

# **Petition for the Establishment of an American Viticultural Area**

## **In the South Willamette Valley**

We submit this petition to the Alcohol and Tobacco and Trade Bureau of the United States Treasury (TTB) with appropriate supporting materials, in accordance with the requirements described in TTB Publication 5120.4(09/2012)

The petition seeks to establish a “sub” American Viticultural Area (AVA) called “Lower Long Tom AVA” within the existing boundaries of Oregon’s Willamette Valley AVA. The proposed AVA possesses many of the same properties as the Willamette Valley AVA, but also differs significantly from other areas within the Willamette Valley AVA, which will be shown in this proposal.

### **General**

The proposed AVA is located in the South Willamette Valley. Its center is approximately 20 miles NW of Eugene and same distance S of Corvallis. The AVA starts south of the town of Cheshire and roughly follows the Long Tom River to south of the town of Monroe, being located entirely on the west side of the river. The area contains approximately 25,000 acres of which about 500 acres are commercial vineyards at elevations ranging from 350’ to 800’, the majority ranging in elevation from 450’ to 650’.

About 90% of the proposed AVA is located in Lane County, while the rest is in Benton County

There are 10 bonded wineries in the proposed AVA ( see Exhibit 1 for complete list).

Vineyards and wineries are also shown on the submitted maps (see Exhibit 7). The numbers on the red dots on the map refer to the number in Exhibit 1.

The TTB has over the last 15 years approved several Sub AVA’s within the Willamette Valley AVA and thereby acknowledged that areas of unique characteristics exist and deserve recognition.

This petition will show that the Lower Long Tom viticultural area is one of those areas and needs to be recognized as such.

## **Pinot Noir - the flagship varietal of the Willamette Valley AVA**

When modern viticulture got started in the Willamette Valley in the 1970s, Pinot Noir, the variety giving the world the much renowned Burgundies, started its slow ascent to become Oregon's most celebrated wine grape.

The 45<sup>th</sup> parallel cutting through Burgundy also slices through the center of the Willamette Valley; the climate data shows eerie similarities between both places. This gave early pioneers the confidence that the variety Pinot Noir would succeed.

And indeed it did. In the process it revealed that there are many nuances, many more layers to be exposed that influence cultivation of this fickle variety and the resulting wines.

After years of growing Pinot Noir it became apparent that not all resulting wines were the same and a lot of that had to do with the place where the grapes were grown. The centuries old theory of terroir was rediscovered in the Willamette Valley, a theory, that Pinot Noir like no other grape variety has the ability to express the uniqueness of the combination of soil, micro climate and exposure, essentially the uniqueness of the place where it is grown.

In the context of this proposal it means, whenever references are made to viticulture in general, the influence of the variety Pinot Noir is a dominating factor in our presentation.

The concept of terroir is the driving factor behind our application, as it was for all previously approved sub AVA's in the Willamette Valley.

Over 70% of the vineyard acreage in the Willamette Valley is planted to Pinot Noir. Many other cool climate cultivars are successfully grown in the Willamette Valley, but none more important than Pinot Noir.

## **Origin and Use of the Long Tom name**

The Long Tom River is a slow, meandering river draining the SW part of the South Willamette Valley, before joining the Willamette River north of Monroe, OR. Its slow meandering ways were somewhat altered by the construction of Fern Ridge Reservoir and a subsequent straightening of the stretch of river today referred to as the Lower Long Tom (Exhibit 6, page 3). The Long Tom River received its name from a poor phonetical adaptation of the native name suggested by historians to have been something like Lama Tum Buff. Anyway, the Long Tom name stuck and has been in use since the 1850s.

In 1936 Long Tom Grange was founded, serving an area that to a large part covers the same area as the proposed AVA. This Grange is very active organization conducting among other things a Daffodil Festival every March.(Exhibit 5a)

Thousands of visitors travel the roads to the Grange Hall, admiring the golden splendor of daffodils along the way, stopping in for cinnamon rolls or browse the local art and craft booths.

This is one example where the Long Tom Name becomes synonymous with an event and an area.

Another example of the modern day use of the Long Tom name to describe this area is presented in the work of the Long Tom Watershed Council. This organization has worked for years now to protect the Long Tom watershed by restoring natural streamflow to enhance habitat for native fish populations and reestablish streamside vegetation to help maintaining water quality.

A sign posted at the intersection of Lavell Rd and Owens Creek, at the bottom of High Pass Vineyard shows of their effort (Exhibit 5b).

In the spring of 2017, David Turner, a local resident and author, published a book titled "Along the Long Tom River"(Exhibit 7). In his book, Turner gives an account of historical events that took place on the river and its tributaries from the early 1800 until today. He also writes about early settlers along the tributaries of the river and gives an overview of the aquatic life in the watershed. There is also a chapter about the Long Tom Watershed Council. His book shows that the Long Tom name is inseparably connected to the area. This is a fact we considered by naming the proposed AVA "Lower Long Tom", whereby the term "Lower" is used to describe the specific stretch of the river that borders the AVA.

Other examples of the use of the Long Tom name are a Long Tom Parking Lot in Elmira, OR, a logging camp under Roosevelt's "New Deal" in the 1930s was called Long Tom (Exhibit 6, page 41) and the Long Branch Tavern might have adapted half the name since it is located just across the river in Monroe ,OR

## **Geography and Topography**

When the grape growing pioneers of the Lower Long Tom area started their viticultural conquest in the mid eighties / early nineties last century, it was well known that the Macro Climate of the Willamette Valley would very well support the commercial farming of cool climate varieties such as Pinot Noir. What was not known at the time was how the specific mesoclimate of the area in combination with soils and geography would result in Pinot Noir Grapes of a distinct character, different from Pinot Noir grapes grown in other locations of the Willamette Valley.

Over time it became apparent that the area was consistently producing Pinot Noir grapes of high quality and flavor profiles unique to the area. It became clear that the success of the vineyards was due to one important contributing factor, it was the shielding of the marine air flow taking place because of the mountains of the Coast Range to the west of the area.

It became apparent that the Prairie Mountain, rising 3000 feet above Valley floor, was diverting the cool evening and nightly airflows from the Pacific to the South and the North keeping nighttime temperatures higher than surrounding areas.

While Prairie Mountain stamps its presence onto the viticultural qualities of the area, without being within the area itself, there are other pronounced geographical features in the area itself that influence those qualities. There are several tributaries of the Lower Long Tom River, coming from the Coast Range, that over millennia carved out west to east oriented valleys, leaving behind chains of hills.

Those tributaries are Bear Creek, fed by Owens Creek, Nails Creek and Jones Creek, Ferguson Creek in the center of the area with Browning Creek as side stream, and Shafer Creek in the north.

The chains of Hills left behind run from the Coast Range into the Willamette Valley and terminate just before meeting the Long Tom River. There are five more or less defined ridges in the AVA, the southernmost ending in the town of Cheshire, the middle ones ending at Cox Butte, Rose Butte and Monroe Butte respectively, while the northernmost runs out just north of the town of Monroe.

The ridges of those chains rise to about 1000 feet in the west of the Lower Long Tom AVA and top out at about 550 feet before dropping to the valley floor in the east. The slopes of those hills are covered with moderately deep and well drained not too fertile soils, ideal for the cultivation of *vitis vinifera*. Currently vineyards are located predominantly on south slopes, but NE, E, SE, SW and W exposures are also planted to wine grapes. The steepest gradients are about 45% slopes, with the average being 20%.

## **Soils**

The three predominant soil types proven to be ideal for the cultivation of *vitis vinifera* in the Willamette Valley are differentiated by their parent material. There are decomposed volcanic basalt based silt clays, decomposed marine uplift sedimentary silty clay loams and loess soils, silt that was exposed by retreating ice age glaciers and blown onto Willamette Valley hill sites

Loess soils are not present in the proposed AVA's boundaries

The most important Lower Long Tom AVA soil is named Bellpine and it belongs to the group of decomposed sedimentary marine uplift. The parent material to this soil was lifted from the ocean floor, when the Pacific plate was uplifted by the continental plate to form Coast Range and Cascade Mountains.

The soil is about 20-36" deep well drained before it reaches sandstone or siltstone. The water holding capacity to bedrock averages 5.7 ". This soil offers an ideal growing medium to grape vines, as its relatively low water holding capacity combined with its limited depth and fertility (site class III for Douglas Fir production, 50 year site index 115ft) forces the roots of the grape vine to penetrate deep into the substrate for nutrients and water.

The low water storage capacity associated with the Bellpine soil series creates a moisture stress at the end of the dry Willamette Valley summers that fosters ripening of the fruit. After hitting rock at 30" of topsoil, the grape root will start to break into the cracks of the siltstone substrate to extract mineral nutrient that add to the Bellpine Pinot Noir qualities, such as tannin structure and ageability.

Bellpine soil covers most of the hillsides of the Lane County part of the proposed AVA.

As the AVA continues north into Benton County the volcanic influence becomes more prevalent and the hillside soils are changing gradually to the Bellpine/Jory complex before turning into Jory itself along the northernmost hill chain.

Jory is the most celebrated Willamette Valley vineyard soil, of volcanic origin, deeper than Bellpine, (appr. 60" to bedrock) and more fertile (site class II for Douglas Fir, 50 year site index 122) and a water holding capacity of 10" to bedrock. This is one reason why the northernmost chain of hills is not included as part of this petition. Jory soil dominating there produces atypical Pinots as compared to the Bellpine Pinots of the AVA. Jory Pinot Noir wines tend to be more fruit forward and approachable young in comparison to Bellpine Pinots, which take time to develop.

The Bellpine/Jory complex combines sedimentary components with volcanic influences without reaching the depth or water holding capacity of the Jory Series. This soil type is found on hill sides just north of the Benton/Lane County line.

Other soil types of lesser distribution associated with the main vineyard soils above are:

Dupee soil series – loamy colluvium over clay residuum weathered from sand stone and siltstone, mostly on the slopes, often found on the bottom of vineyards, poorly drained

Nekia soils series - colluvium and residuum derived from basalt and tuff

Willakenzie soil series – loamy colluvium and residuum derived from sand stone

Hazelair – silty clay loam derived from sedimentary bedrock

The site index for growing the native Douglas Fir was used to compare the pre agriculture fertility rate of the respective soil series expressed in feet of growth of the species in 50 years.

Exhibit 4 Shows soil maps of selected vineyards with distribution of the soil series outlined in polygons and includes official description of those soil types.

## Climate

As a general rule the macro climatic perimeters of the Willamette Valley AVA such as 40"-50" annual precipitation, on average only 15% of that rain falls from April to September, mild Winter temperatures (Jan average temp 40<sup>0</sup> F) and not too hot summers (July daily average temp 68<sup>0</sup> F) also apply for the proposed Lower Long Tom AVA.

Weather data from The Eugene Mahlon Sweet airport Station and the Corvallis Airport confirm the Willamette Valleys AVA's viticultural Region I status, the coolest in Winkler's classification, below 2500 degree (F) days.

A chart of the average heat summation for the last five years is shown in exhibit 2 for Corvallis Airport and Eugene Airport. Unfortunately there is no collected long term weather data available from within the proposed AVA, so will use empirical evidence to support the unique climate status of the AVA.

Comparing daily summer temperatures from experience shows that daytime highs in the vineyards of the area are slightly lower than those measured at the above mentioned stations but nighttime temperatures remain higher on the hill sites of the vineyards than at the valley floor. This is partly due to thermal inversion, where the lighter warm air layers higher than the cold air. This is amplified by the fact that the presence of the coastal mountains to the west (i.e. Prairie Mountain) protects the area from marine influence, diverting the cool evening flow from the Pacific to the north and south.

There is anecdotal information from veteran wine industry professionals, calling the area west of Junction City the "banana belt" of the south Willamette Valley, suggesting that the mesoclimate of the area leads to an earlier harvested Pinot Noir grapes, that produce wines of deeper color, intensive berry flavors, earthy notes and a tannic structure that makes them very ageable.

Theorizing: In reality a .5 degrees Fahrenheit higher daily temperature average, will result in a 90 degree rise on the 180 day frost free period heat summation (April through October) or in other words the heat sum needed to fully ripen Pinot Noir will be reached 7 days earlier, if the average temperature is .5 degrees higher.(daily average heat accumulation during September is 13 degrees per day, hence  $90/13 \approx 7$ ).

That means Pinot Noir grapes grown in the Lower Long Tom AVA will reach maturity five days to one week earlier compared to Pinot Noir grapes in neighboring areas. This means the earlier harvest period

for Lower Long Tom avoids the onset of fall rains or allows the vintner to consider extra hang time for more complex fruit.

In a lesser year it allows for grapes still to ripen, while neighboring areas struggle to ripen their fruit properly.

Exhibit 3 proves the theory that the temperature sum needed to ripen Pinot Noir in the proposed AVA is indeed reached 5 to 8 days earlier than in the neighboring grape growing areas of the Willamette Valley AVA.

Exhibit 3 lists the first harvest date for Pinot Noir grapes for red still wine from mature vines of five vineyards within the AVA compared to two vineyards to the south and five vineyards to the north of the Lower Long Tom AVA for the vintages 2012 through 2016. Two methods of determining the average date were employed, number one just finding the half way point between the earliest harvest date and the latest harvest date. The second average was arrived at by adding up the positive deviations from the earliest harvest date dividing it by 5 and adding the result to the earliest harvest date. The same methods were employed to calculate an average harvest date for all five Lower Long Tom vineyards as well as for the out of area vineyards. Method one establishes an average date of 09/22 for the AVA while the average to the south is 09/27 and to the north it is 09/28. Method two establishes an average date of 09/20 for the AVA. This shows the AVA enjoys a slightly warmer mesoclimate, enough to ripen Pinot Noir grapes 5-6 days earlier than vineyards to the south and 6-8 days earlier than vineyard to the north of the AVA.

This survey has a subjective element in it, because of the difference in wine styles individual winemakers might want to achieve. It is assumed that the optimum ripeness for Pinot Noir lies between 22.5<sup>0</sup> Brix and 23.5<sup>0</sup> Brix. However many other factors, actual flavors is one of them, can influence the decision of a winemaker to harvest or to wait, thus giving our presented data a less scientific appearance. Countering that with a sufficient number of samples there will be extremes on both sides of the center line that will neutralize each other and still deliver a true average. In support of the data it has to be said, that harvest data for six vineyards came from two larger producers in the Willamette Valley, whose grapes are all picked under the same specs in their contracts.

## Boundaries

To describe the boundaries of the proposed AVA geographical features like elevation lines, Meridians and Parallels as well as Rivers, Creeks, County lines and roadways were used.

It was the goal of the authors to include all of the viticulturally usable land and exclude land not suitable for grape growing such as alluvial river fans, terrace land, wetlands and lands without proper air drainage. The elevation drop from the southernmost point to the northern end of the AVA is about 60 feet on the Long Tom River Level. Our boundaries account for this fact by choosing higher elevation lines in the south versus lower elevation gradients in the north, keeping the lowest elevation of the AVA above the valley floor.

Attached are four topographical maps (Exhibit 6) which show the boundaries of the proposed AVA.

The maps are the USGS Cheshire quadrant, Monroe quadrant, Horton quadrant and Glenbrook quadrant, scale 1:24000. We also included a 1:50,000 map that show Prairie Mountain and Eugene Mahlon Sweet Airport (official weather station) in relation to the proposed AVA.

Below are the proposed boundary lines of the Lower Long Tom AVA:

1. Starting at the intersection of Franklin Rd and the 360' elevation line travel west on Franklin Rd to the intersection with Territorial Hwy.
2. Go south on Territorial Hwy to the intersection with Parallel  $44^{\circ}9'00''$
3. Follow this parallel west to the intersection with Meridian  $123^{\circ}W19'30''$
4. Go north on said Meridian to the intersection with Parallel  $44^{\circ}9'30''$
5. Go west on this Parallel to the intersection with the 800' elevation line
6. Follow 800' elevation line north to the intersection with Parallel  $44^{\circ}11'30''$
7. Follow said Parallel west to the intersection with the 1000' elevation line  
This is the western boundary of the Willamette Valley AVA.
8. Follow the 1000' elevation line north to the intersection with the Lane – Benton county line



9. Go east, than north and east again on the county line to the intersection with Meridian 123<sup>0</sup>W21'00"
10. Follow said Meridian north to the intersection with the 360' contour line
11. Follow 360' contour to the intersection with Cherry Creek Rd
12. Follow Cherry Creek Rd east then north to the intersection with Shafer Creek
13. Follow Shafer Creek east to the intersection with the 300' elevation line,  
follow this line south of Shafer Creek, across Territorial Hwy  
until It meets the old railroad line
14. Follow the old railroad line south to the intersection with Parallel 44<sup>0</sup>16'30"
15. Go west on said Parallel to the intersection with Territorial Hwy
16. Go south on Territorial Hwy to the intersection with the 360' contour line
17. Go west, then south, then east on said contour in and out of the Ferguson Creek drainage  
Into the Owens Creek drainage and into the Bear Creek watershed
18. Follow the 360' elevation line further east just above Hwy 36 into the town of Cheshire
19. Turn SW and follow the 360' line to the intersection with Franklin Road, which is the point of  
beginning

### **Distinguishing features of Lower Long Tom AVA from neighboring Willamette Valley areas**

The area to the east of the proposed AVA is composed of deep alluvial river bottom land, basically the Willamette River Valley floor, which despite of showing the right climate data (see Exhibit 2 Mahlon Sweet Airport Degree days) is not considered premium viticultural land, due to high fertility, lack of sufficient drainage in places and generally high water holding capacity, properties that don't favor the production of premium wine grapes. The deep soils foster excessive vegetative growth and don't aid fruit maturity. Another limiting factor in the valley bottom lands is that the occurrence of spring radiation frosts, because of nonexistent air drainage, could lead to primary bud kill and total loss of crop.

The area to the south of the proposed AVA offers a combination of geographical features different from the Lower Long Tom area. The mountains of the coast range comprising the watershed of the upper Long Tom River, which meanders through lower elevation coastal hills before draining into Fern Ridge Reservoir. This manmade lake covers about 9000 acres and together with the remaining west Eugene wetlands represent the SW corner of the Willamette Valley. Lower mountains to the west allow for a more pronounced Pacific influence that together with the moderating effects of the large body of water create a mesoclimate in the surrounding hills that even though suitable for viticulture is much cooler than the one to the north in the Lower Long Tom Area( see Exhibit 3). Bellpine soil still is the predominant soil in this area, but the geographical differences are the determining factor for a lower heat summation.

The area west of the proposed AVA is mostly forest land, higher than 1000' in elevation and often rugged terrain. This land is not part of the Willamette Valley appellation and cannot be considered viticultural viable, except for maybe very few suitable pockets in some of the interior valleys of coastal streams and rivers, which would have to be considered borderline low Region 1 areas due to the proximity to the Pacific Ocean.

The area to the north of the proposed AVA is within the boundaries of the Willamette Valley AVA. Immediately north of the proposed AVA is the town of Monroe with several Vineyards and Wineries.

We have harvest data from the most prominent vineyard of that group, Broadley's Vineyards, that shows clearly the cooling trend taking place from Lower Long Tom mesoclimate to a wide-open Willamette Valley mesoclimate. The average harvest date for the northern most vineyard of the AVA of which we have data, Benton – Lane is Sep 18<sup>th</sup>, while Broadley's average earliest harvest date comes in at Sep 24<sup>th</sup>, six days later.(see Exhibit 3)

After Monroe, the Willamette Valley widens to the west by 4 miles before transitioning into the coastal mountains again. The prominent geographical features of the proposed AVA, hill chains running west to east, are not present anymore. Bellpine soil even though present is not the dominating soil series anymore.

From that point northward a scattering of vineyards can be found to Corvallis and beyond to Rickreall, each with its own characteristics, but not concentrated enough to form a critical mass for group viticultural evaluation.

From Rickreall north there are two Willamette Valley sub AVA's, one approved, Eola Amity Hills AVA and one in the approval process, Van Duzer AVA.

Both AVAs base their unique status on the presence of the Van Duzer corridor, a gap in the Coast Range that allows cool afternoon breezes to penetrate into the Willamette Valley that results in a lower heat accumulation than the nearby weather station in Salem reports, as documented in the proposal to establish the Van Duzer AVA

This is a significant difference to the proposed AVA where the opposite effect is created by the presence of the Prairie Mountain massive, where the cool marine air flow is diverted to create a warmer mesoclimate than in the adjacent areas to the south and the north.

Our table in Exhibit 3 does have data from Elton Vineyard, part of the Eola Amity Hills AVA to compare to data from within the proposed AVA. The Elton data is grouped together with data from other vineyards to the north of Lower Long Tom AVA, all of those further south than Elton Vineyard and not necessarily influenced by the Van Duzer gap, yet still cooler than the Lower Long Tom vineyards.

## **Summary**

The presence of unique geographical features; Prairie Mountain to the west rising to 3400 feet and west to east running chains of hills carved out by the tributaries of the Long Tom River create a mesoclimate that is unique within the parameters of the Willamette Valley AVA. Together with a predominant soil, Bellpine, a special viticultural area capable of growing premium grapes that transform into distinct wines, presents itself. We respectfully ask you to acknowledge those facts and approve Lower Long Tom American Viticultural Area.

## **List of exhibit**

1. Vineyards and Wineries in the AVA
2. Weather Data from official weather stations Eugene Mahlon Sweet Airport and Corvallis Municipal Airport.
3. Compilation of harvest data from vineyards within the AVA and from the North and the South of the area from 2012 - 2016
4. Soil maps of several selected vineyards of the AVA
- 5.a. Photo Long Tom Grange sign
- 5.b. Photo of Long Tom Watershed sign
6. Maps of the AVA
7. David Turner "Along the Long Tom River"

Appendix to the petition to establish a “Lower Long Tom” AVA:

Please insert in the chapter “ Distinguishing features ....”, at the end of the section speaking about the area to the west of the proposed AVA the following text.

The predominant soil types on the steep hillsides in the area west of the AVA are of the Ritner and Witzel series, both derived from decomposed igneous rock and still containing varying amounts of rocks and cobbles. In the narrow valleys one finds Nekia, Hazelair, Dupee series as well as isolated pockets of the Bellpine and Jory series. All in all a very different composition of soils than in the AVA, where Bellpine rules.

The most important limiting factors for viticulture in this area remain topography and elevation.

## Sources:

### Literature:

1. General Viticulture, By Winkler, Cook, Kliewer and Lider, University of California Press, Dec 1974

### Publications/News Paper/ Magazine Articles:

1. Wine Notes: The dirt on Willamette Valley soil types  
Katherine Cole, The Oregonian, May 25, 2011
2. Oregon wine's dirty secret  
Paul Omundson, The Register Guard, Feb 26 2014
3. Proposal for the Establishment of an American Viticultural Area  
In the Van Duzer Corridor of Oregon

### Internet Postings and websites:

In support of the Lower Long Tom name:

[www.longtom.org](http://www.longtom.org)

[www.junctioncity.com/news/daffodils](http://www.junctioncity.com/news/daffodils)

Custom soil resource reports:

[www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey](http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey)

Data used for Exhibit 3:

Data from High Pass Vineyard and Union School Vineyard provided by Dieter Boehm.

Data from Broadley Vineyards provided by Craig Broadley

Data from Benton Lane provided by Steve Girard

Data from Walnut Ridge Vineyard provided by Jim Mc Gavin

Data from Lavell Vineyards provided by Matthew Lavell

Data from Pfeiffer Vineyards, Croft Vineyards and King Estate Vineyards provided by Ray Nuclio

of King Estate

Data from Elton Vineyard, Willamette Valley Estate Vineyard and Chapleton Hills Vineyard provided by Ashley Lindsay of Willamette Valley Vineyards.

My heartfelt thanks to all the contributors