

14 October 2022

Assessment number 2320

Environmental Protection Authority
Department of Water and Environmental Regulations –Services
Prime House, 8 Davidson Terrace, Joondalup DC, WA 6027

Attention: Erika Eto - Assessing Officer Infrastructure Branch - Department of Water and Environmental Regulation (DWER) - EPA Services(EPAS)

Copy: Leanne Thompson - Principal Environmental Officer, Infrastructure Branch - Department of Water and Environmental Regulation (DWER) - EPA Services(EPAS)

Ashburton Infrastructure Project – Responses to EPA Comments on Marine aspects and revised Marine Management Plans

MinRes provided a response to Ashburton Infrastructure Project – Responses to the Public Review Period on 20 September 2022 to Matthew Tonts and Tania Liaghati (copied in) (Attachment 1) that outlined MinRes responses to comments received from Department of Water and Environmental Regulation - EPA Services (DWER-EPAS) via email on the 19 August 2022 and 30 August 2022, including DWER Marine Ecosystems Branch (MEB).

The following management plans were reviewed and commented upon as part of DWER Marine Ecosystems Branch submission :

- Appendix C: Marine Construction Environment Management Plan (MCEMP);
- Appendix D: Marine Operational Environmental Monitoring and Management Plan (OEMMP);
- Appendix E: Dredging and Spoil Disposal Management Plan (DSDMP);
- Appendix F: Artificial Light Management Plan (ALMPV2); and
- Appendix G: Underwater Noise Management Plan (UNMPV3).

Following on from the submission to the response to submission, MinRes have updated relevant Marine Environmental Management Plans, throughout the EPBC Act assessment process, with the most recent revision of these documents also incorporating revisions required, in response to comments received from the DWER MEB.

The tables provided below an outline of MinRes' responses to DWER MEB's comments and relevant sections of where Management Plans have been revised in response. Marked up and clean version of the Management Plans will also be transmitted electronically via a Sharefiles Transfer link to support this response.

Should you require any further information on the AIP Response to or the responses to additional information assessment discussed in the tables below, please feel free to contact me on (08) 9329 3407.

Yours sincerely,

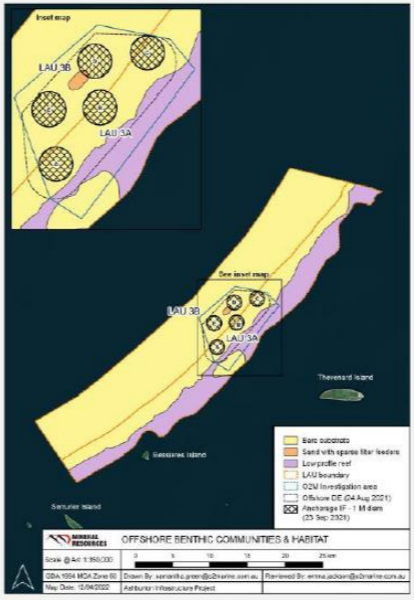


Les Purves

General Manager – Environment, Approvals and Land Access

(a) Email response from proponent on 20 July 2022 MEB's

MEB's comments (15 July 2022)	Proponent's (MinRes) comments (20 July 2022)	MEB's comments (30 August 2022)	MinRes Response
<p>1.Dredge plume modelling Appendix J – Dredge Plume Modelling Report (Section 4.3. Impact Assessment), the proponent stated that the Zone of Influence(ZoI) includes any region where SSC (at any height in the water column) exceed background by 5mg/L at any time and this arbitrary value was a highly conservative threshold in which the sediment plume would likely be visually discernible and detectable impacts to stable benthic habitat would be highly improbable. It is recommended that the proponent provide supporting evidence for the selection of 5mg/L SSC above background as the threshold for defining the ZoI, particularly considering that 5mg/L above background could result in exceedances of the DLI thresholds for deeper water benthic communities.</p>	<p>The EPA guidance does not provide a numerical definition for the ZoI. It notes, however, that the outer boundary of the ZoI is the location beyond which dredge-generated plume should not be discernible from background conditions. Our literature review of discernible deviations from background conditions was inconclusive but suggested that SSC would not be visible unless it was present at concentrations of tens of mg/L. Further, the EPA guidance does not provide a method for determining the ZoI boundaries from numerical simulations of sediment in suspension over the water column. We therefore developed a methodology for calculating the extent of the ZoI that was conservative in two ways, namely:</p> <ol style="list-style-type: none"> 1.Selecting 5mg/l as the threshold, being much less than what our research indicated was visible. 2.Using the modelled maximum SSC within the water column (and not just the surface layer concentration, which would be the region visible to the human eye) to compare against the trigger value. The ZoI near the disposal site was therefore likely derived from SSC values along the seabed, which would have been higher than those modelled at the water surface, where the 'discernability' to the eye criteria would be tested. 	<p>Although the EPA dredging technical guidance does not provide a numerical definition for the ZoI, there should be adequate rationale and supporting information for the threshold selection. Our experience is that a 5 mg/L difference in SSC is discernible at the typical background SSC levels found in Pilbara waters, but not when SSC levels are highly elevated. The proponent should provide the references to literature reviews / reports / research findings that formed the basis for the selection of 5mg/L as the threshold.</p>	<p>The Proponent and technical marine consultants O2 Marine interpreted 'discernability to the public' as the in situ SSC, at which a water sample would be visually discernible from a background sample. Visible differences depend on the dimensions of the sample, and we considered a large measuring cylinder in selecting our threshold. Visible differences will also depend on the nature of sediment, and we considered Pilbara Mud. Based on our professional experience, a difference of 5 mg/L from the background SSC is not discernible in these circumstances. We provide no reference but note that any interested party can readily and cheaply verify this for themselves.</p>
<p>2.Dredge plume modelling The proponent has considered the impact zonation scheme according to the Technical Guidance – Environmental impact assessment of marine dredging proposal based on SSC and DLI. However, it is unclear which guideline values were used to define these boundaries of possible and probable effects for both the ZoHI and ZoMI. It is recommended that the proponent present the values used to define the boundaries (i.e., include information or refer to the technical guidance and provide a rationale for the selection of thresholds for the zonation).</p>	<p>For calculation of the ZoMI for corals, the EPA guidance provides two calculation methods. One of these is a criteria defined only by DLI (Table A1) and the other is a criteria defined by the combination of DLI and SSC (Table A2). We calculated the ZoMI using both methods. We then compared these two ZoMIs and noted any location that was triggered as a ZoMI under either one or both of the two methods (Table A1 and Table A2) as a ZoMI in our report. This was done for both the possible and probable ZoMI calculations. The possible and probable ZoMIs in the report therefore represent a combination of both methods outlined in EPA (2021) for corals, as they are a consolidation of the outer extent of the two criteria (DLI and combination of DLI and SSC).</p>	<p>Noted that this information was presented in Appendix J Dredge Plume Modelling Report, Section 6.2 Zones of Impact.</p>	<p>N/A</p>
<p>3.Cumulative assessment of multiple wastewater discharge plumes to the nearshore marine environment The proponent should include a map with all the existing and planned wastewater discharge locations and the respective levels of ecological protection. Achieving the approved levels of ecological protection for each project will effectively mean that cumulative impacts on marine environmental quality are being adequately managed. The Environmental Quality Plan (EQP) required for assessing and managing impacts on environmental quality also addresses cumulative impact to some degree. Noted that additional modelling is not possible and required if levels of ecological protection are separated from each other.</p>	<p>Noted – The temporary desalination plant associated with the Wheatstone development has recently been decommissioned so this not considered in any cumulative impact. The inclusion of the proposed desalination discharge would essentially maintain the previous impacts, with this not expected to result in an increased cumulative impact. This assessment relies on maintaining MEQ objectives for each of the identified environmental values. The Marine OEMMP Identified Waste discharges from Wheatstone LNG and Onslow Salt waste brine outfall and specifies the nominated LEP's within the project area.</p>	<p>The proponent should still provide a map with the existing discharge locations (e.g., Wheatstone LNG facility and Onslow Salt waste brine outfall) and the respective levels of ecological protection zones.</p>	<p>Figure 7 1: Existing and Proposed Construction Ecological Protection Areas for the Proposal (see Section 7.6.2.3, pg. 104), displays the existing Low EPs, and the proposed combined Low EPs (see Attachment 2).</p>
<p>4.Anchorages The proponent should consider moving anchorage D to avoid the area with filter feeders</p>	<p>The relocation of anchorage points from original design concept has already occurred based on the results of BCH mapping as part of the baseline assessment work. As a result all anchorage points within the proposed DE have been designated in areas of bare sand, with sufficient buffer to avoid impacts to any sensitive BCH.</p>	<p>In rev. 1 of the Referral Supporting Document, anchorage D sits on sand with sparse filter feeders and bare substrate as shown in Figure 6-2 below. The proponent should consider moving anchorage D to completely avoid areas with filter feeders.</p>	<p>The Proponent has committed to moving the location of Anchorage Points to completely avoid areas of filter feeders, based on values identified in baseline BCH assessments.</p> <p>As previously discussed in comments three to six above, the use of moorings was considered, however a large amount of permanently fitted infrastructure must be utilised for this size of vessel, involving large amounts of heavy chain, multiple anchor legs and clump weights. There is no advantage of this versus using a single anchor (see Section 2.2.3.3, pg. 37). In addition, OGV's (Cape Size Bulk Carriers) are not normally fitted with bow working infrastructure and can make the operation of hanging off anchors hazardous and impractical. All transhipping operations in the Pilbara, State Waters and</p>

MEB's comments (15 July 2022)	Proponent's (MinRes) comments (20 July 2022)	MEB's comments (30 August 2022)	MinRes Response
		 <p data-bbox="1478 827 1804 842">Figure 6-2: Offshore Benthic Communities and Habitat within the Proposal Area</p> <p data-bbox="1478 848 2101 947">In addition, MEB's previous comments (provided on 18 Jan 2022 and 15 July 2022) seeking the proponent's response on the following were not provided to the proponent and therefore, yet to be addressed:</p> <ul data-bbox="1478 968 2041 1073" style="list-style-type: none"> • Considering alternative anchoring system • Providing additional information such as including a diagram illustrating the anchoring system. 	<p data-bbox="2142 247 2766 296">throughout Australia use anchorages (vs mooring) and this is seen to be Industry Best Practice.</p> <p data-bbox="2142 310 2766 485">The Proponent considered the risk of marine fauna entanglement for the Proposal (see Section 8.6.1.6, pg. 143). As a result, the Proponent has developed mitigation measures in consultation with DCCEEW and EPA and will manage the risk in accordance with the MCEMP (Appendix C) and MOEMMP (Appendix D), for the below Environmental Outcomes:</p> <ul data-bbox="2142 506 2766 1073" style="list-style-type: none"> • The Proposal poses a low risk of significant impact to Blue Whales. Incidental risks, such as from vessel strike/entanglement, will be managed through the MCEMP. • The Proposal is not predicted to result in any significant impact to the Blue Whale. Blue Whale migration has previously been observed seasonally offshore and over the continental shelf well beyond the Proposal Area (RPS 2010b). Blue Whales were detected during offshore aerial and acoustic surveys during baseline studies for Chevron Australia's Wheatstone Project (RPS 2010b). These surveys, conducted in proximity to the Offshore Anchorage area, recorded very few Blue Whales, suggesting that numbers are relatively low in the region (Jenner et al. 2010). Blue Whale BIAs are located more than 50 km offshore of the Proposal Area and consist of a migration BIA to the north-west and a foraging BIA to the south-west. No important habitats or breeding areas for the species have been identified within the Proposal Area. <p data-bbox="2142 1094 2766 1142">Given the low risk for vessel strike or entanglement no specific management or mitigation is proposed.</p>

(b) MEB's comments on the Management Plans

1. Appendix C: Marine Construction Environment Management Plan (MCEMP)

#	MEB Comments	Response to comment	Relevant Section of MCEMP V6
a	In the reviewed (version June 2022) referral information, the proponent addressed MEB's comment about reducing the level of ecological protection (LEP) around the discharge mixing zone from the initial 70m to 30m. The proponent should ensure that this change is updated in the management plans.	N/A – MCEMP if relevant for construction activities vs operations activities (i.e. brine discharge). It is noted that in previous version the MCEMP Table 6 - Studies and Summary of Findings refers to information presented in a report that is not relevant to this MCEMP, (Desalination Brine Plume Modelling Technical (O2M 2021d) and this has now been deleted.	N/A
b	Under Table 6, the proponent stated that piling works will be undertaken outside the southern humpback whale season (when mother-calf pairs are at their greatest densities) between 01 August to 31 October, where practical. The proponent should have a clear commitment to avoidance of piling works where there are risks to southern humpback whales and not only avoidance of works where practical.	MinRes are fully committed to selecting and implementing mitigation measures that effectively manage the potential impacts presented. From time to time it may be necessary and Appropriate to adopt alternative or amended mitigation measures to those presented to ensure mitigation measures remain effective, however. the commitment to adopt and implement mitigation measures remain in place at all times. To remove any perceived ambiguity in MinRes commitment to the adoption and implementation of mitigation measures, the following text has been inserted into Section 1.9 MCEMP Management Approach: <i>"The development, adoption and implementation of effective mitigation measures are critical to managing and reducing potential environmental impacts. The following sections provide details of the mitigation measures to be adopted and implemented for the activity. As the activity commences It may be appropriate to adopt and implement alternative or amended mitigation measures to those committed to, to ensure mitigation measures remain effective. Should alternative or amended mitigation measures be required, these will be selected on the basis that they achieve the same or increased effectiveness of the mitigation measures they are replacing. DCCEEW will be notified prior to any mitigation measures being amended or replaced. This notification will include the rationale for any amendment or replacement and a demonstration of their effectiveness."</i>	Section 1.9 Table 7
c	Under Section 4.4.1 Early Response Triggers, the proponent should clearly state that the revision of trigger values will be provided to the CEO of DWER and clearance will be sought prior to the implementation of any updated trigger values.	This comment has been addressed within Section 4.4.1 of the MCEMP.	Section 4.4.1 Table 14
d	Under Section 6.1 Incident Reporting, the proponent should also inform DWER (in addition to DBCA) will be informed of any reportable incidences (injury to conservation significant fauna or listed species).	This comment has been addressed within Section 6.1 of the MCEMP.	Section 6.1 Section 6.1.1
e	Comment previously provided by MEB on 18 January 2022] In Section 6.1.1 Regulatory Notification, the proponent to indicate the timeline between incident and the notification to the relevant government agencies, e.g., within 24 hours of incident happening.	This comment has been addressed within Section 6.1 of the MCEMP.	Section 6.1 Section 6.1.1

2. Appendix D: Marine Operational Environmental Monitoring and Management Plan (OEMMP)

#	MEB Comments	Response to comment	Relevant Section of OEMMP V5
a	According to the Technical Guidance – Protecting the Quality of Western Australia's Marine Environment, under the sea theme factor 'marine environmental quality', there are five Environmental Values (EVs): (a) ecosystem health, (b) fishing and aquaculture, (c) recreation and aesthetics, (d) industrial water supply and (e) cultural and spiritual. In the OEMMP, the proponent has not acknowledged that all the above's should be protected. Given that there will be pressures on environmental quality, the environmental values of relevance are ecosystem health, recreation and aesthetics, industrial water supply (desalination plant water intake) and cultural and spiritual values. The OEMMP should address these four environmental values and their associated Environmental Quality Objectives (EQOs). It should also be noted that even if some activities associated with these values have been excluded in the area by regulation, these EVs should still be considered and protected to ensure environmental quality is not allowed to deteriorate to a point	All five EVs are considered within Table 5 of the OEMMP and associated EQOs have been established for all EVs, with the exception of aquaculture (which is not a recognised value of the area). The proponent is committed to protection of these values and has designed a monitoring and management program which considers risk to each of these values. Given the risks of the project activities relate to risks to ecosystem health and recreation and aesthetics, it is appropriate to select indicators which are appropriate to monitor and manage risk to these values. For example, the project activities do not pose any risk to marine cultural and spiritual values unless there are impacts to ecosystem health or recreation and aesthetics, therefore it is appropriate to ensure that environmental quality indicators are selected to mitigate this risk. Table 5 of the OEMMP and the subsequent text identify that if the EQOs for ecosystem health and recreation and aesthetics are not met, then it is likely that EQOs for industrial water supply, cultural and spiritual and fishing may also be compromised.	Table 5

#	MEB Comments	Response to comment	Relevant Section of OEMMP V5
	where the values may be compromised should these uses be permitted in the future. The OEMMP for this project should address and show the proponent's commitments for all the EVs		
b	Under Section 7.5 Avoidance of marine fauna during vessel operation, the proponent stated that the trained marine fauna observer will be on duty on project vessels during construction and operations and may have other vessel duties. The trained MFO should not have other duties to ensure minimal distraction and ideally, there should be more than one MFO (e.g., to manage potential fatigue, if there is more than one vessel in operation).	Section 8.5 (previous Section 7.5) has been updated to clarify that "There will be at least one Trained MFO on duty at all times during construction and operations".	Section 8.5

3. Appendix E: Dredging and Spoil Disposal Management Plan (DSDMP)

#	MEB Comments	Response to comment	Relevant Section of DSDMP V5
a	[Comment previously provided by MEB on 18 January 2022] Noting that majority of the water quality monitoring / surveys were conducted between 2009 and 2013, which is more than 5years old, it is recommended for the proponent to provide justifications on how representative the historical water quality results are in the present day given the significant changes that have since occurred in the area (namely the construction of a port and associated dredging). The proponent should consider doing an additional water quality survey and use the latest data as inputs to the models if it differs significantly from the results collected between 2009 to 2013.	As part of the Water Quality Desktop Review - Ashburton Infrastructure Project (O2Ma, 2021a), O2 Marine (on behalf of the Proponent) undertook Water Quality Validation Monitoring in July 2021. The sampling program was a preliminary investigation to evaluate whether contemporary water quality conditions are consistent with the historical data collected prior to the development of the Wheatstone Project presented in the Water Quality Desktop Review (O2Ma, 2021a). The conclusion of the validation monitoring was that the July 2021 water quality conditions were typical of the coastal waters around the Port of Ashburton in July, with no results that differ significantly from previous background water quality studies in the area. The results provide additional confidence that the background water quality and recommendations described in the Water Quality Desktop Review (O2Ma, 2021a), are suitable to inform dredge plume and brine dispersion modelling and the environmental impact assessment of this Project.	N/A See Appendix Q – Water Quality Desktop Review provided with RSD V0 and RSD V1
b	In Section 1.7 Proposal Description, the proponent will need to update the dredging schedule from the initial proposed second quarter 2022 to account for the delays.	Section 1.7 of the DSDMP has been updated to reflect the current proposed dredging programme that is anticipated to run for up to 90 consecutive days to be scheduled for Quarter 4 2022 – Quarter 1 2023.	Section 1.7
c	[Comment previously provided by MEB on 18 January 2022] Under Section 1.8 Objectives and Section 5 Environmental Factors and Objectives, the proponent should consider and address any project attributable impacts on the objective of the environmental factor coastal processes. The focus of the coastal processes factor and its associated objective is on how the geophysical processes of developments may significantly impact the natural coastal dynamics and the significant coastal ecosystems and other values that the coastal environment supports. The proponent should elaborate on the impacts of the project development on coastal processes and include any mitigation and / or monitoring plans if project attributable impacts are expected.	The EPA factor coastal processes was not identified as a key factor, or even a factor which requires management, particularly during dredging. This is discussed with the RSD. In addition, if coastal processes was identified by the EPA as a key factor then any management (other than dredging as per the design) for this factor would be applicable post dredging due to installation of the channel. As such, any management would be required over a much longer term than the duration of the dredging program. Given that no impacts to coastal processes are predicted as a result of dredging, it is not considered appropriate to include this factor in the DSDMP.	N/A
d	Under Table 6, the proponent should also consider the impact of artificial light from the dredgers given that operations will be conducted 24/7.	Management Actions for light impacts implementation of best practice measures as outlined in the Artificial Light Impact Assessment and Management Plan (ALMP V4) are not applicable to DSDMP.	N/A
e	It is recommended for the proponent to update the inset map of Figure 9 Predicted zones of high and moderate impacts from dredging to overlay the inlet map with the corresponding benthic community and habitat types (i.e., bare substrate). In addition, the Zone of Influence(ZoI) should be included in Figure 9.	Figure 9 has been updated to showing benthic community and habitat types within the ZoI's.	Figure 9
f	Under Tables 7 and 8, the proponent should explicitly state the water quality parameter (i.e., turbidity) that will be measured during the weekly samplings.	Table 8 (Potential Impacts and Proposed Mitigation Measures for Marine MNES) and Table 10 (Management Actions to Minimise Impacts on Benthic Communities and Habitats) and Table 11 () have been updated to reflect that weekly validation modelling of water samples for TSS analysis and water column profiles of turbidity, temperature, pH, conductivity and depth.	Table 8 Table 10 Table 11
g	Under Section B.1.6 Contingency, it is advisable to have the proponent stipulate the response time the dredge activities will be reviewed if the dredge plume extends to any sensitive receptors. In addition, mitigation measures should be proposed if the plume extent is found to be regularly extend onto the sensitive receptors rather than just increasing sampling frequency or installation of real-time telemetered, water quality monitoring instruments. It is crucial that the proponents have clear mitigation measures or stopping of works if EPO non-achievements are observed.	No predicted impacts were made to BCH outside of the ZoMI, given the distance from the nearest sensitive receptor this is also considered a very low risk. It is further noted that due to the nature of the habitats present it would be very difficult to detect any changes to BCH in standard BACI design so there this EPO is nearly impossible to prove or disprove and the amount of effort required to do so is not commensurate to the very low risk posed by this dredging program. Refer to Figure B-10, sites A5, A6 and A7 are all located outside of the ZOI and as such are also considered as reference. These sites range in depth and habitat type. Section 6.1, Table 10 has been updated to include visual plume sketches as an additional line of evidence required to support the Management Target that there is no negative change from the baseline state of BCH outside of the ZoMI. Section B1.5 Planned activities, B1.7 Contingency and Figure B-10 have been updated to address this comment.	Section 6.1 Table 10 Section B.1.5 Section B.1.7 Figure B-10

#	MEB Comments	Response to comment	Relevant Section of DSDMP V5
h	Given that there are pockets of filter feeders in Spoil Ground C, the proponent should avoid dumping of dredged material in these sections where there are filter feeders, where possible.	<p>The coral threshold is the most sensitive threshold value published in EPA 2021, and so this is an extremely conservative mechanism with which to mitigate impacts to seagrass and filter feeders.</p> <p>This was discussed further in the RSDV1 – Table 6-2, Section 6.3.3 and Section 6.7 as follows.</p> <p>Table 6-2: <i>“Following detailed analysis of the raw drop camera footage, each site was assigned a BCH classification taking into account the entire transect length. Two BCH classifications were assigned:</i></p> <ul style="list-style-type: none"> • 81 sites (87 %) as ‘Bare Substrate’ • 12 sites (13%) as ‘Sand with Sparse Filter Feeders’. <p><i>Finding of the March 2022 surveys were comparable with the previous BCH investigations undertaken within Spoil Ground C for the Wheatstone Project by URS (URS 2010).</i></p> <p><i>Based on results from this survey and URS (2010), BCH within and adjacent to Spoil Ground C is classified as sand substrate with a biota cover ranging from bare to sparse (<1% - 3%). Results support Spoil Ground C being historically established as a designated disposal ground. The small amount of biota identified within the spoil ground are not restricted to this area and are well represented across the entire Pilbara coastline.”</i></p> <p>Section 6.3.3: <i>“Additional survey work has shown that the spoil ground and adjacent area (LAU 2F) was found to be characterised predominantly as bare substrate with areas of sand with sparse filter feeders (Marine O2 2022). These findings are comparable to the previous mapping of the area which found the area to be predominantly flat substrate with sparse epibenthic biota (URS2010b). Previous mapping by URS 2010 found small patches of sparse Halophila spinulosa, however no seagrass was identified in the 2022 survey. The sparse biota identified within Spoil Ground C are not restricted to this area and are well represented across the entire Pilbara coastline.”</i></p> <p>Section 6.7: <i>“If this Proposal is approved and implemented, it will result in a small loss of bare sediment and no loss of sensitive BCH (i.e., coral, seagrass, filter feeders, etc). Considered within this context, the predicted irreversible impact to BCH and cumulative loss from the Project is not considered to pose a significant risk to ecological integrity and biological diversity within the LAU or the broader Port environment.</i></p> <p><i>Following the proposed dredging the Proponent is confident that the environmental outcome ‘No areas of sensitive BCH (i.e., coral, seagrass, filter feeders, etc) to be either directly or indirectly impacted from dredging, construction or operational activities’ can be achieved.</i></p> <p><i>Based on no predicted direct or indirect loss of sensitive BCH it is considered that the Proposal will not contribute to loss of BCH such that biological diversity and ecological integrity are at risk at either a local or regional scale. Overall, the impacts to BCH are not considered to be significant and the EPA objective for BCH is considered to be met.”</i></p>	N/A

4. Appendix F: Artificial Light Management Plan (ALMPV2)

#	MEB Comments	Response to comment	Relevant Section of ALMP V4
a	In Section 3.2 Description of Project Lighting, the proponent mentioned that ‘the majority (of light installations) have no direct upward light spill’. The proponent should clearly specify the locations of these light sources that have direct upward light spill.	Confirmed that none of the modelled lights will have upward light spill. A minor wording change to reflect this within the ALMP Section 3.2.	Section 3.2
b	<p>The proponent’s monitoring program deviated from the recommendations in the National Light Pollution Guidelines for Wildlife (Appendix F, Table 4). The minimum survey length should be 14 days not 10 days as stated in the proponent’s Appendix F Section 6.2.1.</p> <p>It is recommended that the proponent revise the baseline and post-construction monitoring or provide justification for the deviation. The recommendations in the guideline state:</p> <ul style="list-style-type: none"> • For adult nesting: daily track census over 1-1.5 inter-nesting cycles at peak of the nesting season (14-21 days) over minimally two breeding seasons • For hatchling orientation: conduct monitoring over minimally 14 days over a new moon phase about 50 days after the peak of adult nesting over two breeding seasons. 	Section 6.2.1 has been updated to reflect the requirements of the National Light Pollution Guidelines for Wildlife, minimum survey period being 14 days not 10 day.	Section 6.2.1

#	MEB Comments	Response to comment	Relevant Section of ALMP V4
c	Under Section 4.1 Methods, the proponent stated, 'the assessment is conducted on the MRL project lighting only and does not account for other existing lighting in the area'. Although the proponent does not have any control over the light sources of the other projects within the area, the baseline light levels for the assessment should account for the existing light sources from all other projects within the proposed development.	A minor wording clarification has been made within the ALMP Section 4.1, to state that the the IA doesn't assess these sources. The baseline data does capture existing sources.	Section 4.1
d	Under Sections 4.4.1 Seabirds and 4.4.2 Migratory shorebirds, the proponent stated that artificial light could affect the foraging behaviour, lead to disorientation etc, the proponent should commit to conducting baseline and post-construction surveys and consider implementing a, monitoring, and management plan for seabirds and migratory shorebirds.	In consultation with DCCEE during the EPBC assessment process, a Shorebird Interaction Procedure has been developed and included within Appendix C to reflect reporting requirements, stating that bird interactions should be monitored during construction and operations.	Appendix C
e	The proponent has proposed conducting at least one artificial light monitoring survey post-construction to verify the baseline modelling outputs and any changes to the identified light sources. In accordance with the National Light Pollution Guidelines for Wildlife (Appendix D), it is recommended that the proponent to include in the post-construction site visit an assessment to ensure that there are no previously unidentified lighting issues that may have been overlooked. If there are previously unidentified lighting issues, the proponent should assess this issue and propose mitigation measures.	Section 6.1.2 that At least one artificial light monitoring survey will be undertaken post-construction of the project at the same monitoring sites, and following the same methodology, as baseline. Results will be used to verify the baseline modelling outputs and any changes to the identified light sources. In addition, Section 6.5.1 has been updated to state that monitoring will occur during construction and operations. An additional survey will be undertaken after implementation of the AIP to determine whether the actions have been successful.	Section 6.1.2 Section 6.5.1
f	In Section 6.2.1 Baseline (pre-construction), the proponent stated that the impact on nesting adult turtles were considered little to no impact and therefore, the proposed monitoring efforts will focus on hatchlings. Under Section 4.3.1.2 Impact Assessment, the proponent stated it is almost certain that light and glow from the nearshore and landside facilities will be visible at nesting habitats on the mainland and offshore islands, however, the due to the shielding by the 15m vegetated dunes reduces the visibility of light from the mainland, the consequence was classified as insignificant. Given that there are nesting adult turtles (and neophytes, albeit a small number) may be affected, the proponent's artificial light monitoring and management plan should include impacts on nesting adult turtles. Specifically, given the proximity of the proposed development to Thevenard Island and Bessieres Island which are critical marine turtle habitats, the impact on nesting adult turtles should be considered. In addition, the post-construction operations survey should also assess the any potential changes to adult nesting turtles because of the project.	Section 4.3.1.2 Impact Assessment also stated that the visibility of the nearshore and landside facility lighting was substantially reduced at Thevenard and Bessieres Islands in comparison to its visibility at mainland beaches and Ashburton Island. This was due to the two islands being situated >20 km from the particular light sources. It is therefore unclear why adult turtles on these islands would need to be monitored to assess for an impact from the light sources, particularly considering the residual risk rating to adult turtles at the nearby mainland and Ashburton Island, where lights were more visible, was categorised as low. Furthermore, as stated in Section 4.3.1.2 Impact Assessment, there is a lack of strong evidence showing that experienced nesting females are affected by light behind the beach or offshore meaning there is no apparent pathway for an impact to adult nesting turtles at Thevenard and Bessieres Islands from the nearshore and landside facility lighting.	N/A

5. Appendix G: Underwater Noise Management Plan (UNMP)

#	MEB Comments	Response to comment	Relevant Section of UNMP V2
a	Under Table 4, the proponent mentioned that construction piling will be undertaken outside of sawfish sensitive life periods (i.e., pupping) where practicable. The proponent should clearly indicate when this period is and commit to ensuring that piling will not be done during sawfish pupping period.	The note under Table 4 has been removed from the UNMP, as this is now addressed within the overarching MCEMP whereby, clear avoidance and mitigation strategies for piling have been revised in Section 1.9 and Table 7 (see response to "b" in 1. Appendix C: Marine Construction Environment Management Plan).	Section 4
b	The proponent should clarify how the salinity and temperature constants (used in the modelling) were derived – were these based on actual measurements? Noted that salinity will have a negligible effect on the sound speed profile.	Noted. However, how is this relevant for the UNMP – should this comment not be directed at the <i>"Talis Consultants. Underwater Noise Modelling- Ashburton Infrastructure Project (2022). Prepared for O2 Marine on behalf of Mineral Resources Limited."</i> The study area is in an acoustically shallow water environment (i.e., Depth <200 m see Urlick 'Principals of Underwater Sound'). In these environments sound is propagated to a distance by repeated reflections from both the surface and the bottom. In water that is acoustically shallow the acoustic characteristics of the surface and seabed are the most significant transmission paths. As a result, the interaction of the acoustic wave with the surface and the bottom becomes important for predicting received levels. Assuming that the stratification query refers to the change in sound speed with depth, as the project is in a very shallow environment and in an area where there is no major influx of cooler water or other cooling effect the stratification of the water column is not expected to be significant and refraction will minimal, as per Urlick the major mechanisms for propagation are surface and seabed interactions. <ul style="list-style-type: none"> Temperature: Onslow water temperatures vary from between 20°C in winter to 30°C on late summer/early autumn. At the time of the assessment the project had not committed to a construction schedule and therefore the time of the activities was unknown. As a result, a mid-range temperature of 28 °C was chosen, which is within the monthly averages in the Onslow area. The effect that temperature has in shallow water environments is that it effects the acoustic impedance (i.e., $c \cdot \rho$) between the water and seabed interface (see Fundamentals of Acoustics, Kinsley, Frey, Coppens, and Sanders). Water temperature has a cubic effect on sound speed and an increase or decrease in sound speed affects the efficiency of sound reflections. As a mid-range temperature has been chosen as it was considered to be reasonable for the study. 	N/A

#	MEB Comments	Response to comment	Relevant Section of UNMP V2
		<ul style="list-style-type: none"> • Salinity: Salinity, when compared to temperature, has a far smaller effect on sound speed. Additionally, it does not have an impact on absorption. Underwater sound absorption is highly dependent on boric acid (MgSO₄) (see Fisher and Simmons, J.Acoust.Soc. AM, 62, 558 (1977)). Salinity therefore does not affect the absorption of the acoustic wave or the sound speed profile (note it will only make a marginal difference to the sound speed profile in deeper water). As a result, a change in salinity should not affect the predicted outcomes. 	
c	<p>In Section 7 - Adaptive management and review of procedures, the proponent has committed to validating the precautionary zones (observation and exclusion zone). If the zones are found to be inadequate, the proponent should propose the revised zones and submit this revision to DWER prior to implementing any changes. However, if the precautionary zones are found to be conservative, it is not advisable for the proponent to reduce these zones.</p>	<p>The intent of calibration was to ensure that the management zones the correct distance from the source have been determined to manage exposure level. The intent of the validation is to confirm the modelled zones. Considering that the modelling has been precautionary we do anticipate that the zone will be increased, however, if <i>in-situ</i> monitoring show that noise at the sound exposure develop for the various sp. Outlines within the report, then the zones will be increased to mitigate these impacts. And similarly, zones will be made smaller, if <i>in-situ</i> valuation finds that sound travels shorter distance at threshold for relevant species.</p>	N/A

Attachments



Attachment 1

MinRes Response to RSD Public Submissions 20 September 2022

20 September 2022

Assessment number 2320

Environmental Protection Authority
Department of Water and Environmental Regulations –Services
Prime House, 8 Davidson Terrace, Joondalup DC, WA 6027

Attention: Matthew Tonts – Environmental Protection Authority Chair

Copy: Tania Liaghati – Manager - EIA North EPA Services - Department of Water and Environmental Regulation
Department of Water and Environmental Regulation - EPA Services

Dear Matthew,

Ashburton Infrastructure Project – Responses to the Public Review Period

Please find Mineral Resources Limited's (MinRes) responses to submission's on the **Ashburton Infrastructure Project** comments received from Department of Water and Environmental Regulation - EPA Services (DWER-EPAS) via email on the 19 August 2022 and 30 August 2022.

MinRes received five submission from DWER-EPAS as follows:

- Comment 1 Unknown;
- Comment 2 Thalanyji/BTAC;
- Comment 3 Chevron;
- Comment 4 Red Hill Station;
- Comment 5 Confidential verbal submission; and
- Comment 6 DWER Marine Ecosystems Branch.

MinRes confirms that we have reviewed and addressed the responses to submission comments within the tables below provided by DWER-EPAS for completion.

Should you require any further information on the AIP Response to or the responses to additional information assessment discussed in the tables below, please feel free to contact me on (08) 9329 3407.

Yours sincerely,



Les Purves

General Manager – Environment, Approvals and Land Access

The Proposal – General comments

No.	Submitter	Submission and/or issue	Response to comment
1	#4	<p>If this project proceeds, it will in fact cause duplication of infrastructure. The West Pilbara Iron Ore Project (APIM) proposed to build a rail line. Rio Tinto already operates a rail line in the vicinity of the proposed mines associated with the Ashburton Infrastructure Project. By allowing this haul road to be constructed, infrastructure will be duplicated and cumulative impacts on the environment will ensue.</p>	<p>Onslow Iron Pty Ltd (ACN 612 668 201, herein the Proponent), a wholly owned subsidiary of Mineral Resources Limited (MinRes) (ACN 118 549 910), is aware of the following Proposals which have been approved and (as of yet) not implemented.</p> <ul style="list-style-type: none"> • <u>Buckland Project, Iron Ore Holdings Ltd (MS 960 as amended by MS 1147)</u>. The Proposal consists of an 8 Mtpa iron ore mine, processing facilities and supporting infrastructure, and a 176 km haul road to a port located at Cape Preston East. • <u>The Cape Preston East – Iron Ore Export Facility, Iron Ore Holdings Ltd (MS 949)</u>. The Proposal involves the disturbance of up to 401.2 ha of onshore and offshore, desalination plant 8.2 ML/D with transshipping operations from a 1.5 km trestle jetty and 200m rock breakwater. • <u>West Pilbara Infrastructure Project Stage 1 Mine Area, API Management Pty Limited (APIM; MS 1027)</u>. The Proposal consists of eight iron ore deposits at five locations between 35 and 85 km south of Pannawonica. • <u>West Pilbara Infrastructure Project Rail, APIM (MS 1026) was proposed to move the ore from MS1027 via a rail line</u>. The heavy haulage railway was approximately 221 km in length to connect the West Pilbara Iron Ore Project – Stage 1 mine area to a port precinct at Anketell Point (25km north-east of Karratha). • <u>Anketell Point Port Development, APIM (MS 930)</u>. The Proposal consists of a multi-user deep-water port with iron ore stockpiling, transfer and ship loading facilities and ancillary infrastructure. It proposed 1,275 ha of clearing, 34 Mm³ of dredging and 9 ML/D discharge from a desalination plant. <p>In early 2020, MinRes purchased the companies associated with MS 949, MS 960 and MS 1147. These companies are now subsidiary companies of MinRes, the parent company of the Proponent.</p> <ul style="list-style-type: none"> • APIM is the nominated proponent for MS 930, MS 1026, MS 1027. • APIM is the manager for the API Joint Venture (APIJV) and Red Hill Iron Ore JV (RHIOJV). • In 2021 the Proponent acquired Red Hill Iron Ltd interests in the RHIOJV which covers the Stage 1 WPIOP deposits associated with MS 1027. <p>The Proponent also holds an interest in Aquila Resources Pty Ltd which, in turn, holds interests in both the APIJV and RHIOJV.</p> <p>On 29 August 2022 an ASX announcement of RHIOJV parties reached a Financial Investment Decision (FID) to develop mining assets associated with MS 1027 and this would be exported through the Port of Ashburton. This also transferred the management of the RHIOJV assets from APIM to the Proponent.</p> <p>Implementation of the Proposal will provide a single, low impact logistics solution in the West Pilbara. It is unlikely there are sufficient proven resources in the West Pilbara to support multiple major logistical infrastructure solutions. Therefore, the other approved Proposals are unlikely to progress if the current Proposal is implemented.</p>
2	#4	<p>Financial contributions to ‘offset’ residual and cumulative environmental impacts of significant projects does not mitigate the local or regional impacts. The Pilbara’s ecological integrity and spectacular amenity is being consumed and spoilt by ongoing expansion of mining activity.</p>	<p>Contributions to the Pilbara Environmental Offset Fund (PEOF) to offset the significant residual impact from the clearing of native vegetation considered in ‘Good to Excellent’ condition has been used as the standard offset approach by the Environmental Protection Authority (EPA) and Proponents in the Pilbara since 2012.</p> <p>The Proponent proposes offsets in financial contributions to the PEOF. The actual offset amounts will be based on extents of actual clearing, which will be determined through an Impact Reconciliation Report (IRR) (Appendix HH). The intended construction timeframe is less than one year, so it is intended that the first and final offset amount will be calculated within three months of completion of construction. The approach to offsetting the significant residual impacts associated with the Proposal is considered to be consistent with the six principles outlined in the WA Environmental Offset Policy (see Section 15.1, pg. 398) (Gov of WA 2011).</p> <p>Clearing from the Proposal, will be offset at a rate of \$840/hectare (ha) for clearing of native vegetation in Hamersley sub-regions, based on 2020/21 financial year rates and subject to annual indexation based on Consumer Price Index (DWER 2021b). A residual impact significance model (Table 15-1, pg. 400) breaks down significant residual impacts by environmental factor. Table 15.2 (pg. 402) outlines the Proponents total estimated PEOF contribution of \$828,939 based on the clearing of 141 ha of supporting habitat for Northern Quolls within 1 km of potential denning habitat and up to 705 ha of native vegetation in ‘Good to Excellent condition’. This contribution is following extreme lengths taken to design out impacts with every step of the planning process focusing on minimising residual impacts. (see Section 2.2.3.1, pg. 36).</p>

Benthic communities and habitats

No.	Submitter	Submission and/or issue	Response to comment
3	#1	The AIP proposal will destroy 3 hectares of BCH including direct impact as a result of anchor damage within the designated anchorage area. Any destruction of BCH should be prohibited, this is a vital ecosystem and BCH are being pressured more and more through human encroachment, climate change and pollution.	<p>An impact assessment has been completed with a high degree of confidence based on a combination of comprehensive desktop, field and technical investigations. As part of a mitigation effort the following management plans have been produced:</p> <ul style="list-style-type: none"> • Marine Construction Environmental Management Plan (MCEMP) (Appendix C) • Marine Operational Environmental Monitoring and Management Plan (MOEMMP) (Appendix D) • Dredging and Spoil Disposal Management Plan (DSDMP) (Appendix E) <p>Vessels will anchor at a depth of 30 to 40 m by using a single anchor. In most cases (depending on weather) a scope of 3:1 (depth: anchor chain) will be required, which will likely result in a total 120 m of anchor chain being utilised during anchoring (see Section 2.2.3.3, pg. 37). Therefore, in most circumstances 30 to 40 m of anchor chain will contact the seabed around the anchoring point. The rest of the chain (up to 80 m) will be in the catenary to the vessel bow. The anchoring point will be the same for all anchorage operations and will be targeted by the ship's captain through GPS navigation (see Section 2.2.3.3, pg. 37).</p>
4	#1	Whilst no mangroves are present within the AIP Development Envelope, it must be noted that the neighbouring mangrove communities are only approximately 2 km west of the existing Port of Ashburton and "... are considered to be of great ecological and economic importance, supporting a varied number of organisms such as snails, crabs, shrimps, oysters, barnacles, fish and birds Physical disturbance, pollution (particularly oil), dust and litter are potential pressures on all intertidal BCH" (CALM 2005). (Appendix M – BCH Survey and Assessment Report – Page 31).	<p>The use of moorings were considered as an alternative to anchorages, however a large amount of permanently fitted infrastructure is required for this size of vessel (see Section 2.2.3.3, pg. 37). Indicatively, the permanently fitted infrastructure can involve large amounts of heavy chain (in excess of 120 m), multiple anchor legs and clump weights. There is no advantage of this versus using a single anchor. In addition, Ocean Going Vessels (OGVs) (Cape Size Bulk Carriers) are not normally fitted with bow working infrastructure and can make the operation of hanging off anchors hazardous and impractical. All transshipping operations in the Pilbara, State Waters and throughout Australia use anchorages (vs mooring) and this is seen to be Industry Best Practice.</p> <p>For the above reasons, the Proponent considers that utilising existing anchorage methods between the 30-40 m contours, to be the lowest environmental impact and optimal for the Proposal (see Section 2.2.3.3, pg. 36, 37).</p>
5	#1	It would be expected that dredging on an ongoing basis such as proposed with this project would have significant impacts on coral and seagrass communities in the surrounding region.	<p>The capital dredging is relatively small scale (for a maximum of 3 months, up to 150,000m³ of dredge material) – and does not represent a significant addition or scope change to the currently ongoing, existing maintenance dredging within the existing shipping channel. The modelling undertaken shows the dredge plume and brine outfall are small in scale and Bare Substate to be the only Benthic Communities and Habitat (BCH) Category to be intercepted (Appendix J).</p> <p>Mitigation methods, as they apply to specific Proposal elements, are outlined in Table 6-3 (pg. 89).</p>
6	#1	It is also apparent that the activities involved in construction and operations for this project will have significant damaging impacts on mangroves in the region.	<p>Section 6.7 (pg. 91, 92) concludes the overall Environmental Outcomes (of impacts) from the Proposal to BCH, in line with EPA guidance. These Environmental Outcomes have been verified through external technical peer reviews by subject matter experts. Section 6.7 (pg. 92) concludes with the following statement:</p> <p><i>'Based on no predicted direct or indirect loss of sensitive BCH it is considered that the Proposal will not contribute to loss of BCH such that biological diversity and ecological integrity are at risk at either a local or regional scale. Overall, the impacts to BCH are not considered to be significant and the EPA objective for BCH is considered to be met.'</i></p>
7	#6	<p>In Rev. 1 of the Referral Supporting Document, anchorage D sits on sand with sparse filter feeders and bare substrate as shown in Figure 6-2 below. The proponent should consider moving anchorage D to completely avoid areas with filter feeders. In addition, MEB's previous comments (provided on 18 Jan 2022 and 15 July 2022) seeking the proponent's response on the following were not provided to the proponent and therefore, yet to be addressed:</p> <ul style="list-style-type: none"> • Considering alternative anchoring system • Providing additional information such as including a diagram illustrating the anchoring system • Whether dynamic positioning will be used? (If so, how will underwater noise impacts be managed?) 	<p>The Proponent has committed to moving the location of Anchorage Points to completely avoid areas of filter feeders, based on values identified in baseline BCH assessments.</p> <p>As previously discussed in comments three to six above, the use of moorings was considered, however a large amount of permanently fitted infrastructure must be utilised for this size of vessel, involving large amounts of heavy chain, multiple anchor legs and clump weights. There is no advantage of this versus using a single anchor (see Section 2.2.3.3, pg. 37). In addition, OGV's (Cape Size Bulk Carriers) are not normally fitted with bow working infrastructure and can make the operation of hanging off anchors hazardous and impractical. All transshipping operations in the Pilbara, State Waters and throughout Australia use anchorages (vs mooring) and this is seen to be Industry Best Practice.</p> <p>The Proponent considered the risk of marine fauna entanglement for the Proposal (see Section 8.6.1.6, pg. 143). As a result, the Proponent has developed mitigation measures in consultation with DCCEEW and EPA and will manage the risk in accordance with the MCEMP (Appendix C) and MOEMMP (Appendix D), for the below Environmental Outcomes:</p> <ul style="list-style-type: none"> • The Proposal poses a low risk of significant impact to Blue Whales. Incidental risks, such as from vessel strike/entanglement, will be managed through the MCEMP. • The Proposal is not predicted to result in any <i>significant</i> impact to the Blue Whale. Blue Whale migration has previously been observed seasonally offshore and over the continental shelf well beyond the Proposal Area (RPS 2010b). Blue Whales were detected during

No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> Evaluating the risk of marine fauna entanglement and, if necessary, any management and mitigation strategies to be implemented to minimise any identified risks. 	<p>offshore aerial and acoustic surveys during baseline studies for Chevron Australia's Wheatstone Project (RPS 2010b). These surveys, conducted in proximity to the Offshore Anchorage area, recorded very few Blue Whales, suggesting that numbers are relatively low in the region (Jenner et al. 2010). Blue Whale BIAs are located more than 50 km offshore of the Proposal Area and consist of a migration BIA to the north-west and a foraging BIA to the south-west. No important habitats or breeding areas for the species have been identified within the Proposal Area.</p> <ul style="list-style-type: none"> Given the low risk for vessel strike or entanglement no specific management or mitigation is proposed.

Coastal processes

No.	Submitter	Submission and/or issue	Response to comment
8	#1	<p>The AIP could potentially alter the coastal processes of this region due to the introduction of the following:</p> <ul style="list-style-type: none"> Project infrastructure (piled jetty and dolphin structures) The increased dredged area at the existing channel The presence of moored Transshipment Vessels (TSV) on an almost continuous basis. 	<p>The potential alteration of Coastal Processes caused by the Proposal, and cumulative Projects in this region has been well studied and outlined in Section 14.1.3 (pg. 385). This included a study by O2 Marine (2021) that assessed Proposal specific Marine Infrastructure, titled '<i>Ashburton Infrastructure Project – Impact to the Coastal Processes due to the Construction of the Proponent's AIP Marine Infrastructure</i>' (Appendix CC).</p> <p>An impact assessment inclusive Proposal Infrastructure (piled jetty and dolphin structures), increase of dredged area at the existing channel and the presence of moored TSV on an almost continuous basis, can be found in Section 14.1.5 (pg. 387, 388). In this section, the Proponent notes that impacts to coastal processes are not deemed significant under the EPA Objective for Coastal Processes.</p> <p>The Proposal will not contribute further to the already altered coastal processes associated with the Port of Ashburton.</p>

Marine environmental quality

No.	Submitter	Submission and/or issue	Response to comment
9	#3	The Marine Operational Environment Management Plan (MOEMP) should have a more expansive sampling program to the east given the general tidal movement.	Noted – The MOEMMP (Appendix D) has been reviewed by EPA, PPA and DCCEEW and revised to incorporate their requirements.
10	#6	The Proponent should still provide a map with the existing discharge locations (e.g., Wheatstone LNG facility and Onslow Salt waste brine outfall) and the respective levels of ecological protection zones.	Figure 7 1: Existing and Proposed Construction Ecological Protection Areas for the Proposal (see Section 7.6.2.3 , pg. 104), displays the existing Low EPs, and the proposed combined Low EPs (see Attachment 1).

Marine Fauna

No.	Submitter	Submission and/or issue	Response to comment
11	#1	The AIP Proposal will have a large impact on marine fauna from encroaching on whale migration routes, to potential vessel strikes with dolphins, turtles, whales and dugongs to noise pollution and polluted waters from dredging	The Proponent has followed the relevant Commonwealth and EPA guidance regarding Marine Fauna as an Environmental Factor. An extensive number of studies were undertaken to inform this document as outlined in Section 8.3.1 (pg. 108). These studies were inclusive of dredging impacts, water quality, underwater noise, artificial light, BCH, marine pests, and marine fauna. As part of the

No.	Submitter	Submission and/or issue	Response to comment
12	#1	Of concern are the flatback, hawksbill and green turtles, of which this area provides 'critical habitat for nesting and inter-nesting' (Appendix L – Marine Fauna Desktop Assessment, Page 76).	<p>Proponents mitigation effort, a suite of management plans has been produced, including (see Section 2.1.6.1 and Table 2-5, pg. 30, 31, 32):</p> <ul style="list-style-type: none"> • MCEMP (Appendix C) • MOEEMP (Appendix D) • DSDMP (Appendix E) • Artificial Light Management Plan (Appendix F) • Draft Underwater Noise Management Protocol (UNMP) (Appendix G)
13	#1	This project sits right in the heart of a biologically important area. Numerous marine species are of Concern or Potential Concern in regard to underwater noise, habitat modification, human presence, chemical spills, light pollution and change in hydrology. (Appendix L – Marine Fauna Desktop Assessment, Page 80, Table 24).	<p>Mitigation measures as they apply to specific Proposal elements are outlined in Table 8-15 (pg. 134).</p> <p>Section 8.7 (pg. 145, 146) concludes that the overall Environmental Outcomes (of impacts) the Proposal to Marine Fauna are in line with EPA guidance. These Environmental Outcomes have been verified through external technical peer reviews by subject matter experts. Section 8.711 (pg. 147) concludes with the following statement:</p> <p><i>'Based on the negligible potential impact on Marine Fauna habitat and the implementation of all mitigation measures to limit the impact of the Proposal on the environment, the EPA objective for Marine Fauna will be met'</i>.</p>
14	#1	<p>Dredging-related operations will occur over a 16-hour period, seven days a week for 90 days.</p> <p>The constancy of this activity for marine life will be overwhelming. Scientific evidence has proven the impacts of continuous noise on marine life. It can change breeding and eating behaviour in addition to impact navigational ability. If one adds in the piling activity as well, which will have even greater impact on noise pollution, it is unacceptably detrimental.</p>	<p>The proponent has undertaken significant baseline and modelling to understand the impacts construction of the marine facilities, including dredging will have. These have been well documented within the RSD. All studies and impact assessments have been peer reviewed prior to finalising the RSD.</p> <p>The Proponent engaged O2 Marine to undertaken revised dredge plume modelling for the revised construction schedule (Q4 to Q1) (see Section 6.4.3, pg. 86; Figure 6-3, pg. 87). Outcomes of the revised dredge plume modelling have been incorporated into revised BCH mapping and revised Environmental Impact Assessment (EIA) (see Section 6.3.3, pg. 81; Section 6.4.3, pg. 86; Figure 6-3, pg. 87).</p> <p>Further to this, the Proponent has considered the impact of the updated construction schedule (Q4 to Q1) on Marine Fauna, including impacts from Underwater Noise from Piling and Dredging Activities (see Section 8.4.1.1, pg. 127, 128; Section 8.6.1.1, pg. 140). Mitigation measures for the Proposal will be implemented for dredging and piling related operations, and include (see Table 8-15, pg. 134):</p> <ul style="list-style-type: none"> • Implementation of a UNMP, MCEMP, DSDMP and Artificial Light Management Plan (ALMP) (Section 2.1.6.1 and Table 2-5, pg. 30, 31, 32). • Piling will be undertaken to avoid the southern Humpback Whale migration period when cow-calf pairs may be present. Trained marine observers will be used and works shut down in accordance with the Protocol and dedicated exclusion and observation zones (Table 8-15, pg. 134). • Monitoring of nesting turtle beaches and hatchling orientation on Thevenard and other islands (Section 8.5, pg. 132) <p>Through technical understanding and implementation of the above, the Proponent considers that (Section 8.7, pg. 145; Table 8-18, pg. 146):</p> <ul style="list-style-type: none"> • Impacts associated with noise (particularly piling, during the construction phase) are manageable and temporary, with a low risk of cumulative impact (Section 8.6.1.1, pg. 140; Section 8.6.3, pg. 144, 145). • Habitat areas directly and indirectly impacted do not support or otherwise provide important habitat for listed MNES, except for offshore breeding habitat for three species of marine turtles on Thevenard Island (Flatback Turtle; Green Turtle, Hawksbill Turtle and Loggerhead Turtle) (DoEE now DAWE) (2013). Impacts associated with artificial light, based on light modelling, are expected to be low (Section 8.6.1.2, pg. 142). • The addition of shipping activities during construction and operations within and surrounding the Proposed Action area are considered to be low when compared with shipping activities within the greater North West, WA region. The Proposed Action will not significantly increase the risk of cumulative impacts from vessel strikes on marine MNES species (Section 8.6.3, pg. 144, 145). <p>Section 8.7 (pg. 145, 146) concludes that the overall Environmental Outcomes (of impacts) the Proposal to Marine Fauna are in line with EPA guidance. These Environmental Outcomes have been verified through external technical peer reviews by subject matter experts. Section 8.711 (pg. 147) concludes with the following statement:</p>

No.	Submitter	Submission and/or issue	Response to comment
			'Based on the negligible potential impact on Marine Fauna habitat and the implementation of all mitigation measures to limit the impact of the Proposal on the environment, the EPA objective for Marine Fauna will be met'.
15	#3	Ensure appropriate management plan/measures are to be implemented. Chevron implements the Conservation Significant Marine Fauna Interaction Management Plan under MS 873 and it is critical that potential impacts from this proposal are not attributed to the Wheatstone Project.	Noted – The Proponent has developed several management plans for this Proposal to mitigate potential impacts (see Section 2.1.6.1 and Table 2-5 , pg. 30, 31, 32).
16	#6	Although the EPA dredging technical guidance does not provide a numerical definition for the Zol, there should be adequate rationale and supporting information for the threshold selection. Our experience is that a 5 mg/L difference in SSC is discernible at the typical background SSC levels found in Pilbara waters, but not when SSC levels are highly elevated. The proponent should provide the references to literature reviews / reports / research findings that formed the basis for the selection of 5mg/L as the threshold.	The Proponent and technical marine consultants O2 Marine interpreted 'discernability to the public' as the in situ SSC, at which a water sample would be visually discernible from a background sample. Visible differences depend on the dimensions of the sample, and we considered a large measuring cylinder in selecting our threshold. Visible differences will also depend on the nature of sediment, and we considered Pilbara Mud. Based on our professional experience, a difference of 5 mg/L from the background SSC is not discernible in these circumstances. We provide no reference but note that any interested party can readily and cheaply verify this for themselves.

Flora and vegetation

No.	Submitter	Submission and/or issue	Response to comment
17	#1	Clearing of >1,500 ha is adding to the cumulative loss of native vegetation in the Pilbara Bioregion – Cumulative impacts require abatement	The Proponent has followed the relevant State and EPA guidance and policy regarding Flora and Vegetation as an Environmental Factor (Table 9-1 , pg. 140). An extensive amount of ecological surveying and assessment was undertaken to inform this document as outlined in Section 9.3.1 (pg. 140) and Table 9-2 (pg. 150, 151). The Flora and Vegetation studies carried out by 360 Environmental in 2020 and 2021 consolidates previous and historical survey data, along with database searches and on-ground survey work to provide an overview of the Flora and Vegetation of the Haul Road DE and immediate surroundings (Appendix Q and Appendix S). The studies include recorded and possibly occurring conservation significant Flora and Vegetation. The Terrestrial Survey Area covers 26,999 ha, which encapsulates the whole of the Haul Road DE (16,210 ha) in addition to surrounding areas (Table 9-2 , pg. 150, 151). The surveys carried out were compliant with EPA 'Technical Guidance – Flora and Vegetation Surveys for environmental impact assessment' (Table 9-2 , pg. 150, 151).
18	#1	Eight DBCA listed Priority flora taxa and locally significant vegetation units could be impacted during Construction of the project.	360 Environmental (2021) has been independently reviewed by Matiske Consulting Proprietary Limited. All comments received from Matiske have been included in Appendix Q . The Proponent has applied the mitigation hierarchy (avoid, minimise and rehabilitate) during the design of the Proposal to reduce the potential impacts to terrestrial fauna values (see Section 2.2.3.1 , pg. 36). Potential impacts have been avoided or minimised through the use of Flora and Vegetation Surveys and Terrestrial Fauna Surveys to inform the Haul Road DE and Haul Road Indicative Footprint design (see Section 2.2.3.1 , pg. 36). Areas of disturbed land resulting from implementing the Proposal will be progressively rehabilitated to agreed land-use outcomes. Specific mitigation measures have been developed within the Terrestrial Environment Management Plan (Appendix H) and are summarised by impact in Table 10-14 (pg. 311).
19	#1	Clearing includes approximately 141 ha of supporting habitat for the Northern Quoll with further clearing within 1 km of denning habitat that is described as in Good to Excellent condition	The Proposal involves the clearing of up to 1,564 ha of native vegetation to enable the construction of the haul road and supporting infrastructure within the Haul Road DE (Section 9.4.1.1 , pg. 208). Proposed vegetation clearing within the Haul Road DE represents nine Beard (1975) vegetation associations. At a regional and subregional scale, the percentage impact to the pre-European extent of these vegetation associations as a result of the Proposal is only 1.8% (Table 9-10 , pg. 208). As a result, implementation of the Proposal will not result in a significant residual impact on the vegetation associations across the Carnarvon and Pilbara bioregions (Section 9.6.3.1 , pg. 231; Table 9-18 , pg. 233; Section 9.7 , pg. 235).
20	#1	Approximately 544 ha of native vegetation in 'Good to Very Good' condition is proposed to be cleared within the	

No.	Submitter	Submission and/or issue	Response to comment
		Pilbara bioregion for this project where there seems to be no limitations to the amount of native vegetation that is allowed to be cleared.	<p>The Proposal will result in clearing of native vegetation predominantly in Very Good Condition (approximately 1120.6 ha), as well as the direct loss of native vegetation considered to be in Good Condition (approximately 398.1 ha) and Excellent Condition (approximately 2.5 ha) (Table 9-12, pg. 212). Given flexibility in the footprint within the Haul Road DE, the specific area of clearing of each vegetation condition may change slightly. This impact is not considered significant by itself however, the cumulative loss of clearing in the Pilbara bioregion is recognised by the EPA as a significant residual impact therefore, clearing of vegetation in good to excellent condition in the Hamersley subregion will be offset in accordance with EPA requirements (Section 9.6.3.1, pg. 231; Section 9.7, pg. 235).</p> <p>Clearing from the Proposal, will be offset at a rate of \$840/hectare (ha) for clearing of native vegetation in Hamersley sub-regions, based on 2020/21 financial year rates and subject to annual indexation based on Consumer Price Index (DWER 2021b). A residual impact significance model (Table 15-1, pg. 400) breaks down significant residual impacts by environmental factor. Table 15.2 (pg. 402) outlines the Proponents total estimated PEOF contribution of \$828,939 based on the clearing of 141 ha of supporting habitat for Northern Quolls within 1 km of potential denning habitat and up to 705 ha of native vegetation in 'Good to Excellent condition'. This contribution is following extreme lengths taken to design out impacts with every step of the planning process focusing on minimising residual impacts. (see Section 2.2.3.1, pg. 36).</p> <p>Impacts to Priority flora species are unlikely to be significant nor are they expected to result in a change to their conservation status (Section 9.6.3.2, pg.234).</p> <p>The significant residual impacts, after the implementation of the mitigation hierarchy, is clearing of up 846.1 ha of native vegetation in Good to Excellent condition in the Hamersley subregion. Environmental Offsets are proposed for the clearing of native vegetation and are discussed in Table 15-1 (pg. 400) and Section 15.3 (pg. 402).</p> <p>Therefore, the Proponent considers the Proposal can be managed to meet the EPA's objective for flora and vegetation.</p>
21	#3	Ensure appropriate management plan/measures are to be implemented. Chevron implements the Mangrove Algal Mat and Tidal Creek Protection Management Plan under MS 873 and it is critical that potential impacts from this proposal are not contributed to the Wheatstone Project (e.g. loss of algal mat, mangroves, contaminated surface water and groundwater impacts).	<p>Noted – The Proponent has developed several management plans for this Proposal to mitigate potential impacts (Section 2.1.6.1 and Table 2-5, pg. 30, 31, 32). The Proponent notes that Mangroves are not present in any of the DEs and that this was deliberate in the planning of the Proposal. Modelling of dredging and dredge spoil disposal demonstrate no indirect impacts on these environmental values monitored by Chevron.</p>
22	#4	It is important that the northern route option does not proceed. This route will have a significant impact on the Warramboe flood plain and a stand of rare flora, <i>Owenia acidula</i> .	<p>The Haul Road will be designed to maintain the natural surface water flows (Including the design of surface water management infrastructure e.g., culverts to mitigate natural flow events). The Warramboe Creek is discussed in Section 11.3.3 (pg. 334). Whilst the DWER Watercourse layer does not include Warramboe Creek as a registered watercourse, the Proponent has included this watercourse in surface water modelling assessments and considerations for infrastructure design.</p> <p>Potential direct impacts to conservation flora species (including <i>Owenia acidula</i>) is discussed in Section 9.4.1.3 (pg. 213). Mitigation measures will be applied for the Proposal, to ensure no significant impacts to these conservation flora species (Table 9-16, pg. 216).</p> <p>Potential indirect impacts to populations of <i>Owenia acidula</i> and other conservation significance flora species have been identified as degradation of vegetation due to (Section 9.4.2, pg. 214; Section 9.6.2, pg 230):</p> <ul style="list-style-type: none"> • Fragmentation. • Altered hydrological regimes. • Introduction and/or spread of weed species; and • Increased dust deposition. <p>The potential for indirect impacts will be managed and is not expected to result in the loss of conservation significant species (Section 9.6.2, pg 230). Key mitigation measures associated with these potential impacts include (Table 9-16, pg. 216):</p> <ul style="list-style-type: none"> • A Site Disturbance Permit Procedure (SDPP), which will be used for all land clearing activities to avoid any clearing occurring outside of the Haul Road DE. • Ensuring vegetation clearing will be kept to the minimum amount required, as far as practicable.

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			<ul style="list-style-type: none"> • Any planned disturbance to watercourses shall be completed during dry, non-flow periods to minimise environmental impacts, where possible. • Installing and maintaining engineering controls and water management structures (e.g., culverts, bridges and burrows) as part of the Proposal design to maintain hydrological regimes, capture and infiltrate rainfall, minimise the degradation of water quality by sedimentation, erosion or chemical pollutants. • Implementation of strict hygiene procedures to prevent the spread of current weeds, introduction of new or additional populations of weed species in the Haul Road DE, including ensuring equipment is cleaned and inspected prior to use, undertaking weed mapping throughout the Haul Road DE prior to construction activities and annual weed monitoring. • Ensuring the Haul Road will be sealed upon completion of construction, so dust will only be an issue during construction phase of the Proposal. • Implementation of dust controls during construction, including minimising vegetation clearing, grubbing and earthworks during high winds, minimising the amount of clearing by only clearing areas required, undertaking progressive clearing of the haul road and utilising dust suppression equipment such as water carts. <p>Potential cumulative impacts from the Proposal to conservation significant flora species are associated with the clearing of Priority flora species. The impacts to Priority flora from the Proposal that are located within 50 km of the Haul Road DE have been used to assess cumulative impacts. Cumulative impacts to Priority flora species is discussed in Section 9.6.3 (pg. 231).</p> <p>Based on the above, the Proponent considers that the EPA objective for Flora and Vegetation can be met (Section 9.7, pg. 234).</p> <p>The RSD encompassed the impacts associated with either route. Regardless of which Haul Road route alignment. the Haul Road route has been designed as far as practicable to reduce the extent of clearing required.</p> <p>The Proponent has revised the Haul Road DE alignment to avoid significant areas such as significant flora species, critical habitat for MNES species (Mesas and Breakaways habitat.) and the heritage values associated with the Cane River law Grounds. Specifically, the Proponent reduce the size of the Haul Road DE from 25,930 ha to 16,209 ha, including reducing the area of Drainage Line/River/Creek (major) within the Haul Road DE.</p> <p>The Haul Road will be designed to maintain the natural surface water flows (including the design of surface water management infrastructure e.g., culverts to mitigate natural flow events). Further information regarding the environmental impacts of the Haul road to inland waters can be found in Section 11.7 [Page 348] of the RSD.</p> <p>Geotechnical works are still being undertaken, that will aid the Proponent in determining which of the two routes will be most feasible for the Haul Road footprint within the Haul Road DE. Only one of the Northern or Southern route aliment will be developed for the Proposed Action.</p>
23	#4	<p>Given that the proposed haul road passes through areas known to be infesting with weeds of national significance, being Mesquite and Parkinsonia, is it doubtful that 'standard' weed management will necessarily be effective in managing the spread of these weeds</p>	<p>Weed and hygiene control measures will be implemented within the Haul Road DE and areas around the clearing front, including the inspection of all vehicles and machinery prior to entering or exiting the site during construction (Table 9-16, pg. 216).</p> <p>The Proponent will undertake a targeted baseline weed survey 100 m with either side of the proposed Haul Road centerline, access tracks and borrow pits, prior to construction to determine species presence, extent and cover, particularly around primary vector spread sources (i.e., altered drainage lines, pastoral boundaries, and areas in proximity to the populated regional area of Onslow (Table 9-16, pg. 216).</p> <p>Weed monitoring will be undertaken annually during construction and two years post-construction following rainfall in summer/autumn (Table 9-16, pg. 216).</p> <p>Biennially during operation in areas containing Weeds of National Significance (WoNS) (including Mesquite and Parkinsonia) and/ or high risk areas within Red Hill Station and Peedamulla Station until the Proponent demonstrates that there has been no spread or increase of WoNS (including Mesquite and Parkinsonia) and/or high risk areas within Pastoral Stations in the Proposal DE (Table 9-16, pg. 216).</p> <p>Weed surveys will also be undertaken prior to rehabilitation to inform post rehabilitation and closure monitoring (Table 9-16, pg. 216).</p>

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			<p>The Proponent will develop a weed management procedure with particular focus on Declared Pests and WoNS (including Mesquite and Parkinsonia) following establishment of baseline weed presence, to ensure that weed species' extent and cover do not increase compared to baseline. The procedure will include (Table 9-16, pg. 216):</p> <ul style="list-style-type: none"> • Management of clearing activities, • Frequency and type of weed control (spraying and/or manual removal) and monitoring. • Establishment of reference sites; and • Potential thresholds criterion and contingency measures. <p>Based on the above, the Proponent considers that the EPA objective for Flora and Vegetation can be met (Section 9.7, pg. 234).</p>

Landforms

Not applicable

Subterranean fauna

Not applicable

Terrestrial Environmental Quality

Not applicable

Terrestrial fauna

No.	Submitter	Submission and/or issue	Response to comment
24	#1	The cumulative habitat loss across projects in the Pilbara region present significant risk to survival of the Northern Quoll, Ghost Bat, Western Pebble-Mound Mouse, the Pilbara Leaf Nosed Bat, the Common Brushtail Possum and many others.	<p>The Proponent has followed the relevant State and EPA guidance and policy regarding Terrestrial Fauna as an Environmental Factor (Table 10-1, pg. 236). The Proposal information has been collated through an extensive amount of ecological field surveys and technical assessments as outlined in Section 10.3.1 (pg. 236) and Table 10-2 (pg. 238). The Terrestrial Fauna studies carried out by 360 Environmental in 2021 and 2022 consolidates previous and historical survey data, along with database searches and on-ground survey work to provide an overview of the fauna assemblages of the Haul Road DE and immediate surroundings (Table 10-2, pg. 238). The studies include recorded and possibly occurring conservation significant fauna and SRE invertebrate fauna. The Terrestrial Survey Area covers 26,999 ha, which encapsulates the whole of the Haul Road DE (16,210 ha) in addition to surrounding areas (Table 10-2, pg. 238). The surveys carried out were compliant with EPA Technical Guidance 'Terrestrial vertebrate fauna surveys for environmental impact assessment' (Table 10-2, pg. 238).</p> <p>The Proponent has applied the mitigation hierarchy (avoid, minimise and rehabilitate) during the design of the Proposal to reduce the potential impacts to terrestrial fauna values (see Section 2.2.3.1, pg. 36). Potential impacts have been avoided or minimised through the use of Flora and Vegetation Surveys and Terrestrial Fauna Surveys to inform the Haul Road DE and Haul Road Indicative Footprint design (see Section 2.2.3.1, pg. 36). Areas of disturbed land resulting from implementing the Proposal will be progressively rehabilitated to agreed land-use outcomes. Specific mitigation measures have been developed within the Terrestrial Environment Management Plan (Error! Reference source not found.) and are summarised in Error! Reference source not found. (pg. 311).</p> <p>Clearing of vegetation for the construction and operation of the Proposal will result in the loss of fauna habitat within the Haul Road DE. However, this Proposal is a linear infrastructure project and impacts only a small portion of fauna habitat at any one location. The surrounding fauna habitat will be retained. Based on the-predicted impacts, clearing will not exceed 8% of the known extent of each habitat type mapped (Error! Reference source not found., pg. 325; 360 Environmental 2021b and Spectrum 2021). The Environmental Outcomes for key Terrestrial Fauna include (see Section 10.7, pg. 311):</p>

No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • Clearing of supporting habitat for Northern Quoll is a likely significant residual impact and offsets are proposed; • No significant impacts to local populations of any other conservation significant species, given the retention of key habitat features in areas outside those to be disturbed and minimal impacts to each key habitat type; • No effect on the conservation status of priority species (including species of elevated conservation significance); and • There are no significant impacts on SRE species or habitat, given the avoidance of key habitat features and minimal impact on key habitat types. <p>After the mitigation hierarchy has been applied (Table 10 14, pg. 326) including avoidance of direct impacts to key habitat (Mesa and Breakaway habitat), the Proponent considers that the Proposal can be managed to meet the EPA's objective for Terrestrial Fauna.</p>
25	#1	The offsets provided by the owning company of the AIP proposal - Mineral Resources - in respect to the loss of habitat for the Northern Quoll, do not compensate for the multiple deaths of this species as a result of this project.	The Proponent has covered this within the Public Environmental Report (PER). This be subject to decision by the federal government and their offset policy.
26	#4	I appeal to this process to recognise the significant and cumulative impacts that will occur if this project proceeds, particularly with respect to the habitat of the northern quoll and Pilbara olive pythons. Both of which have healthy, important populations on Red Hill Station, a fact which is understated in the Proponent's studies.	<p>All conservation significant fauna species that are highly likely to occur within the Haul Road DE will potentially be affected by cumulative impacts from existing or foreseeable future Proposals in the wider region (Table 10.15, pg. 325). The Bungaroo South, Onslow Rare Earth and WPIOP Stage 1 and Stage 2 Proposals are likely to be the most relevant to conservation significant fauna species. These Proposals also impact Northern Quoll, Pilbara Olive Python, Pilbara Leaf-nosed Bat and migratory species (Table 10.15, pg. 325).</p> <p>Given the extent of fauna habitat that will remain within the Terrestrial Survey Area (i.e., up to 25,429 ha, 5,721 ha represents high-value fauna habitat; Table 10.15 (pg. 325) and the linear nature of the Proposal, cumulative impacts to fauna habitats and conservation significant fauna species associated with the Proposal are unlikely to be significant.</p>
27	#4	Whilst they claim that construction vehicles will move only in daylight, they fail to mention that once operational, haul truck movements will be one every four minutes, twenty-four hours a day, every day of the year, for 30 years. An 80km/hr speed limit does not mitigate the risk of killing and injury fauna.	<p>The Proponent has developed speed limits in consultation with DCCEEW and EPA within the PER, specifically in relation to impacts on fauna and conservation significant fauna. As discussed within Table 10-14 (pg. 326) the designated speed limits for the Haul Road and additional mitigation measure for areas located within 1 km of conservation significant habitat.</p> <p>Install non-barbed wire fencing within areas that have low to high risk (i.e. east of NWCH) of interaction with Pilbara Leaf-nosed Bat and Ghost Bat. Barbed-wire fences will be avoided if possible and only be installed if there is substantial risk from cattle pushing through non-barbed fencing or if it is required under third party obligations. If barbed wire is deemed necessary in areas of low to high risk (i.e., east of NWCH) of interaction with Ghost Bats, it will be installed with suitable bat deflectors to minimise the risk of collision.</p> <p>Investigate the use of underpasses and/or overpasses by Northern Quolls and install in high value habitat areas (near Mesa and Breakaway habitat) if they are deemed suitable to allow fauna species to disperse between habitat within the Proposal area. The investigation into the use of underpasses and/or overpasses is discussed further in the TMNES MP. Cattle underpasses will also be installed, which can also be used by fauna for dispersal.</p> <p>In the event that vertebrate fauna are injured during clearing or construction, the animal shall be taken to an authorized trained wildlife carer, or if not possible, humanely euthanized in accordance with DBCA SOP's.</p>
28	#4	The proponents will need to fence the haul road through pastoral areas to exclude stock from the haul road area. This will necessitate the use of barbed wire.	A non-barbed wire cattle fence will be constructed along the whole length of the haul road to prevent cattle from crossing, except in areas identified where a barbed wire fence is required (see Section 10.6.1.2 , pg. 316). This is an essential element for road safety. The fence will be designed to enable native fauna to pass through and/or above. In particular, space will be maintained underneath the lowest fence strand to allow ground-dwelling wildlife to move under the fence. In addition, in areas where barbed wire fencing is required, suitable mitigation strategies will be implemented to ensure impacts to significant species are minimised. E.g., bat deflectors will be installed in bat foraging habitat (see Table 10-14 , pg. 326).
29	#4	Many of the proponent's strategies to mitigate risk to fauna are constrained by the addition of words such as 'as far as practical', which in practice may mean that these strategies are not used at all.	Noted. All mitigation measures have been developed and revised in consultation with DWER/EPA and DWVEEC. The Proponent is bound by an approved limit of cleared areas, however, will endeavour to reduce the extend of clearing wherever possible. No comment as opinion.
30	#4	Red Hill Station is a known location that supports a healthy Northern Quoll population. Contrary to the	The Proponent has followed the relevant State and EPA guidance and policy regarding Terrestrial Fauna as an Environmental Factor (Table 10-1 , pg. 236). The Proposal information has been collated through an extensive amount of ecological field surveys and technical

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		proponents finding that the majority of Northern Quolls records occurred outside the Haul Road DE – I feel that this conclusion may have been by design of the monitoring process. Contrary to the assumption that the proposal has been designed to avoid mesas and breakaway habitats of quolls, in my experience these areas are not those necessarily the habitats where quolls den, forage etc. In fact, quolls can be found on the entire area of red hill, den in tree hollows and are found on creeks and plains away from mesas and breakaway habitat.	assessments as outlined in Section 10.3.1 (pg. 236) and Table 10-2 (pg. 238). The Terrestrial Fauna studies carried out by 360 Environmental in 2021 and 2022 consolidates previous and historical survey data, along with database searches and on-ground survey work to provide an overview of the fauna assemblages of the Haul Road DE and immediate surroundings (Table 10-2 , pg. 238). The studies include recorded and possibly occurring conservation significant fauna and SRE invertebrate fauna. The Terrestrial Survey Area covers 26,999 ha, which encapsulates the whole of the Haul Road DE (16,210 ha) in addition to surrounding areas (Table 10-2 , pg. 238). The surveys carried out were compliant with EPA Technical Guidance ‘Terrestrial vertebrate fauna surveys for environmental impact assessment’ (Table 10-2 , pg. 238). 360 Environmental (2021) has been independently reviewed by Mattiske Consulting Proprietary Limited. All comments received from Mattiske have been included in Appendix T .

Inland waters

No.	Submitter	Submission and/or issue	Response to comment
31	#4	L08/231 crosses this flood plain at a location where the flood plain is more than 1.5km in width. To construct a haul road for use in all weathers, would necessarily mean that the natural water flow will be impacted by the use of drains, culverts etc. The proponents have an alternate and more southerly route option using L08/232 which avoids impacting the Warramboos flood plain. Given the multiple, severe, environmental impacts likely to occur on the northern route option, our view is that this route option must be excluded by the environmental review process.	The Haul Road will be designed to maintain the natural surface water flows (Including the design of surface water management infrastructure e.g., culverts to mitigate natural flow events). Further information regarding the environmental impacts to Inland waters can be found in Section 11.3.3 (pg. 334).
32	#4	Concern about the proponent extracting ground water in the catchment of the Red Hill creek and in other areas on the pastoral station which may and is likely to impact the shallow aquifers which are used for pastoral purposes. We note that all bores will be located at a distance greater than 400m from existing licensed bores, however this may not be relevant to unlicensed pastoral bores which will also be affected.	The Haul Road DE is located entirely within the Pilbara Groundwater Area, which is proclaimed under the <i>Rights in Water Irrigation Act 1914</i> (RiWI Act). Accordingly, the installation of groundwater bores and abstraction of groundwater will require licenses and permits under the RiWI Act that will ensure no other users are impacted. Groundwater abstraction will only be required during construction and therefore will be of short duration, which further minimises the potential to affect other uses (see Section 11.4.1.2 , pg. 341). The dominant regional land uses along the Haul Road alignments are currently mining and cattle grazing. There is existing pastoral, mining and drinking water supply ground water bores along the proposed Haul Road. Reference source not found.. Production bores within Priority 1 Drinking Water Supply areas, such as the Cane River Water Reserve, have a 500 m wellhead protection zone established, to protect the source of water used for abstraction and potable supply. Pastoral bores have a 400 m wellhead exclusion zone established under the <i>WA Mining Act 1978</i> (Mining Act) (see Section 11.3.3.1 , pg. 339). During construction it is expected that up to four Turkeys Nests will be operational at any one time, abstracting approximately 6 to 12 L/sec from each Turkeys Nest. Therefore, a maximum of 48 L/sec is expected to be abstracted during construction. No abstraction will occur during operational phases, with water only required for construction of the Haul Road (Section 11.4.1.2 , pg. 341). Production bores will be installed in accordance with Drinking Water Supply Area Protection Zones and Exclusion Zones for Pastoral Bores under the Mining Act. Therefore, no impact will occur to Water Supply Areas or Pastoral Bores is expected by the Proposal (Section 11.6.1.2 , pg. 345).
33	#4	The proponent says they will ‘make good’ any loss or reduction in supply for pastoral bores. What does this mean and what will be the process for this to occur.	The Proponent will be constructing bores to support short term construction water supply needs (12 – 18 months max) and will be applying for ground water licences to support these bores. Ground water licences impose conditions to ensure that aquifers used to source water are not adversely impacted. Post construction, bores will be either gifted to stakeholders who wish to take over responsibility for them (including pastoralists) or rehabilitated in accordance with the associated mine closure plan.
34	#4	The proponent fails to include the Warramboos flood plain in the list of significant water courses.	The Warramboos Creek is discussed in Section 11.3.3 (pg. 334). Whilst the DWER Watercourse layer does not include Warramboos Creek as a registered watercourse, the Proponent has included this watercourse in surface water modelling assessments and considerations for infrastructure design.

Air quality

No.	Submitter	Submission and/or issue	Response to comment
35	#3	<p>Ambient air quality data is available in the vicinity of the Onslow town. Chevron as part of its environmental approval for the Wheatstone Project undertook a range of air quality monitoring and this was presented in the ERMP. Further as part the ongoing operations ambient air quality monitoring is undertaken and reported to DWER. As required by condition 873:M20.2, this data can be made publicly available, as required.</p> <p>MINRES to review modelling and impacts using local Onslow data. MINRES to implement appropriate ambient monitoring to ensure construction and operations emissions are within sensitive receptor guideline limits.</p> <p>The Wheatstone Village (called Chevron Accommodation Camp in the MINRES documentation) should be classed as a sensitive receptor. The Village is located approximately 1km to the south of the proposed haul road (Haul Rd DE).</p>	<p>The Onslow Salt Evaporation Ponds are approximately 3 km northwest of the Haul Road DE, and the Wheatstone Accommodation Camp (Camp) for the Chevron Fly-In Fly-Out workforce is approximately 4 km west of the Haul Road DE. During Haul Road construction, vegetation clearing, earthwork activities and potential wind erosion, along with vehicle and equipment movement within the Haul Road DE are expected to be the main dust generating activities. The construction activities are considered temporary, lasting for a relatively short period of time. The separation distance between the Haul Road DE, the Onslow Salt Evaporation Ponds and the Camp is expected to provide a degree of buffering that reduces the likelihood for construction dust settling on the ponds or at the Camp and creating a nuisance or amenity impact. In addition to this, the Proponent has incorporated a set of dust management and mitigation controls that will be applied through design, construction and operation of the Proposal, detailed in Table 14-5 (pg. 395). The actions, when implemented, further reduce the risk for TSP and dust deposition. The haul road will be fully sealed, which will significantly avoid the generation of airborne dust during operation. Fugitive dust emissions from haul trucks during operation will also be minimised by ensuring all loads are covered. Therefore, the operation of the Haul Road is unlikely to significant increase dust emissions at the Onslow Salt Evaporation Ponds or Camp (see Table 14-5, pg. 395).</p> <p>The Onslow Salt Evaporation Ponds are located approximately 3.5 km to the southeast of the proposed Landside DE. The Camp is located approximately 10 km to 11 km to the south-southeast of the Landside DE. The separation distance between the Landside DE, and the Onslow Salt Evaporation Ponds and the Camp is expected to provide a degree of buffering that reduces the likelihood for construction and operation dust settling on the Onslow Salt Evaporation Ponds or at the Camp and creating a nuisance or amenity impact.</p> <p>There is no clearing or earthworks proposed in the Landside DE as part of this Proposal minimising the potential for dust. The construction activities that have the potential to result in dust emissions (i.e., potential wind erosion, along with vehicle and equipment movement) are considered temporary, lasting for a relatively short period. In addition to this, the Proponent has incorporated a set of dust management and mitigation controls that will be applied through design and construction of the Proposal, detailed in Table 14-5 (pg. 395) The actions, when implemented, further reduce the risk for TSP and dust deposition during construction.</p> <p>Dispersion modelling was undertaken for the operation phase of the Proposal at the Port (Table 14-3, pg. 390). At the Proposal's estimated maximum tonnage handling (40 Mtpa) the results of the dispersion modelling for the Onslow Salt Evaporation Ponds and Cap receptors were (Table 14-3, pg. 390):</p> <ul style="list-style-type: none"> • Dust deposition across the Onslow Salt Evaporation Ponds and Camp was shown to remain below the criteria adopted for dust deposition (2g/m²/month). • The TSP across the Onslow Salt Evaporation Ponds and Camp was shown to remain below the 24-hour average criteria adopted for TSP (DWER, 2019). <p>In addition to this, the Proponent has incorporated a set of dust management and mitigation controls that will be applied through operation of the Proposal, detailed in Table 14-5 (pg. 395) The actions, when implemented, further reduce the risk for TSP and dust deposition. In addition to this, the Proponent will install an ambient air quality (particulate) monitoring program with a real-time monitor being placed in the vicinity of the Onslow Salt Evaporation Ponds and the Camp to ensure the no exceedances of model predictions (Table 14-5, pg. 395). The accessibility to near real-time data will inform the Proponent's dust management and mitigation response to any measured dust levels of concern.</p> <p>With the Proposal's modelled predictions at Onslow Salt Evaporation Ponds and at the Camp remaining lower than the relevant criteria for TSP and dust deposition, this indicates that the dust control designed and incorporated into the Proposal, when implemented, are an appropriate approach to dust mitigation and management. As discussed in Table 145 (pg. 359) the Proponent expects that:</p> <p><i>Based on the assessment of potential impacts and proposed mitigation measures to protect environmental values associated with Air Quality and Social Surrounds, the Proponent considers that the EPA objective for these factors associated with dust can be met.</i></p>

Greenhouse gas emissions

No.	Submitter	Submission and/or issue	Response to comment
36	#1	A project such as this emits massive Scope 1-3 total emissions with no pathway to emission reduction through renewable energy sources. The total emissions will continue unabated for a 30-year period.	<p>This Proposal's total greenhouse gas emissions was benchmarked against similar Proposals in the Pilbara and has comparable emissions intensity per tonne of ore exported (see Section 12.6.1, pg. 355). The scope of the Proposal under assessment excludes mining operations and has an estimated total GHG emission at 30Mtpa capacity of less than 100,000 tCO₂e per annum (see Section 12.4.1, pg. 352).</p> <p>The Proponent is committed to achieving net zero emissions across all its business by 2050. This will include new Proposals and application of proven technologies to achieve emissions reduction throughout 5 yearly capital expenditure cycles.</p> <p>Initial investment will involve application of solar energy systems to offset peak power use at both Mine and Port.</p> <p>Significant opportunities exist in fuel substitution in the mining & transport fleet and transshipping (which makes up 2/3rds of the total GHG emissions for the entire operation) by moving to green fuel and eventually full electric vehicle capability over the life of the Proposal. These technologies are still under development however the Proponent has already selected its haulage fleet supplier to provide the greatest flexibility in retrofitting vehicles as these technologies are delivered to market.</p> <p>The Proponent has strategically positioned itself to be a fast follower of proven green technology and is currently setting 5 yearly business targets for emissions reductions, with the board set to approve targets in the near future. These targets will support the Proponent's roadmap to zero emissions by 2050 at the latest and will underpin the early adoption of new technology to achieve the goals.</p>

Social surroundings

No.	Submitter	Submission and/or issue	Response to comment
37	#4	The road will be approximately 8km from our homestead and the sound of haul trucks will be heard 24 hours a day for the next 30 years. The underpasses proposed for stock and light vehicles are impractical and do not recognise the nature of stock, stock management, and pastoral operations. For example, movements of heavy vehicles in pastoral management are as important as light vehicles.	<p>Noted. The Red Hill homestead is approximately 8 km and Peedamulla homestead approximately 3 km from the proposed road alignment and unlikely to be significantly affected by noise. The noise modelling assessment concluded that noise levels during construction of the haul road will be compliant with the requirements of the Noise Regulations at all times (Table 13.4, pg. 369) Lloyd George Acoustics 2021).</p> <p>The haul road will be fenced either side for its entire length, which will impede stock and vehicle movement for station operations (see Section 10.6.1.2, pg. 316). Therefore, the Proponent will install underpasses beneath the haul road at appropriate locations and of sufficient dimensions as agreed with pastoral leaseholders to ensure any effect on station management is minimised. If stock or pastoralist access to any bores and watering points are affected despite the installation of underpasses, the Proponent will replace bores and watering points, to the agreement of the pastoralist or tenement holder, to further ensure impacts to station management are minimised.</p>
38	#4	The noise of the haul road will be significant for us as pastoralist accustomed to no traffic noise, particularly at night.	<p>With these measures in place the Proposal is unlikely to result in any significant impact on any pastoralists (see Section 13.6, pg. 384).</p>
39	#4	The proponent claims there will be No significant impact to visual amenity. We feel that a bitumen haul road cutting our pastoral station in two, with haul trucks operation 24 hours a day is a significant visual impact for us.	<p>With these measures in place the Proposal is unlikely to result in any significant impact on any pastoralists (see Section 13.6, pg. 384).</p>
40	#3	<p>The Wheatstone Village is not located on industrial zoned land. The land is zoned "Special Use" (SU1) and allows for Workforce accommodation.</p> <p>The Chevron re-enforces the site is designated a 'noise sensitive premises: highly sensitive area' and given the land use we believe the influencing factor in Table 13-3 is not correct for this location.</p> <p>Modelling has not taken into account the proposed design (elevation) of the haul road nor that MINRES are proposing 'platooning' (linking multiple trucks together) in the assessment. If approved MINRES should have to</p>	<p>Noted – Notwithstanding the noise modelling has been undertaken by Lloyd George acoustics (2021) in the report 'Environmental Noise Assessment – Ashburton Project (Appendix W) which was inclusive of many sensitive receptors including the Chevron/Wheatstone Accommodation Village and Wheatstone Facility. The assessment was conducted in accordance with the requirements outlined in <i>Environmental Protection (Noise) Regulations 1997</i> (Table 13-2, pg. 359). This information has previously been shared with submitter number 3 on the 27th of May 2022.</p> <p>As per the 'Ashburton North Strategic Industrial Area – Improvement Scheme No. 1' gazetted on 30 September 2016, the Wheatstone Workforce Accommodation is awarded a 1 km 'land use sensitivity' (Special Use – SU1) from the boundary of the workforce accommodation to the southern boundary of the Western General Industry Area (GIA). This buffer is to ensure surrounding land uses would not adversely affect health, safety or amenity of the workers accommodation. The Proposal is not considered to adversely affect</p>

No.	Submitter	Submission and/or issue	Response to comment
		monitor noise during operations and if they exceed noise criteria (using correct influencing factors) implement appropriate noise control measures to achieve the noise criteria.	health, safety or amenity of the workers accommodation and is consistent with the General Industry Land Use Types for the Western GIA.
41	#3	Construction and Operation Traffic Management Plans need to include appropriate measures for the management of heavy vehicle interfaces with Chevron workforce (SIMOPS), including the MINRES maintenance workshop.	Noted - Vehicle movements at the Port facility are to be in accordance with PPA's Traffic Management Plan (Ashburton) and kept to established roads, flow paths and speed limits (Table 13-4 , pg. 369).
42	#3	Stakeholder engagement – MINRES has engaged with Chevron on the proposal, but this has been at a high level and we have received limited information on project specifics. Chevron has had to rely on referral information to try and understand potential impacts on our operations and personnel travelling from Onslow.	Noted – The Proponent will undertake regular consultation with Chevron within numerous sections of their business and will continue to engage with this Stakeholder (Section 4.2 , pg. 64).

Human health

Not applicable

Consultation

No.	Submitter	Submission and/or issue	Response to comment
43	#4	Red Hill Station is listed as a pastoral stakeholder. We are dissatisfied with the approach taken by the proponent with regards to consultation to date. The proponent does not yet recognise or understand the impacts they will create on the social amenity, or the pastoral business conducted on Red Hill. Our views and advice with regard to haul road alignment and environmental impacts have been ignored. The proponent is yet to adequately address our environmental concerns and has stated that this EPA process will address them.	Noted – The Proponent will undertake regular consultation with Red Hill Station and other pastoral stakeholders relevant to the Proposal to ensure they feel their concerns have been adequately heard (Section 4.2 , pg. 64).
44	#2	BTAC wishes to express uncertainty regarding the limited engagement between the Proponent and BTAC regarding: <ul style="list-style-type: none"> Potential loss of diminution or impairment of Thalanyji Native Title rights and interests (whether determined or not) including loss of access to areas caused by new infrastructure corridors. Impact to our Cultural values and heritage under Aboriginal Cultural heritage Act 2022 Impacts to our environment caused through new port infrastructure and road infrastructure and impairments this may have on our Native Title Rights and Interests; and 	Noted. The Proponent recognises the importance of engaging with the Thalanyji through their representative organisation (and trustee of their native title rights), BTAC. The Proponent has attempted to undertake ongoing engagement and, as a result, the Proponent was surprised when this submission was received. On 15 October 2020 and 29 July 2021, the Proponent met with the BTAC Board and Common Law Holders, presenting a comprehensive overview of the Proposal on each occasion. At the meeting on 29 July 2021, the Proponent sought advice from the Board and Common Law Holders on the best way to engage on business and employment opportunities. The Proponent was instructed to directly approach the Thalanyji People who had, or were seeking to establish, relevant businesses. Whilst this was not the Proponents' preferred method of engagement, the Proponent has abided by the Thalanyji People's instructions in this regard. This has involved ongoing discussions with many members within the Thalanyji group, and recently has included the delivery of Cross Cultural Awareness training to MinRes by senior members of the Thalanyji. The Proponent has engaged Thalanyji / BTAC to supply cultural surveys and monitors since July 2021 to support the development of the overall Proposal. Since at least October 2021, the Proponent has sought further dedicated opportunities to meet with the BTAC Board

No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> The cumulative impacts as increasing interest develops for the exportation of bulk minerals from the Port of Ashburton, including salt and iron ore 	and Thalanyji people to provide comprehensive Proposal updates. These requests have been made to BTAC officers by the Proponent both formally (in writing) and less formally. It was not until the Proponent made direct approaches to the Chair of the BTAC board that an opportunity was afforded. This contrasts with the engagement the Proponent has had with other Native Title Holders and Indigenous corporations, which involves regular meetings at both Board and Working groups or sub-committee level.
45	#2	BTAC has not been provided adequate notice from the Proponent and was not notified of this specific opportunity to offer our comments only finding out about the public comment period through random checking of the EPA website.	The Proponent has a history of engagement with BTAC that has been long and meaningful, and relationship has been developed to support other parts of the Proposal. The Proponent has been developing workforce accommodation village on Lot 300 referred to in the Proposal, a development which involves the Proponent and BTAC. The Proponent assisted in facilitating the transfer of ownership of Lot 300 from the State to BTAC. The BTAC have been supportive of the Proponent through the development of Lot 300 (include Shire DA process), whereby the Proposal plays an integral part of the justification for this development to proceed. This included BTAC lodging a Section 18 approval over Lot 300 in order to facilitate the locating of the Onslow Iron Resort on Lot 300 and have subsequently signed a long term lease arrangement to support this development.
46	#2	Strongly encourage the EPA to defer consideration of the proposal until Thalanyji people are adequately informed of the project impacts and agreements.	Noted – The Proponent is committed to continue consultation and engagement to ensure the Thalanyji People are adequately informed of the impacts and agreements of the Proposal.
47	#2	BTAC does not have the time or at hand independent technical advice to review such an expansive set of materials in two weeks.	
48	#2	Concerning that Traditional Owners are not cited as a critical stakeholder	The Proponent has cited Traditional Owners as a ‘Key Stakeholder’ for the Proposal in Table 4-1 (pg. 62, 63) and Section 13 (pg. 368). The term ‘Critical Stakeholders’ is not adopted for the Proposal.
49	#2	Regular communication has been lacking with project updates being ad-hoc, occasional and not properly planned out with the administration of BTAC. This is inconsistent with the inference that the proponent has a well-developed stakeholder engagement plan.	Since at least October 2021, the Proponent has sought further dedicated opportunities to meet with the BTAC Board and Thalanyji people to provide comprehensive Proposal updates. These requests have been made to BTAC officers by the Proponent both formally (in writing) and less formally. It was not until the Proponent made direct approaches to the Chair of the BTAC board that an opportunity was afforded to it. This contrasts with the engagement the Proponent has had with other Native Title Holders and Indigenous corporations, which involves regular meetings at both Board and Working groups or sub-committee level.
50	#2	There has been little to no engagement on environmental impacts or impairment to Thalanyji Native Title Rights and Interests through consultation, or any effort by the proponent to secure the Free, Prior and Informed Consent of the Thalanyji people for the Project.	The Proponent has designed the Proposal to the highest standards to ensure management and mitigation of any environmental impacts. As discussed in Table 9-16 (pg. 216), Table 13-4 (pg. 369) and Table 14-5 (pg. 395) dust management is a feature of the Proposal, including a fully sealed dedicated private haul road, covered trucks and enclosed ore storage facilities, covered conveyers and transhippers. The Proponent will implement the best proactive standards to manage all actual and potential environmental impacts. Additionally, Management Plans have been developed (see Section 2.1.6.1 and Table 2-5 , pg. 30, 31, 32) that address other matters such as noise and visual amenity. The Proponent has repeatedly sought opportunities to discuss these matters with BTAC and remains committed to doing so.
51	#2	There has been some engagement with BTAC regarding business development and employment opportunities. Opportunities to develop enterprise which deliver longer-term outcomes for all members, including those unable to work, is important	Requests have been made to BTAC officers by the Proponent both formally (in writing) and less formally. It was not until the Proponent made direct approaches to the Chair of the BTAC board that an opportunity was afforded to it. The Proponent recognises the importance of engaging with the Thalanyji through their representative organisation (and trustee of their native title rights), BTAC. On 15 October 2020 and 29 July 2021, the Proponent met with the BTAC Board and Common Law Holders, presenting a comprehensive overview of the Proposal on each occasion. At the meeting on 29 July 2021, the Proponent sought advice from the Board and Common Law Holders on the best way to engage on business and employment opportunities. The Proponent was instructed to directly approach the Thalanyji People who had, or were seeking to establish, relevant businesses. Whilst this was not the Proponent’s preferred method of engagement, the Proponent has abided by the Thalanyji People’s instructions in this regard. This has involved ongoing discussions with many members within the Thalanyji group, and recently has included the delivery of Cross-Cultural Awareness training to MinRes by senior members of the Thalanyji.
52	#2	We disagree with the outcomes referenced in relation to engagement with BTAC and Thalanyji people referenced in the Table: <ul style="list-style-type: none"> There is no agreed further schedule of updates; 	Noted. The Proponent welcomes the opportunity to meet regularly with the BTAC Board, any relevant sub-committees, and the Thalanyji People generally. The Proponent remains committed to maximising the benefits its activities in and around Onslow will generate for Thalanyji People and the wider town community.

No.	Submitter	Submission and/or issue	Response to comment
		<ul style="list-style-type: none"> There is no agreed method for engagement with BTAC and its entire membership with respect to business development and employment opportunities; There is no agreed process to regarding further strengthening of a relationship with Thalanyji people. 	
53	#2	In Section 3.2.1 of the report Native Title is addressed. We note that even though Native Title may not have been determined in certain areas where the project exists it does not mean Native Title Does not exist.	The Proponent has not made judgement as to whether or not native title may be recognised, or in favour of whom, in the area that currently do not have any claims lodged over them. Section 3.2.1 (pg.59) merely states the situation as it currently stands, knowing that a claim for native title may be made at any time until there is a Determination over that land. The Proponent will continue to engage with Traditional Owner Groups.
54	#2	The project includes substantial new tenure which will grant the proponent exclusive possession over key areas, supressing Thalanyji's Native Title rights and interests in these specific areas.	
55	#2	<p>The Project will:</p> <ul style="list-style-type: none"> Prevent or significantly diminish access to Country for Thalanyji people; Cause an impact to the quiet enjoyment of Native Title Rights to noise, dust, visual amenity which extend beyond the development footprint; and Diminish the natural environment including sea country and the right to hunt, fish and gather resources. <p>There has been no endeavour by the proponent to explain these impacts to the Thalanyji people so they can make informed decisions on the project; or endeavour to reach agreement on such impacts to Thalanyji Native Title Rights and Interest.</p>	<p>The tenure on which the Proposal is located, will not have the effect of extinguishing any native title rights or interests. The current Tenure, Proposal IF and Proposal DE's are much wider than will be required for construction and operation of the Haul Road. This is to enable the final road design, as far as practicable, to avoid places of importance to the various stakeholders with interests in the land.</p> <p>The Proponent acknowledges that linear infrastructure can affect access to country. For this reason, the Proponent has ensured that existing access is maintained to the areas around its proposed haul road (including by facilitating realignment of public roads where required).</p> <p>The Proponent has entered into two, formal, agreements with BTAC that set out the nature of the tenure being sought, the purposes for that tenure and processes to ensure that effects on native title rights and interests are minimised. As part of the agreement-making process, BTAC was supported by an independent legal representative who also briefed the Corporation on the potential effects on native title and the mitigations included in the agreements.</p>
56	#2	The Report incorrectly conflates the leaseholders and sub-leaseholders of Peedamulla Station as Traditional Owners Whilst Thalanyji people recognise that Jundaru Aboriginal Corporation are indeed Traditional Owners, they are not Traditional Owners of the area where the project is proposed.	<p>Noted. In the future, the Proponent will not discuss the Jundaru Aboriginal Corporation (Peedamulla Station lessee, all consultation discussed as Peedamulla Station) as a Traditional Owner for the Proposal, notably not a Traditional Owner of the Proposal Area.</p> <p>In addition, through facilitation of surveys on Peedamulla station with BTAC, the Proponent has demonstrated that it acknowledges Thalanyji People are Key Knowledge Holders on land outside of the Determined area. The Proponent has entered into three agreements with BTAC relevant to the Proposal, the first of which relates directly to the unclaimed land. Although these agreements are primarily focused on cultural heritage management, each contains elements relating to the maintenance of broader native title rights and interests.</p>
57	#2	Thalanyji people still assert and continue to practice their Native Title Rights and Interests over these areas and therefore, the context and circumstances where members of Jundaru Aboriginal Corporation would meet the definition of Knowledge Holder in accordance with the <i>Aboriginal Cultural Heritage Act 2021 (the ACHA)</i> requires consultation and engagement with Thalanyji people.	At the time Proposal was referred, neither the <i>Aboriginal Cultural Heritage Act 2021</i> nor the draft Knowledge Holder guidelines were in place. The Proposal makes clear that the Peedamulla Pastoral Lessees (Jundaru Aboriginal Corporation) are Banjima People. The Proponent has consulted with Banjima People on the basis of their pastoral interest and as a consequence of their fundamental cultural connection to, and custodianship of, the Cane River Law Grounds. The Proponent has been completely transparent regarding the extent of heritage survey coverage at the time the Referral was submitted and did not identify the areas within Peedamulla Station as having completed heritage investigations. As noted previously, both the tenure footprint and development envelope, have been designed with sufficient area to allow flexibility to avoid places of cultural heritage importance to the greatest extent practicable.

No.	Submitter	Submission and/or issue	Response to comment
58	#2	Figure 13-1 of the report shows the vast majority of the haulage corridor is yet to undergo a heritage survey. (~>95%). BTAC can't offer it's confidence at this stage that cultural heritage will be properly managed given there are high risk areas within the current infrastructure corridor including the crossing of Cane River.	The Proponent has facilitated heritage surveys with Thalanyji People, organised through BTAC, on areas outside the current Determination boundary. Completion of this work is awaiting the resolution of access issues with the Peedamulla Station owners and the Proponent has attempted to secure a mutually acceptable, independent facilitator to assist with these intra-indigenous discussions.
59	#2	The report states that a Social and Cultural Heritage Management Plan will be prepared with each Traditional Owner group. Thalanyji people haven't even started the development of this plan with the proponent.	Noted – The Proponent welcomes the opportunity to meet regularly with the BTAC Board, any relevant sub-committees, and the Thalanyji People generally. This includes commencement of a consultation process to develop Social and Cultural Heritage Management Plan (see Table 13-4 , pg. 369).
60	#2	There is contradictory information regarding the anticipated route of haulage of ore from Onslow Road through to marine side facilities which may impact on Thalanyji's Native Title rights and interests and Aboriginal Cultural Heritage, whilst also having additional environmental impacts. BTAC is concerned that approvals could possibly be granted where there remains an approximate 15km of infrastructure corridor which is not yet properly defined, and its impacts assessed.	The maps in the Referral relate solely to what is being put before the EPA for assessment. This does not include any areas that have been subject to separate environmental assessment processes (such as the Ashburton North Strategic Industrial Area). As set out in our agreement the Proponent has reached with BTAC regarding the haul road alignment within the Thalanyji Determination Area, the route between Onslow Road and the Port of Ashburton will sit within the existing Warrirda Road reserve. This has been presented to the BTAC at every opportunity the Proponent has been given to provide Proposal updates. By adopting this route, the Proponent will minimise impacts on the Thalanyji People's native title rights and interests in this area by avoiding the need for new areas to be opened to development. The area selected for port development is similarly within an area already designated for that activity and for which the Thalanyji People have been compensated for the effects on native title. There will be no need for any compulsory acquisition of the Thalanyji People's native title rights and interests to facilitate the Proposal.
61	#2	<p>We feel Onslow is at heightened risks of impacts directly from this project for the following reasons:</p> <ul style="list-style-type: none"> • Presently there are less than 10 properties available for rent in Onslow, with occupancy rates rapidly declining from nearly 15% to just 2.5% since 2019 despite no new major project commencing; • No clear commitment for the development of housing to meet the needs of the community above and beyond the direct employment requirements of the proponent; • No established construction industry in Onslow and ability to respond to any immediate spike in demand for housing triggered through this or other projects • There are multiple large scale projects progressing towards FID in addition to this project including Hastings Technology Metals Metallurgical Plant Project and K+S Salt all of which will compound these issues. 	<p>The Proponent has been developing workforce accommodation village on Lot 300 referred to in the Submission is a development which involves the Proponent (MinRes) and BTAC. The Proponent assisted in facilitating the transfer of ownership of Lot 300 from the State to BTAC. The Proponent has entered into an agreement with BTAC to lease Lot 300 for a minimum of 10 years and hand back the facilities once the Onslow Iron Project is completed. As part of the approval process for this facility, BTAC has assisted with the lodgement of a Development Application, conducted heritage investigations and sought approvals under the Aboriginal Heritage Act 1972. The Proponent has consulted extensively with BTAC throughout the entirety of this process.</p> <p>The workforce accommodation village on Lot 300 has been designed to both alleviate pressure on Onslow's current facilities and add significantly to its amenity by making key parts of the development available to the general public on a controlled basis. The overall development will set new benchmark for worker accommodation, being designed to encourage families to take up residence and integrate into the Onslow community. Social and economic impact assessments prepared on behalf of the Proponent, demonstrate that there will be a range of qualitative economic, social and environmental benefits generated in Onslow as a direct and indirect consequence of the development on Lot 300.</p> <p>The development of Lot 300 also entails the construction and development of a cultural centre. The Proponent has proposed a consultation process to engage with Thalanyji elders on the best way to develop the cultural centre.</p> <p>The Proponent has also purchased 10 lots in the Barrarda Estate in Onslow to provide further housing options for families to encourage our workforce to relocate to Onslow.</p> <p>To address short term construction workforce accommodation the Proponent is constructing additional accommodation outside Onslow on the Yarri Leases to alleviate any pressure on housing within the town. A copy of the approval documents for this facility, which address potential construction and closure impacts, were provided to BTAC for comment in May 2022.</p>
62	#2	The indication of the haul road being used for future proponent and third-party mines within the west Pilbara indicates potentially facilitating far greater movements and export of materials following approval of the project which are not considered in this project, leading	Noted - Cumulative impact assessment has been undertaken as part of the Proposal, inclusive of all known current and feasible upcoming Proposals in the region.

No.	Submitter	Submission and/or issue	Response to comment
		to far greater cumulative impacts not presently considered in the proponents submission.	
63	#2	Historical poor planning for port growth is very evident in the Pilbara at Port Headland and many Thalanyji people are familiar with and concerned that without effective port and infrastructure planning, similar matters could permeate across Thalanyji Country, leading to unforeseen land use conflict and far greater impact on Thalanyji Country than may have been anticipated	Noted – The Proponent welcomes the opportunity to meet regularly with the BTAC Board, any relevant sub-committees, and the Thanlanyji People generally and discuss the planning that has happened to date and as planning develops over the life of the Proposal.
64	#2	We support much clearer consideration of the longer term impacts total cumulative impacts of commodities exports that will be enabled through this infrastructure project by considering possible maximum volumes. This could be achieved, for example, by modelling the maximum number of haulage movements the road may facilitate longer-term and extrapolating from there potential output at the port, or by developing a clear, updated port masterplan for the Ashburton port which sets longer-term export limits (the current PPA masterplan does not contemplate bulk commodities mineral exports).	Noted - Cumulative impact assessment has been undertaken as part of the Proposal, inclusive of all known current and feasible upcoming Proposals in the region.

Peer review

Not applicable

Other

No.	Submitter	Submission and/or issue	Response to comment
65	#4	Surveys were conducted from June 2020 to May 2021. The period 2019 -2020 was one of the driest on record for Red Hill Station. It is a concern that the baseline data collected during an extremely dry period may not accurately capture or reflect actual flora and fauna present.	<p>The Proponent has undertaken numerous studies over an extended period of time and seasons to develop the baseline ecological dataset used to assist with the EIA of the Proposal.</p> <p>An extensive amount of ecological surveying and assessment was undertaken to inform this document as outlined in Section 9.3.1 (pg. 140) and Table 9-2 (pg. 150, 151). The Flora and Vegetation studies carried out by 360 Environmental in 2020 and 2021 consolidates previous and historical survey data, along with database searches and on-ground survey work to provide an overview of the Flora and Vegetation of the Haul Road DE and immediate surroundings (Appendix Q and Appendix S).</p> <p>The Terrestrial Fauna studies carried out by 360 Environmental in 2021 and 2022 consolidates previous and historical survey data, along with database searches and on-ground survey work to provide an overview of the fauna assemblages of the Haul Road DE and immediate surroundings (Table 10-2, pg. 238).</p> <ul style="list-style-type: none"> • EPA Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA 2020i); • Technical Guidance – Sampling of short-range endemic invertebrate fauna (EPA 2016h); and • Interim guideline for preliminary surveys of night parrot (<i>Pezoporus occidentalis</i>) in Western Australia (DPaW 2017).

No.	Submitter	Submission and/or issue	Response to comment
			<ul style="list-style-type: none"> • Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016f); and • Matters of National Environmental Significance Significant Impact Guidelines 1.1 (DoE 2013) <p>The Flora and Vegetation report was independently reviewed by Mattiske Consulting Proprietary Limited with the specific objective to ensure that surveys undertaken met required guidance for the purpose of EIA. All comments received from Mattiske were addressed and been included and updated within final flora and vegetation reports.</p> <p>The Fauna report was independently reviewed by Bamford Consulting Ecologists with the specific objective to ensure that surveys undertaken met required guidance for the purpose of EIA. All comments received from Mattiske were addressed and been included and updated within final flora and vegetation reports.</p>
66	#4	<p>The proponent claims one section of the Terrestrial Survey Area could not be accessed due to landowner restrictions which is misleading. The Proponent had no legal right of access.</p>	<p>Access to the area was proposed in June, September and October 2020.</p> <p>Prior to the proposed access in June 2020, the Proponent requested the permission of Red Hill Station to access the relevant area as it was on the Red Hill Station Pastoral Lease. Access was denied.</p> <p>In September 2020, the Proponent entered into an agreement with the holder of mining tenements underlying the relevant area whereby the Proponent was engaged on behalf of that tenement holder to conduct the survey on its behalf. The tenement holder notified Red Hill Station of the access in accordance with the terms of an existing agreement between the tenement holder and Red Hill Station which permitted such access. Following commencement of the survey by the Proponent, representatives of the Proponent were approached by representatives from Red Hill Station and advised to leave.</p> <p>In October 2020, the Proponent again proposed to conduct the survey pursuant to the agreement with the holder of the mining tenements. However due to the ongoing dispute between the holder of the mining tenements and Red Hill Station in relation to the access, the survey did not go ahead.</p>

Attachment 2

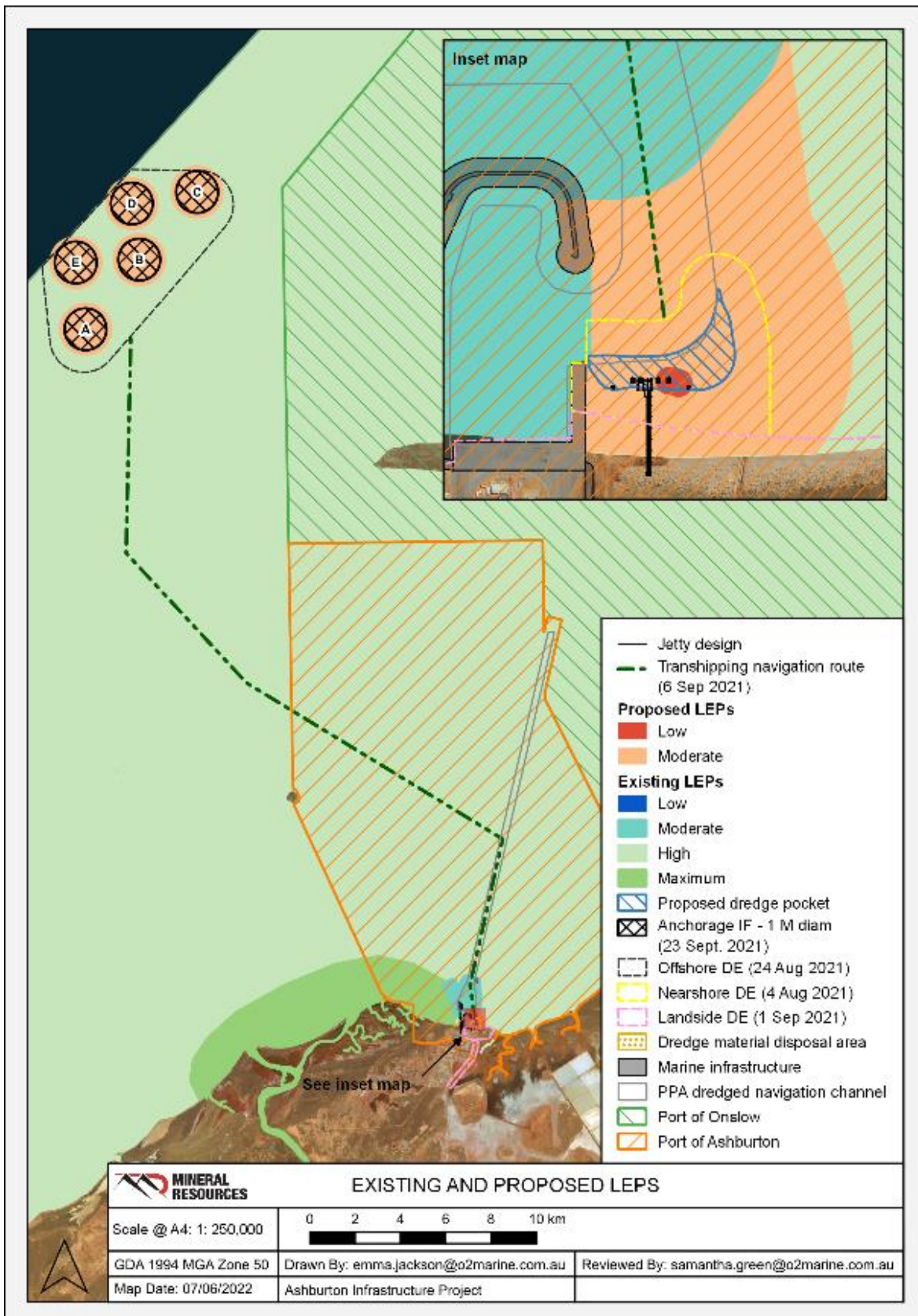


Figure 7 1: Existing and Proposed Construction Ecological Protection Areas for the Proposal