

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

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 486, 487, 488, 489, 490 and 497**

1. Consolidation of the adjacent licence areas of GELs 486, 487, 488, 489, 490 and 497 whereby the consolidated licence area is now designated as GEL 486 is hereby entered on the public register.

The total area of GEL 486 is now 2934 km² approximately.

2. Revocation of GELs 487, 488, 489, 490 and 497 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: 21 May 2014

Ref: 27/2/556
27/2/559

Petroleum and Geothermal Energy Act 2000

CONSOLIDATION OF LICENCE AREAS GEOTHERMAL EXPLORATION LICENCES GELs 486, 487, 488, 489, 490 and 497

REVOCATION OF LICENCES GEOTHERMAL EXPLORATION LICENCES GELs 487, 488, 489, 490 and 497

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 -

1. Consolidate the adjacent areas of Geothermal Exploration Licences GELs 486, 487, 488, 489, 490 and 497 held by -

Deep Energy Ltd
ACN 126 086 600

The consolidated licence area shall be designated as:

Geothermal Exploration Licence GEL 486

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°10'00"S GDA94 and longitude 139°20'07"E GDA94, thence east to longitude 139°30'00"E GDA94, south to latitude 31°26'00"S GDA94, east to longitude 139°34'00"E GDA94, south to latitude 31°36'00"S GDA94, east to longitude 139°36'00"E GDA94, south to latitude 31°37'00"S GDA94, east to longitude 139°38'00"E GDA94, south to latitude 31°44'00"S GDA94, east to longitude 139°41'00"E GDA94, south to latitude 32°11'11"S GDA94, west to longitude 139°20'07"E GDA94, and north to the point of commencement.

AREA: **2934** square kilometres approximately.

2. Consequently revoke Geothermal Exploration Licences GELs 487, 488, 489, 490 and 497

As a consequence of the consolidation, the year 5 work program forming 'condition 1' of the consolidated GEL 486 comprises:

Year of Term of Licence	Minimum Work Requirements
Five	<ul style="list-style-type: none">• Geological and geophysical studies.

Dated: 21 May 2014



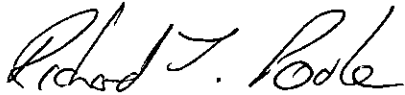
BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

The following signature evidences the consent of the licensee to the consolidation of GELs 486, 487, 488, 489, 490 and 497 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 **Deep Energy Ltd** by its authorised representative:



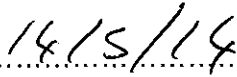
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Authorised Representative



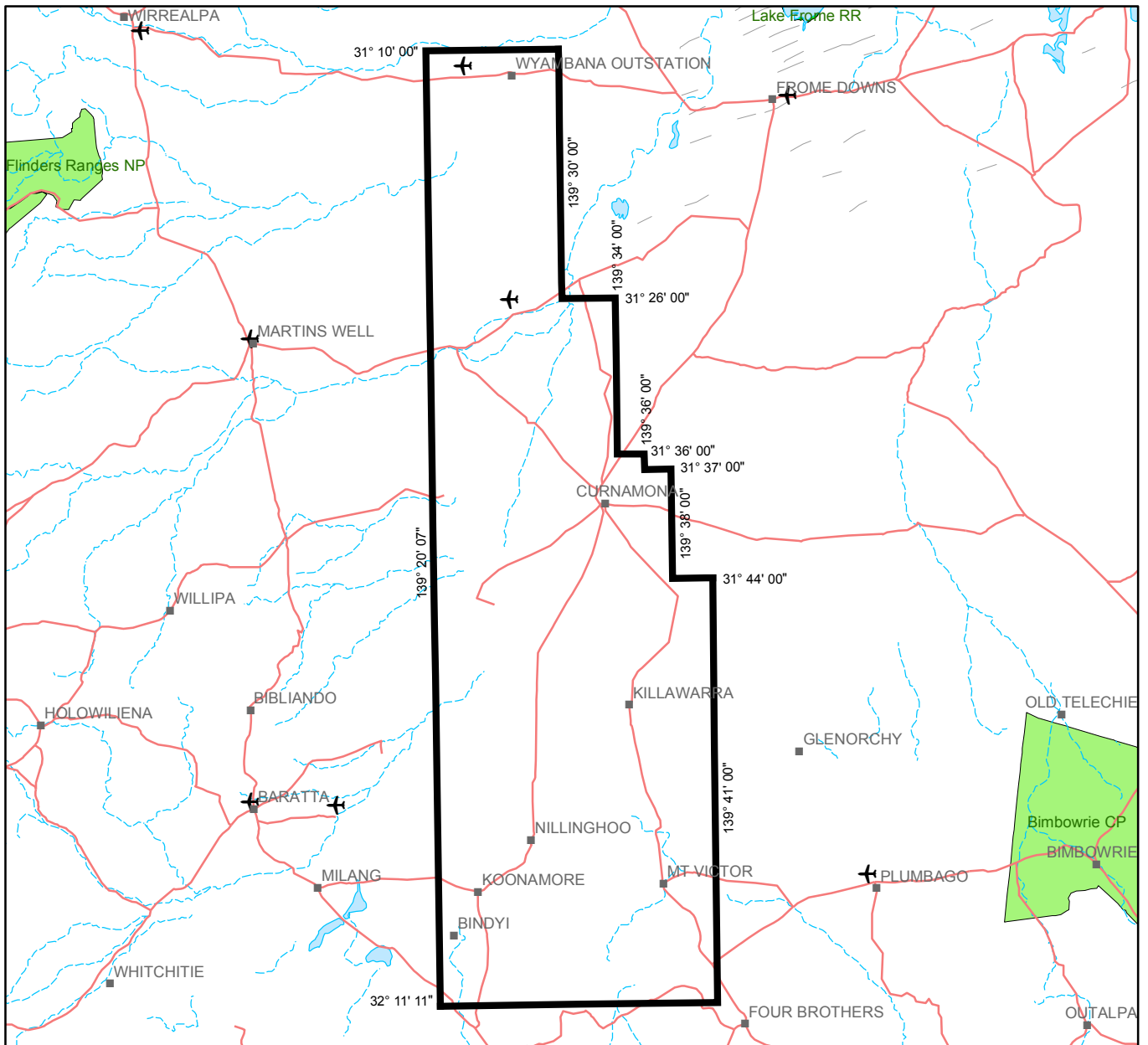
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Name of Authorised Representative



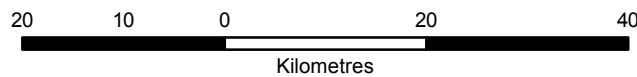
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Position



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Date



SCALE 1:750 000



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: 486



Government of South Australia
Department for Manufacturing,
Innovation, Trade, Resources and Energy

SR 27/2/556

AREA: 2934 sq km (approx)

Petroleum and Geothermal Energy Act 2000
S.134

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 486, 487, 488, 489, 490 and 497

1. Notation of extension of time to 28 May 2014 by which the licensee must apply for the renewal of Geothermal Exploration Licences GELs 486, 487, 488, 489, 490 and 497 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: 23 April 2014

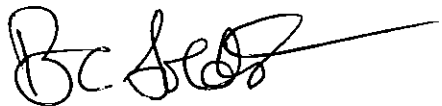
File: 27/2/556
27/2/559

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

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 308, 311, 312, 313, 314, 315,
486, 487, 488, 489, 490 and 497**

1. Variation of licence conditions 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: 17 April 2013

Ref: 27/2/476
27/2/479
27/2/480
27/2/481
27/2/482
27/2/583
27/2/556
27/2/559

Petroleum and Geothermal Energy Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCES GELs 486, 487, 488, 489, 490 and 497

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

Deep Energy Limited
ACN 126 086 600

Condition 1 of each 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. <i>Year 1 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</i>
Two	<ul style="list-style-type: none">Geological and geophysical studies. <i>Year 2 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</i>
Three	<ul style="list-style-type: none">Geological and geophysical studies. <i>Year 3 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</i>
Four	<ul style="list-style-type: none">Geological and geophysical studies. <i>Year 4 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</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 486, 487, 488, 489, 490 and 497.</i>

Dated: 17 April 2013



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

GEOHERMAL EXPLORATION LICENCES
GELs 308, 311, 312, 313, 314, 315,
486, 487, 488, 489, 490 and 497

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



MICHAEL MALAVAZOS
A/Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

Date: 24 May 2012

Ref: 27/2/476
27/2/479
27/2/480
27/2/481
27/2/482
27/2/583
27/2/556

Petroleum and Geothermal Energy Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCES GELs 486, 487, 488, 489, 490 and 497

I, MICHAEL MALAVAZOS, A/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 vary the conditions of the above-mentioned licences, held by -

Deep Energy Limited
ACN 126 086 600

Condition 1 of each 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. <i>Year 1 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</i>
Two	<ul style="list-style-type: none">• Geological and geophysical studies. <i>Year 2 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</i>
Three	<ul style="list-style-type: none">• Geological and geophysical studies. <i>Year 3 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</i>
Four	<ul style="list-style-type: none">• Drill 1 well to a depth of between 3,000-4,000m <i>Year 4 work program to be conducted anywhere within the boundaries of GELs 486, 487, 488, 489, 490 and 497.</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 486, 487, 488, 489, 490 and 497.</i>

Dated: 24 May 2012



MICHAEL MALAVAZOS
A/Executive Director

Energy Resources Division

Department for Manufacturing, Innovation, Trade, Resources and Energy

Delegate of the Minister for Mineral Resources and Energy

PETROLEUM ACT 2000

Grant of Geothermal Exploration Licences—GELs 486, 487, 488, 489, 490 and 497

NOTICE is hereby given that the undermentioned Geothermal Exploration Licences have been granted with effect from and including 29 May 2009, 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	Licensee	Locality	Date of Expiry	Reference
GEL 486	Deep Energy Limited	Arrowie Basin, South Australia	28/05/2014	27/2/556
GEL 487	Deep Energy Limited	Arrowie Basin, South Australia	28/05/2014	27/2/556
GEL 488	Deep Energy Limited	Arrowie Basin, South Australia	28/05/2014	27/2/556
GEL 489	Deep Energy Limited	Arrowie Basin, South Australia	28/05/2014	27/2/556
GEL 490	Deep Energy Limited	Arrowie Basin, South Australia	28/05/2014	27/2/556
GEL 497	Deep Energy Limited	Arrowie Basin, South Australia	28/05/2014	27/2/559

Description of Area—GEL 486

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

Commencing at a point being the intersection of latitude 31°54'52"S GDA94 and longitude 139°20'07"E GDA94, thence east to longitude 139°30'36"E GDA94, south to latitude 32°11'11"S GDA94, west to longitude 139°20'07"E GDA94 and north to the point of commencement.

Area: 497 km² approximately.

Description of Area—GEL 487

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

Commencing at a point being the intersection of latitude 31°37'38"S GDA94 and longitude 139°20'07"E GDA94, thence east to longitude 139°38'00"E GDA94, south to latitude 31°44'00"S GDA94, east to longitude 139°41'00"E GDA94, south to latitude 31°46'43"S GDA94, west to longitude 139°20'07"E GDA94 and north to the point of commencement.

Area: 498 km² approximately.

Description of Area—GEL 488

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°20'07"E GDA94, thence east to longitude 139°34'00"E GDA94, south to latitude 31°36'00"S GDA94, east to longitude 139°36'00"E GDA94, south to latitude 31°37'00"S GDA94, east to longitude 139°38'00"E GDA94, south to latitude 31°37'38"S GDA94, west to longitude 139°20'07"E GDA94 and north to the point of commencement.

Area: 486 km² approximately.

Description of Area—GEL 489

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

Commencing at a point being the intersection of latitude 31°54'52"S GDA94 and longitude 139°30'36"E GDA94, thence east to longitude 139°41'00"E GDA94, south to latitude 32°11'11"S GDA94, west to longitude 139°30'36"E GDA94 and north to the point of commencement.

Area: 493 km² approximately.

Description of Area—GEL 490

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

Commencing at a point being the intersection of latitude 31°46'43"S GDA94 and longitude 139°20'07"E GDA94, thence east to longitude 139°41'00"E GDA94, south to latitude 31°54'52"S GDA94, west to longitude 139°20'07"E GDA94 and north to the point of commencement.

Area: 496 km² approximately.

Description of Area—GEL 497

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

Commencing at a point being the intersection of latitude 31°10'00"S GDA94 and longitude 139°20'07"E GDA94, thence east to longitude 139°30'00"E GDA94, south to latitude 31°26'00"S GDA94, west to longitude 139°20'07"E GDA94 and north to the point of commencement.

Area: 464 km² approximately.

Dated 29 May 2009.

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

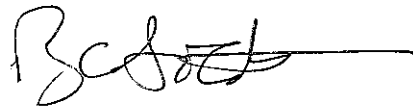
**Petroleum Act 2000
S.115**

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 486, 487, 488, 489, 490 and 497**

1. These Licences granted with effect from and including 29 May 2009 are hereby entered on the public register.
2. Interests in the licences are:-

Deep Energy Limited	100%
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3. Notation of receipt of security 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: 29 May 2009

Ref: 27/2/556
27/2/559


PETROLEUM ACT 2000

GEOTHERMAL EXPLORATION LICENCE

GEL 497

I, BARRY ALAN GOLDSTEIN, Director Petroleum and Geothermal, 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:

Deep Energy Ltd ACN 126 086 600

(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 28 May 2014 but carrying the right of renewal under the *Petroleum Act 2000*. 

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; and• Drill 5 test wells to depths of 200-500 metres. <i>(Work program may be carried out anywhere within GELs 486, 487, 488, 489, 490 and 497).</i>
Two	<ul style="list-style-type: none">• Geological and geophysical studies; and• Acquire 50 km of MT survey or 50 km of 2D seismic survey. <i>(Work program may be carried out anywhere within GELs 486, 487, 488, 489, 490 and 497).</i>
Three	<ul style="list-style-type: none">• Geological and geophysical studies. <i>(Work program may be carried out anywhere within GELs 486, 487, 488, 489, 490 and 497).</i>
Four	<ul style="list-style-type: none">• Drill one well to a depth of between 3000-4000 metres. <i>(Work program may be carried out anywhere within GELs 486, 487, 488, 489, 490 and 497).</i>
Five	<ul style="list-style-type: none">• Geological and geophysical studies. <i>(Work program may be carried out anywhere within GELs 486, 487, 488, 489, 490 and 497).</i>

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

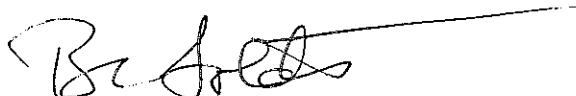
(b) an unconditional, irrevocable bank guarantee or letter of credit in a form, and from a financial institution, approved by the Minister,

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: 29 May2009



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

Signed by the said LICENSEE

Date: 11 MAY 2009


.....
Authorised Representative

JOHN RISINGER
.....
Name

DIRECTOR
.....
Position

DEEP ENERGY LTD
.....
Company

GEOTHERMAL EXPLORATION LICENCE

GEL 497

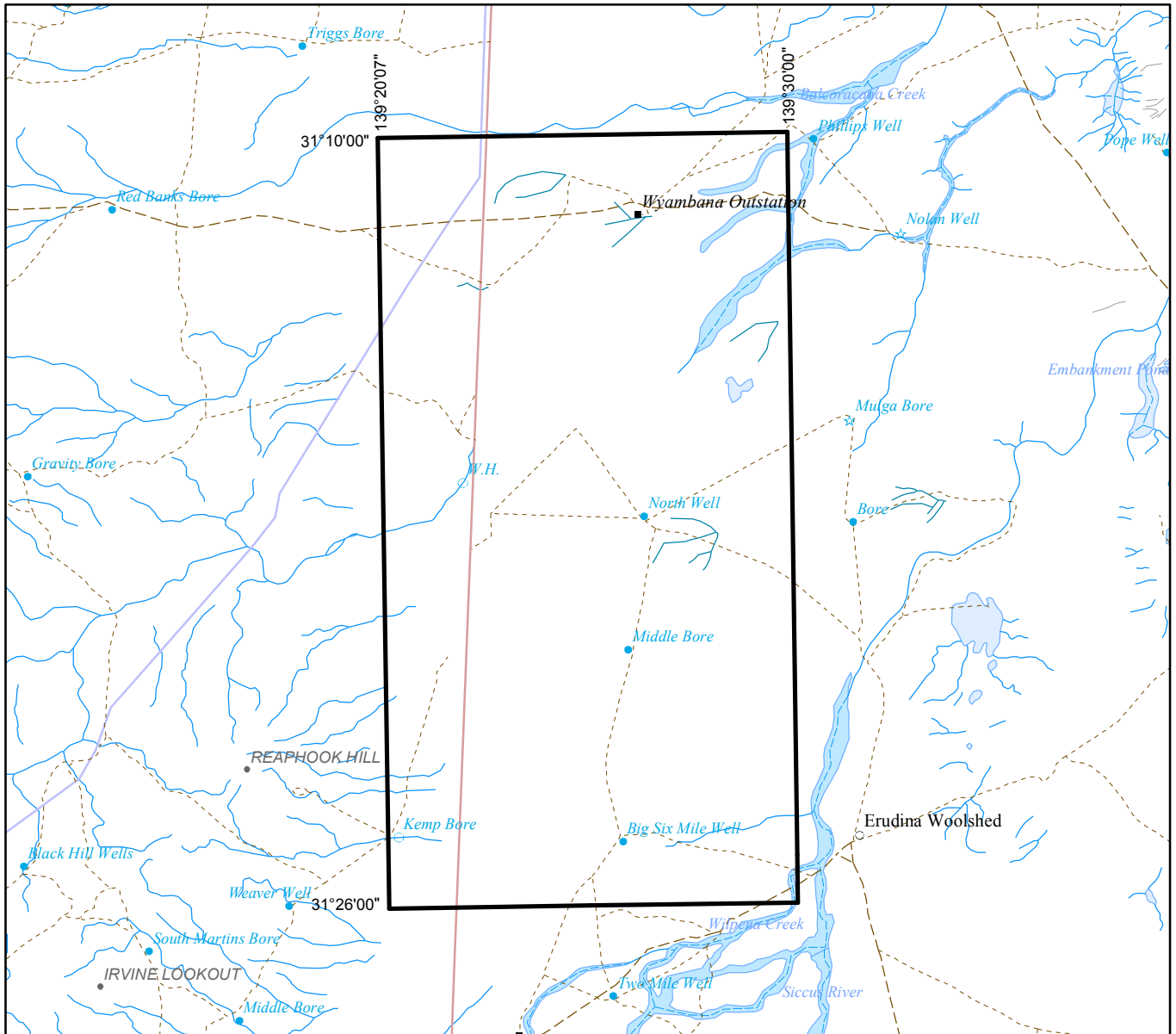
THE SCHEDULE

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°10'00"S GDA94 and longitude 139°20'07"E GDA94, thence east to longitude 139°30'00"E GDA94, south to latitude 31°26'00"S GDA94, west to longitude 139°20'07"E GDA94, and north to the point of commencement.

AREA: **464** 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: 497