



6 March 2018

Comet Ridge Limited

## Significant gas reserves and resources upgrade for Mahalo Gas Project

- **Comet Ridge net 2P reserves up 473% to 172 PJ**
- **Comet Ridge net 3P reserves up 71% to 374 PJ**
- **Maiden 18 PJ award of 1P reserves reflects exceptional well performance**
- **Targets exceeded for Santos to refund its share of 2017 work costs to Comet Ridge**

Comet Ridge Limited (ASX:COI) is pleased to announce a material reserves upgrade for their share of the Mahalo Gas Project (“**Mahalo Project**”) located in ATP1191 (formerly ATP337P). The Company has a 40 per cent interest in joint venture with Santos QNT Pty Ltd (Santos) and Australia Pacific LNG Pty Ltd (APLNG). The Mahalo Block lies approximately 240km west of Gladstone and proximal to pipeline connections.

Managing Director Mr Tor McCaul said Comet Ridge’s 40 per cent net share of 2P reserves had increased by 473 per cent from 30 PJ to 172 PJ while its net share of 3P reserves had risen 71 per cent to 374 PJ following completion of the 2017 work program.

“Importantly, Comet Ridge’s share of maiden 1P reserves of 18 PJ has been certified for Mahalo due to the exceptional performance of the Mahalo and Mira horizontal pilot wells, enabling commercial thresholds to be met,” he said.

“The outstanding success of the recent Mira 6 horizontal well and also the earlier Mahalo 7 horizontal well, signals the potential for material gas production from this Joint Venture, with this project now having real scale.”

The independent certifier’s gas resource volumes have also increased significantly, notwithstanding the large movement of resources into the reserves category. This indicates further potential upside from ongoing appraisal.

This latest Reserves assessment has been independently certified by MHA Petroleum Consultants, LLC (“**MHA**”) of Denver, Colorado. MHA has significant experience with the Mahalo Block having undertaken Comet Ridge’s maiden certification announced on 28 August 2014 and update on 2 December 2015.

Mr McCaul said the reserves and resources upgrade was an important milestone as the Mahalo Project moved towards gas production. “This reserves upgrade is exceptionally pleasing and comes off the back of great support and co-operation within the Mahalo Joint Venture from Santos and APLNG during the 2017 work programme,” he said.

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“As the Mahalo Project moves closer towards a development decision, additional focus will be placed within the 2018 work program on building 1P and 2P reserves as further production data is collected and additional appraisal is undertaken.”

Mr McCaul said the significant increase in 3P reserves was important as it enabled the Joint Venture to potentially consider a larger scale of development than previously thought.

“We are very confident that, based on the high deliverability shown at the field pilots to date, the Mahalo Block will continue to develop into a valuable resource for Comet Ridge shareholders,” he said.

In accordance with the Society of Petroleum Engineers (“SPE”) 2007 Petroleum Resource Management System (“PRMS”) Guidelines as well as the 2011 Guidelines for Application of the PRMS approved by the SPE, MHA have updated the Reserves and Resources to COI’s net equity interest in Mahalo <sup>1,2</sup> using the deterministic method of petroleum reserves estimation.

Table 1 below summarises the changes to the Company’s reserves and resources position for Mahalo as of 5 March 2018.

**Table 1: Mahalo Independent Reserves and Resources Upgrade (COI Net Interest <sup>2</sup>)**

COI Net Equity Share <sup>2</sup>	Gas Reserves (PJ) <sup>3</sup>			Gas Contingent Resources (PJ)		
Category	1P <sup>4</sup>	2P	3P	1C	2C	3C
5 Mar 2018 certification: Mahalo Gas Project (ATP 1191)	18	172	374	224	385	389
2 Dec 2015 certification: Mahalo Gas Project (ATP 1191)	-	30	219	112	232	372
<i>Increase (PJ)</i>	<i>18</i>	<i>142</i>	<i>155</i>	<i>112</i>	<i>153</i>	<i>17</i>
<i>Increase (%)</i>	<i>N/A</i>	<i>473%</i>	<i>71%</i>	<i>100%</i>	<i>66%</i>	<i>5%</i>

*Note: Gas Reserves and Resources numbers have been rounded to the nearest whole number. Refer to Competent Person’s Statement in Appendix 2 of this Announcement.*

*1) COI through its subsidiary is in joint venture with Santos and APLNG.*

*2) COI has a 40% net equity share of Mahalo. The reported Reserves and Resources in the table represent the share attributable to COI.*

*3) COI’s net Reserves have not been adjusted for fuel or shrinkage (estimated at approximately 3%) and have been calculated at the wellhead (which is the reference point for the purposes of Listing Rule 5.26.5).*

*4) 1P Reserves have been determined on the basis of the economic assumptions detailed in Annexure 1 see notes “LR 5.31.1 Material Economic Assumptions”.*

At the time that Comet Ridge was appointed Agent for the 2017 Joint Venture exploration work program, it agreed not to cash call Santos for its 30 per cent share of costs until gross 2P Reserves of 334 PJ were achieved for the Mahalo block.

The current reserves certification of 430 PJ of 2P Reserves for 100 per cent of the Mahalo Project exceeds this reserves’ target by 29 per cent and enables Comet Ridge to cash call Santos for \$1.348 million (representing 30 per cent of the 2017 work program cost of \$4.5 million).

Additional information in relation to the gas reserve estimates for ATP 1191P (Mahalo Gas Project), which is the subject of this announcement, and required to be disclosed pursuant to Chapter 5 of the ASX Listing Rules is set out in Appendix 1 of this announcement.

Comet Ridge presents its net gas reserves and resources for each of its tenements (updated for the current Mahalo gas reserves and resources certification by MHA) in accordance with ASX Listing Rule 5.25.3 in Table 2 below.

**Table 2: COI Net Gas Reserves and Resources for all Tenements as at 5 March 2018**

Comet Ridge Limited – Net Recoverable Reserves and Resources									
Location	Project	COI Interest	Reserve (PJ) <sup>1</sup>			Contingent Resource			Prospective Resource (PJ) <sup>2</sup>
			1P <sup>4</sup>	2P	3P	1C	2C	3C	
Bowen Basin, QLD	Mahalo Gas Project (ATP 1191)	40%	18	172	374	224	385	389	-
Galilee Basin, QLD	Gunn Project Area 5 (ATP 744P)	100%	-	-	-	-	67	1,870	597 <sup>3</sup>
Galilee Basin, QLD	Albany Structure (ATP 744P)	100%	-	-	-	56	153	417	-
Gunnedah Basin, NSW	PEL 6 PEL 427 PEL 428	22 <sup>1/2</sup> % 50% 60%	-	-	-	-	-	474	2,101
<b>Total</b>			<b>18</b>	<b>172</b>	<b>374</b>	<b>280</b>	<b>605</b>	<b>3,150</b>	<b>2,698</b>

Note: Gas reserves and resources numbers have been rounded to the nearest whole number. Refer to Competent Person's Statement in Appendix 2 of this announcement.

1) COI's net Reserves have not been adjusted for fuel or shrinkage (estimated at approximately 3%) and have been calculated at the wellhead (which is the reference point for the purposes of Listing Rule 5.26.5).

2) ASX Listing Rule 5.28.2 Statement relating to Prospective Resources:

The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

3) Where the auditor has detailed Prospective Resources in a range in the Galilee Basin, the best estimate case has been reported in the table above.

4) 1P reserves have been determined on the basis of the economic assumptions detailed in Annexure 1 see notes "LR 5.31.1 Material Economic Assumptions".

## Overview of MHA

MHA Petroleum Consultants LLC is a leading independent petroleum engineering and independent certification firm based in Denver, Colorado which has experience working in most of the significant petroleum provinces throughout the world. MHA has completed reserve and resource assessments for a number of clients in Australia and internationally including Adelaide Energy, Arrow Energy, Conoco Phillips, CS Energy, Metgasco, Molopo Energy Australia, Pure Energy, Santos, Sunbird Energy and Sunshine Gas.

The Company entered into a trading halt prior to the commencement of trading on the ASX on 5 March 2018, pending an announcement in respect to an upgrade of reserves and resources for the Company. Trading of the shares of the Company is expected to re-commence on the ASX on or after 10.00am AEST on Tuesday, 6 March 2018. The Company knows of no reason why the trading halt should not be lifted.



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**APPENDIX 1 - ADDITIONAL INFORMATION REQUIRED UNDER CHAPTER 5 OF THE LISTING RULES****Statement in compliance with ASX Listing Rule 5.32.3**

**Listing Rule 5.30:** ATP 1191 (Formerly ATP 337P) of which the Mahalo Joint Venture Area (“MJVA”) formed part, has, since the initial independent certification of reserves, been converted from a 1923 Petroleum Act permit to a Petroleum and Gas (Production and Safety) Act 2004 permit with effect on 25 September 2015 for a term of four years. As a consequence, the permit was allocated a different number and as of 25 September 2015 the permit number has been ATP 1191. The change of permit number has had no impact on the area of the permit.

The Mahalo Pilot Scheme is located in the Mahalo Joint Venture Area (“MJVA”) which forms part of ATP 1191. ATP 1191 is located in the Bowen Basin near Rolleston, Queensland, approximately 240 km west of Gladstone. The MJVA is situated in the northern part of ATP 1191, where Comet Ridge has farmed-in. The MJVA is an area made up of 291 sub-blocks and is currently operated as a joint venture between Comet Ridge Mahalo Pty Ltd (40%), Santos (30%) and APLNG (30%).

Any changes or additions to the information provided under ASX Listing Rules 5.31.1 – 5.31.7 in the announcement 25 August 2014 reporting the initial reserves for Mahalo and the subsequent announcement 2 December 2015 reporting an upgrade of 2P and 3P reserves for Mahalo are detailed as follows:

**LR 5.31.1 Material Economic Assumptions:**

There have been no other changes to the material economic assumptions detailed in either of the Company’s announcements 28 August 2014 (Initial Reserves) and 2 December 2015 (Reserves Update) which relate to the Mahalo Block. Since the Reserves Update there has been the addition to the 2P and 3P reserves and certification of 1P reserves. The proven reserves (1P) as detailed in Table 1 have been independently certified on the basis of the development of a 10 TJ/d field development centred in the areas around the Mahalo and Mira pilot schemes, based on the positive horizontal well performance demonstrated in both of those locations in 2016 (Mahalo 7) and 2018 (Mira 6). There is significant water storage (approximately 15 ML at each pilot) already installed and gas processing (given the high quality gas in the reservoir) would be limited to compression and dehydration with a short 14km tie-in to the nearest available infrastructure. This development scenario was viable at gas prices below those observed in the existing market.

**LR 5.31.2 Overview of Operatorship of Production:**

The MJVA is governed by the Denison Trough Joint Operating Agreement (“JOA”) the parties to which are the joint venture participants named above. The JOA provides for the appointment of an Exploration Operator and a Production Operator. The Exploration Operator is Santos QNT Pty Ltd while Australia Pacific LNG Pty Ltd is the Production Operator. As announced 23 February 2018 Comet Ridge was re-appointed as agent for Santos to operate and manage the Mahalo 2018 Joint Venture Exploration Work Programme and Budget in its capacity as agent for and on behalf of Santos as Exploration Operator.

**LR 5.31.3 Types of permits held by Comet Ridge in respect of the reported petroleum reserves:**

Apart from the conversion of the Permit ATP 337P from a 1923 Petroleum Act permit to a Petroleum and Gas (Production and Safety) Act 2004 permit and the change of its permit number to ATP 1191, the permit remains an Authority to Prospect.

**LR 5.31.4 Mahalo Gas Project:**

There have been no other changes to the assumptions for the basis for confirming the commercial producibility of the reserves detailed in the Company’s announcements of 28 August 2014 and 2 December 2015. Since the Reserves Update there has been the following additional work carried out in the Mahalo Block:

- The Mahalo 7 single lateral Surface to In-Seam well (361 metres in coal) was production tested to 426,000 standard cubic feet per day (scf/d) as part of the Mahalo pilot scheme.
- 1 x coal seam gas exploration core hole – Humboldt South 1. Drilled to total depth of 326.5 metres. Coal samples were collected for gas desorption, adsorption isotherm, gas composition and coal analysis. Four formation tests were undertaken to determine permeability.
- 3 x workover - under-reaming of Mira 3, 4 & 5 vertical pilot wells to improve well production performance. On completion the wells were placed on production.
- 1 x single lateral Surface to In-Seam well – Mira 6 (within Mira Pilot area). Drilled to a total along-hole depth of 1283 metres. Intersection of approx. 924 metres in coal (Castor Seam only). Mira 6 intersected the Mira 2 vertical well. Once completed, the well was placed on production and to date has established a flowrate in excess of 700,000 scf/d gas production.
- A significant number of newly obtained well logs recorded during previous coal exploration drilling in the Mahalo area were incorporated into the Mahalo geological model greatly improving confidence on coal continuity and characteristics across the block.
- Detailed seismic interpretation on the key coal targets was undertaken to integrate this new stratigraphic framework into an improved structural model and to assist in designing a development plan for the block.

There has been no other data or processes utilised other than those previously announced. The upgrade of the estimate of petroleum reserves and the changes to the contingent resources have been prepared by MHA utilising a deterministic estimation method. The new technical data secured since the 2 December 2015 Reserves Update has resulted in an increase in the reserves and the changes to the Contingent Resources (refer Table 1).

#### **LR 5.31.5 Estimated Quantities (in aggregate) to be recovered:**

As a consequence of the additional works carried out in the Mahalo Block since the Reserves Update the estimated quantities of petroleum reserves and contingent resources has increased as per the details contained in Table 1. There have been no other changes to the assumptions detailed in the Company's announcements 28 August 2014 and 2 December 2015 as regards to estimated quantities to be recovered.

#### **LR 5.31.6 Statement in relation to Undeveloped Petroleum Reserves:**

Comet Ridge believes that sufficient technical data is now available in the Mahalo Block, and sufficient reserves have been independently certified, to make a decision to develop the field later in 2018. Further work on field development and pipeline options is required. Any decision to develop must be made collectively by the Mahalo Joint Venture participants.

Under a commercial agreement announced to ASX on 19 March 2014, Stanwell Corporation has the right to purchase between 20 PJ and 40 PJ of COI's share of Mahalo gas over a 10-year period, should a development decision be made before expiry of the four year term following the 19 March 2014 agreement becoming unconditional (which is 20 October 2018). No other marketing arrangements for COI's share of gas production from Mahalo have been agreed. Each party in the Mahalo Joint Venture has the right to take and market its own share of gas.

The Mahalo Joint Venture currently has no transportation infrastructure for gas in place. Third party infrastructure exists approximately 14 km to the west of the Mahalo Field Pilot, on the western edge of the Mahalo Block and also at the QGP (Jemena) and GLNG pipelines approximately 63 km south of the Mira pilot scheme.

Environmental assessment and approvals for any Mahalo development would need to be obtained via the Petroleum Lease application process which is managed through the Queensland Government.

For the purposes of **Listing Rule 5.34.3**: It is confirmed that there has not been any change in the type of permit held in which the reserves and contingent resources are recorded. There has been no change to the

basis for confirming the existence of the potentially moveable hydrocarbons and the determination of the discovery. The same analytical procedures have been used to estimate the contingent resources as had previously been used and there have been no changes to the key contingencies that prevent the contingent resources from being classified as petroleum reserves save that percentage of the contingent resources that have been reclassified as petroleum reserves. The reported contingent resources do not remain contingent on technology under development.

## **APPENDIX 2 - COMPETENT PERSON STATEMENT AND ASX LISTING RULES CHAPTER 5 - REPORTING ON OIL AND GAS ACTIVITIES**

The estimate of reserves and contingent resources for Mahalo, as part of ATP 1191 provided in this announcement, is based on, and fairly represents, information and supporting documentation determined by and under the supervision of Mr Timothy L. Hower of MHA Petroleum Consultants LLC in accordance with Petroleum Resource Management System guidelines.

Mr Hower is a full-time employee of MHA, and is a qualified person as defined under the ASX Listing Rule 5.42. Mr Hower is a Licensed Professional Engineer in the States of Colorado and Wyoming as well as being a member of The Society of Petroleum Engineers. Mr Hower has consented to the publication of the reserve and contingent resource estimates for Mahalo in the form and context in which they appear in this announcement.

The contingent resource for the Albany Structure (ATP 744P) contained in Table 2 are taken from an independent report by Dr Bruce McConachie of SRK Consulting (Australasia) Pty Ltd, originally released to the Market in the Company's announcement of 6 August 2015.

The contingent resource estimates for ATP 744P in Table 2 are based on and fairly represent, information and supporting documentation determined by Mr John Hattner of Netherland, Sewell and Associates Inc.

The contingent resource estimates for ATP 744P in Table 2 were originally released to the Market in the Company's announcement of 25 November 2010 and were estimated using the deterministic method with the estimate of contingent resources for ATP 744P not having been adjusted for commercial risk.

Comet Ridge confirms that it is not aware of any new information or data that materially affects the information included in any of the announcements referred to and that all of the material assumptions and technical parameters underpinning the estimates in the announcements continue to apply and have not materially changed.

The contingent resource estimates for PEL 6, PEL 427 and PEL 428 in Table 2 were determined by Mr Timothy L. Hower of MHA Petroleum Consultants LLC. Mr Hower consented to the publication of the resource figures which appeared in the announcement of 7 March 2011 made by Eastern Star Gas Limited (ASX:ESG) and any reference and reliance on the resource figures for PEL 6, PEL 427 & PEL 428 in the table is only a restatement of the information contained in the ESG announcement.

Comet Ridge confirms that it is not aware of any new information or data that materially affects the information included in the ESG announcement of 7 March 2011 and that all the material assumptions and technical parameters underpinning the estimates in the announcements continue to apply and have not materially changed.