APPENDIX "C"

LABORATORY TESTING

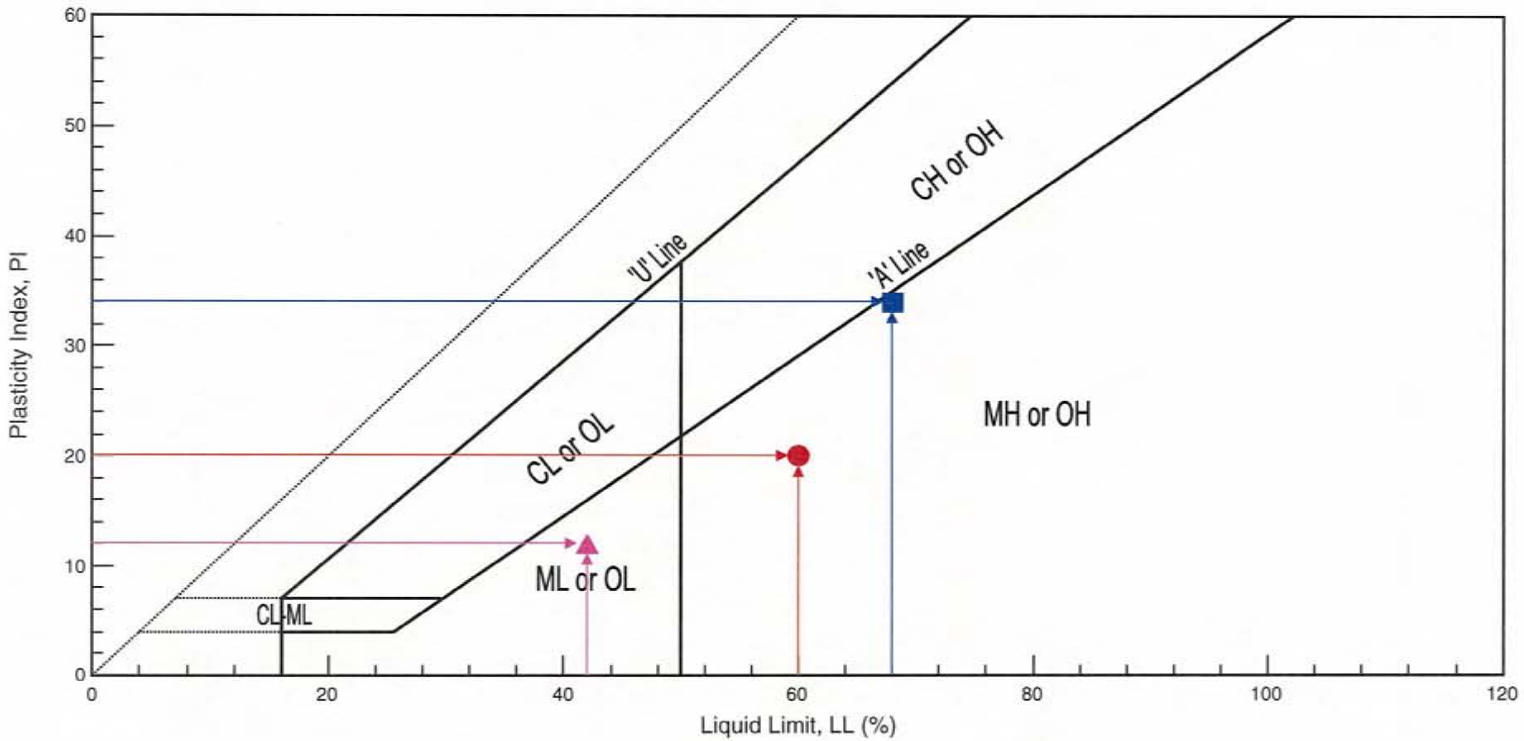
Enclosure "C-1"
Job No. 09355-3

TEST DATA SUMMARY

EXPANSION INDICES:

(ASTM D 4829)

Boring No.	Depth of Sample (ft.)	Initial Moisture (%)	Final Moisture (%)	Degree of Saturation (%)	Expansion Index	Expansion Potential
HSA-3	4	15.7	40.3	46	107	"High"
BH-5	0	4.0	32.9	50	18	"Very Low"



Symbol	Boring No.	Depth (ft)	Classification	PL (%)	LL (%)	PI (%)
●	HSA-3	4	(ML or OL)	40.0	60.0	20.0
■	HSA-4	7	(MH or OH)	34.0	68.0	34.0
▲	HSA-4	22	(ML or OL)	30.0	42.0	12.0

C.H.J. Incorporated

Plasticity Chart (ASTM D 2487)

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number:	09355-3	Enclosure:	C-2

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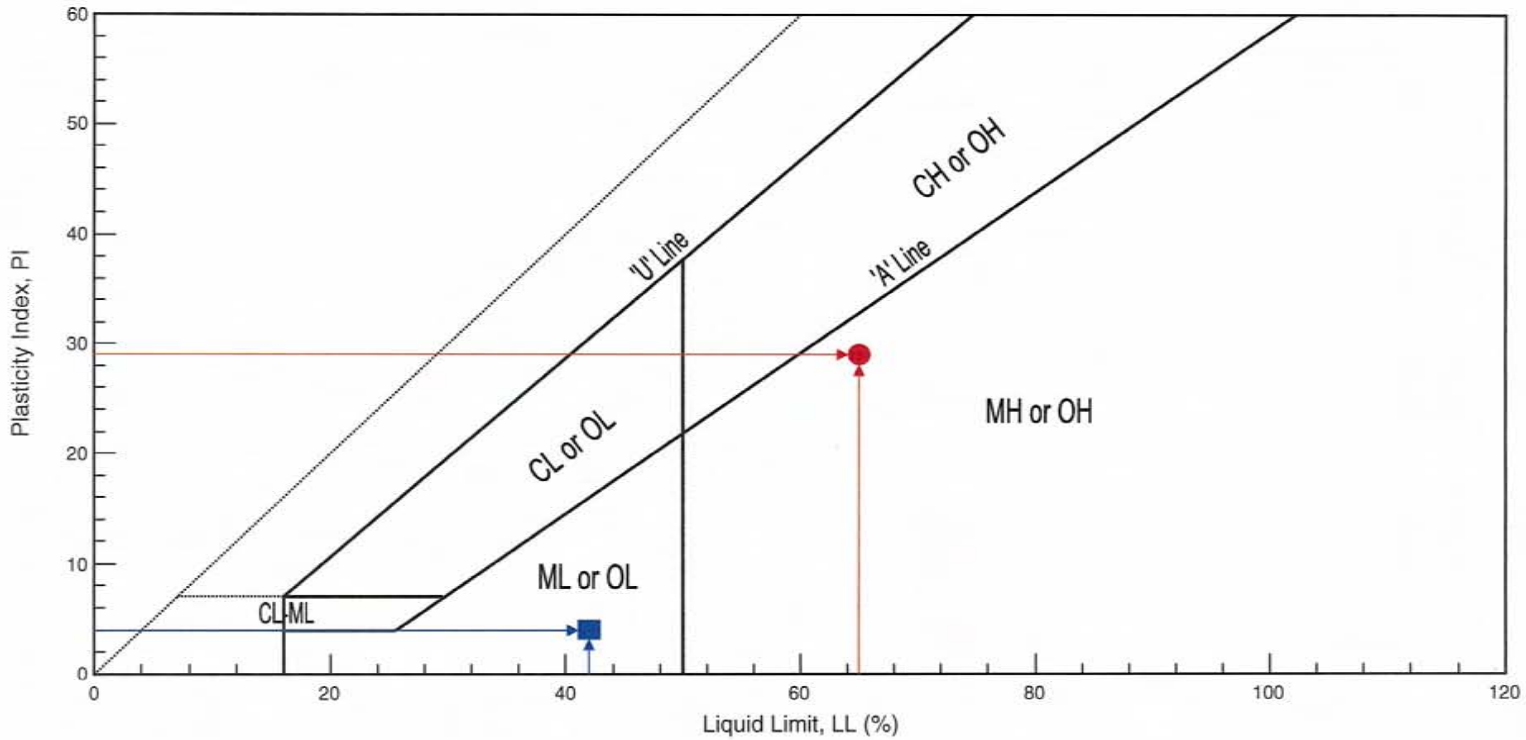

Symbol	Boring No.	Depth (ft)	Classification	PL (%)	LL (%)	PI (%)
●	HSA-4	42	(MH or OH)	36.0	65.0	29.0
■	BH-5	0	(ML or OL)	38.0	42.0	4.0

C.H.J. Incorporated

Plasticity Chart (ASTM D 2487)

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number:	09355-3	Enclosure:	C-3

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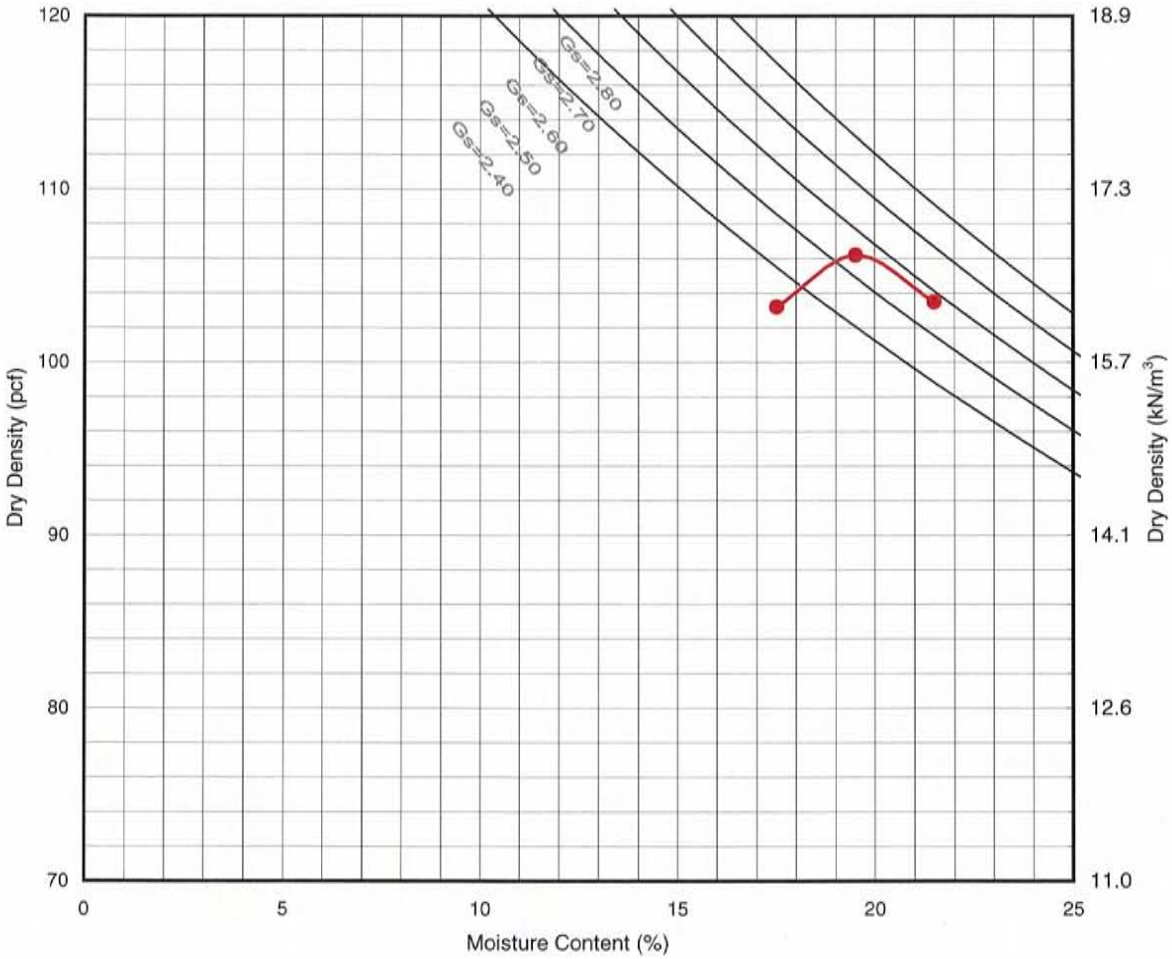
Optimum Moisture - Maximum Density Determination Test (ASTM D 1557)



	Boring No.	Depth (ft)	Soil Type	γ_{max} (pcf)	w_{opt} (%)
●	HSA-3	4	(ML) Sandy Silt, fine to medium and clay	107.0	20.0
■	BH-4	0	(SM) Silty Sand, fine with gravel and clay	86.5	32.0

C.H.J. Incorporated

MOISTURE-DENSITY RELATIONSHIP

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-4

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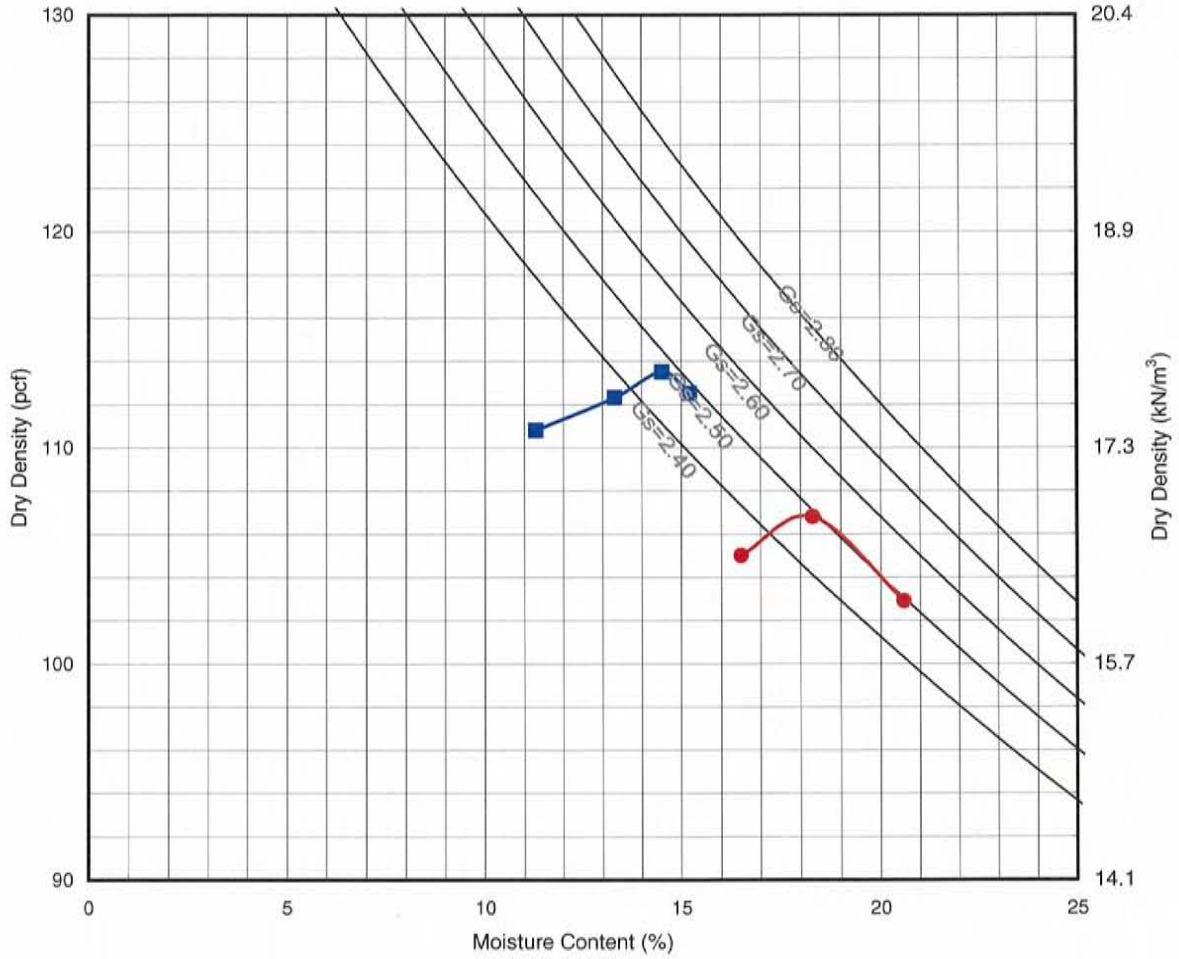
Optimum Moisture - Maximum Density Determination Test (ASTM D 1557)



Boring No.		Depth (ft)	Soil Type	γ_{max} (pcf)	w_{opt} (%)
●	BH-5	0	(SM) Silty Sand, fine with gravel and clay	106.0	19.0
■	BH-7	0	(Tgv) Glendora Volcanics	113.5	14.5

C.H.J. Incorporated

MOISTURE-DENSITY RELATIONSHIP			
Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-5

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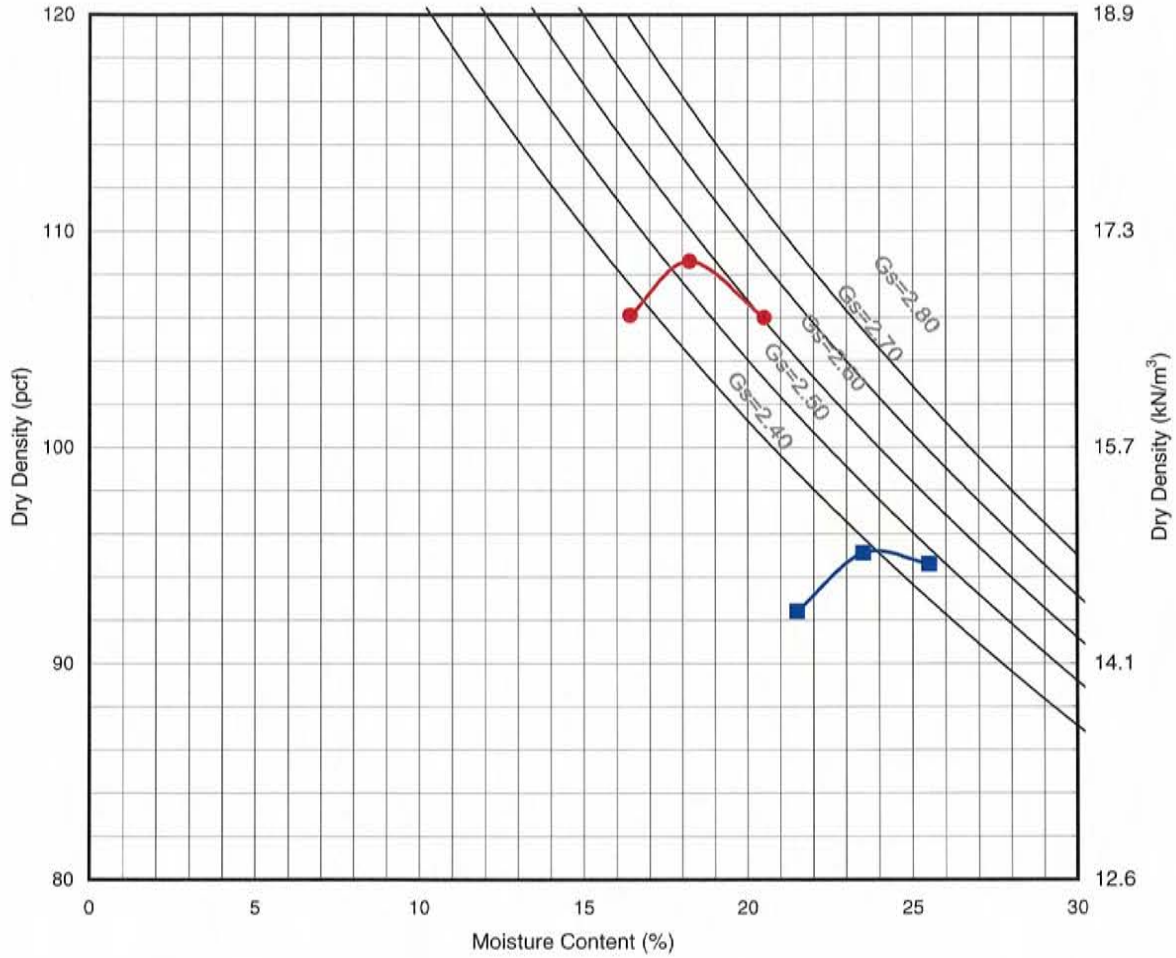
Optimum Moisture - Maximum Density Determination Test (ASTM D 1557)



	Boring No.	Depth (ft)	Soil Type	γ_{max} (pcf)	w_{opt} (%)
●	TP-18	2.5	(SM) Silty Sand, fine to coarse with clay, gravel, and cobbles	109.0	19.0
■	Tp	(fill)	Puente Formation	96.5	24.5

C.H.J. Incorporated

MOISTURE-DENSITY RELATIONSHIP

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-6

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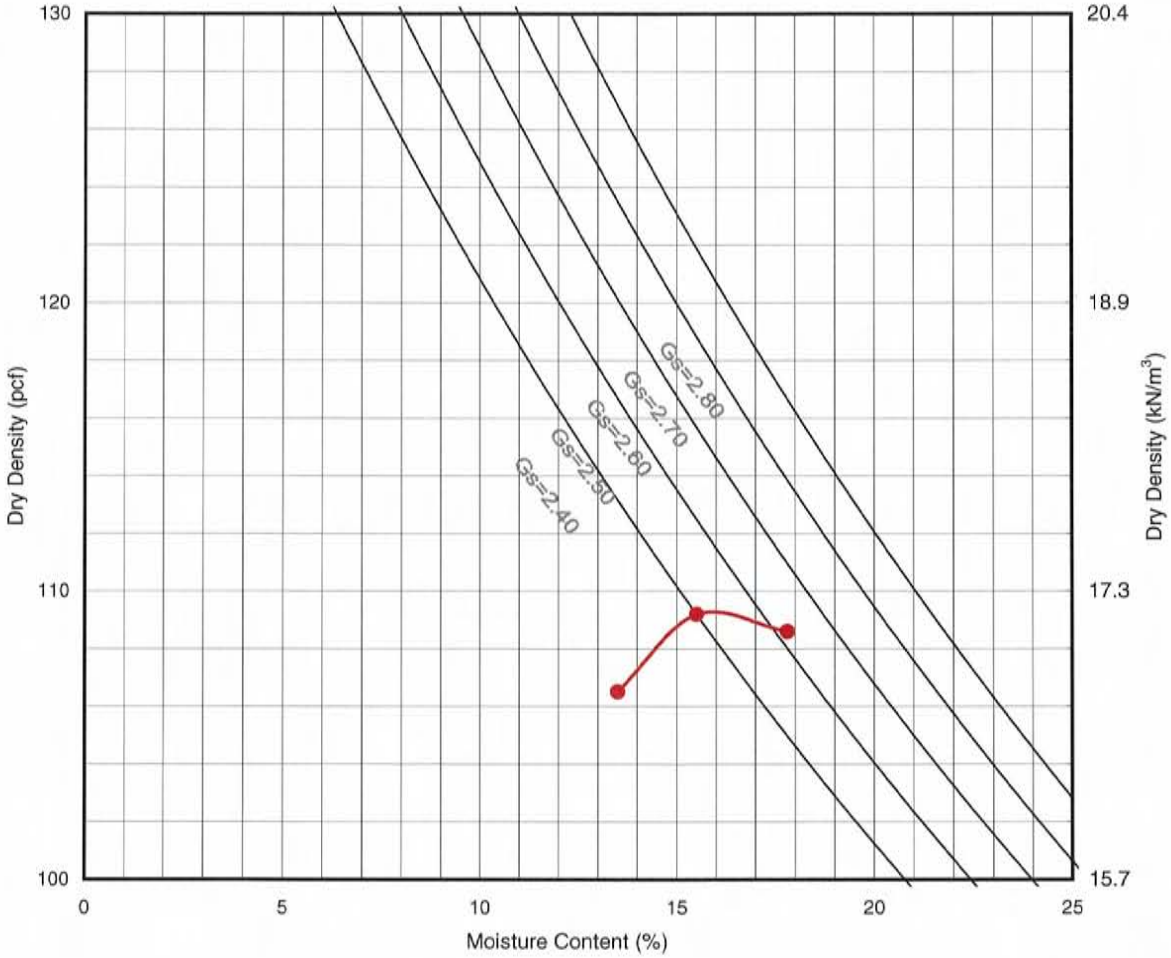
Optimum Moisture - Maximum Density Determination Test (ASTM D 1557)



Boring No.		Depth (ft)	Soil/Sample Type	γ_{max} (pcf)	w_{opt} (%)
•	Tgv	(fill)	Glendora Volcanics	110.5	16.5

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MOISTURE-DENSITY RELATIONSHIP			
Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-7

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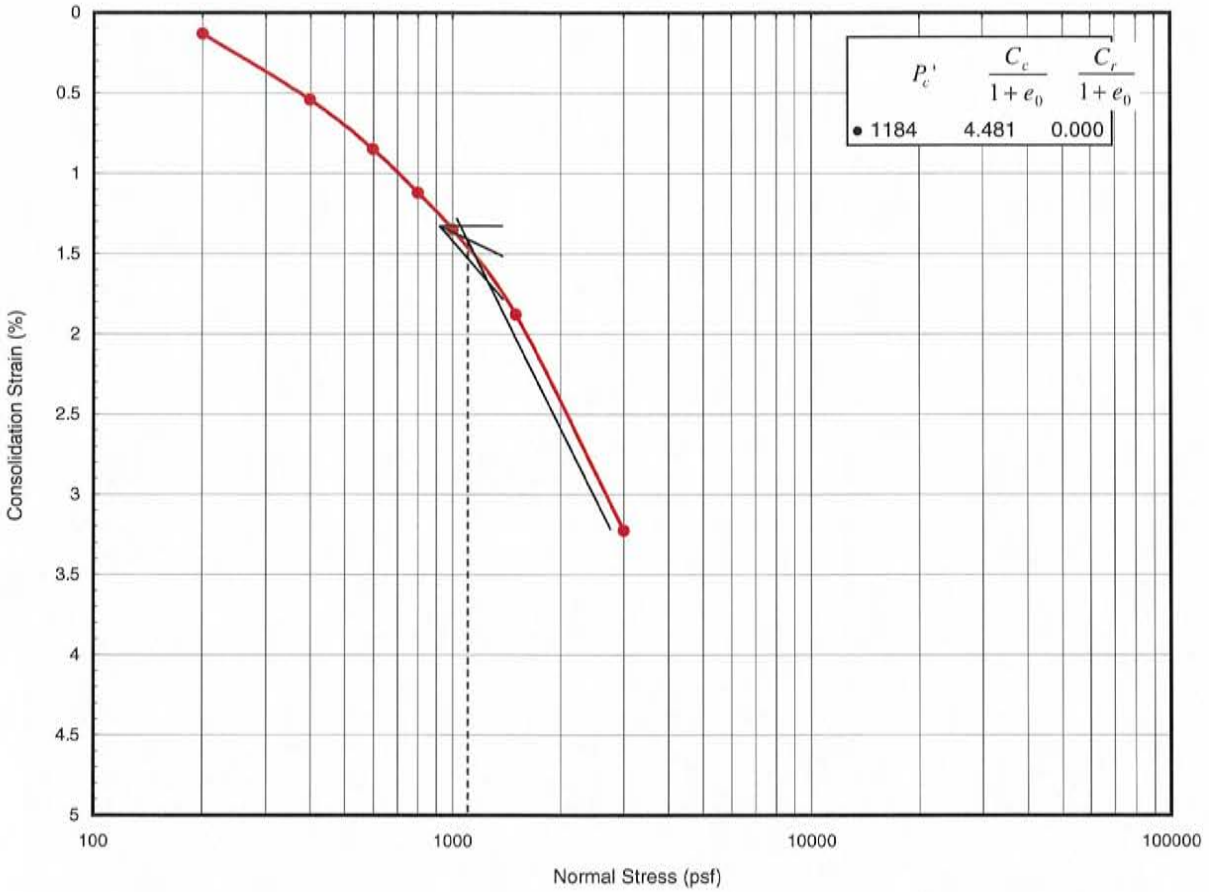
Consolidation Test (ASTM D 2435)



Boring #		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	HCS(%)
•	HAS-4	7	(SM) Elastic silty sand, fine to medium with clay/relatively undisturbed	84.2	34.0	

* HCS - Hydroconsolidation strain in percent.

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CONSOLIDATION TEST			
Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-8

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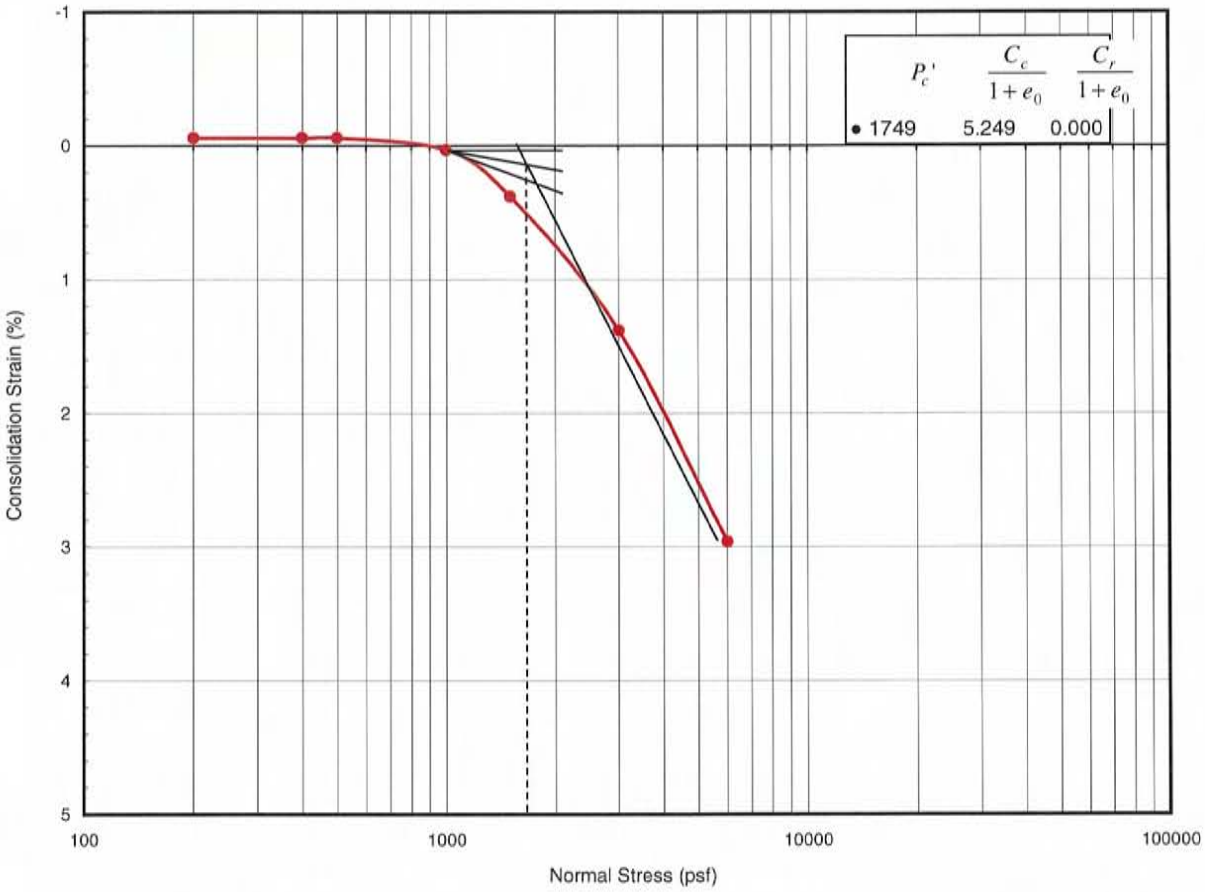
Consolidation Test (ASTM D 2435)



Boring #		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	HCS(%)
•	HAS-4	27	(ML) Sandy silt, fine with medium and clay/relatively undisturbed	91.5	20.0	

* HCS - Hydroconsolidation strain in percent.

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CONSOLIDATION TEST			
Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-9

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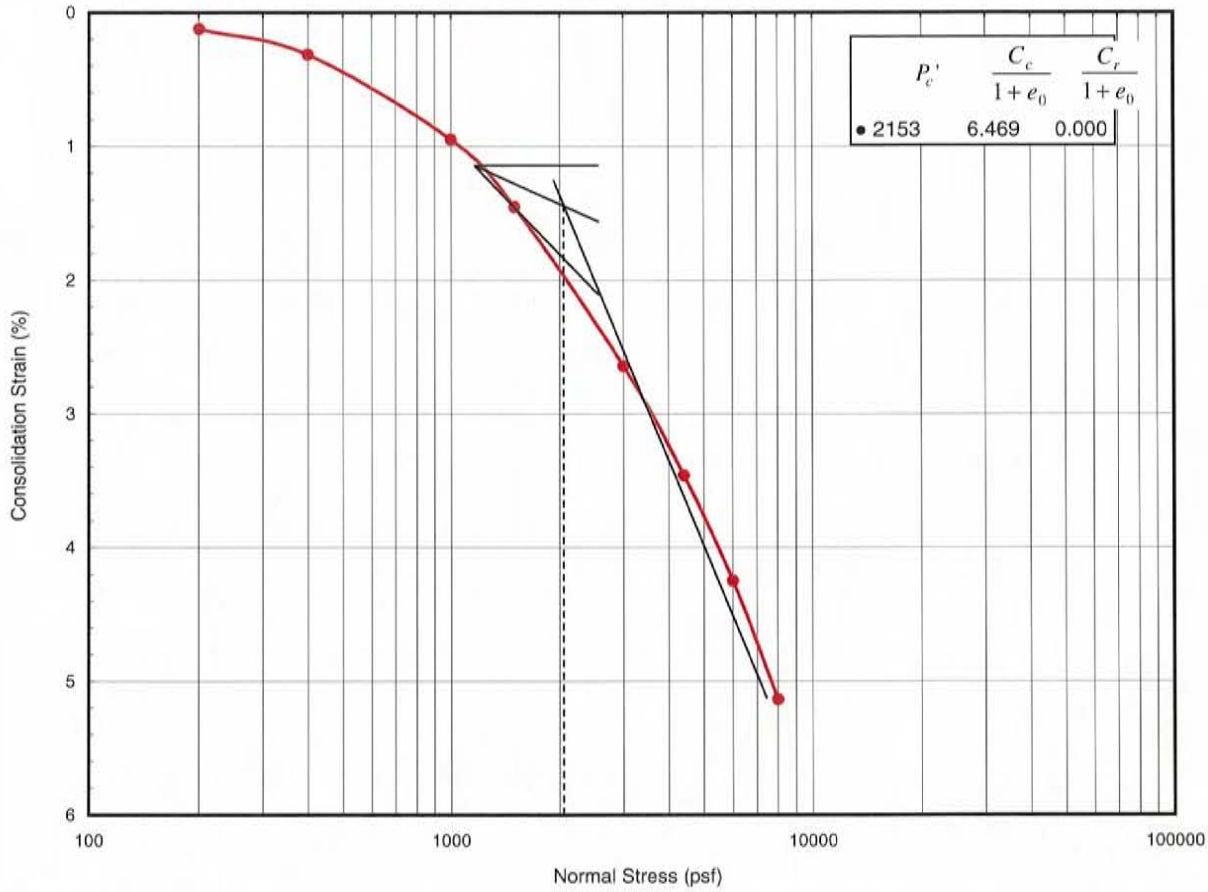
Consolidation Test (ASTM D 2435)



Boring #		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	HCS(%)
•	HAS-4	42	(SM) Elastic silty sand, fine to medium with coarse & clay/relatively undisturbed	85.7	28.4	

* HCS - Hydroconsolidation strain in percent.

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CONSOLIDATION TEST			
Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-10

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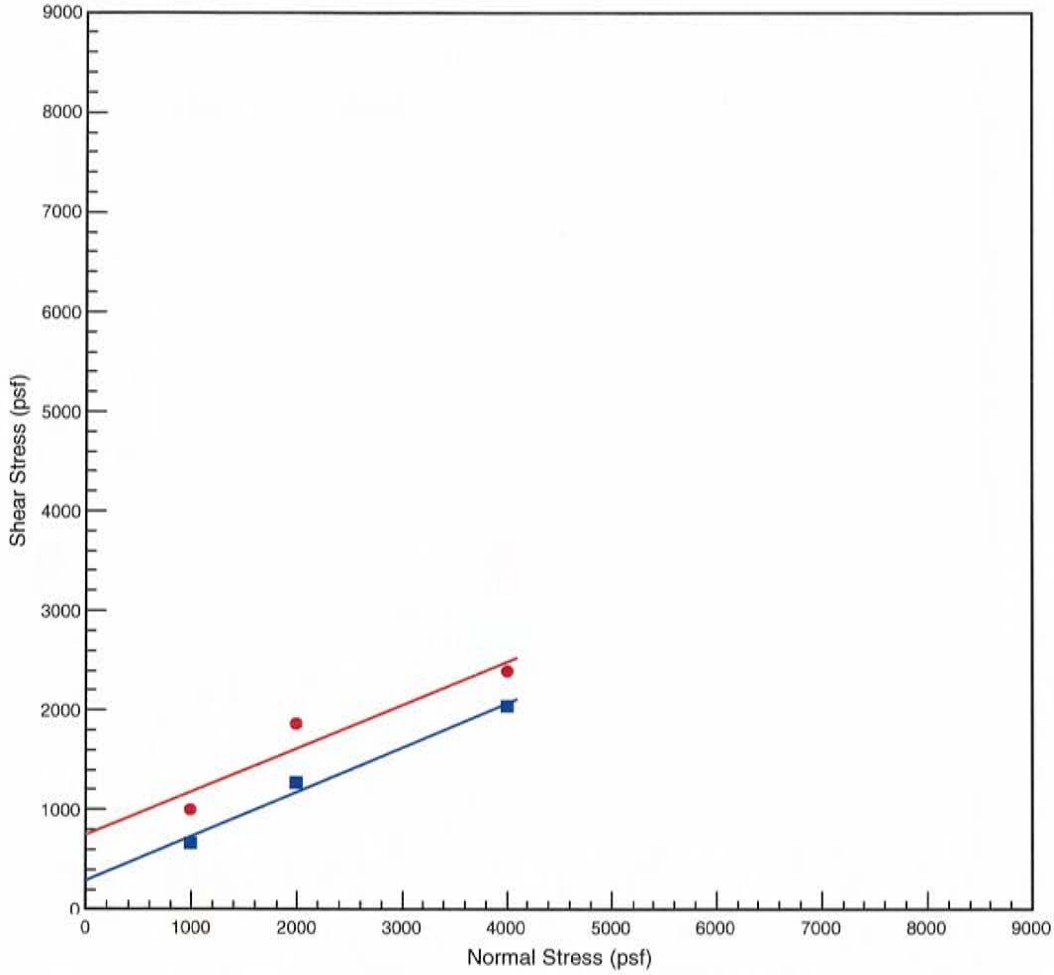

Boring No.		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	C (psf)	φ(°)
●	BH-1	4	(Tp) Puente Formation, undisturbed	97	24.5	744	24
■	BH-4	0	(SM) Silty Sand, fine with gravel and clay/remolded to 90%	96	20.0	288	24

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DIRECT SHEAR TEST			
Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-11

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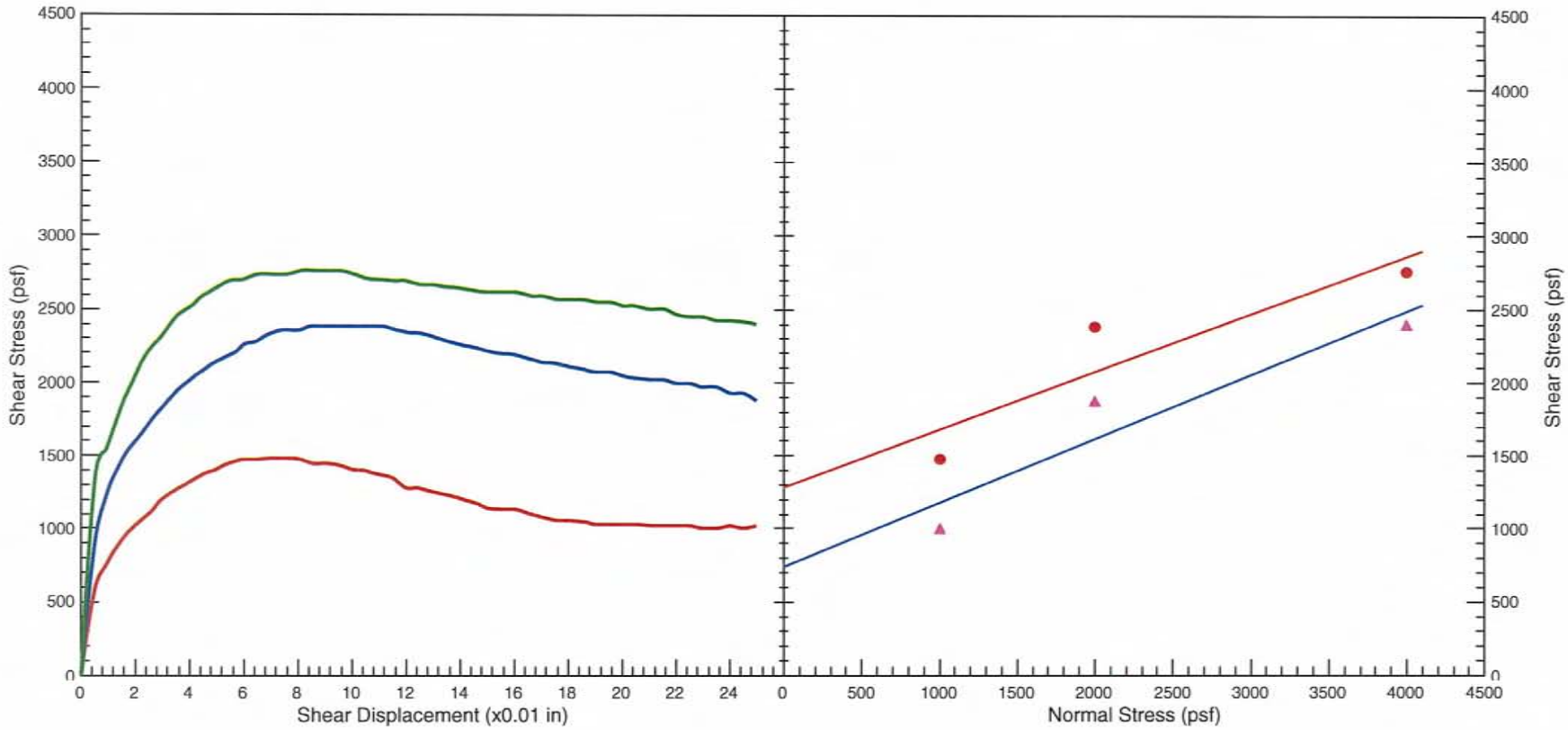

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
BH-1	4	(Tp) Puente Formation, undisturbed	97.0	24.5	1284	22	744	24

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DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-12

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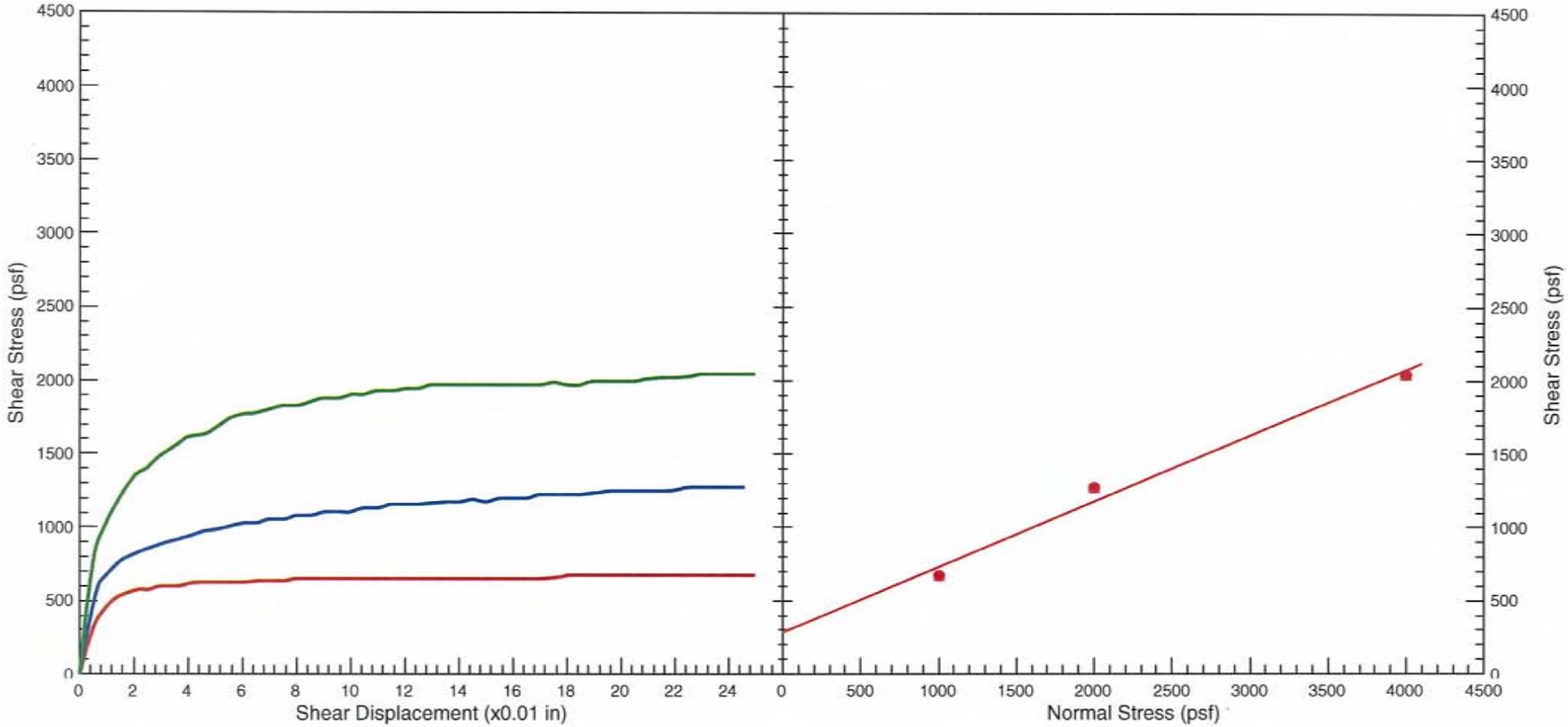

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
BH-4	0	(SM) Silty Sand, fine with gravel and clay/remolded to 90%	96.0	20.0	288	24	288	24

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DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-13

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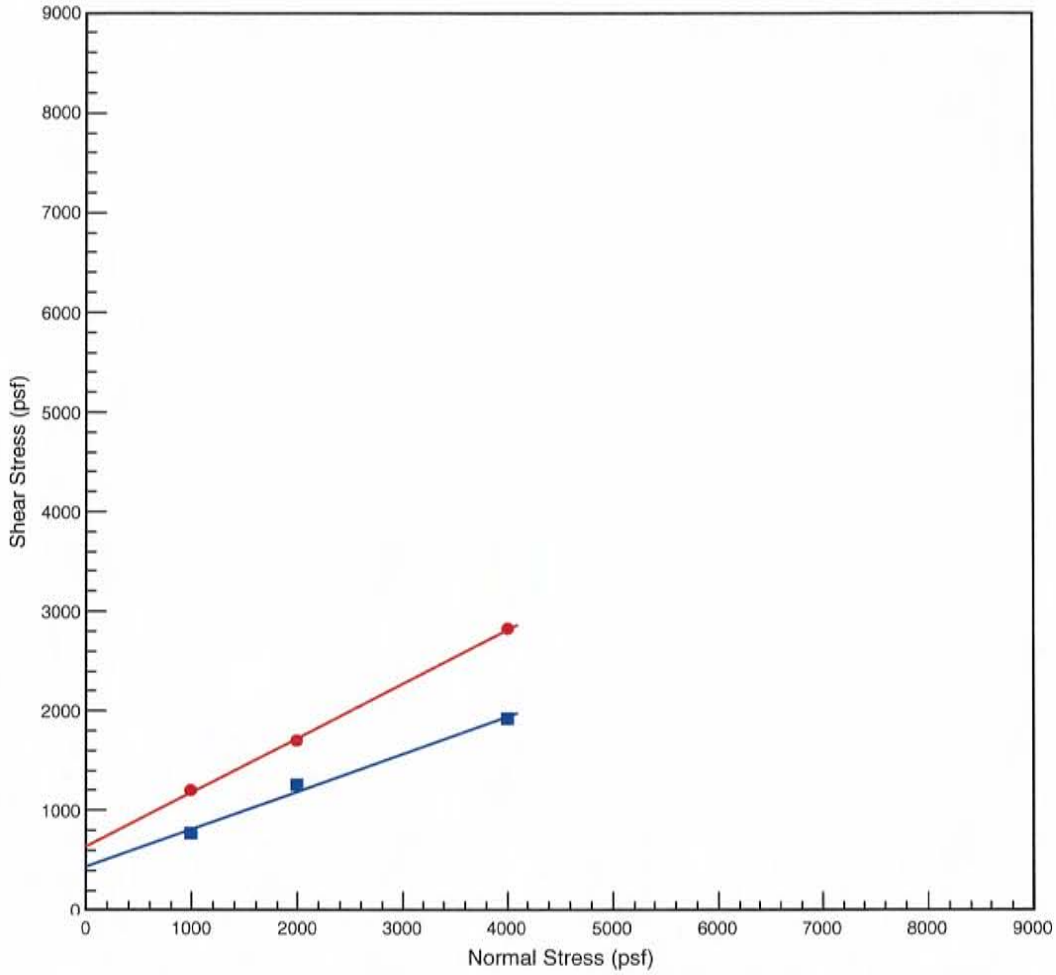

Boring No.		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	C (psf)	φ(°)
●	BH-4	20	(Tp) Puente Formation/undisturbed	95	21.1	642	28
■	BH-5	0	(SM) Silty Sand, fine with gravel and clay/remolded to 90%	95	19.0	438	21

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DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-14

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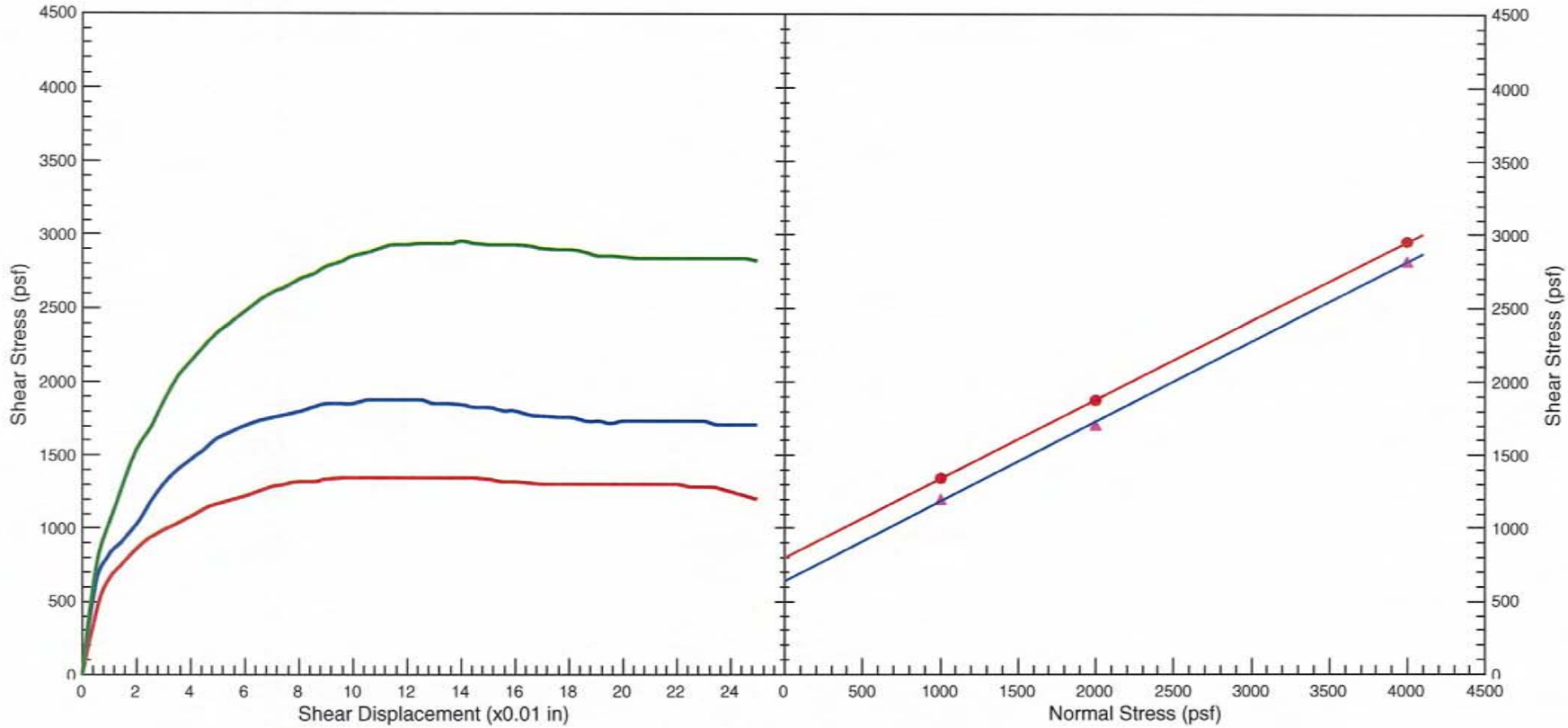

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
BH-4	20	(Tp) Puente Formation/undisturbed	95.0	21.1	804	28	642	28

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-15

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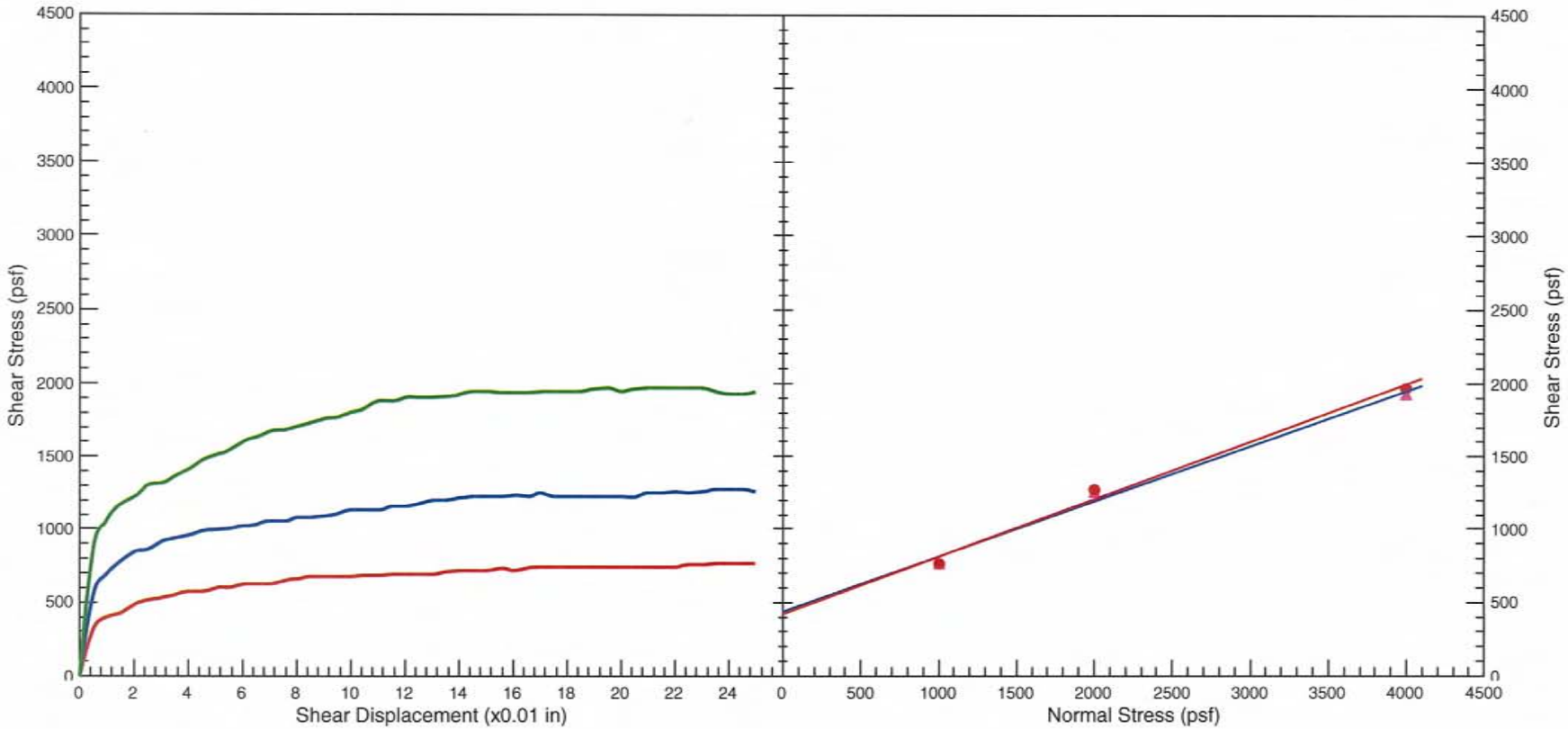

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
BH-5	0	(SM) Silty Sand, fine with gravel and clay/remolded to 90%	95.0	19.0	420	21	438	21

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-16

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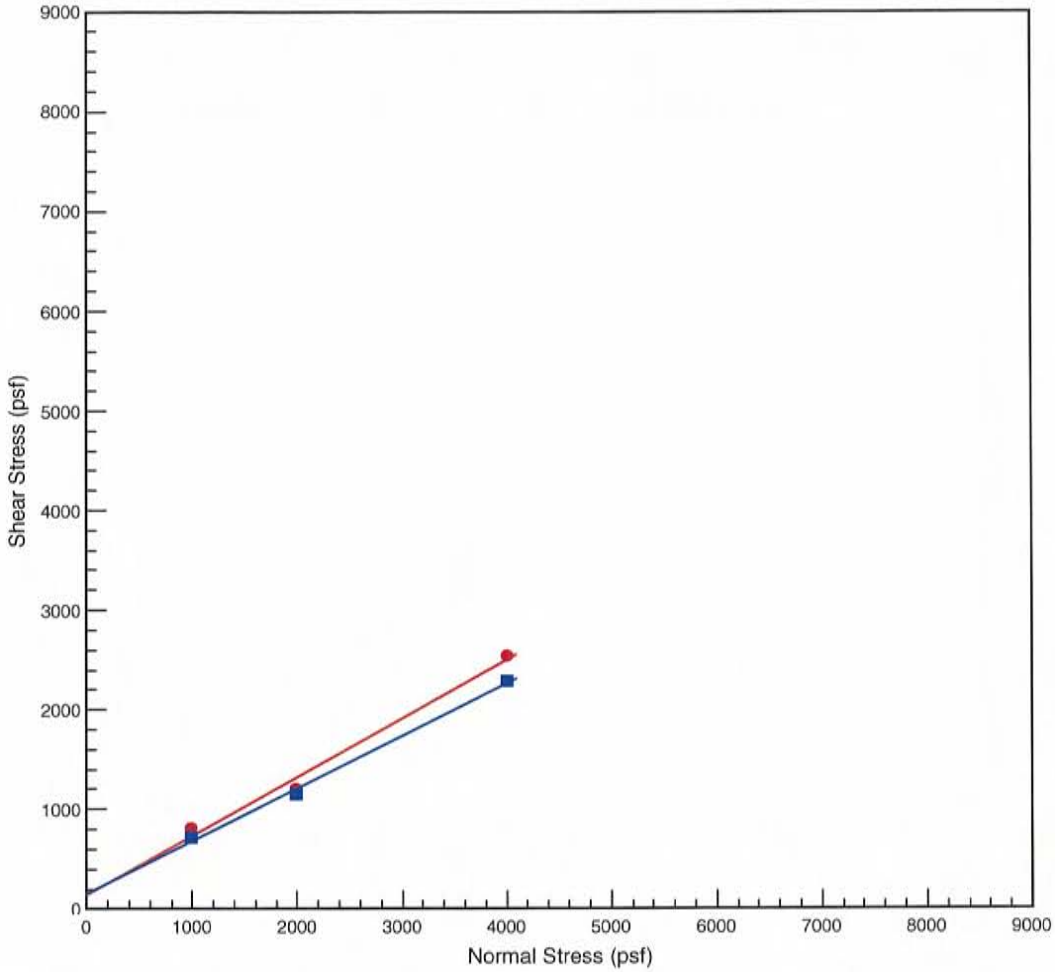

Boring No.		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	C (psf)	φ(°)
●	BH-7	0	(Tgv) Glendora Volcanics/remolded to 90%	102	14.5	144	31
■	TP-18	2.5	(SM) Silty Sand, fine to coarse with clay, gravel and cobbles/remolded to 90%	98	19.0	156	28

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-17

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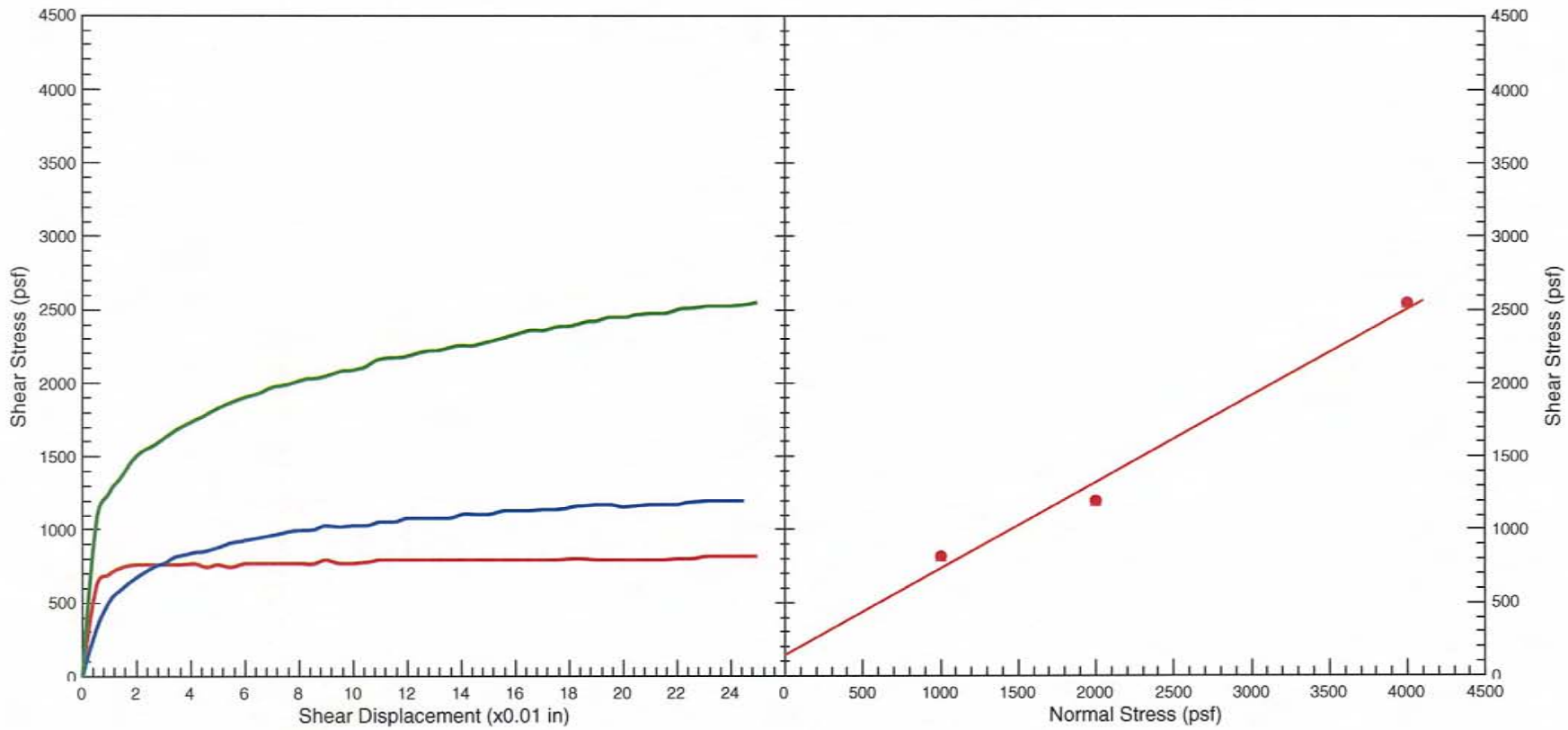

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
BH-7	0	(Tgv) Glendora Volcanics/remolded to 90%	102.0	14.5	144	31	144	31

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-18

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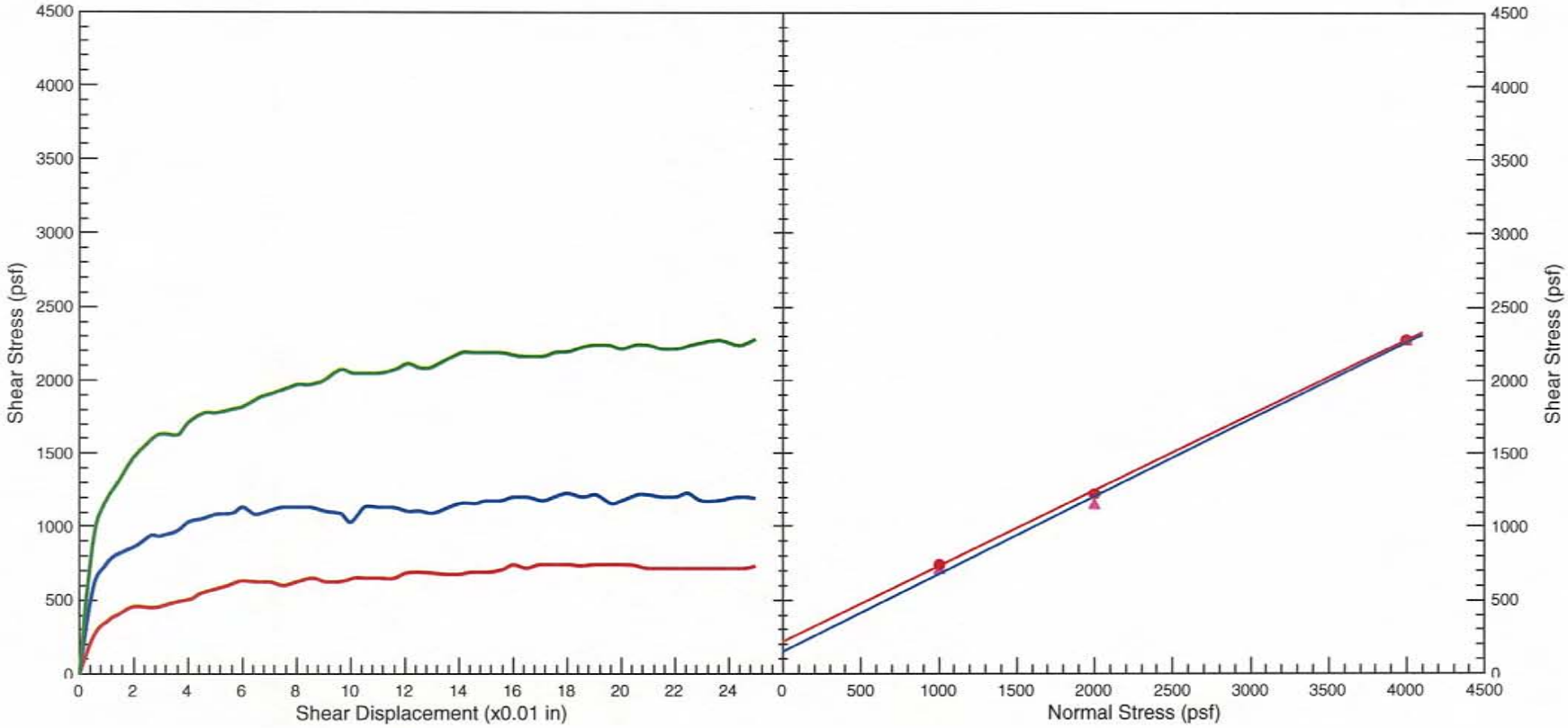

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
TP-18	2.5	(SM) Silty Sand, fine to coarse with clay, gravel and cobbles/remolded to 90%	98.0	19.0	216	27	156	28

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-19

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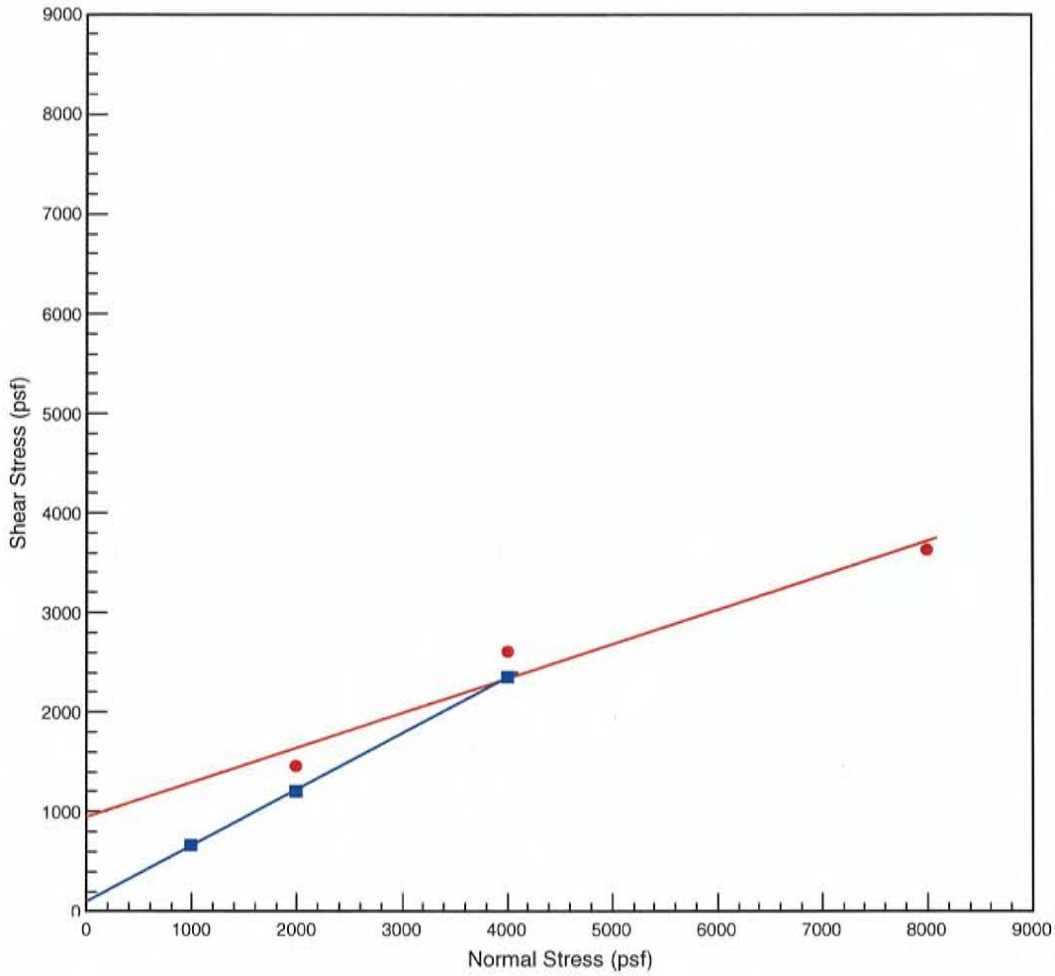

Boring No.		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	C (psf)	φ(°)
●	BH-1	32	(Tp) Puente Formation, gouge zone/remolded	90	33.2	949	19
■	Tp	(fill)	(Tp) Puente Formation, (fill)/remolded to 95 %	92	24.5	96	29

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-20

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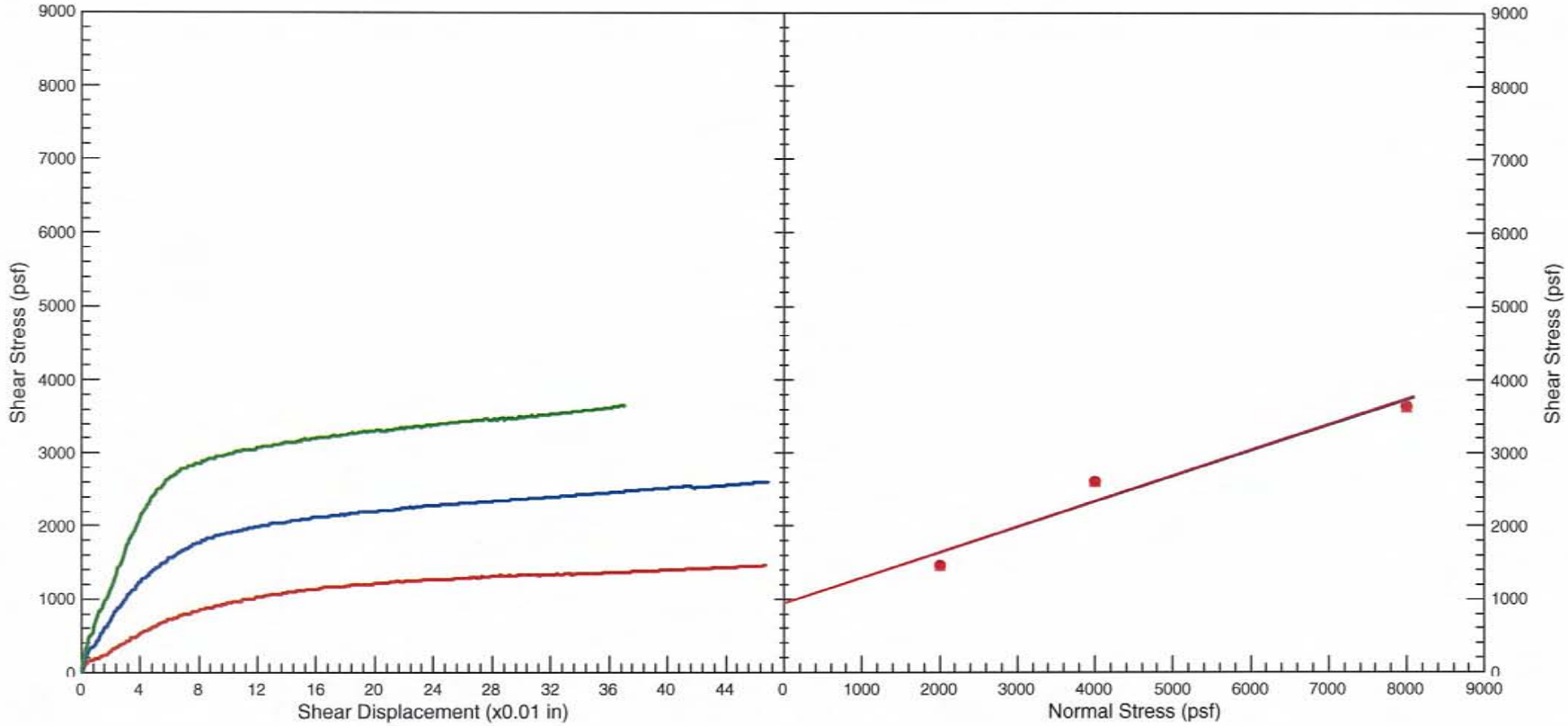

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
BH-1	32	(Tp) Puente Formation, gouge zone/remolded	90.0	33.2	942	19	949	19

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-21

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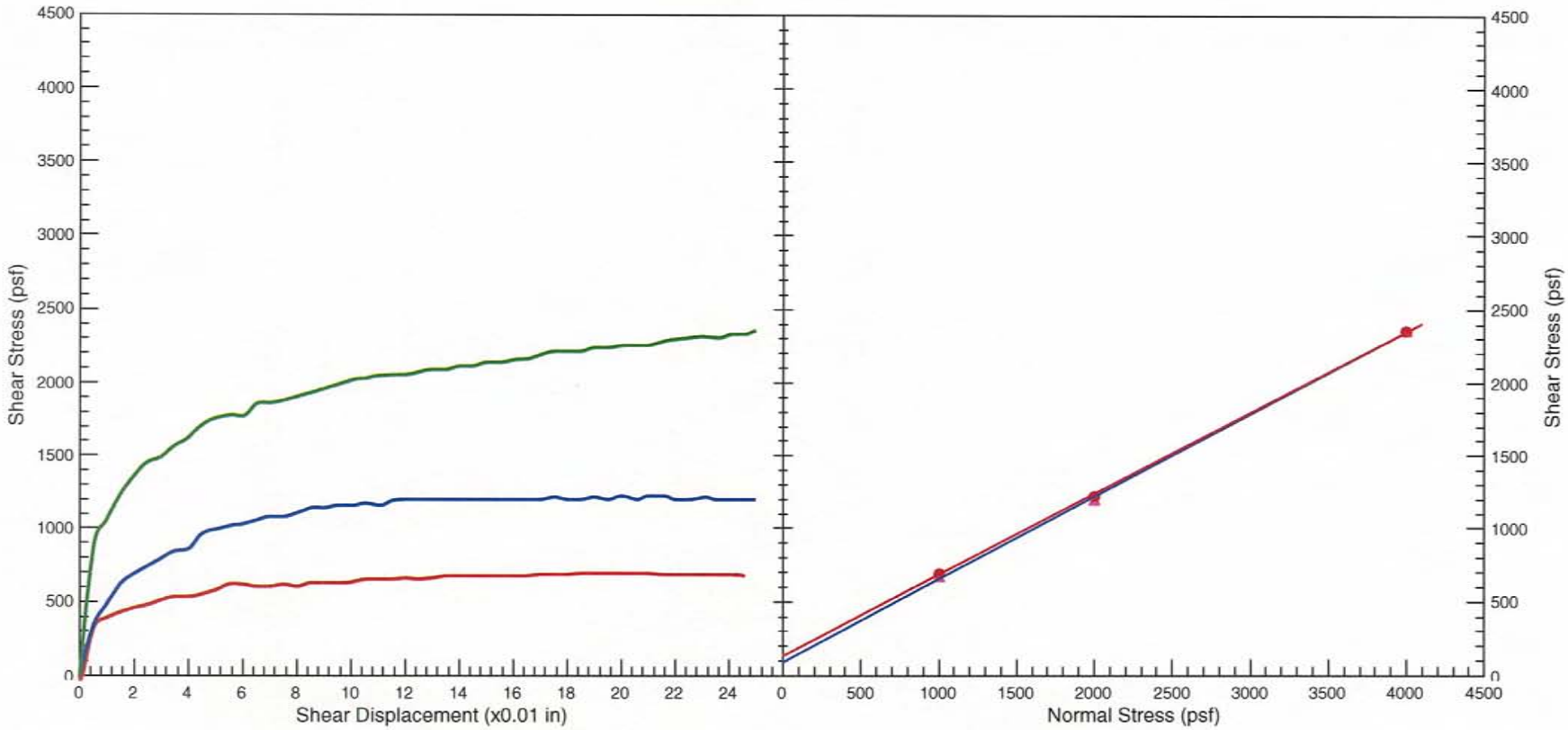

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
Tp	(fill)	(Tp) Puente Formation, (fill)/remolded to 95 %	92.0	24.5	132	29	96	29

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-22

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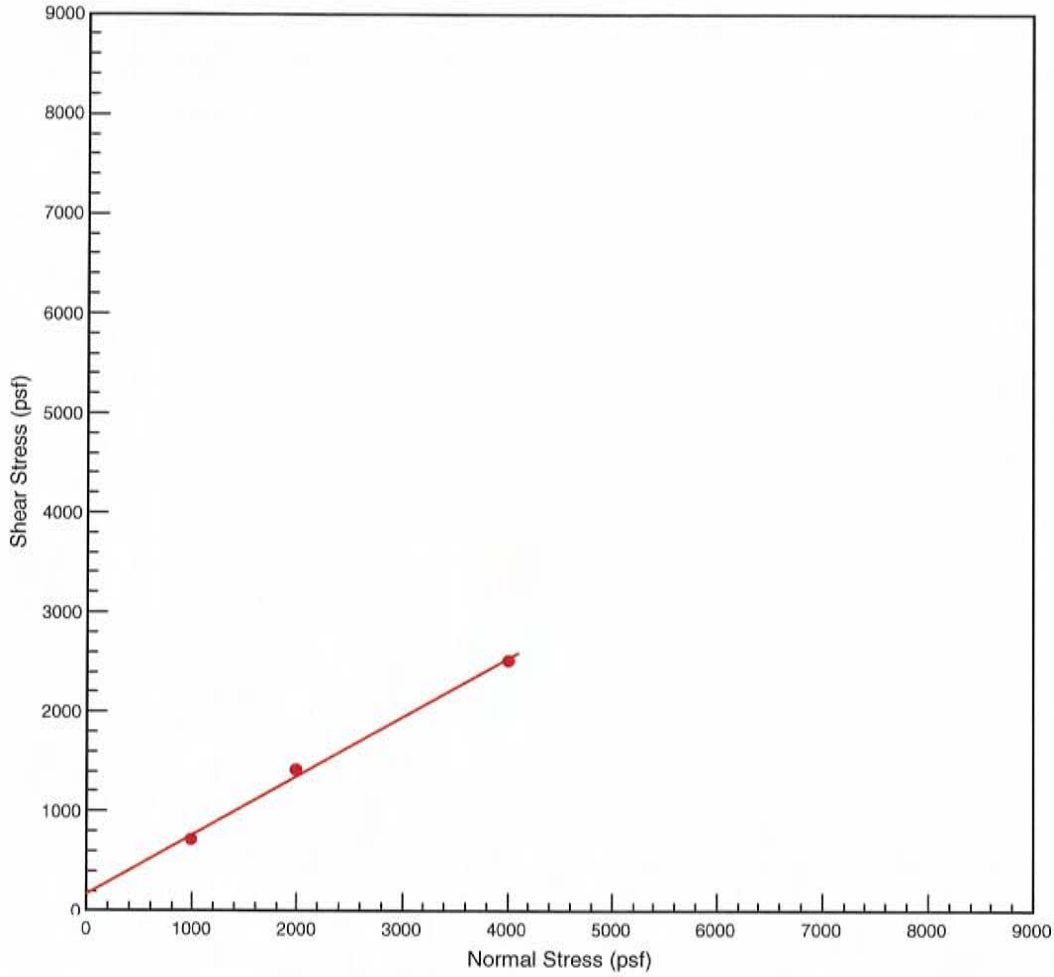

Boring No.		Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC(%)	C (psf)	φ(°)
•	Tgv	(fill)	(Tgv) Glendora Volcanics (fill) / remolded to 95%	105	16.5	168	31

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location:	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job No.:	09355-3	Enclosure:	C-23

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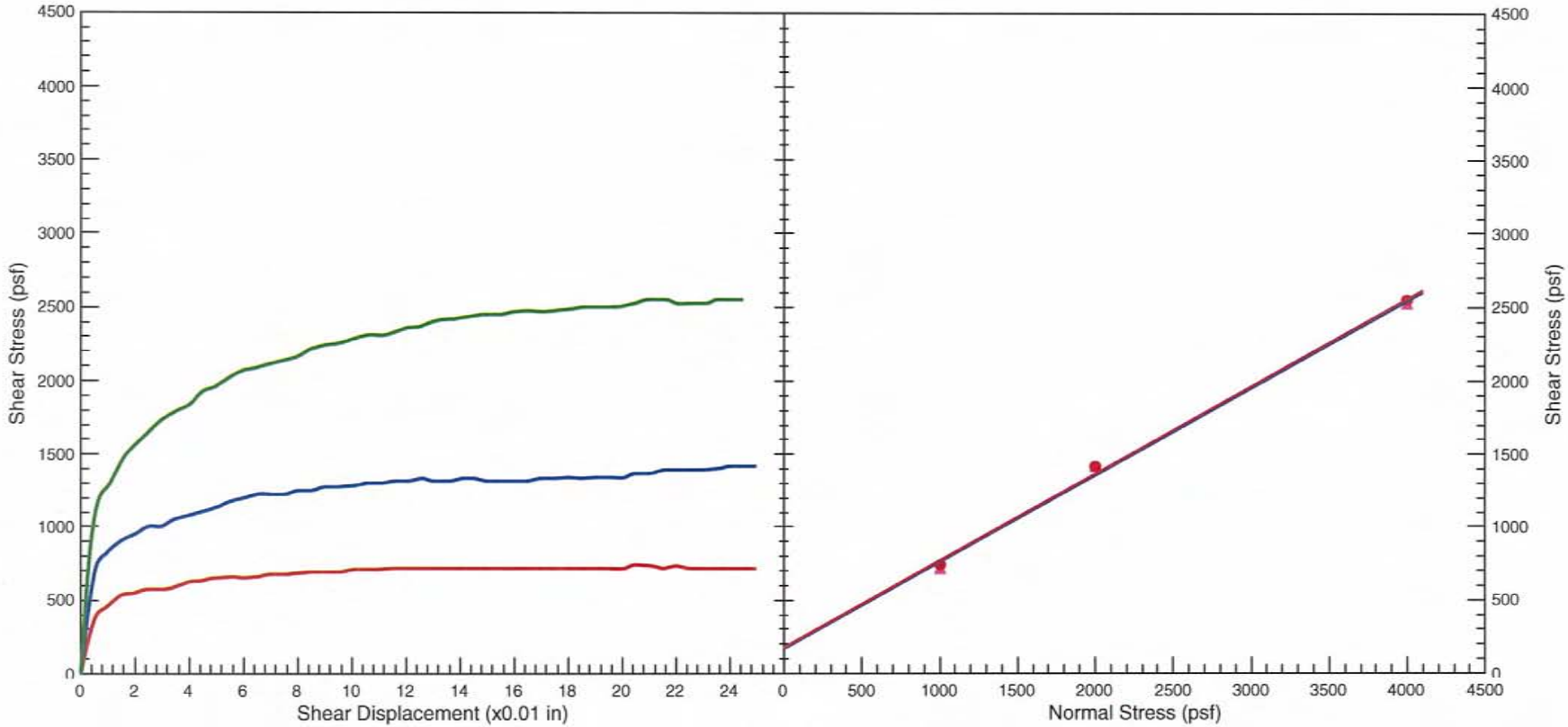

Boring No.	Depth (ft)	Soil/Sample Type	γ_d (pcf)	MC (%)	C_{peak} (psf)	φ_{peak} (°)	C_{res} (psf)	φ_{res} (°)
Tgv	(fill)	(Tgv) Glendora Volcanics (fill) / remolded to 95%	105.0	16.5	180	31	168	31

C.H.J. Incorporated

DIRECT SHEAR TEST

Project:	Tentative Tract No. 70583, NJD, LTD.		
Location	Aproximately 300 Acre Site, San Dimas Foothills, San Dimas, Ca		
Job Number	09355-3	Enclosure	C-24

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Table 1 - Laboratory Tests on Soil Samples

C.H.J. Inc.
San Dimas
Your #09355-3, SA #09-0556LAB
20-Jul-09

Sample ID			HS 3B @ 4' Clay	BH 5A @ 0'
Resistivity		**Units**		
as-received		ohm-cm	4,400,000	4,400,000
saturated		ohm-cm	600	840
pH			7.4	6.2
Electrical Conductivity		mS/cm	0.63	0.10
Chemical Analyses				
Cations				
calcium	Ca^{2+}	mg/kg	257	58
magnesium	Mg^{2+}	mg/kg	28	11
sodium	Na^{1+}	mg/kg	343	47
potassium	K^{1+}	mg/kg	45	1.7
Anions				
carbonate	CO_3^{2-}	mg/kg	ND	ND
bicarbonate	HCO_3^{1-}	mg/kg	1,077	146
flouride	F^{1-}	mg/kg	1.0	ND
chloride	Cl^{1-}	mg/kg	67	29
sulfate	SO_4^{2-}	mg/kg	208	43
phosphate	PO_4^{3-}	mg/kg	ND	ND
Other Tests				
ammonium	NH_4^{1+}	mg/kg	6.8	0.8
nitrate	NO_3^{1-}	mg/kg	25	3.2
sulfide	S^{2-}	qual	na	na
Redox		mV	na	na

Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

431 West Baseline Road · Claremont, CA 91711
Phone: 909.626.0967 · Fax: 909.626.3316

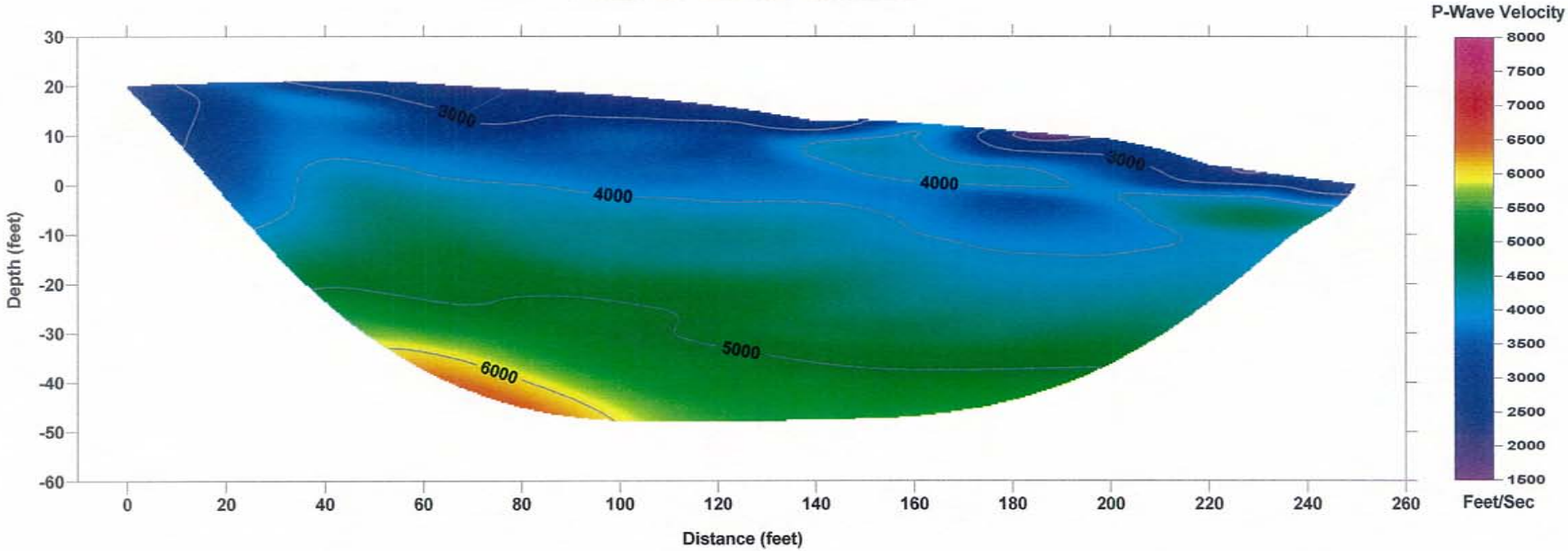
APPENDIX "D"

SEISMIC REFRACTION SURVEY DATA

SEISMIC LINE S-1

South 35 West →

TOMOGRAPHIC MODEL

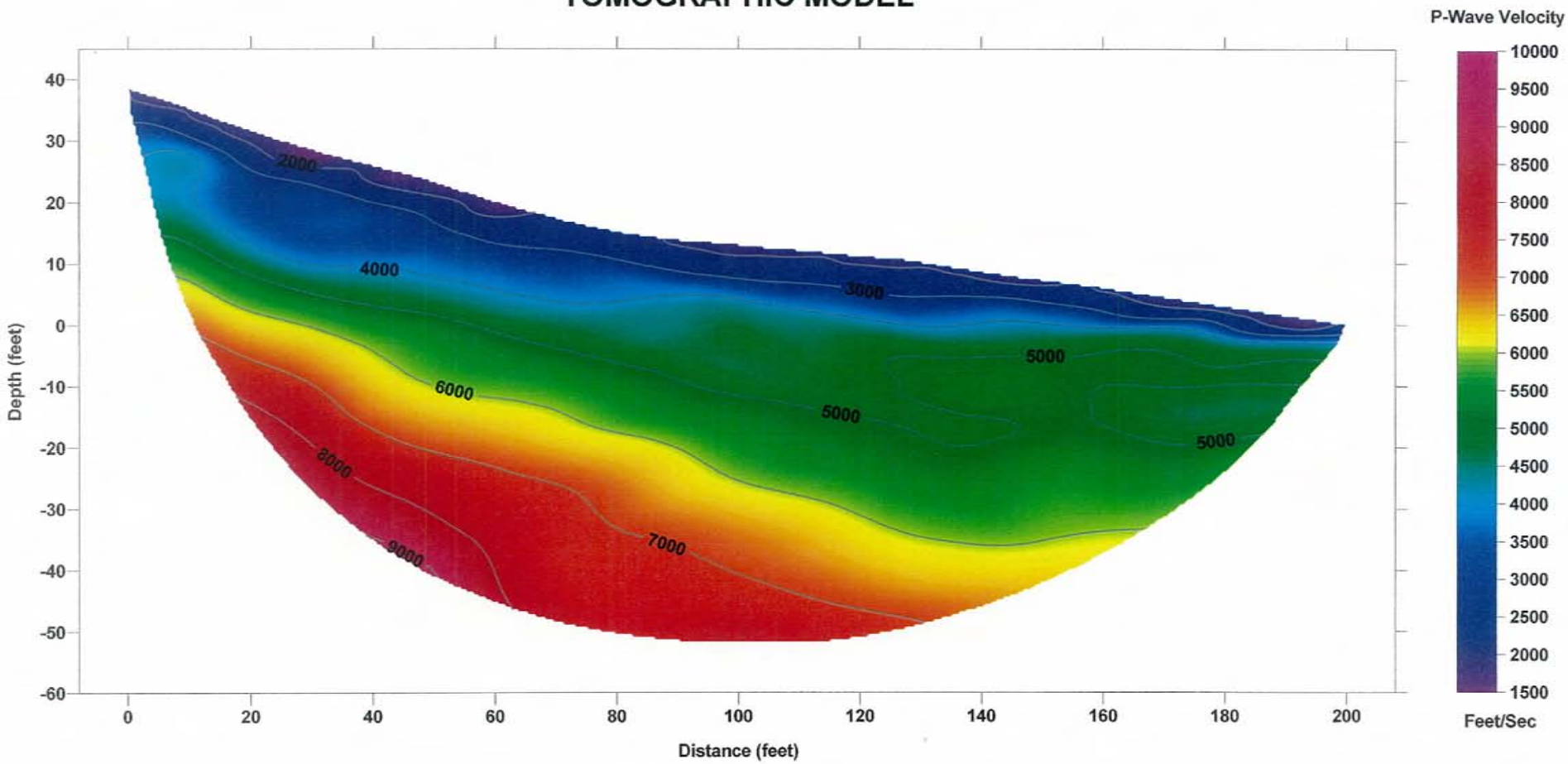


ENCLOSURE: "D-1"
JOB NO.: 09355-3

SEISMIC LINE S-2

South 30 West →

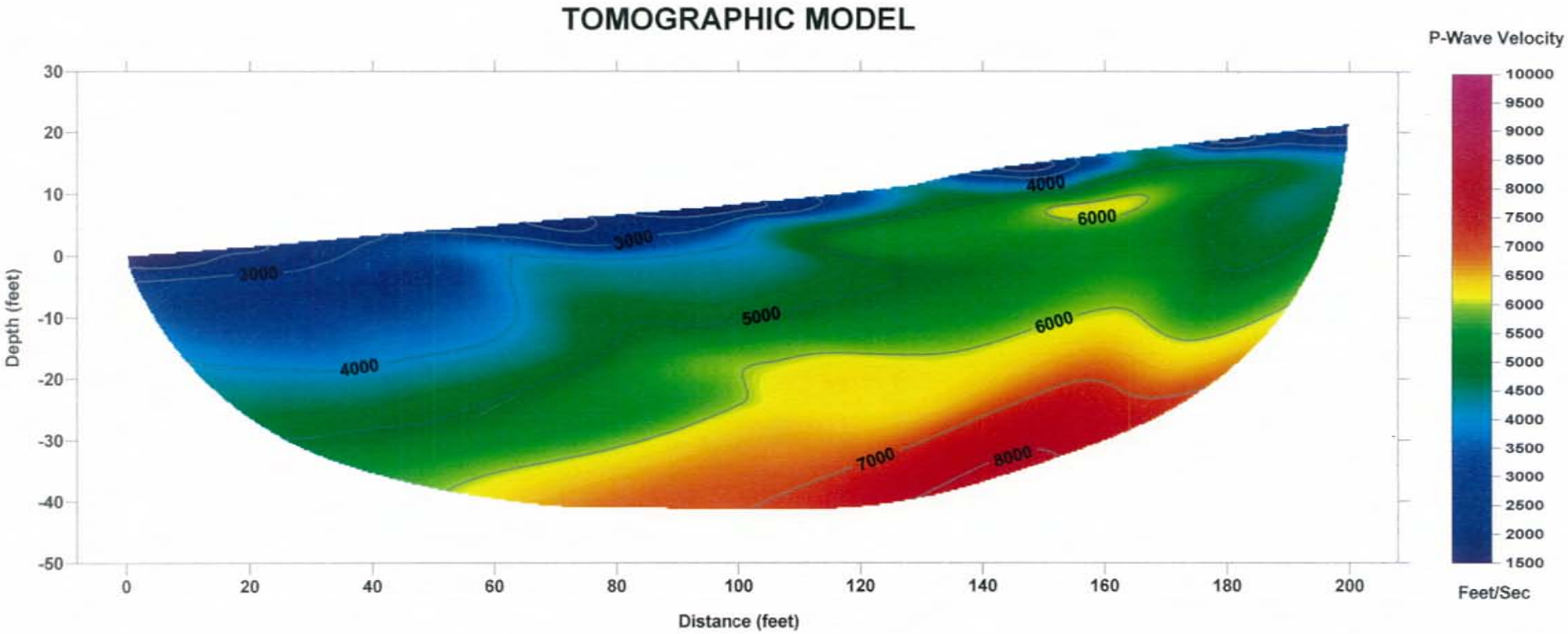
TOMOGRAPHIC MODEL



ENCLOSURE: "D-2"
JOB NO.: 09355-3

SEISMIC LINE S-3

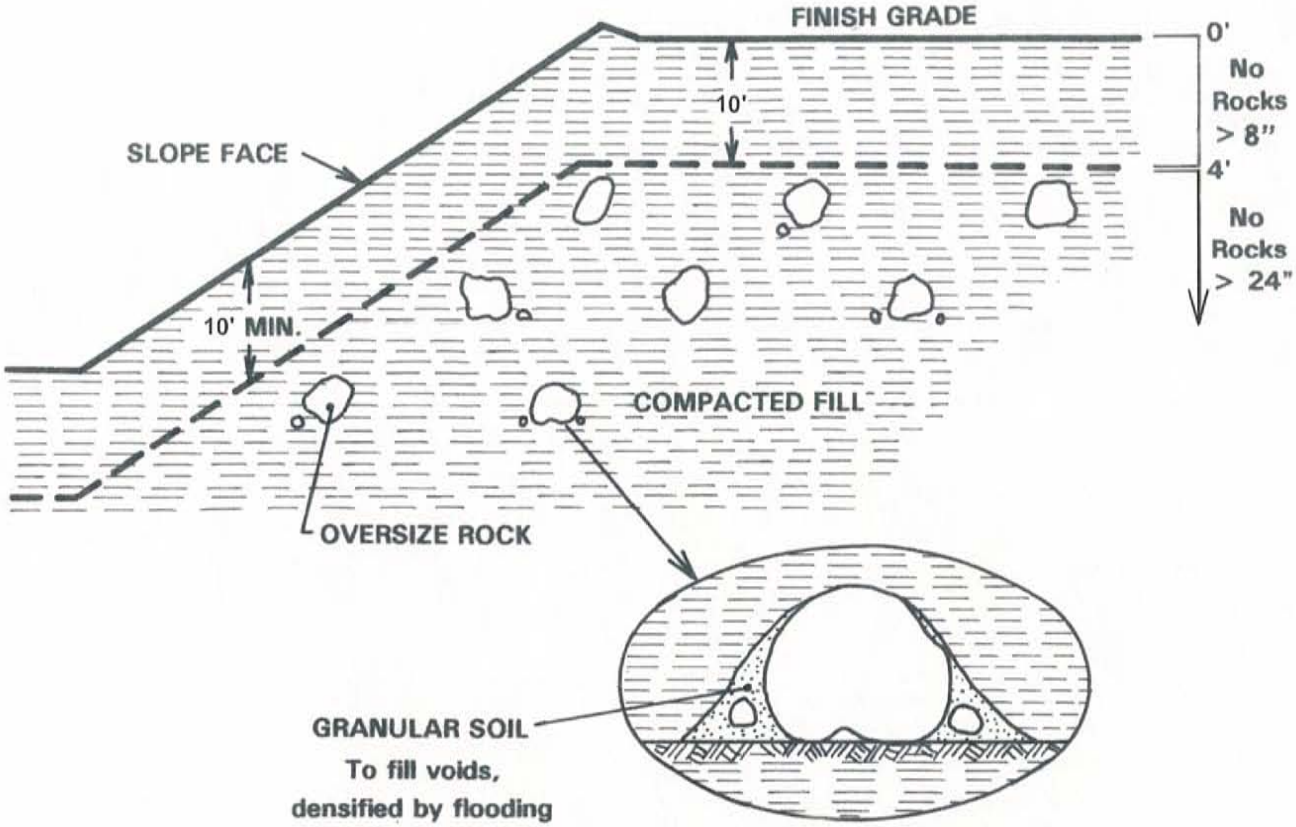
North 85 East →

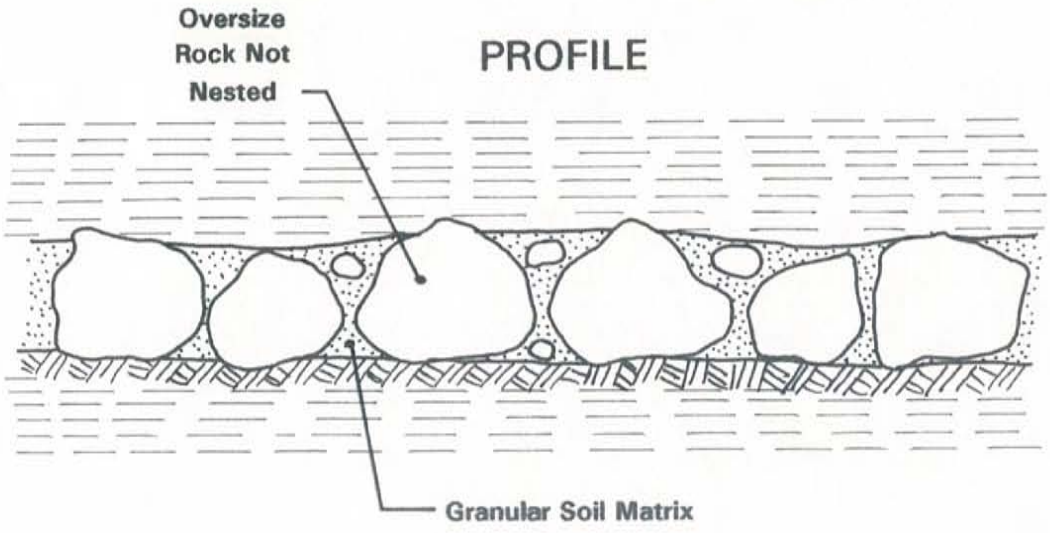


ENCLOSURE: "D-3"
JOB NO.: 09355-3

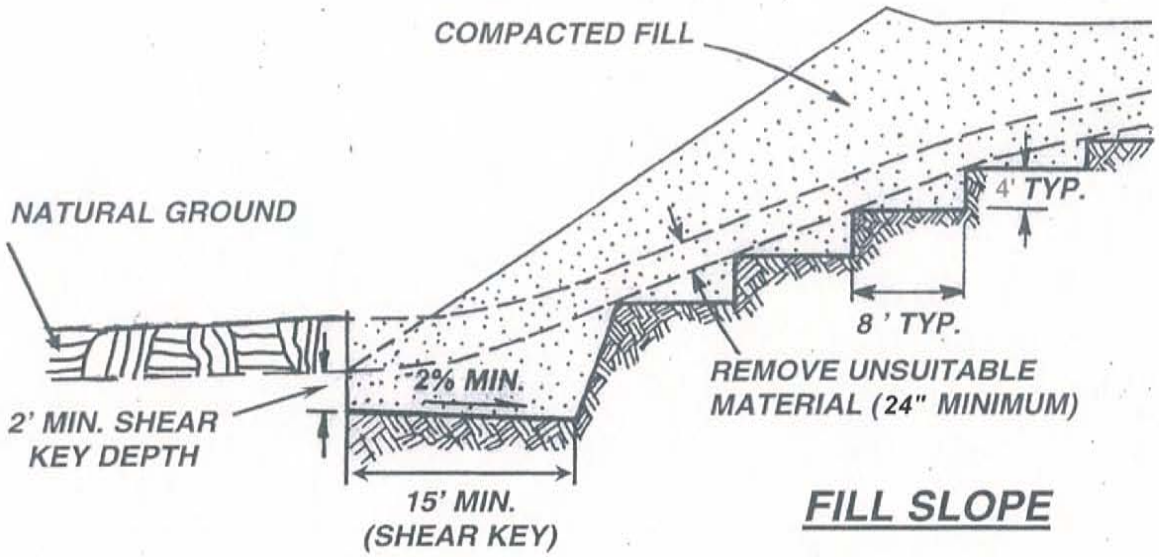
APPENDIX "E"

GEOTECHNICAL DETAILS

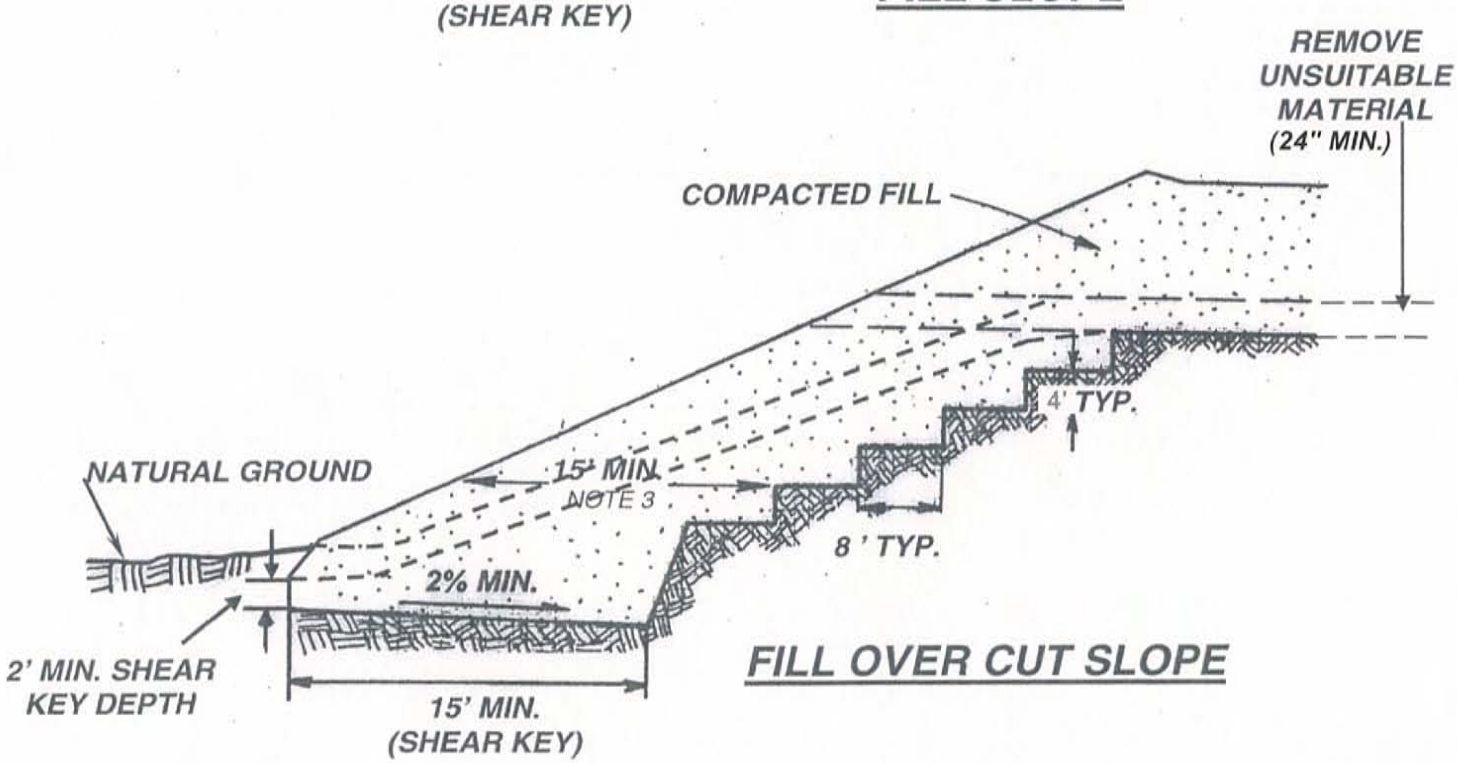




ROCK DISPOSAL DETAIL		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "E-1"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated



FILL SLOPE

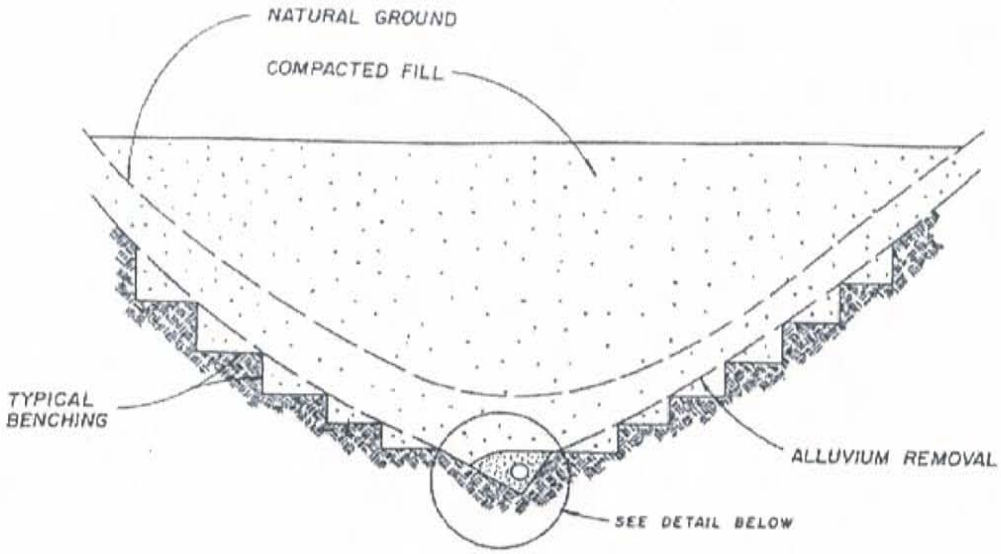


FILL OVER CUT SLOPE

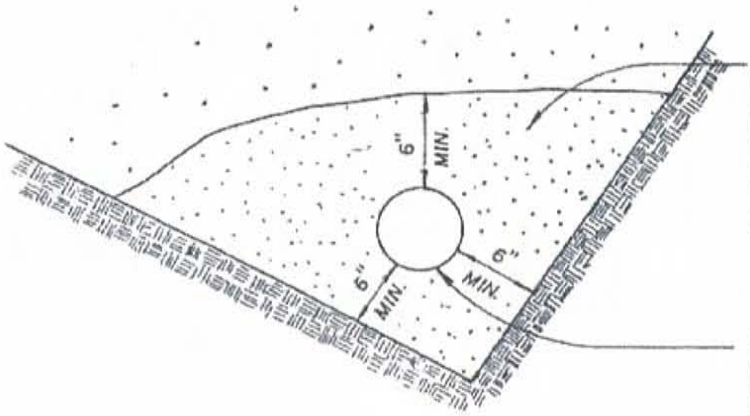
NOTES:

1. DIMENSIONS SHOWN SUBJECT TO FIELD CHANGE BASED ON ENGINEER'S JUDGEMENT
2. BENCHING REQUIRED WHEN FILLING OVER NATURAL GROUND STEPPER THAN 5H:1V
3. WITHIN THE CUT PORTION OF THE SLOPE, HORIZONTAL THICKNESS SHOULD NOT BE GREATER AT THE TOP THAN AT THE BOTTOM

KEY AND BENCH DETAIL		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "E-2"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated



NOTE: DOWNSTREAM 20' OF PIPE AT OUTLET SHALL BE NON-PERFORATED AND BACKFILLED WITH FINE GRAINED MATERIAL. OUTLET SHALL BE TO NON-NUISANCE AREA.

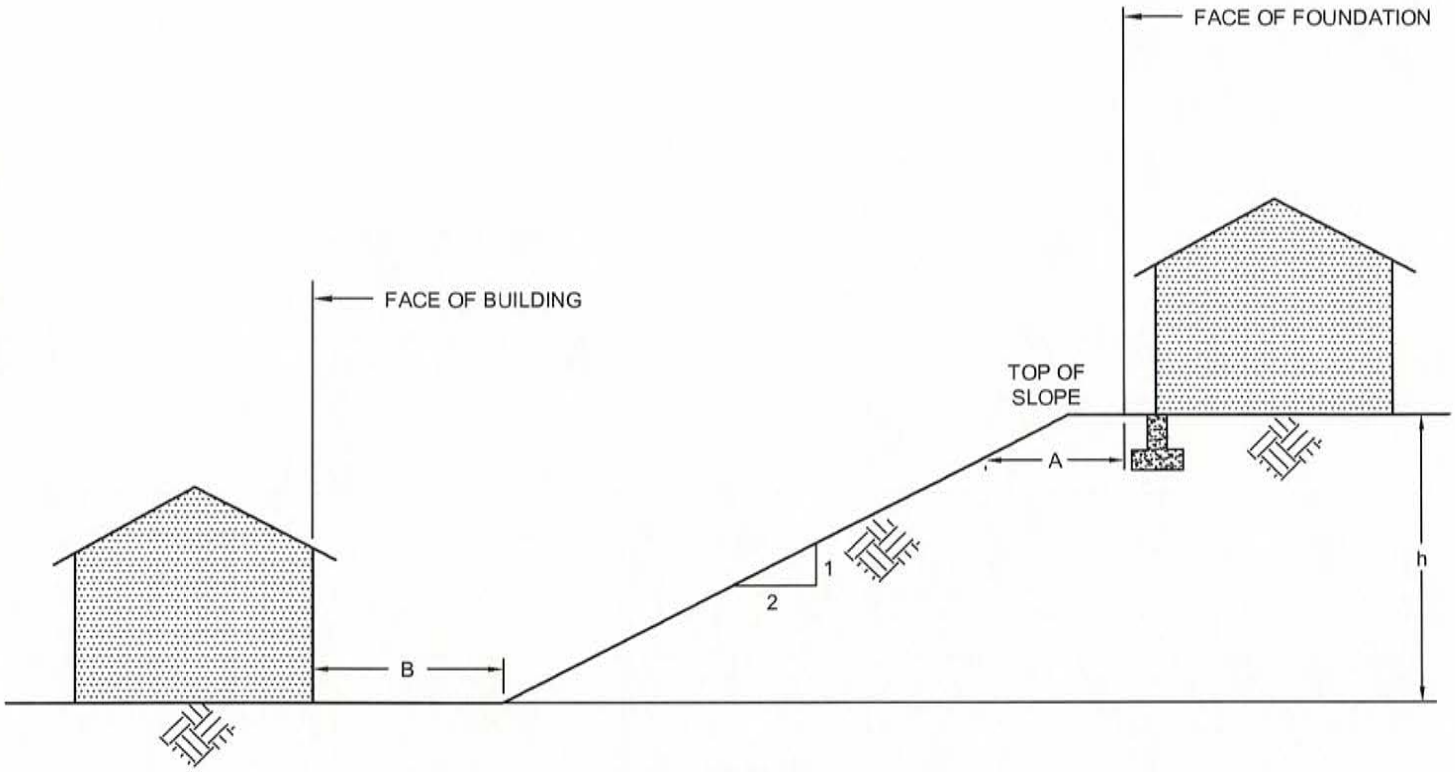


FILTER: USE GRAVEL, (1" BY # 4 CONC. AGGREGATE) MINIMUM OF NINE CUBIC FEET PER FOOT OF PIPE, ENCASED IN FILTER FABRIC. (MIRAFI 140 OR EQUAL). FILTER MATERIAL SHALL BE LAPPED PER THE MANUFACTURERS SPECIFICATIONS.

VARIABLE TO 8" DIA. SCH. 40 OR EQUIVALENT WITH CRUSHING STRENGTH OF AT LEAST 1000 LBS. WITH 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATION ON BOTTOM OF PIPE. CONSTRUCT SO AS TO DRAIN.

NOTE: PVC DIAMETER SIZE DEPENDS ON SURFACE GRADE AND CANYON SIZE. SUBJECT TO REVIEW BY GEOTECHNICAL ENGINEER.

TYPICAL SUBDRAIN DETAIL		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "E-3"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated



TOP OF SLOPE

SLOPE HEIGHT (h) (feet)	SETBACK (A) (feet)
0-15'	5' MIN.
15'-120'	h/3 MIN.
120'+	40'* MAX

TOE OF SLOPE

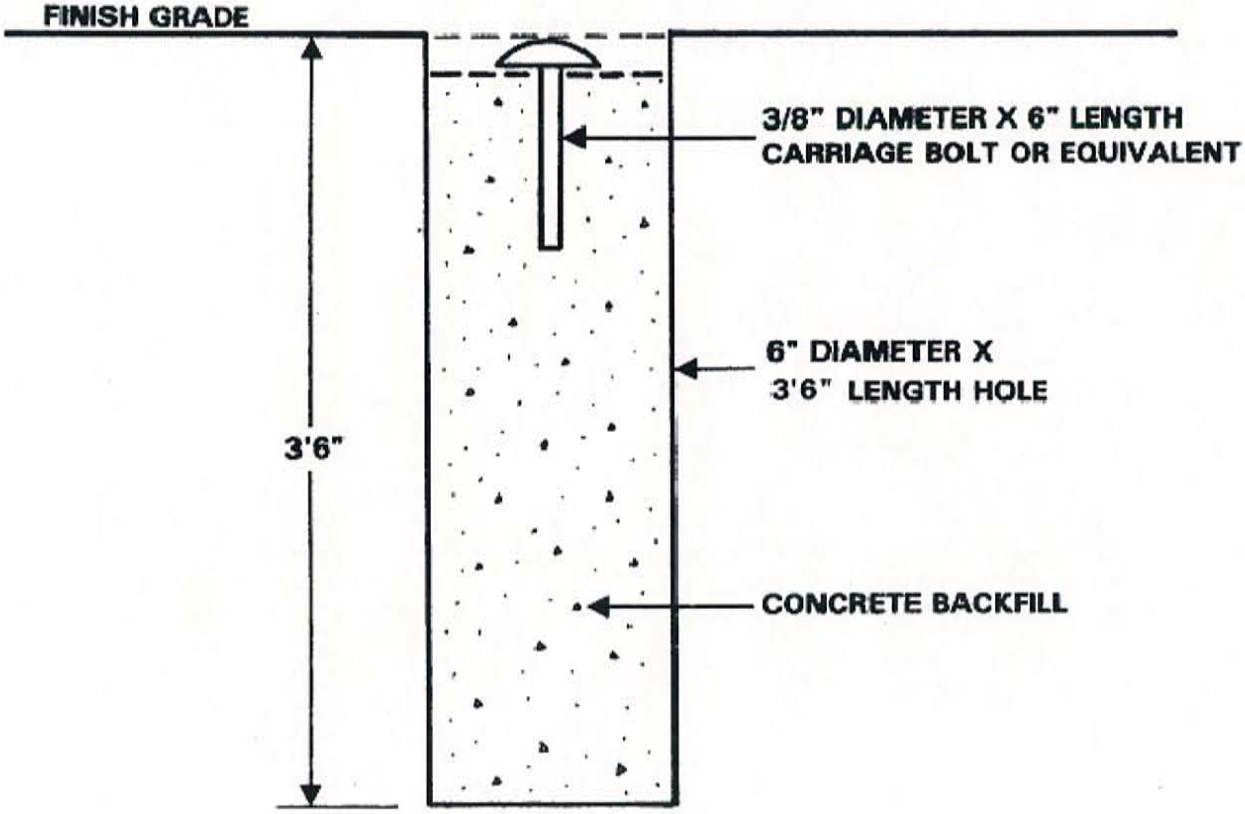
SLOPE HEIGHT (h) (feet)	SETBACK (B) (feet)
0-10'	5' MIN.
10'-30'	h/2 MIN.
30'+	15' MAX

*or as directed by project engineering geologist

BUILDING SETBACK DETAIL

FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "E-4"
DATE: AUGUST 2009		JOB NUMBER 09355-3

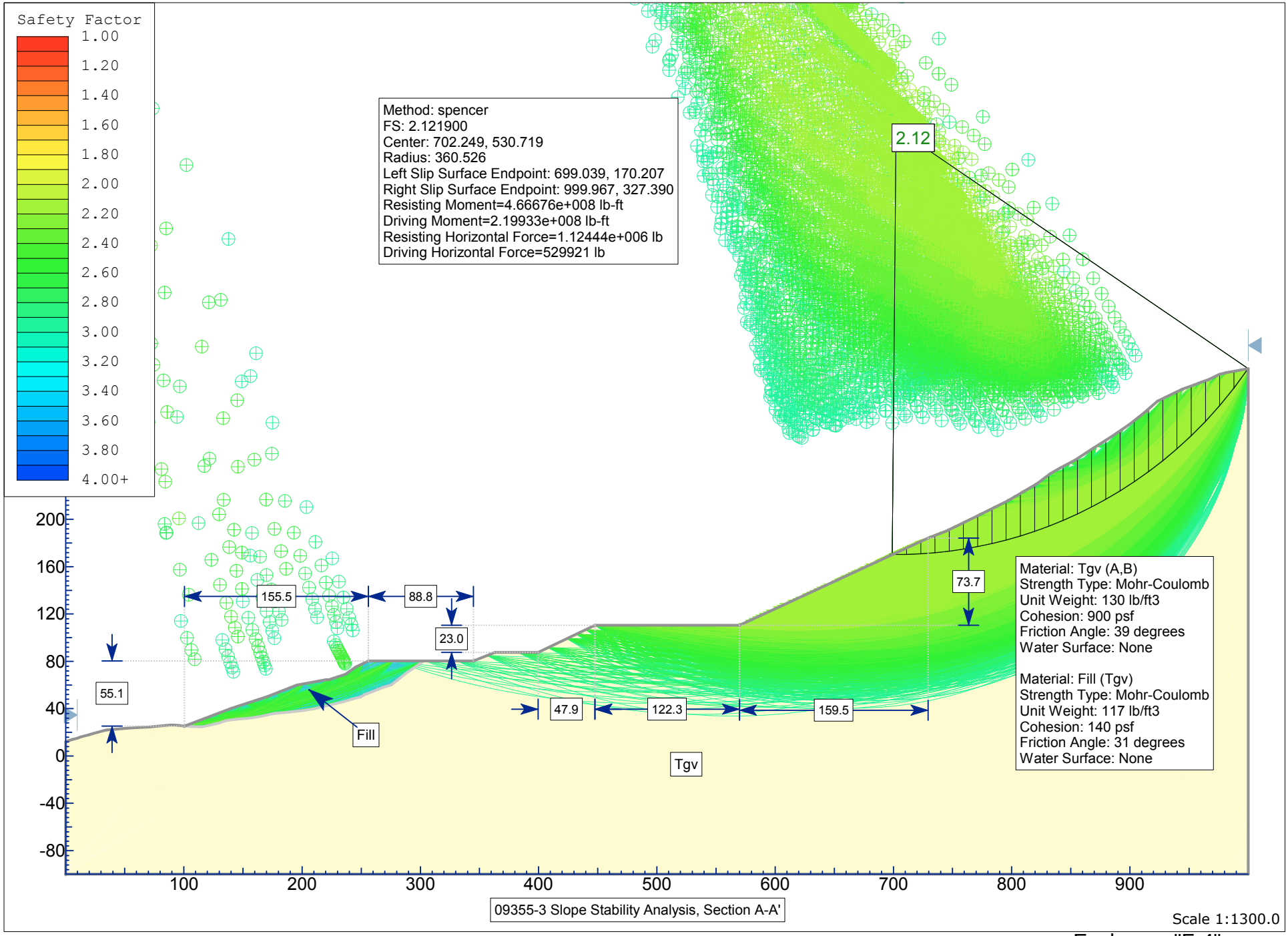
C.H.J. Incorporated



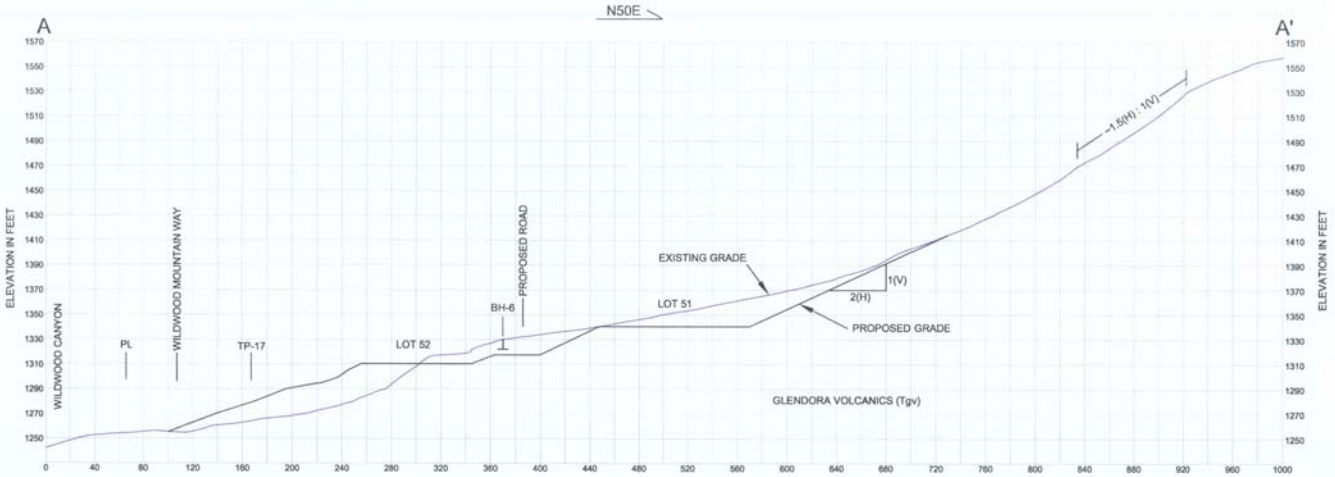
SETTLEMENT MONUMENT DETAIL		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "E-5"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated

APPENDIX "F"

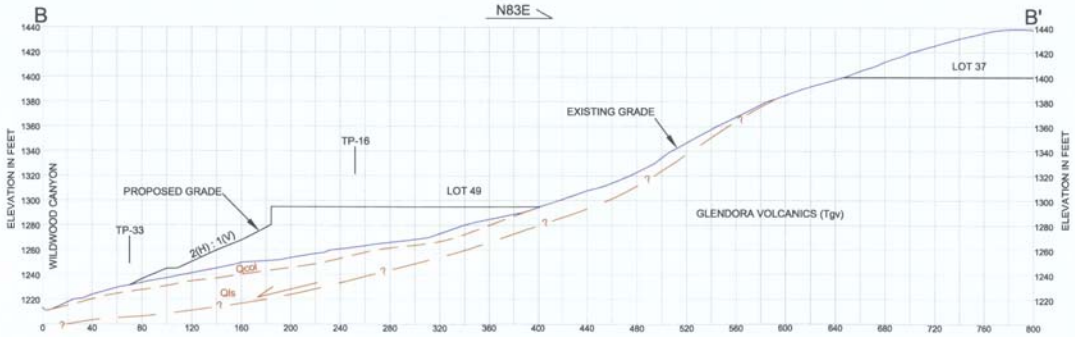
SLOPE STABILITY CALCULATIONS



Enclosure "F-4"

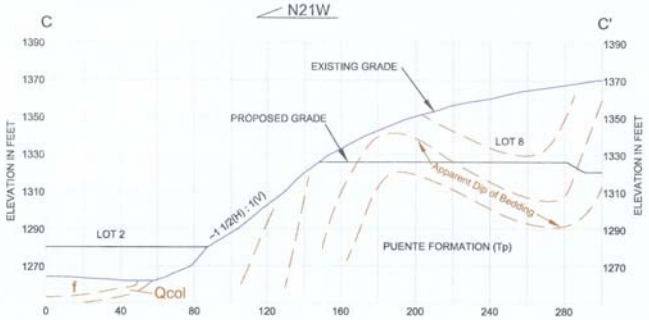


GEOLOGIC SECTION A-A'
SCALE: 1" = 60'

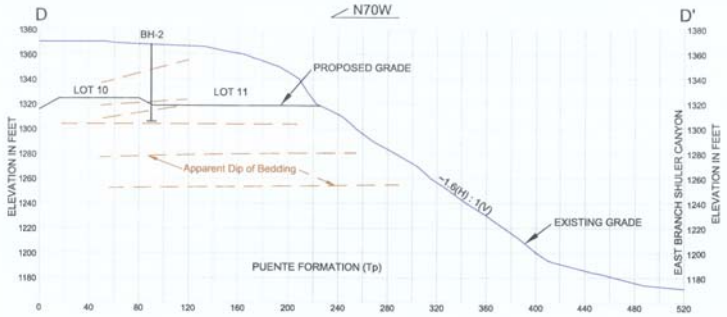


GEOLOGIC SECTION B-B'
SCALE: 1" = 60'

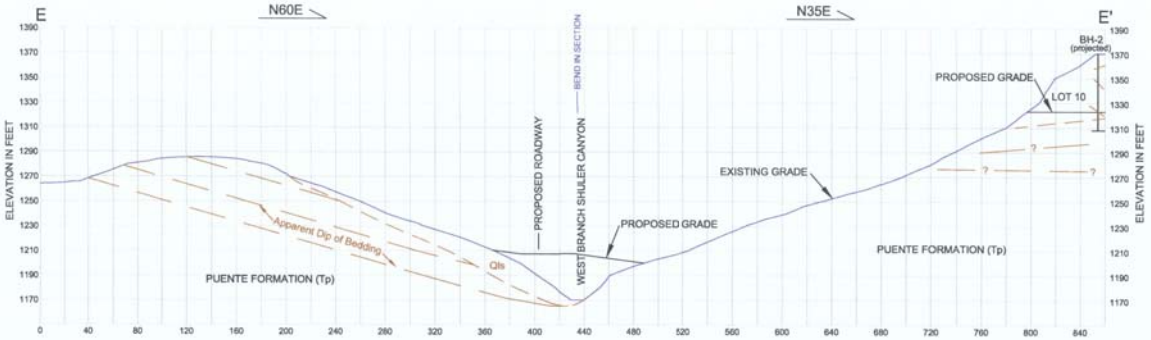
GEOLOGIC CROSS SECTIONS		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "F-1"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated



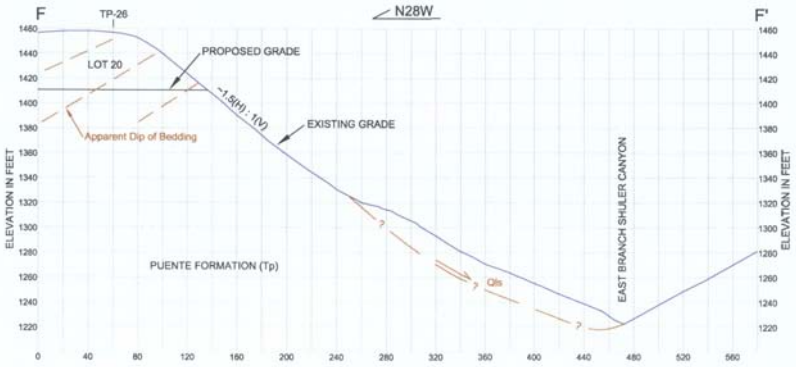
GEOLOGIC SECTION C-C'
SCALE: 1" = 40'



GEOLOGIC SECTION D-D'
SCALE: 1" = 60'

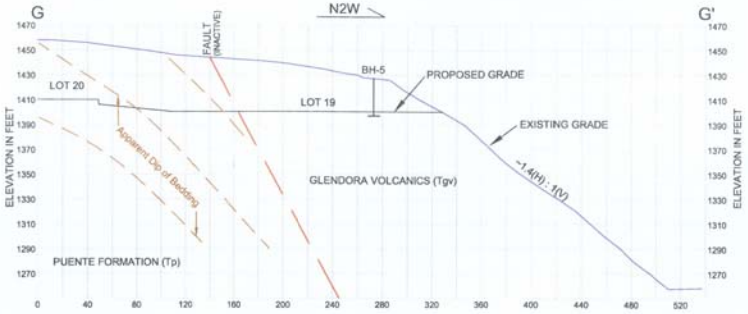


GEOLOGIC SECTION E-E'
SCALE: 1" = 60'

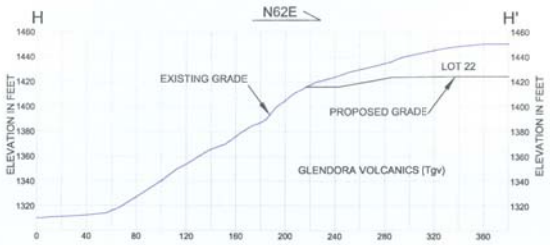


GEOLOGIC SECTION F-F'
SCALE: 1" = 60'

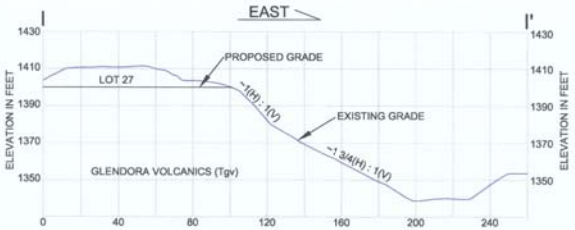
GEOLOGIC CROSS SECTIONS		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "F-2"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated



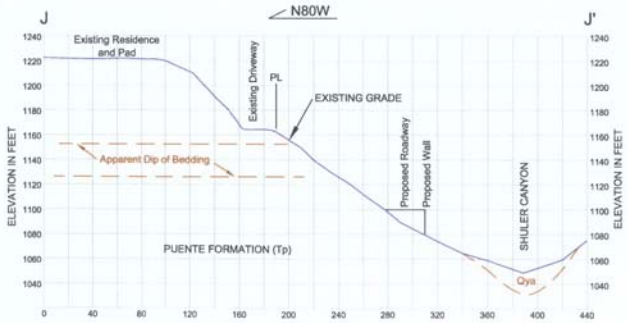
GEOLOGIC SECTION G-G'
SCALE: 1" = 60'



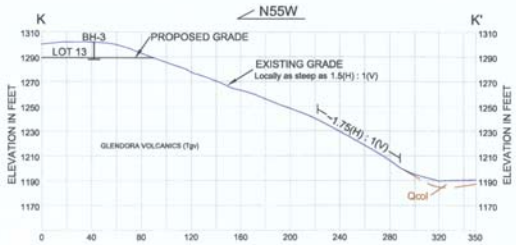
GEOLOGIC SECTION H-H'
SCALE: 1" = 60'



GEOLOGIC SECTION I-I'
SCALE: 1" = 40'

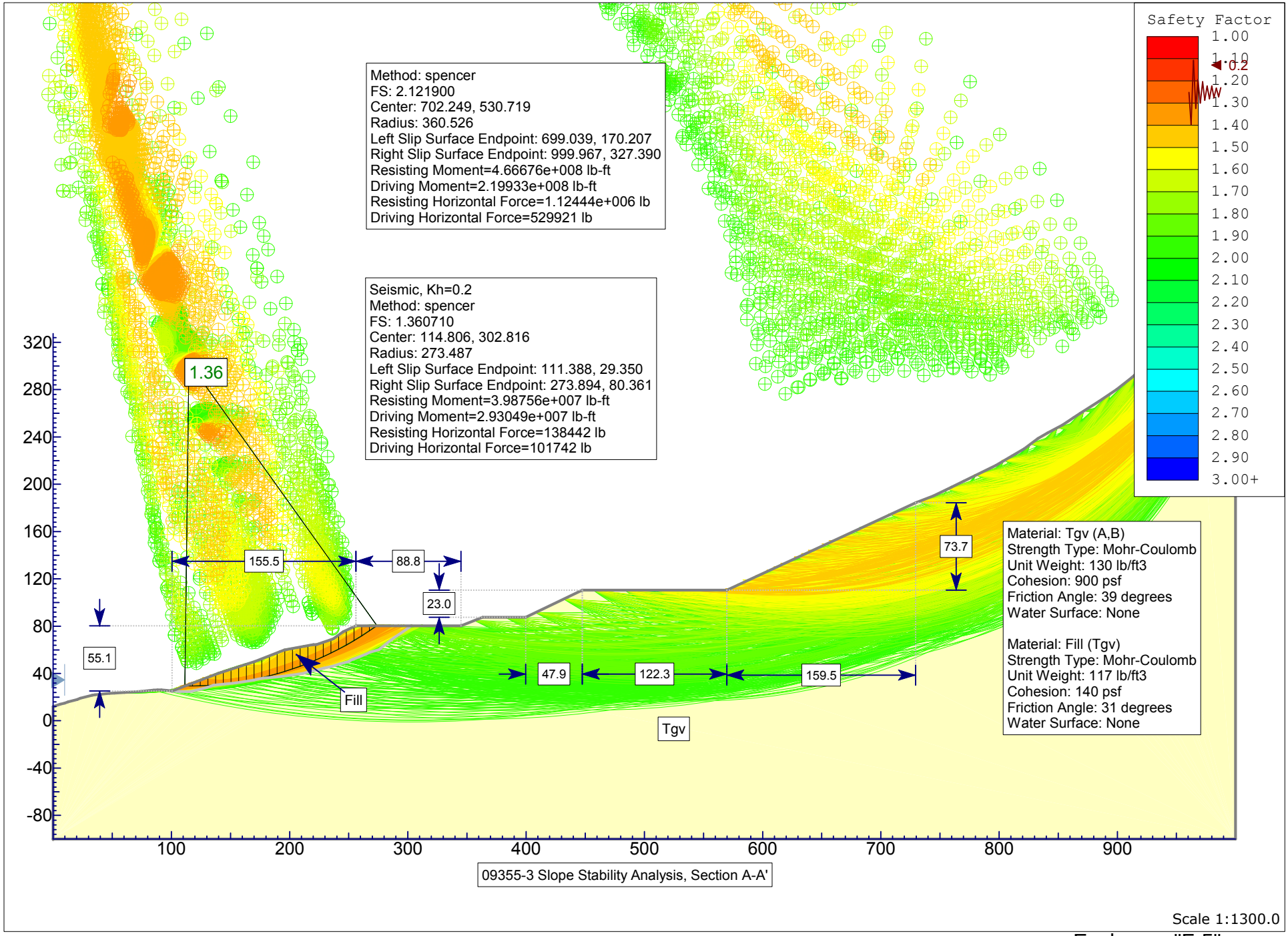


GEOLOGIC SECTION J-J'
SCALE: 1" = 60'

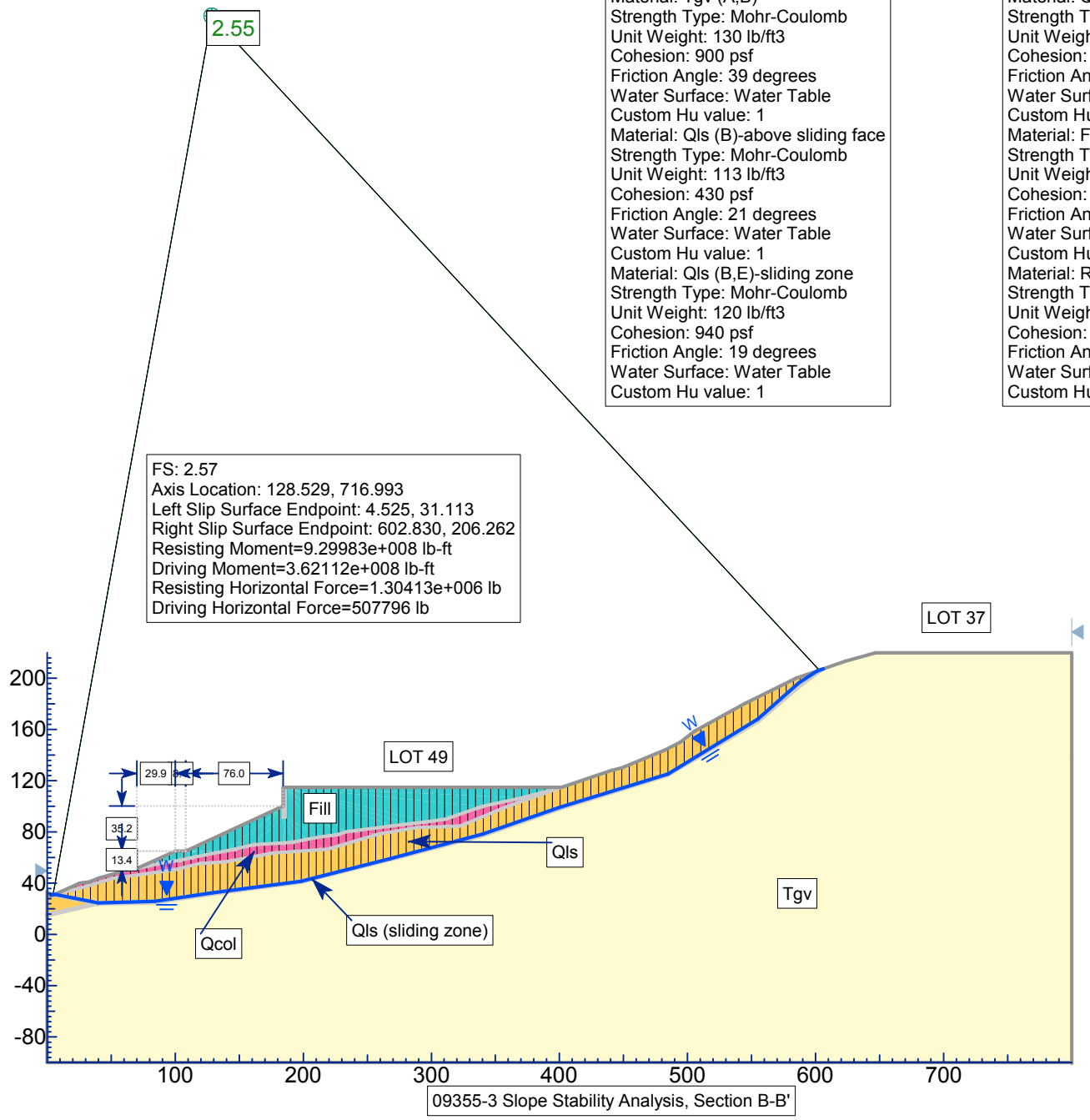


GEOLOGIC SECTION K-K'
SCALE: 1" = 60'

GEOLOGIC CROSS SECTIONS		
FOR: NJD, LTD.	GEOTECHNICAL INVESTIGATION 300+ ACRE SITE TENTATIVE TRACT NO. 70583 SAN DIMAS, CALIFORNIA	ENCLOSURE "F-3"
DATE: AUGUST 2009		JOB NUMBER 09355-3
		C.H.J. Incorporated



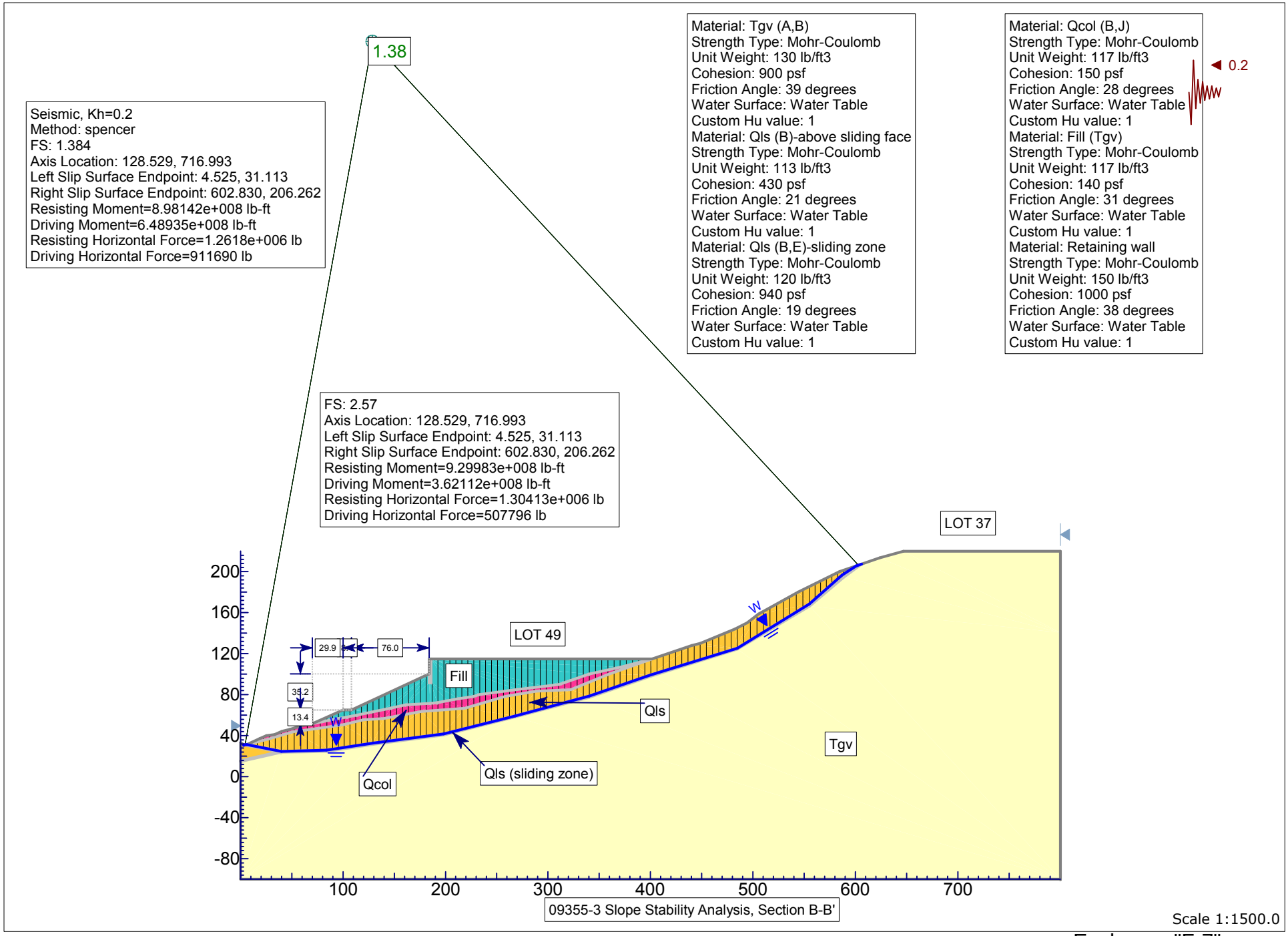
Enclosure "F-5"



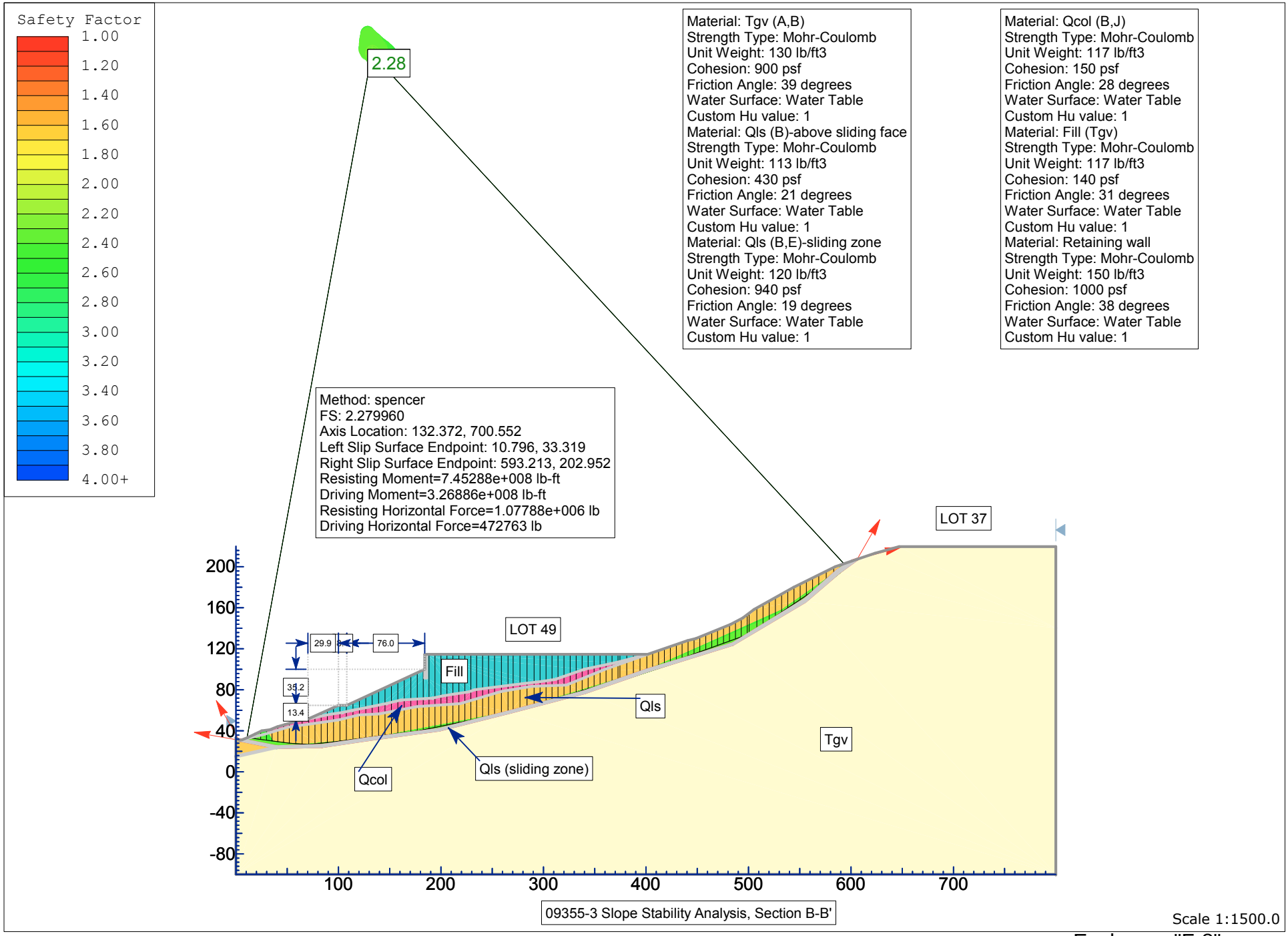
09355-3 Slope Stability Analysis, Section B-B'

Scale 1:1500.0

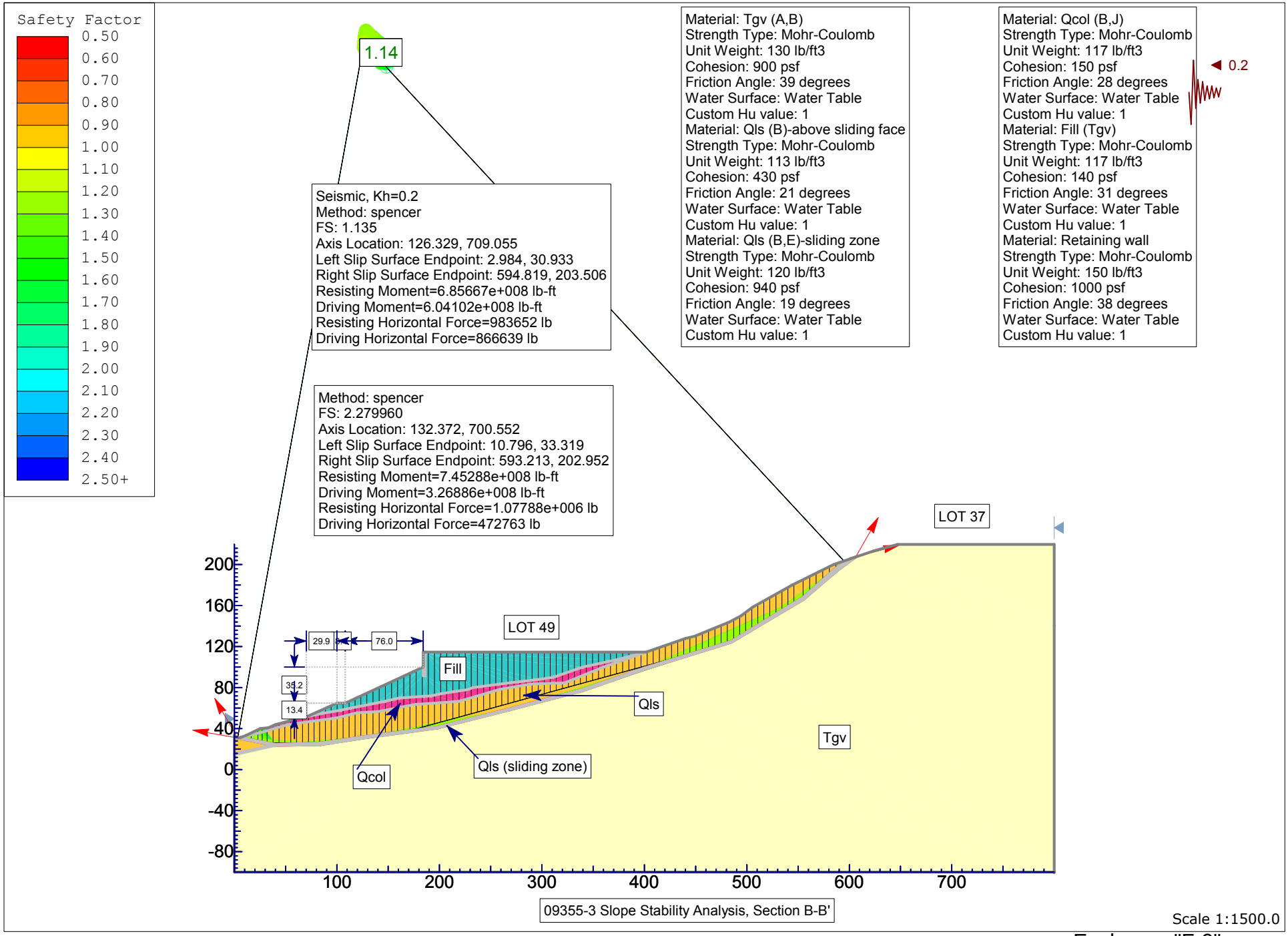
Enclosure "F-6"



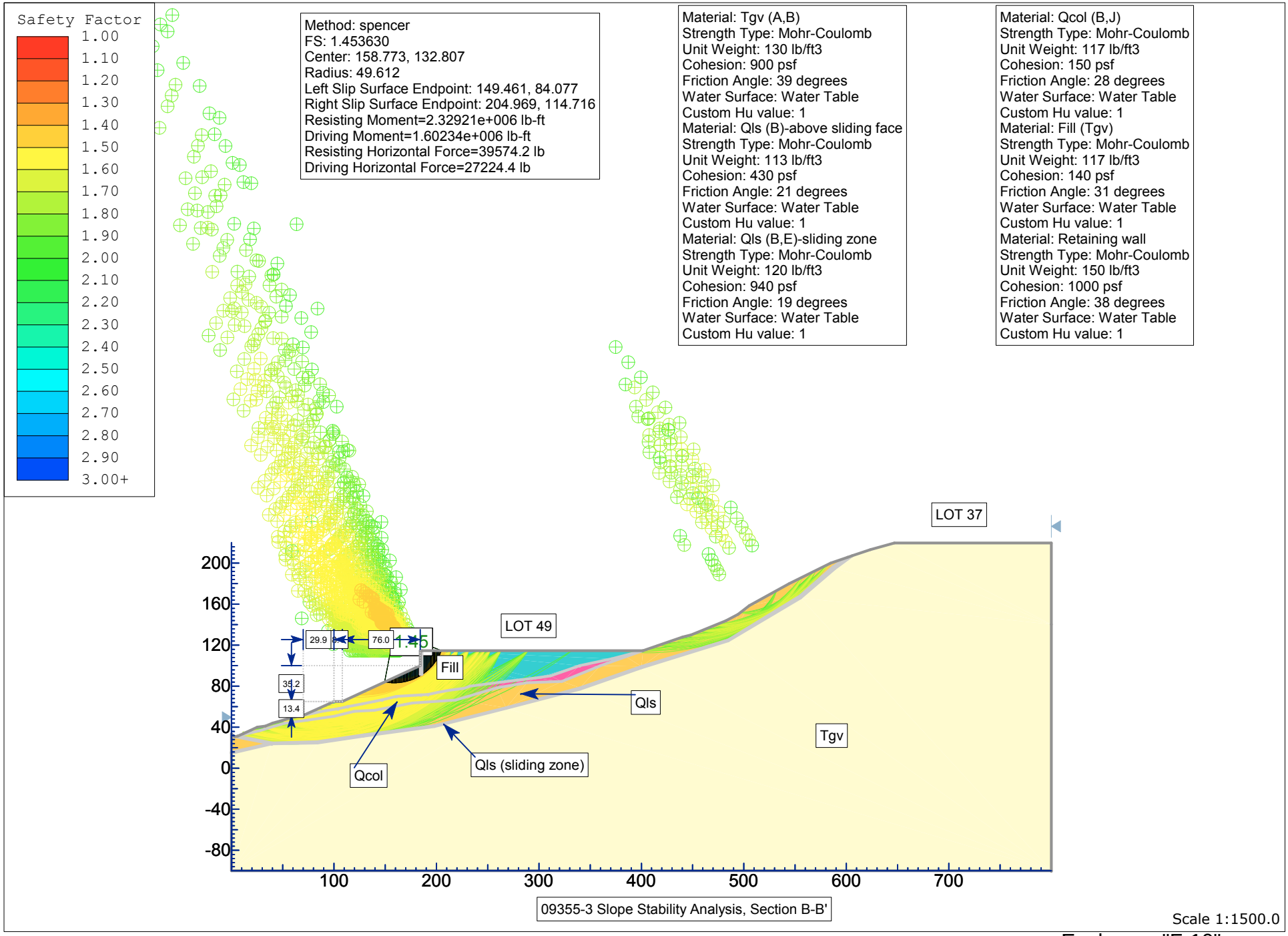
Enclosure "F-7"



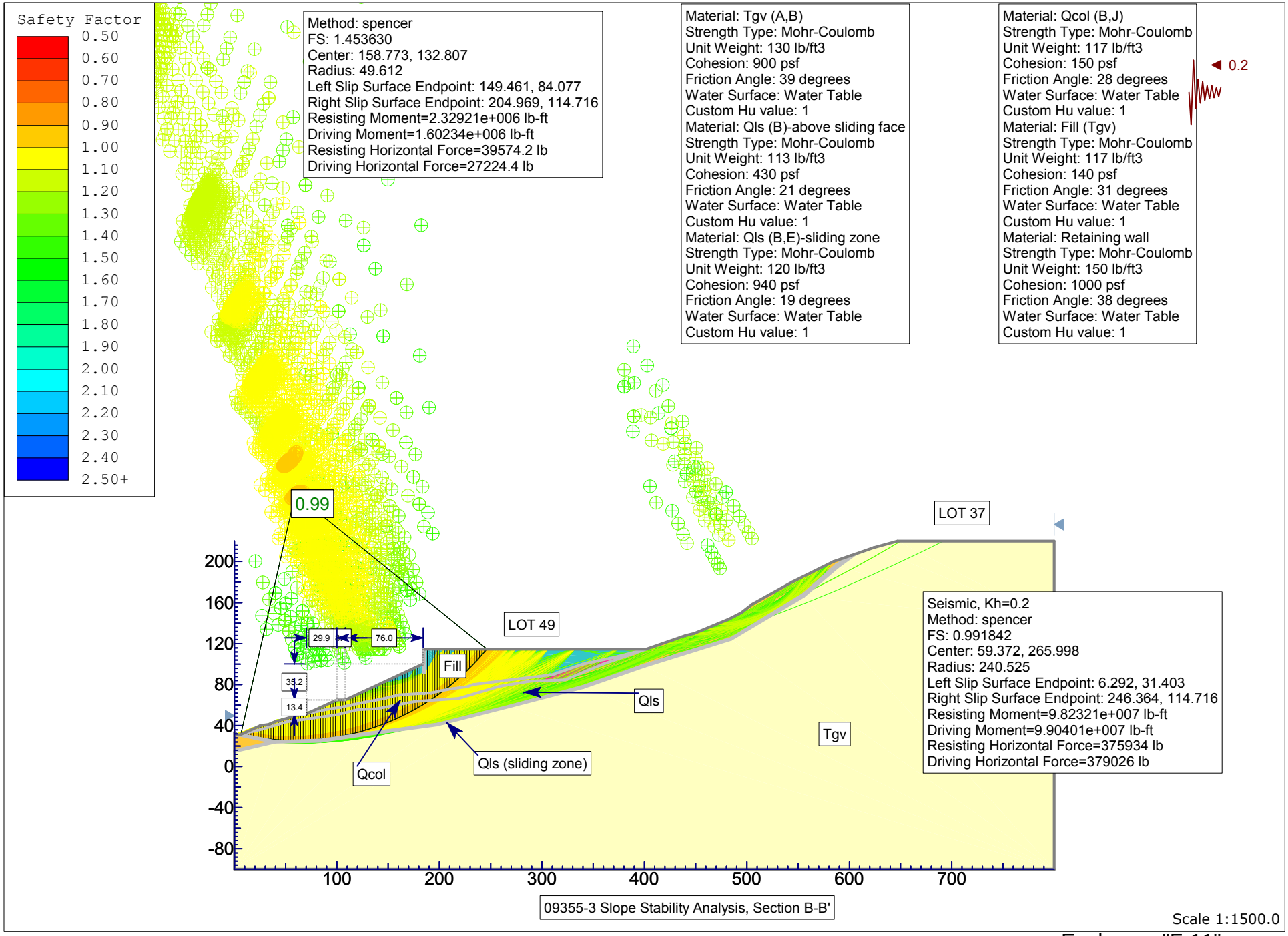
Enclosure "F-8"



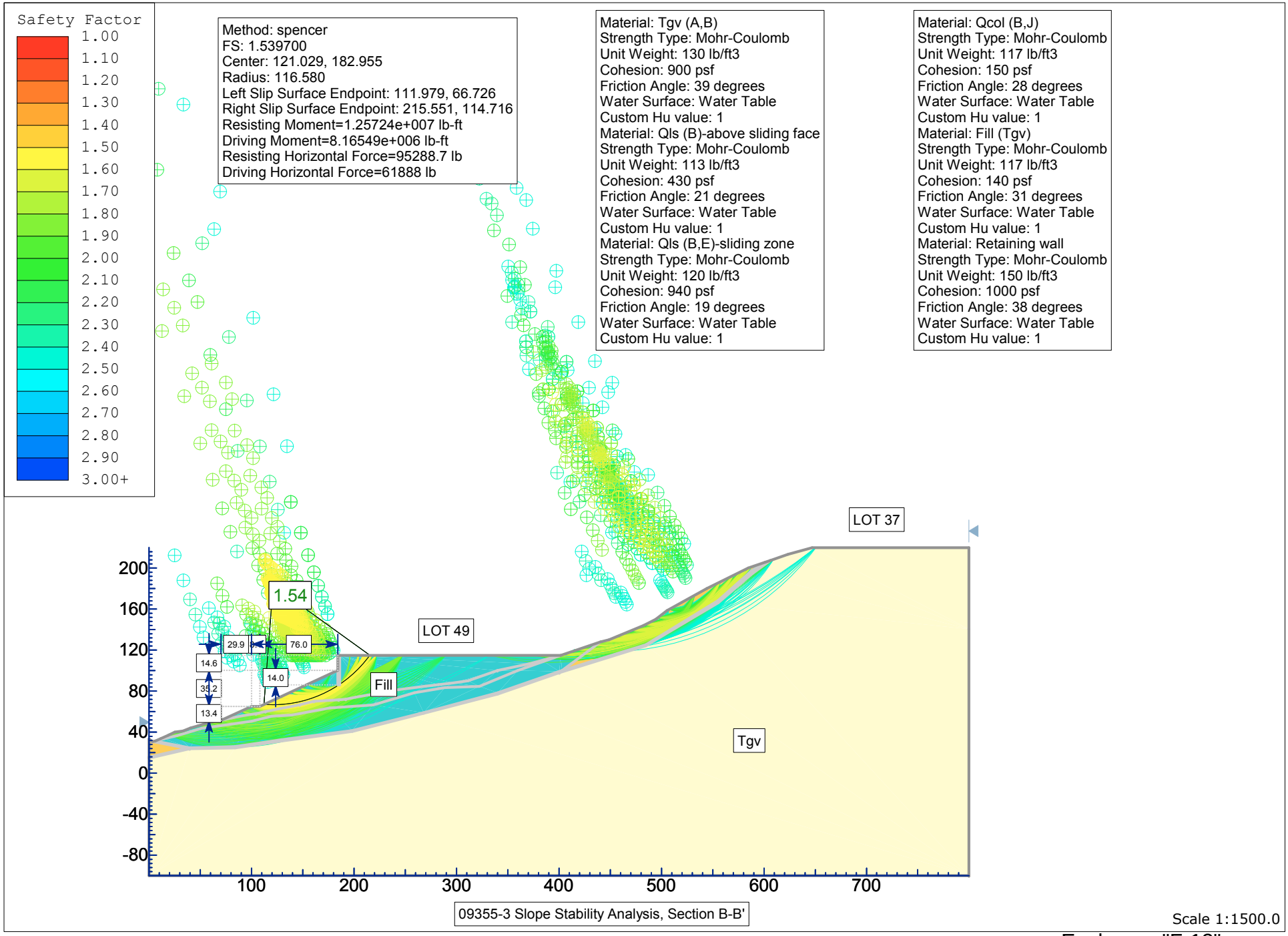
Enclosure "F-9"



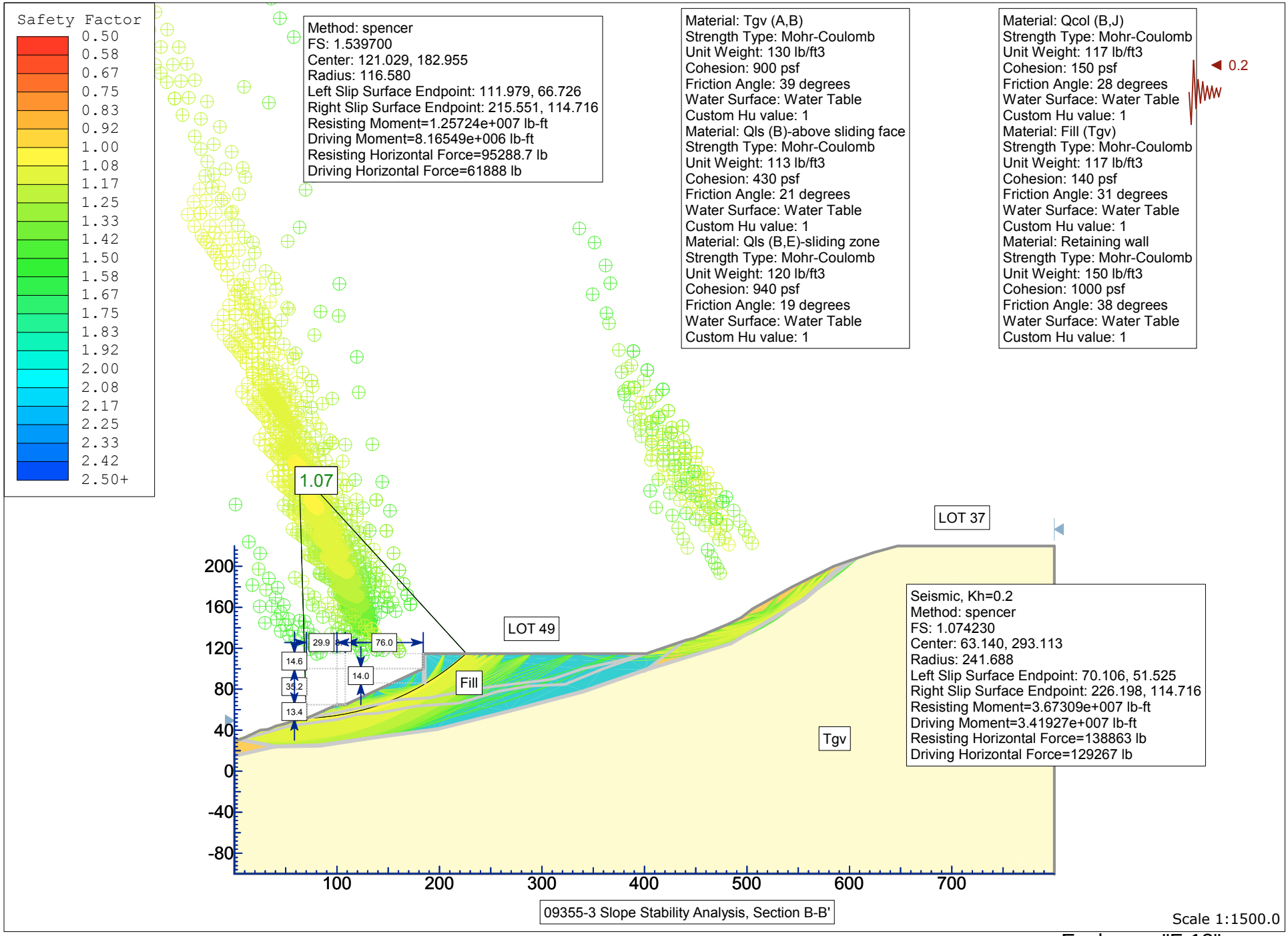
Enclosure "F-10"



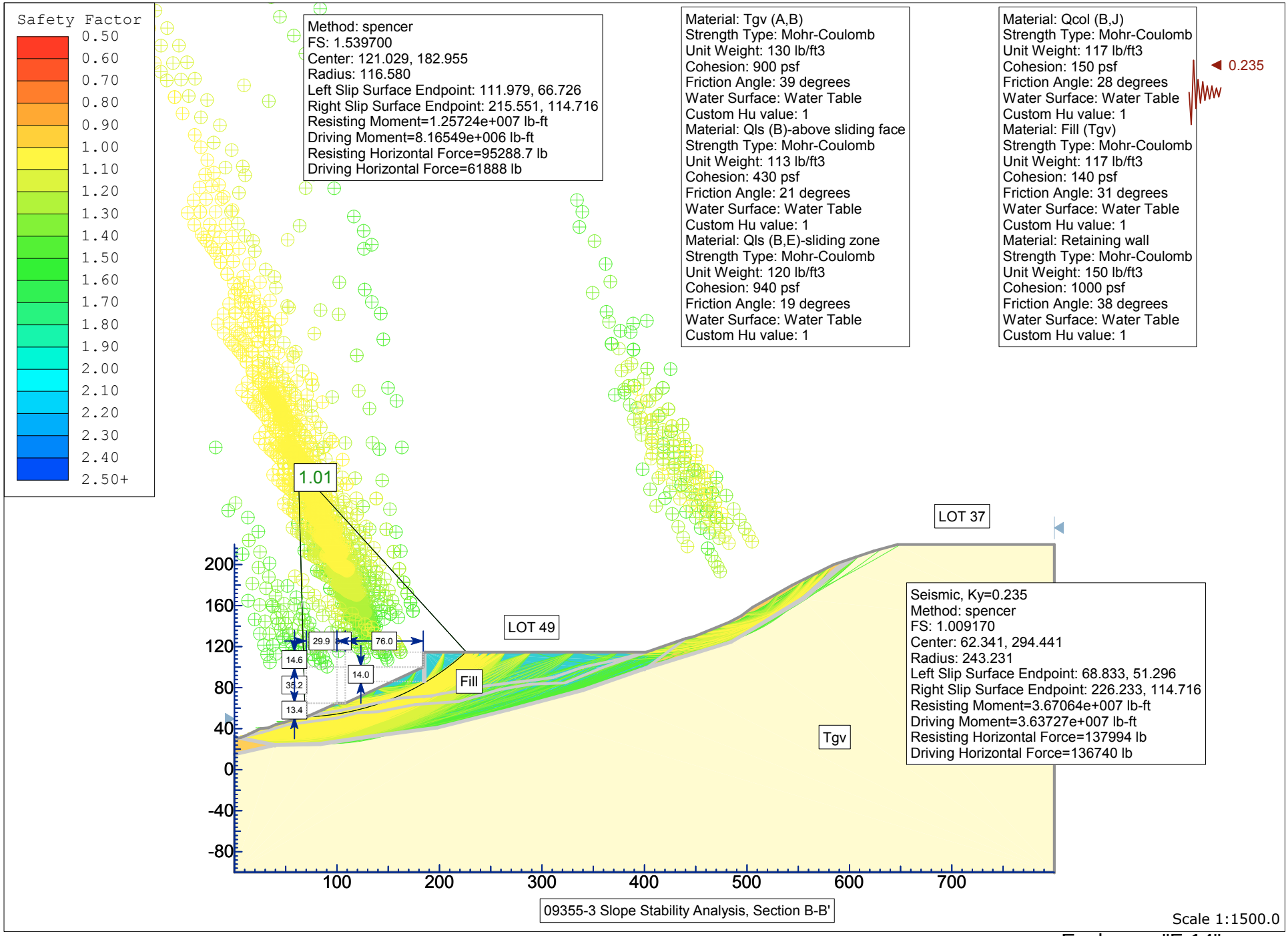
Enclosure "F-11"



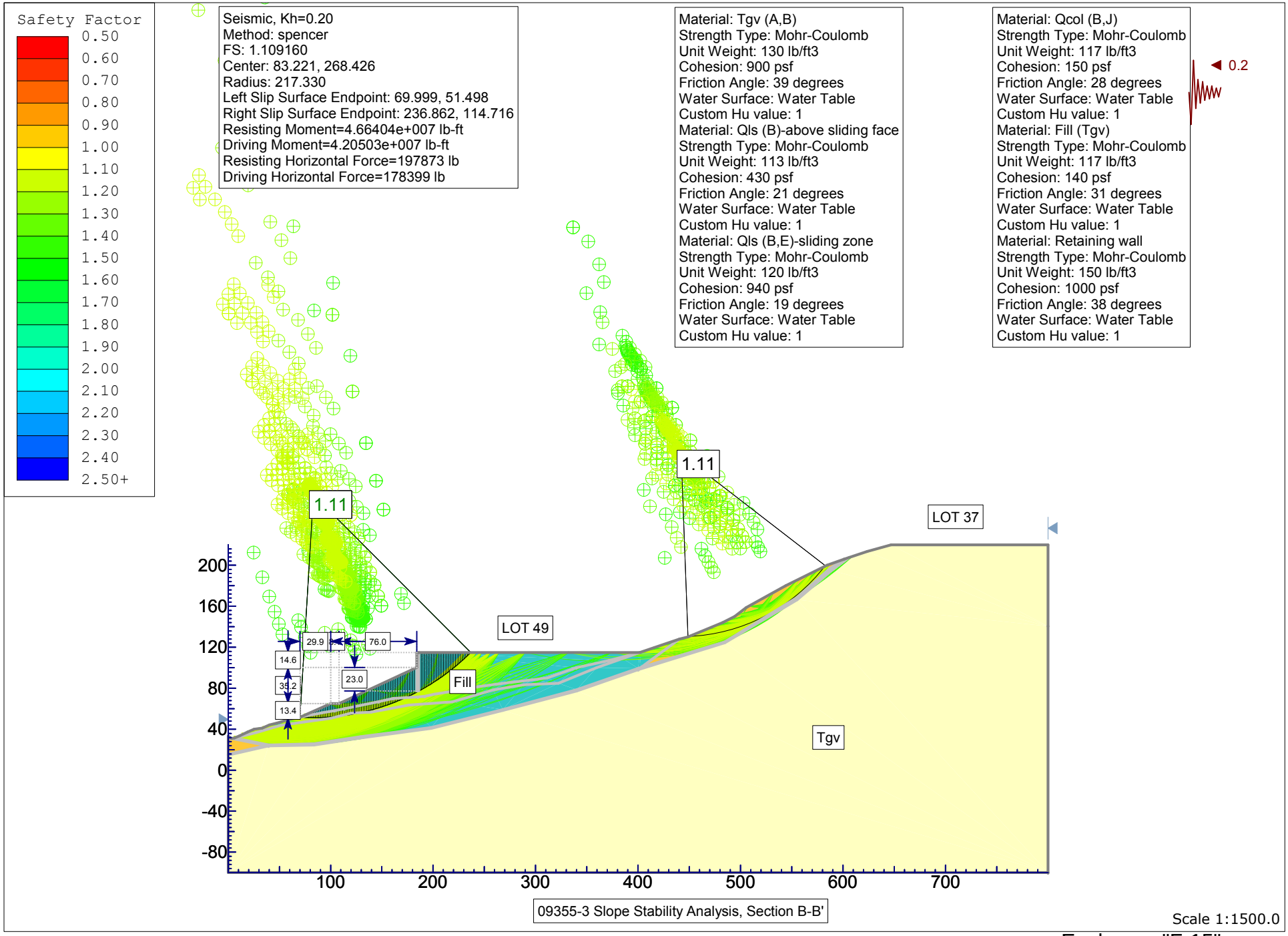
Enclosure "F-12"



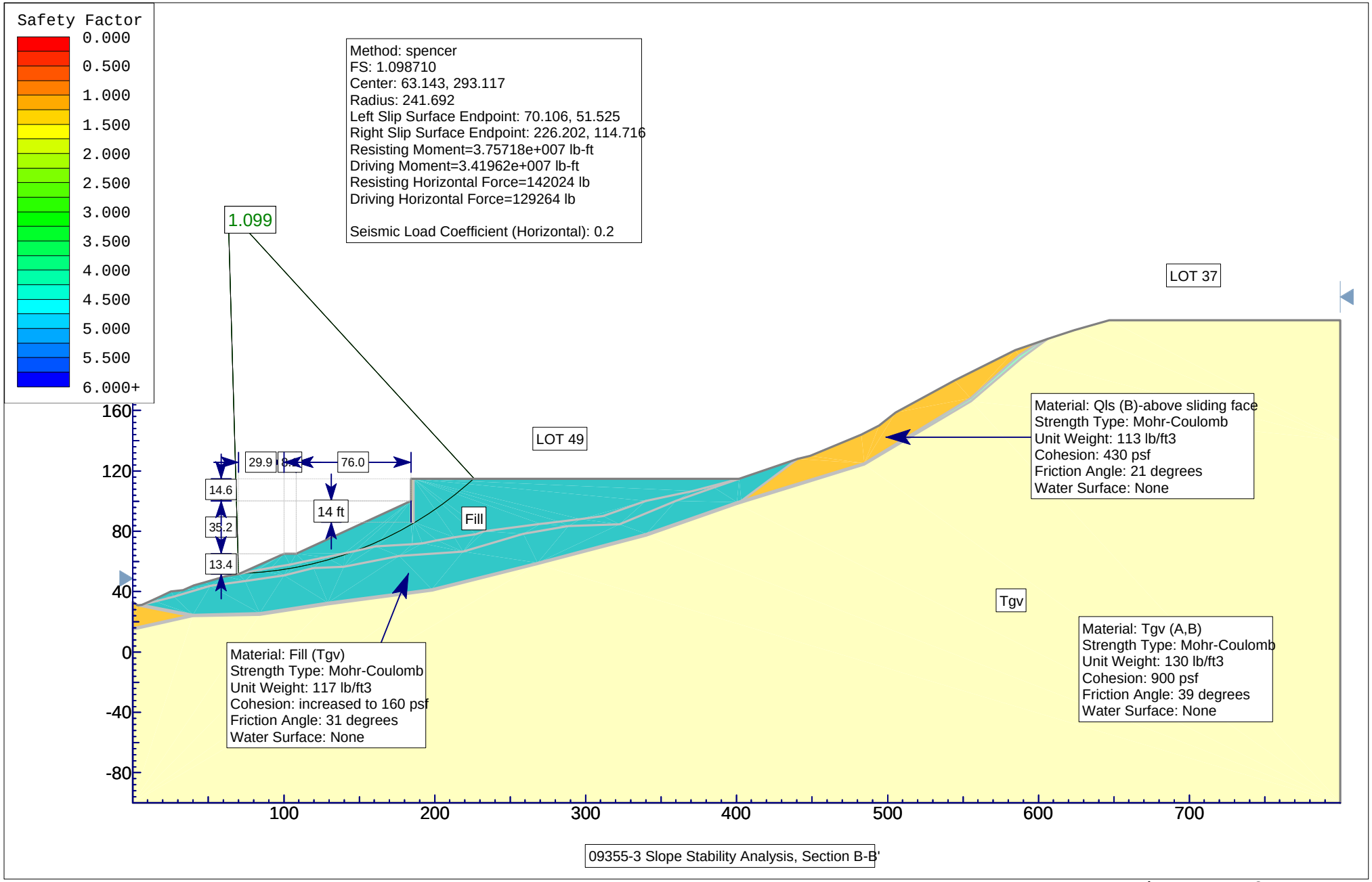
Enclosure "F-13"



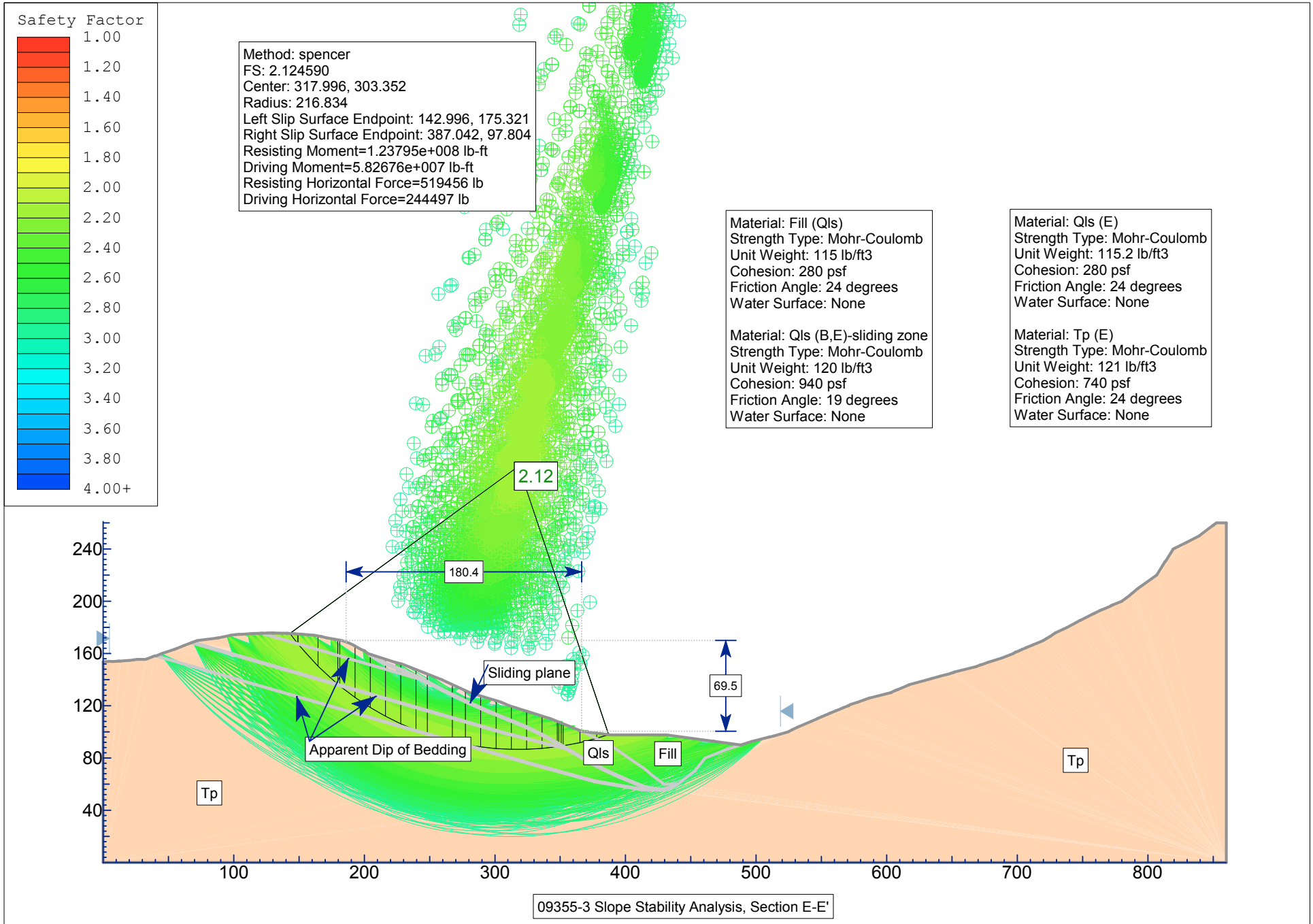
Enclosure "F-14"



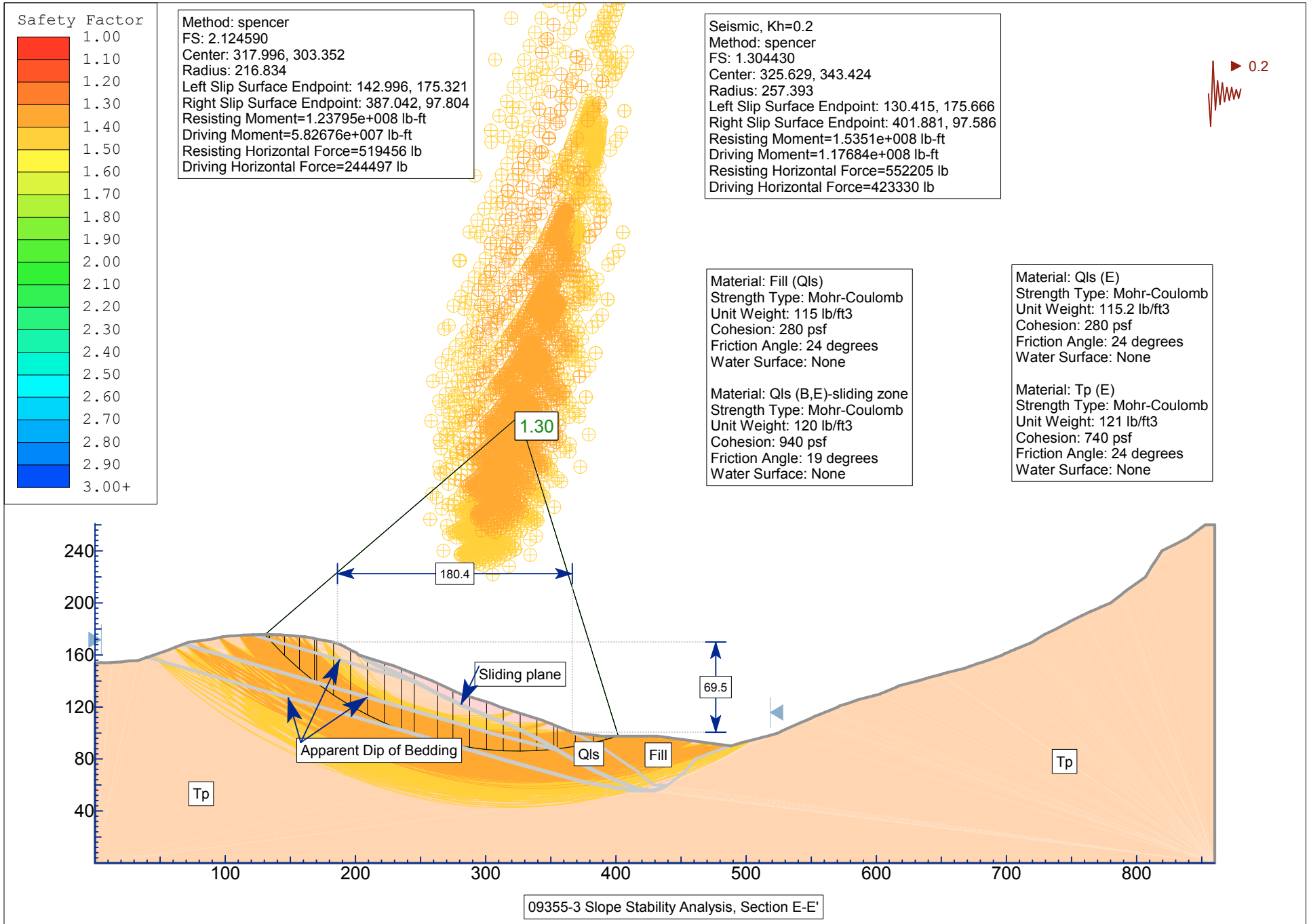
Enclosure "F-15"



Enclosure "F-16"



Enclosure "F-17"



Enclosure "F-18"

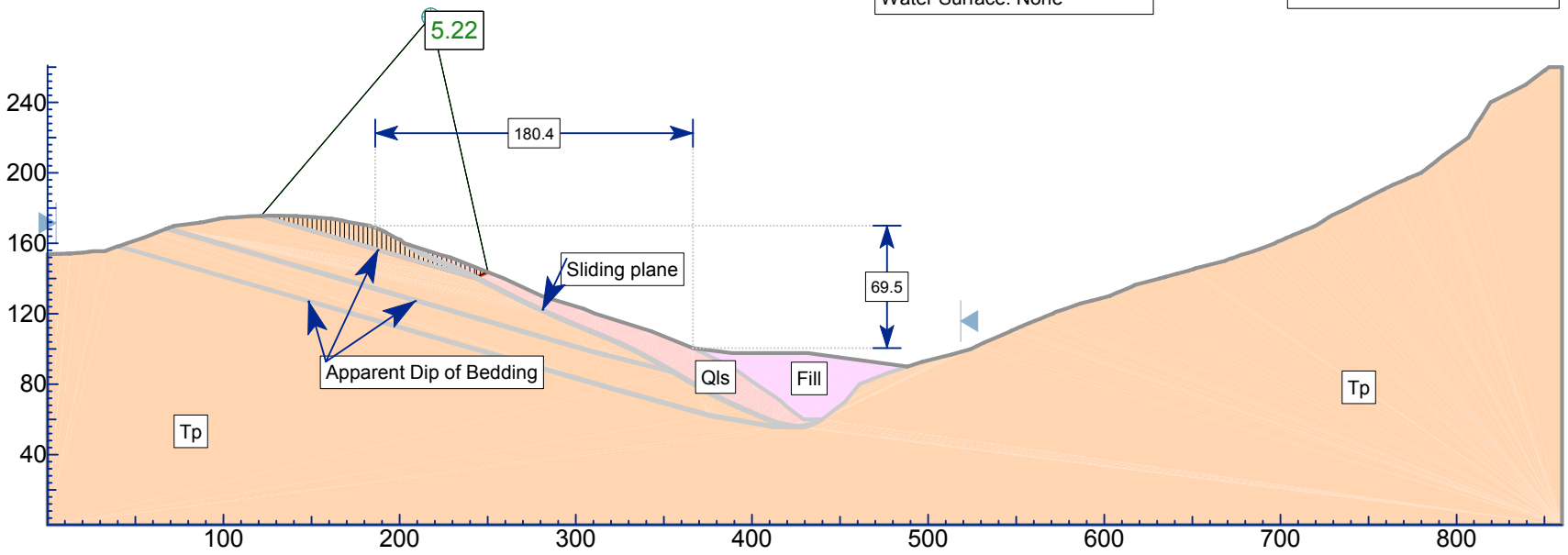
Method: spencer
FS: 5.218240
Axis Location: 217.621, 288.459
Left Slip Surface Endpoint: 121.236, 175.448
Right Slip Surface Endpoint: 250.199, 143.545
Resisting Moment=2.20128e+007 lb-ft
Driving Moment=4.21844e+006 lb-ft
Resisting Horizontal Force=155644 lb
Driving Horizontal Force=29826.9 lb

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-19"

Method: spencer
FS: 5.218240
Axis Location: 217.621, 288.459
Left Slip Surface Endpoint: 121.236, 175.448
Right Slip Surface Endpoint: 250.199, 143.545
Resisting Moment=2.20128e+007 lb-ft
Driving Moment=4.21844e+006 lb-ft
Resisting Horizontal Force=155644 lb
Driving Horizontal Force=29826.9 lb

Seismic, Kh=0.2
Method: bishop simplified
FS: 2.982070
Axis Location: 217.621, 288.459
Left Slip Surface Endpoint: 121.236, 175.448
Right Slip Surface Endpoint: 250.199, 143.545
Resisting Moment=2.1724e+007 lb-ft
Driving Moment=7.28486e+006 lb-ft

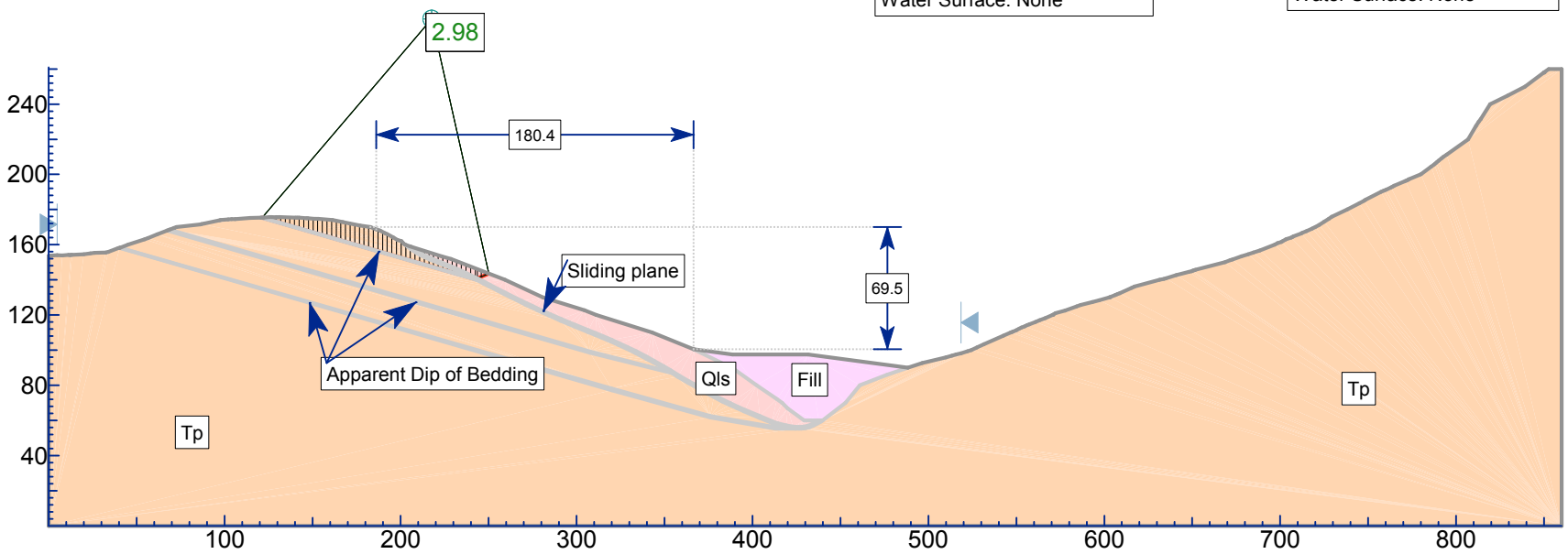
0.2

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-20"

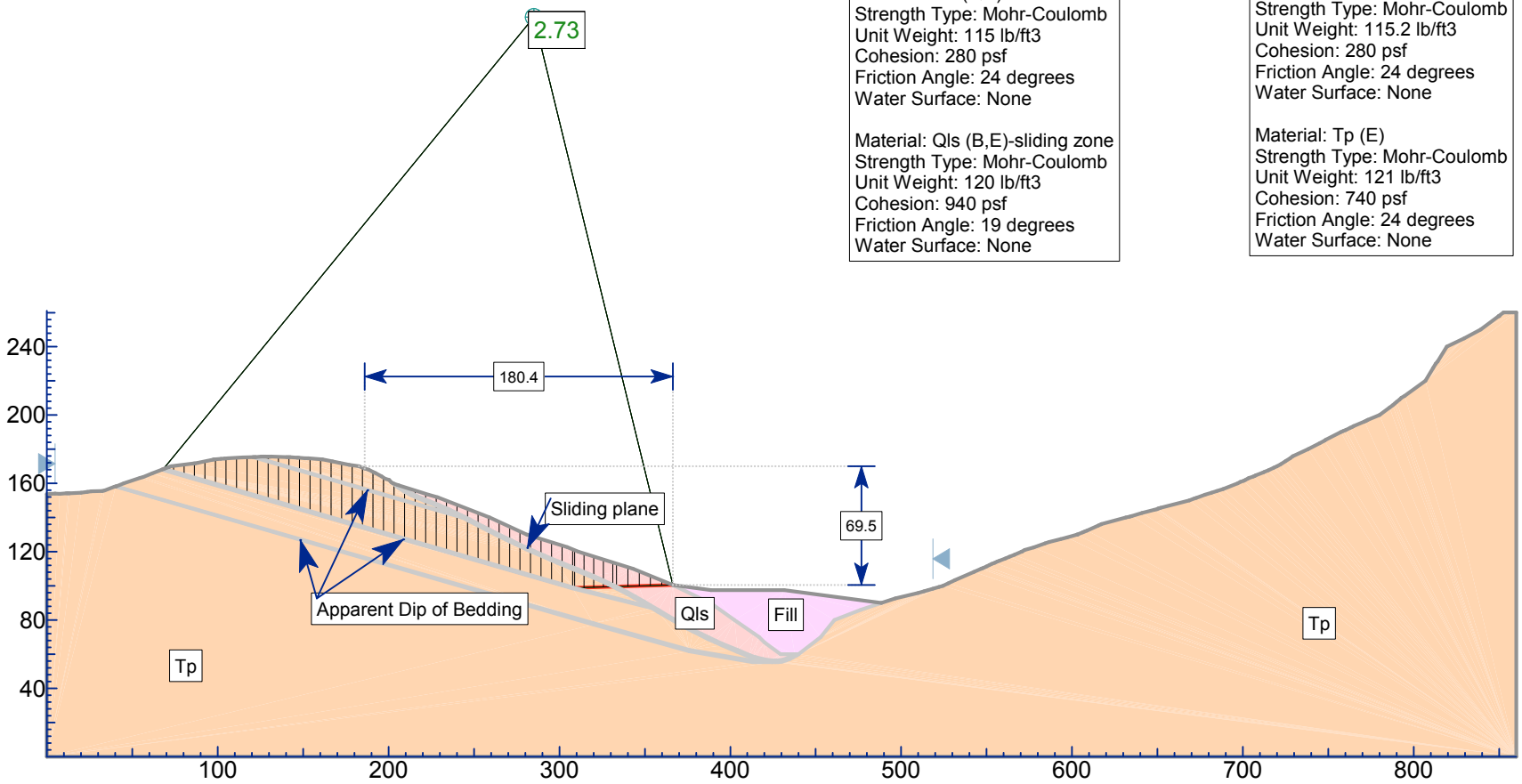
Method: spencer
FS: 2.733190
Axis Location: 284.993, 432.910
Left Slip Surface Endpoint: 67.951, 168.295
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=1.71303e+008 lb-ft
Driving Moment=6.26749e+007 lb-ft
Resisting Horizontal Force=522136 lb
Driving Horizontal Force=191035 lb

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-21"

Method: spencer
FS: 2.733190
Axis Location: 284.993, 432.910
Left Slip Surface Endpoint: 67.951, 168.295
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=1.71303e+008 lb-ft
Driving Moment=6.26749e+007 lb-ft
Resisting Horizontal Force=522136 lb
Driving Horizontal Force=191035 lb

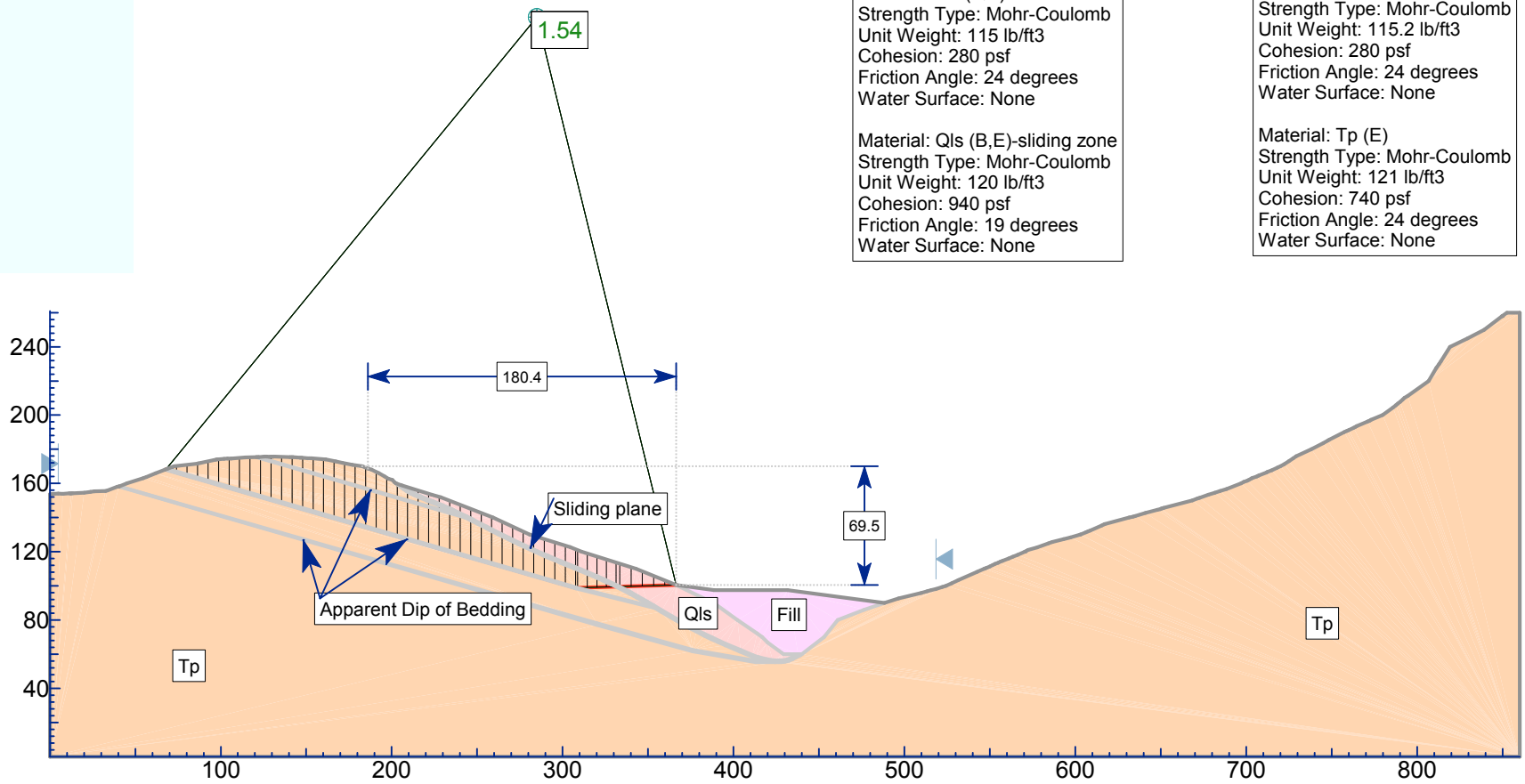
Seismic, Kh=0.2
Method: spencer
FS: 1.536660
Axis Location: 284.993, 432.910
Left Slip Surface Endpoint: 67.951, 168.295
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=1.68328e+008 lb-ft
Driving Moment=1.09541e+008 lb-ft
Resisting Horizontal Force=513069 lb
Driving Horizontal Force=333885 lb

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-22"

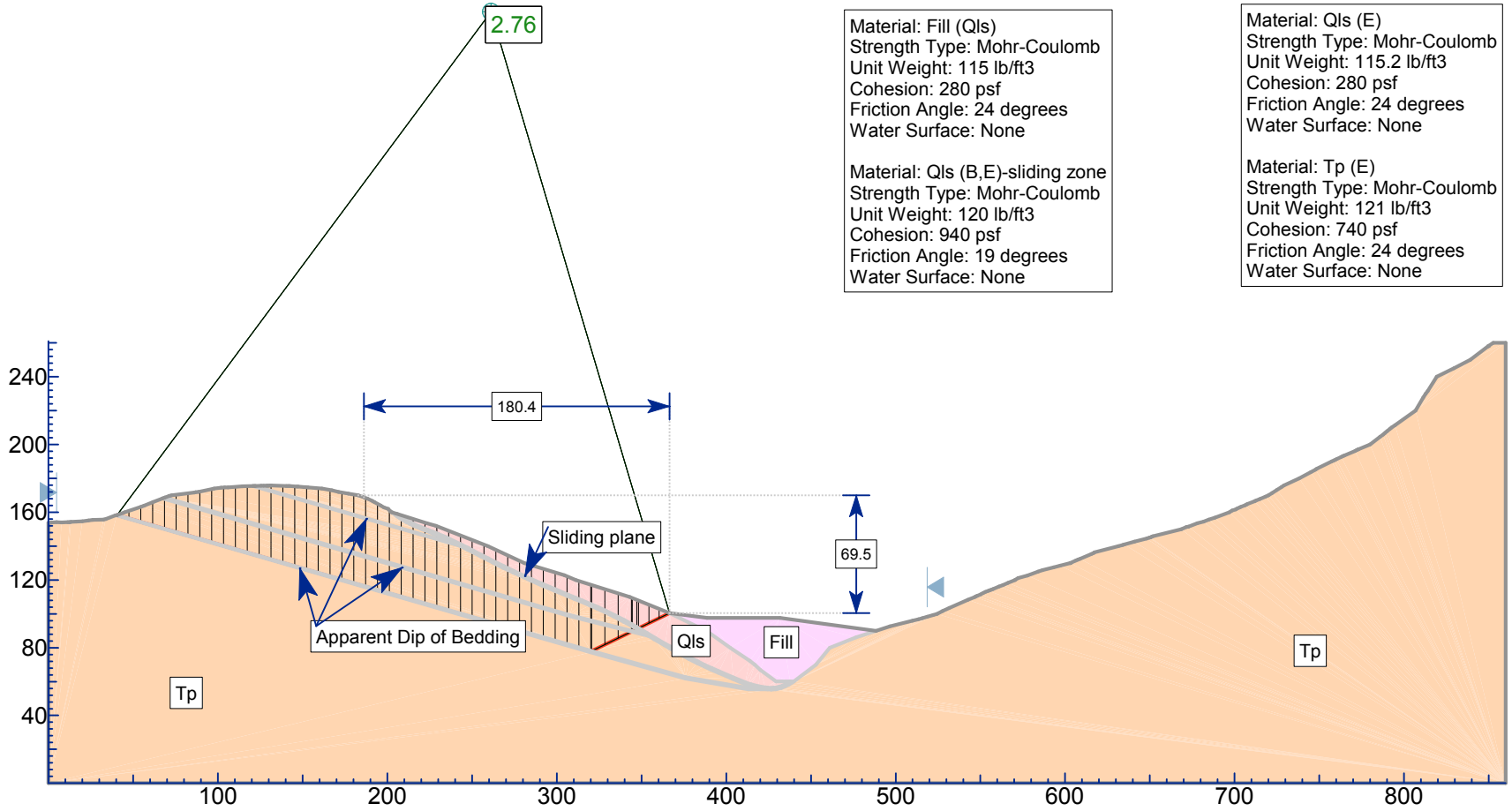
Method: spencer
FS: 2.758810
Axis Location: 261.134, 455.376
Left Slip Surface Endpoint: 40.435, 158.194
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=2.85751e+008 lb-ft
Driving Moment=1.03578e+008 lb-ft
Resisting Horizontal Force=779305 lb
Driving Horizontal Force=282479 lb

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-23"

Method: spencer
FS: 2.758810
Axis Location: 261.134, 455.376
Left Slip Surface Endpoint: 40.435, 158.194
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=2.85751e+008 lb-ft
Driving Moment=1.03578e+008 lb-ft
Resisting Horizontal Force=779305 lb
Driving Horizontal Force=282479 lb

Seismic, Kh=0.2
Method: spencer
FS: 1.575640
Axis Location: 261.134, 455.376
Left Slip Surface Endpoint: 40.435, 158.194
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=2.88101e+008 lb-ft
Driving Moment=1.82847e+008 lb-ft
Resisting Horizontal Force=779954 lb
Driving Horizontal Force=495007 lb

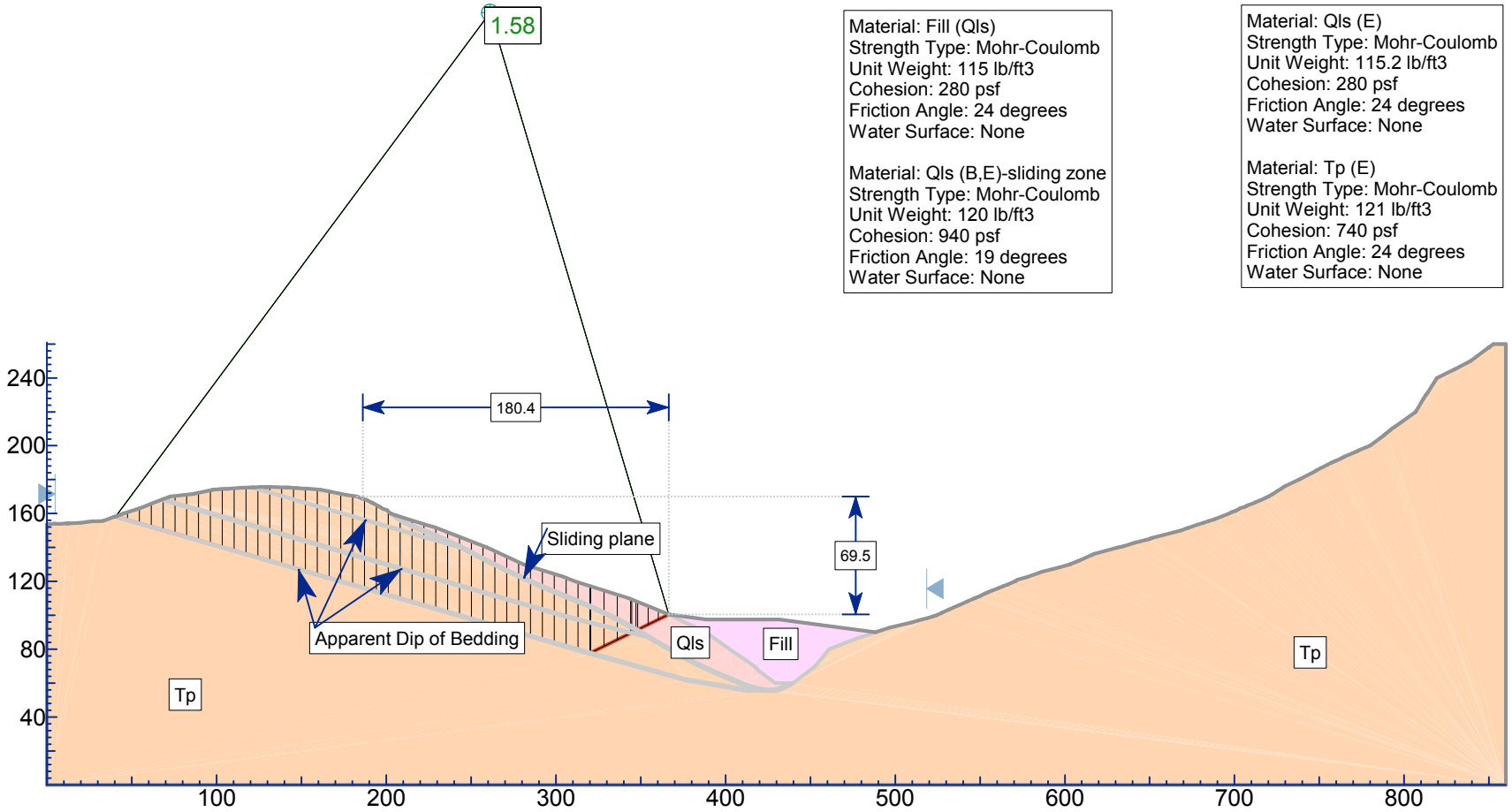
0.2

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-24"

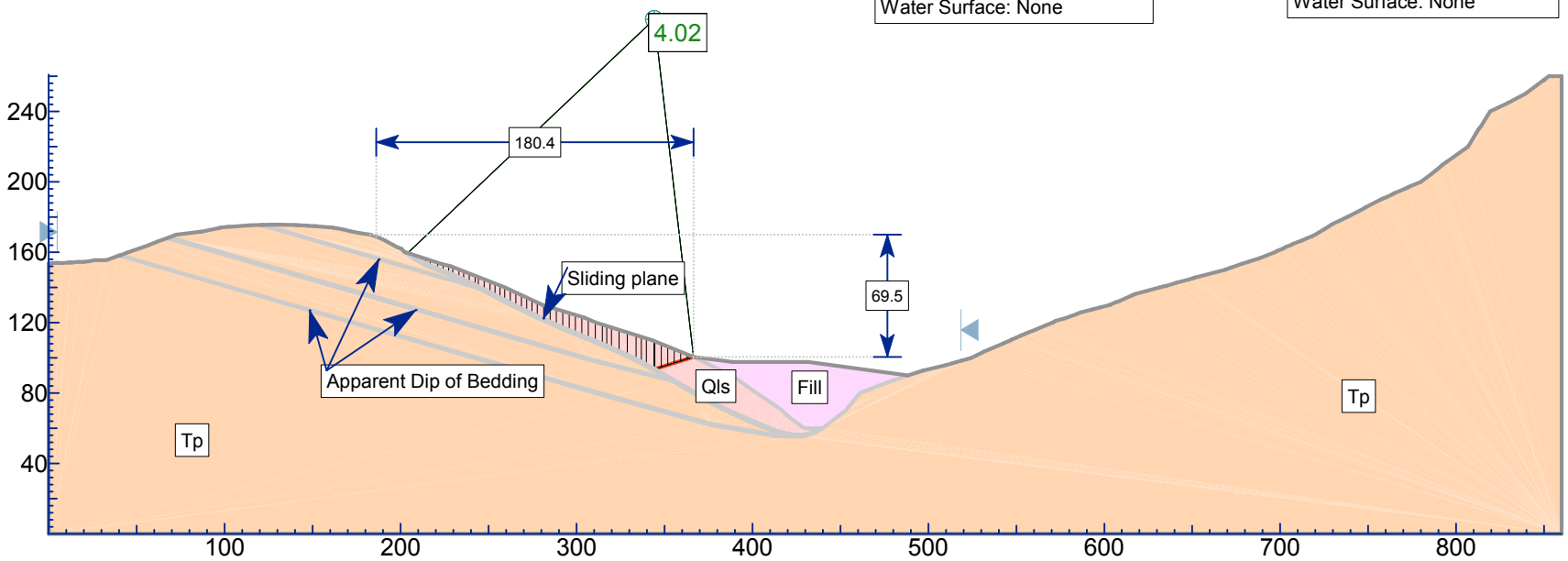
Method: bishop simplified
FS: 4.020710
Axis Location: 344.247, 292.398
Left Slip Surface Endpoint: 204.062, 159.493
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=3.74699e+007 lb-ft
Driving Moment=9.31924e+006 lb-ft

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

Enclosure "F-25"

Method: bishop simplified
FS: 4.020710
Axis Location: 344.247, 292.398
Left Slip Surface Endpoint: 204.062, 159.493
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=3.74699e+007 lb-ft
Driving Moment=9.31924e+006 lb-ft

Seismic, Kh=0.2
Method: spencer
FS: 2.626410
Axis Location: 344.247, 292.398
Left Slip Surface Endpoint: 204.062, 159.493
Right Slip Surface Endpoint: 366.460, 100.507
Resisting Moment=3.6877e+007 lb-ft
Driving Moment=1.40409e+007 lb-ft
Resisting Horizontal Force=184721 lb
Driving Horizontal Force=70332 lb

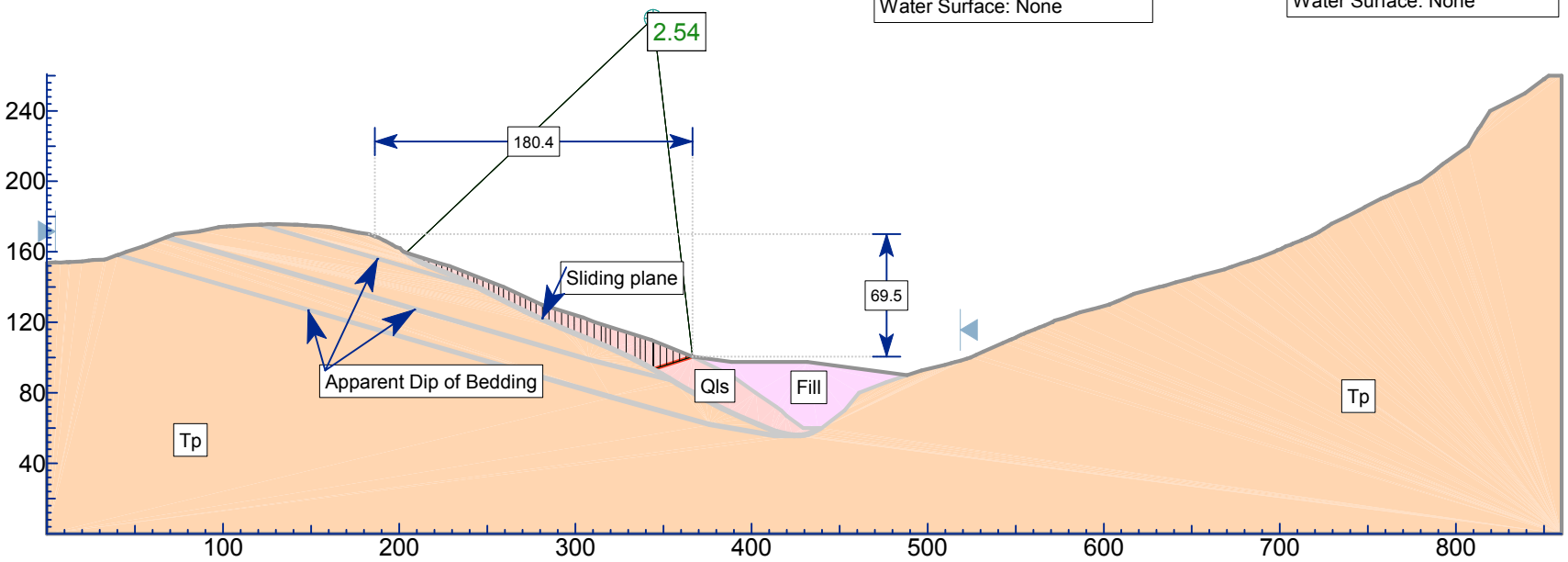
0.2

Material: Fill (Qls)
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

Material: Qls (B,E)-sliding zone
Strength Type: Mohr-Coulomb
Unit Weight: 120 lb/ft3
Cohesion: 940 psf
Friction Angle: 19 degrees
Water Surface: None

Material: Qls (E)
Strength Type: Mohr-Coulomb
Unit Weight: 115.2 lb/ft3
Cohesion: 280 psf
Friction Angle: 24 degrees
Water Surface: None

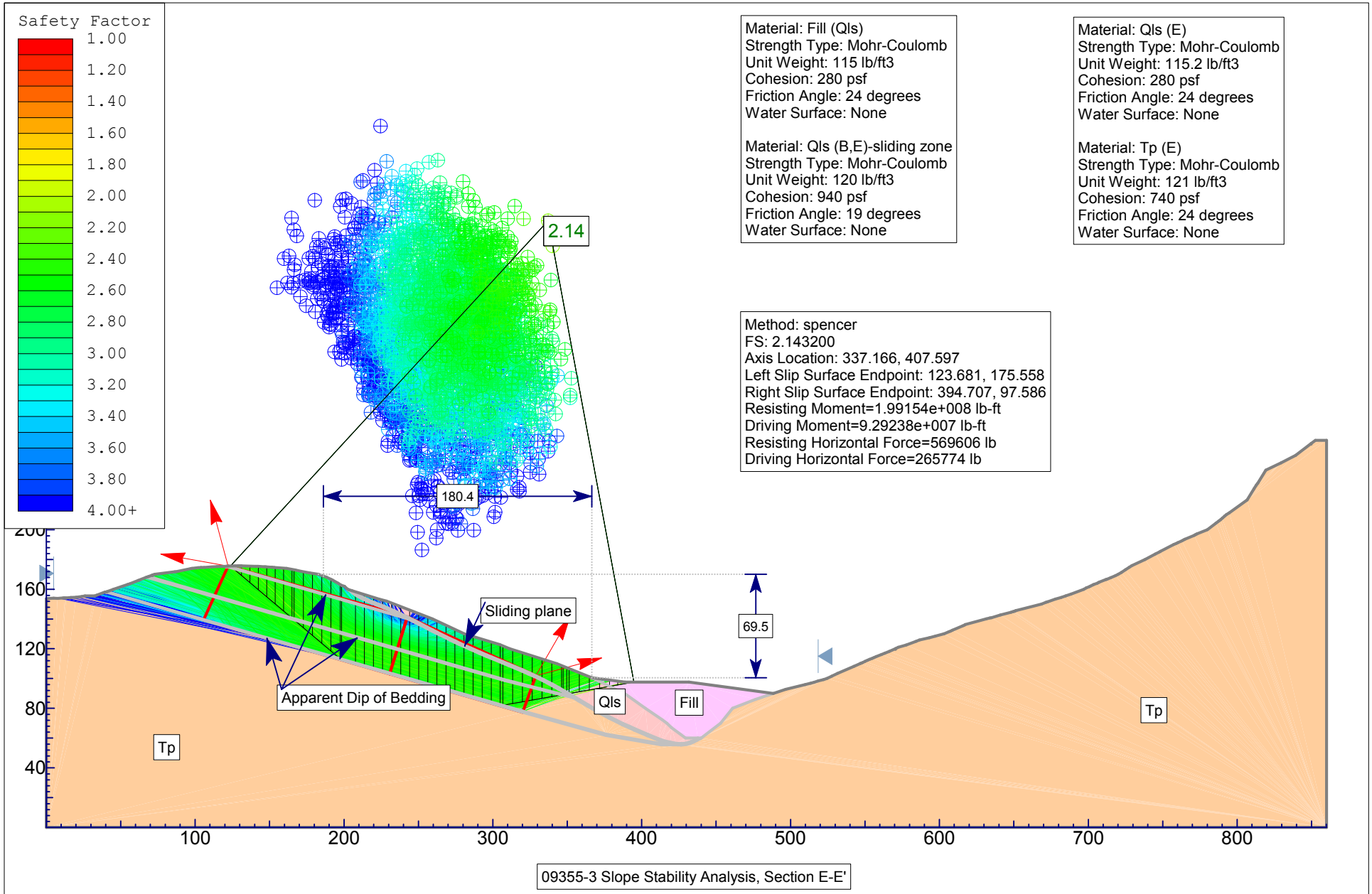
Material: Tp (E)
Strength Type: Mohr-Coulomb
Unit Weight: 121 lb/ft3
Cohesion: 740 psf
Friction Angle: 24 degrees
Water Surface: None



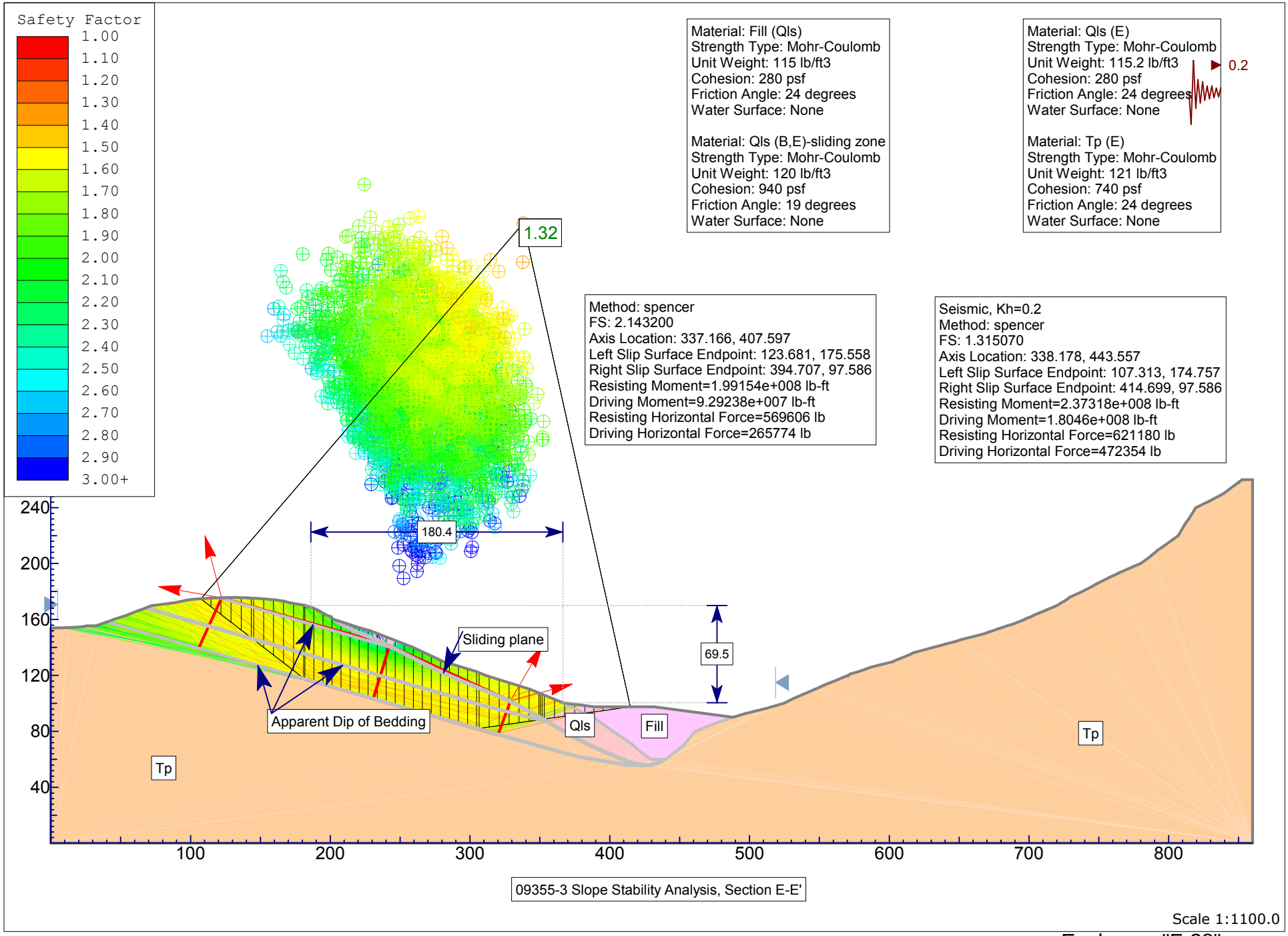
09355-3 Slope Stability Analysis, Section E-E'

Scale 1:1200.0

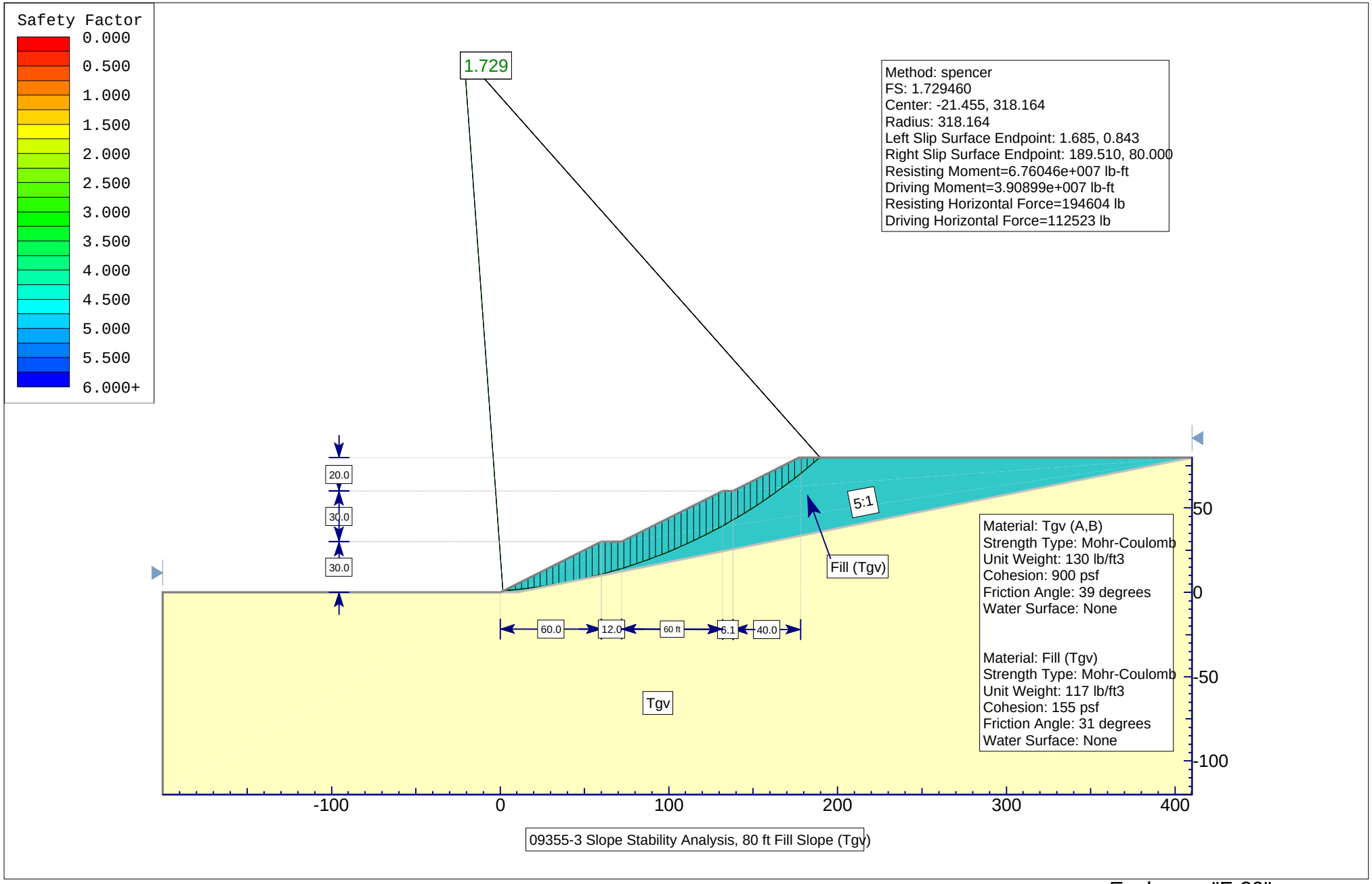
Enclosure "F-26"



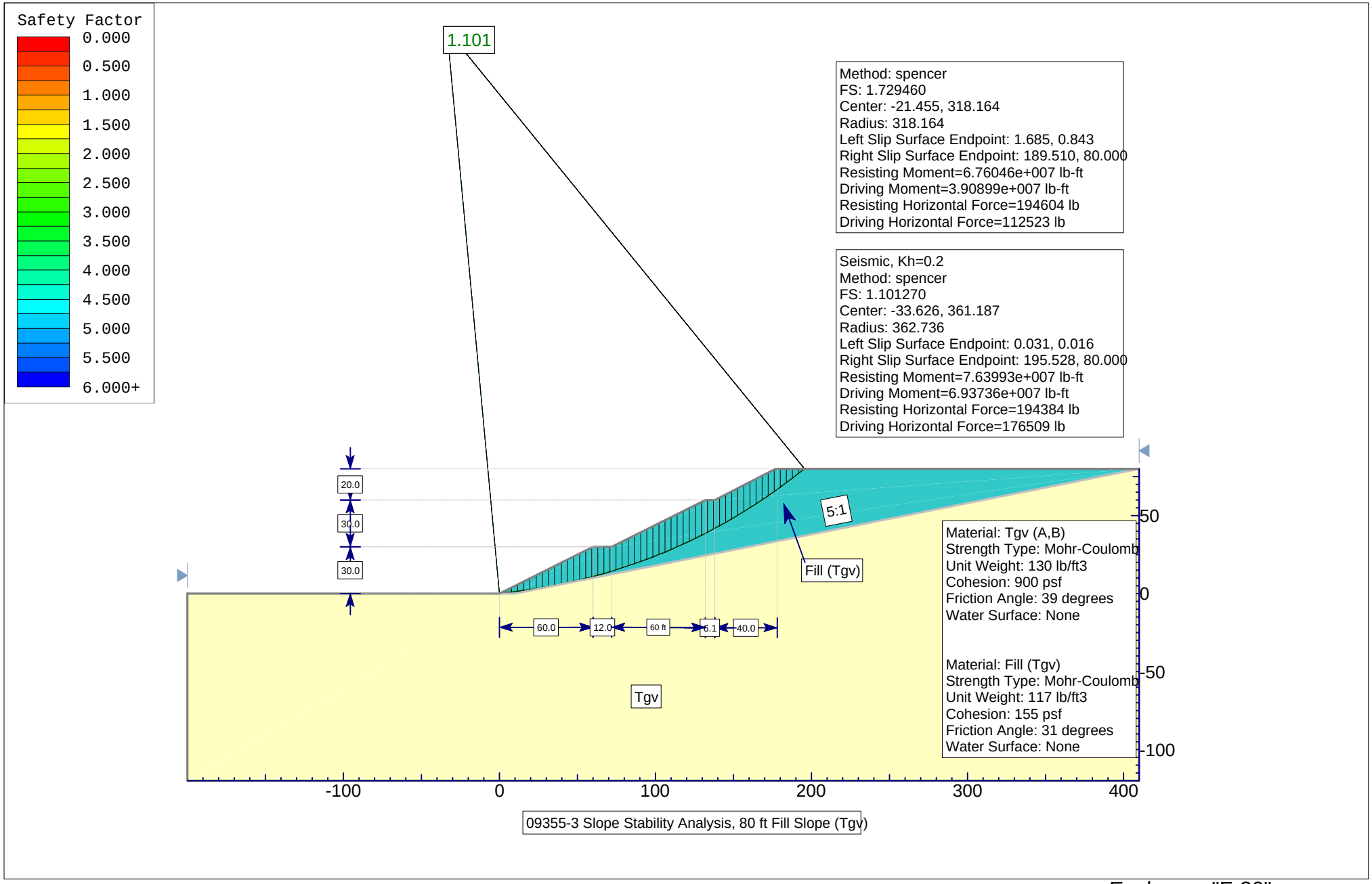
Enclosure "F-27"



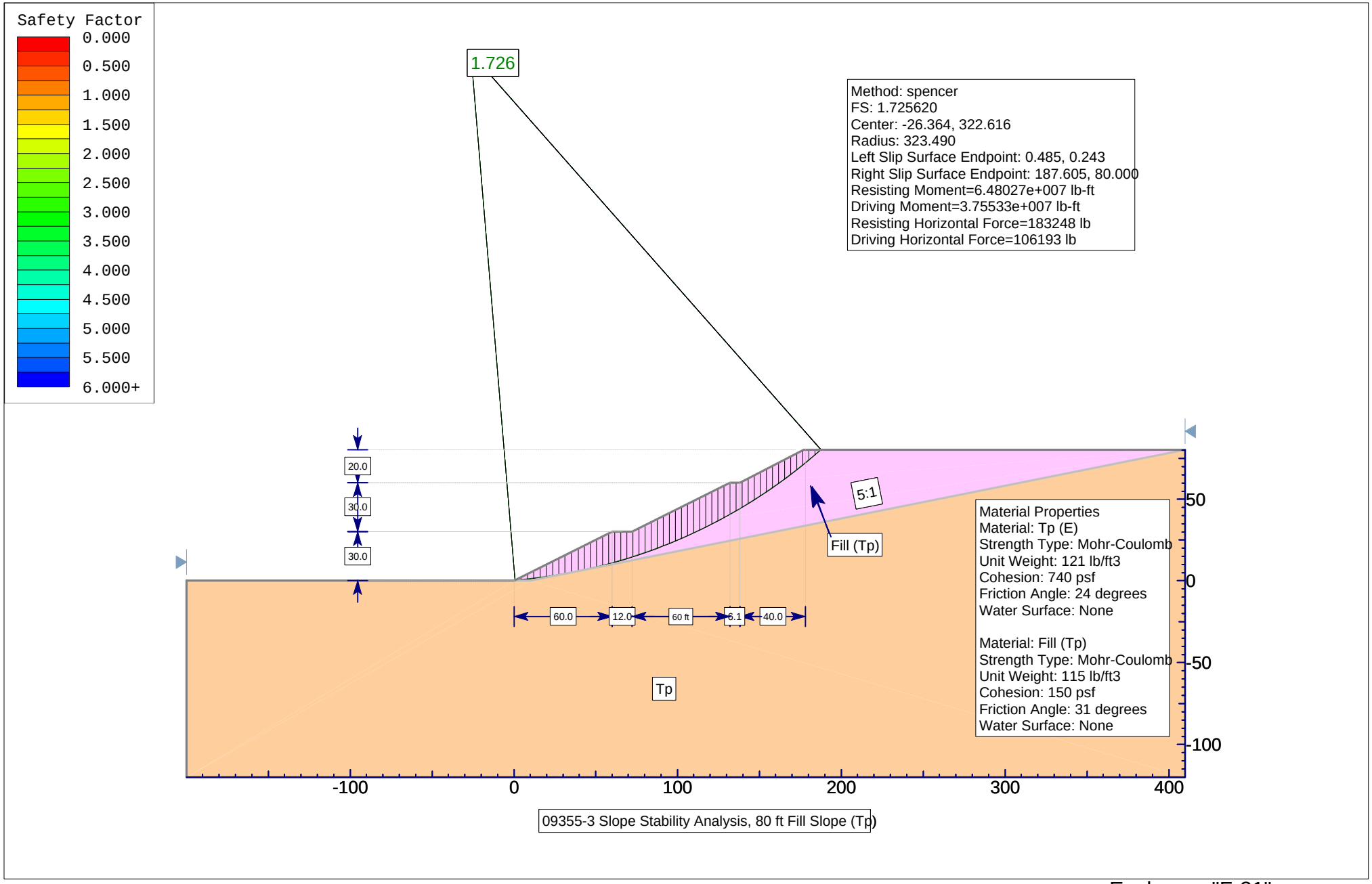
Enclosure "F-28"



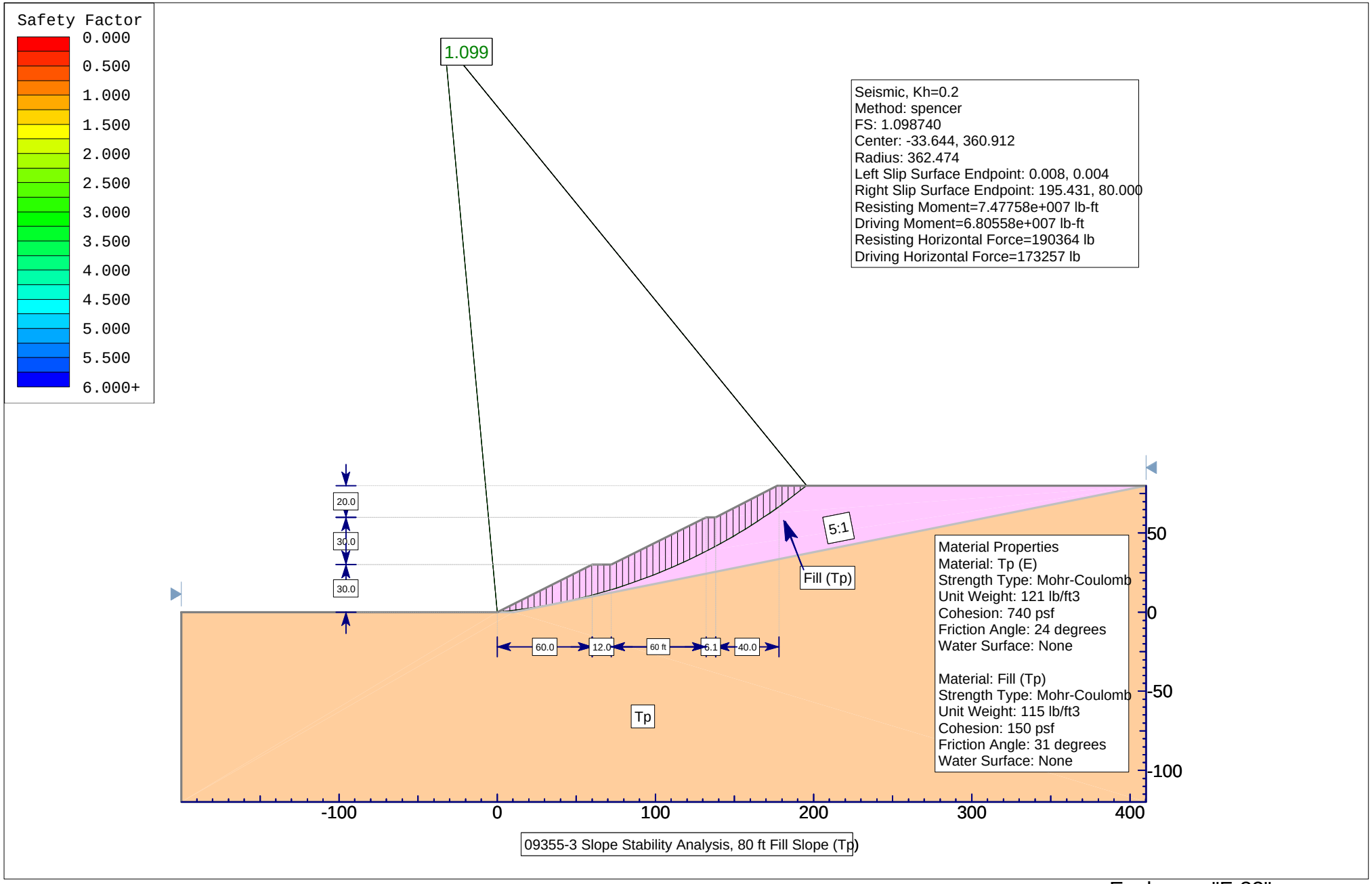
Enclosure "F-29"



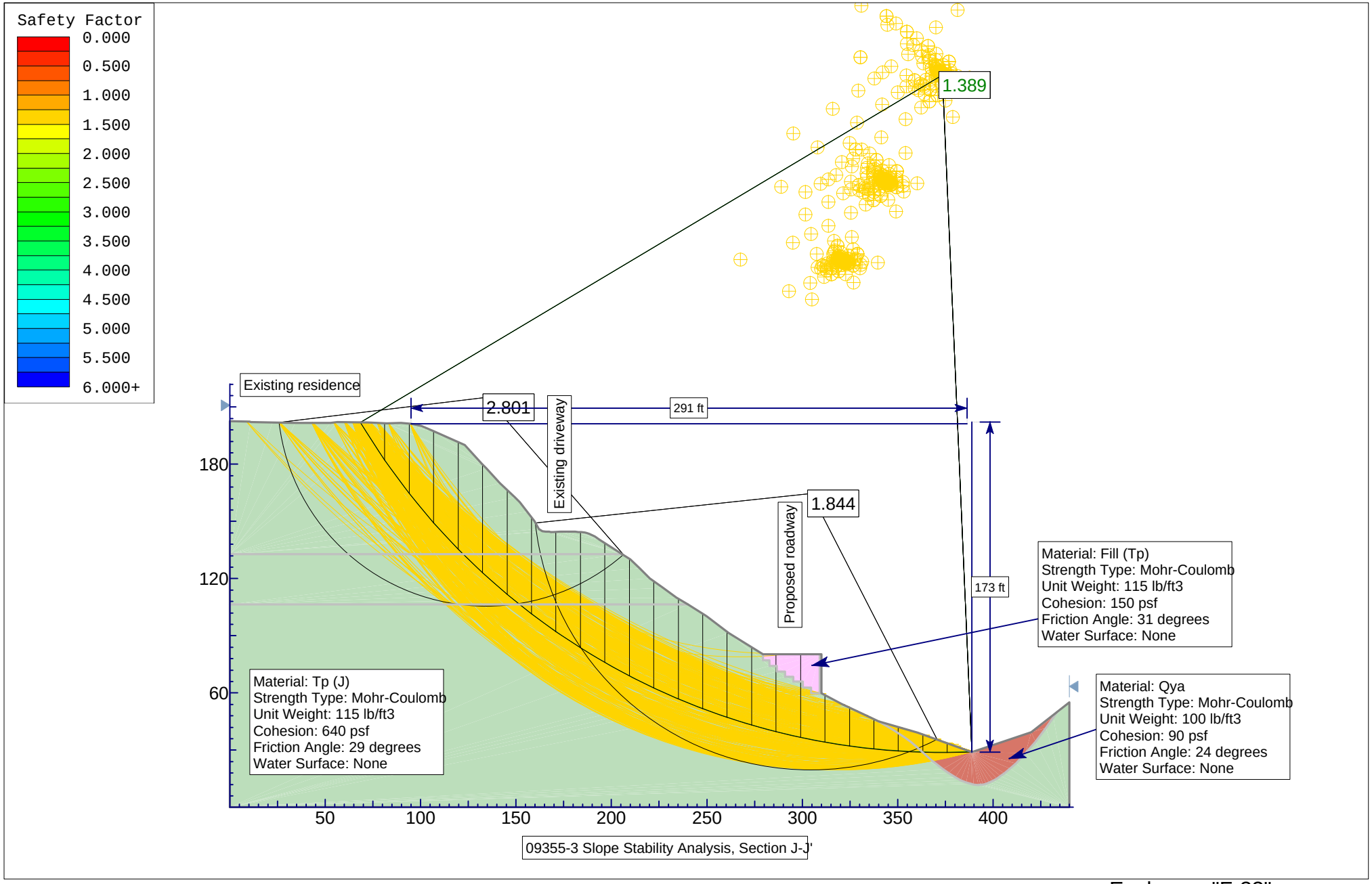
Enclosure "F-30"



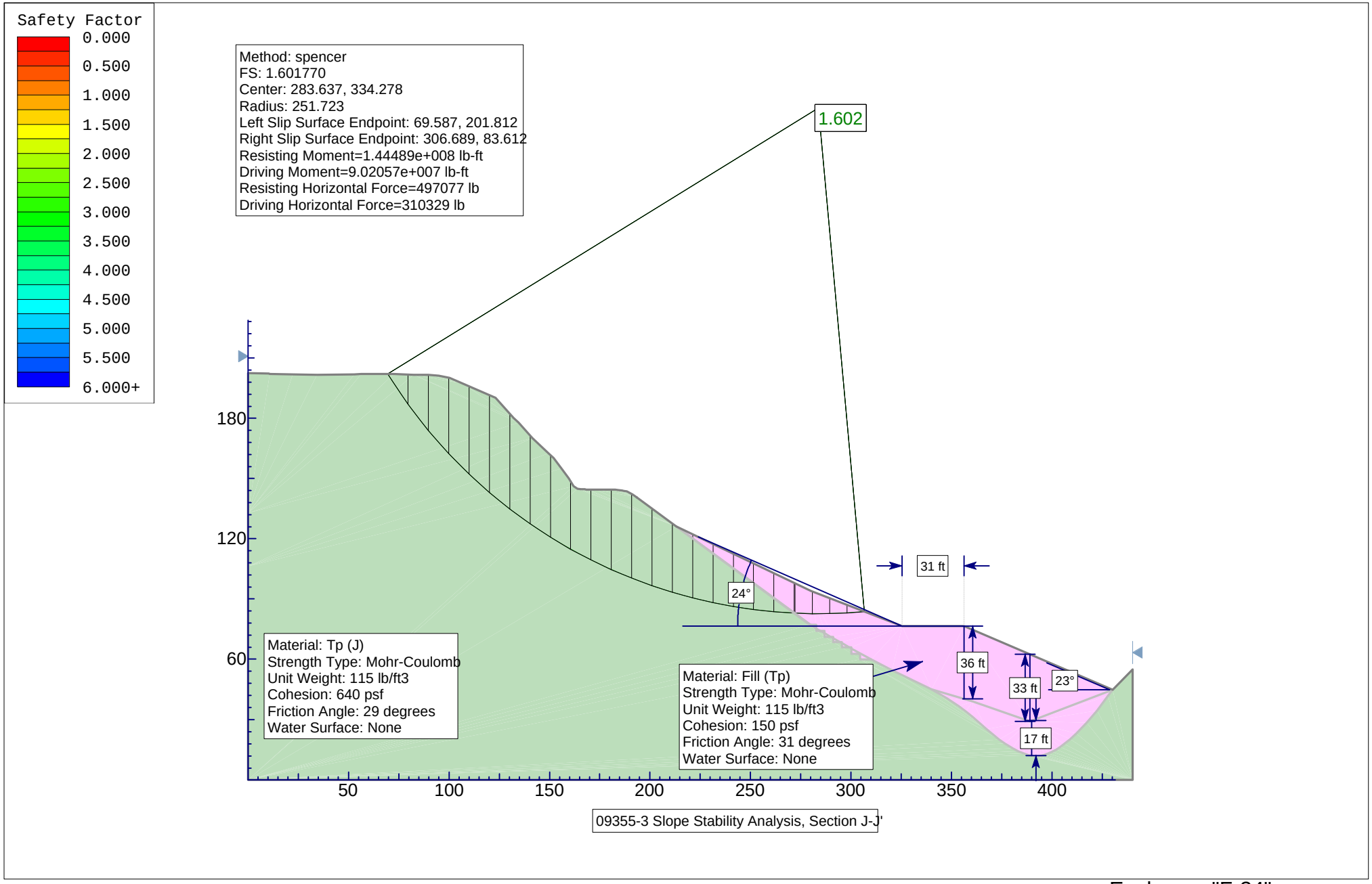
Enclosure "F-31"



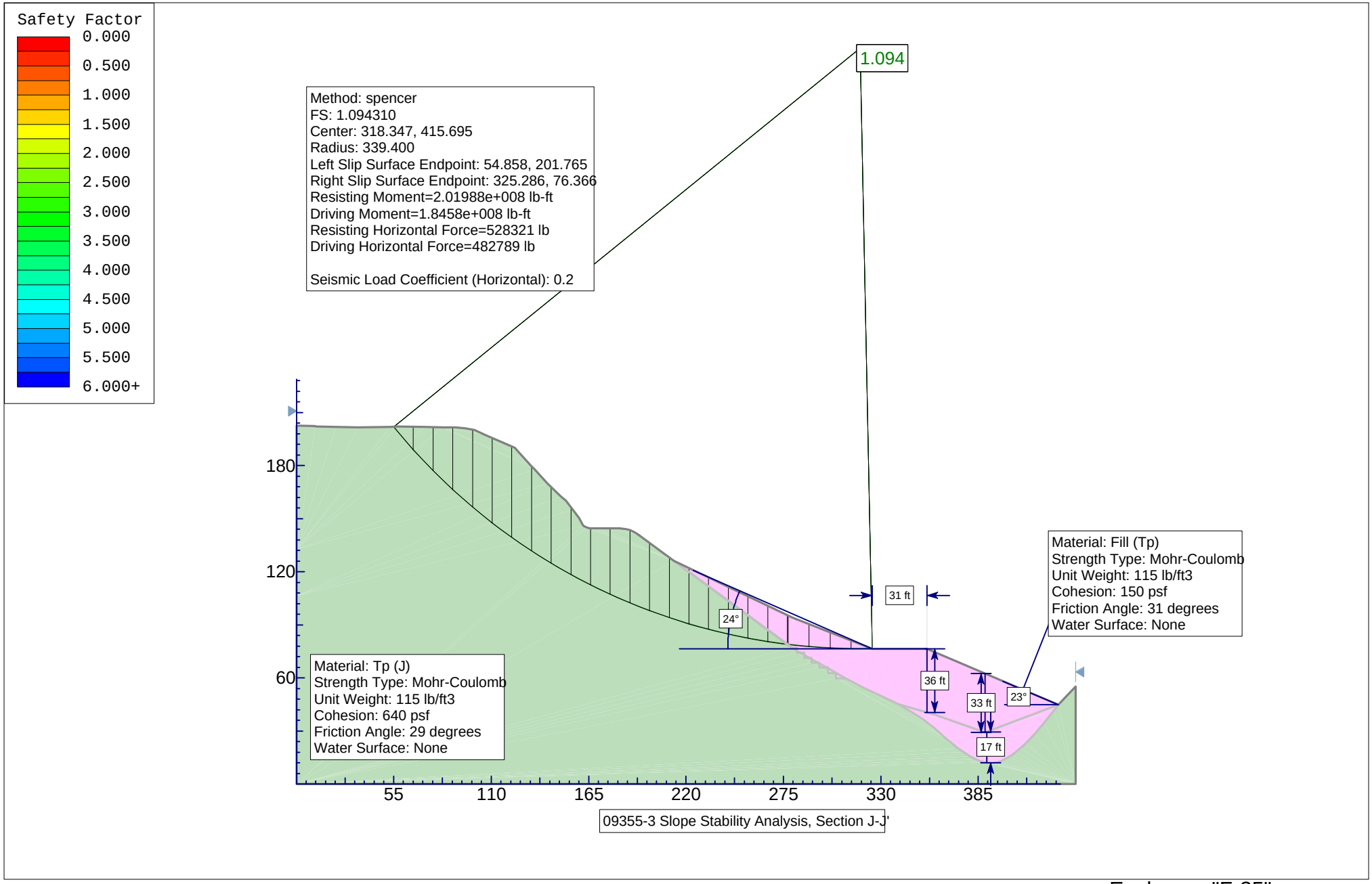
Enclosure "F-32"



Enclosure "F-33"



Enclosure "F-34"



Enclosure "F-35"