# OPERATING VINEYARD & WINERY







## THE OFFERING

This operating, established vineyard and winery business asset lies in South Central Washington State approximately fifteen miles Southeast of Yakima, WA in Yakima County. It is located on Vintage Road in Zillah, WA and is within the Rattlesnake Hills American Viticultural Area, a sub-appellation of the Yakima Valley and Columbia Valley AVA's. The sale of this asset includes planted vineyards, retail winery complex, wine production and barrel storage facilities, vineyard equipment shop, a main residence, two farm homes and all equipment to continue the winery and vineyard farming operation.

The sale also includes all of the current business assets, inclusive of brands, inventory and sales channels allowing a new owner to continue and even expand operations. Using the current vineyard, facility and equipment at its full capacity, an operator could potentially produce 50,000+ cases of wine annually, within the operation.

Per the Yakima County Assessor, this asset includes seven separate tax parcels with 713.03 m/l total deeded acres. There are 237.2 acres m/l of mature vineyard that consists of a variety of grapes currently being produced. There are 56 acres m/l of tillable ground not currently in production but with water rights and potentially suitable for development of additional vineyard and/or other permanent crops. The remaining acres consist of rangeland, building sites, roads, paved parking areas and outdoor event space.

Elevation of the property runs from approximately 1,150 feet to 1,350 feet and annual rainfall for this area averages seven to eight inches per year, per the USDA Natural Resources Conservation Service. Soils on the property are primarily made up of Moxee Silt Loam and Ritzville Silt Loam with gentle 2% to 15% slopes throughout. The included irrigation water rights are accessed via the Roza Irrigation District and on-site wells.

A distinguishing feature of the Rattlesnake Hills AVA is its elevation relative to the surrounding area. The appellation's heightened elevation lessens the risk of spring and fall frosts and winter temperatures are typically warmer than other local growing regions, limiting the danger of hard freezes. This AVA is known for growing exceptional grapes that produce high quality wines available at reasonable prices.

### LISTING AGENTS

### Adam C. Woiblet

President & Designated Broker
AgriBusiness Trading Group
Adam@AgTradeGroup.com, 509.520.6117

GRIBUSINESS TRADING GROUP

PEOPLES COMPANY

### Steve Bruere

President & Owner

Peoples Company

Steve@PeoplesCompany.com, 515.240.7500

### IN COOPERATION WITH

### Stuart Turner, CPAg #02575, CCA

Certified Professional Agronomist & Certified Crop Advisor Turner & Co., Inc.

713.03 M/L

Zillah, WA

\$7,500,000

Yakima County, WA

AgForensic@aol.com, 509.539.5524

### Richard Rupp, PhD

Geospatial Consultant

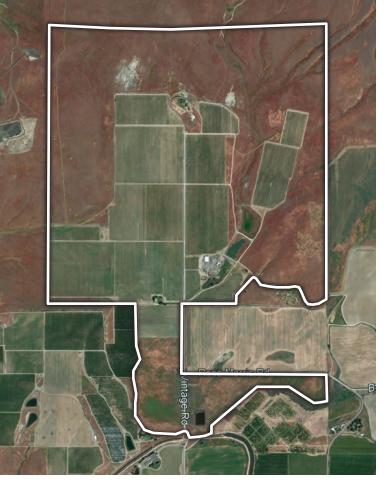
Palouse Geospatial

PalouseGeo@gmail.com, 509.592.3766

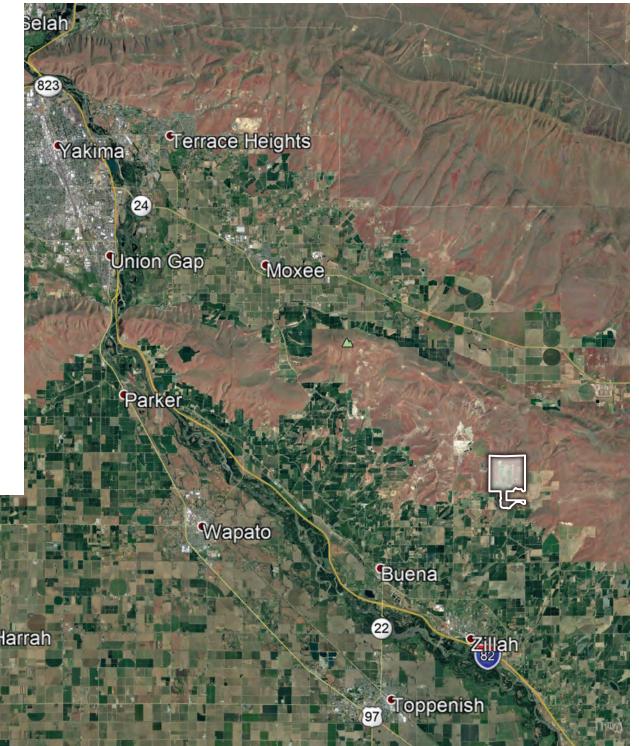
### Alan Busacca, PhD

Certified Professional Soil Scientist 24928 & Licensed Geologist Vinitas Consultants, LLC

Alan@Vinitas.net, 509.592.0756



Brownstown



## ASSET OVERVIEW

### LOCATION

This operating winery is located at 1500 Vintage Road, Zillah, WA 98953 in the Rattlesnake Hills American Viticultural Area (AVA). The established vineyard and irrigated development ground asset lies at the North end of Vintage Rd just one half mile from the winery facility.

### ACCESS

The winery is served by county, paved roads. While the vineyard has county, graveled road access.

### **TOTAL ACRES**

Per the Yakima County Assessor, there are seven tax parcels in this asset with a total of 713.03 total deeded acres included in this sale. The retail winery complex lies on its own two parcels separate from the vineyard and totaling approximately 3.8 acres. The vineyard property is all contiguous and lies on approximately 709.2 acres with approximately 237 of these acres currently planted to vines.

#### **COUNTY PROPERTY ID'S**

#211107-13401: 34.37 acres m/l #211106-11005: 537.95 acres m/l #211107-31402: 1.81 acres m/l #211106-12002: 50.04 acres m/l #211107-31401: 2.0 acres m/l #211106-43002: 38.84 acres m/l

#211107-21401: 47.66 acres m/l

Total property taxes for 2019 are \$49,234.74.

### **CURRENT ACREAGE USE**

- Vineyards
- Winery
- Rangeland
- Building sites
- Paved parking areas
- A network of developed roads for access to the vineyards and homes
- A well manicured outdoor event space that is rented out for weddings and other outdoor events.
- 56 acres m/l of tillable ground not currently in production but with irrigation rights making it potentially suitable for development of additional vineyard and/or other permanent crops.

### ZONING

Per Yakima County, the property is located within an AG zone with a minimum parcel size of 40 acres. Parcels with a smaller size than the minimum, cannot be readily split into smaller parcels. Existing parcels are eligible to be sold separately.











## ASSET OVERVIEW

### **WATER RIGHTS**

- Deep aquifer, ground water rights for 1,700 gallons per minute.
- 1,040+ acre feet available to be accessed via wells.
- Surface water rights for 201 acre feet available from the Roza Irrigation District.
- A fire lagoon for the winery complex.
- A domestic well located on the winery complex property and used for water service to the winery building.

#### **STRUCTURES**

- An 8,000 m/l square foot wine production and barrel storage facility located within the vineyard. This facility currently houses tens of thousands of gallons of fermentation and storage tank capacity that will also be included in the sale.
- A 2,160 m/l square foot, fully outfitted vineyard equipment shop used for maintenance and storage of the included farm equipment.
- Three homes consisting of:
- A nicely appointed 2,596 square foot, three-bedroom, three-bathroom main home with nicely landscaped grounds and 1,526 square foot, non-attached shop.
- Two other homes located on the vineyard, suitable for the farm manager and other farm labor housing.
- Retail winery facility and tasting room complex that lies on approximately 3.8 m/l standalone acres apart from the vineyard and includes:
- A large winery building separated into retail, production and event areas and comprised of the following types and sizes of indoor space per the Yakima County Assessor:
- 5,940 square feet of retail, tasting and event space.
- 2,104 square feet of office space.
- 6,732 square feet of production, bottling and storage area.
- 1,656 square feet of laboratory space.

#### WINERY AND FARM EQUIPMENT INCLUDED

- All winery and wine production equipment that would allow ongoing operations and production of 50,000+ case of wine annually.
- All vineyard farming and harvesting equipment that could allow a new owner to continue
  and even expand operations. This is an exhaustive list of equipment comprised of everything
  from trucks and tractors to implements and gondolas. The full list of included equipment
  shall be provided upon request.
- Four wind machines will be included in the sale.



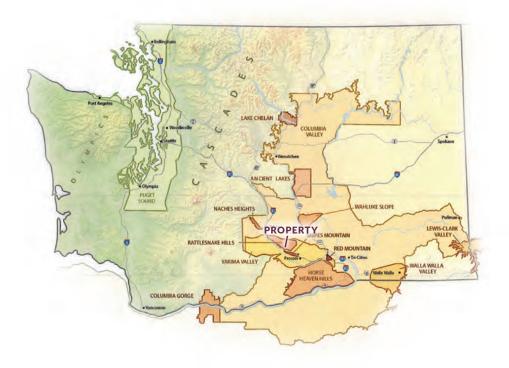






#### **CURRENT OPERATIONS AND POTENTIAL USES**

- Operating winery and vineyard.
- The vineyard currently has several year to year fruit contracts with wine producers located throughout the region. Continuity of these contracts would depend upon a new owner's desire and ability to do so.
- With the established vineyard and potential to plant additional vineyard acres, a new owner could increase their grape contract capacity or have a large supply of fruit for their own operation.
- The development acres could potentially be planted into any number of permanent crops, including orchard, hops and/or berries to name a few.
- The included buildings, especially the standalone winery complex, could be leased out to a tenant to create a capitalization rate based return on investment for the Buyer.





## RATTLESNAKE HILLS

Awarded appellation status in 2006, the Rattlesnake Hills AVA is the ninth federally recognized American Viticultural Area and is entirely contained within the Yakima Valley AVA. The hills form the northern boundary of Yakima Valley, and the AVA includes land between the north bank of the Sunnyside Canal and the entirety of the southern slopes of the Rattlesnake Hills between Outlook and the Wapato Dam. The AVA is centered on the city of Zillah. With elevations ranging from 850 feet (259 m) to 3,085 feet (940 m), this AVA contains the highest point in the Yakima Valley AVA.

The Rattlesnake AVA is comprised of approximately 68,500 total acres. As of 2016, there were 1,807 acres under vine within the viticultural area. Primary grape varieties include Riesling, Merlot, Cabernet Sauvignon, and Chardonnay. Elevations throughout the AVA range from 850 feet to 3,085 feet which lessens the risk of spring and fall frost. Average rainfall throughout the AVA ranges from 6 to 12 inches annually. Fine, shallow silt loam soils left over from the ice age are the norm here. Sandier soils surround the AVA, but the silt loam on top of the rock and flood formations here provide the perfect soil structure for quality grapes.

Vineyards in Rattlesnake Hills AVA include the Morrison Vineyard, planted in 1968 to Riesling and Cabernet Sauvignon for Chateau Ste. Michelle. It is the oldest vineyard in the AVA. In the late 1970s and early 1980s, the Hyatt Vineyard, Whisky Canyon, Outlook, and the Portteus Vineyard were also planted. With 17 wineries and 29 vineyards, the Rattlesnake Hills AVA provides many Washington producers with Cabernet Sauvignon, Malbec, Merlot, Syrah, Chardonnay and Riesling.





## GEOLOGIC HISTORY OF EASTERN WASHINGTON AND THE YAKIMA VALLEY by Alan Busacca

The soils and farming landscapes of eastern Washington and the Yakima Valley, and of the Roza Hills Vineyard are intertwined with the history of Ice Age mega floods (the largest flows of water ever to occur on Earth!) from glacier-impounded Lake Missoula in western Montana. The lake filled with glacial meltwater and sediment, then giant floods broke out through the ice dam dozens of times between about 20,000 and 14,000 years ago. The floods roared from western Montana and northern Idaho through the Spokane Valley and flowed southwest through today's Tri Cities and from there down the Columbia River canyon past today's Portland, Oregon to the sea. Erosion caused by the floods formed the 'moonscapes' of the famous 'Channeled Scab-land' of central Washington, such as the Grand Coulee and Dry Falls cataract, where the floods eroded into the hard black lava bedrock of the entire region.

And as the floodwaters carried into south central Washington, they deposited millions, perhaps billions, of tons of gravel, sand and silt in the low lying areas, and billions more tons of sediment were laid down by the same floods in Oregon's Umatilla Basin and again in the Willamette Valley before the floods blasted into the Pacific Ocean.

These sediments from the floods, along with huge areas of sediment that were reworked by wind in the current 'interglacial' period (last 14,000 years or so), form the basis for the tremendous agricultural soils throughout eastern Washington and northeastern Oregon, both in the dryland and irrigated areas.

Along the path of today's Columbia River and other areas, the mega floods were raging fast and deep and so the sediments deposited there were coarse gravels and sands.

In the axial or tributary valleys to the Columbia River like the Walla Walla and Yakima valleys, quieter, slower moving waters, still more than 800 feet deep, backed up into the valleys from the flooding along the Columbia and laid down layers of sediment from the quieting and eddying floodwaters. These deposits, locally called 'slackwater sediments' were tens or even hundreds

of feet deep, forming a thick valley fill of silts and finer sands. Since the end of the last glacial epoch about 14,000 years ago, the modern rivers like the Yakima and Walla Walla have flowed across and eroded deeply down into these deposits so that their remnants form low lying, nearly flat topped terraces in these valleys.

The tremendously productive soil resource in the region stems partly from the sediments laid down directly by the floods, but an even larger area of soils stems from the action of strong winds after the Ice Ages.

These winds, which blow at their strongest generally from southwest to northeast, reworked and moved flood sands into sand dunes over a vast area. Today these areas of dune-derived soils form the backbone of more than half a million acres of generally flat, productive property ground perfectly suited for center pivot irrigated row, field, and horticultural crops.

The strong winds for thousands of years at and just after the end of the last Ice Age also picked up the smaller and lighter-weight silts from the flood deposits, creating massive dust storms. The dust traveled tens to hundreds of miles before settling out onto the land. In the areas where the dust settled out, extending from the uplands surrounding the Walla Walla and Yakima valleys and for more than a hundred miles to the northeast, the soils resulting from the dustfall are silt-loam textured loess soils many tens of feet thick.

Since the bedrock throughout all of eastern Washington and northeastern Oregon consists of hard black basaltic lavas erupted in the eons before the Ice Ages, and because basalt weathers to soil incredibly slowly in the low rainfall (<10" MAP) rain shadow of the Cascade Range, if it were not for the giant floods that laid down gravel, sand and silt in the valleys, and for the strong winds that have reworked the sediments from the floods into sand dunes in the basins and loess on the higher slopes and hills, farming in eastern Washington would consist of little more than hardscrabble grazing for a few sheep or goats!

## CLIMATE & SOILS

Encompassing an expanse of hills running east to west along the northern point of the Yakima river and south of Moxee Valley, the Rattlesnake Hills AVA lies within both the established Columbia Valley and Yakima Valley appellations. Several factors distinguish the 68,500 acres of the Rattlesnake Hills area from others close by. These include temperature, soils, and climate.

The Rattlesnake Hills has 2,683 - 2,870 annual degree-days (each degree that a day's mean temperature is above  $50^{\circ}$  F is called a degree-day), which is temperate compared to the surrounding regions.

Fine, shallow silt loam soils left over from the ice age are the norm here. Sandier soils surround the AVA, but the silt loam on top of the rock and flood formations here provide the perfect soil structure for quality grapes.

To the west, the high Cascade Range shields the Rattlesnake Hills, and much of Eastern Washington, from ocean influences, and Umptanum Ridge, Yakima Ridge and the Rattlesnake Hills ridgeline shields the grapevines from the freezing polar air from Canada that can severely damage or kill the vines.

This rich combination of elevation, soils, precipitation and heat units creates an ideal growing region that would accommodate an owner's wine vision.

**ELEVATION:** 1,150 TO 1,350 FEET

**SOIL:** MOXEE SILT LOAM & RITZVILLE SILT LOAM

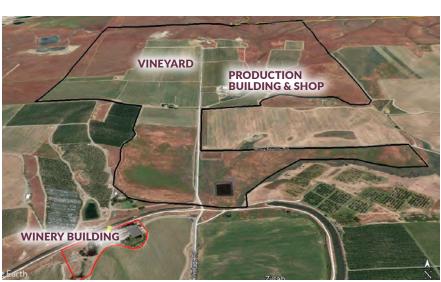
**SLOPE:** 2% TO 15% ACROSS THE PROPERTY

**RAINFALL:** 7 TO 8 INCHES PER YEAR

**HEAT UNITS:** 2,683 TO 2,870 ANNUAL DEGREE-DAYS

**WIND:** PRIMARILY FROM THE SOUTHWEST





## LOCATION

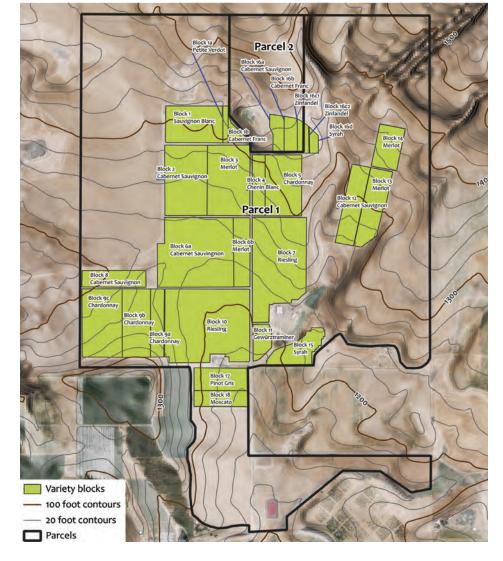
Roza Hills Vineyard is north of the town of Zillah, in the upper Yakima Valley. Viticulturally, grapes from the vineyard can be labeled on bottles of finished wine either as from the *Columbia Valley American Viticultural Area* (AVA), *Yakima Valley AVA*, or *Rattlesnake Hills AVA*, according to TTB rules because the latter two nest within the larger Columbia Valley.

The Roza Hills Vineyard is an exceptional vineyard site with more than 237 acres of mature wine grapes. Below, a perspective view of the vineyard in 3D looking toward the north highlights the moderately sloping upland position of virtually all of the vineyard. To the right, a contour map of elevation shows that the vineyard ranges from a low of about 1,100 feet to a high of just over 1,500 feet.

A table that shows acreages and percentages of different classes of slopes, aspects, and soils of the vineyard, and maps that depict these, highlight essential characteristics of the vineyard. A map of the existing vineyard blocks shows the wine grape varieties and the table shows acreages, planting dates, and vine and row spacing of each.

Note that on the maps and in the tables, Parcel 1 is about 660 acres in size and includes the main area of vineyard with about 215 acres of grapes and the production winery, vineyard shop and equipment yard and Parcel 2 is about 50 acres in size and includes a luxury home with breathtaking views and associated outbuildings as well as about six acres of vineyards.



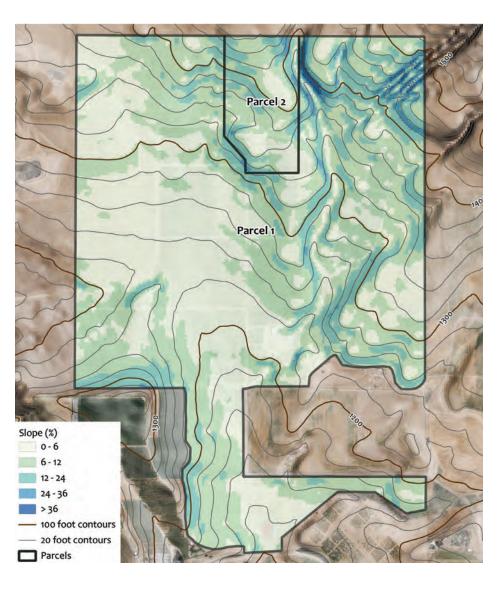


Prepared by Richard Rupp, Palouse Geospatial, February 2019
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

## SLOPE

Just about 80 percent or four fifths of the entire Parcel 1 has highly farmable, gentle to moderate slopes of less than 12 percent including a substantial unplanted acreage with these highly suitable slopes. Another approximately fifteen percent of Parcel 1 has very farmable slopes for wine grapes of between 12 and 24 percent; and a scant two percent of the parcel has slopes steeper than 24 percent of the vineyard has slopes steeper than 18 percent. Parcel 2 has similar proportions of farmable slopes.





Prepared by Richard Rupp, Palouse Geospatial, February 2019
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

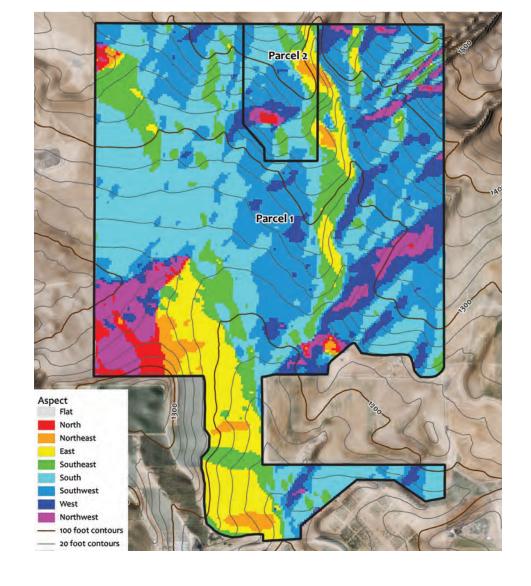
## ASPECT

Both Parcels 1 and 2 have nearly perfect aspect alignment for premium wine grape vineyards in eastern Washington, with the majority of slopes facing south, southwest, and southeast.

For example, about 70 percent of the more than 650 acres in Parcel 1 have south-, southwest-, and southeast-facing slopes. A scant 10 percent of Parcel 1 has north-, northwest-, and northeast-facing slopes!

Parcel 2 at 50 acres in size is similarly aligned: More than 75% of the slopes are south-, southwest-, and southeast-facing and less than eight percent are north-, northwest-, and northeast-facing.





Prepared by Richard Rupp, Palouse Geospatial, February 2019
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

## AIR DRAINAGE

A perspective view of the vineyard in 3D looking toward the north highlights the moderately sloping upland position of virtually all of Parcels 1 and 2 with excellent air drainage for cold air to escape out to the south during cold weather in winter and during bloom in spring.

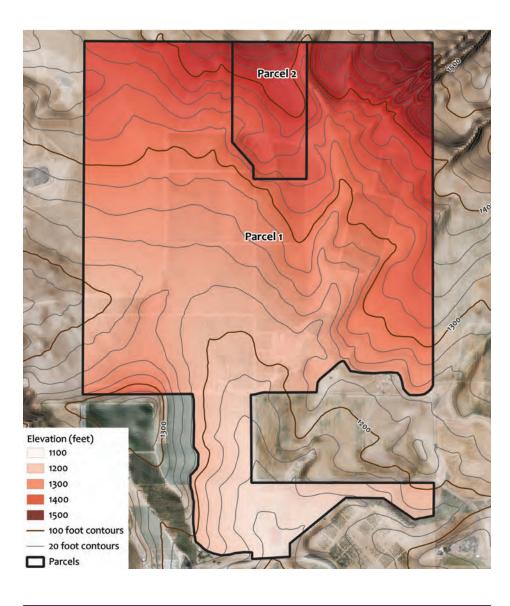
Vineyard managers report, and visual inspection of the vines, some of which date to 1982 and have trunks up to six inches in diameter, confirms that there has never been a killing freeze in almost 50 years on the vineyard. In fact, the vineyard has been described as having 'remarkably good' cold air drainage. One report about the infamous February freeze in 2004 that caused extensive vineyard damage all across eastern Washington, included the fact that the freeze caused no damage at Roza Hills Vineyard.

The four or five wind machines in blocks 6, 10 and 17 in the valley way where air exits to the south are used a few times in the spring to ward off the hazard of light frost at bloom.

#### **FUTURE DEVELOPMENT POTENTIAL**

By broad estimate based on favorable slopes, aspects and soil types, on Parcel 1 alone there remain perhaps 200 acres more of bare ground that could be developed into excellent vineyards *if suitable water supplies for drip irrigation can be secured*. In fact, because much of this ground is at higher elevation in the northwestern and northeastern portions of Parcel 1, it can be argued that thees sites may have even greater site quality indices than the existing vineyard blocks.

And conservatively, on Parcel 2 about 20 acres of land with favorable slopes, aspects and soil types exist that could be developed into excellent vineyards *if suitable water supplies could be secured*.



Prepared by Richard Rupp, Palouse Geospatial, February 2019
This product is for informational purposes and may not have been prepared for, or be suitable
for legal, engineering, or surveying purposes. Users of this information should review or consult
the primary data and information sources to ascertain the usability of the information.

## SOILS

A soils map of the Roza Hills Vineyard was generalized from the soil survey of the Yakima County Area. The heart of the planted part of Parcel 1 including most or all of blocks 2-7 and blocks 12-14 is mapped in the soil survey as having Moxee soils that have a rooting depth of 20 or more inches of silt loam and gravelly silt loam over a lime-cemented hardpan. The hardpan itself has cracks and fissures that vine roots explore for the rich calcium source there, providing a lime-rich substrate for these vineyard blocks.

Vineyard blocks 16a, 16b, and 16c1 in Parcel 2 are also mapped as having Moxee soils.

In the west-central part of Parcel 1, vineyard blocks 8, 9b and 9c and the eastern part of block 10 Riesling are mapped in the soil survey as having very deep (> 60" rooting depth) Ritzville soils formed in silt-loam textured loess.

Block 1 and the eastern portion of block 10 and all of block 11 in Parcel 1 are mapped in the soil survey as having Starbuck soils with silt loam textures throughout the 15 to 20 inch rooting depth over basalt.

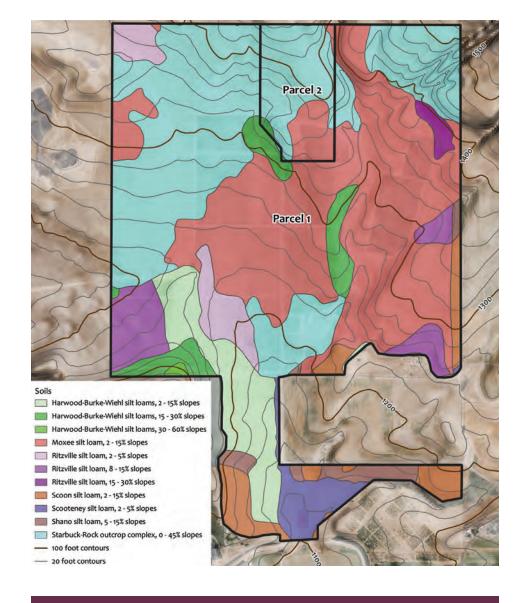
And the western part of block 10 plus blocks 17 and 18 in the south central part of Parcel 1 is mapped in the soil survey as having soils in the Harwood-Burke-Wiehl soil map complex. These soils average 30 to 40 inches or more with loam, very fine sandy loam and silt loam textures to a lime-cemented hardpan or soft sandstone. Similar to the Moxee soils, this soil complex also provides a healthy lime-rich substrate for these vineyard blocks.

#### The soils of the Roza Hills Vineyard are exceptional in several ways:

First, the dominant soil texture of all of soils except the Harwood and Wiehl series soils is silt loam throughout the depth of rooting. Because the silt loam texture class has the highest available water-holding capacity of any soil texture class (loam, sand, clay loam, clay, etc.) at about 2.0 to 2.5 inches of water per foot of soil, water use efficiency and soil resiliency to drought stress are very high. And the dominant texture in the rooting zone of Harwood and Wiehl soils is loam and very fine sandy loam, which also have a high available water capacity at about 1.5 to 2.0 inches per foot.

Second, all of the soils on the entire vineyard are well-drained and there are no areas with saline or alkali problems and no high water tables.

Third, all of the soils on the vineyard are developed from fresh, largely granite-derived minerals of sand and silt size that were transported into the area on the mega floods. These materials have weathered into the soils of the vineyard in a semi-arid grassland environment with limited rainfall. This means that there has been very limited leaching of inorganic nutrients, so they are in abundant supply. This also means that the root environment is rich in available calcium, and the content of humus and of organic nitrogen is low to moderate: all these features are outstanding for the production of wine grapes under drip irrigation.



Prepared by Richard Rupp, Palouse Geospatial, February 2019
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

## VINEYARD CLIMATE

Washington State University maintains a system of more than 180 total weather stations throughout the state, mainly to support agriculture. The closest weather station to Roza Hills Vineyard is the 'Buena' station, which is about three miles west southwest of the vineyard at about 900 feet elevation and was installed in 1989. Thus, it offers a 30-year record of favorable grape-growing climate accessible for free. Several data summary tables have been accessed for the Buena weather station and offer valuable documentation of the excellent conditions to grow premium wine grapes at Roza Hills Vineyard.

Table 1 at the right with dates of first and last frost and growing season length shows that the 10-year average growing season in 188 days and that the average date of the last frost in the spring is in early to mid April, which is excellent for wine grape bud break in the upper Yakima Valley.

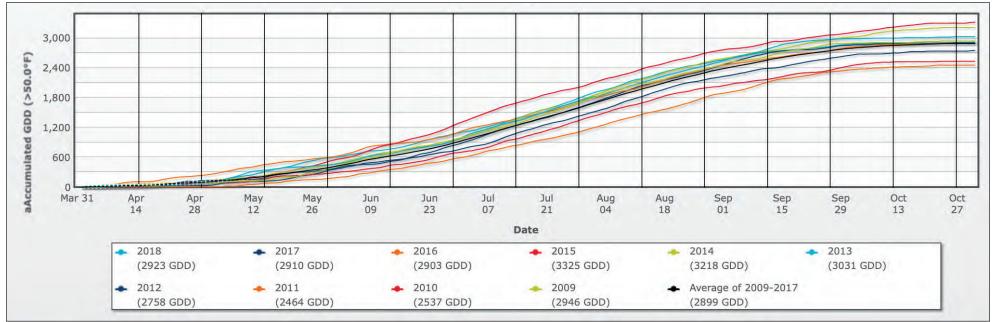
Table 2 with climate averages from 2009 to 2018 reveals a number of weather measurements, among which are that the average annual air temperature is about 53° F and the average annual rainfall is about six inches. The 10-year average solar radiation, at about 5200 MJ/m², attests to the nearly cloud-free growing seasons in eastern Washington. And reference annual evapotranspiration (ETr) of about 45 inches against average rainfall of six inches is evidence of the very low relative humidity and the long, full sunshine days during the growing season.

Figure 1 at the bottom shows wine grape growing degree days or 'heat units' from the Buena station. These were calculated using a 50° F base temperature and an April 1 to October 31 growing season and show that the 10-year average heat units for the station is 2,900.

Given the higher elevation and more open exposure of the warm Roza Hills site, it can be estimated that the vineyard averages over 3,000 heat units, enough growing season warmth to ripen almost all if not all vinifera varieties. In fact, one report is that the Sauvignon Blanc on block 1 of Parcel 1 is the earliest block of this variety to pick in the state.

Diving a little more deeply into favorable climatic characteristics of Roza Hills Vineyard for wine grapes, Table 3 to the right shows monthly climate measurements for 2018 at the Buena weather station and reveal that the average growing season air temperature (April through October) is 63.7° F. Given the higher elevation and more open exposure of the warm Roza Hills site, it is safe to assume that the vineyard has a growing season average air temperature of at least 64.5°. Lining up this temperature on the graph of Grapevine Climate/Maturity Groupings from Dr. Greg Jones, wine-grape climatologist at Linfield College in McMinnville, OR, places Roza Hills Vineyard exactly in the center of the 'Warm' (63-57°) zone with the widest range of optimal growing conditions for the widest range of grape varieties.

#### FIGURE 1: GROWING DEGREE DAYS



#### TABLE 1: FROST FREE SEASON

YEAR	LAST SPRING FROST	LAST SPRING FROST TEMP	FIRST FALL FROST	FIRST FALL FROST TEMP	FROST-FREE DAYS
2019	February 2, 2019	27.8 °F			
2018	April 3, 2018	30.8 °F	October 3, 2018	30.5 °F	183
2017	April 15, 2017	31.1 °F	October 11, 2017	30.3 °F	179
2016	March 28, 2016	30.5 °F	October 12, 2016	31.9 °F	198
2015	April 4, 2015	30.6 °F	November 3, 2015	28.8 °F	213
2014	March 24, 2014	31.6 °F	November 2, 2014	32.0 °F	223
2013	May 1, 2013	31.4 °F	October 19, 2013	30.4 °F	171
2012	April 7, 2012	28.3 °F	October 3, 2012	31.2 °F	179
2011	April 19, 2011	31.0 °F	October 25, 2011	27.7 °F	189
2010	April 9, 2010	31.9 °F	October 17, 2010	29.5 °F	191
2009	April 23, 2009	32.0 °F	September 30, 2009	31.8 °F	160
Average	April 4	30.6 °F	October 15	30.4 °F	188

Information and data gathered from the "Buena" weather station in Yakima County, Washington

#### **TABLE 2: 2009-2018 CLIMATE AVERAGES**

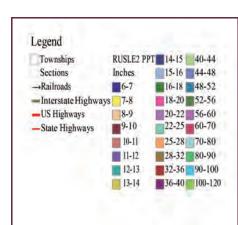
		AVG A	AIR TEMPERA	TURE					WIND			SOIL TEMP		Total	REF	. ET
	Date	Min °F	Avg °F	Max ºF	Avg DP °F	Avg RH %	Avg LW u.	Avg Dir	Avg Speed mph	Max Gust mph	Avg 2 In °F	Avg 8 In °F	Total Prec In	Solar Rad MJ/m²	ETo In	ETr In
	2010	40.7	52.6	64.3	39.8	67.0	0.23	S	2.5	32.5	NA	56.8	9.12	4363	32.79	42.06
	2011	38.1	50.9	63.4	35.9	61.5	0.14	S	2.6	37.9	NA	55.3	5.64	5166	35.79	45.80
	2012	39.2	52.4	65.0	37.2	61.6	0.21	S	2.4	30.3	NA	56.8	7.25	5491	37.35	47.33
	2013	39.5	52.1	65.3	37.5	62.5	0.12	S	2.5	31.8	NA	56.3	4.69	5508	38.20	48.45
	2014	41.1	53.7	66.1	39.4	63.8	0.10	NW	2.4	32.8	NA	58.1	5.46	5408	37.75	47.28
	2015	41.6	54.8	68.1	40.8	65.7	0.13	NW	1.8	29.6	NA	60.1	6.32	5403	37.05	45.45
-	2016	40.3	53.0	65.7	40.2	68.6	0.13	NW	1.7	28.2	NA	56.3	7.90	5313	34.44	41.50
	2017	38.6	51.1	63.3	37.5	67.1	0.07	Ν	2.0	29.3	NA	55.1	7.68	5236	35.26	43.70
	2018	39.9	53.3	66.4	38.3	64.1	0.09	N	2.2	26.4	NA	56.7	4.57	5279	37.20	47.30

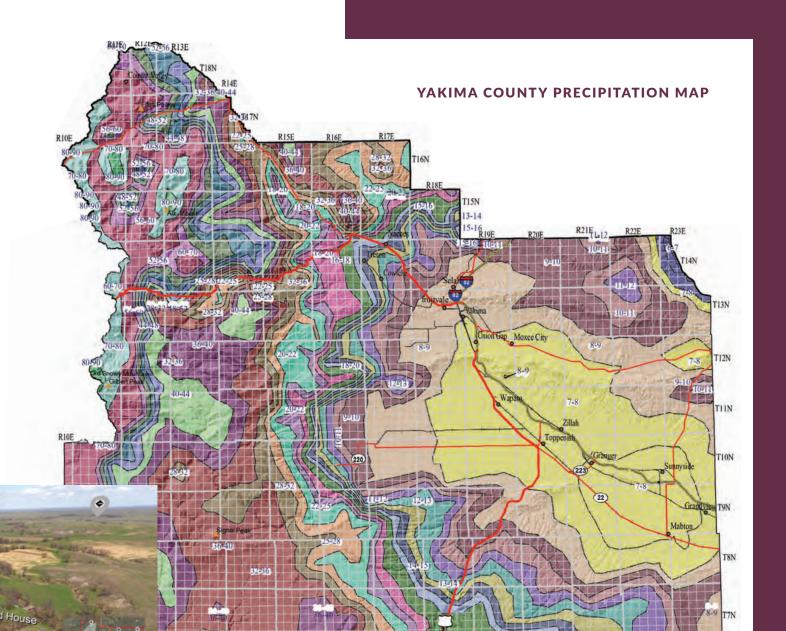
#### **TABLE 3: 2018 MONTHLY CLIMATE AVERAGES**

	AVG AIR TEMPERATURE					WIND			SOIL TEMP			Total	REF. ET		
Date	Min ⁰F	Avg °F	Max ºF	Avg DP °F	Avg RH %	Avg LW u.	Avg Dir °	Avg Speed mph	Max Gust mph	Avg 2 In °F	Avg 8 In °F	Total Prec In	Solar Rad MJ/m²	ETo In	ETr In
Jan	30.3	36.9	44.7	33.9	91.0	0.14	Е	1.4	16.7	NA	36.2	0.86	120	0.46	0.63
Feb	26.1	37.9	49.9	25.7	65.6	0.03	NE	3.0	26.4	NA	39.0	0.09	241	1.23	1.82
Mar	31.1	44.4	57.3	30.2	62.3	0.04	Ν	2.9	24.6	NA	45.1	0.52	406	2.30	3.09
Apr	39.0	52.2	64.3	35.6	58.2	0.05	W	3.1	21.8	NA	52.1	0.94	529	3.47	4.44
May	51.1	67.0	81.8	45.0	49.7	0.03	Ν	2.6	18.9	NA	65.5	0.24	682	5.52	6.88
Jun	50.5	67.3	82.6	43.7	47.0	0.05	Ν	2.7	21.0	NA	72.7	0.12	750	5.99	7.42
Jul	56.6	76.7	93.5	47.7	40.2	0.02	NW	2.4	17.8	NA	79.8	0.00	829	7.06	8.74
Aug	54.9	72.3	89.0	50.0	49.9	0.08	Ν	2.1	17.5	NA	79.0	0.00	629	5.23	6.48
Sep	43.9	60.9	77.3	42.3	55.6	0.12	Ν	2.1	20.7	NA	69.5	0.00	506	3.41	4.36
Oct	36.6	49.8	64.4	40.3	74.8	0.21	NE	1.4	17.8	NA	56.9	0.81	319	1.51	1.94
Nov	28.6	37.5	48.8	32.1	85.6	0.15	Ν	1.6	19.6	NA	44.4	0.41	171	0.66	0.98
Dec	28.5	35.5	42.2	32.0	89.5	0.13	SE	1.6	25.0	NA	39.1	0.58	98.69	0.36	0.53

## WATER & PRECIPITATION

Annual rainfall for this area averages seven to eight inches per year, per the USDA Natural Resources Conservation Service. There are water rights for the existing vineyard and available to be used for development of additional vineyard and/or other permanent crop acres. These water rights consist of a deep aquifer, ground water rights for 1,700 gallons per minute and 1,040 plus, acre feet available to be accessed via wells. Surface water rights for 201 acre feet available from the Roza Irrigation District.





## VARIETIES

Rattlesnake Hills is almost evenly split between red and white wine grapes with reds having a slight edge. The earliest vines at Rattlesnake Hills were planted in 1968. Riesling is a dominant white grape in this region producing wines with aromas and flavors of lime, lemon, and green apple. Other sites in the appellation offer flavors with a little more stone fruit, particularly peach. With 17 wineries and 29 vineyards, the Rattlesnake Hills AVA provides many Washington producers with Cabernet Sauvignon, Malbec, Merlot, Syrah, Chardonnay and Riesling. Some of the wine being produced has been awarded 'Best in Show' at the Great Northwest Wine Competition.

The Yakima Valley AVA grows more than 40 different varietals of wine grapes. The success of this diversity can be attributed to the many different growing aspects within the AVA. The micro climates, heat variations, and different soils types within the AVA play a major role in successfully growing different grape varieties.

This asset has a total of 709.2 acres m/l and includes:

- 150 acres m/l of tillable ground not currently in production but suitable for development of additional vineyard and/or other permanent crops
- 237.2 acres m/l of vineyard currently in production and comprised of the 12 grape varieties

Sauvignon Blanc	11.8 acres m/l
Petite Verdot	1.0 acres m/l
Cabernet Franc	3.7 acres m/l
Cabernet Sauvignon	61.0 acres m/l
Merlot	35.5 acres m/l
Reisling	56.8 acres m/l
Chardonnay	41.9 acres m/l
Chenin Blanc	4.0 acres m/l
Zinfandel	1.8 acres m/l
Syrah	6.7 acres m/l
Gewurztraminer	3.0 acres m/l
Pinot Gris	10.0 acres m/l

