

**INDEX OF DOCUMENTS HELD ON THE PUBLIC REGISTER FOR
GEOTHERMAL EXPLORATION LICENCE GEL 336**

1. 20 September 2007 Memorandum entering GEL 336 on the public register.
2. 20 September 2007 Geothermal Exploration Licence GEL 336
Interests: MNGI Pty Ltd 100%
3. 20 September 2007 Notation of Receipt of Security
4. 27 September 2007 Gazettal of Grant of GEL 336
5. 26 March 2008 Variation of Work Program
6. 26 March 2008 Memorandum entering Variation on public register
7. 26 March 2008 Gazettal of Variation
8. 26 March 2008 Suspension of Licence from 18 March 2008 to 20 May 2008.
Expiry date of GEL 336 is now 22 November 2012.
9. 26 March 2008 Memorandum entering suspension of licence on public register.
10. 26 March 2008 Gazettal of Suspension of GEL 336.
11. 11 September 2008 Notation of Deed of Variation - Paralana Energy Farmin Agreement dated 11 August 2008 between MNGI Pty Ltd and Beach Petroleum Limited is hereby entered on the public register.
Ref: SA 2008-22
12. 11 September 2008 Notation of Paralana Joint Venture Joint Operating and Production Agreement dated 11 August 2008 between Beach Petroleum Limited, MNGI Pty Ltd and Petratherm Limited is hereby entered on the public register.
Ref: SA 2008-23
13. 22 January 2009 Notation of Paralana Energy Farmin Agreement dated 15 January 2009 between MNGI Pty Ltd and TRUenergy Geothermal Pty Ltd is hereby entered on the public register.
Ref: SA 2009-01

14. 22 January 2009 Notation of Paralana Tripartite Agreement dated 19 January 2009 between Beach Petroleum Limited, MNGI Pty Ltd, Petratherm Limited and TRUenergy Geothermal Pty Ltd is hereby entered on the public register.
Ref: SA 2009-02
15. 23 December 2009 Variation of licence conditions.
16. 23 December 2009 Memorandum entering variation of licence conditions on the public register.
17. 9 September 2010 Memorandum entering notation of the following registrable dealing on the public register.

Deed of Variation No. 2 – Paralana Energy Farmin Agreement dated 23 August 2010 between MNGI Pty Ltd and Beach Energy Limited.

Ref: SA 2010-48
18. 1 November 2010 Memorandum entering notation of the following registrable dealing on the public register.

Deed of Assignment (GEL 336) dated 20 September 2010 between MNGI Pty Ltd and Beach Energy Limited.

Ref: SA 2010-50

Interests in the licence are:

MNGI Pty Ltd	79%
Beach Energy Limited	21%
19. 7 August 2012 Suspension of licence for the period from and including 30 July 2012 to 29 July 2013.

GEL 336 is now due to expire on 11 November 2013.
20. 7 August 2012 Memorandum entering suspension of licence on the public register.
21. 7 August 2012 Variation of licence conditions.
22. 7 August 2012 Memorandum entering variation of licence conditions on the public register.
23. 16 August 2012 Gazettal of suspension of licence.

24. 5 October 2012 Memorandum entering notation of the following registrable dealing on the public register.
- Paralana Termination Deed dated 31 August 2012 between Beach Energy Ltd, MNGI Pty Limited, Petratherm Limited and TRUenergy Geothermal Pty Limited.
- Ref: SA 2012-52
25. 12 November 2013 Consolidation of licence area with GEL 254 and subsequent revocation of licence.
26. 12 November 2013 Memorandum entering consolidation of licence area and revocation of licence on the public register.

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 254 and 336

1. Consolidation of the adjacent licence areas of GELs 254 and 336 whereby the consolidated licence area is now designated as GEL 254 is hereby entered on the public register.

The total area of GEL 254 is now 906 km² approximately.

2. Revocation of GEL 336 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: 12 November 2013

Ref: 27/2/413
27/2/504

Petroleum and Geothermal Energy Act 2000

CONSOLIDATION OF LICENCE AREAS GEOTHERMAL EXPLORATION LICENCES GELs 254 and 336

REVOCATION OF LICENCE GEOTHERMAL EXPLORATION LICENCE GEL 336

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 254 and 336 held by -

MNGI Pty Ltd
ACN 091 525 361
Beach Energy Limited
ACN 007 617 969

The consolidated licence area shall be designated as:

Geothermal Exploration Licence GEL 254

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 30°00'00"S GDA94 and longitude 139°38'00"E GDA94, thence east to longitude 139°53'00"E GDA94, south to latitude 30°03'00"S GDA94, east to longitude 139°58'00"E GDA94, south to latitude 30°13'00"S GDA94, west to longitude 139°56'00"E GDA94, south to latitude 30°18'00"S GDA94, west to longitude 139°55'00"E GDA94, south to latitude 30°19'00"S GDA94, west to longitude 139°53'00"E GDA94, south to latitude 30°22'00"S GDA94, west to longitude 139°51'00"E GDA94, south to latitude 30°24'00"S GDA94, west to longitude 139°45'00"E GDA94, south to latitude 30°28'00"S GDA94, west to longitude 139°37'00"E GDA94, south to latitude 30°35'00"S GDA94, west to the northern boundary of the Gammon Ranges National Park, thence generally north westerly along the boundary of the said National Park to longitude 139°21'00"E GDA94, north to latitude 30°30'00" GDA94, east to longitude 139°22'00"E GDA94, north to latitude 30°29'00"S GDA94, east to longitude 139°24'00"E GDA94, south to latitude 30°31'00"S GDA94, east to longitude 139°35'00"E GDA94, north to latitude 30°28'00"S GDA94, east to longitude 139°36'00"E GDA94, north to latitude 30°26'00"S GDA94, east to longitude 139°37'00"E GDA94, north to latitude 30°25'00"S GDA94, east to longitude 139°38'00"E GDA94, north to latitude 30°23'00"S GDA94, east to longitude 139°39'00"E GDA94,

north to latitude 30°21'00"S GDA94, east to longitude 139°41'00"E GDA94,
north to latitude 30°20'00"S GDA94, east to longitude 139°50'00"E GDA94,
north to latitude 30°03'00"S GDA94, west to longitude 139°38'00"E GDA94,
and north to the point of commencement.

AREA: **906** square kilometres approximately.

2. Consequently revoke Geothermal Exploration Licence GEL 336

As a consequence of the consolidation, the year 5 work program forming 'condition 1' of the consolidated GEL 254 comprises:

Year of Term of Licence	Minimum Work Requirements
Five	<ul style="list-style-type: none">• Geological and geophysical studies. <i>(Year 5 work program may be conducted anywhere within the boundaries of GELs 156 and 254).</i>

Dated: *12 November 2013*



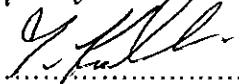
BARRY A. GOLDSTEIN
Executive Director
Energy Resources Division
Department for Manufacturing, Innovation, Trade, Resources and Energy
Delegate of the Minister for Mineral Resources and Energy

The following signature evidences the consent of the licensee to the consolidation of GELs 254 and 336 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 **MNGI Pty Ltd** by its authorised representative:

..... 28/10/2013

Date

..... 

Authorised Representative

..... TERRY KALLIS

Name

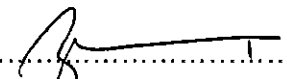
..... MANAGING DIRECTOR

Position

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

..... 31/10/13

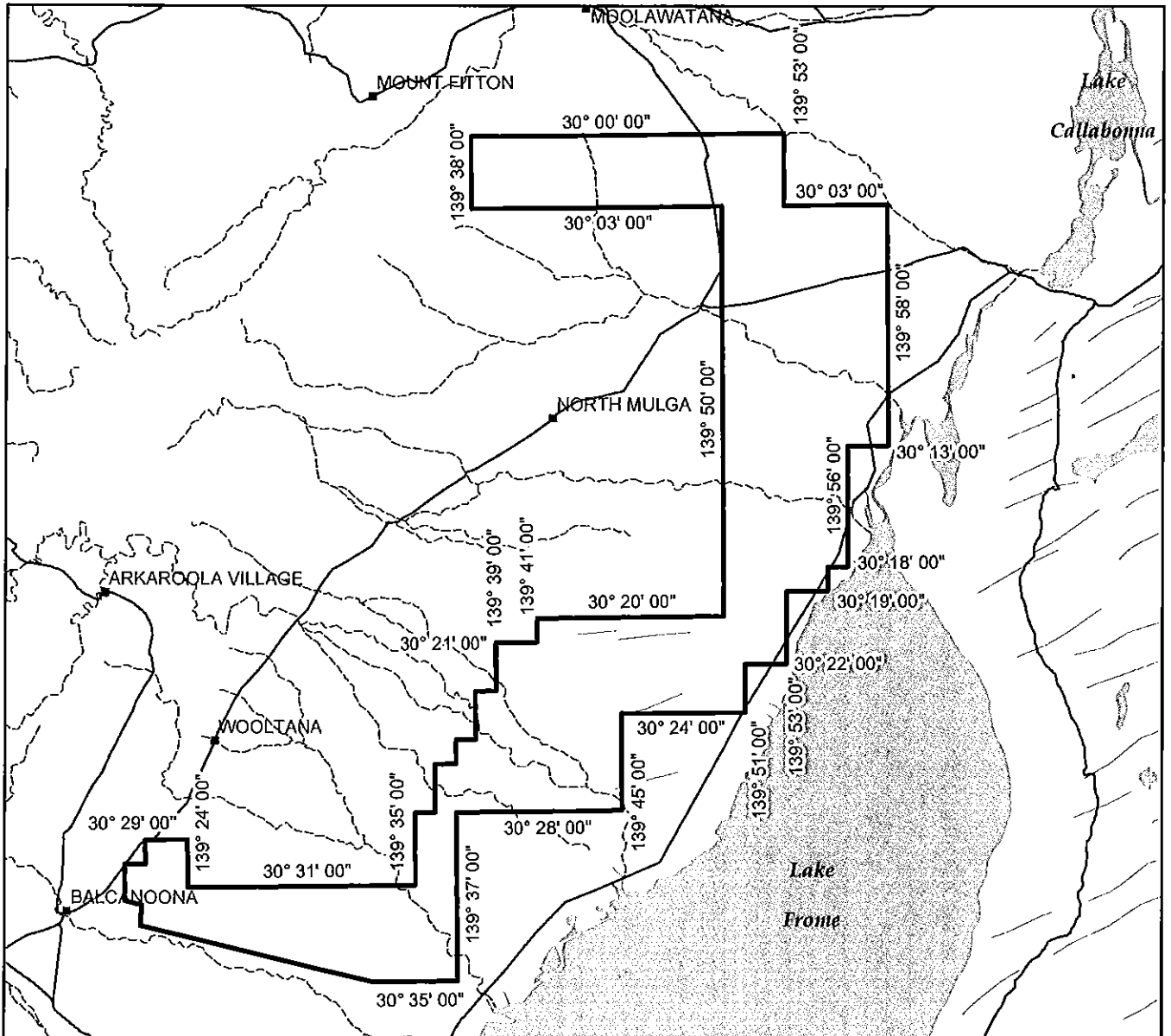
Date

..... 

Authorised Representative

.....
Name **NEIL GIBBINS**
Chief Operating Officer

Position



SCALE 1:500 000



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: 254



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

SR 27/2/413

AREA: 906 sq km (approx)

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 156, 254 and 336

SA 2012-52 Notation of registrable dealing as evidenced by Paralana Termination Deed dated 31 August 2012 between Beach Energy Limited, MNGI Pty Limited, Petrathern Limited and TRUenergy Geothermal Pty Limited 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: 5 October 2012

Ref: 27/2/261
27/2/413
27/2/504

PETROLEUM AND GEOTHERMAL ENERGY ACT 2000

*Suspension of Geothermal Exploration Licences—
GELs 156, 254 and 336*

PURSUANT to Section 90 of the Petroleum and Geothermal Energy Act 2000, notice is hereby given that the abovementioned Geothermal Exploration Licences have been suspended for the period from and including 30 July 2012 until 29 July 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 156 is now determined to be 11 November 2015.

The expiry date of GELs 254 and 336 is now determined to be 11 November 2013.

Dated 7 August 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 Petroleum Exploration Licence—PEL 138

PURSUANT to Section 90 of the Petroleum and Geothermal Energy Act 2000, notice is hereby given that the abovementioned Petroleum Exploration Licence has been suspended for the period from and including 24 August 2012 until 23 August 2013, under the provisions of the Petroleum and Geothermal Energy Act 2000, pursuant to delegated powers dated 21 March 2012.

The expiry date of PEL 138 is now determined to be 15 April 2017.

Note: This notice supersedes the PEL 138 suspension notice dated 27 July 2012 and published in the *South Australian Government Gazette* on 2 August 2012.

Dated 9 August 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

ROADS (OPENING AND CLOSING) ACT 1991

Section 37

NOTICE is hereby given pursuant to Section 37 (1) of the Roads (Opening and Closing) Act 1991, that:

WHEREAS it is considered that JOSEPH THEODOR BOTTROFF of Caurnamont Farmer was entitled to a Certificate of Title over the closed road 'B' in Road Plan No. 272 in exchange for portion of Section 107, Hundred of Ridley, opened as road and being the whole of the land numbered '1' in Road Plan No. 272, deposited in the Office of the Surveyor-General at Adelaide *vide* notice of confirmation of road order published in the *Government Gazette* of 25 October 1888, at page 1054;

AND whereas no Certificate of Title was issued in respect of the said closed road and the said JOSEPH THEODOR BOTTROFF is believed to be dead or unknown;

AND whereas application is made by WERINA NOMINEES PTY LTD of Private Bag 47, Mannum, S.A. 5238 for the issue of a Certificate of Title over the said closed road by virtue of possession;

AND whereas I am satisfied that the applicant is in possession of the said closed road and that there is apparently no other known person entitled to possession thereof;

TAKE NOTICE that unless objection by any person claiming any interest in the said land is made in writing to me within 28 days from the date of this notice, I propose to issue a Certificate of Title for the said land to the said applicant.

Objections should be addressed to the Surveyor-General, Department of Planning, Transport and Infrastructure, G.P.O. Box 1354, Adelaide, S.A. 5001.

Dated 16 August 2012.

P. M. KENTISH, Surveyor-General


DPTI 12/0033

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

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 156, 254 and 336**

1. Variation of licence conditions 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: 7 August 2012

Ref: 27/2/261
27/2/413
27/2/504

Petroleum and Geothermal Energy Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCE GEL 336

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 -

MNGI Pty Ltd
ACN 091 525 361

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. Years one and two 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 and Two	<ul style="list-style-type: none">• Complete injection well design; and• Drill 1st injection well.• <i>Year 1 and 2 work program may be conducted anywhere within the boundaries of GELs 156, 254 and 336.</i>
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">• Geological and geophysical studies. <i>(Year 5 work program may be conducted anywhere within the boundaries of GELs 156, 254 and 336).</i>

Dated: 7 August 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

**GEOHERMAL EXPLORATION LICENCES
GELs 156, 254 and 336**

1. Suspension of licences 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: 7 August 2012

Ref: 27/2/261
27/2/413
27/2/504

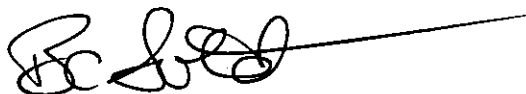
Petroleum and Geothermal Energy Act 2000
S.90

**SUSPENSION OF
GEOTHERMAL EXPLORATION LICENCES
GELs 156, 254 and 336**

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 licences GELs 156, 254 and 336 for the period from and including 30 July 2012 to 29 July 2013.
1. No regulated activities are permitted to be carried out during the period of the suspension.
 2. The expiry date of GEL 156 is now determined to be 22 November 2015.
 3. The expiry date of GELs 254 and 336 is now determined to be 22 November 2013.

Dated: 7 August 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

GEOHERMAL EXPLORATION LICENCE
GEL 336

SA 2010-50 Notation of registrable dealing as evidenced by Deed of Assignment (GEL 336) dated 20 September 2010 between MNGI Pty Ltd and Beach Energy Limited is hereby entered on the public register.

Interests in the licence are:

MNGI Pty Ltd	79%
Beach Energy Limited	21%



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: 1 November 2010

Ref: 27/2/504

Petroleum and Geothermal Energy Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GELs 156, 254 and 336

SA 2010-48 Notation of registrable dealing as evidenced by Deed of Variation No. 2 – Paralana Energy Farming Agreement dated 23 August 2010 between MNGI Pty Ltd and Beach Energy Limited 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 September 2010

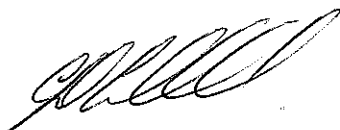
Ref: 27/2/261
27/2/413
27/2/504

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

MEMORANDUM

**GEOHERMAL EXPLORATION LICENCES
GELs 156, 178, 180, 254 AND 336**

1. Variation of licence conditions 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: 27/2/261
27/2/302
27/2/305
27/2/413
27/2/504

Petroleum and Geothermal Energy Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCE GEL 336

I, CYRIL DAVID COCKSHELL, Acting 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 geothermal exploration licence GEL 336 held by -

MNGI Pty Ltd
ACN 091 525 361

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 and two exploratory operations are guaranteed. These exploratory operations shall include but not necessarily be limited to:-

Year of Term of Licence	Minimum Work Requirements
One and Two	<ul style="list-style-type: none">• Complete injection well design; and• Drill 1st injection well. <p><i>Year 1 and 2 work program may be conducted anywhere within the boundaries of GELs 156, 178, 180, 254 and 336</i></p>
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">• Drill one well (3,500 m)

Dated: 23 December 2009



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

Petroleum Act 2000
S.115

MEMORANDUM

GEOTHERMAL EXPLORATION LICENCES
GEL 156; GEL 178; GEL 180; GEL 254; GEL 336

- SA 2009-01 Notation of registrable dealing as evidenced by Paralana Energy Farmin Agreement dated 15 January 2009 between MNGI Pty Ltd and TRUenergy Geothermal Pty Ltd, is hereby entered on the public register.
- SA 2009-02 Notation of registrable dealing as evidenced by Paralana Tripartite Agreement dated 19 January 2009 between Beach Petroleum Limited, MNGI Pty Ltd, Petratherm Limited and TRUenergy Geothermal Pty Ltd, is hereby entered on the public register.



MICHAEL MALAVAZOS
Acting Director Petroleum and Geothermal
Minerals and Energy Resources
Primary Industries and Resources SA
Delegate of the Minister for Mineral Resources
Development

Date: 22 January 2009


27/2/261
27/2/301
27/2/305
27/2/413
27/2/504

Petroleum Act 2000
S.115

MEMORANDUM

GEOHERMAL EXPLORATION LICENCES
GEL 156; GEL 178; GEL 180; GEL 254; GEL 336

- SA 2008-22 Notation of registrable dealing as evidenced by Deed of Variation - Paralana Energy Farmin Agreement dated 11 August 2008 between MNGI Pty Ltd and Beach Petroleum Limited is hereby entered on the public register.
- SA 2008-23 Notation of registrable dealing as evidenced by Paralana Joint Venture Joint Operating and Production Agreement dated 11 August 2008 between Beach Petroleum Limited, MNGI Pty Ltd and Petratherm Limited 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: 11 September 2008

27/2/261
27/2/301
27/2/305
27/2/413
27/2/504

PETROLEUM ACT 2000

SECTION 25 (5) (b)

Variation of Petroleum Exploration Licence—GEL 336

NOTICE is hereby given that under the provisions of the Petroleum Act 2000, pursuant to delegated powers dated 28 March 2002, *Gazetted* 11 April 2002, page 1573, the conditions of the abovementioned Exploration Licence have been varied as follows:

Condition 1 of each 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 two 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:

Licence Year	Proposed Commitment
One and Two	Injection well design completed. Drill 1st injection well. Down hole thermal analysis. Down hole stress analysis. Reservoir development and modelling. Drill 1st production well (3.5 km). Circulation testing. Commercial feasibility and development study. Commercial negotiation for further funding. Drill 2nd production well to complete triplet (3.5 km). Reservoir stimulation. Circulation testing. Commercial feasibility and development study. (The year one and two work program may be conducted anywhere within the boundaries of GELs 156, 178, 180, 254 and 336).
Three	Geological and Geophysical studies.
Four	Geological and Geophysical studies.
Five	Drill 1 well (3 500 m).

2. The Exploration Licence GEL 336 has been suspended from and including 18 March 2008 to 20 May 2008. The expiry date of Exploration Licence GEL 336 is now determined to be 22 November 2012.

Dated 26 March 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 LICENCE
GEL 336**

1. Suspension of licence from and including 18 March 2008 to 20 May 2008 is hereby entered on the public register.
2. Expiry date of GEL 336 is now 22 November 2012.



**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: 26 March 2008

Ref: 27/2/504

Petroleum Act 2000
S.90

**SUSPENSION OF
GEOTHERMAL EXPLORATION LICENCE
GEL 336**

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 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 licence GEL 336 for the period from and including 18 March 2008 to 20 May 2008.

1. No regulated activities are permitted to be carried out during the period of the suspension.
2. The expiry date of GEL 336 is now determined to be 22 November 2012.

Dated: 26 March 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

SECTION 25 (5) (b)

Variation of Petroleum Exploration Licence—GEL 336

NOTICE is hereby given that under the provisions of the Petroleum Act 2000, pursuant to delegated powers dated 28 March 2002, *Gazetted* 11 April 2002, page 1573, the conditions of the abovementioned Exploration Licence have been varied as follows:

Condition 1 of each 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 two 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:

Licence Year	Proposed Commitment
One and Two	Injection well design completed. Drill 1st injection well. Down hole thermal analysis. Down hole stress analysis. Reservoir development and modelling. Drill 1st production well (3.5 km). Circulation testing. Commercial feasibility and development study. Commercial negotiation for further funding. Drill 2nd production well to complete triplet (3.5 km). Reservoir stimulation. Circulation testing. Commercial feasibility and development study. (The year one and two work program may be conducted anywhere within the boundaries of GELs 156, 178, 180, 254 and 336).
Three	Geological and Geophysical studies.
Four	Geological and Geophysical studies.
Five	Drill 1 well (3 500 m).

2. The Exploration Licence GEL 336 has been suspended from and including 18 March 2008 to 20 May 2008. The expiry date of Exploration Licence GEL 336 is now determined to be 22 November 2012.

Dated 26 March 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 LICENCE
GELs 156, 178, 180, 254 & 336**

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: 26 March 2008

Ref: 27/2/261
27/2/302
27/2/305
27/2/413
27/2/504

Petroleum Act 2000

VARIATION OF GEOTHERMAL EXPLORATION LICENCE GEL 336

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 vary the conditions of geothermal exploration licences GEL 336 held by -

MNGI Pty Ltd

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 to two 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:-

Licence Year	Proposed Commitment
One And Two	<ul style="list-style-type: none">• Injection well design completed• Drill 1st injection well• Down hole thermal analysis• Down hole stress analysis• Reservoir development & modelling• Drill 1st production well (3.5 km)• Circulation testing• Commercial feasibility & development study• Commercial negotiation for further funding• Drill 2nd production well to complete triplet (3.5 km)• Reservoir stimulation• Circulation testing• Commercial feasibility and development study <p>(The year one and two work program may be conducted anywhere within the boundaries of GELs 156, 178, 180, 254 and 336).</p>
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">• Drill one well (3,500 metres)

”

Dated: 26 March 2008

A handwritten signature in black ink, appearing to read 'B. Goldstein', with a long horizontal flourish extending to the right.

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

Grant of Geothermal Exploration Licence—GEL 336

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

No. of Licence	Licensee	Locality	Date of Expiry	Reference
GEL 336	MNGI Pty Ltd	Arrowie Basin, South Australia	19 September 2012	27/2/504

Description of Area—GEL 336

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

Area A—Commencing at a point being the intersection of latitude 30°00'00"S GDA94 and longitude 139°38'00"E GDA94, thence east to longitude 139°42'00"E GDA94, south to latitude 30°03'00"S GDA94, west to longitude 139°38'00"E GDA94, and north to the point of commencement.

Area B—Commencing at a point being the intersection of latitude 30°03'00"S GDA94 and longitude 139°53'00"E GDA94, thence east to longitude 139°58'00"E GDA94, south to latitude 30°13'00"S GDA94, west to longitude 139°56'00"E GDA94, south to latitude 30°18'00"S GDA94, west to longitude 139°55'00"E GDA94, south to latitude 30°19'00"S GDA94, west to longitude 139°53'00"E GDA94, and north to the point of commencement.

Area C—Commencing at a point being the intersection of latitude 30°28'00"S GDA94 and longitude 139°35'00"E GDA94, thence east to longitude 139°37'00"E GDA94, south to latitude 30°35'00"S GDA94, west to the northern boundary of the Gammon Ranges National Park, thence generally north-westerly along the boundary of the said National Park to longitude 139°21'00"E GDA94, north to latitude 30°30'00"S GDA94, east to longitude 139°22'00"E GDA94, north to latitude 30°29'00"S GDA94, east to longitude 139°24'00"E GDA94, south to latitude 30°31'00"S GDA94, east to longitude 139°35'00"E GDA94, and north to the point of commencement.

Area: 408 km² approximately.

Dated 29 September 2007.

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 LICENCE
GEL 336**

1. This Licence granted on 20 September 2007 is hereby entered on the public register.
2. Interests in the licence are:-

MNGI Pty Ltd	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: 20 September 2007

Ref: 27/2/504

PETROLEUM ACT 2000

GEOHERMAL EXPLORATION LICENCE

GEL 336

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:

MNGI Pty Ltd ACN 091 525 361

(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 20 September 2007 and to expire on 19 September 2012 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
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">• Drill one well (3,500 metres)

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:2007

20 September



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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: 14/9 2007

Peter Reid

Authorised Representative

Peter Reid

Name

Operations Manager

Position

Petrotherm Ltd

Company

GEOHERMAL EXPLORATION LICENCE

GEL 336

THE SCHEDULE

Description of Area

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

AREA A

Commencing at a point being the intersection of latitude 30°00'00"S GDA94 and longitude 139°38'00"E GDA94, thence east to longitude 139°42'00"E GDA94, south to latitude 30°03'00"S GDA94, west to longitude 139°38'00"E GDA94, and north to the point of commencement.

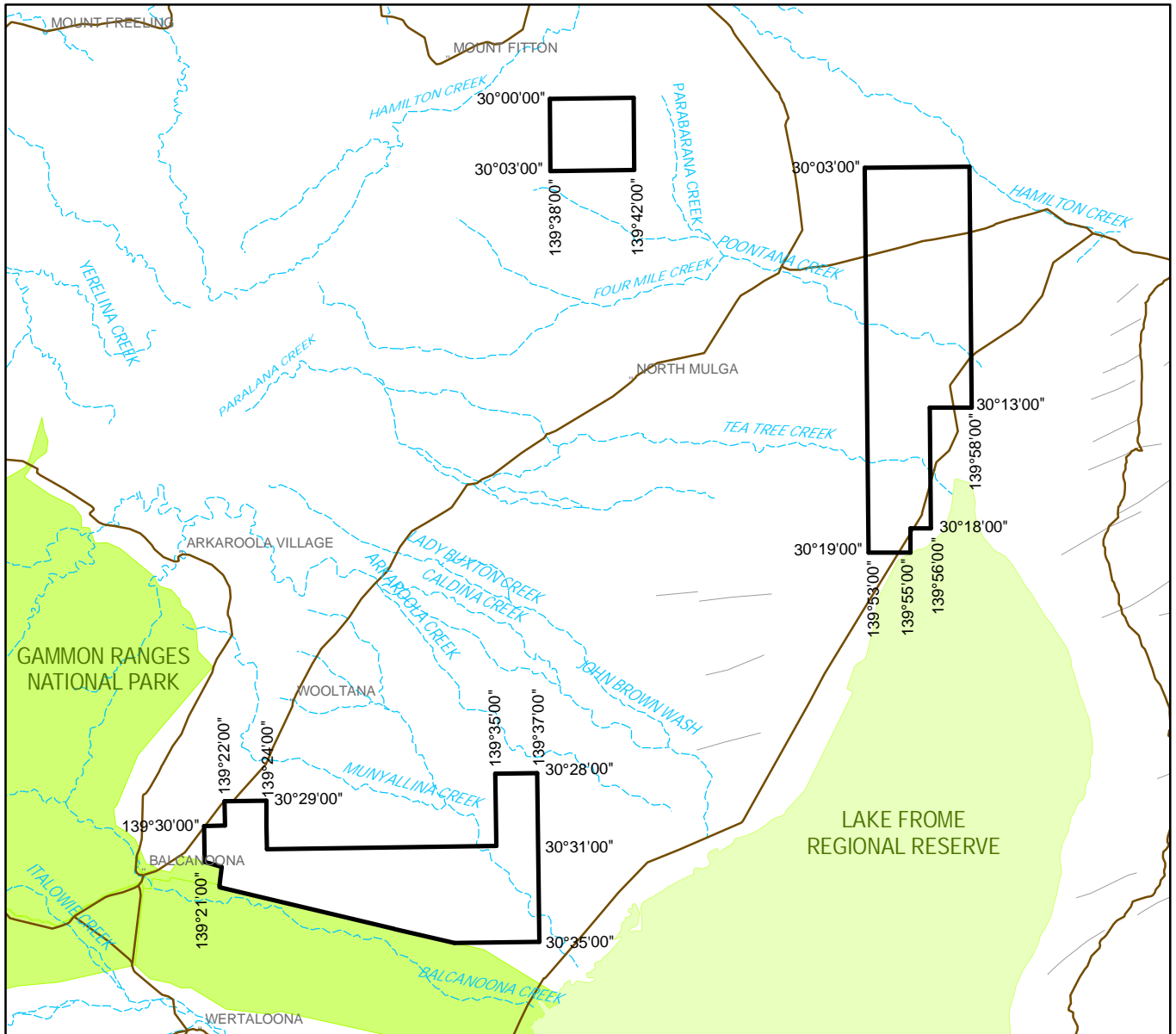
AREA B

Commencing at a point being the intersection of latitude 30°03'00"S GDA94 and longitude 139°53'00"E GDA94, thence east to longitude 139°58'00"E GDA94, south to latitude 30°13'00"S GDA94, west to longitude 139°56'00"E GDA94, south to latitude 30°18'00"S GDA94, west to longitude 139°55'00"E GDA94, south to latitude 30°19'00"S GDA94, west to longitude 139°53'00"E GDA94, and north to the point of commencement.

AREA C

Commencing at a point being the intersection of latitude 30°28'00"S GDA94 and longitude 139°35'00"E GDA94, thence east to longitude 139°37'00"E GDA94, south to latitude 30°35'00"S GDA94, west to the northern boundary of the Gammon Ranges National Park, thence generally northwesterly along the boundary of the said National Park to longitude 139°21'00"E GDA94, north to latitude 30°30'00" GDA94, east to longitude 139°22'00"E GDA94, north to latitude 30°29'00"S GDA94, east to longitude 139°24'00"E GDA94, south to latitude 30°31'00"S GDA94, east to longitude 139°35'00"E GDA94, and north to the point of commencement.

AREA: **408** square kilometres approximately.



SCALE 1:500 000



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: 336

