Exhibit F-1

Gilpin Geosciences, Inc
Earthquake & Engineering Geology

August 21, 2017
91604.01

Drew Aspegren
Napa Valley Vineyard Engineering, Inc.
176 Main Street
St Helena, California 94574

Subject: **Engineering Geological Evaluation**
Laird Family Vineyards - Jamison Vineyard
APN 057-140-016, 015, 014, 013, and 002
200 Kirkland Ranch Road
American Canyon, California

Dear Mr. Aspegren:

We are pleased to present the results of our engineering geological evaluation of the proposed Jamison Vineyard Blocks 15 through 23 which lie on the gently sloping northern valley flanks of the Jamison Canyon. The proposed new vineyard development will encompass 99. 2 acres, gross. The site is presently used for cattle grazing and is accessed via Kirland Ranch Road and unimproved dirt ranch roads. Existing improvements on the site include water storage reservoirs and a residence.

We understand that this geological evaluation will supplement the Erosion Control Plan, prepared by Napa Valley Vineyard Engineering, Inc. (NVVE, 2017).

SCOPE OF SERVICES

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

- reviewed published and unpublished reports and maps of the site;
- reviewed aerial photographs in order to identify surface conditions and slope stability concerns;
- reviewed the Napa Valley Vineyard Engineering, Inc. Erosion Control Plan, and,
- performed a geologic reconnaissance on 2 September 2016 and 27 July 2017.

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 bedrock in the site vicinity, as shown on the Regional Geology Map, Figure 2, is mapped as Sonoma Volcanics ashflow tuff, andesitic to basaltic lava flows and breccias overlying Kreyenhegen Formation, Markley Sandstone and Domengine Sandstone Units (Sims, et al., 1973; Fox and others, 1973, Bezore, and others, 1998).

The Sonoma Volcanics crop out at the ridgecrest above the site and are characterized by layered volcanic deposits including andesite or basaltic flows. The ash flow deposits are interlayered with volcanic lava. Markely Sandstone mapped on the site is a unit within the Eocene-age (36 million yeas old) Kreyenhegen Formation generally described as massive medium- to coarse-grained sandstone that is indurated but not cemented (Manson, 1988). A prominent syncline[1] structure associated with an ancient fault is mapped trending along the Fagan Creek drainage channel at the eastern edge of the site.

Surficial deposits mapped upslope and north of the site include a large landslide complex along the southern-facing flanks of Jamison Canyon. The landslide deposits incorporate the Markely Sandstone and associated units, as well as the overlying Sonoma Volcanics that crop out along the ridge crest (Manson, 1988; Rogers, 1991). The sandstones of the Markley unit are known to disaggregate rapidly in water. Though not exposed on the hillslope above the site, underlying units of Nortonville Shale and Domingene Sandstone are probably also involved in the large landslide complex. The Nortonville Shale is also very susceptible to slope failures as observed in the North Bay Area.

Rogers (1991) has suggested that the unconformable contact between the older Kreyenhegen Formation and deformed Domingine Sandstone controls the southern slopes of the site and is the cause of the weak rock conditions and massive block landslides.

The soil mapped at the site includes Fagan clay loam and Clear Lake clay (USDA, 1978). These soils are characterized as developing on weathered sandstone and shale (Fagan) and alluvium (Clear Lake), respectively. Although much of the southern-facing slopes of Jamison Canyon in the site vicinity are mapped as Fagan clay loam (shale bedrock source), the landslide deposits are derived in part from the Sonoma Volcanic rocks capping the ridge tops and,

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[1] Syncline – a fold in the bedding where beds dip inwards toward the centerline of the structure.

therefore, are more likely the Hambright series, but could also be classified as part of the Forward or Aiken loam series (USDA, 1978).

Active faults have been mapped in the vicinity. The closest active faults to the site are the West Napa and the Green Valley faults approximately 3 and 4.6 miles west and east respectively. The West Napa and Concord-Green Valley faults are classified as type B faults by the UBC, (ICBO, 1988) and are capable of generating Moment Magnitude and 6.5 and 6.7 earthquakes, respectively.

SITE CONDITIONS

We evaluated site conditions based on air photo interpretation and a geological reconnaissance. We compile our geologic reconnaissance mapping on Figures 3A and 3B. On Figure 4, Cross Sections, we present subsurface interpretations of the geology at selected locations. No subsurface exploration was conducted.

The proposed vineyard improvements are located at the base of the steep slopes of the northern slopes of Jamison Canyon. The vineyards lie on rolling topography between approximate Elevations 200 to 525 feet (NVVE, 2017). The proposed vineyard blocks occupy near level to gently sloping ground on the lower flanks of Jamison Canyon which are incised by Fagan Creek and its tributaries.

Fagan clay loam soils on 15 to 50% slopes are mapped on most of the site, except for a narrow strip associated with the drainage channel between proposed vineyard Blocks 16 and 17. Fagan clay loam is soil characteristic of weathered sandstone and shale bedrock and has a moderate erosion hazard on steeper slopes (USDA, 1978). Clear Lake clay soils are mapped in the narrow strip formed by a natural drainage between proposed vineyard Blocks 16 and 17 (USDA, 1978). This soil is characterized by developing on alluvium derived from sedimentary bedrock, with high expansion potential as evidenced by shrinkage cracks 1 to 4 inches wide. The soil is characterized as corrosive.

The site is mapped underlain by Markeley Sandstone (Fox and others, 1973). The sandstone is mapped cropping out in the Fagan Creek channel at the eastern boundary of the site. Where exposed in the active creek channel, the bedrock is weak to moderately strong, intensely to closely fractured, of low hardness, and moderately to deeply weathered. It varies from laminated to massive in the outcrop.

We mapped dormant and active landslides in steeply sloping areas on the site. The slope instabilities mapped at the site are concentrated on the steep-sided drainage channels at the site. We mapped two landslides on slopes above the proposed vineyard blocks associated with steep source areas. The landslides are characterized as debris slides and slumps and are being actively undermined where they encroach on the drainage channels. We show subsurface interpretations of the landslides on Figure 4, Cross Sections. We plot an imaginary line inclined at 2:1 horizontal to vertical on the cross sections. The intersection of this imaginary line with the slope above the creek is a recommended minimum setback of the vineyard block from the unstable steep slopes.

CONCLUSIONS AND RECOMMENDATIONS

Based on our research and review of the site conditions, the proposed vineyard development appears feasible from the standpoint of erosion control and slope stability. We observed favorable slope stability with limited areas subject to landsliding. Existing landslides are constrained to the steeper slopes on the site, especially within the steep-sided creek erosion channels. The landslides mapped outside of the creek drainage appeared to originate on steep slopes above the proposed vineyard blocks. The vineyard blocks have been set back at an appropriate distance from the upslope landslides.

On Figure 4 (Cross Sections), we show the minimum setback distance from the top of the creek bank slope based on an imaginary line projected upward at an inclination of 2:1 (horizontal:vertical) from the base of the creek bank. Considering the local slope inclinations may be steeper than shown on the topographic survey used as the base map, the setbacks should be checked in the field prior to construction.

We did not observe evidence of slope instability in any of the areas proposed for vineyard development.

LIMITATIONS

Our services have been performed in accordance with generally accepted principles and practices of the geological profession. This warranty is in lieu of all other warranties, either expressed or implied. In addition, the conclusions and recommendations 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.

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

Sincerely,

GILPIN GEOSCIENCES, INC.	**ROCKRIDGE GEOTECHNICAL, INC.**
	
Lou M. Gilpin, PhD Engineering Geologist	Craig S. Shields Geotechnical Engineer

Attachments:	References	
	Figure 1	Location Map
	Figure 2	Regional Geology Map
	Figure 3A	Site Geology Map
	Figure 3B	Site Geologic Map
	Figure 4	Geologic Cross Sections

REEFERENCES

Bezore, S.P., Wagner, D.L., and Sowers, J.M., 1998, Geologic map of the Cordelia 7.5′ Quadrangle Soloano and Napa Counties, California: Division of Mines and Geology,Preliminary Geologic Map, scale 1:24,000.

Dwyer, M. J., Noguchi, N., and Orourke, J., 1976, Reconnaissance photointerpetation map of landslides in 24 selected 7.5 minute quadrangles in Lake, Napa, Solano, and Sonoma Counties, Callifornia: 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.

Graymer, R.W., Jones, J.L., and Brabb, E.E., 2002, Geologic Map and Map Database of Northeastern San Francisco Bay Region, California: US Geological Survey Miscellaneous Field Studies Map MF-2403, scale

International Conference of Building Officials, 1988, Maps of known active fault near-source zones in California and adjacent portions of Nevada: prepared by California Division of Conservation Division of Mines and Geology, p. 19, with maps.

Napa Valley Vineyard Engineering, Inc., 2017, Laird Family Vineyards Jamison Vineyard Erosion Control Plan for NewVineyard Blocks 15 through 23: 3 Sheets, scale 1-inch=100-feet, dated 18 July 2017.

Rogers, J. David, 1991, Landslides in the Cordelia-Vallejo Area Napa and Solano Counties, California: in Northern California Geological Society and Association of Engineering Geologists Field trip Guide to the Geology of Western Solano County, October 12, 1991, p. 128 – 159.

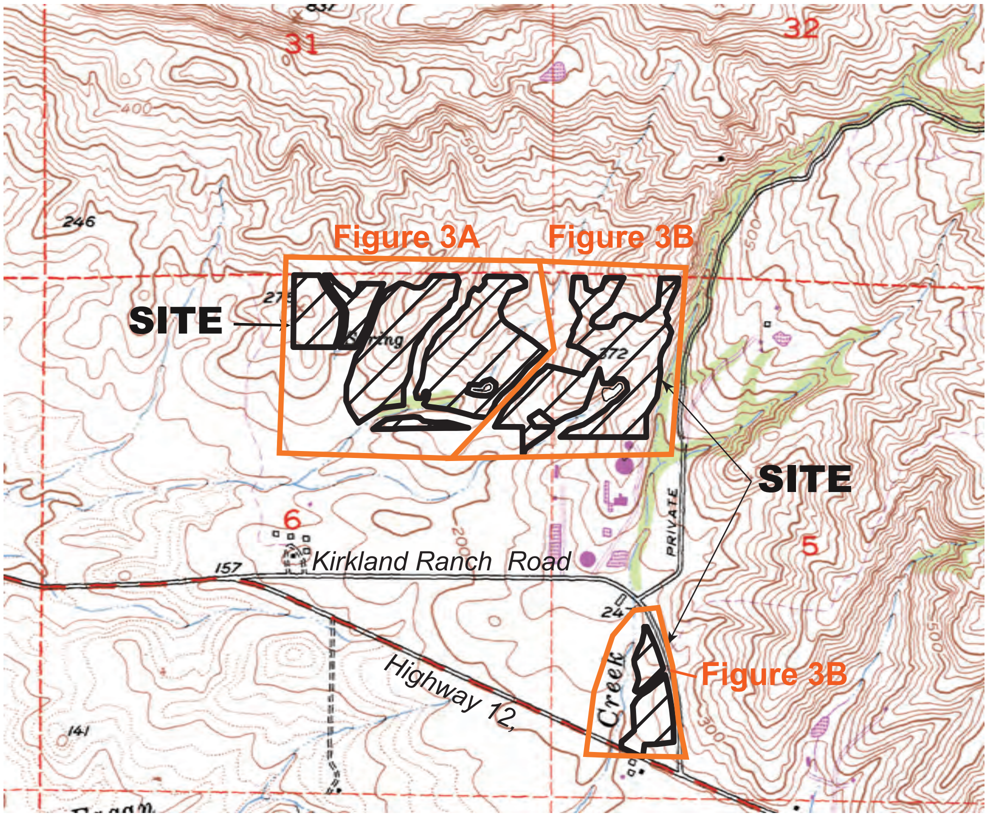
Sims, J.D., Fox, K.F., Bartow, J.A., and Helley, E.J., 1973, Preliminary geologic map of Solano County and Parts of Contra Costa, Marin, and Yolo Counties, California: Miscellaneous Field Studies Map MF-484, scale 1:62,500.

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

Aerial Photographs

Date	Photo Number	Scale	Source

9/26/00	CIR 6745-6, 55, 56	1:12,000	Pacific Aerial Survey
9/14/99	CIR 6323-6, 56, 57	1:12,000	Pacific Aerial Survey
1/12/99	CIR 6093-1, A	1:15,600	Pacific Aerial Survey
7/5/95	AV4863-1-1, 2, 3	1:12,000	Pacific Aerial Survey
8/10/95	KAV 4888-0, 1, 2,3	1:12,000	Pacific Aerial Survey
8/3/88	V-Nap-C2-44	1:24,000	Pacific Aerial Survey
4/24/85	AV2600-09-05, 06	1:63360	Pacific Aerial Surveys



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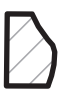
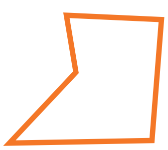


- Proposed Vineyard Blocks



- Sheet Layout, See Figures 3A and 3B

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Reference: Cordelia Quadrangle, U.S.G.S., 1995.

SITE LOCATION MAP

Jamison Canyon Vineyards
Laird Family Vineyards
Napa, California

FIGURE
1

JOB NUMBER
91604.01

DATE
8/4/17

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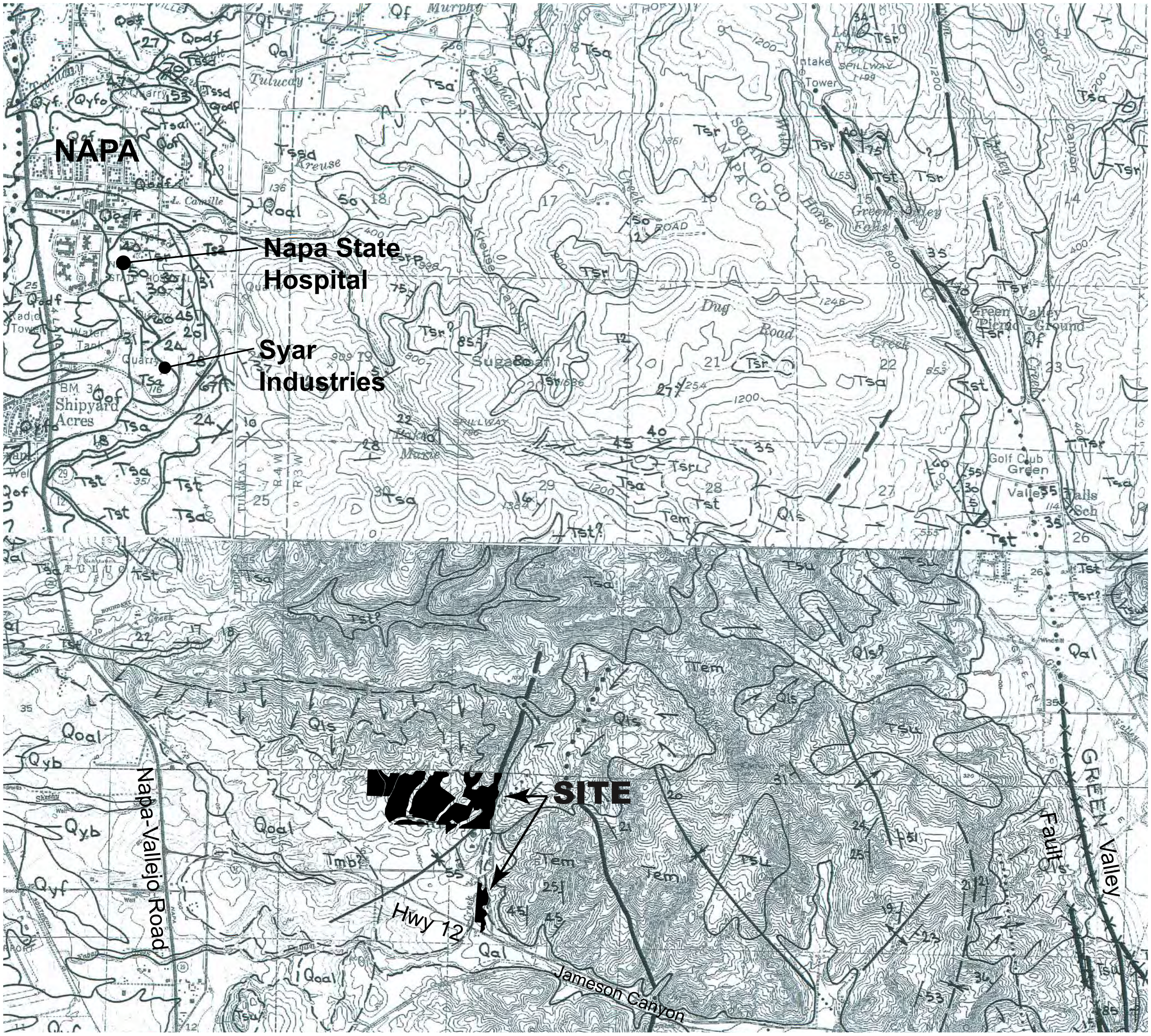

EXPLANATION

Geologic Units

- Qal - Alluvium
- Qoal - Older Alluvium
- Qls - Landslide deposits

Sonoma Volcanics

- Tsu - Sonoma Volcanics, undivided
- Tsa - andesitic lava
- Tst - pumucitic ash-flow tuff
- Tsri - rhyolite intrusive plugs, dikes

Briones Sandstone

- Tmb - Briones Sandstone

Kreyenhegen Formation

- Tem - Markley Sandstone member
- Ted - Domengine Sandstone

0 1 mile
Approximate Scale

N

Base Map: Fox, et al., 1973; Sims et al., 1973.

REGIONAL GEOLOGY MAP

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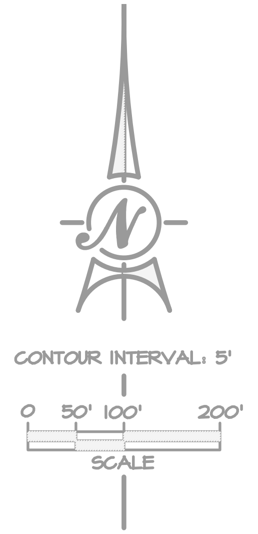
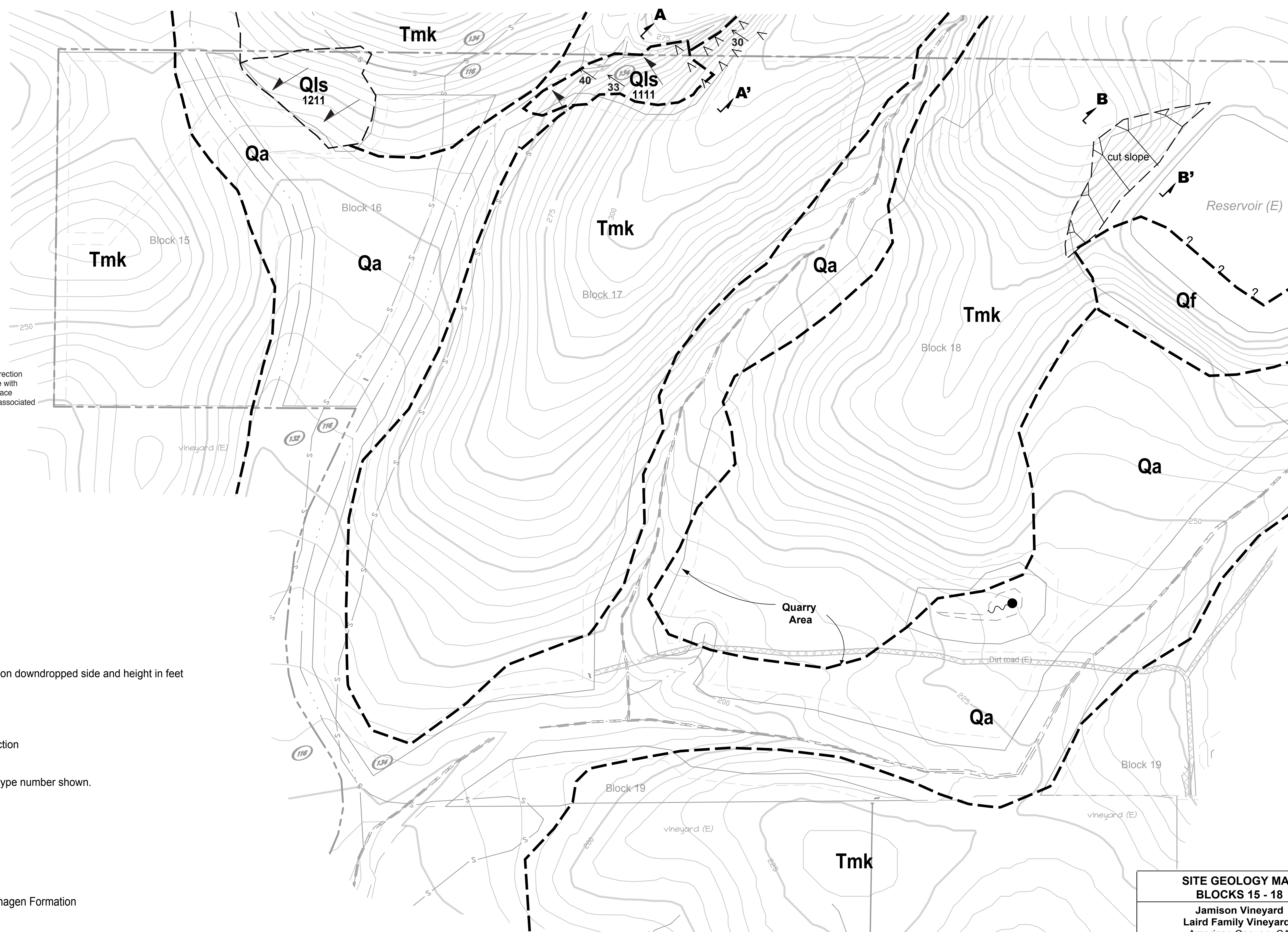
Jamison Canyon Vineyards
Laird Family Vineyards
Napa, California

JOB NUMBER 91604.01

DATE 8/4/17

FIGURE 2





EXPLANATION

Slope Stability

Landslide, scarp area hachured, arrow in direction of downslope movement, compressional toe with debris pushing over the original ground surface by a dash and semi-circle symbol, number associated with mapped deposit described below

Qls
1121

- Activity
  - 1 - active
  - 2 - dormant
  - 3 - ancient
- Type
  - 1 - debris slide
  - 2 - earth flow
  - 3 - slump
  - 4 - rotation
  - 5 - translation
  - 6 - topple
- Depth
  - 1 0 - 5 ft.
  - 2 5 - 10 ft.
  - 3 10 - 15 ft.
  - 4 15 - 20 ft.
  - 5 20+ ft.
- Certainty
  - 1 - certain
  - 2 - probable
  - 3 - questionable

Key

- Geologic contact
- Ground cracks with hachures on downdropped side and height in feet
- Soil creep
- Creek or erosion gully
- Seepage
- A A' Location of geologic cross section
- SCS Soil type boundary with type number shown.

Geologic Units

Qf	Artificial fill
Qls	Landslide deposit
Qc	Colluvium
Tmk	Markely Sandstone - Kreyenhagen Formation

Notes
1. Standard tape and compass mapping techniques, feature locations are approximate.
2. See Figure 4 for geologic cross section.
3. Topographic base by Napa Valley Vineyard Engineering, 7-18-2017. Elevations reference Sea Level Datum

SITE GEOLOGY MAP
BLOCKS 15 - 18

Jamison Vineyard
Laird Family Vineyards
American Canyon, CA

Date 8/8/2017	Project No. 91410.02	Figure 3A

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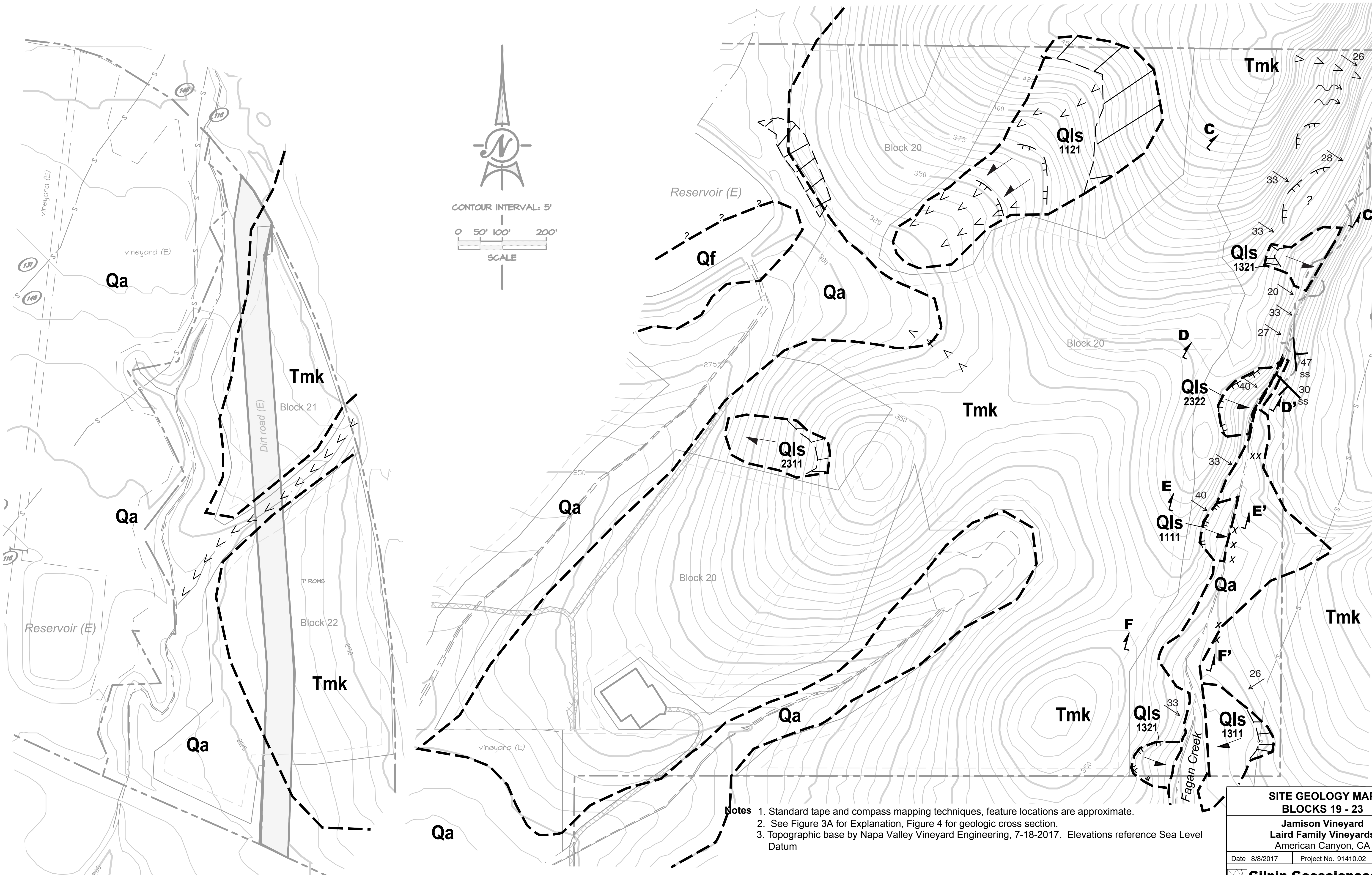

Notes
1. Standard tape and compass mapping techniques, feature locations are approximate.
2. See Figure 3A for Explanation, Figure 4 for geologic cross section.
3. Topographic base by Napa Valley Vineyard Engineering, 7-18-2017. Elevations reference Sea Level Datum

SITE GEOLOGY MAP
BLOCKS 19 - 23

Jamison Vineyard
Laird Family Vineyards
American Canyon, CA

Date 8/8/2017	Project No. 91410.02	Figure 3B

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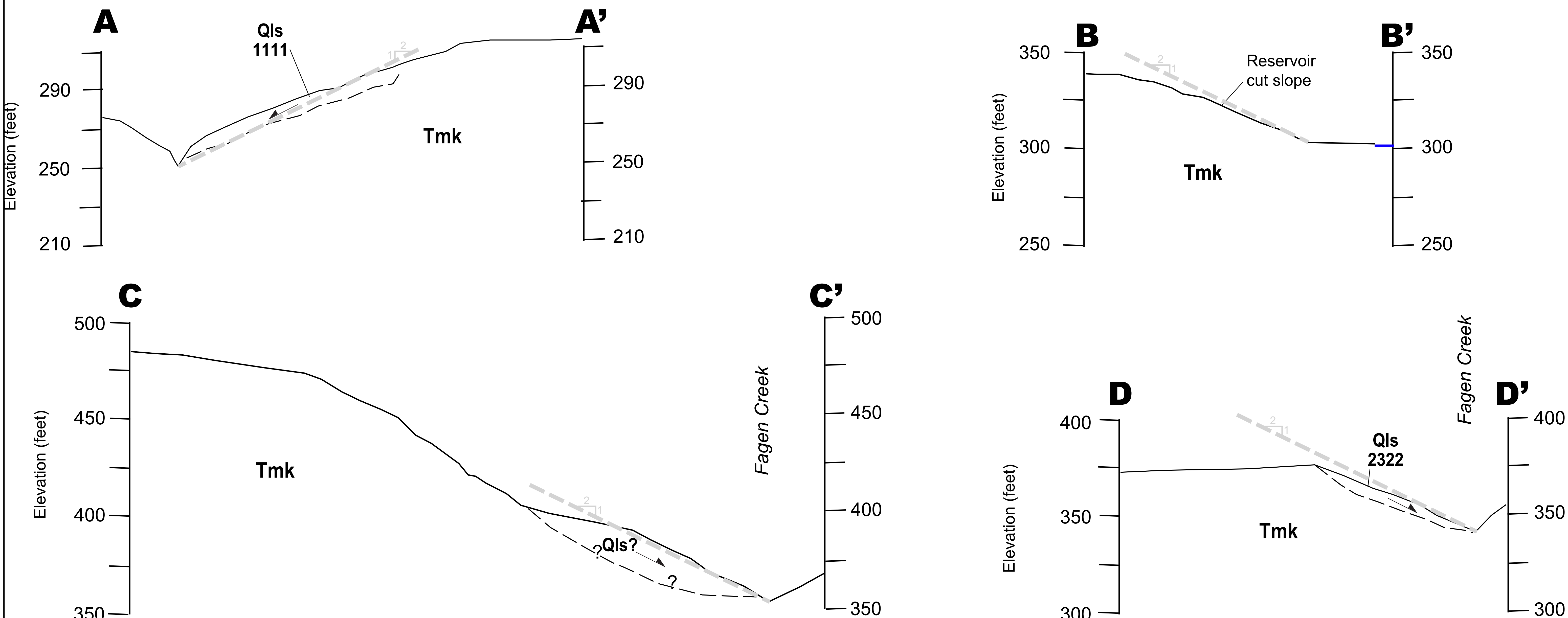
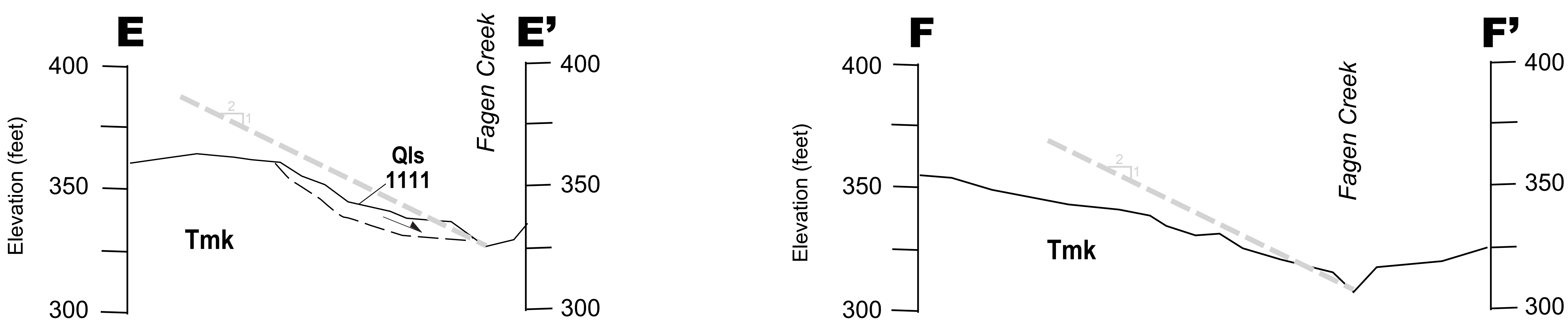
Tmk





Notes:
1) See Figures 3A and 3B for section locations
2) All sections horizontal = vertical scale
3) Subsurface conditions extrapolated from surfacemapping, no subsurface exploration was completed for this evaluation
4) Sections based on topographic map by Napa Valley Vineyard Engineering, 2017, actual field conditions vary locally

CROSS SECTIONS

Jamison Vineyard
Laird Family Vineyards
American Canyon, CA

Date 8/8/2017	Project No. 91410.02	Figure 4

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