



MAVERICK

The Maverick Terroirs

Barossa Wine Region

The Barossa Wine Region is broadly divided into 2 regions; Barossa Valley and Eden Valley.

Within these regions are unique sites that sharply focus general regional wine styles into vineyard and even block specific wines that are a true reflection of that site's terroir.

Maverick has 6 vineyards, each in very different areas of the Barossa giving it the ability to create unique vineyard specific wines.



Understanding the concept of 'Terroir' is fundamental to Maverick's plans to create site specific wines. Terroir is a French term meaning total elements of the vineyard.

Specific elements that contribute to a grape's composition and resultant wine style include:

- Soil
- Altitude and its effect on temperature and climate in general
- Temperature
- Rainfall
- Relative Humidity
- Sunshine hours
- Wind
- Aspect
- Vineyard management
- Vine age
- Vine clone

One of the great aspects of the Barossa as a wine region is its unparalleled vine clonal diversity. As one of the first wine regions established in Australia it has many vineyards of significant age, many of which were established using vine planting material taken from the famous European wine regions before they were ravaged with phylloxera. This clonal material had been selected over generations of cultivation in Europe and is now preserved in some of the oldest 'own rooted' vineyards in the world in the Barossa. The absence of phylloxera, which is regarded as the world's worst grape pest and has been responsible for the transition of own rooted vines to the use of rootstocks in most grape growing areas of the world, has meant Barossa vineyards have survived the test of time.

1. Trial Hill Vineyard – Region Eden Valley



Situated on the southwestern edge of Eden Valley with an altitude of between 448m to 480m above sea level this vineyard has an exciting array of individual block characteristics. The vineyard nestles below Pewsey Vale Peak which with its historic and distinctive flat-topped stone pine tree (known locally as the “monkeynut tree” marks the highest point in the Barossa. The growing season temperatures of Eden Valley sites at 500m are very close to those experienced in Burgundy and the Rhine Valley (Gladstones 1992).

While temperatures are similar the climate produces more sunshine hours, less summer rain and lower relative humidities. This unique combination means flavour profiles are more

overt and disease issues are minimized. The lack of summer rainfall also means the vine canopy is always well balanced and on tough sites the vines are made to work hard. The later scenario is particularly suited to the shiraz grape that is well suited to dry tough conditions.



The Trial Hill vineyard is made up of many unique individual block sites of mature aged vines that have long been in balance.

Average rainfall is 600mm most of which is received in winter.

1.a. Trial Hill Riesling

- Altitude 448m to 470m
- Planted to contours with aspect from North through to East



This aspect is perfectly suited to Riesling in Eden Valley in that it provides quality sunshine hours during the early part of the day and protects the susceptible grapes from sun burn in the late afternoon when the western sun is its most fiercest in summer. As a result phenolic impact on the wine is minimized.

The top of the exposed hill in which the Riesling is planted is subject to the prevailing westerly wind which comes across from the nearby Gulf of St Vincent. This typically provides increased humidity from veraison to harvest most days in the form of a sea breeze. The sea breeze's timing is typically in the mid afternoon and also provides temperature relief.

The westerly wind is not always sedate and regularly buffets the Riesling during periods of the growing season causing vine damage and yield loss. Yet another major element in determining the resultant grape composition of the grapes at harvest.

The 'Peak Soil Combination' best describes the soil in which the Riesling is planted. The conical hill top above this block is due to the presence of outcrops of massive quartzites near its crest. These quartzites and the more wide spread mica schists which occur on this site are the parent materials of this soil combination.

The soils are described as 'grey-brown skeletal soils' which cover the hill slopes below the peak and are strongly acidic in nature. The term 'skeletal' relates to the relative immaturity of the soil and the presence of much of its parent material, namely mica. The effect of the small rock particles in this shallow soil in combination with the acidic conditions make the vines struggle hence the low cropping potential. Flavour profile and grape composition is strongly influenced by these elements.



What truly makes this a great Riesling site is that at harvest the grapes are picked at optimum ripeness with no need for winemaking intervention. There is a natural flavour, sugar and acid balance.

1. b Trial Hill Shiraz

- Altitude 448m to 470m
- Planted to contours with predominately northerly aspect



In contrast to the Trial Hill Riesling site the Shiraz is situated on red brown earth formed mainly from the marbles and calcisilicate rocks. This soil has a general similarity to the red brown earth of the north eastern Barossa Valley but is covered by recent deposits of grey micaceous fine sandy loams. This soil is described as the ‘Trial Hill Soil Combination’.

The top soil which consists of the grey micaceous sandy loam is acidic in nature but the underlying profile gradually rises in pH to near neutral levels.

The red clay has good water retentive ability and is able to capture and store the winter rainfall for use during the growing season. The clay is miserly in giving up its moisture to the vine ensuring its canopy is well balanced with crop load and its grapes are always on the small side.

The regulating ability of the soil combined with the warm northerly aspect enables the production of tight structured shiraz wines with lifted perfume aromas and cooler climate characters. The small berries, and subsequent high skin to pulp ratio ensures the wines are well coloured with abundant flavour.

1c. Trial Hill Chardonnay

There are 3 distinctly different Chardonnay blocks on the Trial Hill vineyard that are all situated over the first range of hills to the south of the Riesling, Shiraz and Grenache blocks. These sites are cooler, have higher humidities and less sunshine hours than the other sites to the north.



1c(i). Trial Hill Chardonnay Martins Block

- Altitude 460 to 470m
- Planted to east west rows with northerly aspect

Nestled in a lower lying valley with a northerly aspect it has large hills surrounding all flanks, which provides wind relief, and late afternoon heat relief from the setting western sun.

The 'Peak Soil Combination' best describes the soil in which the Martins Chardonnay is planted because of the presence of quartzites and the more wide spread composting tiny mica fragments.

As the site is toward the bottom of the valley closer to a natural water course it



has a moderate topsoil depth with minimal rock and lightly silty textured subsoils at the base of the profile. The soil is strongly acidic throughout the profile locking up important nutrients which effectively limits the vines potential vigour and cropping potential.

1c(ii) Trial Hill Chardonnay House Block

- Altitude 460 to 470m
- Planted to contours with predominately southerly aspect

This block being on a southerly aspect receives comparatively less sunshine hours to the Martin Chardonnay and consequently ripens a little later.



The soils are from the 'Peak Soil Combination' but are quite deep and more mature than other sites with similar morphological attributes. As such the topsoils overlay a quite deep clay profile which is ideal in storing winter rainfall for the vines use during the growing season.

One interesting characteristic is that there is some rouge Gewürztraminer vines scattered throughout this block which gives the resultant wine a spicy edge which complements the resultant blend of Chardonnay from the other sites.

1c(iii) Trial Hill Chardonnay Flat Block

- Altitude 450m
- Planted to east west rows

This block is aptly named as the site is the flattest of all blocks with no aspect as it is situated along the base of a valley along a natural watercourse. The site means there is a higher level of humidity, lower sunshine hours and temperature than all of the other sites.



The soil is typically alluvial in nature and the mature vines have no trouble in accessing the water table below. Spring water-logging often inhibits early vegetative growth but once the profile dries out controlling vine vigour and maintaining vine balance is a constant battle.

This Chardonnay block is typically the last of the Chardonnay to be harvested and the flavour profile is more of the citrus spectrum.

1d(i) Trial Hill Grenache west block

- Altitude 467 to 480m
- Planted to contours with predominately northerly aspect

This block commands the highest setting at Trial Hill and has some of the best views over the Barossa Valley well below. The northly aspect and high degree of exposure means that sunshine hours are maximized which is critical for cool climate Grenache to achieve an appropriate level of ripeness. This exposure also provides no relief from the wind no matter what direction it blows from meaning the fickle bunches often shatter at fruit set leading to reduced crop levels, also a critical factor in maximizing ripeness of this variety.

The soil, or lack thereof, at this site is best described as tough with shallow topsoils and the strong presence of rock fragments and rubble. The 'Peak Soil



Combination' best describes the soil with outcrops of massive quartzites and mica schists on its border. These are true 'skeletal' soils which relates to the relative immaturity of the soil and the presence of much of its parent material, namely mica and quartzite.

1d(ii) Trial Hill Grenache east block

- Altitude 465 to 475m
- Planted to contours with predominately northerly aspect

As with the East Grenache block it is perched on-top of the amphitheatre overlooking the distant Barossa Valley and beyond. There are obvious similarities in the sunshine hours and wind which help ripen the often miserly Grenache crop.

There are, however, very different soils in that they are more from the 'Trial Hill Soil Combination' which is red brown earth formed mainly from the marbles and calcsilicate rocks. This soil is covered by recent deposits of grey micaceous fine sandy loams.

The top soil which consists of the grey micaceous sandy loam is acidic in nature but the underlying profile gradually rises in pH to near neutral levels.

The red clay has good water retentive ability and is able to capture and store the winter rainfall for use during the growing season. The clay is miserly in giving up its moisture to the vine ensuring its canopy is well balanced with crop load and its grapes are always on the small side.

2. Greenock Rise Vineyard – Region Barossa Valley

Situated in the northern end of the Barossa Valley this vineyard is quintessential Barossa Valley red wine country largely in part to its soils being relatively uniform red-brown earth over limestone and the climate during ripening being warm and dry.



One special feature is its old vine stocks of Grenache and Shiraz, the remnants of the Barossa Valley's forgotten fortified wine industry. These grandfathers produce low crops of small berried grapes capable of intense flavours only achievable when certain key elements are in place. These elements are vine age, soil type and climate, and can rarely be matched in any other wine region throughout the world.

Rain falls predominately in winter with an annual average of 525mm. There is typically little run off with all of the moisture stored in the relatively deep red brown earths of the district. This forms the reservoir for the vines in the subsequent growing season with the traditional vineyards set up to be dry grown never to rely on supplementary irrigation. The old blocks of today were planted to a low density configuration and have the established root capacity throughout the soil profile to survive in the driest of growing seasons. In addition, a level ripeness is achieved that is conducive to the crafting of full bodied red wines that are uniquely Barossan.

'Greenock Red Brown Earth' is the term that best describes the soils from the vineyard. An outstandingly important feature of the geological beds in the area is their very great age which have been through quite a number of cycles of weathering and erosion. Much of the original mineral composition has now gone which probably explains why, for instance, their phosphorus content is low.



The red-brown earth has a high level of clay content which hangs onto stored moisture very effectively, only providing the vines with a limited amount at a time. This phenomenon, together with the soils low phosphorus status, means that vine vigour and crop load is generally low, an important element in the vine being able to achieve full ripeness.



2a(i) Greenock Rise Grenache Bush Vines

- Vine Planted Date circa 1895

Planted two centuries ago on a low density 860 vines/ha configuration these would have to be some of the oldest vines in the world. As with many old Grenache vineyards in the Barossa there are rouge vines of Mourvedre scattered among the planting.

The topsoil has now become relatively sandy due to the many years of cultivation gradually breaking down the soil structure.

The vines are still consistent croppers albeit at the low end.



Grenache flavour profile is most affected by crop load, with the higher cropped Grenache having confectionary lolly like characters, whereas the lower yielding vines generally having more concentrated flavours at the savoury end of the spectrum. The low crop on the bush Vines combined with the radiating heat from cultivated soil onto the low hanging bunches makes for rich flavoured Grenache.



2a(ii) Greenock Rise Grenache T-Trellis and Single Trellis

- Vine Planted Date circa 1950

At the time of planting these vines would have been set up to a modern system of trellising, the T-trellis, but 50+ years on the vines are now holding up the trellis which has succumbed the elements and termites. Grenache being an upright

growing variety is well suited to a low trellis or bush vine system in that they avoid sprawling on the ground.



Number one enemy to the viability of these old vines is 'eutypa' or 'dead arm' a degenerative fungal disease that ends up traveling back down established arms robbing it of nutrients and eventually killing the living tissue. The vines from season to season have a constant seesawing battle with this disease that ultimately limits crop and vigour. The result is low cropping potential which equates to concentration of flavour.

2b(i) Greenock Rise Shiraz Old Dam

- Vine Planted Date circa 1950

When established this block was set up for dry growing and as such is situated on some deep red brown earth with a high water holding capacity along an intermittent water course.

Small berries, low yields and concentration of flavour and colour are the hallmarks of this block. Over time the battle with 'eutypa' has cut back yields to levels below 4t/ha. At these levels maximum ripeness is easily achieved for production of full bodied Shiraz. Typically the wines have great concentration and display flavours ranging from mocha, chocolate to licorice. Colour level

and tannins are also abundant and when matched with good oak maturation produce well structured wines with a soft velvety mouthfeel.

2b(ii) Greenock Rise Shiraz Bamboo

- Vine Planted Date circa 1950

While this block is on the same deep red brown earth, with a high water holding capacity, to the west of the Dam Old Shiraz, it is separated by an expanse of younger Shiraz.

These old blocks survived the vine pull of the 1980s but one cannot help but think that pre the 1980s they were joined and in fact part of the same block. These old sections would have been saved because they were the best performed sections of the bigger original Shiraz block.

The Bamboo Shiraz is situated along the western end of the water course with some stands of bamboo along its boundary, a sign of the soils greater water holding capacity.

These vines display a little more vigour and as such ripen slightly later than the Dam Old Shiraz but still produce a similar style of wine.

2b(iii) Greenock Rise Dry Grown Shiraz

- Vine Planted Date 1995

These vines are only adolescents but they have done it tough from day dot. Planted along southern bank of Greenock Creek in the deep red brown earth they are a function of the season and crop in a boom bust cycle. The average to wetter seasons produce acceptable crops of small berried fruit capable of producing rich full bodied wines. The drier seasons produce nothing but heart ache to the winemaker with miniscule crops but sensational wine, a true labour of love.

This young block will take a further 10 years or more to establish a sufficient root system to buffer it against the extremes of rainfall experienced from year to year.

2b(iv) Greenock Rise Odd Block Shiraz

- Vine Planted 1995

As with the 'Dry Grown Shiraz' block these vines are only adolescents however with the use of supplementary irrigation crop and canopy size can be regulated to consistently produce top notch wine.

Planted on the northern bank of Greenock Creek this site has beautiful deep red soil that restricts the berry size, maximizing colour, tannin and flavour.

So named 'Odd Block' because of its staggered rows at either end it makes for a nightmare in turning machinery around at the end of the rows in the tight headland.

3. Barossa Ridge Vineyard – Region Barossa Valley

Situated against the eastern foothills in the central Barossa Valley this vineyard is regarded to be in the Vine Vale subregion. The vineyard was first planted in the 1840's, and both it and the settler's house which was built by the Klip family in the 1840's are thought to be among the oldest in the Barossa. There is still a row of Riesling planted in the early 1860's, and the fig tree in the courtyard is a local treasure dating from at least the 1880's.

The two most important elements in determining grape composition and wine style in this vineyard relate to soil and climate.

The topsoil is strikingly sandy, with a white beech sand like appearance but underneath at various depths is red clay capable of storing the winter rainfall that percolates quickly through the sandy top soil.

The soil is classified as 'Nuraip Sand' and is fine, loose sand with small amounts of organic matter.

Large rainfall events can lead to rapid filling of the topsoil profile which is then provided to the vine with little resistance. The soils can be drought prone when the subsoil is dried out and supplementary irrigation is normally required in most years to avoid this scenario.

The climate at this location is typical of most of the Barossa Valley except for the regular cooling gully winds that start blowing at dusk and stop around dawn. These provide relief to the vines after a hot day and help preserve acid levels and flavour compounds which leads to grape composition of good natural acid balance and vibrant flavour, something not always achievable at other sites away from the foothills.



3a Barossa Ridge Cabernet Sauvignon

Full ripeness of Cabernet Sauvignon in the Barossa Valley is easily achieved, however, not many sites can provide the delicate and refined varietal characters of Cabernet Sauvignon. Sites along the eastern foothills of the Barossa Valley are, however, capable to maintaining the cooler climate varietal characters of Cabernet

Sauvignon because of the cooling gully winds. In addition, this variety does benefit from the sandy sites that have a regular soil moisture regime which enables constant flavour development and diminishes any unpleasant over-ripe 'cooked' characters that can cause the resultant wines to lose their varietal definition.



3b Barossa Ridge Cabernet Franc

As with Cabernet Sauvignon the same elements, soil and climate, assist in the production of well structured Cabernet Franc wine with pronounced varietal definition.

3c Barossa Ridge Merlot

Merlot does particularly well on sands at Vine Vale for the same reasons as specified with the other Cabernets.

Merlot can be temperamental in setting consistently and will shatter in cold windy conditions or periods of stress. Research has also shown that the deficiency of element Molybdenum in many Merlot blocks is also a contributing factor to poor fruit set.

Fortunately the use of American rootstocks assists in overcoming this issue. The Merlot is planted on rootstock K51-32 which also provides resistance to the nematode numbers which are often at naturally high levels on the 'Nuraip Sands'.

3d Barossa Ridge Shiraz

The major element having an effect on the Shiraz grape composition and resultant wine style is the physical characteristics of the 'Nuraip Sand'.

The Shiraz berries tend to be a little bigger in size due to the soil's ability to provide water to the vine on demand. Stress periods are, as a result, less common and the flavour profile provides more berry fruit characters with perfumed aromas. The wines tend to be of a medium to full bodied nature.

4 Old Ben Vineyard – Region Eden Valley

Situated in the High Eden Valley, this vineyard boasts 10 acres of approximately 100 year old Shiraz, and another 10 acres of mature vineyard, and is the latest addition to the Maverick's terroirs. As we will be beginning to work the vineyard from May 2007, we cannot yet give the same analysis as we have been able to for the other vineyards. However, we are quite sure that it is another jewel in the Maverick Crown! Some photographs will hopefully give a feel for the vineyard.





5. Maverick's Winery

This is situated on the Barossa Ridge vineyard, right next to our 150 + year old Riesling. Although the site is steeped in Barossa history, we embrace a combination of both traditional and modern wine making techniques. Barrels are 100% premium French oak, and have been chosen to give the perfect expression to the unique Maverick terroirs from which all our grapes and wine derive.

