DEPARTMENT OF MINES
SOUTH AUSTRALIA

GROUNDWATER SURVEY

Section 82, Hundred of Laffer

- A.E. Lush -

by

O.J.W. BOWERING
ASSISTANT SENIOR GEOLOGIST
S.E. REGIONAL OFFICE

4th May, 1973

Rept.Bk.No. 73/122
G.S. No. 5127
Hyd. No. 2539
D.M. No. 392/73

CONTENTS	PAGE
INTRODUCTION	1
HYDROGEOLOGY	1
RECOMMENDATIONS	2

DEPARTMENT OF MINES
SOUTH AUSTRALIA

Rept.Bk.No. 73/122
G.S. No. 5127
Hyd. No. 2539
D.M. No. 392/73

GROUNDWATER SURVEY

Section 82, Hundred of Laffer

INTRODUCTION

In response to a request by Mr. A.E. Lush, a groundwater survey was made of section 82 of the Hundred of Laffer. The property is located approximately 10 miles southwest of Keith. A water supply of approximately 50 000 g.p.h. is required for the purpose of irrigating lucerne.

HYDROGEOLOGY

Section 82 consists partly of flat country, suitable for irrigation and partly of dune country. Low sand dunes of Molineaux sand intrude into the eastern boundary and extend across the southern half of the section. A portion of stranded coastal dune, consisting of Bridgewater Formation, cuts across the northeastern corner of the section. The property is largely situated between the Black Range and another unnamed coastal dune to the east.

Beneath the dune ranges and Molineaux sand is the Coomandook Formation, a medium grained, grey to cream calcareous sand. Being generally clayey, it is not regarded as being

a good aquifer. Throughout part of this general area, a thin section of Morgan Limestone(?) lies beneath the Coom andook Formation. It consists almost entirely of coralline fossiliferous fragments and varies in part to marl or calcareous clay. Some supplies of good to fair quality water are obtained from this unit in the general area. This formation may or may not be present beneath Section 82, the property being located near the western erosional edge of the Morgan Limestone. Sediments of the Knight Group are presumed to be absent from Section 82, the property being located in an area from which these sediments have either been eroded or were not deposited.

Recharge to the aquifers, particularly the shallower, is derived from rainfall in the surrounding district. Groundwater salinities in the district range from 1000 to 15000 milligrams per litre. The water table in Section 82 is approximately 2 to 3 metres below the surface.

RECOMMENDATIONS

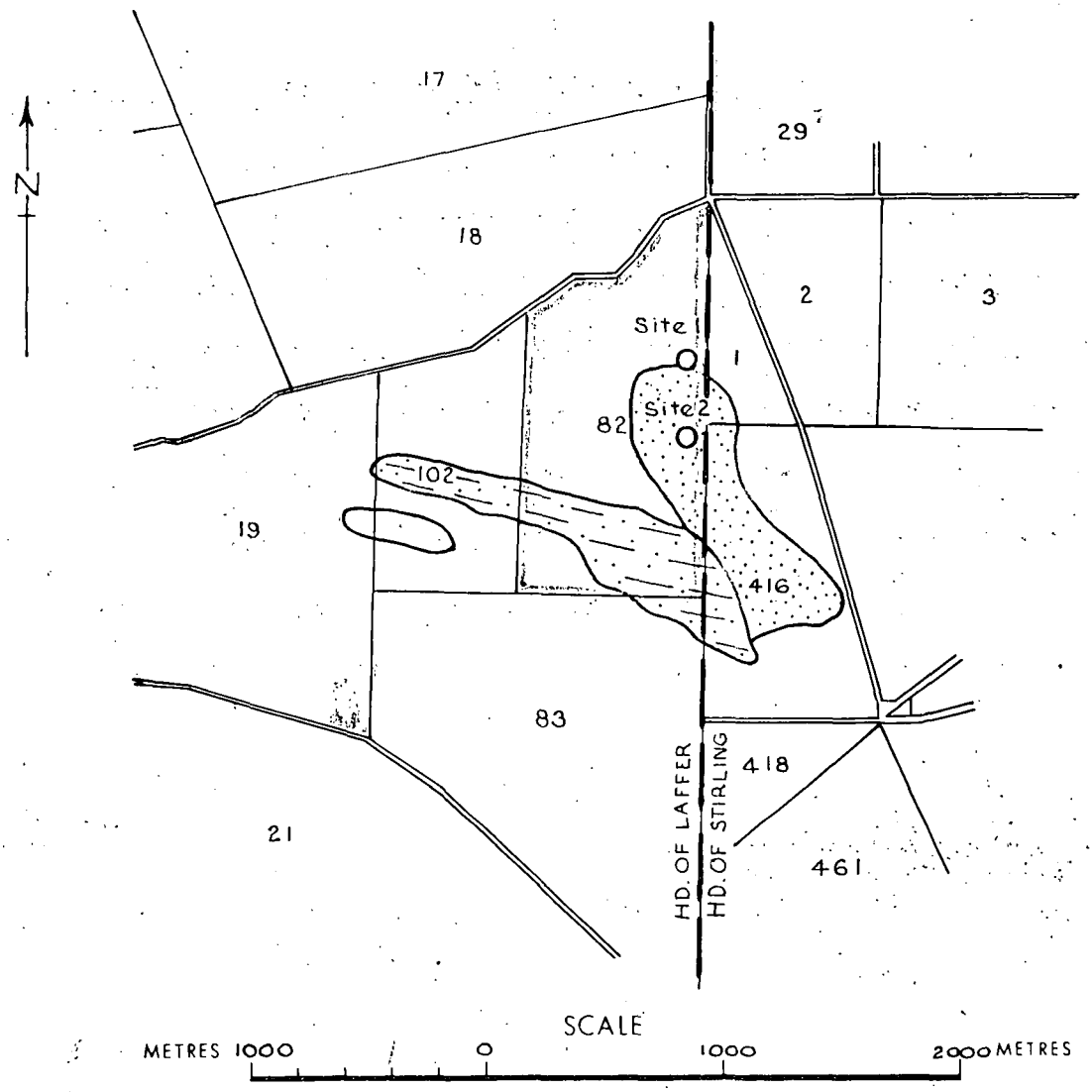
Two alternative sites are presented and are shown on the accompanying plan. Site 1 is in a small gully on the eastern boundary of Section 82. It is located on the northern side of a fence near a road sign marked "Crest". Fair quality water should be available in the desired quantity from sandstones of the Coomandook Formation. The shallower water in this area generally improves in quality to the east and

deteriorates quite markedly to the west.

Site 2 is situated approximately ½ mile south of Site 1, also on the eastern boundary of the property. It is approximately 40 metres from the fence, just downhill from a small shallow quarry. At this location, water should be available from the Bridgewater Formation. Experience in other areas of the South-East has shown that, if the shallow groundwater is unsuitable as regards quality, then deeper drilling may yield good supplies of better quality water.

4th May, 1973
OJW:IA

O.J.W. BOWERING
ASSISTANT SENIOR GEOLOGIST



LEGEND

Bridgewater Formation

Molineaux Sand

Existing borehole — 160 —Depth in metres; 2015 —Salinity in milligrams per litre; 5000 —Supply in litres per sec.; 2-72 —Month, year

Well

Spring

Abandoned borehole

Proposed boresite

Strike and dip of bedding 60

Strike and dip of jointing 50

Strike and dip of foliation 35

Strike and dip of cleavage 45

Geological boundary

Fault line

Drainage lines

Surface storage

DEPARTMENT OF MINES - SOUTH AUSTRALIA

HYDROGEOLOGY SECTION	GROUNDWATER SURVEY SEC. 82 HD. LAFFER A.E. LUSH.	Date 26 April 1973
Compiled. J. Bowering		Drg.No. S10293
Drn. R.B. | Ckd. A.F.		Ka5

P.F. No. S7359A MH