PRIMARY GOLD

Appendix E - Cross-Reference ToR to the EIS

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Table: EIS ToR Cross-reference Table

ToR Section	Details Requested in EIS	EIS Section / Appendix
2. Matters to be addressed in the draft EIS		
2.1. Summary	A summary of the draft EIS is required as part of the EIS documentation. 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:	**Executive Summary Document**
	• a clear and concise overview of the proposal, including key components and activities, layout of site components and alternative layouts considered, lifespan, rehabilitation and closure outcomes, and intended future use of the sites	Section 1 – Overview Section 2 – Infrastructure Section 3 – Closure and Rehabilitation Section 4 – Schedule Section 5 – Alternatives
	• an overview of the existing environment including location of the nearest sensitive receptors	Section 7 – Existing Environment
	• a summary of the environmental impacts of the proposal	Section 8 – Environmental Assessment Section 9 – Potential Impacts and Measures to Avoid, Mitigate or Manage
	• a summary of measures to avoid, mitigate and, if applicable, offset potential impacts of the proposal.	Section 9 – Potential Impacts and Measures to Avoid, Mitigate or Manage
2.2. Proposal description		**Main Draft EIS Document**
2.2.1. Overview	Provide a clear description of the proposal and scope of works for which approval is sought. The proposal description should include:	
	• a table listing the key physical components of the proposal	Section 1.6.3 – Proposed Changes (Table 1-6)
	• maps, figures, images, diagrams and flow charts	Section 1 – Introduction Section 4 – Project Description
	• any variations or modifications to the proposal since the referral information was submitted	Section 1.10 – Changes Since Project Referral (Table 1-11)
	• how the proposal relates to any larger action.	Section 1.1 – Overview Section 1.3 – Location and Regional Setting (regarding relationship with Toms Gully Mine)

2.2.2. Proponent		
	• Clearly identify the proponent of the proposal and the title holder/s for the areas proposed to be developed.	Section 1.4 – Proponent Details Section 1.5 – Land Tenure and Zoning (Table 1-4)
	• If there is more than one party identified, outline the relationship between the parties.	N/A
	• Provide background to the proponent, including information on the environmental history of the proponent and its compliance with state/territory and Commonwealth environmental approval conditions.	Section 1.4 – Proponent Details
	• Outline any partnerships with other organisations or industries as part of the proposal.	N/A
2.2.3. Objectives of the proposal		
	• State the rationale and justification for the proposal, considering social, economic and other environmental benefits and costs to the NT, in particular to local and regional communities, during the life of the proposal.	Section 1.2 – Key Objectives
	• List the key objectives of the proposal and include a description of how the proposal meets these objectives.	Section 1.2 – Key Objectives
	• The proponent should demonstrate in the draft EIS how the objectives of a proposal address the specific requirements of sections 42 and 43 of the EP Act.	Section 1.7 – Project Benefits Section 11.2 – Consideration of Project Against Legislated Principles and Duties
2.2.4. Statutory framework	Provide information on the statutory framework including a description of any permits, consents, or other approvals that will be required from Northern Territory agencies and/or authorities.	Section 2 – Regulatory Context (Table 2-1)
2.2.5. Construction and operation	Provide a detailed description of all construction and operational aspects of the proposal as outlined in Table 2 (required information in Table 2 is provided below).	Section 4 – Project Description
Site layout maps	The description of the proposal including, but not be limited to, detailed maps and graphic illustrations of:	
	• the location and dimensions of existing disturbance, mine components and infrastructure, roads/tracks and natural and modified landforms (including a depiction of these overlaid on aerial photos or high-resolution satellite imagery) within the proposal area	Section 4.3 – Existing Disturbance and Proposed Footprint Section 7.1.1.4 – Existing Disturbance and Contamination

	• the location and approximate dimensions of areas to be disturbed and redeveloped, structures to be built or repurposed, including (where applicable): o all areas to be cleared or disturbed o haul routes and access roads o buildings, structures and laydown areas o expanded pit footprints o processing facilities o tailings storage facilities (TSF) o waste rock dumps (WRD) o temporary stockpiles o water storage and supply infrastructure o waste water treatment/discharge infrastructure o power supply o hazardous materials and waste storage facilities o explosive and fuel storages o other components.	Section 1.6.3 – Proposed Changes (Table 1-6) Section 4 – Project Description Section 4.3 – Existing Disturbance and Proposed Footprint
	• the proposal layout in relation to environmental values and existing infrastructure.	Section 5 – Existing Environment Section 7.1.1 – Environmental Values (TEQ) Section 7.2.1 – Environmental Values (TE) Section 7.3.1 – Environmental Values – Surface Water (HP) Section 7.3.2 – Environmental Values - Groundwater (HP) Section 7.4.1 – Environmental Values (IWEQ) Section 7.5.1 – Environmental Values (AE) Section 7.6.1 – Environmental Values (CE)
	The boundaries of the proposal area in relation to any overlapping or adjacent licences and permits; and any other interests in land including native title (claims or determined), Aboriginal freehold land, and pastoral land.	Section 1.5 – Land Tenure and Zoning Section 1.6.1 – Current Land Use Section 5 – Existing Environment Section 7.6 – Community and Economy
Design	Describe mine site layout options considered, reasons for selection of the preferred layout, and how the proposed layout avoids and/or mitigates environmental constraints and potential impacts and risks to the surrounding environment from the key site components (e.g. run-of-mine pad, WRDs and TSF).	Section 4.15 – Alternatives Assessment
	In particular, the draft EIS must demonstrate the acceptability of the TSF's location over the existing heap leach pad and drainage lines in the Mount Bundey Creek catchment.	Section 4.5.2 – Tailings Storage Facility Section 4.15.2 – Tailings Storage Facility Section

	Provide details of the design for each of the key proposal components, as prepared by suitably qualified engineers and referencing accepted engineering and design standards and leading practice guidelines that have been used to inform design, including:	Section 4.5 – Construction Activities
	detailed diagrams and schematics	Section 4 – Project Description
	• design criteria, and impact and risk assessments undertaken, to inform the design requirements for the TSF, WRDs, backfilled pits, dams, storages and any other mine components that pose a significant risk to the environment in the event of inadequate performance or failure e.g. Australian National Committee On Large Dams (ANCOLD) guidelines (ANCOLD 2012)	Section 4 – Project Description Appendix B – Risk Assessment Register Appendix F – TSF Dam Break and Consequence Assessment
	• geochemical characterisation investigations undertaken to determine the physical and chemical characteristics of materials to be mined and processed (e.g. ore/tailings and waste rock) consistent with the Global Acid Rock Drainage (GARD) guidelines (INAP 2009) and the Commonwealth guidelines Preventing Acid and Metalliferous Drainage – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia 2016). As a minimum, testing should include:	Appendix D – Materials Characterisation Study
	○ static testing of waste and ore, including acid base accounting (ABA) on all samples; sulfur speciation and total carbon analysis	
	○ kinetic testing of waste and ore to inform the rate of oxidation of the materials and composition of leachates	
	○ sampling frequency and methodology to be undertaken in accordance with relevant guidelines. Each lithology, material type to be adequately characterised	
	○ naturally occurring radioactive materials (NORM)	
	• outcomes of the geochemical characterisation, which will:	Section 7 – Key Environmental Factors Section 8 – Other Environmental Themes and Factors Appendix B – Risk Assessment Register Appendix D – Materials Characterisation Study Appendix I – Water Management Plan Appendix T – Acid and Metalliferous Drainage Management Plan
	○ identify the occurrence and risks of acid and metalliferous drainage (AMD) including circum-neutral saline drainage, from existing and proposed infrastructure/landforms	
	○ demonstrate how future development of AMD will be prevented by design	
	○ inform the geological waste block model included as part of the draft EIS	
	○ inform an AMD management plan included in the draft EIS that incorporates site-wide management of potentially acid-forming (PAF) and other non-benign mining waste material	
	○ inform decision-making criteria for in-pit disposal vs surface storage of problematic waste rock types	

	• outcomes of investigations undertaken to determine the suitability of site derived and/or off site materials for use in construction and/or rehabilitation that demonstrate that sufficient quantities of suitable-standard clays, benign and non-acid forming (NAF) materials, are available to fulfil construction requirements for all proposed infrastructure builds and upgrades	Section 4.7 – Waste Rock Material Appendix D – Materials Characterisation Study
	• outcomes of investigations undertaken to assess soil quality (contamination) and integrity (stability/erosion) in existing mine landforms and other areas disturbed by previous mining activities, including the WRD's, heap leach pads and ponds	Section 7.1 – Terrestrial Environmental Quality Appendix L – Erosion and Sediment Control Plans
	• design options considered, reasons for selection of the preferred option and how the proposed design avoids and/or mitigates potential impacts and risks to the surrounding environment.	Section 4 – Project Description Section 4.15 – Alternatives Assessed
	Describe how the proposal has been designed, or allows for, adaptation to a changing climate e.g. capacity and efficiency of water facilities to allow for potential increase in evaporation and/or large rainfall events.	Section 7.3 – Hydrological Processes Appendix H – Groundwater Investigation and Modelling Report Appendix L – Erosion and Sediment Control Plans Appendix N – Hydrology and Flood Assessment Report
Construction	Describe all elements of the construction phase including:	
	• stages of mine development and timeframes.	Section 4 – Project Description Section 4.4 – Project Schedule Section 4.5 – Construction Activities Section 4.6 – Mining Operation
	• seasonal considerations for mine development including timing of land clearing and site preparation, availability of water and dewatering requirements	Section 4 – Project Description Appendix H – Groundwater Investigation and Modelling Report Appendix L – Erosion and Sediment Control Plans Appendix N – Hydrology and Flood Assessment Report
	• methods used for vegetation clearing, topsoil stripping and details of how excess materials will be stored, reused, recycled or disposed of.	Section 4 – Project Description
	• construction materials required for each mine site component including major types, quantities and specifications of materials for different purposes such as lining and capping, and sources (both on and off lease), storage requirements and potential hazards.	Section 4 – Project Description
	• any new ancillary infrastructure and upgrades required to service the proposal, including supply of electricity, water, sewerage and road access.	Section 4 – Project Description
	• equipment and machinery required	Section 4 – Project Description
	• controls to prevent creation of biting insects habitat	Section 4.10.5 – Site Water Management to Prevent Biting Insects

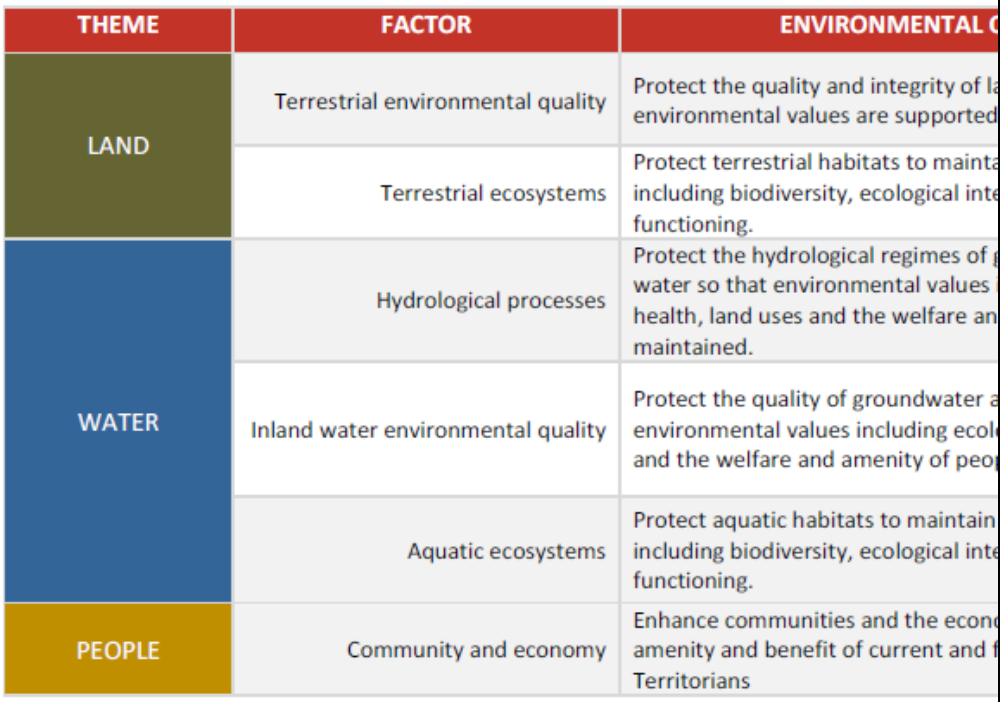
		Section 4.14 – Closure and Rehabilitation
	• details of how the proponent intends to address environmental management during construction, including:	Section 6 – Risk Assessment of Environmental Factors Section 7 – Key Environmental Factors Section 8 – Other Environmental Themes and Factors Section 10 – Environmental Management Appendix B – Risk Assessment Register Appendix U – Commitment Register
	○ erosion and sediment control	
	○ water capture, use and management including stormwater drainage	
	○ biosecurity measures to address weeds, feral animals and other pests	
	○ controls to avoid spills/discharges	
	○ waste management	
	○ air quality management	
	○ maintenance of components and servicing of infrastructure	
	○ noise and vibration management.	
Mine operation	Describe all elements of the proposed mining operation including:	
	• mining methods and equipment	Section 4.6 – Mining Operations
	• timeframes, proposal staging and ramp-up of production and progressive rehabilitation activities	Section 4.4 – Project Schedule
	• volumes of ore and waste rock to be mined annually	Section 4.1 – Overview Section 4.2 – Resource Details Section 4.7 – Waste Rock Material
	• types / categories, quantities and characterisation of materials to be mined (e.g. ore and waste rock etc.) including proposed cut-off grades	Section 4.2 – Resource Details Appendix D – Materials Characterisation Study
	• location, characteristics and quantities of any mined materials that could impact the environment, including potentially acid, saline, sodic or dispersive, and erosive material, materials with other chemical/physical properties that may affect rehabilitation outcomes, fibrous minerals and NORM	Section 4.7 – Waste Rock Material Appendix D – Materials Characterisation Study Appendix L – Erosion and Sediment Control Plans
	• details of methods for handling, treatment, storage or disposal of potentially problematic mining waste materials, including the potential for progressive backfilling into pits	Section 7 – Key Environmental Factors Appendix T – Acid and Metalliferous Drainage Management Plan
	• environmental management of all aspects of the proposed operation with detailed maps, diagrams, and design specifications and standards where relevant, including:	Section 7 – Key Environmental Factors Appendix U – Commitment Register
	○ erosion and sediment control	Appendix L – Erosion and Sediment Control Plans
	○ water requirements and sources (provide a water balance)	Appendix H – Groundwater Investigation and Modelling Report

	○ water management including stormwater drainage	Appendix L – Erosion and Sediment Control Plans
	○ waste management, including disposal of contaminated wastewater and solids with details of pits, bunds, treatment and recycling	Section 4.5.5 – Landfill Section 4.9 – Wastewater Discharge Requirement Section 4.10.4 – Sewage Waste Section 7 – Key Environmental Factors Appendix B – Risk Assessment Register Appendix L – Erosion and Sediment Control Plans
	○ weed management	Section 7.2 – Terrestrial Ecosystem Appendix B – Risk Assessment Register Appendix U – Commitment Register
	○ air quality management, including containment of dust	Section 7.2 – Terrestrial Ecosystem Appendix U – Commitment Register
	○ ongoing maintenance of components and servicing of infrastructure	Section 4.6.3 – Mining Maintenance
	○ noise and vibration management	Section 7.2 – Terrestrial Ecosystem Appendix B – Risk Assessment Register Appendix U – Commitment Register
	○ applicable legislation, guidelines, and standards.	Section 2 – Regulatory Context
	• any feasible operation alternatives. Where multiple alternatives exist, the choice of the preferred option(s) should be clearly explained, and a comparison provided against other options in terms of potential environmental impacts.	Section 4.15 – Alternatives Assessment
Processing	Describe the requirements of ore processing for the proposal including:	
	• methods, major components and processing circuits	Section 4.5.1 – Processing Plant Section 4.10 – Water Use and Supply Section 4.11 – Energy Supply and Demand Section 4.12 – Handling (Storage and Transport of Hazardous Chemicals Section 8.2 – Air – Atmospheric Processes
	• how gold bullion will be produced from concentrate	
	• process flow diagram showing all processing circuit inputs and outputs	
	• water requirements and management (treatment, sources and storages)	
	• details of additives used, including physical and chemical properties, safety data sheets, storage, handling and disposal requirements	
	• outputs, including types and volumes of rejects, tailings, gaseous emissions from smelter, product, and handling, treatment, transport and disposal requirements.	
Tailings Management	• physical and geochemical characterisation of tailings	Appendix D – Materials Characterisation Study
	• methods of disposal and management of tailings	Section 4.5.2 – Tailings Storage Facility
	• analysis of potential complexing of tails, such as with cyanide, and of physicochemical mobility of contaminants under expected environmental conditions	Appendix D – Materials Characterisation Study

	• potential for reprocessing of tailings and details of how this will be managed	Section 4.5.2 – Tailings Storage Facility
	• outline tailings management in consideration of the guidance Tailings Management – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia 2016).	Section 4.5.2 – Tailings Storage Facility
Water use and disposal	Prepare a water management system schematic and water balance for each proposal phase, based on the Minerals Council of Australia Water Accounting Framework (MCA 2014). Include in the water account:	Section 4.10 – Water Use and Supply Appendix H – Groundwater Investigation and Modelling Report
	• consideration of low, average and high rainfall years based on modelling, including successive 'wet' wet seasons and successive 'dry' wet seasons	Appendix H – Groundwater Investigation and Modelling Report
	• forecast water demand for all mine site activities, including dust suppression, processing, wash-down, potable water and ablutions and other uses	
	• water sources and available volumes, including surface water, groundwater and mine dewatering (including details of seasonal variations)	
	• systems for recycling and reuse of water, details of any treatment requirements and estimated volumes of water to be sourced from these systems	
	• pit dewatering volumes and rates including quantification of the anticipated peak dewatering requirements	
	• an overview of proposed water quality of any controlled discharge (including targets in accordance with Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018) or otherwise), treatment requirements, discharge volumes, location of the discharge point/s, and schedule for the discharge.	
Waste and hazardous materials	Describe the expected waste streams and volumes for non-processing wastes at the mine and accommodation facilities including:	Section 2 – Regulatory Context Section 4.5.5 – Landfill Section 4.9 – Wastewater Discharge Requirements Section 4.10.4 – Sewage Waste Section 4.12 – Handling (storage and Transport) of Hazardous Chemicals Section 11.2.2 – Waste Management Hierarchy
	• information on potentially hazardous materials (including fuel) that will be used or produced (waste) and methods for storage, transport, handling, containment, disposal and emergency management of these materials	
	• legislation, guidelines and standards relevant to the types and volumes of waste and hazardous materials associated with the activities	
	• management strategies proposed for each waste stream that demonstrate consideration of the waste management hierarchy in accordance with section 27 of the EP Act.	
Transport and traffic	Describe traffic and transport activities during construction and operation, including:	Section 4.8 – Transport and Traffic Section 7.6.1.2 – Community Appendix G – Traffic Management Plan
	• access and haulage routes	
	• forecast machinery and vehicle types, volumes of traffic and hours of operation, particularly on public roads.	Section 4.6.2 – Mining Equipment Section 7.6.1.2 – Community

Energy	Provide relevant information with respect to energy during construction and operation, including but not limited to:	Section 4.11 – Energy Supply and Demand Section 4.15.3 – Process Plant Section 8.2 – Air – Atmospheric Processes Appendix U – Commitment Register
	• energy requirements and sources	
	• details on the capacity and energy rating of each of the proposal's fuel burning components. Note that the emission design specifications for any fuel burning and roasting equipment must comply with the NSW EPA guidelines*.	
	• consideration of renewable sources of energy and justification for selected options	
	• estimate of the annual greenhouse gas emissions from the proposal (scope 1 and 2)	
	• measures to maximise energy efficiency and avoid and/or reduce greenhouse gas emissions consistent with the NT Government's target of achieving net zero greenhouse gas emissions by 2050 (DENR 2020).	
	* NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, available at: https://www.epa.nsw.gov.au/your-environment/air/industrial-emissions/modelling-assessing-air-emissions NSW Protection of the Environment Operations (Clean Air) Act 2010 – emission standards for Group 6 equipment that have capacity to emit contaminants to air	
Workforce	Provide a summary for each phase of the proposal, of the:	Section 4.5.3 – Accommodation Camp Section 4.13.1 – Workforce and Accommodation Section 7.6 – Community and Economy
	• estimated number of people to be employed	
	• skills base required and likely sources (local, regional, overseas)	
	• workforce accommodation and on-site facilities.	
2.2.6. Rehabilitation and closure	This section is to outline the planned rehabilitation, decommissioning and closure of the proposal, and establish closure objectives and goals.	
	A draft Mine Closure Plan (MCP) must be developed in consideration of the Mine Closure - Leading Practice Sustainable Development Program guidelines and the International Council for Mining and Metals Planning for Integrated Mine Closure: Toolkit. Rehabilitation and closure planning should consider the Northern Territory Contaminated Land Guideline (NT EPA 2017). Include in the draft MCP:	Appendix J – Draft Mine Closure Plan
	• future land tenure and land-use arrangements taking into account stakeholder engagement	
	• proposal-specific rehabilitation and closure objectives (including those associated with stakeholder expectations) and how those objectives would be achieved, including proposed standards and completion criteria	
	• landform designs (TSF, WRDs and Annies dam wall upgrade) and pit backfilling procedures that facilitate progressive rehabilitation and are safe, stable and nonpolluting at end of mine life and in perpetuity, designed by	

	appropriately qualified professionals in accordance with accepted industry guidelines and standards	
	• assessment of predicted post-closure pit lakes including predicted water quality and water balance, accounting for potential density driven exchange between pit lakes and the surrounding groundwater resources.	Appendix P – Pit Lake Assessment Report
	• material sources, characterisation and indicative volumes available for site rehabilitation	Appendix D – Materials Characterisation Study
	• closure implementation, including: rehabilitation techniques, staging and timing of rehabilitation and closure, removal of all infrastructure, methods of stabilisation, an outline of final rehabilitation, revegetation and closure plans for all key components, including:	Appendix J – Draft Mine Closure Plan
	○ proposed methods for topsoil management and soil profile reconstruction, with demonstration of their effectiveness for rehabilitating disturbed areas	
	○ proposed revegetation strategies, including seed collection and storage and any research and investigations that may be required	
	○ measures to stabilise soils to erosion levels similar to comparable landforms in surrounding undisturbed areas	
	• financial provisions for closure (both planned and unexpected), including responsibilities for post-closure management, and protocols for securing a safe, stable and non-polluting mine-site in perpetuity.	

3. Information requirements for environmental factors		
	The NT EPA identified six key environmental factors that could be significantly impacted by the proposal (Table 3). These have been selected from the NT EPA Environmental factors and objectives – Environmental impact assessment guidance. Table 3 Preliminary environmental factors that must be considered in the draft EIS 	
	The draft EIS for the proposal should address how each of the above factors may be impacted by the relevant component of the proposal.	
	While it is for the NT EPA to decide whether potential impacts are significant, the draft EIS should consider the significance of the identified potential impacts with reference to section 11 of the EP Act.	Section 6 – Risk Assessment of Environmental Factors Appendix B – Risk Assessment Register
	A proposal footprint (direct disturbance) and area of influence (indirect disturbance) are to be established to identify the aspects of the environment (under each environmental factor) and the specific environmental values that could be impacted by implementation of the proposal.	Key Project Terms Section 7 – Key Environmental Factors
	Consideration should be given to impacts associated with normal operations,	Section 6 – Risk Assessment of Environmental Factors

	abnormal operations, unplanned shutdowns of part or all of the proposal, and emergency shutdowns of part or all of the proposal.	Appendix B – Risk Assessment Register
	For each of the key environmental factors listed in Table 3, 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 – Environmental impact assessment guidance for proponents* and detailed below.	Section 7 – Key Environmental Factors Section 12 – Conclusion and Predicted Impact
	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 3.	Section 8 – Other Environmental Themes and Factors
	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.	
3.1. Terrestrial environmental quality	Table 4: Minimum information required for assessment of Terrestrial environmental quality (required information in Table 4 is provided below). NT EPA objective: Protect the quality and integrity of land and soils so that environmental values are supported and maintained.	
Environmental values	• Describe and map the soil types and land units of the proposal area and surrounding areas with consideration of the following aspects as appropriate:	Section 7.1.1 – Environmental Values Appendix L – Erosion and Sediment Control Plans
	○ the presence and location of existing contaminated soils/materials	
	○ physical and chemical properties of the soil	
	○ existing erosion and other disturbances.	
	• Describe the environmental values supported by land and soils in the proposal area and surrounding areas that may be impacted.	
	• Provide results and interpretation of any geotechnical and soil investigations and surveys of the proposal area, and an assessment of the suitability of proposed locations for each relevant component.	
Potential impacts and risks	Describe potential impacts to land and soils and the NT EPA's environmental objective associated with the proposal, including:	Section 7.1.2 – Potential Impacts and Risks Appendix B – Risk Assessment Register
	• direct and indirect disturbance of existing mining landforms and contaminated soil	
	• erosion of existing and proposed mining landforms and sedimentation in the receiving environment during mining and post-closure	
	• soil and land contamination from smelter emissions, dust, AMD and hazardous materials spills.	
	Determine the proposal footprint and the area of influence that could feasibly experience those impacts. Classify the areas as:	

	• proposal footprint – or direct disturbance footprint. These are the areas of proposed infrastructure, vegetation clearing and direct use.	
	• area of influence – or indirect disturbance footprint. These are surrounding areas that may be indirectly affected by proposed activities, for example via the release of contaminants (air, water, land), changes to land, water etc.	
	Provide an assessment of potential impacts and risks, and quantify the significance of impacts and risks, to terrestrial environmental quality using outcomes of field studies, modelling and other relevant information. As a minimum, the assessment should consider:	
	• scope, methods, equipment, timing and frequency of field studies	
	• cumulative impacts with other industries or proposals.	
	Demonstrate that consideration has been given to any policies, procedures and plans relevant to environmental values within the proposal footprint and area of influence.	
Avoidance, mitigation and management	Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of section 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act.	Section 7.1.3 – Avoidance, Mitigation and Management
	Describe the measures that will be implemented to enhance or restore environmental quality during operations through progressive rehabilitation and post closure.	
	Provide an outline of proposed AMD management that demonstrates that best-practice approaches to prevention and management of AMD will be adopted in accordance with the GARD Guide (INAP 2009) and *Preventing Acid and Metalliferous Drainage – Leading Practice Sustainable Development Program for the Mining Industry* guidelines. In the draft EIS:	Appendix D – Materials Characterisation Study Appendix I – Water Management Plan Appendix T – Acid and Metalliferous Drainage Management Plan
	• provide an analysis and interpretation of geochemical characterisation programs and outline further material characterisation requirements throughout each phase	
	• identify occurrence and risks of AMD from proposed infrastructure	
	• demonstrate how AMD will be prevented by design, including consideration of in-pit disposal of PAF waste	
	• detail geological waste block modelling for the proposal	
	• detail site-wide management of PAF and other non-benign mine waste materials.	
	Detail erosion and sediment control measures that would be implemented for the proposal in accordance with the *Best Practice Erosion and Sediment Control Guidelines* (IECA 2008).	Appendix L – Erosion and Sediment Control Plans
	Detail in the draft MCP how the proposal areas will be rehabilitated and closed so that they are safe, stable and non-polluting in perpetuity.	Appendix J – Draft Mine Closure Plan

	All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant Northern Territory Government (NTG) advisory agencies.	Noted.
Monitoring and reporting	Describe proposed monitoring and reporting of potential impacts and risks to land and soils, and the effectiveness of mitigation and management measures, for each phase of the proposal.	Section 7.1.4 – Monitoring and Reporting
	All monitoring activities should be substantiated and in accordance with best practice including advice from relevant NTG advisory agencies.	
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values.	Section 7.1.5 – Residual Impact Section 7.1.6 – Predicted Outcome and Conclusions
Offsets	Where a significant residual impact remains after applying the environmental decision making-hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offset Framework* (as published). *NT Offset Framework is available at: https://depws.nt.gov.au/environment-information/northern-territory-offsetsframework/ northern-territory-offsets-framework	Section 12 – Conclusion of Predicted Impacts
3.2. Terrestrial ecosystems	Table 5: Minimum information required for assessment of Terrestrial ecosystems (required information in Table 5 is provided below). NT EPA objective: Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.	
Environmental values	Describe and map the extent of terrestrial ecosystems of the proposal footprint and area of influence following the appropriate guidelines (e.g. Brocklehurst et al 2007, Land Clearing Guidelines (DENR 2019) with detail on:	Section 7.2.1- Environmental Values Section 9.2.3 – Nationally Threatened Species Appendix K – Ecological Flora and Fauna Reports Appendix M – Vegetation Survey Report Appendix R – Ecological Searches
	• vegetation communities using the National Vegetation Information System (NVIS) classification (vegetation mapping to at least NVIS level 5 or higher)	
	• riparian vegetation and any other significant vegetation types	
	• introduced and invasive species including weed species declared under the *Weeds Management Act 2001*.	
	Describe existing condition of habitat and vegetation communities along with any existing threatening processes.	
	Assess the likelihood of occurrence for threatened species listed under the Territory Parks and Wildlife Conservation Act 1976 (TPWC Act) and the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), including but not limited to:	
	• Gouldian finch *Erythrura gouldiae*	
	• Red goshawk *Erythrotriorchis radiatus*	
	• Northern quoll *Dasyurus hallucatus*	
	• Partridge pigeon (eastern) *Geophaps smithii smithii*	

	• Pale field-rat *Rattus tunneyi*	
	• Yellow-spotted monitor *Varanus panoptes*	
	• Mertens' water monitor *Varanus mertensi*	
	• Mitchell's water monitor *Varanus mitchelli*	
	• Yellow-snouted gecko *Lucasium occultum*	
	• *Stylidium ensatum*	
	• *Helicteres macrothrix*	
	• *Schoutenia ovata*	
	Any species that have a likelihood of occurrence of moderate or above require further assessment of the regional significance of the species and risks posed by the proposal.	
	Provide details of survey program timing, locations and methodology to demonstrate appropriate and statistically sufficient survey designs.	
	Results and interpretation of surveys should be presented in the draft EIS including survey effort and absence records. In particular, detail the outcomes of targeted surveys undertaken for the threatened plant species *Helicteres macrothrix* and *Stylidium ensatum.*	
	The proposal has not been referred under the EPBC Act. Appropriate justification is required in the draft EIS as to why the activities do not have potential for a significant impact on any MNES.	
	Further consideration must be given to the need for referral of the proposal under the EPBC Act once surveys for *Stylidium ensatum* and *Helicteres macrothrix* have been completed.	
Potential impacts and risks	Describe potential impacts to terrestrial ecosystems associated with the proposal and the NT EPA's environmental objective, including:	Section 7.2.2 – Potential Impacts and Risks Appendix B – Risk Assessment Register
	• direct loss of flora/ecological communities from vegetation clearing and ongoing maintenance (e.g. fire and vegetation management) including significant and sensitive habitats and potential habitats for threatened species listed under TPWC Act and EPBC Act. Provide an overview of the extent (ha) of the loss in table and map format	
	• indirect disturbance or degradation of flora and vegetation, for example, from groundwater drawdown from dewatering, erosion, dust, fallout from the smelter, weeds/pathogens, and soil and water contamination	
	• introduction or increase of weed and pest species	
	• changes in bushfire risk (fire frequency and intensity) due to vegetation clearing and weeds	
	• direct disturbance of fauna and fauna habitat as a result of clearing	

	• indirect impacts to fauna due to impacted water (mine pits and downstream), introduction or spread of weed or pest species, fragmentation and edge effects.	
	Determine the proposal footprint and area of influence that could feasibly experience those impacts.	
	Provide an assessment of potential impacts and risks, and quantify the significance of impacts and risks, to terrestrial ecosystems using outcomes of field studies, modelling and other relevant information. As a minimum, the assessment should consider:	
	• the extent to which groundwater drawdown and seepage or discharge of mine affected water could impact riparian vegetation over time	
	• prediction of post-closure discharge and pit lake water quality, and thresholds for impacts to fauna.	
	Quantify the cumulative impacts on terrestrial ecosystem values across the following scales:	
	• property perspective	
	• catchment	
	• Region	
	• bioregion	
	In the cumulative impact assessment, consider the effects of multiple actions or impacts on the natural environment, including habitats for threatened species, vegetation types and natural features identified as being important under the Land Clearing Guidelines (DENR 2019).	
	In the cumulative impact assessment, consider all actions/impacts across each spatial scale including (but not limited to) existing, approved or planned mining and other extractive/pastoral/agricultural activities.	
Avoidance, mitigation and management	Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act.	Section 7.2.3 – Avoidance, Mitigation and Management
	Describe any measures that will be implemented to minimise vegetation clearing, and restore impacted areas of vegetation and habitat progressively during operation and post-closure.	
	Information on how buffers to significant and sensitive vegetation would be adopted as recommended in the Land Clearing Guidelines (DENR 2019) should be provided. If the minimum buffer width is unable to be adopted, the EIS should identify other appropriate mitigation/management measures.	
	Provide details of closure-objectives and rehabilitation methods in the draft MCP.	
	Where *Helicteres macrothrix* or *Stylidium ensatum* is present or cannot be ruled out, provide an evaluation of the potential direct, indirect, off site and cumulative	

	impacts prepared in accordance with the *Significant Impact Guidelines 1.1* under the EPBC Act.	
	The evaluation of the potential impacts must be supported by a risk assessment and appropriate measures that would be implemented to avoid, mitigate and/or offset potential impacts, including referral to the Australian Government.	
	All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant NTG advisory agencies. All clearing of native vegetation should comply with the NT Land clearing Guidelines (DENR 2019).	
Monitoring and reporting	Outline proposed monitoring and reporting related to potential impacts and risks to terrestrial ecosystems, and the effectiveness of mitigation and management measures.	Section 7.2.4 – Monitoring and Reporting
	All monitoring activities should be substantiated and in accordance with best practice advice from relevant NTG advisory agencies.	
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values.	Section 7.2.5 – Residual Impacts Section 7.2.6 – Predicted Outcome and Conclusions
Offsets	Where a significant residual impact may remain after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offset Framework (as published).	Section 12 – Conclusion of Predicted Impacts
3.3. Hydrological processes	Table 6: Minimum information required for assessment of Hydrological processes (required information in Table 6 is provided below). 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	Describe the environmental values and sensitivities associated with hydrological processes in the proposal footprint and area of influence including:	Section 7.3.1 – Environmental Values – Surface Water Section 7.3.2 – Environmental Values – Groundwater Appendix H – Groundwater Investigation and Modelling Report Appendix N – Hydrology and Flood Assessment Report
	• climate and meteorological conditions of the proposal's area of influence with reference to hydrological regimes, the frequency and severity of extreme weather conditions, such as storms and cyclones	
	• surface water catchment systems of the proposal's area of influence including Mount Bundey Creek and Marrakai Creek and associated tributaries	
	• groundwater systems associated with the proposal area	
	• any relevant water control districts and water allocation plans	
	• declared beneficial uses, existing users, water quality objectives and environmental values of water resources, including the potential for Aboriginal sacred sites, in the proposal's area of influence.	
	Provide detailed maps to support the above descriptions.	
	Provide results and interpretation of any hydrological and hydrogeological surveys	

	of the area of influence.	
Potential impacts and risks	Describe potential impacts to hydrological regimes associated with the proposal, and the NT EPA's environmental objective, including:	Section 7.3.3 – Potential Impacts and Risks Appendix B – Risk Assessment Register
	• changes to the natural catchment and surface and groundwater hydrology with construction of mine components	
	• alteration of surface water flow volumes associated with mine site discharges and surface water extraction	
	• groundwater drawdown associated with dewatering of pits and groundwater extraction	
	• groundwater mounding associated with seepage from WRDs, the TSF and other dams/water storages	
	• density driven flows to surrounding groundwater resources	
	• flooding associated with dam overflows, dam wall failure etc.	
	Determine the proposal footprint and influence that could feasibly experience those impacts.	
	Provide an assessment of potential impacts and risks, and quantify the significance of impacts and risks, to hydrological processes using outcomes of field studies, modelling and other relevant information. As a minimum, the assessment should take into consideration:	
	• methods, equipment, timing and frequency	
	• cumulative impacts with other industries or proposals	
	• environmental management requirements associated with seasonal weather, extreme weather conditions such as storms and cyclones for the 2, 10 and 100 year average recurrence interval events	
	• reversibility of potential impacts.	
	In the assessment, include:	
	• details of modelled discharge volumes and timing, and an assessment of how discharges could alter the flow regimes in receiving watercourses.	
	• modelling and mapping of groundwater drawdown during operations, and predicted post-closure recovery of groundwater levels in the pit lakes. Include details on how the model was calibrated, validated and the key assumptions used.	
	• quantification of sustainable groundwater extraction limits and any approval or allocation required under the *Water Act 1992*	
	• results of flood risk assessments and associated design criteria adopted for dams and storages to minimise downstream flooding	
	• identification of any sensitive receptors that could be impacted by	

	unexpected failure, including any sacred sites downstream of the proposal.	
	In the assessment, identify potential impacts and risks to hydrological processes and quantify their significance:	
	• against relevant guideline thresholds	
	• on the beneficial uses, water quality objectives and identified environmental values including groundwater dependent ecosystems and existing ground and surface water users.	
Avoidance, mitigation and management	Describe the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act.	Section 7.3.4 – Avoidance, Mitigation and Management Appendix I – Water Management Plan Appendix J – Draft Mine Closure Plan Appendix L – Erosion and Sediment Control Plans
	Provide a Water Management Plan (WMP) that outlines how impacts to surface and groundwater hydrology would be managed for all proposal stages and seasons, and includes at a minimum:	
	• details of the site water management system and water balance used to inform mine site water management	
	• measures to minimise water use and discharge	
	• details of modelled discharge volumes and timing, and how these will be managed to minimise changes to hydrological regimes and protect environmental values.	
	In the draft MCP, identify the final structures (developed by a suitably qualified engineer) to divert, capture, retain and/or treat surface runoff and to prevent discharge of contaminated water from the site post-closure.	
	All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant NTG advisory agencies.	
Monitoring and reporting	Outline proposed monitoring and reporting activities in the WMP related to potential impacts and risks to hydrological processes, and the effectiveness of mitigation and management measures. Include at a minimum information on:	Section 7.3.5 – Monitoring and Reporting Appendix I – Water Management Plan
	• groundwater monitoring network to detect impacts from key components of the mine site, including open pits, WRDs and TSF	
	• groundwater and surface water monitoring program, including details of monitoring methods, frequency and timing	
	• discharge monitoring sites, including point of discharge and compliance points proposed for inclusion in a Waste Discharge Licence	
	• measures proposed for recording and reporting discharge volumes and timing.	
	• measures to quantify, record and report volumes of water extracted from surface and groundwater	
	• trigger action response plan (TARP) that includes proposed thresholds/triggers and corrective actions.	

	All monitoring activities should be substantiated and in accordance with best practice advice from relevant NTG advisory agencies.	
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values.	Section 7.3.6 – Residual Impact Section 7.3.7 – Predicted Outcome and Conclusions
Offsets	Where a significant residual impact remains after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offset Framework (as published).	Section 12 – Conclusion of Predicted Impacts
3.4. Inland water environmental quality	Table 7: Minimum information required for assessment of Inland water environmental quality (required information in Table 7 is provided below). 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.	
Environmental values	Describe the water quality (chemical, physical and biological) of surface water and groundwater in the proposal footprint and area of influence.	Section 7.4.1 – Environmental Values
	Describe and map the environmental values and beneficial uses supported in the area of influence. Identify the potential for sacred sites to occur in the area of influence downstream that may be impacted by water quality changes.	
Potential impacts and risks	Describe potential impacts and risks to water quality associated with each phase of the proposal, and the NT EPA's environmental objective, including:	Section 7.4.2 – Potential Impacts and Risks Appendix B – Risk Assessment Register
	• increased turbidity in downstream watercourses from erosion and sedimentation	
	• contamination of surface water and groundwater from mine site discharges and/or AMD	
	• hydrocarbon and other chemical contamination due to leaks and spills.	
	Determine the proposal footprint and area of influence that could feasibly experience those impacts.	
	Develop a conceptual site model for the proposal in accordance with NT EPA guidance describing:	
	• potential sources of contaminants and mechanisms of their release	
	• pathways for transport of contaminants	
	• receptors (including potential for human and ecological exposure)	
	• fate of any contaminated waters and products from the proposal.	
	Provide an assessment of potential impacts and risks, and quantify the significance of impacts and risks, to inland water environmental quality using outcomes of field studies, modelling and other relevant information. As a minimum, the assessment should take into consideration:	
	• methods, equipment, timing and frequency	
	• potential contaminants/pollutants	

	• environmental management requirements associated with seasonal weather, extreme weather conditions such as storms and cyclones for the 2, 10 and 100 year average recurrence interval events	
	• the physical and chemical characteristics, volume, timing and location of any discharges	
	• the reversibility of potential impacts.	
	In the assessment, include consideration of impacts on water quality associated with:	
	• controlled and uncontrolled discharges	
	• seepage from WRDs and the TSF	
	• AMD, dust, smelter emissions and other contamination risks	
	• seepage or overflows from the pit lakes post-closure, including a risk and impact assessment to demonstrate that the proposed closure strategy avoids or minimises impacts to surface water and groundwater values in perpetuity	
	• post-closure landform stability	
	• cumulative impacts to Mount Bundey Creek and the Mary River associated with discharges from multiple mining and extractives activities in the catchment.	
	In the assessment, identify potential impacts and risks to inland water environmental quality and quantify their significance:	
	• against relevant guideline thresholds, including ANZG 2018	
	• on the beneficial uses, water quality objectives and identified environmental values of the waterways in the proposal's area of influence.	
Avoidance, mitigation and management	Describe the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also include here measures to enhance or restore environmental quality.	Section 7.4.3 – Avoidance, Mitigation and Management Appendix I – Water Management Plan Appendix J – Draft Mine Closure Plan
	In the WMP, detail how impacts to surface and groundwater quality would be managed for all proposal stages and seasons. In the WMP, demonstrate how water would be managed and treated to achieve a quality that provides for protection of at least 95% of aquatic ecosystem species. In the WMP, include:	
	• erosion and sediment control measures	
	• details of discharge management measures, including treatment, discharge locations and timing	
	• measures to minimise discharges and seepage of poor quality water from WRDs, mine pits and the TSF	
	• storage and handling of hazardous materials.	

	In the draft MCP, address:	
	• predicted post-closure water balance, including density driven exchange between pit lakes and the surrounding groundwater	
	• post-closure pit lake water quality	
	• surface and groundwater quality in accordance with site-specific guideline values (SSGVs) to meet post-closure land use criteria.	
	All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant NTG advisory agencies.	
Monitoring and reporting	Outline proposed monitoring and reporting activities in the WMP related to potential impacts and risks to inland water environmental quality, and the effectiveness of mitigation and management measures. The program must include at a minimum:	Section 7.4.4 – Monitoring and Reporting Appendix I – Water Management Plan
	• groundwater and surface water monitoring sites, including details of site selection and justification, frequency, analyte suite, sampling methodology, QA/QC protocols, including suitable maps	
	• a summary of results and interpretation of baseline data, relevant ANZG (2018) aquatic ecosystem protection guidelines and SSGVs.	
	• TARP that identifies effective control sites and clear thresholds.	
	All monitoring activities should be substantiated and in accordance with best practice advice from relevant NTG advisory agencies.	
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values. The assessment should include an analysis of the potential long term impacts and risks of storing problematic mining waste above ground or returning waste to pits.	Section 7.4.5 – Residual Impact Section 7.4.6 – Predicated Outcome and Conclusions
Offsets	Where a significant residual impact remains after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offset Framework (as published) and EPBC Act environmental offsets policy.	Section 12 – Conclusion of Predicted Impacts
3.5. Aquatic ecosystems	Table 8: Minimum information required for assessment of Aquatic ecosystems (required information in Table 8 is provided below). NT EPA objective: Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.	
Environmental values	Describe and map the aquatic habitats and species supported by those habitats within the proposal area and areas downstream that may be impacted by changes to water quality associated with the proposal. Include details of:	Section 7.5.1 – Environmental Values
	• permanent pools within surface water courses	
	• wetlands	
	• groundwater dependent ecosystems.	
	Provide results and interpretation of any aquatic ecology surveys of the area of	

	influence.	
Potential impacts and risks	Describe potential impacts and risks to aquatic ecosystems and the NT EPA's environmental objective, including:	Section 7.5.2 – Potential Impacts and Risks Appendix B – Risk Assessment Register
	• loss of habitat or species as a result of alteration of off-site surface water and groundwater quality from AMD, discharge of poor quality water, and alteration of flows from mining activities	
	• cumulative impacts to Mount Bundey Creek and the Mary River associated with discharges from multiple mining and extractives activities in the catchment.	
	Determine the proposal footprint and area of influence that could feasibly experience those impacts.	
	Provide an assessment of potential impacts and risks, and quantify their significance, to aquatic ecosystems using outcomes of field studies, modelling and other relevant information. As a minimum, the assessment should take into consideration:	
	• methods, equipment, timing and frequency	
	• the reversibility of potential impacts.	
	The assessment must quantify the significance of potential impacts and risks:	
	• against relevant guideline thresholds	
	• on the beneficial uses, water quality objectives and identified environmental values including groundwater dependent ecosystems and existing ground and surface water users.	
Avoidance, mitigation and management	Outline the measures for avoiding, mitigating, or offsetting impacts identified above, with consideration of sections 26 (Environmental decision-making hierarchy) and section 27 (Waste management hierarchy) of the EP Act. Also include here measures to enhance or restore environmental quality.	Section 7.5.3 – Avoidance, Mitigation and Management
	All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant NTG advisory agencies.	
Monitoring and reporting	Outline proposed monitoring and reporting activities related to potential impacts and risks to aquatic ecology and the effectiveness of mitigation and management measures.	Section 7.5.4 – Monitoring and Reporting
	All monitoring activities should be substantiated and in accordance with best practice advice from relevant NTG advisory agencies.	
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values.	Section 7.5.5 – Residual Impact Section 7.5.6 – Predicted Outcome and Conclusions
Offsets	Where a significant residual impact remains after applying the environmental decision-making hierarchy, identify offsets and describe how any proposed offset is consistent with the NT Offset Framework (as published) and EPBC Act environmental offsets policy.	Section 12 – Conclusion of Predicted Impacts

3.6. Community and economy	Table 9: Minimum information required for assessment of Community and economy. (required information in Table 9 is provided below). NT EPA objective: Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.	
Environmental values	Describe the existing socio-economic profile of the proposal's area of influence, including reference to:	Section 7.6.1 – Environmental Values
	• key landowners/custodians/stakeholders/communities, and other persons with overlapping or intersecting interests	
	• social values as identified by stakeholders	
	• demographics, including skills audit of affected communities and workforce characteristics	
	• existing and required local businesses relevant to supply chain, construction and operations	
	• primary economic characteristics within the proposal area	
	• primary employment source/s of townships/cities/communities within or in proximity to the proposal area	
	• proximity to existing infrastructure and associated operators (e.g. rail, gas pipeline, cables etc.)	
	• social amenity and use of the proposal area and adjacent areas for other purposes, including, residential, commercial, industrial, recreational/leisure, tourism, and traditional land use.	
Potential impacts and risks	Describe potential impacts to community and economy and the NT EPA's environmental objective (including net positive benefits) associated with the proposal, including:	Section 7.6.2 – Potential Impacts and Risks Appendix B – Risk Assessment Register
	• changes to population (local and NT), employment market and businesses	
	• direct and indirect impacts to tourism businesses in the region	
	• changes or restrictions to local traffic due to increased heavy traffic resulting in delays or inconvenience to local communities and other road users	
	• expected local employment and availability of appropriately skilled labour	
	• planned Aboriginal employment, training, participation and other potential benefits	
	• potential adverse impacts to local and regional industries due to competition for limited skilled labour resources	
	• proportion of fly-in, fly-out and drive-in, drive-out employees, and use of non-local workforce	
	• economic assessment of the proposal's impact on the NT economy	

	• details of the financial capacity to implement the proposal and the potential risks to project implementation	
	• total contribution to Gross Territory Product and Gross Domestic Product over the economic life of the proposal	
	• estimated capital and annual operational expenditure.	
	Provide a social impact assessment including assessment of potential impacts, benefits and risks to communities and the economy utilising modelling, outcomes of investigations, and other relevant information. The SIA should include consideration of impacts on local businesses and people residing in the region, and examine impacts and benefits of increased activity and pollution (such as but not limited to noise, light, dust etc.) on local industries such as hospitality and tourism/ecotourism.	
	The assessment must quantify the significance of potential impacts and risks to communities and the economy.	
	The assessment of each aspect should consider cumulative impacts and the reversibility of potential impacts.	
Avoidance, mitigation and management	Outline the measures for preferentially avoiding, mitigating, or offsetting adverse impacts, and maximizing benefits identified above. For example, outline strategies to maximise local employment and procurement and opportunities to engage with locally-based employees and businesses in Greater Darwin.	Section 7.6.4 – Avoidance, Mitigation and Management
	All mitigation measures should be substantiated and in accordance with best practice, including advice from relevant NTG advisory agencies.	
Monitoring and reporting	Outline proposed monitoring and reporting activities related to potential impacts and risks to community and economy, and mitigation and management measures.	Section 7.6.4 – Monitoring and Reporting
	All monitoring activities should be substantiated and in accordance with best practice advice from relevant NTG advisory agencies.	
Residual impact	Assess the significance of any residual impact or risk of the proposal to identified values.	Section 7.6.5 – Residual Impacts
Offsets	Where a significant residual impact remains after applying the environmental decision-making hierarchy, identify any offsets proposed.	Section 12 – Conclusion of Predicted Impacts
4. Other requirements		
4.1. Whole of environment considerations	Provide a holistic assessment of the impacts of the proposal on the whole of the environment, in particular, a description of the connections and interactions between the environmental factors, and cumulative impacts. Succinctly discuss predicted outcomes in relation to the principles of environment protection and management (as set out in Part 2 of the EP Act) and the NT EPA's environmental objectives.	Section 11 – Holistic Impacts

4.2. 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 community understanding of the proposed action and its potential impacts and benefits.	Section 3 – Stakeholder Engagement Appendix A – Stakeholder Engagement Plan
	The Proponent must engage and consult with stakeholders* who are affected by and interested in the Proposal. The Proponent must document the following in the EIS:	
	• identified stakeholders	
	• the stakeholder consultation undertaken and the outcomes, including decision-making and any adjustments to the proposal as a result of consultation	
	• future engagement activities intended during the assessment process and post-approval, including during construction and operation of the proposal.	
	* As defined in the NT EPA's Stakeholder Engagement and Consultation – Environmental impact assessment guidance for proponents (NT EPA 2020)	
4.3. Public consultation requirements	The public consultation requirements for the EIS are outlined in Part 5 Division 6 of the Environment Protection Regulations 2020. Additional specific details are provided below.	-
4.3.1. Submission period	The NT EPA proposes a period (usually between 30 and 60 business days) for consultation on the draft EIS. The duration of the period will be confirmed during the draft EIS pre-lodgement phase.	-
4.3.2. Public consultation locations	The draft EIS should be provided to and be made available for public consultation at:	-
	• Environment Centre Northern Territory, Unit 3, 98 Woods Street, Darwin	-
	• Northern Land Council, 45 Mitchell Street, Darwin	-
	• Northern Territory Library, Parliament House, Darwin	-
	• NT EPA, Level 1, Arnhemica House, 16 Parap Road, Parap	-
	• Taminmin Community Library, Challoner Cct, Humpty Doo NT 0836	-
	• Mines and Energy Information Centre, Department of Industry, Tourism and Trade, 3rd Floor, Paspalis Centrepoint, 48 Smith Street Mall, Darwin	-
	• Department of the Chief Minister and Cabinet, Level 12, NT House, 22 Mitchell Street, Darwin.	-

Appendix A – List of relevant guidance material		
	The following guidance material is considered relevant to the TOR. 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.	Noted
	• ANCOLD 2012. Guidelines on the Consequence Categories for Dams.	
	• ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anzguidelines.	
	• APEC 2018. Mine Closure Checklists for Governments, Asia-Pacific Economic Cooperation.	
	• Austroads, 2016. Guide to Traffic Management Part 12: Traffic Impacts Development.	
	• Barnett B., Townley L.R., Post V., Evans R. E., Hunt R. J., Peeters L., Richardson S., Werner A. D., Knapton A. and Boronkay A., 2012. Australian Groundwater Modelling Guidelines, Waterlines Report. National Water Commission, Canberra.	
	• Brocklehurst P, Lewis D., Napier D, Lynch D. 2007. Northern Territory guidelines and field methodology for vegetation survey and mapping. Technical Report No. 02/2007D, Department of Natural Resources, Environment and the Arts, Palmerston, Northern Territory.	
	• Commonwealth of Australia, 2016. Preventing Acid and Metalliferous Drainage – Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia, 2013. Significant Impact Guidelines 1.1 – Matters of National Environmental Significance.	
	• Commonwealth of Australia, 2012. Aquatic ecosystems toolkit. Department of Sustainability, Environment, Water, Population and Communities.	
	• Commonwealth of Australia. 2016. Water Stewardship, Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia. 2016. Mine Closure, Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia. 2016. Mine Rehabilitation, Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia. 2016. Hazardous Materials Management, Leading Practice Sustainable Development Program for the Mining	

	Industry.	
	• Commonwealth of Australia. 2008. Cyanide Management, Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia. 2016. Tailings Management, Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia. 2016. Biodiversity Management, Leading Practice Sustainable Development Program for the Mining Industry.	
	• Commonwealth of Australia, 2010 – 2014. Survey Guidelines for Nationally Threatened Species, available at http://www.environment.gov.au/epbc/policystatements	
	• Commonwealth of Australia, 2013. Significant Impact Guidelines 1.1 – Matters of National Environmental Significance.	
	• Department of Environment and Natural Resources NT Flora and Fauna Atlases at http://www.lrm.nt.gov.au/nrmapsnt.	
	• DENR, 2019. Land clearing guidelines. Department of Environment and Natural Resources, Darwin.	
	• DENR, 2020. Northern Territory Climate Change Response: Towards 2050. Department of Environment and Natural Resources, Darwin.	
	• DoH, 2018. Health requirements for mining and construction. Department of Health, Environmental Health Branch. Available at: https://www.nt.gov.au/property/buildingand-development/healthandsafety/ health-requirements-mining-constructionprojects. Last updated 1 March 2018.	
	• DoH, 2014. Code of practice for on-site wastewater management. Department of Health, Northern Territory Government.	
	• DoH, 2005. Guidelines for preventing mosquito breeding sites associated with mining sites. Medical Entomology, Department of Health. Northern Territory Government.	
	• IECA 2008. Best Practice Erosion and Sediment Control Guidelines. Picton NSW: International Erosion Control Association.	
	• INAP, 2009. The Global Acid Rock Drainage Guide (incorporating best practices and technology to address acid and metalliferous drainage issues). International Network for Acid Prevention.	
	• MCA, 2014. Water accounting framework for the minerals industry – User guide. Minerals Council of Australia.	
	• NT EPA, 2020. Draft environment impact assessment guidance for proponents - Preparing a proponent initiated EIS referral. Northern Territory Environment Protection Authority, Darwin.	

	• NT EPA, 2020. Environmental impact assessment guidance for proponents: Preparing an environmental impact statement (draft). Northern Territory Environment Protection Authority, Darwin.	
	• NT EPA, 2020. Environmental impact assessment guidance: NT EPA Environmental Factors and Objectives. Northern Territory Environment Protection Authority.	
	• NT EPA, 2018. Guidance on adaptive management. Northern Territory Environment Protection Authority.	
	• NT EPA, 2018. Opportunities and timeframes for community engagement in the environmental impact assessment process: Information for proponents and the public. Northern Territory Environment Protection Authority.	
	• NT EPA, 2017. Northern Territory Contaminated Land Guideline. Northern Territory Environment Protection Authority.	
	• NT EPA, 2013. Environmental Assessment Guidelines on Acid and Metalliferous Drainage (AMD). Northern Territory Environment Protection Authority.	
	• NT EPA, 2013. Guidelines for Assessment of Impacts on Terrestrial Biodiversity. Northern Territory Environment Protection Authority.	
	• NT EPA, 2013. Guideline on Conceptual Site Models. Northern Territory Environment Protection Authority.	
	• NT EPA, 2013. Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites in the NT. Northern Territory Environment Protection Authority.	
	• NT EPA, 2013. Guidelines for Assessment of Impacts on Terrestrial Biodiversity. Northern Territory Environment Protection Authority.	
	• NT EPA, 2013. Guidelines for the Preparation of an Economic and Social Impact Assessment. Northern Territory Environment Protection Authority.	
	• Threatened Species Scientific Committee (2016). Conservation Advice Stylidium ensatum. Canberra: Department of the Environment. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/86366-conservationadvice-05052016.pdf.	
	• Guidelines for preventing mosquito breeding associated with mine sites - https://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/2683/1/Guidelines%20Mine%20Site.pdf	
	• NESP Earth Systems and Climate Change Hub (2020). Climate change in the Northern Territory: state of the science and climate change impacts. NESP ESCC Hub, Melbourne.	