

**Qualified Person's Report  
on the Oil and Gas interests of  
Loyz Energy Limited**



For the financial year  
from 1 July 2016 to 30 June 2017

By

**Bruce D Morris (PhD)**

**30 September 2017**

## **Table of Contents**

### **1. Executive Summary**

### **2. Introduction**

- 2.1 Qualified Person statement
- 2.2 Aim of this QPR
- 2.3 Scope of this QPR
- 2.4 Statement on the use of this QPR
- 2.5 Basis of this QPR
- 2.6 Standard used
- 2.7 Site visits

### **3. The Company's Assets**

- 3.1 Australia
- 3.2 New Zealand
- 3.3 Thailand

For each country, the following sections are covered:

- a. Property description
- b. Table of assets
- c. History of the properties
- d. Geological and geophysical setting
- e. Exploration data
- f. Resource and reserve estimates
- g. Summary of Oil and Gas Reserves and/or Resources

### **4. Summary**

- 4.1 Interpretations and conclusions
- 4.2 Recommendations
- 4.3 References

## **1. Executive Summary**

This qualified person's report ("QPR") provides an update on the oil and gas interests ("assets") of Loyz Energy Limited ("Loyz" or the "Company") for the purposes of the Company's annual report for the financial year ended 30 June 2017 ("FY 2017").

Because of the multi-asset nature of the Company's portfolio and the varying interests and roles Loyz has in each of the assets, it is not possible to refresh the IQPRs or obtain updated IQPRs for each asset at regular intervals. Therefore, for annual reporting purposes, a QPR has been prepared by a qualified person, who is the Company's external technical consultant and is familiar with the assets reported in this QPR.

For the avoidance of doubt, this QPR is not an independent qualified person's report ("IQPR"), but it relies on the most recently-published IQPRs on the respective assets, which were commissioned by the Company or its partner firms, who are operators of the relevant assets.

This QPR provides an update on the progress of the Company's assets in FY 2017, and, where relevant, material events subsequent to this. This QPR makes reference to the Company's QPR that was prepared last year for the Company's financial year ended 30 June 2016 ("FY 2016"), and the latter is referred to as "Loyz FY2016 QPR" and can be found as Appendix V to this QPR.

The IQPRs which have previously been published in respect of the Company's assets are referred to throughout this report and are reproduced in their entirety as Appendices I, II and III to this QPR.

In previous years, the Company's assets in the USA were covered in the Company's QPRs in the respective years. However, from this QPR and going forward, the Company's assets in the USA will not be covered because Loyz holds only a non-participating interest via shares of 13.75% in these assets.

For each country in which Loyz operates, the following updates are provided:

### **Australia**

Loyz has given notice to the Australian authorities that it intends to cancel the Vic-P62 exploration permit. All previous work commitments have been met. However, Loyz deduced that no prospects warranted an exploration well that was due in calendar year 2017. Loyz conducted a series of feasibility studies but no development concepts made economic sense at this time. Loyz has informed Australia's National Offshore Petroleum Titles Administrator (NOPTA) of its decisions and is in the process of relinquishing the exploration permit for the block, Vic-P62.

### **New Zealand**

During FY 2017, Loyz performed and assessed studies on the conceptual development/appraisal options for the 2008 Awakino-South discovery. Considering these studies, Loyz deems that at present the discovery is un-economic as a stand-alone resource. Going forward, the Company has decided to surrender the permit.

### **Thailand**

The joint venture ("JV"), in which Loyz holds a 20% working interest, has completed a drilling campaign for nine new wells, which commenced in early 2017. Subsequent to Loyz FY2016 QPR, the operator and holder of 60% of the working interest in the concessions had commissioned an independent third party, Chapman Petroleum Engineering Ltd, to prepare and issue two new IQPRs

dated 1 January 2017 on the updated oil reserves estimates of the concessions as of 31 December 2016 (the “Thailand IQPRs”), one of which covers SW1 production area and the second covers L33/43 and L44/43 production areas. Based on the two Thailand IQPRs, it was assessed that gross 2P reserves was 27.2 MMbbl, which had been duly announced by the Company on 17 August 2017 in its report on funds utilisation and resources and reserves as of 30 June 2017 (“30 June 2017 MOG Report”). As a minority stakeholder, the Company is reliant upon the operator for all technical reporting.

### Summary of Loyz Reserves and Resources as at 30 June 2017

Updated Reserves and Resources estimates are not within the control of Loyz. Whilst the following summary table is accurate as at 30 June 2017, the effective dates of the Reserves and Resources estimates remain as per their original effective dates which are disclosed in the relevant sections below.

Category	Gross Attributable to licence	Net Attributable to the Company		Remarks
	(MMbbl / Bcf)	(MMbbl / Bcf)*	Change from previous update (30 June 2017 MOG Report) (%)	
<b>Reserves</b>				
<i>Oil Reserves</i>				
1P	9.73	1.95	0	Thailand
2P	27.20	5.44	0	
3P	38.21	7.64	0	
<i>Natural Gas Reserves</i>				
1P	-	-	-	-
2P	-	-	-	-
3P	-	-	-	-
<i>Natural Gas Liquids Reserves</i>				
1P	-	-	-	-
2P	-	-	-	-
3P	-	-	-	-
<b>Contingent Resources</b>				
<i>Oil</i>				
1C	0.4	0.04	0	NZ
2C	1.7	0.17	0	
3C	4.2	0.42	0	
<i>Natural Gas</i>				
1C	9.00	0.90	0	NZ
2C	26.00	2.60	0	
3C	57.00	5.70	0	
<i>Natural Gas Liquids</i>				
1C	-	-	-	-
2C	-	-	-	-
3C	-	-	-	-
<b>Prospective Resource</b>				
<i>Oil / Condensate</i>				
Low Estimate	1.4	1.4	0	NZ

Category	Gross Attributable to licence	Net Attributable to the Company		Remarks
	(MMbbl / Bcf)	(MMbbl / Bcf)*	Change from previous update (30 June 2017 MOG Report) (%)	
Best Estimate	8.0	8.0	0	
High Estimate	17.0	17.0	0	
<i>Natural Gas</i>				
Low Estimate	56.0	56.0	0	Australia and NZ
Best Estimate	545.0	545.0	0	
High Estimate	1227.0	1227.0	0	

\* Figures for MMbbl and Bcf are rounded up to two decimal points, and so may be larger than the sum when numbers are taken from tables below.

## 2. Introduction

### 2.1 Qualified Person statement

I, Bruce Douglas Morris, confirm that I am responsible for this QPR and the information therein.

I hold a Doctor of Philosophy in geology and geochemistry from Victoria University of Wellington, New Zealand (1995).

I have over 25 years of experience in oil and gas exploration and production and have been a member of the American Association of Petroleum Geologists for more than 30 years (AAPG#10075203).

I am a qualified person pursuant to the Listing Manual Section B: Rules of Catalist (the "Catalist Rules") of the Singapore Exchange Securities Trading Limited as a person of appropriate experience in the types of activities undertaken by Loyz, meeting the following requirements:

- 1) I am professionally qualified and a good standing member of a relevant Recognised Professional Association;
- 2) I have at least five years of professional experience in the estimation, assessment and evaluation of oil and gas exploration and production assets;
- 3) I have not been found in breach of any relevant rule or law and am not;
  - a) denied or disqualified from membership of;
  - b) subject to any sanction imposed;
  - c) the subject of any disciplinary proceedings; or
  - d) the subject of any investigation which might lead to disciplinary action, by any relevant regulatory authority or professional association.

I have read and understood the requirements of the November 2011 Petroleum Resource Management System (“PRMS”). These are to be found in Appendix IV to this QPR.

I verify that this QPR is based on and fairly and accurately reflects, in the form and context in which it appears, the information in my supporting documentation relating to exploration results and oil resources and reserves. I have reviewed this QPR, to which this consent statement applies, and I consent to the release of this QPR.

## 2.2 Aim of this QPR

The aim of this QPR is to satisfy the requirements of Catalist Rule 1204(23)(a) in connection with the Company’s issue of its annual report for FY 2017. This QPR serves no other purpose.

## 2.3 Scope of this QPR

Since the Loyz FY2016 QPR, material changes have occurred regarding the Thailand assets, as well as the Australian asset, since the Company is in the process of relinquishing the exploration permit for the latter. Save for the aforesaid developments, the contents set out in the Loyz FY2016 QPR remains applicable. This QPR re-affirms the reserves and resources documented in previously-prepared IQPRs and provides an update for other activities undertaken on the Company’s assets in FY 2017.

This QPR provides information on each of the Company’s interests as follows:

<b>Asset Name/Country</b>	<b>Company’s interest</b>	<b>Development status</b>	<b>Most recently published IQPR</b>
Australia	100%	Exploration	<ul style="list-style-type: none"> <li>- “Loyz Energy Limited qualified person’s report India, New Zealand, Australia and the Philippines”, dated 30 September 2013, prepared by Rogers Adams Petroleum Consultants (see Appendix I to this QPR)</li> <li>- Loyz FY2016 QPR</li> </ul>
New Zealand	10% inside Awakino box, and 90% outside.	Appraisal	<ul style="list-style-type: none"> <li>- “Loyz Energy Limited qualified person’s report India, New Zealand, Australia and the Philippines”, dated 30 September 2013, prepared by Rogers Adams Petroleum Consultants (see Appendix I to this QPR)</li> <li>- Loyz FY2016 QPR</li> </ul>
Thailand	20%	Production	<ul style="list-style-type: none"> <li>- “Reserve and economic evaluation oil properties Phetchabun Basin Thailand independent qualified person’s report”, dated 1 January 2017, prepared by Chapman Petroleum Engineering Ltd (note: there are two separate IQPRs covering different concessions of the Company’s Thailand assets) (see Appendices II and III to this QPR)</li> <li>- Loyz FY2016 QPR</li> </ul>

## 2.4 Statement on the use of this QPR

This QPR is intended to be used to meet the Company's disclosure requirements pursuant to the Catalist Rules.

## 2.5 Basis of this QPR

This QPR is based on material updates to the Company's assets during FY 2017. These updates have been announced by Loyz through regulatory news releases and quarterly reporting throughout FY 2017. However, this QPR is also based on and makes reference to the IQPRs that have already been published in respect of the Company's assets.

For the Company's assets in Australia and New Zealand, the most recent IQPR was dated 30 September 2013 and was prepared by Rogers Adams Petroleum Consultants, authored by Brett Rogers (the Rest of World; "RoW IQPR"). The RoW IQPR is reproduced in its entirety in Appendix I to this QPR.

For the Company's assets in Thailand, the Thailand IQPRs which are dated 1 January 2017 were both prepared by Chapman Petroleum Engineering Ltd, authored by Charles Chapman. The Thailand IQPRs are reproduced in their entirety in Appendices II and III to this QPR.

Because there have not been subsequent IQPRs published, most of the data in the abovementioned IQPRs are deemed current. Where changes have occurred, they are detailed either in Loyz FY2016 QPR (when they occurred during FY 2016), or in this QPR (when they occurred during FY 2017). The Company is a minority partner of the Thailand assets and is therefore dependent on the operator for updated technical reporting as well as resource and reserve estimates. Any material developments since the last IQPRs for the respective assets have been announced by the Company.

## 2.6 Standard used

This QPR uses the November 2011 Petroleum Resource Management System ("PRMS") as the Standard, which is reproduced in its entirety in Appendix IV to this QPR. PRMS is sponsored by the Society of Petroleum Engineers ("SPE"), American Association of Petroleum Geologists ("AAPG"), World Petroleum Council ("WPC"), Society of Petroleum Evaluation Engineers ("SPEE") and Society of Exploration Geophysicists ("SEG") and represents the most widely used Petroleum Reserve and Resource classification system.

## 2.7 Site visits

The Company's Australia asset is offshore and no site visit has been deemed necessary for the purpose of this QPR. The author of this QPR visits New Zealand on a regular basis, and most recently visited the area of asset PEP38479 in June 2017. The Company's Thailand asset has also been visited on several occasions in FY 2017. The author attends technical committee meetings at the offices of the Company's Thailand JV partner in Bangkok, and several trips into the field were conducted to observe ongoing operations, most recently in March 2017.

### 3 The Company's Assets

#### 3.1 Australia

The following discussion on the Company's Australia asset should be read in conjunction with the RoW IQPR contained in Appendix I to this QPR.

##### a. Property description

No material changes have occurred to the permit since Loyz FY2016 QPR. The Company had a drilling commitment for this year, however the Company intends to cancel the permit as it had conducted a series of feasibility studies but no development concepts made economic sense at this time.

##### b. Table of assets

Asset name/ country	Loyz interest	Development status	Licence expiry date	Licence area	Type of deposit	Remarks
Vic/P62, Australia	100%	Exploration	10/07/2019	2,480km <sup>2</sup>	Suspected Gas & Condensate	None

**Table 1:** Summary of the Company's Australian assets.

##### c. History of the property

The history of the property is summarised in the section 7.2, page 79 of the RoW IQPR. Please also refer to prior QPRs and MOG disclosures for changes since the RoW IQPR. Over the course of FY 2017, the only work conducted regarding the permit has been desktop studies analysing development scenarios and economic screening exercises.

##### d. Geological and geophysical setting

Please refer to section 7.1.2, page 76 of the RoW IQPR.

##### e. Exploration data

A listing of the data available and used for evaluation for each of the properties is contained in section 7.2.1.1, page 79 of the RoW IQPR. 3D seismic data acquired in 2013 indicates several complex structures with moderate hydrocarbon response using analysis of Extended Elastic Impedance ("EEI"). Because it was anticipated that the seismic would highlight large simple structures, a higher level of interpretation than was previously envisaged is therefore required. The Company has decided that at present, the degree of uncertainty is too high to warrant an exploration well, and is in the process of relinquishing its exploration permit.

##### f. Resource estimates

Since the date of the RoW IQPR, there have been no changes in the resource estimates as shown in the following table:-



Category	Gross attributable to licence	Net attributable to Loyz		Remarks
	MMbbl/Bcf	MMbbl/Bcf	Change from previous update (30 June 2017 MOG Report) (%)	
Natural Gas Liquids Prospective Resources				
Low estimate	34.0	34.0	0	None
Best estimate	416.0	416.0	0	None
High estimate	945.0	945.0	0	None

**Table 2:** Summary of Oil and Gas Prospective Resources for Vic/P62, Australia, as at 30<sup>th</sup> September 2013. As extracted from section 7.2.3.2, page 85 of the RoW IQPR.

### 3.2 New Zealand

The following discussion on the Company's New Zealand asset should be read in conjunction with the RoW IQPR contained in Appendix I to this QPR.

#### a. Property description

The property is described in section 6.2, page 54 of the RoW IQPR. Following earlier relinquishments described in Loyz FY2016 QPR (Appendix V to this QPR), the permit boundary covers an area of 130 sq km.

#### b. Table of assets

Asset name/ country	Loyz interest (%)	Development status	Licence expiry date	Licence area	Type of deposit	Remarks
PEP38479, New Zealand	10% & 90%*	Appraisal	23/09/2019	130 km <sup>2</sup>	Gas & Condensate	None

**Table 6:** Summary of the Company's New Zealand asset.

\* A defined area of approximately 13.5 sq km surrounding Awakino South has a nett 10% attributable interest to Loyz. The remainder of the permit is attributed to Loyz at 90%. See RoW IQPR section 6.2.2.1, page 57, Figure 6-5 for further details.

#### c. History of the property

Please refer to section 6.2.1, page 54 of the RoW IQPR. Over the reporting period, the Company has conducted desktop studies including the planning for development concepts and economic modelling. In accordance with the work commitments set out by the New Zealand Government, a 'Preliminary Commercialisation Study' was submitted in May 2017. This was conducted in-house by the Loyz Sub-Surface Division.

#### d. Geological and geophysical setting

Please refer to section 6.1.1, page 50 of the RoW IQPR.

e. Exploration data

Please refer to section 6.2.1.1, page 54 of the RoW IQPR.

f. Resource and reserve estimates

The following tables summarises the oil and gas resources for the asset:

Category	Gross attributable to licence MMbbl/Bcf	Net attributable to Loyz		Remarks
		MMbbl/Bcf	Change from previous update (30 June 2017 MOG Report) (%)	
Natural Gas Contingent Resources				
1C	9	0.9	0	None
2C	26	2.6	0	None
3C	57	5.7	0	None
Natural Gas Liquids Contingent Resources				
1C	0.4	0.04	0	None
2C	1.7	0.17	0	None
3C	4.2	0.42	0	None
Natural Gas Prospective Resources				
Low estimate	22	22	0	None
Best estimate	129	129	0	None
High estimate	282	282	0	None
Natural Gas Liquids Prospective Resources				
Low estimate	1.4	1.4	0	None
Best estimate	8	8	0	None
High estimate	17	17	0	None

**Table 7:** Summary of Oil and Gas Contingent and Prospective Resources for the Company's New Zealand asset, as at 30 September 2017. This table differs from section 6.2.2.4, page 60 (Contingent Resources) and section 6.2.3.5, pages 69 to 73 (Prospective Resources) of the RoW IQPR. The reason for this difference is the change in permit boundary, as described in Loyz FY2016 QPR.

### 3.3 Thailand

The following discussion on the Company's Thailand assets should be read in conjunction with the Thailand IQPRs dated 1 January 2017 contained in Appendices II and III to this QPR.

#### a. Property description

Please refer to section titled 'Discussion', page 20 (SW1), 23 (L33) and 59 (L44) of the Thailand IQPRs, for information on the description of the properties.

#### b. Table of assets

The properties are listed in the following summary table:

<b>Asset name/ country</b>	<b>Loyz interest (%)</b>	<b>Development status</b>	<b>Licence expiry date</b>	<b>Licence area</b>	<b>Type of deposit</b>	<b>Remarks</b>
SW1, Thailand	20	Producing	July 2016	14.5 km <sup>2</sup>	Oil	None
L33/43, Thailand	20	Producing	July 2032	12.0 km <sup>2</sup>	Oil	None
L44/43, Thailand	20	Producing	July 2032	79.5 km <sup>2</sup>	Oil	None

**Table 11:** Summary of the Company's Thailand assets.

#### c. History of the properties

Please refer to section titled 'Discussion', pages 21 (SW1), 23 (L33) and 59 (L44) respectively of the Thailand IQPRs for full details.

On 1 April 2014, the Company acquired a 20% participating interest in concessions SW1, L33/43 and L44/43 in Thailand.

Subsequent to the Thailand IQPRs (dated 1 January 2017), several wells have been drilled of which some are capable of producing, as summarised in Table 12 below. Reserves estimates are currently being revised by the operator, Eco Orient Resources (Thailand) Ltd. Once sufficient data for these reserves estimates has been acquired, these reserves shall be verified and certified by an independent qualified person. As a minority stakeholder and not the operator, Loyz relies on updates and technical reporting from the operator of the concessions.

During the reporting period, i.e. between 1 July 2016 and 30 June 2017, 1.07 MMbbl of oil were produced from the three concessions. This included 0.44 MMbbl that had been produced between the publishing of the most recent Thailand IQPRs on 31 December 2016 and 30 June 2017.

The wells drilled subsequent to the Thailand IQPRs and the respective results are listed in the following summary table:

Well	Spud Date	Type	Result
L33-8B	24/1/2017	Exploration	Successful. Producer. Initial rate 450 bopd.
WBNE-C1	7/2/2017	Exploration	Successful. Producer. Initial rate 680 bopd.
WBEXT-8A	3/3/2017	Appraisal	Dry - delineated WBEXT reservoir without reducing reserves.
STE-4A	12/3/2017	Exploration	Oil produced but un-commercial without further appraisal.
STN-6A	28/3/2017	Exploration	Dry - valid test with shows but un-commercial.
WBNE-C2	19/4/2017	Appraisal	Successful. Producer. Initial rate 360 bopd.
STE-4AST1	9/5/2017	Appraisal	Dry - valid test of structural component of STE-4.
STN-1A	17/5/2017	Exploration	Dry - valid test of igneous unit.
WBW-8A	27/5/2017	Exploration	Dry - failed to test intended target and could be future location.

**Table 12:** Wells drilled in the Company's Thailand assets since the date of the Thailand IQPRs.

Further drilling and workovers are being planned to be completed during the Company's financial year ending 30 June 2018, the full details of which are yet to be confirmed by the JV.

d. Geological and geophysical setting

Please refer to section 'discussion' on pages 20 (SW1), 23 (L33) and 59 (L44) of the Thailand IQPRs.

e. Exploration data

Please refer to the section titled 'Discussion', page 20 (SW1), 23 (L33) and 59 (L44) of the Thailand IQPRs. Table 12, above, provides details of the wells drilled subsequent to publication of the Thailand IQPRs. The Company has received various amounts of data pertaining to each well, typically including log data, well schematics and well testing/production data.

f. Reserves estimates

The following tables summarise the oil and gas reserves for each concession area of the Company's Thailand assets. Between 1 January 2017 and 30 June 2017 (181 days inclusive), 0.44 MMbbl oil had been produced from the Company's three Thailand concessions.

Category	Gross attributable to licence	Net attributable to Loyz		Remarks
	MMbbl/Bcf	MMbbl/Bcf	Change from previous update (30 June 2017 MOG Report) (%)	
Oil Reserves				
1P	0.75	0.15	0	None
2P	2.07	0.41	0	None
3P	3.00	0.60	0	None

**Table 13:** Summary of Oil and Gas Reserves for SW1, as at 31 December 2016. As extracted from Table 2, page 38 of the SW1 Thailand IQPR.

Category	Gross attributable to licence	Net attributable to Loyz		Remarks
	MMbbbl/Bcf	MMbbbl/Bcf	Change from previous update (30 June 2017 MOG Report) (%)	
Oil Reserves				
1P	0.32	0.06	0	None
2P	0.62	0.12	0	None
3P	0.62	0.12	0	None

**Table 14:** Summary of Oil and Gas Reserves for L33/43, as at 31 December 2016. As extracted from Table 2, page 33 of the L33 & L44 Thailand IQPR.

Category	Gross attributable to licence	Net attributable to Loyz		Remarks
	MMbbbl/Bcf	MMbbbl/Bcf	Change from previous update (30 June 2017 MOG Report) (%)	
Oil Reserves				
1P	8.66	1.73	0	None
2P	24.51	4.90	0	None
3P	34.59	6.92	0	None

**Table 15:** Summary of Oil and Gas Reserves for L44/43, as at 31 December 2016. As extracted from Table 2, page 81 of the L33 & L44 Thailand IQPR.

Reserves estimates for concessions SW1, L33/43 and L44/43 have decreased primarily as a result of production over the course of the reporting period and updated decline curve analysis.

## 4 Summary

### 4.1 Interpretations and conclusions

#### Australia

The Company has informed the relevant authorities of its intention to relinquish the exploration permit and administrative procedures are ongoing.

#### New Zealand

The licence will now be surrendered.

## **Thailand**

Over the course of the reporting period, ongoing exploration and development work had been conducted across all three concessions. As a minority partner, Loyz is reliant upon the operator for updates and technical assessments.

### **4.2 Recommendations**

## **Australia**

Continue procedures for the relinquishment of the Company's exploration permit.

## **New Zealand**

The Company intends to surrender the permit. This shall be coordinated through New Zealand's Department for Petroleum And Minerals (NZPAM).

## **Thailand**

The Company is a minority partner and relies upon the operator, Eco Orient Resources (Thailand) Ltd, to provide technical updates. The operator intends to continue to explore for, develop and produce hydrocarbons from all three concessions.

### **4.3 References**

Appendix I: Rogers Adams, September 2013: Qualified Person Report, India, Australia, New Zealand and the Philippines.

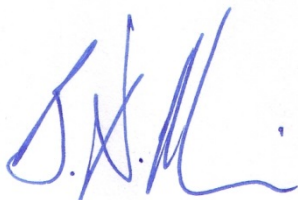
Appendix II: Chapman Petroleum Engineering, January 2017: Reserve and Economic Evaluation Oil Properties, SW1 Concession, Petchabun Basin, Thailand.

Appendix III: Chapman Petroleum Engineering, January 2017: Reserve and Economic Evaluation Oil Properties, L33/43 and L44/43 Concessions, Petchabun Basin, Thailand.

Appendix IV: Guidelines for Application of the Petroleum Resources Management System (PRMS). November 2011.

Appendix V: Loyz FY2016 QPR, September 2016.

This QPR is dated 30 September 2017 and is duly signed by;



Bruce Douglas Morris (PhD)