

INDEX OF DOCUMENTS HELD ON THE PUBLIC REGISTER FOR GEOTHERMAL EXPLORATION LICENCE GEL 214

1. 12 July 2006 Memorandum entering GEL 214 on the public register.
2. 12 July 2006 Geothermal Exploration Licence GEL 214
Interests: Geothermal Resources Limited 100%
3. 12 July 2006 Notation of receipt of security.
4. 20 July 2006 Gazettal of Grant of GEL 214
5. 1 November 2006 Memorandum entering notation of revision to security arrangements is entered on the public register.
6. 9 December 2008 Suspension of licence for a period from and including 11 July 2008 to 30 October 2008.
New expiry date of GEL 214 is now 31 October 2011
7. 9 December 2008 Memorandum entering suspension of licence on the public register.
8. 9 December 2008 Variation of licence
9. 9 December 2008 Memorandum entering variation of licence on the public register.
10. 18 December 2008 Gazettal of suspension of licence.
11. 20 November 2009 Consolidation of licence area with GELs 215, 216, 217, 249 and 250.
The total area of GEL 214 is now approximately 2,956 km².
12. 20 November 2009 Memorandum entering consolidation of licence area on the public register.
13. 23 December 2009 Memorandum entering amended description and map of licence area on the public register.
14. 22 December 2009 Memorandum entering notation of revision to security arrangements is entered on the public register.
15. 1 July 2010 Variation of licence conditions.
16. 1 July 2010 Memorandum entering variation of licence conditions on the public register.

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000

Surrender of Geothermal Exploration Licences—GELs 214 and 498

NOTICE is hereby given that I have accepted surrender of the abovementioned Geothermal Exploration Licences under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012.

No. of Licence	Licensee	Date of Surrender	Reference
GEL 214	Geothermal Resources Limited	23 October 2015	27/2/363
GEL 498	Geothermal Resources Limited	23 October 2015	27/2/560

Dated 18 November 2015.

B. A. GOLDSTEIN,
Executive Director,
Energy Resources Division,
Department of State Development,
Delegate of the Minister for Mineral Resources and Energy

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 214 and 498

Surrender of the abovementioned Geothermal Exploration Licences with effect from 23 October 2015 is hereby entered on the public register.



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department of State Development
Delegate of the Minister for Mineral Resources and Energy

Date: 18 November 2015

Ref: 27/2/363
27/2/560

Petroleum and Geothermal Energy Act 2000

**SURRENDER OF
GEOTHERMAL EXPLORATION LICENCES
GELs 214 and 498**

I, BARRY ALAN GOLDSTEIN, Executive Director, Energy Resources Division, Department of State Development, in the State of South Australia, pursuant to the provisions of section 89(2) of the *Petroleum and Geothermal Energy Act 2000* and all other enabling powers, for and on behalf of Tom Koutsantonis, Minister for Mineral Resources and Energy (Minister), pursuant to delegated powers dated 21 March 2012 –

- a) hereby accept the surrender of Geothermal Exploration Licences GELs 214 and 498 in the name of Geothermal resources Limited with effect from 23 October 2015.

Dated: 18 November 2015



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department of State Development
Delegate of the Minister for Mineral Resources and Energy

Special Pass



The Special Pass is for passengers eligible for free travel.

Dated 31 October 2012.

E. THOMAS, Deputy Chief Executive, Public Transport Services

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000
SECTION 25 (5) (b)

Variation of Petroleum Exploration Licence—PEL 516

NOTICE is hereby given that under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012, the conditions of the abovementioned Exploration Licence have been varied as follows:

Condition 1 of the licence 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. Years one to three exploratory operations are guaranteed and any subsequent licence year 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	Drill two wells.
Two	Drill five wells.
Three	Drill two wells; and 300 km 2D seismic acquisition; and 1 000 km seismic reprocessing.
Four	Drill two wells.
Five	Drill two wells.

The revised work requirements as a result of this variation would not have altered the outcome of the original competitive tender process.

Dated 31 October 2012.

B. A. GOLDSTEIN,
Executive Director,
Energy Resources Division
Department for Manufacturing, Innovation,
Trade, Resources and Energy
Delegate of the Minister for Mineral
Resources and Energy

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000
*Suspension of Geothermal
Exploration Licence—GEL 214*

PURSUANT to Section 90 of the Petroleum and Geothermal Energy Act 2000, notice is hereby given that the abovementioned Geothermal Exploration Licence has been suspended for the period from and including 2 November 2012 until 1 November 2013, under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012.

The expiry date of GEL 214 is now determined to be 31 October 2018.

Dated 6 November 2012.

B. A. GOLDSTEIN,
Executive Director,
Energy Resources Division
Department for Manufacturing, Innovation,
Trade, Resources and Energy
Delegate of the Minister for Mineral
Resources and Energy

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000
*Suspension of Geothermal
Exploration Licence—GEL 181*

PURSUANT to Section 90 of the Petroleum and Geothermal Energy Act 2000, notice is hereby given that the abovementioned Geothermal Exploration Licence has been suspended for the period from and including 22 November 2012 until 21 November 2013, under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012.

The expiry date of GEL 181 is now determined to be 21 November 2017.

Dated 6 November 2012.

B. A. GOLDSTEIN,
Executive Director,
Energy Resources Division
Department for Manufacturing, Innovation,
Trade, Resources and Energy
Delegate of the Minister for Mineral
Resources and Energy

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000
*Suspension of Geothermal
Exploration Licence—GEL 498*

PURSUANT to Section 90 of the Petroleum and Geothermal Energy Act 2000, notice is hereby given that the abovementioned Geothermal Exploration Licence has been suspended for the period from and including 1 November 2012 until 31 October 2013, under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012.

The expiry date of GEL 498 is now determined to be 31 October 2016.

Dated 6 November 2012.

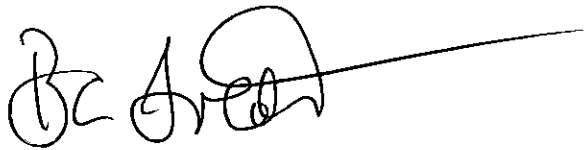
B. A. GOLDSTEIN,
Executive Director,
Energy Resources Division
Department for Manufacturing, Innovation,
Trade, Resources and Energy
Delegate of the Minister for Mineral
Resources and Energy

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 181, 214 and 498

1. Suspension of licences is hereby entered on the public registers.



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

Date: 6 November 2012

Ref: 27/2/306
27/2/363
27/2/560

Petroleum and Geothermal Energy Act 2000
S.90

**SUSPENSION OF
GEOTHERMAL EXPLORATION LICENCES
GELs 181, 214 and 498**

I, BARRY ALAN GOLDSTEIN, Executive Director Energy Resources Division, Department for Manufacturing, Innovation, Trade, Resources and Energy, in the State of South Australia, pursuant to the provisions of the *Petroleum and Geothermal Energy Act 2000* and all other enabling powers, for and on behalf of Tom Koutsantonis, Minister for Mineral Resources and Energy (Minister), pursuant to delegated powers dated 21 March 2012 hereby -

- a) suspend geothermal exploration licence GEL 181 for the period from and including 22 November 2012 to 21 November 2013.
 - b) suspend geothermal exploration licence GEL 214 for the period from and including 2 November 2012 to 1 November 2013.
 - c) suspend geothermal exploration licence GEL 498 for the period from and including 1 November 2012 to 31 October 2013.
1. No regulated activities are permitted to be carried out during the period of the suspension.
2. The expiry date of these GELs is now determined to be –
- a) GEL 181 will expire on 21 November 2017.
 - b) GEL 214 will expire on 31 October 2018.
 - c) GEL 498 will expire on 31 October 2016.

Dated: 6 November 2012



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000

*Suspension of Geothermal Exploration Licence—
GEL 214*

PURSUANT to Section 90 of the Petroleum and Geothermal Energy Act 2000, notice is hereby given that the abovementioned Geothermal Exploration Licence has been suspended for the period from and including 2 November 2011 until 1 November 2012, under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012.

The expiry date of GEL 214 is now determined to be 31 October 2017.

Dated 4 May 2012.

B. A. GOLDSTEIN,
Executive Director,
Energy Resources Division
Department for Manufacturing, Innovation,
Trade, Resources and Energy
Delegate of the Minister for Mineral
Resources and Energy

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCE
GEL 214

1. Suspension of licence dated 4 May 2012 is hereby entered on the public register.



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

Date: 4 May 2012

Ref: 27/2/363

Petroleum and Geothermal Energy Act 2000
S.90

**SUSPENSION OF
GEOTHERMAL EXPLORATION LICENCE
GEL 214**

I, BARRY ALAN GOLDSTEIN, Executive Director Energy Resources Division, Department for Manufacturing, Innovation, Trade, Resources and Energy, in the State of South Australia, pursuant to the provisions of the *Petroleum and Geothermal Energy Act 2000* and all other enabling powers, for and on behalf of Tom Koutsantonis, Minister for Mineral Resources and Energy (Minister), pursuant to delegated powers dated 21 March 2012 hereby -

- (a) suspend geothermal exploration licence GEL 214 for the period from and including 2 November 2011 to 1 November 2012.
- 1. No regulated activities are permitted to be carried out during the period of the suspension.
- 2. The expiry date of GEL 214 is now determined to be 31 October 2017.

Dated: 4 May 2012



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

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

MEMORANDUM

**RENEWAL OF
GEOTHERMAL EXPLORATION LICENCE
GEL 214**

1. Renewal of this licence, effective from 1 November 2011 is hereby entered on the public register.

Expiry date: 31 October 2016

2. Interests in the licence are:

Geothermal Resources Limited	100%
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BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

Date: 30 March 2012

File: 27/2/363

Petroleum and Geothermal Energy Act 2000

FIRST RENEWAL OF GEOTHERMAL EXPLORATION LICENCE GEL 214

I, BARRY ALAN GOLDSTEIN, Executive Director, Energy Resources Division, Department for Manufacturing, Innovation, Trade, Resources and Energy, in the State of South Australia, pursuant to the provisions of the *Petroleum and Geothermal Energy Act 2000* and all other enabling powers, for and on behalf of Tom Koutsantonis, Minister for Mineral Resources and Energy (Minister), pursuant to delegated powers dated 21 March 2012, 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 from 1 November 2011 and to expire on 31 October 2016.

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">• Geological and geophysical studies.
Two	<ul style="list-style-type: none">• Geological and geophysical studies.
Three	<ul style="list-style-type: none">• Geological and geophysical studies.
Four	<ul style="list-style-type: none">• Drill one deep
Five	<ul style="list-style-type: none">• Geological and geophysical studies.

2. 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 this 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 may, at his discretion, either cancel this licence or authorise such variation to these requirements as the Minister thinks fit.

3. The Licensee shall during periods determined by the Minister lodge and maintain with the Minister in the form acceptable to 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.
4. 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).
5. 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.
6. The Licensee will ensure, when preparing an Environmental Impact Report under Part 12 of the *Petroleum and Geothermal Energy Act 2000*, that the report also includes an assessment of the potential economic consequences for other Licensee under the *Petroleum and Geothermal Energy Act 2000* or *Mining Act 1971* and owners of land, arising out of proposed regulated activities to be carried out in the licence area.
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 the *Petroleum and Geothermal Energy Act 2000* cannot transfer, limit or exclude liability under the *Petroleum and Geothermal Energy Act 2000* unless written consent of the Minister is obtained.

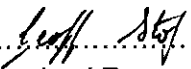
Date: 30/March.....2012



BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for manufacturing, innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

Signed by the said LICENSEE

Date: 26th March 2012


.....
Authorised Representative

Dr Geoff Stolz
.....
Name

Project Manager
.....
Position

Geothermal Resources
.....
Company

THE SCHEDULE

GEOHERMAL EXPLORATION LICENCE

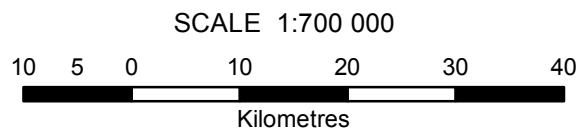
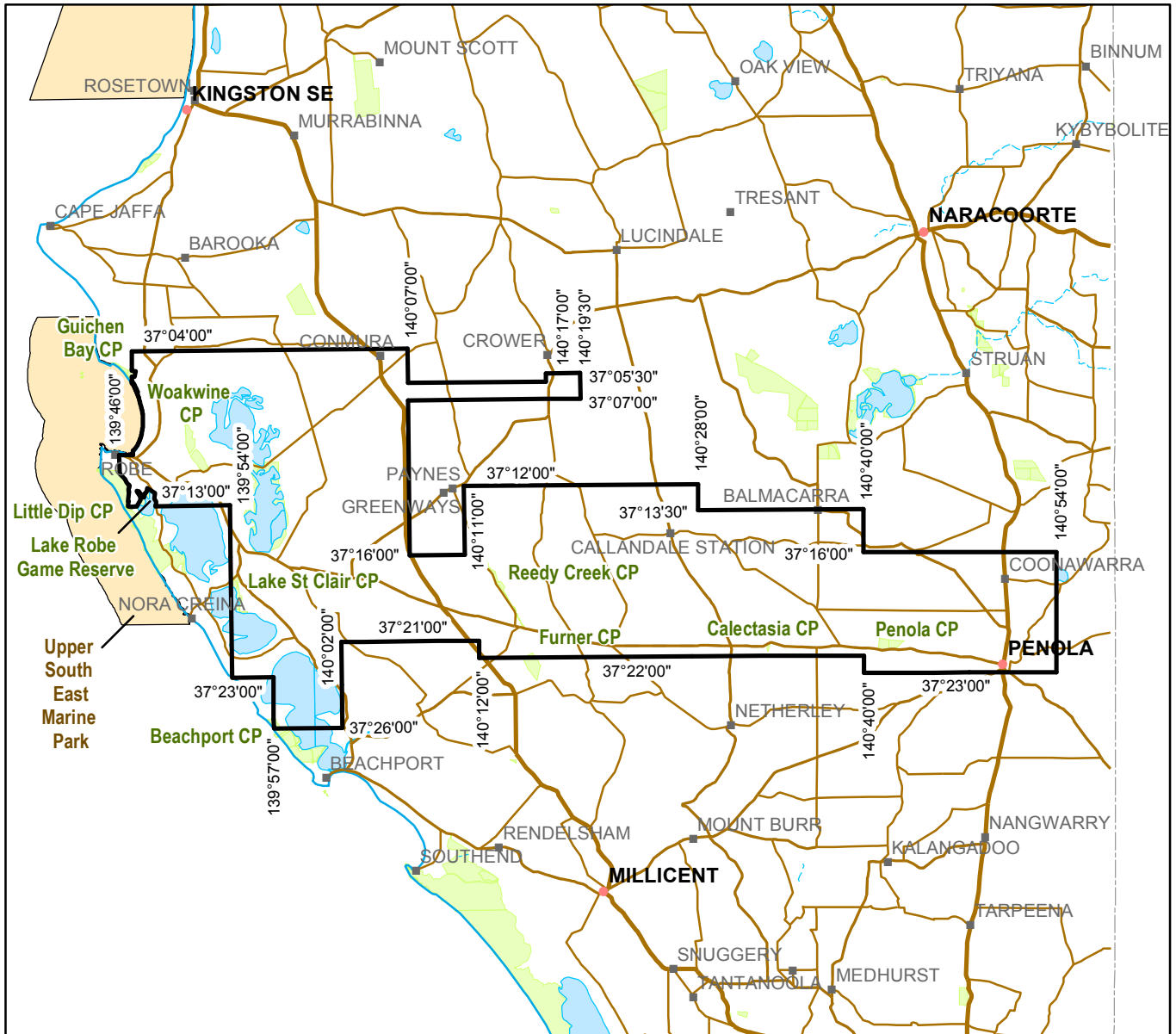
GEL 214

DESCRIPTION OF AREA

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

Commencing at a point being the intersection of latitude 37°04'00"S GDA94 and longitude 139°47'00"E GDA94, thence east to longitude 140°07'00"E GDA94, south to latitude 37°06'00"S GDA94, east to longitude 140°17'00"E GDA94, north to latitude 37°05'30"S GDA94, east to longitude 140°19'30"E GDA94, south to latitude 37°07'00"S GDA94, west to longitude 140°07'00"E GDA94, south to latitude 37°16'00"S GDA94, east to longitude 140°11'00"E GDA94, north to latitude 37°12'00"S GDA94, east to longitude 140°28'00"E GDA94, south to latitude 37°13'30"S GDA94, east to longitude 140°40'00"E GDA94, south to latitude 37°16'00"S GDA94, east to longitude 140°54'00"E GDA94, south to latitude 37°23'00"S GDA94, west to longitude 140°40'00"E GDA94, north to latitude 37°22'00"S GDA94, west to longitude 140°12'00"E GDA94, north to latitude 37°21'00"S GDA94, west to longitude 140°02'00"E GDA94, south to latitude 37°26'00"S GDA94, west to longitude 139°57'00"E GDA94, north to latitude 37°23'00"S GDA94, west to longitude 139°54'00"E GDA94, north to latitude 37°13'00"S GDA94, west to longitude 139°46'00"E GDA94, north to latitude 37°10'00"S GDA94, east to longitude 139°47'00"E GDA94, and north to the point of commencement, but excluding Penola Conservation Park, Guichen Bay Conservation Park, Little Dip Conservation Park, Lake Robe Game Reserve, Furner Conservation Park, Beachport Conservation Park, Reedy Creek Conservation Park, Calectasia Conservation Park, Lake St Clair Conservation Park, Woakwine Conservation Reserve and Upper South East Marine Park.

AREA: 1948 square kilometres approximately.



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: 214



17. 30 March 2012

Renewal of licence

Expiry date of GEL 214 is now 31 October 2016

Interest in the licence:

Geothermal Resources Limited

100%

18. 30 March 2012

Memorandum entering renewal of licence, effective from 1 November 2011 on the public register.

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

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCE
GEL 214**

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: 1 July 2010

Ref: 27/2/363

Petroleum and Geothermal Energy Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCE GEL 214

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 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 vary the conditions of the above-mentioned licence, held by -

Geothermal Resources Limited
ACN 115 281 144

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

“ 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">• Geological and geophysical studies.
Three	<ul style="list-style-type: none">• Geological and geophysical studies
Four	<ul style="list-style-type: none">• Geological and geophysical studies
Five	<ul style="list-style-type: none">• Define target well location for 'proof of concept' well.

”

Dated: 1 July 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

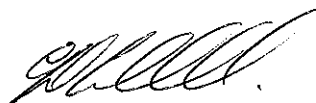
Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 181, 208, 214, 222 and 280

PETROLEUM EXPLORATION LICENCES
PELs 186 and 187

1. Notation of receipt of security in the form of a Bank Guarantee dated 25 November 2009 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. Notation of the discharge to Geothermal Resources Limited of Bank Guarantee dated 26 September 2006 and held as security in respect of geothermal exploration licences 181, 208, 214 and 222 is entered on the public register.



C. D. COCKSHELL
A/Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources
Development

Date: 22 December 2009

File: 27/2/306
27/2/315
27/2/316
27/2/341
27/2/363
27/2/372
27/2/445

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCE
GEL 214

1. An amended description of the licence area of GEL 214 as per the attached schedule and map is hereby entered on the public register.



C.D. COCKSHELL
A/Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources Development

Date: 23 December 2009

Ref: 27/2/363

THE SCHEDULE

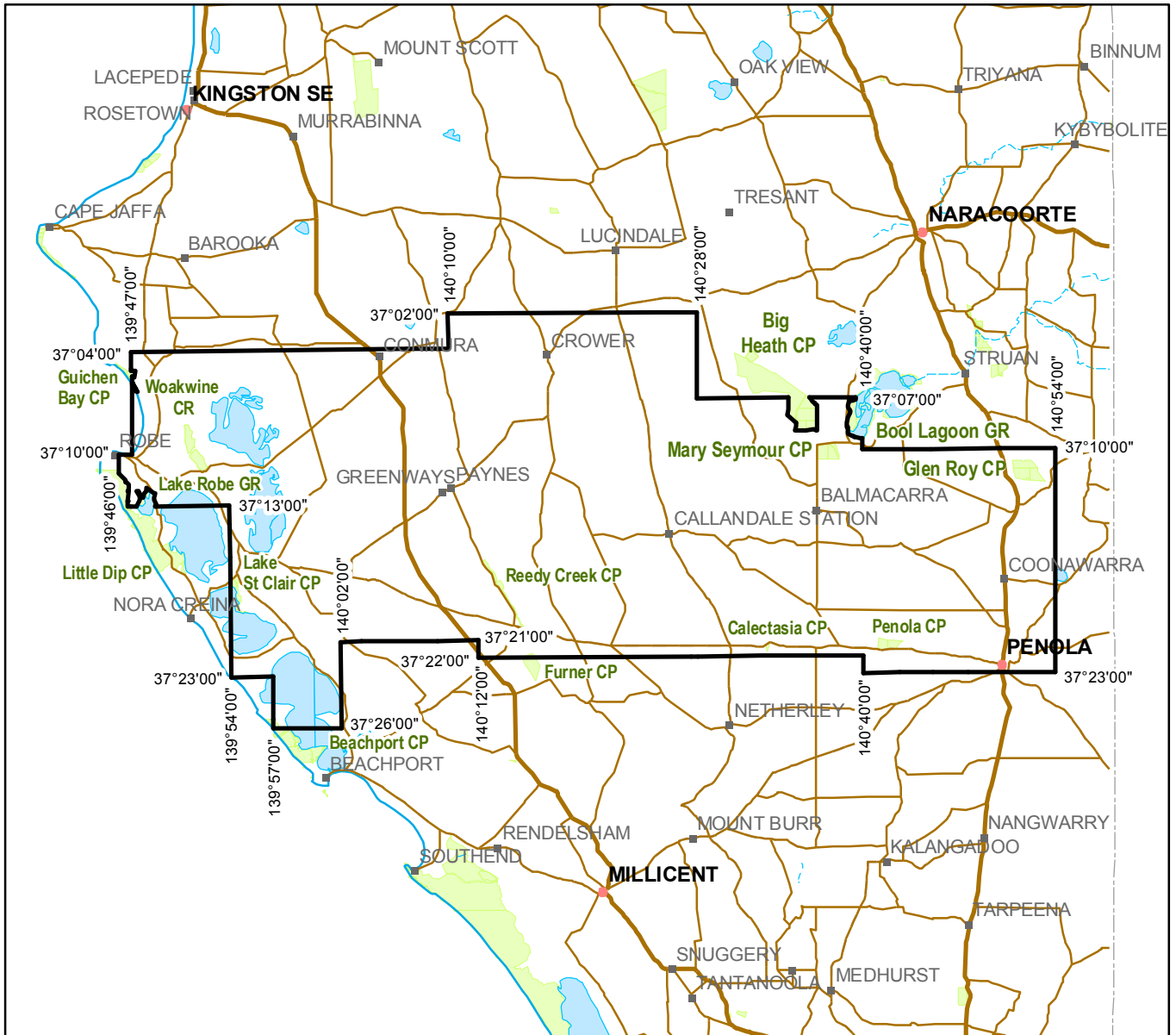
DESCRIPTION OF AREA

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

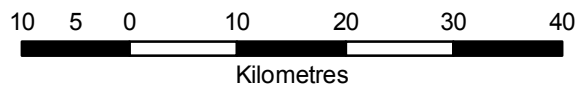
Commencing at a point being the intersection of latitude 37°02'00"S GDA94 and longitude 140°10'00"E GDA94, thence east to longitude 140°28'00"E GDA94,

south to latitude 37°07'00"S GDA94, east to longitude 140°40'00"E GDA94, south to latitude 37°10'00"S GDA94, east to longitude 140°54'00"E GDA94, south to latitude 37°23'00"S GDA94, west to longitude 140°40'00"E GDA94, north to latitude 37°22'00"S GDA94, west to longitude 140°12'00"E GDA94, north to latitude 37°21'00"S GDA94, west to longitude 140°02'00"E GDA94, south to latitude 37°26'00"S GDA94, west to longitude 139°57'00"E GDA94, north to latitude 37°23'00"S GDA94, west to longitude 139°54'00"E GDA94, north to latitude 37°13'00"S GDA94, west to longitude 139°46'00"E GDA94, north to latitude 37°10'00"S GDA94, east to longitude 139°47'00"E GDA94, north to latitude 37°04'00"S GDA94, east to longitude 140°10'00"E GDA94 and north to the point of commencement, but excluding Glen Roy Conservation Park, Penola Conservation Park, Guichen Bay Conservation Park, Little Dip Conservation Park, Lake Robe Game Reserve, Big Heath Conservation Park, Mary Seymour Conservation Park, Furner Conservation Park, Beachport Conservation Park, Bool Lagoon Game Reserve, Reedy Creek Conservation Park, Calectasia Conservation Park, Lake St Clair Conservation Park and Woakwine Conservation Reserve.

AREA: **2,936** square kilometres approximately.



SCALE 1:700 000



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: 214

SR 27/2/363

AREA: 2936 sq km (approx)

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

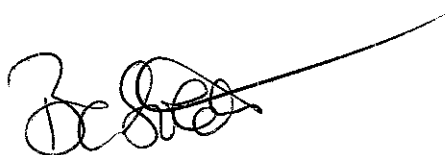
MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 214, 215, 216, 217, 249 AND 250**

1. Consolidation of the adjacent licence areas of GELs 214, 215, 216, 217, 249 and 250, whereby the consolidated licence area is now designated as GEL 214 is hereby entered on the public register.

The total area of GEL 214 is now 2,956 square kilometres approximately.

2. Revocation of GELs 215, 216, 217, 249 and 250 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: 20 November 2009

Ref: 27/2/363 27/2/366
27/2/364 27/2/408
27/2/365 27/2/409

Petroleum and Geothermal Energy Act 2000

Consolidation of licence areas Geothermal Exploration Licences GELs 214, 215, 216, 217, 249 and 250

Revocation of licences Geothermal Exploration Licences GELs 215, 216, 217, 249 and 250

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 214, 215, 216, 217, 249 and 250 held by –

Geothermal Resources Limited ACN 115 281 144

The consolidated licence area shall hereafter be designated as:

Geothermal Exploration Licence GEL 214

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 37°02'00"S GDA94 and longitude 140°10'00"E GDA94, thence east to longitude 140°28'00"E GDA94, south to latitude 37°07'00"S GDA94, east to longitude 140°40'00"E GDA94, south to latitude 37°10'00"S GDA94, east to longitude 140°54'00"E GDA94, south to latitude 37°23'00"S GDA94, west to longitude 140°40'00"E GDA94, north to latitude 37°22'00"S GDA94, west to longitude 140°12'00"E GDA94, north to latitude 37°21'00"S GDA94, west to longitude 140°02'00"E GDA94, south to latitude 37°26'00"S GDA94, west to longitude 139°57'00"E GDA94, north to latitude 37°23'00"S GDA94, west to longitude 139°54'00"E GDA94, north to latitude 37°13'00"S GDA94, west to longitude 139°46'00"E GDA94, north to latitude 37°10'00"S GDA94, east to longitude 139°47'00"E GDA94, north to latitude 37°04'00"S GDA94, east to longitude 140°10'00"E GDA94 and north to the point of commencement, but excluding Glen Roy Conservation Park, Penola Conservation Park, Guichen Bay Conservation Park, Little Dip Conservation Park, Lake Robe Game Reserve, Big Heath Conservation Park, Mary Seymour Conservation Park, Furner Conservation Park, Beachport Conservation Park and Bool Lagoon Game Reserve


AREA: **2,956** square kilometres approximately.

2. consequently revoke Geothermal Exploration Licences GELs 215, 216, 217, 249 and 250

As a consequence of the consolidation, the work program forming 'condition 1' of the consolidated GEL 214 comprises:

Year of Term of Licence	Minimum Work Requirements
One	<ul style="list-style-type: none"> • Review of existing geophysical and drilling data to obtain accurate cover depth and bedrock lithology information; and • 3D modelling to determine subsurface geology and location of possible granite bodies.
Two	<ul style="list-style-type: none"> • Thermal resource modelling and rock fracture studies; and • Interpretation of all data to determine optimum drill site locations.
Three	<ul style="list-style-type: none"> • 5 shallow drill holes to an aggregate depth of at least 1500m (subject to ground conditions) to obtain accurate bottom of hole temperature measurements; and • 3D modelling of variations in regional temperature gradients based on drilling results.
Four	<ul style="list-style-type: none"> • Assessment of year 3 shallow drilling results and decision on whether to drill further shallow holes or a deeper pilot hole to 1500m depth.
Five	<ul style="list-style-type: none"> • Review of pilot hole results (if drilled) and decision on drilling production wells.

Dated: 20 November 2009



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 214, 215, 216, 217, 249 and 250 as set out in this document and made pursuant to Section 82 of the *Petroleum and Geothermal Energy Act 2000*.

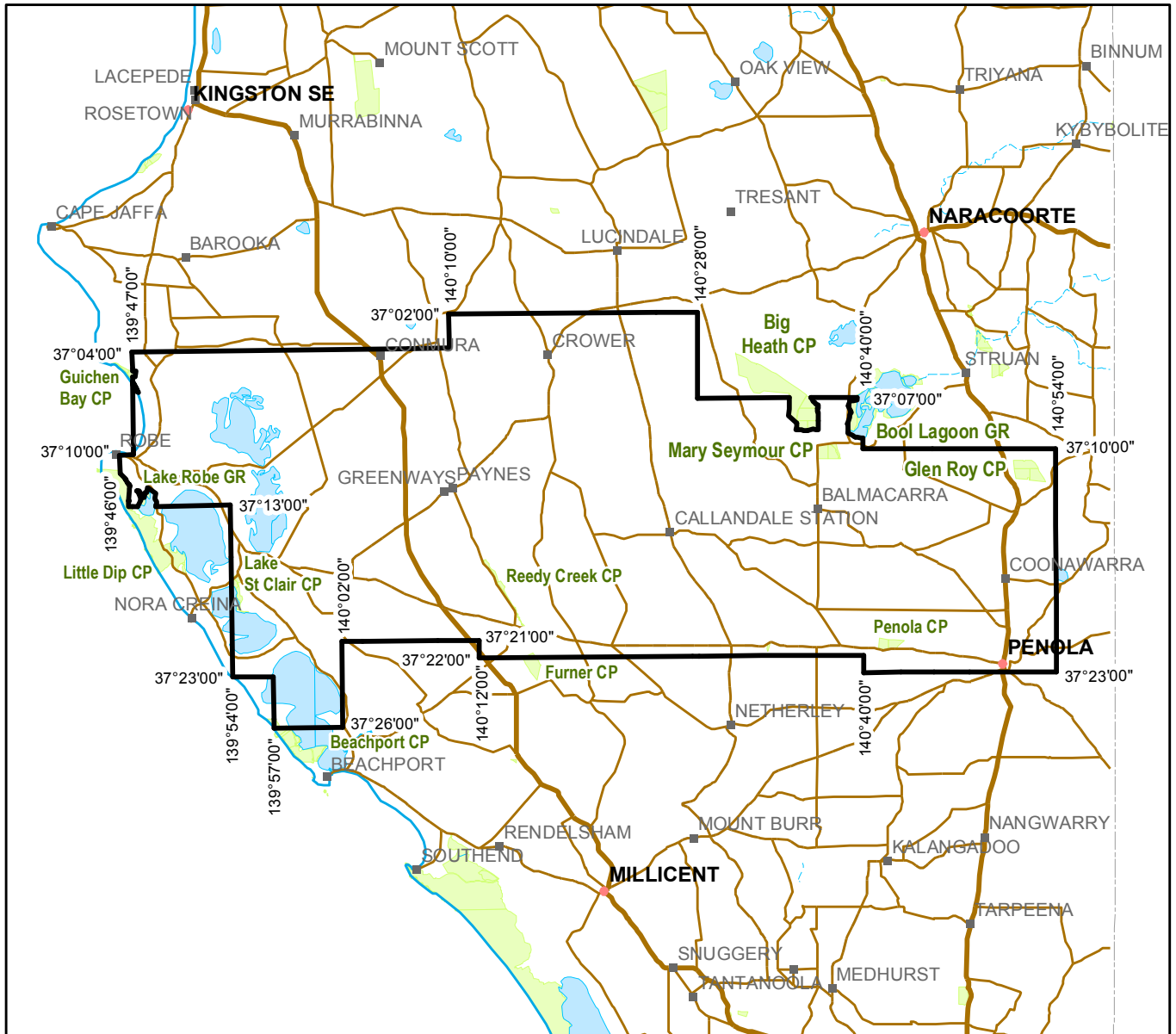
Signed for and on behalf of **Geothermal Resources Limited** by its authorised representative:

Date: 9 / 11 / 2009

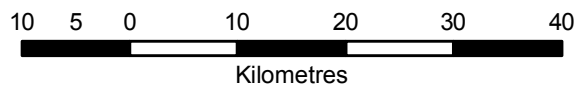

Authorised Representative

Dr Geoff STOLZ
Name

Project Manager
Position



SCALE 1:700 000



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: 214

SR 27/2/363

AREA: 2956 sq km (approx)

PETROLEUM ACT 2000

*Suspension of Geothermal Exploration Licences—
GEL 214, GEL 215, GEL 216 and GEL 217*

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 July 2008 to 30 October 2008, pursuant to delegated powers dated 28 March 2002, *Gazetted* 11 April 2002, page 1573.

The expiry date of Geothermal Exploration Licences GEL 214, GEL 215, GEL 216 and GEL 217 is now determined to be 31 October 2011.

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 214, 215, 216, 217, 249 and 250**

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: 27/2/363
27/2/364
27/2/365
27/2/366
27/2/408
27/2/409

Petroleum Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCES GELs 214, 215, 216 and 217

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 GELs 214, 215, 216 and 217 held by -

Geothermal Resources Limited
ACN 115 281 144

Condition 1 of the licence 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">• Review of existing geophysical and drilling data to obtain accurate cover depth and bedrock lithology information; and• 3D modelling to determine subsurface geology and location of possible granite bodies. <p><i>Year 1 work program to be conducted anywhere within the boundaries of GELs 214, 215, 216 and 217.</i></p>
Two	<ul style="list-style-type: none">• Thermal resource modelling and rock fracture studies; and• Interpretation of all data to determine optimum drill site locations. <p><i>Year 2 work program to be conducted anywhere within the boundaries of GELs 214, 215, 216 and 217.</i></p>
Three	<ul style="list-style-type: none">• 5 shallow drill holes to an aggregate depth of at least 1500m (subject to ground conditions) to obtain accurate bottom of hole temperature measurements; and• 3D modelling of variations in regional temperature gradients based on drilling results <p><i>Year 3 work program to be conducted anywhere within the boundaries of GELs 214, 215, 216, 217, 249 and 250.</i></p>

<p>Four</p>	<ul style="list-style-type: none"> Assessment of year 3 shallow drilling results and decision on whether to drill further shallow holes or a deeper pilot hole to 1500m depth. <p><i>Year 4 work program to be conducted anywhere within the boundaries of GELs 214, 215, 216, 217, 249 and 250.</i></p>
<p>Five</p>	<ul style="list-style-type: none"> Review of pilot hole results (if drilled) and decision on drilling production wells. <p><i>Year 5 work program to be conducted anywhere within the boundaries of GELs 214, 215, 216, 217, 249 and 250</i></p>

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 214, GEL 215, GEL 216 and GEL 217**

1. Suspension of licences from and including 11 July 2008 to 30 October 2008 is hereby entered on the public register.
2. The expiry date of GEL 214, GEL 215, GEL 216 and GEL 217 is now 31 October 2011.



**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: 27/2/363, 27/2/364
27/2/365, 27/2/366

Petroleum Act 2000
S.90

**SUSPENSION OF
GEOTHERMAL EXPLORATION LICENCES
GEL 214, GEL 215, GEL 216 and GEL 217**

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 GELs 214, 215, 216 and 217 for the period from and including 11 July 2008 to 30 October 2008.
1. No regulated activities are permitted to be carried out during the period of the suspension.
 2. The expiry date of the GELs 214, 215, 216 and 217 is now determined to be 31 October 2011.

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

*Grant of Geothermal Exploration Licences—
GEL 214, GEL 215, GEL 216 and GEL 217*

NOTICE is hereby given that the undermentioned Geothermal Exploration Licences have been granted with effect from and including 12 July 2006, 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
GEL 214	Geothermal Resources Limited	Otway Basin, South Australia	490
GEL 215	Geothermal Resources Limited	Otway Basin, South Australia	493
GEL 216	Geothermal Resources Limited	Otway Basin, South Australia	495
GEL 217	Geothermal Resources Limited	Otway Basin, South Australia	476

Description of Area—GEL 214

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

Commencing at a point being the intersection of latitude 37°10'00"S GDA94 and longitude 140°40'00"E GDA94, thence east to longitude 140°54'00"E GDA94, south to latitude 37°23'00"S GDA94, west to longitude 140°40'00"E GDA94 and north to the point of commencement, but excluding Glen Roy Conservation Park and Penola Conservation Park.

Area: 490 km² approximately.

Description of Area—GEL 215

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

Commencing at a point being the intersection of latitude 37°02'00"S GDA94 and longitude 140°10'00"E GDA94, thence east to longitude 140°28'00"E GDA94, south to latitude 37°12'00"S GDA94, west to longitude 140°10'00"E GDA94 and north to the point of commencement.

Area: 493 km² approximately.

Description of Area—GEL 216

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

Commencing at a point being the intersection of latitude 37°04'00"S GDA94 and longitude 139°47'00"E GDA94, thence east to longitude 140°07'00"E GDA94, south to latitude 37°13'00"S GDA94, west to longitude 139°46'00"E GDA94, north to latitude 37°10'00"S GDA94, east to longitude 139°47'00"E GDA94 and north to the point of commencement, but excluding Guichen Bay Conservation Park, Little Dip Conservation Park and Lake Robe Game Reserve.

Area: 495 km² approximately.

Description of Area—GEL 217

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

Commencing at a point being the intersection of latitude 37°07'00"S GDA94 and longitude 140°28'00"E GDA94, thence east to longitude 140°40'00"E GDA94, south to latitude 37°22'00"S GDA94, west to longitude 140°28'00"E GDA94 and north to the point of commencement, but excluding Big Heath Conservation Park, Mary Seymour Conservation Park, Calectasia Conservation Park and Bool Lagoon Game Reserve.

Area: 476 km² approximately.

Dated 12 July 2006.

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
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
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GEL 214, GEL 215, GEL 216 and GEL 217**

1. This Licence granted on 12 July 2006 is hereby entered on the public register.
2. Interests in the licence are:-

Geothermal Resources Limited

100%



**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

Ref: 27/2/363
27/2/364
27/2/365
27/2/366

PETROLEUM ACT 2000

GEOTHERMAL EXPLORATION LICENCE

GEL 214

I, BARRY ALAN GOLDSTEIN, Director Petroleum, Minerals and Energy Resources, 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 ^{11 July} 2011 but carrying the right of renewal under the *Petroleum Act 2000*.

BA

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">• Review of existing geophysical and drilling data.• 3D modelling to determine subsurface geology and location of possible granite bodies.• Measure detailed geothermal gradients in any accessible water wells and oil wells. (To be conducted anywhere within the boundaries of GEL's 214, 215, 216 and 217)
Two	<ul style="list-style-type: none">• Thermal resource modelling and rock fracture studies.• Interpretation of all data to determine optimum drill site locations. (To be conducted anywhere within the boundaries of GEL's 214, 215, 216 and 217)

Three	<ul style="list-style-type: none"> • 3-4 shallow drill holes to an aggregate depth of at least 2000 metres to measure detailed geothermal gradients and obtain information regarding cover sequence. • Re-evaluation of theoretical thermal resources and fracture/permeability models based on drilling results. <p>(To be conducted anywhere within the boundaries of GEL's 214, 215, 216 and 217)</p>
Four	<ul style="list-style-type: none"> • 1 deep pilot drillhole to intersect top of hot dry rock source. • Measure detailed temperature gradient. • Measure reservoir temperature. • Analysis of reservoir properties. • Analysis of reservoir fracturing. • Evaluation of thermal data and fracture/permeability models. <p>(To be conducted anywhere within the boundaries of GEL's 214, 215, 216 and 217)</p>
Five	<ul style="list-style-type: none"> • Drilling 1 production and 1 injection well to set up circulation cell. • Measurement of key parameters to determine viability of project. • If positive, detailed planning for full-scale exploitation. <p>(To be conducted anywhere within the boundaries of GEL's 214, 215, 216 and 217)</p>

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: 12 July.....2006



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

Signed by the said LICENSEE

Date: 10th February.....2006



.....
Authorised Representative

Chris Giles.....
Name

Technical Director.....
Position

Geothermal Resources Ltd......
Company



.....
Witness

Bob Johnson.....
Name

Chairman.....
Position

Geothermal Resources Ltd......
Company

GEOTHERMAL EXPLORATION LICENCE

GEL 214

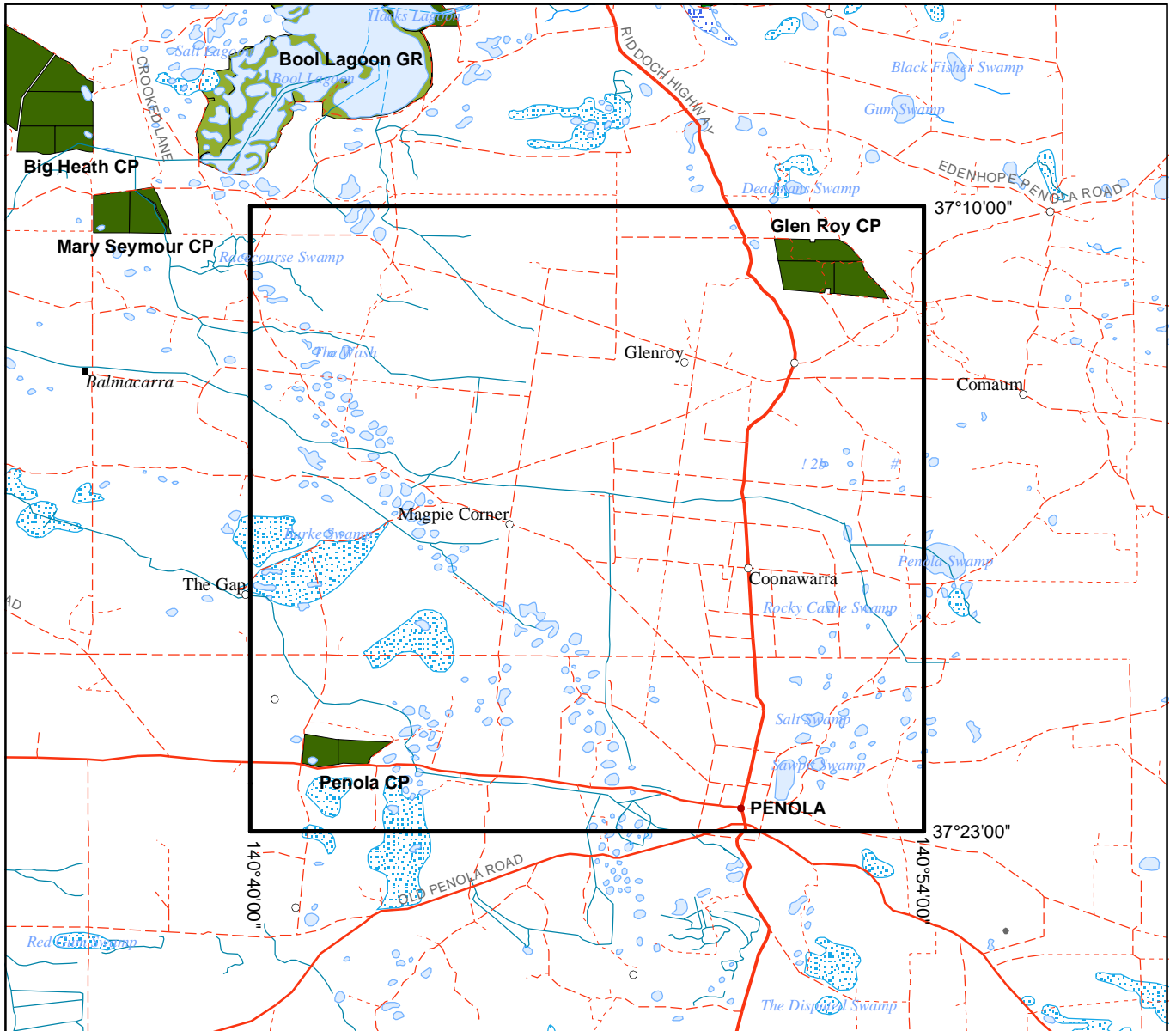
THE SCHEDULE

Description of Area

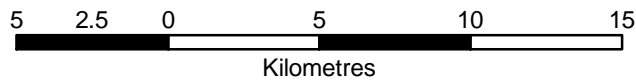
All that part of the State of South Australia, bounded as follows:-

Commencing at a point being the intersection of latitude 37°10'00"S GDA94 and longitude 140°40'00"E GDA94, thence east to longitude 140°54'00"E GDA94, south to latitude 37°23'00"S GDA94, west to longitude 140°40'00"E GDA94, and north to point of commencement, but excluding Glen Roy Conservation Park and Penola Conservation Park.

AREA: **490** 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: 214

