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March 20, 2023

Lloyd Cellars Inc.
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Landslide Hazard Evaluation
Lloyd Cellars Wooden Valley
APN 033-020-040
Napa, California

Project Number: 7646.01.09.2

The purpose of this letter is to provide geologic information regarding the planned vineyard development at APN 033-020-040 in Napa, California. RGH provided a geotechnical study for previously planned improvements to the site in a report dated December 10, 2015. That report is attached. This letter is being prepared with the intent to comply with Napa County Code Section 18.108.027 (F).

Our geologic publication research included reviewing our geotechnical study for the site and the following information:

Bezore, S.P., Sowers, J.M., and Witter, R.C., 2004, Geologic Map of the Mt. George 7.5' Quadrangle, Napa and Solano Counties, California: A Digital Database, California Geological Survey

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

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 OFR 76-74, 25 Plates, Scale 1:24,000.

National Center for Airborne Laser Mapping (NCALM), 2003, LiDAR, Napa Watershed, California, [Opentopo.sdsc.edu](http://opentopo.sdsc.edu).

Natural Resources Conservation Service, United States Department of Agriculture, accessed March 2023. Web Soil Survey, available online at <http://websoilsurvey.nrcs.usda.gov/>.

Based on our geologic review we compiled the image and table below indicating the soil types and depth of materials. This information was collected from the NRCS Web Soil Survey listed above.



Engineering Properties—Napa County, California														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity Index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
112—Bressa-Dibble complex, 5 to 15 percent slopes														
Bressa	65	C	0-10	Silt loam	CL, CL-ML	A-4, A-6	0-0-0	0-0-0	85-93-100	85-93-100	60-78-95	50-60-70	25-30-35	5-10-15
			10-33	Clay loam, silty clay loam, gravelly clay loam	ML, GM, MH	A-7, A-4	0-0-0	0-0-0	65-83-100	65-83-100	55-78-100	40-63-85	35-43-50	10-15-20
			33-59	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
Dibble	25	D	0-9	Silty clay loam	CL, CL-ML	A-4, A-6	0-0-0	0-0-0	100-100-100	95-98-100	70-83-95	60-75-90	25-33-40	5-10-15
			9-34	Silty clay, clay, clay loam	CL, CH	A-7, A-6	0-0-0	0-0-0	100-100-100	95-98-100	85-90-95	80-88-95	40-50-60	20-25-30
			34-59	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
113—Bressa-Dibble complex, 15 to 30 percent slopes														
Bressa	70	C	0-10	Silt loam	CL, CL-ML	A-4, A-6	0-0-0	0-0-0	85-93-100	85-93-100	60-78-95	50-60-70	25-30-35	5-10-15
			10-33	Gravelly clay loam, silty clay loam, clay loam	ML, GM, MH	A-7, A-4	0-0-0	0-0-0	85-83-100	65-83-100	55-78-100	40-63-85	35-43-50	10-15-20
			33-60	Weathered bedrock	—	—	0-0-0	—	—	—	—	—	—	—
Dibble	20	D	0-9	Silty clay loam	CL, CL-ML	A-4, A-6	0-0-0	0-0-0	100-100-100	95-98-100	70-83-95	60-75-90	25-33-40	5-10-15
			9-34	Silty clay, clay, clay loam	CH, CL	A-7, A-6	0-0-0	0-0-0	100-100-100	95-98-100	85-93-100	80-90-100	40-50-60	20-25-30
			34-60	Weathered bedrock	—	—	0-0-0	—	—	—	—	—	—	—
118—Cole silt loam, 0 to 2 percent slopes, MLRA 14														
Cole	85	C	0-8	Silt loam	ML	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	92-97-99	80-85-87	34-44-48	13-17-18
			8-18	Silty clay loam, silty clay	CL	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	89-95-100	80-86-98	41-49-63	19-24-32
			18-32	Silty clay loam, silty clay	CL	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	90-95-100	81-86-96	43-49-61	21-25-32
			32-41	Silty clay loam, silty clay	CL	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	92-94-100	82-84-92	47-49-57	25-27-33
			41-48	Clay loam, clay	CH	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	84-88-94	71-75-81	46-50-57	25-28-33
			48-60	Clay, clay loam	CH	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	87-94-97	69-76-79	46-53-56	25-31-33
			60-64	Clay loam, clay	CL	A-7-6	0-0-0	0-0-0	100-100-100	100-100-100	82-87-97	67-72-82	40-46-56	21-26-33

On March 15, 2023, we performed a geologic reconnaissance of the site and vicinity to determine if conditions had changed since completion of our geotechnical study for the site. We observed the areas within and surrounding the planned vineyard blocks and various access roads. We paid particular interest to drainages and steeper sloping areas.

Based on our geologic review and reconnaissance, we judge that it is geologically feasible to grade and plant the subject vineyard slopes as planned. We had identified an active landslide along the western portion of the site in our 2015 study and areas that exhibited signs of soil creep. Based on our recent observations the landslide has not reactivated since that time. However, the area remains unstable and future movement of

this feature should be expected. We provided recommendations for remediation of this landslide in our geotechnical study for the site. If the landslide or areas where creeping soil is present are to be developed, the recommendations presented in our geotechnical study should followed.

We judge the risk of global slope instability, both currently and after vineyard development, to be low, provided the recommendations presented in our geotechnical study for the site are followed. As such, erosion of the site surface soils should be considered the primary slope condition of concern. If erosion control measures are installed and maintained in accordance with County of Napa Regulations, we judge the risk of erosional failure at the site to be low.

We trust this provides the information you require at this time. Please call if you have questions.

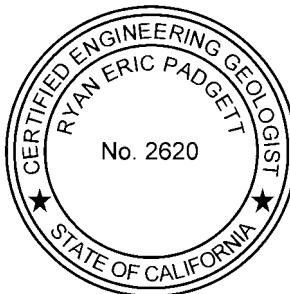
Very truly yours,
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[https://rghgeo.sharepoint.com/sites/shared/shared documents/project files/7501-7999/7646/7646.01.09.1 lloyd cellars wooden valley/.01 - landslide evaluation/7646.01.09.02 landslide hazard evaluation.docx](https://rghgeo.sharepoint.com/sites/shared/shared%20documents/project%20files/7501-7999/7646/7646.01.09.1%20lloyd%20cellars%20wooden%20valley/.01%20-%20landslide%20evaluation/7646.01.09.02%20landslide%20hazard%20evaluation.docx)

Attachment: RGH Consultants, December 10, 2015, Geotechnical Study Report, Residence, Guest House and Driveway, Shanks Property Improvements, Wooden Valley Road, Napa, California, Project No. 6901.01.04.2