CHRISTIAN WHEELER
ENGINEERING

December 5, 2017

Lookout Drive, LLC
8400 Miramar Road, Suite 270
San Diego, California 92123
Attention: Justin Mandelbaum

CWE 2170685.01

Subject: Update Geotechnical Report and Response to LDR-Geology Cycle 1 Review Memorandum, Proposed Residential Remodel and Single-Family Residences Parcels 1, 2, 4, & 5, Parcel Map 17817, 7727 Lookout Drive, La Jolla, California

References: 1) Christian Wheeler Engineering Report 2130434.01, "Report of Preliminary Geotechnical Investigation, Proposed Remodel, Addition, and Future Single-Family Residences Parcels 1, 2, 4, & 5, Parcel Map 17817, 7727 Lookout Drive, La Jolla, California", dated April 14, 2014.
2) City of San Diego LDR-Geology Cycle 1 Review Memorandum, Lookout Lots 2, 4, and 5 CDP, Project Nbr. 482904, prepared by Patrick Thomas, CEG, dated May 17, 2017.

Ladies and Gentlemen:

In accordance with your request and our proposal dated October 19, 2017, we have prepared this addendum report to respond to or provide comment regarding the geotechnical "issues" presented in the referenced LDR-Geology Cycle 1 review memorandum. The following presents each of the specific issues noted in the BDR-Geology review memorandum, followed by our response to, or comments regarding each issue.

City Issue #5 – Submit an addendum geotechnical report that specifically addresses the following issues and is prepared in accordance with the City's "Guidelines for Geotechnical Reports." http://www.sandiego.gov/development-services/industry/pdf/geoguidelines.pdf

CWE Response – This report has been prepared as an update and addendum to our referenced geotechnical report. As such, unless specifically modified herein, all of the previous geotechnical recommendations presented in the referenced reports remain applicable to the subject project.

The following presents the seismic design factors applicable to the subject site in accordance with the 2016 California Building Code. The site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters are presented in the following Table I.

TABLE I: SEISMIC DESIGN FACTORS

Site Coordinates: Latitude Longitude	32.8482° -117.2585°
Site Class	D
Site Coefficient F_a	1.000
Site Coefficient F_v	1.500
Spectral Response Acceleration at Short Periods S_s	1.298 g
Spectral Response Acceleration at 1 Second Period S_1	0.503 g
$S_{MS} = F_a S_s$	1.298 g
$S_{M1} = F_v S_1$	0.754 g
$S_{DS} = 2/3 * S_{MS}$	0.865 g
$S_{D1} = 2/3 * S_{M1}$	0.503 g

Probable ground shaking levels at the site could range from slight to moderate, depending on such factors as the magnitude of the seismic event and the distance to the epicenter. It is likely that the site will experience the effects of at least one moderate to large earthquake during the life of the proposed improvements.

For the design of retaining walls, seismic lateral earth pressures may be assumed to equal an inverted triangle starting at the bottom of the wall with the maximum pressure equal to 12.5H pounds per square foot (where H = wall height in feet) occurring at the top of the wall.

City Issue #6 – Provide geologic cross sections that correlate the stratigraphy exposed in the geologic/fault investigations performed at the site. Indicate if stratigraphic continuity exists across the site.

CWE Response – Stratigraphic continuity across the project site. Plate No. 2 of this report presents geologic cross sections A-A' and B-B', which correlate the stratigraphy exposed in the geologic/fault investigations performed at the site. The locations of these cross sections are shown on Plate No. 1 of this report.

City Issue #7 – The geotechnical consultant must provide a statement that the site will have a factor-of-safety of 1.5 or greater with respect to gross and surficial slope stability at the completion of the project.

CWE Response – The site will have a factor-of-safety of 1.5 or greater with respect to gross and surficial slope stability at the completion of the project.

City Issue #8 – The geotechnical consultant must indicate whether or not the proposed site development will be safe to occupy with respect to geologic hazards.

CWE Response – It is our professional opinion and judgment that, provided the recommendations contained in our referred report and sound construction practices are followed, the proposed site development should be safe to occupy with respect to geologic hazards.

City Issue #9 – A permeable pavement surface is proposed. The project's geotechnical consultant must address the proposed permeable pavement shown on the referenced plans in accordance with Appendix F of the City's Guidelines for Geotechnical Reports.

CWE Response – It is our understanding that permeable pavement surfaces are no longer proposed for this project.

City Issue #10 – Submit original quality prints and digital copies (on CD/DVD/or USB data storage device) of the geotechnical investigation report listed as "References" and the requested addendum geotechnical document for our records.

CWE Response – The project applicant should submit original quality prints and digital copies (on CD/DVD/or USB data storage device) of this report as well as our referenced geotechnical report (CWE 2130434.01) to the City for their records.

If you have any questions after reviewing this report, please do not hesitate to contact this office. This opportunity to be of professional service is sincerely appreciated.

Respectfully submitted,
CHRISTIAN WHEELER ENGINEERING

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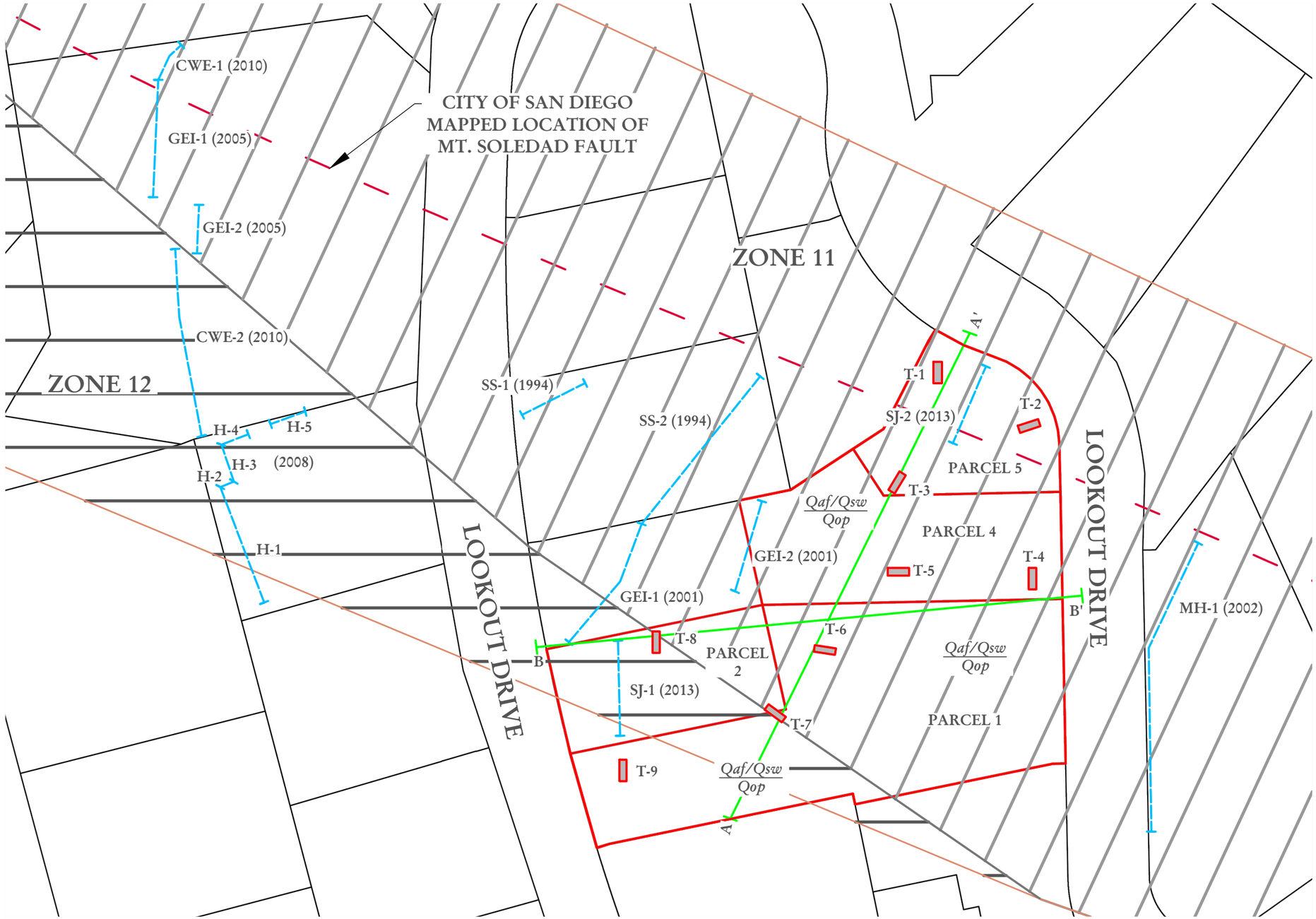


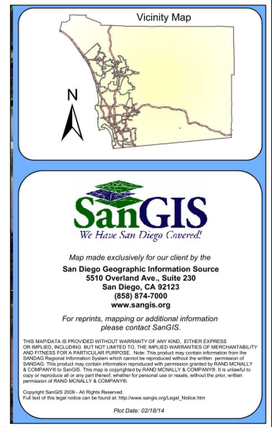
CWE LEGEND

- **T-9** APPROXIMATE TEST TRENCH LOCATION
- **SS-2** APPROXIMATE TEST TRENCH LOCATION *(STEVEN C. SUITT & ASSOC., 1994)*
- **GEI-2** APPROXIMATE TEST TRENCH LOCATION *(GEOTECHNICAL EXPLORATION, 2001a, b)*
- **SJ-2** APPROXIMATE TEST TRENCH LOCATION *(STEPHEN E. JACOBS, 2013)*
- **MH-1** APPROXIMATE TEST TRENCH LOCATION *(MICHAEL W. HART, 2002)*
- **H-5** APPROXIMATE TEST TRENCH LOCATION *(MILLER-HICKS, 2008)*
- **GEI-2** APPROXIMATE TEST TRENCH LOCATION *(GEOTECHNICAL EXPLORATION, 2005)*
- **CWE-1** APPROXIMATE TEST TRENCH LOCATION *(CWE REPORT 2090707.03, 2010)*
- ZONE 11 ACTIVE, ALQUIST-PRIOLO EARTHQUAKE FAULT ZONE *(CITY OF SAN DIEGO SEISMIC SAFETY STUDY, 2008)*
- ZONE 12 POTENTIALLY ACTIVE *(CITY OF SAN DIEGO SEISMIC SAFETY STUDY, 2008)*
- *Qaf/Qsw / Qop* ARTIFICIAL FILL AND/OR SLOPEWASH OVER OLD PARALIC DEPOSITS
- B — B' CROSS SECTION

0 50' 100'

SCALE: 1" = 50'

W+E



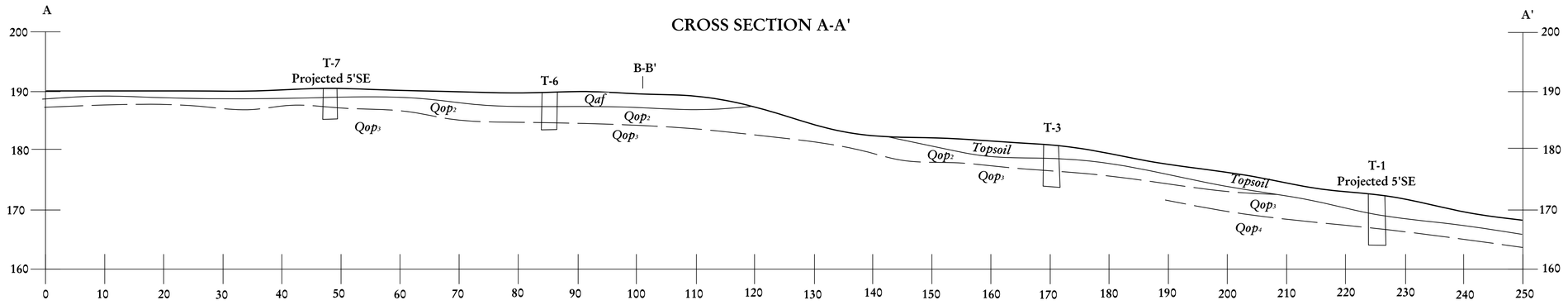
SITE PLAN AND GEOTECHNICAL MAP

PROPOSED REMODEL, ADDITION, AND SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	DECEMBER 2017	JOB NO.:	2170685.01
BY:	MAH	PLATE NO.:	1

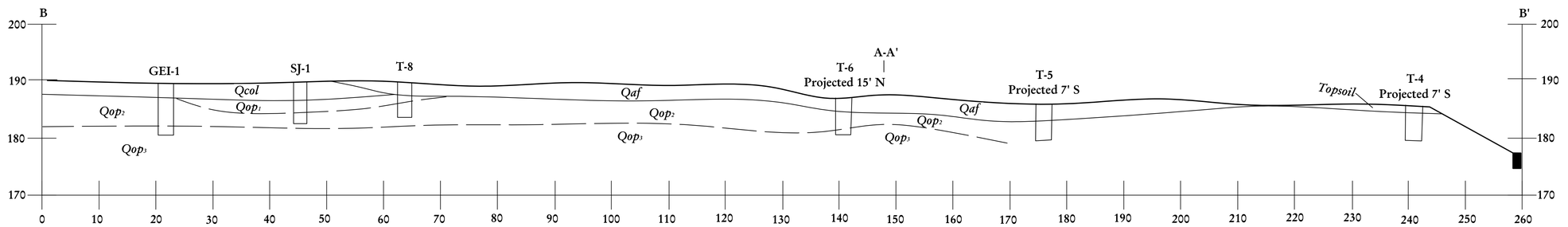
CHRISTIAN WHEELER ENGINEERING

CROSS SECTION A-A'



CWE LEGEND	
Qaf	Artificial Fill
Qcol	Coluvium
Qop1	Light gray to pale yellowish-brown, Silty Sand and slightly Silty Sand
Qop2	Light brown to orangish-brown, Clayey Sand with occasional dark gray clay lenses
Qop3	Grayish-brown to light orangish-brown, Silty Sand and slightly Silty Sand
Qop4	Orangish-brown, Silty Sand with occasional light gray Clay Sand-Sandy Clay lenses

CROSS SECTION B-B'



SCALE: 1" = 10'

CROSS SECTIONS

PROPOSED REMODEL, ADDITION, AND SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE: DECEMBER 2017 | JOB NO.: 2170685.02
BY: MAH | PLATE NO.: 2

CHRISTIAN WHEELER ENGINEERING

Appendix A

CWE Test Trench Logs (2013)

Steven E Jacobs Fault Trench Log (T-1) with Explanation (2013)

GEI Fault Trench (T-1) Log (2001)

LOG OF TEST TRENCH T-1

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0	SM	**Topsoil/Slopewash:** Brown to dark brown, moist, very loose, fine- to coarse-grained, slightly SILTY SAND; heavy roots.							
	SM	**Old Paralic Deposits (Qop):** Yellow to orangish-brown, moist, medium dense, fine- to medium-grained, SILTY SAND; moderate roots.		CK		6.5	115.8		
5	SM SC CL	Light gray, orangish-brown, and dark gray, moist, medium dense and stiff to very stiff, INTERBEDDED, fine- to medium-grained, SILTY SAND, fine- to medium-grained, CLAYEY SAND and SANDY CLAY; slight roots.		CK					
		Test trench terminated at 8 feet. No groundwater or seepage encountered.							
10									
15									
20									
25									
30									

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	3

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-2

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SP-SM	**Topsoil/Slopewash:** Brown to dark brown, moist, loose, fine- to coarse-grained, POORLY GRADED SAND with SILT; heavy roots.							
5				Moderate roots.							
			SP-SM	**Old Paralic Deposits (Qop):** Yellowish-brown, moist, medium dense, medium- to coarse-grained, POORLY-GRADED SAND with SILT; slight roots.		CK		1.5	108.6		MD DS
10				Test trench terminated at 11 feet. No groundwater or seepage encountered.							
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	4

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-3

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Topsoil:** Dark brown, damp, very loose, fine- to medium-grained, SILTY SAND; highly porous.		CK					
			SC	**Old Paralic Deposits (Qop):** Brown to reddish-brown, moist, medium dense, fine- to coarse-grained, CLAYEY SAND.		CK		4.6	118.8		
5			SP-SM	Brown to dark brown, moist, medium dense, medium- to coarse-grained, POORLY-GRADED SAND with SILT.		CK		1.5	107.6		SA
				Test trench terminated at 7 feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	5

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-4

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Topsoil:** Brown to dark brown, dry to moist, loose, fine- to medium-grained, SILTY SAND; heavy roots.							
			SC	**Old Paralic Deposits (Qop):** Grayish-brown, moist, medium dense, fine- to medium-grained, CLAYEY SAND; moderate roots.		CK					SO4 PI MD DS
				Slight roots.							
5						CK					
				Test trench terminated at 6 feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	6

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-5

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Artificial Fill (Qaf):** Light brown to brown, moist, medium dense, fine- to coarse-grained, slightly SILTY SAND with gravel-size rock.		CK					
						CK					
5			SC	**Old Paralic Deposits (Qop):** Grayish-brown with orange, moist, medium dense, fine- to medium-grained, CLAYEY SAND.		CK		13.6	114.7		
				Test trench terminated at 6½ feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	7

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-6

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SC	**Artificial Fill (Qaf):** Brown to dark brown, moist, loose, fine- to medium-grained, CLAYEY SAND with some concrete and brick debris; heavy roots		CK					
				Light brown to brown, loose to medium dense.							
			SC	**Old Paralic Deposits (Qop):** Light brown to brown, moist, medium dense, fine- to medium-grained, CLAYEY SAND; moderate roots.		CK		8.7	113.5		
5			SM	Light reddish-brown, moist, medium dense, fine- to medium-grained, SILTY SAND; slight roots.							
				Test trench terminated at 6 feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	8

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-7

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Topsoil:** Brown to dark brown, moist, loose, fine- to medium-grained, SILTY SAND; abundant roots.							
			SC-CL	**Old Paralic Deposits (Qop):** Gray and orange, moist, medium dense to stiff, fine- to medium-grained, CLAYEY SAND-SANDY CLAY; gravel layer and minor roots.		CK		12.2	111.5		EI SA
			SM	Grayish-brown, moist, medium dense, fine- to medium-grained, SILTY SAND with CLAY.		CK		11.1	107.7		MD DS SO4
5				Trace amount of cobble-size rock up to 6 inches. Test trench terminated at 5 feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	9

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-8

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Artificial Fill (Qaf):** Brown to dark brown, moist, loose to medium dense, fine- to medium-grained, SILTY SAND; abundant roots.		CK					
			SM	**Old Paralic Deposits (Qop):** Light brown to brown, moist, medium dense, fine- to medium-grained, SILTY SAND.		CK					
			SC-CL	Gray and orange, moist, medium dense to stiff, fine- to medium-grained, CLAYEY SAND-SANDY CLAY; minor roots.		CK		17.6	102.4		
5			SC	Grayish-brown, moist, medium dense, fine- to medium-grained, CLAYEY SAND.		CK					
				Test trench terminated at 5½ feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	10

CHRISTIAN WHEELER ENGINEERING

LOG OF TEST TRENCH T-9

Date Drilled:	10/11/13	Equipment:	Case 580L with 18" Bucket
Logged By:	TSW	Auger Type:	N/A
Existing Elevation:	N/A	Drive Type:	N/A
Proposed Elevation:	N/A	Depth to Water:	N/A

Sample Type and Laboratory Test Legend

Cal	Modified California Sampler	CK	Chunk Density
SPT	Standard Penetration Test	DR	Density Ring
ST	Shelby Tube		
MD	Max Density	DS	Direct Shear
SO4	Soluble Sulfates	Con	Consolidation
SA	Sieve Analysis	EI	Expansion Index
HA	Hydrometer	R-Val	Resistance Value
SE	Sand Equivalent	Chl	Soluble Chlorides
PI	Plasticity Index	Res	pH & Resistivity
CP	Collapse Potential		

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	USCS SYMBOL	SUMMARY OF SUBSURFACE CONDITIONS (based on Unified Soil Classification System)	PENETRATION (blows per foot)	SAMPLE TYPE	BULK	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	RELATIVE COMPACTION (%)	LABORATORY TESTS
0			SM	**Topsoil:** Brown to dark brown, moist, loose, fine- to medium-grained, SILTY SAND; abundant roots.		CK					
			SM	**Old Paralic Deposits (Qop):** Light brown, dry to moist, medium dense, fine- to medium-grained, SILTY SAND; minor roots.		CK					
			SC	Grayish-brown, moist, medium dense, fine- to medium-grained, CLAYEY SAND.		CK					
5				Test trench terminated at 5 feet. No groundwater or seepage encountered.							
10											
15											
20											
25											
30											

Notes:

Symbol Legend

- ▽ Groundwater Level During Drilling
- ▼ Groundwater Level After Drilling
- ⁘ Apparent Seepage
- * No Sample Recovery
- ** Erroneous Blow Count (rocks present)

PROPOSED REMODEL, ADDITION, AND FUTURE SINGLE-FAMILY RESIDENCES
PARCELS 1, 2, 4, & 5, PARCEL MAP 17817
7727 LOOKOUT DRIVE
LA JOLLA, CALIFORNIA

DATE:	APRIL 2014	JOB NO.:	2130434.01
BY:	MLM	PLATE NO.:	11

CHRISTIAN WHEELER ENGINEERING

DESCRIPTION OF UNITS:

Surficial Soils

af Fill: Silty sand (SM) and clayey sand (SC), medium- to coarse-grained, dark brown (10YR-4/3 to -3/3) and dark grayish brown (10YR-4/2), abundant angular (crushed rock) ¼-½" gravels, few round gravels to 3", few light gray sandstone fragments, abundant roots and rootlets to 1½ ", some construction debris (ceramic tile, plastic sheet, lumber), loose, slightly moist

Qc Colluvium/Topsoil: Silty sand (SM) to clayey sand (SC), fine- to medium-grained, brown (10YR-5/3) to dark brown (10YR-4/3 to -3/3), numerous roots and rootlets to ¼", granular to moderately developed subangular blocky soil structure, common pores, locally common white caliche-filled rootlet casts, loose to medium dense, slightly moist to moist

Pedogenic Soils

Bt Subsoil (Argillic horizon): Clayey sand/sandy clay (SC/CL), fine- to medium-grained sand, dark brown (10YR-4/3) to dusky yellow-brown (10YR-4/4), grayish brown (10YR-5/2) to very dark grayish brown (10YR-4/2) and very dark brown (10YR--2/2) to very dark grayish brown (10YR-3/2), some roots and rootlets, moderate to strongly developed angular to subangular blocky soil structure, firm to stiff, moist to very moist, slight gradation into underlying deposits

Old Paralic (Terrace) Deposits

Qop-1 Sand to silty sand (SP/SM), clean to silty, fine- to medium-grained, light gray (10YR-7/2) to pale brown (10YR-6/3) and brown (10YR-5/3), common reddish brown (5YR-3/3 to -3/4) iron-oxide stains, poorly indurated, granular to weakly developed subangular blocky structure, pale brown (10YR-6/3) and brown (10YR-5/3), few roots and rootlets, medium dense to dense, moist

Qop-2 Clayey sand to clayey silt (SC/ML), very fine- to fine-grained sand, locally medium-grained, brown (10YR-5/3) and dark brown (10YR-3/3) to dusky yellow-brown (10YR-4/4), numerous laminar argillic (Bt) soil lenses and rootlet casts, few roots and rootlets, moderate to strongly developed subangular, blocky soil structure, common pale brown (10YR-6/3) mottles, some iron-oxide stains, few black manganese oxide stains, firm to stiff, moist to very moist

OTHER FEATURES:

Contact between pedogenic/geologic units

Approx. contact between pedogenic/geologic units

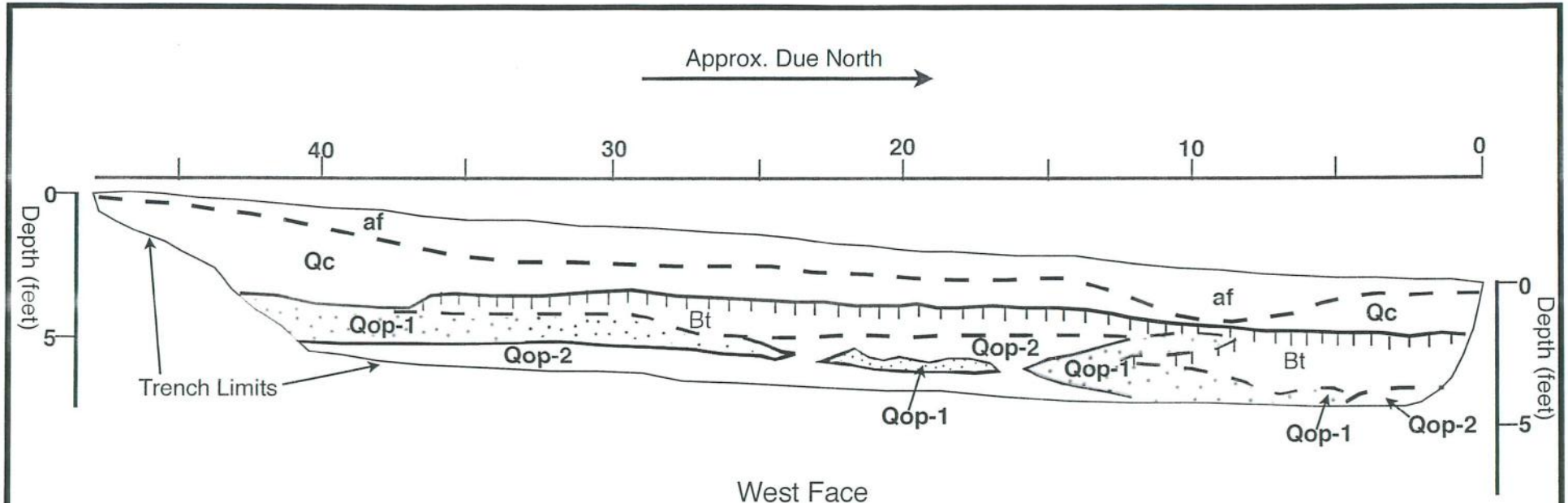
Top of pedogenic soil horizon

FAULT TRENCH LOG EXPLANATION

7727 Lookout Drive, La Jolla, CA
Logged by SEJ on 7/10/2013

Project No. 13004 Figure 12

Stephen E. Jacobs, CEG



West Face

0 5 10

FEET

Note: See Figure 12 for Explanation

Log of Fault Trench

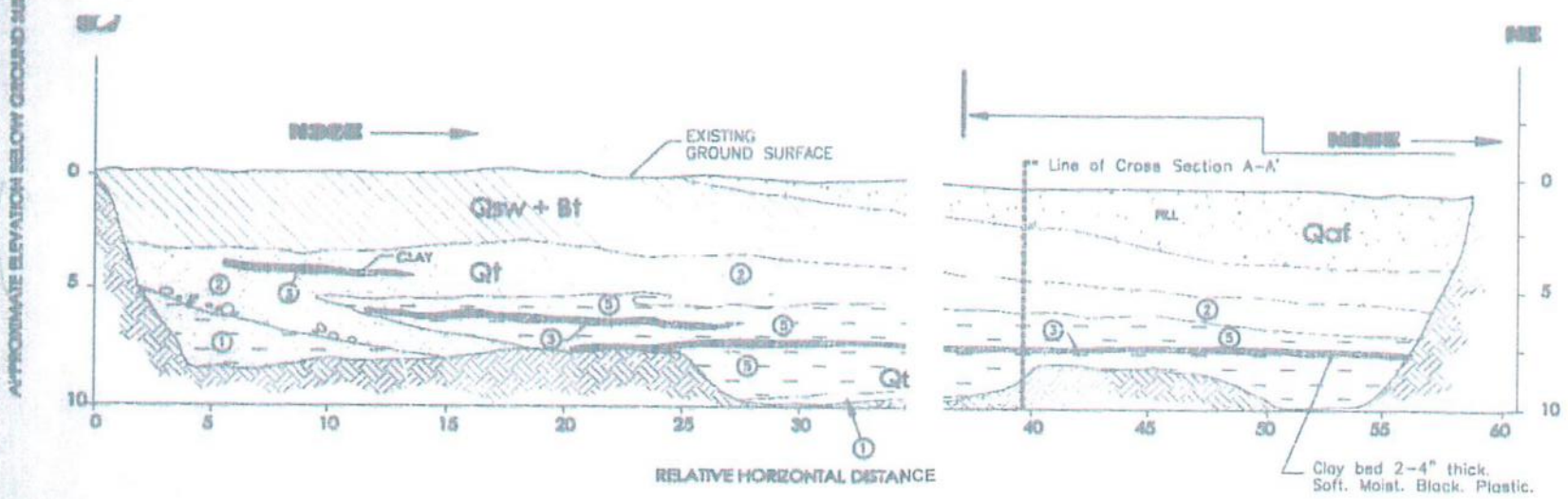
7727 Lookout Drive, La Jolla, CA

Logged by SEJ on 7/10/2013

Project No. 13004 **Figure 11**

Stephen E. Jacobs, CEG

EXPLORATORY TRENCH T-1



Legend

FILL/Qaf	SILTY SAND, loose to compact. Dampt to moist. Light Brown with angular gravel to cobble size clasts of cemented sandstone. (SM)
SLOPEWASH/TOPSOIL Qsw/Bt	CLAYEY SAND/SANDY CLAY, medium dense/stiff. Damp–moist. Light brown (SC/CL) to dark brown and black to light brown sandy clay argilic horizon (undifferentiated) Bt topsoil (CL)
TERRACE/Qt	① Dense light brown coarse massive sandstone (SP)
	② Dense, brown coarse silty clayey sand (SC) Massive to well bedded with lenses of cream/light brown thinly bedded siltstone (ML)
	③ Interbeds of stiff black clay (CL) and very stiff brown silty coarse sandy clay (CL)
	④ Thinly laminated interbedded light gray to white and light brown fine sand and silt (SM)
	⑤ Interbedded light brown coarse silty massive sand (SP) to horizontal well bedded and black clay (CL)

Geologic Fault Investigation
Proposed Pruett Residence
APN # 382-012-18
Lookout Drive
Job No. 00-7920

GGI Geotechnical Exploration, Inc.

October 2001