

EXHIBIT E

Hardten Family Vineyard, Track I
Project No. 91676.02
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Mr. Drew Aspegren
Napa Valley Vineyard Engineering, Inc.
Main Street, Suite B
St Helena, CA 94574

**Subject: Engineering Geological & Geotechnical Evaluation
 Hardten Vineyards
 Vineyard Blocks A, B, & C, Track I
 APN 033-010-056
 3393 Atlas Peak Road
 Napa, California**

Dear Mr. Aspegren:

We are pleased to present the results of our engineering geological and geotechnical evaluation of the proposed planting of three new vineyard blocks, designated A, B, and C, totaling 2.01 gross acres at the Hardten Family Vineyard near Atlas Peak in Napa County, California, as shown on Figure 1.

The site lies within the lower Napa River watershed, Upper Capell Creek, and the Milliken Reservoir Planning sub watershed.

We understand that this evaluation will supplement the "Hardten Family Vineyard Erosion Control Plan, for New Vineyard Development", prepared by Napa Valley Vineyard Engineering, Inc., January 10, 2020.

SCOPE OF SERVICES

The purpose of this evaluation was to review the proposed vineyard development and evaluate the potential impact to local surface erosion and slope stability. To accomplish this, we performed the following tasks:

- reviewed published and unpublished reports and maps of the site;
- reviewed aerial photographs to evaluate the surficial geological features on the site; and,
- performed a geologic reconnaissance on 15 November 2019.

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REGIONAL GEOLOGY

The site is located in the Coast Ranges geomorphic province, which is characterized by northwest-southeast trending valleys and ridges. These are controlled by folds and faults that resulted from the collision of the Farallon and North American plates and subsequent shearing along the San Andreas fault.

The site lies southeast of Atlas Peak, a prominent topographic knob at 2,663 feet elevation, composed of andesitic lava flow. The site lies at elevations ranging from approximately 1,470 feet to 1,529 feet (Napa County GIS, 2018). The bedrock in the site vicinity is mapped as the basaltic andesite and andesite lavas of the Sonoma Volcanics (Delattre and Sowers, 2006; Fox and others, 1973), as shown on Figure 2. The Sonoma Volcanics andesitic to basaltic lava flows cap the upland of Atlas Peak above the site.

Dwyer and others, (1976) show no landslides in the site vicinity on their published landslide map.

The soil mapped at the site is Aiken Loam on 2 to 15 percent and 30 to 50 percent slopes and Hambright rock outcrop complex on 30 to 75 percent slopes. Approximately half of Block B and the southern portion of vineyard Block C are underlain by Hambright rock outcrop. Block A and the northern half of Block B are underlain by Aiken loam. The Aiken soils are characterized as developing on basic volcanic rocks and the Hambright rock outcrop complex is mapped as bedrock outcrop with little soil development (USDA, 1978).

Active faults have been mapped in the vicinity. The closest active fault to the site is the Concord – Green Valley Fault approximately 3.7 miles east of the site. The Concord fault is classified as a type B fault by the UBC, (ICBO, 1988) and is capable of generating a Moment Magnitude 6.7 earthquake.

SITE CONDITIONS

We evaluated site conditions based on aerial photo interpretation and a geological reconnaissance on 15 November 2019.

The proposed new vineyard blocks lie on the upland volcanic surface formed around the southern slopes of Atlas Peak. The site lies centrally located on the uplands and is drained by a very gently inclined channel at the southeastern edge of the property. Vineyard Blocks A, B and C are located south and west of existing Blocks 1 and 2, and wrap around a low knoll on the property from the north-facing slopes of Block A to the northeast- and east-facing slopes of Blocks B and C, respectively.

We noted abundant field stone (weathered in-place volcanic blocks) on the gently sloping volcanic uplands surface. We did not identify any indications of active landslides or significant erosion that would impact or be impacted by the proposed development.

CONCLUSIONS AND RECOMMENDATIONS

Based on our research and review of the site conditions, the proposed vineyard development is feasible from an erosion control and slope stability perspective. In our opinion, the proposed vineyards are located in an area where strong and hard volcanic bedrock is present at shallow depths. Further, we did not observe any evidence of global slope instability caused by landslides or soil creep.

We do not anticipate any significant changes to the surface conditions caused by the proposed vineyard development, given implementation of the Erosion Control Plan by Napa Valley Vineyard Engineering. We did not observe any evidence of global slope instability caused by landslides or soil creep during our site reconnaissance.

Therefore, we find that the vineyard development is feasible based on our engineering geological and geotechnical evaluation and the site has favorable slope stability conditions with competent bedrock at a shallow depth and low to moderate slope inclinations, the stability of which will not be significantly affected by the proposed development.

LIMITATIONS

Our services have been performed in accordance with generally accepted principles and practices of the geological and geotechnical profession. This warranty is in lieu of all other warranties, either expressed or implied. In addition, the conclusions presented in this report are professional opinions based on the indicated project criteria and data described in this report. They are intended only for the purpose, site location and project indicated.

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We trust that this provides you with the information you need. If you have any questions, please call.

Sincerely,

GILPIN GEOSCIENCES, INC.



Lou M. Gilpin, PhD
Engineering Geologist

ROCKRIDGE GEOTECHNICAL, INC.



Craig Shields
Geotechnical Engineer

Attachments:

References

FIGURES

Figure 1 Location Map

Figure 2 Regional Geology Map

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REFERENCES

Delattre, M. P. and Sowers, J.M., 2006, Geologic Map of the Capell Valley 7.5' Quadrangle Napa County, California: A Digital Database: California Geological Survey Preliminary Geologic map, scale 1:24,000.

Dwyer, M. J., Noguchi, N., and O'Rourke, J., 1976, Reconnaissance photo-interpretation map of landslides in 24 selected 7.5 minute quadrangles in Lake, Napa, Solano, and Sonoma Counties, California: U.S. Geological Survey Open File Report 76-74, St. Helena Quadrangle, scale 1:24,000.

Fox, K.T., Sims, J.D., Bartow, J.A., and Helley, E.J., 1973, Preliminary Geologic map of Eastern Sonoma County and western Napa County, California: U.S. Geological Survey Miscellaneous Field Studies MF-483, scale 1:62500.

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Napa Valley Vineyard Engineering, Inc., 2019, 3393 Atlas Peak Road Vineyards Erosion Control Plan: 4p., Appendix, map scale 1-inch=200-feet., dated July 2019.

Sims, J.D., Fox, K.F., Bartow, J.A., and Helley, E.J, 1973, Preliminary Geologic Map of Solano County and parts of Napa, Contra Costa, Marin and Yolo Counties, California: U.S. Geological Survey Miscellaneous Field Studies Map MF-484, scale 1:62,500.

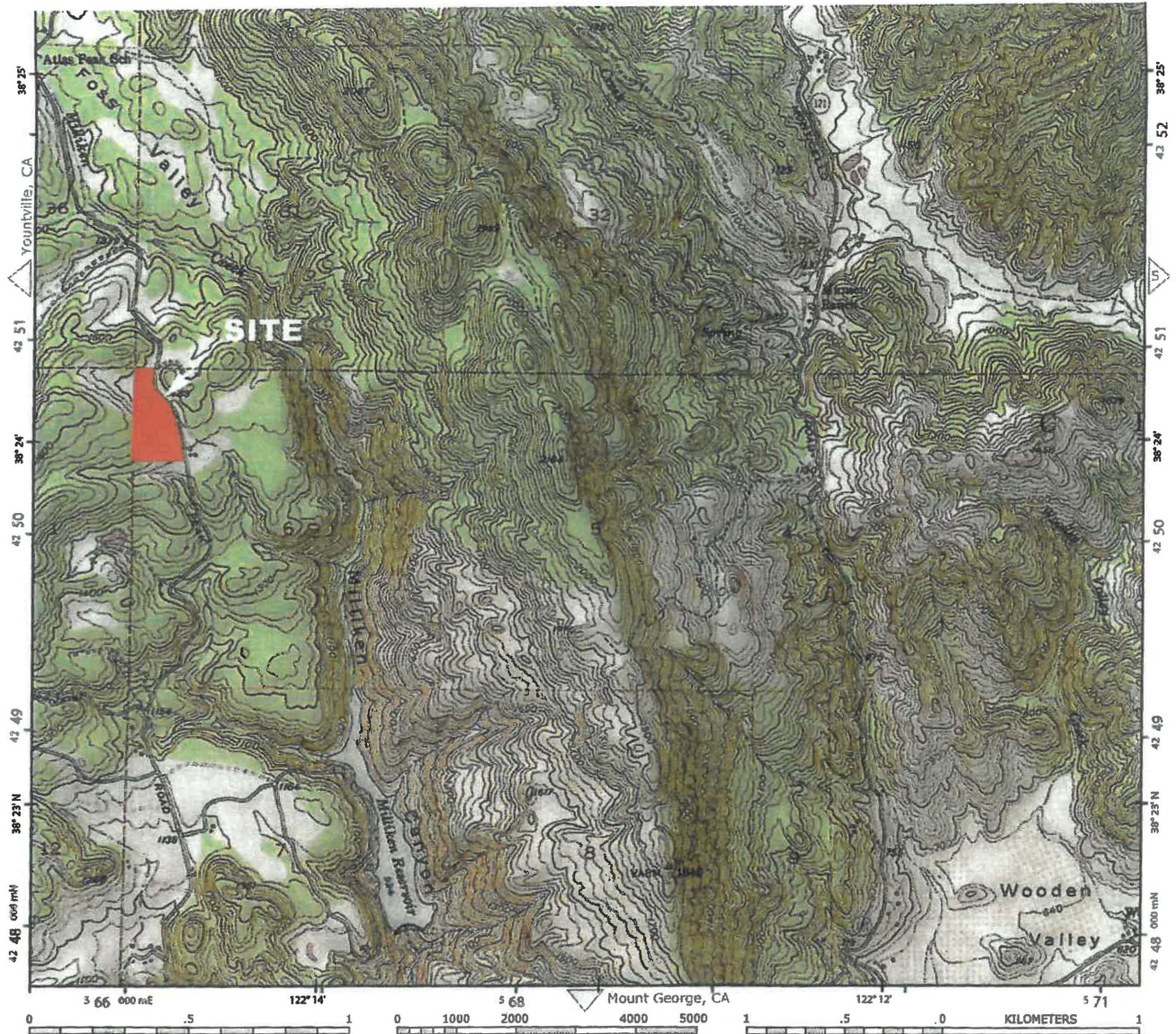
U.S. Department of Agriculture, 1978, Soil Survey of Napa County, California: U.S. Department of Agriculture Soil Conservation Service, Washington, D.C.

U.S. Geological Survey, 1978, Capell Valley Quadrangle California 7.5 Minute Series (Topographic), scale 1:24,000.


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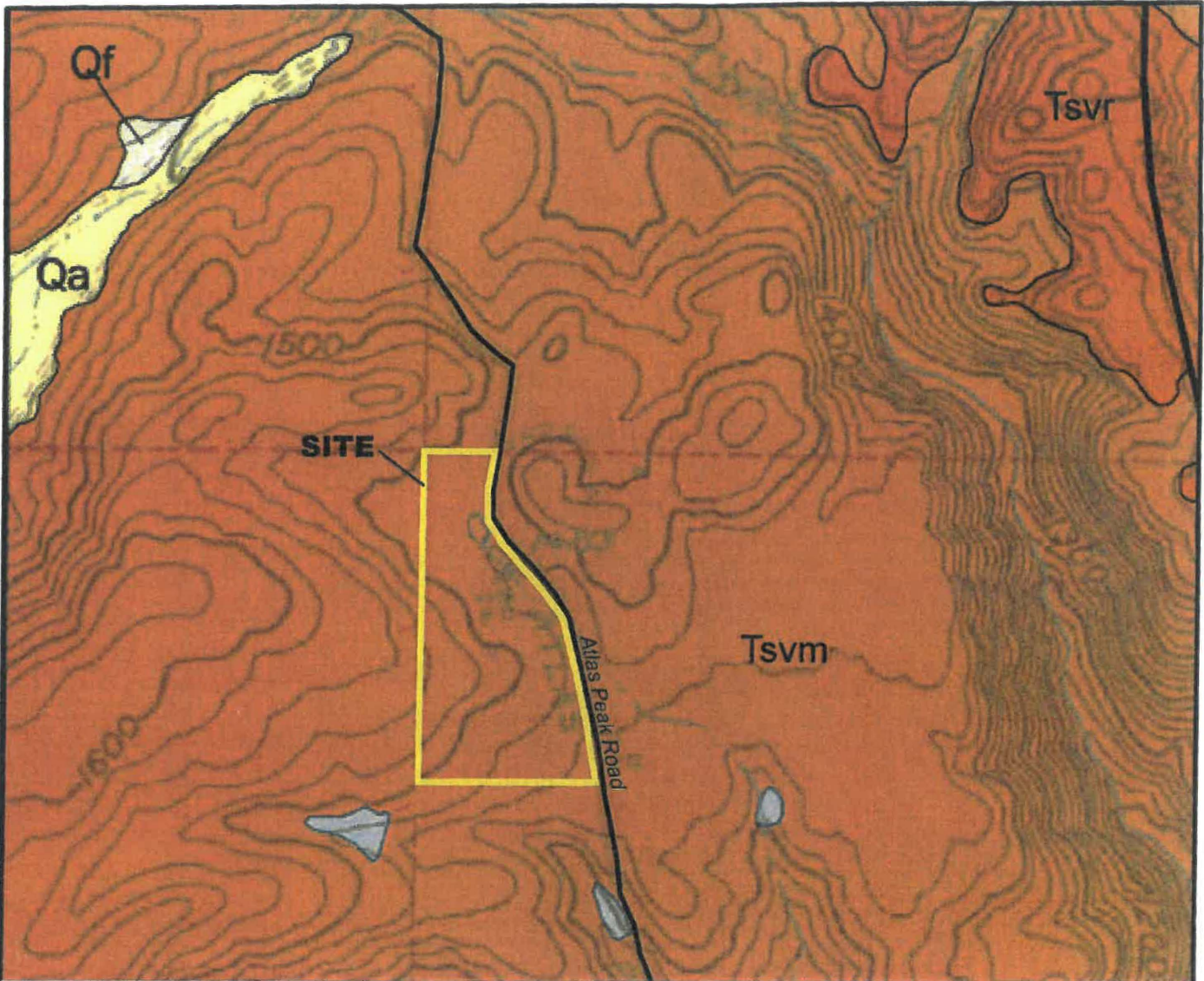
Aerial Photographs

<u>Date</u>	<u>Photo Number</u>	<u>Scale</u>	<u>Source</u>
10/08/99	CIR 6323-13- 32, 33	1:12,000	Pacific Aerial Survey
07/2/91	AV 4070-20- 10, 11	1:12,000	Pacific Aerial Survey



NAD83/WGS84 UTM Zone 10
 © 2016 National Geographic Partners. Please refer to index map on page 1 for more details. User assumes all risk associated with the use of this map.

LOCATION MAP		
HARDTEN VINEYARDS, TRACK I		
3393 Atlas Peak Road		
Napa, California		
Date 11/27/19	Project No. 91676.02	Figure 1
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EXPLANATION

Geologic Units

- Qf - Alluvial fan deposits
- Qa - Alluvium

Sonoma Volcanics

- Tsvm - Basaltic andesite and andesite lavas
- Tsvr - Rhyolite flows and tuff



Scale
(approx)

Reference: Delattre and Sowers, 2006.

REGIONAL GEOLOGY MAP

HARDTEN VINEYARDS, TRACK I

3393 Atlas Peak Road
Napa, California

FIGURE

2



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