

30 December 2016

WM Project Number: 06159-B  
Our Ref: 06159-B\_Ltr summary noise results 301216RH  
Email: aclifton@agl.com.au

Aaron Clifton  
AGL Upstream Investments Pty Ltd  
Lot 35 Medhurst Road  
MENANGLE NSW 2568

Dear Aaron

**Re: Rosalind Park Gas Plant - 2016 Annual Noise Compliance Monitoring Report**

## INTRODUCTION

Noise monitoring of the AGL Upstream Investments Pty Ltd Rosalind Park Gas Plant (RPGP) was carried out by Wilkinson Murray (WMPL) in order to assess compliance with the relevant noise limits set by the NSW Environment Protection Authority (EPA) Environment Protection Licence conditions (Licence No. 12003) and the Department of Planning and Environment's Conditions of Consent (DA No. 282-6-2003-i).

Noise monitoring was undertaken in accordance with the *NSW Industrial Noise Policy*.

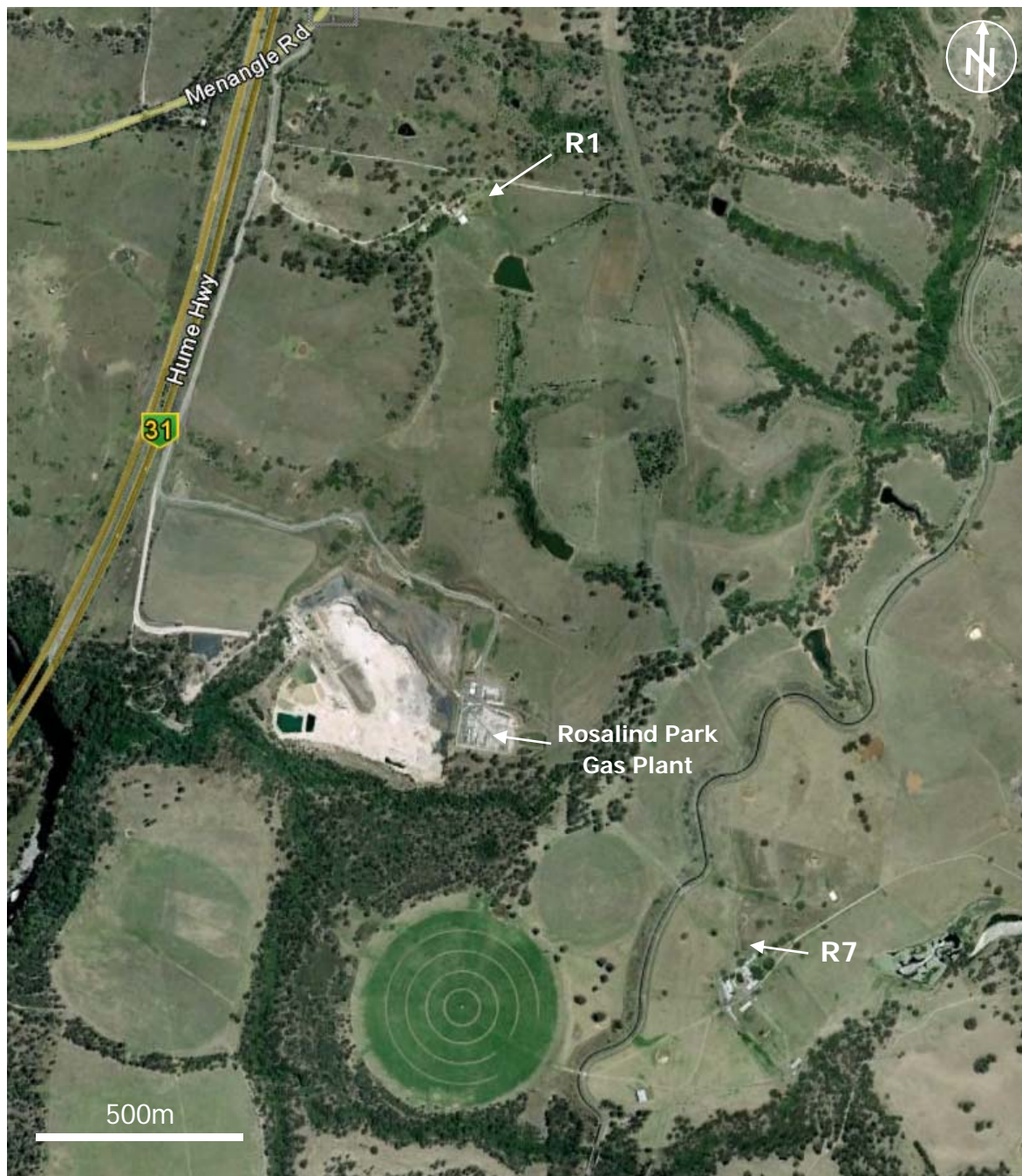
This Annual Noise Compliance Monitoring Report is based on quarterly noise monitoring conducted by WMPL on Monday, 7 March 2016, Wednesday, 23 March 2016, Wednesday, 15 June 2016, Tuesday, 20 September 2016, Thursday, 8 December 2016, Monday, 19 December 2016 and Tuesday, 20 December 2016. The report has been prepared to satisfy the EPA's Licence Condition R1.9 (Licence No. 12003).

## SITE / PROJECT DESCRIPTION

Two receiver locations were identified in the Rosalind Park Gas Plant Environmental Impact Statement (EIS) as follows:

- R1: Medhurst Road, Gilead (approx. 0.9km north of RPGP)
- R7: Mount Gilead, Gilead (approx. 1.1km southeast of RPGP)

The approximate monitoring locations are shown in Figure 1.

**Figure 1 Noise Monitoring Locations****NOISE LIMITS**

The noise limits identified in the EPA's Licence Condition L5.1 (Licence No. 12003) apply to daytime, evening and night time periods and are expressed as  $L_{Aeq,15min}$  noise levels. The noise limits are summarised in Table 1.

**Table 1 Noise Limits (EPA Licence No. 12003)**

| Location     | Daytime                           | Evening                      | Night Time                          |
|--------------|-----------------------------------|------------------------------|-------------------------------------|
|              | (7am-6pm Mon-Sat,<br>8am-6pm Sun) | (6pm -10pm)                  | (10pm-7am Mon-Sat,<br>10pm-8am Sun) |
|              | L <sub>Aeq,15min</sub> (dBA)      | L <sub>Aeq,15min</sub> (dBA) | L <sub>Aeq,15min</sub> (dBA)        |
| R1 Medhurst  | 35                                | 35                           | 35                                  |
| R7 Mt Gilead | 37                                | 36                           | 36                                  |

## MONITORING PROCEDURE

Noise monitoring was conducted at both identified receivers for the three time periods defined in Table 1 in order to assess compliance for the day, evening and night time periods. The measurements were conducted in suitable meteorological conditions (low wind speeds and no rain). The percentage of cloud cover during each site visit is summarised in Table 2.

This Annual Noise Compliance Monitoring Report is based on quarterly noise monitoring conducted by WMPL on Monday, 7 March 2016, Wednesday, 23 March 2016, Wednesday, 15 June 2016, Tuesday, 20 September 2016, Thursday, 8 December 2016, Monday, 19 December 2016 and Tuesday, 20 December 2016. The report has been prepared to satisfy the EPA's Licence Condition R1.9 (Licence No. 12003).

**Table 2 – Summary of Cloud Cover during 2016 Noise Monitoring**

| Quarterly Monitoring | Assessment Period | % Cloud Cover |
|----------------------|-------------------|---------------|
| 7 March              | Day               | 0%            |
|                      | Evening           | 0%            |
|                      | Night             | 0%            |
| 23 March             | Day               | 0%            |
|                      | Day               | 0%            |
| 15 June              | Evening           | 0%            |
|                      | Night             | 0%            |
|                      | Evening           | 100%          |
| 20 September         | Night             | 100%          |
|                      | Evening           | 100%          |
| 8 December           | Day               | 5%            |
|                      | Evening           | 5%            |
| 19 December          | Evening           | 0%            |
|                      | Night             | 0%            |
| 20 December          | Day               | 100%          |

All measurements were carried out with 2 compressor units operating simultaneously at the RPGP site except for the daytime measurements conducted on Wednesday, 15 June 2016 which were conducted with three (3) compressors operating simultaneously.

All attended noise measurements were conducted at a location representative of the most affected point within the 30m-perimeter surrounding the house for both identified noise sensitive receiver locations as listed in Table 1.

All measurements were made using a B&K Type 2236 Sound Level Meter. Wind speed and direction was established using hand-held digital anemometer Digitech QM1642.

## MONITORING RESULTS

Table 3 summarises the 2016 noise results expressed as  $L_{Aeq,15min}$  noise levels.

The plant was generally found to be inaudible or only barely audible. When the plant was barely audible, the measurement data was used to estimate the noise contribution from the plant.

**Table 3 – Summary of 2016 Noise Monitoring**

| Quarterly Monitoring | Assessment Period | R1 Medhurst                    |  |                                 | R7 Mt Gilead       |  |                                 |
|----------------------|-------------------|--------------------------------|--|---------------------------------|--------------------|--|---------------------------------|
|                      |                   | Measurement Period             | Measured $L_{Aeq,15min}$ due to RPGP (dBA) | $L_{Aeq,15min}$ Criterion (dBA) | Measurement Period | Measured $L_{Aeq,15min}$ due to RPGP (dBA) | $L_{Aeq,15min}$ Criterion (dBA) |
| 7 March              | Day               | -                              | -  | -                               | 5.45pm – 6.00pm    | Inaudible                                  | 37                              |
|                      | Evening           | 8.00pm – 8.15pm                | Inaudible                                  | 35                              | 8.53pm – 9.08pm    | 34   | 36                              |
|                      | Night             | 10.00pm – 10.15pm              | Inaudible                                  | 35                              | 10.48pm – 11.03pm  | 36   | 36                              |
| 23 March             | Day               | 8.30am – 8.45am                | Inaudible                                  | 35                              | -                  | -  | -                               |
| 15 June              | Day               | 5.57pm – 6.12pm <sup>(1)</sup> | Inaudible                                  | 35                              | 5.21pm – 5.36pm    | 37   | 37                              |
|                      | Evening           | 8.58pm – 9.13pm                | Inaudible                                  | 35                              | 8.05pm – 8.20pm    | 36   | 36                              |
|                      | Night             | 10.48pm – 11.03pm              | Inaudible                                  | 35                              | 10.00pm – 10.15pm  | 37 <sup>(2)</sup>                          | 36                              |
| 20 September         | Day               | 4.50pm – 5.05pm                | Inaudible                                  | 35                              | 5.43pm – 5.58pm    | 32   | 37                              |
|                      | Evening           | 8.29pm – 8.44pm                | Inaudible                                  | 35                              | 9.16pm – 9.31pm    | 33   | 36                              |

| Quarterly Monitoring | Assessment Period | R1 Medhurst        |  |                                 | R7 Mt Gilead       |  |                                 |
|----------------------|-------------------|--------------------|--|---------------------------------|--------------------|--|---------------------------------|
|                      |                   | Measurement Period | Measured $L_{Aeq,15min}$ due to RPGP (dBA) | $L_{Aeq,15min}$ Criterion (dBA) | Measurement Period | Measured $L_{Aeq,15min}$ due to RPGP (dBA) | $L_{Aeq,15min}$ Criterion (dBA) |
| 8 December           | Night             | 10.00pm – 10.15pm  | Inaudible                                  | 35                              | 10.46pm – 11.01pm  | 34   | 36                              |
|                      | Day               | 5.00pm – 5.15pm    | Inaudible                                  | 35                              | -                  | -  | -                               |
|                      | Evening           | 7.50pm – 8.05pm    | Inaudible                                  | 35                              | -                  | -  | -                               |
| 19 December          | Evening           | -                  | -  | -                               | 9.44pm – 9.59pm    | 36   | 36                              |
|                      | Night             | 10.29pm – 10.44pm  | Inaudible                                  | 35                              | 11.20pm – 11.35pm  | 34   | 36                              |
| 20 December          | Day               | -                  | -  | -                               | 5.45pm – 6.00pm    | 33   | 37                              |

Notes: (1) It is noted that the initial measurement undertaken at R1 commenced during standard daytime hours but technically extended into the evening period (which commences at 6.00pm). For the purpose of this assessment the measurement is considered to be representative of the daytime period.

(2) Although this result marginally exceeds the relevant noise limit of 36dBA by 1dB, its compliance with licence conditions is indeterminate since it does not exceed the noise limit by more than 2dB in accordance with the *NSW Industrial Noise Policy*.

It should be noted that noise emission limits identified in EPL 12003 apply under all meteorological conditions except:

- a) during rain and wind speeds (at 10m height) greater than 3m/s; and
- b) under "non-significant weather conditions".

Gilead is considered a non-arid area (annual average rainfall greater than 500mm) according to the *INP* and as such, strong temperature inversions (G-class Pasquill-Gillford stability category) are considered to be a "non-significant weather condition". Therefore, the noise limits set out in Table 1 do not strictly apply to strong temperature inversions (G-class Pasquill-Gilford stability category).

Local meteorological data sourced from the Campbelltown (Mount Annan) Bureau of Meteorology (BoM) weather station indicated that during some of the evening and night time monitoring, high strength (G-Class) temperature inversions were present. Notwithstanding, noise generated by the site under those conditions complied with the relevant noise limits at both monitoring locations.

## CONCLUSION

The results of the noise monitoring of the Rosalind Park Gas Plant conducted in 2016 in accordance with the *NSW Industrial Noise Policy* show compliance with the relevant operational noise limits set by the NSW EPA's Environment Protection Licence conditions (Licence No. 12003) and the Department of Planning and Environment's Conditions of Consent (DA No. 282-6-2003-i) at R1 (Medhurst Road) for day, evening and night time with typical operating conditions.

At R7 (Mount Gilead), compliance was also demonstrated in 2016 except for the night time measurement conducted on 15 June 2016 where the  $L_{Aeq}$  noise level generated by the RGP was measured at 37dBA. Although this result marginally exceeds the relevant noise limit of 36dBA by 1dB, its compliance with licence conditions is indeterminate since it does not exceed the noise limit by more than 2dB in accordance with the *NSW Industrial Noise Policy*. Therefore, the results of the noise monitoring of the Rosalind Park Gas Plant conducted in 2016 in accordance with the *NSW Industrial Noise Policy* show compliance with the relevant operational noise limits set by the EPA's *Environment Protection Licence Conditions* (Licence No. 12003) at R7 (Mount Gilead) for day, evening and night time with typical operating conditions.

I trust this information is sufficient. Please contact us if you have any further queries.

Yours faithfully

**WILKINSON MURRAY**



**Roman Haverkamp**

Senior Engineer

### Note

All materials specified by Wilkinson Murray Pty Limited have been selected solely on the basis of acoustic performance. Any other properties of these materials, such as fire rating, chemical properties etc. should be checked with the suppliers or other specialised bodies for fitness for a given purpose. The information contained in this document produced by Wilkinson Murray is solely for the use of the client identified on the front page of this report. Our client becomes the owner of this document upon full payment of our **Tax Invoice** for its provision. This document must not be used for any purposes other than those of the document's owner. Wilkinson Murray undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.

### Quality Assurance

We are committed to and have implemented AS/NZS ISO 9001:2008 "Quality Management Systems – Requirements". This management system has been externally certified and Licence No. QEC 13457 has been issued.

### AAAC

This firm is a member firm of the Association of Australian Acoustical Consultants and the work here reported has been carried out in accordance with the terms of that membership.