

Memorandum

To	Erica Dearlove	Page	1
CC			
Subject	Response to Mining Lease Proposal DMITRE feedback		
From	Darren Jurevicius		
File/Ref No.	60279729-A13L01M	Date	16-Dec-2013

Dear Erica,

Please find our explanation to DMITRE’s MLP query “*explanation sought for why there is no noise emitted from the north & east of the northeast waste rock dump and northeast of the southern waste rock dump in Map 1-2 in the Operational Noise Assessment*”, below:

- Period 1 is the modelled snapshot that shows the NE WRD (i.e. north-east waste rock dump) 30 – 60 m high with haul trucks operating generally at the upper extremities to provide a worst case scenario.
- Figure 1 below shows that there are 2 bulldozers modelled (blue dots on the SW face of NE WRD) that are shielded by the WRD. Note the NE WRD generally shields the processing and other ground level mobile plant noise as well as the southern and western haul roads on the NE WRD due to the height of the WRD above the ground.

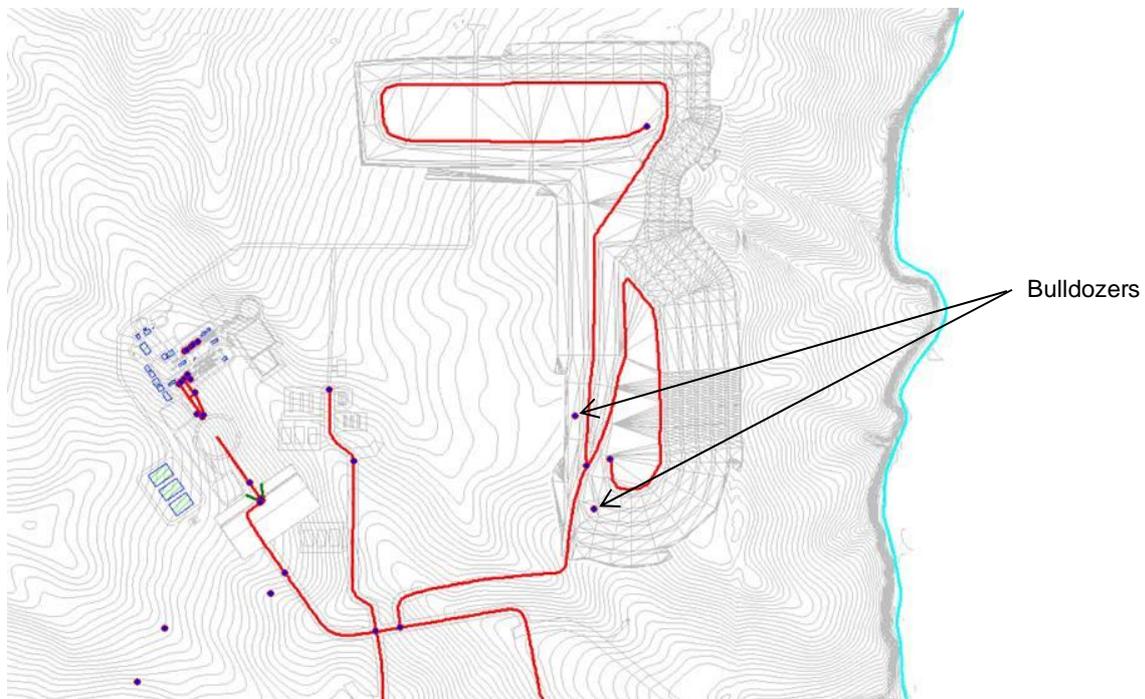


Figure 1 Period 1 - modelled noise source locations and topography, northern section of mining lease. Stationary noise sources are represented by blue dots and the haul roads red lines.

- The MLP noise report indicates the northern receptors (i.e. R14, 15, 19, 20) to be below the adopted criteria typically by 5 dB(A) with standard trucks and 10 dB(A) with mitigated trucks in Period 1.

- The mitigated haul truck scenario shown in Figure 1-2 results in a greater observed shielding effect to the north and east of the NE WRD in comparison to Figure 1-1 (standard trucks). This is because using mitigated trucks results in the NE WRD haul trucks having reduced influence on the overall noise emission propagating to the NE of the site.
- Note that during construction of the NE WRD, the level of shielding provided by the WRD with the addition of bulldozers working on the northern extremities is likely to elevate the received noise levels at the northern receptors. Although we haven't modelled this situation, it is likely that the predictions will indicate compliance. To provide further reasoning, Figure 2 below shows 3 bulldozers modelled on the SE WRD extremities. In addition to the SE WRD providing negligible shielding from other mobile and fixed plant sources, the southern side of the site also has greater mobile plant activity, which is likely to increase the noise level at southern receptors. For illustrative purposes, if this scenario was translated to the NE WRD, compliance with the criteria would still occur, given that the distance to the nearest northern receptors in comparison to the southern receptors from the SE WRD is greater.

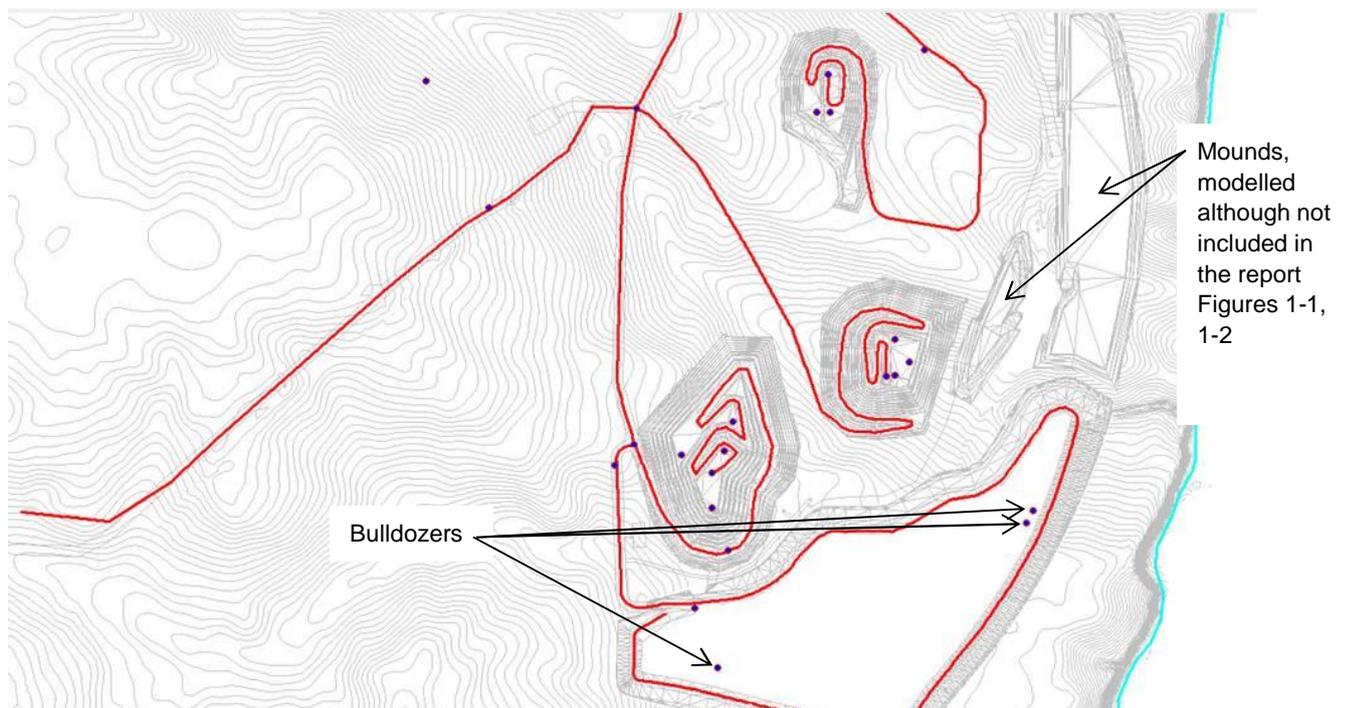


Figure 2 Period 1 - modelled noise source locations and topography, southern section of mining lease. Stationary noise sources are represented by blue dots and the haul roads red lines.

- The reason why noise contour levels seemingly reduced NE of the SE WRD, was that mounds were modelled (topsoil mounds for rehab works); however these mounds were not shown in Figures 1-1, 1-2. These mounds provide further noise shielding for site operations.

As a side note, the modelled periods (i.e. 1, 5, and 12) with associated plant scenarios provides a representative snapshot of the noise footprint for planning purposes.

However, the modelled scenarios are not exhaustive for all situations that may occur in reality. To do this would require modelling of monthly operational scenarios with a noise model calibrated to site conditions under a range of meteorological conditions. Nevertheless, the modelling carried out to date indicates a potential noise risk, which in turn allows consideration of plant selection up front and the development of a noise management plan (including real-time noise monitoring) to mitigate this risk.

Please contact me with any further queries.

Regards,

A handwritten signature in blue ink, appearing to read "Darren Jurevicius". The signature is fluid and cursive, with a prominent initial "D" and a trailing flourish.

Darren Jurevicius
Technical Director - Acoustics
darren.jurevicius@aecom.com