LEGAL DESCRIPTION

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THAT PORTION OF LOT 'A' AS DESIGNATED ON THE PARTITION MAP OF THE RANCHO LAS VIRGENES, IN THE COUNTRY OF LOS ANGELES, STATE OF CALIFORNIA, FILED IN CASE NO. 2868, SUPERIOR COURT OF LOS ANGELES COUNTY, LYING NORTHERLY OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT A POINT IN THE EASTERLY LINE OF LOT 21, IN BLOCK 4 OF TRACT NO. 8451, AS SHOWN ON THE MAP RECORDED IN BOOK 104, PAGES 79 TO 90 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DISTANT ALONG SAID EASTERLY LINE, NORTH 0° 04' 02" WEST 5.62 FEET FROM THE SOUTHEASTERLY CORNER OF SAID LOT 21; THENCE SOUTH 79° 15' 05" EAST 438.67 FEET; THENCE SOUTH 51° 21' 29" EAST 2140.35 FEET; THENCE SOUTHEASTERLY AND TANGENT TO SAID LAST DESCRIBED COURSE, ALONG A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1960 FEET, THROUGH AN ANGLE OF 20° 23' 41" AN ARC DISTANCE OF 1016.28 FEET TO THE SOUTHEASTERLY LINE OF SAID RANCHO LAS VIRGENES, DISTANT THEREON NORTH 69° 20' 05" EAST 567.72 FEET FROM A 8 INCH BY 12 INCH BY 24 INCH RECTANGULAR STONE, MARKING THE INTERSECTION OF THE EAST LINE OF SECTION 28, TOWNSHIP 1 NORTH, RANGE 18 WEST, WITH THE SOUTHEASTERLY LINE OF SAID RANCHO.

EXCEPT THEREFROM THAT PORTION OF SAID LAND DESCRIBED AS FOLLOWS:

BEGINNING AT A 8 INCH BY 12 INCH BY 24 INCH RECTANGULAR STONE, MARKING THE INTERSECTION OF THE EAST LINE OF SECTION 28, TOWNSHIP 1 NORTH, RANGE 18 WEST, WITH THE SOUTHEASTERLY LINE OF SAID RANCHO; THENCE ALONG SAID SOUTHEASTERLY LINE NORTH 69° 20' 05" EAST, A DISTANCE OF 567.72 FEET TO A POINT IN THAT CERTAIN CURVE DESCRIBED IN THE DEED TO THE STATE OF CALIFORNIA, RECORDED OCTOBER 7, 1948 IN BOOK 28453, PAGE 312, OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, AS HAVING A RADIUS OF 1695.00 FEET AND A N ARC LENGTH OF 1018.29 FEET, SAID POIN HEREIN DESIGNATED AS POINT 'A'; THENCE WESTERLY ALONG SAID CURVE AN ARC DISTANCE OF 228.94 FEET TO THE TRUE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING WESTELY ALONG SAID CURVE AN ARC DISTANCE OF 341.99 FEET; THENCE NORTH 75° 56' 21" EAST, A DISTANCE OF 78.80 FEET; THENCE SOUTH 64° 29' 23" EAST A DISTANCE OF 277.15 FEET TO THE TRUE POINT OF BEGINNING.

ALSO EXCEPT THEREFROM THE PORTION OF SAID LAND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 'A' DESCRIBED IN THE EXCEPTION ABOVE; THENCE WESTERLY AND NORTHWESTERLY ALONG SAID CURVE TO THE NORTHWESTERLY TERMINUS THEREOF, SAID TERMINUS BEING THE TRUE POINT OF BEGINNING OF THIS DESCRIPTION AND ALSO THE SOUTHEASTERLY TERMINUS OF THAT CERTAIN COURSE DESCRIBED AS HAVING A BEARING OF SOUTH 51° 21' 29" EAST AND A LENGTH OF 2140.55 FEET IN THE DEED TO THE STATE OF CALIFORNIA, RECORDED IN BOOK 28453, PAGE 312, OFFICIAL RECORDS; THENCE ALONG SAID LAST MENTIONED COURSE, NORTH 51° 21' 29" WEST, A DISTANCE OF 971.92 FEET; THENCE SOUTH 52° 40' 10" EAST, A DISTANCE OF 177.48 FEET; THENCE SOUTH 44° 56' 30" EAST, A DISTANCE OF 822.46 FEET TO THE TRUE POINT OF BEGINNING.

ALSO EXCEPT THEREFROM THAT PORTION OF SAID LAND INCLUDED WITHIN THE LAND DESCRIBED IN THE DEED TO THE STATE OF CALIFORNIA, RECORDED NOVEMBER 5, 1963 AS INSTRUMENT NO. 1441, IN BOOK D-2245, PAGE 64 OF OFFICIAL RECORDS OF SAID COUNTY.

ALSO EXCEPT THEREFROM THAT PORTION OF SAID LAND INCLUDED WITHIN THE LAND DESCRIBED IN THE DEED TO THE STATE OF CALIFORNIA, RECORDED AUGUST 26, 1970 AS INSTRUMENT NO. 221, IN BOOK D-4913, PAGE 61 OF OFFICIAL RECORDS OF SAID COUNTY.

ALSO EXCEPT THAT PORTION OF SAID LAND LYING NORTHERLY OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT A POINT ON THE WESTERLY LINE OF SAID LOT 'A', SAID POINT BEING NORTH 14° 00' 35" EAST 442.21 FEET FROM STATION 9 OF SAID LOT 'A'; THENCE SOUTH 89° 49' 14" EAST 335.55 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 1950.00 FEET; THENCE EASTERLY AND NORTHERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 01° 30' 13" AN ARC DISTANCE OF 1966.87 FEET; THENCE LEAVING SAID CURVE, SOUTH 89° 54' 39" EAST 653.13 FEET MORE OR LESS, TO A POINT BEING SOUTH 3° 03' 28" WEST 3529.52 FEET FROM THE NORTHEASTERLY CORNER OF SAID LOT 'A'.

ALSO EXCEPT THAT PORTION OF SAID LAND AS DESCRIBED IN THE GRANT DEED RECORDED APRIL 30, 1992 AS INSTRUMENT NO.92-770968 OF OFFICIAL RECORDS.

ASSESSOR PARCEL NUMBER

2052-009-278 & 2055-010-270

GENERAL NOTES

1. THE PROJECT WILL BE SERVED BY AN EXISTING 8" WATER LINE IN PALO CAMODO CANYON ROAD.
2. THE PROJECT WILL BE SERVED BY AN EXISTING 8" SANITARY SEWER LINE IN PALO CAMODO CANYON ROAD.
3. FLOOD AND EROSION CONTROL WILL BE ADDRESSED THROUGH THE IMPLEMENTATION OF A SWPPP AND SUSMP PLAN.
4. A PORTION OF LOT 1, 2, 15 AND 16 IS SUBJECT TO FLOOD HAZARD.
5. SUBJECT PROPERTY IS NOT LOCATED WITHIN ANY GEOLOGICALLY HAZARDOUS AREAS.
6. SEE OAK TREE REPORT FOR PROTECTED TREE PLAN.

FLOOD PLAIN NOTE

COUNTY: LOS ANGELES
ASSESSOR PARCEL NUMBER: 2052-009-012 & 2055-010-270
FLOOD ZONE: X & A99
COMMUNITY NAME: LOS ANGELES COUNTY
COMMUNITY NUMBER: 060043
COMMENT: MINIMAL FLOOD HAZARD,
MAP NUMBER: 06037C1503F
MAP DATE: SEPTEMBER 26, 2008

GEOTECHNICAL EXPLANATION

- *af* – *Artificial Fill*
- *Qls* – *Landslide Deposit*
- *Qal* – *Alluvium*
- *Tm* – *Modelo Formation*
- *Tc* – *Calabasas Formation*
- ~ – *Approximate Contact between Geologic Units*
- 50 – *Strike and Dip of Foliation*
- 5 – *Strike and Dip of Fracture/Joint*
- B-15 – *Approximate Location of Exploratory Boring (Gorian)*
- C-1 – *Approximate Location of Soil Corrosion Sample (Gorian)*
- AES B-7 – *Approximate Location of Hollow Stem Exploratory Boring (Applied Earth Sciences, 1998)*
- E E' – *Geotechnical Cross Section*

GEOTECHNICAL MAP

Gorian & Associates, Inc.
Applied Earth Sciences

Job No: 2232-0-FR-100		Date: July 2013
Scale: 1" = 80'	Drawn by:	PLATE 1
	Approved by:	

BASIS OF BEARINGS

THE BEARING NORTH 19° 49' 09" EAST OF THE CENTERLINE OF CHESEBRO ROAD SHOWN PER PARCEL MAP NO. 28535 AS FILED IN BOOK 321, PAGES 92 AND 93, INCLUSIVE OF PARCEL MAPS WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY.

BENCH MARK

L&T IN CTR OF CONC HDWL AT NE COR CHESEBRO RD & PALO COMADO CYN RD 10.5M (34') E & 9M (30') N/O CL INT

ELEV. 912.744 MALIBU 2008 BM. NO. Y 10485

TOPOGRAPHY NOTE

AERIAL TOPOGRAPHY PROVIDED BY BARTON WALTERS ASSOCIATES DATED JUNE 2013 AND SUPPLEMENTED BY HMK ENGINEERING FIELD SURVEY.

BOUNDARY DATUM

ESTABLISHED FROM THE LOCAL CITY OR COUNTY ENGINEER BUREAU'S BOUNDING MONUMENTED CENTERLINES OR FROM POINTS OR RECORD AS SHOWN. IF ELEVATIONS ARE SHOWN, THEY ARE FOR INFORMATION ONLY AND ARE NOT FOR CERTIFICATION OF GRADE, DRAINAGE OR ANY OTHER ITEM WHICH MAY BE CONNECTED TO VERTICAL DATUM.

UTILITY NOTE

UTILITY INFORMATION SHOWN HEREON WAS COMPILED FROM PUBLIC RECORDS. NO LIABILITY IS ASSUMED OR INFERRED BY HMK ENGINEERING AS TO THE ACCURACY OF SAID INFORMATION.

ZONING NOTE

CURRENT ZONING:	A-1-5 - LIGHT AGRICULTURAL
PROPOSED ZONING:	RV - RESIDENTIAL VERY LOW
	OS-DR OPEN SPACE DEED RESTRICTED
EXISTING USE:	VACANT LAND

LOT AREA CALCULATIONS

LOT NO.	GROSS AREA S.F.	GROSS AREA AC.	NET AREA S.F.	NET AREA AC.
1	57,182	1.31	46,346	1.06
2	55,424	1.27	47,092	1.08
3	55,059	1.26	47,600	1.09
4	54,230	1.24	47,143	1.08
5	59,868	1.37	53,044	1.22
6	69,380	1.59	65,878	1.51
7	71,886	1.65	65,212	1.50
8	71,608	1.65	65,894	1.51
9	77,529	1.78	75,174	1.73
10	71,180	1.63	65,395	1.50
11	75,891	1.74	66,229	1.52
12	59,967	1.38	54,182	1.24
13	64,459	1.48	59,975	1.38
14	57,006	1.31	50,552	1.16
15	58,783	1.30	50,431	1.16
16	21,788	0.50	16,880	0.39
17	2,130,441	48.91	2,130,441	48.91
TOTAL	3,109,654	71.39	3,007,259	69.04

EARTHWORK CALCULATIONS

	CUT	FILL	15% SHRINK	SUBSIDENCE (.20 IN.)	TOTAL
LOT 2	520 CY	460 CY	-90 CY	-70 CY	0 CY
LOT 3	550 CY	400 CY	-80 CY	-70 CY	0 CY
LOT 4	465 CY	315 CY	-70 CY	-80 CY	0 CY
LOT 5	360 CY	255 CY	-55 CY	-50 CY	0 CY
LOT 6	860 CY	610 CY	-130 CY	-120 CY	0 CY
LOT 7	770 CY	540 CY	-115 CY	-115 CY	0 CY
LOT 8	880 CY	615 CY	-130 CY	-115 CY	0 CY
LOT 9	540 CY	370 CY	-80 CY	-90 CY	0 CY
LOT 10	1150 CY	905 CY	-175 CY	-70 CY	0 CY
LOT 11	1560 CY	1160 CY	-235 CY	-165 CY	0 CY
LOT 12	550 CY	380 CY	-80 CY	-90 CY	0 CY
LOT 13	1240 CY	910 CY	-190 CY	-140 CY	0 CY
LOT 14	1090 CY	790 CY	-165 CY	-135 CY	0 CY
LOT 15	870 CY	470 CY	-100 CY	-100 CY	0 CY
STREET	2160 CY	1535 CY	-325 CY	-300 CY	0 CY
TOTAL	13,445 CY	9,715 CY	-2,020 CY	-1,710 CY	0 CY

	CUT	FILL	15% SHRINK	SUBSIDENCE (.20 IN.)	TOTAL
LOT 1	0 CY	1015 CY	-0 CY	-165 CY	1,180 CY FILL

NOTE: PROPOSED LOT 1 IS IN A FLOOD ZONE AREA

OWNER
CITY OF AGOURA HILLS
30001 LADYFACE COURT
AGOURA HILLS, CA. 91301
PHONE: (818) 597-7300

ENGINEER
HMK ENGINEERING, INC.
1552 EIGHTEENTH STREET
SANTA MONICA, CA 90404
ATTN: MARK D. HARDY
PHONE: (310) 449-5511

DEVELOPER
EQUINE ESTATES, LLC
5423 VILLAGE ROAD
LONG BEACH, CA. 90808
ATTN: BENJAMIN EFRAIM

GEOTECHNICAL ENGINEER
GORIAN & ASSOCIATES
3595 OLD CONEJO ROAD
THOUSAND OAKS, CA 91320
ATTN: JEROME BLUNCK
PHONE: (805) 375-9262

REGISTERED PROFESSIONAL ENGINEER JEROME D. BLUNCK No. 586SS EXP. JUNE 30, 2014 CIVIL STATE OF CALIFORNIA

SCALE: 1"=80'

80' 60' 40' 20' 0 80'

OVERALL PLAN

DATE | DESCRIPTION | NO.

GRADING PLAN
PROPOSED AGOURA EQUESTRIAN ESTATES
CHESEBORO ROAD
AGOURA HILLS, CA 91301

W.O. NO. 13-865

SHEET 1 OF 2 SHEETS

EQUINE ESTATES, LLC
5423 VILLAGE RD.
LONG BEACH, CA. 90808

CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS
1552 EIGHTEENTH STREET
SANTA MONICA,, CA 90404 PHONE (310) 449-5511

HMK ENGINEERING INC.

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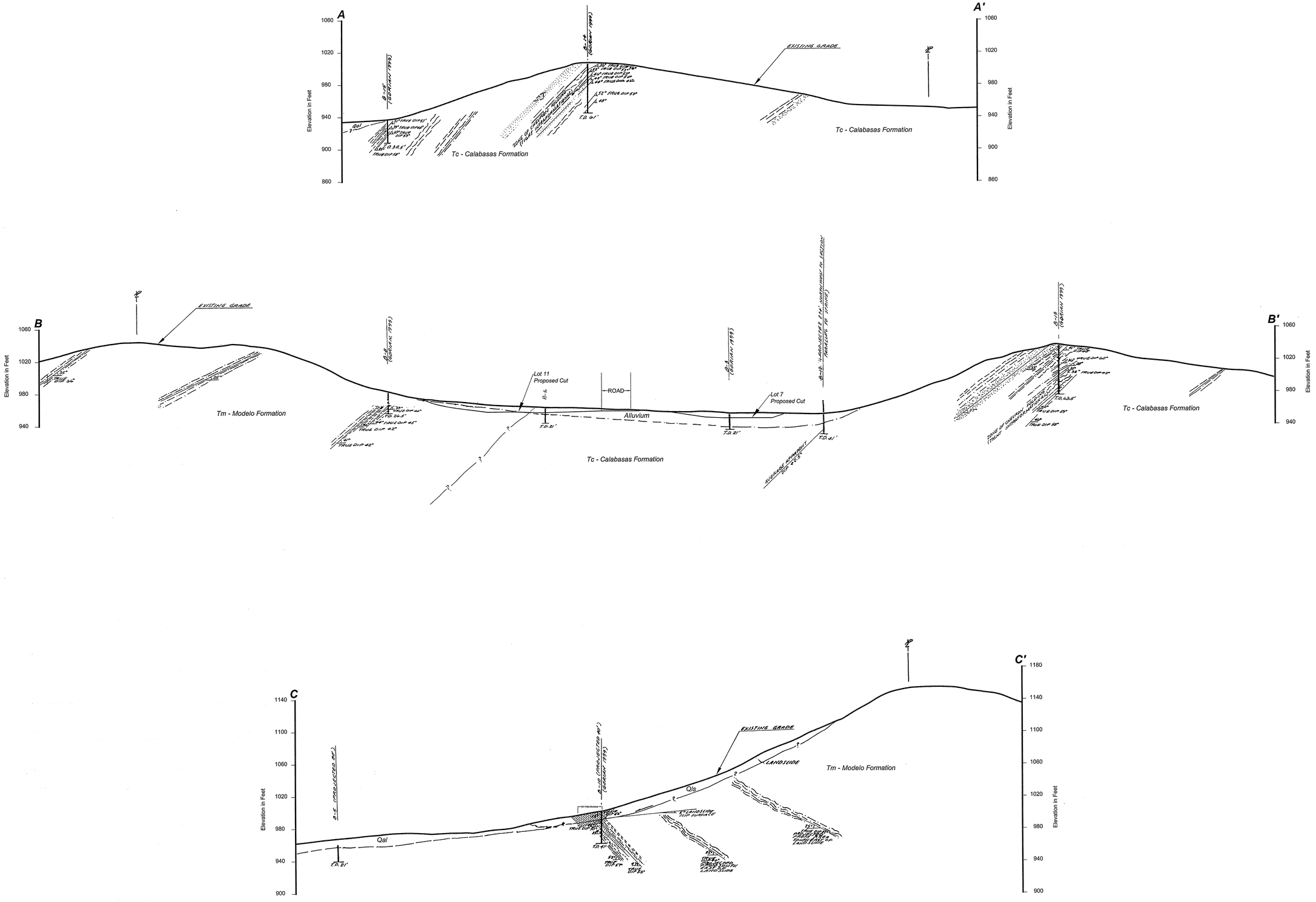

GEOTECHNICAL CROSS SECTIONS

Gorian & Associates, Inc.		
Applied Earth Sciences		
Job No: 2232-0-FR-100		Date: July 2013
Scale: 1" = 40'	Drawn by:	PLATE 2
	Approved by:	

GORIAN & ASSOCIATES, INC.

Applied Earth Sciences
Geotechnical Engineers
Engineering Geologists
DSA Accepted Testing Laboratory
Special Inspection and Materials Testing

3595 Old Conejo Road
Thousand Oaks
California 91320-2122
805 375-9262
818 889-2137
805 375-9263 fax

December 24, 2013

Equine Estates, LLC
5423 Village Road, Suite 200
Long Beach, CA 90808

Work Order: 2232-0-FR-102

Fortune Companies
11911 San Vicente Bl. Suite, 374
Los Angeles, California 90049

Attention: Mr. Benjamin Efraim

Subject: **RESPONSE TO CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET DATED NOVEMBER 30, 2013 PREPARED BY GEODYNAMICS, INC. REGARDING THE GEOTECHNICAL SITE EVALUATION FOR THE PROPOSED AGOURA EQUESTRIAN ESTATES, EAST OF CHESEBRO ROAD AND NORTH OF US 101, AGOURA HILLS, CALIFORNIA, REPORT 2232-0FR-100, DATED JULY 24, 2013.**

INTRODUCTION

Presented herein are our item by item responses to the City of Agoura Hills City of Agoura Hills - Geotechnical Review Sheet dated December 30, 2013 regarding the proposed Agoura Equestrian Estates as addressed in our reference report of July 24, 2013. A copy of the review sheet is attached hereto for reference.

PLANNING/FEASIBILITY COMMENTS

COMMENT 1

The consultant indicates that a "Remolded , Resheared" test was performed on the landslide materials and that this test was the basis for the selected residual shear strength parameters used in the translational slope stability analyses. The documentation provided for this test is incomplete. As per the County of Los Angeles Geotechnical Guidelines, "The stress-strain graphs must be submitted to justify all residual shear strengths to be used, in addition to the graphs of the failure envelope." The consultant should provide the missing documentation for the referenced test.

Note: The stress-strain curves included in Figure 1 indicate that shear resistance under normal stress of 1000 is greater than shear resistance under 3000 psf. There seems to be some inadvertent discrepancies in the provided plots. In addition, the cyclic stress-strain curves (stress-strain curves for repeated shear) should also be provided.

RESPONSE
As discussed with the reviewer the stress strain was incorrectly provided in the reference report of November 12, 2013. The correct stress strain plots are attached hereto in Appendix A.

COMMENT 2
Based on a cursory review of the NPDES Plan referenced above (HMK 2013) , it appears that on-site infiltration system is proposed. As such, the consultant should evaluate the impact of such a system on the proposed development and perform an infiltration study as per the current County of Los Angeles guidelines and requirements. Mitigation measures should be recommended as necessary.

Note: *Vegetated Biofiltration is a form of Vegetated Buffer that should be investigated and addressed as per the County of Los Angeles Guidelines for Low Impact Development (LID) Best Management Practice (BMP). In addition, Plate 1.1 shows an infiltration basin immediately north of Lot 1. This basin should also be investigated and addressed as per the aforementioned guidelines.*

RESPONSE
We acknowledge that per the *Guidelines*, Vegetated Bio-filtration is a form of Vegetated Buffer that requires evaluation and reporting by a geotechnical consultant. The two proposed basins shown on the plans are essentially vegetated wide areas in the surface drainage swales. As stated in our first response, the on site expansive clayey soils most likely would not have acceptable infiltration rates and infiltration is not being considered in the design of the LID/BMP storm water mitigation design for the project. Nevertheless, since the project is in the Tentative Tract entitlement stage of design and the proposed lots are large in area, it is our opinion that the storm water mitigation design can be appropriately addressed at the grading plan stage when final system design(s) become available. The project design civil engineer is aware that the upper soils of the site are not suitable for infiltration.

As for the "Infiltration Basin" call out immediately north of the building pad shown on Lot 1, the call out is a remnant artifact (typo) from a previous conceptual design. No basin is proposed at that location.

REPORT REVIEW COMMENTS
COMMENT 1
The consultant should review final development plans, including the grading plan when they become available. A copy of the grading plan should be used as a base map for an updated geotechnical map. Additional geotechnical recommendations should be provided as necessary to address the various aspects of the development/grading plans.

RESPONSE
Acknowledged.

COMMENT 2
The consultant appropriately recommends on page 1 of the above-referenced report that foundation to slope setback should comply with the City of Agoura Hills Building Code. However, on page 12, the consultant recommends that foundation to slope setback should comply with Chapter 18 of the California Building Code (CBC), which is less stringent than the City's building code. The consultant should reconcile this apparent discrepancy.

RESPONSE
The building to slope setback should be per the City of Agoura Hills amendments (Ordinance No. 10-381) to the California Building Code.

PLAN-CHECK COMMENTS

The following should be added to the appropriate plans.

1. *The name, address, and phone number of the Consultant and a list of all the applicable geotechnical reports shall be included on the building/grading plans.*
2. *The following note must appear on the grading and foundation plans*: "All retaining wall excavations shall be reviewed by the project engineering geologist for the presence of adversely oriented joint surfaces. Adverse surfaces shall be evaluated and supported in accordance with recommendations of the project geotechnical engineer."
3. *The grading plan should include the limits and depths of over excavation for the swimming pool, the road, and flatwork areas as recommended by the Consultant.*
4. *The following note must appear on the grading and foundation plans:* "Excavations shall be made in compliance with CAL/OSHA Regulations."
5. *The following note must appear on the foundation plans:* "All foundation excavations must be observed and approved, in writing, by the Project Geotechnical Consultant prior to placement of reinforcing steel."
6. *Foundation plans and foundation details shall clearly depict the embedment material and minimum depth of embedment for the foundations.*
7. *Drainage plans depicting all surface and subsurface non-erosive drainage devices, flow lines, and catch basins shall be included on the building plans.*
8. *Final grading, drainage, and foundation plans shall be reviewed, signed, and wet stamped by the consultant.*
9. *Provide a note on the grading and foundation plans that states: "An as-built report shall be submitted to the City for review. This report prepared by the Geotechnical Consultant must include the results of all compaction tests as well as a map depicting the limits of fill, locations of all density tests, outline and elevations of all removal bottoms, keyway locations and bottom elevations, locations of all subdrains and flow line elevations, and location and elevation of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map."*

RESPONSE

Plan check comments 1 through 9 are acknowledged and will be performed or implemented in due course by the appropriate design professionals during the appropriate design and construction phases of the project.

REFERENCES

Applied Earth Sciences, February 4, 1998, Preliminary geotechnical investigation, proposed Heschel West Liberty Canyon Project on east side of Chesebro Road, Agoura Hills (County of Los Angeles), California. unpublished consultant's report. Work Order: 97-559-02.

Bryant, W.A. and E.W. Hart, 2007, Fault Rupture Hazard Zones in California. California Geological Survey Special Publication 42 (rev. 2007 Interim Revision).

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Gorian and Associates, Inc., April 12, 2001, Geotechnical plan review, proposed school development, located east of Chesebro Road and north of US 101, Agoura, Los Angeles County, California. Work Order: 2232-0-0-11, Log Number: 20974.

Gorian and Associates, Inc., July 23, 2001, Geotechnical response to geologic and soils engineering review sheets (dated 5/10/01 and 5/21/01, respectively), proposed school development, 27600 Canwood Street, Calabasas Area, County of Los Angeles, California. Work Order: 2232-0-0-11, Log Number: 21099.

Gorian and Associates, Inc., February 4, 2002, Geotechnical evaluation of proposed access drive grading, Heschel West School site, Canwood Street at Palo Comado Canyon Road, Agoura Hills, California. Work Order: 2232-0-0-11, Log Number: 21591.

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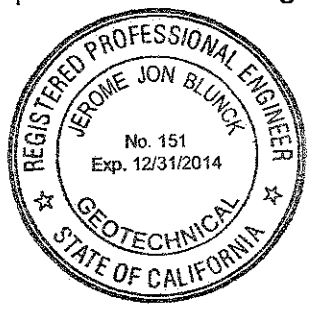
-o0o-

We trust the forgoing responses satisfy the current geotechnical consultation needs of the project. If you have questions concerning this response letter or require additional information, please do not hesitate to contact us.

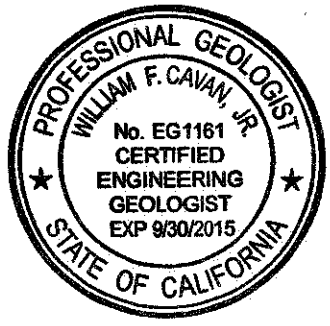
Respectfully submitted,

Gorian and Associates, Inc.

By: Jerome J. Blunck, GE151
Principal Geotechnical Engineer



William F. Cavan, Jr. CEG 1161
Principal Engineering Geologist



Attachment: City Review Sheet
Appendix A - Shear Test Stress Strain Plot

Distribution: Addressee (2)
HMK Engineering, Inc.(4+2 CDs for redistribution / submittals)
Clive Dawson, A.I.A. (2)

Date: November 30, 2013
GDI #: 13.00103.0188

CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET

To: Allison Cook

Project Location: Agoura Equestrian Estates – Tract 72316, NEC Chesebro Road and US 101, Agoura Hills, California.

Planning Case #: 13-CUP-005/13-OTP-021

Building & Safety #:

Geotechnical Report: Gorian and Associates, Inc. (2013b), "Response to City of Agoura Hills – Geotechnical Review Sheet Dated August 13, 2013 Prepared by Geodynamics, Inc. Regarding The Proposed Agoura Equestrian Estates, East of Chesebro Road and North of US 101, Agoura Hills, California," Project 2232-0-FR-100, dated November 12, 2013.

Gorian and Associates, Inc. (2013a), "Geotechnical Site Evaluation, Proposed Agoura Equestrian Estates, East of Chesebro Road and North of US 101, Agoura Hills, California," Project 2232-0-FR-100, dated July 24, 2013.

Plans: Clive Dawson A.I.A. (2013), "Proposed Agoura Equestrian Estates" Chesebro Road, Agoura Hills, CA, 91301, Sheets A01 (Scale: 1"=80'), A02 (Scale: 1"=50'), Dated July 12, 2013.

HMK, Engineering, Inc. (2013), "Grading Plan, Proposed Agoura Equestrian Estates" Chesebro Road, Agoura Hills, CA, 91301, Sheets 1 and 2 of 2, Scale 1" = 80' and 1"=40' respectively, dated May 12, 2013.

HMK, Engineering, Inc. (2013), "NPDES Plan, Tentative Tract Map 72316, Agoura Hills, CA, 91301, Sheet 1 of 1, Scale 1" = 100', dated July 12, 2013.

Previous Reviews: August 13, 2013

FINDINGS

Planning/Feasibility Issues

☐ Acceptable as Presented

☒ Response Required

Geotechnical Report

☐ Acceptable as Presented

☒ Response Required

REMARKS

Gorian and Associates, Inc. (GAI, consultant) provided a response to the geotechnical review letter by the City of Agoura Hills dated August 13, 2013 regarding the proposed Agoura Equestrian Estates. The proposed development is located northeast of the intersection of US Highway 101 and Chesebro Road in Agoura Hills, CA. The property consists of an undeveloped, gently sloping, alluvial valley surrounded by moderate slopes on the east, south and north. The proposed development will include excavation and grading to create 15 level building pads on the alluvial valley. Cuts and fills are proposed at gentle gradients to heights of 12 and 5 feet respectively. Building pads will support residential construction above conventional foundations with concrete slabs on grade. Access to the project will be developed off of Chesebro Road. On-site infiltration of stormwater is proposed.

The City of Agoura Hills – Planning Department reviewed the above-referenced report and plans from a geotechnical perspective for compliance with applicable codes, guidelines, and standards of practice. GeoDynamics, Inc. (GDI) performed the geotechnical review on behalf of the City. Based upon the City's review of the above-referenced report and plans, the consultant shall adequately respond to the following **Planning/Feasibility** comments prior to consideration by the Planning Commission of approval. The Consultant should respond to the following **Report Review** comments prior to Building Plan-Check Approval. **Plan-Check** comments should be addressed in Building & Safety Plan Check. A separate geotechnical submittal is not required for plan-check comments.

Planning/Feasibility Comments

1. The consultant indicates that a "Remolded, Resheared" test was performed on the landslide materials and that this test was the basis for the selected residual shear strength parameters used in the translational slope stability analyses. The documentation provided for this test is incomplete. As per the County of Los Angeles Geotechnical Guidelines, "The stress-strain graphs must be submitted to justify all residual shear strengths to be used, in addition to the graphs of the failure envelope." The consultant should provide the missing documentation for the referenced test.

   Note: The stress-strain curves included in Figure 1 indicate that shear resistance under normal stress of 1000 is greater than shear resistance under 3000 psf. There seems to be some inadvertent discrepancies in the provided plots. In addition, the cyclic stress-strain curves (stress-strain curves for repeated shear) should also be provided.

2. Based on a cursory review of the NPDES Plan referenced above (HMK 2013), it appears that on-site infiltration system is proposed. As such, the consultant should evaluate the impact of such a system on the proposed development and perform an infiltration study as per the current County of Los Angeles guidelines and requirements. Mitigation measures should be recommended as necessary.

   Note: Vegetated Biofiltration is a form of Vegetated Buffer that should be investigated and addressed as per the County of Los Angeles Guidelines for Low Impact Development (LID) Best Management Practice (BMP). In addition, Plate 1.1 shows an infiltration basin immediately north of Lot 1. This basin should also be investigated and addressed as per the aforementioned guidelines.

Report Review Comments

1. The consultant should review final development plans, including the grading plan when they become available. A copy of the grading plan should be used as a base map for an updated geotechnical map. Additional geotechnical recommendations should be provided as necessary to address the various aspects of the development/grading plans.
2. The consultant appropriately recommends on page 1 of the above-referenced report that foundation to slope setback should comply with the City of Agoura Hills Building Code. However, on page 12, the consultant recommends that foundation to slope setback should comply with Chapter 18 of the California Building Code (CBC), which is less stringent than the City's building code. The consultant should reconcile this apparent discrepancy.

Plan-Check Comments

1. The name, address, and phone number of the Consultant and a list of all the applicable geotechnical reports shall be included on the building/grading plans.
2. The following note must appear on the grading and foundation plans: *"All retaining wall excavations shall be reviewed by the project engineering geologist for the presence of adversely oriented joint surfaces. Adverse surfaces shall be evaluated and supported in accordance with recommendations of the project geotechnical engineer."*
3. The grading plan should include the limits and depths of overexcavation for the swimming pool, the road and flatwork areas as recommended by the Consultant.
4. The following note must appear on the grading and foundation plans: "*Excavations shall be made in compliance with CAL/OSHA Regulations.*"

5. The following note must appear on the foundation plans: "*All foundation excavations must be observed and approved, in writing, by the Project Geotechnical Consultant prior to placement of reinforcing steel.*"
6. Foundation plans and foundation details shall clearly depict the embedment material and minimum depth of embedment for the foundations.
7. Drainage plans depicting all surface and subsurface non-erosive drainage devices, flow lines, and catch basins shall be included on the building plans.
8. Final grading, drainage, and foundation plans shall be reviewed, signed, and wet stamped by the consultant.
9. Provide a note on the grading and foundation plans that states: "*An as-built report shall be submitted to the City for review. This report prepared by the Geotechnical Consultant must include the results of all compaction tests as well as a map depicting the limits of fill, locations of all density tests, outline and elevations of all removal bottoms, keyway locations and bottom elevations, locations of all subdrains and flow line elevations, and location and elevation of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map.*"

If you have any questions regarding this review letter, please contact GDI at (805) 496-1222.

Respectfully Submitted,

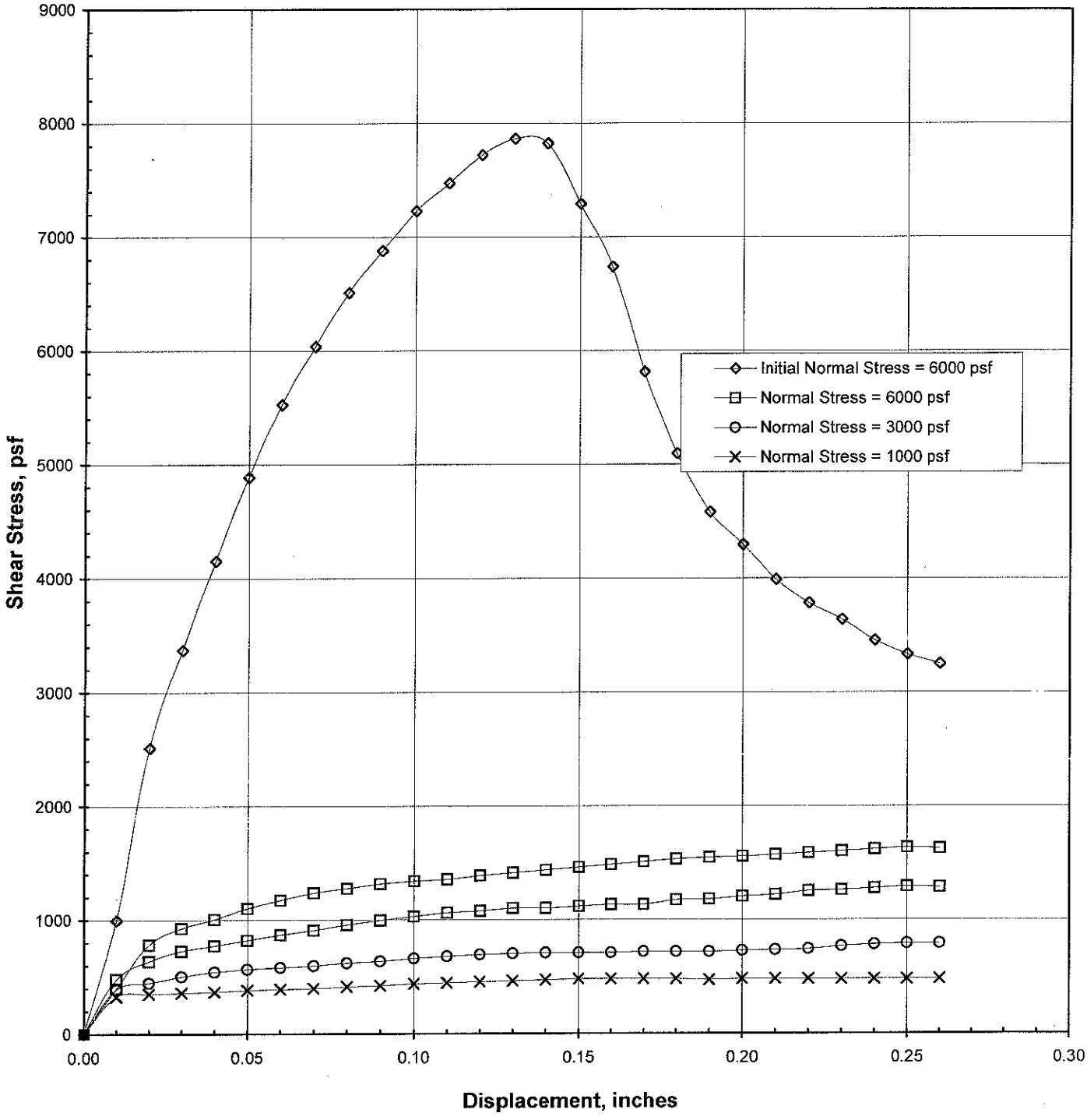
GeoDynamics, INC.

Ali Abdel-Haq
Geotechnical Engineering Reviewer
GE 2308 (exp. 12/31/13)

Christopher J. Sexton
Engineering Geologic Reviewer
CEG 1441 (exp. 11/30/14)

APPENDIX A

SHEAR TEST STRESS STRAIN PLOT



GORIAN & ASSOCIATES, INC. *Applied Earth Sciences* Geotechnical Engineers and Geologists	**Direct Shear Testing** Stress Strain Curves	Figure No.: 1
Work Order: **2232-0-FR-101**	Source of Sample: **B-10 @ 10'**	
Project: **Agoura Equestrian Estates**	Description: **Calabasas Formation - Claystone**	
Client: **Equine Estates, LLC**		

GORIAN & ASSOCIATES, INC.

Applied Earth Sciences
Geotechnical Engineers
Engineering Geologists
DSA Accepted Testing Laboratory
Special Inspection and Materials Testing

3595 Old Conejo Road
Thousand Oaks
California 91320-2122
805 375-9262
818 889-2137
805 375-9263 fax

November 12, 2013

Equine Estates, LLC
5423 Village Road, Suite 200
Long Beach, CA 90808

Work Order: 2232-0-FR-101

Attention: Mr. Benjamin Efraim

Subject: **RESPONSE TO CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET DATED AUGUST 13, 2013 PREPARED BY GEODYNAMICS, INC. REGARDING THE GEOTECHNICAL SITE EVALUATION FOR THE PROPOSED AGOURA EQUESTRIAN ESTATES, EAST OF CHESEBRO ROAD AND NORTH OF US 101, AGOURA HILLS, CALIFORNIA, REPORT 2232-0FR-100, DATED JULY 24, 2013**

INTRODUCTION

Presented herein are our item by item responses to the City of Agoura Hills City of Agoura Hills - Geotechnical Review Sheet dated August 13, 2013 regarding the proposed Agoura Equestrian Estates as addressed in our reference report of July 24, 2013. A copy of the review sheet is attached hereto for reference.

PLANNING/FEASIBILITY COMMENTS

COMMENT 1

The consultant indicates that features suspected to be landslides were delineated by others, but that subsequent subsurface explorations indicated no landslides were present. Weber (1984) indicates a landslide on the north-facing slope roughly south of Lots 7 & 8. The consultant should provide a brief summary of those areas previously identified as suspected landslides and the specific exploratory data that supports an interpretation that the suspected landslide is not present. In particular, the consultant should discuss what data precludes the landslide identified by Weber.

RESPONSE

In the previous investigations for the site, the features suspected to be landslides delineated by others were referenced from Weber (1984, Plate IIC). For ease of reference these three features have been added to our Revised Geotechnical Map attached herewith (Plate 1) and are discussed below.

The presence of the approximately 1.2 acre landslide feature on the north facing slope roughly south of Lots 7 and 8 was previously evaluated by this office via surficial mapping as well as the excavation of Boring B-12. Weber's interpretation of a landslide in this area appears to be based on the northeasterly dips of the bedding mapped in surficial outcrops in the area (a couple of marker beds are even delineated on Weber's map, one within the landslide limits) and the geomorphic expression of the north-

northeasterly facing hillside slope. As such, the mapped feature more than likely is representative of a translational landslide (bedding inclined in the direction of the slope) as opposed to a rotational failure. Given the mapped limits of the feature, Boring B-12 was excavated at the toe of slope where, based on the shallow on-lap of the alluvium, landslide debris should still be present. In situ Calabasas Formation bedrock was encountered dipping at moderate inclinations (40º to 54º) that are consistent with surficial outcrops of marker bed on the slope as well as within orientations measured in Boring B-13 at the top of the hill south of the mapped feature. No weak beds or clayey failure surfaces were observed. Consequently, it was concluded that the Weber feature was not a landslide based on the materials and structure encountered in Boring B-12 coupled with the surficial mapping data on the slope. New Cross Section D-D' was constructed to illustrate the subsurface geologic structural data, the surface limits of the Weber feature, and a hypothetical basal surface for the landslide given its interpreted surficial limits. As a final test, both translational and rotational slope stability analyses were performed for this cross section (which also represents the highest and steepest slope referred to in Comment 4 of the review). The results of the analyses for Cross Section D-D' indicate static Factors of Safety of over 1.8 for the translational case and over 2 for the rotational case.

A surficial landslide is mapped by Weber adjacent a draw on the southwesterly facing slope above Lot 10. Based on the length vs. width dimensions (long and skinny), the feature probably is representative of a shallow mudflow, rather than a landslide, especially being within/adjacent a drainage. While evident perhaps during the field mapping / air photo reconnaissance operations for the preparation of Weber (1984), geomorphic evidence for this feature was not observed during our field mapping operations (unlike the geomorphology for the shallow landslide above and east of Lot 9.) Slope gradients in the area of the purported failure are on the order of 2.5 to 3(h):1(v) at the highest, steepest portions; quickly flattening to 4+(h):1(v) for the majority of the failure. Given the distal proximity to proposed building pads, the overall flatness of the slope within and below the feature, and the more than likely relative thin nature of the deposit (if it exists), the presence of the feature should not preclude development of the site. If required, additional subsurface exploration can be performed at the appropriate stage of design to confirm the presence or absence of this feature.

In a similar circumstance, another approximately 1 acre landslide feature is interpreted by Weber on an east facing slope within a tributary to the major drainage southeast of the proposed development area. This feature, if it is a landslide, is remote to any proposed development and within an area of Proposed Open Space Deed Restricted Zoning.

COMMENT 2

Cross-Section C-C' depicts a relatively shallow landslide. Geologic structure in this area appears to be generally favorable. The consultant should provide a more detailed discussion of conditions that might have contributed to this failure and whether other slopes on the property may be subject to similar failures despite apparent favorable geologic structure. Mitigation measures should be recommended as necessary.

RESPONSE

The shallow landslide failure depicted on Section C-C' was interpreted based on geomorphic expression of the area noted during original field mapping operations and confirmed via subsurface exploration afforded by boring B-10 (10-15 feet thick). While the geologic structure of the underlying Modelo Formation bedrock along the range front is favorable, dipping northeasterly at 28º to 57º (borings B -8 through B-11 as well as surficial outcroppings), the failure occurred with a rotational failure surface truncating bedding. It was noted that the Modelo Formation derived landslide debris was weathered and fractured with the fractures often filled with gypsum. It is not obvious why this failure occurred where it did especially given apparently favorable geologic structure. The slope, although high (~150 feet) is at a 2(h):1(v) maximum slope ratio. It is noted however, that the west-southwest slope orientation of the

overall slope beyond the failure roughly parallels the strike orientation of the bedding underlying the slope and that orientation remains consistent for several hundred feet (~500 feet). This anti-dip slope orientation may be associated with less stress resistance and deeper weathering as it was noted that the soil profile was thicker relative to surrounding steeper more resistant slopes. We can only therefore surmise that given the height and steepness of the pre-failure slope coupled with orientation of the slope face parallel the strike of the bedding, the deeper weathered "rind' of the generally clayey, fractured, and gypsum infused Modelo Formation bedrock on the anti-dip slope failed rotationally. It does not seem likely that other slopes on the property would be subject to this failure as no other slopes have similar extended orientation expanses parallel to strike, but rather round off oblique to the strike orientation and appear to be more resistant/less weathered and can therefore maintain steeper slope gradients.

COMMENT 3

The consultant indicates that a "Remolded, Resheared" test was performed on the landslide materials and that this test was the basis for the selected residual shear strength parameters used in the translational slope stability analyses. The documentation provided for this test is incomplete. As per the County of Los Angeles Geotechnical Guidelines, "The stress-strain graphs must be submitted to justify all residual shear strengths to be used, in addition to the graphs of the failure envelope." The consultant should provide the missing documentation for the referenced test.

RESPONSE

The test sample was obtained by the geologist during the down hole logging at a depth of 10 feet within boring B-10. The sample was carefully excavated from the bed or high graded. The sample was remolded to in situ density prior to being sheared in at a high normal load to create a shear plane the sample was then resheared in one direction to form a slicked surface. The graphs of the failure envelope determined from the reshear tests performed in 1999 are presented in Figure 1.

COMMENT 4

The consultant should prepare a cross-section along the steepest slope east of Boring 12. The cross section should extend to the top of the ridge. Slope stability analyses (rotational and translational if necessary) should be performed and mitigation measures should be recommended as necessary.

RESPONSE

A cross section was constructed as requested through boring B-12 as shown in cross section D-D'. Cross section D-D' is shown on the current lot grading plan used for Plate 1. The geology of the slope was determined using the data from borings B-12 and B-13 with the data from boring B-13 projected onto the cross section. Slope stability analyses (both translational and rotational) were performed and included herein. See also Response to Comment 1.

COMMENT 5

Based on a cursory review of the NPDES Plan referenced above (HMK 2013}, it appears that on-site infiltration system Is proposed. As such, the consultant should evaluate the Impact of such a system on the proposed development and perform an infiltration study as per the current County of Los Angeles guidelines and requirements. Mitigation measures should be recommended as necessary.

RESPONSE

The current vesting tentative tract map (see Plates 1 and 1.1) indicates two "Vegetated Bio-filtration Basins" proposed on site. These basins are proposed to be approximately 5 feet deep and have slopes at 2(h):1(v) slope ratios. Based on subsurface exploration performed to date the alluvial soils in the vicinity of these basins are anticipated to consist of silty clays to sandy silty clays with marginal to insufficient infiltration rates. Based on conversations with representatives of HMK, the project design Civil Engineer, the proposed basins are to serve as bio-filtration systems acting in detention and not in a

retention/infiltration capacity. Consequently, infiltration is not part of the proposed Low Impact Development (LID) Best Management Practice (BMP) storm water mitigation design for the project.

REPORT REVIEW COMMENTS
COMMENT 1
The consultant should review final development plans, including the grading plan when they become available. A copy of the grading plan should be used as a base map for an updated geotechnical map. Additional geotechnical recommendations should be provided as necessary to address the various aspects of the development/grading plans.

RESPONSE
Acknowledged.

COMMENT 2
The consultant appropriately recommends on page 1 of the above-referenced report that foundation to slope setback should comply with the City of Agoura Hills Building Code. However, on page 12, the consultant recommends that foundation to slope setback should comply with Chapter 18 of the California Building Code (CBC), which is less stringent than the City's building code. The consultant should reconcile this apparent discrepancy.

RESPONSE
The building to slope setback should be per the City of Agoura Hills amendments (Ordinance No. 10-381) to the California Building Code.

PLAN-CHECK COMMENTS
The following should be added to the appropriate plans.

1. *The name, address, and phone number of the Consultant and a list of all the applicable geotechnical reports shall be included on the building/grading plans*.
2. *The following note must appear on the grading and foundation plans*: "All retaining wall excavations shall be reviewed by the project engineering geologist for the presence of adversely oriented joint surfaces. Adverse surfaces shall be evaluated and supported in accordance with recommendations of the project geotechnical engineer."
3. *The grading plan should include the limits and depths of over excavation for the swimming pool, the road, and flatwork areas as recommended by the Consultant.*
4. *The following note must appear on the grading and foundation plans: "*Excavations shall be made in compliance with CAL/OSHA Regulations."
5. *The following note must appear on the foundation plans:* "All foundation excavations must be observed and approved, in writing, by the Project Geotechnical Consultant prior to placement of reinforcing steel."
6. *Foundation plans and foundation details shall clearly depict the embedment material and minimum depth of embedment for the foundations.*
7. *Drainage plans depicting all surface and subsurface non-erosive drainage devices, flow lines, and catch basins shall be included on the building plans.*
8. *Final grading, drainage, and foundation plans shall be reviewed, signed, and wet stamped by the consultant.*
9. *Provide a note on the grading and foundation plans that states: "An as-built report shall be submitted to the City for review. This report prepared by the Geotechnical Consultant must include the results*

of all compaction tests as well as a map depicting the limits of fill, locations of all density tests, outline and elevations of all removal bottoms, keyway locations and bottom elevations, locations of all subdrains and flow line elevations, and location and elevation of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map."

RESPONSE

Plan check comments 1 through 9 are acknowledged and will be performed or implemented in due course by the appropriate design professionals during the appropriate design and construction phases of the project.

-o0o-

We trust the forgoing responses satisfy the current geotechnical consultation needs of the project. If you have questions concerning this response letter or require additional information, please do not hesitate to contact us.

Respectfully submitted,

Gorian and Associates, Inc.

By: Jerome J. Blunck, GE151
Principal Geotechnical Engineer

William F. Cavan, Jr. CEG 1161
Principal Engineering Geologist

Attachment: City Review Sheet
Appendix A - Slope Stability Analyses
Appendix B - Shear Test Stress Strain Plot
Plates 1 and 1.1 Revised Geotechnical Maps
Plates 2 and 3 - Geotechnical Cross Sections

Distribution: Addressee (6 for distribution and submittal)

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Date: August 13, 2013
GDI #: 13.00103.0188

CITY OF AGOURA HILLS - GEOTECHNICAL REVIEW SHEET

To: Allison Cook

Project Location: Agoura Equestrian Estates – Tract 72316, NEC Chesebro Road and US 101, Agoura Hills, California.

Planning Case #: 13-CUP-005/13-OTP-021

Building & Safety #:

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Previous Reviews: None

FINDINGS

Planning/Feasibility Issues

☐ Acceptable as Presented

☒ Response Required

Geotechnical Report

☐ Acceptable as Presented

☒ Response Required

REMARKS

Gorian and Associates, Inc. (GAI, consultant) provided the above-referenced report to address the Agoura Equestrian Estates development proposed just northeast of the intersection of US Highway 101 and Chesebro Road in Agoura Hills, CA. The proposed development is located just east of residential properties fronting on Chesebro Road, and consists of an undeveloped, gently sloping, alluvial valley surrounded by moderate slopes on the east, south and north. The proposed development will include excavation and grading to create 15 level building pads on the alluvial valley. Cuts and fills are proposed at gentle gradients to heights of 12 and 5 feet respectively. Building pads will support residential construction above conventional foundations with concrete slabs on grade. Access to the project will be developed off of Chesebro Road. On-site infiltration of stormwater is proposed.

The City of Agoura Hills – Planning Department reviewed the above-referenced report and plans from a geotechnical perspective for compliance with applicable codes, guidelines, and standards of practice. GeoDynamics, Inc. (GDI) performed the geotechnical review on behalf of the City. Based upon the City's review of the above-referenced report and plans, the consultant shall adequately respond to the following Planning/Feasibility comments prior to consideration by the Planning Commission of approval. The Consultant should respond to the following Report Review comment prior to Building Plan-Check

Approval. Plan-Check comments should be addressed in Building & Safety Plan Check. A separate geotechnical submittal is not required for plan-check comments.

Planning/Feasibility Comments

1. The consultant indicates that features suspected to be landslides were delineated by others, but that subsequent subsurface explorations indicated no landslides were present. Weber (1984) indicates a landslide on the north-facing slope roughly south of Lots 7 & 8. The consultant should provide a brief summary of those areas previously identified as suspected landslides and the specific exploratory data that supports an interpretation that the suspected landslide is not present. In particular, the consultant should discuss what data precludes the landslide identified by Weber.
2. Cross-Section C-C' depicts a relatively shallow landslide. Geologic structure in this area appears to be generally favorable. The consultant should provide a more detailed discussion of conditions that might have contributed to this failure and whether other slopes on the property may be subject to similar failures despite apparent favorable geologic structure. Mitigation measures should be recommended as necessary.
3. The consultant indicates that a "Remolded, Resheared" test was performed on the landslide materials and that this test was the basis for the selected residual shear strength parameters used in the translational slope stability analyses. The documentation provided for this test is incomplete. As per the County of Los Angeles Geotechnical Guidelines, "The stress-strain graphs must be submitted to justify all residual shear strengths to be used, in addition to the graphs of the failure envelope." The consultant should provide the missing documentation for the referenced test.
4. The consultant should prepare a cross-section along the steepest slope east of Boring 12. The cross section should extend to the top of the ridge. Slope stability analyses (rotational and translational if necessary) should be performed and mitigation measures should be recommended as necessary.
5. Based on a cursory review of the NPDES Plan referenced above (HMK 2013), it appears that on-site infiltration system is proposed. As such, the consultant should evaluate the impact of such a system on the proposed development and perform an infiltration study as per the current County of Los Angeles guidelines and requirements. Mitigation measures should be recommended as necessary.

Report Review Comments

1. The consultant should review final development plans, including the grading plan when they become available. A copy of the grading plan should be used as a base map for an updated geotechnical map. Additional geotechnical recommendations should be provided as necessary to address the various aspects of the development/grading plans.
2. The consultant appropriately recommends on page 1 of the above-referenced report that foundation to slope setback should comply with the City of Agoura Hills Building Code. However, on page 12, the consultant recommends that foundation to slope setback should comply with Chapter 18 of the California Building Code (CBC), which is less stringent than the City's building code. The consultant should reconcile this apparent discrepancy.

Plan-Check Comments

1. The name, address, and phone number of the Consultant and a list of all the applicable geotechnical reports shall be included on the building/grading plans.
2. The following note must appear on the grading and foundation plans: *"All retaining wall excavations shall be reviewed by the project engineering geologist for the presence of adversely oriented joint surfaces. Adverse surfaces shall be evaluated and supported in accordance with recommendations of the project geotechnical engineer."*
3. The grading plan should include the limits and depths of overexcavation for the swimming pool, the road and flatwork areas as recommended by the Consultant.
4. The following note must appear on the grading and foundation plans: "*Excavations shall be made in compliance with CAL/OSHA Regulations.*"

5. The following note must appear on the foundation plans: "*All foundation excavations must be observed and approved, in writing, by the Project Geotechnical Consultant prior to placement of reinforcing steel.*"
6. Foundation plans and foundation details shall clearly depict the embedment material and minimum depth of embedment for the foundations.
7. Drainage plans depicting all surface and subsurface non-erosive drainage devices, flow lines, and catch basins shall be included on the building plans.
8. Final grading, drainage, and foundation plans shall be reviewed, signed, and wet stamped by the consultant.
9. Provide a note on the grading and foundation plans that states: "*An as-built report shall be submitted to the City for review. This report prepared by the Geotechnical Consultant must include the results of all compaction tests as well as a map depicting the limits of fill, locations of all density tests, outline and elevations of all removal bottoms, keyway locations and bottom elevations, locations of all subdrains and flow line elevations, and location and elevation of all retaining wall backdrains and outlets. Geologic conditions exposed during grading must be depicted on an as-built geologic map.*"

If you have any questions regarding this review letter, please contact GDI at (805) 496-1222.

Respectfully Submitted,

GeoDynamics, INC.

Ali Abdel-Haq
Geotechnical Engineering Reviewer
GE 2308 (exp. 12/31/13)

Christopher J. Sexton
Engineering Geologic Reviewer
CEG 1441 (exp. 11/30/14)

APPENDIX A

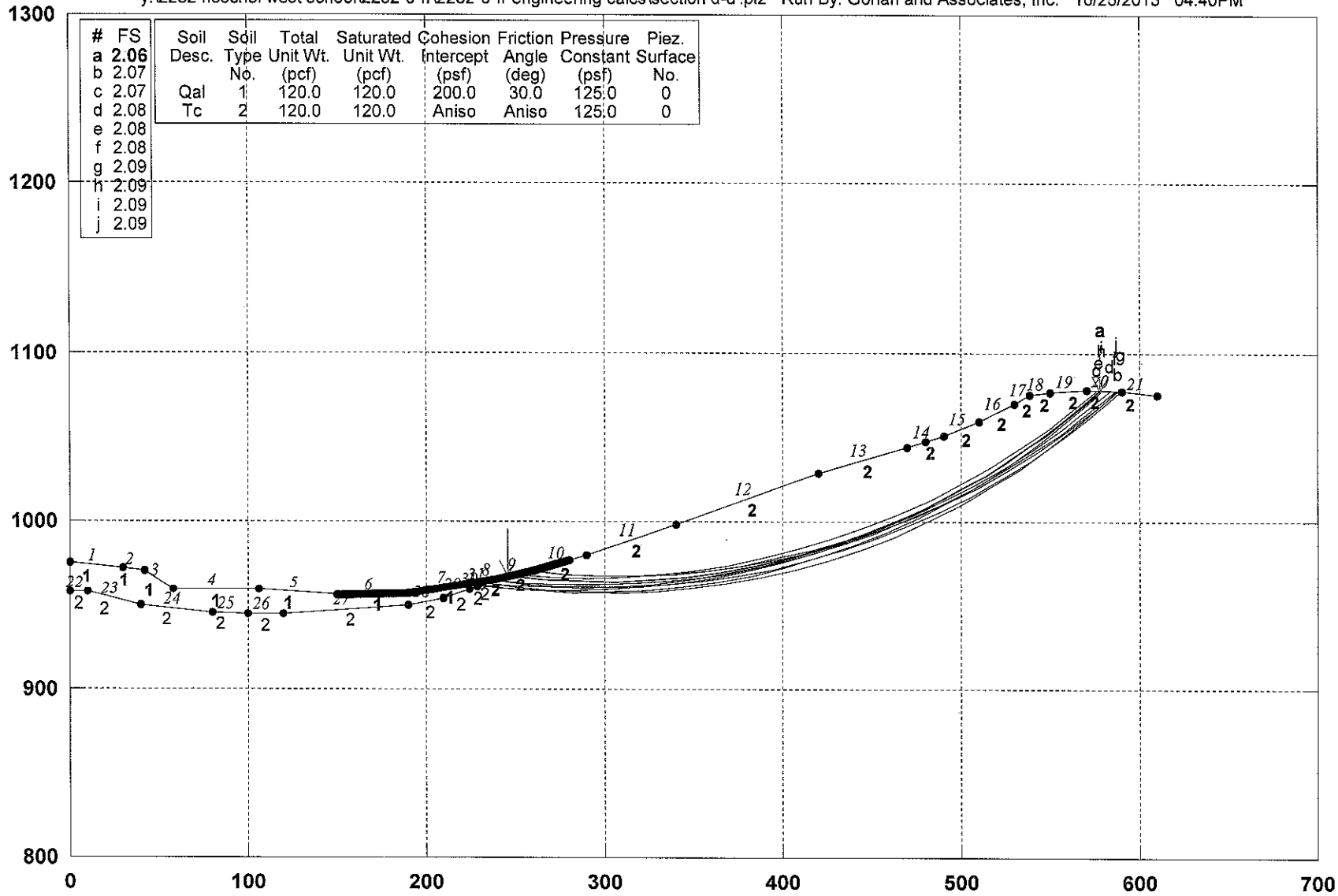
SLOPE STABILITY ANALYSES

Section D-D'

Cross Section D-D has been added to Plate 1 and was evaluated for both rotational and translational failures using the previously established shear strengths. The results of the analyses indicate that the critical factor of safety is greater than 1.5 and 1.1 for static and pseudostatic conditions, respectively.

WO 2232-0-FR-100 Section D-D'

y:\2232 heschel west school\2232-0-fr\2232-0-fr engineering calcs\section d-d'.pl2 Run By: Gorian and Associates, Inc. 10/25/2013 04:40PM



#	FS
a	2.06
b	2.07
c	2.07
d	2.08
e	2.08
f	2.08
g	2.09
h	2.09
i	2.09
j	2.09

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pressure Constant (psf)	Piez. Surface No.
Qal	1	120.0	120.0	200.0	30.0	125.0	0
Tc	2	120.0	120.0	Aniso	Aniso	125.0	0

GSTABL7 v.2 FSmin=2.06

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

***** GSTABL7 *****

** GSTABL7 by Garry H. Gregory, P.E. **

** Original Version 1.0, January 1996; Current Version 2.005, Sept. 2006 **

****

SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 10/25/2013
Time of Run: 04:40PM
Run By: Gorian and Associates, Inc.
Input Data Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d'.dat
Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d'.OUT
Unit System: English
Plotted Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d'.PLT
PROBLEM DESCRIPTION: WO 2232-0-FR-100
Section D-D'

BOUNDARY COORDINATES
21 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	975.00	30.00	972.00	1
2	30.00	972.00	42.00	971.00	1
3	42.00	971.00	58.00	959.00	1
4	58.00	959.00	106.00	959.00	1
5	106.00	959.00	150.00	956.00	1
6	150.00	956.00	190.00	957.00	1
7	190.00	957.00	232.00	964.50	1
8	232.00	964.50	240.00	966.00	2
9	240.00	966.00	260.00	971.00	2
10	260.00	971.00	290.00	980.00	2
11	290.00	980.00	340.00	998.00	2
12	340.00	998.00	420.00	1029.00	2
13	420.00	1029.00	470.00	1044.00	2
14	470.00	1044.00	490.00	1051.00	2
15	490.00	1051.00	510.00	1059.00	2
16	510.00	1059.00	530.00	1070.00	2
17	530.00	1070.00	538.00	1075.00	2
18	538.00	1075.00	550.00	1077.00	2
19	550.00	1077.00	570.00	1078.00	2
20	570.00	1078.00	590.00	1077.50	2
21	590.00	1077.50	610.00	1075.00	2
22	0.00	958.00	10.00	957.50	2
23	10.00	957.50	40.00	950.00	2
24	40.00	950.00	80.00	946.00	2
25	80.00	946.00	100.00	945.00	2
26	100.00	945.00	120.00	945.00	2
27	120.00	945.00	190.00	950.00	2
28	190.00	950.00	210.00	954.00	2
29	210.00	954.00	224.00	959.00	2
30	224.00	959.00	229.00	961.00	2
31	229.00	961.00	232.00	964.50	2

User Specified Y-Origin = 800.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS
2 Type(s) of Soil

Soil	Total	Saturated	Cohesion	Friction	Pore	Pressure	Piez.

Type No.	Unit Wt. (pcf)	Unit Wt. (pcf)	Intercept (psf)	Angle (deg)	Pressure Param.	Constant (psf)	Surface No.
1	120.0	120.0	200.0	30.0	0.00	125.0	0
2	120.0	120.0	400.0	36.0	0.00	125.0	0

ANISOTROPIC STRENGTH PARAMETERS
1 soil type(s)
Soil Type 2 Is Anisotropic
Number Of Direction Ranges Specified = 3

Direction Range No.	Counterclockwise Direction Limit (deg)	Cohesion Intercept (psf)	Friction Angle (deg)
1	28.0	400.00	36.00
2	40.0	400.00	8.00
3	90.0	400.00	36.00

ANISOTROPIC SOIL NOTES:
(1) An input value of 0.01 for C and/or Phi will cause Aniso C and/or Phi to be ignored in that range.
(2) An input value of 0.02 for Phi will set both Phi and C equal to zero, with no water weight in the tension crack.
(3) An input value of 0.03 for Phi will set both Phi and C equal to zero, with water weight in the tension crack.
A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
50 Surface(s) Initiate(s) From Each Of 100 Points Equally Spaced Along The Ground Surface Between X = 150.00(ft)
and X = 280.00(ft)
Each Surface Terminates Between X = 480.00(ft)
and X = 590.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 0.00(ft)
20.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Evaluated. They Are Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 5000
Number of Trial Surfaces With Valid FS = 5000
Statistical Data On All Valid FS Values:
FS Max = 3.863 FS Min = 2.057 FS Ave = 2.900
Standard Deviation = 0.476 Coefficient of Variation = 16.41 %
Failure Surface Specified By 20 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	245.858	967.465
2	265.753	965.413
3	285.724	964.350
4	305.724	964.279
5	325.703	965.200
6	345.612	967.111
7	365.401	970.006
8	385.022	973.879
9	404.427	978.721
10	423.569	984.518
11	442.399	991.258
12	460.872	998.923
13	478.942	1007.495
14	496.564	1016.953
15	513.696	1027.272
16	530.295	1038.429
17	546.321	1050.395
18	561.733	1063.141
19	576.494	1076.635
20	577.657	1077.809

Circle Center At X = 297.173 ; Y = 1367.185 ; and Radius = 403.001
Factor of Safety
*** 2.057 ***

Individual data on the 30 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	14.1	4237.5	0.0	1777.1	0.	0.	0.0	0.0	0.0
2	5.8	4247.9	0.0	722.9	0.	0.	0.0	0.0	0.0
3	20.0	25979.5	0.0	2500.0	0.	0.	0.0	0.0	0.0
4	4.3	7704.4	0.0	534.5	0.	0.	0.0	0.0	0.0
5	15.7	34952.0	0.0	1965.5	0.	0.	0.0	0.0	0.0
6	20.0	58779.2	0.0	2500.0	0.	0.	0.0	0.0	0.0
7	14.3	50680.8	0.0	1795.3	0.	0.	0.0	0.0	0.0
8	5.6	21714.2	0.0	704.7	0.	0.	0.0	0.0	0.0
9	19.8	84184.8	0.0	2500.0	0.	0.	0.0	0.0	0.0
10	19.6	93480.8	0.0	2500.0	0.	0.	0.0	0.0	0.0
11	19.4	99912.0	0.0	2500.0	0.	0.	0.0	0.0	0.0
12	15.6	83912.1	0.0	2033.9	0.	0.	0.0	0.0	0.0
13	3.6	19509.5	0.0	466.1	0.	0.	0.0	0.0	0.0
14	18.8	101698.6	0.0	2500.0	0.	0.	0.0	0.0	0.0
15	18.5	96206.0	0.0	2500.0	0.	0.	0.0	0.0	0.0
16	9.1	45505.7	0.0	1262.9	0.	0.	0.0	0.0	0.0
17	8.9	43123.8	0.0	1237.1	0.	0.	0.0	0.0	0.0
18	11.1	51225.7	0.0	1568.8	0.	0.	0.0	0.0	0.0
19	6.6	29240.7	0.0	931.2	0.	0.	0.0	0.0	0.0
20	13.4	56936.1	0.0	1960.6	0.	0.	0.0	0.0	0.0
21	3.7	15017.1	0.0	539.4	0.	0.	0.0	0.0	0.0
22	16.3	64103.7	0.0	2455.5	0.	0.	0.0	0.0	0.0
23	0.3	1125.5	0.0	44.5	0.	0.	0.0	0.0	0.0
24	7.7	28926.9	0.0	1201.9	0.	0.	0.0	0.0	0.0
25	8.3	28362.1	0.0	1298.0	0.	0.	0.0	0.0	0.0
26	3.7	10939.4	0.0	596.8	0.	0.	0.0	0.0	0.0
27	11.7	26757.3	0.0	1903.2	0.	0.	0.0	0.0	0.0
28	8.3	10787.2	0.0	1400.1	0.	0.	0.0	0.0	0.0
29	6.5	3313.9	0.0	1099.9	0.	0.	0.0	0.0	0.0
30	1.2	83.8	0.0	206.4	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	258.989	970.747
2	278.893	968.782
3	298.868	967.793
4	318.868	967.784
5	338.845	968.755
6	358.749	970.703
7	378.535	973.624
8	398.154	977.511
9	417.558	982.354
10	436.703	988.142
11	455.540	994.861
12	474.026	1002.494
13	492.116	1011.024
14	509.767	1020.430
15	526.935	1030.689
16	543.580	1041.776
17	559.662	1053.666
18	575.143	1066.329
19	587.576	1077.561

Circle Center At X = 309.048 ; Y = 1375.826 ; and Radius = 408.160

Factor of Safety

*** 2.069 ***

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	249.798	968.449
2	269.748	967.045
3	289.743	966.582
4	309.737	967.061

5	329.687	968.482
6	349.547	970.840
7	369.275	974.130
8	388.825	978.347
9	408.155	983.479
10	427.223	989.516
11	445.984	996.444
12	464.399	1004.248
13	482.426	1012.910
14	500.024	1022.412
15	517.156	1032.732
16	533.783	1043.847
17	549.867	1055.734
18	565.375	1068.364
19	575.962	1077.851

Circle Center At X = 289.572 ; Y = 1391.151 ; and Radius = 424.569

Factor of Safety

*** 2.071 ***

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	257.676	970.419
2	277.591	968.571
3	297.572	967.705
4	317.572	967.823
5	337.541	968.926
6	357.432	971.010
7	377.197	974.071
8	396.787	978.100
9	416.154	983.089
10	435.253	989.025
11	454.037	995.893
12	472.460	1003.678
13	490.477	1012.360
14	508.045	1021.918
15	525.122	1032.329
16	541.665	1043.568
17	557.635	1055.608
18	572.994	1068.419
19	583.040	1077.674

Circle Center At X = 305.165 ; Y = 1373.894 ; and Radius = 406.260

Factor of Safety

*** 2.075 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	220.909	962.519
2	240.784	960.285
3	260.740	958.971
4	280.737	958.581
5	300.729	959.114
6	320.676	960.570
7	340.535	962.946
8	360.262	966.237
9	379.816	970.435
10	399.156	975.532
11	418.240	981.518
12	437.026	988.378
13	455.476	996.098
14	473.549	1004.663
15	491.208	1014.053
16	508.414	1024.249
17	525.131	1035.228
18	541.322	1046.969
19	556.954	1059.444
20	571.994	1072.628
21	577.386	1077.815

Circle Center At X = 279.193 ; Y = 1391.456 ; and Radius = 432.878

Factor of Safety

*** 2.075 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	235.353	965.129
2	255.261	963.216
3	275.236	962.201
4	295.235	962.088
5	315.220	962.877
6	335.149	964.565
7	354.981	967.149
8	374.677	970.624
9	394.196	974.983
10	413.499	980.217
11	432.546	986.316
12	451.299	993.267
13	469.720	1001.056
14	487.772	1009.667
15	505.417	1019.082
16	522.620	1029.284
17	539.345	1040.250
18	555.560	1051.958
19	571.231	1064.385
20	586.325	1077.506
21	586.414	1077.590

Circle Center At X = 287.743 ; Y = 1405.766 ; and Radius = 443.741

Factor of Safety

*** 2.084 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	235.353	965.129
2	255.204	962.690
3	275.147	961.188
4	295.140	960.626
5	315.136	961.005
6	335.092	962.323
7	354.965	964.579
8	374.709	967.767
9	394.282	971.880
10	413.639	976.909
11	432.738	982.844
12	451.538	989.669
13	469.995	997.372
14	488.069	1005.934
15	505.721	1015.337
16	522.911	1025.559
17	539.602	1036.579
18	555.755	1048.372
19	571.336	1060.911
20	586.310	1074.169
21	589.740	1077.506

Circle Center At X = 297.093 ; Y = 1385.726 ; and Radius = 425.105

Factor of Safety

*** 2.085 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	227.474	963.692
2	247.371	961.659
3	267.340	960.545
4	287.339	960.352
5	307.326	961.079
6	327.258	962.726
7	347.093	965.289

8	366.789	968.763
9	386.304	973.140
10	405.597	978.410
11	424.627	984.563
12	443.353	991.586
13	461.737	999.464
14	479.738	1008.180
15	497.318	1017.715
16	514.441	1028.050
17	531.070	1039.162
18	547.170	1051.028
19	562.706	1063.622
20	577.646	1076.919
21	578.535	1077.787

Circle Center At X = 281.539 ; Y = 1394.581 ; and Radius = 434.268

Factor of Safety

*** 2.087 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	223.535	962.988
2	243.333	960.151
3	263.246	958.295
4	283.228	957.425
5	303.227	957.543
6	323.197	958.648
7	343.087	960.738
8	362.850	963.807
9	382.438	967.849
10	401.801	972.853
11	420.894	978.808
12	439.670	985.697
13	458.083	993.506
14	476.087	1002.215
15	493.640	1011.802
16	510.698	1022.244
17	527.219	1033.515
18	543.163	1045.589
19	558.492	1058.435
20	573.167	1072.023
21	578.800	1077.780

Circle Center At X = 290.848 ; Y = 1362.227 ; and Radius = 404.873

Factor of Safety

*** 2.088 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	228.788	963.926
2	248.538	960.780
3	268.422	958.626
4	288.389	957.470
5	308.388	957.316
6	328.370	958.163
7	348.285	960.009
8	368.082	962.850
9	387.712	966.678
10	407.126	971.485
11	426.275	977.257
12	445.111	983.981
13	463.587	991.639
14	481.656	1000.213
15	499.273	1009.680
16	516.394	1020.018
17	532.976	1031.200
18	548.978	1043.198
19	564.358	1055.982
20	579.080	1069.520

```
   21        587.004     1077.575
Circle Center At X =   301.474 ; Y =  1356.620 ; and Radius =   399.364
       Factor of Safety
      ***    2.088   ***
          **** END OF GSTABL7 OUTPUT ****
```

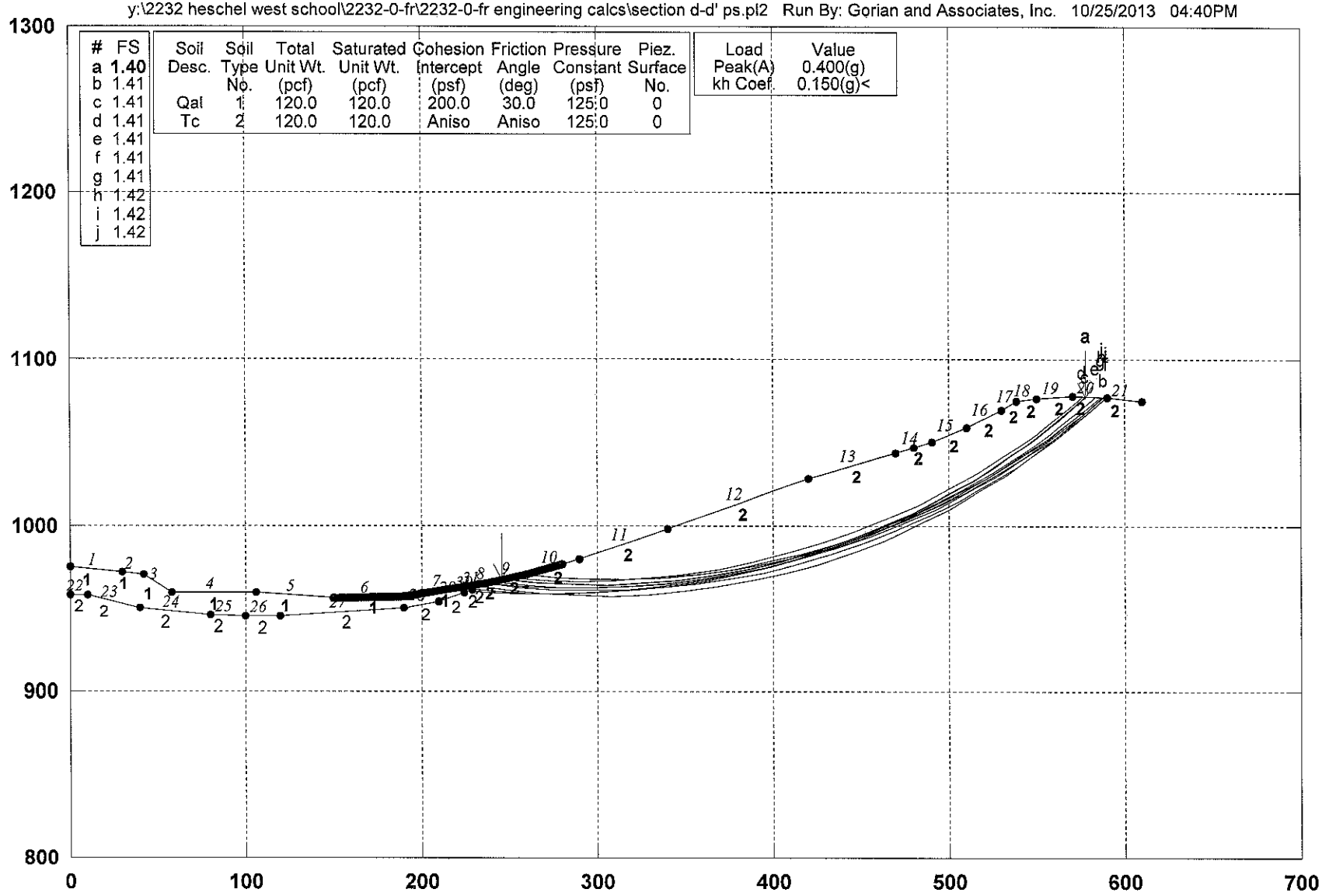
WO 2232-0-FR-100 Section D-D' pseudo-static

y:\2232 heschel west school\2232-0-fr\2232-0-fr engineering calcs\section d-d' ps.pl2 Run By: Gorian and Associates, Inc. 10/25/2013 04:40PM

#	FS
a	1.40
b	1.41
c	1.41
d	1.41
e	1.41
f	1.41
g	1.41
h	1.42
i	1.42
j	1.42

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pressure Constant (psf)	Piez. Surface No.
Qal	1	120.0	120.0	200.0	30.0	125.0	0
Tc	2	120.0	120.0	Aniso	Aniso	125.0	0

Load	Value
Peak(A)	0.400(g)
kh Coef.	0.150(g)<



GSTABL7 v.2 FSmin=1.40

Safety Factors Are Calculated By The Modified Bishop Method

GSTABL7

*** GSTABL7 ***

** GSTABL7 by Garry H. Gregory, P.E. **

** Original Version 1.0, January 1996; Current Version 2.005, Sept. 2006 **

****

SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 10/25/2013
Time of Run: 04:40PM
Run By: Gorian and Associates, Inc.
Input Data Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' ps.dat
Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' ps.OUT
Unit System: English
Plotted Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' ps.PLT
PROBLEM DESCRIPTION: WO 2232-0-FR-100
Section D-D' pseudo-static

BOUNDARY COORDINATES

21 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	975.00	30.00	972.00	1
2	30.00	972.00	42.00	971.00	1
3	42.00	971.00	58.00	959.00	1
4	58.00	959.00	106.00	959.00	1
5	106.00	959.00	150.00	956.00	1
6	150.00	956.00	190.00	957.00	1
7	190.00	957.00	232.00	964.50	1
8	232.00	964.50	240.00	966.00	2
9	240.00	966.00	260.00	971.00	2
10	260.00	971.00	290.00	980.00	2
11	290.00	980.00	340.00	998.00	2
12	340.00	998.00	420.00	1029.00	2
13	420.00	1029.00	470.00	1044.00	2
14	470.00	1044.00	490.00	1051.00	2
15	490.00	1051.00	510.00	1059.00	2
16	510.00	1059.00	530.00	1070.00	2
17	530.00	1070.00	538.00	1075.00	2
18	538.00	1075.00	550.00	1077.00	2
19	550.00	1077.00	570.00	1078.00	2
20	570.00	1078.00	590.00	1077.50	2
21	590.00	1077.50	610.00	1075.00	2
22	0.00	958.00	10.00	957.50	2
23	10.00	957.50	40.00	950.00	2
24	40.00	950.00	80.00	946.00	2
25	80.00	946.00	100.00	945.00	2
26	100.00	945.00	120.00	945.00	2
27	120.00	945.00	190.00	950.00	2
28	190.00	950.00	210.00	954.00	2
29	210.00	954.00	224.00	959.00	2
30	224.00	959.00	229.00	961.00	2
31	229.00	961.00	232.00	964.50	2

User Specified Y-Origin = 800.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil	Total	Saturated	Cohesion	Friction	Pore	Pressure	Piez.

Type No.	Unit Wt. (pcf)	Unit Wt. (pcf)	Intercept (psf)	Angle (deg)	Pressure Param.	Constant (psf)	Surface No.
1	120.0	120.0	200.0	30.0	0.00	125.0	0
2	120.0	120.0	400.0	36.0	0.00	125.0	0

ANISOTROPIC STRENGTH PARAMETERS
1 soil type(s)
Soil Type 2 Is Anisotropic
Number Of Direction Ranges Specified = 3

Direction Range No.	Counterclockwise Direction Limit (deg)	Cohesion Intercept (psf)	Friction Angle (deg)
1	28.0	400.00	36.00
2	40.0	400.00	8.00
3	90.0	400.00	36.00

ANISOTROPIC SOIL NOTES:
(1) An input value of 0.01 for C and/or Phi will cause Aniso C and/or Phi to be ignored in that range.
(2) An input value of 0.02 for Phi will set both Phi and C equal to zero, with no water weight in the tension crack.
(3) An input value of 0.03 for Phi will set both Phi and C equal to zero, with water weight in the tension crack.
Specified Peak Ground Acceleration Coefficient (A) = 0.400(g)
Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)
Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
Specified Seismic Pore-Pressure Factor = 0.000
A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
50 Surface(s) Initiate(s) From Each Of 100 Points Equally Spaced
Along The Ground Surface Between X = 150.00(ft)
and X = 280.00(ft)
Each Surface Terminates Between X = 480.00(ft)
and X = 590.00(ft)
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = 0.00(ft)
20.00(ft) Line Segments Define Each Trial Failure Surface.
Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Evaluated. They Are Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Modified Bishop Method * *
Total Number of Trial Surfaces Attempted = 5000
Number of Trial Surfaces With Valid FS = 5000
Statistical Data On All Valid FS Values:
FS Max = 2.670 FS Min = 1.403 FS Ave = 1.979
Standard Deviation = 0.334 Coefficient of Variation = 16.88 %
Failure Surface Specified By 20 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	245.858	967.465
2	265.753	965.413
3	285.724	964.350
4	305.724	964.279
5	325.703	965.200
6	345.612	967.111
7	365.401	970.006
8	385.022	973.879
9	404.427	978.721
10	423.569	984.518
11	442.399	991.258
12	460.872	998.923
13	478.942	1007.495
14	496.564	1016.953
15	513.696	1027.272
16	530.295	1038.429
17	546.321	1050.395
18	561.733	1063.141
19	576.494	1076.635

20 577.657 1077.809

Circle Center At X = 297.173 ; Y = 1367.185 ; and Radius = 403.001

Factor of Safety

*** 1.403 ***

Individual data on the 30 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	14.1	4237.5	0.0	1777.1	0.	0.	635.6	0.0	0.0
2	5.8	4247.9	0.0	722.9	0.	0.	637.2	0.0	0.0
3	20.0	25979.5	0.0	2500.0	0.	0.	3896.9	0.0	0.0
4	4.3	7704.4	0.0	534.5	0.	0.	1155.7	0.0	0.0
5	15.7	34952.0	0.0	1965.5	0.	0.	5242.8	0.0	0.0
6	20.0	58779.2	0.0	2500.0	0.	0.	8816.9	0.0	0.0
7	14.3	50680.8	0.0	1795.3	0.	0.	7602.1	0.0	0.0
8	5.6	21714.2	0.0	704.7	0.	0.	3257.1	0.0	0.0
9	19.8	84184.8	0.0	2500.0	0.	0.	12627.7	0.0	0.0
10	19.6	93480.8	0.0	2500.0	0.	0.	14022.1	0.0	0.0
11	19.4	99912.0	0.0	2500.0	0.	0.	14986.8	0.0	0.0
12	15.6	83912.1	0.0	2033.9	0.	0.	12586.8	0.0	0.0
13	3.6	19509.5	0.0	466.1	0.	0.	2926.4	0.0	0.0
14	18.8	101698.6	0.0	2500.0	0.	0.	15254.8	0.0	0.0
15	18.5	96206.0	0.0	2500.0	0.	0.	14430.9	0.0	0.0
16	9.1	45505.7	0.0	1262.9	0.	0.	6825.9	0.0	0.0
17	8.9	43123.8	0.0	1237.1	0.	0.	6468.6	0.0	0.0
18	11.1	51225.7	0.0	1568.8	0.	0.	7683.9	0.0	0.0
19	6.6	29240.7	0.0	931.2	0.	0.	4386.1	0.0	0.0
20	13.4	56936.1	0.0	1960.6	0.	0.	8540.4	0.0	0.0
21	3.7	15017.1	0.0	539.4	0.	0.	2252.6	0.0	0.0
22	16.3	64103.7	0.0	2455.5	0.	0.	9615.6	0.0	0.0
23	0.3	1125.5	0.0	44.5	0.	0.	168.8	0.0	0.0
24	7.7	28926.9	0.0	1201.9	0.	0.	4339.0	0.0	0.0
25	8.3	28362.1	0.0	1298.0	0.	0.	4254.3	0.0	0.0
26	3.7	10939.4	0.0	596.8	0.	0.	1640.9	0.0	0.0
27	11.7	26757.3	0.0	1903.2	0.	0.	4013.6	0.0	0.0
28	8.3	10787.2	0.0	1400.1	0.	0.	1618.1	0.0	0.0
29	6.5	3313.9	0.0	1099.9	0.	0.	497.1	0.0	0.0
30	1.2	83.8	0.0	206.4	0.	0.	12.6	0.0	0.0

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	258.989	970.747
2	278.893	968.782
3	298.868	967.793
4	318.868	967.784
5	338.845	968.755
6	358.749	970.703
7	378.535	973.624
8	398.154	977.511
9	417.558	982.354
10	436.703	988.142
11	455.540	994.861
12	474.026	1002.494
13	492.116	1011.024
14	509.767	1020.430
15	526.935	1030.689
16	543.580	1041.776
17	559.662	1053.666
18	575.143	1066.329
19	587.576	1077.561

Circle Center At X = 309.048 ; Y = 1375.826 ; and Radius = 408.160

Factor of Safety

*** 1.405 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)

1	220.909	962.519
2	240.784	960.285
3	260.740	958.971
4	280.737	958.581
5	300.729	959.114
6	320.676	960.570
7	340.535	962.946
8	360.262	966.237
9	379.816	970.435
10	399.156	975.532
11	418.240	981.518
12	437.026	988.378
13	455.476	996.098
14	473.549	1004.663
15	491.208	1014.053
16	508.414	1024.249
17	525.131	1035.228
18	541.322	1046.969
19	556.954	1059.444
20	571.994	1072.628
21	577.386	1077.815

Circle Center At X = 279.193 ; Y = 1391.456 ; and Radius = 432.878

Factor of Safety

*** 1.410 ***

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	249.798	968.449
2	269.748	967.045
3	289.743	966.582
4	309.737	967.061
5	329.687	968.482
6	349.547	970.840
7	369.275	974.130
8	388.825	978.347
9	408.155	983.479
10	427.223	989.516
11	445.984	996.444
12	464.399	1004.248
13	482.426	1012.910
14	500.024	1022.412
15	517.156	1032.732
16	533.783	1043.847
17	549.867	1055.734
18	565.375	1068.364
19	575.962	1077.851

Circle Center At X = 289.572 ; Y = 1391.151 ; and Radius = 424.569

Factor of Safety

*** 1.412 ***

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	257.676	970.419
2	277.591	968.571
3	297.572	967.705
4	317.572	967.823
5	337.541	968.926
6	357.432	971.010
7	377.197	974.071
8	396.787	978.100
9	416.154	983.089
10	435.253	989.025
11	454.037	995.893
12	472.460	1003.678
13	490.477	1012.360
14	508.045	1021.918
15	525.122	1032.329

16	541.665	1043.568
17	557.635	1055.608
18	572.994	1068.419
19	583.040	1077.674

Circle Center At X = 305.165 ; Y = 1373.894 ; and Radius = 406.260

Factor of Safety

*** 1.412 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	235.353	965.129
2	255.204	962.690
3	275.147	961.188
4	295.140	960.626
5	315.136	961.005
6	335.092	962.323
7	354.965	964.579
8	374.709	967.767
9	394.282	971.880
10	413.639	976.909
11	432.738	982.844
12	451.538	989.669
13	469.995	997.372
14	488.069	1005.934
15	505.721	1015.337
16	522.911	1025.559
17	539.602	1036.579
18	555.755	1048.372
19	571.336	1060.911
20	586.310	1074.169
21	589.740	1077.506

Circle Center At X = 297.093 ; Y = 1385.726 ; and Radius = 425.105

Factor of Safety

*** 1.413 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	235.353	965.129
2	255.261	963.216
3	275.236	962.201
4	295.235	962.088
5	315.220	962.877
6	335.149	964.565
7	354.981	967.149
8	374.677	970.624
9	394.196	974.983
10	413.499	980.217
11	432.546	986.316
12	451.299	993.267
13	469.720	1001.056
14	487.772	1009.667
15	505.417	1019.082
16	522.620	1029.284
17	539.345	1040.250
18	555.560	1051.958
19	571.231	1064.385
20	586.325	1077.506
21	586.414	1077.590

Circle Center At X = 287.743 ; Y = 1405.766 ; and Radius = 443.741

Factor of Safety

*** 1.413 ***

Failure Surface Specified By 22 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	215.656	961.581
2	235.571	959.738
3	255.545	958.722

4	275.544	958.536
5	295.534	959.180
6	315.480	960.653
7	335.347	962.952
8	355.102	966.074
9	374.710	970.013
10	394.138	974.762
11	413.352	980.313
12	432.320	986.657
13	451.007	993.782
14	469.383	1001.677
15	487.416	1010.327
16	505.074	1019.719
17	522.327	1029.835
18	539.145	1040.658
19	555.500	1052.170
20	571.363	1064.350
21	586.707	1077.178
22	587.139	1077.572

Circle Center At X = 270.033 ; Y = 1440.300 ; and Radius = 481.797

Factor of Safety

*** 1.416 ***

Failure Surface Specified By 20 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	239.293	965.867
2	259.190	963.841
3	279.158	962.725
4	299.157	962.523
5	319.145	963.234
6	339.079	964.858
7	358.918	967.391
8	378.620	970.827
9	398.145	975.160
10	417.452	980.380
11	436.500	986.477
12	455.250	993.437
13	473.662	1001.247
14	491.698	1009.890
15	509.321	1019.347
16	526.493	1029.600
17	543.179	1040.627
18	559.343	1052.404
19	574.953	1064.907
20	589.301	1077.517

Circle Center At X = 293.592 ; Y = 1400.086 ; and Radius = 437.600

Factor of Safety

*** 1.416 ***

Failure Surface Specified By 21 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	228.788	963.926
2	248.538	960.780
3	268.422	958.626
4	288.389	957.470
5	308.388	957.316
6	328.370	958.163
7	348.285	960.009
8	368.082	962.850
9	387.712	966.678
10	407.126	971.485
11	426.275	977.257
12	445.111	983.981
13	463.587	991.639
14	481.656	1000.213
15	499.273	1009.680
16	516.394	1020.018

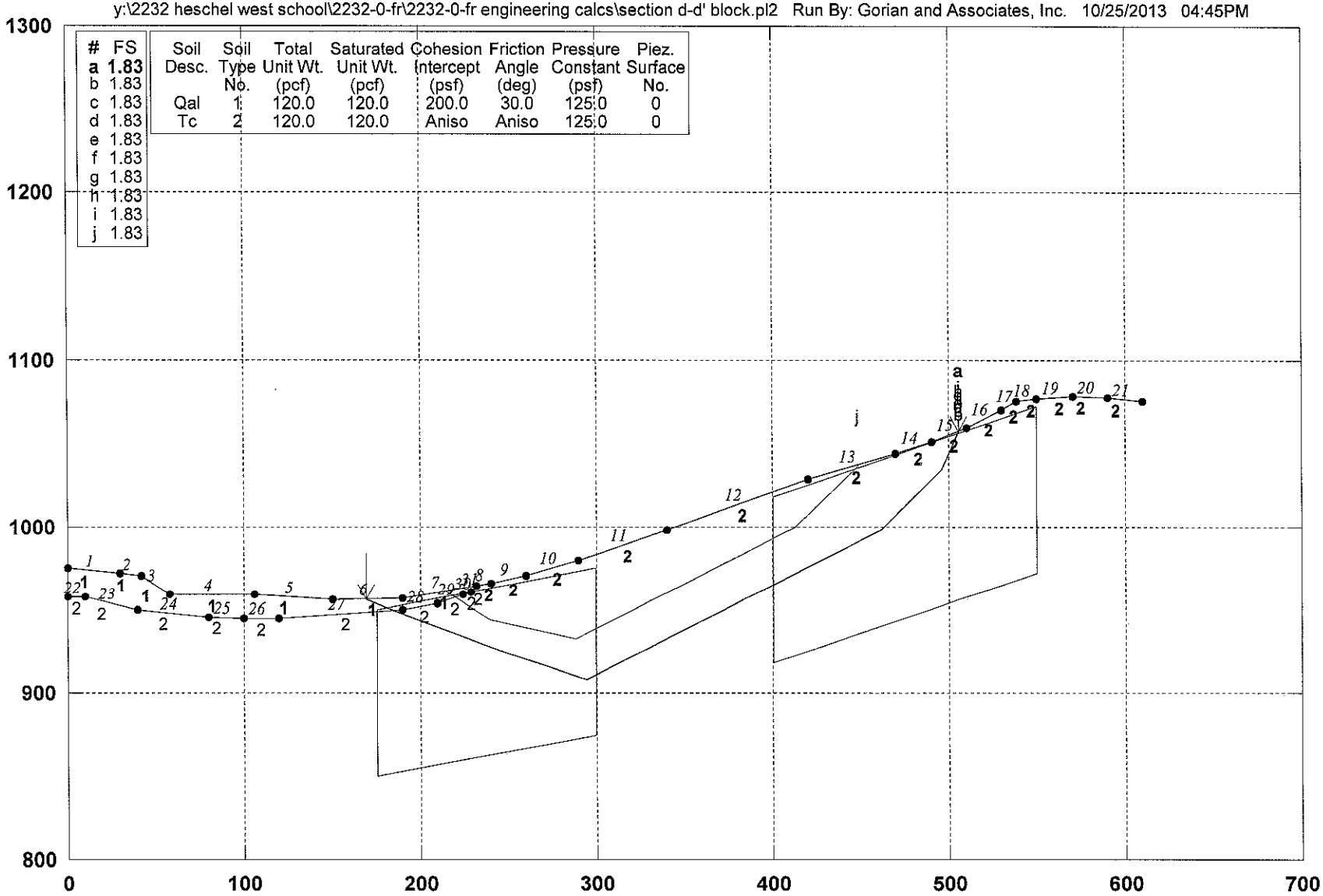
```
   17         532.976      1031.200
   18         548.978      1043.198
   19         564.358      1055.982
   20         579.080      1069.520
   21         587.004      1077.575
Circle Center At X =   301.474 ; Y =  1356.620 ; and Radius =   399.364
      Factor of Safety
     ***    1.418   ***
         **** END OF GSTABL7 OUTPUT ****
```

WO 2232-0-FR-100 Section D-D' block failure

y:\2232 heschel west school\2232-0-fr\2232-0-fr engineering calcs\section d-d' block.pl2 Run By: Gorian and Associates, Inc. 10/25/2013 04:45PM

#	FS
a	1.83
b	1.83
c	1.83
d	1.83
e	1.83
f	1.83
g	1.83
h	1.83
i	1.83
j	1.83

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pressure Constant (psf)	Piez. Surface No.
Qal	1	120.0	120.0	200.0	30.0	125.0	0
Tc	2	120.0	120.0	Aniso	Aniso	125.0	0



GSTABL7 v.2 FSmin=1.83

Safety Factors Are Calculated By The Simplified Janbu Method for the case of c & phi both > 0

GSTABL7

*** GSTABL7 ***

** GSTABL7 by Garry H. Gregory, P.E. **

** Original Version 1.0, January 1996; Current Version 2.005, Sept. 2006 **

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SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 10/25/2013
Time of Run: 04:45PM
Run By: Gorian and Associates, Inc.
Input Data Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' block.dat
Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' block.OUT
Unit System: English
Plotted Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' block.PLT
PROBLEM DESCRIPTION: WO 2232-0-FR-100
Section D-D' block failure

BOUNDARY COORDINATES
21 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	975.00	30.00	972.00	1
2	30.00	972.00	42.00	971.00	1
3	42.00	971.00	58.00	959.00	1
4	58.00	959.00	106.00	959.00	1
5	106.00	959.00	150.00	956.00	1
6	150.00	956.00	190.00	957.00	1
7	190.00	957.00	232.00	964.50	1
8	232.00	964.50	240.00	966.00	2
9	240.00	966.00	260.00	971.00	2
10	260.00	971.00	290.00	980.00	2
11	290.00	980.00	340.00	998.00	2
12	340.00	998.00	420.00	1029.00	2
13	420.00	1029.00	470.00	1044.00	2
14	470.00	1044.00	490.00	1051.00	2
15	490.00	1051.00	510.00	1059.00	2
16	510.00	1059.00	530.00	1070.00	2
17	530.00	1070.00	538.00	1075.00	2
18	538.00	1075.00	550.00	1077.00	2
19	550.00	1077.00	570.00	1078.00	2
20	570.00	1078.00	590.00	1077.50	2
21	590.00	1077.50	610.00	1075.00	2
22	0.00	958.00	10.00	957.50	2
23	10.00	957.50	40.00	950.00	2
24	40.00	950.00	80.00	946.00	2
25	80.00	946.00	100.00	945.00	2
26	100.00	945.00	120.00	945.00	2
27	120.00	945.00	190.00	950.00	2
28	190.00	950.00	210.00	954.00	2
29	210.00	954.00	224.00	959.00	2
30	224.00	959.00	229.00	961.00	2
31	229.00	961.00	232.00	964.50	2

User Specified Y-Origin = 800.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS
2 Type(s) of Soil

Soil	Total	Saturated	Cohesion	Friction	Pore	Pressure	Piez.

Type No.	Unit Wt. (pcf)	Unit Wt. (pcf)	Intercept (psf)	Angle (deg)	Pressure Param.	Constant (psf)	Surface No.
1	120.0	120.0	200.0	30.0	0.00	125.0	0
2	120.0	120.0	400.0	36.0	0.00	125.0	0

ANISOTROPIC STRENGTH PARAMETERS
1 soil type(s)
Soil Type 2 Is Anisotropic
Number Of Direction Ranges Specified = 3

Direction Range No.	Counterclockwise Direction Limit (deg)	Cohesion Intercept (psf)	Friction Angle (deg)
1	28.0	400.00	36.00
2	40.0	400.00	8.00
3	90.0	400.00	36.00

ANISOTROPIC SOIL NOTES:
(1) An input value of 0.01 for C and/or Phi will cause Aniso C and/or Phi to be ignored in that range.
(2) An input value of 0.02 for Phi will set both Phi and C equal to zero, with no water weight in the tension crack.
(3) An input value of 0.03 for Phi will set both Phi and C equal to zero, with water weight in the tension crack.
Janbus Empirical Coef is being used for the case of c & phi both > 0
A Critical Failure Surface Searching Method, Using A Random Technique For Generating Sliding Block Surfaces, Has Been Specified.
4000 Trial Surfaces Have Been Generated.
2 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 50.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	175.00	900.00	300.00	925.00	100.00
2	400.00	968.00	550.00	1022.00	100.00

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Evaluated. They Are Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Simplified Janbu Method * *
Total Number of Trial Surfaces Attempted = 4000
Number of Trial Surfaces With Valid FS = 4000
Statistical Data On All Valid FS Values:
FS Max = 7.241 FS Min = 1.825 FS Ave = 3.515
Standard Deviation = 0.826 Coefficient of Variation = 23.50 %
Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety
*** 1.825 ***
Individual data on the 19 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	15.7	6793.8	0.0	2137.8	0.	0.	0.0	0.0	0.0
2	4.8	4768.0	0.0	651.0	0.	0.	0.0	0.0	0.0
3	10.5	15951.9	0.0	1433.0	0.	0.	0.0	0.0	0.0
4	9.5	21104.1	0.0	1269.5	0.	0.	0.0	0.0	0.0
5	14.0	42177.3	0.0	1872.8	0.	0.	0.0	0.0	0.0
6	5.0	18253.7	0.0	668.9	0.	0.	0.0	0.0	0.0
7	3.0	11758.2	0.0	401.3	0.	0.	0.0	0.0	0.0
8	8.0	34344.8	0.0	1070.2	0.	0.	0.0	0.0	0.0

9	7.2	34998.6	0.0	967.3	0.	0.	0.0	0.0	0.0
10	12.8	71296.5	0.0	1698.2	0.	0.	0.0	0.0	0.0
11	30.0	217431.7	0.0	3989.9	0.	0.	0.0	0.0	0.0
12	4.2	36437.6	0.0	561.9	0.	0.	0.0	0.0	0.0
13	45.8	380263.2	0.0	6509.9	0.	0.	0.0	0.0	0.0
14	80.0	564911.8	0.0	11377.1	0.	0.	0.0	0.0	0.0
15	41.0	234355.7	0.0	5825.8	0.	0.	0.0	0.0	0.0
16	9.0	42752.5	0.0	1617.0	0.	0.	0.0	0.0	0.0
17	20.0	70589.4	0.0	3579.3	0.	0.	0.0	0.0	0.0
18	5.9	14714.7	0.0	1053.7	0.	0.	0.0	0.0	0.0
19	9.3	10637.3	0.0	3070.8	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety

*** 1.825 ***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety

*** 1.825 ***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety

*** 1.825 ***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety

*** 1.825 ***

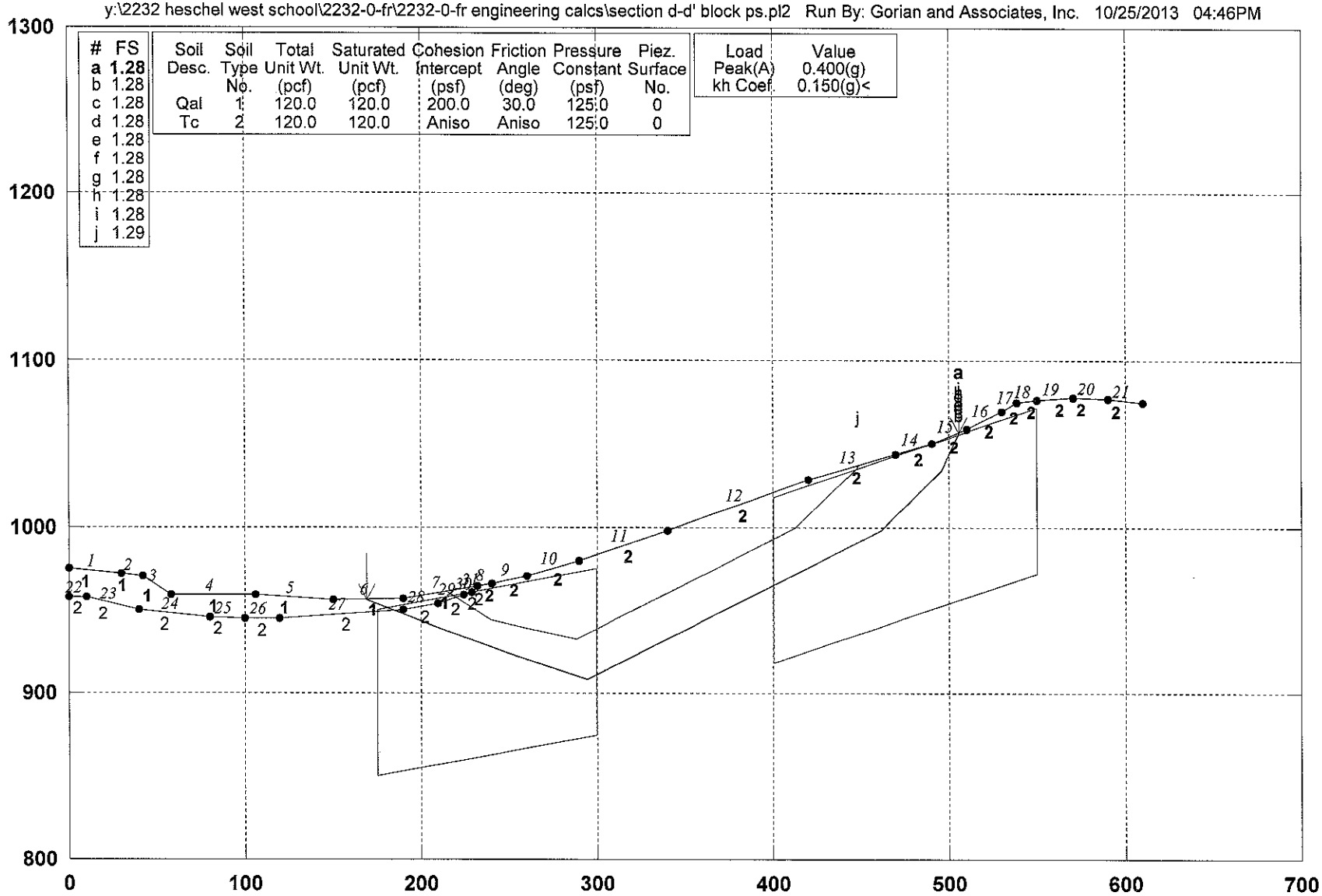
Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584

```
    6        495.888     1034.367
    7        505.224     1057.090
       Factor of Safety
      ***    1.825    ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1        169.546      956.489
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
       Factor of Safety
      ***    1.825    ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1        169.546      956.489
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
       Factor of Safety
      ***    1.825    ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1        169.546      956.489
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
       Factor of Safety
      ***    1.825    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1        214.050      961.295
    2        239.779      943.938
    3        288.518      932.780
    4        412.222     1000.006
    5        447.530     1035.409
    6        448.351     1037.505
       Factor of Safety
      ***    1.826    ***
          **** END OF GSTABL7 OUTPUT ****
```

WO 2232-0-FR-100 Section D-D' block failure pseudo-stat

y:\2232 heschel west school\2232-0-fr\2232-0-fr engineering calcs\section d-d' block ps.pl2 Run By: Gorian and Associates, Inc. 10/25/2013 04:46PM



#	FS
a	1.28
b	1.28
c	1.28
d	1.28
e	1.28
f	1.28
g	1.28
h	1.28
i	1.28
j	1.29

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pressure Constant (psf)	Piez. Surface No.
Qal	1	120.0	120.0	200.0	30.0	125.0	0
Tc	2	120.0	120.0	Aniso	Aniso	125.0	0

Load	Value
Peak(A)	0.400(g)
kh Coef.	0.150(g)<

GSTABL7 v.2 FSmin=1.28

Safety Factors Are Calculated By The Simplified Janbu Method for the case of c & phi both > 0

GSTABL7

*** GSTABL7 ***

** GSTABL7 by Garry H. Gregory, P.E. **

** Original Version 1.0, January 1996; Current Version 2.005, Sept. 2006 **

****

SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.
(Includes Spencer & Morgenstern-Price Type Analysis)
Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
Nonlinear Undrained Shear Strength, Curved Phi Envelope,
Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

****

Analysis Run Date: 10/25/2013
Time of Run: 04:46PM
Run By: Gorian and Associates, Inc.
Input Data Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' block ps.dat
Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' block ps.OUT
Unit System: English
Plotted Output Filename: Y:\2232 Heschel West School\2232-0-FR\2232-0-FR engineering calcs\section d-d' block ps.PLT
PROBLEM DESCRIPTION: WO 2232-0-FR-100
Section D-D' block failure pseudo-stat

BOUNDARY COORDINATES

21 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	975.00	30.00	972.00	1
2	30.00	972.00	42.00	971.00	1
3	42.00	971.00	58.00	959.00	1
4	58.00	959.00	106.00	959.00	1
5	106.00	959.00	150.00	956.00	1
6	150.00	956.00	190.00	957.00	1
7	190.00	957.00	232.00	964.50	1
8	232.00	964.50	240.00	966.00	2
9	240.00	966.00	260.00	971.00	2
10	260.00	971.00	290.00	980.00	2
11	290.00	980.00	340.00	998.00	2
12	340.00	998.00	420.00	1029.00	2
13	420.00	1029.00	470.00	1044.00	2
14	470.00	1044.00	490.00	1051.00	2
15	490.00	1051.00	510.00	1059.00	2
16	510.00	1059.00	530.00	1070.00	2
17	530.00	1070.00	538.00	1075.00	2
18	538.00	1075.00	550.00	1077.00	2
19	550.00	1077.00	570.00	1078.00	2
20	570.00	1078.00	590.00	1077.50	2
21	590.00	1077.50	610.00	1075.00	2
22	0.00	958.00	10.00	957.50	2
23	10.00	957.50	40.00	950.00	2
24	40.00	950.00	80.00	946.00	2
25	80.00	946.00	100.00	945.00	2
26	100.00	945.00	120.00	945.00	2
27	120.00	945.00	190.00	950.00	2
28	190.00	950.00	210.00	954.00	2
29	210.00	954.00	224.00	959.00	2
30	224.00	959.00	229.00	961.00	2
31	229.00	961.00	232.00	964.50	2

User Specified Y-Origin = 800.00(ft)
Default X-Plus Value = 0.00(ft)
Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil	Total	Saturated	Cohesion	Friction	Pore	Pressure	Piez.

Type No.	Unit Wt. (pcf)	Unit Wt. (pcf)	Intercept (psf)	Angle (deg)	Pressure Param.	Constant (psf)	Surface No.
1	120.0	120.0	200.0	30.0	0.00	125.0	0
2	120.0	120.0	400.0	36.0	0.00	125.0	0

ANISOTROPIC STRENGTH PARAMETERS
1 soil type(s)
Soil Type 2 Is Anisotropic
Number Of Direction Ranges Specified = 3

Direction Range No.	Counterclockwise Direction Limit (deg)	Cohesion Intercept (psf)	Friction Angle (deg)
1	28.0	400.00	36.00
2	40.0	400.00	8.00
3	90.0	400.00	36.00

ANISOTROPIC SOIL NOTES:
(1) An input value of 0.01 for C and/or Phi will cause Aniso C and/or Phi to be ignored in that range.
(2) An input value of 0.02 for Phi will set both Phi and C equal to zero, with no water weight in the tension crack.
(3) An input value of 0.03 for Phi will set both Phi and C equal to zero, with water weight in the tension crack.
Specified Peak Ground Acceleration Coefficient (A) = 0.400(g)
Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)
Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
Specified Seismic Pore-Pressure Factor = 0.000
Janbus Empirical Coef is being used for the case of c & phi both > 0
A Critical Failure Surface Searching Method, Using A Random Technique For Generating Sliding Block Surfaces, Has Been Specified.
4000 Trial Surfaces Have Been Generated.
2 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 50.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	175.00	900.00	300.00	925.00	100.00
2	400.00	968.00	550.00	1022.00	100.00

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Evaluated. They Are Ordered - Most Critical First.
* * Safety Factors Are Calculated By The Simplified Janbu Method * *
Total Number of Trial Surfaces Attempted = 4000
Number of Trial Surfaces With Valid FS = 4000
Statistical Data On All Valid FS Values:
FS Max = 3.557 FS Min = 1.279 FS Ave = 2.272
Standard Deviation = 0.398 Coefficient of Variation = 17.51 %
Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety
*** 1.279 ***
Individual data on the 19 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	15.7	6793.8	0.0	2137.8	0.	0.	1019.1	0.0	0.0
2	4.8	4768.0	0.0	651.0	0.	0.	715.2	0.0	0.0
3	10.5	15951.9	0.0	1433.0	0.	0.	2392.8	0.0	0.0
4	9.5	21104.1	0.0	1269.5	0.	0.	3165.6	0.0	0.0

5	14.0	42177.3	0.0	1872.8	0.	0.	6326.6	0.0	0.0
6	5.0	18253.7	0.0	668.9	0.	0.	2738.1	0.0	0.0
7	3.0	11758.2	0.0	401.3	0.	0.	1763.7	0.0	0.0
8	8.0	34344.8	0.0	1070.2	0.	0.	5151.7	0.0	0.0
9	7.2	34998.6	0.0	967.3	0.	0.	5249.8	0.0	0.0
10	12.8	71296.5	0.0	1698.2	0.	0.	10694.5	0.0	0.0
11	30.0	217431.7	0.0	3989.9	0.	0.	32614.8	0.0	0.0
12	4.2	36437.6	0.0	561.9	0.	0.	5465.6	0.0	0.0
13	45.8	380263.2	0.0	6509.9	0.	0.	57039.5	0.0	0.0
14	80.0	564911.8	0.0	11377.1	0.	0.	84736.8	0.0	0.0
15	41.0	234355.7	0.0	5825.8	0.	0.	35153.4	0.0	0.0
16	9.0	42752.5	0.0	1617.0	0.	0.	6412.9	0.0	0.0
17	20.0	70589.4	0.0	3579.3	0.	0.	10588.4	0.0	0.0
18	5.9	14714.7	0.0	1053.7	0.	0.	2207.2	0.0	0.0
19	9.3	10637.3	0.0	3070.8	0.	0.	1595.6	0.0	0.0

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety
*** 1.279 ***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
2	200.510	943.001
3	247.231	925.193
4	294.225	908.116
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6	495.888	1034.367
7	505.224	1057.090

Factor of Safety
*** 1.279 ***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
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4	294.225	908.116
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7	505.224	1057.090

Factor of Safety
*** 1.279 ***

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489
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4	294.225	908.116
5	460.965	998.584
6	495.888	1034.367
7	505.224	1057.090

Factor of Safety
*** 1.279 ***

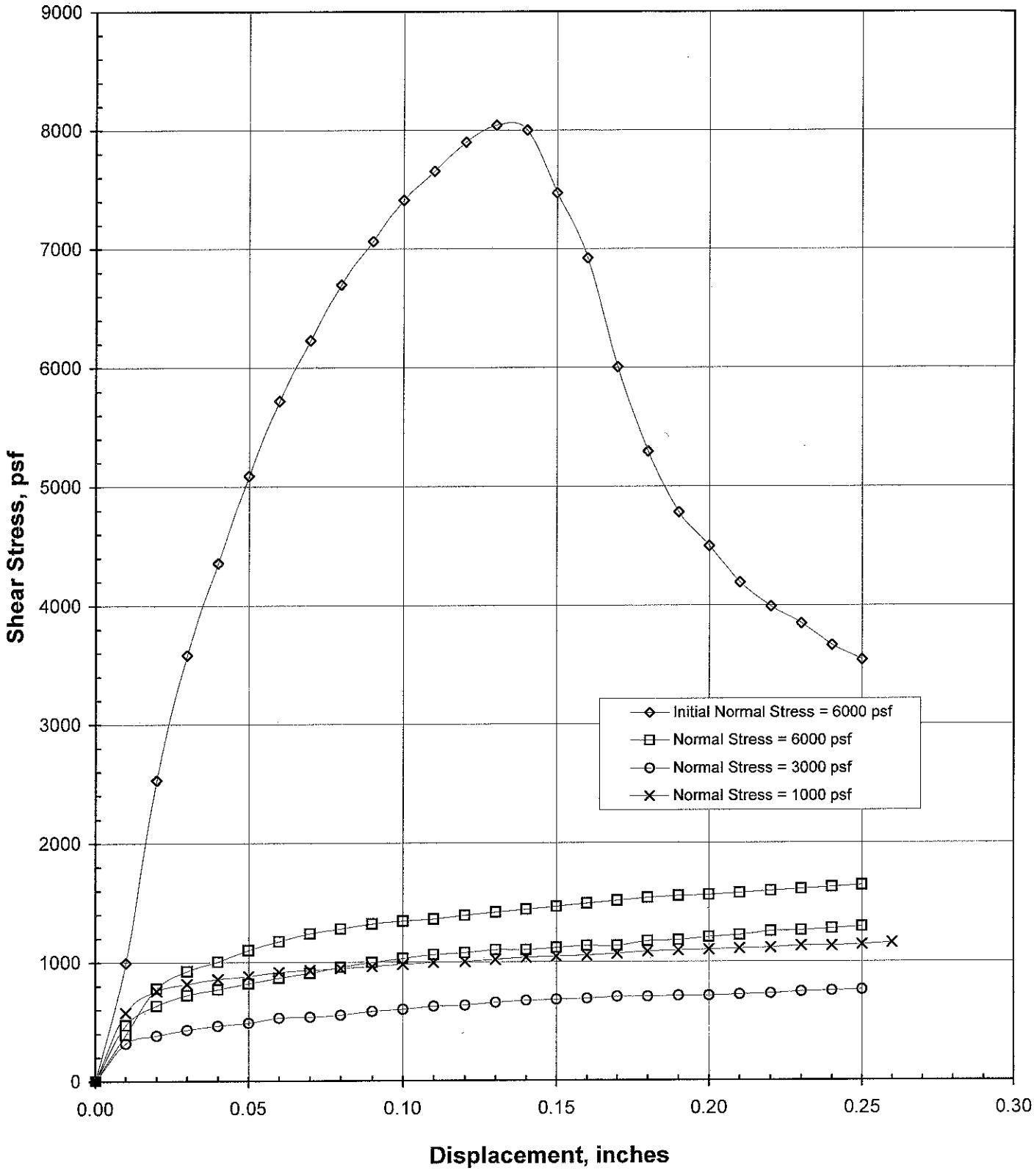
Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	169.546	956.489

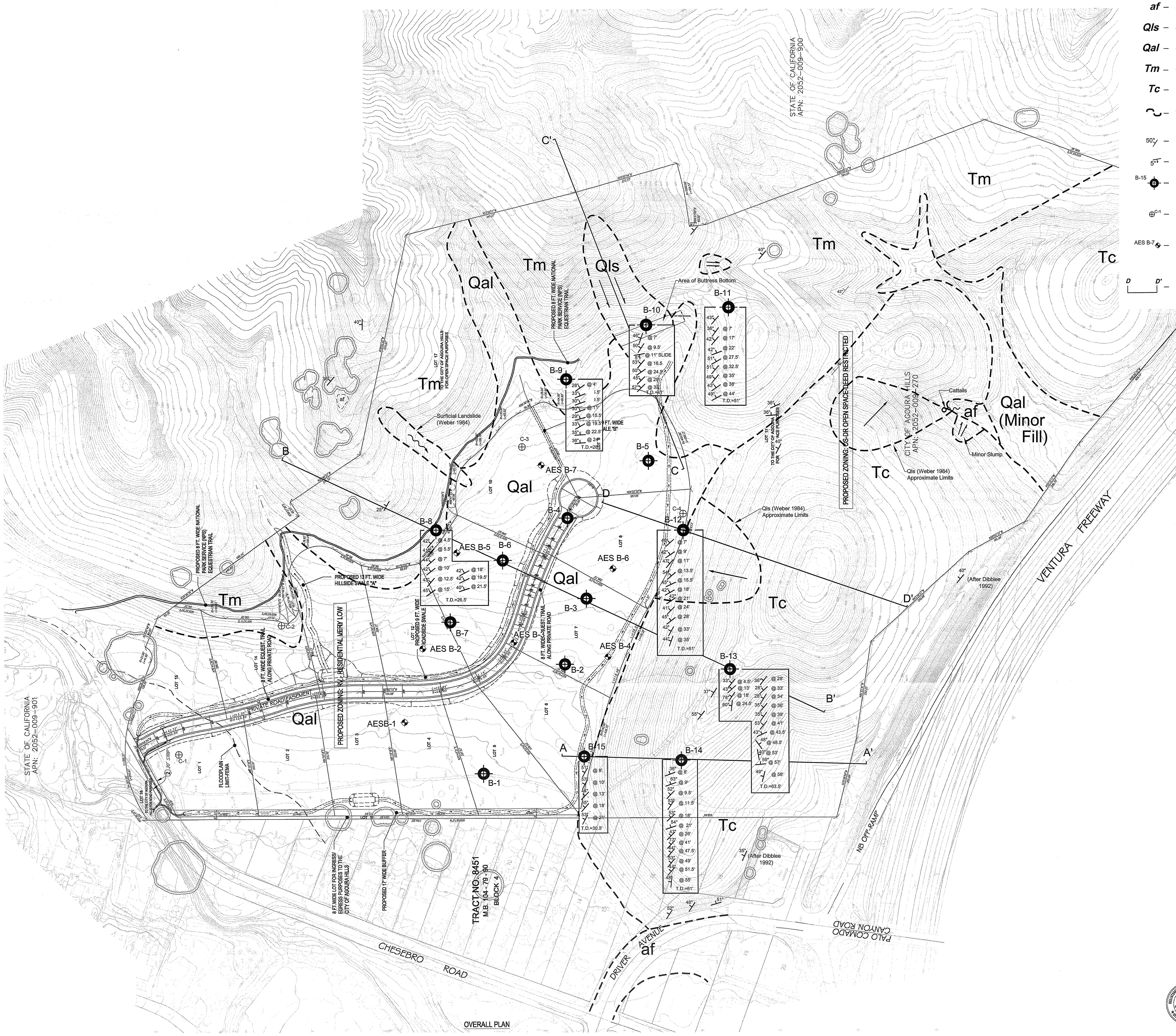
```
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
      Factor of Safety
     ***    1.279    ***
Failure Surface Specified By  7 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1        169.546      956.489
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
      Factor of Safety
     ***    1.279    ***
Failure Surface Specified By  7 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1        169.546      956.489
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
      Factor of Safety
     ***    1.279    ***
Failure Surface Specified By  7 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1        169.546      956.489
    2        200.510      943.001
    3        247.231      925.193
    4        294.225      908.116
    5        460.965      998.584
    6        495.888     1034.367
    7        505.224     1057.090
      Factor of Safety
     ***    1.279    ***
Failure Surface Specified By  6 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1        214.050      961.295
    2        239.779      943.938
    3        288.518      932.780
    4        412.222     1000.006
    5        447.530     1035.409
    6        448.351     1037.505
      Factor of Safety
     ***    1.294    ***
         **** END OF GSTABL7 OUTPUT ****
```

APPENDIX B

SHEAR TEST STRESS STRAIN PLOT



GORIAN & ASSOCIATES, INC. *Applied Earth Sciences* Geotechnical Engineers and Geologists	Direct Shear Testing Stress Strain Curves	Figure No.: 1
Work Order: **2232-0-0-100**	Source of Sample: **B-10 @ 10'**	
Project: **0**	Decription: **Calabasas Formation - Claystone**	
Client: **0**		



GEOTECHNICAL EXPLANATION

- **af** – Artificial Fill
- **Qls** – Landslide Deposit
- **Qal** – Alluvium
- **Tm** – Modelo Formation
- **Tc** – Calabasas Formation
- Approximate Contact between Geologic Units
- 50° – Strike and Dip of Foliation
- 5° – Strike and Dip of Fracture/Joint
- B-15 – Approximate Location of Exploratory Boring (Gorian)
- C-1 – Approximate Location of Soil Corrosion Sample (Gorian)
- AES B-7 – Approximate Location of Hollow Stem Exploratory Boring (Applied Earth Sciences, 1998)
- D — D' – Geotechnical Cross Section

GEOTECHNICAL MAP

Gorian & Associates, Inc.
Applied Earth Sciences

Job No: 2232-0-FR-101	Date: Nov. 2013
Scale: 1" = 80'	Drawn by: / Approved by: PLATE 1

LOT AREA CALCULATIONS

LOT NO.	GROSS AREA		NET AREA	
	S.F.	AC.	S.F.	AC.
1	57,182	1.31	46,346	1.06
2	55,424	1.27	47,092	1.08
3	55,059	1.26	47,800	1.09
4	54,230	1.24	47,143	1.08
5	59,868	1.37	53,044	1.22
6	69,380	1.59	65,678	1.51
7	71,895	1.65	65,212	1.50
8	71,658	1.65	65,894	1.51
9	77,529	1.78	75,174	1.73
10	71,180	1.63	65,386	1.50
11	75,861	1.74	66,229	1.52
12	59,967	1.38	54,182	1.24
13	64,459	1.48	59,975	1.38
14	57,006	1.31	50,552	1.16
15	56,763	1.30	50,431	1.16
16	8,224	0.19	8,224	0.19
17	2,130,441	48.91	2,130,441	48.91
18	13,528	0.31	8,626	0.20
TOTAL	3,109,654	71.39	3,007,259	69.04

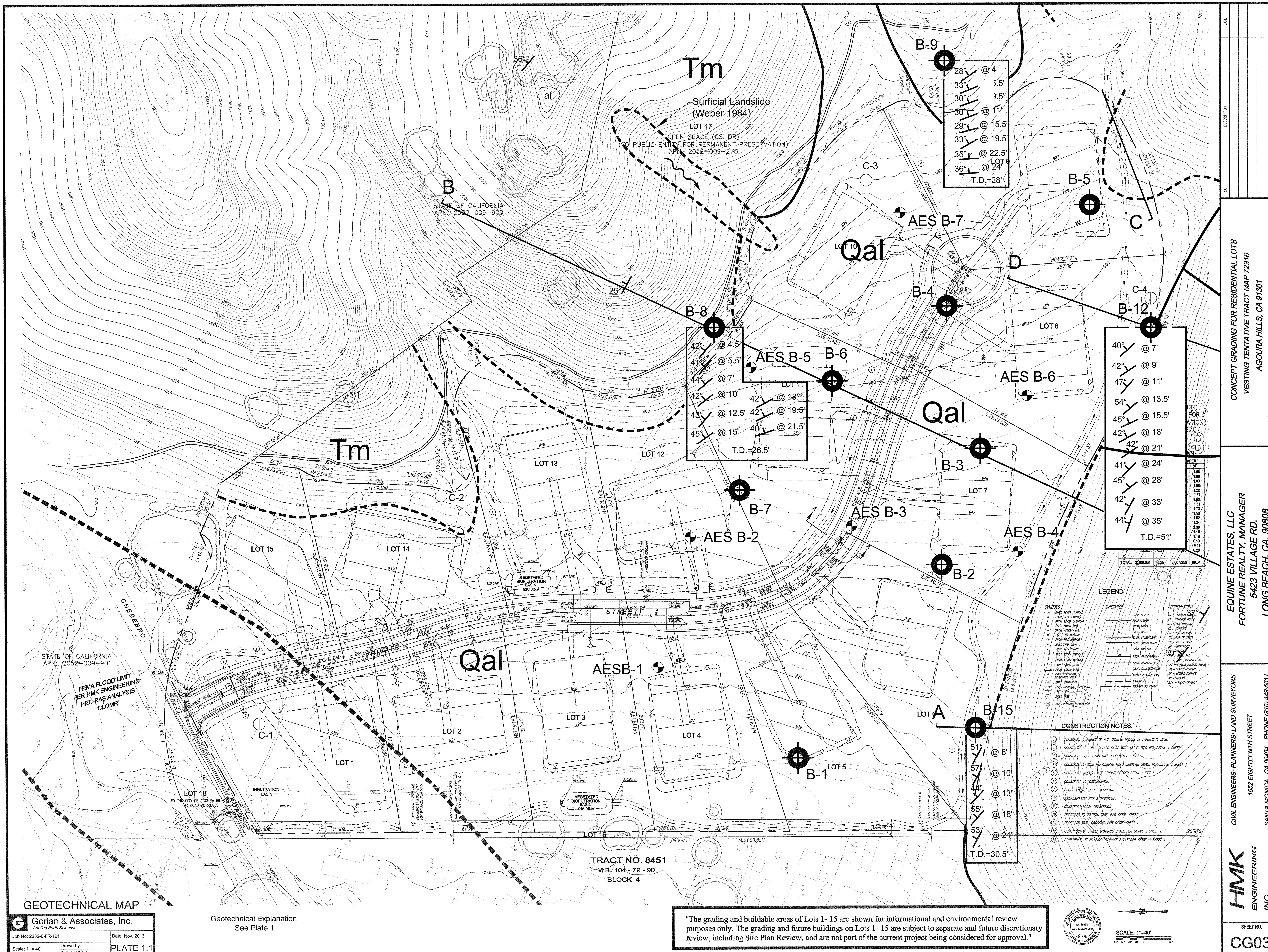
OVERALL SITE PLAN
VESTING TENTATIVE TRACT MAP 72316
AGOURA HILLS, CA 91301

W.O. NO. 13-065

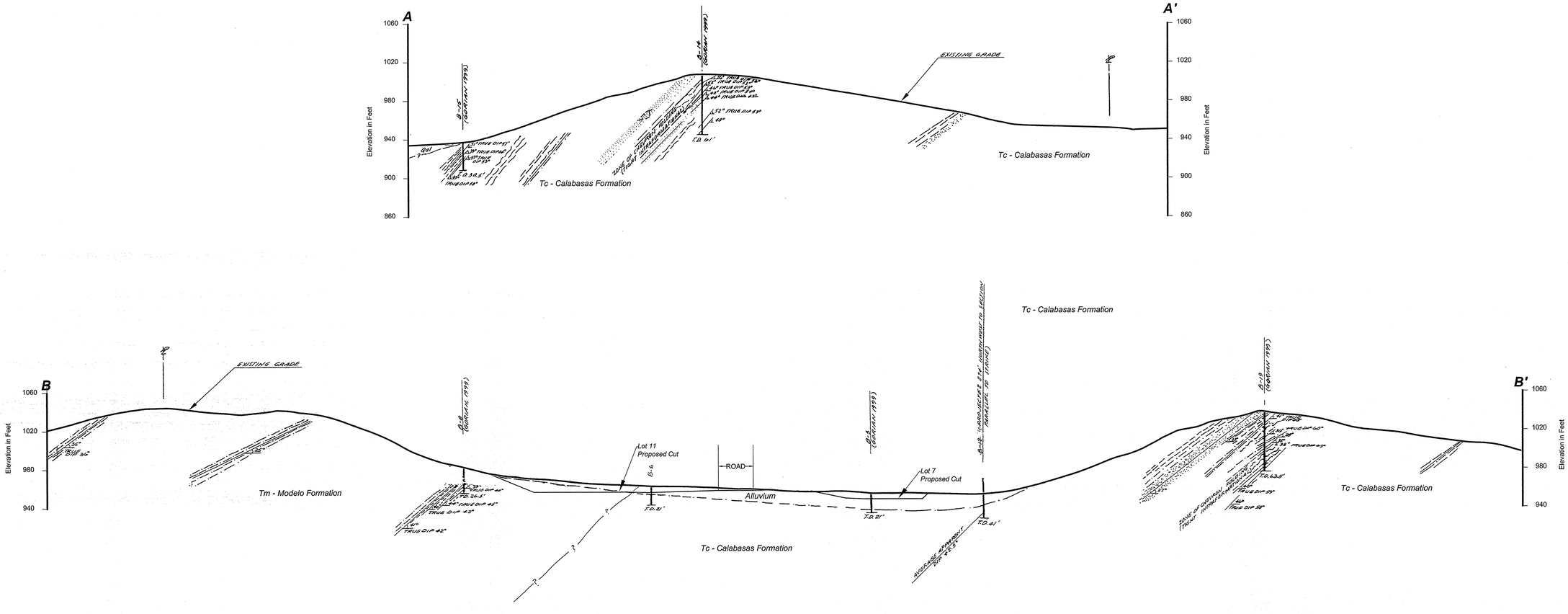
EQUINE ESTATES, LLC
FORTUNE REALTY, MANAGER
5423 VILLAGE RD.
LONG BEACH, CA. 90808

HMK ENGINEERING INC.
CIVIL ENGINEERS-PLANNERS-LAND SURVEYORS
1552 EIGHTEENTH STREET
SANTA MONICA, CA 90404 PHONE (310) 449-5511

SHEET NO.
C02

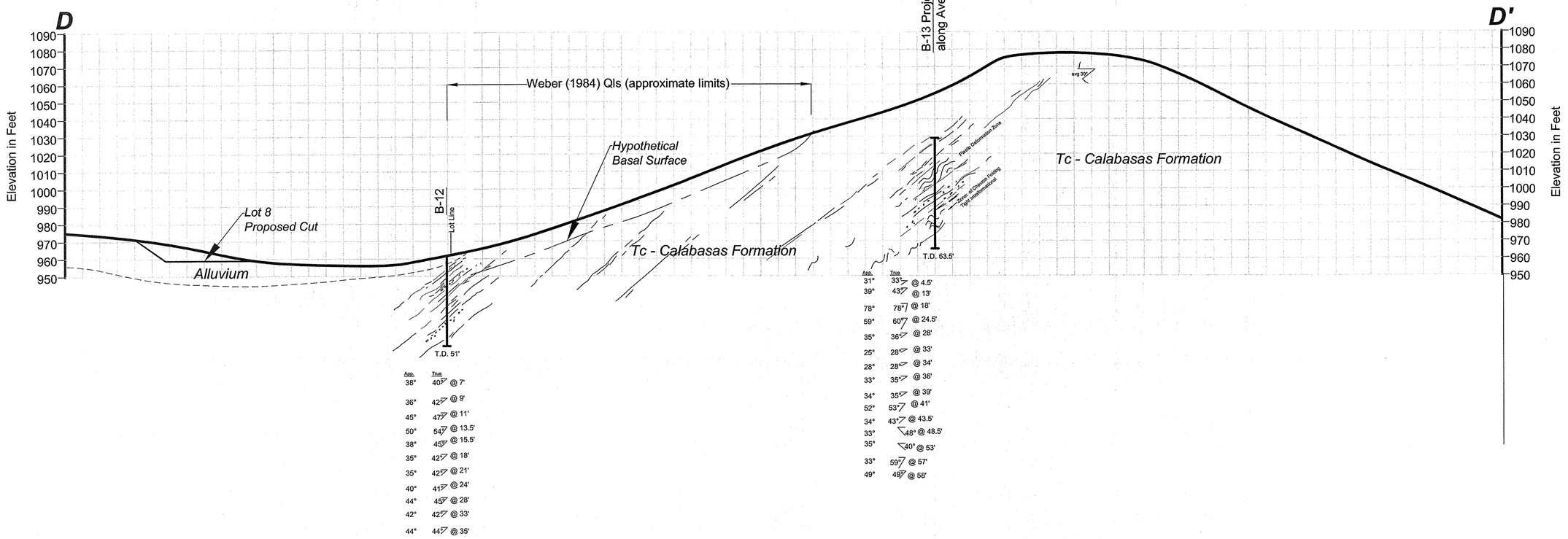


GEOTECHNICAL MAP
Gorian & Associates, Inc.
Applied Earth Sciences
Job No: 2232-0-FR-101
Date: Nov. 2013
Scale: 1" = 40'
Drawn by:
Approved by:
PLATE 1.1
Geotechnical Explanation
See Plate 1
Tm
Qal
Surficial Landslide
(Weber 1984)
LOT 17
OPEN SPACE (OS-DR)
TO PUBLIC ENTITY FOR PERMANENT PRESERVATION
APN: 2052-009-270
STATE OF CALIFORNIA
APN: 2052-009-900
STATE OF CALIFORNIA
APN: 2052-009-901
FEMA FLOOD LIMIT
PER HMK ENGINEERING
HEC-RAS ANALYSIS
CLOMR
LOT 18
TO THE CITY OF AGOURA HILLS FOR ROAD PURPOSES
LOT 16
TRACT NO. 8451
M.B. 104 - 79 - 90
BLOCK 4
CHESEBRO ROAD
PRIVATE STREET
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 7
LOT 8
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-12
B-15
AES B-2
AES B-3
AES B-4
AES B-5
AES B-6
AES B-7
AESB-1
C-1
C-2
C-3
C-4
A
B
C
D
28° @ 4'
33° @ 5.5'
30° @ 9.5'
30° @ 11'
29° @ 15.5'
33° @ 19.5'
35° @ 22.5'
36° @ 24'
T.D.=28'
42° @ 4.5'
41° @ 5.5'
44° @ 7'
42° @ 10'
43° @ 12.5'
45° @ 15'
42° @ 18'
42° @ 19.5'
40° @ 21.5'
T.D.=26.5'
40° @ 7'
42° @ 9'
47° @ 11'
54° @ 13.5'
45° @ 15.5'
42° @ 18'
42° @ 21'
41° @ 24'
45° @ 28'
42° @ 33'
44° @ 35'
T.D.=51'
51° @ 8'
57° @ 10'
44° @ 13'
55° @ 18'
53° @ 21'
T.D.=30.5'
VEGETATED BIOFILTRATION BASIN
INFILTRATION BASIN
LEGEND
CONSTRUCTION NOTES:
"The grading and buildable areas of Lots 1- 15 are shown for informational and environmental review purposes only. The grading and future buildings on Lots 1- 15 are subject to separate and future discretionary review, including Site Plan Review, and are not part of the current project being considered for approval."
SCALE: 1"=40'
CONCEPT GRADING FOR RESIDENTIAL LOTS
VESTING TENTATIVE TRACT MAP 72316
AGOURA HILLS, CA 91301
EQUINE ESTATES, LLC
FORTUNE REALTY, MANAGER
5423 VILLAGE RD.
LONG BEACH, CA. 90808
CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS
1562 EIGHTEENTH STREET
SANTA MONICA, CA 90404 PHONE (310) 449-5511
HMK
ENGINEERING
INC.
SHEET NO.
CG03



GEOTECHNICAL CROSS SECTIONS

Gorian & Associates, Inc. *Applied Earth Sciences*		
Job No: 2232-0-FR-101		Date: Nov. 2013
Scale: 1" = 40'	Drawn by: / Approved by:	PLATE 2



GEOTECHNICAL CROSS SECTION

Gorian & Associates, Inc. *Applied Earth Sciences*		
Job No: 2232-0-FR-101		Date: Nov. 2013
Scale: 1" = 30'	Drawn by:	PLATE 3
	Approved by:	

Appendix F

Phase II Environmental Site Assessment Results

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

Ordered By

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93003-

Telephone (805)644-4455
Attn Scott English

Number of Pages 6
Date Received 08/27/2013
Date Reported 09/04/2013

Job Number	Ordered	Client
58010	08/27/2013	RINCON

Project ID: 13-00839
Project Name: Chesebro Meadows
Site: Agoura Hills, CA

Enclosed are the results of analyses on 1 sample analyzed as specified on attached chain of custody.

Wendy Lu
Organics Supervisor

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Road, LA, CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

CHAIN OF CUSTODY RECORD

COC# Nº 65353 GLOBAL ID _____ E REPORT: ☒ PDF ☐ EDF ☐ EDD ASL JOB# 58010

Company: Rincon Consultants, Inc.		Report To: Scott	
Address: 180 N. Ashwood Ventura, CA 93003	Project Name: Chesebro Meadows	Address:	
	Site Address: Agoura Hills, CA	Invoice To:	
Telephone: Fax: (805) 644-4455		Address:	
Special Instruction:	Project ID: 13-00839		
E-mail: jhurley@rincon	Project Manager: Scott English	P.O.#: 13-00839	

ANALYSIS REQUESTED

ITEM	LAB USE ONLY Lab ID	SAMPLE DESCRIPTION Sample ID	Date	Time	Container(s) #	Container(s) Type	Matrix	Preservation	8260B VOCs	Spec. Conductivity	Potassium	Cesium-137, K-40	Radium-226, Radium-228	Isotopic Uranium	Tritium	Gross alpha activity	Gross Beta activity	Sr-90	Remarks
	302554	RB1	8/26/13	1550	15	P/UOA	W	/	X	X	X	x	x	x	x	x	x	x	

Collected By: Jalee Hurley	Date 8/26/13	Time	Relinquished By:	Date Time
Relinquished By:	Date 8/27/13	Time 830	Received For Laboratory: Alex	Date 8-27-13 Time 10:40
Received By:	Date	Time	Condition of Sample:	

TAT ☒ Normal ☐ Rush

White - Report, Yellow - Laboratory, Pink - Client

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Ordered By

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93003-

Telephone: (805)644-4455
Attn: Scott English

Site

Agoura Hills, CA

Page: **2**

Project ID: 13-00839
Project Name: Chesebro Meadows

ASL Job Number	Submitted	Client
58010	08/27/2013	RINCON

Method: 120.1, Specific Conductance

QC Batch No: 082813-1

Our Lab I.D.		**302554**				
Client Sample I.D.		RB1				
Date Sampled		08/26/2013				
Date Prepared		08/28/2013				
Preparation Method						
Date Analyzed		08/28/2013				
Matrix		Water				
Units		umhos/cm				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
Conventionals						
Conductivity (umho/cm @77F)	1.00	2190				

QUALITY CONTROL REPORT

QC Batch No: 082813-1

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
Conventionals										
Conductivity (umho/cm @77F)	101	101	<1	80-120	<20					

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Ordered By

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93003-

Telephone: (805)644-4455
Attn: Scott English

Site

Agoura Hills, CA

Page: **3**

Project ID: 13-00839
Project Name: Chesebro Meadows

ASL Job Number	Submitted	Client
58010	08/27/2013	RINCON

Method: 6010B, Potassium (ICP)

QC Batch No: 083013-1

Our Lab I.D.		**302554**				
Client Sample I.D.		RB1				
Date Sampled		08/26/2013				
Date Prepared		08/30/2013				
Preparation Method						
Date Analyzed		09/03/2013				
Matrix		Water				
Units		mg/L				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
ICP Metals						
Potassium	1.00	9.04				

QUALITY CONTROL REPORT

QC Batch No: 083013-1

Analytes	LCS % REC	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit					
ICP Metals										
Potassium	95	93	1.8	80-120	<20					

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Ordered By

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93003-

Telephone: (805)644-4455
Attn: Scott English

Site

Agoura Hills, CA

Page: **4**

Project ID: 13-00839
Project Name: Chesebro Meadows

ASL Job Number	Submitted	Client
58010	08/27/2013	RINCON

Method: 8260B, Volatile Organic Compounds

QC Batch No: W1B-082813

Our Lab I.D.		**302554**				
Client Sample I.D.		RB1				
Date Sampled		08/26/2013				
Date Prepared		08/28/2013				
Preparation Method						
Date Analyzed		08/28/2013				
Matrix		Water				
Units		ug/L				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
Acetone	5.00	ND				
Benzene	1.00	ND				
Bromobenzene (Phenyl bromide)	1.00	ND				
Bromochloromethane (Chlorobromomethane)	1.00	ND				
Bromodichloromethane (Dichlorobromomethane)	1.00	ND				
Bromoform (Tribromomethane)	5.00	ND				
Bromomethane (Methyl bromide)	3.00	ND				
2-Butanone (MEK, Methyl ethyl ketone)	5.00	ND				
n-Butylbenzene	1.00	ND				
sec-Butylbenzene	1.00	ND				
tert-Butylbenzene	1.00	ND				
Carbon disulfide	1.00	ND				
Carbon tetrachloride (Tetrachloromethane)	1.00	ND				
Chlorobenzene	1.00	ND				
Chloroethane	3.00	ND				
2-Chloroethyl vinyl ether	5.00	ND				
Chloroform (Trichloromethane)	1.00	ND				
Chloromethane (Methyl chloride)	3.00	ND				
4-Chlorotoluene (p-Chlorotoluene)	1.00	ND				
2-Chlorotoluene (o-Chlorotoluene)	1.00	ND				
1,2-Dibromo-3-chloropropane (DBCP)	5.00	ND				
Dibromochloromethane	1.00	ND				
1,2-Dibromoethane (EDB, Ethylene dibromide)	1.00	ND				
Dibromomethane	1.00	ND				
1,2-Dichlorobenzene (o-Dichlorobenzene)	1.00	ND				
1,3-Dichlorobenzene (m-Dichlorobenzene)	1.00	ND				
1,4-Dichlorobenzene (p-Dichlorobenzene)	1.00	ND				
Dichlorodifluoromethane	3.00	ND				
1,1-Dichloroethane	1.00	ND				

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Project ID: 13-00839
Project Name: Chesebro Meadows

ASL Job Number	Submitted	Client
58010	08/27/2013	RINCON

Method: 8260B, Volatile Organic Compounds

QC Batch No: W1B-082813

Our Lab I.D.		**302554**				
Client Sample I.D.		RB1				
Date Sampled		08/26/2013				
Date Prepared		08/28/2013				
Preparation Method						
Date Analyzed		08/28/2013				
Matrix		Water				
Units		ug/L				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
1,2-Dichloroethane	1.00	ND				
1,1-Dichloroethene (1,1-Dichloroethylene)	1.00	ND				
cis-1,2-Dichloroethene	1.00	ND				
trans-1,2-Dichloroethene	1.00	ND				
1,2-Dichloropropane	1.00	ND				
1,3-Dichloropropane	1.00	ND				
2,2-Dichloropropane	1.00	ND				
1,1-Dichloropropene	1.00	ND				
cis-1,3-Dichloropropene	1.00	ND				
trans-1,3-Dichloropropene	1.00	ND				
Ethylbenzene	1.00	ND				
Hexachlorobutadiene (1,3-Hexachlorobutadiene)	3.00	ND				
2-Hexanone	5.00	ND				
Isopropylbenzene	1.00	ND				
p-Isopropyltoluene (4-Isopropyltoluene)	1.00	ND				
MTBE	2.00	ND				
4-Methyl-2-pentanone (MIBK, Methyl isobutyl ketone)	5.00	ND				
Methylene chloride (Dichloromethane, DCM)	5.00	ND				
Naphthalene	1.00	ND				
n-Propylbenzene	1.00	ND				
Styrene	1.00	ND				
1,1,1,2-Tetrachloroethane	1.00	ND				
1,1,2,2-Tetrachloroethane	1.00	ND				
Tetrachloroethene (Tetrachloroethylene)	1.00	ND				
Toluene (Methyl benzene)	1.00	ND				
1,2,3-Trichlorobenzene	1.00	ND				
1,2,4-Trichlorobenzene	1.00	ND				
1,1,1-Trichloroethane	1.00	ND				
1,1,2-Trichloroethane	1.00	ND				
Trichloroethene (TCE)	1.00	ND				
Trichlorofluoromethane	1.00	ND				
1,2,3-Trichloropropane	1.00	ND				
1,2,4-Trimethylbenzene	1.00	ND				
1,3,5-Trimethylbenzene	1.00	ND				
Vinyl acetate	5.00	ND				

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

ANALYTICAL RESULTS

Project ID: 13-00839
Project Name: Chesebro Meadows

ASL Job Number	Submitted	Client
58010	08/27/2013	RINCON

Method: 8260B, Volatile Organic Compounds

QC Batch No: W1B-082813

Our Lab I.D.		**302554**				
Client Sample I.D.		RB1				
Date Sampled		08/26/2013				
Date Prepared		08/28/2013				
Preparation Method						
Date Analyzed		08/28/2013				
Matrix		Water				
Units		ug/L				
Dilution Factor		1				
Analytes	**PQL**	**Results**				
Vinyl chloride (Chloroethene)	3.00	ND				
o-Xylene	1.00	ND				
m- & p-Xylenes	2.00	ND				

Our Lab I.D.		**302554**				
Surrogates	**% Rec.Limit**	**% Rec.**				
Surrogate Percent Recovery						
Bromofluorobenzene	70-120	96				
Dibromofluoromethane	70-120	88				
Toluene-d8	70-120	100				

QUALITY CONTROL REPORT

QC Batch No: W1B-082813

Analytes	MS % REC	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit					
Benzene	94	96	2.1	75-120	15					
Chlorobenzene	96	98	2.1	75-120	15					
1,1-Dichloroethene (1,1-Dichloroethylene)	96	99	3.1	75-120	15					
MTBE	92	92	<1	75-120	15					
Toluene (Methyl benzene)	108	109	<1	75-120	15					
Trichloroethene (TCE)	101	102	<1	75-120	15					

September 30, 2013

American Scientific Laboratories, LLC
2520 N. San Fernando Rd.
Los Angeles, CA 90065

Subject: Subcontract Analysis for FGL Lab No. SP 1308942

Enclosed please find results for the following sample(s) which were received by FGL.

- Sub Contracted-Cesium-137, K-40, Isotopic Uranium

Please note that this analysis was performed by Test America Laboratories - Richland (ELAP Certified Laboratory)

Thank you for using FGL Environmental.

Sincerely,

Cindy Aguirre Digitally signed by Cindy Aguirre
Title: Customer Service Rep
Date: 2013-09-30

Enclosure

Analytical Data Package Prepared For

FGL Environmental, Inc.

Radiochemical Analysis By

TestAmerica Inc

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code:

Data Package Contains 16 ***Pages***

Report No.: 57154

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
47261		302554	J3I040455-1	M1T2J2AA	9M1T2J20	3248072
		302554	J3I040455-1	M1T2J1AC	9M1T2J10	3248073

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

September 27, 2013

FGL Environmental, Inc.
853 Corporation Street
Santa Paula, CA 93060-3005

Attention: Cindy Aguirre

Date Received by Lab	:	September 3, 2013
Sample Number/Matrix	:	One (1) Water
SDG Number	:	47261
Sample Code	:	SP 1308942 – (2-20178)

CASE NARRATIVE

I. Introduction

On September 3, 2013, one water sample was received at the TestAmerica Richland laboratory for radiochemical analysis. Upon receipt, the sample was assigned the TestAmerica identification number as described on the cover page of the Analytical Data Package. The sample was assigned to Lot Number J3I040455.

II. Sample Receipt

The sample was received in good condition, and no anomalies were noted during check-in. The technician noted that there was a lot of sediment in the sample.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analyses requested were:

Alpha Spectroscopy
Isotopic Uranium by method RL-ALP-004 (HASL 300)
Gamma Spectroscopy
Gamma by method RL-GAM-001 (EPA 901.1)

IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

V. Comments

Alpha Spectroscopy
Isotopic Uranium by method RL-ALP-004 (HASL 300)
The FWHM of the LCS is just above acceptance. The data was evaluated and accepted. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Gamma Spectroscopy
Gamma by method RL-GAM-001 (EPA 901.1)
The sample was initially counted on a detector that was not calibrated for Pb-210. When Pb-210 was detected in the duplicate, the sample was recounted on a detector calibrated for Pb-210 to verify. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW and/or NELAC both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

_____
Erika Jordan
Customer Service Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**TestAmerica Richland's SOP No.**
EPA 901.1	Cs-134, I-131	RL-GAM-001
EPA 900.0	Alpha & Beta	RL-GPC-001
EPA 00-02	Gross Alpha (Coprecipitation)	RL-GPC-002
EPA 903.0	Total Alpha Radium (Ra-226)	RL-RA-002
EPA 903.1	Ra-226	RL-RA-001
EPA 904.0	Ra-228	RL-RA-001
EPA 905.0	Sr-89/90	RL-GPC-003
ASTM D5174	Uranium	RL-KPA-003
EPA 906.0	Tritium	RL-LSC-005

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in “NIST Technical Note 1297, 1994 Edition”. The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/?n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c – Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, *u_c the combined uncertainty*. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 30-Sep-13

TestAmerica Inc

Ordered by Method, Batch No., Client Sample ID.

Report No. : 57154 **SDG No:** 47261

Batch / Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RER2
3248073 L$SR								
302554								
M1T2J1AC	U-234	32.4 +- 5.5		pCi/L	74%	0.243	1.0	
	U-235	1.20 +- 0.46		pCi/L	74%	0.167	1.0	
	U-238	29.0 +- 4.9		pCi/L	74%	0.285	1.0	
302554 DUP								
M1T2J1AE	U-234	29.0 +- 5.1		pCi/L	70%	0.351	1.0	0.9
	U-235	0.742 +- 0.38	J	pCi/L	70%	0.201	1.0	1.5
	U-238	30.4 +- 5.4		pCi/L	70%	0.472	1.0	0.4
3248072 RL-GAM-001								
302554								
M1T2J2AA	BI-214	37.4 +- 44.0	U	pCi/L		45.6		
	CS-137	-5.0600 +- 3.6	U	pCi/L		5.42	20.0	
	K-40	281.0 +- 150.0		pCi/L		68.9		
	PB-210	71.9 +- 55.0		pCi/L		49.4		
	PB-212	23.8 +- 9.0		pCi/L		7.31		
	PB-214	46.2 +- 15.0		pCi/L		9.77		
	TH-228	32.9 +- 17.0		pCi/L		15.7		
	TH-232	41.0 +- 38.0		pCi/L		32.0		
	U-238	71.4 +- 82.0	U	pCi/L		72.8		
302554 DUP								
M1T2J1AD	CS-137	-0.4870 +- 2.6	U	pCi/L		4.65	20.0	
	K-40	507.0 +- 100.0		pCi/L		52.3		
	PB-210	65.1 +- 39.0		pCi/L		36.7		
	PB-212	36.3 +- 7.3		pCi/L		5.73		
	PB-214	42.3 +- 10.0		pCi/L		7.63		
	TH-228	28.1 +- 14.0		pCi/L		12.9		
	U-238	81.5 +- 52.0		pCi/L		46.0		

No. of Results: 22

TestAmerica Inc

rptSTLRchSaSummary2 V5.2.24 A2002

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

J Qual - No U or < qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

QC Results Summary

Date: 30-Sep-13

TestAmerica Inc

Ordered by Method, Batch No, QC Type,.

Report No. : 57154 **SDG No.:** 47261

Batch / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
L$SR								
3248073 BLANK QC,								
M1VEE1AA	U-234	0.0621 +- 0.10	U	pCi/L	84%			0.176
	U-235	-0.0113 +- 0.071	U	pCi/L	84%			0.188
	U-238	0.0649 +- 0.10	U	pCi/L	84%			0.161
3248073 LCS,								
M1VEE1AC	U-234	7.03 +- 1.5		pCi/L	85%	81%	-0.2	0.157
	U-238	7.74 +- 1.6		pCi/L	85%	85%	-0.2	0.194
RL-GAM-001								
3248072 BLANK QC,								
M1VED1AA	CS-137	0.165 +- 2.6	U	pCi/L				4.84
	K-40	-23.400 +- 62.0	U	pCi/L				127.0
3248072 LCS,								
M1VED1AC	CS-137	217.0 +- 32.0		pCi/L		105%	0.1	5.15
	K-40	-49.200 +- 82.0	U	pCi/L				171.0

No. of Results: 9

TestAmerica Inc

rptSTLRchQcSummary V5.2.24 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 30-Sep-13

Lab Name: TestAmerica Inc | **SDG:** 47261 | **Collection Date:** 8/26/2013 3:50:00 PM

Lot-Sample No.: J3I040455-1 | **Report No. :** 57154 | **Received Date:** 9/3/2013 10:50:00 AM

Client Sample ID: 302554 | **COC No. :** | **Matrix:** WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3248072	RL-GAM-001			**Work Order:** M1T2J2AA		**Report DB ID:** 9M1T2J20						
BI-214	**37.4**	U	44.0	44.0	45.6	pCi/L		*0.82*	9/26/13 03:43 p		1.0	GER19$1
						23.1		*(1.7)*			L	
CS-137	**-5.0600**	U	3.6	3.6	5.42	pCi/L		*-0.93*	9/26/13 03:43 p		1.0	GER19$1
							20.0	*-(2.8)*			L	
K-40	**281.0**		150.0	150.0	68.9	pCi/L		*(4.1)*	9/26/13 03:43 p		1.0	GER19$1
								(3.8)			L	
PB-210	**71.9**		55.0	55.0	49.4	pCi/L		*(1.5)*	9/26/13 03:43 p		1.0	GER19$1
						24.7		*(2.6)*			L	
PB-212	**23.8**		9.0	9.0	7.31	pCi/L		*(3.3)*	9/26/13 03:43 p		1.0	GER19$1
						3.66		*(5.3)*			L	
PB-214	**46.2**		15.0	15.0	9.77	pCi/L		*(4.7)*	9/26/13 03:43 p		1.0	GER19$1
						4.9		*(6.2)*			L	
TH-228	**32.9**		17.0	17.0	15.7	pCi/L		*(2.1)*	9/26/13 03:43 p		1.0	GER19$1
						7.65		*(3.9)*			L	
TH-232	**41.0**		38.0	38.0	32.0	pCi/L		*(1.3)*	9/26/13 03:43 p		1.0	GER19$1
						16.1		*(2.1)*			L	
U-238	**71.4**	U	82.0	82.0	72.8	pCi/L		*0.98*	9/26/13 03:43 p		1.0	GER19$1
						36.4		*(1.7)*			L	
Batch: 3248073	L$SR			**Work Order:** M1T2J1AC		**Report DB ID:** 9M1T2J10						
U-234	**32.4**		2.2	5.5	0.243	pCi/L	74%	*(133.3)*	9/20/13 11:54 a		0.2	ALP6
						0.0721	1.0	*(11.8)*			L	

TestAmerica Inc
rptSTLRchSample
V5.2.24 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 30-Sep-13

Lab Name: TestAmerica Inc | **SDG:** 47261 | **Collection Date:** 8/26/2013 3:50:00 PM

Lot-Sample No.: J3I040455-1 | **Report No. :** 57154 | **Received Date:** 9/3/2013 10:50:00 AM

Client Sample ID: 302554 | **COC No. :** | **Matrix:** WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
U-235	**1.20**		0.42	0.46	0.167	pCi/L	74%	*(7.2)*	9/20/13 11:54 a		0.2	ALP6
						0.034	1.0	*(5.2)*			L	
U-238	**29.0**		2.1	4.9	0.285	pCi/L	74%	*(101.7)*	9/20/13 11:54 a		0.2	ALP6
						0.093	1.0	*(11.7)*			L	

Ratio U-234/238 = 1.1

No. of Results: 12 **Comments:**

TestAmerica Inc
rptSTLRchSample V5.2.24 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 30-Sep-13

DUPLICATE RESULTS

Lab Name: TestAmerica Inc | **SDG:** 47261 | **Collection Date:** 8/26/2013 3:50:00 PM

Lot-Sample No.: J3I040455-1 | **Report No. :** 57154 | **Received Date:** 9/3/2013 10:50:00 AM

Client Sample ID: 302554 DUP | **COC No. :** | **Matrix:** WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3248072	RL-GAM-001			**Work Order:** M1T2J1AD		**Report DB ID:** M1T2J1DR			**Orig Sa DB ID:**			
CS-137	-0.4870	U	2.6	2.6	4.65	pCi/L		-0.1	9/20/13 11:42 a		1.0	GER16$1
			RER2			20.0		-0.37			L	
K-40	507.0		100.0	100.0	52.3	pCi/L		(9.7)	9/20/13 11:42 a		1.0	GER16$1
			RER2					(10.1)			L	
PB-210	65.1		39.0	39.0	36.7	pCi/L		(1.8)	9/20/13 11:42 a		1.0	GER16$1
			RER2					(3.3)			L	
PB-212	36.3		7.3	7.3	5.73	pCi/L		(6.3)	9/20/13 11:42 a		1.0	GER16$1
			RER2					(9.9)			L	
PB-214	42.3		10.0	10.0	7.63	pCi/L		(5.5)	9/20/13 11:42 a		1.0	GER16$1
			RER2					(8.3)			L	
TH-228	28.1		14.0	14.0	12.9	pCi/L		(2.2)	9/20/13 11:42 a		1.0	GER16$1
			RER2					(4.)			L	
U-238	81.5		52.0	52.0	46.0	pCi/L		(1.8)	9/20/13 11:42 a		1.0	GER16$1
			RER2					(3.1)			L	
Batch: 3248073	L$SR			**Work Order:** M1T2J1AE		**Report DB ID:** M1T2J1ER			**Orig Sa DB ID:** 9M1T2J10			
U-234	29.0		2.3	5.1	0.351	pCi/L	70%	(82.5)	9/20/13 11:54 a		0.2	ALP7
	32.4		**RER2 0.9**			1.0		(11.3)			L	
U-235	0.742	J	0.36	0.38	0.201	pCi/L	70%	(3.7)	9/20/13 11:54 a		0.2	ALP7
	1.2		**RER2 1.5**			1.0		(3.9)			L	
U-238	30.4		2.3	5.4	0.472	pCi/L	70%	(64.3)	9/20/13 11:54 a		0.2	ALP7
	29.0		**RER2 0.4**			1.0		(11.3)			L	

TestAmerica Inc

rptSTLRchDupV5. 2.24 A2002

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

J Qual - No U or < qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 30-Sep-13

DUPLICATE RESULTS

Lab Name:	**TestAmerica Inc**	**SDG:**	47261	**Collection Date:**	8/26/2013 3:50:00 PM
Lot-Sample No.:	**J3I040455-1**	**Report No. :**	57154	**Received Date:**	9/3/2013 10:50:00 AM
Client Sample ID:	**302554 DUP**	**COC No. :**		**Matrix:**	WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 10 **Comments:**

TestAmerica Inc **RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.**

rptSTLRchDupV5.2.24 A2002 **MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.**

FORM II

Date: 30-Sep-13

BLANK RESULTS

Lab Name: TestAmerica Inc **SDG:** 47261

Matrix: WATER **Report No. :** 57154

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL, Lc	Rpt Unit, CRDL	Yield	Rst/MDL, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 3248072	RL-GAM-001			**Work Order:** M1VED1AA		**Report DB ID:** M1VED1AB						
CS-137	0.165	U	2.6	2.6	4.84	pCi/L		0.03	9/20/13 08:03 a		1.0	GER17$1
						20.0		0.13			L	
K-40	-23.400	U	62.0	62.0	127.0	pCi/L		-0.18	9/20/13 08:03 a		1.0	GER17$1
								-0.75			L	
Batch: 3248073	L$SR			**Work Order:** M1VEE1AA		**Report DB ID:** M1VEE1AB						
U-234	0.0621	U	0.10	0.10	0.176	pCi/L	84%	0.35	9/20/13 11:54 a		0.2	ALP8
					0.0402	1.0		(1.2)			L	
U-235	-0.0113	U	0.071	0.071	0.188	pCi/L	84%	-0.06	9/20/13 11:54 a		0.2	ALP8
					0.0464	1.0		-0.32			L	
U-238	0.0649	U	0.10	0.10	0.161	pCi/L	84%	0.4	9/20/13 11:54 a		0.2	ALP8
					0.0328	1.0		(1.3)			L	
								Ratio U-234/238 = 1.0				

No. of Results: 5 **Comments:**

TestAmerica Inc

rptSTLRchBlank
V5.2.24 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

FORM II

Date: 30-Sep-13

LCS RESULTS

Lab Name: TestAmerica Inc **SDG:** 47261

Matrix: WATER **Report No. :** 57154

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDL	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 3248072	RL-GAM-001			**Work Order:**	M1VED1AC		**Report DB ID:**	M1VED1CS					
CS-137	217.0		32.0	32.0	5.15	pCi/L		206.0	2.3	105%	9/20/13 11:44 a	1.0	GER18$1
							Rec Limits:	75	125	0.1		L	
K-40	-49.200	U	82.0	82.0	171.0	pCi/L					9/20/13 11:44 a	1.0	GER18$1
							Rec Limits:	75	125			L	
Batch: 3248073	L$SR			**Work Order:**	M1VEE1AC		**Report DB ID:**	M1VEE1CS					
U-234	7.03		0.98	1.5	0.157	pCi/L	85%	8.70	0.048	81%	9/20/13 11:54 a	0.2	ALP9
							Rec Limits:	75	125	-0.2		L	
U-238	7.74		1.0	1.6	0.194	pCi/L	85%	9.11	0.05	85%	9/20/13 11:54 a	0.2	ALP9
							Rec Limits:	75	125	-0.2		L	

No. of Results: 4 **Comments:**

TestAmerica Inc

rptSTLRchLcs
V5.2.24 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

Subcontract to
Test America Laboratories - Richland

Map Ref.

Client: **Fruit Growers Laboratory, Inc.**
Address: FGL Environmental, Inc.
853 Corporation St.
Santa Paula, CA 93060-3005

Phone: (805)392-2039 Fax: (805)525-6264
Contact Person:
Project Name: **SP 1308942 - (2-20178)**
Purchase Order Number:

Sampler(s) N/A

Compositor Setup Date: ___/___/___ Time: ___/___

Lab Number:

J3I040455
SDG-47261
Due 10-2-13

J3I040455

Samp Num	Location Description	Date Sampled	Time Sampled	Method of Sampling: Composite(C) Grab(G)	Type of Sample **SEE REVERSE SIDE**	Potable(P) Non-Potable(NP) Ag Water(AgW)	Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)	Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)	Sub Contracted-Cesium-137, K-40, Isotopic Uranium 32oz(P)									
1	302554 MITSJ	08/26/13	15:50	G	W				3									

Remarks:

Relinquished Date: Time: 8/29/13 17:30
Received By: J. Beck TALR 9-3-13/1050

Relinquished Date: Time:
Received By: Date: Time:

Relinquished Date: Time:
Received By: Date: Time:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 9-3-13 | 1050 Container GM Screen Result: (Airlock) 20 cpm Initials [B]
Sample GM Screen Result (Sample Receiving) 20 cpm Initials [B]

Client: FGL SDG #: 47261 SAF #: _____ NA [B]

Lot Number: 320404SS

Chain of Custody # _____

Shipping Container ID or Air Bill Number : _____ NA [B]

Samples received inside shipping container/cooler/box Yes [B] Continue with 1 through 4. Initial appropriate response.
No [ ] Go to 5, add comment to #16.

1. Custody Seals on shipping container intact? Yes [ ] No [ ] No Custody Seal [B]
2. Custody Seals dated and signed? Yes [ ] No [ ] No Custody Seal [B]
3. Cooler temperature: _____ °C NA [B]
4. Vermiculite/packing materials is NA [ ] Wet [B] melted ice Dry [ ]

Item 5 through 16 for samples. Initial appropriate response.

5. Chain of Custody record present? Yes [B] No [ ]
6. Number of samples received (Each sample may contain multiple bottles): 1
7. Containers received: 3 x 4p
8. Sample holding times exceeded? NA [ ] Yes [ ] No [B]
9. Samples have: ____ tape ____ hazard labels ____ custody seals [B] appropriate sample labels
10. Matrix: ____ A (FLT, Wipe, Solid, Soil) [B] I (Water) ____ S (Air, Niosh 7400) ____ T (Biological, Ni-63)
11. Samples:
[B] are in good condition ____ are leaking ____ are broken
____ have air bubbles (Only for samples requiring no head space) ____ Other _____
12. Sample pH appropriate for analysis requested Yes [ ] No [B] NA [ ]
(If acidification is necessary go to pH area & document sample ID, initial pH, amount of HNO_3 added and pH after addition on table)
13. Were any anomalies identified in sample receipt? Yes [ ] No [B]
14. Description of anomalies (include sample numbers): NA [B] _____
15. Sample Location, Sample Collector Listed on COC? * Yes [ ] No [B]
*For documentation only. No corrective action needed.
16. Additional Information: alot of Sediment in the water

[ ] Client/Courier denied temperature check. [ ] Client/Courier unpack cooler.

Sample Check-in List completed by Sample Custodian:
Signature: _____ Date: 9-3-13

Client Notification needed? Yes [ ] No [ ] Date: _____
By: _____
Person contacted: _____

[X] No action necessary; process as is

Project Manager _____ Date 9-5-13

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot Number: 330404SS SDG #: 47261

17. RPL ID # of preservative used: S-13-0013

SAMPLE ID	DATE & TIME SAMPLED	DATE & TIME PRESERVED	< 5 DAYS? Y or N	Initial pH	Acid Amt	Final pH
302554 #1	8-26-13 / 1550	9-4-13 / 9:00A	N	6.0	3 mLs	< 2
2	↓ ↓	↓ ↓	↓	↓	↓	< 2
3	↓ ↓	↓ ↓	↓	↓	↓	< 2

JBoch 9-4-13

Sample Custodian: [signature] Date: 9-4-13

May 1, 2014

Rincon Consultants, Inc.
180 N. Ashwood Ave.
Ventura, CA 93003

Lab ID : SP 1404226
Customer : 2-15187

Laboratory Report

Introduction: This report package contains total of 6 pages divided into 3 sections:

Case Narrative	(2 pages)	: An overview of the work performed at FGL.
Sample Results	(2 pages)	: Results for each sample submitted.
Quality Control	(2 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
MW-1 Equestrian Estates	04/14/2014	04/14/2014	SP 1404226-001	GW

Sampling and Receipt Information: The sample was received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Radio QC

908.0	04/30/2014:206234 All analysis quality controls are within established criteria
	04/30/2014:204856 All preparation quality controls are within established criteria

Inorganic - Wet Chemistry QC

2510B	04/15/2014:205363 All analysis quality controls are within established criteria
	04/15/2014:204246 All preparation quality controls are within established criteria

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853 Corporation Street
Santa Paula, CA 93060
TEL: (805)392-2000
Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
CA ELAP Certification No. 1573

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209)942-0182
FAX: (209)942-0423
CA ELAP Certification No. 1563

Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
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Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
TEL: (559)734-9473
FAX: (559)734-8435
CA ELAP Certification No. 2810

May 1, 2014 Lab ID : SP 1404226
Rincon Consultants, Inc. Customer : 2-15187

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2014-05-01

May 1, 2014

Lab ID : SP 1404226-001
Customer ID : 2-15187

Rincon Consultants, Inc.
180 N. Ashwood Ave.
Ventura, CA 93003

Sampled On : April 14, 2014-11:05
Sampled By : Jake Hurley
Received On : April 14, 2014-11:53
Matrix : Ground Water

Description : MW-1 Equestrian Estates
Project : MW-1 Equestrian Estates

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Wet Chemistry[P:1]								
Specific Conductance	1980	1	umhos/cm		2510B	04/15/14:204246	2510B	04/15/14:205363

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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May 1, 2014

Lab ID : SP 1404226-001
Customer ID : 2-15187

Rincon Consultants, Inc.
180 N. Ashwood Ave.
Ventura, CA 93003

Sampled On : April 14, 2014-11:05
Sampled By : Jake Hurley
Received On : April 14, 2014-11:53
Matrix : Ground Water

Description : MW-1 Equestrian Estates
Project : MW-1 Equestrian Estates

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation Method	Sample Preparation Date/ID	Sample Analysis Method	Sample Analysis Date/ID
Radio Chemistry[P:1]								
Uranium	0.078 ± 0.266	0.300	pCi/L	20	908.0	04/30/14-07:30 2P1404856	908.0	04/30/14-20:18 2A1406234

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (P) Plastic Preservatives: N/A * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

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May 1, 2014 Lab ID : SP 1404226
Rincon Consultants, Inc. Customer : 2-15187

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Conductivity	2510B	04/15/14:205363JMG	ICB	umhos/cm		0.07	1	
			ICV	umhos/cm	998.0	101 %	95-105	
			CCV	umhos/cm	998.0	101 %	95-105	
E. C.	2510B	04/15/14:204246jmg	Blank	umhos/cm		ND	<1	
		(CC 1481235-001)	Dup	umhos/cm		0.2%	10	

Definition

ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.

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May 1, 2014 Lab ID : SP 1404226

Rincon Consultants, Inc. Customer : 2-15187

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	908.0	04/30/14:206234CAA	CCV	cpm	9240	42.9 %	39 - 48	
			CCB	cpm		0.0400	0.12	
Uranium	908.0	04/30/14:204856caa	RgBlk	pCi/L		0.008	1	
			LRS	pCi/L	21.48	87.5 %	54-105	
			BS	pCi/L	21.48	94.4 %	75-125	
			BSD	pCi/L	21.48	92.7 %	75-125	
			BSRPD	pCi/L	21.48	1.9%	≤20	

Definition

CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
RgBlk	: Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.
LRS	: Laboratory Recovery Standard - Prepared to establish the batch recovery factor used in result calculations.
BS	: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
BSD	: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
BSRPD	: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.

ENVIRONMENTAL

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CHAIN OF CUSTODY
AND ANALYSIS REQUEST DOCUMENT

ORIGINAL

CLIENT DETAILS — SECTION I

Client: Rincon Consultants

☒ New Customer Customer Number: _____

Address: 180 N. Ashwood Ave
Ventura CA 93003

Phone: (805) 644-4455 FAX: (805) 644-4240

E-Mail: jhurley@rinconconsultants.com

Project name: _____

Contact person: Jake Hurley

Billing Information (if different from above)

Name: _____

Address: _____

Phone: _____ FAX: _____

E-Mail _____

Contact person: _____

Purchase order/contract/FGL quote number: 13-00839

Pre Log Required: yes _____ Frequency: Monthly ☐ Weekly ☐ Quarterly ☐ Other ☐ _____

SAMPLING — SECTION II

Sampler (s) : Jake Hurley

Comp Sampler Set up Date: _____ Time: _____

Time: _____ Mileage: _____

Shipping Charge: _____ Pickup Charge: _____

REPORT INFORMATION — SECTION III

Rush Analysis (surcharge will apply):

~~☐ 5 Day~~ 5 Day 4/14/14 ☐ 4 Day ☐ 3 Day

☐ 2 Day ☐ 24 hour

Rush pre-approval by lab: _____ initial

Electronic Data Transfer: yes _____ no _____

If yes, To: State _____ Client _____ Other _____

Lab number : 1404288

SAMPLE INFORMATION — SECTION IV

Sample Number	Location/Description	Date Sampled	Time Sampled	Type of Sampling: Composite(C) Grab(G)	Number of Containers	Type of Containers: (G) Glass (P) Plastic (V) VOA (MT) Metal Tube	(P) Potable (NP) Non-Potable	(SW) Surface Water (MW) Monitoring Well (GW) Ground Water (TB) Travel Blank (AgW) Ag Water (WW) Wastewater (DW) Drinking Water	(S) Soil (SLG) Sludge (SLD) Solid (O) Oil	BacT: (Sys) System (SRC) Source (W) Waste	BacT: Routine (ROUT) Repeat (RPT) Other (OTH) Replace (RPL)	(LT) Leaf Tissue (PET) Petiole Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCl, (4) H2SO4, (5) HNO3, (6) Na2S203, (7) Other	ANALYSES REQUESTED: Uranium 234, 235 + 238	Conductivity
	MW-1 Equestrian Estates	4/14/14	1105	G	2	P		GW						X	X

REMARKS — SECTION V

9C 1X 10S

CUSTODY — SECTION VI

Relinquished by and subject to the terms and conditions on the reverse of this document:

Relinquished by: _____ Date 4/14/14 Time 1153

Received by: _____ Date 4/14/14 Time 1153

Relinquished by: _____ Date _____ Time _____

Received by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Received by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Received by: _____ Date _____ Time _____

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Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:

1. Number of ice chests/packages received: **OTC**
2. Shipper tracking numbers _____
3. Were samples received in a chilled condition? **ROI** / **9** / _____ / _____ / _____ / _____ / _____
   Temps:
4. Surface water (SWTR) bact samples: A sample that has a temperature upon reciept of >10C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.
5. Do the number of bottles received agree with the COC? **Yes** **No** **N/A**
6. Verify sample date, time, sampler **Yes** **No** **N/A**
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.) **Yes** **No**
8. Were sample custody seals intact? **Yes** **No** **N/A**

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? **Yes** **No**
2. Did bottle labels correspond with the client's ID's? **Yes** **No**
3. Were all bottles requiring sample preservation properly preserved? **Yes** **No** **N/A** **FGL**
4. VOAs checked for Headspace? **Yes** **No** **N/A**
5. Were all analyses within holding times at time of reciept? **Yes** **No**
6. Have rush or project due dates been checked and accepted? **Yes** **No** **N/A**

Include a copy of the COC for lab delivery. (Bacti. Inorganics and Radio)

Sample Receipt, Login and Verification completed by:

Reviewed and Approved By **Shawn Peck** Digitally signed by Shawn Peck
Title: Sample Receiving
Date: 04/15/2014-09:34:26

Discrepency Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____
   Initiated By: _____ Date: _____
   Problem:

   Resolution:

2. Person Contacted: _____ Phone Number: _____
   Initiated By: _____ Date: _____
   Problem:

   Resolution:

(2015187)
Rincon Consultants, Inc.
SP 1404226
SRP-04/15/2014-09:34:26

September 11, 2013

Walt Hammond

Rincon Consultants, Inc.

790 East Santa Clara Street

Ventura, CA 93001

RE: Vacant Field Agoura Hills, CA

Enclosed are the results of analyses for soil gas samples received by Environmental Support Technologies laboratory on 08/30/13 23:20. The analyses were performed according to the prescribed method as outlined by EPA 8260B. Advisory mandated "Shut In Test" and "Leak Test" were performed prior to sample collection at all probe locations; additionally, a purge volume study indicated "Three Volumes" to be optimal. If you have any questions concerning this report, please feel free to contact Project Manager.

Sincerely,

Zalen Liley

Zalen Liley

Senior Chemist

Environmental Support Technologies laboratories are certified by the California Department of Health Services (CDHS), Environmental Laboratory Accreditation Program (ELAP) No's. 2772, 2773, and 2767.

16510 Aston Street, Irvine, California 92606
Telephone: (949) 679-9500 Fax: (949) 679-9501

Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, CA 93001

Project: Vacant Field Agoura Hills, CA
Project Number: EST2966
Project Manager: Walt Hammond

Reported:
11-Sep-13 15:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Analyzed
SV1-5 1vol	4H33001-01	Air	30-Aug-13 15:18	30-Aug-13 15:32
SV1-5 3vol	4H33001-02	Air	30-Aug-13 15:46	30-Aug-13 16:00
SV1-5 10vol	4H33001-03	Air	30-Aug-13 16:13	30-Aug-13 16:27
SV1-15	4H33001-04	Air	30-Aug-13 16:49	30-Aug-13 17:03
SV4-5	4H33001-05	Air	30-Aug-13 17:16	30-Aug-13 17:30
SV4-15	4H33001-06	Air	30-Aug-13 17:43	30-Aug-13 17:57
SV3-5	4H33001-07	Air	30-Aug-13 18:10	30-Aug-13 18:24
SV3-15	4H33001-08	Air	30-Aug-13 18:37	30-Aug-13 18:51
SV2-5	4H33001-09	Air	30-Aug-13 19:04	30-Aug-13 19:18
SV2-15	4H33001-10	Air	30-Aug-13 19:31	30-Aug-13 19:45
EQUIPMENT BLANK	4H33001-11	Air	30-Aug-13 21:13	30-Aug-13 21:27

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-5 1vol (4H33001-01) Air Sampled: 08/30/13 15:18 Analyzed: 08/30/13 15:32									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-5 1vol (4H33001-01) Air Sampled: 08/30/13 15:18 Analyzed: 08/30/13 15:32									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*85.6 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*111 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*113 %*		*75-125*	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-5 3vol (4H33001-02) Air Sampled: 08/30/13 15:46 Analyzed: 08/30/13 16:00									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-5 3vol (4H33001-02) Air Sampled: 08/30/13 15:46 Analyzed: 08/30/13 16:00									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*86.8 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*121 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*120 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-5 10vol (4H33001-03) Air Sampled: 08/30/13 16:13 Analyzed: 08/30/13 16:27									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-5 10vol (4H33001-03) Air Sampled: 08/30/13 16:13 Analyzed: 08/30/13 16:27									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*81.9 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*111 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-15 (4H33001-04) Air Sampled: 08/30/13 16:49 Analyzed: 08/30/13 17:03									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV1-15 (4H33001-04) Air Sampled: 08/30/13 16:49 Analyzed: 08/30/13 17:03									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	**0.23**	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	**1.1**	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*81.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*112 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV4-5 (4H33001-05) Air Sampled: 08/30/13 17:16 Analyzed: 08/30/13 17:30									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV4-5 (4H33001-05) Air Sampled: 08/30/13 17:16 Analyzed: 08/30/13 17:30									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*82.4 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*110 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV4-15 (4H33001-06) Air Sampled: 08/30/13 17:43 Analyzed: 08/30/13 17:57									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV4-15 (4H33001-06) Air Sampled: 08/30/13 17:43 Analyzed: 08/30/13 17:57									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*86.1 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*117 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*118 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV3-5 (4H33001-07) Air Sampled: 08/30/13 18:10 Analyzed: 08/30/13 18:24									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV3-5 (4H33001-07) Air Sampled: 08/30/13 18:10 Analyzed: 08/30/13 18:24									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*86.5 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*115 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*121 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV3-15 (4H33001-08) Air Sampled: 08/30/13 18:37 Analyzed: 08/30/13 18:51									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV3-15 (4H33001-08) Air Sampled: 08/30/13 18:37 Analyzed: 08/30/13 18:51									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*88.7 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*120 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*119 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV2-5 (4H33001-09) Air Sampled: 08/30/13 19:04 Analyzed: 08/30/13 19:18									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV2-5 (4H33001-09) Air Sampled: 08/30/13 19:04 Analyzed: 08/30/13 19:18									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*86.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*117 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*118 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV2-15 (4H33001-10) Air Sampled: 08/30/13 19:31 Analyzed: 08/30/13 19:45									
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	**2.2**	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SV2-15 (4H33001-10) Air Sampled: 08/30/13 19:31 Analyzed: 08/30/13 19:45									
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*76.1 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*110 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*111 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EQUIPMENT BLANK (4H33001-11) Air	**Sampled: 08/30/13 21:13**	**Analyzed: 08/30/13 21:27**							
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
1,1,1-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.20	"	"	"	"	"	"	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.20	"	"	"	"	"	"	
Chloroform	ND	0.20	"	"	"	"	"	"	
Chloromethane	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EQUIPMENT BLANK (4H33001-11) Air	**Sampled: 08/30/13 21:13**	**Analyzed: 08/30/13 21:27**							
cis-1,3-Dichloropropene	ND	0.50	ug/l	1	43H3001	08/30/13	08/30/13	EPA 8260B	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.20	"	"	"	"	"	"	
Ethylbenzene	ND	0.20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
meta- and para-Xylenes	ND	0.50	"	"	"	"	"	"	
Methylene Chloride	ND	0.20	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
ortho-Xylene	ND	0.20	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.20	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.20	"	"	"	"	"	"	
Vinyl Chloride	ND	0.10	"	"	"	"	"	"	
2-Propanol	ND	0.29	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*92.0 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*124 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*124 %*		*75-125*	"	"	"	"	

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Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 43H3001 - Volatiles										
Blank (43H3001-BLK1)				Prepared & Analyzed: 08/30/13						
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l							
1,1,1-Trichloroethane	ND	0.20	"							
1,1,2,2-Tetrachloroethane	ND	0.20	"							
1,1,2-Trichloroethane	ND	0.20	"							
1,1,2-Trichloro-trifluoroethane	ND	0.20	"							
1,1-Dichloroethane	ND	0.20	"							
1,1-Dichloroethene	ND	0.10	"							
1,1-Dichloropropene	ND	0.50	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,3-Trichloropropane	ND	0.50	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	0.50	"							
1,2-Dibromo-3-chloropropane	ND	1.0	"							
1,2-Dibromoethane	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.50	"							
1,2-Dichloroethane	ND	0.20	"							
1,2-Dichloropropane	ND	0.50	"							
1,3,5-Trimethylbenzene	ND	0.50	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,3-Dichloropropane	ND	0.50	"							
1,4-Dichlorobenzene	ND	0.50	"							
2,2-Dichloropropane	ND	0.50	"							
2-Chlorotoluene	ND	0.50	"							
4-Chlorotoluene	ND	0.50	"							
Benzene	ND	0.10	"							
Bromobenzene	ND	0.50	"							
Bromochloromethane	ND	0.50	"							
Bromodichloromethane	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromomethane	ND	0.50	"							
Carbon disulfide	ND	0.50	"							
Carbon tetrachloride	ND	0.10	"							
Chlorobenzene	ND	0.50	"							

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 43H3001 - Volatiles										
Blank (43H3001-BLK1)				Prepared & Analyzed: 08/30/13						
Chloroethane	ND	0.20	ug/l							
Chloroform	ND	0.20	"							
Chloromethane	ND	0.50	"							
cis-1,2-Dichloroethene	ND	0.20	"							
cis-1,3-Dichloropropene	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
Dibromomethane	ND	0.50	"							
Dichlorodifluoromethane	ND	0.20	"							
Ethylbenzene	ND	0.20	"							
Hexachlorobutadiene	ND	1.0	"							
Isopropylbenzene	ND	0.50	"							
meta- and para-Xylenes	ND	0.50	"							
Methylene Chloride	ND	0.20	"							
Naphthalene	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
n-Propylbenzene	ND	0.50	"							
ortho-Xylene	ND	0.20	"							
p-Isopropyltoluene	ND	0.50	"							
sec-Butylbenzene	ND	0.50	"							
Styrene	ND	0.50	"							
tert-Butylbenzene	ND	0.50	"							
Tetrachloroethene	ND	0.10	"							
Toluene	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.20	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Trichloroethene	ND	0.10	"							
Trichlorofluoromethane	ND	0.20	"							
Vinyl Chloride	ND	0.10	"							
2-Propanol	ND	0.29	"							
Surrogate: Dibromofluoromethane	*10.8*		*"*	*12.5*		*86.8*	*75-125*			
Surrogate: Toluene-d8	*15.3*		*"*	*12.5*		*122*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*14.8*		*"*	*12.5*		*118*	*75-125*			

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 43H3001 - Volatiles										
LCS (43H3001-BS1)				Prepared & Analyzed: 08/30/13						
1,1,1,2-Tetrachloroethane	9.30	0.20	ug/l	12.5		74.4	75-136			QL-L
1,1,1-Trichloroethane	12.0	0.20	"	12.5		96.2	73-134			
1,1,2,2-Tetrachloroethane	16.9	0.20	"	12.5		136	56-149			
1,1,2-Trichloroethane	11.7	0.20	"	12.5		93.9	67-137			
1,1,2-Trichloro-trifluoroethane	8.99	0.20	"	12.5		71.9	83-125			QL-L
1,1-Dichloroethane	8.80	0.20	"	12.5		70.4	80-121			QL-L
1,1-Dichloroethene	10.6	0.10	"	12.5		84.6	73-137			
1,1-Dichloropropene	11.4	0.50	"	12.5		91.1	77-122			
1,2,3-Trichlorobenzene	11.8	1.0	"	12.5		94.2	67-133			
1,2,3-Trichloropropane	14.1	0.50	"	12.5		113	56-145			
1,2,4-Trichlorobenzene	14.0	1.0	"	12.5		112	71-135			
1,2,4-Trimethylbenzene	18.8	0.50	"	12.5		151	76-120			QL-H
1,2-Dibromo-3-chloropropane	17.7	1.0	"	12.5		142	43-158			
1,2-Dibromoethane	14.4	0.50	"	12.5		115	80-123			
1,2-Dichlorobenzene	12.6	0.50	"	12.5		101	67-139			
1,2-Dichloroethane	8.61	0.20	"	12.5		68.9	70-131			QL-L
1,2-Dichloropropane	9.49	0.50	"	12.5		75.9	62-144			
1,3,5-Trimethylbenzene	18.2	0.50	"	12.5		146	78-125			QL-H
1,3-Dichlorobenzene	12.9	0.50	"	12.5		103	82-120			
1,3-Dichloropropane	12.0	0.50	"	12.5		96.0	61-145			
1,4-Dichlorobenzene	12.0	0.50	"	12.5		96.3	84-120			
2,2-Dichloropropane	10.8	0.50	"	12.5		86.8	76-134			
2-Chlorotoluene	19.4	0.50	"	12.5		155	69-127			QL-H
4-Chlorotoluene	18.8	0.50	"	12.5		151	70-127			QL-H
Benzene	11.2	0.10	"	12.5		89.8	79-118			
Bromobenzene	13.5	0.50	"	12.5		108	69-140			
Bromochloromethane	9.93	0.50	"	12.5		79.4	61-141			
Bromodichloromethane	11.9	0.50	"	12.5		95.4	67-137			
Bromoform	11.3	0.50	"	12.5		90.6	57-152			
Bromomethane	11.1	0.50	"	12.5		88.5	51-148			
Carbon disulfide	10.4	0.50	"	12.5		82.9	61-140			
Carbon tetrachloride	12.0	0.10	"	12.5		96.4	74-143			
Chlorobenzene	13.8	0.50	"	12.5		110	67-140			

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 43H3001 - Volatiles										
LCS (43H3001-BS1)				Prepared & Analyzed: 08/30/13						
Chloroethane	8.92	0.20	ug/l	12.5		71.4	60-137			
Chloroform	11.2	0.20	"	12.5		89.3	82-125			
Chloromethane	12.8	0.50	"	12.5		103	58-139			
cis-1,2-Dichloroethene	11.9	0.20	"	12.5		95.4	85-125			
cis-1,3-Dichloropropene	11.2	0.50	"	12.5		89.7	66-142			
Dibromochloromethane	11.3	0.50	"	12.5		90.6	61-140			
Dibromomethane	11.4	0.50	"	12.5		91.6	66-143			
Dichlorodifluoromethane	10.2	0.20	"	12.5		81.7	47-129			
Ethylbenzene	13.4	0.20	"	12.5		107	83-115			
Hexachlorobutadiene	14.6	1.0	"	12.5		117	71-145			
Isopropylbenzene	18.1	0.50	"	12.5		145	85-116			QL-H
meta- and para-Xylenes	29.9	0.50	"	25.0		120	83-115			QL-H
Methylene Chloride	12.2	0.20	"	12.5		97.2	81-126			
Naphthalene	15.9	1.0	"	12.5		127	56-136			
n-Butylbenzene	18.4	1.0	"	12.5		147	60-149			
n-Propylbenzene	18.9	0.50	"	12.5		151	77-129			QL-H
ortho-Xylene	15.2	0.20	"	12.5		122	85-115			QL-H, QL-H1
p-Isopropyltoluene	15.7	0.50	"	12.5		125	63-144			
sec-Butylbenzene	18.9	0.50	"	12.5		151	70-128			QL-H
Styrene	15.6	0.50	"	12.5		125	65-142			
tert-Butylbenzene	15.3	0.50	"	12.5		123	70-128			
Tetrachloroethene	9.50	0.10	"	12.5		76.0	66-144			
Toluene	12.6	0.50	"	12.5		101	70-115			
trans-1,2-Dichloroethene	11.7	0.20	"	12.5		93.4	72-133			
trans-1,3-Dichloropropene	11.0	0.50	"	12.5		88.0	68-140			
Trichloroethene	9.38	0.10	"	12.5		75.0	68-132			
Trichlorofluoromethane	11.8	0.20	"	12.5		94.1	62-144			
Vinyl Chloride	10.6	0.10	"	12.5		85.0	66-137			
Surrogate: Dibromofluoromethane	*10.8*		*"*	*12.5*		*86.6*	*75-125*			
Surrogate: Toluene-d8	*14.9*		*"*	*12.5*		*119*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*14.8*		*"*	*12.5*		*119*	*75-125*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 43H3001 - Volatiles										
Duplicate (43H3001-DUP1)		**Source: 4H33001-09**		Prepared & Analyzed: 08/30/13						
1,1,1,2-Tetrachloroethane	ND	0.20	ug/l		ND				50	
1,1,1-Trichloroethane	ND	0.20	"		ND				50	
1,1,2,2-Tetrachloroethane	ND	0.20	"		ND				50	
1,1,2-Trichloroethane	ND	0.20	"		ND				50	
1,1,2-Trichloro-trifluoroethane	ND	0.20	"		ND				50	
1,1-Dichloroethane	ND	0.20	"		ND				50	
1,1-Dichloroethene	ND	0.10	"		ND				50	
1,1-Dichloropropene	ND	0.50	"		ND				50	
1,2,3-Trichlorobenzene	ND	1.0	"		ND				50	
1,2,3-Trichloropropane	ND	0.50	"		ND				50	
1,2,4-Trichlorobenzene	ND	1.0	"		ND				50	
1,2,4-Trimethylbenzene	ND	0.50	"		ND				50	
1,2-Dibromo-3-chloropropane	ND	1.0	"		ND				50	
1,2-Dibromoethane	ND	0.50	"		ND				50	
1,2-Dichlorobenzene	ND	0.50	"		ND				50	
1,2-Dichloroethane	ND	0.20	"		ND				50	
1,2-Dichloropropane	ND	0.50	"		ND				50	
1,3,5-Trimethylbenzene	ND	0.50	"		ND				50	
1,3-Dichlorobenzene	ND	0.50	"		ND				50	
1,3-Dichloropropane	ND	0.50	"		ND				50	
1,4-Dichlorobenzene	ND	0.50	"		ND				50	
2,2-Dichloropropane	ND	0.50	"		ND				50	
2-Chlorotoluene	ND	0.50	"		ND				50	
4-Chlorotoluene	ND	0.50	"		ND				50	
Benzene	ND	0.10	"		ND				50	
Bromobenzene	ND	0.50	"		ND				50	
Bromochloromethane	ND	0.50	"		ND				50	
Bromodichloromethane	ND	0.50	"		ND				50	
Bromoform	ND	0.50	"		ND				50	
Bromomethane	ND	0.50	"		ND				50	
Carbon disulfide	ND	0.50	"		ND				50	
Carbon tetrachloride	ND	0.10	"		ND				50	
Chlorobenzene	ND	0.50	"		ND				50	

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Volatile Organic Compounds - Quality Control

Environmental Support Technologies

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 43H3001 - Volatiles										
Duplicate (43H3001-DUP1)	**Source: 4H33001-09**		Prepared & Analyzed: 08/30/13							
Chloroethane	ND	0.20	ug/l		ND				50	
Chloroform	ND	0.20	"		ND				50	
Chloromethane	ND	0.50	"		ND				50	
cis-1,2-Dichloroethene	ND	0.20	"		ND				50	
cis-1,3-Dichloropropene	ND	0.50	"		ND				50	
Dibromochloromethane	ND	0.50	"		ND				50	
Dibromomethane	ND	0.50	"		ND				50	
Dichlorodifluoromethane	ND	0.20	"		ND				50	
Ethylbenzene	ND	0.20	"		ND				50	
Hexachlorobutadiene	ND	1.0	"		ND				50	
Isopropylbenzene	ND	0.50	"		ND				50	
meta- and para-Xylenes	ND	0.50	"		ND				50	
Methylene Chloride	ND	0.20	"		ND				50	
Naphthalene	ND	1.0	"		ND				50	
n-Butylbenzene	ND	1.0	"		ND				50	
n-Propylbenzene	ND	0.50	"		ND				50	
ortho-Xylene	ND	0.20	"		ND				50	
p-Isopropyltoluene	ND	0.50	"		ND				50	
sec-Butylbenzene	ND	0.50	"		ND				50	
Styrene	ND	0.50	"		ND				50	
tert-Butylbenzene	ND	0.50	"		ND				50	
Tetrachloroethene	ND	0.10	"		ND				50	
Toluene	ND	0.50	"		ND				50	
trans-1,2-Dichloroethene	ND	0.20	"		ND				50	
trans-1,3-Dichloropropene	ND	0.50	"		ND				50	
Trichloroethene	ND	0.10	"		ND				50	
Trichlorofluoromethane	ND	0.20	"		ND				50	
Vinyl Chloride	ND	0.10	"		ND				50	
2-Propanol	ND	0.29	"		ND				200	
Surrogate: Dibromofluoromethane	*10.8*		*"*	*12.5*		*86.8*	*75-125*			
Surrogate: Toluene-d8	*14.2*		*"*	*12.5*		*114*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*14.3*		*"*	*12.5*		*115*	*75-125*			

Rincon Consultants, Inc. 790 East Santa Clara Street Ventura, CA 93001	Project: Vacant Field Agoura Hills, CA Project Number: EST2966 Project Manager: Walt Hammond	**Reported:** 11-Sep-13 15:37

Notes and Definitions

QL-L	Laboratory Control Sample recovery was below method control limits.
QL-H1	The spike recovery was out high for the LCS and/or the LCSD; however the analyte in CCV is within QC acceptance limits.
QL-H	The spike recovery was out high for the LCS and/or the LCSD; however the analyte was not detected in any of the analyzed samples.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

16510 Aston Street, Irvine, California 92606
Telephone: (949) 679-9500 Fax: (949) 679-9501

Table 4.4-1 Groundwater Analytical Summary
Agoura Equestrian Estates Project
Agoura Hills, California

Sample ID	Sample Date	Conductivity (umhos/cm)	Potassium (mg/L)	VOCs (µg/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Strontium 90 (pCi/L)	Total Alpha Radium (pCi/L)	Radium 228 (pCi/L)	Combined Radium (pCi/L)	Tritium (pCi/L)	Cesium 137 (pCi/L)	Potassium 40 (pCi/L)	Isotopic Uranium (pCi/L)
RB1	8/26/2013	2,190	9.04	ND	4.27 ± 3.17	1.48 ± 2.28	0.273 ± 0.928	0.0 ± 0.454	0.071 ± 0.55	0.071 ± 0.55	288 ± 266	(-)5.06 ± 3.6	281 ± 150	62.6 ± 3.62
MW-1	4/14/2014	1,980	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.078 ± 0.266
	Detection Limit	1	1	varies	4.28	3.19	0.865	0.647	0.199	0.846	434	5.42	68.9	varies
	MCL	1,600*	--	varies	15	50	8	3	2	5	20,000	--	--	20

µg/L - micrograms per liter
mg/L - milligrams per liter
pCi/L- picoCuries per liter
MCL - Maximum Contaminant Level
* - Secondary MCL

Appendix G

Hydrology Report

Hardy Engineering
Civil Engineers • Land Surveyors • Land Planning

Small Business Certified No. 1232540 *email: info@hardyengr.com*

HYDROLOGY STUDY

FOR

VESTING TENTATIVE TRACT No. 72316

AGOURA EQUESTRIAN ESTATES

OUR JOB NO. 985

25-JUL-2014

Prepared under the direction of:

Mark D. Hardy PE 36538 Expiry 30-JUN-16 Date:

1552 Eighteenth Street
Santa Monica, CA 90404
Phone: 310.449.5511

351 Rolling Oaks Drive, Suite 201
Thousand Oaks, CA 91361
Phone: 818.222.2606

122 E Arrellaga Street
Santa Barbara, CA 93101
Phone: 805.845.9936

Proposed Project Characteristics

A_{total}	62.2 Acres
Type of Development	Residential Single Family
Predominate Soil Type No.:	36 (Drainage Areas 1, 2, and 5) 28 (Drainage Areas 3 and 4)

Site Description

The subject property is located to the east of Chesebro Road approximately 1,200 feet north of the intersection of Driver Avenue and Chesebro Road in the County of Los Angeles. The site is presently a 62.2 acre vacant parcel that generally drains in a northwesterly direction and sheet flows toward Chesebro Road downstream (Sheet No. 5).

A low-density residential development with single family homes and a private street access is planned for the site. Portions of an existing floodway from Chesebro Creek (running parallel to Chesebro Road in a southerly direction) enter the subject property to the west.

Regularity Jurisdiction

The area of the study site is under the jurisdiction of the City of Agoura Hills Department of Public Works. All values are calculated in accordance with the Los Angeles County Department of Public Works hydrological standards.

Watershed Hydrology Study

The main scope of this study is to determine the runoff of area within the watershed for 50-year storms. The hydrology methodology will be the new modified rational method by the Los Angeles County Department of Public Works (LACDPW), Land Development Division.

Proposed Condition

The site is divided into five (5) drainage areas (Drainage Areas 1-5, Appendix B) based on drainage path. Five (5) catch basins are proposed for the site – one on the east of the street and four on the west of the street. Among the four basins on the west, two of them are proposed to be temporary. Runoff and debris from each drainage area generally drain overland or along natural channels or swales, and are collected at the catch basins and conveyed to the storm drains which direct runoff offsite.

To calculate the travel time of flow overland and through the swale, each subarea is further divided into subdivisions (1a-1c, 2a-2d, 3a-3e, 4a-4e, and 5a-5e, Appendix C). Time of concentration is calculated for each subarea with respect to the outlet of each catch basin together with the associated flow rates (Appendix D). To assist the hydrology analysis, fifteen locations of interest are identified and the flow at each point is presented (Appendix E & F).

For natural drainage areas, runoff under burned condition was calculated (Appendix G). Debris from burned condition caught at each catch basin was also provided (Appendix H).

Time of concentration calculation – Modified Rational Method

Time of Concentration - Kinematic Wave Theory

$$T_c = \ t_o + t_c \tag{1}$$

where:
T_c = Time of concentration in minutes
t_o = Overland flow travel time in minutes
t_c= Sum of all conveyance travel times in minutes

$$t_o = \frac{0.94 * L_0^{0.6} n_0^{0.6}}{I_x^{0.4} S_0^{0.3}} \tag{2}$$

$$I_x = C_d * I \tag{3}$$

where:
L_0 = Overland flow length in feet
n_0 = Roughness for overland flow surface dimensionless
I_x = Rainfall excess in in/hr
S_0 = Slope of overland flow in ft/ft
C_d = Runoff coefficient, ratio of runoff rate to rainfall intensity in in/in
I = Rainfall intensity in in/hr

$$C_d = (0.9 * IMP) + (1 - IMP) * C_u \qquad \text{if } C_d < C_u, \text{ use } C_d = C_u \tag{4}$$

C_u = Undeveloped runoff coefficient, ratio of runoff rate to rainfall intensity in in/in
IMP = Percent Impervious, percent expressed as 0.0 to 1.0

$$I_t = I_{1440} * (\frac{1440}{t})^{0.47} \tag{5}$$

where:
t = Duration in minutes
I_t= Rainfall intensity for the duration in in/hr
I_{1440}= 24-hour rainfall intensity in in/hr

$$t_c = \frac{Reach\ length}{V_{ave} * 60} \tag{6}$$

where:

V_{ave} = Average conveyance velocity based on Manning equation in ft/sec, read from natural channel curves (from natural channel curves)

Calculation procedure

The calculation of Tc is performed in an iterative manner by trial and error. The steps are carried out as follow:

1. Determine subarea boundaries and then calculate flow path length and flow path slope
2. Assume an initial value for T_C
3. Use Equation (5) to calculate intensity at time t (Appendix I)
4. Determine the developed soil runoff coefficient using the soil curve data and Equation (4) (Appendix J)
5. Use Equation (2) to calculate travel time for overland flow
6. Calculate the discharge at the top of each reach
7. Obtain the mean velocity from natural channel curves (Appendix K)
8. Use Equation (6) to calculate travel time for channel flow
9. Use Equation (1) to obtain Tc
10. Compare Tc from (9) with the assumed Tc from (2). If the value is not within 0.5 minutes of the assumed, use the new Tc value and begin at Step 3 to complete another iteration

Appendix B

Calculation Summary

Drainage Area	Area (ac)	Frequency (Design Storm)	Soil Type	Length (ft)	Isohyet (in)	Tc calculated(min)	Intensity (in/hr)	Q (cfs)
1	16.47	50	36	1417.05	7.4	5	4.42	66.9
2	13.75	50	36	1238.4	7.4	6	4.05	50.4
3	8.46	50	28	1579.88	7.4	9	3.35	19.7
4	12.18	50	28	2042.46	7.4	17	2.48	19.3
5	11.39	50	36	2160.85	7.4	12	2.93	28.7

Calculation of Cd

Drainage Area	Subdivision	Imperviousness (%)	Cu	Cd
1	1a	1.0%	0.920	0.920
	1b	1.0%	0.920	0.920
	1c	1.0%	0.920	0.920
2	2a	1.0%	0.905	0.905
	2b	1.0%	0.905	0.905
	2c	1.0%	0.905	0.905
	2d	1.0%	0.905	0.905
	2e	1.0%	0.905	0.905
3	3a	21.0%	0.890	0.892
	3b	21.4%	0.890	0.892
	3c	27.9%	0.890	0.893
	3d	27.9%	0.890	0.893
	3e	31.1%	0.890	0.893
4	4a	24.6%	0.838	0.853
	4b	23.3%	0.838	0.852
	4c	28.6%	0.838	0.856
	4d	31.9%	0.838	0.858
5	5a	1.0%	0.860	0.860
	5b	1.0%	0.860	0.860
	5c	1.0%	0.860	0.860
	5d	1.0%	0.860	0.860
	5e	1.0%	0.860	0.860

Appendix C

Subarea Flow

Subarea	Total Area (ac	Subdivision	Area (ac)	Q(cfs)
1	16.47	1a	14.45	58.68
		1b	1.02	4.12
		1c	1	4.06
2	13.75	2a	9.84	36.09
		2b	2.62	9.61
		2c	0.55	2.02
		2d	0.28	1.04
		2e	0.46	1.67
3	8.46	3a	1.76	4.02
		3b	1.6	3.66
		3c	1.28	3.00
		3d	1.42	3.33
		3e	2.4	5.70
4	12.18	4a	3	4.70
		4b	3.07	4.77
		4c	3.8	6.08
		4d	2.31	3.77
5	11.4	5a	1.81	4.56
		5b	1.83	4.61
		5c	0.81	2.04
		5d	4.36	10.98
		5e	2.59	6.52

Appendix D

Calculation of Tc

Drainage Area 1

Type	Flow Area (ac)	Flow Length (ft)	Elev_Up (ft)	Elev_Down (ft)	Slope	to (min)	tc (min)
Overland	16.47	1417.05	1337.4	959	0.277	2.75	
F-G		392.6	959	935	0.061		0.76
H-I		503.48	935	923	0.024		1.04
						Total (min)	4.54
						Tc (min)	5

Drainage Area 2

Type	Flow Area (ac)	Flow Length (ft)	Elev_Up (ft)	Elev_Down (ft)	Slope	to (min)	tc (min)
Overland	13.75	1238.4	1337.4	986.2	0.296	2.81	
B-C		403.68	986.2	960	0.065		0.80
C-D		357.29	960	940	0.056		0.65
D-E		315.43	940	935	0.016		1.01
H-I		503.48	935	923	0.024		1.04
						Total (min)	6.31
						Tc (min)	6

Drainage Area 3

Type	Flow Area (ac)	Flow Length (ft)	Elev_Up (ft)	Elev_Down (ft)	Slope	to (min)	tc (min)
Overland	8.46	250	975	960	0.060	5.47	
B-C		403.68	986.2	960	0.065		0.80
C-D		357.29	960	940	0.056		0.65
D-E		315.43	940	935	0.016		1.01
H-I		503.48	935	923	0.024		1.04
						Total (min)	8.97
						Tc (min)	9

Drainage Area 4

Type	Flow Area (ac)	Flow Length (ft)	Elev_Up (ft)	Elev_Down (ft)	Slope	to (min)	tc (min)
Overland	12.18	260	967	961	0.023	8.55	
C'-D'		519.95	974	951.4	0.044		1.84
D'-E'		565.21	951.4	929	0.040		1.37
E'-F'		442.6	929	924	0.011		1.84
F'-G'		514.7	924	922	0.004		3.30
						Total (min)	16.90
						Tc (min)	17

Drainage Area 5

Type	Flow Area (ac)	Flow Length (ft)	Elev_Up (ft)	Elev_Down (ft)	Slope	to (min)	tc (min)
Overland	11.4	544.25	1158	984	0.337	3.13	
B'-C'		118.39	984	974	0.085		0.32
C'-D'		519.95	974	951.4	0.044		1.84

D'-E'		565.21	951.4	929	0.040		1.37
E'-F'		442.6	929	924	0.011		1.84
F'-G'		514.7	924	922	0.004		3.30
						Total (min)	11.80
						Tc (min)	12

Appendix E

Contributing Area to Each Node

Drainage Area	Node	Contributing Area
1, 2 and 3	B	2a
	C	2a
	D	2a,2b,2c,3a,3b
	E	2a,2b,2c, 2d,2e,3a,3b,3c,3d
	F	1a
	G	1a, 1c
	H	2a,2b,2c,2d,2e,3a,3b,3c,3d,1a,1c
	I	2a,2b,2c,2d,2e,3a,3b,3c,3d,3e,1a,1b,1c
4 and 5	B'	5a
	C'	5a,5b
	D'	5a,5b,5c,5d,4a
	E'	5a,5b,5c,5d, 4a,4b
	F'	5a,5b,5c,5d,4a,4b,4c
	G'	5a,5b,5c,5d,4a,4b,4c,4d
Outlet	O	1a, 1b,1c,2a,2b,2c,2d,2e,3a,3b,3c,3d,3e,5a, 5b,5c, 5d, 4a,4b,4c,4d

Appendix F-1

Flow at Nodes in Subarea 1, 2, and 3

B		
Subdivision	Area (ac)	Q (cfs)
2a	9.84	36.09
	Total (cfs)	36.09
C		
Subdivision	Area (ac)	Q (cfs)
2a	9.84	36.09
	Total (cfs)	36.09
D		
Subdivision	Area (ac)	Q (cfs)
2a	9.84	36.09
2b	2.62	9.61
2c	0.55	2.02
3a	1.76	4.02
3b	1.6	3.66
	Total (cfs)	55.40
E		
Subdivision	Area (ac)	Q (cfs)
2a	9.84	36.09
2b	2.62	9.61
2c	0.55	2.02
2d	0.28	1.04
2e	0.46	1.67
3a	1.76	4.02
3b	1.6	3.66
3c	1.28	3.00
3d	1.42	3.33
	Total (cfs)	64.44
F		
Subdivision	Area (ac)	Q (cfs)
1a	14.45	58.68
	Total (cfs)	58.68
G		
Subdivision	Area (ac)	Q (cfs)
1a	14.45	58.68
1c	1	4.06
	Total (cfs)	62.74
H		
Subdivision	Area (ac)	Q (cfs)
2a	9.84	36.09
2b	2.62	9.61
2c	0.55	2.02

2d	0.28	1.04
2e	0.46	1.67
3a	1.76	4.02
3b	1.6	3.66
3c	1.28	3.00
3d	1.42	3.33
1a	14.45	58.68
1b	1.02	4.06
	Total (cfs)	127.18

I

Subdivision	Area (ac)	Q (cfs)
2a	9.84	36.09
2b	2.62	9.61
2c	0.55	2.02
2d	0.28	1.04
2e	0.46	1.67
3a	1.76	4.02
3b	1.6	3.66
3c	1.28	3.00
3d	1.42	3.33
3e	2.4	5.70
1a	14.45	58.68
1b	1.02	4.12
1c	1	4.06
	Total (cfs)	137.00

Appendix F-2

Flow at Nodes in Subarea 4 and 5

B'		
Subdivision	Area (ac)	Q (cfs)
5a	1.81	4.56
	Total (cfs)	4.56
C'		
Subdivision	Area (ac)	Q (cfs)
5a	1.81	4.56
5b	1.83	4.61
	Total (cfs)	9.17
D'		
Subdivision	Area (ac)	Q (cfs)
5a	1.81	4.56
5b	1.83	4.61
5c	0.81	2.04
5d	4.36	10.98
4a	3	4.70
	Total (cfs)	26.89
E'		
Subdivision	Area (ac)	Q (cfs)
5a	1.81	4.56
5b	1.83	4.61
5c	0.81	2.04
5d	4.36	10.98
5e	2.59	6.52
4a	3	4.70
4b	3.07	4.77
	Total (cfs)	38.18
F'		
Subdivision	Area (ac)	Q (cfs)
5a	1.81	4.56
5b	1.83	4.61
5c	0.81	2.04
5d	4.36	10.98
5e	2.59	6.52
4a	3	4.70
4b	3.07	4.77
4c	3.8	6.08
	Total (cfs)	44.26
G'		
Subdivision	Area (ac)	Q (cfs)
5a	1.81	4.56
5b	1.83	4.61

5c	0.81	2.04
5d	4.36	10.98
5e	2.59	6.52
4a	3	4.70
4b	3.07	4.77
4c	3.8	6.08
4d	2.31	3.77
	Total (cfs)	48.03

Appendix F-3

Flow at Outlet

Outlet		
Subdivision	Area (ac)	Q (cfs)
1a	14.45	58.68
1b	1.02	4.12
1c	1	4.06
2a	9.84	36.09
2b	2.62	9.61
2c	0.55	2.02
2d	0.28	1.04
2e	0.46	1.67
3a	1.76	4.02
3b	1.6	3.66
3c	1.28	3.00
3d	1.42	3.33
3e	2.4	5.70
4a	3	4.70
4b	3.07	4.77
4c	3.8	6.08
4d	2.31	3.77
5a	1.81	4.56
5b	1.83	4.61
5c	0.81	2.04
5d	4.36	10.98
5e	2.59	6.52
	Total (cfs)	185.03

Appendix G

Drainage Area	Area (ac)	Area ($mile^2$)	BF6	QB+B (cfs)	Soil Type	DPA
1	16.47	0.0257	1.608	107.55	36	6
2	13.75	0.0215	1.608	81.08	36	6
3	8.46	0.0132	no bulking	26.7	28	7
4	12.18	0.0190	no bulking	29.3	28	7
5	11.4	0.0178	1.608	46.15	36	6

Appendix H

Catch Basin	Subdivisions	Area (ac)	Area (mi^2)	DPR(DPA6) (yard^3/sm)	DPR(DPA6)(yard^3/ac)	DPV (yard^3)
1	1a,1c,2e,3d	17.33	0.0271	48,000	75	1299.8
2	2d,3c	1.56	0.0024	48,000	75	117.0
3	2b,2c,3a,3b	6.53	0.0102	48,000	75	489.8
4	2a	9.84	0.0154	48,000	75	738.0
5	5a,5b,5c,5d,5e	11.4	0.0178	48,000	75	855.0