



Terra Tasmania Resources

2013 ANNUAL REPORT for EL30/2011

Exploration Activity of Terra Tasmania Resources Pty Ltd

**Submitted pursuant to the
Mineral Resources Development Act 1995**

January 2014



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PREFACE

This Report has been prepared in accordance with the conditions outlined in Exploration Licence EL30/2011, subject to the Mineral Resources Development Act 1995 (As amended). To the best of Terra Tasmania Resources Pty Ltd ('TTR') knowledge, the report presented herein represents the intentions at the time of printing of the report.

During preparation of this report TTR has relied upon data, surveys, analysis, designs, plans and other information provided by past reports, third parties, and other individuals and organisations referenced herein. Except as otherwise stated in this report, TTR has not independently verified the accuracy or completeness of all nominated data, surveys, analysis, designs, plans and additional supporting information.

Terra Tasmania Resources Pty Ltd does not accept any responsibility for use of any part of this report by third parties.

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EXECUTIVE SUMMARY

TTR during 2013 was restricted in the implementation of its previously stated work program due to collapse of the funding from Global Emerging Markets ('GEM'), a multi-billion dollar hedge fund in New York who had guaranteed both TTR and MRT of its bona-fides during the application process of ERA791 in March 2011.

TTR has focussed in 2013 on ranking its known prospects and leads ahead of discussions being held in the USA and Australia to fund a multi-well drilling program on EL30/2011. Finalisation of funding discussions are expected within the first quarter of 2014.

TTR has concentrated its efforts during 2013 on analysing and prioritising all of the existing data on the MRT database along with the limited data provided by Terra Energy and Resource Technologies Inc (New York) on four of the key prospects and leads that exist within the boundary of EL30/2011. The assessment has focussed from the outset on consideration centred around the most prospective four structures that, based on ranking, would be incorporated into a future drilling program.

TTR identified the initial key structures to concentrate its 2013 studies on as:

1. Bracknell Dome (Junction of Greenrises Road & Bishopbourne Road)
2. Stockwell (Valleyfield Road, Campbelltown)
3. Butlers Rise (situated on the property 'Ballochmyle' adjacent to town of Tunbridge)
4. Hummocky Hills (adjacent to Powranna Road in the Cressy district)

Preliminary satellite analysis by Terra Energy & Resource Technologies Inc. ('TERT') has confirmed the same location of each structure that was determined by the former tenement holder, but differ in assessment of size and hydrocarbon bearing potential. TERT's technology has also located an additional number of smaller structures across EL30/2011 that will be examined in detail at a later date.



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During the ten year term of the former SEL13/1998, the former tenement holder conducted a range of different studies across section of the Tasmania Basin.

TTR is continuing to prioritise the data and preparing in 2014 to commence:

- engagement of specialised consultants to provide reports covering the criteria required for drilling plans on four of the key structures that have not already been completed and/or are required to be brought up to date
- implementation of land rental agreements from landowners where drilling targets have been identified and proposed drilling is to commence
- consummation of third party funding for EL30/2011 that will lead to commencement of a multi-well drilling program on the proposed drill sites that have been selected due to their importance in the overall assessment of EL30/2011 and their chances of a successful oil/gas show.

TTR is confident it will position itself to succeed with a drilling program during 2014 and make hydrocarbon production a reality for the Tasmanian government and its citizens.



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1. INTRODUCTION

1.1 Oil Exploration in Tasmania

Numerous companies have investigated and explored for commercial hydrocarbons in Tasmania commencing in 1915 through to 1939. More recent initiatives recommenced in the early 1960's with several holes drilled in the north west of the State. The holes drilled were shallow and were not undertaken in what is now considered to be the most prospective area now known as the Tasmania Basin. Very little base line data was available for early explorers which increased their chances of failure with any drilling undertaken. No commercial hydrocarbons have yet been discovered. The majority of studies conducted to date to determine the potential for commercial oil and gas in Tasmania has been undertaken by Great South Land Minerals Limited ('GSLM'), an unlisted public company currently in administration by receiver managers.

1.2 Expiry of SEL13/1998

On 30 September 1998, Special Exploration License 13/1998 ('SEL13/98') expired after a period of ten (10) years. Great South Land Minerals Limited had held tenure over an area of 30,356 square kilometres and accounted for virtually all of the Tasmania Basin.

In 2004 when GSLM completed the initial five (5) year term the size of SEL13/98 was reduced to 15,035 square kilometres. GSLM excised from the initial area, the most prospective parts of the Tasmania Basin that its work had focussed on.

Following expiry of SEL13/98 on 30 September 2009, all of the data accumulated by GSLM during its tenure, became available in the public domain and on the MRT database for other explorers or interested parties.

1.3 Release of acreage under ERA791

Following the expiry of SEL13/98 and relinquishment of other areas of Tasmania for Category 4 Minerals, approximately 18,000 square kilometres of Tasmania became available under Exploration Release Area 791. TTR was awarded 4,850 square kilometres now known as EL30/2011 as a result of a successful application.



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2. STUDIES UNDERTAKEN BY TERRA TASMANIA RESOURCES PTY. LTD.

2.1 Bracknell Structure

The Bracknell dome lies adjacent to the junction of Greenrises Road and Liffey Road in the north western section of EL30/2011. The structure has been defined by three intersecting seismic lines that indicate an anticline inversion on the hanging wall of a fault that was active during the Tertiary period.

The surface geological map indicates a small Tertiary basin trending NW - SE that is likely to be controlled by the mapped fault. The preserved Tertiary basin is indicated as a gravity low.

The reservoir target is the Liffey sandstones of the Lower Permian Supergroup at approximately 1,500 metres in depth, charged by the Tasmanite oil shale. The thickness and permeability of the reservoirs would determine whether or not a commercial flow of hydrocarbons is possible.

The intra-formational shales and faults may be effective seals, but due to uplift and fault movement, the seals may be breached. The dolerite seals may be sufficient to have contained the potential hydrocarbons, if it overlies the reservoir intervals.

The Tasmanite shale is considered a good source rock but the depth of burial, thickness and migration pathways are unknown. Biodegradation is likely considering the current shallow depths.

TTR examined numerous studies undertaken previously to determine the prospective ranking of the Bracknell structure as a future drilling prospect and these are included in full in the Appendix of the report.

As TTR refines the current information and assesses additional data that is available, the reports that require updating will be prioritised and completed ahead of any proposed drilling program.

The reports TTR initially examined include, but are not limited to, the following:

- Terrex Seismic Surveys



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(2001/659 km; 2006/152 km; 2007/345 km)

- Geological structure maps
- Calibration of seismic sections
- Gravity (page 7. of the RPS Energy Report)
- Aboriginal Heritage survey (completed 3 February 2007 as a pre-requisite of the Drilling Permit for Bracknell - GSLM)
- Acoustic survey (completed 2 July 2008 as a pre-requisite of the Drilling Permit for Bracknell - GSLM)
- Cultural Heritage survey (completed February 2007 as a pre-requisite for the Drilling Permit for Bracknell - GSLM)
- Flora Assessment of Bracknell site 4 January 2007
- Hydrology study/aquifer protection/hole completion study
- Land owner rental agreement (11 December 2007)
- Fire Safety Plan (completed 26 May 2008 as a pre-requisite for the Drilling Plan for Bracknell - GSLM)
- Time Depth Curve
- Mosaic compilation
- Stratigraphic columns
- Emergency Response Plan (completed 2008 as a pre-requisite for Drilling Permit for Bracknell - GSLM)
- RPS Energy Report
- Empire Energy/GSLM Final Report

The location of the Bracknell dome in the Longford Basin has an expected target depth of 1,750 metres and covers approximately six (6) square kilometres.



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2.2 Stockwell Structure

The Stockwell structure lies adjacent to Valleyfield Road on the property "Stockwell" owned by Mr. Ian Muirhead, approximately 9 km west of Conara. There are only two seismic lines used to delineate the structure. The seismic has been assessed and indicates:

- Permian horizons are able to be interpreted
- there are numerous tilted fault blocks, bounded to the North East by an early Cenozoic Fault and to the South West by a later Cenozoic Fault.
- faulting affecting the Dolerite and possibly the Triassic section
- the Gondwana can be interpreted in the eastern section
- a structure is approximately 8 square kilometres in area
- multiple Triassic and Permian reservoirs are anticipated to be involved within this structure

The anticipated reservoir(s) are in the Liffey Group of the Lower Parmeener Supergroup at approximately 1,000 metres. Permeability and reservoir thickness will determine if potential hydrocarbons can be won at a commercial flow.

There is a risk that the seals in the form of shales and faults may be fractured, but if the Dolerite seal lies directly over the Permian reservoirs the system, that is likely to have been charged by the Tasmanites may have been preserved.

There may be up to 10MMBo in undiscovered prospective resources present within the structure.

The Reports TTR initially examined include, but are not limited to, the following :

- Gravity survey
- Terrex Seismic Surveys

(2001/659 km; 2006/152 km; 2007/345 km)



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- Aboriginal Heritage survey (Sainty)
- Cultural Heritage survey (Kostoglou)
- Accoustic survey (Terts)
- Hydrology report (Leaman)
- Rental Agreement with Landowner (Muir)
- Topographical maps
- Geology reports
- Stratigraphic predictions
- Drilling Program (GSLM proposal)
- Flora and Fauna Report (Northbarker)



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2.3 Hummocky Hills Structure

The Hummock Hills lead lies in the northern part of EL30 adjacent to Powrannah Road and the town of Cressy. There is only one seismic line that was run along Powrannah Road, between the Midlands Highway and Poatina Road.

The limited seismic indicates a tilted block feature with significant faulting at the top Dolerite horizon. Potential reservoirs are anticipated within the Permian and Triassic namely the Palmer Sandstone, Garcia Sandstone and Liffey Group.

The surface geology suggests that the rotated fault block may also be present below the outcropping dolerite of the hummocky Hills feature. If the dolerite is conformal to the underlying reservoir units and the dolerite is a consistent thickness then the crest of the lead could be under the topographical high making this a structure of significant size.

The Liffey Group is anticipated to be intersected at a depth of approximately 1,000 metres. Thickness and permeability of the reservoirs may affect the commercial flow of hydrocarbons.

Tasmanite shale is the expected charge rock and is anticipated as within the oil window for the Hummocky Hills structure. Preliminary prospectivity satellite studies undertaken by TERT in New York place the Hummocky Hills structure at the same location as the former tenement holder, but differ in assessment of the potential size of the lead, indicating a far higher mean estimate of undiscovered potential hydrocarbons present. The source rock should be buried at sufficient depth to expel hydrocarbons in the upper Mesozoic.

More seismic work will have to be undertaken to chart the extent and scope of this structure.

The area is likely to be at least 10 square kilometres and possibly as large as 80 square kilometres. Further seismic acquisition would be followed by drilling one exploratory well.

The reports examined include, but are not limited to , the following:

- Terrex Seismic Surveys



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(2001/659 km; 2006/152 km; 2007/345 km)

- Geology and topography
- Un-risked oil volumes + COS (RPS Report)
- Fault block mosaic
- Lithology reports
- Well plan and drill proposal
- Gravity survey
- Magnetics data
- SEL13/98 Final Report



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2.4 Butlers Rise Structure

The structure lies in the southern central end of EL30 and is delineated by only one seismic line (TB01-ST), consequently it has not been possible to generate a horizon structural map of the lead. The seismic interpretation was more defined towards the east due to less dolerite interference at surface.

The seismic indicates a tilted block feature, with complex faulting that was active during upper Mesozoic to Tertiary times during the inversion phase. The Gondwana unconformity is poorly defined.

It is expected that the reservoirs would be found in the Permian and Triassic, namely in the Liffey Group and the coal measures. The depth of the Liffey sandstones is expected at 1,200 metres but late Cretaceous uplift is likely to have been several kilometres.

The thickness and permeability of the reservoirs will be the determining factor as to whether commercial hydrocarbon flow is possible.

The intra-formational seals and faults may be effective seals, however due to the significant uplift and fault movement there is a possibility that the seals may have been breached. Additional seismic work will assist to further define the drilling target.

It is anticipated that the Tasmanite oil shale is likely to be a good source rock, where developed but thickness, effective kitchen area and migration pathways are unknown. Studies on the structure indicate that the Tasmanites would have been buried sufficiently deep enough to be thermally mature to expel hydrocarbons in the upper Mesozoic however some biodegradation is likely.

The low case area is estimated at 3 sq.kms and the high case area is 30 sq.kms.

The reports examined include, but are not limited to the following:

- Terrex Seismic Surveys
(2001/659 km; 2006/152 km; 2007/345 km)
- Aboriginal Heritage survey



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- Cultural Heritage survey
- Lithology
- Drilling Proposal from former tenement holder
- Hydrology Report
- Unrisked oil volumes + COS (SEL13/98 Final Report)