THE BAROSSA VALLEY

Prepared by officers of the
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The township of Bethany – site of the first settlement in the Barossa Valley in 1842.

Introduction

The Barossa Valley, the largest wine producing district in Australia, covers an area of some 65 000 hectares. The district was settled in the 1840's mainly by German protestants from around Silesia in eastern Germany. They had objected to changes in their church necessitated by the unification of the Lutherans as an initial step in the union of separate German states into the Prussian nation.

These settlers were farmers with no previous knowledge of viticulture. Most of them took up grape growing when the opportunity occurred around 1900 as a result of the destruction of the Victorian vine industry by the vine root aphid Phylloxera. However, some vines were grown in the Valley from the very beginning by Smiths, Gramps and Seppelts.

The Valley took its name from the Angaston-Williamstown hills which were named Barossa Ranges by Colonel Light, the founder of Adelaide.

The town Lyndoch, and the hills were named to honour Lord Lynedoch (General Graham) with whom Colonel Light served in the Peninsula Wars about 1800. The Battle of the Barrosa is a locality just outside Cadiz in southern Spain. (Note both names have been misspelt. Ref. Dutton "The Founder of a City").

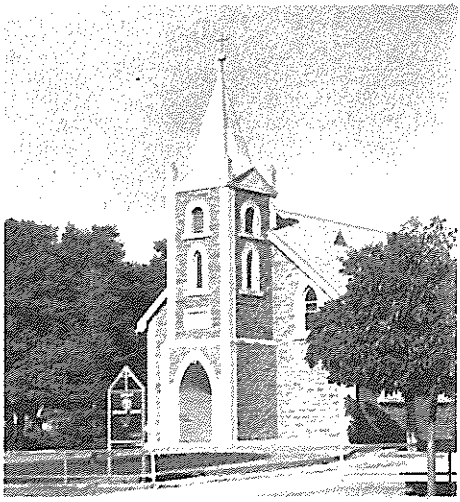
Angaston was named after George Fyfe Angas, a business man with strong

religious principles who financed the early transport of German families to South Australia. Members of his family are still farming in the district.

The population of the Barossa Valley is approximately 12,000, most of whom live in the three main towns, Nuriootpa, Tanunda and Angaston, each with a population of more than 2,000. Other important towns are Lyndoch, Greenock and Williamstown.

Geology

The Valley is a basin in Torrensian Series and Kanmantoo rocks of the Adelaide System and was formed by a probable late Tertiary or Quaternary dipping fault resulting in a steep escarpment to the east and gentle rises to the west. The basin has been partly filled with Quaternary lacustrine and fluviatile sediments varying from clays to coarse gravels. The Tertiary basin deposits are frequently lignitic and may be contemporaneous with the laterized and ferruginous cappings of Tertiary sands, clays and gravels found on the western slopes of the basin.



Lutheran Church at Bethany — one of the many well preserved churches in the area.

The form of the valleys as well as the lacustrine nature of the deeper sediments suggests a former system of lakes variously bounded, drained and connected by successive phases of Tertiary and Quaternary earth movements.

Topography

The dominant topographical features of the area are the generally flat plains, bounded by a steep gradient to the east with hills rising over 600 metres, and by gentler slopes and elevations less than 300 metres to the west. The most prominent features on the east side of the Valley are Mount Kitchener (599 m) which is also known locally as Kaiser Stuhl, and Pewsey Peak (629 m). Longitudinally the Valley may be divided into three distinct sections as follows:

(1) The northern section comprises the broad flat Tanunda-Nuriootpa Plains bounded on the west by the Greenock hills, to the east by the Angaston hills, and to the north by a poorly defined watercourse in the Dimchurch area. The southern boundary is Tanunda Creek.

(2) South from Tanunda Creek through Rowland Flat to Altona the valley is less flat and has a steeper gradient toward the North Para River. Near Rowland Flat the river bends sharply to the north west, where it has cut a gorge 60 metres deep.

(3) A water shed near Altona is the beginning of westerly drainage toward

General view of the Northern Plain with the Greenock Hills in the background.

River red-gums *(Eucalyptus camaldulensis)* line the many water courses which drain the western face of the Barossa Hills.

Lyndoch where the valley again widens to join Tweedies Gully and the adjacent Hoffnung Lagoon, as well as the gullies from the west.

Climate

The Barossa Valley is favoured by Mediterranean type climate of mild, wet winters, warm to hot dry summers and a rather unreliable rainfall of some 530 mm a year, rising to 635 mm in the ranges. Some 75 per cent of the rain falls in April through to October. The mean rainfall season varies from 7.2 to 7.7 months.

Mean monthly temperatures range from 8°C in July to 21°C in January.

The mean maxima range from 13°C in June and July to 29°C in January — the mean minima range from 4°C in June and July to 13°C in January. Frosts occur at any time in April through to November and are a hazard to vine and fruit trees in spring. Hot spells with temperatures over 38°C are a feature of the summer weather.

The prevailing winds and those of high velocity come from the western quarter, particularly in late winter, spring and early summer. Sand drift on the lighter soils sometimes results in damage to vines.

Vegetation

Only scattered remnants of the original vegetation survive. The river red gum *(Eucalyptus camaldulensis)* is prominent along the main drainage lines, the North Para River, Tanunda Creek and Jacobs Creek.

Blue gums *(E. leucoxylon)* and peppermint gums *(E. odorata)* were once prominent on the plains, and are still common in the foothills ajoining the Valley. Wirilda *(Acacia retinodes)* and golden wattle *(A. pycnantha)* are representative of the widespread *Acacia* genus.

On the deeper sandy soils, native pine *(Callitris columollaris)* occurs in dense stands, and is frequently associated with a mallee *(Eucalyptus incrassata)*.

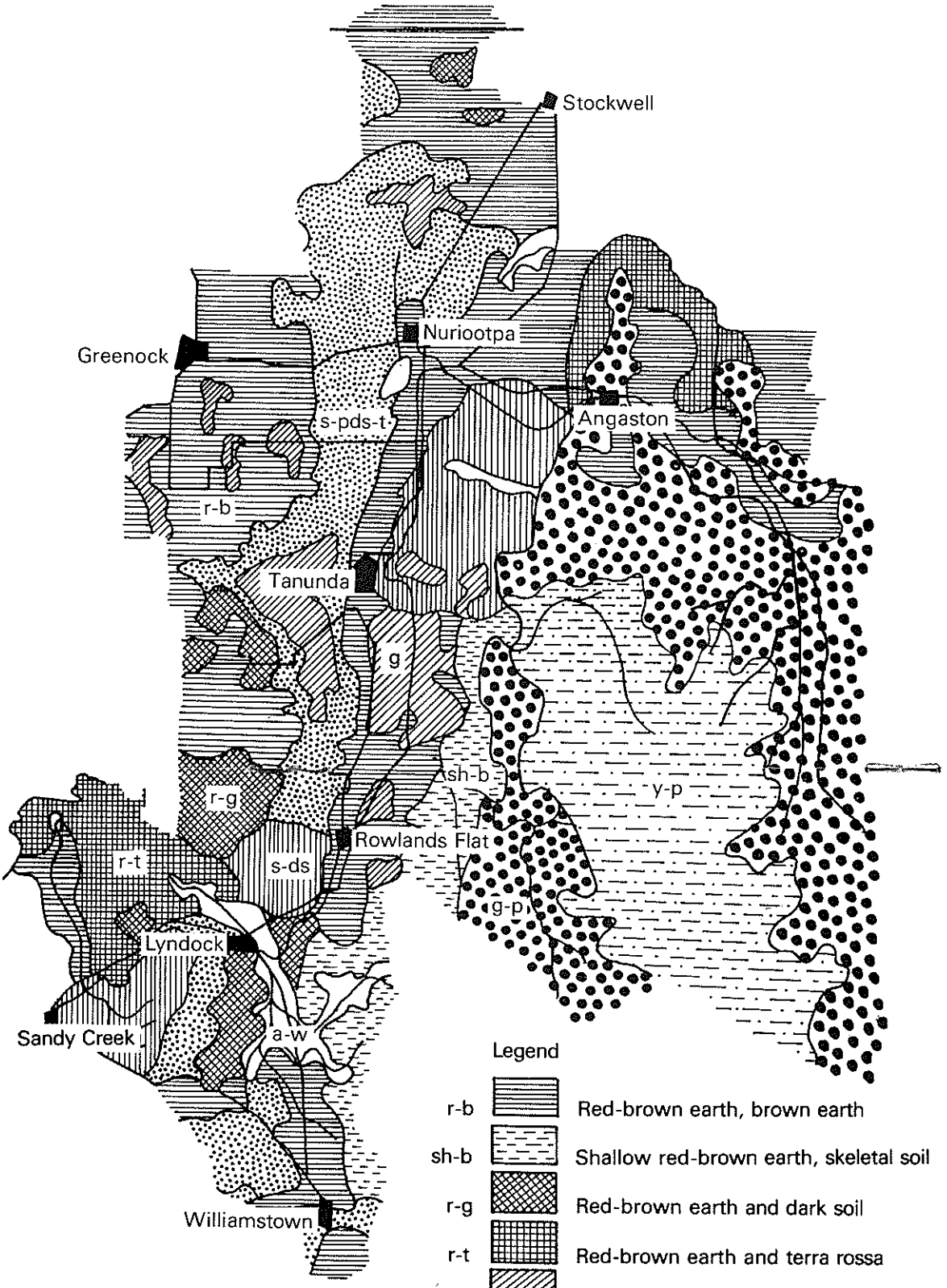
Soils

The laterization which took place in the Tertiary had important effects on the soils. During this period much of the area consisted of a flat plain with a few quartzite peaks. The later earth movements gave rise to the present line of hills, leading to a new erosional cycle. Most of the old peneplain was removed, only a few remnants remaining south west of Tanunda. The underlying rocks of the Sturtian or Torrentian series were again freshly exposed to soil formation.

Therefore whereas the Tertiary remnants of the slopes encircling the plains were exposed to the rigours and leaching of the climate of the late Tertiary, the newly exposed older rocks of the surrounding hills were protected from all this by the overlying sediments. Hence today the soils of the hills are loamy and fertile, in contrast to the sandy, much less fertile soils encircling the plain. The soils on the plain itself are derived from material laid down after the period of laterization, and are loamy and fertile.

The soil pattern is extremely variable. The chief soils are red-brown earths, solods, solodized solonetz, grey soil of heavy texture, terra rossa, deep sands, grey-brown podzolic, yellow podzolic, wiesenboden and skeletal.

Soils of Barossa Valley



A typical profile for a red-brown earth developed on old alluvial material near Nuriootpa. These soils are common in the Nuriootpa-Light Pass area and are highly productive viticultural soils.

A soil map of the Barossa Valley and surrounding areas has been included in the centre of this booklet.

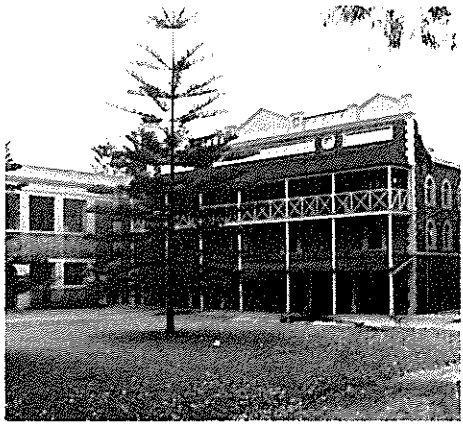
Viticulture

The Barossa Valley has about 8000 hectares of vines out of the State's total of 28 500 hectares. Virtually all the grapes grown in the Barossa are for wine production. The yield under dryland conditions is low, about 5 tonnes/hectare, compared with a yield of 15 tonnes/hectare in the River Murray irrigated districts. The yield is low but the quality is high and grapes from the Barossa are essential to maintain the general level of wine quality in the State. Best vineyards in both areas produce double these average yields.

Most grapes are grown by dry farming methods and careful conservation of soil moisture is essential. However, supplementary irrigation from bores, streams and dams is used wherever water is available. By contrast, fertiliser treatment is so far of minor importance.

The area is comparatively free of pests and diseases. The main disease is powdery mildew and about one third of the vineyards would receive sulphur dust treatment. Insect pests such as cutworms and caterpillars occasionally need control.

South Australia produces 75 per cent of Australia's wine. The Barossa Valley produces more than half of South Australia's wine from grapes grown in the Barossa and Murray areas.



Seppeltsfield winery — established in 1851.

A large contoured vineyard near Eden Valley. Contoured layout is essential to prevent erosion.

Grape varieties

The important grape varieties grown in the Barossa include: Riesling and Semillon for white table wines; Cabernet Sauvignon for distinctive red table wines; Shiraz for good red table wines and port; Pedro Ximenes and Palomino for dry sherry; Grenache, Doradillo and others for grape spirit and brandy.

Recently there has been a steady demand for quality table wine varieties and this trend is likely to continue.

Wine making

There are a number of large wineries and many more smaller units – over 30 in the Barossa Valley.

All of the larger wineries produce a full range of wines, but the smaller ones concentrate on a few special lines.

Wine types

1. Fortified wines – Spirit added to bring alcohol content to about 20 per cent by volume.

    a. "White" – includes sherries, muscat cocktails, vermouth etc.

    b. "Red" – port, marsala.

2. Table wine – Alcohol content 8-12 per cent.

    a. 'White" – includes riesling, moselle, hock, etc.

b. "Red" — includes claret, burgundy.

c. Sparkling:

- Champagne — secondary fermentation in the bottle.
- Pearl wines — secondary fermentation in sealed tanks, then bottled cold to retain the gas. These wines are not carbonated.

3. Brandy — Alcohol level about 40 per cent by adding proof spirit. "Proof brandy" is 57 per cent by volume. To convert "Proof" to per cent by volume multiply by 100 and divide by 175.

Other production

The second fruit crop in the Barossa is apricots which once played an important role in the Valley's commerce. The fungus disease gummosis *(Eutypa armeniacae)* has made serious inroads on apricot production in recent years and many orchards have now been replanted with vines. Prunes, peaches, pears and apples were also important fruit crops but their importance is diminishing. These fruits are sold fresh, dried or glace.

Vegetables, particularly carrots and onions, are grown in considerable quantities. Egg production is an important industry. Approximately 25,000 dozen eggs per week are forwarded through the local collection service.

Cereals are of minor importance, but beef and dairy cattle and sheep are important income earners.

Mineral production

Marble occurs in large deposits near Angaston. Some is used for monumental purposes, but most is used for cement production and the manufacture of alkali.

I.C.I. mine approximately 650 000 tonnes per year. Of this total, 315 000 tonnes is sent to Port Adelaide for the manufacture of alkali and 100 000 tonnes is used for road building, gravel, flux, etc. A further 240,000 tonnes is used in cement production.

Brighton Cement Co. produce 200 000 tonnes of cement and 15 000 tonnes of lime annually.

Brighton cement works near Angaston.