

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

REPT. BK. NO. 89/13

ANGAS BREMER IRRIGATION AREA OBSERVATION
WELL DRILLING MARCH 1988

GEOLOGICAL SURVEY

by

S.R. HOWLES

FEBRUARY, 1989

DME 166/79

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Rpt Bk No 89/13
DME No 166/79
Disk No E00064

ANGAS BREMER IRRIGATION AREA
OBSERVATION WELL DRILLING MARCH 1988

S.R. HOWLES

ABSTRACT

Three new observation wells monitoring the Tertiary confined limestone aquifer underlying the Angas Bremer irrigation area have been completed.

INTRODUCTION

On-going hydrogeological investigations and data collection in the Angas Bremer irrigation area (Figure 1) require continued installation of observation wells. In March 1988 funds became available and three sites were chosen in consultation with J. Reed of the Water Resources Branch, Engineering and Water supply Department. These are considered to be of strategic importance for water level and salinity information for use in calibrating the computer model of the area. Extensive field checking failed to locate suitable alternative wells.

DRILLING

Drilling was carried out using the Department's Rotary Portadrill from 9/3/88 to 12/3/88.

Drilling took place adjacent to:

Section 515 Hd of Bremer
Section 328 Hd of Freeling
Section 165 Hd of Freeling

The intention being to install observation wells in the confined limestone aquifer underlying the area.

Locations of the observation wells at 1:50000 scale are shown on Figure 2.

Details of the observation wells, lithological logs and full analysis are given in Appendix A, B and C, respectively.

RECOMMENDATIONS

Further drilling is recommended within the proclaimed area at sites to be determined by discussion with J. Reed where information vital for correct calibration of the computer modelling exercise is required.

SRH/HG

S. Howles

Appendix A

Construction Details

Well specifications 6627-35-7829

observation No:	BRM 180
permit No:	94902
Hundred:	Bremer
Section:	adj.515
completed:	10/3/88
total depth (m):	57
final depth (m):	57
casing type:	PVC
casing diameter (mm):	100
casing interval (m):	0 - 45
linatex seal (m):	39
pressure cementing (m):	0 - 39
screen type:	slotted PVC
screen interval (m):	45 - 51
screen apperture (mm):	1
aquifer monitored:	confined limestone
final SWL (m):	17.22
final salinity (EC):	4000 (field)
estimated yield (L/s):	1

Well specifications 6727-30-2311

observation No:	FRL 156
permit No:	94903
Hundred:	Freeling
Section:	adj.328
completed:	11/3/88
total depth (m):	28.7
final depth (m):	28.7
casing type:	PVC
casing diameter (mm):	100
casing interval (m):	0 - 22.7
linatex seal (m):	16.7
pressure cementing (m):	0 - 16.7
screen type:	slotted PVC
screen interval (m):	22.7 - 28.7
screen apperture (mm):	1
aquifer monitored:	confined limestone
final SWL (m):	15.8
final salinity (mg/L):	9449
estimated yield (L/s):	0.5

Well specifications 6727-31-2313

observation No:	FRL 158
permit No:	94904
Hundred:	Freeling
Section:	adj.165
completed:	12/3/88
total depth (m):	28
final depth (m):	28
casing type:	PVC
casing diameter (mm):	100
casing interval (m):	0 - 22
linatex seal (m):	16
pressure cementing (m):	0 - 16
screen type:	slotted PVC
screen interval (m):	22 - 28
screen apperture (mm):	1
aquifer monitored:	confined limestone
final SWL (m):	8.8
final salinity (EC):	6000 (field)
estimated yield (L/s):	--

Appendix B

Lithological logs

Appendix C

Full analyses

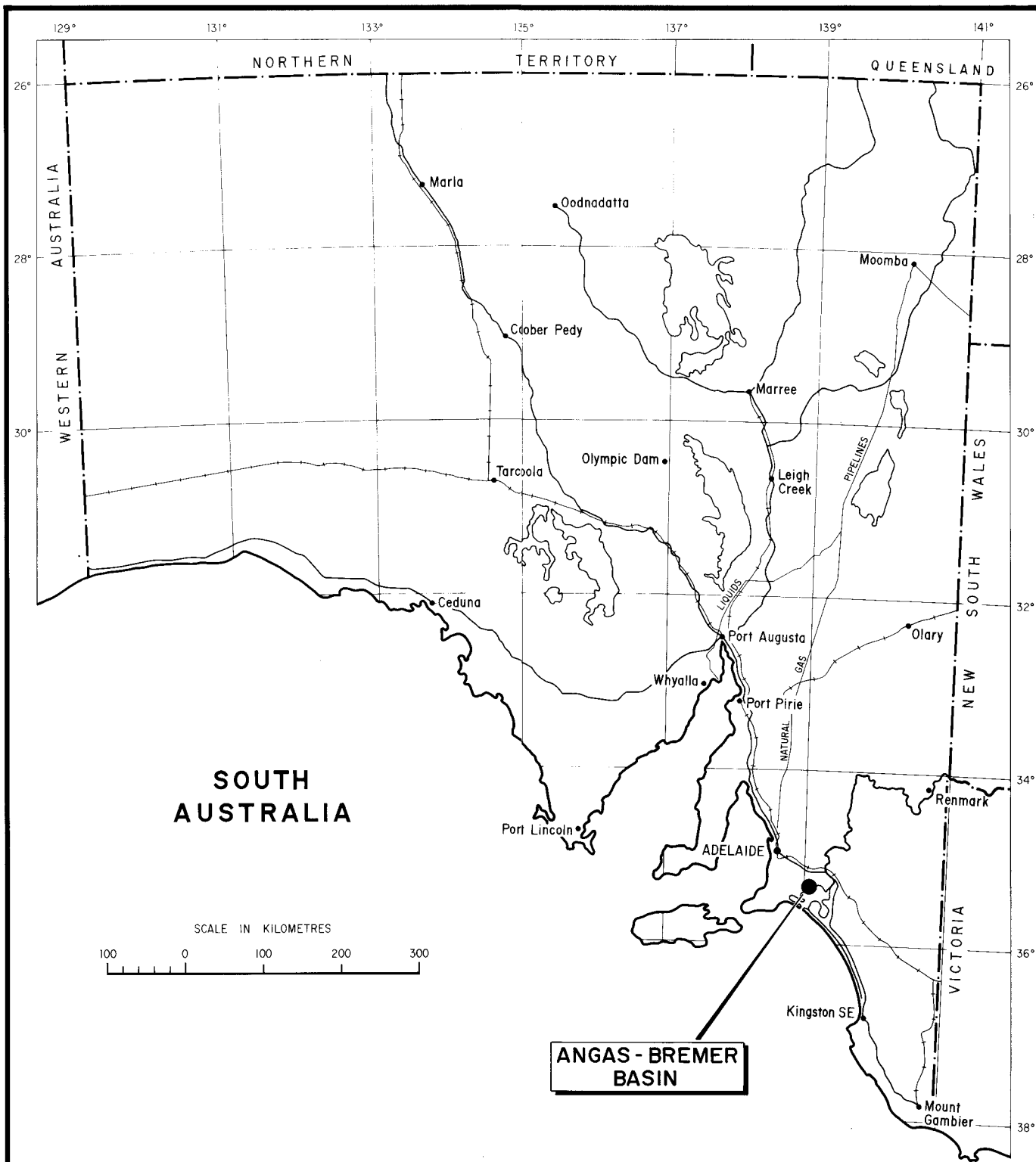


Figure.....1



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ANGAS - BREMER IRRIGATION AREA
OBSERVATION WELLS DRILLED MARCH 1988
LOCALITY PLAN

COMPILED
S. H.

MR 31.1.92
C.D.O. DATE

DRAWN
R. B.

SCALE As shown

DATE
Jan. 1989

PLAN NUMBER

CHECKED

S20632

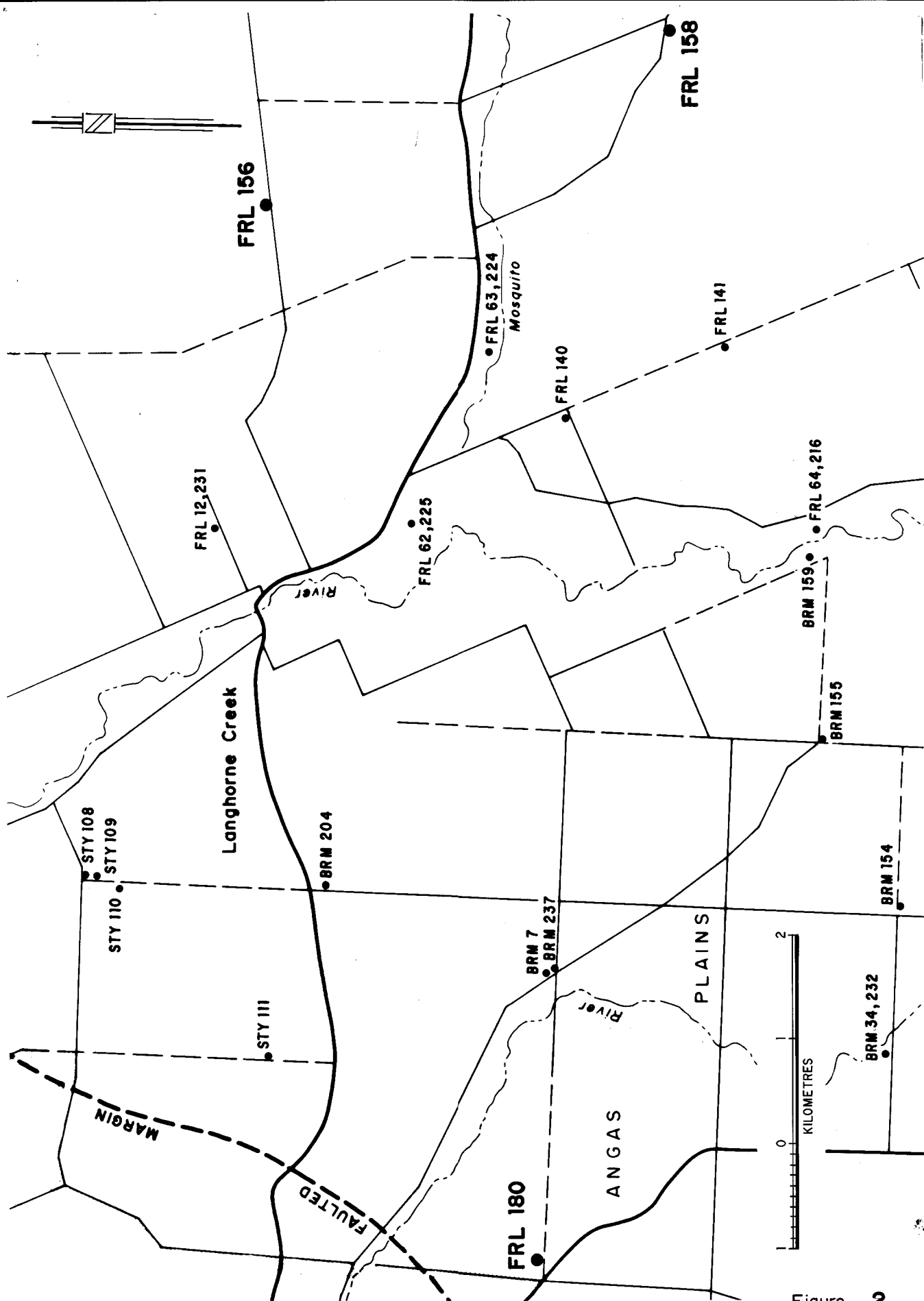


Figure..... 2



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ANGAS-BREMER IRRIGATION AREA
LOCATION OF OBSERVATION WELLS
DRILLED MARCH 1988

COMPILED
S.H.

31-1-92
C.D.O. DATE

DRAWN
R.B.

SCALE As shown

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