5 APPENDIX F: IMPACT TABLES

Please note, no infrastructure will be constructed, therefore this phase was not assessed.

Where specialists have assessed impacts, these assessments were incorporated in the impact tables below.

Table 41: Impact Assessment during Operational Phase

<table>
<tr><td colspan="3">OPERATIONAL PHASE</td></tr>
<tr><td>Potential impact and risk:</td><td colspan="2">IMPACT 1: Impacts of multi-beam and sub-bottom profiling sonar on marine fauna</td></tr>
<tr><td>ALTERNATIVE</td><td>PREFERRED AND ONLY ALTERNATIVE</td><td>NO-GO ALTERNATIVE</td></tr>
<tr><td>Nature of impact:</td><td>Negative</td><td>NO IMPACT</td></tr>
<tr><td>Extent and duration of impact:</td><td>Site & Short term</td><td>NO IMPACT</td></tr>
<tr><td>Consequence of impact or risk:</td><td>Loss</td><td>NO IMPACT</td></tr>
<tr><td>Probability of occurrence:</td><td>Highly likely</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>Negligible</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>Fully reversible – any disturbance of behaviour, auditory “masking” or reductions in hearing sensitivity that may occur as a result of survey noise below 220 dB would be temporary</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>The effects of high frequency sonars on marine fauna further away</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact prior to mitigation:</td><td>Considering the number of geophysical surveys conducted in the area by other mineral rights holders, some cumulative impacts can be anticipated. However, any direct impact is likely to be at individual level rather than at species level</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Low -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>No mitigation measures are possible, or considered necessary for the generation of noise by the sampling tools and vessels.
Despite the low significance of impacts for geophysical surveys, the Joint Nature Conservation Committee (JNCC) provides a list of guidelines to be followed by anyone planning marine sonar operations that could cause acoustic or physical disturbance to marine mammals (JNCC 2017). These have been revised to be more applicable to the southern African situation.
<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>Onboard Marine Mammal Observers (MMOs) should conduct visual scans for the presence of cetaceans and penguins around the survey vessel prior to the initiation of any acoustic impulses.</td><td>Avoid / Abate on site</td></tr>
<tr><td>2</td><td>Pre-survey scans should be limited to 15 minutes prior to the start of survey equipment.</td><td>Avoid / Abate on site</td></tr>
<tr><td>3</td><td>“Soft starts” should be carried out for any equipment of source levels greater than 210 dB re 1 µPa at 1 m over a period of 20 minutes to give adequate time for marine mammals and diving seabirds to leave the vicinity.</td><td>Avoid / Abate on site</td></tr>
<tr><td>4</td><td>Terminate the survey if any marine mammals show affected behaviour within 500 m of the survey vessel or equipment until the marine mammal and/or penguin has vacated the area.</td><td>Avoid</td></tr>
<tr><td>5</td><td>Avoid planning geophysical surveys during the movement of migratory cetaceans (particularly baleen whales) from their southern feeding grounds into low latitude waters (beginning of June to end of November), and ensure that migration paths are not blocked by sonar operations. As no seasonal patterns of abundance are known for odontocetes occupying the proposed concession area, a precautionary approach to avoiding impacts throughout the year is recommended.</td><td>Avoid</td></tr>
<tr><td>6</td><td>If feasible schedule the survey to take place between February and May thereby avoiding the main seabird breeding seasons (March to October) and penguin summer moult periods (October to January).</td><td>Avoid</td></tr>
<tr><td>7</td><td>Ensure that PAM (passive acoustic monitoring) is incorporated into any surveying taking place between June and November.</td><td>Abate on site</td></tr>
<tr><td>8</td><td>A MMO should be appointed to ensure compliance with mitigation measures during seismic geophysical surveying.</td><td>Avoid / Abate on site</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>With the implementation of the mitigation measures above, the residual impact would reduce to VERY LOW significance.</td><td>NO IMPACT</td></tr>
</table>

Cumulative impact post mitigation:	Considering the number of geophysical surveys conducted in the area by other mineral rights holders, some cumulative impacts can be anticipated. However, any direct impact is likely to be at individual level rather than at species level	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 2: Impacts of noise from sampling operations on marine fauna**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Highly likely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Negligible	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible - any disturbance of behaviour, auditory “masking” or reductions in hearing sensitivity that may occur would be temporary.	NO IMPACT
Indirect impacts:	The effects of noises on marine fauna further away	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Low	NO IMPACT
Degree to which the impact can be **managed:**	Low	NO IMPACT
Degree to which the impact can be **mitigated**:	Low	NO IMPACT
Proposed mitigation:	Plan sampling not to co-inside with migratory season of whales Avoid planning geophysical surveys during the movement of migratory cetaceans (particularly baleen whales) from their southern feeding grounds into low latitude waters (beginning of June to end of November), and ensure that migration paths are not blocked by sonar operations. As no seasonal patterns of abundance are known for odontocetes occupying the proposed concession area, a precautionary approach to avoiding impacts throughout the year is recommended.	NO IMPACT
Residual impacts:	Impact remains the same.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 3: Disturbance and loss of benthic fauna during sampling**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site & Short-medium term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Definite	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Low	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible – the highly localised disturbance at each sampling location will recover naturally with time	NO IMPACT
Indirect impacts:	None	NO IMPACT

<table>
<tr><td>Cumulative impact prior to mitigation:</td><td>No cumulative impacts are anticipated during the sampling phase</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>No mitigation measures are possible, or considered necessary for the direct loss of macrobenthos due to drill sampling. However, sampling activities of any kind should avoid rocky outcrop areas or other identified sensitive habitats in the concession area.

<table><tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr><tr><td>1</td><td>Sampling activities of any kind must avoid rocky outcrop areas or other identified sensitive habitats in the concession area</td><td>Avoid</td></tr></table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>With the implementation of the mitigation measures above, the residual impact would remain of VERY LOW significance.</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td>No cumulative impacts are anticipated during the sampling phase</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact after mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
</table>

<table>
<tr><td colspan="3">OPERATIONAL PHASE</td></tr>
<tr><td>Potential impact and risk:</td><td colspan="2">IMPACT 4: Disturbance to and loss of rock lobsters</td></tr>
<tr><td>ALTERNATIVE</td><td>PREFERRED AND ONLY ALTERNATIVE</td><td>NO-GO ALTERNATIVE</td></tr>
<tr><td>Nature of impact:</td><td>Negative</td><td>NO IMPACT</td></tr>
<tr><td>Extent and duration of impact:</td><td>Site & Short term</td><td>NO IMPACT</td></tr>
<tr><td>Consequence of impact or risk:</td><td>Loss</td><td>NO IMPACT</td></tr>
<tr><td>Probability of occurrence:</td><td>Possible</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>Fully Reversible - any disturbance of behaviour, auditory “masking” or reductions in hearing sensitivity that may occur would be temporary.</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact prior to mitigation:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td><table><tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr><tr><td>1</td><td>Monitor sorting screens during drill sampling and terminate operations should large numbers of lobsters appear on the screens over a short period of time</td><td>Abate on site</td></tr><tr><td>2</td><td>Avoid sampling in the immediate vicinity of rocky outcrop areas or other identified sensitive habitats in the licence area</td><td>Avoid</td></tr></table></td><td>NO IMPACT</td></tr>
</table>

Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain of **VERY LOW** significance	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 5: Crushing of benthic fauna during sampling**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Highly likely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Negligible	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Low	NO IMPACT
Degree to which the impact can be **managed:**	Low	NO IMPACT
Degree to which the impact can be **mitigated**:	Low	NO IMPACT
Proposed mitigation:	No direct mitigation measures are possible, or considered necessary for the indirect loss of benthic macrofauna in unconsolidated sediments due to crushing by the drill-frame structure and the seabed crawler tracks. However, the following mitigation measures are recommended: No. / Mitigation measure / Classification 1 / Sampling activities of any kind must avoid rocky outcrop areas or other identified sensitive habitats in the concession area / Avoid 2 / Implement dynamically positioned sampling vessels in preference to vessels requiring anchorage / Avoid	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain of **VERY LOW** significance.	NO IMPACT
Cumulative impact post mitigation:	No cumulative impacts are anticipated during the sampling phase	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 6: Increased turbidity in suspended sediment plumes and at the seabed**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable: lethal or sublethal effects on biota are highly unlikely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT

Degree to which the impact can be reversed:	Suspended sediment plumes are short-lived and any effects will be fully reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Low	NO IMPACT
Degree to which the impact can be **managed:**	Low	NO IMPACT
Degree to which the impact can be **mitigated**:	Low	NO IMPACT
Proposed mitigation:	No mitigation measures are possible, or considered necessary for the discharge of fine tailings from the sampling vessel and the generation of suspended sediments plumes near the seabed by the sampling tools.	NO IMPACT
Residual impacts:	As no mitigation is possible or deemed necessary, the residual impact would remain of **VERY LOW** significance	NO IMPACT
Cumulative impact post mitigation:	Increased turbidity in suspended sediment plumes would not result in cumulative impacts	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 7: Remobilisation of contaminants and nutrients**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable: lethal or sublethal effects on biota are highly unlikely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Suspended sediment plumes are short-lived and any effects will be fully reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	Remobilised contaminants and nutrients in discharged tailings would not result in cumulative impacts	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Low	NO IMPACT
Degree to which the impact can be **managed:**	Low	NO IMPACT
Degree to which the impact can be **mitigated**:	Low	NO IMPACT
Proposed mitigation:	No mitigation measures are possible, or considered necessary for the possible remobilisation of contaminants and nutrients in the sediments.	NO IMPACT
Residual impacts:	As no mitigation is possible or deemed necessary, the residual impact would remain of **VERY LOW** significance	NO IMPACT
Cumulative impact post mitigation:	Remobilised contaminants and nutrients in discharged tailings would not result in cumulative impacts	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE	
Potential impact and risk:	**IMPACT 8: Smothering of benthos in redepositing tailings**

<table>
<tr><td>ALTERNATIVE</td><td>PREFERRED AND ONLY ALTERNATIVE</td><td>NO-GO ALTERNATIVE</td></tr>
<tr><td>Nature of impact:</td><td>Negative</td><td>NO IMPACT</td></tr>
<tr><td>Extent and duration of impact:</td><td>Local & Medium - Short term</td><td>NO IMPACT</td></tr>
<tr><td>Consequence of impact or risk:</td><td>Loss</td><td>NO IMPACT</td></tr>
<tr><td>Probability of occurrence:</td><td>Possible</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>The impact is fully reversible as natural recovery of affected communities will occur from adjacent areas and deposited sediments will be redistributed by swell action</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact prior to mitigation:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>No mitigation measures are possible, or considered necessary for the loss of macrobenthos due to smothering by redepositing sediments. However, sampling activities of any kind should avoid rocky outcrop areas or other identified sensitive habitats in the concession area.
<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>Sampling activities of any kind must avoid rocky outcrop areas or other identified sensitive habitats in the concession area</td><td>Avoid</td></tr>
<tr><td>2</td><td>Make of geophysical data to conduct a pre-sampling geohazard analysis of the seabed, and near-surface substratum to map potentially vulnerable habitats and prevent potential conflict with the sampling targets.</td><td>Avoid</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>With the implementation of the mitigation measures above, the residual impact would remain of VERY LOW significance in the case of unconsolidated sediments and of LOW significance for rocky outcrops.</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td>Deposition of tailings on rocky outcrops would not result in cumulative impacts</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
</table>

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 9: Redeposition of discarded sediments on soft-sediment macrofauna**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Likely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Low	NO IMPACT
Degree to which the impact can be reversed:	The impact is fully reversible as natural recovery of affected communities will occur from adjacent areas and deposited sediments will be redistributed by swell action	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	Deposition of tailings on unconsolidated seabed would not result in cumulative impacts	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Low-medium	NO IMPACT

<table>
<tr><td>Degree to which the impact can be avoided:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>No mitigation measures are possible, or considered necessary for the loss of macrobenthos due to smothering by redepositing sediments. However, sampling activities of any kind should avoid rocky outcrop areas or other identified sensitive habitats in the concession area.
<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>Sampling activities of any kind must avoid rocky outcrop areas or other identified sensitive habitats in the concession area</td><td>Avoid</td></tr>
<tr><td>2</td><td>Make of geophysical data to conduct a pre-sampling geohazard analysis of the seabed, and near-surface substratum to map potentially vulnerable habitats and prevent potential conflict with the sampling targets.</td><td>Avoid</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>With the implementation of the mitigation measures above, the residual impact would remain of VERY LOW significance in the case of unconsolidated sediments and of LOW significance for rocky outcrops.</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td>Deposition of tailings on unconsolidated seabed would not result in cumulative impacts</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Low</td><td>NO IMPACT</td></tr>
</table>

<table>
<tr><td colspan="3">OPERATIONAL PHASE</td></tr>
<tr><td>Potential impact and risk:</td><td colspan="2">IMPACT 10: Redeposition of discarded sediments: smothering effects on rocky outcrop communities</td></tr>
<tr><td>ALTERNATIVE</td><td>PREFERRED AND ONLY ALTERNATIVE</td><td>NO-GO ALTERNATIVE</td></tr>
<tr><td>Nature of impact:</td><td>Negative</td><td>NO IMPACT</td></tr>
<tr><td>Extent and duration of impact:</td><td>Local & medium term</td><td>NO IMPACT</td></tr>
<tr><td>Consequence of impact or risk:</td><td>Loss</td><td>NO IMPACT</td></tr>
<tr><td>Probability of occurrence:</td><td>Likely</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>The impact is fully reversible as natural recovery of affected communities will occur from adjacent areas and deposited sediments will be redistributed by swell action</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact prior to mitigation:</td><td>Deposition of tailings on unconsolidated seabed would not result in cumulative impacts</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Low-medium</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>No mitigation measures are possible, or considered necessary for the loss of macrobenthos due to smothering by redepositing sediments. However, sampling activities of any kind should avoid rocky outcrop areas or other identified sensitive habitats in the concession area.
<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>Sampling activities of any kind must avoid rocky outcrop areas or other identified sensitive habitats in the concession area</td><td>Avoid</td></tr>
<tr><td>2</td><td>Make of geophysical data to conduct a pre-sampling geohazard analysis of the seabed, and near-surface substratum to map potentially vulnerable habitats and prevent potential conflict with the sampling targets.</td><td>Avoid</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>With the implementation of the mitigation measures above, the residual impact would remain of VERY LOW significance in the case of unconsolidated sediments and of LOW significance for rocky outcrops.</td><td>NO IMPACT</td></tr>
</table>

Cumulative impact post mitigation:	Deposition of tailings on unconsolidated seabed would not result in cumulative impacts	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Low	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 11: Loss of Ferrosilicon**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Likely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Low	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible.	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	Loss of FeSi would not result in cumulative impacts	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Medium to High	NO IMPACT
Degree to which the impact can be **managed:**	Medium to High	NO IMPACT
Degree to which the impact can be **mitigated**:	Medium to High	NO IMPACT
Proposed mitigation:	The following mitigation measures are recommended: No. / Mitigation measure / Classification 1 / Reduce FeSi loss through the implementation of shell crushers or ball mills / Abate on site 2 / Maintain accurate records of all FeSi used and discarded overboard with tailings / Repair / restore	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain of **VERY LOW** significance.	NO IMPACT
Cumulative impact post mitigation:	Loss of FeSi would not result in cumulative impacts	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 12: Pollution of the marine environment through Operational Discharges from the Sampling Vessel(s)**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Likely	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT

<table>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>In addition to compliance with MARPOL 73/78 regulations regarding waste discharges mentioned above, the following measures will be implemented to reduce wastes at the source:
<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>Prohibit operational discharges when transiting through a marine protected area during transit to and from the concession</td><td>Avoid/reduce at source</td></tr>
<tr><td>2</td><td>Use drip trays to collect run-off from equipment that is not contained within a bunded area and route contents to the closed drainage system</td><td>Avoid / Reduce at Source</td></tr>
<tr><td>3</td><td>Implement leak detection and repair programmes for valves, flanges, fittings, seals, etc.</td><td>Avoid/Reduce at Source</td></tr>
<tr><td>4</td><td>Use a low-toxicity biodegradable detergent for the cleaning of the deck and any spillages</td><td>Reduce at Source</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>This potential impact cannot be eliminated because project vessels are needed to undertake the prospecting activities and will generate routine discharges during operations. With the implementation of the project controls and mitigation measures, the residual impact will remain of VERY LOW significance.</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact after mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
</table>

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 13: Disturbance and behavioural changes in pelagic fauna due to vessel lighting**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Possible	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Low	NO IMPACT
Degree to which the impact can be **managed:**	Low	NO IMPACT
Degree to which the impact can be **mitigated**:	Low	NO IMPACT
Proposed mitigation:	The use of lighting on the project vessels cannot be eliminated due to safety, navigational and operational requirements. Recommendations for mitigation include:	NO IMPACT

<table>
<tr><td></td><td><table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>The lighting on the vessel(s) should be reduced to a minimum compatible with safe operations whenever and wherever possible.</td><td>Avoid/Reduce at Source</td></tr>
<tr><td>2</td><td>Light sources should, if possible and consistent with safe working practices, be positioned in places where emissions to the surrounding environment can be minimised</td><td>Avoid/Reduce at Source</td></tr>
<tr><td>3</td><td>Keep disorientated, but otherwise unharmed, seabirds in dark containers (e.g. cardboard boxes) for subsequent release during daylight hours.</td><td>Repair or Restore</td></tr>
<tr><td>4</td><td>Report ringed/banded birds to the appropriate ringing/banding scheme (details are provided on the ring).</td><td>Repair or restore</td></tr>
</table></td><td></td></tr>
<tr><td>Residual impacts:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
</table>

<table>
<tr><td colspan="3">OPERATIONAL PHASE</td></tr>
<tr><td>Potential impact and risk:</td><td colspan="2"><u>IMPACT 14: Collision of Vessels with Marine Fauna and Entanglement in Gear</u></td></tr>
<tr><td>ALTERNATIVE</td><td>PREFERRED AND ONLY ALTERNATIVE</td><td>NO-GO ALTERNATIVE</td></tr>
<tr><td>Nature of impact:</td><td>Negative</td><td>NO IMPACT</td></tr>
<tr><td>Extent and duration of impact:</td><td>Local & Short term</td><td>NO IMPACT</td></tr>
<tr><td>Consequence of impact or risk:</td><td>Loss</td><td>NO IMPACT</td></tr>
<tr><td>Probability of occurrence:</td><td>Improbable</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>Not applicable</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>Fully Reversible</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact prior to mitigation:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Very Low -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>Recommendations for mitigation include:<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>All vessel operators should keep a constant watch for marine mammals and turtles in the path of the vessel.</td><td>Abate on site</td></tr>
<tr><td>2</td><td>Ensure vessel transit speed between the concession area and port is a maximum of 12 kts (22 km/hr), except within 25 km of the coast where it is reduced further to 10 kts (18 km/hr) as well as when sensitive marine fauna are present in the vicinity.</td><td>Avoid/reduce at source</td></tr>
<tr><td>3</td><td>Should a cetacean become entangled in mooring buoys or towed gear, contact the South African Whale Disentanglement Network (SAWDN) formed under the auspices of DEA to provide specialist assistance in releasing entangled animals</td><td>Repair / restore</td></tr>
<tr><td>4</td><td>Report any collisions with large whales to the International Whaling Commission (IWC) database, which has been shown to be a valuable tool for identifying the species most affected, vessels involved in collisions, and correlations between vessel speed and collision risk (Jensen & Silber 2003).</td><td>Repair or restore</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td>With the implementation of the mitigation measures above, the residual impact would remain VERY LOW.</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td>None</td><td>NO IMPACT</td></tr>
</table>

Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 15: Equipment lost to the seabed**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Permanent	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Fully Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Low	NO IMPACT
Degree to which the impact can be **managed:**	Low	NO IMPACT
Degree to which the impact can be **mitigated**:	Low	NO IMPACT
Proposed mitigation:	Recommendations for mitigation include: No. / Mitigation measure / Classification 1 – Ensure containers are sealed / covered during transport and loads are lifted using the correct lifting procedure and within the maximum lifting capacity of crane system. – Avoid 2 – Minimise the lifting path between vessels. – Avoid 3 – Maintain an inventory of all equipment and undertake frequent checks to ensure these items are stored and secured safely on board each vessel. – Avoid 4 – Notify SAN Hydrographer of any hazards left on the seabed or floating in the water column, and request that they send out a Notice to Mariners with this information. – Repair / restore	NO IMPACT
Residual impacts:	With the implementation of the project controls and mitigation measures, the residual impact will remain of **VERY LOW** significance	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 16: Operational Spills and Vessel Accidents**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Short-term: marine diesel evaporates rapidly Regional: limited to within ~100 km of the spill site	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Possible (operational Spill)/ Improbable (vessel accident)	NO IMPACT

<table>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>Most effects on marine fauna would be fully reversible if timely action is taken, but there may be long-term effects with respect to the demography of impacted, threatened seabirds</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>None</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact prior to mitigation:</td><td>Cumulative impacts on marine fauna are not expected</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact prior to mitigation
(e.g., Low, Medium, Medium-High, High, or Very-High)</td><td>Medium -</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be avoided:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be managed:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be mitigated:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Proposed mitigation:</td><td>In addition to the best industry practices and project standards, the following measures must be implemented to manage the impacts associated with small accidental spills:
<table>
<tr><th>No.</th><th>Mitigation measure</th><th>Classification</th></tr>
<tr><td>1</td><td>Ensure that vessels operate in accordance with South African Maritime safety regulations to minimise risks of accidents</td><td>Avoid / reduce at source</td></tr>
<tr><td>2</td><td>Refuelling of vessels is to occur under controlled conditions in a harbour only, i.e. bunkering at sea is not permitted</td><td>Avoid / reduce at source</td></tr>
<tr><td>3</td><td>Ensure personnel are adequately trained in both accident prevention and immediate response, and resources are available on each vessel.</td><td>Avoid / reduce at source</td></tr>
<tr><td>4</td><td>Ensure that the vessel operator has prepared and implemented a Shipboard Oil Pollution Emergency Plan and an Oil Spill Contingency Plan. In doing so, take cognisance of the South African Marine Pollution (Control and Civil Liability) Act, 1981 (No. 6 of 1981), Marine Pollution (Prevention of Pollution from Ships) Act, 1986 (No. 2 of 1986) and Marine Pollution (Intervention) Act, 1987 (No. 65 of 1987), which sets out national policies, principles and arrangements for the management of emergencies including oil pollution in the marine environment.</td><td>Abate on and off site</td></tr>
<tr><td>5</td><td>Use low toxicity dispersants cautiously and only with the permission of DFFE.</td><td>Abate on and off site</td></tr>
<tr><td>6</td><td>As far as possible, and whenever the sea state permits, attempt to control and contain the spill at sea with suitable recovery techniques to reduce the spatial and temporal impact of the spill</td><td>Abate on site</td></tr>
<tr><td>7</td><td>Ensure adequate resources are provided to collect and transport oiled birds to a cleaning station.</td><td>Restore</td></tr>
</table></td><td>NO IMPACT</td></tr>
<tr><td>Residual impacts:</td><td colspan="2">With the implementation of the mitigation measures above, the residual impact would reduce to LOW to MEDIUM significance</td><td>NO IMPACT</td></tr>
<tr><td>Cumulative impact post mitigation:</td><td colspan="2">Cumulative impacts on marine fauna are not expected</td><td>NO IMPACT</td></tr>
<tr><td>Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)</td><td colspan="2">Medium to Low -</td><td>NO IMPACT</td></tr>
</table>

<table>
<tr><td colspan="3">OPERATIONAL PHASE</td></tr>
<tr><td>Potential impact and risk:</td><td colspan="2"><u>IMPACT 17: Impacts on Underwater Heritage Resources - PRE-COLONIAL SITES AND ARTEFACTS</u></td></tr>
<tr><td>ALTERNATIVE</td><td>PREFERRED AND ONLY ALTERNATIVE</td><td>NO-GO ALTERNATIVE</td></tr>
<tr><td>Nature of impact</td><td>PRE-COLONIAL SITES AND ARTEFACTS</td><td>NO IMPACT</td></tr>
<tr><td>Extent and duration of impact:</td><td>Local
Long-term</td><td>NO IMPACT</td></tr>
<tr><td>Consequence of impact or risk:</td><td>Medium</td><td>NO IMPACT</td></tr>
<tr><td>Probability of occurrence:</td><td>Possible</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact may cause irreplaceable loss of resources:</td><td>High</td><td>NO IMPACT</td></tr>
<tr><td>Degree to which the impact can be reversed:</td><td>Low</td><td>NO IMPACT</td></tr>
<tr><td>Indirect impacts:</td><td>None</td><td>NO IMPACT</td></tr>
</table>

Cumulative impact prior to mitigation:	It is not possible to assess cumulative impacts with any level of confidence due to the unknown nature of the heritage resources in the region. Each wreck must be assessed as it is found, and if it is treated with the knowledge that we do not always know if is significant, whether locally or internationally, we can mitigate against high, negative cumulative impacts.	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Low -	NO IMPACT
Degree to which the impact can be **avoided**:	Medium	NO IMPACT
Degree to which the impact can be **managed:**	Medium	NO IMPACT
Degree to which the impact can be **mitigated**:	Medium	NO IMPACT
Proposed mitigation:	Induction for site managers on heritage site and artefact recognition. Reporting of sites to the heritage practitioner for assessment and evaluation.	NO IMPACT
Residual impacts:		NO IMPACT
Cumulative impact post mitigation:	It is not possible to assess cumulative impacts with any level of confidence due to the unknown nature of the heritage resources in the region. Each wreck must be assessed as it is found, and if it is treated with the knowledge that we do not always know if is significant, whether locally or internationally, we can mitigate against high, negative cumulative impacts.	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Low +	NO IMPACT

OPERATIONAL PHASE					
Potential impact and risk:	**IMPACT 18: Impacts on Underwater Heritage Resources Shipwrecks possibly in 12B**				
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE				NO-GO ALTERNATIVE
Nature of impact	Shipwrecks possibly in 12B SHIPWRECKS WITH NO HERITAGE SIGNIFICANCE	Shipwrecks possibly in 12B SHIPWRECKS WITH A LOW HERITAGE SIGNIFICANCE	Shipwrecks possibly in 12B SHIPWRECKS WITH A MEDIUM HERITAGE SIGNIFICANCE	Shipwrecks possibly in 12B SHIPWRECKS WITH A HIGH HERITAGE SIGNIFICANCE	NO IMPACT
Extent and duration of impact:	Local Long-term	Local Long-term	Local Long-term	Local Long-term	NO IMPACT
Consequence of impact or risk:	Low	Low	Medium	High	NO IMPACT
Probability of occurrence:	Improbable	Improbable	Improbable	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	High	High	Low	Low	NO IMPACT
Degree to which the impact can be reversed:	Low	Low	Low	Low	NO IMPACT
Indirect impacts:	None	None	None	None	NO IMPACT
Cumulative impact prior to mitigation:	It is not possible to assess cumulative impacts with any level of confidence due to the unknown nature of the heritage resources in the region. Each wreck must be assessed as it is found, and if it is treated with the knowledge that we do not always know if is significant, whether locally or internationally, we can mitigate against high, negative cumulative impacts.				NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	Very Low -	Low -	Medium-	NO IMPACT
Degree to which the impact can be **avoided**:	Medium	Medium	Medium	Medium	NO IMPACT

Degree to which the impact can be **managed:**	Medium	Medium	Medium	Medium			NO IMPACT
Degree to which the impact can be **mitigated**:	High	Medium	Medium	Medium	Medium	Medium	NO IMPACT
Proposed mitigation:	There is no heritage significance currently. Induction for site managers on heritage site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations.	There is no heritage significance currently. Induction for site managers on archaeological site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations	There is no heritage significance currently. Induction for site managers on heritage site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations.	Induction for site managers on heritage site and artefact recognition. Geophysical surveys would possibly identify wrecks and wreck debris. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources.			NO IMPACT
Residual impacts:							NO IMPACT
Cumulative impact post mitigation:	It is not possible to assess cumulative impacts with any level of confidence due to the unknown nature of the heritage resources in the region. Each wreck must be assessed as it is found, and if it is treated with the knowledge that we do not always know if is significant, whether locally or internationally, we can mitigate against high, negative cumulative impacts.						NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low +	Low +	Low +	Medium +			NO IMPACT

OPERATIONAL PHASE					
Potential impact and risk:	**IMPACT 19: Impacts on Underwater Heritage Resources SHIPWRECKS IMPROBABLY IN 12B**				
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE				NO-GO ALTERNATIVE
Nature of impact	SHIPWRECKS IMPROBABLY IN 12B SHIPWRECKS WITH NO HERITAGE SIGNIFICANCE	SHIPWRECKS IMPROBABLY IN 12B SHIPWRECKS WITH LOW HERITAGE SIGNIFICANCE	SHIPWRECKS IMPROBABLY IN 12B SHIPWRECKS WITH MEDIUM HERITAGE SIGNIFICANCE	SHIPWRECKS IMPROBABLY IN 12B SHIPWRECKS WITH HIGH HERITAGE SIGNIFICANCE	NO IMPACT
Extent and duration of impact:	Local Long-term	Local Long-term	Local Long-term	Local Long-term	NO IMPACT
Consequence of impact or risk:	Low	Low	Medium	High	NO IMPACT
Probability of occurrence:	Improbable	Improbable	Improbable	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low	Medium	High	NO IMPACT

Degree to which the impact can be reversed:	Low	Low	Low	Low	NO IMPACT
Indirect impacts:	None	None	None	None	NO IMPACT
Cumulative impact prior to mitigation:	It is not possible to assess cumulative impacts with any level of confidence due to the unknown nature of the heritage resources in the region. Each wreck must be assessed as it is found, and if it is treated with the knowledge that we do not always know if is significant, whether locally or internationally, we can mitigate against high, negative cumulative impacts.				NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	Very Low -	Low -	Medium -	NO IMPACT
Degree to which the impact can be **avoided**:	Medium	Medium	Medium	Medium	NO IMPACT
Degree to which the impact can be **managed:**	Medium	Medium	Medium	Medium	NO IMPACT
Degree to which the impact can be **mitigated**:	Medium	High	Medium	Medium	NO IMPACT
Proposed mitigation:	There is no heritage significance currently. Induction for site managers on archaeological site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations.	There is no heritage significance currently. Induction for site managers on archaeological site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations.	There is no heritage significance currently. Induction for site managers on archaeological site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations.	There is no heritage significance currently. Induction for site managers on archaeological site and artefact recognition. Geophysical surveys would pinpoint the wrecks to avoid damaging equipment. Reporting of sites to the heritage practitioner for assessment and evaluation. Avoiding the wrecks would preserve these MUCH resources for future generations.	NO IMPACT
Residual impacts:					NO IMPACT
Cumulative impact post mitigation:	It is not possible to assess cumulative impacts with any level of confidence due to the unknown nature of the heritage resources in the region. Each wreck must be assessed as it is found, and if it is treated with the knowledge that we do not always know if is significant, whether locally or internationally, we can mitigate against high, negative cumulative impacts.				NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low +	Low +	Low +	Medium +	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 20: Impact on Underwater Palaeontological Resources**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE

Nature of impact	Cretaceous Fossil Wood	Cenozoic Shelly Macrofauna	Fossil Bones and Teeth	Shells from the Last Transgression Sequence	NO IMPACT
Extent and duration of impact:	National Permanent	Regional Permanent	National Permanent	National Permanent	NO IMPACT
Consequence of impact or risk:	Medium	Medium	Medium	Medium	NO IMPACT
Probability of occurrence:	Probable	Improbable 2	Probable	Probable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	High	High	High	Low	NO IMPACT
Degree to which the impact can be reversed:	Irreversible	Irreversible	Irreversible	Irreversible	NO IMPACT
Indirect impacts:	None	None	None	None	NO IMPACT
Cumulative impact prior to mitigation:	None defined	None defined	None defined	None defined	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Medium -	Low negative -	Medium – High -	Medium -	NO IMPACT
Degree to which the impact can be **avoided**:	Medium	Medium	Medium	Medium	NO IMPACT
Degree to which the impact can be **managed:**	Medium	Medium	Medium	Medium	NO IMPACT
Degree to which the impact can be **mitigated**:	Medium	High	Medium	Medium	NO IMPACT
Proposed mitigation:	The EMPs for the prospecting and mining rights areas must therefore include provisions for the collection of representative examples of the fossils that occur therein. As part of Environmental Awareness Training, geological staff involved in logging must be informed of the need to watch for fossil material and rescue such from the vibracores, grab samples and the drillship gravel oversize screen. The prospecting/mining company must apply to SAHRA for a general permit to destroy, damage, excavate, disturb and collect fossils identified during sampling and mining, as per the NHRA. **Vibracores and Grab Samples** Fossils may be found during the processing of the vibracores and grab samples. These may be obvious, such as petrified bone and teeth and shell casts, usually phosphatic. All material of potential interest must have the details of context recorded and be kept for identification by an appropriate specialist and if significant, to be deposited in a curatorial institution such as the IZIKO SA Museum. The identification of extralimital, Agulhas "sub-fossil" shell species in the loose shells of the Last Transgression Sequence requires a level of seashell knowledge. The best outcome for a set of cores from this poorly-known area is that they are the subject of a detailed study, such as for a B.Sc. Honours or M.Sc. project, with radiocarbon dates. It is possible that a core or two might intersect rarely preserved lagoonal deposits which are important for providing points on the sea-level curve applicable to the West Coast (Runds *et al.*, 2018). **Collection of Fossil Material during Prospecting and Mining** As part of the normal sampling and mining process the material crossing the oversize screen (Figure 6) must be monitored for the occurrence of the various fossil types. Potential fossil material should be collected for later identification and evaluation. For overall monitoring purposes it is suggested that a few small bulk samples of shells (~5 litres) be collected on occasion. The idea is to sample the typical assemblage at a few points in the sampling/mining area. It is possible that an uncommon assemblage may be encountered, such as a shallow-water fauna or a lagoonal fauna, in which case it should also be sampled. Data to be recorded during fossil collection includes: • Date • Company name • Sample no. • Collector's name • Position (co-ordinates) • Water depth • Sample subsurface depth • Vessel • Brief description and photographs • A copy of the graphic log of the sample drill hole or mining face showing the vertical sequence of units and the estimated location of the fossil in the sequence.				NO IMPACT

	 • A map of the fossil finds in the particular sampling/mining area, such as a contoured multibeam bathymetric image showing the context of samples in relation to the bedrock topography and sediment bodies. Collected samples are to be temporarily stored by the company. When a collection of fossil material has been accumulated, the appointed palaeontologist should undertake the identification and evaluation of the fossil material and compile the report for submission to SAHRA. A selection of material could be removed for further study. The Environmental Manager/Officer is to liaise with the appointed palaeontologist on the progress of the fossil collection and the scheduling of the evaluation. During all operations, personnel can send queries and images by email to an appointed palaeontologist for evaluation and prompt feedback.			
Residual impacts:	No defined	No defined	No defined	No defined	NO IMPACT
Cumulative impact post mitigation:	The cumulative impact of coastal and offshore sampling and mining is the inevitable and permanent loss of fossils and the associated scientific implications. As mentioned, the impact of both the finding and the loss of fossils is permanent. Diligent and successful mitigation contributes to a positive cumulative impact as some fossils are rescued and preserved and accumulated for scientific study.				NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Medium +	Low +	Medium – High +	Medium +	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 21: Tuna pole and line fishing**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT

Proposed mitigation:	An open line of communication will be established with other existing industries operating in the area where sampling is planned to align activities.	NO IMPACT
Residual impacts:	None	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Neglible	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 22: Traditional Linefish Sector**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Probable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Avoidable	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	**Essential mitigation measures:** • Prior to survey commencement, key stakeholders (see below) should be consulted and informed of the proposed survey activity and the likely implications thereof: o Fishing industry / associations (contactable via liaison@fishsa.org): o South African Pelagic Fishing Industry Association (SAPFIA); o Local fishing communities. • Other associations and organs of state: o DFFE; o SAMSA; o South African Navy Hydrographic office; and o Overlapping and neighbouring right holders. • Appoint a fisheries liaison officer (FLO) to facilitate communication with potentially affected fishing sectors. The FLO should report daily on vessel activity and respond and advise on action to be taken in the event of encountering fishing gear in the survey area. • Undertake surveys when fishing effort is lowest i.e., August to December. It is recommended that small pelagic peak fishing seasons (January-July) and snoek line fishing peak seasons (April-May) be avoided as far as possible, feasible and reasonable.	NO IMPACT
Residual impacts:	None	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 23: Small Pelagic Purse Seine Fisheries**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT

Degree to which the impact can be reversed:	Fully Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	**Essential mitigation measures:** • Undertake surveys when fishing effort is lower (preferably outside of fishing seasons). • Appoint a Fisheries Liaison Officer (FLO) to facilitate communication with the Small Pelagic Purse Seine Fishing Industry Association. The FLO should report daily on vessel activity and respond and advise on action to be taken in the event of encountering purse seine fishing vessels in the survey area.	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 24: Prospecting activity on the local tourism and businesses**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Probable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low +	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	• • Monitor water-quality surrounding the sediment plumes. • • Should any negative visual impacts be detectable, restrict prospecting activities during important tourism events and seasons. • • Should any negative visual impacts be detectable, restrict operational activities to the section of the concession area out of sight from the shore. •	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT

Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 25: Prospecting activity on the Sense of Place, Health and Wellbeing**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Probable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	• None	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 26: Prospecting activity on the local households**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT

Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	None	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 27: Prospecting activity on the local crime performance**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	None	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT

OPERATIONAL PHASE		
Potential impact and risk:	**IMPACT 28: Prospecting activity on the regional socio-economic performance**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT

Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	None	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Insignificant	NO IMPACT

Table 42: Impact Assessment during Decommissioning and Closure Phase

DECOMMISSIONING & CLOSURE PHASE		
Potential impact and risk:	**IMPACT 1: SURVEY/SAMPLING VESSEL TO LEAVE AREA**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	• Ensure that no debris or dropped equipment that may be detrimental to environment or other users of the sea is left on the seafloor. The benefits of retrieval of debris or equipment must first be weighed up against the potential health and safety risks.	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

DECOMMISSIONING & CLOSURE PHASE		
Potential impact and risk:	**IMPACT 2: COMMUNICATION AND INFORMATION TO RELEVANT PARTIES OF MINING COMPLETION**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT

Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	• Inform all key stakeholders that the mining vessel is off location. • Notify the SAN Hydrographic office when the programme is complete so that the Navigational Warning can be cancelled. • Take steps to share data collected during the sampling programme (e.g. ROV video footage of the benthic environment), if requested, to resource managers (including DEA, South African National Biodiversity Institute and appropriate research institutes)..	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

DECOMMISSIONING & CLOSURE PHASE		
Potential impact and risk:	**IMPACT 3: REHABILITATION AND CLOSURE**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT

Proposed mitigation:	• Implementation of Final Rehabilitation, Decommissioning and Mine Closure Plan.
	• Apply for closure, submit the following documentation to the DMR:
	• A final layout plan;
	• A Closure Plan;
	• An Environmental Risk Report;
	• A Final Audit Report; and
	• A completed application form to transfer environmental responsibilities and liabilities, if such transfer has been applied for
	  ○ Other mitigating concerning residual environmental impact
	  ○ Implementing screening as part of the cleaning activities before materials are moved from the processing area.
	  ○ The infrastructure area will be screened for petrochemical spills and cleaned and waste from the temporary storage facility will be removed and the area cleaned.
	  ○ As part of this phase training of personnel in the implementation of the Final Rehabilitation, Decommissioning and Mine Closure Plan will be done and the implementation of the Environmental Awareness Plan will be an ongoing process.
		NO IMPACT

Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT

DECOMMISSIONING & CLOSURE PHASE		
Potential impact and risk:	**IMPACT 4: FINAL WASTE DISPOSAL**	
ALTERNATIVE	PREFERRED AND ONLY ALTERNATIVE	NO-GO ALTERNATIVE
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local & Short term	NO IMPACT
Consequence of impact or risk:	Loss	NO IMPACT
Probability of occurrence:	Improbable	NO IMPACT
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable	NO IMPACT
Degree to which the impact can be reversed:	Reversible	NO IMPACT
Indirect impacts:	None	NO IMPACT
Cumulative impact prior to mitigation:	None	NO IMPACT
Significance rating of impact prior to mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT
Degree to which the impact can be **avoided**:	High	NO IMPACT
Degree to which the impact can be **managed:**	High	NO IMPACT
Degree to which the impact can be **mitigated**:	High	NO IMPACT
Proposed mitigation:	• Dispose all waste retained onboard at a licensed waste site using a licensed waste disposal contractor	NO IMPACT
Residual impacts:	With the implementation of the mitigation measures above, the residual impact would remain **VERY LOW**.	NO IMPACT
Cumulative impact post mitigation:	None	NO IMPACT
Significance rating of impact after mitigation (e.g., Low, Medium, Medium-High, High, or Very-High)	Very Low -	NO IMPACT