

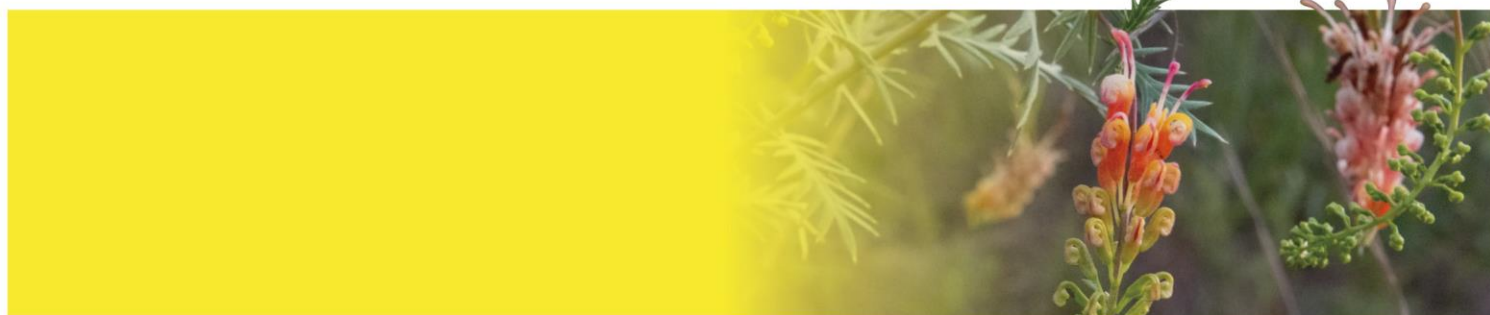
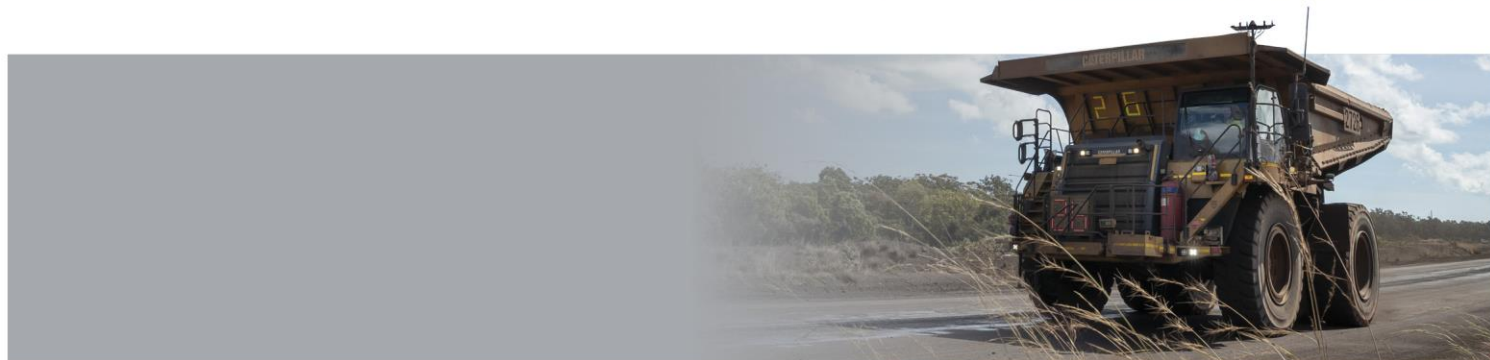


GROOTE EYLANDT MINING COMPANY (GEMCO)

SOUTHERN LEASE MINING PROJECT

NT Environment Protection Act Referral - Draft Terms of Reference

April 2023



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1 INTRODUCTION

1.1 OVERVIEW

This draft terms of reference (TOR) for an Environmental Impact Statement (EIS) has been prepared by Hansen Environmental Consulting on behalf of the proponent, the Groote Eylandt Mining Company (GEMCO), to support its proponent initiated EIS referral for the Southern Lease Mining Project (the proposal). This TOR has been prepared in accordance with the Northern Territory Environment Protection Authority (NT EPA) guideline *Preparing a Proponent Initiated EIS Referral* (NT EPA, 2020a).

In accordance with section 43 of the *Environment Protection Regulations 2020* (EP Regulations), this TOR sets out the matters relating to the environment that are to be addressed in the draft EIS for this proposal. It is acknowledged that the draft EIS will also need to address all requirements in *Preparing an Environmental Impact Statement (EIS)* (NT EPA 2021a).

The proposal involves developing a mining project in Exploration Licence (EL) 2455 (known as the Southern Lease) on Groote Eylandt. Groote Eylandt is a largely undeveloped island in the Gulf of Carpentaria, approximately 650 km south-east of Darwin and 50 km off the coast of Arnhem Land. The Southern Lease is adjacent and to the south of the existing GEMCO Mine (the Western Leases). The project area is located in the north-western part of the Southern Lease. Angurugu is the nearest township and is located approximately 10 km by direct line from the northern boundary of the project area. Groote Eylandt, including the Southern Lease, is Aboriginal land under the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth).

The proposal will use the same open cut mining methods used at the proponent's existing operations. Approximately 15 million tonnes of run of mine (ROM)¹ ore is proposed to be mined over approximately three years. Manganese ore from the proposal will be transported via haul road to the existing GEMCO Mine, washed at the concentrator and blended with ore from the proponent's other operations.

Activities to be undertaken in the Southern Lease include:

- The construction of minor facilities, such as a crib hut, heavy vehicle park up area, water management infrastructure including dams and pipelines, a water treatment plant for supplying potable water, a remote truck refuelling station, and a modular sewage biocycle treatment plant
- The development of open cut mining quarries and haul roads
- Mining of ore and hauling it to the existing GEMCO Mine using haul trucks
- Progressive rehabilitation of areas that have been disturbed.

The area proposed to be cleared for the proposal is approximately 1,620 ha.

A small workforce would be required during the construction phase, whereas the workforce for the operations phase would be drawn from the proponent's existing workforce.

Further details on the proposal are on the NT EPA's website.

¹ ROM is the volume of ore that is mined prior to any processing.

1.2 ASSESSMENT UNDER ACCREDITED ASSESSMENT PROCESS

The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) on 23 January 2023. The proponent referred the proposal as a controlled action for the following Matters of National Environmental Significance (MNES) under the EPBC Act:

- listed threatened species and communities (sections 18 and 18A)
- listed migratory species (sections 20 and 20A).

The Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) is currently processing the EPBC Act Referral.

In anticipation of a controlled action decision, the proponent is seeking an accredited assessment (as referred to in section 45 of the *Environment Protection Act 2019* (NT) (EP Act)) between the Australian Government and the Northern Territory (NT) Government, to streamline the assessment process and remove any unnecessary duplication. This TOR has been prepared assuming that an accredited assessment process will be adopted and one EIS document will satisfy the requirements of both governments.

The draft EIS must address the matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth) (EPBC Act Regulations).

1.3 ASSESSMENT PERIOD

The specified assessment period within which the draft EIS is to be submitted to the NT EPA in line with regulation 99 of the EP Regulations is two years from the date these TOR were issued. In determining this assessment period, the NT EPA has considered the matters listed under EP Regulation 99(3).

2 MATTERS TO BE ADDRESSED IN THE DRAFT EIS

2.1 EXECUTIVE SUMMARY

Provide a summary of the draft EIS. The summary should be written as a stand-alone document, able to be provided on request to interested parties who may not wish to read the full EIS. The summary should provide the following at a minimum:

- a clear and concise overview of the proposal, including proponent, proposal lifespan, proposed activities, proposed closure outcomes and intended post-mining land use of the site
- an explanation of the approvals process and function of the EIS, and licences, permits and consents to be obtained
- a summary of the site selection process and alternatives considered
- a summary of stakeholder engagement undertaken
- an overview of the existing environment, including location of the nearest sensitive receptors
- a summary of the environmental impacts and benefits of the proposal
- a summary of measures to avoid, mitigate and, if applicable, offset potential impacts of the proposal, as well as measures to enhance benefits.

2.2 PROPOSAL DESCRIPTION

2.2.1 OVERVIEW

Provide a clear description of the proposal and the full scope of works for which approval is sought. The proposal description should include:

- a summary table listing the key physical components of the proposal
- maps, figures, images, diagrams and flow charts
- any variations or modifications to the proposal since the referral information was submitted.

Where there is uncertainty in the detailed design, footprint, capacity or life of the proposal, the approach to resolving this uncertainty should be clearly explained and the maximum extent of each parameter provided.

2.2.2 PROPONENT

Provide details of the proponent, including but not limited to:

- information on environmental history, including any offences in relation to state/territory or Commonwealth environmental approval conditions
- if applicable, any partnerships with other organisations or industries as part of the proposal.

2.2.3 OBJECTIVES OF THE PROPOSAL

State the rationale and justification for the proposal, considering social, economic and environmental benefits and impacts to the NT, in particular to local and regional communities during the life of the proposal.

List the key objectives of the proposal and include a description of how the proposal meets these objectives.

Demonstrate how the objectives of the proposal address the specific requirements of section 42 (Purpose of environmental impact assessment) and section 43 (General duty of proponents) of the EP Act.

Demonstrate how the principles of ecologically sustainable development, as set out in Part 2 Division 1 of the EP Act, have been applied to decision-making processes.

2.2.4 STATUTORY FRAMEWORK

The EIS must provide information on the statutory framework for the proposal, including a description of:

- the approvals process, including key stages, timeframes and the function of the draft EIS
- any permits, consents, or other approvals that will be required from the NT and Australian government authorities.

2.2.5 MINERAL RESOURCES AND ORE RESERVES

Summarise the results of studies and surveys to identify and delineate the mineral resources, and ore reserves within the proposal footprint (including any areas underlying related infrastructure).

Report the mineral resources (measured, indicated or inferred) and/or ore reserves (proved or probable) in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC 2012). Include the modifying factors and assumptions made in arriving at the estimates.

Describe in detail the location, tonnage and quality of the mineral resources and/or ore reserves within the proposal area. Illustrate, with appropriately-scaled maps and diagrams, the location, areal extent and depth of the mineral resources to be developed or mined, and show those resources in relation to the following features:

- boundaries of mining tenures, granted or proposed, to which the proposal area is, or would be subject
- proposed mine excavation(s)
- features that would result from the proposed mining, including waste/spoil dumps, water storage facilities and other infrastructure
- boundaries of any other project sites.

Similarly report, to the extent practicable, on other resources related to the geology of the locality, including petroleum and energy resources.

2.2.6 CONSTRUCTION AND OPERATIONS

Provide a detailed description of all phases of the proposal, including construction and operations. Table 1 provides an outline of the minimum information requirements to be included as part of the description.

TABLE 1 MINIMUM INFORMATION REQUIREMENTS FOR THE PROPOSAL DESCRIPTION

Topic	Required information
SITE LAYOUT MAPS	<p>Include in the proposal description, detailed maps and graphic illustrations of:</p> <ul style="list-style-type: none"> • the location and dimensions of existing disturbance, infrastructure and roads/tracks, and natural and modified landforms (including a depiction of these overlaid on aerial photos or high resolution satellite imagery) • the location and approximate dimensions of areas to be disturbed and structures to be built for the proposal including (as relevant): <ul style="list-style-type: none"> • all areas to be cleared or disturbed • access and haul roads • stormwater and drainage infrastructure • buildings and structures • mining quarries, overburden emplacement areas and stockpiles • the proposal layout overlain with existing infrastructure • the boundaries of the proposal area in relation to any overlapping or adjacent mineral or petroleum tenements; and any other interests in land including Aboriginal freehold land.
DESIGN	<p>Describe the mine planning and design options considered, reasons for selection of the preferred mine plan, and how the proposed mine plan avoids and/or mitigates potential environmental impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design.</p> <p>Describe how the proposal has been designed, or allows for, adaptation to a changing climate e.g. design of water management system to allow for potential increase in evaporation and/or large rainfall events, and changes in the frequency or intensity of extreme weather events.</p>
CONSTRUCTION	<p>Describe all elements of the construction phase including:</p> <ul style="list-style-type: none"> • construction methods • equipment and machinery required • construction materials required - major types, quantities, qualities, sources, storage requirements and potential hazards • timeframes • any new ancillary infrastructure and upgrades required to service the proposal, including supply of electricity, water, sewerage and road access • vegetation clearing and site preparation • sources of borrow material • location, extent and nature of temporary stockpiles • environmental management of all construction aspects including adequacy and likely effectiveness of mitigation measures and controls.
OPERATIONS	<p>Describe all elements of the proposed operations phase with detailed maps and diagrams, where relevant, including:</p> <ul style="list-style-type: none"> • mine plan, pit layout and pre-stripping of vegetation and overburden

Topic	Required information
	<ul style="list-style-type: none"> • mining, handling, transporting and processing of ore • equipment and machinery required • location and dimensions of temporary and permanent stockpiles and overburden emplacements • environmental management of all operations aspects including adequacy and likely effectiveness of mitigation measures and controls.
WATER REQUIREMENTS	Describe all water requirements relevant to each proposal phase. Provide detailed information on demand/volume required, sources, storage and management of water aspects.
TRANSPORT AND TRAFFIC	<p>Describe transport activities during construction and operations, including but not limited to:</p> <ul style="list-style-type: none"> • details of the use of public roads, including transport routes, vehicle types, and volumes of traffic • a description, including maps, of any relocation of public access roads/tracks required as part of the proposal.
ENERGY	<p>Provide relevant information with respect to energy during construction and operations, including but not limited to:</p> <ul style="list-style-type: none"> • energy requirements and sources • consideration of renewable sources of energy and justification of selected option • measures and or initiatives to maximise energy efficiency and avoid and/or reduce greenhouse gas emissions, particularly relating to source and consumption of energy, and consistency with the NT Government’s target of achieving net zero greenhouse gas emissions by 2050.
WASTE	<p>Describe all non-mining waste (i.e. type and quantity) that will be likely be generated during the proposal life, including during construction and operations. Provide demonstrated application of the waste hierarchy.</p> <p>Outline nominated recycling and/or landfill facilities licensed for the waste type.</p>
WORKFORCE	<p>Provide a summary of the following for each phase of the proposal:</p> <ul style="list-style-type: none"> • estimated number of people to be employed • skills base and occupations required • likely sources (local, regional, overseas) • onsite facilities provided.

2.2.7 REHABILITATION AND MINE CLOSURE

Provide details of the proposed progressive rehabilitation, decommissioning and closure of the proposal, with consideration of section 42 of the EP Act. This is to include the need to ensure that the potential for actions to

enhance or restore environmental quality through restoration or rehabilitation is identified and provided to the extent practicable.

Provide the following information:

- the lifespan of the proposal
- the rehabilitation planning process that was undertaken, including stakeholder engagement in relation to rehabilitation and closure
- the current land use, and proposed post-mining land use after closure
- the final site design (i.e. final landform) identifying any areas where rehabilitation is not proposed (if applicable)
- rehabilitation and closure methods to be used, including earthworks, topsoil management and revegetation
- rehabilitation and closure objectives² to be met
- monitoring and corrective actions.

The draft EIS is to confirm that the following outcomes will be met:

- land disturbed by mining activities must be rehabilitated progressively as it becomes available, to minimise environmental impacts and reduce cumulative areas of disturbed land from mining
- the proposal must be implemented in a way that meets the NT EPA's environmental objectives
- the proposal must be implemented in a manner that disturbed land will be rehabilitated or restored to a safe and stable condition, that does not cause environmental harm, and can sustain a post-mining land use
- open pit voids are backfilled and rehabilitated before surrender or relinquishment, unless it can be demonstrated that retaining a final pit void would ensure closure objectives are met
- if any pit lakes will be formed after the end of mining operations, these must be designed and engineered to ensure closure objectives are met
- the final landform is physically safe to humans and animals, geo-technically stable, geochemically non-polluting/non-contaminating.

² SMART objectives are:

Specific – it is clear what must be done

Measurable – it must be possible to know when it has been achieved

Achievable – it is capable of being achieved

Reasonable/relevant – there is a reasonable and clear connection between the milestone and the desired outcomes

Time-specific – it is clear when the milestone will be completed.

3 INFORMATION REQUIREMENTS FOR ENVIRONMENTAL FACTORS

Table 2 identifies the environmental factors that the proponent has identified from the NT EPA's *Environmental factors and objectives - Environmental impact assessment guidance* (NT EPA, 2022) as being relevant to the proposal, and which will be addressed in the EIS.

TABLE 2 PRELIMINARY KEY ENVIRONMENTAL FACTORS THAT WILL BE ADDRESSED IN THE DRAFT EIS

Theme	Factor	Environmental Objective
LAND	Terrestrial environmental quality	Protect the quality and integrity of land and soils so that environmental values are supported and maintained.
	Terrestrial ecosystems	Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.
WATER	Hydrological processes	Protect the hydrological regimes of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
	Inland water environmental quality	Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
	Aquatic ecosystems	Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.
AIR	Air quality	Protect air quality and minimise emissions and their impact so that environmental values are maintained.
	Atmospheric processes	Minimise greenhouse gas emissions so as to contribute to the NT Government's goal of achieving net zero greenhouse gas emissions by 2050.
PEOPLE	Community and economy	Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.
	Culture and heritage	Protect sacred sites, culture and heritage.
	Human health	Protect the health of the Northern Territory population.

For each of the factors listed in Table 2, the draft EIS should consider the significance of the identified potential impacts with reference to section 11 of the EP Act and DCCEEW's *Matters of National Environmental Significance Significant Impact Guidelines 1.1* (Department of the Environment (DoE), 2013) for protected matters under the EPBC Act. The EIS should identify and consider the proposal footprint (direct disturbance)

and area of influence (indirect disturbance), and cumulative disturbance in consideration of other known or proposed activities in the region, to identify the environmental aspects (under each environmental factor) and their specific values that could be impacted by the proposal. Where relevant, the assessment of potential environmental impacts must consider unusual operations, unplanned and emergency shutdowns of part or all of the operations.

For each of the key environmental factors listed in Table 2, the draft EIS is to provide an assessment of how the NT EPA’s environmental objective would be met, as outlined in the NT EPA’s *Preparing an Environmental Impact Statement (EIS)* (NT EPA 2021) and *Environmental impact assessment guidance: NT EPA Environmental Factors and Objectives* (NT EPA, 2020b), and detailed in following sections.

The following sections and tables outline the information to be addressed for each environmental factor. The below information requirements should be addressed in an appropriate format within the draft EIS, with technical assessment reports appended to the EIS as applicable.

If additional potential environmental impacts are identified through the environmental impact assessment process, they must also be included in the draft EIS, even if this requires addressing additional environmental factors not specified in Table 2.

Detailed maps and figures must be included to support the descriptions and findings for each of the relevant environmental factors.

3.1 TERRESTRIAL ENVIRONMENTAL QUALITY

TABLE 3 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF TERRESTRIAL ENVIRONMENTAL QUALITY

Aspect	Specific information required
NT EPA objective: Protect the quality and integrity of land and soils so that environmental values are supported and maintained.	
ENVIRONMENTAL VALUES	Characterise the soil qualities within the proposal area based on: <ul style="list-style-type: none"> • a desktop study of relevant soil reports and documentation and analysis of remote sensing data • a field survey to identify and describe soils within the proposal area. The field survey must: <ul style="list-style-type: none"> • be undertaken at a survey density that supports detailed soil mapping • involve the use of appropriate survey techniques including surface inspections, detailed soil profiles and soil sampling and analysis • be undertaken in consultation with NT Government stakeholders and in accordance with all relevant guidelines. Soil types should be classified and mapped in accordance with relevant guidelines, including The Australian Soil Classification (Isbell and National Committee on Soil and Terrain, 2021) and the Technical Specifications for Land Unit Core Attributes, Mapping Scales 1:25,000, 1:50,000 and 1:100,000 (Hill and Napier, 2018) and in consideration of feedback received during consultation with government stakeholders.

Aspect	Specific information required
	Identify and quantify the available soil resources for rehabilitation based on an assessment of the suitability of each soil type for reuse in mine rehabilitation activities. For each soil type in the proposal area, the assessment must identify the depths of topsoil, and subsoil suitable for use in mine rehabilitation.
POTENTIAL IMPACTS AND RISKS	<p>Describe potential risks to soil quality and integrity, including:</p> <ul style="list-style-type: none"> • the area of soil disturbance associated with the proposal • potential for erosion or soil mobilisation associated with the proposal • sources of contamination which could impact soil quality. <p>Provide an assessment of potential impacts on soil quality utilising outcomes of the desktop study, field surveys and/or other relevant information.</p> <p>The assessment must identify, quantify and map potential impacts on soil quality based on relevant guidelines and standards.</p>
MITIGATION AND MANAGEMENT	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act, and EPBC Act statutory documents. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • management measures or amelioration necessary for handling of topsoil and any subsoil suitable for use in mine rehabilitation • management procedures to ensure best practice control and management of potential sources of soil contamination • soil management strategies for erosion and sediment control where necessary to manage erosion impacts and soil mobilisation. <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
MONITORING AND REPORTING	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks to terrestrial environmental quality.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to i.e., construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
RESIDUAL IMPACT	Identify any potential residual impact of the proposal on identified values.
OFFSETS	Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.

3.2 TERRESTRIAL ECOSYSTEMS

TABLE 4 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF TERRESTRIAL ECOSYSTEMS

Aspect	Specific information required
<p>NT EPA objective: Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.</p>	
<p>ENVIRONMENTAL VALUES</p>	<p>Provide a description of all terrestrial ecological values present or likely to be present within the proposal footprint and area of influence, including:</p> <ul style="list-style-type: none"> • describe and map the extent of vegetation communities using the Vegetation Mapping Units (VMUs) developed by the Department of Environment, Parks and Water Security (DEPWS) as part of its island-wide vegetation mapping of Groote Eylandt • describe and map sensitive and/or significant vegetation (e.g. riparian and wetland vegetation) as per the <i>NT Land Clearing Guidelines</i> (DEPWS, 2021) • identify and map groundwater dependent ecosystems as defined in the Groundwater Dependent Ecosystem Toolbox (Richardson <i>et al.</i>, 2011) • describe the existing condition of vegetation communities, including the presence of introduced or invasive species, including weed species declared under the <i>Weeds Management Act 2001</i> (NT) • describe any existing threatening processes • assess the likelihood of occurrence for threatened species listed under the <i>Territory Parks and Wildlife Conservation Act 1976</i> (TPWC Act) and the EPBC Act using database searches (including NR Maps and the EPBC Act Protected Matters Search Tool), survey results and an assessment of habitat values • for listed species where surveys are required, consult with the Flora and Fauna Division of DEPWS regarding the survey design and methodology. <p>For any surveys undertaken, present results in the draft EIS including survey effort and species records.</p>
<p>POTENTIAL IMPACTS AND RISKS</p>	<p>Identify, describe and assess potential direct and indirect impacts and risks of implementing the proposal, and cumulative impacts, on terrestrial ecosystems and identified environmental values including:</p> <ul style="list-style-type: none"> • direct loss of flora/vegetation communities from vegetation clearing, including loss of sensitive and/or significant vegetation per the <i>NT Land Clearing Guidelines</i> (DEPWS, 2021), and potential habitats for threatened species. Provide an overview of the extent (ha) of the loss in table and map format • indirect disturbance or modification of vegetation, for example from groundwater drawdown, erosion, dust, the introduction or spread of weeds, pathogens or pest species, soil and water contamination, and changes in fire frequency, intensity and timing • direct disturbance of fauna and fauna habitat as a result of clearing and from operating plant and equipment

Aspect	Specific information required
	<ul style="list-style-type: none"> • indirect impacts to fauna and fauna habitats, for example from reduced habitat availability, introduction or spread of weed or pest species (including Cane Toads), or fragmentation and edge effects • for any threatened or migratory species listed under the EPBC Act and/or the TPWC Act, and assessed as being present or likely to occur, undertake an impact assessment that is consistent with DCCEE's <i>Matters of National Environmental Significance Significant Impact Guidelines 1.1</i> (DoE, 2013) • determine the areas that could feasibly experience the above listed impacts, classifying areas as proposal footprint (i.e. area proposed to be cleared) and area of influence (i.e. area that may experience indirect impacts). <p>Using appropriate studies, investigations and relevant information, quantify the extent of impacts and their significance at the proposal level and in a regional context.</p>
<p>MITIGATION AND MANAGEMENT</p>	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act, and EPBC Act statutory documents. Also consider measures to enhance or restore environmental quality. These should address at a minimum:</p> <ul style="list-style-type: none"> • the design and layout of the proposal • clearing of native vegetation • modelled changes to hydrological regimes • pest/weed/pathogen control and management • details of the proponent's Cane Toad Management Plan and its application to the proposal. The Cane Toad Management Plan is to include measures to prevent the introduction of Cane Toads to Groote Eylandt, a Cane Toad monitoring program, a Cane Toad incursion response program and reporting, evaluation and review • dust management • noise and vibration management • fire management • compliance with any statutory or policy basis for the proposed measures. <p>Assess the potential impacts of a changing climate to terrestrial ecosystems in the context of cumulative impacts from the proposal and other activities in the region.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
<p>MONITORING AND REPORTING</p>	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks to terrestrial ecological values.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to i.e., construction or operations.</p>

Aspect	Specific information required
	All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.
RESIDUAL IMPACT	Identify any potential residual impact of the proposal on identified values.
OFFSETS	Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.

3.3 HYDROLOGICAL PROCESSES

TABLE 5 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF HYDROLOGICAL PROCESSES

Aspect	Specific information required
NT EPA objective:	Protect the hydrological regimes of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
ENVIRONMENTAL VALUES	<p>Characterise the existing groundwater regime within the proposal area and its surrounds, based on:</p> <ul style="list-style-type: none"> • a desktop study of relevant groundwater and environmental reports, databases and documentation • a groundwater site investigation that involves: <ul style="list-style-type: none"> • installing a dedicated groundwater monitoring network in the proposal area and its surrounds • monitoring groundwater levels and groundwater quality • testing aquifer permeability • conducting a census of groundwater use and groundwater supply bores • undertaking a site inspection to confirm baseline groundwater-surface water interactions, watercourse characteristics and the distribution of watercourse alluvium • compilation and analysis of the information collected from the desktop study and the groundwater site investigation to develop a conceptual model of the groundwater regime and a 3D numerical groundwater flow model that simulates the existing groundwater regime. <p>Characterise the surface water setting in sufficient detail to enable the incremental and cumulative effects of the proposal on the surface water setting to be identified, described and assessed quantitatively. This will involve:</p> <ul style="list-style-type: none"> • a flood study, including hydrologic and hydraulic modelling of a range of flood events

Aspect	Specific information required
	<ul style="list-style-type: none"> • collection of baseline surface water monitoring data • analysis of available information to produce maps and descriptions of: <ul style="list-style-type: none"> • regional and local catchments • local drainage characteristics • relevant environmental values.
<p>POTENTIAL IMPACTS AND RISKS</p>	<p>Assess the potential effects of the proposal on hydrogeological processes during mine operations and post closure. The assessment must be based on a 3D numerical groundwater flow model that predicts the potential direct and indirect effects of the proposed mining activities arising from:</p> <ul style="list-style-type: none"> • changes in groundwater level/pressure in and around mining areas • changes to ground permeability and water storage properties in backfilled quarry voids • changes in groundwater level/pressure arising from the final landform • changes to groundwater recharge and discharge. <p>Assess the potential impacts and risks of these hydrogeological effects on relevant environmental values and sensitivities (e.g. groundwater dependent ecosystems, groundwater resources, groundwater supply bores and groundwater-surface water interactions with waterways).</p> <p>Assess potential cumulative impacts on relevant environmental values with other relevant activities or proposals.</p> <p>Assess the potential effects of the proposal on surface water hydrology processes during mine operations and post closure, including:</p> <ul style="list-style-type: none"> • changes to catchment yield arising from the mine site drainage design and associated surface water flows • any interactions between mine infrastructure and waterways and wetlands • potential for changes in downstream flow and geomorphology due to erosion and sedimentation. <p>Assess the potential impacts and risks of these surface water hydrology effects on relevant environmental values and sensitivities.</p> <p>Assess potential cumulative impacts on relevant environmental values with other relevant activities or proposals.</p> <p>Assess the effects of climate change on the hydrogeology and hydrology impacts and risks of the proposal.</p>
<p>MITIGATION AND MANAGEMENT</p>	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • the design and layout of the proposal • construction methods

Aspect	Specific information required
	<ul style="list-style-type: none"> compliance with any statutory or policy basis for the proposed measures. <p>Discuss the design features of the proposal that will allow it to adapt to a changing hydrological environment.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
<p>MONITORING AND REPORTING</p>	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks to hydrological processes.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to i.e., construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
<p>RESIDUAL IMPACT</p>	<p>Identify any potential residual impact of the proposal on identified values.</p>
<p>OFFSETS</p>	<p>Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.</p>

3.4 INLAND WATER ENVIRONMENTAL QUALITY

TABLE 6 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF INLAND WATER ENVIRONMENTAL QUALITY

Aspect	Specific information required
<p>NT EPA objective: Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.</p>	
<p>ENVIRONMENTAL VALUES</p>	<p>Characterise the existing groundwater quality based on:</p> <ul style="list-style-type: none"> a desktop study of relevant groundwater and environmental reports, databases and documentation a groundwater site investigation that involves installing a dedicated groundwater monitoring network in the proposal area and its surrounds, monitoring groundwater quality, conducting a census of groundwater use and groundwater supply bores. <p>Characterise the surface water quality and values based on:</p> <ul style="list-style-type: none"> collection of baseline surface water quality monitoring data stakeholder consultation to confirm surface water use and values analysis of available information to produce water quality statistics that are representative of the waterways that traverse the proposal area

Aspect	Specific information required
	<ul style="list-style-type: none"> mapping and descriptions of the relevant environmental values dependent on surface water quality.
<p>POTENTIAL IMPACTS AND RISKS</p>	<p>Describe potential impacts and risks to surface water and groundwater quality and identify:</p> <ul style="list-style-type: none"> any potential sources of surface water and/or groundwater contamination during all phases of the proposal the impacts on local surface water and/or groundwater quality due to potential contamination sources associated with the proposal the proposal footprint and area of influence that could feasibly experience those surface water and/or groundwater quality impacts. <p>Assess the potential quality of runoff and seepage from the mining operations under representative environmental conditions. This assessment must be undertaken by a suitably qualified geochemist and guided by relevant geochemical testing standards to the extent that they are representative of local environmental conditions. Geochemistry samples must be analysed for a range of parameters including (but not limited to) acid base accounting, metals, major ions, turbidity, salinity, nutrients and hydrocarbons.</p> <p>The potential impacts and risks must be assessed against relevant guidelines and standards.</p> <p>Describe the extent of impacts on surface water and/or groundwater quality relating to climate change, and how these have been considered cumulatively with proposal impacts.</p>
<p>MITIGATION AND MANAGEMENT</p>	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> the design and layout of the proposal water management, including mine water management and stormwater management erosion and sediment control chemicals and fuel spill management environmental management requirements associated with seasonal weather and extreme weather conditions such as floods and cyclones waste management including a detailed description of management methods for all types of waste compliance with any statutory or policy basis for the proposed measures. <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
<p>MONITORING AND REPORTING</p>	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks to inland water environmental quality.</p>

Aspect	Specific information required
	<p>The proposed monitoring and reporting should specify which proposal phase it relates to i.e., construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
RESIDUAL IMPACT	Identify any potential residual impact of the proposal on identified values.
OFFSETS	<p>Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.</p>

3.5 AQUATIC ECOSYSTEMS

TABLE 7 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF AQUATIC ECOSYSTEMS

Aspect	Specific information required
<p>NT EPA objective: Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.</p>	
ENVIRONMENTAL VALUES	<p>Describe the aquatic ecosystems and groundwater dependent ecosystems in the proposal’s area of influence.</p> <p>Provide detailed maps to support the above descriptions.</p> <p>Provide results and interpretation of any aquatic ecology surveys of the area of influence.</p>
POTENTIAL IMPACTS AND RISKS	<p>Describe potential impacts and risks to aquatic ecosystems from direct and indirect disturbance to waterways and/or wetlands and associated ecological and hydrological values.</p> <ul style="list-style-type: none"> • determine the proposal footprint and area of influence that could feasibly experience those impacts • provide an assessment of potential impacts to aquatic ecosystems utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration: <ul style="list-style-type: none"> • all construction and operations activities of the proposal (e.g. pit development, infrastructure in close proximity to waterways and/or wetlands) • cumulative impacts with other industries or proposals • the reversibility of potential impacts • the assessment must identify potential impacts and risks to aquatic ecosystems and quantify their significance: <ul style="list-style-type: none"> • against relevant guideline thresholds

Aspect	Specific information required
	<ul style="list-style-type: none"> on the beneficial uses, water quality objectives and identified environmental values. <p>Quantify the extent of impacts on aquatic ecosystems relating to a changing climate, and how these have been considered cumulatively with proposal impacts.</p>
MITIGATION AND MANAGEMENT	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> the design and layout of the proposal erosion and sediment control measures to prevent the introduction or spread of aquatic weeds compliance with any statutory or policy basis for the proposed measures. <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
MONITORING AND REPORTING	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks to aquatic ecology.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
RESIDUAL IMPACT	<p>Identify any potential residual impact of the proposal on identified values.</p>
OFFSETS	<p>Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.</p>

3.6 AIR QUALITY

TABLE 8 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF AIR QUALITY

Aspect	Specific information required
NT EPA objective:	Protect air quality and minimise emissions and their impact so that environmental values are maintained.
ENVIRONMENTAL VALUES	<p>Describe the sensitive receptors within and in proximity to the proposal area.</p> <p>Describe the existing air quality environment.</p>

Aspect	Specific information required
	Provide maps to support descriptions as appropriate.
<p>POTENTIAL IMPACTS AND RISKS</p>	<p>Describe potential impacts and risks to air quality and identify:</p> <ul style="list-style-type: none"> • any sources of emissions which could impact air quality • the impacts on local air quality due to the emission of dust, particulates, and products of fuel combustion during all phases of the proposal • the proposal footprint and area of influence that could feasibly experience those impacts. <p>Provide an assessment of potential impacts on air quality utilising outcomes of investigations and/or other relevant information. As a minimum, the assessment should take into consideration:</p> <ul style="list-style-type: none"> • the likely source, scale and extent of emissions • nature and location of sensitive receptors • cumulative impacts with other activities or proposals • the duration, magnitude and spatial extent of potential impacts. <p>The assessment must identify and quantify potential impacts on air quality against relevant guidelines and standards.</p>
<p>MITIGATION AND MANAGEMENT</p>	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also consider measures to enhance or restore environmental quality.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • the design and layout of the proposal • construction methods • emission avoidance, mitigation or management measures • compliance with any statutory or policy basis for the proposed measures. <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
<p>MONITORING AND REPORTING</p>	<p>Outline proposed monitoring and reporting activities related to potential impacts and risks to air quality.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
<p>RESIDUAL IMPACT</p>	<p>Identify any potential residual impact of the proposal on identified values.</p>
<p>OFFSETS</p>	<p>Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.</p>

3.7 ATMOSPHERIC PROCESSES

TABLE 9 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF ATMOSPHERIC PROCESSES

Aspect	Specific information required
NT EPA objective:	Minimise greenhouse gas emissions so as to contribute to the NT Government’s goal of achieving net zero greenhouse gas emissions by 2050.
ENVIRONMENTAL VALUES	Describe the potential for greenhouse gas (GHG) emissions to be generated by the proposal, and the proponent’s measures to make a material and meaningful contribution towards achieving the NT’s target of net zero emissions by 2050.
POTENTIAL IMPACTS AND RISKS	<p>Describe the proposal’s impact on:</p> <ul style="list-style-type: none"> • direct GHG emissions due to Scope 1 and Scope 2 emissions (e.g. land clearing, diesel exhaust during construction and operations). This should be presented as an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in CO₂ equivalent terms • comparison with NT and national emissions • contribution to the NT target of net zero GHG by 2050 and broader efforts to reduce global GHG emissions. <p>Describe the methods used to estimate GHG emissions.</p>
MITIGATION AND MANAGEMENT	<p>Describe any energy efficiency and mitigation and management measures to reduce or minimise GHG emissions, and demonstrate best practice.</p> <p>Describe how proposed measures to maximise energy efficiency and avoid and/or reduce GHG emissions are consistent with the NT Government’s target of achieving net zero greenhouse gas emissions by 2050.</p>
MONITORING AND REPORTING	<p>Outline any proposed monitoring and reporting activities related to potential impacts and risks to atmospheric processes.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
RESIDUAL IMPACT	Identify any potential residual impact of the proposal on identified values.
OFFSETS	Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.

3.8 COMMUNITY AND ECONOMY

TABLE 10 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF COMMUNITY AND ECONOMY

Aspect	Specific information required
<p>NT EPA objective: Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.</p>	
<p>ENVIRONMENTAL VALUES</p>	<p>Describe the existing social, cultural and economic profile of the proposal footprint and area of influence, with consideration to:</p> <ul style="list-style-type: none"> • key landowners/custodians/stakeholders/communities, and other persons with overlapping or intersecting interests • the social, cultural and economic values of affected stakeholders • social area of influence, including demographic characteristics and trends, governance and institutions • the local labour market including participation, skills gaps, Aboriginal employment • local business capacity and economic sectors • level of disadvantage against relevant indicators • current land uses • compatibility of the proposal with current land use • profile of infrastructure and services such as roads, utilities, fuel, water, telecommunications • relevant contextual factors including history of other projects, community values and aspirations, government policies and legislation.
<p>POTENTIAL IMPACTS AND RISKS</p>	<p>Provide an assessment of potential impacts and opportunities to the local and NT community and the economy, including:</p> <ul style="list-style-type: none"> • impacts on community health, wellbeing and cohesion • potential disturbance of social, cultural and economic values • potential impacts on recreational and cultural activities, including use of outstations, hunting, gathering, fishing and valued species • changes or restrictions to local traffic due to proposal activities • impacts on amenity (e.g. noise, dust, vibration, aesthetics) • impacts and opportunities for jobs, economic sectors and livelihoods • potential impacts and opportunities on local infrastructure and services • equitable distribution of economic benefits and harms within affected communities • expected employment and availability of appropriately skilled labour for the proposal • determine the likely economic contribution to Gross Territory Product and Gross Domestic Product • estimated capital and annual operational expenditure

Aspect	Specific information required
	<ul style="list-style-type: none"> • value of residual infrastructure at end-of-life of the proposal. <p>The assessment must be informed by an inclusive and collaborative community and stakeholder engagement process that is iterative throughout preparation of the EIS.</p> <p>The assessment must quantify the significance of potential impacts and opportunities to local and NT communities and the economy.</p> <p>The assessment of each aspect should consider cumulative impacts and the reversibility of potential impacts and should consider impacts that may remain when the proposed activities have been completed.</p>
<p>MITIGATION AND MANAGEMENT</p>	<p>Outline how potential adverse impacts to communities would be avoided, and how positive economic opportunities associated with the proposal would be enhanced.</p> <p>Identify appropriate frameworks and management strategies that would be implemented to address:</p> <ul style="list-style-type: none"> • protection of community and cultural values • community wellbeing • local business and industry procurement • local Aboriginal employment • distribution of community benefits • ongoing community and stakeholder engagement. <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies.</p>
<p>MONITORING AND REPORTING</p>	<p>Outline proposed monitoring and reporting activities related to potential impacts and opportunities to community and economy.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
<p>RESIDUAL IMPACT</p>	<p>Identify any potential residual impact of the proposal on identified values.</p>
<p>OFFSETS</p>	<p>Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.</p>

3.9 CULTURE AND HERITAGE

TABLE 11 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF CULTURE AND HERITAGE

Aspect	Specific information required
NT EPA objective: Protect sacred sites, culture and heritage.	
ENVIRONMENTAL VALUES	<p>Sites of cultural significance, include but are not limited to:</p> <ul style="list-style-type: none"> • Aboriginal sacred sites protected under <i>the Northern Territory Aboriginal Sacred Sites Act 1989</i> (NT) (Sacred Sites Act)³ • heritage places or objects protected under the <i>Heritage Act 2011</i> (NT) (Heritage Act). <p>The EIS is to:</p> <ul style="list-style-type: none"> • describe the database searches and literature review undertaken to identify sites of cultural significance • describe the surveys undertaken to identify and characterise sites of cultural significance, including the survey effort • describe the consultation with Traditional Owners in relation to sites of cultural significance • characterise the sites of cultural significance that occur within the proposed disturbance areas, and any other areas that may be indirectly impacted • describe the significance of these sites of cultural significance and describe their relevance within a wider regional context.
POTENTIAL IMPACTS AND RISKS	<p>Describe potential impacts on cultural and heritage values, including:</p> <ul style="list-style-type: none"> • direct and indirect disturbance to sites of cultural significance during construction, operations or decommissioning • changes to the physical and biological attributes of the environment that could impact on sites of cultural significance. <p>The assessment of each aspect should consider cumulative impacts and the reversibility of potential impacts.</p>
MITIGATION AND MANAGEMENT	<p>Outline the measures for avoiding or mitigating impacts identified above, with consideration of section 26 (Environmental decision making hierarchy) of the EP Act.</p> <p>These should address at a minimum:</p> <ul style="list-style-type: none"> • identification of all sites of cultural heritage significance to be affected by the proposal and an outline of the mitigation measures for each site • a description of restrictions that are to be placed on mine employees and contractors in relation to accessing sites of cultural heritage significance

³ Information on sacred sites will be presented in the EIS to the extent that confidentiality considerations permit.

Aspect	Specific information required
	<ul style="list-style-type: none"> • an overview of a program of awareness training, including employee inductions, to ensure all mine employees and contractors are informed of their obligations in relation to cultural heritage values • the procedure to be adopted in relation to any unexpected finds (including human remains, cultural artefacts and other archaeological features). <p>Describe the status of the proposal, at the time of submission of the draft EIS, with respect to obtaining an Authority Certificate in accordance with the <i>Northern Territory Aboriginal Sacred Sites Act 1989</i>.</p> <p>All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant government advisory agencies and traditional owners.</p>
MONITORING AND REPORTING	<p>Outline proposed monitoring and reporting activities related to any identified potential impacts and risks to culture and heritage.</p> <p>The proposed monitoring and reporting should specify which proposal phase it relates to, i.e. construction or operations.</p> <p>All monitoring activities should be substantiated and be undertaken in accordance with best practice advice from relevant government advisory agencies.</p>
RESIDUAL IMPACT	<p>Identify any potential residual impacts of the proposal on identified values.</p>
OFFSETS	<p>Where a significant residual impact is predicted to remain after applying the environmental decision-making hierarchy, and an offset requirement exists under legislation (i.e. Offset Policies under NT Offset Framework and/or EPBC Act Environmental Offsets Policy (DSEWPC, 2012a)), identify and describe the offsets to be provided.</p>

3.10 HUMAN HEALTH

TABLE 12 MINIMUM INFORMATION REQUIRED FOR ASSESSMENT OF HUMAN HEALTH

Aspect	Specific information required
NT EPA objective: Protect the health of the Northern Territory population.	
ENVIRONMENTAL VALUES	<p>Health and wellbeing of the workforce, community and general population.</p>
POTENTIAL IMPACTS AND RISKS	<p>Assess the potential for the proposal to introduce mosquitoes or lead to an increase in their population size, noting the potential for mosquitoes to be a nuisance to humans, cause irritation and illness and impact on the health and wellbeing of the workforce, community and general population.</p>
MITIGATION AND MANAGEMENT	<p>Outline the measures for avoiding, mitigating and managing the risks of mosquito borne disease, referencing <i>Guidelines for Preventing Mosquito Breeding Sites Associated with Mining Sites</i> (Department of Health and Families, 2005).</p>

Aspect	Specific information required
	Outline the measures for avoiding, mitigating and managing legacy mosquito breeding sites (if any) that may affect the future amenity of the land, the health and wellbeing of the workforce, community and general population after cessation of operations.
MONITORING AND REPORTING	Outline proposed monitoring and reporting activities related to potential impacts and risks from biting insects to the workforce, community and the general population.
RESIDUAL IMPACT	Identify any potential residual impact of the proposal on identified values.

4 OTHER REQUIREMENTS

4.1 OTHER ENVIRONMENTAL MATTERS

4.1.1 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE (MNES)

The proposal has been referred as a controlled action under the EPBC Act, with the following controlling provisions:

- listed threatened species and communities (sections 18 and 18A)
- listed migratory species (sections 20 and 20A).

The proponent is seeking an accredited assessment.

The EIS must address all relevant protected matters specified in Schedule 4 of the EPBC Regulations and explain how the Conservation Advice for each EPBC Act listed species (that is known or is likely to be impacted) has been adequately considered. The EIS must explain how the proposal is consistent with any Guidelines, Threat Abatement Plans, Bioregional Plans or Recovery Plans, including but not limited to:

- [Matters of National Environmental Significance Significant impact guidelines 1.1](#) (Department of the Environment, 2013)
- the following Conservation Advice documents:
 - [Conservation Advice - *Tyto novaehollandiae kimberli* - Masked Owl \(northern\)](#) (Threatened Species Scientific Committee (TSSC), 2015)
 - [Conservation Advice - *Macroderma gigas* - Ghost Bat](#) (TSSC, 2016)
- [National Recovery Plan for the Northern Quoll *Dasyurus hallucatus*](#) (Department of Natural Resources, Environment, The Arts and Sport, 2010)
- the following Threat Abatement Plans:
 - [Threat Abatement Plan for the biological effects, including lethal toxic ingestion, caused by Cane Toads](#) (Department of Sustainability, Environment, Water, Population and Communities (DSEWPC), 2011a)
 - [Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses](#) (DSEWPC, 2012b)
 - [Threat abatement plan for predation by Feral Cats](#) (Department of the Environment, 2015)
- [EPBC Act referral guideline for the endangered Northern Quoll *Dasyurus hallucatus*](#) (Department of the Environment, 2016)
- the following Survey Guidelines:
 - [Survey guidelines for Australia's threatened mammals](#) (DSEWPC, 2011b)
 - [Survey guidelines for Australia's threatened birds](#) (Department of the Environment, Water, Heritage and the Arts, 2010).

4.2 OFFSETS

Provide details of an offset strategy for the significant residual impacts of the proposal for any matters that require offsets under the NT Offsets Framework or the EPBC Act. Offsets must be consistent with Offset Policies under the NT Offsets Framework, and the *EPBC Act Environmental Offsets Policy* (DSEWPC, 2012a).

4.3 STAKEHOLDER ENGAGEMENT AND CONSULTATION

Proponents have a general duty under section 43 of the EP Act to provide communities that may be affected by a proposal with an opportunity for consultation to assist the community in their understanding of the proposed action and its potential impacts and benefits.

The proponent must engage and consult with stakeholders⁴ who are affected by and interested in the Proposal. The proponent must document the following in the EIS:

- identified stakeholders
- the stakeholder consultation undertaken to date and the outcomes, including decision-making on the proposal and any adjustments to the proposal as a result of consultation
- the dissemination of information to stakeholders in a form that helps stakeholders and the public understand the proposal, its potential impacts and benefits, and how stakeholders can provide input
- future engagement activities intended during the assessment process and post-approval, including during construction and operation of the proposal.

4.4 INDIGENOUS PEOPLES

The proponent must recognise the role and interests of Indigenous peoples, promote the conservation and ecologically sustainable use of natural resources, and seek to:

- engage with Aboriginal people in a culturally appropriate manner
- obtain the views of directly affected Aboriginal people on the social, cultural, economic and ecological values of the proposal area
- promote the cooperative use of Aboriginal knowledge of biodiversity and Aboriginal heritage in environmental decision-making processes
- where it is appropriate, treat the views of Aboriginal people as the primary source of information on the value of Aboriginal cultural heritage
- protect the rights and interests of Aboriginal people in relation to the areas that may be impacted.

Describe the approach to stakeholder engagement and consultation throughout the environmental impact assessment process consistent with the NT EPA's guidance for proponents: *Stakeholder Engagement and Consultation* (NT EPA, 2021b).

⁴ As defined in the NT EPA's *Stakeholder Engagement and Consultation – Environmental impact assessment guidance for proponents* (NT EPA 2021b).

4.5 PUBLIC CONSULTATION REQUIREMENTS

The public consultation requirements for the EIS are outlined in Part 5 Division 6 of the EP Regulations.

4.5.1 SUBMISSION PERIOD

The submission period under the EP Act during which feedback can be given on the draft EIS is between 30 and 60 business days. The duration of the period will be confirmed during the draft EIS pre-lodgement phase.

4.5.2 PUBLIC CONSULTATION LOCATIONS

The draft EIS should be provided to and be made available for public consultation at:

1. Anindilyakwa Land Council, 30 Bougainvillea Drive, Alyangula, NT
2. Department of Industry, Tourism and Trade, Level 4, Paspalis Centrepoint Building, 48-50 Smith Street, Darwin, NT
3. East Arnhem Regional Council, Angurugu, NT
4. Environment Centre Northern Territory, Unit 3, 98 Woods Street, Darwin, NT
5. Northern Territory Library, Parliament House, Darwin, NT
6. NT EPA, Level 1, Arnhemica House, 16 Parap Road, Parap, NT

APPENDIX A

List of Relevant Guidance Material



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CONSULTING

Guidance material that is considered relevant to the TOR, includes but is not limited to, the documents listed below. This list is not exhaustive, but captures key guidance used in the preparation of these TOR and to inform the preparation of the EIS. The proponent must draw on further relevant industry and best practice guidance as part of developing the EIS.

- Department of the Environment, 2013. Matters of National Environmental Significance: Significant impact guidelines 1.1 *Environment Protection and Biodiversity Conservation Act 1999*. Department of the Environment: https://www.dcceew.gov.au/sites/default/files/documents/nes-guidelines_1.pdf
- Department of the Environment, 2015. Threat abatement plan for predation by feral cats. Department of the Environment: <https://www.dcceew.gov.au/sites/default/files/documents/tap-predation-feral-cats-2015.pdf>
- Department of the Environment, 2016. EPBC Act Policy Statement: EPBC Act referral guideline for the endangered northern quoll *Dasyurus hallucatus*. Department of the Environment: <https://www.dcceew.gov.au/sites/default/files/documents/referral-guideline-northern-quoll.pdf>
- Department of Environment, Parks & Water Security, 2021. Land clearing guidelines: Northern Territory Planning Scheme. Department of Environment, Parks and Water Security: https://nt.gov.au/_data/assets/pdf_file/0007/236815/land-clearing-guidelines.pdf
- Department of Environment, Parks & Water Security, 2022. Biodiversity Offsets Policy: Northern Territory Offsets Framework. Northern Territory Government: https://depws.nt.gov.au/_data/assets/pdf_file/0003/1182450/biodiversity-offsets-policy.pdf
- Department of the Environment, Water, Heritage and the Arts, 2010. Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of the Environment, Water, Heritage and the Arts: <https://www.dcceew.gov.au/sites/default/files/documents/survey-guidelines-birds-april-2017.pdf>
- Department of Health and Families, 2005. Guidelines for Preventing Mosquito Breeding Sites Associated with Mining Sites. Northern Territory Government: <https://digitallibrary.health.nt.gov.au/prodjsui/bitstream/10137/1029/1/Guidelines%20for%20preventing%20mosquito%20breeding%20sites%20associated%20with%20mining%20sites.pdf>
- Department of Natural Resources, Environment, The Arts and Sport, 2010. National Recovery Plan for the Northern Quoll *Dasyurus hallucatus*. Northern Territory Department of Natural Resources, Environment, The Arts and Sport: <https://www.dcceew.gov.au/sites/default/files/documents/northern-quoll.pdf>
- Department of Sustainability, Environment, Water, Population and Communities, 2011a. Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads. Department of Sustainability, Environment, Water, Population and Communities: <https://www.dcceew.gov.au/sites/default/files/documents/tap-cane-toads.pdf>
- Department of Sustainability, Environment, Water, Population and Communities, 2011b. Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Sustainability, Environment, Water, Population and Communities: <https://www.dcceew.gov.au/sites/default/files/documents/survey-guidelines-mammals.pdf>
- Department of Sustainability, Environment, Water, Population and Communities, 2012a. *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy. Department of Sustainability, Environment, Water, Population and Communities: [Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy \(dcceew.gov.au\)](https://www.dcceew.gov.au/sites/default/files/documents/Environment_Protection_and_Biodiversity_Conservation_Act_1999_Environmental_Offsets_Policy_(dcceew.gov.au))
- Department of Sustainability, Environment, Water, Population and Communities, 2012b. Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses. Department of Sustainability, Environment, Water, Population and Communities: <https://www.dcceew.gov.au/sites/default/files/documents/five-listed-grasses-tap.pdf>

- Hill and Napier, 2018. Technical Specifications for Land Unit Core Attributes, Mapping Scales 1:25,000, 1:50,000 and 1:100,000. Department of Land Resource Management:
<https://territorystories.nt.gov.au/10070/671281/0/0>
- Isbell and National Committee on Soil and Terrain, 2021. The Australian Soil Classification. Isbell and the National Committee on Soil and Terrain. CSIRO Publishing:
<https://www.publish.csiro.au/ebook/download/pdf/8016>
- Northern Territory Environment Protection Authority, 2013a. Guidelines for Assessment of Impacts on Terrestrial Biodiversity. Northern Territory Environment Protection Authority:
https://ntepa.nt.gov.au/_data/assets/pdf_file/0004/287428/guideline_assessment_terrestrial_biodiversity.pdf
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