.0	<5.0	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	0.76	ND	0.63
Xylenes	ug/L	12.4	<1.00	10.6	9.5	3.19	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	8.2	3.9	6.2

40 CFR PART 258 APPENDIX II PARAMETERS

LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS

Acenaphthene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Acenaphthylene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Acetone	ug/L	<10.0	<10.0	187	12	<10.0	<10.0	16	ND	ND	ND	29	ND	ND	ND	ND	ND	<8.8	16	10
Acetonitrile	ug/L	NA	<10.0	<10.0	<10.0	<2.0	<50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<16.7	ND	ND
Acetophenone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
2-Acetylaminofluorene; 2-AAF	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Acrolein	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<4.8	ND	ND
Acrylonitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	0	ND		ND	ND	ND	<4.9	ND	ND
Aldrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND				ND	<0.021	ND	ND
Allyl Chloride	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<1.0	ND	ND
4-Aminobiphenyl	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Anthracene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<13.2		ND
Antimony	mg/L	NA	<0.02	<0.02	<0.01	<0.01	<0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	0.001	
Arsenic	mg/L	<0.01	<0.01	<0.01	<0.05	<0.2	<0.2	ND	ND	ND	ND	ND	ND		ND	ND	ND	0.005	0.008	
Barium	mg/L	0.267	0.109	0.08	0.274	0.22	0.24		0.31	0.16	0.18	0.23	0.56	0.31	0.28	0.37	0.32	0.483	0.56	
Benzene	ug/L	3.78	<1.0	1.68	2	<2.0	<2.0	ND	0.76	ND	ND	ND	ND	ND	ND	ND	2.9	2.8	1.4	1.6
Benzo(a)anthracene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<13.0	ND	ND
Benzo(b)fluoranthene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<17.7	ND	ND
Benzo(k)fluoranthene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<18.0	ND	ND
Benzo(ghi)perylene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<21.4	ND	ND
Benzo(a)pyrene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<17.6	ND	ND
Benzyl Alcohol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<13.6	ND	ND
Beryllium	mg/L	NA	<0.02	<0.02	<0.0025	<0.004	<0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	<0.001	
alpha-BHC (Lindane)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
beta-BHC (Lindane)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
delta-BHC (Lindane)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
gamma-BHC (Lindane)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Bis(2-chloro-1-methylethyl) ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND			ND		ND		
Bis(2-ethylhexyl) phthalate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	5	ND
Bromochloromethane	ug/L	NA	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.38	ND	ND
Bromodichloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND
Bromoform	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	ND	ND
4-Bromophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<23.6	ND	ND
Butyl Benzyl Phthalate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<18.2	ND	ND
Cadmium	mg/L	<0.01	<0.02	<0.02	<0.005	<0.005	<0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	<0.001	
Carbon Disulfide	ug/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.37	ND	ND
Carbon Tetrachlroide	ug/L	<0.5	<0.5	<0.5	<0.5	<2.5	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.20	ND	ND
Chlordane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.061	ND	ND
p-Chloroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND			ND	ND	ND	ND	ND
Chlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.34
Chlorobenzilate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND					ND	ND	
p-Chloro-m-cresol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND			
Chloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.44		ND
Chloroform	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.46	ND	ND
2-Chloronaphthalene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<22.8	ND	ND
2-Chlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<11.5	ND	ND
4-Chlorophenyl phenal ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<15.6	ND	ND

Chloroprene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	
Chromium	mg/L	NA	0.026	<0.02	<0.01	<0.005	<0.005	ND	ND	0.21	ND	ND	ND	ND	ND	ND	ND	0.006	0.011	
Chrysene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Cobalt	mg/L	NA	<0.02	<0.02	<0.005	<0.01	<0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	0.019	
Copper	mg/L	<0.02	<0.02	<0.02	<0.01	0.012	<0.01	0.015	0.016	0.041	0.04	0.039	0.023	ND	ND	0.041	0.022	0.006	0.024	
m-Cresol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<10.5		
o-Cresol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<19.4		
p-Cresol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<10.5		
Cyanide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	NR	ND	ND		ND	ND	ND			ND
2,4-Dichlorophenoxyacetic acid	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.6		ND	ND				
4,4-DDD	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
4,4-DDE	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
4,4-DDT	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Diallate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Dibenzofuran	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.13	ND	ND
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	NA	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	ND	ND
1,2-Dibromoethne (EDB)	ug/L	NA	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.24	ND	ND
Di-n-butyl phthalate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<13.8		
o-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND
m-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND		ND	ND	ND	<0.16	ND	ND
p-Dichlorobenzene	ug/L	1.35	<1.0	<1.0	<2.0	<2.0	<2.0	ND	ND	ND	5.7	2.2	ND	ND	ND	ND	ND	1.6	1.4	2.3
3,3'-Dichlorobenzidine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<12.3	ND	ND
trans-1, 4-Dichloro-2-butene	ug/L	NA	NP	<1.0	<1.0	<10.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0J		ND
Dichlorodifluoromethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.31	ND	ND
1,1-Dichlorethane	ug/L	<1.0	1.4	<1.0	1.6	<2.	<2.0	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	ND	ND
1,2-Dichloroethane	ug/L	1.3	3.84	8.58	8.8	<2.0	<2.0	5.2	7.7	ND	ND	ND	ND	ND	ND	ND	ND	0.61J	ND	ND
1, 1-Dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18		ND
cis-1,2-Dichloroethylene	ug/L	NA	4.81	8.54	<1.0	2.12	<2.0	2.6	1.6	ND	ND	ND	ND	2.6	ND	ND	ND	3.3		0.65
trans-1, 2-Dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.21	ND	ND
2,4-Dichlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<15.9	ND	ND
2,6-Dichlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.62	ND	ND
1,3-Dichloropropane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.13	ND	ND
2,2-Dichloropropane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.40		ND
1,1-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.18		ND
cis-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<0.5	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.12	ND	ND
trans-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<0.5	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	ND	ND
Dieldrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.014	ND	ND
Diethyl Phthalate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<14.4	ND	ND
O,O-Diethyl O-2-pyrazinyl Phosphorothioate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	
Dimethoate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
p-(dimethylamino)azobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND		ND
7,12-Dimethylbenz(a)anthracene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
3,3'-Dimethylbenzidine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
alpha, alpha-Dimethylphenethylamine	ug/L														ND		ND		ND	ND
2,4-Dimethylphenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<29.0	ND	ND
Dimethyl phthalate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<12.9	ND	ND
m-Dinitrobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND		ND
4,6-Dinitro-o-cresol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND			
2,4-Dinitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
2,4-Dintrotolulene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
2,6-Dinitrotolulene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Dinoseb (DNBP)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND		ND		ND
Di-n-octyl phthalate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<20.9	ND	ND
Diphenylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Disulfoton	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Endosulfan I	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.010	ND	ND
Endosulfan II	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.015	ND	ND
Endosulfan Sulfate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.018	ND	ND
Endrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.016	ND	ND
Endrin Aldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.017	ND	ND
Ethylbenzene	ug/L	2.62	2.82	3.52	4.8	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	5.2	3.2	1.6
Ethyl Methacrylate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	ND
Ethyl Methanesulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Fampur	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Fluoanthene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Fluorene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Heptachlor	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.016	ND	ND
Heptachlor Epoxide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.0080	ND	ND
Hexachlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<22.0	ND	ND
Hexachlorobutadiene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND

Hexachlorocyclopentadiene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<192	ND	ND
Hexachloroethane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Hexachloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<35.0	ND	ND
2-Hexanone	ug/L	NA	<5.0	<5.0	<10	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.5	ND	ND
Indeno(1,2,3-cd)pyrene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<20.6	ND	ND
Isobutyl Alcohol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND					<17.4	ND	
Isodrin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND		ND
Isophorone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Isosafrole	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Kepone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Lead	mg/L	<0.01	<0.02	<0.02	<0.005	<0.005	<0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.003	
Mercury	mg/L	<0.0005	<0.00009	<0.005	<0.0016	<0.002	<0.002	ND	ND	ND	ND	ND	ND		ND	ND	ND	0.0007	<.0001	
Methacrylonitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND			ND	ND	0.0J	ND	ND
Metapyrilene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Metoxychlor	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.094	ND	ND
Methyl Bromide	ug/L	NA	<0.5	<0.5	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5		ND
Methyl Chloride	ug/L	NA	<0.5	<0.5	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.1		ND
3-Methylcholanthrene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone (MEK)	ug/L	12.5	<5.0	66.8	<10	<10	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND
Methyl Iodide	ug/L	NA	NP	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0J	ND	ND
Methyl Methacrylate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	ND
Methyl Methanesulfonate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	ND
2-Methylnapthalene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<25.6	ND	ND
Methyl Parathion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	ug/L	NA	<5.0	5.27	<5.0	<5.0	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
Methylene Bromide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	ND
Methylene Chloride	ug/L	<2.5	<0.5	<0.5	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND		ND	ND	ND	<1.2	ND	ND
Naphthalene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	0.95J	ND	ND
1,4-Naphthoquinone	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
1-Naphthylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
2-Naphthylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Nickel	mg/L	<0.02	<0.02	<0.02	<0.01	0.011	<0.01	0.018	0.012	0.027	0.02	0.035	0.03	0.039	0.042	0.051	0.037	0.076	0.103	
o-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<15.6	ND	ND
m-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<12.3	ND	ND
p-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<20.9	ND	ND
Nitrobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<13.2	ND	ND
o-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<17.1	ND	ND
p-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<26.3	ND	ND
N-Nitrosodi-n-butylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
N-Nitrosodiethylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<10.5	ND	ND
N-Nitrosodiphenylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<11.1	ND	ND
N-Nitrosodipropylamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND				ND			
N-Nitrosomethylethalamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
N-Nitrosopiperidine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
N-Nitrosopyrrolidine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
5-Nitro-o-toluidine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Parathion	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND					ND	ND	
Pentachlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Pentachlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Phenacetin	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Phenanthrene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<10.1	ND	ND
Phenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<11.8	ND	ND
p-Phenylenediamine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND			ND		ND	ND	ND
Phorate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Polychlorinated Biphenyls (PCBs)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND				ND	ND		
Pronamide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Propionitrile	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	0.0J	ND	ND
Pyrene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<15.2	ND	ND
Safrole	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Selenium	mg/L	0.011	<0.02	<0.02	<0.01	<0.01	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	0.007	
Silver	mg/L	<0.01	<0.02	<0.02	<0.005	<0.01	<0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.001	
Silvex	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND		ND		ND
Styrene	ug/L	NA	<1.0	1.25	<2.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65J	ND	ND
Sulfide	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	0.007	ND	ND	ND		ND	ND	ND			
2,4,5-Trichlorophenolxyacetic (Acetic Acid)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND				
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ug/L														ND	ND	ND			
1,2,4,5-Tetrachlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/L	NA	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.14	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.19	ND	ND
Tetrachloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.16	ND	ND
2,3,4,6-Tetrachlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND

Thallium	mg/L	NA	<0.02	<0.02	<0.005	<0.01	<0.01	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	<.001	
Tin	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	0.002	0.003	
Toluene	ug/L	5.47	2.24	14	4.7	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.5	1.4	1.3	2.1
o-Toluidine	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND				ND		ND	ND
Toxaphene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.32	ND	ND
1,2,4-Trichlorobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	<0.18	ND	ND
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.15	ND	ND
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.22	ND	ND
Trichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.18	ND	ND
Trichlorofluoromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.13	ND	ND
2,4,5-Trichlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/L	NA	<1.0	<1.0	<10.	<10.0	<10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.66	ND	ND
O,O,O-Triethyl Phosphorothioate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND		ND	ND
sym-Trinitrobenzene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND		ND	ND	ND			
Vanadium	mg/L	NA	0.027	<0.02	<0.01	<0.01	<0.01	ND	ND	0.06	ND	ND	ND	ND	ND	ND	0.01	0.005	0.01	
Vinyl Acetate	ug/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.5	ND	ND
Vinyl Chloride	ug/L	1.85	<0.5	<0.5	<5.0	<1.0	<5.0	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	0.76	ND	0.63
Xylenes	ug/L	12.4	<1.00	10.6	9.5	3.19	<2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	8.2	3.9	6.2
Zinc	mg/L	0.057	<0.02	<0.02	<0.01	0.02	<0.02	0.024	ND	0.024	0.031	0.061	0.02	ND	ND	0.05	ND	0.017	0.039	

TABLE 3
HISTORICAL LEACHATE ANALYTICAL DATA, IV-A SUMP & IV-B SUMP
MAXIMUM RECORDED CONCENTRATIONS
CENTRAL MAUI LANDFILL

HAWAII LANDFILL GROUNDWATER MONITORING GUIDANCE DOCUMENT TABLE 4.1 MAJOR LEACHATE INDICATORS (mg/L)	Phase IV-A Maximum for Period (mg/L) (a)	Phase IV-B Maximum for Period (mg/L) (a)	Maximum Recorded Value for Site Leachate (mg/L) (b)
Total Dissolved Solids (TDS)	4388	5200	5200
Total Organic Carbon (TOC)	980	240	980
Total Alkalinity (as CaCO3)	2300	2406	2406
Nitrogen, Ammonia	81	75	81
Chlorine (Total Residual)	0.605	0.649	0.649
Iron	11.9	23	23
Magnesium	546	501	546
Sodium	1090	1100	1100
Calcium	170	130	170
Potassium	91.2	100	100
Alkalinity (as Carbonate)	2000	1900	2000
Sulfate (SO4)	129	30	129
Alkalinity (as Bicarbonate)	14725	1900	14275
Chloride	1400	1917	1917
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING INORGANIC CONSTITUENTS			
Antimony	0.001	0.001	0.001
Arsenic	0.014	0.008	0.014
Barium	1.06	1.2	1.2
Beryllium	<0.010	<0.02	<0.02
Cadmium	<0.010	<0.02	<0.02
Chromium	0.056	0.21	0.21
Cobalt	0.014	0.022	0.022
Copper	0.19	0.041	0.19
Lead	0.0073	0.003	0.0073
Nickel	0.057	0.14	0.14
Selenium	0.002	0.017	0.017
Silver	0.001	0.01	0.01
Thallium	<0.02	0.015	0.015
Vanadium	0.008	0.06	0.06
Zinc	0.061	0.061	0.061
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING ORGANIC CONSTITUENTS			
Acetone	0.902	ND	0.902
Acrylonitrile	<0.010	<0.0049	<0.010
Benzene	0.004	0.00378	0.004
Bromochloromethane	<0.0010	<0.005	<0.005
Bromodichloromethane	<0.0010	<0.002	<0.002
Bromoform	<0.0010	<0.005	<0.005
Carbon Disulfide	<0.005	<0.005	<0.005
Carbon Tetrachloride	ND	<0.000061	<0.000061
Chlorobenzene	<0.0010	0.00034	0.00034
Chloroethane	<0.0010	<0.005	<0.005
Chloroform	<0.0010	<0.002	<0.002
Dibromochloromethane	<0.0010	<0.002	<0.002
1,2-Dibromo-3-chloropropane (DBCP)	<0.0010	<0.005	<0.005
1,2-Dibromoethne (EDB)	<0.0010	<0.002	<0.002
o-Dichlorobenzene	<0.0010	<0.002	<0.002
p-Dichlorobenzene	ND	<0.002	<0.002
trans-1, 4-Dichloro-2-butene	ND	<0.010	<0.010
1,1-Dichlorethane	0.00862	0.0016	0.00862
1,2-Dichloroethane	0.00179	0.0088	0.0088
1,1-Dichloroethylene	<0.0010	<0.005	<0.005
cis-1,2-Dichloroethylene	0.0028	0.00854	0.00854
trans-1,2-Dichloroethylene	<0.0010	<0.002	<0.002
1,2-Dichloropropane	<0.0010	<0.002	<0.002
cis-1,3-Dichloropropene	<0.0010	<0.002	<0.002
trans-1,3-Dichloropropene	<0.0010	<0.002	<0.002
Ethylbenzene	0.02	0.012	0.02
2-Hexanone	<0.005	<0.010	<0.010
Methyl Bromide	<0.0010	<0.005	<0.005
Methyl Chloride	0.088	<0.005	0.088
Methylene Bromide	<0.0010	ND	<0.0010
Methylene Chloride	0.372	<0.005	0.372
Methyl Ethyl Ketone (MEK)	1.22	0.0668	1.22
Methyl Iodide	ND	<0.002	<0.002
4-Methyl-2-Pentanone	<0.005	0.00527	0.00527

Styrene	<0.0010	0.00125	0.00125
1,1,1,2-Tetrachloroethane	<0.0010	<0.005	<0.005
1,1,2,2-Tetrachloroethane	<0.0010	<0.002	<0.002
Tetrachloroethylene	0.0107	<0.002	0.0107
Toluene	0.0628	0.014	0.0628
1,1,1-Trichloroethane	<0.0010	<0.002	<0.002
1,1,2-Trichloroethane	<0.0010	<0.002	<0.002
Trichloroethylene	0.0104	<0.002	0.0104
Trichlorofluoromethane	<0.0010	<0.005	<0.005
1,2,3-Trichloropropane	<0.0010	<0.0010	<0.0010
Vinyl Acetate	<0.005	<0.005	<0.005
Vinyl Chloride	0.0059	0.00185	0.0059
Xylenes	0.0339	0.0124	0.0339
40 CFR PART 258 APPENDIX II PARAMETERS **LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS**			
Acenaphthene	ND	ND	ND
Acenaphthylene	ND	ND	ND
Acetone	0.902	0.187	0.902
Acetonitrile	ND	<0.05	<0.05
Acetophenone	ND	ND	ND
2-Acetylaminofluorene; 2-AAF	ND	ND	ND
Acrolein	ND	<0.0048	<0.0048
Acrylonitrile	<0.010	<0.0049	<0.010
Aldrin	ND	<0.000021	<0.000021
Allyl Chloride	ND	<0.001	<0.001
4-Aminobiphenyl	ND	ND	ND
Anthracene	ND	<0.0132	<0.0132
Antimony	0.001	0.001	0.001
Arsenic	0.014	0.008	0.014
Barium	1.06	0.56	1.06
Benzene	0.004	0.00378	0.004
Benzo(a)anthracene	ND	<0.013	<0.013
Benzo(b)fluoranthene	ND	<0.0177	<0.0177
Benzo(k)fluoranthene	ND	<0.018	<0.018
Benzo(ghi)perylene	ND	<0.0214	<0.0214
Benzo(a)pyrene	ND	<0.0176	<0.0176
Benzyl Alcohol	ND	<0.0136	<0.0136
Beryllium	<0.010	<0.02	<0.02
alpha-BHC (Lindane)	ND	ND	ND
beta-BHC (Lindane)	ND	ND	ND
delta-BHC (Lindane)	ND	ND	ND
gamma-BHC (Lindane)	ND	ND	ND
Bis(2-chloroethoxy)methane	ND	ND	ND
Bis(2-chloroethyl)ether	ND	ND	ND
Bis(2-chloro-1-methylethyl) ether	ND	ND	ND
Bis(2-ethylhexyl) phthalate	0.088	0.005	0.088
Bromochloromethane	<0.0010	<0.005	<0.005
Bromodichloromethane	<0.0010	<0.002	<0.002
Bromoform	<0.0010	<0.005	<0.005
4-Bromophenyl phenyl ether	ND	<0.0236	<0.0236
Butyl Benzy Phthalate	ND	<0.0182	<0.0182
Cadmium	<0.010	<0.02	<0.02
Carbon Disulfide	<0.005	<0.005	<0.005
Carbon Tetrachloride	<0.0005	<0.0025	<0.0025
Chlordane	ND	<0.000061	<0.000061
p-Chloroaniline	ND	ND	ND
Chlorobenzene	<0.0010	0.00034	0.00034
Chlorobenzilate	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND
Chloroethane	<0.0010	<0.005	<0.005
Chloroform	<0.0010	<0.002	<0.002
2-Chloronaphthalene	ND	<0.0228	<0.0228
2-Chlorophenol	ND	<0.0115	<0.0115
4-Chlorophenyl phenyl ether	ND	<0.0156	<0.0156
Chloroprene	ND	ND	ND
Chromium	0.056	0.21	0.21
Chrysene	ND	ND	ND
Cobalt	0.014	0.019	0.019
Copper	0.19	0.041	0.19
m-Cresol	ND	<0.0105	<0.0105
o-Cresol	ND	<0.0194	<0.0194
p-Cresol	ND	<0.0105	<0.0105
Cyanide	0.001	ND	0.001
2,4-Dichlorophenoxyacetic acid	0.0006	0.0006	0.0006
4,4-DDD	ND	ND	ND
4,4-DDE	ND	ND	ND
4,4-DDT	ND	ND	ND
Diallate	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND

Dibenzofuran	ND	ND	ND
Dibromochloromethane	<0.0010	<0.002	<0.002
1,2-Dibromo-3-chloropropane (DBCP)	<0.0010	<0.005	<0.005
1,2-Dibromoethne (EDB)	<0.0010	<0.002	<0.002
Di-n-butyl phthalate	ND	<0.0138	<0.0138
o (1, 2)-Dichlorobenzene	<0.0010	<0.002	<0.002
m (1, 3)-Dichlorobenzene	ND	<0.002	<0.002
p (1, 4)-Dichlorobenzene	<0.0031	0.0057	0.0057
3,3'-Dichlorobenzinide	ND	<0.0123	<0.0123
trans-1, 4-Dichloro-2-butene	ND	<0.01	<0.01
Dichlorodifluoromethane	ND	<0.00031	<0.00031
1,1-Dichlorethane	0.00862	0.0016	0.00862
1,2-Dichloroethane	0.00179	0.0088	0.0088
1, 1-Dichloroethylene	<0.0010	<0.005	<0.005
cis-1,2-Dichloroethylene	0.0028	0.00854	0.00854
trans-1, 2-Dichloroethylene	<0.0010	<0.002	<0.002
2,4-Dichlorophenol	ND	<0.0159	<0.0159
2,6-Dichlorophenol	ND	ND	ND
1,2-Dichloropropane	<0.0010	<0.002	<0.002
1,3-Dichloropropane	ND	<0.00013	<0.00013
2,2-Dichloropropane	ND	<0.0004	<0.0004
1,1-Dichloropropene	ND	<0.00018	<0.00018
cis-1,3-Dichloropropene	<0.0010	<0.002	<0.002
trans-1,3-Dichloropropene	<0.0010	<0.002	<0.002
Dieldrin	ND	<0.000014	<0.000014
Diethyl Phthalate	ND	<0.0144	<0.0144
O,O-Diethyl O-2-pyrazinyl Phosphorothioate	ND	ND	ND
Dimethoate	ND	ND	ND
p-(dimethylamino)azobenzene	ND	ND	ND
7,12-Dimethylbenz(a)anthracene	ND	ND	ND
3,3'-Dimethylbenzidine	ND	ND	ND
alpha, alpha-Dimethylphenethylamine	ND	ND	ND
2,4-Dimethylphenol	0.0043	<0.029	0.0043
Dimethyl phthalate	ND	<0.0129	<0.0129
m (1, 3) -Dinitrobenzene	ND	ND	ND
4,6-Dinitro-o-cresol	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND
2,4-Dintrotolulene	ND	ND	ND
2,6-Dinitrotolulene	ND	ND	ND
Dinoseb (DNBP)	ND	ND	ND
Di-n-octyl phthalate	ND	<0.0209	<0.0209
Diphenylamine	ND	ND	ND
Disulfoton	ND	ND	ND
Endosulfan I	ND	<0.000010	<0.000010
Endosulfan II	ND	<0.000015	<0.000015
Endosulfan Sulfate	ND	<0.000018	<0.000018
Endrin	ND	<0.000016	<0.000016
Endrin Aldehyde	ND	<0.000017	<0.000017
Ethylbenzene	0.013	0.012	0.013
Ethyl Methacrylate	ND	ND	ND
Ethyl Methanesulfonate	ND	ND	ND
Fampur	ND	ND	ND
Fluoanthene	ND	ND	ND
Fluorene	ND	ND	ND
Heptachlor	ND	<0.000016	<0.000016
Heptachlor Epoxide	ND	<0.000008	<0.000008
Hexachlorobenzene	ND	<0.022	<0.022
Hexachlorobutadiene	ND	ND	ND
Hexachlorocyclopentadiene	ND	<0.192	<0.192
Hexachloroethane	ND	ND	ND
Hexachloropropene	ND	<0.035	<0.035
2-Hexanone	<0.005	<0.010	<0.010
Indeno(1,2,3-cd)pyrene	ND	<0.0206	<0.0206
Isobutyl Alcohol	ND	<0.0174	<0.0174
Isodrin	ND	ND	ND
Isophorone	ND	ND	ND
Isosafrole	ND	ND	ND
Kepone	ND	ND	ND
Lead	0.007	0.003	0.007
Mercury	ND	0.0007	0.0007
Methacrylonitrile	ND	ND	ND
Metapyrilene	ND	ND	ND
Metaxychlor	ND	<0.000094	<0.000094
Methyl Bromide	<0.0010	<0.005	<0.005
Methyl Chloride	<0.0010	<0.005	<0.005
3-Methylcholanthrene	ND	ND	ND
Methyl Ethyl Ketone (MEK)	1.22	0.0668	1.22
Methyl Iodide	ND	<0.002	<0.002
Methyl Methacrylate	ND	ND	ND
Methyl Methanesulfonate	ND	ND	ND

2-Methylnapthalene	ND	<0.0256	<0.0256
Methyl Parathion	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	<0.005	0.00527	0.00527
Methylene Bromide	<0.0010	ND	<0.0010
Methylene Chloride	0.372	<0.005	0.372
Naphthalene	0.0049	0.00095	0.0049
1,4-Naphthoquinone	ND	ND	ND
1-Naphthylamine	ND	ND	ND
2-Naphthylamine	ND	ND	ND
Nickel	0.057	0.103	0.103
o-Nitroaniline	ND	<0.0156	<0.0156
m-Nitroaniline	ND	<0.0123	<0.0123
p-Nitroaniline	ND	<0.0209	<0.0209
Nitrobenzene	ND	<0.0132	<0.0132
o-Nitrophenol	ND	<0.0171	<0.0171
p-Nitrophenol	ND	<0.0263	<0.0263
N-Nitrosodi-n-butylamine	ND	ND	ND
N-Nitrosodiethylamine	ND	ND	ND
N-Nitrosodimethylamine	ND	<0.0105	<0.0105
N-Nitrosodiphenylamine	ND	<0.0111	<0.0111
N-Nitrosodipropylamine	ND	ND	ND
N-Nitrosomethylethalamine	ND	ND	ND
N-Nitrosopiperidine	ND	ND	ND
N-Nitrosopyrrolidine	ND	ND	ND
5-Nitro-o-toluidine	ND	ND	ND
Parathion	ND	ND	ND
Pentachlorobenzene	ND	ND	ND
Pentachloronitrobenzene	ND	ND	ND
Pentachlorophenol	ND	ND	ND
Phenacetin	ND	ND	ND
Phenanthrene	ND	<0.0101	<0.0101
Phenol	ND	<0.0118	<0.0118
p-Phenylenediamine	ND	ND	ND
Phorate	ND	ND	ND
Polychlorinated Biphenyls (PCBs)	ND	ND	ND
Pronamide	ND	ND	ND
Propionitrile	ND	ND	ND
Pyrene	ND	<0.0152	<0.0152
Safrole	ND	ND	ND
Selenium	0.002	0.017	0.017
Silver	0.001	0.01	0.01
Silvex	ND	ND	ND
Styrene	<0.0010	0.00125	0.00125
Sulfide	ND	0.000007	0.000007
2,4,5-Trichlorophenolxyacetic (Acetic Acid)	ND	ND	ND
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ND	ND	ND
1,1,1,2-Tetrachloroethane	<0.0010	<0.005	<0.005
1,1,2,2-Tetrachloroethane	<0.0010	<0.002	<0.002
Tetrachloroethylene	0.0107	<0.002	0.0107
2,3,4,6-Tetrachlorophenol	ND	ND	ND
Thallium	<0.020	0.015	0.015
Tin	0.002	0.003	0.003
Toluene	0.0628	0.014	0.0628
o-Toluidine	ND	ND	ND
Toxaphene	ND	<0.00032	<0.00032
1,2,4-Trichlorobenzene	ND	<0.00018	<0.00018
1,1,1-Trichloroethane	0.00683	<0.002	0.00683
1,1,2-Trichloroethane	<0.0010	<0.002	<0.002
Trichloroethylene	0.0104	<0.002	<0.002
Trichlorofluoromethane	ND	<0.005	<0.005
2,4,5-Trichlorophenol	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND
1,2,3-Trichloropropane	<0.0010	<0.0010	<0.0010
O,O,O-Triethyl Phosphorothioate	ND	ND	ND
sym-Trinitrobenzene	ND	ND	ND
Vanadium	0.027	0.06	0.06
Vinyl Acetate	<0.0050	<0.005	<0.005
Vinyl Chloride	0.0059	0.00185	0.0059
Xylenes	0.037	0.015	0.037
Zinc	0.061	0.061	0.061

Notes:

(a) - All concentration values are presented in mg/L.

(b) - For the constituents with maximum recorded values that are not precisely defined and prefaced with a "<" indicator, for the purpose of comapring these values to the MCL and calculating a concentration at the 150 m POC, the concentration without the "<" indicator is assumed. Example: Recorded value = <0.02 mg/L. Value used for comparison and calculation = 0.02 mg/L.

TABLE 4
CONTAMINANTS WITH MCLs MODELED IN MULTIMED
CENTRAL MAUI LANDFILL

HAWAII LANDFILL GROUNDWATER MONITORING GUIDANCE DOCUMENT TABLE 4.1 MAJOR LEACHATE INDICATORS	Phase IV-A Maximum for Period (mg/L) (a)	Phase IV-B Maximum for Period (mg/L) (a)	Maximum Recorded Value for Site Leachate (mg/L) (b)	Applicable MCLs (c) Primary MCL (mg/L)	 Secondary MCL (mg/L)	Maximum Recorded Value for Site Leachate Less than Applicable MCL (Yes or No)	
Total Dissolved Solids (TDS)	4388	5200	5200		500	No	
Nitrogen, Ammonia	81	75	81	10		No	(d)
Iron	11.9	23	23		0.3	No	
Sulfate (SO4)	129	30	129		250	Yes	
Chloride	1400	1917	1917		250	No	
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING INORGANIC CONSTITUENTS							
Antimony	0.001	0.001	0.001	0.005		Yes	
Arsenic	0.014	0.008	0.014	0.01		No	
Barium	1.06	1.2	1.2	2		Yes	
Beryllium	<0.010	<0.02	<0.02	0.004		No	
Cadmium	<0.010	<0.02	<0.02	0.005		No	
Chromium	0.056	0.21	0.21	0.1		No	
Copper	0.19	0.041	0.19	1.3	1	Yes	
Lead	0.0073	0.003	0.0073	0.15		Yes	
Selenium	0.002	0.017	0.017	0.05		Yes	
Silver	0.001	0.01	0.01		0.1	Yes	
Thallium	<0.02	0.015	0.015	0.002			
Zinc	0.061	0.061	0.061		5	Yes	
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING ORGANIC CONSTITUENTS							
Benzene	0.004	0.00378	0.004	0.005		Yes	
Carbon Tetrachloride	ND	<0.000061	<0.000061	0.005		Yes	
Chlorobenzene	<0.0010	0.00034	0.00034	0.1		Yes	
1,2-Dibromo-3-chloropropane (DBCP)	<0.0010	<0.005	<0.005	0.00004		No	
1,2-Dibromoethne (EDB)	<0.0010	<0.002	<0.002	0.00004		No	
o-Dichlorobenzene	<0.0010	<0.002	<0.002	0.6		Yes	
p-Dichlorobenzene	ND	<0.002	<0.002	0.075		Yes	
1,2-Dichloroethane	0.00179	0.0088	0.0088	0.005		No	
1,1-Dichloroethylene	<0.0010	<0.005	<0.005	0.007		Yes	
cis-1,2-Dichloroethylene	0.0028	0.00854	0.00854	0.07		Yes	
trans-1,2-Dichloroethylene	<0.0010	<0.002	<0.002	0.1		Yes	
1,2-Dichloropropane	<0.0010	<0.002	<0.002	0.005		Yes	
Ethylbenzene	0.02	0.012	0.02	0.7		Yes	
Methylene Chloride	0.372	<0.005	0.372	0.005		No	
Styrene	<0.0010	0.00125	0.00125	0.1		Yes	
Tetrachloroethylene	0.0107	<0.002	0.0107	0.005		No	
Toluene	0.0628	0.014	0.0628	1		Yes	
1,1,1-Trichloroethane	<0.0010	<0.002	<0.002	0.2		Yes	
1,1,2-Trichloroethane	<0.0010	<0.002	<0.002	0.005		Yes	
Trichloroethylene	0.0104	<0.002	0.0104	0.005		No	
1,2,3-Trichloropropane	<0.0010	<0.0010	<0.0010	0.0006		No	
Vinyl Chloride	0.0059	0.00185	0.0059	0.002		No	
Xylenes	0.0339	0.0124	0.0339	10		Yes	
40 CFR PART 258 APPENDIX II PARAMETERS LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS (ug/L)							
Antimony	0.001	0.001	0.001	0.005		Yes	
Arsenic	0.014	0.008	0.014	0.01		No	
Barium	1.06	0.56	1.06	2		Yes	
Benzene	0.004	0.00378	0.004	0.005		Yes	
Benzo(a)pyrene	ND	<0.0176	<0.0176	0.0002		No	
Beryllium	<0.010	<0.02	<0.02	0.004		No	
alpha-BHC (Lindane)	ND	ND	ND	0.0002		Yes	
beta-BHC (Lindane)	ND	ND	ND	0.0002		Yes	
delta-BHC (Lindane)	ND	ND	ND	0.0002		Yes	
gamma-BHC (Lindane)	ND	ND	ND	0.0002		Yes	
Bis(2-ethylhexyl) phthalate	0.088	0.005	0.088	0.006		No	
Cadmium	<0.010	<0.02	<0.02	0.005		No	
Carbon Tetrachloride	<0.0005	<0.0025	<0.0025	0.005		Yes	
Chlordane	ND	<0.000061	<0.000061	0.002		Yes	
Chlorobenzene	<0.0010	0.00034	0.00034	0.1		Yes	
Chromium	0.056	0.21	0.21	0.1		No	
Copper	0.19	0.041	0.19	1.3	1	Yes	
Cyanide	0.001	ND	0.001	0.2		Yes	
2,4-Dichlorophenoxyacetic acid	0.0006	0.0006	0.0006	0.07		Yes	
1,2-Dibromo-3-chloropropane (DBCP)	<0.0010	<0.005	<0.005	0.00004		No	
1,2-Dibromoethne (EDB)	<0.0010	<0.002	<0.002	0.00004		No	
o (1, 2)-Dichlorobenzene	<0.0010	<0.002	<0.002	0.6		Yes	
p (1, 4)-Dichlorobenzene	<0.0031	0.0057	0.0057	0.075		Yes	
1,2-Dichloroethane	0.00179	0.0088	0.0088	0.005		No	
cis-1,2-Dichloroethylene	0.0028	0.00854	0.00854	0.07		Yes	

1,2-Dichloropropane	<0.0010	<0.002	<0.002	0.005		Yes
Dinoseb (DNBP)	ND	ND	ND	0.007		Yes
Endrin	ND	<0.000016	<0.000016	0.002		Yes
Ethylbenzene	0.013	0.012	0.013	0.7		Yes
Heptachlor	ND	<0.000016	<0.000016	0.0004		Yes
Heptachlor Epoxide	ND	<0.000008	<0.000008	0.0002		Yes
Hexachlorobenzene	ND	<0.022	<0.022	0.001		No
Hexachlorocyclopentadiene	ND	<0.192	<0.192	0.05		No
Lead	0.007	0.003	0.007	0.15		Yes
Mercury	ND	0.0007	0.0007	0.002		Yes
Methylene Chloride	0.372	<0.005	0.372	0.005		No
Pentachlorophenol	ND	ND	ND	0.001		Yes
Polychlorinated Biphenyls (PCBs)	ND	ND	ND	0.0005		Yes
Selenium	0.002	0.017	0.017	0.05		Yes
Silver	0.001	0.01	0.01		0.1	Yes
Silvex	ND	ND	ND	0.05		Yes
Styrene	<0.0010	0.00125	0.00125	0.1		Yes
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ND	ND	ND	0.00000003		Yes
Tetrachloroethylene	0.0107	<0.002	0.0107	0.005		No
Thallium	<0.020	0.015	0.015	0.002		No
Toluene	0.0628	0.014	0.0628	1		Yes
Toxaphene	ND	<0.00032	<0.00032	0.002		Yes
1,2,4-Trichlorobenzene	ND	<0.00018	<0.00018	0.07		Yes
1,1,1-Trichloroethane	0.00683	<0.002	0.00683	0.2		Yes
1,1,2-Trichloroethane	<0.0010	<0.002	<0.002	0.005		Yes
Trichloroethylene	0.0104	<0.002	<0.002	0.005		Yes
1,2,3-Trichloropropane	<0.0010	<0.0010	<0.0010	0.0006		No
Vinyl Chloride	0.0059	0.00185	0.0059	0.002		No
Xylenes	0.037	0.015	0.037	10		Yes
Zinc	0.061	0.061	0.061		5	Yes

Notes:

(a) - All concentration values are presented in mg/L.

(b) - For the constituents with maximum recorded values that are not precisely defined and prefaced with a "<" indicator, for the purpose of comapring these values to the MCL and calculating a concentration at the 150 m POC, the concentration without the "<" indicator is assumed. Example: Recorded value = <0.02 mg/L. Value used for comparison and calculation = 0.02 mg/L.

(c) - Primary MCL based on aesthetic considerations (taste, odor, etc.). Primary MCL based on health considerations.

(d) - No MCL has been established for this parameter. However, given the possibility this reduced form of nitrogen can convert to nitrate within an oxidized subsurface environment, a comparison to the nitrate MCL has been included.

TABLE 5
SUMMARY OF RESULTS FOR MULTIMED MODELING
CENTRAL MAUI LANDFILL

HAWAII LANDFILL GROUNDWATER MONITORING GUIDANCE DOCUMENT TABLE 4.1 MAJOR LEACHATE INDICATORS	Phase IV-A	Phase IV-B	Maximum Recorded Value for Site Leachate (mg/L) (b)	Applicable MCLs (c)		Maximum Recorded Value for Site Leachate Less than Applicable MCL (Yes or No)	DAF = 132.3 (e) Calculated Concentration at 150 meter POC		Calculated Concentration at 150 meter POC Less than Applicable MCL (Yes or No)	
	Maximum for Period (mg/L) (a)	Maximum for Period (mg/L) (a)		Primary MCL (mg/L)	Secondary MCL (mg/L)		Primary MCL (mg/L)	Secondary MCL (mg/L)		
Total Dissolved Solids (TDS)	4388	5200	5200		500	No		39.30	Yes	
Nitrogen, Ammonia	81	75	81	10		No	0.61		Yes	(d)
Iron	11.9	23	23		0.3	No		0.17	Yes	
Sulfate (SO4)	129	30	129		250	Yes		0.98	Yes	
Chloride	1400	1917	1917		250	No		14.49	Yes	
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING INORGANIC CONSTITUENTS										
Antimony	0.001	0.001	0.001	0.005		Yes	0.0000076		Yes	
Arsenic	0.014	0.008	0.014	0.01		No	0.00011		Yes	
Barium	1.06	1.2	1.2	2		Yes	0.0091		Yes	
Beryllium	<0.010	<0.02	<0.02	0.004		No	0.00015		Yes	
Cadmium	<0.010	<0.02	<0.02	0.005		No	0.00015		Yes	
Chromium	0.056	0.21	0.21	0.1		No	0.0016		Yes	
Copper	0.19	0.041	0.19	1.3	1	Yes	0.0014	0.0014	Yes	
Lead	0.0073	0.003	0.0073	0.15		Yes	0.000055		Yes	
Selenium	0.002	0.017	0.017	0.05		Yes	0.00013		Yes	
Silver	0.001	0.01	0.01		0.1	Yes		0.000076	Yes	
Thallium	<0.02	0.015	0.015	0.002			0.00011		Yes	
Zinc	0.061	0.061	0.061		5	Yes		0.00046	Yes	
40 CFR PART 258 APPENDIX I PARAMETERS CONSTITUENTS FOR DETECTION MONITORING ORGANIC CONSTITUENTS										
Benzene	0.004	0.00378	0.004	0.005		Yes	0.000030		Yes	
Carbon Tetrachloride	ND	<0.000061	<0.000061	0.005		Yes	0.00000046		Yes	
Chlorobenzene	<0.0010	0.00034	0.00034	0.1		Yes	0.0000026		Yes	
1,2-Dibromo-3-chloropropane (DBCP)	<0.0010	<0.005	<0.005	0.00004		No	0.000038		Yes	
1,2-Dibromoethne (EDB)	<0.0010	<0.002	<0.002	0.00004		No	0.000015		Yes	
o-Dichlorobenzene	<0.0010	<0.002	<0.002	0.6		Yes	0.000015		Yes	
p-Dichlorobenzene	ND	<0.002	<0.002	0.075		Yes	0.000015		Yes	
1,2-Dichloroethane	0.00179	0.0088	0.0088	0.005		No	0.000067		Yes	
1,1-Dichloroethylene	<0.0010	<0.005	<0.005	0.007		Yes	0.000038		Yes	
cis-1,2-Dichloroethylene	0.0028	0.00854	0.00854	0.07		Yes	0.000065		Yes	
trans-1,2-Dichloroethylene	<0.0010	<0.002	<0.002	0.1		Yes	0.000015		Yes	
1,2-Dichloropropane	<0.0010	<0.002	<0.002	0.005		Yes	0.000015		Yes	
Ethylbenzene	0.02	0.012	0.02	0.7		Yes	0.00015		Yes	
Methylene Chloride	0.372	<0.005	0.372	0.005		No	0.0028		Yes	
Styrene	<0.0010	0.00125	0.00125	0.1		Yes	0.0000094		Yes	
Tetrachloroethylene	0.0107	<0.002	0.0107	0.005		No	0.000081		Yes	
Toluene	0.0628	0.014	0.0628	1		Yes	0.00047		Yes	
1,1,1-Trichloroethane	<0.0010	<0.002	<0.002	0.2		Yes	0.000015		Yes	
1,1,2-Trichloroethane	<0.0010	<0.002	<0.002	0.005		Yes	0.000015		Yes	
Trichloroethylene	0.0104	<0.002	0.0104	0.005		No	0.000079		Yes	
1,2,3-Trichloropropane	<0.0010	<0.0010	<0.0010	0.0006		No	0.0000076		Yes	
Vinyl Chloride	0.0059	0.00185	0.0059	0.002		No	0.000045		Yes	
Xylenes	0.0339	0.0124	0.0339	10		Yes	0.00026		Yes	
40 CFR PART 258 APPENDIX II PARAMETERS LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS (ug/L)										
Antimony	0.001	0.001	0.001	0.005		Yes	0.0000076		Yes	
Arsenic	0.014	0.008	0.014	0.01		No	0.00011		Yes	
Barium	1.06	0.56	1.06	2		Yes	0.0080		Yes	
Benzene	0.004	0.00378	0.004	0.005		Yes	0.000030		Yes	
Benzo(a)pyrene	ND	<0.0176	<0.0176	0.0002		No	0.00013		Yes	
Beryllium	<0.010	<0.02	<0.02	0.004		No	0.00015		Yes	
alpha-BHC (Lindane)	ND	ND	ND	0.0002		Yes	N/A		Yes	
beta-BHC (Lindane)	ND	ND	ND	0.0002		Yes	N/A		Yes	
delta-BHC (Lindane)	ND	ND	ND	0.0002		Yes	N/A		Yes	
gamma-BHC (Lindane)	ND	ND	ND	0.0002		Yes	N/A		Yes	
Bis(2-ethylhexyl) phthalate	0.088	0.005	0.088	0.006		No	0.00067		Yes	
Cadmium	<0.010	<0.02	<0.02	0.005		No	0.00015		Yes	
Carbon Tetrachloride	<0.0005	<0.0025	<0.0025	0.005		Yes	0.000019		Yes	
Chlordane	ND	<0.000061	<0.000061	0.002		Yes	0.00000046		Yes	
Chlorobenzene	<0.0010	0.00034	0.00034	0.1		Yes	0.0000026		Yes	
Chromium	0.056	0.21	0.21	0.1		No	0.0016		Yes	
Copper	0.19	0.041	0.19	1.3	1	Yes	0.0014	0.0014	Yes	
Cyanide	0.001	ND	0.001	0.2		Yes	0.0000076		Yes	
2,4-Dichlorophenoxyacetic acid	0.0006	0.0006	0.0006	0.07		Yes	0.0000045		Yes	
1,2-Dibromo-3-chloropropane (DBCP)	<0.0010	<0.005	<0.005	0.00004		No	0.000038		Yes	
1,2-Dibromoethne (EDB)	<0.0010	<0.002	<0.002	0.00004		No	0.000015		Yes	
o (1, 2)-Dichlorobenzene	<0.0010	<0.002	<0.002	0.6		Yes	0.000015		Yes	
p (1, 4)-Dichlorobenzene	<0.0031	0.0057	0.0057	0.075		Yes	0.000043		Yes	
1,2-Dichloroethane	0.00179	0.0088	0.0088	0.005		No	0.000067		Yes	
cis-1,2-Dichloroethylene	0.0028	0.00854	0.00854	0.07		Yes	0.000065		Yes	
1,2-Dichloropropane	<0.0010	<0.002	<0.002	0.005		Yes	0.000015		Yes	
Dinoseb (DNBP)	ND	ND	ND	0.007		Yes	N/A		Yes	
Endrin	ND	<0.000016	<0.000016	0.002		Yes	0.00000012		Yes	
Ethylbenzene	0.013	0.012	0.013	0.7		Yes	0.00010		Yes	
Heptachlor	ND	<0.000016	<0.000016	0.0004		Yes	0.00000012		Yes	
Heptachlor Epoxide	ND	<0.000008	<0.000008	0.0002		Yes	0.000000060		Yes	
Hexachlorobenzene	ND	<0.022	<0.022	0.001		No	0.00017		Yes	
Hexachlorocyclopentadiene	ND	<0.192	<0.192	0.05		No	0.0015		Yes	
Lead	0.007	0.003	0.007	0.15		Yes	0.000053		Yes	
Mercury	ND	0.0007	0.0007	0.002		Yes	0.0000053		Yes	
Methylene Chloride	0.372	<0.005	0.372	0.005		No	0.0028		Yes	
Pentachlorophenol	ND	ND	ND	0.001		Yes	N/A		Yes	
Polychlorinated Biphenyls (PCBs)	ND	ND	ND	0.0005		Yes	N/A		Yes	
Selenium	0.002	0.017	0.017	0.05		Yes	0.00013		Yes	
Silvex	ND	ND	ND	0.05		Yes	N/A		Yes	
Styrene	<0.0010	0.00125	0.00125	0.1		Yes	0.0000094		Yes	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ND	ND	ND	0.00000003		Yes	N/A		Yes	
Tetrachloroethylene	0.0107	<0.002	0.0107	0.005		No	0.000081		Yes	
Thallium	<0.020	0.015	0.015	0.002		No	0.00011		Yes	
Toluene	0.0628	0.014	0.0628	1		Yes	0.00047		Yes	
Toxaphene	ND	<0.00032	<0.00032	0.002		Yes	0.0000024		Yes	
1,2,4-Trichlorobenzene	ND	<0.00018	<0.00018	0.07		Yes	0.0000014		Yes	
1,1,1-Trichloroethane	0.00683	<0.002	0.00683	0.2		Yes	0.000052		Yes	
1,1,2-Trichloroethane	<0.0010	<0.002	<0.002	0.005		Yes	0.000015		Yes	
Trichloroethylene	0.0104	<0.002	<0.002	0.005		Yes	0.000015		Yes	
1,2,3-Trichloropropane	<0.0010	<0.0010	<0.0010	0.0006		No	0.0000076		Yes	
Vinyl Chloride	0.0059	0.00185	0.0059	0.002		No	0.000045		Yes	
Xylenes	0.037	0.015	0.037	10		Yes	0.00028		Yes	
Zinc	0.061	0.061	0.061		5	Yes		0.00046	Yes	

Notes:

(a) - All concentration values are presented in mg/L.

(b) - For the constituents with maximum recorded values that are not precisely defined and prefaced with a "<" indicator, for the purpose of comapring these values to the MCL and calculating a concentration at the 150 m POC, the concentration without the "<" indicator is assumed. Example: Recorded value = <0.02 mg/L. Value used for comparison and calculation = 0.02 mg/L.

(c) - Primary MCL based on aesthetic considerations (taste, odor, etc.). Primary MCL based on health considerations.

(d) - No MCL has been established for this parameter. However, given the possibility this reduced form of nitrogen can convert to nitrate within an oxidized subsurface environment, a comparison to the nitrate MCL has been included.

(e) - DAF = Dilution Attentuation Factor

MULTIMED PROGRAM INPUT AND OUTPUT DETAILS

MULTIMED V1.01   DATE OF CALCULATIONS: 17-FEB-2019 TIME: 11:21:26
Run Title:

Chemical simulated:	Chemical Name
Simulation models included:	Saturated and unsaturated zone models
Simulation type:	Deterministic
Infiltration rate:	Specified By User: 1.658E-04 m/yr
Source term:	Steady-state
Saturated zone source plane:	Gaussian
Well distance from site:	1.500E+02 m

Predicted relative well concentration: 7.557E-03
DAF for this case is: 1.323E+02

MULTIMED V1.01 DATE OF CALCULATIONS: 17-FEB-2019 TIME: 11:21:26

U. S. E N V I R O N M E N T A L P R O T E C T I O N A G E N C Y
E X P O S U R E A S S E S S M E N T
M U L T I M E D I A M O D E L
MULTIMED (Version 1.50, 2005)

1
Run options
--- -------

Chemical simulated is Chemical Name

Option Chosen Saturated and unsaturated zone models
Run was DETERMIN
Infiltration Specified By User: 1.658E-04 m/yr
Run was steady-state
Reject runs if Y coordinate outside plume
Reject runs if Z coordinate outside plume
Gaussian source used in saturated zone model
1
1
UNSATURATED ZONE FLOW MODEL PARAMETERS
(input parameter description and value)
NP - Total number of nodal points 240
NMAT - Number of different porous materials 1
KPROP - Van Genuchten or Brooks and Corey 1
IMSHGN - Spatial discretization option 1
NVFLAYR - Number of layers in flow model 1

OPTIONS CHOSEN
------- ------
Van Genuchten functional coefficients
User defined coordinate system
1

Layer information

LAYER NO.	LAYER THICKNESS	MATERIAL PROPERTY
1	63.40	1

DATA FOR MATERIAL 1
---- --- --------
VADOSE ZONE MATERIAL VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS MEAN	STD DEV	LIMITS MIN	MAX
Saturated hydraulic conductivity	cm/hr	CONSTANT	0.258E+04	-999.	-999.	-999.
Unsaturated zone porosity	--	CONSTANT	0.150	-999.	-999.	-999.
Air entry pressure head	m	CONSTANT	0.000	-999.	-999.	-999.
Depth of the unsaturated zone	m	CONSTANT	63.4	0.000	0.000	0.000

DATA FOR MATERIAL 1
---- --- --------
VADOSE ZONE FUNCTION VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS MEAN	STD DEV	LIMITS MIN	MAX
Residual water content	--	CONSTANT	0.400	-999.	-999.	-999.
Brook and Corey exponent,EN	--	CONSTANT	-999.	-999.	-999.	-999.
ALFA coefficient	1/cm	CONSTANT	0.145	-999.	-999.	-999.
Van Genuchten exponent, ENN	--	CONSTANT	2.68	-999.	-999.	-999.

1

UNSATURATED ZONE TRANSPORT MODEL PARAMETERS

NLAY	- Number of different layers used		1
NTSTPS	- Number of time values concentration calc		40
DUMMY	- Not presently used		1
ISOL	- Type of scheme used in unsaturated zone		2
N	- Stehfest terms or number of increments		18
NTEL	- Points in Lagrangian interpolation		3
NGPTS	- Number of Gauss points		104
NIT	- Convolution integral segments		2
IBOUND	- Type of boundary condition		1
ITSGEN	- Time values generated or input		1
TMAX	- Max simulation time	--	0.0
WTFUN	- Weighting factor	--	1.2

OPTIONS CHOSEN

Convolution integral approach
Nondecaying continuous source
Computer generated times for computing concentrations

1

DATA FOR LAYER 1

VADOSE TRANSPORT VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS MEAN	STD DEV	LIMITS MIN	MAX
Thickness of layer	m	CONSTANT	63.4	-999.	-999.	-999.
Longitudinal dispersivity of layer	m	CONSTANT	1.00	-999.	-999.	-999.
Percent organic matter	--	CONSTANT	0.000	-999.	-999.	-999.
Bulk density of soil for layer	g/cc	CONSTANT	2.65	-999.	-999.	-999.
Biological decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.

1

CHEMICAL SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS MEAN	STD DEV	LIMITS MIN	MAX
Solid phase decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Dissolved phase decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Overall chemical decay coefficient	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Acid catalyzed hydrolysis rate	l/M-yr	CONSTANT	0.000	-999.	-999.	-999.
Neutral hydrolysis rate constant	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Base catalyzed hydrolysis rate	l/M-yr	CONSTANT	0.000	-999.	-999.	-999.
Reference temperature	C	CONSTANT	25.0	-999.	-999.	-999.
Normalized distribution coefficient	ml/g	CONSTANT	0.000	-999.	-999.	-999.

Distribution coefficient	--	CONSTANT	0.000	-999.	-999.	-999.
Biodegradation coefficient (sat. zone)	1/yr	CONSTANT	0.000	-999.	-999.	-999.
Air diffusion coefficient	cm2/s	CONSTANT	-999.	-999.	-999.	-999.
Reference temperature for air diffusion	C	CONSTANT	-999.	-999.	-999.	-999.
Molecular weight	g/M	CONSTANT	-999.	-999.	-999.	-999.
Mole fraction of solute	--	CONSTANT	-999.	-999.	-999.	-999.
Vapor pressure of solute	mm Hg	CONSTANT	-999.	-999.	-999.	-999.
Henry`s law constant	atm-m^3/M	CONSTANT	-999.	-999.	-999.	-999.
Overall 1st order decay sat. zone	1/yr	DERIVED	0.000	0.000	0.000	1.00
Not currently used		CONSTANT	0.000	0.000	0.000	0.000
Not currently used		CONSTANT	0.000	0.000	0.000	0.000

1

SOURCE SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS MEAN	STD DEV	LIMITS MIN	MAX
Infiltration rate	m/yr	CONSTANT	0.166E-03	-999.	-999.	-999.
Area of waste disposal unit	m^2	DERIVED	0.450E+05	-999.	-999.	-999.
Duration of pulse	yr	CONSTANT	-999.	-999.	-999.	-999.
Spread of contaminant source	m	DERIVED	-999.	-999.	-999.	-999.
Recharge rate	m/yr	CONSTANT	0.000	-999.	-999.	-999.
Source decay constant	1/yr	CONSTANT	0.000	0.000	0.000	0.000
Initial concentration at landfill	mg/l	CONSTANT	1.00	-999.	-999.	-999.
Length scale of facility	m	CONSTANT	137.	-999.	-999.	-999.
Width scale of facility	m	CONSTANT	322.	-999.	-999.	-999.
Near field dilution		DERIVED	1.00	0.000	0.000	1.00

1

AQUIFER SPECIFIC VARIABLES

VARIABLE NAME	UNITS	DISTRIBUTION	PARAMETERS MEAN	STD DEV	LIMITS MIN	MAX
Particle diameter	cm	CONSTANT	-999.	-999.	-999.	-999.
Aquifer porosity	--	CONSTANT	0.150	-999.	-999.	-999.
Bulk density	g/cc	CONSTANT	2.50	-999.	-999.	-999.
Aquifer thickness	m	CONSTANT	200.	-999.	-999.	-999.
Source thickness (mixing zone depth)	m	DERIVED	-999.	-999.	-999.	-999.
Conductivity (hydraulic)	m/yr	CONSTANT	0.258E+04	-999.	-999.	-999.
Gradient (hydraulic)		CONSTANT	0.970E-04	-999.	-999.	-999.
Groundwater seepage velocity	m/yr	DERIVED	-999.	-999.	-999.	-999.
Retardation coefficient	--	CONSTANT	1.00	-999.	-999.	-999.
Longitudinal dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Transverse dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Vertical dispersivity	m	FUNCTION OF X	-999.	-999.	-999.	-999.
Temperature of aquifer	C	CONSTANT	25.0	-999.	-999.	-999.
pH	--	CONSTANT	7.00	-999.	-999.	-999.
Organic carbon content (fraction)		CONSTANT	-999.	-999.	-999.	-999.
Well distance from site	m	CONSTANT	150.	-999.	-999.	-999.
Angle off center	degree	CONSTANT	0.000	0.000	0.000	0.000
Well vertical distance	m	CONSTANT	0.000	0.000	0.000	0.000

CONCENTRATION AFTER SATURATED ZONE MODEL 0.7557E-02