CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

GEOLOGY AND SOILS REPORT APPROVAL LETTER

May 1, 2020

LOG # 106470-03
SOILS/GEOLOGY FILE - 2
LAN

Platinum Films LTD
43615 Lake Hughes Road
Lake Hughes, CA 93532

TRACT: 22663
LOT: 41 (Arb. 2)
LOCATION: 2980 N. Hutton Drive

CURRENT REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Addendum Soils Report #3	5909	04/02/2020	CalWest Geotechnical
Addendum Geology Report #3	LP1436	03/27/2020	Land Phases, Inc.
Oversized Documents	``	``	``

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT No.	DATE OF DOCUMENT	PREPARED BY
Dept. Review Letter	106470-02	02/26/2020	LADBS
Soils Report #2	5909	01/03/2020	CalWest Geotechnical
Geology Report #2	LP1436	12/23/2019	Land Phases, Inc.
Mudflow Report	BINA0101	02/05/2020	AMEC, LLC
Dept. Review Letter	106470-01	09/24/2019	LADBS
Addendum Soils Report #1	5909	03/13/2019	CalWest Geotechnical
Addendum Geology Report #1	LP1436	03/06/2019	Land Phases, Inc.
Dept. Review Letter	106470	01/15/2019	LADBS
Soils Report	G5909	12/04/2018	CalWest Geotechnical
Geology Report	LP1436	11/16/2018	Land Phases, Inc.

The Grading Division of the Department of Building and Safety has reviewed the referenced reports that provide recommendations for the proposed repair/replacement of all existing drainage structures; and, construction of a 3-story single family residence, guest house, pool, deck, basement retaining walls, stacked retaining walls, and slough wall. The proposed improvements are located at the toe of an approximately 370 foot high west facing cut/fill/native slope with gradients as steep 0.8H:1V per Navigate LA and the Geologic Map.

1060519202098770

The earth materials at the subsurface exploration locations consist of up to approximately 1 foot of natural residual and colluvial soils on the existing cut slopes underlain by Topanga Formation siltstone, claystone, shale, sandstone, conglomerate and igneous basalt or diabase bedrock. The bedrock is folded and faulted with 2 anticline folds and 1 syncline fold identified on the site as well as bedding that dips to the north, west and south. Adverse west dipping day-lighted bedding was identified by the Geology Reports in the area of cross section A. Landslides have been identified and repaired upslope of the proposed improvements including fill slope buttresses.

The consultants recommend to repair/replace all existing slope drainage structures and support the proposed structures on conventional and/or drilled-pile foundations bearing in competent bedrock.

The site is located in a designated seismically induced landslide hazard zone as shown on the Seismic Hazard Zones map issued by the State of California. The above reports include an acceptable seismic slope stability analysis and the requirements of the 2017 City of Los Angeles Building Code have been satisfied.

As of January 1, 2020, the City of Los Angeles has adopted the new 2020 Los Angeles Building Code (LABC). The 2020 LABC requirements will apply to all projects where the permit application submittal date is after January 1, 2020.

The referenced reports are acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2020 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The entire site shall be brought up to the current Code standard (7005.9).

2. In the event that the permit application submittal date is after January 1, 2020, a supplemental report shall be provided to update the recommendations to be in conformance to the 2020 LABC.

3. Conformance with the Zoning Code Section 12.21 C8, which limits the heights and number of retaining walls, will be determined during structural plan check.

4. Secure the notarized written consent from all owners upon whose property proposed grading/construction access is to extend, in the event off-site grading and/or access for construction purposes is required (7006.6). The consent shall be included as part of the final plans.

5. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans that clearly indicates the geologist and soils engineer have reviewed the plans prepared by the design engineer; and, that the plans include the recommendations contained in their reports (7006.1).

6. All recommendations of the reports that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

7. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

8. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

9. All graded, brushed or bare slopes shall be planted with low-water consumption, native-type plant varieties to protect slopes against erosion (7012).

10. All new graded slopes shall be no steeper than 2H:1V (7010.2 & 7011.2).

11. Prior to the issuance of any permit, an accurate volume determination shall be made and included in the final plans, with regard to the amount of earth material to be exported from the site. For grading involving import or export of more than 1000 cubic yards of earth materials within the grading hillside area, approval is required by the Board of Building and Safety. Application for approval of the haul route must be filed with the Board of Building and Safety Commission Office. Processing time for application is approximately 8 weeks to hearing plus 10-day appeal period.

12. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

13. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

14. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

15. Grading shall be scheduled for completion prior to the start of the rainy season, or detailed temporary erosion control plans shall be filed in a manner satisfactory to the Grading Division of the Department and the Department of Public Works, Bureau of Engineering, B-Permit Section, for any grading work in excess of 200 cubic yards (7007.1).

1828 Sawtelle Blvd., 3rd Floor, West LA (310) 575-8388

16. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored (7005.3).

17. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

18. Temporary excavations that remove lateral support to the public way, adjacent property, or adjacent structures shall be supported by shoring, as recommended. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

19. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

20. The soils engineer shall review and approve the shoring plans prior to issuance of the permit (3307.3.2).

21. Prior to the issuance of the permits, the soils engineer and/or the structural designer shall evaluate the surcharge loads used in the report calculations for the design of the retaining walls and shoring. If the surcharge loads used in the calculations do not conform to the actual surcharge loads, the soil engineer shall submit a supplementary report with revised recommendations to the Department for approval.

22. Unsurcharged temporary excavations exposing unsupported geology and/or unsupported bedding planes shall be trimmed back at a 3H:1V gradient or shored, as recommended.

23. Unsurcharged temporary excavation may be cut vertical up to 7 feet in favorably orientated bedrock as determined by the project geologist. For excavations over 7 feet in favorably orientated bedrock, the lower 7 feet may be cut vertically and the portion of the excavation above 7 feet shall be trimmed back at a gradient not exceeding 1:1, as recommended.

24. Shoring shall be designed for the lateral earth pressures specified in the section titled "Cantilever Shoring" starting on page 3 of the 03/13/2019 report; all surcharge loads shall be included into the design.

25. Shoring shall be designed for a maximum lateral deflection of 1 inch, provided there are no structures within a 1:1 plane projected up from the base of the excavation. Where a structure is within a 1:1 plane projected up from the base of the excavation, shoring shall be designed for a maximum lateral deflection of ½ inch, or to a lower deflection determined by the consultant that does not present any potential hazard to the adjacent structure.

26. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.

27. All foundations shall derive entire support from competent bedrock, as recommended and approved by the geologist and soils engineer by inspection.

28. Foundations adjacent to a descending slope steeper than 3:1 (horizontal to vertical) in gradient shall be a minimum distance of one-third the vertical height of the slope but need not exceed 40 feet measured horizontally from the footing bottom to the face of the slope (1808.7.2); for pools the foundation setback shall be one-sixth the slope height to a maximum of 20 feet (1808.7.3). Where the slope is steeper than 1:1, the required setback shall be measured from an imaginary plane 45 degrees to the horizontal, projected upward from the toe of the slope.

29. Buildings adjacent to ascending slopes steeper than 3H:1V in gradient shall be setback from the toe of the slope a level distance measured perpendicular to slope contours equal to one-half the vertical height of the slope, but need not exceed 15 feet (1808.7.1); for pools the setback shall be one-fourth the vertical height of the slope, but need not exceed 7.5 feet (1808.7.3). Where the slope is steeper than 1:1, the toe of the slope shall be assumed to be

at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees to the horizontal.

30. Pile caisson and/or isolated foundation ties are required by LAMC Sections 91.1809.13 and/or 91.1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2020-030.

31. Pile and/or caisson shafts shall be designed for a lateral load of 1000 pounds per linear foot of shaft exposed to fill, soil and weathered bedrock per P/BC 2020-050.

32. The design passive pressure shall be neglected for a portion of the pile with a horizontal setback distance less than five feet from fill, soil or weathered bedrock.

33. When water is present in drilled pile holes, the concrete shall be tremied from the bottom up to ensure minimum segregation of the mix and negligible turbulence of the water (1808.8.3).

34. Existing uncertified fill shall not be used for lateral support of deep foundations (1810.2.1).

35. Slabs shall be at least 4 inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way, as recommended.

36. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch fill of coarse aggregate or on a moisture barrier membrane. The slabs shall be at least 4 inches thick, as recommended, and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced a maximum of 16 inches on center each way.

37. The seismic design shall be based on a Site Class C, as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.

38. Cantilevered retaining walls shall be designed for the updated lateral earth pressures as specified on page 6 (Table 4) of the 03/13/2019 report, and for the "Front Retaining Wall" as specified on page 16 (Table 7) of the 12/04/2018 report. All surcharge loads shall be included into the design.

39. Basement walls and other walls in which horizontal movement is restricted at the top shall be designed for at-rest pressure as specified on page 16 (Figure 2) of the 12/04/2018 report (1610.1). All surcharge loads shall be included into the design.

40. Retaining walls at the base of ascending slopes and on the upslope side of the driveway shall be provided with a minimum freeboard of 3 and 1.5 feet, respectively, designed for impact and 125 pounds per cubic foot, as recommended.

41. The proposed retaining walls with freeboard, V-drains, and drainage system to contain, deflect and/or channelize any potential debris/mud flows and drainage to the City street (see pgs. 2 – 4 in the 03/27/2020 report), shall be as shown on the current Geologic Map (Plate 1) and Hydrology Map for Mud Flow Calculations (Sheet H-1) in the 03/27/2020 report, and as shown on the latest cross sections in the reports. <u>Debris and drainage shall not be directed to any neighboring property</u>.

42. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted in a non-erosive device to the street in an acceptable manner (7013.11).

43. With the exception of retaining walls designed for hydrostatic pressure, all retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soils report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record (1805.4).

44. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector (108.9).

45. Basement walls and floors shall be waterproofed/damp-proofed with an LA City approved "Below-grade" waterproofing/damp-proofing material with a research report number (104.2.6).

46. Prefabricated drainage composites (Miradrain, Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

47. The pool shall be designed for expansive soil conditions in accordance with Information Bulletin P/BC 2017-014.

48. The proposed swimming pool shall be designed for a freestanding condition. The portion of the pool wall within a horizontal distance of 7 feet from the top of the slope shall be capable of supporting the water in the pool without soil support (1808.7.3).

49. The structure shall be connected to the public sewer system per P/BC 2020-027.

50. All roof, pad and deck drainage shall be conducted to the street in an acceptable manner in non-erosive devices or other approved location in a manner that is acceptable to the LADBS and the Department of Public Works; water shall not be dispersed on to descending slopes without specific approval from the Grading Division and the consulting geologist and soils engineer (7013.10).

51. An on-site storm water infiltration system at the subject site shall not be implemented, as recommended.

52. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

53. Sprinkler plans for irrigation shall be submitted and approved by the Mechanical Plan Check Section (7012.3.1).

54. Any recommendations prepared by the geologist and/or the soils engineer for correction of geological hazards found during grading shall be submitted to the Grading Division of the Department for approval prior to use in the field (7008.2, 7008.3).

55. The geologist and soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading (7008, 1705.6 & 1705.8).

1 0 6 0 5 1 9 2 0 2 0 9 8 7 7 0

56. All friction pile or caisson drilling and excavations shall be performed under the inspection and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent bedrock in a written field memorandum. (1803.5.5, 1705.1.2)

57. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)

58. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; shoring; pile installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

59. Installation of shoring and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

60. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included (7011.3).

61. No footing/slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

FOR CASEY LEE JENSEN
Engineering Geologist Associate III

GLEN RAAD
Geotechnical Engineer I

Log No. 106470-03
213-482-0480

cc: Soly Bina, Applicant
CalWest Geotechnical, Project Consultant
Land Phases, Inc., Project Consultant
WL District Office

10605192020987 0

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District VN	Log No. 106470-3

APPLICATION FOR REVIEW OF TECHNICAL REPORTS

INSTRUCTIONS

A. Address all communications to the Grading Division, LADBS, 221 N. Figueroa St., 12th Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.

B. Submit two copies (three for subdivisions) of reports, one "pdf" copy of the report on a CD-Rom or flash drive, and one copy of application with items "1" through "10" completed.

C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract: 22663
Block: ______ Lots: 41

2. PROJECT ADDRESS:
29BD HUTTON DR. BH. 90210

3. OWNER: PLATINUM FILMS
Address: 48615 LAKE HUGHES RD
City: LAKE HUGHES Zip: 93532
Phone (Daytime): (310) 272-6052

4. APPLICANT SOLY BINA
Address: 43615 LAKE HUGHES RD
City: LAKE HUGHES Zip: 93532
Phone (Daytime): (310) 272-6052
E-mail address: SOLYBINA@GMAIL.COM

5. Report(s) Prepared by: CAL WEST + LANDPH

6. Report Date(s): 4-2-2020

7. Status of project: ☒ Proposed ☐ Under Construction ☐ Storm Damage

8. Previous site reports? ☒ YES if yes, give date(s) of report(s) and name of company who prepared report(s)

9. Previous Department actions? ☒ YES if yes, provide dates and attach a copy to expedite processing.

Dates:

10. Applicant Signature: [signature] Position: MANAGER

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED		FEES
☑ Soils Engineering		No. of Lots		
☑ Geology		No. of Acres		
☒ Combined Soils Engr. & Geol.	363.00	☐ Division of Land		
☐ Supplemental		Other		
☐ Combined Supplemental		☐ Expedite		
☐ Import-Export Route		☐ Response to Correction		
Cubic Yards:		☐ Expedite ONLY		
		Sub-total		
		Surcharges		89.86
		TOTAL FEE		452.86

Fee Due: 452.86
Fee Verified By: M Date: 4/24/2020
(Cashier Use Only)

LA Department of Building and Safety
LA ROZA [illegible] 4/27/2020 [illegible]
GRADING REPORT [illegible]
[illegible]
MISCELLANEOUS [illegible]
Sub Total [illegible]
Receipt #: [illegible]
43615 LAKE HUGHES RD

ACTION BY:

THE REPORT IS: ☐ NOT APPROVED

☐ APPROVED WITH CONDITIONS ☐ BELOW ☐ ATTACHED

______________________ For Geology ______ Date

______________________ For Soils ______ Date

1060519202098770

CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

April 2, 2020 Project No. 5909

Soly Bina
43615 Lake Hughes Road
Lake Hughes, California 93532

SUBJECT: **ADDENDUM GEOTECHNICAL ENGINEERING REPORT #3, RESPONSE TO THE CITY OF LOS ANGELES, GEOLOGY AND SOILS REPORT REVIEW LETTER, LOG # 106470-01, DATED February 26, 2020, (included in Appendix A), PROPOSED CUSTOM SINGLE FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, BEVERLY HILLS AREA, CITY OF LOS ANGELES, CALIFORNIA.**

REFERENCES:

ADDENDUM ENGINEERING GEOLOGIC REPORT #3, PROPOSED CUSTOM SINGLE FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY LAND PHASES INC., PROJECT NO. LP1436, DATED MARCH 27, 2020.

CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY, GEOLOGY AND SOILS REPORT **REVIEW LETTER**, LOG # 106470-01, DATED FEBRUARY 26, 2020.

ADDENDUM GEOTECHNICAL ENGINEERING REPORT #2, RESPONSE TO THE CITY OF LOS ANGELES GEOLOGY AND SOILS REPORT REVIEW LETTER, LOG #106470, DATED SEPTEMBER 24, 2019 (included in Appendix A), PROPOSED CUSTOM SINGLE FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, BEVERLY HILLS AREA, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY CALWEST GEOTECHNICAL, PROJECT NO. 5909, DATED JANUARY 3, 2020.

ADDENDUM ENGINEERING GEOLOGIC REPORT # 2, PROPOSED CUSTOM SINGLE FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY LAND PHASES INC., PROJECT NO. LP1436, DATED DECEMBER 23, 2019.

CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY, GEOLOGY AND SOILS REPORT **REVIEW LETTER**, LOG # 106470-01, DATED SEPTEMBER 24, 2019.

ADDENDUM GEOTECHNICAL ENGINEERING REPORT # 1, RESPONSE TO THE CITY OF LOS ANGELES, GEOLOGY AND SOILS REPORT REVIEW LETTER, LOG # 106470, DATED JANUARY 15, 2019, PROPOSED CUSTOM SINGLE FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, BEVERLY HILLS AREA, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY CALWEST GEOTECHNICAL, PROJECT NO. 5909, DATED MARCH 13, 2019.

ADDENDUM ENGINEERING GEOLOGIC REPORT #1, PROPOSED CUSTOM SINGLE-FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY LAND PHASES INC., PROJECT NO. LP1436, DATED MARCH 6, 2019.

CITY OF LOS ANGELES GRADING DIVISION DEPARTMENT OF BUILDING AND SAFETY, GEOLOGY AND SOILS REPORT **REVIEW LETTER**, LOG #106470, DATED JANUARY 15, 2019.

Soly Bina

April 2, 2020
Project 5909

UPDATE GEOTECHNICAL ENGINEERING REPORT, PROPOSED CUSTOM SINGLE FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, BEVERLY HILLS AREA, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY CALWEST GEOTECHNICAL, PROJECT NO. 5909, DATED DECEMBER 4, 2018.

REPORT OF UPDATE ENGINEERING GEOLOGIC STUDY, PROPOSED CUSTOM SINGLE-FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, CITY OF LOS ANGELES, CALIFORNIA, PREPARED BY LAND PHASES INC. PROJECT NO. LP1436, DATED NOVEMBER 16, 2018.

ADDITIONAL REFERENCES ARE LISTED IN THE AFOREMENTIONED REPORTS.

INTRODUCTION

This Addendum Geotechnical Engineering Report #3 has been prepared at your request in response to the City of Los Angeles Geology and Soils Report Review Letter, Review Log #106470-01, dated February 26, 2020, included in Appendix A. The review letter was prepared following the City review of our referenced Addendum Geotechnical Engineering Report #2, dated March 13, 2019, and the referenced Addendum Engineering Geology Report #2, prepared by Land Phases, Inc., dated December 23, 2019. The review letter requests additional information and/or clarification of two (2) review comments prior to project approval. Our responses to these review comments are provided below. For convenience, the review comments have been reproduced in abbreviated form.

1. As previously requested in Item 4 of the 09/24/2019 Department review letter, revise the slope stability analyses (static and seismic) for sections A & C so that the search for the lowest factor of safety (...)?

Response: Updated slope stability analyses for Cross-sections A and C for both the static and seismic conditions, in which the search for the lowest factor of safety is not restricted is provided herein in Appendix B. A table is provided below with a summary of the updated slope stability analyses.

TABLE 1. SUMMARY: UPDATED SLOPE STABILITY ANALYSES

Cross-section	Condition	Factor of Safety	Target Factor of Safety
A-A	Static	1.61	1.5 (OK)
	Seismic	1.003	1.0 (OK)
C-C	Static	1.59	1.5 (OK)
	Seismic	1.005	1.0 (OK)

The updated slope stability analysis utilized the reshear shear strength parameters of $\phi = 32^0$ and effective cohesion C = 220 psf, as shown on the analysis printout for the seismic condition.

2. Show the diverter wall, impact/debris wall and channel drain and any other structures proposed to contain, deflect and/or channelize any potential debris flow to the street on the Geotechnical Map (...).

Response: Response to this item is discussed in detail in the referenced Addendum Engineering Geologic report #3, prepared by Land Phases, Inc., dated March 27, 2020. Based on review of that report, it is our opinion the existing slope V-drains, proposed retaining walls with freeboard, and proposed V-drains shown on the current site development/grading plan will be adequate to contain, deflect and channelize potential debris flow and drainage around the proposed residence.

The existing slope V-drains, proposed retaining walls, and proposed V-drains were shown on our Geotechnical Map and Cross-sections included in our referenced Addendum Geotechnical Engineering reports dated March 13, 2019 and January 3, 2020, respectively. For example, Cross-section A-A and B-B, included in the March 13, 2019 Addendum #1 report, shows the locations of the existing V-drains upslope of the proposed residence and driveway, the proposed V-drains behind proposed retaining walls, and 3-foot freeboard for the proposed retaining walls located behind the proposed residence.

SUMMARY AND CONCLUSIONS

CalWest Geotechnical has prepared this Addendum Geotechnical Engineering Report #3 in response to the City of Los Angeles Geology and Soils Report Review Letter, Review Log #106470-01, dated February 26, 2020, included in Appendix A. Based on our responses provided herein, and the geotechnical data and recommendations presented in this Addendum Geotechnical Engineering Report #3, our referenced reports and reports by LP, it continues to be the opinion of this office the proposed project, as planned, is considered feasible from a geotechnical engineering perspective, providing our recommendations and those of LP, are made part of the project plans and are implemented during construction.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report is prepared for use by Mr. Soly bina and his authorized agent(s) and should not be considered transferable. Prior to use by others, the subject site and this report should be reviewed by CalWest Geotechnical to determine if any additional work is required to update this report.

The findings presented in this report are valid as of this date and may be invalidated wholly or partially by changes outside our control. Therefore, this report should be subject to review and should not be relied upon after a period of one year or if any significant changes are made.

The professional opinions and geotechnical advice contained in this report are not intended to imply total performance of the project or guarantee that unusual conditions will not be discovered during or after construction.

Soly Bina

April 2, 2020
Project 5909

This report has been prepared in accordance with generally accepted engineering practices and makes no warranties, either express or implied, as to the professional opinions provided.

Should you have any questions, please don't hesitate to call.

Respectfully submitted,

Leonard Liston
President
RCE 31902

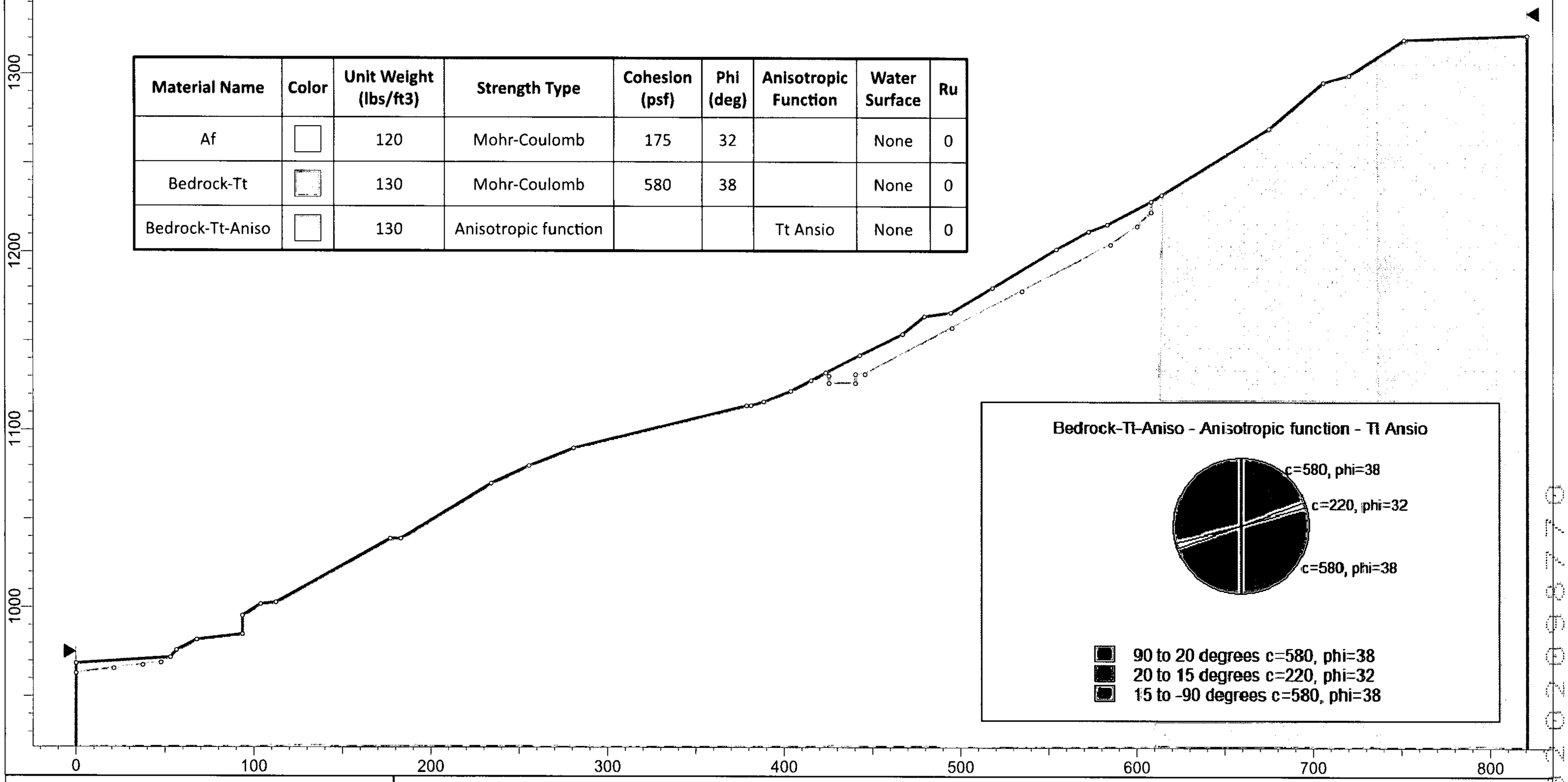
Robi Khan, PE
Project Engineer
RCE 70510

Enc: Appendix A - City of Los Angeles Geology and Soils Report Review Letter, Log#106470, dated February 26, 2020.
Appendix B - Updated Slope Stability Analyses – Cross- sections A & C.

cc: Land Phases, Inc.

1 0 6 0 5 1 9 2 0 2 0 9 8 7 7 0

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function	Water Surface	Ru
Af		120	Mohr-Coulomb	175	32		None	0
Bedrock-Tt		130	Mohr-Coulomb	580	38		None	0
Bedrock-Tt-Aniso		130	Anisotropic function			Tt Ansio	None	0



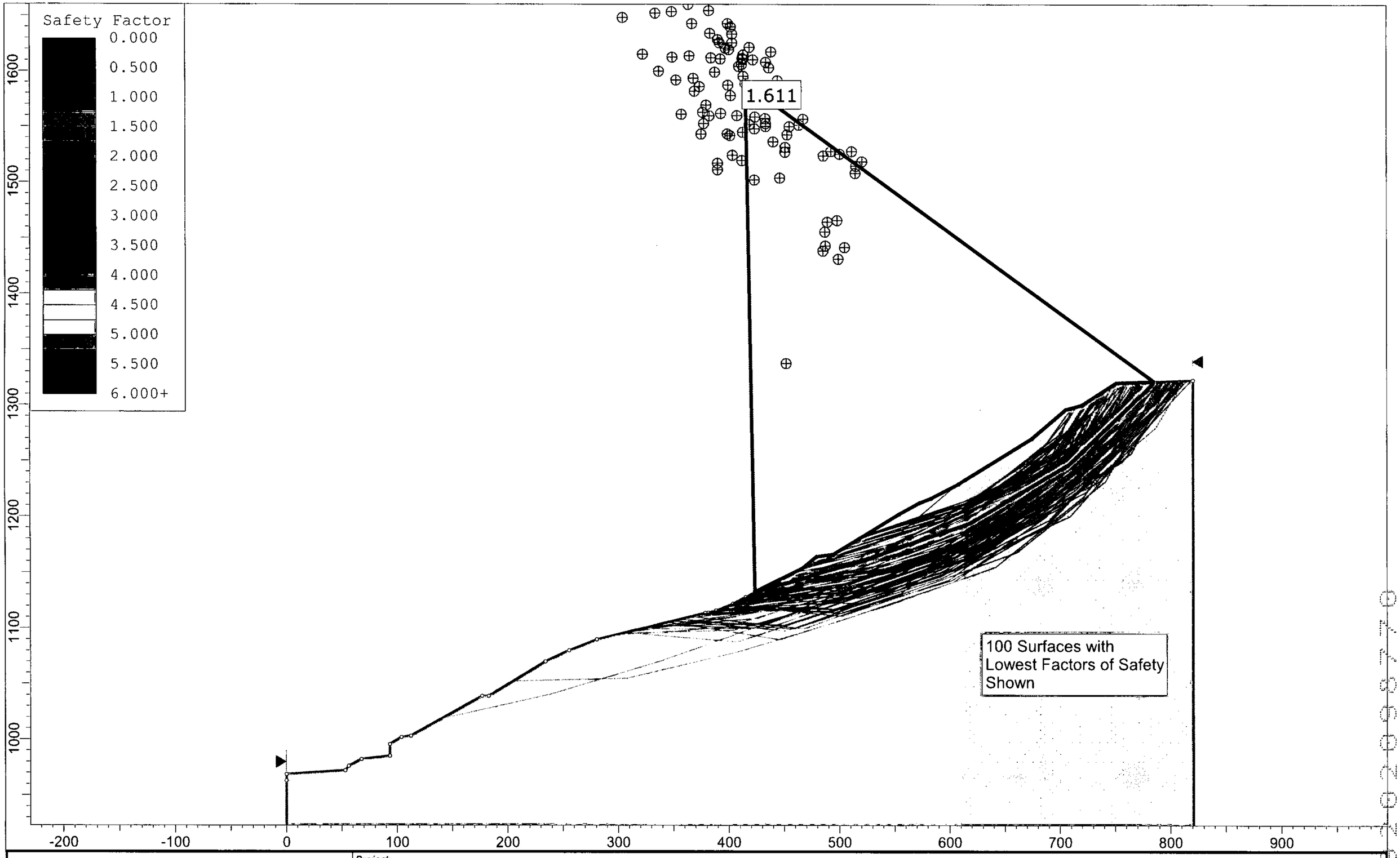
CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

SLIDE 8.027

2980 Hutton Dr., Beverly Hills, CA

Analysis Description: Section A - Static Condition

Drawn By	RK	*Scale*	1:1000	*Company*	CalWest
Date	3/2/2020			*File Name*	Sect A.sli



CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

SLIDEINTERPRET 8.027

Project			
Analysis Description	Section A-Seismic		
Drawn By RK	*Scale* 1:1425	*Company* Calwest	
Date		*File Name* Sect A.sli	

Slide Analysis Information

Project Summary

Slide Modeler Version:	8.027
Compute Time:	00h:00m:05.126s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Maximum
Failure Direction:	Right to Left

Analysis Options

Slices Type: Vertical

Analysis Methods Used

GLE/Morgenstern-Price with interslice force function (Half Sine)

Number of slices:	25
Tolerance:	0.005
Maximum number of iterations:	50
Check malpha < 0.2:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Surface Options

CALWEST GEOTECHNICAL CONSULTING ENGINEERS

Project	2980 Hutton Dr. Beverly Hills, CA		
Analysis Description	Sect A-A Static		
Drawn By	RK	*Company*	Calwest
3/2/2020		*File Name*	Sect A.sli

Surface Type:	Non-Circular Path Search
Number of Surfaces:	5000
Pseudo-Random Surfaces:	Enabled
Convex Surfaces Only:	Disabled
Segment Length:	Auto Defined
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined
Upper Angle [°]:	Auto Defined
Lower Angle [°]:	Auto Defined

Materials

Property	Af	Bedrock-Tt	Bedrock-Tt-Aniso
Color			
Strength Type	Mohr-Coulomb	Mohr-Coulomb	Anisotropic function
Unit Weight [lbs/ft3]	120	130	130
Cohesion [psf]	175	580	
Friction Angle [°]	32	38	
Water Surface	None	None	None
Ru Value	0	0	0

Anisotropic Functions

Name: Tt Ansio

Angle From	Angle To	c	phi
-90	15	580	38
15	20	220	32
20	90	580	38

Global Minimums

Method: gle/morgenstern-price

FS	1.610860
Axis Location:	415.917, 1588.724
Left Slip Surface Endpoint:	423.849, 1132.460
Right Slip Surface Endpoint:	785.687, 1321.311
Resisting Moment:	4.51474e+08 lb-ft
Driving Moment:	2.80268e+08 lb-ft

Resisting Horizontal Force:	876158 lb
Driving Horizontal Force:	543906 lb
Total Slice Area:	10437.5 ft2
Surface Horizontal Width:	361.839 ft
Surface Average Height:	28.8457 ft

Global Minimum Coordinates

Method: gle/morgenstern-price

X	Y
423.849	1132.46
522.622	1160.9
619.76	1194.5
708.521	1246.33
782.974	1317.19
785.687	1321.31

Slice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.61086

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	17.6299	4013.19	16.0618	Af	175	32	181.549	292.45	187.96	0	187.96	240.23	240.23
2	17.6299	11872.2	16.0618	Af	175	32	348.578	561.51	618.542	0	618.542	718.902	718.902
3	17.6299	21244.9	16.0618	Af	175	32	549.948	885.889	1137.66	0	1137.66	1296	1296
4	15.2946	27006.3	16.0618	Bedrock-Tt-Aniso	220	32	792.912	1277.27	1691.98	0	1691.98	1920.27	1920.27
5	15.2946	28131.6	16.0618	Bedrock-Tt-Aniso	220	32	833.213	1342.19	1795.88	0	1795.88	2035.77	2035.77
6	15.2946	37074.7	16.0618	Bedrock-Tt-Aniso	220	32	1057.94	1704.19	2375.2	0	2375.2	2679.79	2679.79
7	15.177	45227.1	19.0812	Bedrock-Tt-Aniso	220	32	1214.31	1956.09	2778.32	0	2778.32	3198.37	3198.37
8	15.177	52860.5	19.0812	Bedrock-Tt-Aniso	220	32	1392.21	2242.66	3236.93	0	3236.93	3718.52	3718.52
9	15.177	59783.8	19.0812	Bedrock-Tt-Aniso	220	32	1551.31	2498.94	3647.07	0	3647.07	4183.68	4183.68
10	15.177	64573.9	19.0812	Bedrock-Tt-Aniso	220	32	1658.18	2671.1	3922.57	0	3922.57	4496.16	4496.16
11	15.177	68224.7	19.0812	Bedrock-Tt-Aniso	220	32	1735.28	2795.29	4121.32	0	4121.32	4721.58	4721.58
12	15.177	74620.1	19.0812	Bedrock-Tt-Aniso	220	32	1872.05	3015.61	4473.91	0	4473.91	5121.48	5121.48
13	6.076	32221.1	19.0812	Bedrock-Tt	580	38	2777.74	4474.55	4984.8	0	4984.8	5945.65	5945.65
14	14.7934	80435.3	30.2825	Bedrock-Tt	580	38	2302.48	3708.98	4004.91	0	4004.91	5349.43	5349.43
15	14.7934	81278.7	30.2825	Bedrock-Tt	580	38	2309.64	3720.51	4019.67	0	4019.67	5368.37	5368.37
16	14.7934	82122.2	30.2825	Bedrock-Tt	580	38	2317.92	3733.85	4036.75	0	4036.75	5390.28	5390.28
17	14.7934	83198.6	30.2825	Bedrock-Tt	580	38	2333.28	3758.58	4068.4	0	4068.4	5430.9	5430.9
18	14.7934	88857.2	30.2825	Bedrock-Tt	580	38	2463.24	3967.93	4336.36	0	4336.36	5774.75	5774.75
19	14.7934	96008.9	30.2825	Bedrock-Tt	580	38	2633.61	4242.38	4687.63	0	4687.63	6225.51	6225.51

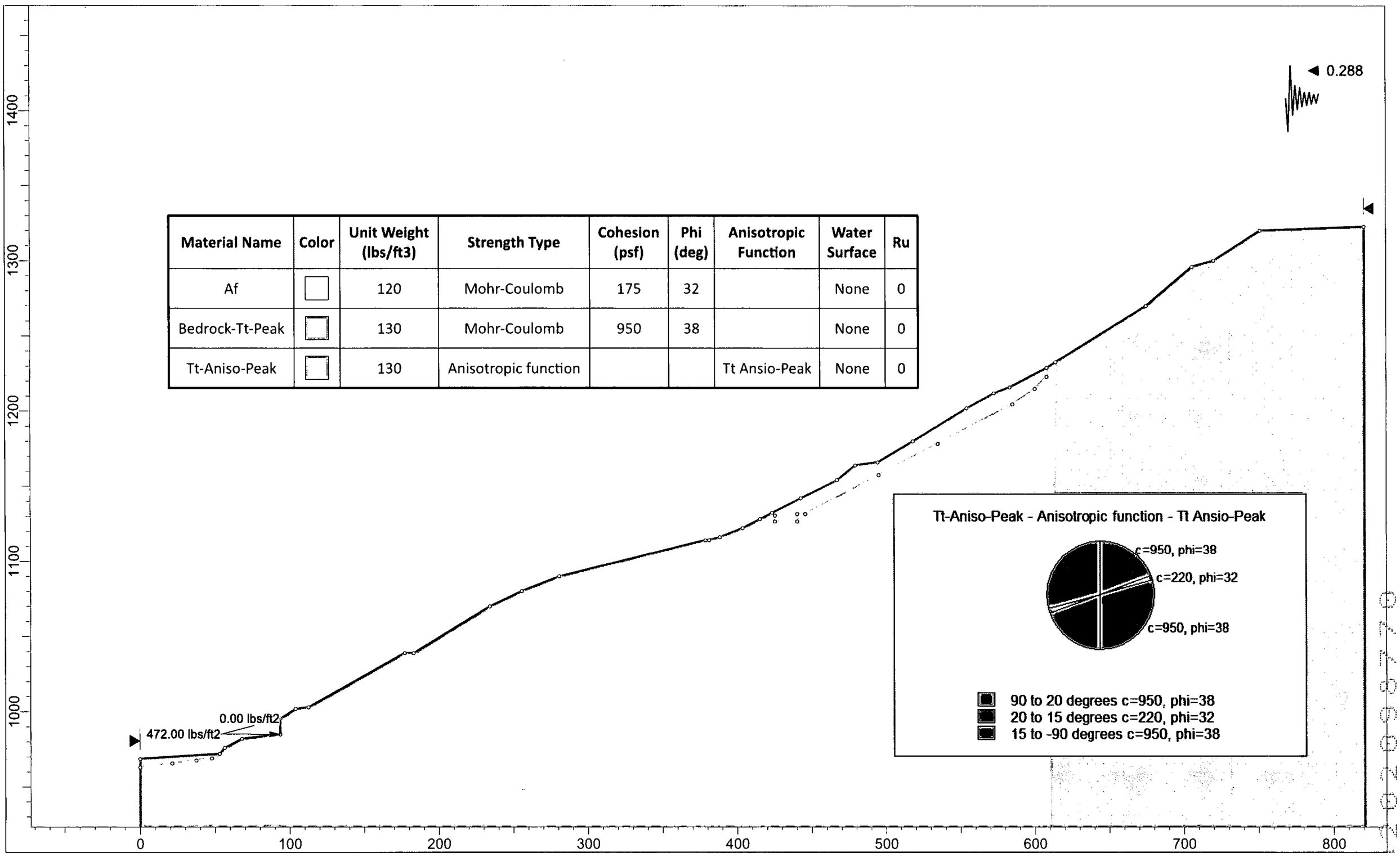
20	14.8906	88097	43.5851	Bedrock-Tt	580	38	1998.6	3219.47	3378.36	0	3378.36	5280.62	5280.62
21	14.8906	75880	43.5851	Bedrock-Tt	580	38	1794.72	2891.04	2958	0	2958	4666.2	4666.2
22	14.8906	66855.2	43.5851	Bedrock-Tt	580	38	1651.11	2659.7	2661.89	0	2661.89	4233.4	4233.4
23	14.8906	47267	43.5851	Bedrock-Tt	580	38	1273.03	2050.67	1882.37	0	1882.37	3094.03	3094.03
24	14.8906	20934	43.5851	Bedrock-Tt	580	38	717.535	1155.85	737.053	0	737.053	1420	1420
25	2.71357	707.75	56.6065	Bedrock-Tt	580	38	283.864	457.265	-157.094	0	-157.094	273.515	273.515

Interslice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.61086

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	423.849	1132.46	0	0	0
2	441.479	1137.54	2243.98	221.69	5.64213
3	459.109	1142.61	5244.62	1024.15	11.0495
4	476.738	1147.69	9157.49	2629.96	16.0237
5	492.033	1152.09	13824	4998.29	19.8783
6	507.328	1156.5	18648.9	8011.08	23.2471
7	522.622	1160.9	24357	11935.3	26.1056
8	537.799	1166.15	28185.4	15261.5	28.4341
9	552.976	1171.4	32303.8	18850.4	30.2651
10	568.153	1176.65	36681.7	22576.9	31.6115
11	583.33	1181.9	41233.8	26255.9	32.4872
12	598.507	1187.15	45911.7	29704.4	32.9025
13	613.684	1192.4	50812.5	32825.2	32.8627
14	619.76	1194.5	57199.2	36748.5	32.7193
15	634.554	1203.14	56636.2	35476.9	32.063
16	649.347	1211.78	56051.4	33631.8	30.9645
17	664.141	1220.42	55441.6	31255	29.412
18	678.934	1229.05	54785.3	28389.2	27.3927
19	693.727	1237.69	53735.2	24938.3	24.8958
20	708.521	1246.33	52168.9	20990.5	21.9177
21	723.411	1260.5	34023.9	11347.7	18.4446
22	738.302	1274.68	18803.3	4872.25	14.5268
23	753.193	1288.85	5642.48	1017.84	10.2255
24	768.083	1303.02	-2095.42	-206.713	5.63399
25	782.974	1317.19	-1865.8	-28.4801	0.874511
26	785.687	1321.31	0	0	0

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function	Water Surface	Ru
Af		120	Mohr-Coulomb	175	32		None	0
Bedrock-Tt-Peak		130	Mohr-Coulomb	950	38		None	0
Tt-Aniso-Peak		130	Anisotropic function			Tt Ansio-Peak	None	0



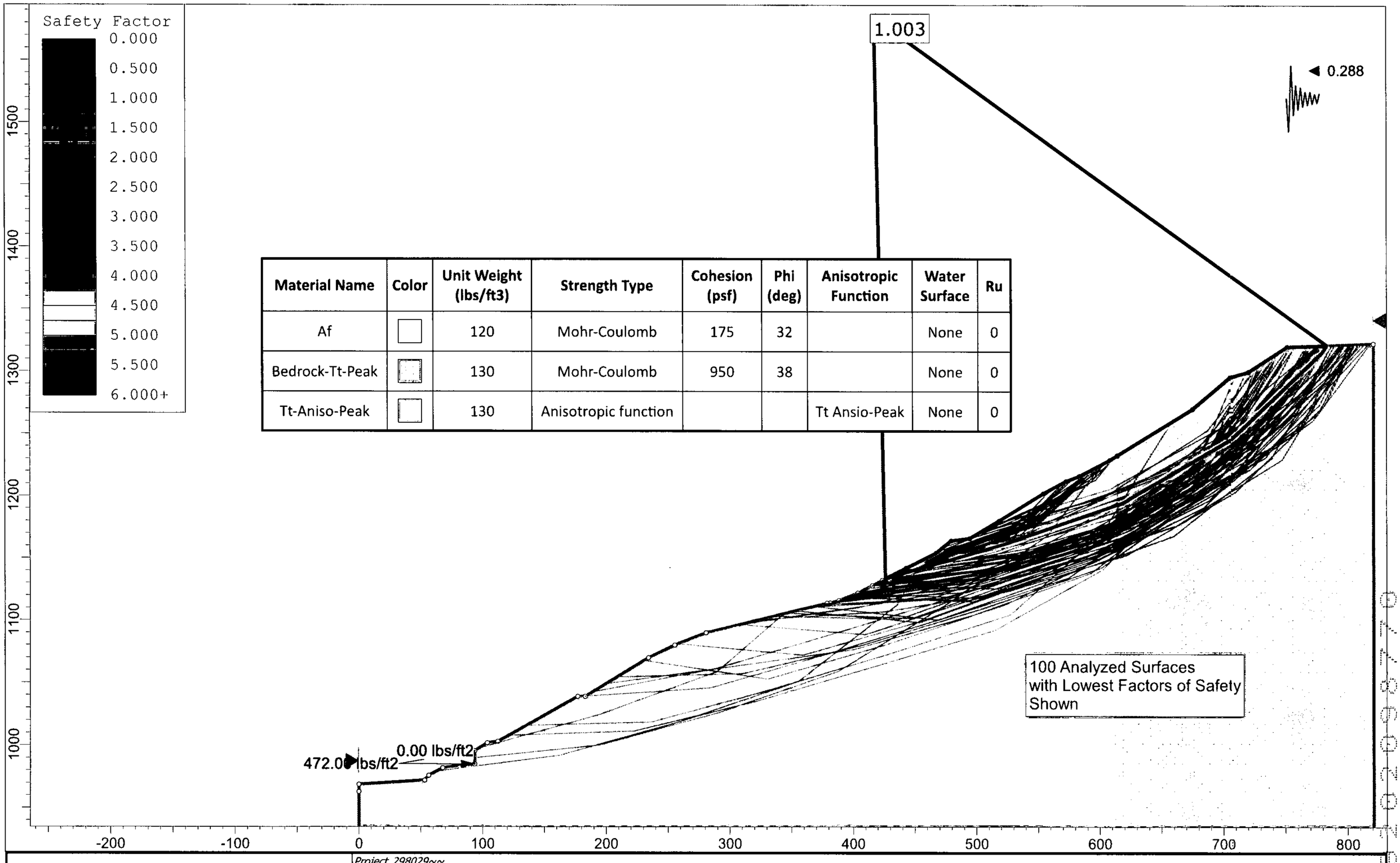
CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

SLIDE 8.027

2980 Hutton Dr., Beverly Hills, CA

Analysis Description Section A - Seismic Condition

Drawn By	RK	*Scale*	1:1057	*Company*	CalWest
Date	3/2/2020			*File Name*	Sect A Seismic.sli



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Anisotropic Function	Water Surface	Ru
Af		120	Mohr-Coulomb	175	32		None	0
Bedrock-Tt-Peak		130	Mohr-Coulomb	950	38		None	0
Tt-Aniso-Peak		130	Anisotropic function			Tt Ansio-Peak	None	0

CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

SLIDEINTERPRET 8.027

Project 298029~~			
Analysis Description	Section A-Seismic		
Drawn By RK	*Scale* 1:1275	*Company*	Calwest
Date		*File Name*	Sect A Seismic.sli

Slide Analysis Information

Project Summary

Slide Modeler Version:	8.027
Compute Time:	00h:00m:04.875s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Maximum
Failure Direction:	Right to Left

Analysis Options

Slices Type: Vertical

Analysis Methods Used

GLE/Morgenstern-Price with interslice force function (Half Sine)

Number of slices:	25
Tolerance:	0.005
Maximum number of iterations:	50
Check malpha < 0.2:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Surface Options

CALWEST GEOTECHNICAL CONSULTING ENGINEERS	*Project*	2980 Hutton Dr. Beverly Hills, CA	
	Analysis Description	Sect A-A Seismic	
	Drawn By	RK	*Company* Calwest
	3/2/2020		*File Name* Sect A Seismic.sli

Surface Type:	Non-Circular Path Search
Number of Surfaces:	5000
Pseudo-Random Surfaces:	Enabled
Convex Surfaces Only:	Disabled
Segment Length:	Auto Defined
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined
Upper Angle [°]:	Auto Defined
Lower Angle [°]:	Auto Defined

Seismic Loading

Advanced seismic analysis: No
Staged pseudostatic analysis: No

Seismic Load Coefficient (Horizontal): 0.288

Loading

1 Distributed Load present

Distributed Load 1

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	472
Orientation:	Normal to boundary

Materials

Property	Af	Bedrock-Tt-Peak	Tt-Aniso-Peak
Color			
Strength Type	Mohr-Coulomb	Mohr-Coulomb	Anisotropic function
Unit Weight [lbs/ft3]	120	130	130
Cohesion [psf]	175	950	
Friction Angle [°]	32	38	
Water Surface	None	None	None
Ru Value	0	0	0

Anisotropic Functions

Name: Tt Ansio-Peak

Angle From	Angle To	c	phi
-90	15	950	38
15	20	220	32
20	90	950	38

Global Minimums

Method: gle/morgenstern-price

FS	1.003080
Axis Location:	417.403, 1584.676
Left Slip Surface Endpoint:	426.322, 1133.705
Right Slip Surface Endpoint:	783.531, 1321.229
Resisting Moment:	4.08902e+08 lb-ft
Driving Moment:	4.07647e+08 lb-ft
Resisting Horizontal Force:	805097 lb
Driving Horizontal Force:	802627 lb
Total Slice Area:	10171.9 ft2
Surface Horizontal Width:	357.209 ft
Surface Average Height:	28.476 ft

Global Minimum Coordinates

Method: gle/morgenstern-price

X	Y
426.322	1133.7
523.533	1161.69
619.134	1194.76
706.491	1245.77
779.766	1315.52
783.531	1321.23

Valid/Invalid Surfaces

Method: gle/morgenstern-price

Number of Valid Surfaces: 4834
Number of Invalid Surfaces: 166

CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

Project	2980 Hutton Dr. Beverly Hills, CA		
Analysis Description	Sect A-A Seismic		
Drawn By	RK	*Company*	Calwest
3/2/2020		*File Name*	Sect A Seismic.sli

Error Codes:

Error Code -106 reported for 15 surfaces
Error Code -111 reported for 151 surfaces

Error Codes

The following errors were encountered during the computation:

-106 = Average slice width is less than 0.0001 * (maximum horizontal extent of soil region). This limitation is imposed to avoid numerical errors which may result from too many slices, or too small a slip region.
-111 = safety factor equation did not converge

Slice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.00308

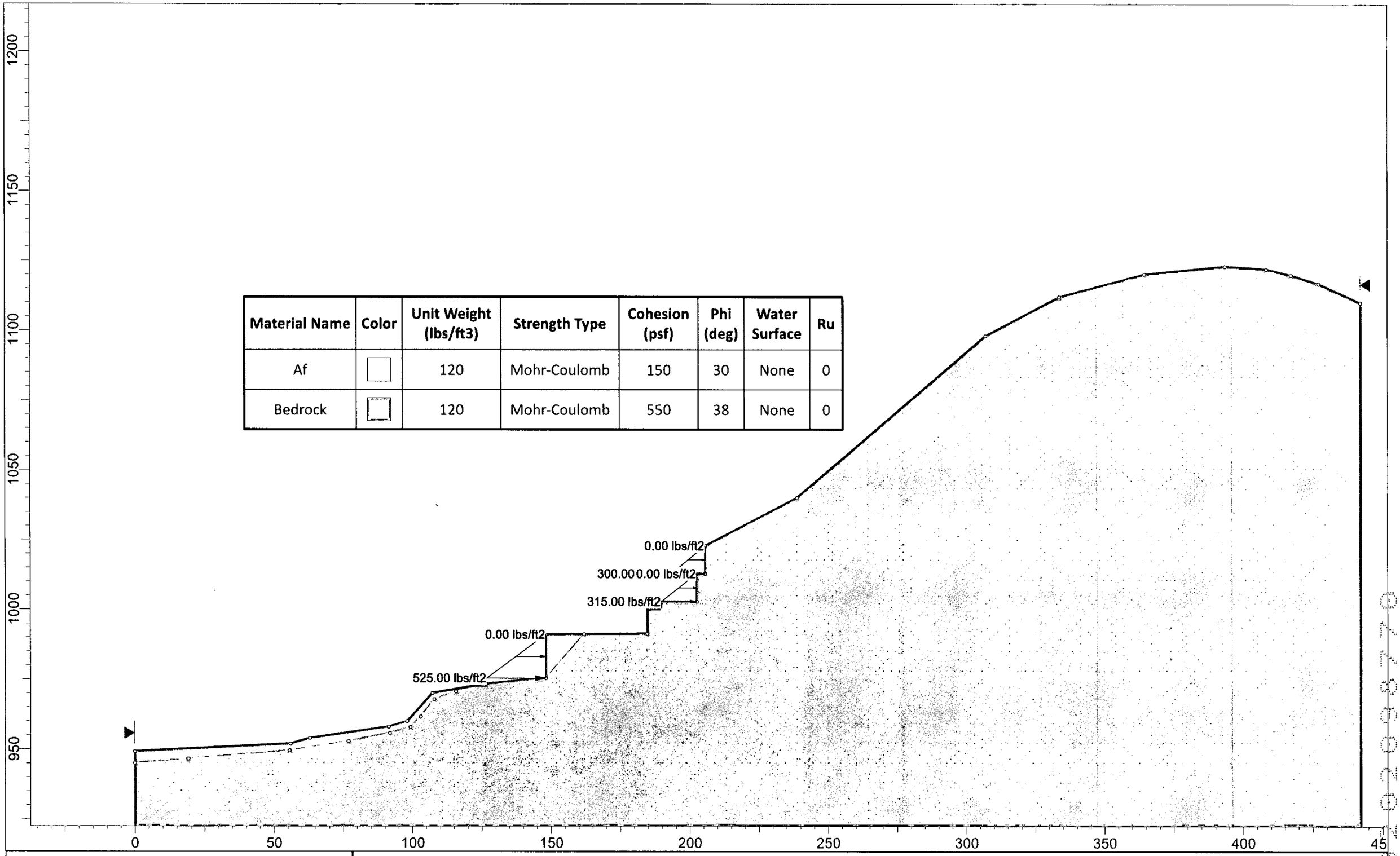
Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	17.5522	3977.2	16.0618	Af	175	32	289.065	289.955	183.967	0	183.967	267.193	267.193
2	17.5522	11716.1	16.0618	Af	175	32	569.193	570.946	633.647	0	633.647	797.525	797.525
3	17.5522	21929	16.0618	Af	175	32	927.62	930.477	1209.02	0	1209.02	1476.09	1476.09
4	14.8514	25005.6	16.0618	Tt-Aniso-Peak	220	32	1266.07	1269.97	1680.3	0	1680.3	2044.81	2044.81
5	14.8514	27050.7	16.0618	Tt-Aniso-Peak	220	32	1389.99	1394.27	1879.23	0	1879.23	2279.42	2279.42
6	14.8514	35635	16.0618	Tt-Aniso-Peak	220	32	1739.09	1744.45	2439.63	0	2439.63	2940.33	2940.33
7	15.0264	44257.8	19.0812	Tt-Aniso-Peak	220	32	1841.23	1846.9	2603.59	0	2603.59	3240.5	3240.5
8	15.0264	51739.9	19.0812	Tt-Aniso-Peak	220	32	2057.45	2063.79	2950.67	0	2950.67	3662.38	3662.38
9	15.0264	58464.7	19.0812	Tt-Aniso-Peak	220	32	2239.36	2246.26	3242.69	0	3242.69	4017.31	4017.31
10	15.0264	63067.3	19.0812	Tt-Aniso-Peak	220	32	2350.15	2357.39	3420.54	0	3420.54	4233.49	4233.49
11	15.0264	66696	19.0812	Tt-Aniso-Peak	220	32	2429.24	2436.72	3547.5	0	3547.5	4387.81	4387.81
12	15.0264	72981.2	19.0812	Tt-Aniso-Peak	220	32	2589.24	2597.21	3804.33	0	3804.33	4699.98	4699.98
13	5.44344	28468.7	19.0812	Bedrock-Tt-Peak	950	38	5572.24	5589.4	5938.17	0	5938.17	7865.68	7865.68
14	14.5594	77931.7	30.2825	Bedrock-Tt-Peak	950	38	3529.02	3539.89	3314.91	0	3314.91	5375.66	5375.66
15	14.5594	78748.7	30.2825	Bedrock-Tt-Peak	950	38	3511.92	3522.74	3292.95	0	3292.95	5343.71	5343.71
16	14.5594	79565.6	30.2825	Bedrock-Tt-Peak	950	38	3495.27	3506.04	3271.58	0	3271.58	5312.62	5312.62
17	14.5594	80467.3	30.2825	Bedrock-Tt-Peak	950	38	3483.76	3494.49	3256.8	0	3256.8	5291.11	5291.11
18	14.5594	85431.5	30.2825	Bedrock-Tt-Peak	950	38	3597.47	3608.55	3402.78	0	3402.78	5503.5	5503.5
19	14.5594	92612.7	30.2825	Bedrock-Tt-Peak	950	38	3798.6	3810.3	3661.01	0	3661.01	5879.18	5879.18
20	14.655	86641.7	43.5851	Bedrock-Tt-Peak	950	38	2624.53	2632.61	2153.65	0	2153.65	4651.65	4651.65
21	14.655	73461.4	43.5851	Bedrock-Tt-Peak	950	38	2466.84	2474.44	1951.19	0	1951.19	4299.11	4299.11
22	14.655	64842.3	43.5851	Bedrock-Tt-Peak	950	38	2374.59	2381.9	1832.75	0	1832.75	4092.86	4092.86
23	14.655	48832.6	43.5851	Bedrock-Tt-Peak	950	38	2040.26	2046.54	1403.5	0	1403.5	3345.4	3345.4
24	14.655	23361.2	43.5851	Bedrock-Tt-Peak	950	38	1324.38	1328.46	484.409	0	484.409	1744.95	1744.95
25	3.76547	1362.81	56.6065	Bedrock-Tt-Peak	950	38	581.428	583.219	-469.458	0	-469.458	412.541	412.541

Interslice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.00308

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	426.322	1133.7	0	0	0
2	443.874	1138.76	3012.33	717.895	13.4046
3	461.426	1143.81	6453.54	3039.43	25.2191
4	478.979	1148.87	10354	7169.32	34.6995
5	493.83	1153.14	14821.2	12852	40.9297
6	508.681	1157.42	19694.2	20227.5	45.7653
7	523.533	1161.69	24897.4	29118	49.4678
8	538.559	1166.89	26359.9	34092.7	52.2894
9	553.585	1172.09	27121.2	37824.2	54.3582
10	568.612	1177.29	27168.8	39981.5	55.8025
11	583.638	1182.48	26635.7	40563.2	56.7092
12	598.665	1187.68	25589.2	39602.6	57.1315
13	613.691	1192.88	23808.3	36792.7	57.0934
14	619.134	1194.76	34842	53583.4	56.9665
15	633.694	1203.26	35734.1	53623.9	56.3212
16	648.253	1211.77	36327.8	52268.8	55.2
17	662.813	1220.27	36625	49569	53.5405
18	677.372	1228.77	36620.1	45623.9	51.2477
19	691.931	1237.27	35604.3	39802.8	48.1868
20	706.491	1245.77	33261.1	32318.8	44.1768
21	721.146	1259.72	16834.5	13609	38.9521
22	735.801	1273.67	4710.64	2975.76	32.281
23	750.456	1287.62	-4634.48	-2060.24	23.9674
24	765.111	1301.57	-8294.36	-2073.65	14.0366
25	779.766	1315.52	-2317.9	-118.956	2.93788
26	783.531	1321.23	0	0	0

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
Af		120	Mohr-Coulomb	150	30	None	0
Bedrock		120	Mohr-Coulomb	550	38	None	0



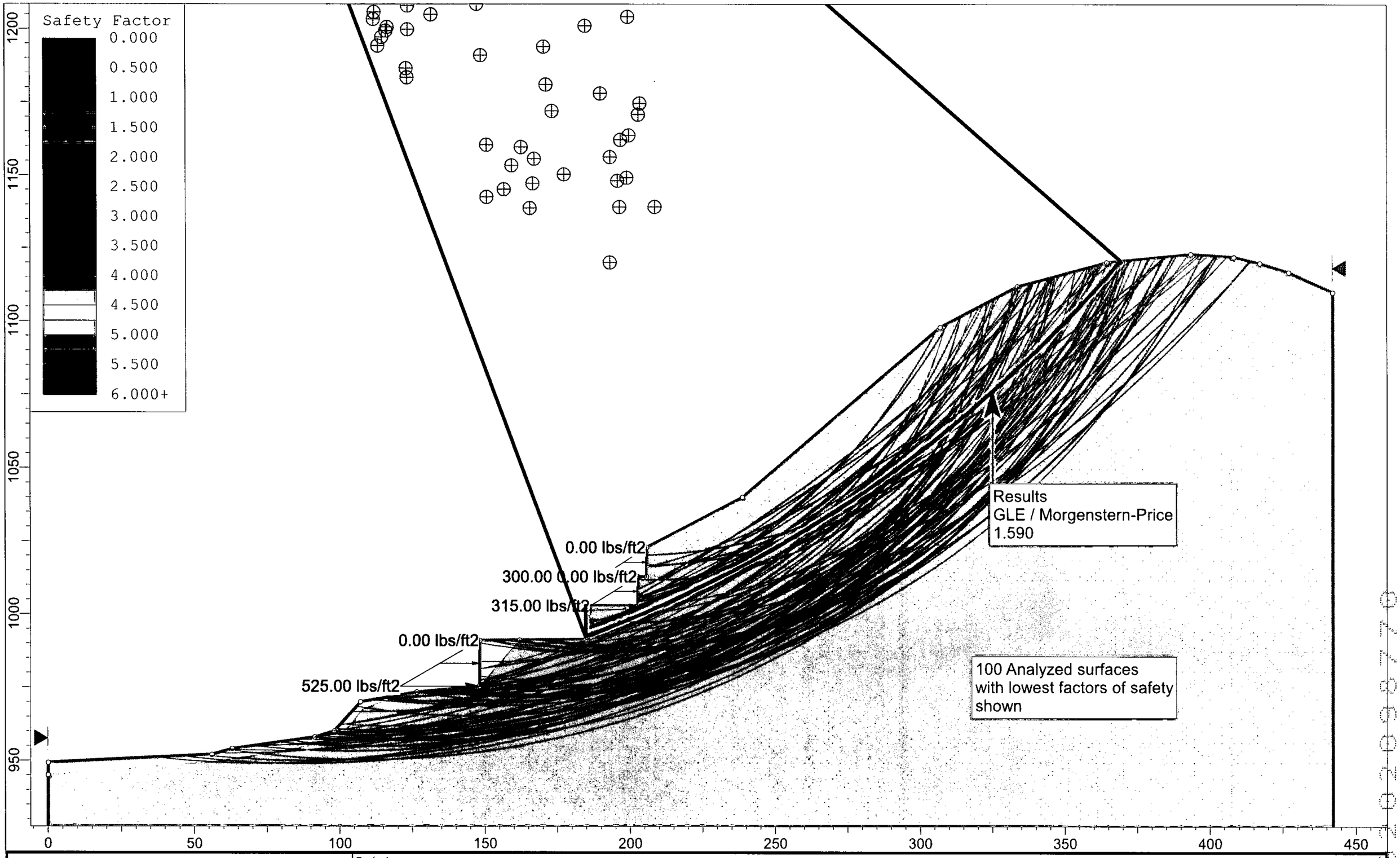
CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

SLIDE 8.027

2980 Hutton Dr., Beverly Hills, CA

Analysis Description: Section C - Static Condition

Drawn By	RK	*Scale*	1:569	*Company*	CalWest
Date	3/2/2020			*File Name*	Sect C Circ.sli



CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

SLIDEINTERPRET 8.027

Project	2980 Hutton Dr.		
Analysis Description	Section C-Static		
Drawn By	RK	*Scale* 1:543	*Company* Calwest
Date			*File Name* Sect C Circ.sli

Slide Analysis Information

Project Summary

Slide Modeler Version:	8.027
Compute Time:	00h:00m:01.72s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Right to Left

Analysis Options

Slices Type:	Vertical

Analysis Methods Used

GLE/Morgenstern-Price with interslice force function (Half Sine)

Number of slices:	25
Tolerance:	0.005
Maximum number of iterations:	50
Check malpha < 0.2:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Random Numbers

CALWEST GEOTECHNICAL CONSULTING ENGINEERS	*Project*	2980 Hutton Dr. Beverly Hills, CA	
	Analysis Description	Sect C-C Static	
	Drawn By	RK	*Company* Calwest
	3/2/2020		*File Name* Sect C Circ.sli

Pseudo-random Seed: 10116
Random Number Generation Method: Park and Miller v.3

Surface Options

Surface Type:	Circular
Search Method:	Slope Search
Number of Surfaces:	5000
Upper Angle [°]:	Not Defined
Lower Angle [°]:	Not Defined
Composite Surfaces:	Enabled
Reverse Curvature:	Create Tension Crack
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

Advanced seismic analysis: No
Staged pseudostatic analysis: No

Loading

3 Distributed Loads present

Distributed Load 1

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	525
Orientation:	Horizontal

Distributed Load 2

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	300
Orientation:	Horizontal

Distributed Load 3

Distribution: Triangular

Magnitude 1 [psf]: 0
Magnitude 2 [psf]: 315
Orientation: Horizontal

Materials

Property	Af	Bedrock
Color		
Strength Type	Mohr-Coulomb	Mohr-Coulomb
Unit Weight [lbs/ft3]	120	120
Cohesion [psf]	150	550
Friction Angle [°]	30	38
Water Surface	None	None
Ru Value	0	0

Global Minimums

Method: gle/morgenstern-price

FS	**1.589950**
Center:	24.525, 1419.693
Radius:	456.588
Left Slip Surface Endpoint:	184.743, 992.138
Right Slip Surface Endpoint:	369.583, 1120.681
Left Slope Intercept:	184.743 1002.780
Right Slope Intercept:	369.583 1120.681
Resisting Moment:	2.18606e+08 lb-ft
Driving Moment:	1.37492e+08 lb-ft
Resisting Horizontal Force:	394110 lb
Driving Horizontal Force:	247876 lb
Total Slice Area:	4516.19 ft2
Surface Horizontal Width:	184.839 ft
Surface Average Height:	24.4331 ft

Slice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.58995

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	7.39357	8179.87	21.0396	Bedrock	550	38	763.277	1213.57	849.335	0	849.335	1142.94	1142.94

CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

Project	2980 Hutton Dr. Beverly Hills, CA
Analysis Description	Sect C-C Static
Drawn By	RK
Company	Calwest
3/2/2020	
File Name	Sect C Circ.sli

2	7.39357	5590.6	22.0371	Bedrock	550	38	640.115	1017.75	598.694	0	598.694	857.799	857.799
3	7.39357	9609.55	23.0417	Bedrock	550	38	924.978	1470.67	1178.4	0	1178.4	1571.83	1571.83
4	7.39357	20070.4	24.0538	Bedrock	550	38	1486.65	2363.7	2321.43	0	2321.43	2985	2985
5	7.39357	20478.2	25.074	Bedrock	550	38	1510.1	2400.98	2369.14	0	2369.14	3075.69	3075.69
6	7.39357	20742.9	26.1028	Bedrock	550	38	1516.74	2411.54	2382.66	0	2382.66	3125.79	3125.79
7	7.39357	20860.9	27.1407	Bedrock	550	38	1507.07	2396.17	2362.99	0	2362.99	3135.55	3135.55
8	7.39357	21350.5	28.1883	Bedrock	550	38	1509.09	2399.38	2367.1	0	2367.1	3175.87	3175.87
9	7.39357	23225.1	29.2463	Bedrock	550	38	1573.87	2502.37	2498.91	0	2498.91	3380.18	3380.18
10	7.39357	25040.3	30.3154	Bedrock	550	38	1626.76	2586.46	2606.56	0	2606.56	3557.74	3557.74
11	7.39357	26690.3	31.3962	Bedrock	550	38	1664.53	2646.52	2683.43	0	2683.43	3699.31	3699.31
12	7.39357	28169.4	32.4897	Bedrock	550	38	1689.4	2686.06	2734.03	0	2734.03	3809.87	3809.87
13	7.39357	29471.3	33.5966	Bedrock	550	38	1703.62	2708.67	2762.98	0	2762.98	3894.72	3894.72
14	7.39357	30589.4	34.718	Bedrock	550	38	1709.31	2717.71	2774.54	0	2774.54	3958.92	3958.92
15	7.39357	31516	35.8547	Bedrock	550	38	1708.31	2716.13	2772.52	0	2772.52	4007.07	4007.07
16	7.39357	32242.9	37.008	Bedrock	550	38	1702.17	2706.37	2760.02	0	2760.02	4043.07	4043.07
17	7.39357	32539.4	38.1791	Bedrock	550	38	1682.59	2675.23	2720.17	0	2720.17	4043.24	4043.24
18	7.39357	31019.1	39.3693	Bedrock	550	38	1592.48	2531.96	2536.8	0	2536.8	3843.45	3843.45
19	7.39357	28952.2	40.5802	Bedrock	550	38	1487.17	2364.53	2322.49	0	2322.49	3596.26	3596.26
20	7.39357	26642.4	41.8134	Bedrock	550	38	1378.98	2192.51	2102.32	0	2102.32	3335.85	3335.85
21	7.39357	23483.1	43.0709	Bedrock	550	38	1241.67	1974.2	1822.9	0	1822.9	2983.66	2983.66
22	7.39357	18977.5	44.3548	Bedrock	550	38	1052.5	1673.42	1437.91	0	1437.91	2466.96	2466.96
23	7.39357	14158.7	45.6674	Bedrock	550	38	850.111	1351.63	1026.04	0	1026.04	1896.19	1896.19
24	7.39357	9027.98	47.0116	Bedrock	550	38	629.89	1001.49	577.885	0	577.885	1253.63	1253.63
25	7.39357	3314.49	48.3906	Bedrock	550	38	374.501	595.438	58.1579	0	58.1579	479.829	479.829

Interslice Data

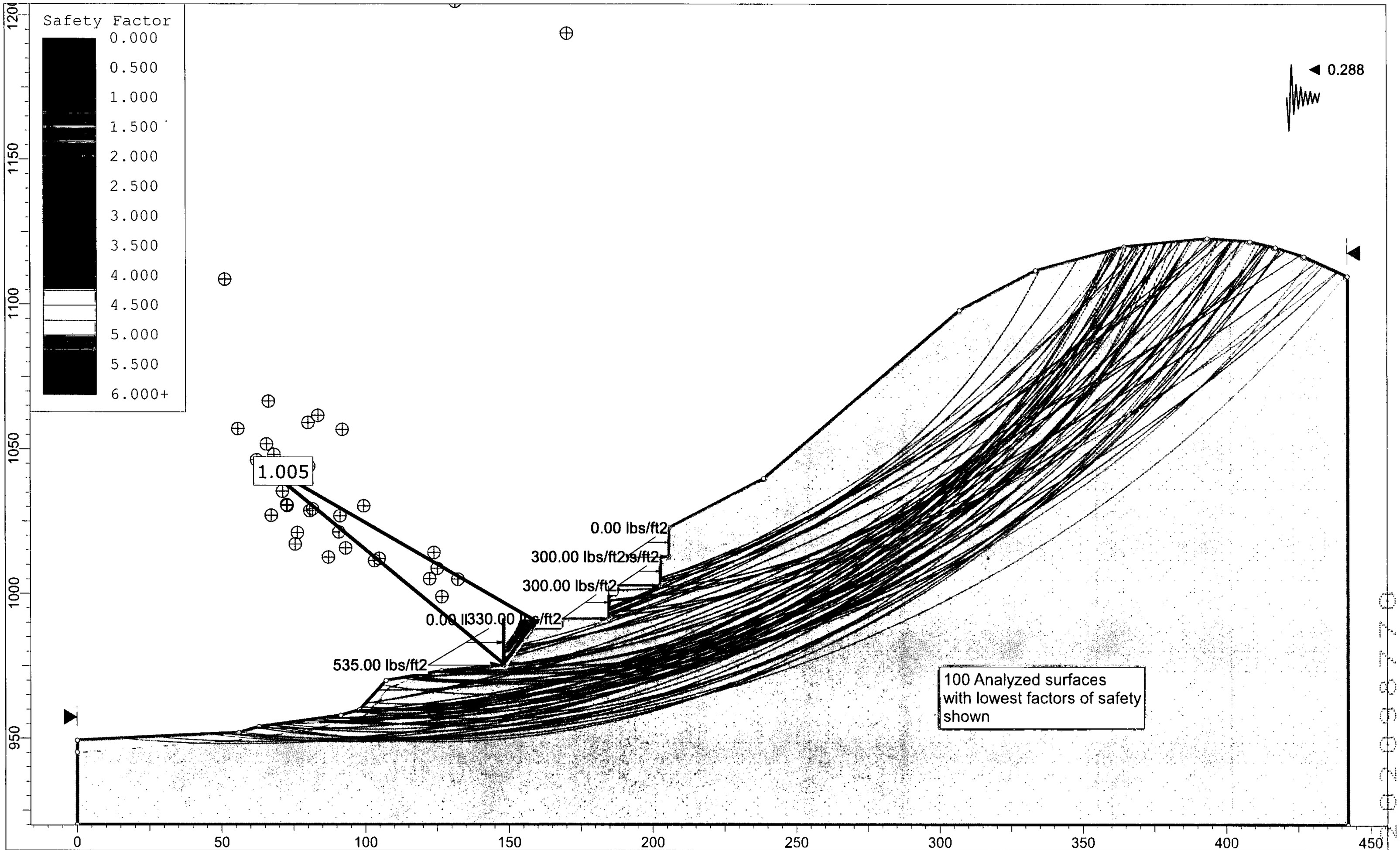
Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.58995

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	184.743	992.138	0	0	0
2	192.137	994.982	3222.56	269.282	4.77663
3	199.531	997.975	6159.1	1021.21	9.41428
4	206.924	1001.12	12364.9	3034.76	13.7897
5	214.318	1004.42	15685.1	5037.95	17.8067
6	221.711	1007.88	18644.1	7306.34	21.3995
7	229.105	1011.5	21216.4	9683.14	24.5319
8	236.498	1015.29	23392.6	12017.1	27.1902
9	243.892	1019.25	25160.2	14163.4	29.3764
10	251.286	1023.39	26440.3	15950.5	31.1011
11	258.679	1027.72	27188.2	17239.6	32.3781
12	266.073	1032.23	27374.8	17927.9	33.221

CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

Project	2980 Hutton Dr. Beverly Hills, CA
Analysis Description	Sect C-C Static
Drawn By RK	*Company* Calwest
3/2/2020	*File Name* Sect C Circ.sli

13	273.466	1036.94	26981	17953.1	33.6397
14	280.86	1041.85	25994.2	17296.6	33.6399
15	288.254	1046.97	24406.3	15983.9	33.2211
16	295.647	1052.32	22211	14083.7	32.3782
17	303.041	1057.89	19402.5	11704.8	31.101
18	310.434	1063.7	16016.7	9016.2	29.3762
19	317.828	1069.77	12390.2	6365.01	27.1902
20	325.221	1076.1	8667.9	3956.02	24.5319
21	332.615	1082.72	4949.74	1939.73	21.3995
22	340.009	1089.63	1522.16	488.906	17.8066
23	347.402	1096.86	-1097.92	-269.467	13.7898
24	354.796	1104.42	-2583.42	-428.344	9.41428
25	362.189	1112.36	-2514.35	-210.103	4.77663
26	369.583	1120.68	0	0	0



CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

Project	2980 Hutton Dr.		
Analysis Description	Section C-Seismic		
Drawn By RK	*Scale* 1:549	*Company* Calwest	
Date		*File Name* Sect C Circ Seis.sli	

SLIDEINTERPRET 8.027

Slide Analysis Information

Project Summary

Slide Modeler Version:	8.027
Compute Time:	00h:00m:01.261s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Right to Left

Analysis Options

Slices Type: Vertical

Analysis Methods Used

GLE/Morgenstern-Price with interslice force function (Half Sine)

Number of slices:	25
Tolerance:	0.005
Maximum number of iterations:	50
Check malpha < 0.2:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Surface Options

Surface Type:	Circular
Search Method:	Slope Search
Number of Surfaces:	5000
Upper Angle [°]:	Not Defined
Lower Angle [°]:	Not Defined
Composite Surfaces:	Enabled
Reverse Curvature:	Create Tension Crack
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

Seismic Load Coefficient (Horizontal): 0.288

Loading

4 Distributed Loads present

Distributed Load 1

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	535
Orientation:	Horizontal

Distributed Load 2

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	330
Orientation:	Horizontal

Distributed Load 3

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	300
Orientation:	Horizontal

Distributed Load 4

Distribution:	Triangular
Magnitude 1 [psf]:	0
Magnitude 2 [psf]:	300
Orientation:	Horizontal

Materials

Property	Af-Peak	Bedrock Tt-Peak
Color		
Strength Type	Mohr-Coulomb	Mohr-Coulomb
Unit Weight [lbs/ft3]	120	120
Cohesion [psf]	175	950
Friction Angle [°]	32	38
Water Surface	None	None
Ru Value	0	0

Global Minimums

Method: gle/morgenstern-price

FS	**1.004850**
Center:	62.401, 1046.209
Radius:	110.921
Left Slip Surface Endpoint:	148.157, 975.857
Right Slip Surface Endpoint:	158.634, 991.047
Left Slope Intercept:	148.157 990.954
Right Slope Intercept:	158.634 991.047
Resisting Moment:	822526 lb-ft
Driving Moment:	818560 lb-ft
Resisting Horizontal Force:	4387.35 lb
Driving Horizontal Force:	4366.2 lb
Total Slice Area:	83.8096 ft2
Surface Horizontal Width:	10.4769 ft
Surface Average Height:	7.99948 ft

Slice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.00485

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base	Base Material	Base Cohesion	Base Friction Angle	Shear Stress	Shear Strength	Base Normal Stress	Pore Pressure	Effective Normal Stress	Base Vertical Stress	Effective Vertical Stress

			[degrees]		[psf]	[degrees]	[psf]	[psf]	[psf]	[psf]	[psf]	[psf]	[psf]
1	0.419075	746.402	50.8062	Af-Peak	175	32	1051.23	1056.33	1410.43	0	1410.43	2699.65	2699.65
2	0.419075	720.584	51.15	Af-Peak	175	32	931.419	935.936	1217.75	0	1217.75	2374.14	2374.14
3	0.419075	694.444	51.4964	Af-Peak	175	32	822.294	826.282	1042.27	0	1042.27	2075.9	2075.9
4	0.419075	667.973	51.8454	Af-Peak	175	32	725.799	729.319	887.096	0	887.096	1810.93	1810.93
5	0.419075	641.165	52.1972	Af-Peak	175	32	642.797	645.915	753.622	0	753.622	1582.23	1582.23
6	0.419075	614.011	52.5518	Af-Peak	175	32	573.181	575.961	641.671	0	641.671	1390.06	1390.06
7	0.419075	586.503	52.9093	Af-Peak	175	32	516.035	518.538	549.776	0	549.776	1232.33	1232.33
8	0.419075	558.631	53.2698	Af-Peak	175	32	469.861	472.14	475.523	0	475.523	1105.2	1105.2
9	0.419075	530.388	53.6333	Af-Peak	175	32	432.806	434.905	415.935	0	415.935	1003.69	1003.69
10	0.419075	501.762	53.9999	Af-Peak	175	32	402.901	404.855	367.846	0	367.846	922.39	922.39
11	0.419075	472.744	54.3699	Af-Peak	175	32	378.269	380.104	328.234	0	328.234	856.009	856.009
12	0.419075	443.323	54.7432	Af-Peak	175	32	357.284	359.017	294.488	0	294.488	799.906	799.906
13	0.419075	413.488	55.12	Af-Peak	175	32	338.677	340.32	264.567	0	264.567	750.41	750.41
14	0.419075	383.228	55.5003	Af-Peak	175	32	321.571	323.131	237.059	0	237.059	704.954	704.954
15	0.419075	352.529	55.8844	Af-Peak	175	32	305.452	306.933	211.138	0	211.138	662.023	662.023
16	0.419075	321.378	56.2723	Af-Peak	175	32	290.076	291.483	186.413	0	186.413	620.908	620.908
17	0.419075	289.762	56.6642	Af-Peak	175	32	275.344	276.679	162.72	0	162.72	581.32	581.32
18	0.419075	257.667	57.0602	Af-Peak	175	32	261.133	262.4	139.868	0	139.868	542.905	542.905
19	0.419075	225.076	57.4605	Af-Peak	175	32	247.151	248.35	117.384	0	117.384	504.743	504.743
20	0.419075	191.973	57.8652	Af-Peak	175	32	232.79	233.919	94.2901	0	94.2901	464.889	464.889
21	0.419075	158.34	58.2745	Af-Peak	175	32	217.041	218.094	68.9651	0	68.9651	420.036	420.036
22	0.419075	124.16	58.6886	Af-Peak	175	32	198.467	199.429	39.0948	0	39.0948	365.369	365.369
23	0.419075	89.4127	59.1077	Af-Peak	175	32	175.244	176.094	1.74999	0	1.74999	294.65	294.65
24	0.419075	54.0765	59.532	Af-Peak	175	32	145.293	145.998	-46.4133	0	-46.4133	200.56	200.56
25	0.419075	18.1293	59.9616	Af-Peak	175	32	106.476	106.992	-108.835	0	-108.835	75.3018	75.3018

Interslice Data

Global Minimum Query (gle/morgenstern-price) - Safety Factor: 1.00485

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	148.157	975.857	3904.74	0	0
2	148.576	976.371	3404.14	383.987	6.43576
3	148.995	976.891	2952.21	660.766	12.6161
4	149.414	977.418	2546.75	843.769	18.3307
5	149.833	977.951	2184.45	947.129	23.4405
6	150.252	978.491	1861.26	984.62	27.8792
7	150.671	979.038	1572.82	969.002	31.6369
8	151.09	979.593	1314.78	911.753	34.7399
9	151.509	980.154	1083.17	823.092	37.2309
10	151.928	980.723	874.545	712.181	39.1575

CALWEST GEOTECHNICAL
CONSULTING ENGINEERS

Project	2980 Hutton Dr. Beverly Hills, CA		
Analysis Description	Sect C-C Seismic		
Drawn By	RK	*Company*	Ca west
3/2/2020		*File Name*	Sect C Circ Seis.sli

11	152.347	981.3	686.211	587.363	40.5619
12	152.767	981.885	516.196	456.347	41.4785
13	153.186	982.478	363.225	326.258	41.931
14	153.605	983.079	226.603	203.54	41.9309
15	154.024	983.689	106.048	93.753	41.4787
16	154.443	984.307	1.53905	1.31735	40.5619
17	154.862	984.935	-86.8266	-70.7068	39.1575
18	155.281	985.572	-158.899	-120.747	37.2311
19	155.7	986.219	-214.463	-148.722	34.7398
20	156.119	986.876	-253.115	-155.942	31.6369
21	156.538	987.543	-274.04	-144.969	27.8791
22	156.957	988.221	-275.702	-119.539	23.4406
23	157.376	988.91	-255.467	-84.6394	18.3307
24	157.795	989.61	-209.22	-46.8278	12.6161
25	158.215	990.323	-131.022	-14.7792	6.43572
26	158.634	991.047	0	0	0

LANDPHASES INC
CONSULTING ENGINEERING GEOLOGISTS

ADDENDUM ENGINEERING GEOLOGIC REPORT # 3

PROPOSED CUSTOM SINGLE-FAMILY RESIDENTIAL DEVELOPMENT

LOT 41, TRACT 22663
2980 HUTTON DRIVE
CITY OF LOS ANGELES, CALIFORNIA

PREPARED FOR MR. SOLY BINA

MARCH 27, 2020 Project No.: LP1436

5158 COCHRAN ST., SIMI VALLEY, CA 93063 | (805) 522-5174 | WWW.LANDPHASES.COM

LANDPHASES INC
CONSULTING ENGINEERING GEOLOGISTS

March 27, 2020 Project No.: LP1436

Soly Bina
43615 Lake Hughes Rd.
Lake Hughes, CA 93532

SUBJECT: ADDENDUM ENGINEERING GEOLOGIC REPORT # 3, PROPOSED CUSTOM SINGLE-FAMILY RESIDENTIAL DEVELOPMENT, LOT 41, TRACT 22663, 2980 HUTTON DRIVE, CITY OF LOS ANGELES, CALIFORNIA

Dear Mr. Bina,

As requested, Land Phases, Inc. (LP) has prepared this *Addendum Engineering Geologic Report # 3* with respect to the proposed custom single-family residential development at 2980 Hutton Drive which is located in the City of Los Angeles, California. Specifically, this report is in response to the referenced *Geology and Soils Report Review Letter* prepared by the City of Los Angeles Department of Building and Safety – Grading Division, dated February 26, 2020, in which a total of 2 items required clarification and/or additional information from the project consultants prior to project approval. For reference, a copy of the aforementioned *Geology and Soils Report Review Letter* is appended to this addendum report.

LP's Response to Item # 1:

This item pertains to geotechnical engineering and shall be addressed by the Project Geotechnical Engineer.

LP's Response to Item # 2:

To clarify, the requested debris/mud flow analysis has been performed the Project Civil Engineer, AMEC, LLC (2020). Based on our review of the referenced report, in addition to analyzing the debris/mud flow potential for the northern portion of the site (i.e. the portion of the site with the largest upslope tributary area), the Project Civil Engineer conservatively opted to analyze the debris/mudflow potential for all of the tributary areas located upslope of the subject property. Based on our consultation with the Project Civil Engineer and review of the referenced debris/mud flow report, the existing slope V-drains, proposed retaining walls with freeboard, and the proposed V-drains shown on the current site development/grading plan will adequately contain, deflect, and/or channelize any potential debris flows and drainage around the proposed residence.

To further clarify the aforementioned findings and conclusions, LP presents the following geologic discussion regarding the site conditions and the debris/mud flow analysis performed by the Project Civil Engineer with specific reference to the *Hydrology Map For Mud Flow Calculation* (Sheet H-1 attached) which was provided by the Project Civil Engineer.

Tributary Area A1: Based on the findings of our engineering geologic study, this area consists of a mixture of natural terrain along with graded slope areas consisting of a portion of a cut-slope and a stabilization fill-slope (see attached *Geologic Map* – Plate 1). Based on these conditions, it is LP's opinion that the chance of a debris/mud flow originating from the graded slopes present in this area to be very low. However, the natural terrain most likely possesses potential for debris/mudflow. However, conservatively assuming that the entire tributary could be subject to debris/mudflow, the referenced debris/mud flow report and associated calculations show that the debris/mudflow from tributary area A1 would be directed around the development area to the City Street by the existing slope contours, existing slope V-drains, and the proposed retaining wall and associated V-drain shown on the current site development/grading plan. Furthermore, the driveway retaining wall planned at the toe of tributary area A1 will be provided with 1.5 feet of freeboard which is designed for impact (min. EFP of 125 pcf) which will add an additional level of debris/mudflow protection. This design parameter has been annotated on the attached *Hydrology Map* (Sheet H-1).

To conclude, the proposed development will be adequately protected from the hazard of debris/mud flow from tributary area A1.

Tributary Areas A2 and A3: Based on the findings of our engineering geologic study, these areas consist of a graded cut-slope with little to no soil cover (see attached *Geologic Map* – Plate 1). Based on the lack of appreciable soil cover and relatively uniform slope topography, it is LP's professional opinion that the risk of debris/mud flow from tributary areas A2 and A3 is nil. However, conservatively assuming that the entire tributary could be subject to debris/mudflow, the referenced debris/mud flow report and associated calculations show that any mudflow generated from these areas would be directed to the drainage control system and the Project Civil Engineer has demonstrated that the proposed storm drainage system has the capacity to transport and/or contain any debris/mud flow generated from tributary areas A2 and A3. Furthermore, the rear yard retaining wall planned at the toe of tributary areas A2 and A3 will be provided with 3 feet of freeboard which is designed for impact (min. EFP of 125 pcf) which will add an additional level of debris/mudflow protection. This design parameter has been annotated on the attached *Hydrology Map* (Sheet H-1).

To conclude, the proposed development will be adequately protected from the hazard of debris/mud flow from tributary areas A2 and A3.

Tributary Area A4: Based on the findings of our engineering geologic study, this area consists of a mixture of natural terrain (lower portion of slope) along with graded areas (upper portion of slope) consisting of a cut pad and cut-slope (see attached *Geologic Map* – Plate 1). The graded areas have little to no soil cover and relatively uniform topography. Based on these conditions, it is LP's opinion that the chance of a debris/mud flow originating from the graded areas to be nil.

In addition, based on the limited extent of the natural terrain, observation of only a thin and discontinuous soil cover, and lack of a significant "canyon" area, the potential for debris/mudflow from the lower portion of the slope also appears to be very low. However, conservatively assuming that the entire tributary could be subject to debris/mudflow, the referenced debris/mud flow report and associated calculations show that the debris/mudflow from tributary area A4 would be deflected and/or directed to the drainage control system via the existing slope contours, existing slope V-drains, and the proposed retaining wall and associated V-drain shown on the current site development/grading plan. In addition, the Project Civil Engineer has demonstrated that the proposed storm drainage system has the capacity to transport and/or contain any debris/mud flow generated from tributary area A4. Furthermore, the rear yard retaining wall planned at the toe of tributary area A4 will be provided with 3 feet of freeboard which is designed for impact (min. EFP of 125 pcf) which will add an additional level of debris/mudflow protection. This design parameter has been annotated on the attached *Hydrology Map* (Sheet H-1).

To conclude, the proposed development will be adequately protected from the hazard of debris/mud flow from tributary area A4.

Tributary Areas A5 and A6: Based on the findings of our engineering geologic study, this area consists of a mixture of natural terrain (lower portion of slope) along with graded areas (upper portion of slope) consisting of a cut pad and cut-slope (see attached *Geologic Map* – Plate 1). The graded areas have little to no soil cover and relatively uniform topography. Based on these conditions, it is LP's opinion that the chance of a debris/mud flow originating from the graded areas to be nil. In addition, based on the limited extent of the natural terrain, observation of only a thin and discontinuous soil cover, and lack of a significant "canyon" area, the potential for debris/mudflow from the lower portion of the slope also appears to be very low. However, conservatively assuming that the entire tributary could be subject to debris/mudflow, the referenced debris/mud flow report and associated calculations show that the debris/mudflow from tributary areas A5 and A6 would be deflected and/or directed to the drainage control system via the existing slope contours, existing slope V-drains, and the proposed retaining wall and associated V-drain shown on the current site development/grading plan. In addition, the Project Civil Engineer has demonstrated that the proposed storm drainage system has the capacity to transport and/or contain any debris/mud flow generated from tributary areas A5 and A6. Furthermore, the rear yard retaining wall planned at the toe of tributary areas A5 and A6 will be provided with 3 feet of freeboard which is designed for impact (min. EFP of 125 pcf) which will add an additional level of debris/mudflow protection. This design parameter has been annotated on the attached *Hydrology Map* (Sheet H-1).

To conclude, the proposed development will be adequately protected from the hazard of debris/mud flow from tributary areas A5 and A6.

CLOSE

Please avoid misunderstandings or misinterpretation of this addendum engineering geologic report by calling LP with any questions you may have.

Respectfully Submitted,
LAND PHASES, INC.

Jake W. Holt
PG 7404, CEG 2282, CHG 816 exp. 11-30-20
Principal Engineering Geologist and Hydrogeologist

PROFESSIONAL GEOLOGIST
JACOB W. HOLT
No. 2282
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
JACOB W. HOLT
No. 816
CERTIFIED HYDRO GEOLOGIST
STATE OF CALIFORNIA

Distribution: (3) Addressee (2 for City submittal - *1 unbound,* plus 1 pdf copy on CD)
(1) CalWest Geotechnical (via email)

ATTACHMENTS

Review Letter:

-Geology and Soils Report Review Letter, February 26, 2020

Map Pocket:

Plate 1 – Geologic Map (scale: 1" equals 20')
Sheet H-1 – Hydrology Map by AMEC, LLC (scale: 1" equals 40')

REFERENCES

Site-Specific References (Subject Property, 2980 Hutton Drive):

AMEC, LLC (2020), **Site Mud Flow Calculations For a New Single-Family Residential Development Located At 2980 Hutton Drive, Los Angeles, California,** Project No.: BINA0101, February 5, 2020.

Applied Earth Sciences (1992), **Change of Engineer of Record, Geotechnical Investigation, Proposed Single-Family Residence, Lot 41, Tract 22663, 2980 Hutton Drive, Los Angeles, California,** Project No.: 92-384-02, May 29, 1992.

Applied Earth Sciences (1992a), **Update Letter, Geotechnical Investigation, Proposed Single-Family Residence, Lot 41, Tract 22663, 2980 Hutton Drive, Los Angeles, California,** Project No.: 92-384-02, May 29, 1992.

California GeoSystems, Inc. (1986), **Soils and Engineering Geologic Investigation Report For Proposed 3-Story Single-Family Dwelling and Swimming Pool, Lot 41, Tract 22663, 2980 Hutton Drive, Los Angeles, California,** Project No.: GS86-725, October 9, 1986.

California GeoSystems, Inc. (1987), **Response to City of Los Angeles Review Letter, Department of Building and Safety, dated November 18, 1986, Lot 41, Tentative Tract 22663, 2980 Hutton Drive, Los Angeles, California,** Project No.: GS86-725-1, June 15, 1987.

CalWest Geotechnical (2018), **Update Geotechnical Engineering Report, Proposed Custom Single-Family Residential Development, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** Project No.: 5909, December 4, 2018.

CalWest Geotechnical (2019), **Addendum Geotechnical Engineering Report # 1, Proposed Custom Single-Family Residential Development, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** Project No.: 5909, March 13, 2019.

CalWest Geotechnical (2020), **Addendum Geotechnical Engineering Report # 2, Proposed Custom Single-Family Residential Development, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** Project No.: 5909, January 3, 2020.

City of Los Angeles Department of Building and Safety (1986), **Geology and Soils Report Correction Letter, re: Proposed Single-Family Residence, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** November 14, 1986.

City of Los Angeles Department of Building and Safety (1986a), **Geology and Soils Report Correction Letter, re: Proposed Single-Family Residence, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** November 18, 1986.

City of Los Angeles Department of Building and Safety (1987), **Geology and Soils Report Approval Letter, re: Proposed Single-Family Residence, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** July 31, 1987.

City of Los Angeles Department of Building and Safety (1992), **Acceptance of New Geologic/Geotechnical Consultant, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** City Log # 29067, June 12, 1992.

City of Los Angeles Department of Building and Safety – Grading Division (2018), **Geology and Soils Report Review Letter, Lot 41 (Arb 2), Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** City Log # 106470, January 15, 2019.

City of Los Angeles Department of Building and Safety – Grading Division (2019), **Geology and Soils Report Review Letter, Lot 41 (Arb 2), Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** City Log # 106470-01, September 24, 2019.

City of Los Angeles Department of Building and Safety – Grading Division (2020), **Geology and Soils Report Review Letter, Lot 41 (Arb 2), Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** City Log # 106470-02, February 26, 2020.

Land Phases, Inc. (2018), **Report of Update Engineering Geologic Study, Proposed Custom Single-Family Residential Development, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** Project No.: LP1436, November 16, 2018.

Land Phases, Inc. (2019), **Addendum Engineering Geologic Report # 1, Proposed Custom Single-Family Residential Development, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** Project No.: LP1436, March 6, 2019.

Land Phases, Inc. (2019a), **Addendum Engineering Geologic Report # 2, Proposed Custom Single-Family Residential Development, Lot 41, Tract 22663, 2980 Hutton Drive, City of Los Angeles, California,** Project No.: LP1436, December 23, 2019.

Regional Geologic References:

Branum, D., Harmsen, S., Kalkan, E., Petersen, M., and Wills, C. (2008), **Earthquake Shaking Potential For California**, Map Sheet 48 (revised 2008), California Department of Conservation, California Geological Survey.

California Department of Conservation (1986), **State of California Special Studies Zones, Beverly Hills Quadrangle**, Division of Mines and Geology, Scale 1:24,000, July 1, 1986.

California Department of Conservation (1997), **Guidelines for Evaluating and Mitigating Seismic Hazards in California**, Special Publication 117, Division of Mines and Geology.

California Department of Conservation (1998), **Seismic Hazard Evaluation of the Beverly Hills 7.5-minute Quadrangle, Los Angeles County, California**, Open File Report 98-14, Division of Mines and Geology.

California Department of Conservation (1999), **State of California Seismic Hazard Zones, Beverly Hills Quadrangle**, Division of Mines and Geology, March 25, 1999.

California Department of Conservation (2009), **Tsunami Inundation Map For Emergency Planning, Beverly Hills Quadrangle**, California Geological Survey, Scale 1:24,000, March 1, 2009.

California Department of Conservation (2014), **State of California Earthquake Fault Zones, Hollywood Quadrangle,** California Geological Survey, Scale 1:24,000, November 6, 2014.

California Department of Conservation (2018), **State of California Earthquake Fault Zones, Beverly Hills Quadrangle,** California Geological Survey, Scale 1:24,000, January 11, 2018.

California Department of Conservation (2018), **Special Publication 42, Earthquake Fault Zones; A Guide For Government Agencies, Property Owners/Developers, and Geoscience Practitioners For Assessing Fault Rupture Hazards in California,** California Geological Survey, Revised 2018, 83 p.

Cao, T., Bryant, W. A., Rowshandel, B., Branum, D., and Wills, C. J. (2003), **The Revised 2002 California Probabilistic Seismic Hazard Maps,** California Department of Conservation, California Geological Survey, June 2003.

City of Los Angeles and the Association of Engineering Geologists (1960-70), **Preliminary Geologic Maps of the Santa Monica Mountains,** 309 Sheets.

Dibblee, T. W. (1991), **Geologic Map of the Beverly Hills and Van Nuys (South 1/2) Quadrangle, Los Angeles County, California**, Dibblee Foundation Map DF-31, Scale 1:24,000.

Field, E. H., Biasi, G. P., Bird, P., Dawson, T. E., Felzer, K. R., Jackson, D. D., Johnson, K. M., Jordan, T. H., Madden, C., Michael, A. J., Milner, K. R., Page, M. T., Parsons, T., Powers, P. M., Shaw, B. E., Thatcher, W. R., Weldon, R. J., II, and Zeng, Y. (2013), **Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)—The Time-Independent Model**: U.S. Geological Survey Open-File Report 2013–1165, 97 p., California Geological Survey Special Report 228, and Southern California Earthquake Center Publication 1792, http://pubs.usgs.gov/of/2013/1165/.

Fumal, T. E. and Tinsley, J. C. (1985), Mapping Shear-Wave Velocities of Near-Surface Geologic Materials, pp. 127-150, in: **Evaluating Earthquake Hazards In the Los Angeles Region An Earth-Science Perspective,** Ziony, J. I. (editor), United States Geological Survey, Denver, Colorado.

Gath, E. (1992), Geologic Hazards and Hazard Mitigation in the Los Angeles Region, pp. 3-32, in: **Engineering Geologic Practice in Southern California**, Pipkin, B. W., and Proctor, R. J. (editors), Association of Engineering Geologists, Southern California Section, Special Publication No. 4, Star Publishing Co., Belmont, California, 769 p.

Jennings, C. W. and Bryant, W. A. (2010), **Fault Activity Map of California – 2010,** Department of Conservation, California Geological Survey, California Geologic Data Map Series May No. 6, , Scale 1:750,000.

Lazarte, C. A., Bray, J. D., Johnson, A. M., and Lemmer, R. E. (1994), **Surface Breakage of the 1992 Landers Earthquake and Its Effects on Structures,** Bulletin of the Seismological Society of America, Vol. 84, no. 3, pp. 547-561, June 1994.

Norris, R. M. and Webb, R. W. (1976), **Geology of California**, John Wiley & Sons, New York.

Petersen M. D., Bryant, W. A., Cramer, C. H., Cao, T., and Reichle, M. S. (1996), **Probabilistic Seismic Hazard Assessment for the State of California**, California Department of Conservation, Division of Mines and Geology, Open File Report 96-08.

Petersen, M., Frankel, A., Harmsen, S., Mueller, C., Haller, K., Wheeler, R., Wesson, R., Zeng, Y., Boyd, O., Perkins, D., Luco, N., Field, E., Wills, C., and Rukstales, K., (2008), **Documentation for the 2008 Update of the United States National Seismic Hazard Maps**: U.S. Geological Survey Open-File Report 2008–1128, 61 p.

Real, C. R. (1987), *Seismicity and Tectonics of the Santa Monica- Hollywood-Raymond Hills Fault Zone and Northern Los Angeles Basin*, **Recent Reverse Faulting in the Transverse Ranges**, California, United States Geological Survey Professional Paper 1339, pp. 113-124.

Wallace, R. E. (1990), **The San Andreas Fault System, California:** United States Geological Survey Professional Paper 1515, U.S. Government Printing Office, Washington D.C., 283 p.

Ziony, J. I. and Yerkes, R. F. (1985), *Evaluating Earthquake and Surface-Faulting Potential,* **Evaluating Earthquake Hazards in the Los Angeles Region – An Earth-Science Perspective,** United States Geological Survey Professional Paper 1360, 505 p.

General Geologic/Geotechnical References:

Bates, R. L. and Jackson, J. A., editors (1984), **Dictionary of Geological Terms,** Third Edition, American Geological Institute, p. 571.

Bolt, B. A., Horn, W. L., Macdonald, G. A., and Scott, R. F., (1977 – revised), **Geological Hazards – Second Edition:** Springer-Verlag, Inc., New York, 330 p.

Bolt, B. A. (1993), **Earthquakes:** W. H. Freeman and Company, New York, 331 p.

Burger, H. R. (1992), **Exploration Geophysics of the Shallow Subsurface**: New Jersey, Prentice Hall PTR, 489 p.

California Department of Conservation (2002), **How Earthquakes and Their Effects Are Measured,** California Geological Survey Note 32, revised April 2002, 4 p.

California Department of Water Resources, (1991), **California Well Standards: Water Wells, Monitoring Wells, Cathodic Protection Wells:** Bulletin 74-90 (supplement to Bulletin 74-81), Sacramento, 82 p.

Compton, R. R. (1985), **Manual of Field Geology**: New York, John Wiley and Sons, 398 p.

Driscoll, F. G. (1989), **Groundwater and Wells,** Second Edition: Johnson Filtration Systems, Inc., St. Paul Minnesota, 1089 p.

Folk, R. L. (1974), **Petrology of Sedimentary Rocks**: Austin, Texas, Hemphill Publishing Co., 182 p.

Fetter, C. W. (1994), **Applied Hydrogeology – Third Edition**: Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 691 p.

Freidman, G. M, Sanders, J. E., and Kopaska-Merkel, D. C. (1992), **Principals of Sedimentary Deposits – Stratigraphy and Sedimentology**: New York, New York, Macmillan Publishing Company, 717 p.

Heath, Ralph C. (1989), **Basic Ground-Water Hydrology,** United Stated Geological Survey Water-Supply Paper 2220, 84 p.

International Code Council, Inc. (2016), **2016 California Building Code,** California Code of Regulations, Title 24, Part 2, Volumes 1 and 2, Effective January 1, 2017.

Lowe, J., III and Zaccheo, P. F. (1991), *Subsurface Explorations and Sampling*, Chapter 1, **Foundation Engineering Handbook**, Second Edition, Edited by H-Y Fang, Van Nostrand Reinhold, New York, pp. 1-71.

Munsell Color (2000), **Munsell Soil Color Charts,** 4300 44th Street, Grand Rapids, Michigan, 49512.

Munsell Color (2009), **Munsell Rock Color Book,** 4300 44th Street, Grand Rapids, Michigan, 49512.

Naeim, F. and Anderson, J. C. (1993), **Classification and Evaluation of Earthquake Records for Design**, The 1993 NEHRP Professional Fellowship Report, Earthquake Engineering Research Institute, 288 pp.

Robertson, P. K. and Campanella, R. G. (1989), **Guidelines for Geotechnical Design Using CPT and CPTU**, Soil Mechanics Series No. 120, Department of Civil Engineering, The University of British Columbia, Vancouver, B. C. Canada, November.

Robertson, P. K. (1990), **Soil Classification Using the Cone Penetration Test,** Canadian Geotechnical Journal, Vol. 27, pp. 151-158.

Seed, H. B., Chaney, R. C., and Pamukcu, S. (1991), *Earthquake Effects on Soil-Foundation Systems*, Chapter 16, **Foundation Engineering Handbook**, Second Edition, Edited by H-Y Fang, Van Nostrand Reinhold, New York, pp. 594-672.

Southern California Earthquake Center (1999), **Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California,** Martin, G. R. and Lew, M. Co-Chairs and Editors, University of Southern California, March 1999.

State Board of Registration for Geologists and Geophysicists (1998 - revised), **Geologic Guidelines for Engineering Geologic Reports:** Sacramento, 8 p.

Tucker, M. E. (1991), **Sedimentary Petrology**: Oxford, Blackwell Scientific Publications, 260 p.

Turner, K. A., and Schuster, R. L. – editors (1996), **Landslides – Investigation and Mitigation:** Transportation Research Board, Special Report 247, Academy Press, Washington D.C., 673 p.

Aerial Photographs Reviewed:

Google Earth (2018), Google Earth Aerial Imagery, Accessed Via Internet.

Los Angeles County Flood Control District (1965), Flight 1933-01, Frames No. 132 and 133, Approximate Scale: 1"equals 3,000', January 10, 1965.

****

GRADING
OVERSIZE DOCUMENT

To view the Grading
oversize document for:

Tract:	22663
Block:	— Lot: 41 (arb. 2)
Job Address:	2980 N. Hutton Dr.
X-Ref:	2x Date: 3/27/2020

Look for the document type called "Grading Oversize Document" dated 3/27/2020 from the Document Type list in IDIS Retrieval; copy the corresponding Reel/Batch/Doc numbers (document location on microfilm); and request assistance from the Records Counter staff to view the film and/or print a copy of the images.

1 0 6 0 5 1 9 2 0 2 0 9 8 7 7 0