

Via E-Mail and Mail

July 2, 2012
Job No. 1806.101A

**BERLOGAR
STEVENS &
ASSOCIATES**

PWD-84

Berlogar Vineyards Inc.
P.O. Box 1000
Pleasanton, California 94566

Subject: Geotechnical Investigation
Tract 7399 - Parcels 1 and 2
Silver Oaks Court
Pleasanton, California

Dear Mr. Berlogar:

INTRODUCTION

This report presents our geotechnical investigation for 2 proposed single-family residences on Parcels 1 and 2 of the Berlogar Vineyards in Pleasanton, California (see Plate 1, Vicinity Map). The Parcels are located at the end of Silver Oaks Court as shown on Plate 2, Site Plan and are proposed to be accessed via a private drive off Silver Oaks Court.

PURPOSE AND SCOPE OF SERVICES

The purpose of this geotechnical investigation was to investigate the site soil, bedrock and groundwater conditions and to evaluate the feasibility of the planned development from a geotechnical engineering standpoint. Our scope of services included:

1. Review of published maps and literature pertinent to the site and vicinity.
2. Review of existing geotechnical and geologic reports pertaining to the site.
3. Excavating and logging exploratory test pits.
4. Geotechnical engineering and geologic analysis.
5. Providing grading recommendations
6. Preparing this report.

SITE CONDITIONS

SURFACE CONDITIONS

Currently, the area is an undeveloped hillside. Parcel 1 is proposed to be graded to be a split pad at 460 and 470 feet MSL separated by a maximum 2H:1V slope. A 2H:1V slope is proposed to extend downhill to the north from the Pad at 460 feet MSL. The pad at 470 feet MSL is proposed to be bordered on the uphill side by a maximum 2H:1V slope. The second pad is on Parcel 2 and is proposed to be at 515 feet MSL.

SUBSURFACE CONDITIONS

We excavated eleven test pits (TP-1 to TP-11) up to 9 feet deep on September 16, 2010 and October 13, 2011 to explore the subsurface conditions at the locations shown on Plate 2, Site Plan. Soils encountered were generally silty to sandy clays and clayey silts overlying the Livermore Gravels formation. Siltstone was encountered in TP-9 at a depth of 4 feet below existing ground surface and was highly weathered, friable, and moderately to highly fractured. The test pit logs are contained on Plates 3 and 4.

GROUNDWATER

Groundwater was not encountered in the test pits.

GEOLOGIC HAZARDS

LANDSLIDES

Mapped landslides at the site were not found in the geologic literature in our files and we did not find evidence of landslides during our field exploration.

EARTHQUAKES

The site is not located within a designated State of California Earthquake Fault Zone for active faults. We did not observe signs of active faults during our field exploration. Hence, the potential for surface fault rupture at the site is low. The subject site is located at approximately 37.6623 degrees north latitude and 121.8369 degrees west longitude. The peak ground acceleration (PGA) with a 10% chance of exceedance in 50 years (475 year return period) is 0.53g according to the United States Geologic Survey (USGS) Deaggregation website with an assumed shear wave velocity of 270 m/s.

LIQUEFACTION AND DYNAMIC COMPACTION

Liquefaction is the temporary transformation of saturated, loose cohesionless soils into a viscous liquid during strong ground shaking from a major earthquake. The site is underlain by silty to sandy clays and clayey silts which are underlain by the Livermore Gravel formation. Therefore, the risk of liquefaction at the site is believed to be low. Dynamic compaction is the densification of dry, loose sandy soil above the water table. Loose, relatively clean sandy soil was not encountered in the test pits, hence, the potential for dynamic compaction is considered to be low.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

From a geotechnical engineering standpoint, the proposed home sites appear to be feasible at the site, provided the conclusions and recommendations contained in this report are followed as project planning advances.

SITE GRADING

The on-site soils are generally suitable for engineered fill, provided they are free of debris, significant vegetation, rocks greater than 6 inches in largest dimension and other deleterious matter.

In engineered fill and building pad areas, the upper foot of existing ground should be overexcavated, and the exposed grade should be scarified to a depth of about 12 inches, properly moisture conditioned to at least 3 percent above the optimum moisture content and compacted to a minimum of 90 percent relative compaction as determined by ASTM D1557. Cut and fill slopes should be graded at 2H:1V.

Fill slopes should be keyed and benched into the hillside and should include a subdrain. Keyways should slope back into the slope at a 5 percent gradient, extend a minimum of 4 feet into completed soil, and have a width of 15 feet or half the fill slope height, whichever is greater. All fill should be compacted to a minimum of 90 percent relative compaction (ASTM D1557) at 3 percent above optimum. Horizontal benches should be excavated to key the fill into native material.

A keyway subdrain should be located along the upslope side of the keyway and consist of a 6 inch diameter perforated PVC pipe placed holes down surrounded by 6 inches of Class 2 Permeable Material. The subdrain should discharge via a closed pipe to the proposed storm drain system.

We recommend that supplemental investigations be performed for each proposed residence when specific house plans become available. Foundation recommendations can be provided upon request. We trust this provides the information needed at this time. If you have any questions, please contact us.

LIMITATIONS

The conclusions and recommendations of this geotechnical investigation report are based on the information provided to us regarding the proposed development, subsurface conditions encountered at the test pit locations, laboratory tests and professional judgment. The study has been conducted in accordance with current professional geotechnical engineering standards; no other warranty is expressed or implied.

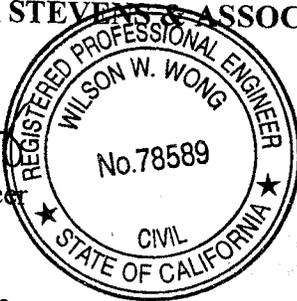
The locations of the test pits were estimated by pacing from existing features and should be considered approximate only. The test pits show subsurface conditions encountered at the locations and dates indicated; it is not warranted that they are representative of such conditions at other locations or times.

In the event that changes in nature, design, and location of the proposed development are planned, or if the subsurface conditions differ from those described herein during construction, then the conclusions and recommendations presented in this report should be considered invalid unless the changes are reviewed, and the conclusions and recommendations are modified or approved in writing.

Respectfully submitted,

BERLOGAR STEVENS & ASSOCIATES


Wilson Wong
Project Engineer
C78589




William R. Stevens
Principal Engineer

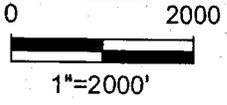
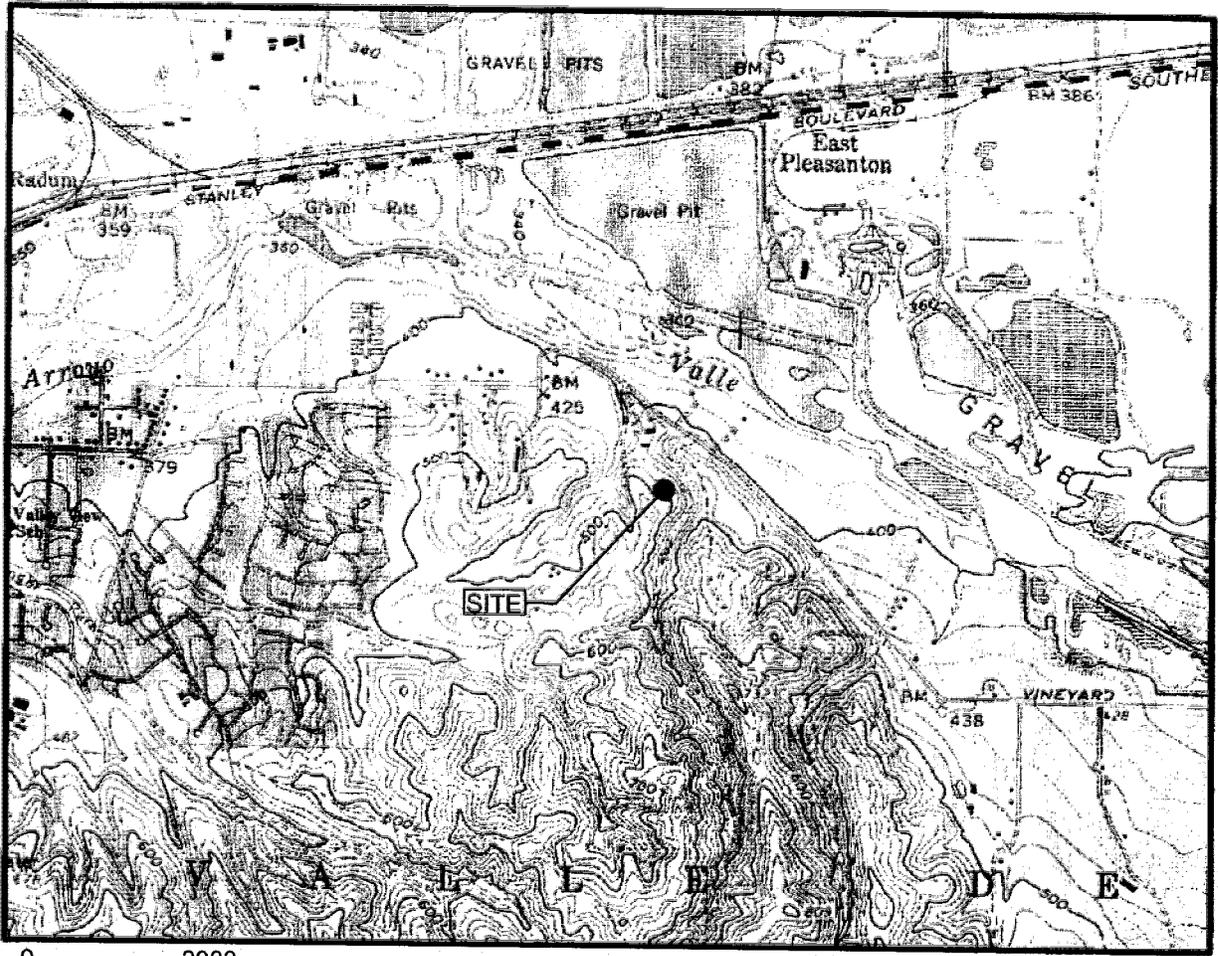
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Attachment: Plate 1 – Vicinity Map
Plate 2 – Site Plan
Plates 3 and 4 – Test Pit Logs

Copies: Addressee (6)

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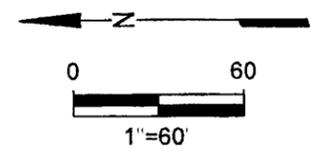
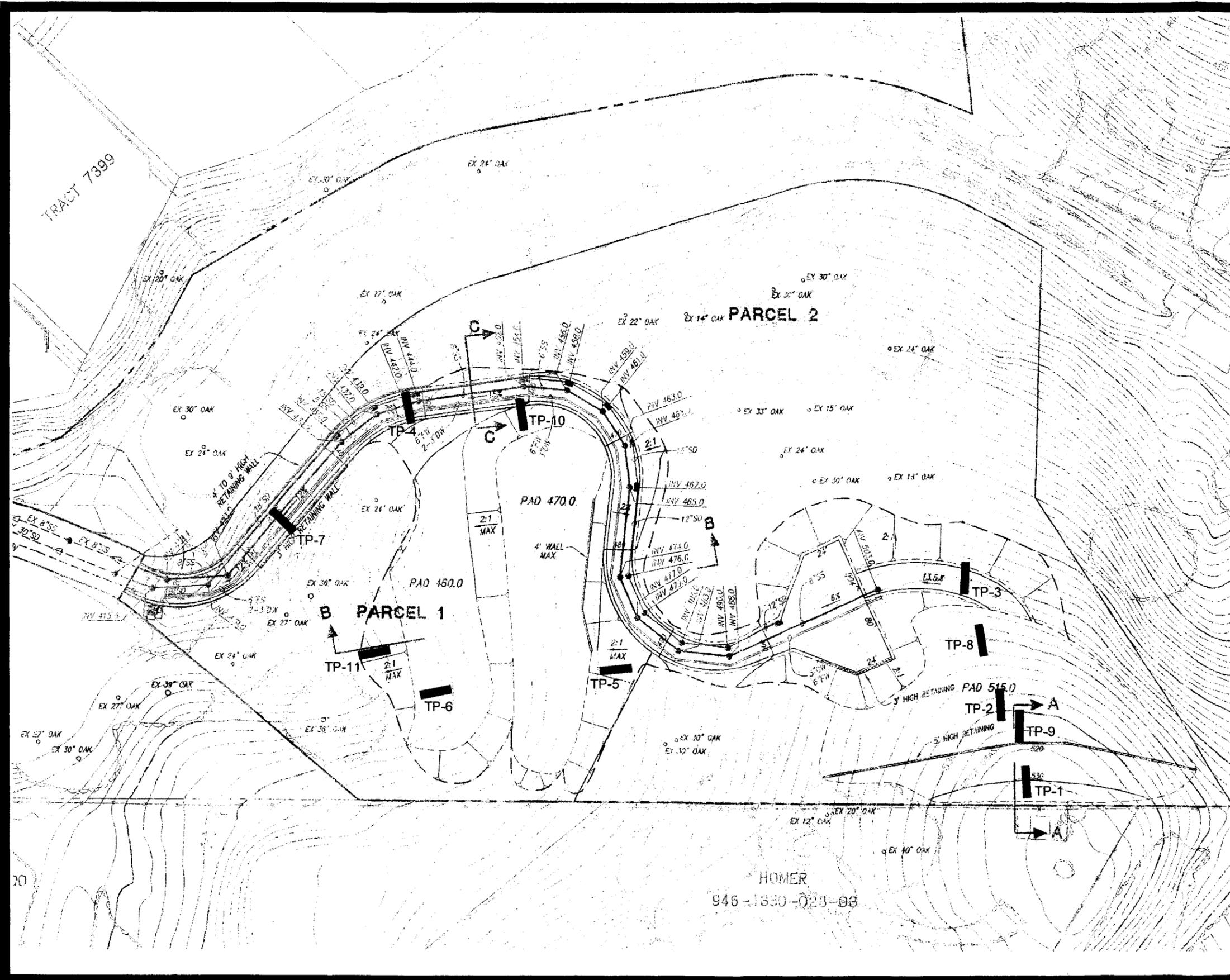
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VICINITY MAP
TRACT 7399
PARCELS 1 AND 2
 SILVER OAKS COURT
 PLEASANTON, CALIFORNIA
 FOR
 BERLOGAR VINEYARDS INC.

BASE: PORTION OF U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLES, LIVERMORE, CALIFORNIA, PHOTOREVISED 1980, AT A SCALE OF 1:24,000.

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EXPLANATION
TP-11
TEST PIT LOCATION

SITE PLAN
TRACT 7399
PARCELS 1 AND 2
SILVER OAKS COURT
PLEASANTON, CALIFORNIA
FOR
BERLOGAR VINEYARDS INC.

Berlogar Stevens & Associates
SOIL ENGINEERS • ENGINEERING GEOLOGISTS

HOMER
946-1880-028-08

TEST PIT LOGS

<u>Test Pit Number</u>	<u>Depth (feet)</u>	<u>Description</u>
TP-1	0 - 2	Conglomerate, light to moderate gray-brown, moist, hard/very dense, predominantly sand, gravel and cobbles in sandy clay matrix. "Livermore Gravels" Total Depth 2 feet No free groundwater encountered
TP-2	0 - 2	Conglomerate, light to medium gray-brown, moist, hard/very dense, gravel and cobbles in sandy clay matrix. "Livermore Gravels" Total Depth 2 feet No free groundwater encountered
TP-3	0 - 1½ 1½ - 3	Sandy Clay, light to medium gray-brown, dry to moist, hard, some fine to coarse gravel. "Livermore Gravels" Clayey Silt, light gray-brown (reddish), moist, very stiff to hard, trace fine to coarse gravel. "Livermore Gravels" Total Depth 3 feet No free groundwater encountered
TP-4	0 - 2½	Clayey Silt, light to medium gray-brown, moist, dense, slightly porous, some fine to medium-grained sand and fine to coarse gravel, occasional cobbles. "Livermore Gravels" Total Depth 2½ feet No free groundwater encountered
TP-5	0 - 2	Clayey Silt with fine to coarse gravel, light to medium gray-brown. Dry to moist, very dense, occasional cobbles. "Livermore Gravels" Total Depth 2 feet No free groundwater encountered
TP-6	0 - 2	Clayey Silt, light to medium gray-brown, dry to moist, dense, porous, some fine to coarse grained sand and fine to coarse gravel, occasional cobbles. "Livermore Gravels" Total Depth 2 feet No free groundwater encountered
TP-7	0 - 2	Sandy Clay, gray-brown, dry to moist, very stiff to hard, some fine to coarse gravel, fine to coarse-grained sand, occasional cobbles. "Livermore Gravels" Total Depth 2 feet No free groundwater encountered

TEST PIT LOGS

<u>Test Pit Number</u>	<u>Depth (feet)</u>	<u>Description</u>
TP-8	0 - 2	Conglomerate, light to medium gray-brown, moist, hard/very dense, gravel and cobbles in sandy clay matrix. "Livermore Gravels"
		Total Depth 2 feet No free groundwater encountered
TP-9	0 - 1	Silty Clay, brown, dry, stiff, trace fine-grained sand.
	1 - 2	Silty Clay, brown, moist, stiff, trace fine-grained sand, trace fine gravel, faint blocky ped structure.
	2 - 4	Conglomerate, red-brown, highly weathered, friable, coarse-grained sand matrix, matrix supported, matrix: gravel ≈ 60:40, rounded gravel up to ½ inch, channeled basal contact. "Livermore Gravels"
	4 - 6	Siltstone, tan-brown, highly weathered, friable, moderately to highly fractured.
		Total Depth 6 feet No free groundwater encountered
TP-10	0 - 1½	Silty Clay, brown, dry, stiff.
	1½ - 2½	Silty Clay, brown, moist, stiff, trace fine-grained sand, trace fine gravel.
	2½ - 5½	Conglomerate, red-brown, highly weathered, friable, coarse-grained sand matrix, clast supported, matrix: gravel ≈ 40:60, rounded gravel up to 1½ inch "Livermore Gravels."
		Total Depth 5½ feet No free groundwater encountered
TP-11	0 - 3½	Silty Clay, brown, dry, stiff, porous, trace fine-grained sand, trace fine gravel.
	3½ - 6½	Silty Clay, brown, dry to moist, very stiff, trace to some rounded fine to coarse gravel, trace fine-grained sand.
	6½ - 9	Conglomerate, brown to red-brown, highly weathered, friable, coarse-grained sand matrix, matrix to clast supported, matrix: gravel ≈ 50:50, rounded fine to coarse gravel "Livermore Gravels."
		Total Depth 9 feet No free groundwater encountered

* Hard excavation in Livermore Gravels due to interlocking gravel.