DOC18/247545-03; EF16/14008

Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001
Attention: Anthony Barnes

By email: anthony.barnes@planning.nsw.gov.au

22 May 2018

Dear Mr Barnes

Salt Ash Sand Quarry (MP 07_0094 MOD 4)
Response to Submissions – Redisand Pty Ltd

I refer to your email to the Environment Protection Authority (EPA), dated 23 April 2018, providing the Response to Submissions (RTS) report, dated April 2018, for the Redisand Pty Ltd Salt Ash Sand Quarry proposal, reference MP 07_0094 Modification 4. The EPA provided comments on the Environmental Assessment for this proposal in our submissions dated 15 and 19 January 2018. The EPA's comments related primarily to truck movements, hours of operation, and air quality impact assessment matters.

Air Quality Impact Assessment

The EPA has reviewed the RTS and determined that further information is required in relation to the air quality impact assessment before the EPA can provide recommended conditions on potential air quality matters. The RTS addresses several of the EPA's previous comments, however further information is required on the following two issues:

1. Estimation of emissions, including a detailed emission inventory for all scenarios assessed; and
2. Additional data and clarification of wind roses.

Further detail on the remaining matters is provided in **Attachment 1**.

Vehicle Movements

The environmental assessments for air quality and noise appear to be modelled on 42 exiting truck movements per day for weekdays and 18 on Saturdays. However, Section 4.1.1 of the Traffic Management Plan (Appendix D in the Environmental Assessment) notes that seasonal factors and busy times may significantly increase the daily and hourly flow of traffic from the site, limited only by the handling capacity of the premises. The proponent needs to model the air quality and noise impacts of the maximum number of daily truck movements. If this modelling is not provided, the EPA intends to recommend the following conditions to restrict the number of daily truck movements to be consistent with Environmental Assessment provided:

- *No more than 42 sand laden trucks are to exit the premises on any day from Monday to Friday.*
- *No more than 18 sand laden trucks are to exit the premises on any Saturday.*
- *No sand laden trucks are to exit the premises on any Sunday or Public Holiday.*

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If you have any questions about this matter, please contact Michael Howat on (02) 4908 6819 or by email to hunter.region@epa.nsw.gov.au.

Yours sincerely

MITCHELL BENNETT
Head Regional Operations Unit – Hunter
Environment Protection Authority

ATTACHMENT 1

Air Quality Impact Assessment
Salt Ash Sand Quarry (MP 07_0094 MOD 4)

Method used to estimate emissions, including assumptions made and values for parameters

The RTS states that emissions were estimated according to procedures set out in '*National Pollutant Inventory, Emission Estimation Technique Manual for Mining v3.1*', and that emissions assumed a ratio of $PM_{2.5}$ to PM_{10} of 0.35 based on observations from the Office of Environment and Heritage monitoring site at Beresfield. The report advises this is conservative based on data from the Stockton monitoring station (0.27) and that ratios arising from emission estimation according to the USEPA AP42 manual for aggregate handling (13.2.4) and unpaved roads (13.2.2) are 0.15 and 0.1 respectively.

This response does not provide the information requested. While reference is made to guidance in the NPI Emissions Estimation Technique Manual for Mining, the reference value or equation for each source has not been provided and therefore the EPA is unable to verify the calculations made. Additionally, the equation for miscellaneous transfer of material (p16) requires a value for average wind speed and this has not been provided.

USEPA AP42 is used to support the chosen value for the ratio of $PM_{2.5}$ to PM_{10}. Yet methods provided by AP42 have not been used to estimate emissions. Additional discussion is needed in support of the adopted assessment methodology. This is best achieved via the provision of a detailed emission inventory for the project.

Further information needed

Further detail regarding estimation of emissions, including a detailed emission inventory for all scenarios assessed:

- emission estimation technique, equation and/or factor used for each source and where this was obtained
- values for all parameters used to calculate emission factors and modelled emission rates
- activity rates and operational parameters used to calculate modelled emissions and assessment scenarios
- control factors and justification of their adoption via linkage to on-site management practices

Very few calms in the wind roses

The RTS clarifies the observational data used and that in using it to refine winds modelled by MM5, the maximum radius of influence was set to 10 km, meaning that only the Williamtown data influences winds predicted for the proposal site.

The EPA requested wind roses to verify the interpolated wind data provided by CALMET to AUSPLUME. The RTS does not provide the requested observational data.

The EPA requests wind roses from Williamtown Airport data be provided for the same period as the wind roses in figure 4. The EPA further requests an annual wind rose for this period for each data set – Williamtown Airport (observed) and interpolated CALMET (modelled).

Further information needed

- wind roses from Williamtown Airport equivalent to those presented in figure 4 of the Air Quality Impact Assessment
- annual wind rose for each data set – Williamtown Airport and CALMET interpolated to the location of the sand mine.