CONDOR EARTH TECHNOLOGIES, INC.
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Condor Project No. 6500

August 30, 2013

Steven Rea
Mountain Peak Vineyards, LLC
3265 Soda Canyon Road
Napa, CA 94558

Subject: Data and Feasibility Report
Wine Cave – Mountain Peak Vineyards
3265 Soda Canyon Road
Napa, California

Dear Mr. Rea:

This report presents subsurface data and conclusions by Condor Earth Technologies, Inc. (Condor) for the proposed wine cave at Mountain Peak Vineyards. We performed our work to develop preliminary conclusions regarding subsurface conditions and geotechnical issues for design and construction of the cave. A primary purpose of this report is to provide a basis for Cave Contractor proposals. Condor prepared this report in accordance with our July 3, 2013 Proposal.

The subject property is located approximately 4 miles northeast of Yountville at 3265 Soda Canyon Road. The project site is about ¼-mile northeast of the split of Soda Canyon Road. Figure 1 shows the approximate site location.

SITE AND PROJECT DESCRIPTIONS

Figure 2 shows the proposed cave and buildings. The project will include construction of a wine cave with shotcrete retaining walls at portals, a tasting room building, an office building, a fire water tank, and other exterior improvements.

Figure 3 shows the approximate locations of the proposed wine cave elements on an aerial photograph. The cave will be constructed below a hillside that slopes moderately northwesterly. There is an existing house at the site that will be removed for construction of the proposed tasting room building. There are trees around the house, a driveway to the house and vineyard roads at the site. Otherwise, the site is occupied by existing vineyards.

Condor prepared conceptual wine cave plans for the Use Permit submittal, which are included in Appendix A. Sheet CA2.1 suggests that the cave will be constructed in four construction phases. We understand that Phase I construction is planned to start in April 2014 and should be completed by September 2014. Phase II should start in November 2014 following crush and should be completed for 2015 crush; Phase III should start in November 2015 and should be completed for 2016 crush; and Phase IV should start in November 2016 and should be completed for 2017 crush.

The cave will include about 63,000 square feet of floor area, an elevated mezzanine structure, and several access and ventilation shafts. The overall cave plan dimensions of the cave area are about 310 feet east to west and 620 feet north to south. The cave tunnel liners will be reinforced shotcrete placed simultaneously with tunnel excavation, and the cave floor will be a reinforced concrete slab-on-grade. The tunnel widths will be 8 to 30 feet. The widest tunnels will be for fermentation rooms. There will be about 3 to 8 feet of ground cover over the tunnels at the portals and up to about 50 feet of ground cover at the southeast end of the cave.

The tasting room building will be a one-story concrete masonry unit (CMU) and steel-framed structure with one basement level. The basement floor will be about 5 feet above the crown of a wine cave tunnel beneath. The office building will be a one-story CMU structure with a concrete slab-on-grade floor situated near the existing ground surface. This floor will be about 10 feet above the crown of a tunnel beneath.

The mezzanine level will include about 1,620 square feet of floor space. A mezzanine-level walkway will connect two separate larger mezzanine areas. Condor anticipates that the mezzanine will be a steel structure with an elevated concrete floor or a cast-in-place reinforced concrete structure. Stairs will extend from the mezzanine level to the cave floor below.

There will be four portals for wine cave tunnels at two separate shotcrete retaining walls. There will be additional entries to the wine cave as follows:

- Shaft 1 – Service and guest entry from a combination stair/elevator shaft at the Tasting Building
- Shaft 2 – Entry to the mezzanine and cave levels from an elevator shaft at the Office Building
- Shaft 3 – Entry to the mezzanine level from a stair shaft near the Office Building

The service/guest entry, Shaft 1, will be 4 feet in diameter shaft and will extend down about 15 feet from the Tasting Building basement floor to the tunnel floor level. The other shafts will be 10 feet in diameter. Shaft 2 for the Office Building elevator will have stops at the mezzanine and cave floor levels. Shaft 3, near the Office Building, will access the mezzanine level only.

If the project plans change and the geotechnical aspects of the project vary significantly from those described, then Condor should be notified and reevaluate our conclusions and recommendations in this report.

SCOPE OF WORK

Our work scope includes presenting subsurface data from three borings and developing preliminary conclusions and recommendations for the following:

- Anticipated subsurface conditions to be exposed in excavations for the wine cave (and variability of such conditions), including weathering, fracture characteristics, unconfined compressive strength and hardness
- Potential for geologic hazards, including fault rupture, landslides, and liquefaction
- Anticipated ground temperatures and cave operating temperatures (at various portions of the cave)
- General tunnel ground characteristics (and variability depending on ground cover and variation of rock characteristics)
- Excavatability of rock

- Potential for groundwater seepage and options for water seepage mitigation
- Tunnel stability and unsupported stand-up time
- Anticipated tunnel advance rates and estimates for temporary support
- Estimated tunnel final support requirements
- Additional subsurface investigation and engineering work required for final tunnel design and permitting

SUBSURFACE INVESTIGATION METHODS

Condor investigated subsurface conditions at the site in August 2013 by drilling three vertical borings designated B-1 through B-3. Figure 2 shows the approximate boring locations, and Appendix B contains the boring logs, a summary of terms we used to describe rock characteristics and core photographs.

Our drilling subcontractor advanced the borings to depths of about 36 to 70 feet using a track-mounted Central Mine Equipment 55 drill rig. The bottoms of the borings are about 10 feet beneath the conceptual tunnel inverts. Our subcontractor used augers to drill the soil near the ground surface, and then rock coring equipment (with water circulation) to core the rock continuously. Condor's staff geologist selected depths for sampling soil, examined the recovered soil samples, rock core and drill cuttings, and logged the conditions encountered.

Our drilling subcontractor retrieved soil samples in 3-inch outside-diameter split-spoon samplers driven 18 inches (or to practical refusal) over three 6-inch increments. To drive the samples, they used an automatically tripped 140-pound hammer that dropped 30 inches. The boring logs show the number of blows required to drive the sampler over each 6-inch increment. When refusal to further advancement of the sampler occurred, the logs show the blows required to drive the sampler over the final increment, and the number of inches driven over this final increment.

Condor classified soil using the Unified Soil Classification System and characterized the engineering properties of the rock. We evaluated the sample and core at our facility, photographed the core, and then delivered soil and rock samples to our subcontracted laboratory for testing. Lab testing included unconfined compressive strength tests. Appendix C contains the laboratory test reports.

Following drilling, our drilling subcontractor installed piezometers (groundwater level monitoring wells) in each boring. Condor then measured the groundwater levels and ground temperatures in the piezometers shortly after completion of drilling.

SITE GEOLOGY

Available geologic maps indicate that rock in the project vicinity belongs to the Sonoma Volcanics formation dating approximately 3 to 8 million years old (Pliocene to Late Miocene) overlying the Coast Range Ophiolite basement rock dating approximately 150 to 190 million years old (Middle to Late Jurassic). These units include volcanic and intrusive rocks probably derived from several regional eruptive centers, along with interbedded volcaniclastic sedimentary deposits and serpentinized rock occurring near fault zones.

Figure 4 shows the approximate site location on a geologic map. The map shows that the site is underlain by andesitic lava flows and flow breccias of the Sonoma Volcanics. Our borings encountered andesite and breccia below about 3 to 6 feet of colluvium.

Figure 5 shows the approximate site location on an ultramafic rock map. The map shows that the site is not in an area containing ultramafic rock. Ultramafic rock sometimes contains naturally occurring asbestos.

EARTHQUAKE FAULTS

This site is located in a seismically active area with regional faulting. Figure 6 shows the approximate site location on a fault map. The nearest active fault to the site is the West Napa Fault, which is about 4.3 miles from the project site.

The site is not located in an Alquist-Priolo Earthquake Fault Zone (for close proximity to an active or potentially active fault and associated risk of ground surface rupture).

SUBSURFACE CONDITIONS

The subsurface data indicates that the ground surface at the site is underlain by colluvium (natural soil) to depths of 3 to 6 feet. The colluvium encountered consists of medium dense to very dense silty sand with gravel. Each boring encountered andesite beneath the colluvium. The andesite encountered in B-1 and B-2 is mostly highly to moderately weathered, moderately to closely fractured with moderately open and slightly rough fractures filled with clay, moderately strong to strong, and moderately hard to hard. In B-3, the andesite encountered is mostly severely to highly weathered, intensely to closely fractured with open to very wide and slightly rough fractures fill with clay, friable to weak, and is soft to low hardness.

The andesite extended down to the maximum depths explored in B-2 and B-3. B-1 encountered a thin, layer of flow breccia at depths of about 46 to 48 feet followed by andesite to the maximum depth explored. The encountered breccia is slightly to moderately weathered, moderately to occasionally fractured with tight and rough fracture surfaces, moderately strong, and moderately hard.

Condor interpreted the soil and rock conditions based on our evaluation of the field and laboratory data. The contacts between soil and rock types shown on the logs are approximate and some may be gradational, while others are sharp. Subsurface conditions will likely vary with location.

GROUNDWATER AND GROUND TEMPERATURE MEASUREMENTS

In August 2013, Condor measured groundwater levels and temperatures in B-1 through B-3. We used a thermocouple probe (together with backup thermometer) and a water depth sounder for the measurements. We made measurements immediately following drilling, with confirmation readings about 1 week later. The combined data follows.

B-1 (approximate depth increment of tunnel zone is 47 to 60 feet)

	Temperatures (Degrees Fahrenheit)
Depth	August 2013
10 feet	64
20 feet	61
30 feet	60
40 feet	59
50 feet	60
60 feet	59

Groundwater depth: 63 feet (August 8, 2013)
No water (August 13, 2013)

B-2 (approximate depth increment of tunnel zone is 27 to 40 feet)

	Temperatures (Degrees Fahrenheit)
Depth	August 2013
10 feet	64
20 feet	60
30 feet	59
40 feet	59
50 feet	58

Groundwater depth: 42 feet (August 8, 2013)
47.4 feet (August 13, 2013)

B-3 (approximate depth increment of tunnel zone is 11 to 24 feet)

	Temperatures (Degrees Fahrenheit)
Depth	August 2013
10 feet	59
20 feet	58
30 feet	57
36 feet	57

Groundwater depth: 32 feet (August 8, 2013)
No water (August 13, 2013)

CONCLUSIONS AND RECOMMENDATIONS

Based on our review of the subsurface data and our engineering evaluation, Condor concludes that construction of the proposed wine cave is feasible. The primary construction and feasibility issues to address are as follows:

- Anticipated highly weathered and weak rock plus low ground cover at one portal and the associated difficulties of excavating and supporting the ground
- Relatively low ground cover over the wide fermentation room tunnels
- Anticipated effort required for excavation
- Anticipated ground stability and stand-up time during excavation
- Anticipated tunnel support and groundwater seepage mitigation requirements
- Anticipated long-term cave temperature

General conclusions and recommendations related to the construction and feasibility of the wine cave follows.

Tunnel Ground and Construction Considerations

Based on Condor's review of limited subsurface data, we anticipate that tunnel excavations near the portals will encounter up to 3 feet of dense silty sand with gravel over andesite that has the following characteristics:

- Severely to highly weathered
- Intensely to closely fractured with open to very wide and slightly rough fractures filled with clay
- Friable to weak
- Soft to low hardness rock
- Rock Quality Designation (RQD) of 50 to 60
- Unconfined compressive strength of less than 100 pounds per square inch (psi) for intact rock

The limited subsurface data indicates that where there is about 20 or more feet of ground cover over the tunnels, that excavations for tunnels will encounter andesite with the following characteristics:

- Highly to moderately weathered
- Moderately to occasionally fractured with tight to moderately open and slightly rough fractures filled with clay
- Weak to strong
- Moderately hard to hard
- RQD of 70 to 100
- Unconfined compressive strength of about 400 to 4,000 psi for intact rock

A portion of Tunnel 6 near Portal 6 only has about 3 feet of ground cover and the excavation may expose colluvium consisting of silty sand with gravel and very weak rock at the tunnel crown. This material will pose a high potential for raveling and tunnel cave in (tunnel daylighting) during mining and prior to placement of initial support. As a result, Condor anticipates that the tunneling ground will be "poor" at that location (Bieniawski, 1988). We preliminarily conclude that some mitigation prior to excavation will be required to facilitate construction. We recommend that mitigation consist of overexcavating the sand and weak rock down to stronger rock, backfilling the overexcavation with lean concrete, and then mining beneath the improved ground. We preliminarily anticipate that the required overexcavation will extend to a depth of about 3 feet and will be about 30 feet long (along the tunnel centerline) by 20 feet wide.

Tunnel 1 will have only 9 feet of ground cover at the shaft. In addition, Tunnels 3 and 4 will have only 9 feet of ground cover at the northwest side of the intersection of these tunnels with the Mezzanine (Tunnel B). Based on our subsurface data from B-3, we anticipate that excavation will expose relatively poor ground conditions at these locations – likely severely weathered and intensely fractured andesite with open and very wide fractures filled with clay. We anticipate that this ground may be susceptible to relatively fast raveling and ground deformation. Considering these potentials and the relatively wide tunnels there, we anticipate "poor" to "fair" tunneling ground in these areas. We preliminarily conclude that no mitigation prior to excavation will be required at these locations, but that the standup time will be relatively short and that initial support will need to be placed relatively quickly. In addition, conditions there will likely warrant monitoring for movement of the initial support, and depending on the magnitude of movement, placement of additional temporary support. Such additional support may include placing footings along the bottom edges of the tunnel liners and placing a deeper and curved sub-invert consisting of reinforced concrete connected to the adjacent tunnel liner with dowels.

Where the ground cover is about 20 to 25 feet, at Tunnel C and extending southeast and deeper into the hill, Condor anticipates that the tunneling ground will be "fair" to "good."

Condor anticipates that the ground at the tops of the shafts will be relatively weak and will have relatively short stand-up time. We anticipate that advancing the shaft liners simultaneously (short lifts) with excavation will be required over the entire depths of the shafts.

Groundwater conditions may weaken the ground and complicate tunneling. Condor measured groundwater at depths corresponding to a few feet below the tunnel invert B-2 in August 2013. We anticipate that the groundwater seepage will occur during the wet weather season and that water seepage through fractures in the rock will occur during construction. The Contractor should be prepared to pump water during construction and to remove and replace soil and rock at subgrades that soften from wetting and construction traffic. Overexcavations of soft ground at subgrades would be replaced with lean concrete.

Anticipated Excavation Method and Advance Rates

Condor anticipates that the ground conditions will generally be suitable for mechanical excavation, with anticipated average advance rates of 2 to 8 feet per heading per day (for a typical 14-foot wide by 12.5-foot high tunnel excavation heading), depending on the Contractor's means and methods, and ground conditions. Slower average advance rates may be experienced due to required additional temporary support (dry shotcrete, footings and sub-inverts, etc.), and relatively short rounds may be required where there is potential for raveling and ground movement and where ground cover is less than about 10 feet. The Contractor should place initial support based on their experience and observations of the actual ground conditions. Where there is low ground cover and fractured andesite exposed in the tunnel crown, the Contractor should be prepared to excavate in relatively short rounds and to place initial shotcrete soon after exposing the ground to reduce the risk of caving and daylighting.

Qualified and experienced personnel should carefully evaluate the stability of the tunnels during the actual tunnel excavation, and the Contractor should install the indicated support. Tunnel support for construction safety is typically the responsibility of the Contractor. Condor will perform ground movement monitoring with the Contractor's assistance.

Ground Temperatures

Based on these preliminary data and considering the effects of operation activities and lighting, the long-operating ground temperature in the cave will likely be in the 60- to 62-degree range. The operating temperature will fluctuate higher and lower near the portals (perhaps plus/minus 6 or 8 degrees), where there is low ground cover. Based on our discussions with the Owner's Representative, we understand that **the Contractor should include estimated costs for tunnel insulation and radiant cooling (liner crown) climate control for all the barrel storage areas.**

Water Seepage Mitigation

Because of the fractured nature of the andesitic rock, there is a moderate to high potential for groundwater seepage through the shotcrete tunnel liners and into the wine cave interior in unpredictable areas. Therefore, tunnel liner quality, drainage strips, and seepage mitigation measures are important design and construction considerations. The Contractor should plan on passive drainage behind the shotcrete liner together with floor subdrains, plus water seepage mitigation membranes in the tunnel liners. Drainage includes regularly spaced (10-foot on-center, typical) prefabricated drainage strips between the ground and shotcrete liner and a 4-inch minimum diameter perforated subdrain (or larger subdrain) beneath the

floor slab. Additional drainage strips may be required at locations of excessive seepage. Tunnel floors should slope at 1.5 to 2 percent toward the portals for gravity drainage of the floor subdrain.

The Contractor should include estimated costs for a water seepage mitigation membrane such as Masterseal 345 or similar placed between the initial and final shotcrete liners at throughout the entire wine cave complex.

Tunnel Support Requirements

Condor estimated tunnel support requirements based on the available subsurface data and our preliminary evaluations. We estimate that the 14-foot wide tunnels including Tunnel C and the tunnels southwest of Tunnel C will require 4-inch thick reinforced shotcrete liners. The exception to this is the portions of Tunnels D and E that are adjacent to the pillar beneath the fire water tank, where we estimate that 6-inch liners will be required. We estimate that all other tunnels that are 14- to 16-feet wide will require 6-inch liners, and tunnels that are 20- and 30-foot wide will require 8-inch liners. We estimate that the shafts will require 8-inch liners.

Condor preliminarily estimates that two rows of horizontal through-bolts spaced 6 feet vertically and horizontally will be required to reinforce pillars situated between the following locations:

- The Service Entry and Tunnel A
- The elevator shaft connecting tunnel and Tunnel B
- The shotcrete retaining wall and the Lab
- The shotcrete retaining wall and the Office
- The shotcrete retaining wall and the Break Room
- The shotcrete retaining wall and the Restroom

The Contractor should use the above tunnel support assumptions when preparing proposals. Condor will perform analyses and prepare a report with calculations for tunnel liner supports as a part of the building permit submittal process, at which time Condor's tunnel support recommendations may change. The determination of final lining requirements for the wine cave should be performed by Condor, in consultation with the Contractor (and the Owner's representative), based on the encountered ground conditions and method of excavation. Therefore, **the Contractor should include unit pricing when preparing proposals.**

Geologic Hazards

Based on our review of fault and Alquist-Priolo maps, Condor concludes that the risk of surface rupture from faulting is low, and that no mitigation or further studies are required.

Figure 7 shows the approximate site location on a landslide map. Based on our review of the map and site conditions, Condor concludes that the potential for landslides from occurring at the site is low, and that no mitigation or further studies are required.

Our subsurface data indicates that there is no saturated and loose cohesionless soil or silt at the site. Based on the data and our evaluation, Condor concludes that the potential for liquefaction from occurring at the site is low, and that no mitigation or further studies are required.

Additional Subsurface Investigation

Condor recommends a second phase of subsurface investigation for design of the proposed wine cave and other project facilities. The available data and our evaluation indicate the possibility of highly weathered rock and weaker ground conditions in other cave areas, similar to those that B-3 encountered. This possibility, plus the limited data so far in relation to the relatively large size of the cave warrants additional subsurface investigation work. We recommend drilling 3 to 4 additional borings for an estimated 200 to 250 total lineal feet of additional drilling in cave areas. No additional piezometers should be warranted. In addition, we recommend that the second phase of subsurface investigation work include excavation of 2 to 4 test pits to provide additional data for design of the shotcrete retaining walls. Condor will prepare a proposal to perform additional subsurface investigation work, analyses, calculations and reporting for the proposed cave and other project facilities.

ADDITIONAL SERVICES

Because subsurface conditions are variable and the level of this study was limited in scope and detail, it is impossible to include all geotechnical design and construction considerations in this report. In addition, recommendations used as a basis of construction details are sensitive to a need for additional field information or adjustment in the field during construction. The adjustments also depend on findings during construction that could previously only be assumed based on the limited information. Because the intent of the recommendations within this report are best understood by Condor representatives, we recommend that future phases of tunnel civil/geotechnical work, including field engineering, inspection, and testing during shotcrete retaining wall/tunnel construction, be performed or directed by Condor. If Condor is not retained for future phases of work, the responsible professionals should thoroughly review this report and concur with its conclusions and recommendations, or provide alternative recommendations.

LIMITATIONS

The conclusions and recommendations contained in this evaluation report are for planning, conceptual design and Cave Contractor proposals for the proposed wine cave at Mountain Peak Vineyards in Napa, California. The conclusions and recommendations contained in this report are invalid if the assumed project or site conditions change, if this report is used for adjacent or other property, or if the recommendations contained in ADDITIONAL SERVICES are not followed.

This report provides an initial evaluation of the anticipated site and tunneling conditions. The evaluation included field observations and literature review prior to the full site subsurface exploration. Information contained in this report is intended to describe anticipated subsurface conditions that may be encountered and recommend appropriate actions to address those conditions. Geologic data obtained by Condor are not necessarily representative for all areas of the proposed tunnels because subsurface conditions vary. Because actual conditions encountered vary, recommendations provided herein should be verified during construction.

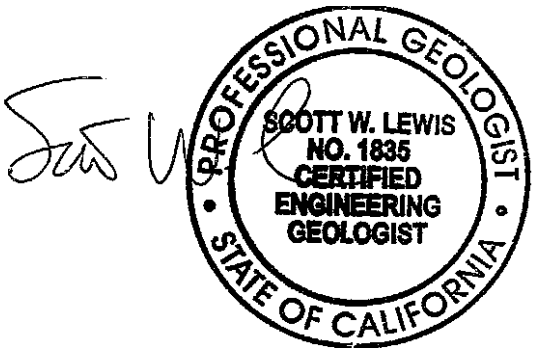
A detailed review of site permit requirements or other regulatory constraints is beyond the scope of this report. In addition, information contained in this report shall not relieve the Contractor(s) of their responsibility for jobsite safety practices.

This report was prepared in accordance with the generally accepted standards of geologic and engineering practice that exist in Napa County at the time the report was written. No other warranty, express or implied, is made.

Respectfully submitted,

CONDOR EARTH TECHNOLOGIES, INC.

Andrew S. Kositsky, GE No. 2532
Senior Geotechnical Engineer



Scott W. Lewis, CEG No. 1835
Principal Engineering Geologist
Senior Tunneling Consultant

ATTACHMENTS

Figures

Figure 1 – Vicinity Map
Figure 2 – Site Plan
Figure 3 – Aerial Map
Figure 4 – Geologic Map
Figure 5 – Ultramafic Rock Map
Figure 6 – Regional Fault Map
Figure 7 – Landslide Map

Appendix A

Wine Cave Drawings for Use Permit

- CA2.0 Cave Plan
- CA2.1 Cave Phase Plan
- CA3.0 Tunnel Profiles and Sections
- SW3.0 Shotcrete Wall Elevations

Appendix B

Rock Properties
Boring Logs: B-1, B-2 and B-3
Core Photographs

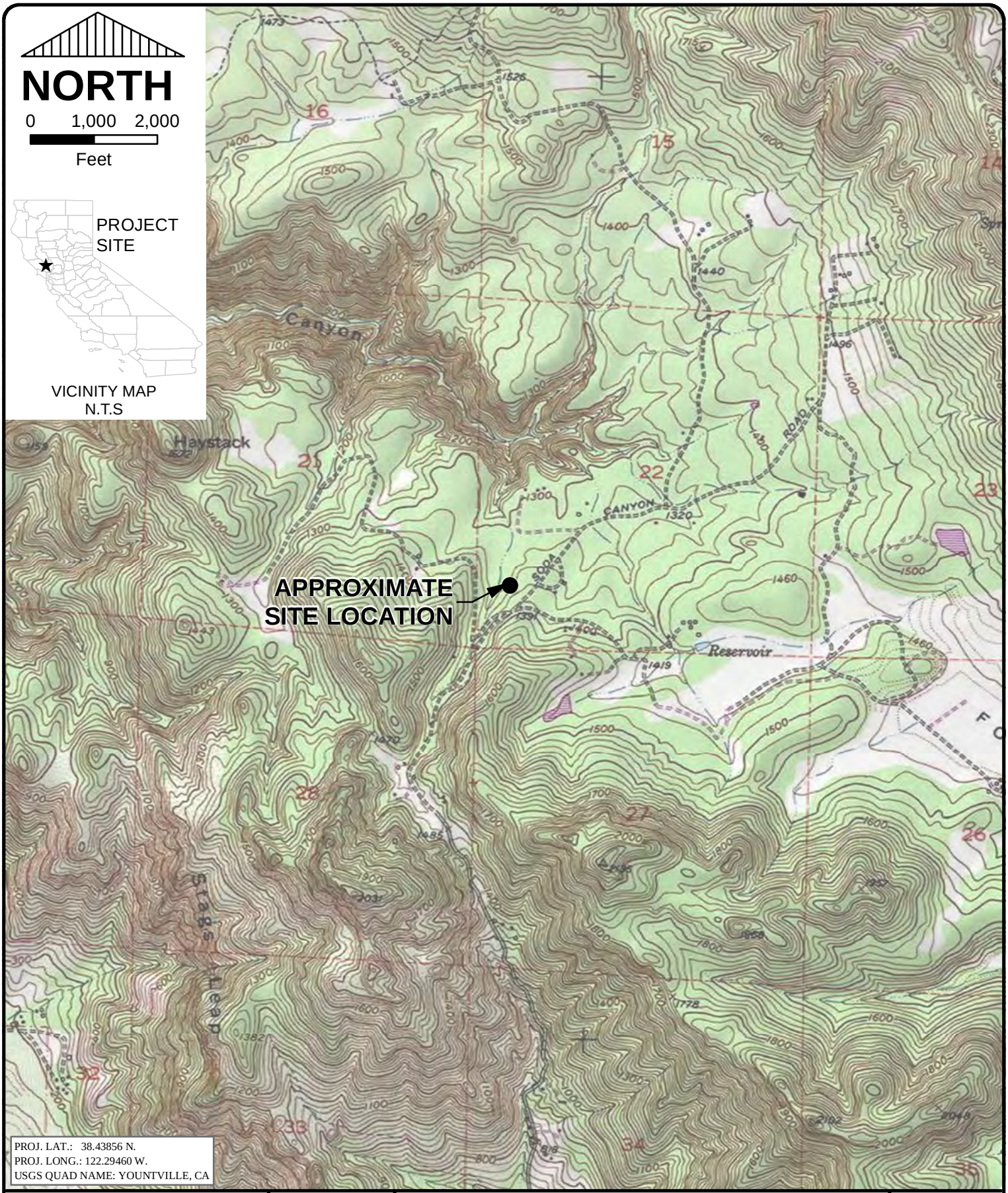
Appendix C

Laboratory Test Reports

REFERENCES

Bieniawski, Z. T., 1988, The Rock Mass Rating (RMR) System (Geomechanics Classification), Engineering Practice, ASTM STP 984, Louis Kirkaldie, Ed., American Society for Testing and Materials, Philadelphia, PA pp. 17-34.

FIGURES



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Job No.	6500
Published Data	28 MARCH 2013
Scale	AS SHOWN
Drawn	JDM
Chk'd	SWL

VICINITY MAP
MOUNTAIN PEAK VINEYARDS
3267 SODA CANYON ROAD
NAPA, CALIFORNIA 94558

FIGURE 1

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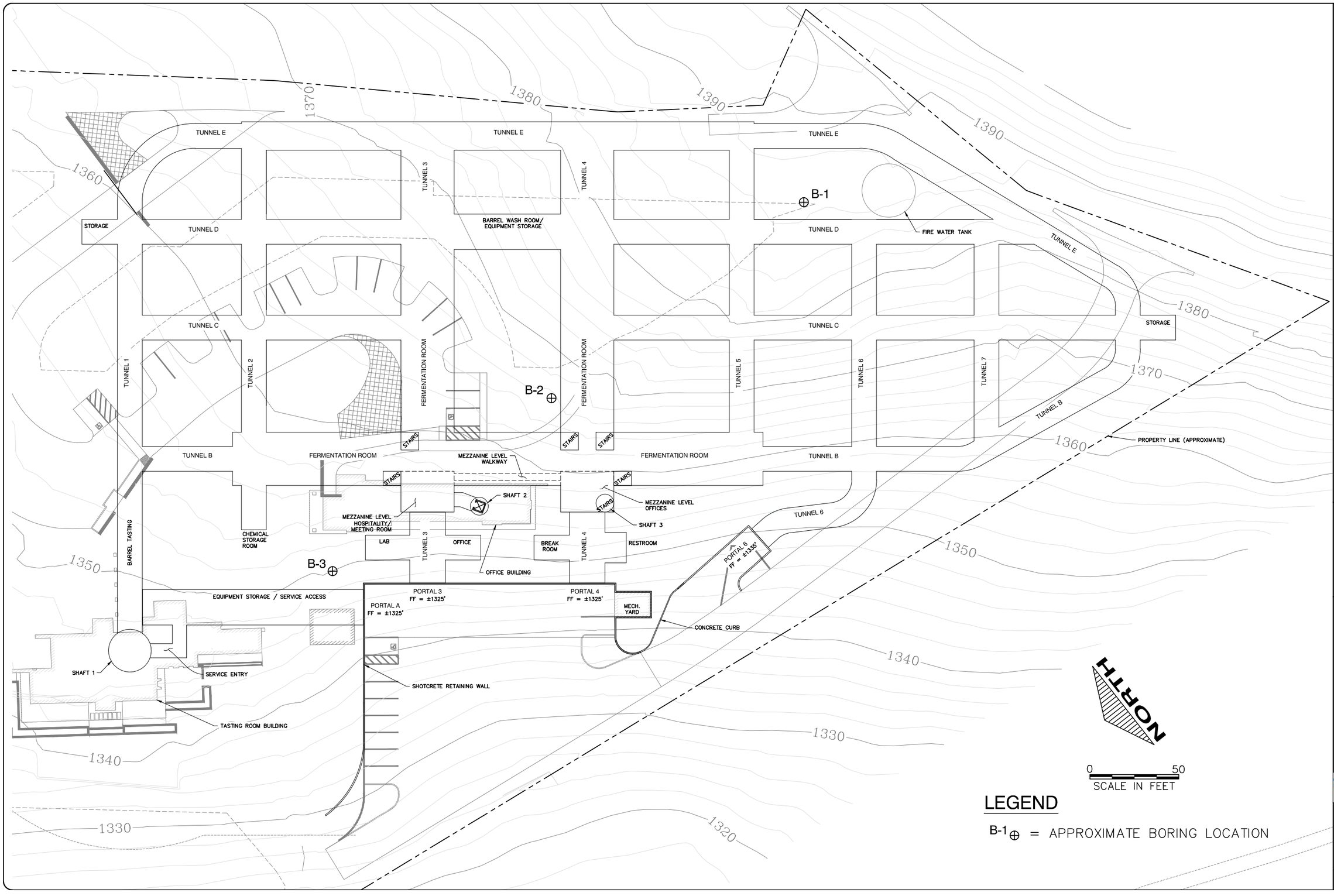
SITE PLAN
MOUNTAIN PEAKS VINEYARD
WINE CAVE
3265 SODA CANYON ROAD
NAPA, CALIFORNIA



LEGEND

B-1⊕ = APPROXIMATE BORING LOCATION

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Date	28 AUG 2013
Scale	AS SHOWN
Drawn	KGM
Chk'd	ASK

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CONDOR

FIGURE 2

File No. 6500_F2

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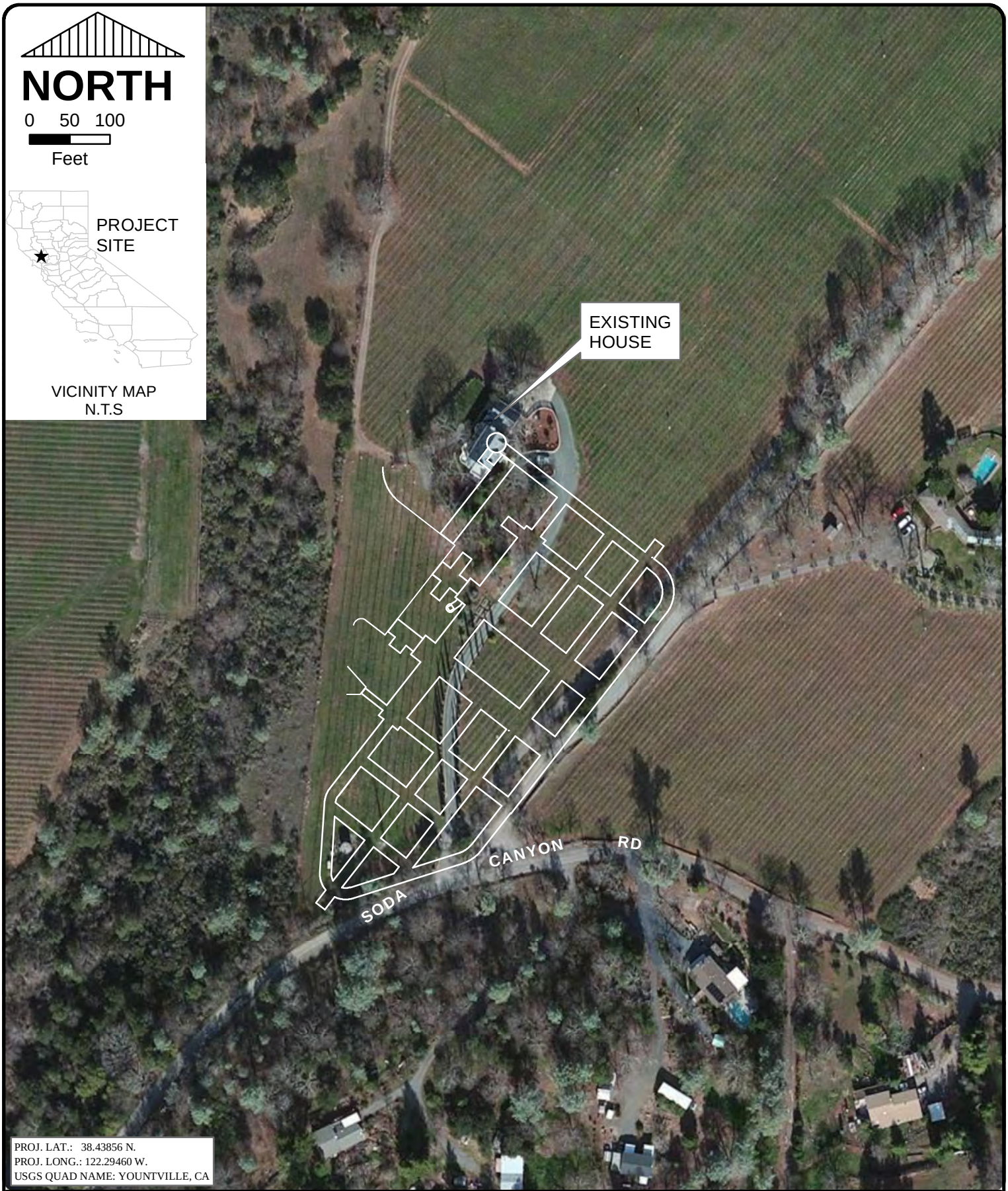

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AERIAL MAP
MOUNTAIN PEAK VINEYARDS
3265 SODA CANYON ROAD
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FIGURE 3

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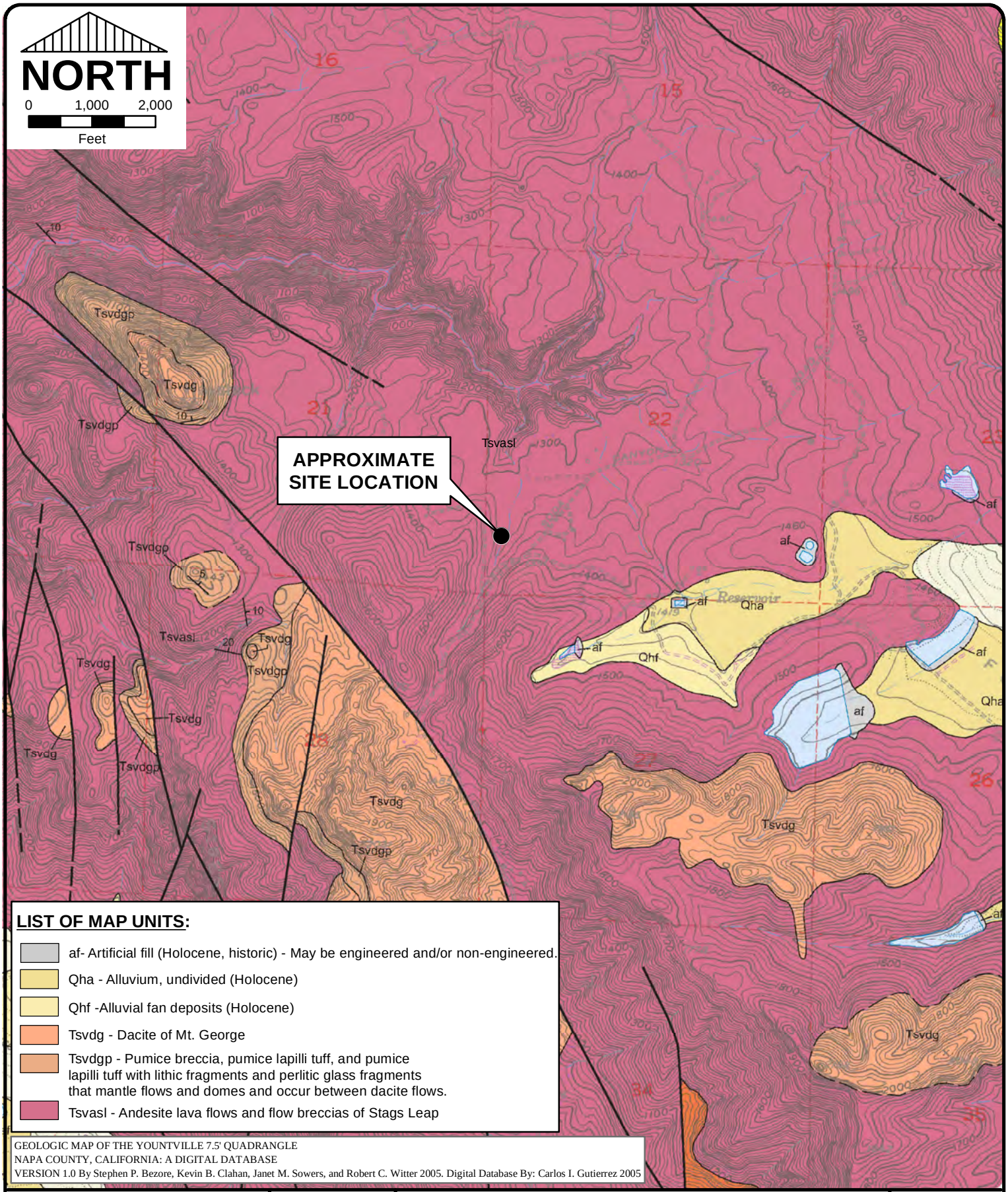

LIST OF MAP UNITS:

- af- Artificial fill (Holocene, historic) - May be engineered and/or non-engineered.
- Qha - Alluvium, undivided (Holocene)
- Qhf -Alluvial fan deposits (Holocene)
- Tsvdg - Dacite of Mt. George
- Tsvdgp - Pumice breccia, pumice lapilli tuff, and pumice lapilli tuff with lithic fragments and perlitic glass fragments that mantle flows and domes and occur between dacite flows.
- Tsvasl - Andesite lava flows and flow breccias of Stags Leap

GEOLOGIC MAP OF THE YOUNTVILLE 7.5' QUADRANGLE
NAPA COUNTY, CALIFORNIA: A DIGITAL DATABASE
VERSION 1.0 By Stephen P. Bezore, Kevin B. Clahan, Janet M. Sowers, and Robert C. Witter 2005. Digital Database By: Carlos I. Gutierrez 2005

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Chk'd	HW

GEOLOGIC MAP
MOUNTAIN PEAK VINEYARDS
3267 SODA CANYON ROAD
NAPA, CALIFORNIA 94558

FIGURE 4

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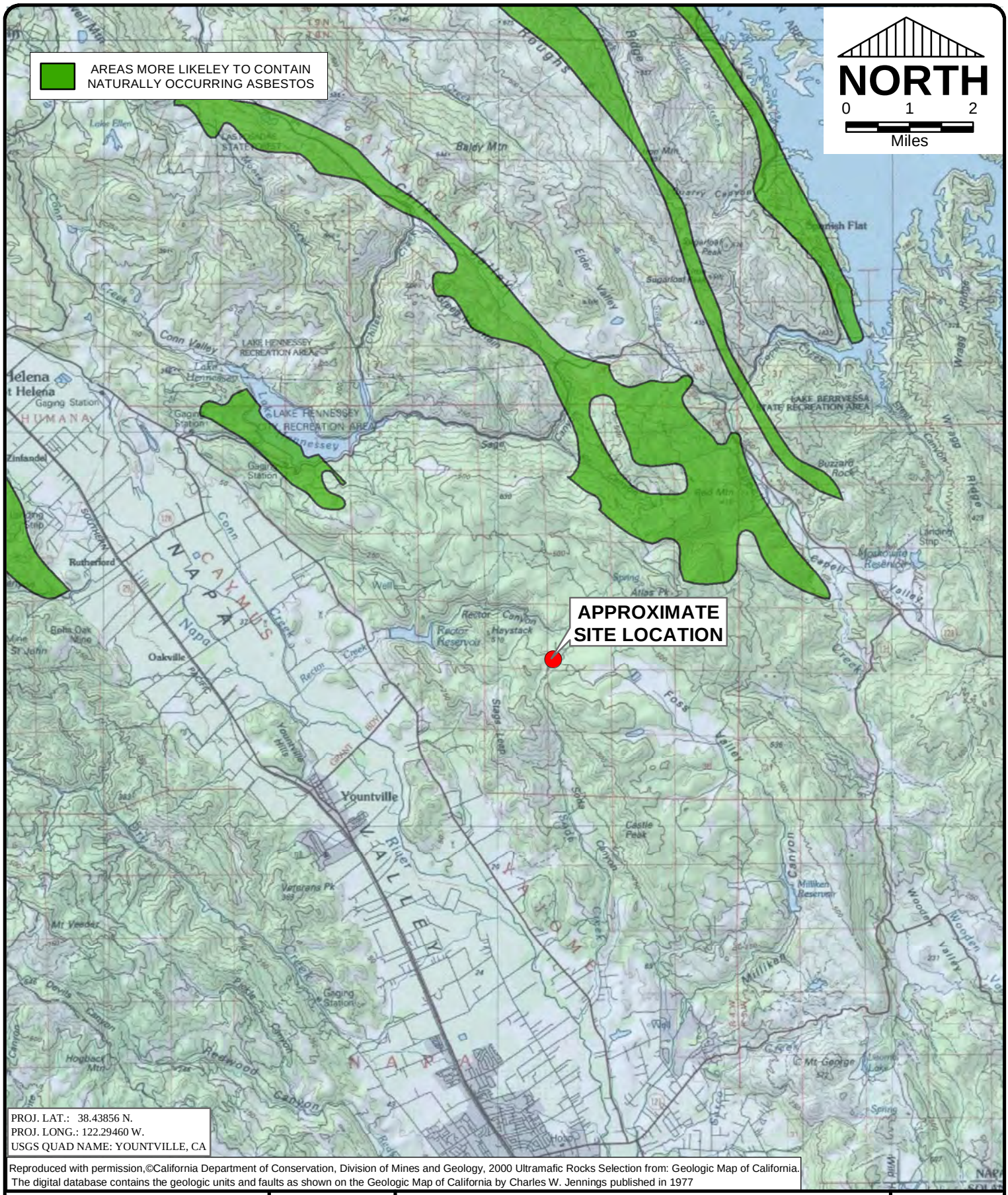

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ULTRAMAFIC MAP
MOUNTAIN PEAK VINEYARDS
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FIGURE 5

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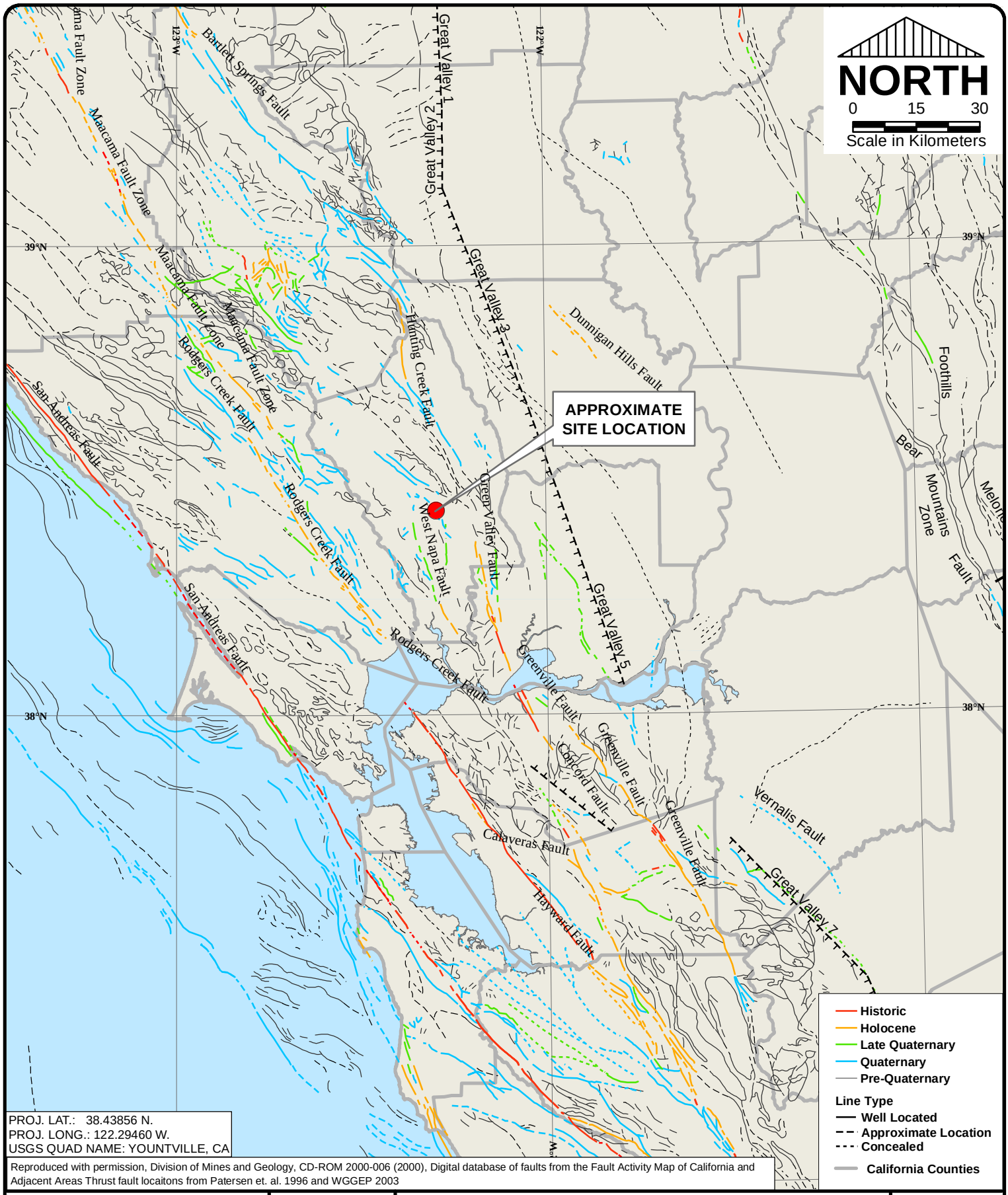

PROJ. LAT.: 38.43856 N.
PROJ. LONG.: 122.29460 W.
USGS QUAD NAME: YOUNTVILLE, CA

Reproduced with permission, Division of Mines and Geology, CD-ROM 2000-006 (2000), Digital database of faults from the Fault Activity Map of California and Adjacent Areas Thrust fault locaitons from Patersen et. al. 1996 and WGGEP 2003

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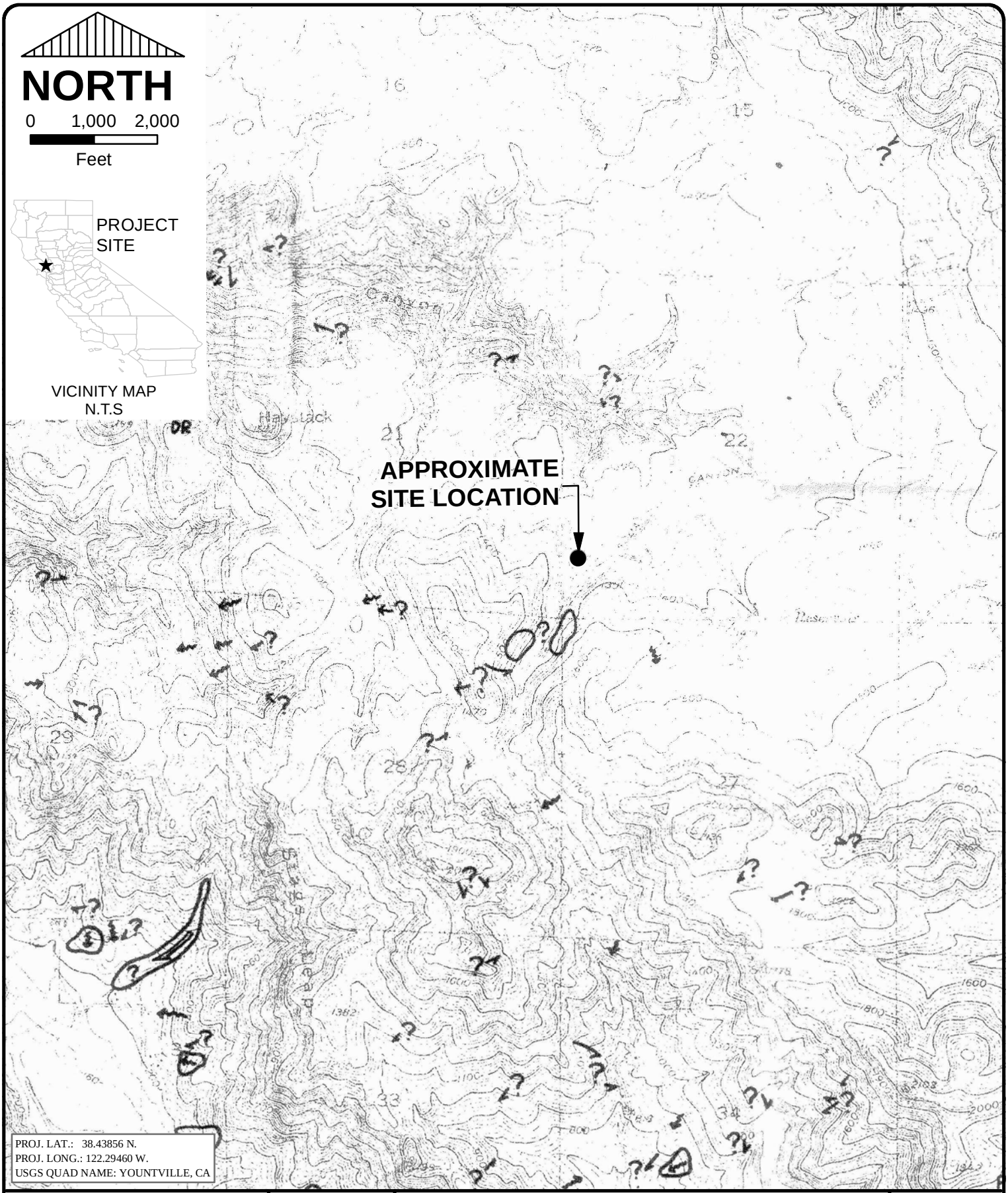
Job No. 6500
Published Data 27 MARCH 2013
Scale AS SHOWN
Drawn JDM
Chk'd SWL

REGIONAL FAULT MAP
MOUNTAIN PEAK VINEYARDS
3267 SODA CANYON ROAD
NAPA, CALIFORNIA 94558

FIGURE 6

File No. 6500_F6.mxd

T:\Geologic\CA_Faults\Maps\6500_F6.mxd



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Job No.	6500
Published Data	27 MARCH 2013
Scale	AS SHOWN
Drawn / Chk'd	JDM / SWL

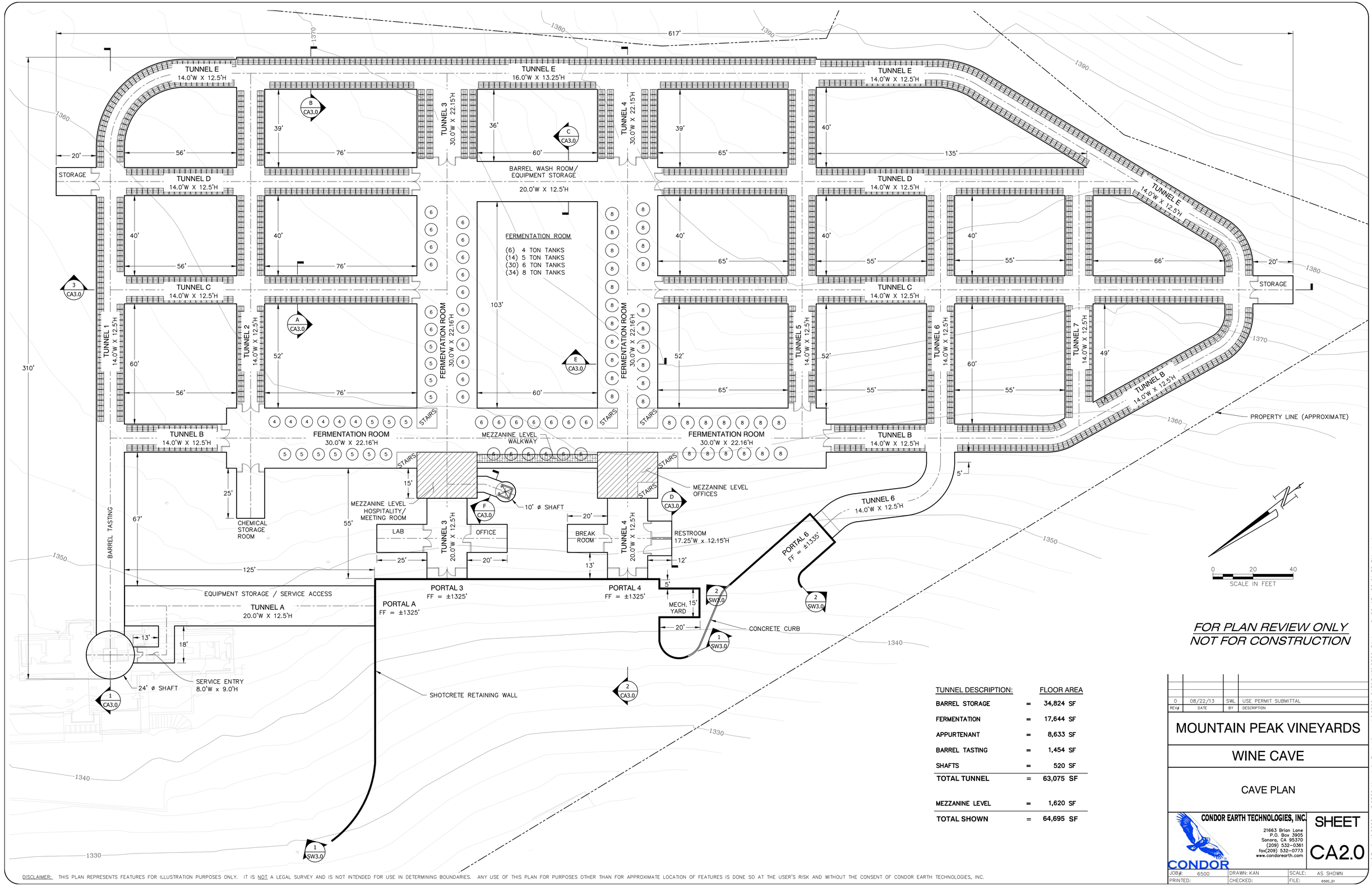
LANDSLIDE MAP
MOUNTAIN PEAK VINEYARDS
3267 SODA CANYON ROAD
NAPA, CALIFORNIA 94558

FIGURE 7

File No. 6500_F7.mxd

G:\6000\6500_MTNPEAK_VINEYARDS\6500_F7.mxd

APPENDIX A
Wine Cave Drawings for Use Permit



FOR PLAN REVIEW ONLY
NOT FOR CONSTRUCTION

TUNNEL DESCRIPTION:		FLOOR AREA
BARREL STORAGE	=	34,824 SF
FERMENTATION	=	17,644 SF
APPURTENANT	=	8,633 SF
BARREL TASTING	=	1,454 SF
SHAFTS	=	520 SF
TOTAL TUNNEL	=	63,075 SF
MEZZANINE LEVEL	=	1,620 SF
TOTAL SHOWN	=	64,695 SF

REV#	DATE	BY	DESCRIPTION
0	08/22/13	SWL	USE PERMIT SUBMITTAL

MOUNTAIN PEAK VINEYARDS

WINE CAVE

CAVE PLAN

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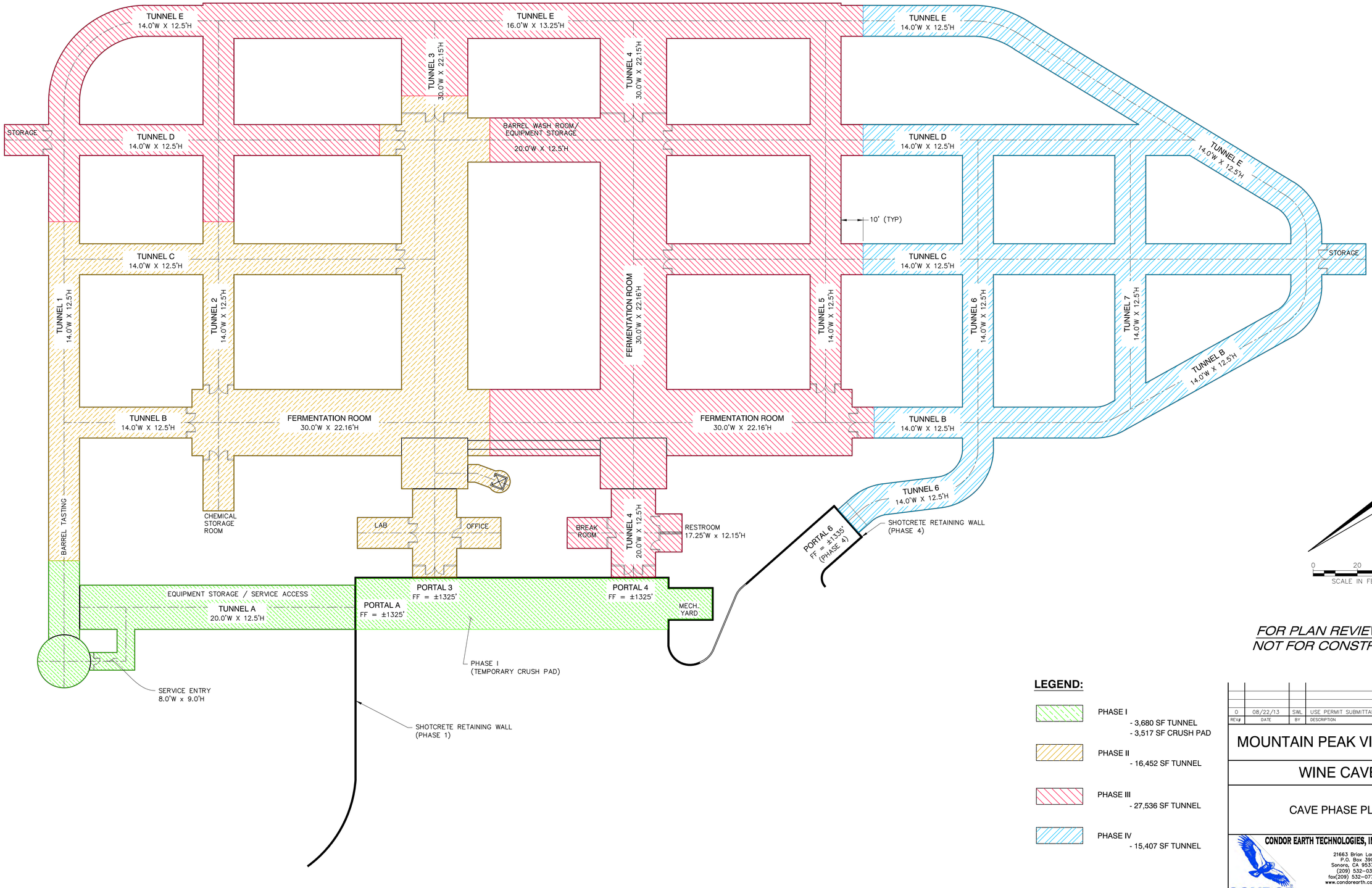
SHEET
CA2.0

JOB#: 6500	DRAWN: KAN	SCALE: AS SHOWN
PRINTED:	CHECKED:	FILE: 6500_D1



0 20 40
SCALE IN FEET

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LEGEND:

PHASE I
- 3,680 SF TUNNEL
- 3,517 SF CRUSH PAD

PHASE II
- 16,452 SF TUNNEL

PHASE III
- 27,536 SF TUNNEL

PHASE IV
- 15,407 SF TUNNEL

REV#	DATE	BY	DESCRIPTION
0	08/22/13	SWL	USE PERMIT SUBMITTAL

MOUNTAIN PEAK VINEYARDS

WINE CAVE

CAVE PHASE PLAN

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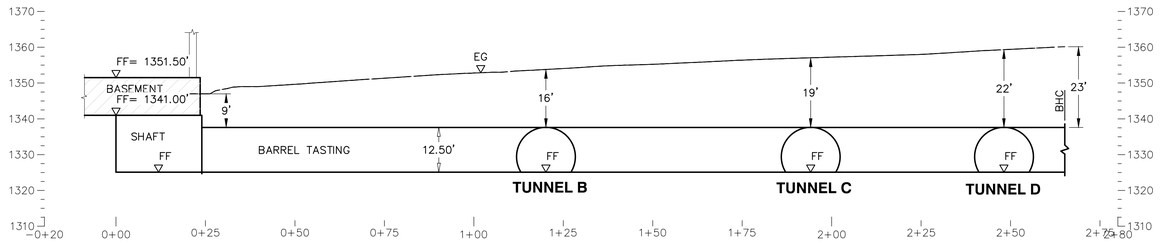
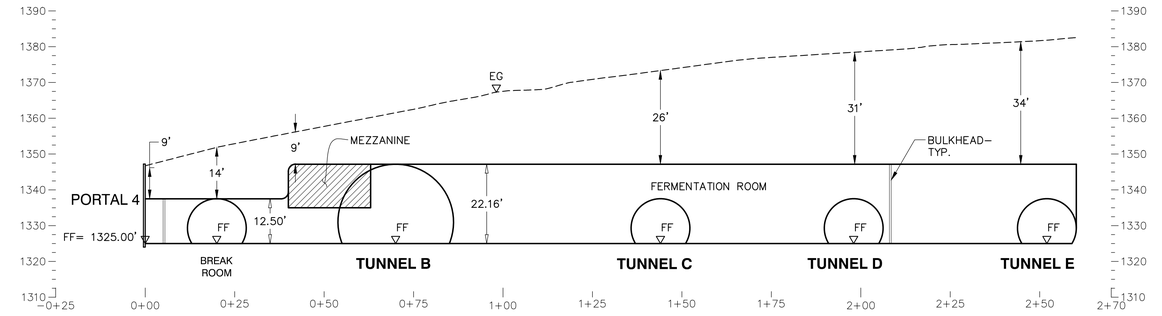
SHEET
CA2.1

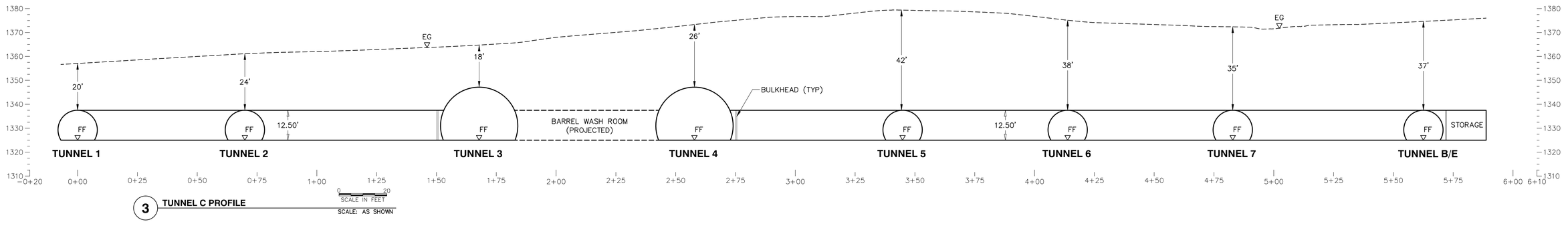
JOB#: 6500	DRAWN: KAN	SCALE: AS SHOWN
PRINTED:	CHECKED:	FILE: 6500_01



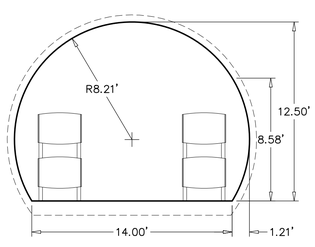
1 **TUNNEL 1 PROFILE**



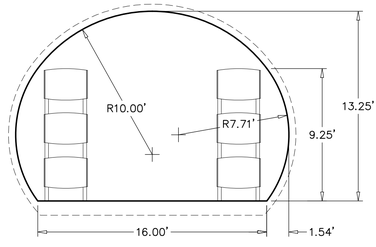
2 **TUNNEL 4 PROFILE**



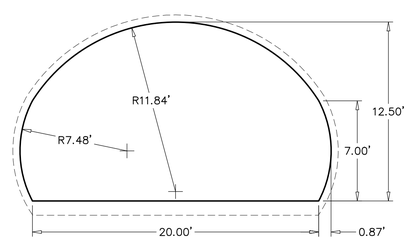
3 **TUNNEL C PROFILE**



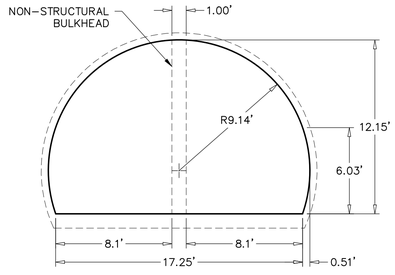
A **14'W X 12.5'H TUNNEL**
SCALE: AS SHOWN



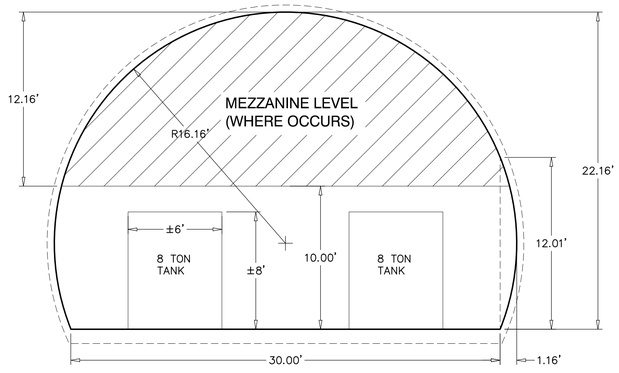
B **16.0'W X 13.25'H TUNNEL**
SCALE: AS SHOWN



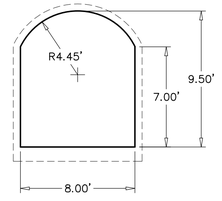
C **20.0'W X12.5'H TUNNEL**
SCALE: AS SHOWN



D **17.25'W X 12.15'H RESTROOM TUNNEL**
SCALE: AS SHOWN



E **30.0'W X 22.16'H TUNNEL**
SCALE: AS SHOWN



F **8.0'W X 9.0'H TUNNEL**
SCALE: AS SHOWN

0 5 10
SCALE IN FEET

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NOT FOR CONSTRUCTION

REV#	DATE	BY	DESCRIPTION
0	08/22/13	SWL	USE PERMIT SUBMITTAL

MOUNTAIN PEAK VINEYARDS

WINE CAVE

TUNNEL SECTIONS

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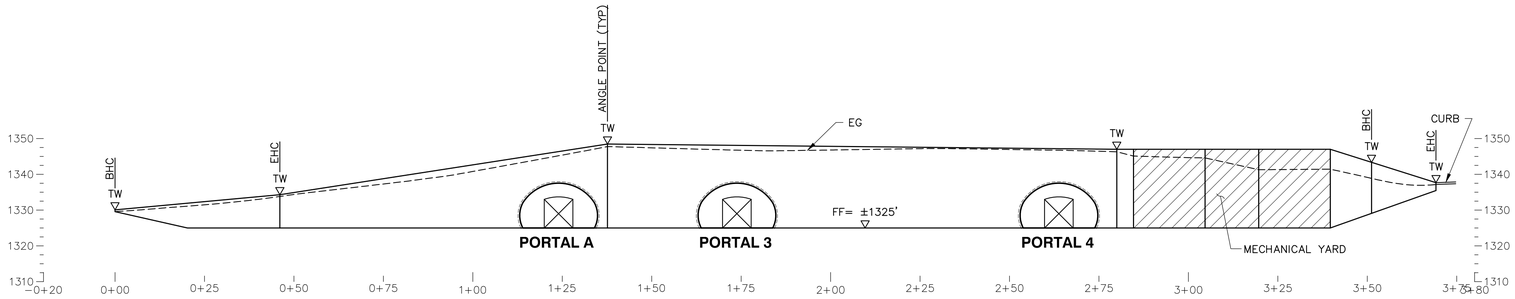
SHEET
CA3.0

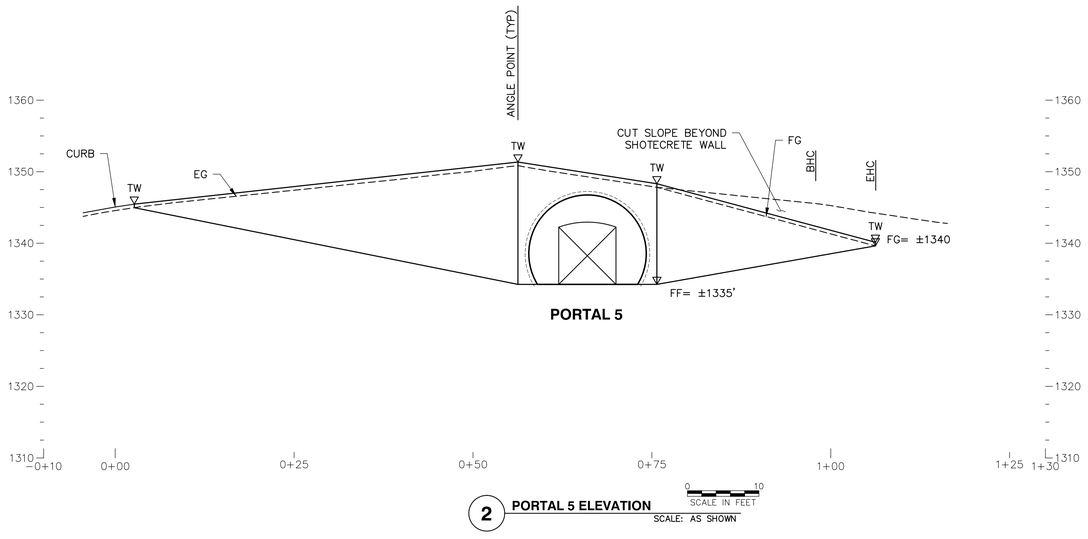
JOB#: 6500	DRAWN: KAN	SCALE: AS SHOWN
PRINTED:	CHECKED:	FILE: 6500_D1

X:\Project\6500_pn\6500 Mountain Peak Vineyards\6500_CAD\DWG\6500_D1.dwg 8-22-13 02:28:27 PM kmelson



1 **PORTALS A, 3, AND 4 ELEVATION**

0 20
SCALE IN FEET
SCALE: AS SHOWN



PORTAL 5

2 **PORTAL 5 ELEVATION**

0 10
SCALE IN FEET
SCALE: AS SHOWN

FOR PLAN REVIEW ONLY
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REV#	DATE	BY	DESCRIPTION
0	08/22/13	SWL	USE PERMIT SUBMITTAL

MOUNTAIN PEAK VINEYARDS

WINE CAVE

PROFILES

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SHEET
SW3.0

JOB#:	6500	DRAWN: KAN	SCALE:	AS SHOWN
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APPENDIX B
Boring Logs and Core Photographs

WEATHERING

Severely Weathered – minerals decomposed to soil, but rock fabric and structure are preserved.
Highly Weathered – abundant fractures coated with oxides, carbonates, sulphates, mud, etc., thorough discoloration, rock disintegration, mineral decomposition.
Moderately Weathered – some fracture coating, moderate or localized discoloration, little to no effect on cementation, slight mineral decomposition.
Slightly Weathered – a few stained fractures, slight discoloration, little or no effect on cementation, no mineral decomposition.
Fresh – unaffected by weathering agents; no appreciable change with depth.

FRACTURE, JOINT, OR SHEAR SPACING

(Spacing in Inches)	
Very little fractured	Greater than 48
Occasionally fractured	12 to 48
Moderately fractured	6 to 12
Closely fractured	1.25 to 6
Intensely fractured	0.5 to 1.25
Crushed	Less than 0.5

THICKNESS OF SEDIMENTARY ROCK BEDS

(Thickness in Inches)	
Very thickly bedded	Greater than 72
Thickly bedded	24 to 72
Medium bedded	8 to 24
Thinly bedded	2.5 to 8
Very thinly bedded	0.75 to 2.5
Laminated	0.25 to 0.75
Thinly laminated	Less than 0.25

FRACTURE OR LAYER SEPARATION

(Thickness of Separations in Millimeters)	
Very tight	< 0.1 mm
Tight	0.1 – 0.5 mm
Moderately open	0.5 – 2.5 mm
Open	2.5 – 10 mm
Very wide	> 10 mm

FRACTURE OR LAYER ROUGHNESS

Very Rough - Non-continuous, Hard joint rock wall
Slightly Rough - Hard joint rock wall
Slightly Rough and Soft - Soft joint rock wall
Slickensided - Open and continuous with gouge
Soft Gouge - Open and continuous with soft gouge

STRUCTURE

Intact/Massive – intact rock specimens with few widely spaced discontinuities.
Blocky – well interlocked, undisturbed rock mass, consisting of cubical blocks formed by three intersecting joint sets.
Very blocky – interlocked, partially disturbed, with multi-faceted angular blocks formed by 4 or more joint sets.
Disturbed/Seamy – folded with angular blocks, formed by many intersecting joint sets, persistence of bedding planes or schistosity.
Disintegrated – poorly interlocked, heavily broken, mix of angular and rounded rock pieces.
Laminated/Sheared – lack of blockiness due to close spacing of shear planes.

STRENGTH

Plastic or very low strength.
Friable – crumbles easily by rubbing with fingers.
Weak – an unfractured specimen of such material will crumble under light hammer blows.
Moderately strong – specimen will withstand a few heavy hammer blows before breaking.
Strong – specimen will withstand a few heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.
Very strong – specimen will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments.

HARDNESS

Soft – reserved for plastic material alone.
Low hardness – can be gouged deeply or carved easily with a knife blade.
Moderately hard – can be readily scratched by a knife blade; scratch leaves a heavy trace of dust and is readily visibly after the powder has been blown away.
Hard – can be scratched with difficulty; scratch produced a little powder and is often faintly visible.
Very hard – cannot be scratched with knife blade; leaves a metallic streak.

GROUND WATER

Dry
Damp
Wet
Dripping
Flowing

LOG OF BOREHOLE NO. B-1

PAGE 1 of 2

PROJECT NUMBER: 6500
PROJECT NAME: Mountain Peak
LOCATION: Napa, CA

CONDOR EARTH TECHNOLOGIES, INC.
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COORDINATES: 38.435392° N, 122.296815° W
REFERENCE POINT FOR DEPTH MEASUREMENT: Ground Surface
SURFACE CONDITION: Graded Road
ELEVATION OF PIEZOMETER COLLAR: Approx. 1385
DIRECTION OF BOREHOLE: Vertical
INCLINATION FROM HORIZONTAL: 90°
TOTAL DEPTH: 70.0 Feet
DATE STARTED: 8/6/2013 DATE COMPLETED: 8/6/2013
CONTRACTOR: Taber Drilling
DRILL RIG: CME-55 (Track Mounted)
DRILLER: Steve Taber
LOGGED BY: HJW
DRAWN: HJW
APPROVED:
NUMBER OF CORE BOXES: 8
STORED: Sonora

REMARKS: Boring completed as piezometer: screened interval from 19.5-69.5', sand from 11.7-70.0', bentonite from 6.7-11.7', grout from 0-6.7'.

DEPTH	ELEVATION	DATE	TECHNICAL LOG/NOTES	NOTE ON GROUNDWATER AND CIRCULATION	GRAPHIC LOG	DESCRIPTION	WEATHERING	FRACTURE LOG	R.Q.D. %	CORE RECOVERY	END OF RUN / BLOW COUNT	REMARKS/TIME/DRILL MODE
												Auger
											2.5	
											20 15 18 4.0	Cal Mod
											5.0	Auger
5	1380	8/6/2013		95% fluid recovery		COLLUVIUM: SILTY SAND with GRAVEL, red-brown, medium dense, dry, sub-rounded to sub-angular grains, slightly indurated, 3/4 inch diameter Andesite gravel					13 18 50-3 6.3	Cal Mod
						SONOMA VOLCANICS: ANDESITE, highly to moderately weathered, moderately fractured, moderately open fractures filled with clay, slightly rough fracture surfaces dipping approximately 60°, blocky structure, strong, hard, vesicles decreasing with depth			160	100	7.0	HQ 0848 0852 0855
10	1375					slightly weathered, occasionally fractured, moderately open fractures dipping 10° 13.5': wet density = 168 pcf			80	100	12.0	0901 0905
15	1370					moderately weathered, moderately hard, moderately strong to weak			100	100	17.0	0913 0916
20	1365					slightly vesicular, low to moderate hardness			94	100	22.0	0924 0927
25	1360										27.0	0930 0935
30	1355					highly weathered, closely fractured, rough fractures tight to moderately open and coated with oxidation, weak, low hardness			81	96	32.0	0941 0944
35	1350					moderately weathered, occasionally fractured, rough fractures tight, weak to moderately strong, low to moderate hardness			96	100	37.0	0952 0954
40	1345					44': q_u = 1031 psi, w = 3.3%, γ_d = 138 pcf, modulus = 5.428E+04 47': q_u = 401 psi, w = 5.7%, γ_d = 129 pcf, modulus = 6.767E+04			80	100	42.0	1003 1007
45	1340					VOLCANIC BRECCIA, slightly to moderately weathered, moderately to occasionally fractured, rough, tight fractures, blocky, moderately strong/moderately hard			100	100	47.0	1016 1020
50	1335											

LOG OF BOREHOLE NO. B-1

PAGE 2 of 2

PROJECT NUMBER: 6500

PROJECT NAME: Mountain Peak

LOCATION: Napa, CA

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DEPTH	ELEVATION	DATE	TECHNICAL LOG/NOTES	NOTE ON GROUNDWATER AND CIRCULATION	GRAPHIC LOG	DESCRIPTION	WEATHERING	FRACTURE LOG	R. Q. D. %	CORE RECOVERY	END OF RUN	REMARKS/TIME/DRILL MODE
55	1330	8/6/2013 (cont.)	Approx. Tunnel Zone			ANDESITE, moderately weathered, moderately to occasionally fractured, slightly rough fractures moderately open and filled with oxidized clay, blocky structure, weak to moderately strong, low to moderate hardness, slightly vesicular			60	92	52.0	1028
												1033
									70	100	57.0	1041
												1044
60	1325					VOLCANIC BRECCIA, as above 60': q_u = 378 psi, w = 6.0%, γ_d = 106 pcf, modulus = 4.448E+04			60	98	62.0	1055
						ANDESITE, as above						1104
65	1320								80	100	67.0	1113
						VOLCANIC BRECCIA, as above						1118
70	1315					Boring terminated at 70.0 ft.			80	100	70.0	1125

LOG OF BOREHOLE NO. B-2

PAGE 1 of 2

PROJECT NUMBER: 6500
PROJECT NAME: Mountain Peak
LOCATION: Napa, CA

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COORDINATES: 38.435788° N, 122.296926° W
REFERENCE POINT FOR DEPTH MEASUREMENT: Ground Surface
SURFACE CONDITION: Graded Road Shoulder
ELEVATION OF PIEZOMETER COLLAR: Approx. 1365
DIRECTION OF BOREHOLE: Vertical
INCLINATION FROM HORIZONTAL: 90°
TOTAL DEPTH: 51.0 Feet
DATE STARTED: 8/6/2013 DATE COMPLETED: 8/6/2013
CONTRACTOR: Taber Drilling
DRILL RIG: CME-55 (Track Mounted)
DRILLER: Steve Taber
LOGGED BY: HJW
DRAWN: HJW
APPROVED:
NUMBER OF CORE BOXES: 6
STORED: Sonora

REMARKS: Boring completed as piezometer: screened interval from 21.0-51.0', sand from 16.5-51.0', bentonite from 10-16.5', grout from 0-10'.

DEPTH	ELEVATION	DATE	TECHNICAL LOG/NOTES	NOTE ON GROUNDWATER AND CIRCULATION	GRAPHIC LOG	DESCRIPTION	WEATHERING	FRACTURE LOG	R. Q. D. %	CORE RECOVERY	END OF RUN	REMARKS/TIME
0	1365	8/6/13		95% fluid recovery		COLLUVIUM: SILTY SAND (SM), red-brown, very dense, damp, trace fine gravel					2.5	Auger
						SONOMA VOLCANICS: ANDESITE, highly weathered, closely fractured, moderately open to open fractures filled with oxidized clay, slightly rough and soft fracture surfaces, moderately strong, low to moderate hardness					4.0	Cal Mod (18, 33, 34)
											5.0	Auger
5	1360										6.5	Cal Mod (22, 35, 42)
									0	85	8.5	HQ coring 1400–1404
10	1355					moderately to slightly weathered, tight to moderately open fractures slightly rough and coated with oxidation, very blocky, moderately strong to strong, moderately hard to hard clay in moderately open fractures			0	96	11.0	1408–1413
									16	100	13.5	1442–1446
15	1350								9	96	16.0	1452–1458
									77	100	21.0	1501–1509
20	1345					highly weathered, weak, low to moderate hardness 22': wet density = 157 pcf weak to moderately strong, moderately fractured			100	96	26.0	1513–1522
25	1340					moderately weathered, hard, strong			36	100	31.0	1529–1537
30	1335		Approx. Tunnel Zone			highly weathered, weak to moderately strong, low hardness 32.5': q_u=4144 psi, w=4.9%, γ_d=139 pcf, modulus=2.241E+05 4 inch wide crushed zones at 32.5 and 34.0			57	78	36.0	1543–1550
35	1330					moderately weathered, moderately strong, moderately hard			69	76	41.0	1554–1601
40	1325					crushed zone from 38.3-39 weak to moderately strong, low to moderate hardness			44	100	46.0	1604–1613
45	1320					47': q_u=2348 psi, w=4.0%, γ_d=113 pcf, modulus=5.519E+05			74	100		1618
50	1315											

LOG OF BOREHOLE NO. B-2

PAGE 2 of 2

PROJECT NUMBER: 6500

PROJECT NAME: Mountain Peak

LOCATION: Napa, CA

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Fax (209) 532-0773
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DEPTH	ELEVATION	DATE	TECHNICAL LOG/NOTES	NOTE ON GROUNDWATER AND CIRCULATION	GRAPHIC LOG	DESCRIPTION	WEATHERING	FRACTURE LOG	R. Q. D. %	CORE RECOVERY	END OF RUN	REMARKS/TIME
							FW SW MW HW		0 25 50 75 100	0 25 50 75 100		
						Boring terminated at 51.0 feet.					51.0	1630
55	1300											

LOG OF BOREHOLE NO. B-3

PAGE 1 of 1

PROJECT NUMBER: 6500
PROJECT NAME: Mountain Peak
LOCATION: Napa, CA

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COORDINATES: 38.436431° N, 122.296948° W
REFERENCE POINT FOR DEPTH MEASUREMENT: Ground Surface
SURFACE CONDITION: Graded Driveway
ELEVATION OF PIEZOMETER COLLAR: Approx. 1349
DIRECTION OF BOREHOLE: Vertical
INCLINATION FROM HORIZONTAL: 90°
TOTAL DEPTH: 36.0 feet
DATE STARTED: 8/7/2013 DATE COMPLETED: 8/7/2013
CONTRACTOR: Taber Drilling
DRILL RIG: CME-55 (Track Mounted)
DRILLER: Steve Taber
LOGGED BY: HJW
DRAWN: HJW
APPROVED:
NUMBER OF CORE BOXES: 4
STORED: Sonora

REMARKS: Boring completed as piezometer; screened interval from 11.0-36.0', sand from 10.0-36.0', bentonite from 7.0-10.0', grout from 0-7.0'.

DEPTH	ELEVATION	DATE	TECHNICAL LOG/NOTES	NOTE ON GROUNDWATER AND CIRCULATION	GRAPHIC LOG	DESCRIPTION	WEATHERING	FRACTURE LOG	R. Q. D. %	CORE RECOVERY	END OF RUN	REMARKS/TIME
0												Auger
											2.5	
											3.7	Cal Mod
											4.0	Auger
												HQ coring 0952
5	1344	8/7/13		95% fluid recovery		COLLUVIUM: SILTY SAND (SM), brown, very dense, dry, trace Andesite gravel to 1" diameter						
						SONOMA VOLCANICS: ANDESITE, highly to severely weathered, closely fractured, rough fracture surfaces tight to moderately open and coated with oxidation, disturbed structure, weak, low hardness					7.0	0958 1003
10	1339			50% fluid recovery		severely weathered, intensely fractured, fractures open to very wide and filled with clay, very fast drilling						
						11.5': C=835 psf, Φ=37.8°, w=45%, γ_d=68.3 pcf, Liquid Limit=62, Plastic Limit=39					11.0	1008 1011
15	1334		Approx. Tunnel Zone			heavily oxidized to strong red, friable, soft						
						17.5': q_u=20 psi, w=54.9%, γ_d=63 pcf, modulus=1.066E+03					16.0	1015 1018
20	1329					highly weathered weak, low to moderate hardness					21.0	1021 1024
25	1324			75% fluid recovery							26.0	1032 1035
30	1319					weak to moderately strong, moderately hard					31.0	1041 1043
35	1314										36.0	1050
						Boring terminated at 36.0 feet.						
40	1309											

Core Box Photos

DCP_5166.JPG

DCP_5167.JPG

Core Box Photos

DCP_5168.JPG

DCP_5169.JPG

Core Box Photos

DCP_5170.JPG

DCP_5171.JPG

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Core Box Photos

DCP_5180.JPG

DCP_5181.JPG

Core Box Photos

DCP_5182.JPG

DCP_5183.JPG

APPENDIX C
Laboratory Test Reports

UNCONFINED COMPRESSIVE STRENGTH

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project Name: Mountain Peak Vineyards
Project No.: 13-091
Report Date: August 23, 2013

Client: Condor Earth Technologies, Inc

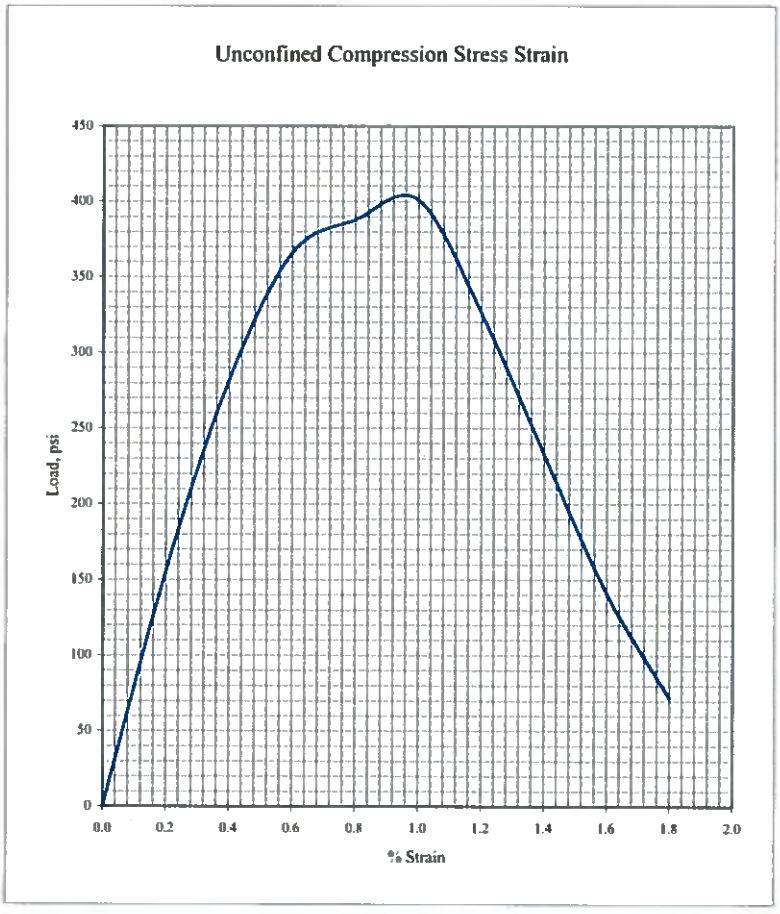
Material Type: Volcanic Breccia
Date Cast: N/A
Date Tested: 8/19/13
Age, Days: N/A

Depth: 47

Test Method: ASTM D7012
Moisture Condition At Testing: Ambient

Test Results

Sample ID.	Sample Location	Diameter, in.	Height, in.	Wet Unit Weight, pcf	Dry Unit Weight, pcf	Moisture Content, %	Unconfined Compressive Strength, psi
B-1		2.40	5.0	136.2	128.8	5.7	401



Elastic Modulus* (psi): 6.767E+04

* using Secant Modulus Method

485 Pierroz Rd, Unit D, Placerville, CA 95667
Ph 530-622-1101 Fax 530-622-1191

UNCONFINED COMPRESSIVE STRENGTH

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project Name: Mountain Peak Vineyards
Project No.: 13-091
Report Date: August 23, 2013

Client: Condor Earth Technologies, Inc

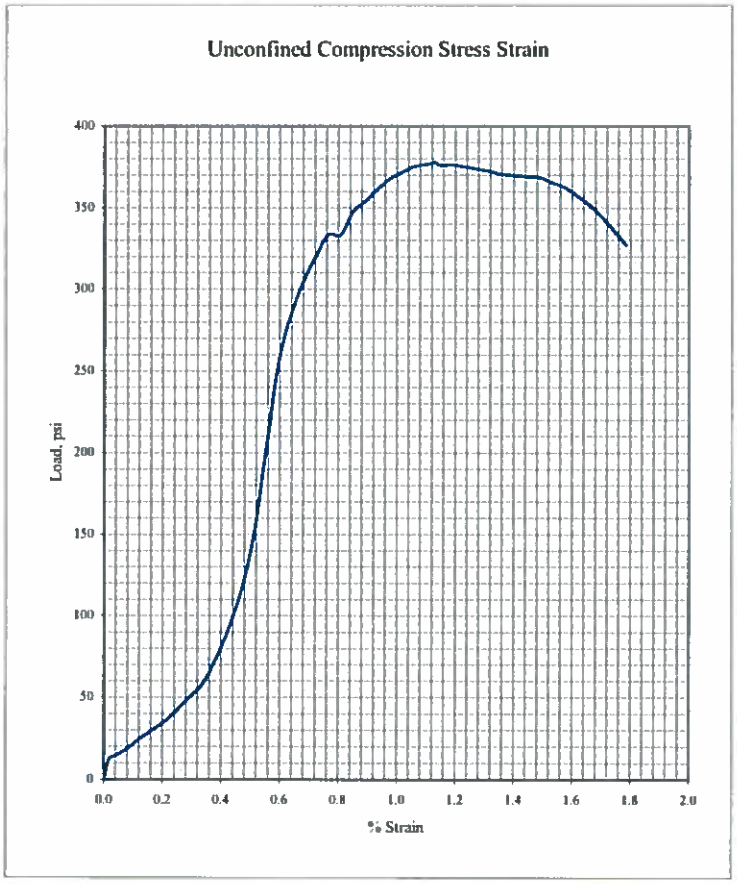
Material Type: Volcanic Breccia
Date Cast: N/A
Date Tested: 8/19/13
Age, Days: N/A

Depth: 60

Test Method: ASTM D7012
Moisture Condition At Testing: Ambient

Test Results

Sample ID.	Sample Location	Diameter, in.	Height, in.	Wet Unit Weight, pcf	Dry Unit Weight, pcf	Moisture Content, %	Unconfined Compressive Strength, psi
B-1		2.40	5.9	112.1	105.8	6.0	378



Elastic Modulus* (psi): 4.448E+04

*using Secant Method

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UNCONFINED COMPRESSIVE STRENGTH

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project Name: Mountain Peak Vineyards
Project No.: 13-091
Report Date: August 23, 2013

Client: Condor Earth Technologies, Inc

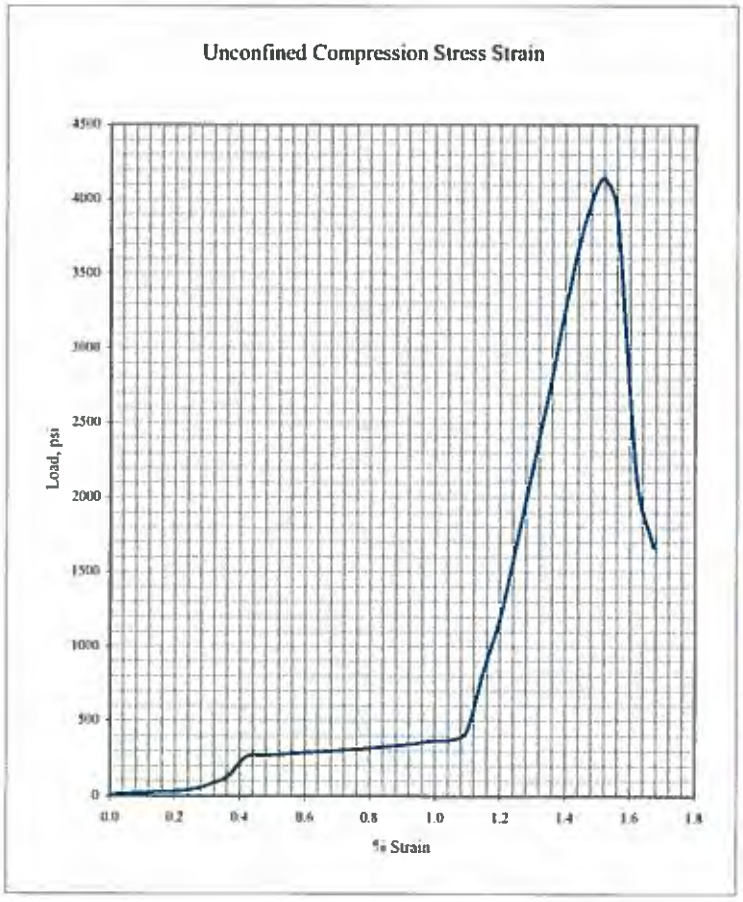
Material Type: Andesite
Date Cast: N/A
Date Tested: 8/19/13
Age, Days: N/A

Depth: 32.5

Test Method: ASTM D7012
Moisture Condition At Testing: Ambient

Test Results

Sample ID.	Sample Location	Diameter, in.	Height, in.	Wet Unit Weight, pcf	Dry Unit Weight, pcf	Moisture Content, %	Unconfined Compressive Strength, psi
B-2		2.40	4.8	145.9	139.0	4.9	4144



Elastic Modulus* (psi): 2.241E+05

*using Secant Modulus Method

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UNCONFINED COMPRESSIVE STRENGTH

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project Name: Mountain Peak Vineyards
Project No.: 13-091
Report Date: August 23, 2013

Client: Condor Earth Technologies, Inc

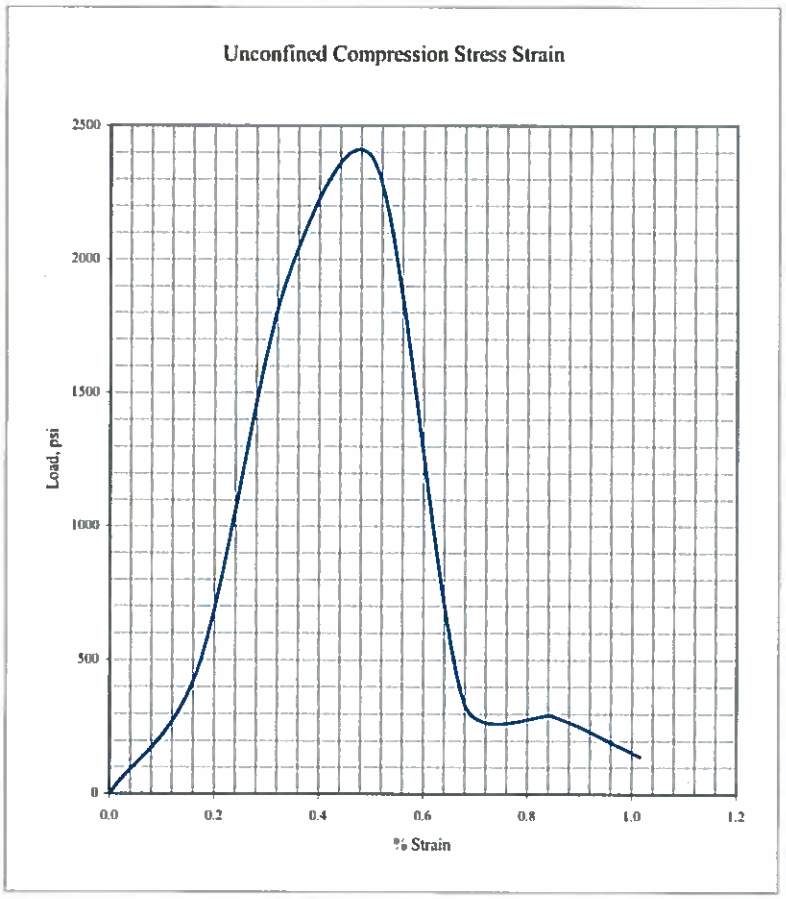
Material Type: Andesite
Date Cast: N/A
Date Tested: 8/19/13
Age, Days: N/A

Depth: 47

Test Method: ASTM D7012
Moisture Condition At Testing: Ambient

Test Results

Sample ID.	Sample Location	Diameter, in.	Height, in.	Wet Unit Weight, pcf	Dry Unit Weight, pcf	Moisture Content, %	Unconfined Compressive Strength, psi
B-2		2.40	5.9	117.5	113.0	4.0	2348



Elastic Modulus*(psi): 5.519E+05

*Using Secant Method

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UNCONFINED COMPRESSIVE STRENGTH

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project Name: Mountain Peak Vineyards
Project No.: 13-091
Report Date: August 23, 2013

Client: Condor Earth Technologies, Inc

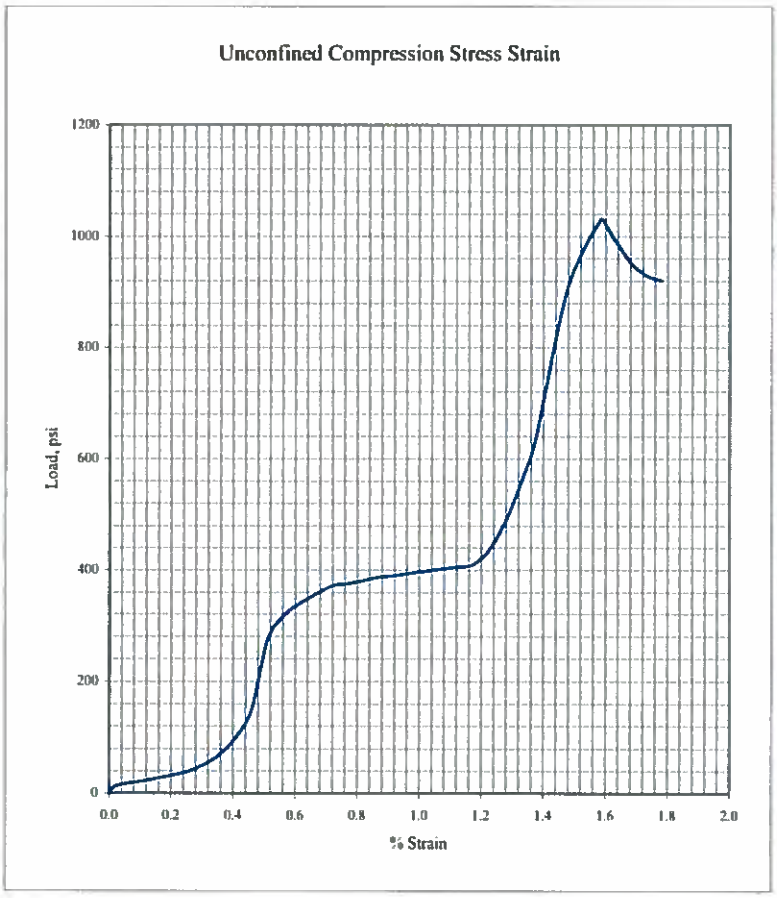
Material Type: Andesite
Date Cast: N/A
Date Tested: 8/19/13
Age, Days: N/A

Depth: 44

Test Method: ASTM D7012
Moisture Condition At Testing: Ambient

Test Results

Sample ID.	Sample Location	Diameter, in.	Height, in.	Wet Unit Weight, pcf	Dry Unit Weight, pcf	Moisture Content, %	Unconfined Compressive Strength, psi
B-1		2.40	4.9	142.3	137.8	3.3	1031



Elastic Modulus*(psi): 5.428E+04

*Using Secant Modulus Method

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UNCONFINED COMPRESSIVE STRENGTH

SIERRA TESTING LABORATORIES, INC.
GEOTECHNICAL AND MATERIALS TESTING SERVICES

Project Name: Mountain Peak Vineyards
Project No.: 13-091
Report Date: August 23, 2013

Client: Condor Earth Technologies, Inc

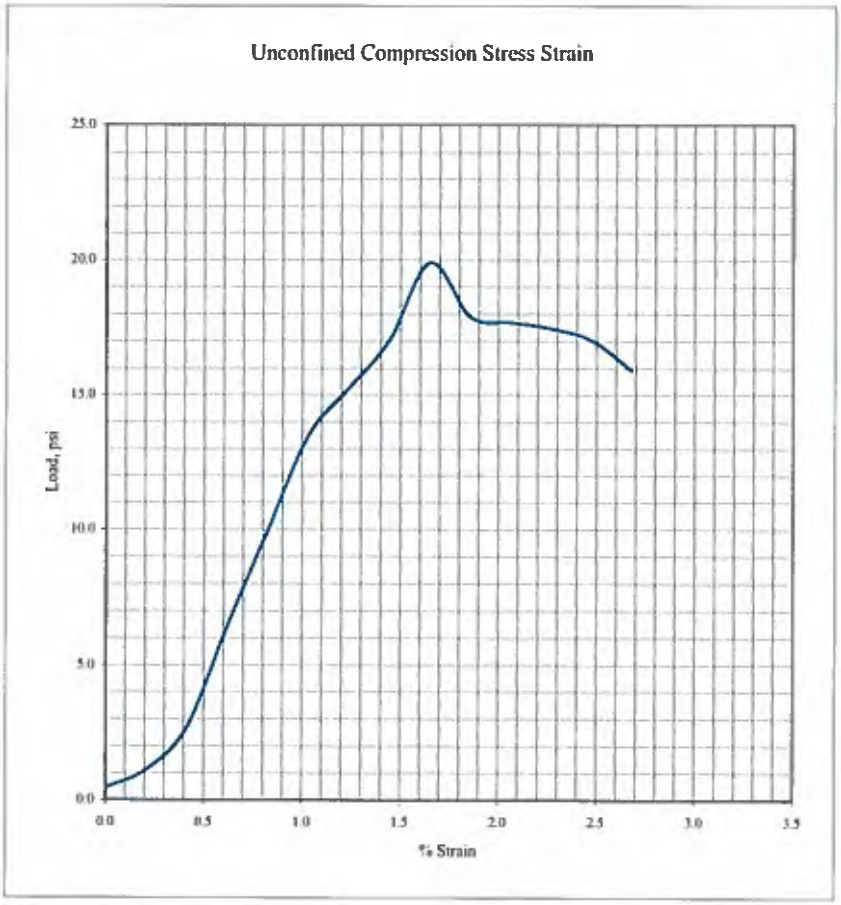
Material Type: Andesite
Date Cast: N/A
Date Tested: 8/19/13
Age, Days: N/A

Depth: 17.5

Test Method: ASTM D7012
Moisture Condition At Testing: Ambient

Test Results

Sample ID.	Sample Location	Diameter, in.	Height, in.	Wet Unit Weight, pcf	Dry Unit Weight, pcf	Moisture Content, %	Unconfined Compressive Strength, psi
B-3		2.40	4.9	97.7	63.1	54.9	20



Elastic Modulus (psi): 1.066E+03
*using Secant Modulus Method

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