



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

**MEMORANDUM**

**GEOHERMAL EXPLORATION LICENCES  
GELs 425, 481, 482 and 483**

1. Consolidation of the adjacent licence areas of GELs 425, 481, 482 and 483, whereby the consolidated licence area is now designated as GEL 425 is hereby entered on the public register.

The total area of GEL 425 is now 1,977 square kilometres approximately.

2. Revocation of GELs 481, 482 and 483 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: 7 July 2010

Ref: 27/2/535  
27/2/548

# Petroleum and Geothermal Energy Act 2000

## Consolidation of licence areas Geothermal Exploration Licences GELs 425, 481, 482 and 483

## Revocation of licences Geothermal Exploration Licences GELs 481, 482 and 483

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 with effect from 7 July 2010, the adjacent areas of Geothermal Exploration Licences GELs 425, 481, 482 and 483 held by –

**Torrens Energy Limited**  
ACN 118 065 704

The consolidated licence area shall be designated as:

### **Geothermal Exploration Licence GEL 425**

#### 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 33°15'00"S GDA94 and longitude 137°58'00"E GDA94, thence east to longitude 138°07'00"E GDA94, south to latitude 33°16'00"S GDA94, east to longitude 138°08'00"E GDA94, south to latitude 33°20'00"S GDA94, east to longitude 138°09'00"E GDA94, south to latitude 33°27'00"S GDA94, east to longitude 138°10'00"E GDA94, south to latitude 33°28'00"S GDA94, east to longitude 138°15'00"E GDA94, south to latitude 33°35'00"S GDA94, east to longitude 138°20'00"E GDA94, south to latitude 33°42'00"S GDA94, east to longitude 138°22'00"E GDA94, south to latitude 33°50'00"S GDA94, east to longitude 138°23'00"E GDA94, south to latitude 33°51'00"S GDA94, east to longitude 138°24'00"E GDA94, south to latitude 33°52'00"S GDA94, east to longitude 138°25'00"E GDA94, south to latitude 33°55'00"S GDA94, east to longitude 138°26'00"E GDA94, south to latitude 33°58'00"S GDA94, east to longitude 138°27'00"E GDA94, south to latitude 34°07'00"S GDA94, west to the eastern boundary of Clinton Conservation Park, thence generally north-westerly and south-westerly along the boundary of the said Conservation Park to latitude 34°09'00"S GDA94, west to longitude 138°01'00"E GDA94, north to latitude 34°07'00"S GDA94, east to longitude 138°02'00"E GDA94, north to latitude 34°04'00"S GDA94, east to longitude 138°06'36"E GDA94, north to latitude 33°59'30"S GDA94, east to longitude 138°09'00"E GDA94, north to latitude 33°32'50"S GDA94, west to longitude 138°02'00"E GDA94,

north to latitude 33°24'00"S GDA94, west to longitude 138°00'00"E GDA94,  
 north to latitude 33°18'00"S GDA94, west to longitude 137°58'00"E GDA94,  
 and north to the point of commencement but excluding Clements Gap Conservation  
 Park.

AREA: 1977 square kilometres approximately.

2. consequently revoke Geothermal Exploration Licences GELs 481, 482 and 483, with effect from 7 July 2010

As a consequence of the consolidation, the work program forming 'condition 1' of the consolidated GEL 425 comprises:

Year of Term of Licence	Minimum Work Requirements
One	<ul style="list-style-type: none"> <li>• Drill 3 fully cored narrow diameter holes up to 500m each and measure detailed geothermal gradients and thermal conductivities; and</li> <li>• Geological and geophysical review.</li> </ul> <p><i>(to be conducted anywhere within the area covered by GELs 226, 260, 261, 262, 425, 481, 482 and 483.)</i></p>
Two	<ul style="list-style-type: none"> <li>• Geological and geophysical review.</li> </ul> <p><i>(to be conducted anywhere within the area covered by GELs 226 and 425.)</i></p>
Three	<ul style="list-style-type: none"> <li>• Drill test well to full depth (3,500 – 5,000m); and</li> <li>• Conduct production testing.</li> </ul> <p><i>(to be conducted anywhere within the area covered by GELs 226 and 425.)</i></p>
Four	<ul style="list-style-type: none"> <li>• Geological and geophysical review.</li> </ul>
Five	<ul style="list-style-type: none"> <li>• Geological and geophysical review.</li> </ul>

Dated: 7 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**

The following signature evidences the consent of the licensee to the consolidation of GELs 425, 481, 482 and 483 as set out in this document and made pursuant to Section 82 of the *Petroleum and Geothermal Energy Act 2000*.

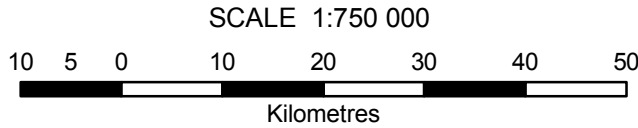
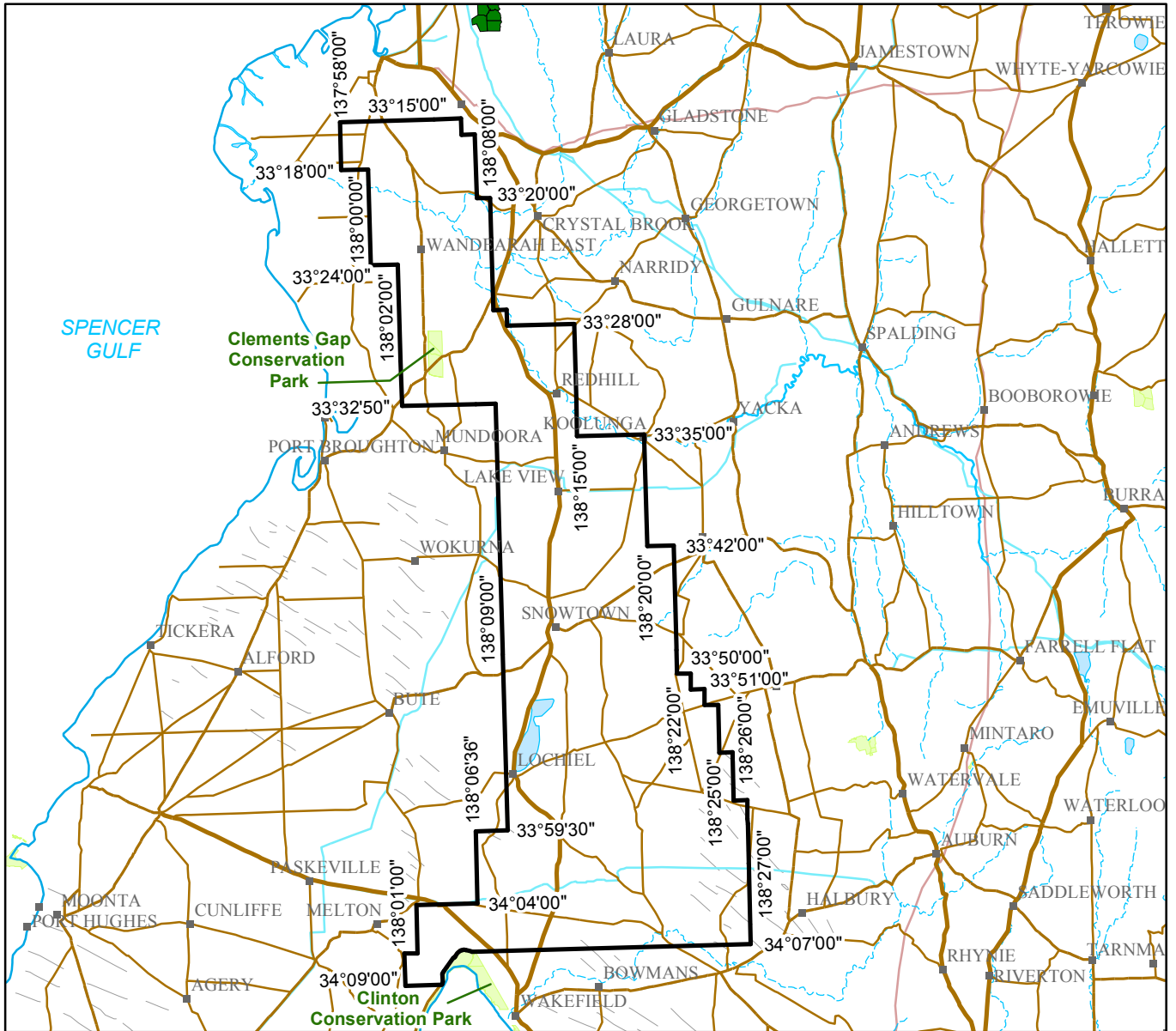
Signed for and on behalf of **Torrens Energy Limited** by its authorised representative:

..... 23/6/2010 .....  
Date

.....  .....  
Authorised Representative

..... JEROME RANDABEL .....  
Name

..... EXPLORATION 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 Australian Geodetic Datum (AGD66), the Geocentric Datum of Australia (GDA94) and the schedule.

THE PLAN HEREINBEFORE REFERRED TO

**GEOHERMAL EXPLORATION LICENCE NO: 425**



## PETROLEUM ACT 2000

*Grant of Geothermal Exploration Licences—GELs 425, 481, 482 and 483*

NOTICE is hereby given that the undermentioned Geothermal Exploration Licences have been granted with effect from and including 24 January 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 425	Torrens Energy Ltd	North of Port Wakefield, South Australia	23 January 2014	27/2/535
GEL 481				27/2/458
GEL 482				
GEL 483				

*Description of Area—GEL 425*

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

Commencing at a point being the intersection of latitude 33°59'30"S GDA94 and longitude 138°06'36"E GDA94, thence east to longitude 138°27'00"E GDA94, south to latitude 34°07'00"S GDA94, west to the eastern boundary of Clinton Conservation Park, thence generally north-westerly and south-westerly along the boundary of the said Conservation Park to latitude 34°09'00"S GDA94, west to longitude 138°01'00"E GDA94, north to latitude 34°07'00"S GDA94, east to longitude 138°02'00"E GDA94, north to latitude 34°04'00"S GDA94, east to longitude 138°06'36"E GDA94 and north to the point of commencement.

Area: 493 km<sup>2</sup> approximately.

*Description of Area—GEL 481*

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

Commencing at a point being the intersection of latitude 33°48'30"S GDA94 and longitude 138°09'00"E GDA94, thence east to longitude 138°22'00"E GDA94, south to latitude 33°50'00"S GDA94, east to longitude 138°23'00"E GDA94, south to latitude 33°51'00"S GDA94, east to longitude 138°24'00"E GDA94, south to latitude 33°52'00"S GDA94, east to longitude 138°25'00"E GDA94, south to latitude 33°55'00"S GDA94, east to longitude 138°26'00"E GDA94, south to latitude 33°58'00"S GDA94, east to longitude 138°27'00"E GDA94, south to latitude 33°59'30"S GDA94, west to longitude 138°09'00"E GDA94 and north to the point of commencement.

Area: 498 km<sup>2</sup> approximately.

*Description of Area—GEL 482*

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

Commencing at a point being the intersection of latitude 33°32'50"S GDA94 and longitude 138°09'00"E GDA94, thence east to longitude 138°15'00"E GDA94, south to latitude 33°35'00"S GDA94, east to longitude 138°20'00"E GDA94, south to latitude 33°42'00"S GDA94, east to longitude 138°22'00"E GDA94, south to latitude 33°48'30"S GDA94, west to longitude 138°09'00"E GDA94 and north to the point of commencement.

Area: 499 km<sup>2</sup> approximately.

*Description of Area—GEL 483*

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

Commencing at a point being the intersection of latitude 33°15'00"S GDA94 and longitude 137°58'00"E GDA94, thence east to longitude 138°07'00"E GDA94, south to latitude 33°16'00"S GDA94, east to longitude 138°08'00"E GDA94, south to latitude 33°20'00"S GDA94, east to longitude 138°09'00"E GDA94, south to latitude 33°27'00"S GDA94, east to longitude 138°10'00"E GDA94, south to latitude 33°28'00"S GDA94, east to longitude 138°15'00"E GDA94, south to latitude 33°32'50"S GDA94, west to longitude 138°02'00"E GDA94, north to latitude 33°24'00"S GDA94, west to longitude 138°00'00"E GDA94, north to latitude 33°18'00"S GDA94, west to longitude 137°58'00"E GDA94 and north to the point of commencement but excluding Clements Gap Conservation Park.

Area: 496 km<sup>2</sup> approximately.

Dated 19 December 2008.

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

**Petroleum Act 2000  
S.115**

**MEMORANDUM**

**GEOHERMAL EXPLORATION LICENCES  
GELs 425, 481, 482 and 483**

1. These Licences granted with effect from and including 24 January 2009 are hereby entered on the public register.
2. Interests in the licences are:-

Torrens 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: 19 December 2008

Ref: 27/2/535  
27/2/548

# PETROLEUM ACT 2000

## GEOHERMAL EXPLORATION LICENCE

### GEL 483

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:

**Torrens Energy Limited ACN 118 065 704**

(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, to have effect from 24 January 2009 and to expire on 23 January 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"><li>• Drill 3 fully cored narrow diameter holes up to 500m each and measure detailed geothermal gradients and thermal conductivities; and</li><li>• Geological and geophysical review.</li></ul> <p><i>(to be conducted anywhere within the area covered by GELs 226, 260, 261, 262, 425, 481, 482 and 483)</i></p>
Two	<ul style="list-style-type: none"><li>• Geological and geophysical review.</li></ul> <p><i>(to be conducted anywhere within the area covered by GELs 226, 260, 261, 262, 425, 481, 482 and 483)</i></p>

<b>Three</b>	<ul style="list-style-type: none"> <li>• Drill test well to full depth (3,500 – 5,000m); and</li> <li>• Conduct production testing.</li> </ul> <p><i>(to be conducted anywhere within the area covered by GELs 226, 260, 261, 262, 293, 425, 481, 482 and 483)</i></p>
<b>Four</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical review.</li> </ul> <p><i>(to be conducted anywhere within the area covered by GELs 425, 481, 482 and 483)</i></p>
<b>Five</b>	<ul style="list-style-type: none"> <li>• Geological and geophysical review.</li> </ul> <p><i>(to be conducted anywhere within the area covered by GELs 425, 481, 482 and 483)</i></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: 19 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**

Signed by the said LICENSEE

Date: 18<sup>TH</sup> DECEMBER ..... 2008

B. N. Godsmark  
.....  
Authorised Representative

BRUCE GODSMARK  
.....  
Name

EXPLORATION MANAGER  
.....  
Position

TORRENS ENERGY  
.....  
Company

# GEOTHERMAL EXPLORATION LICENCE

**GEL 483**

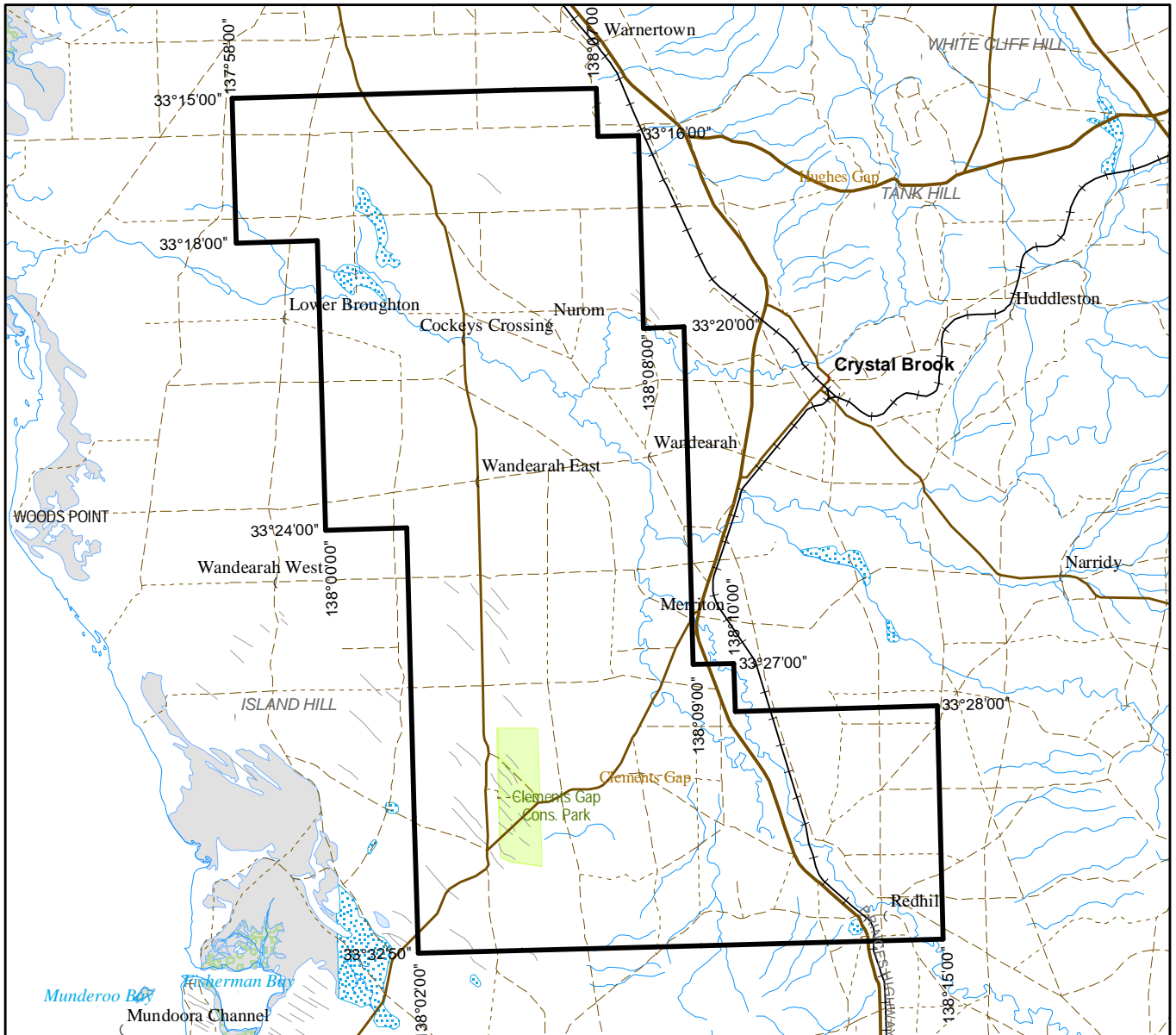
## THE SCHEDULE

### Description of Area

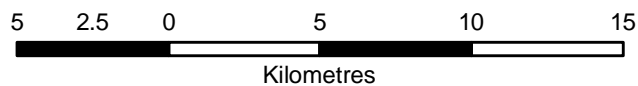
All that part of the State of South Australia, bounded as follows:-

Commencing at a point being the intersection of latitude 33°15'00"S GDA94 and longitude 137°58'00"E GDA94, thence east to longitude 138°07'00"E GDA94, south to latitude 33°16'00"S GDA94, east to longitude 138°08'00"E GDA94, south to latitude 33°20'00"S GDA94, east to longitude 138°09'00"E GDA94, south to latitude 33°27'00"S GDA94, east to longitude 138°10'00"E GDA94, south to latitude 33°28'00"S GDA94, east to longitude 138°15'00"E GDA94, south to latitude 33°32'50"S GDA94, west to longitude 138°02'00"E GDA94, north to latitude 33°24'00"S GDA94, west to longitude 138°00'00"E GDA94, north to latitude 33°18'00"S GDA94, west to longitude 137°58'00"E GDA94, and north to the point of commencement but excluding Clements Gap Conservation Park

AREA: **496** 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: 483**