

**Petroleum and Geothermal Energy Act 2000
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 208, 209 AND 210**

1. Consolidation of the adjacent licence areas of GELs 208, 209 and 210, whereby the consolidated licence area is now designated as GEL 208 is hereby entered on the public register.

The total area of GEL 208 is now 1,496 square kilometres approximately.

2. Revocation of GELs 209 and 210 is hereby entered on the public register.



**BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources
Development**

Date: 17 November 2009

Ref: 27/2/341
27/2/342
27/2/343

Petroleum and Geothermal Energy Act 2000

Consolidation of licence areas Geothermal Exploration Licences GELs 208, 209 and 210

Revocation of licences Geothermal Exploration Licences GELs 209 and 210

I, BARRY ALAN GOLDSTEIN, Director Petroleum and Geothermal, Minerals and Energy Resources, Department of Primary Industries and Resources, in the State of South Australia, pursuant to section 82 of the *Petroleum and Geothermal Energy Act 2000* and all other enabling powers, for and on behalf of Paul Holloway, Minister for Mineral Resources Development (Minister), pursuant to delegated powers dated 1 October 2009, hereby;

1. consolidate the adjacent areas of Geothermal Exploration Licences GELs 208, 209 and 210 held by –

Geothermal Resources Limited ACN 115 281 144

The consolidated licence area shall hereafter be designated as:

Geothermal Exploration Licence GEL 208

DESCRIPTION OF CONSOLIDATED AREA

All that part of the State of South Australia, bounded as follows:-

Commencing at a point being the intersection of latitude 31°09'00"S GDA94 and longitude 139°41'00"E GDA94, thence east to longitude 139°58'00"E GDA94, south to latitude 31°29'00"S GDA94, west to longitude 139°41'00"E GDA94, south to latitude 31°39'00"S GDA94, east to longitude 139°56'00"E GDA94, south to latitude 31°44'00"S GDA94, west to longitude 139°38'00"E GDA94, north to latitude 31°37'00"S GDA94, west to longitude 139°36'00"E GDA94, north to latitude 31°36'00"S GDA94, west to longitude 139°34'00"E GDA94, north to latitude 31°26'00"S GDA94, east to longitude 139°41'00"E GDA94, and north to the point of commencement.

AREA: **1,496** square kilometres approximately

2. consequently revoke Geothermal Exploration Licences GELs 209 and 210.

As a consequence of the consolidation, the work program forming 'Condition 1' of the consolidated GEL 208 comprises:

Year of Term of Licence	Minimum Work Requirements
One	<ul style="list-style-type: none">• Geological and geophysical studies.
Two	<ul style="list-style-type: none">• Drill two shallow holes.
Three	<ul style="list-style-type: none">• Drill two shallow holes.
Four	<ul style="list-style-type: none">• Review of pilot hole results and decision on drilling production wells.
Five	<ul style="list-style-type: none">• Geological and geophysical studies.

Dated: 17 Nov. 09



BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources
Development

The following signature evidences the consent of the licensee to the consolidation of GELs 208, 209 and 210 as set out in this document and made pursuant to Section 82 of the *Petroleum and Geothermal Energy Act 2000*.

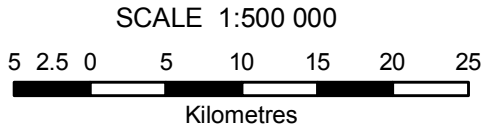
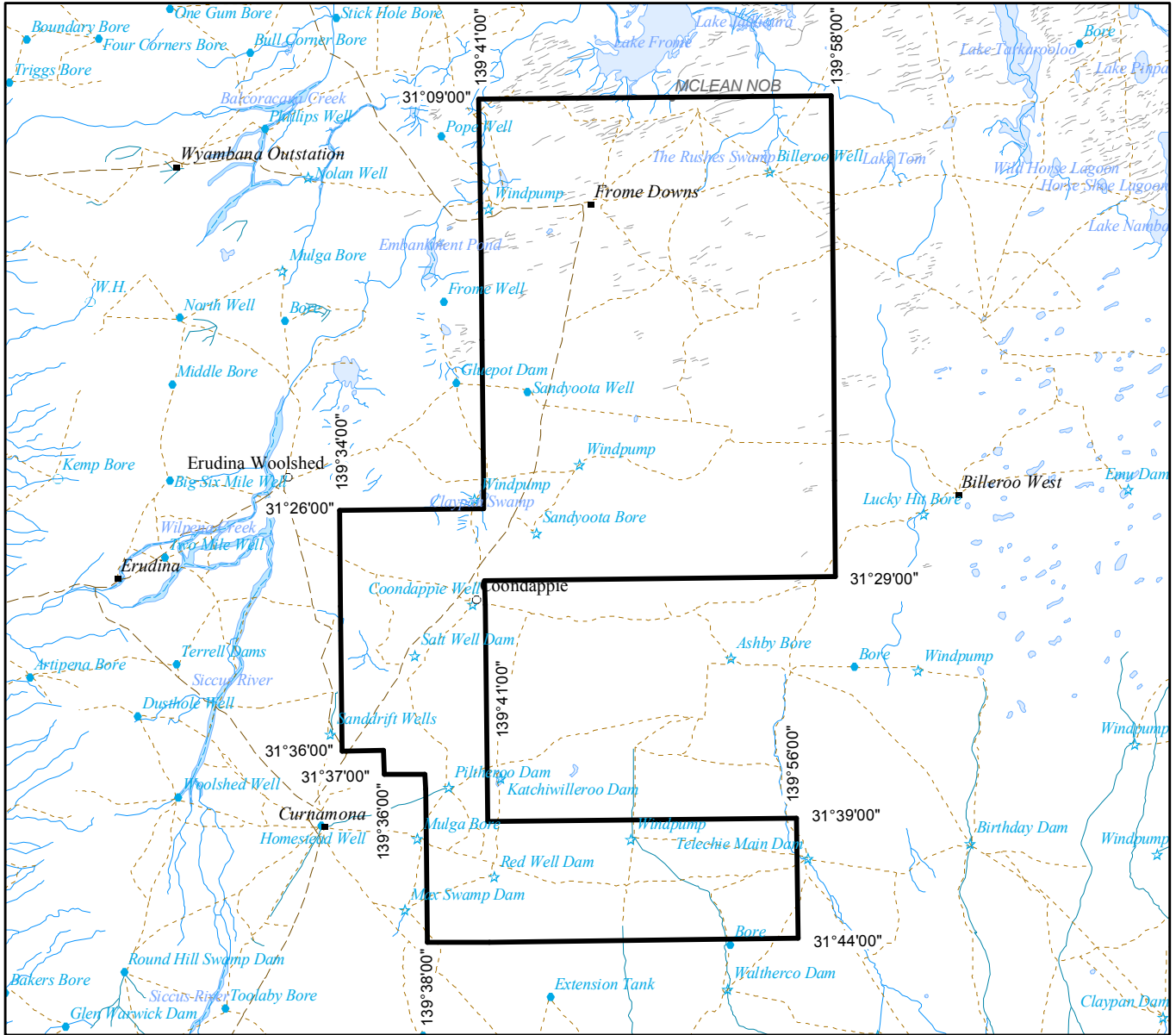
Signed for and on behalf of **Geothermal Resources Limited** by its authorised representative:

Date: 9/11/2009


Authorised Representative

Dr. Geoff STOLZ
Name

Project Manager
Position



Note: There is no warranty that the boundary of this licence is correct in relation to other features of the map. The boundary is to be ascertained by reference to the Geocentric Datum of Australia (GDA94) and the schedule.

THE PLAN HEREINBEFORE REFERRED TO

GEOHERMAL EXPLORATION LICENCE NO: 208

PETROLEUM ACT 2000

*Suspension of Geothermal Exploration Licences—
GEL 208, GEL 209 and GEL 210*

PURSUANT to section 90 of the Petroleum Act 2000, notice is hereby given that the abovementioned Geothermal Exploration Licences have been suspended under the provisions of the Petroleum Act 2000, for the period from and including 11 August 2008 to 21 November 2008, pursuant to delegated powers dated 28 March 2002, *Gazetted* 11 April 2002, page 1573.

The expiry date of Geothermal Exploration Licences GEL 208, GEL 209 and GEL 210 is now determined to be 21 November 2010.

Dated 9 December 2008.

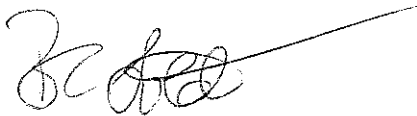
B. A. GOLDSTEIN,
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral
Resources Development

**Petroleum Act 2000
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 181, 208, 209 and 210**

1. Variation of licence conditions is hereby entered on the public register.



**BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development**

Date: 9 December 2008

Ref: 27/2/306
27/2/341
27/2/342
27/2/343

Petroleum Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCES GELs 208, 209 and 210

I, BARRY ALAN GOLDSTEIN, Director Petroleum and Geothermal, Minerals and Energy Resources, Department of Primary Industries and Resources in the State of South Australia, pursuant to section 25 of the *Petroleum Act 2000* and all other enabling powers, for and on behalf of Paul Holloway, Minister for Mineral Resources Development (Minister), pursuant to delegated powers dated 28 March 2002, Gazetted 11 April 2002, page 1573 hereby vary the conditions of Geothermal Exploration Licences GEL 208, 209 and 210 held by-


Geothermal Resources Limited
ACN 115 281 144

Condition 1 of the licences is omitted and the following substituted:

- " 1. During the term of the licence, the Licensee shall carry out or cause to be carried out, exploratory operations on the area comprised in the licence in accordance with such work programs as are approved by the Minister from time to time. Year one exploratory operations are guaranteed, and any subsequent licence year work program becomes guaranteed upon entry into any such licence year. These exploratory operations shall include but not necessarily be limited to:-

Year of Term of Licence	Minimum Work Requirements
One	<ul style="list-style-type: none">• Geological and geophysical studies.
Two	<ul style="list-style-type: none">• Drill two shallow holes.
Three	<ul style="list-style-type: none">• Drill two shallow holes.
Four	<ul style="list-style-type: none">• Review of pilot hole results and decision on drilling production wells. <i>Year 4 work program to be conducted anywhere within the boundaries of GELs 181, 208, 209 and 210.</i>
Five	<ul style="list-style-type: none">• Geological and geophysical studies. <i>Year 5 work program to be conducted anywhere within the boundaries of GELs 208, 209 and 210.</i>

Dated: 9 December 2008



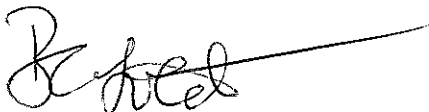
BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development

**Petroleum Act 2000
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GEL 208, GEL 209 and GEL 210**

1. Suspension of licence from and including 11 August 2008 to 21 November 2008 is hereby entered on the public register.
2. The expiry date of GEL 208, GEL 209 and GEL 210 is now 21 November 2010.



**BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development**

Date: 9 December 2008

Ref: 27/2/341
27/2/342
27/2/343

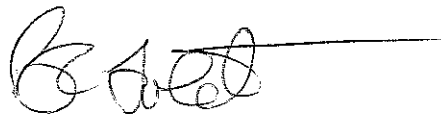
Petroleum Act 2000
S.90

**SUSPENSION OF
GEOTHERMAL EXPLORATION LICENCES
GEL 208, GEL 209 and GEL 210**

I, BARRY A. GOLDSTEIN, Director Petroleum and Geothermal, Minerals and Energy Resources, Department of Primary Industries and Resources, in the State of South Australia, pursuant to the provisions of the *Petroleum Act 2000* and all other enabling powers, for and on behalf of Paul Holloway, Minister for Mineral Resources Development (Minister), pursuant to delegated powers dated 28 March 2002, Gazetted 11 April 2002, page 1573 –

- (a) suspend geothermal exploration licences GEL 208, GEL 209 and GEL 210 for the period from and including 11 August 2008 to 21 November 2008.
1. No regulated activities are permitted to be carried out during the period of the suspension.
 2. The expiry date of GEL 208, GEL 209 and GEL 210 is now determined to be 21 November 2010.

Dated: 9 December 2008



BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development

**Petroleum Act 2000
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 181, 208, 209, 210, 214, 215, 216,
217, 222, 249 AND 250**

1. Notation of receipt of security in the form of a Bank Guarantee dated 26 September 2006 is hereby entered on the public register.
2. Security is held to cover any single event occurring in any licence held and operated by Geothermal Resources Ltd in South Australia.
3. Bank guarantee dated 5 June 2006 that was held as security to cover geothermal exploration licences 181, 208, 209, 210, 214, 215, 216 and 217 is hereby discharged to Geothermal Resources Limited.



**BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral
Resources Development**

Date: 1 November 2006

File: 27/2/306
27/2/341
27/2/342
27/2/343
27/2/363
27/2/364
27/2/365
27/2/366
27/2/372
27/2/408
27/2/409

Petroleum Act 2000
S.115

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GEL 181, GEL 208, GEL 209, GEL 210, GEL 214, GEL 215,
GEL 216 and GEL 217**

1. Notation of receipt of Security is entered on the public register.



**BARRY A. GOLDSTEIN
Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources
Development**

Date: 12 July 2006

File: 27/2/306
27/2/341
27/2/342
27/2/343
27/2/363
27/2/364
27/2/365
27/2/366

PETROLEUM ACT 2000

Grant of Geothermal Exploration Licences—GEL 208, GEL 209 and GEL 210

NOTICE is hereby given that the undermentioned Geothermal Exploration Licences have been granted under the provisions of the Petroleum Act 2000, pursuant to delegated powers dated 28 March 2002, *Gazetted* 11 April 2002, page 1573.

No. of Licence	Licensees	Locality	Area in km ²	Reference
GEL 208	Geothermal Resources Limited	Arrowie Basin area	498	27/2/341
GEL 209	Geothermal Resources Limited	Arrowie Basin area	499	27/2/342
GEL 210	Geothermal Resources Limited	Arrowie Basin area	500	27/2/343

Description of Area—GEL 208

All that part of the State of South Australia, bounded as follows: Commencing at a point being the intersection of latitude 31°19'00"S GDA94 and longitude 139°41'00"E GDA94, thence east to longitude 139°58'00"E GDA94, south to latitude 31°29'00"S GDA94, west to longitude 139°41'00"E GDA94 and north to the point of commencement.

Area: 498 km² approximately.

Description of Area—GEL 209

All that part of the State of South Australia, bounded as follows: Commencing at a point being the intersection of latitude 31°09'00"S GDA94 and longitude 139°41'00"E GDA94, thence east to longitude 139°58'00"E GDA94, south to latitude 31°19'00"S GDA94, west to longitude 139°41'00"E GDA94 and north to the point of commencement.

Area: 499 km² approximately.

Description of Area—GEL 210

All that part of the State of South Australia, bounded as follows: Commencing at a point being the intersection of latitude 31°26'00"S GDA94 and longitude 139°34'00"E GDA94, thence east to longitude 139°41'00"E GDA94, south to latitude 31°39'00"S GDA94, east to longitude 139°56'00"E GDA94, south to latitude 31°44'00"S GDA94, west to longitude 139°38'00"E GDA94, north to latitude 31°37'00"S GDA94, west to longitude 139°36'00"E GDA94, north to latitude 31°36'00"S GDA94, west to longitude 139°34'00"E GDA94 and north to the point of commencement.

Area: 500 km² approximately.

Dated 11 August 2005.

B. A. GOLDSTEIN, Director Petroleum,
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development

**Petroleum Act 2000
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GEL 208, GEL 209 and GEL 210**

1. These Licences granted on 11 August 2005 are hereby entered on the public register.
2. Interests in the licences are:-

Geothermal Resources Limited	100%
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**BARRY A. GOLDSTEIN
Director Petroleum
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources
Development**

Date: 11 August 2005

Ref: 27/2/341
27/2/342
27/2/343

PETROLEUM ACT 2000

GEOHERMAL EXPLORATION LICENCE

GEL 209

I, BARRY ALAN GOLDSTEIN, Director Petroleum, Minerals and Energy Division, Primary Industries and Resources, in the State of South Australia pursuant to the provisions of the *Petroleum Act 2000* and all other enabling powers, for and on behalf of Paul Holloway, Minister for Mineral Resources Development (Minister), pursuant to delegation dated 28 March 2002, (refer Government Gazette dated 11 April 2002 page 1573), HEREBY GRANT to:

Geothermal Resources Limited

ACN: 115 281 144

(hereinafter referred to as the Licensee) an Exploration Licence in relation to a source of geothermal energy in respect of the area set out below, to have effect for a period of five years and to expire on 10 August 2010 but carrying the right of renewal under the *Petroleum Act 2000*.

BAG

DESCRIPTION OF AREA

The land comprised in this licence is that part of the State of South Australia described in the Schedule hereto:

CONDITIONS

1. During the term of the licence, the Licensee shall carry out or cause to be carried out, exploratory operations on the area comprised in the licence in accordance with such work programs as are approved by the Minister from time to time. Year one exploratory operations are guaranteed, and any subsequent licence year work program becomes guaranteed upon entry into any such licence year. These exploratory operations shall include but not necessarily be limited to:-

Year of Term of Licence	Minimum Work Requirements
One	<ul style="list-style-type: none">• Gravity survey.
Two	<ul style="list-style-type: none">• Data review.
Three	<ul style="list-style-type: none">• Drill one shallow hole.
Four	<ul style="list-style-type: none">• Drill one deep pilot hole.
Five	<ul style="list-style-type: none">• Drilling of one production well and one injection well.

2. The Licensee must take all reasonable precautions to minimise the risks of its activities resulting in a significant loss of petroleum reserves or a significant reduction in the recovery of petroleum reserves.
3. The Licensee must:
 - (a) upon commencement of regulated activities under this licence, maintain in force during the term of this licence public liability insurance to cover regulated activities under this licence (including sudden and accidental pollution) in the name of the Licensee for a sum not less than twenty million dollars (\$20,000,000.00) or such greater sum as specified by the Minister and make such amendments to the terms and conditions of the insurance as the Minister may from time to time require;
 - (b) maintain in force during the drilling of any well or operation in any well, control of well insurance in the name of the Licensee for a sum not less than ten million dollars (\$10,000,000.00) or such greater sum as specified by the Minister and make such amendments to the terms and conditions of the insurance as the Minister may from time to time require;
 - (c) upon request by the Minister, provide the Minister with a cover note or certificate of currency of each insurance policy referred to in paragraphs (a) and (b).
4. The Minister in specifying the levels of insurance accepts no liability for the completeness of their listing, the adequacy of the sum insured, the limit of liability, the scoped coverage, the conditions or exclusions of these insurances in respect to how they may or may not respond to any loss, damage or liability.
5. The Licensee will ensure, when preparing an Environmental Impact Report under Part 12 of the *Petroleum Act 2000*, that the report also includes an assessment of the potential economic consequences for other licensees under the *Petroleum Act 2000* or *Mining Act 1971* and owners of land, arising out of proposed regulated activities to be carried out in the licence area.
6. The Licensee must keep confidential any measurements made in a well which would enable the estimation of petroleum reserves ("Confidential Information") and must not disclose the Confidential Information without first obtaining the written consent of the licensee of the overlapping compatible licence, unless:
 - (a) it is a disclosure required under the Act, this licence or any other law;
 - (b) it is a disclosure which is for the purposes of prosecuting or defending any legal proceedings; or
 - (c) it is information which is or becomes public knowledge other than by breach of this licence condition.
7. A contract or agreement entered into by the licensee to transfer or accept liability for any well or facility constructed for the purpose of undertaking a regulated activity under the *Petroleum Act 1940* or *2000* cannot transfer, limit or exclude liability under the *Petroleum Act 2000* unless written consent of the Minister is obtained.
8. In the event that the Licensee during any year of the term of this licence (a year being the period of twelve calendar months ending on the anniversary of the date upon which the licence comes into force) fails to comply with the work program requirements of this licence, it is an express term of this licence that the Minister then

may use discretion to either cancel this licence or authorise such variation to these requirements as the Minister thinks fit.

9. The Licensee shall during periods determined by the Minister, lodge and maintain with the Minister, for the satisfaction of obligations arising under the Act or this licence, a security of \$50,000 (fifty thousand dollars) or such greater sum as specified by the Minister from time to time.

("the Security").

- 9.1 The Security shall be lodged in the form of either;
- (a) cash; or
 - (b) an unconditional, irrevocable bank guarantee or letter of credit in a form, and from a financial institution, approved by the Minister,
- 9.2 Interest will not be payable by the Minister to the Licensee on any cash Security.
- 9.3 All charges incurred by the Licensee in obtaining and maintaining the Security, shall be met by the Licensee.
- 9.4 If upon expiry, this Licence is not renewed and the Minister is satisfied that there are no further obligations under this Licence or the Act, the Minister will return the Security to the Licensee.

Date:..... 11 August2005



.....
BARRY A. GOLDSTEIN
Director Petroleum
Minerals and Energy Division
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development

Signed by the said LICENSEE

Date:.... 9th August.....2005

..... *C. W. Giles*
Authorised Representative

..... *Chris Giles*
Name

..... *Technical Director*
Position

Geothermal Resources Limited
Company

..... *Bob Johnson*
Witness

..... *Bob Johnson*
Name

..... *Chairman*
Position

Geothermal Resources Limited
Company



GEL 209

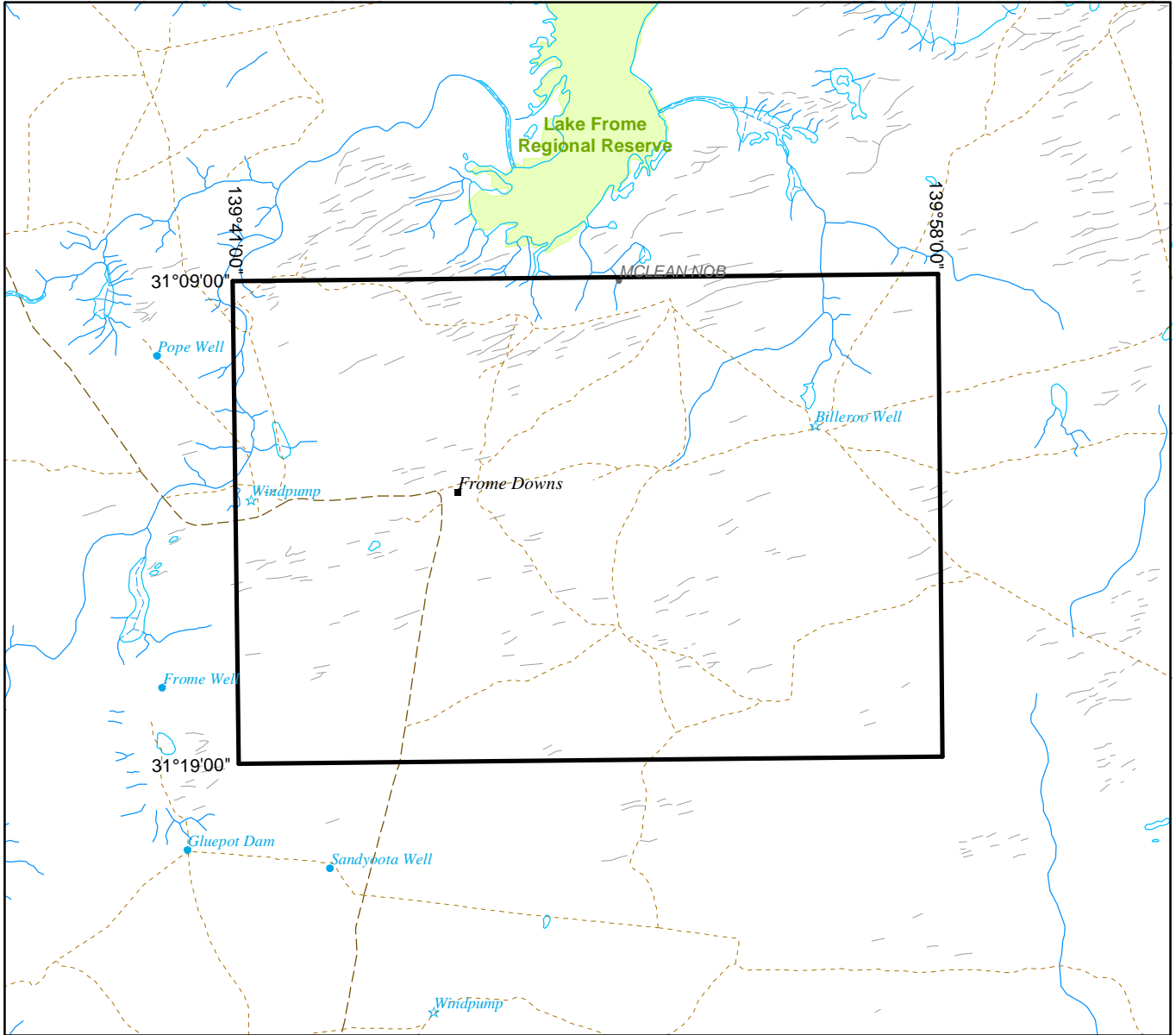
THE SCHEDULE

Description of Area

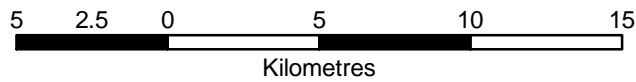
All that part of the State of South Australia, bounded as follows:-

Commencing at a point being the intersection of latitude $31^{\circ}09'00''\text{S}$ GDA94 and longitude $139^{\circ}41'00''\text{E}$ GDA94, thence east to longitude $139^{\circ}58'00''\text{E}$ GDA94, south to latitude $31^{\circ}19'00''\text{S}$ GDA94, west to longitude $139^{\circ}41'00''\text{E}$ GDA94, and north to point of commencement.

AREA: **499** square kilometres approximately.



SCALE 1:250 000



Note: There is no warranty that the boundary of this licence is correct in relation to other features of the map. The boundary is to be ascertained by reference to the Geocentric Datum of Australia (GDA94) and the schedule.

THE PLAN HEREINBEFORE REFERRED TO

GEOHERMAL EXPLORATION LICENCE NO: 209