Rose-Anne Hawkeswood

From: Oliver, Sofia <Sofia.Oliver@santos.com>
Sent: Friday, 7 July 2017 12:40 PM
To: Rose-Anne Hawkeswood
Cc: House, Neale; Oliver, Sofia
Subject: RE: Further information for Modification applications

Hi Rose-Anne.
Responses to your questions provided below.
Thanks and regards,
Sofia

From: Rose-Anne Hawkeswood [mailto:Rose-Anne.Hawkeswood@planning.nsw.gov.au]
Sent: Thursday, 6 July 2017 12:55
To: Oliver, Sofia <Sofia.Oliver@santos.com>
Subject: RE: Further information for Modification applications

Hi Sofia

Thanks for the information below.

I believe Steve O'Donoghue spoke to you today about some additional information required for the mods.

To confirm, please would you provide:

- The total volume of water extracted for Dewhurst 13-18 and 26-29 since the State significant development consent was approved. Approximately 209,000m^3
- The total CO^2 emissions from Dewhurst 13-18 and 26-29 since the State significant development consent was approved. Approximately 19,000 tonnes $CO2^e$

Many thanks.

Kind regards

Rose-Anne Hawkeswood
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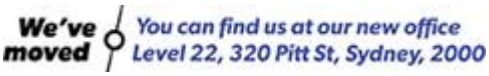

From: Oliver, Sofia [mailto:Sofia.Oliver@santos.com]
Sent: Wednesday, 5 July 2017 5:15 PM
To: Rose-Anne Hawkeswood <Rose-Anne.Hawkeswood@planning.nsw.gov.au>
Cc: House, Neale <Neale.House@santos.com>; Oliver, Sofia <Sofia.Oliver@santos.com>
Subject: Further information for Modification applications

Good afternoon Rose-Anne.
As discussed yesterday, here is further information on the need to operate the pilots for an additional period of time.

Unconventional reservoirs are heterogeneous by nature; meaning they have varying reservoir geological parameters, which impact production deliverability. Different appraisal areas will have varying well performance. It is therefore crucial to understand each component of the appraisal wells prediction curve including: time to first gas, time required to reach peak gas, peak gas plateau and decline tail. The Narrabri appraisal pilots in question are in different stages of the well prediction curve and require further production monitoring to establish their true production capability and for gas recoverable predictions. During the current three years of operation, the pilots have been subject to numerous downtime due to well/facility maintenance and mechanical failures (i.e. pump failures) which has impacted pilot production performance and appraisal well prediction curves. This is particularly evidenced in the Dewhurst South pilot which has required major workover activity to re-establish production. It is imperative that another three years of operation be granted for these appraisal pilots so that well prediction curves are properly established for development well planning purposes.

Kind regards,
Sofia

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