

Summary of Independent Environmental Audit Recommendations and MACH Energy Responses

Item No.	Audit Recommendation	MACH Energy Response	Forecast Completion
Development Consent DA 92/97			
S2 C 12	<p>See other conditions for specific recommendations regarding dust.</p> <p>General recommendation relating to bitumen track (light vehicle medium vehicle track). Develop remediation plan for the failed sections. Repair the section of the light vehicle track where the bitumen has failed. Until the repair is complete regular watercarts are required to reduce dust impacts.</p>	<p>Temporary repairs have been undertaken on the LVMV road.</p> <p>A detailed design to upgrade the road is currently being undertaken.</p>	<p>Complete December 2021</p>
S2 C 5	<p>REC: The monthly reports on the website should continue to report against how the site compared against the cumulative noise criteria.</p> <p>REC: It is recommended that an appendix is prepared to the Annual Review that summarises noise performance including:</p> <ul style="list-style-type: none"> - date of monitoring; - compliance against NAG's noise criteria, including a table/tables that summarises actual noise levels during monitoring events; and - compliance against cumulative criteria. <p>NOTE - these recommendation have been addressed int he 2019 Annual Review and Monthly Reports with this completed following the initial findings during the site inspection.</p>	<p>These recommendations have now been addressed, with information included in 2020 monthly reports and the 2019 Annual Review.</p>	<p>Complete</p>
S2 C 9	<p>REC: Record the specific noise level triggers for good (green), caution (orange) and exceeding (red) in the Thiess real time noise monitoring system (computer program). Update the Noise Management Plan if required.</p>	<p>The Thiess real time noise monitoring system will be updated to reflect trigger level colours.</p> <p>No update to the Noise Management Plan is required.</p>	<p>September 2020</p>
S2 C 10	<p>REC: Any elevated blasting levels (ie. Above 115 dBL and above 120 dBL) should be discussed in the monthly environmental reports. This does not have to be detailed but it needs to identify there could be a non - compliance based on the blast criteria.</p>	<p>These recommendations have now been addressed, with information included in 2020 monthly reports as required.</p>	<p>Complete</p>

	REC: Include a cumulative assessment of the percentage of blasts >115dB year to date to ensure <5%		
S2 C 11	<p>REC: The time of the blasts for overpressure and vibration is not recorded in the 2017 and 2018 Annual Review. To be included in future Annual Reviews. NOTE - this has been addressed in the 2019 Annual Review.</p> <p>REC: The Annual Review and Monthly Environmental Reports should also record the day of the week that blasting occurred to verify no blasting is undertaken on a Sunday.</p>	These recommendations have now been addressed, with information included in 2020 monthly reports and 2019 Annual Review.	Complete
S2 C 15	<p>REC: Ensure the Blast Scheduling information is available on the home page by a simple link ie. 'Upcoming Blasting'. It is not obvious to find the blast scheduling information on the current website.</p> <p>REC: Results of blast fume monitoring should be included in monthly reports and the Annual Review</p>	<p>The MACH Energy website now has a 'ticker' on the front page that includes blast notification information.</p> <p>Monthly reports will be updated to include blast fume data, and the 2020 Annual Review will include a summary of blast fume performance.</p>	<p>Complete</p> <p>June 2020</p>
S2 C 22 and 23	Recommend reviewing the way dust is visually assessed with this based on the EPA's new Dust Management Handbook 2019.	<p>At the time of the observation, wheel generated dust emissions were not considered excessive. However, the observed emissions were in the 'Dust emissions are increasing and operators should consider if further action to reduce dust is required' category, as per EPA's Dust Assessment Handbook.</p> <p>It is noted that the Dust Assessment Handbook includes a number of factors to consider when assessing if operational changes to haul roads are required, namely; weather conditions, location, proximity to site boundary, proximity to sensitive receptors, duration of emissions and occupational safety.</p> <p>The operations were within the pit and a significant distance from the site boundary and sensitive receptors. Light winds were present, generally from the south-west (i.e. not towards key closest receptors). As such, in-pit dust emissions would be considered unlikely to lead to off-site impacts.</p> <p>Further, no real time dust alarms were triggered at the time of the observations.</p> <p>Notwithstanding, the environmental team called for water carts to attend the pit area in question.</p>	Complete

Increased training in visual dust management at site. This should be regularly discussed and documented in toolbox talks.

The daily dust risk forecast is provided to the Open Cut Examiner via email each morning to assist with operational planning and to inform the operations team of the dust risk for the day. Supervisors, OCEs, and the environment team also conduct regular checks on dust levels throughout MPO, and operators are proactive in responding to and communicating elevating dust levels.

Complete

As an action from the audit inspection a toolbox was provided to the OCEs and Supervisors on 26 February 2020 to deliver during the daily pre-start meetings to reinforce the importance of dust management to each of the mining crews, including dust management during excavator loading.

Ensuring water trucks are sent to areas of the site prior to there being a problem. If there is a delay in providing this water truck then operations need to change (eg. Reduction in speed) or operations are to cease until adequate dust controls are available.

MACH Energy disagrees with the assertion that the haul trucks observed by the auditor were not being operated in a proper manner. All haul trucks were driven in a safe and efficient manner, the site speed limits (set for both safety and dust reduction purposes) were adhered to, and a number of water carts were in operation throughout the site.

Complete

The nature of dust emissions from mine sites is that even with the implementation of best practice emission controls, some dust will be emitted from some activities, and the nature and location of the emissions needs to be considered when prioritising dust controls.

At the time of the observation, wheel generated dust emissions were not considered excessive. However, the observed emissions were in the 'Dust emissions are increasing, and operators should consider if further action to reduce dust is required' category, as per EPA's Dust Assessment Handbook.

It is noted that the Dust Assessment Handbook includes a number of factors to consider when assessing if operational changes to haul roads are required, namely; weather conditions, location, proximity to site boundary, proximity to sensitive receptors, duration of emissions and occupational safety.

The operations were within the pit and a significant distance from the site boundary and sensitive receptors. Light winds were present, generally from the south-west (i.e. not towards key

	<p>Update the MOP to include a defined timeframe to revegetate soil stockpiles.</p> <p>Cameras of the pits could be more widely distributed to key MACH Energy Staff. Investigate establishing a series of video cameras to enable monitoring of key areas at the site which have high potential for dust and visual impacts. These would include the pits and higher areas of the site. All required personnel have access to cameras.</p> <p>It is recommended that the calibration factor used with the Palas Fidas particulate monitors be based on a dataset that covers seasonal variations (rather than the single month the current calibration factors are based on) as changes in particulate loads, temperature, humidity, etc. can affect the instrument's readings.</p> <p>It is recommended that an air quality expert be engaged to review exceedances of ambient air quality criteria where the exceedances are not due to exceptional events (as classified by the NSW DPIE) or invalid data. A summary report would also be included in the Annual Review.</p>	<p>closest receptors). As such, in-pit dust emissions would be considered unlikely to lead to off-site impacts.</p> <p>Further, no real time dust alarms were triggered at the time of the observations.</p> <p>Notwithstanding, the environmental team called for water carts to attend the pit area in question.</p> <p>MACH Energy notes that during the observation, water carts continued to operate in areas considered more likely to lead to offsite impacts.</p> <p>In addition, changes in operations, including reduction in speed and reducing or ceasing operations, occur as required during periods of elevated air quality levels or dust emissions.</p> <p>The 1 July 2020 – 30 June 2021 MOP has been updated to include timeframes for topsoil stockpile shaping and seeding and is currently with DPIE for approval.</p> <p>Mount Pleasant Operation has multiple cameras within site, including those that cover the mining area.</p> <p>MACH Energy is currently investigating the installation of additional cameras, and access to existing cameras.</p> <p>Palas Fidas calibration was previously undertaken in January and February 2020. MACH Energy will engage a specialist air quality consultancy to determine if the calibration is required to be updated with seasonal data.</p> <p>MACH Energy did engage a specialist air quality consultancy (Todoroski Air Sciences) to review monitoring data in 2019 to determine if any exceedances occurred that were not due to exceptional events. The outcome of the review informed the preparation of the 2019 Annual Review & Annual Rehabilitation Report.</p> <p>An air quality expert will be engaged for future Annual Reviews to review any exceedances of criteria, and to provide a summary for inclusion in the Annual Review.</p>	<p>1 July 2020</p> <p>March 2021</p> <p>June 2021</p> <p>Complete</p>
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<p>S2 C 26</p>	<p>REC: There are a selection of proposed water management and erosion and sediment upgrades with these outlined in Section 5.4.</p> <p>Issue ID1</p> <p>Engaging an independent specialist to complete an erosion and sediment control/water management audit to identify all the erosion and sediment control/water management issues at site. Develop an action plan for erosion and sediment control/water management.</p> <p>Issue ID2</p> <p>The internal powerline pole that is located within the drainage line near the highwall dam is to be monitored for integrity. Additional erosion and sediment control work is likely required to ensure the power line is not compromised by failure or movement.</p> <p>Issue ID3</p> <p>Review sediment fencing at the site and replace sections as required.</p> <p>Recommend adding a series of haybales or corr logs in the drainage line near the current rehabilitation area as we understand the drainage in that area will change within a year. When constructed as per the Blue Book, haybales or corr logs will be a far more effective erosion and sediment control for channelized flow than sediment fences.</p> <p>Issue ID4</p> <p>Repair larger rill and gully erosion (including Fines Emplacement Area). This includes the area where the culvert in the Mine Water Dam has created a drainage cutting into the Mine Water Dam. Review erosion and sediment control in this area. Consider extending the pipeline closer into the dam to prevent erosion.</p> <p>Develop a strategy to minimise erosion of the dam walls.</p> <p>Issue ID5</p> <p>Include all dams in the Water Management Plan.</p>	<p>MACH Energy will engage a specialist to complete an internal erosion and sediment control audit.</p> <p>Issue ID2 will be reviewed with the internal erosion and sediment control audit to be undertaken. In the interim, it will be regularly monitored to ensure integrity.</p> <p>Sediment fencing will be reviewed with the internal erosion and sediment control audit to be undertaken.</p> <p>Once construction areas are complete and rehabilitated, sediment fencing is removed as part of the Ground Disturbance Permit close out process. This will continue to progress.</p> <p>The area near the current rehabilitation is being monitored and will be remediated with hay bales if required. This area will be reworked, and permanent mine water management systems put in place as part of the MOD4 construction works.</p> <p>Rill and gully erosion at the Mine Water Dam and Environment Dam 3 have been remediated.</p> <p>Rill and gully erosion at the Fines Emplacement Area has been remediated, with additional erosion measures put in place including geofabric in higher risk areas.</p> <p>The Water Management Plan will be updated to include all dams used in the mine water management system.</p>	<p>December 2020</p> <p>December 2020</p> <p>December 2020</p> <p>October 2022</p> <p>Complete</p> <p>September 2020</p>
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<p>Issue ID6</p> <p>Complete a review of the impacts of the proposed water allocations on the site based on the water allocation limits. From an environmental management and mining perspective it is important that water for the use of dust management is maintained.</p>	<p>MACH Energy has been involved in the WaterNSW updates and has undertaken extensive modelling on the expected water allocations for 2020-21 water year.</p> <p>MACH Energy has sufficient water resources to run the Mount Pleasant Operation.</p>	<p>Complete</p>
<p>Issue ID7</p> <p>Complete an erosion and sediment control design of the entrance road bund (borrow pit) to reduce the likelihood of erosion and sediment controls issues. Other features such as horizontal ripping or geofabric matting may be required to reduce the likelihood of erosion.</p>	<p>Remediation of the borrow pit area has undergone detailed design and scoping, with works to commence shortly.</p>	<p>December 2020</p>
<p>Issue ID8</p> <p>There is an area where a drainage structure has failed near the MIA/workshop areas. This area flows into the mine water management system and does not go off site. This requires replacement and engineering advice.</p>	<p>Remediation of the MIA drainage structures will be scoped with suitable engineering design and then remediated.</p>	<p>June 2021</p>
<p>Issue ID9</p> <p>The CHPP requires erosion and sediment control review. SLR understand a significant amount of money has been set aside for this work and engineering designs are progressing. This area flows into the mine water management system and does not go off site.</p> <p>Implement the actions of the engineering review.</p> <p>Ensure the designs also include a review of the drains that fall just outside the CHPP area (near the Rejects Road). These are older degraded drainage lines.</p> <p>Note, since the Audit inspection some of these areas have been remediated. However additional work is still required in this area.</p>	<p>There is currently significant engineering design being undertaken to update the mine water management and erosion and sediment control systems at the CHPP and preliminary budgets are approved. Once the review and design are finalised, works will commence.</p> <p>In the interim, temporary works have commenced in the area and include remediation of higher risk areas such as roads, banded areas, drainage pipelines, and ensuring areas within the CHPP and TLO are safe for access.</p>	<p>December 2021</p>
<p>Issue ID10</p> <p>Undertake regular monitoring of the area.</p>	<p>The area downstream of the MPO Construction Offices will be remediated as part of proposed construction works in the area. In the interim, all water flows into the existing MPO mine water management system.</p>	<p>June 2021</p>

	<p>Install temporary erosion and sediment controls to ensure that the area remains stable until the area is re-constructed during MOD 4 works.</p> <p>Issue ID11</p> <p>Undertake regular monitoring of the area.</p> <p>Use a grader to push eroded material back into gullies.</p> <p>It should be noted that evidence of remediation of erosion areas along this roadway was provided since the Audit site inspection.</p> <p>Issue ID12</p> <p>Continue to maintain the light vehicle and medium vehicle road.</p> <p>Completion of seeding in bare areas which form part of the cleanwater catchment. Note, there has been evidence of some tree planting in this area since the Audit site inspection was completed.</p> <p>Review the need for sediment fencing some areas until grass cover is established.</p> <p>Issue ID13</p> <p>Review engineering controls to reduce the likelihood of any tailings spill going into the cleanwater dam. Possible use of sleeve to contain tailings pipeline.</p> <p>Note, evidence provided since the Audit inspection of the installation of end of line burst protection flow meters.</p>	<p>Erosion and sediment control works have been completed in this area, including filling in and strengthening gullied areas.</p> <p>The LVMV road will continue to be maintained.</p> <p>Seeding and/or tree planting within areas requiring remediation will be undertaken as required. A tree planting campaign was undertaken in this area in May 2020.</p> <p>Once construction areas are complete and rehabilitated (including adequate vegetation cover), sediment fencing is removed as part of the Ground Disturbance Permit close out process. This will continue to progress.</p> <p>The fines emplacement pipeline has end of line burst protection flow meters will alarm in the case of a spill.</p> <p>In addition, a review into additional controls will be undertaken for the section of the fines emplacement pipeline that goes over the clean water diversion drain.</p>	<p>Complete</p> <p>Complete</p> <p>Complete</p> <p>December 2020</p>
S2 C 32	<p>REC: Continue to implement additional weed management activities onsite.</p>	<p>MACH Energy has engaged Enright Land Management to undertake weed and pest management at MPO. The scope includes a site weed map and action plan, completed in 2019, and a quarterly weed management program. Quarters 1 and 2 have been completed, with quarters 3 and 4 planned and budgeted.</p>	<p>Complete</p>

S2 C 33	REC: Continue the process of progressing the covenant for the Aboriginal Conservation Area.	MACH Energy is attempting to progress the covenant and is currently awaiting a response from DPIE.	Complete
S2 C 47	REC: It would be beneficial to have a camera in town pointing at the site for use of MACH Energy and contractors. This would assist in determining the impacts such as visual and dust.	Mount Pleasant Operation has multiple cameras within site, including those that cover the mining area. MACH Energy is currently investigating the installation of additional cameras, including to the east of MPO looking west.	March 2021
S2 C 52	See Section 5.3 of the main report for dust recommendations. For waste as per Schedule 3 Condition 52 of the Development Consent. In - Pit Storage a) & b) Ensure all waste is separated out and stored in the correct waste or recycle bin. c) Ensure all hydrocarbon spills are cleaned up. Workshop Area a) Ensure Remondis label all waste bins. b) Place oil pan under any engines/equipment stored in unbunded areas, that have the potential to drip any hydrocarbons/fluid etc. c) Ensure all chemicals/hydrocarbons are banded. Construction Offices a) Ensure all waste is separated out and stored in the correct waste or recycle bin. b) Ensure all chemicals/hydrocarbons are banded. c) Ensure all bagged contaminated soil is transported to the land farm.	Waste management will be re-toolboxed as required following regular environmental inspections. Areas of waste storage have been tidied up, including cleaning up of spills. Remondis have updated bin labels as required. Waste management will be re-toolboxed as required following regular environmental inspections. Areas of waste storage have been tidied up, including cleaning up of spills. Bunding is being reviewed and will be updated as required for storage areas. Waste management was re-toolboxed to teams and will be re-toolboxed as required following regular environmental inspections. Bunding is being reviewed and will be updated as required for storage areas. Waste was removed.	Complete Complete September 2020 Complete Complete December 2020 Complete December 2020 Complete
S2 C 54	REC: Reshape, rip, topsoil and seed areas of rehabilitation which have been noted by Thiess as areas where improvement is required. MACH Energy have since provided evidence that this has been completed.	Rehabilitation areas requiring improvement, as outlined in the recommendation, have been remediated.	Complete

	<p>REC: Some seeding should be completed in the area above ED2 which is showing signs of erosion.</p> <p>REC: Adding a defined timeframe to the MOP for how long topsoil stockpiles are stored until a cover crop is required. MACH Energy have since provided evidence that this has been completed.</p> <p>REC: Update the relevant document (MOP/RMP or Rehabilitation Strategy) to ensure there are no inconsistencies with the documents.</p>	<p>Remediation works are currently being undertaken within this area, including remediation of the access road and areas surrounding water monitoring infrastructure. Areas will be seeded as required.</p> <p>The MPO MOP has been updated to include defined timeframes to shape and seed topsoil stockpiles. The updated MOP is currently with the DPIE for approval and will be available on the MACH Energy website once approved.</p> <p>The Rehabilitation Strategy shows an overarching conceptual plan for rehabilitation at MPO, whereas the MOP provides detail and is updated on a more regular basis. As such, there are some inconsistencies between the two. These inconsistencies will be addressed when each of the plans are updated.</p>	<p>December 2020</p> <p>Complete</p> <p>July 2021</p>
S5 C 2	<p>REC: When management plan updates are required in the future consider creating a table system for mitigation measures with separate columns for:</p> <ul style="list-style-type: none"> • Mitigation ID; • Mitigation Measure; • Reference document; • When required; • Responsibility. <p>Based on discussions with site a staged approach is recommended.</p>	<p>Management plans will be updated as per the recommendation in a staged approach, at the time when each management plan requires update.</p>	<p>December 2021</p>
S5 C 3	<p>As per Schedule 3 Condition 5 recommendation.</p> <p>REC: It is recommended that an appendix is prepared to the Annual Review that summarises noise performance including:</p> <ul style="list-style-type: none"> - date of monitoring; - compliance against NAG's noise criteria, including a table/tables that summarises actual noise levels during monitoring events; and - compliance against cumulative criteria. <p>As per Schedule 3 Condition 22 and 23 recommendation.</p>	<p>The 2020 Annual Review will include a summary of noise performance.</p>	<p>March 2021</p>

	REC: It is recommended that an air quality expert be engaged to review exceedances of ambient air quality criteria where the exceedances are not due to exceptional events (as classified by the NSW DPIE) or invalid data. A summary report would also be included in the Annual Review.	An air quality expert will be engaged for future Annual Reviews to review any exceedances of criteria, and to provide a summary for inclusion in the Annual Review.	March 2021
S5 C 4	REC: Update wording in the Annual Review to outline which management plans require updating and which management plans do not require updating.	The 2020 Annual Review will include this information.	March 2021
Environmental Protection Licence EPL 20850			
L 2.1	As per recommendation from Schedule 3 Condition 5 of the Development Consent. REC: The monthly reports on the website should report against how the site compared against the cumulative noise criteria. REC: It is recommended that an appendix is prepared to the Annual Review that summarises noise performance including: - date of monitoring; - compliance against NAG's noise criteria, including a table/tables that summarises actual noise levels during monitoring events; and - compliance against cumulative criteria. NOTE - these recommendation have been addressed in the 2020 Annual Review and Monthly Reports	These recommendations have now been addressed, with information included in 2020 monthly reports and the 2019 Annual Review.	Complete
L 3.1	REC: Blast fume performance should be reported in the Annual Review and EPL monthly reports	Monthly reports will be updated to include blast fume data, and the 2020 Annual Review will include a summary of blast fume performance.	June 2020
L 3.2	As per Schedule 3 Condition 11. REC: The time of the blasts for overpressure and vibration is not recorded in the Annual Review. To be included in future Annual Reviews. NOTE - this has been addressed in the 2019 Annual Review REC: The Annual Review and Monthly Environmental Reports should also record the day of the week that blasting occurred to verify no blasting is undertaken on a Sunday.	These recommendations have now been addressed, with information included in 2020 monthly reports and the 2019 Annual Review.	Complete

L 3.3	REC: Any elevated blasting levels (ie. Above 120 dBL) should be discussed in the monthly environmental reports and appropriate action detailed.	These recommendations have now been addressed, with information included in 2020 monthly reports as required.	Complete
L 3.4	REC: Any elevated blasting levels (ie. Above 115 dBA) should be discussed in the monthly environmental reports. This does not have to be detailed but it needs to identify there could be a non - compliance based on the blast criteria. REC: Include a cumulative assessment of the percentage of blasts >115dB year to date to ensure <5%	These recommendations have now been addressed, with information included in 2020 monthly reports as required.	Complete
O 1.1	See Section 5.3 of the main report for dust recommendations. For waste as per Schedule 3 Condition 52 of the Development Consent. In - Pit Storage a) & b) Ensure all waste is separated out and stored in the correct waste or recycle bin. c) Ensure all hydrocarbon spills are cleaned up. Workshop Area a) Ensure Remondis label all waste bins. b) Place oil pan under any engines/equipment stored in unbunded areas, that have the potential to drip any hydrocarbons/fluid etc. c) Ensure all chemicals/hydrocarbons are banded. Construction Offices a) Ensure all waste is separated out and stored in the correct waste or recycle bin. b) Ensure all chemicals/hydrocarbons are banded. c) Ensure all bagged contaminated soil is transported to the land farm.	Waste management will be re-toolboxed as required following regular environmental inspections. Areas of waste storage have been tidied up, including cleaning up of spills. Remondis have updated bin labels as required. Waste management will be re-toolboxed as required following regular environmental inspections. Areas of waste storage have been tidied up, including cleaning up of spills. Bunding is being reviewed and will be updated as required for storage areas. Waste management was re-toolboxed to teams and will be re-toolboxed as required following regular environmental inspections. Bunding is being reviewed and will be updated as required for storage areas. Waste was removed.	Complete Complete September 2020 Complete Complete December 2020 Complete December 2020 Complete
O 3.1 – O 3.4	As per recommendations from Schedule 3 Condition 22 and 23 of the Development Consent.		

Recommend reviewing the way dust is visually assessed with this based on the EPA's new Dust Management Handbook 2019.

Increased training in visual dust management at site. This should be regularly discussed and documented in toolbox talks.

Ensuring water trucks are sent to areas of the site prior to there being a problem. If there is a delay in providing this water truck then operations need to change (eg. Reduction in speed) or operations are to cease until adequate dust controls are available.

At the time of the observation, wheel generated dust emissions were not considered excessive. However, the observed emissions were in the 'Dust emissions are increasing, and operators should consider if further action to reduce dust is required' category, as per EPA's Dust Assessment Handbook.

It is noted that the Dust Assessment Handbook includes a number of factors to consider when assessing if operational changes to haul roads are required, namely; weather conditions, location, proximity to site boundary, proximity to sensitive receptors, duration of emissions and occupational safety.

The operations were within the pit and a significant distance from the site boundary and sensitive receptors. Light winds were present, generally from the south-west (i.e. not towards key closest receptors). As such, in-pit dust emissions would be considered unlikely to lead to off-site impacts.

Further, no real time dust alarms were triggered at the time of the observations.

Notwithstanding, the environmental team called for water carts to attend the pit area in question.

The daily dust risk forecast is provided to the Open Cut Examiner via email each morning to assist with operational planning and to inform the operations team of the dust risk for the day. Supervisors, OCEs, and the environment team also conduct regular checks on dust levels throughout MPO, and operators are proactive in responding to and communicating elevating dust levels.

As an action from the audit inspection a toolbox was provided to the OCEs and Supervisors on 26 February 2020 to deliver during the daily pre-start meetings to reinforce the importance of dust management to each of the mining crews, including dust management during excavator loading.

MACH Energy disagrees with the assertion that the haul trucks observed by the auditor were not being operated in a proper manner. All haul trucks were driven in a safe and efficient manner, the site speed limits (set for both safety and dust

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Update the MOP to include a defined timeframe to revegetate soil stockpiles.

reduction purposes) were adhered to, and a number of water carts were in operation throughout the site.

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At the time of the observation, wheel generated dust emissions were not considered excessive. However, the observed emissions were in the 'Dust emissions are increasing, and operators should consider if further action to reduce dust is required' category, as per EPA's Dust Assessment Handbook.

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The operations were within the pit and a significant distance from the site boundary and sensitive receptors. Light winds were present, generally from the south-west (i.e. not towards key closest receptors). As such, in-pit dust emissions would be considered unlikely to lead to off-site impacts.

Further, no real time dust alarms were triggered at the time of the observations.

Notwithstanding, the environmental team called for water carts to attend the pit area in question.

MACH Energy notes that during the observation, water carts continued to operate in areas considered more likely to lead to offsite impacts.

In addition, changes in operations, including reduction in speed and reducing or ceasing operations, occurs as required during periods of elevated air quality levels or dust emissions.

The 1 July 2020 – 30 June 2021 MOP has been updated to include timeframes for topsoil stockpile shaping and seeding and is currently with DPIE for approval.

1 July 2020

	<p>Cameras of the pits could be more widely distributed to key MACH Energy Staff. Investigate establishing a series of video cameras to enable monitoring of key areas at the site which have high potential for dust and visual impacts. These would include the pits and higher areas of the site. All required personnel have access to cameras.</p> <p>It is recommended that the ambient air quality monitoring be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales using a laboratory that is NATA accredited for the methods. If use of an approved method for the monitoring of ambient particulate levels is not possible, it is recommended that calibration of PM10 and PM2.5 be undertaken against a reference method (such as a TEOM) initially on a quarterly basis using a NATA accredited laboratory (noting that Carbon Based Environmental whose TEOM monitoring is the basis for the current calibration factors is not an accredited laboratory). If after 4 quarters of calibrations it is determined that no change to the calibration factor is required, then the frequency of calibration against the reference method could be reduced to 1 event per annum.</p> <p>It is recommended that an air quality expert be engaged to review exceedances of ambient air quality criteria where the exceedances are not due to exceptional events (as classified by the NSW DPIE) or invalid data.</p>	<p>Mount Pleasant Operation has multiple cameras within site, including those that cover the mining area.</p> <p>MACH Energy is currently investigating the installation of additional cameras, and access to existing cameras.</p> <p>MACH Energy disagrees with the assertion that a NATA accredited laboratory would be required for a calibration – laboratories are typically required when a sample must be analysed (e.g. filter paper from a High-Volume Air Sampler [HVAS] weighed, or material collected in a dust deposition gauge characterised). In this instance the calibration is completed by co locating two monitors that measure ambient particulate matter levels continuously through light scattering methods (Palas Fidas) and oscillating microbalance methods (TEOM) and comparing the data. As these monitors measure particulate matter continuously (without collecting samples to be analysed later), a laboratory is not required.</p> <p>Palas Fidas calibration was previously undertaken in January and February 2020. MACH Energy will engage a specialist air quality consultancy to determine if the calibration is required to be updated with seasonal data.</p> <p>MACH Energy did engage a specialist air quality consultancy (Todoroski Air Sciences) to review monitoring data in 2019 to determine if any exceedances occurred that were not due to exceptional events. The outcome of the review informed the preparation of the 2019 Annual Review & Annual Rehabilitation Report.</p> <p>An air quality expert will be engaged for future Annual Reviews to review any exceedances of criteria, and to provide a summary for inclusion in the Annual Review.</p>	<p>March 2021</p> <p>Complete</p> <p>June 2021</p> <p>Complete</p>
O 3.6	As per recommendations from Schedule 3 Condition 23 of the Development Consent.	MACH Energy acknowledges that on one occasion (24 October 2019), all dust generating activities were not shutdown within the timeframe specified by Condition O3.6, and due to a miscommunication issue, four haul trucks continued their operations for a short period of time.	Complete

		<p>Due to the nature of the event (i.e. only a small number of equipment items continued to operate past the allowed timeframe, and no elevated dust levels were recorded during the event), no environmental harm is considered to have occurred as a result of the event.</p> <p>As an outcome of the event, site procedures were amended to minimise the potential for such an event to reoccur. MACH Energy self-reported this event to the EPA and an official caution was received in response from the EPA.</p>	
M 3.1	<p>As per specific recommendation from Schedule 3 Condition 22.</p> <p>It is recommended that the calibration factor used with the Palas Fidas particulate monitors be based on a dataset that covers seasonal variations (rather than the single month the current calibration factors are based on) as changes in particulate loads, temperature, humidity, etc. can affect the instrument's readings.</p> <p>It is recommended that an air quality expert be engaged to review exceedances of ambient air quality criteria where the exceedances are not due to exceptional events (as classified by the NSW DPIE) or invalid data. A summary report would also be included in the Annual Review. .</p>	<p>Palas Fidas calibration was previously undertaken in January and February 2020. MACH Energy will engage a specialist air quality consultancy to determine if the calibration is required to be updated with seasonal data.</p> <p>MACH Energy did engage a specialist air quality consultancy (Todoroski Air Sciences) to review monitoring data in 2019 to determine if any exceedances occurred that were not due to exceptional events. The outcome of the review informed the preparation of the 2019 Annual Review & Annual Rehabilitation Report.</p> <p>An air quality expert will be engaged for future Annual Reviews to review any exceedances of criteria, and to provide a summary for inclusion in the Annual Review.</p>	<p>June 2021</p> <p>Complete</p>