

30 October 2019

## **Comet Ridge Awarded 100% Interest in Mahalo North Block**

#### Mahalo Reserves and Resources Revision

- ➤ Comet Ridge has been appointed preferred tenderer for the 450km² Mahalo North block, PLR2019-1-2
- ➤ The company will hold a 100% interest and plans to fast track development in parallel with the contiguous Mahalo Gas Project Initial Development Area
- Operator of a block with near term development potential transforms Comet Ridge
- Gas sales MOUs have been signed with high quality east coast counterparties, which includes funding support for development
- ➤ Mahalo Gas Project Resources and Reserves review is provided based on recent studies for an Initial Development Plan

#### **Mahalo North Gas Project**

Comet Ridge Limited (ASX:COI) is very pleased to announce it has been appointed preferred tenderer status for natural gas acreage PLR2019-1-2, in the Southern Bowen Basin, as part of the Queensland Government's most recent tender process.

## Keys points:

- Comet Ridge will hold a 100% interest (and operatorship) in the 450 km<sup>2</sup> PLR2019-1-2 block ("Mahalo North"), which is located directly north and contiguous to the Mahalo Gas Project;
- Mahalo North is approximately half the size of the 911km<sup>2</sup> Mahalo block where the Company has an existing 40% non-operated interest;
- Comet Ridge will utilise its extensive local geological knowledge to rapidly advance the area to development in parallel with the Mahalo Gas Project;
- Mahalo North is subject to a domestic market obligation (DMO). As part of the bid process, Comet Ridge has signed Memoranda of Understanding ("MOU") with a number of high quality east coast counterparties, some of which included options around development funding arrangements, and will now look to formalise these arrangements.

Tor McCaul, Comet Ridge Managing Director, said this new block award was probably the most significant forward step for the company in the past 10 years, and as operator of the block, allows for a swift transition from appraisal to development. He said the most productive area of the Mahalo Block, was in the shallow coals located in the northern part of the block which is contiguous to Mahalo North. It was exciting to be awarded such a large new block, at 100% equity, that contained an extension of these same coal reservoirs.

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The Queensland Government is proactively working to resolve the east coast gas supply issue by awarding new block releases to junior and mid-tier gas companies, which will lead to greater diversity and efficiency of supply and bring growth to regional areas. The Company is delighted that the Queensland Government has entrusted Comet Ridge to operate and deliver gas into the domestic market.

The first part of the process is to convert this tender award area to a functioning exploration block (Authority to Prospect or "ATP") which is a relatively routine process and involves environmental and native title approvals. This process is expected to take several months. Subsequently, Mr McCaul said work on the ground and drilling of new wells was expected to commence in the Mahalo North block in 2Q next year.

He noted that the coals were of sufficient quality in the southern part of the block and that the Company would look to move quickly into development and potentially have gas online from this new block, and its 40% of the Mahalo Block, at about the same time.

Figure 1 below shows the regional location of the Mahalo area while Figure 2 shows the large size of the Mahalo North block, and its position relative to the Mahalo Block.

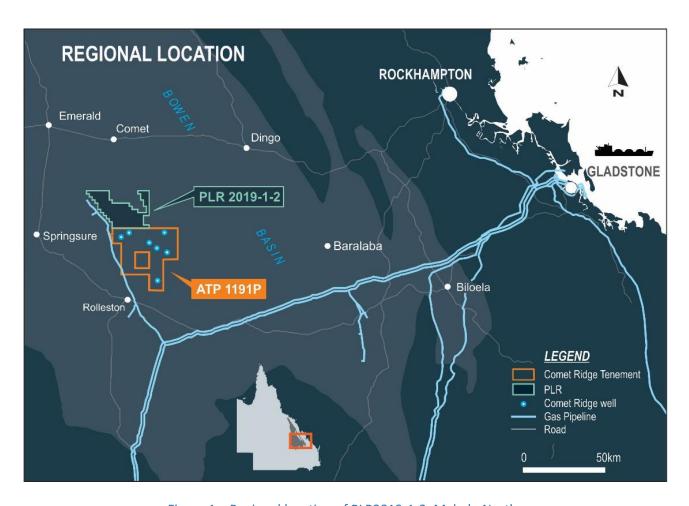


Figure 1 – Regional location of PLR2019-1-2, Mahalo North

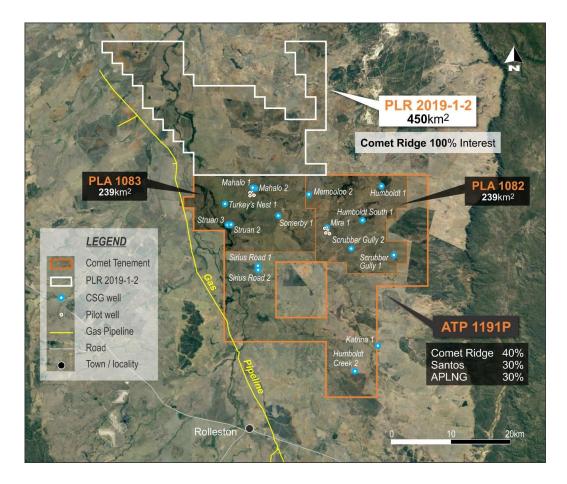


Figure 2 – Location of PLR2019-1-2, Mahalo North, in relation to the Mahalo Gas Project

## **Mahalo Reserves and Resources Revision**

At the end of 2018, APLNG (with Origin Energy as Upstream Operator for APLNG) assumed the role of Development Operator for the Mahalo Gas Project. Since then the Mahalo Joint Venture ("MJV") have worked together to consider an Initial Development Plan ("IDP") with the Operator commencing early development activities.

As per the Company's market announcement 8 July 2019, the JV have agreed:

- The initial well design will be a series of mostly dual lateral wells, intersecting vertical production wells;
- The Initial Development Plan will target only the thicker coals in the Bandanna Formation in the northern part of the Mahalo Block with subsequent optimisation to target thinner coals and/or areas to the south;
- A modular gas plant (water treatment, dehydration and flare) sized for 80 TJ/d gas capacity to reduce lead time by utilising existing FEED studies;
- A modular compression concept will be implemented with installed compression expected to be initially 40 to 60 TJ/d with room for expansion as gas production and drilling increase;
- Connection to the QGP and GLNG pipelines via a 65 km transport pipeline with a capacity of approximately 120 TJ/d to the Rolleston Junction to allow connection to a gas marketing point;
- The Operator continues to work toward a final investment decision (FID) date of June 2020.

The MJV has lodged two Petroleum Lease Applications, PLA 1082 Humboldt and PLA 1083 Mahalo, as well as three Potential Commercial Area applications, PCA 302 Lowesby West, PCA 303 Lowesby and PLA 304 Humboldt Creek, during September 2019 to secure tenure of the Mahalo Block. Figure 3 shows the

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position and extent of the PLAs. Documents for environment approvals were lodged with the Federal Government during September 2019, and requirements for State Government approvals are planned to be lodged shortly.

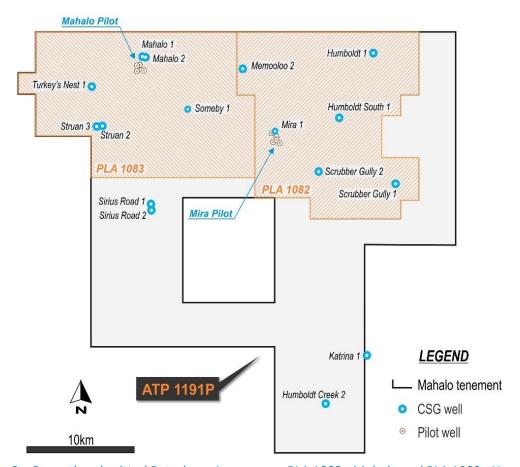


Figure 3 – Recently submitted Petroleum Lease areas PLA 1083 - Mahalo and PLA 1082 - Humboldt

Given the significant changes to the IDP over 2018/19, Comet Ridge engaged MHA Petroleum Consultants LLC Inc ("MHA") to provide an update of the Mahalo Asset reserves and resources to reflect the current results of these ongoing studies and recent changes to reporting rules.

The changes in the reserves and resources estimate for the Mahalo Asset are due to the following key points:

- Significant Well Reduction from Comet Ridge's Original Development Plan to Operator's latest Development plan. During 2018/19 the joint venture continued extensive studies to optimise the development plan for the Mahalo Asset. This has resulted in a change in well design, spacing and placement and an initial development plan focusing on lateral wells which only target the thicker coals in the Bandanna Formation. Other coals were excluded at this point.
- Revision of Petroleum Resource Management System (PRMS) in June 2018. Changes to the 2007
  PRMS have resulted in a reduction of the extent of the IDP for the Mahalo Gas Project. The
  clarification in the PRMS update results in some Reserves being reclassified as Contingent
  Resources where they will be subject to a separate FID decision. Resources not considered to be
  recoverable with established technology have not been included at this time.
- Additional well data. The key objective of the 2018 drilling campaign was to test the limits of the
  western and northern edges of the Mahalo Gas Project to delineate the initial area for FID. The
  results in the Struan and Sirius Road pilots demonstrated low deliverability in the deeper portions
  of the western flank due to localised changes in coal characteristics. The Memooloo 2 results
  demonstrated higher than modelled deliverability in the northern portion of the field but slightly
  lower gas contents than expected.

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- **Recovery factor.** The initial development plan, and corresponding well layout, reflects a slightly more conservative recovery factor than had been applied previously.
- Petroleum Lease Applications. Applications for two Petroleum Leases, PLA 1082 (Humboldt) and PLA 1083 (Mahalo), across the Mahalo Gas Project were lodged with the Queensland government in September 2019 to enable this initial area within the Mahalo Asset to progress to FID. The southern extent of the PLAs has been reduced from previous plans to accommodate the revised IDP, and remaining areas are now contained within the area of applications for Potential Commercial Areas, PCA 302 (Lowesby West), PCA 303 (Lowesby) and PCA 304 (Humboldt Creek). These are converted to Contingent Resources.
- Contingent Resource development scenarios. The changes in well design in the initial development plan areas were extended to revise the assessment of the southern portion of the Mahalo Asset. The Joint Venture will undertake additional drilling and evaluation in these areas to provide further data for optimisation studies to be completed. The current analysis based on lateral drilling in the thicker coals results in a downgrade to the Contingent Resources.

On 30 October 2019, MHA issued its updated estimate of reserves and resources for the Mahalo Asset, which has resulted in a reduction in general as detailed in the table below:

Table 1:

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
30 Oct 2019 certification: Mahalo Gas Project (ATP 1191)	Nil <sup>5</sup>	106	183	53	89	154
Change (PJ)	-18	-66	-191	-171	-296	-235
Change (%)	N/A	-38%	-51%	-76%	-77%	-60%

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.
- 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 1%) and have been calculated at the wellhead (which is the reference point for the purposes of Listing Rule 5.26.5).
- 4) In accordance with the revised Petroleum Resources Management System guidelines introduced June 2018 1P Reserves have been determined as not viable on a standalone economic basis.
- 5) In consideration of 1P reserves, if the volume attributed is not considered economically developable in isolation from lower reserve categories (2P & 3P), then the Company has taken a view not to include this category of reserve.

Comet Ridge Managing Director, Tor McCaul said of course he was frustrated to see the latest well results and iteration of the IDP lead to a reduction in the Reserves that Comet Ridge has previously booked on the Mahalo Gas Project. However, further optimisation provides potential for additional volumes of gas to be added to these estimates as the project moves forward. The plan is now based on developing the two high value seams using lateral drilling technology resulting in lower capital and fewer wells. The MJV continue to work through pre-FID requirements such as tenure and environmental approvals, and as a result the project is moving closer to first gas.

Mr. McCaul said that the selection of Comet Ridge at 100% (operator) and preferred tenderer for Mahalo North is extremely positive and transforms Comet Ridge into a developer, which will be able to move quickly and cost efficiently into production. The 450 km² Mahalo North block doubles Comet Ridge's net footprint in the area while proximity to infrastructure and also the Mahalo Gas Project nearby, offers optionality around a quick pathway to development. When combined with the Mahalo Gas Project, this region now has added scale that will improve economic outcomes for Comet Ridge, whilst delivering more gas to the market.

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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 5.32:** ATP 1191 (Formerly ATP 337P) of which the Mahalo Joint Venture Area ("**MJVA**") 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, the announcement 2 December 2015 reporting an upgrade of 2P and 3P reserves and the subsequent announcement of 8 March 2018 reporting a further upgrade for Mahalo are detailed as follows:

#### LR 5.31.1 & LR 5.32.2 Material Economic Assumptions:

There have been changes in the material economic assumptions from those previously detailed in the Company's announcements 28 August 2014 (Initial Reserves), 2 December 2015 (Reserves Update) and 8 March 2018 (Reserves Update) which relate to the Mahalo Block. Since the last Reserves Update the Mahalo Joint Venture ("MJV") have worked together to consider an Initial Development Plan. The Reserves and Contingent Resources presented in this announcement as at 30 September 2019, represent a decrease in volumes compared to the previous estimates released 8 March 2018. The reasons for the decrease in volumes are as follows:

Development plan optimisation – During 2018/19 the JV has undertaken extensive studies to optimise the development plan for the Mahalo Project. This has resulted in a change in well design, spacing and placement and an initial development plan focussing on lateral wells which only target the thicker coals in the Bandanna Formation.

Additional well data — The key objective of the 2018 drilling campaign was to test the limits of the western and northern edges of the Mahalo Project. The results in the Struan and Sirius Road pilots demonstrated low deliverability in the deeper portions of the western flank due to localised changes in coal characteristics and have downgraded the western area. The Memooloo 2 results demonstrated higher

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than modelled deliverability in the northern portion of the field but slightly lower gas contents than expected.

Recovery factor. The initial development plan, and corresponding well layout, reflects a slightly more conservative recovery factor than had been applied previously.

Petroleum Lease Applications – Applications for two Petroleum Leases, PLA 1082 (Humboldt) and PLA 1083 (Mahalo), across the Mahalo Project were lodged with the Qld government in September 2019. The southern extent of these areas has been reduced to accommodate the revised development plan and remaining areas are now contained within the area of applications for Potential Commercial Areas, PCA 302 (Lowesby West), PCA 303 (Lowesby) and PCA 304 (Humboldt Creek).

Contingent Resource development scenarios. The changes in well design in the initial development plan areas were extended to revise the assessment of the southern portion of the Mahalo Asset. The Joint Venture will undertake additional drilling and evaluation in these areas to provide further data for optimization studies to be undertaken. The current analysis based on lateral drilling in the thicker coals results in a downgrade to the Contingent Resources in the Project #2 area.

Revision of Petroleum Resource Management System (PRMS) – Changes to the 2007 PRMS have resulted in a reduction of the extent of the initial development plan for the Mahalo Gas Project. The clarification in the PRMS update results in some Reserves being reclassified as Contingent Resources where they will be subject to a later development plan and separate FID decision. Resources not considered to be recoverable with established technology have not been included at this time.

#### 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 (with Origin Energy acting as upstream operator for APLNG).

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

The MJVA has since the last announced upgrade of Reserves and Resources on 8 March 2019 lodged two Petroleum Lease applications which cover the initial development area. In addition, applications for PCA's have been lodged over the balance of the Permit area. Any reference to ATP 1191 in the text or on maps or diagrams in this announcement is for convenience only to reflect the extent of the Mahalo Joint Venture Permit area and allow ease of cross reference to earlier announcements. The term of Authority to Prospect 1191 has expired and the tenure of the Mahalo Gas Project Area is now in the process of being converted to the two PL's and 3 PCA's described on page 4 of this announcement.

## LR 5.31.4 Mahalo Gas Project:

There has been no other data or processes utilised other than those previously announced. The revision of the estimate of petroleum reserves and the changes to the contingent resources have been prepared by MHA utilising a deterministic estimation method.

The reasons for the revision of the Reserves and the Contingent Resources are detailed under the heading "LR 5.31.1 & LR 5.32.2 Material Economic Assumptions" as detailed above. These matters and the further technical data secured since 8 March 2018 has resulted in the decrease in 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 work carried out in the Mahalo Block since the last Reserves and Resources update the estimated quantities of petroleum reserves and contingent resources has decreased as per the details contained in Table 1. The IDP includes 96 wells in the best estimate case. The well design is a tri-lateral

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which is based on the modelling and learnings from the Project #1 area. The gas production is modeled to increase in-line with the IDP assumptions around gas plant size, for a plateau period, and to then decline. The average recovery factor has been based on extensive reservoir modelling.

#### 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. Further work on field development and pipeline options is required. Any decision to develop must be made collectively by the Mahalo Joint Venture participants.

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.

Documents for environment approvals were lodged with the Federal Government during September 2019, and requirements for State Government approvals are planned to be lodged shortly.

For the purposes of **Listing Rule 5.34.3**: 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, which includes the two Petroleum Lease Applications, PLA 1082 Humboldt and PLA 1083 Mahalo, which have been lodged as well as three Potential Commercial Area applications, PCA 302 Lowesby West, PCA 303 Lowesby and PLA 304 Humboldt Creek, during September 2019 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.

#### **APPENDIX 3 – 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.