

Havieron Project Social Studies

Social Risk Assessment

Newcrest Mining Limited



Reference: 754-MELEN279504_1_v4 WDLAC

26 July 2021

HAVIERON SOCIAL STUDIES

Social Risk Assessment

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1. INTRODUCTION

1.1 BACKGROUND

The Havieron Project is a proposed greenfield gold-copper mine located in Western Australia's Paterson Province, 485 kilometres (km) east from Port Hedland. It is operated by Newcrest Mining Limited (Newcrest) under a Joint Venture Agreement with Greatland Gold and is being planned in two stages. Stage 1 includes preparatory works, boxcut and decline development and associated infrastructure. Stage 2 includes underground mining and the development of an infrastructure corridor to provide access and electricity to the project and the transport of ore to Telfer for processing.

Newcrest has received regulatory approvals for stage 1 and is now undertaking a Pre-Feasibility Study and preparing regulatory approval documents to support stage 2 approvals. A range of specialist environmental and social studies are being undertaken as part of this, including this social risk assessment.

This report has been developed based predominantly on desktop information and engagement with Newcrest employees. At the request of Western Desert Lands Aboriginal Corporation (WDLAC), engagement has been limited to stakeholders who reside outside of Martu communities. WDLAC, Newcrest, and Tetra Tech Coffey (Coffey) have been meeting since April 2021 to develop a collaborative approach for future engagement with Martu communities to collect information on community perceptions of Newcrest and the potential impacts of the Havieron Project.

The limited nature of engagement with Martu stakeholders has resulted in assumptions being established for several areas of social risk based on literature review and existing Newcrest information on community values. These are primarily related to Martu concerns and aspirations as they relate to the development and operation of the project, including:

- Martu aspirations for employment with the project.
- Martu use of the country affected and surrounding the project footprint.

As noted above, a collaborative approach to engaging with Martu is being developed and will be undertaken as part of the forward works program (Section 7).

1.2 PURPOSE

This social risk assessment forms a part of the wider social studies being undertaken to support the pre-feasibility study. This is a preliminary assessment, as community engagement to inform the understanding of social values and community perceptions of the project's potential social risks is yet to be undertaken. This report:

- Summarises the social and cultural heritage baseline for the social area of influence for the Havieron Project.
- Identifies the project's potential social and Aboriginal cultural heritage risks, including:
 - Social and Aboriginal cultural heritage risks to the community.
 - Social opportunities generated by the project.
- Identifies preliminary mitigation and management responses to identified risks.
- Identifies a forward works program for refining and expanding on the current understanding of social risks, which will be used to develop a social impact assessment of the Havieron Project.

1.3 REGULATORY CONTEXT

There are no regulatory requirements for undertaking a social impact assessment in Western Australia. However, the *Environmental Protection Act 1986* (EP Act) requires the consideration of impacts to social surrounds, which under the EP Act means how a proposed development may result in changes to the environment (physical or biological) and how these may affect a person’s aesthetic, cultural, economic or social surroundings.

The requirements of the EP Act as they relate to social surrounds and their relevance to this social risk assessment are detailed in Table 1-1.

Table 1-1 EP Act requirements (social surrounds) and their relevance to this social risk assessment

Social Surrounds under the EP Act	Relevance to this social risk assessment
<ul style="list-style-type: none"> Changes in access to, or the quality of, sites of cultural significance (not limited to listed sites). 	Changes in access to and appreciation of country and cultural heritage are identified and assessed in this social risk assessment. These have been drawn from the cultural heritage assessment (ELA 2021).
<ul style="list-style-type: none"> Changes in dust levels and how these may affect social receptors. 	Changes in air quality, noise, and water quality/hydrological regimes are being assessed by the environmental work stream for the Havieron Project. The results of this are not yet available for the social risk assessment. The risk of these changes affecting social receptors has been assessed generally, as the current social value associated with the area surrounding the project needs to be established through engagement with Martu and their representatives. This has been identified in the forward works program (Section 7.2).
<ul style="list-style-type: none"> Changes in the noise environment and how these may affect social receptors. 	
<ul style="list-style-type: none"> Changes in water quality and quantity including any potential draw down effects that the project may have on social receptors. 	
<ul style="list-style-type: none"> Changes in visual amenity and the landscape overall and how these may affect social receptors. 	The findings of the Visual Amenity Assessment (Ecoscape 2021) have informed the assessment of changes in visual amenity for social receptors, primarily users of Punmu Road, which is are the closest viewpoints to the project. However, the current use of land in the area between the Havieron Project and Punmu Road and the significance of changes in visual amenity for receptors within this area must be established through engagement with Martu and their representatives. This has been identified in the forward works program (Section 7.2).
<ul style="list-style-type: none"> Changes in land access and how these may affect access to and caring for country. 	Changes in land access have been considered generally, as the current use of land in the area surrounding the Havieron project and the significance of changes to land access must be established through engagement with Martu and their representatives. This has been identified in the forward works program (Section 7.2).

Although no official change to the EP Act or Western Australian Government regulation has occurred, recent experience suggests the EPA is increasingly placing emphasis on the potential impact of Indigenous use of places and seeking evidence of consultation on this matter, particularly with Traditional Owners, to inform the assessment of impacts to social surrounds under the EP Act. It is noted that the level of assessment of social impacts required by the EP Act is significantly less than what is required in most other jurisdictions in Australia¹ and falls short of the requirements of international good practice.

In regard to Aboriginal cultural heritage protection, it is noted that the proposed *Aboriginal Cultural Heritage Bill* is expected to pass through the WA Parliament in 2021 and will provide a statutory role for Traditional Owners in the protection of cultural heritage Western Australia. Specifically, the Bill will result in increased requirements for the involvement of Local Aboriginal Cultural Heritage Services in the management of Aboriginal cultural heritage, which in most cases will be assumed by the existing prescribed body corporate.

¹ For example, see NSW (2020) *Draft Social Impact Assessment Guideline. State significant projects* and (DSDTI 2020) *Social impact assessment guideline*.

1.3.1 Industry and best practice guidelines

A number of industry and best practice guidelines have informed the development of the approach to updating the community baseline. Table 1-2 presents these standards and their relevance to the social risk assessment.

Table 1-2 Industry and best practice standards and their relevance to this social risk assessment

Guideline	Relevance to this social risk assessment
<p>The International Council on Mining and Metals (ICMM) <i>Mining Principles</i> framework establishes the baseline performance expectations for its members.</p>	<p>Newcrest became a member of the ICMM in 2017.</p> <p>The framework has a number of principles that require establishing an understanding of the socio-economic risks to the communities that may be affected by the development, operation, and closure of a mine. The principles relevant include:</p> <ul style="list-style-type: none"> • 3. Human rights. • 9. Social performance. • 10. Stakeholder engagement.
<p>The Minerals Councils of Australia (MCA) <i>Enduring Values Framework</i> establishes the principles for social, safety and environmental performance in Australia. The framework is based on the ICMM's <i>10 Principles for Sustainable Development</i> (2015)².</p>	<p>Newcrest is a member of the MCA.</p> <p>The framework has a number of principles that require establishing an understanding of the socio-economic risks to communities that may be affected by the development, operation, and closure of a mine. The principles relevant include:</p> <ul style="list-style-type: none"> • 3. Uphold fundamental human rights. • 9. Contribute to the social, economic, and institutional development of the communities in which we operate. • 10. Implement effective and transparent engagement, communications and independently verified reporting arrangements with stakeholders.
<p>The IAIA (2015) <i>Social Impact Assessment: Guidance for assessing and managing the social impacts of projects</i> provides advice regarding expected good practice for undertaking social impact assessment, particularly for the development of large projects, such as mining projects.</p>	<p>The guidance recognises that the development of an SIA is a phased and iterative process, that progresses in line with the early stages of project development.</p> <p>This social risk assessment contributes to the scoping of potential issues and early identification of key social risks.</p>
<p>World Gold Council Responsible Gold Mining Principles</p>	<p>The Responsible Gold Mining Principles establish a set of expectations of consumers, investors, and the gold mining supply chain regarding what constitutes responsible gold mining. The 10 principles have been developed to address key environmental, social and governance issues of the industry. Principles relevant to social aspects of the Havieron Project include:</p> <ul style="list-style-type: none"> • 4. Safety and health. • 5. Human rights and conflict. • 6. Labour rights. • 7. Working with communities.

1.3.2 Newcrest standards

This social risk assessment has been undertaken in line with the Newcrest standards detailed in Table 1-3.

² This framework has since been replaced by the *Mining Principles* (ICMM 2020).

Table 1-3 Newcrest standards and their relevance to this social risk assessment

Standard	Relevance to this social risk assessment
<i>Social Risk Assessment Guideline (SPG 3.5)</i>	<p>The <i>Social Risk Assessment Guideline</i> requires that a social risk assessment is undertaken for Newcrest assets, which includes:</p> <ul style="list-style-type: none"> • Identifying social risks. • Evaluating the likelihood and consequence of these risks consistent with the <i>Newcrest Risk Management Standard</i>. • Identifying management measures and controls to reduce social risks. • The Guideline also identifies typical social risk topics for Newcrest assets. • This method for this social risk assessment has been guided by the requirements of the Guideline. Social risk topics identified in the Guideline were considered as part of the scoping exercise undertaken for this risk assessment.
<i>Risk Management Standard (RISK ST-01)</i>	<p>The <i>Risk Management Standard</i> defines a standardised process for identifying, analysing, and evaluating risks that pertain to Newcrest’s assets. The Standard has been incorporated into the method for this social risk assessment, as detailed in Section 3.</p>
<i>Community Policy</i>	<p>The <i>Community Policy</i> outlines Newcrest’s commitment to active and inclusive consultation and engagement with landholders and communities. The commitments made under this policy contribute to Newcrest’s vision to be the ‘Miner of Choice’.</p>
<i>Indigenous Relations Policy</i>	<p>The <i>Indigenous Relations Policy</i> details Newcrest’s commitment to respect Indigenous Peoples, their cultures, and customs in the communities in which they operate. The commitments made under this policy contribute to Newcrest’s vision to be the ‘Miner of Choice’.</p>
<i>Socioeconomic Knowledge Base Guideline (SPG 3.3)</i>	<p>The <i>Socioeconomic Knowledge Base Guideline</i> supports the <i>Newcrest Social Performance Standard</i> and provides best practice guidance for competent persons scoping and undertaking knowledge base studies, social impact assessments and social risk assessments.</p>
<i>Social Impact Assessment Guideline (SPG 3.4)</i>	<p>The <i>Social Impact Assessment Guideline</i> provides guidance for meeting the requirements of Clause 3.6 of the <i>Newcrest Social Performance Standard</i>. The guideline outlines what the SIA should contain and guidance for implementation.</p>
<i>Social Performance Standard (PER SP ST-01)</i>	<p>The <i>Social Performance Standard</i> supports the <i>Newcrest Communities Policy</i>, <i>Sustainability Policy</i>, and <i>Indigenous Relations Policy</i>. The standard outlines the elements that are the minimum requirement for meeting Newcrest’s legal and publicly stated social performance commitments. Clause 3.4 Social Impact Assessment and Management Plan and Clause 3.5 Social Risk Assessment outline requirements that must be met.</p>
<i>Stakeholder and Community Consultation and Engagement Guideline (SPG 3.6)</i>	<p>The <i>Stakeholder Engagement Guideline</i> supports the <i>Newcrest Social Performance Standard</i> by providing advice on how to meet the requirements of Clause 3.6 of the Standard. The guideline provides best practice guidance for undertaking stakeholder consultation and engagement.</p>

2. PROJECT DESCRIPTION

The Havieron Project is located approximately 45 km east from Newcrest's fly-in fly-out Telfer mine (Figure 2-1). It is located on the traditional lands of the Martu people, who hold exclusive native title rights and interests to some 130,000 km² of land around and to the east of the Telfer mine and the Havieron Project. The Havieron Project will use some of the existing Telfer mine infrastructure to support its operation, including for ore processing, tailings storage and power generation. Figure 2-2 shows the proposed Havieron Project mine area layout.

Ore is currently proposed to be mined through an underground sub-level open stoping method at a rate of 3 million tonnes per annum (Mtpa) over 12 years. Ore will be transported in trucks from the mine to the existing plant at the Telfer mine along a new 62-km-long haul road that will be constructed within a designated infrastructure corridor (see Figure 2-1). Tailings from the ore processing will be deposited at the existing Telfer mine tailings storage facility (TSF), which may require extension to accommodate the additional tailings.

Power for the project will be generated at the existing Telfer mine power plant. An overhead transmission line will be built along the infrastructure corridor from the power plant to the mine site to supply electricity.

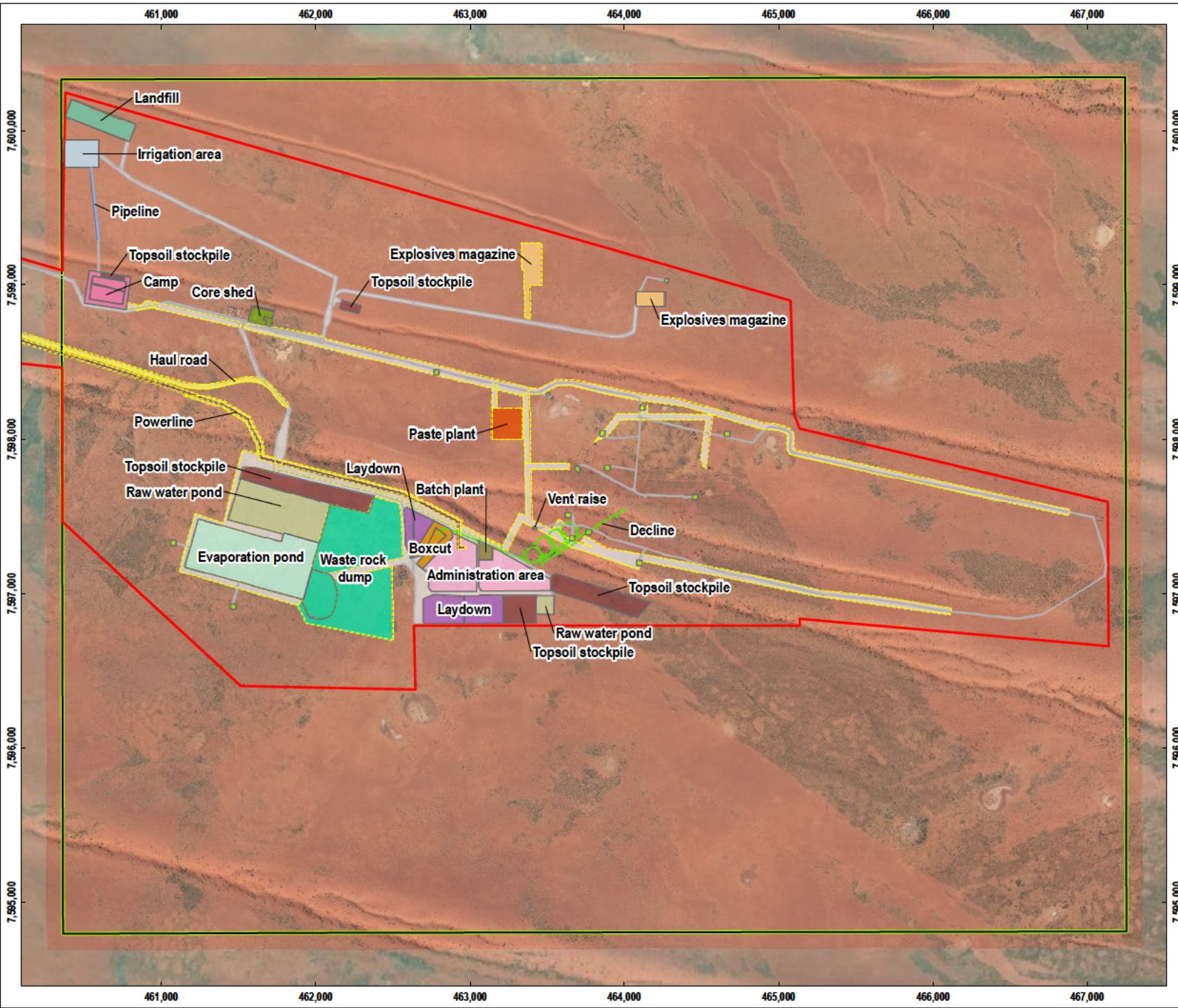
A borefield will be developed to supply water for the project, including for the camp, dust suppression and water consumption for underground mining operations.

Underground mine water will be pumped into a lined evaporation pond that will be constructed. Waste rock dump runoff will also flow into the evaporation pond to capture any acid and metalliferous drainage from waste rock material.

Other supporting infrastructure at the site will include workshops, refuelling areas, wash bays, concrete batch plants, accommodation facilities, offices communication facilities and magazines.

During operation, the Project workforce will be approximately 585 people, which will predominantly be fly-in fly-out, supported by the airport at Telfer mine.

The expected construction workforce requirements for the Havieron Project have not been established. Workforce size and source are common project characteristics that have the potential to affect the social environment, both positively and negatively. This social risk assessment has assumed that the construction workforce will involve a maximum of 224 people, which is the capacity of the Havieron camp.



- LEGEND**
- Decline
 - Disturbance envelope
 - Tenement (M 45/1287)
- Proposed mine layout
- Stage 1
- Access road
 - Administration area
 - Batch plant
 - Boxcut
 - Camp
 - Core shed
 - Evaporation pond
 - Explosives magazine
 - Irrigation area
 - Landfill
 - Laydown
 - Pipeline
 - Production bore
 - Raw water pond
 - Topsoil stockpile
 - Vent raise
 - Waste rock dump
- Stage 2
- Access road
 - Explosives magazine
 - Haul road
 - Paste plant
 - Powerline
 - Waste rock dump

SOURCE
 Infrastructure, tenements and imagery from Newcrest.

0 0.5 1 km

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PROJECTION: GDA 1994 MGA Zone 51

NEWCREST MINING LIMITED
 HAVIERON PROJECT

FIGURE 2-2
 Proposed Havieron Project mine area layout



3. METHOD

This section provides an overview of the method used to undertake this social risk assessment, including:

- Scoping.
- Defining the study area.
- Characterising the social baseline.
- Identifying and assessing social risks.
- Developing the preliminary mitigation and management measures.

3.1 SCOPING

The scoping phase of the SIA involved the preliminary identification of the project's potential socioeconomic risks and opportunities. Specifically, the scoping phase provided a framework for:

- The definition of the study area.
- The scope of the baseline, including identifying socio-economic values that may be affected by the project's potential impacts.
- The identification of key stakeholders for inclusion in SIA consultation.

The scoping of issues was informed by:

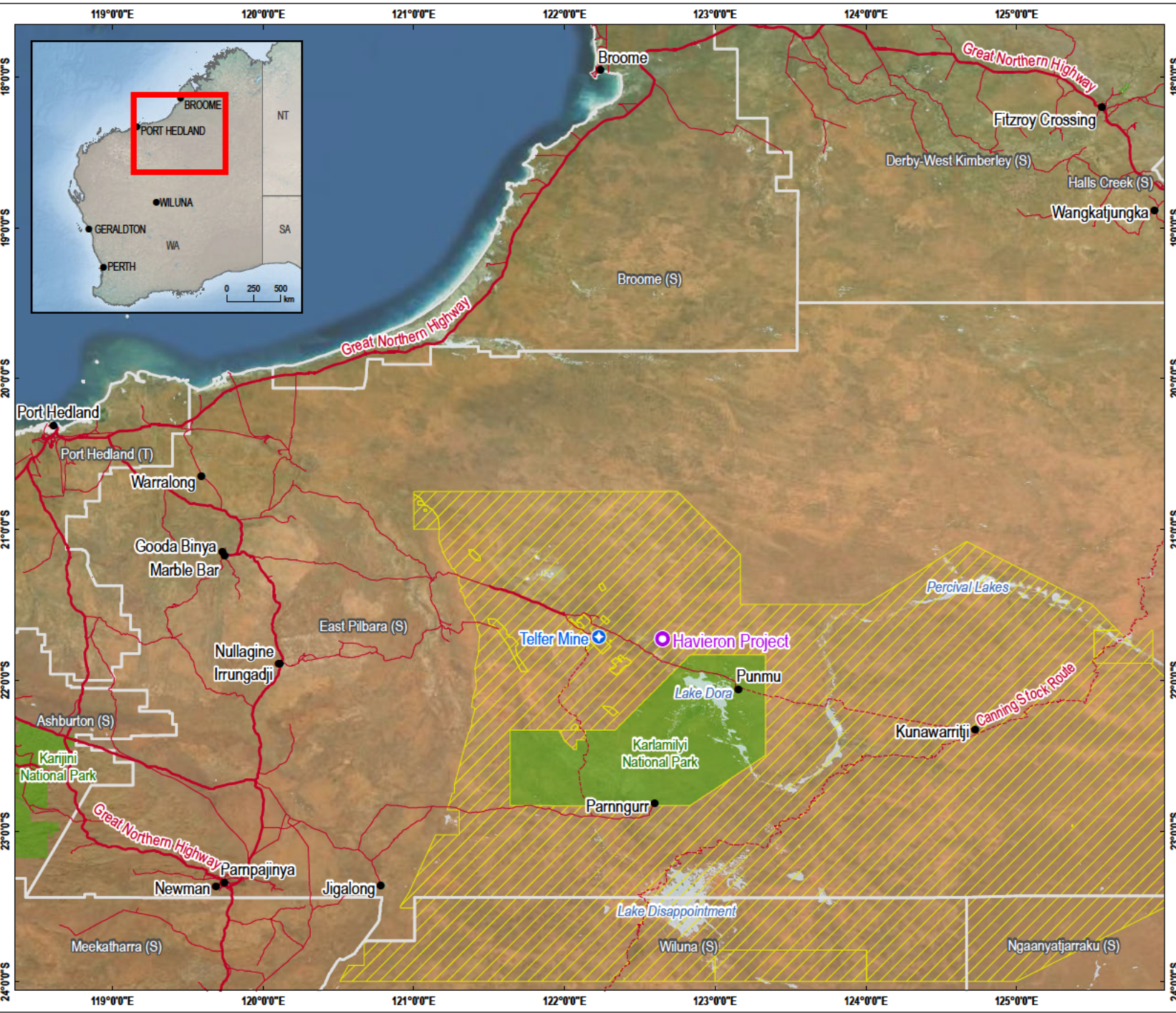
- A review of literature relating to the social context of the study area and the social impacts of mining operations on remote Indigenous communities.
- The project description.

3.2 DEFINING THE STUDY AREA








The study area selected for the social risk assessment is based on an understanding of key communities that may be impacted by Newcrest's activities in the Pilbara region, in line with the guidance provided in good practice guidelines. These communities were identified based on the following characteristics:

- The community is a predominantly 'Martu' community, in that it is primarily populated by Martu or has a significant number of Martu residing there. These communities include Jigalong, Parnngurr (Cotton Creek), Punmu, and Kunawarritji (Well 33). The Martu are recognised as a key stakeholder for Newcrest, as the traditional owners of the country on and surrounding Newcrest's activities in the Pilbara. These communities are defined as communities of interest in this social risk assessment.
- Hosts regionally significant community infrastructure and regional management stakeholders. In this regard, Newman is the regional centre of the East Pilbara Shire, and hosts the primary regional governance stakeholder – East Pilbara Shire Council – along with health, educational, and social and non-government services that support the region as a whole. Similarly, Port Hedland hosts regionally significant stakeholders (e.g. Pilbara Development Commission) and social infrastructure, along with regional businesses that may supply to the project for both the Shire of the East Pilbara and the Town of Port Hedland local government areas (LGA). These communities are discussed where relevant; however, they are not defined as communities of interest in this social risk assessment due to their distance from the Havieron project and the limited potential for there to be social effects on these communities.
- The Pilbara statistical area has been used as a benchmark to compare and analyse demographic data.

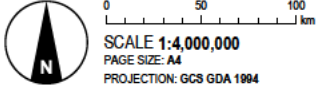
These communities are shown in their regional context in Figure 3-1.



LEGEND

-  Major road
-  Minor road
-  Track
-  Waterbody
-  National Park
-  Local Government Area (LGA)
-  The Martu native title determination

SOURCE
 Communities/townships (indicative only) from Tetra Tech Coffey.
 Native titles from NNTT.
 National Parks from DBCA.
 LGA boundary from ABS.
 Roads and waterbodies from GEODATA250k.
 Imagery from ArcGIS online.



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 PROJECTION: GCS GDA 1994

NEWCREST MINING LIMITED
 HAVIERON PROJECT

FIGURE 3-1
 Social study area and regional context



3.3 CHARACTERISING THE SOCIAL BASELINE

Coffey is currently updating the *2019 Socioeconomic Baseline Assessment – Martu People*, which was an iteration of two previous baselines assessments. Given the currency of the information, Coffey undertook a high-level literature review to identify information that had been published since the 2019 baseline assessment. This high-level review focused on:

- Socioeconomic data for the Martu and Aboriginal people in the Pilbara Region and Western Australia published by the Australian Bureau of Statistics (ABS) and other WA government departments.
- Reports, plans, and academic literature published by the Western Australian Government, local governments, research institutions and non-government organisations.

The baseline conditions and aspirations of affected communities are described based on the concept of a social value. In this risk assessment, a social value is defined as a quality of the social environment that is conducive to individual wellbeing now and into the future, and for which community stakeholders have a high regard. Each social value is characterised by a range of indicators and is associated with stakeholders holding an interest in the issues at stake. Values can also provide insights into potential conflicts that can occur between different stakeholder groups.

Coffey's experience in Indigenous communities has identified a set of four overarching 'social values'. Table 3-1 outlines the primary characteristics of each overarching social value that are considered.

Table 3-1 Indigenous social values framework

Social value	Potential indicators
Liveable community	<ul style="list-style-type: none"> • Respectful and harmonious relationships within and between communities (both Indigenous and non-Indigenous). • Access to service delivery (health and education) that acknowledges and respects culture. • Ability for extended family residence. • Respect for law by community members. • Adequate infrastructure that is well-maintained (roads, airport, power, water and sewerage, telephone, internet). • Effective local governance. • Opportunity for recreational, cultural, and sporting pursuits. • Safe social and physical environment.
Affordable lifestyle	<ul style="list-style-type: none"> • Availability of adequate housing. • Cost of housing and transport. • Household and personal income levels. • Cost of food, power, and other essential items.
Community identity and spirit	<ul style="list-style-type: none"> • Proximity and access to and level of satisfaction with management of traditional country. • Recognition and promotion of cultural heritage. • Character, amenity, and sense of place. • Perceptions of inclusion or sense of place and being able to influence community destiny. • Number and strength of Indigenous organisations. • Status of reconciliation with non-Indigenous community. • Level of volunteering and availability of assistance. • Local celebrations.
Capacity for sustainable economic activity	<ul style="list-style-type: none"> • Availability of employment opportunities. • Indigenous workforce participation and employment. • Indigenous business start-ups and ownership. • Level of education achievement, including retention to Year 12 and post-school destinations.

3.4 IDENTIFYING AND ASSESSING SOCIAL RISKS

The risk identification phase involved a review of the potential socioeconomic issues and opportunities identified during the scoping phase. The potential risk associated with the identified issues and opportunities was assessed based Newcrest’s Risk Management Standard RISK ST-01. Specifically, for each issue, the risk is assessed based on a likelihood and consequence ranking. The criteria for ranking likelihood is detailed in Table 3-2 and for consequence in Table 3-3. These are combined to establish a risk rating, as shown in Table 3-4.

Table 3-2 Likelihood criteria

Likelihood	Description
Almost Certain	The event will occur during the project or period under review (more than 90% probability). The event may occur twice or more per year for operations. High number of known incidents. Strong chance of recurrence.
Likely	The event is likely to occur during the project or period under review (50-90% probability). The event may occur once or twice per year for operations. Regular incidents known.
Possible	The event may occur in some instances during the project or period under review (10-50% probability). The event may occur every 1-10 years for operations. Infrequent but possible.
Unlikely	The event is not likely to occur during the project or period under review (1 in 1000 to 1 in 10 chance). May occur every 10-100 years for operations. Some records of known occurrences.
Rare	The event will only occur in exceptional circumstances during the project or period under review (less than 1 in 1000 chance). Would occur less than once every 100 years for operations. Very remote chance. Very few known occurrences.
Extremely Rare	No known occurrences for projects. The event would occur once every 1,000-10,000 years.

Source: Newcrest (2019) Risk Management Standard RISK ST-01

Table 3-3 Consequence criteria

Level	Health	Safety	Environment	Social licence	
				Social and cultural	Reputation
6	> 5 fatalities Very serious irreversible injury to >20 persons		Unplanned severe impact(> 5 years) on ecosystem or Threatened Species.	<u>Social and Cultural</u> A breakdown of social order. Widespread damage to items of global cultural significance. Highly offensive infringements of cultural heritage. Company directly responsible or complicit in severe, long-term impact on human rights.	<u>Reputation</u> International multi-NGO and media condemnation. Newcrest direct action (includes partner/contractor action) results in reputation issue. Large violent protest (>100 people) resulting in significant violence and potentially fatal injuries.

Level	Health	Safety	Environment	Social licence	
				Social and cultural	Reputation
5	<p>2 – 5 fatalities</p> <p>Short- or long-term health exposures leading to significant irreversible human health effects to >10 persons</p>		<p>Unplanned serious or extensive impact (2 - 5 years) on ecosystem or Threatened Species.</p>	<p><u>Social and Cultural</u></p> <p>Extensive long-term social impacts.</p> <p>Widespread damage to structures/items/ locations of national cultural significance.</p> <p>Serious infringements of cultural heritage.</p> <p>Company directly responsible or complicit in major human rights impacts or complicit in multiple aggravated impacts on human rights.</p>	<p><u>Reputation</u> Serious public or national media outcry (international coverage).</p> <p>Damaging NGO or Social Media campaign. Newcrest's reputation severely tarnished.</p> <p>Thirdparty actions (where Newcrest is one of many in a group) result in reputation impact.</p> <p>Large protest (>100 people) with some violence & serious, multiple injuries.</p>
4	<p>Workplace exposure leading to irreversible health impacts or death</p> <p>Widespread outbreak of infectious disease</p>	<p>Fatality or permanent disabling injury</p>	<p>Widespread or regional environmental damage with permanent impacts.</p> <p>Conviction, loss of permit/licence to operate, and/or order to stop operations.</p> <p>Loss of endangered and/or highly regarded flora/fauna.</p> <p>Extinction of a species.</p> <p>For all spills – see spill matrix.</p>	<p>Community fatality.</p> <p>Very serious widespread social impacts.</p> <p>Irreparable damage to highly valued structures/ items/locations of cultural significance.</p> <p>Government or police intervention in operations</p> <p>Operations/production stopped for > 7 days.</p> <p>Prolonged international media or widespread media focussing on the company resulting from the event.</p>	
3	<p>Workplace exposure leading to severe but reversible health effects</p> <p>Localised outbreak of infectious disease</p>	<p>Lost Time Injury (LTI)</p> <p>Permanent partial disability</p>	<p>Significant environmental damage, reversible with long term remediation.</p> <p>Directive from regulator resulting from nuisance impacts to neighbours (e.g. dust, noise).</p> <p>Unauthorised clearing of a sensitive area.</p> <p>Loss of significant numbers of plants or animals, with possible loss of entire population.</p> <p>For all spills – see spill matrix.</p>	<p>Ongoing serious social issues.</p> <p>Significant damage to structures/ items of cultural significance.</p> <p>Significant infringement/disregard of cultural heritage.</p> <p>Aggressive community reaction: stoppage of operations during negotiations.</p> <p>External arbitration required.</p> <p>International or prolonged national media focussed on an event.</p>	
2	<p>Reversible health effects requiring medical treatment</p>	<p>Temporary injury or disability requiring medical treatment and/or alternative duties (MTI, ADI)</p>	<p>Environmental damage reversible with medium term remediation.</p> <p>Localised impacts with no potential for widespread impact.</p> <p>Repeated or significant breach of a</p>	<p>Ongoing social issues.</p> <p>Minor damage to structures/ items of cultural significance.</p> <p>Infringement/disregard of cultural heritage/sacred locations.</p> <p>Injury to a community member.</p> <p>Strong community complaints/reaction: threat to operations.</p>	

Level	Health	Safety	Environment	Social licence	
				Social and cultural	Reputation
			statutory requirements or consent condition Nuisance impact (e.g. dust, noise) to neighbours resulting in complaint(s) or investigation by regulator Loss of multiple flora/fauna, but no threat to entire local population. For all spills – see spill matrix.	Significant compensation demands/required Isolated national media on the event. Local media attention.	
1	Reversible health effects requiring first aid or minor supportive treatment at most Working conditions causing discomfort or physical strain	First aid or minor supportive treatment	Minor environmental impact, reversible with short term remediation. Impact confined near the source. Non-compliance resolved within one week Nuisance impact (e.g. dust, noise) to neighbours with no complaints Impact to flora/fauna localised and contained (single animals and plants) For all spills – see spill matrix.	Minor social/cultural impact. Damage or loss of minor community asset Minor infringement of cultural heritage Formal community complaint. Minor or no compensation required. No media coverage or some isolated local media discussion.	

Source: Newcrest (2019) Risk Management Standard RISK ST-01

Table 3-4 Risk matrix

		Severity Level (Consequence)					
		6	5	4	3	2	1
Likelihood	Almost Certain	M1	M3	1	3	6	10
	Likely	M2	M5	2	5	9	14
	Possible	M4	M7	4	8	13	17
	Unlikely	M6	M9	7	12	16	19
	Rare	M8	M11	11	15	18	20
	Extremely Rare	M10	M12	21	22	23	24

'M': Material risk

Source: Newcrest (2019) Risk Management Standard RISK ST-01

3.5 DEVELOPING THE PRELIMINARY MITIGATION AND MANAGEMENT RESPONSE

Mitigation and management measures were developed based on the guidance provided in Newcrest's *Risk Management Standard RISK ST-01*, which assigns the need to develop management or mitigation response based on the residual risk rating, as detailed in Table 3-5.

Table 3-5 Action, approval, and notification requirements

Residual risk rating	Residual risk acceptance	Action, approval, and notification requirements
M1 to M7	Response Required	<ul style="list-style-type: none"> • Further action required to improve the effectiveness of existing controls and/or introduce additional controls. • Where further action is not supported by cost/benefit analysis, or deemed not possible, or where the cause of the risk is due to external factors, residual risk will be accepted. • Additional monitoring is required to detect changes in the external environment. • Acceptance of residual risk is by ExCo (Level 5 risks) or the Board (Level 6 risks).
M8 to M12	Ongoing Control	<ul style="list-style-type: none"> • Controls will be monitored and verified for effectiveness as part of routine work. • Improvement action is required where a Material Risk Control Assessment shows the risk to be less than "Well Controlled" and/or where supported by cost/benefit analysis.
1 to 5	Extreme	<ul style="list-style-type: none"> • Responsible General Manager approval required before proceeding with the activity or project
6 to 11	High	<ul style="list-style-type: none"> • Responsible Manager approval required before proceeding with the activity or project
12 to 16	Medium	<ul style="list-style-type: none"> • Line Manager/Superintendent notification required before proceeding with the activity or project
17 to 24	Low	<ul style="list-style-type: none"> • No approval or notification required before proceeding with the activity or project

Source: Newcrest (2019) *Risk Management Standard RISK ST-01*

4. SUMMARY OF SOCIAL VALUES

The following sections provide a summary of the *Havieron Community Baseline Update Report*, which has been prepared by Coffey primarily based on a desktop assessment of data. These summaries contribute to the appreciation of social values and their vulnerability or resilience to the potential drivers of risk or opportunity presented by the Havieron Project.

4.1 PLACE AND POPULATION

The Havieron Project is located in the Pilbara region of Western Australia, approximately 485 km east of Port Hedland and 45 km east from Newcrest's fly-in-fly-out Telfer mine. The mine is located within the traditional lands of the Martu people, which extend across much of the Gibson, Great Sandy and Little Sandy deserts. The Martu people hold exclusive native title rights and interests to some 130,000 km² of land around and to the east of the Telfer mine and the Havieron Project.

The Martu or Martujarra means 'one of us' or 'person' and is a collective term that refers to people who speak one of several mutually intelligible dialects and have connected Law, family connections and other similar cultural traits (Walsh 2008; WDLAC 2020). Traditionally, the Martu lived a nomadic lifestyle, hunting and gathering with a high level of mobility that was in part driven by the desert environment and variability of rainfall (Edmunds 2012). Groups of people often moved through areas that were occupied by different language groups and were also known to share resources. Key elements of Martu relations include myths, songs, stories, dances, ritual, and sacred objects that are passed through the generations. Major rituals can take place over a period of weeks.

The traditional nomadic lifestyle of the Martu was disrupted as a result of European explorers, pastoralists and missionaries (WMPALC 2021). Many Martu provided labour for pastoral or mining activities, while others lived in settlements or missions, generally in areas to the west or north of their traditional lands. In the 1980s, some Aboriginal people left the settlements, missions, and other urbanised environments in which they lived and returned to their traditional lands. Referred to as the homeland or outstation movement, it allowed Aboriginal people to reconnect with their traditional land and strengthen cultural ties and practices, while simultaneously escaping social problems that were common in urban areas. Kunawarrtiji, Punmu and Parnngurr were established during this period as a result of the homeland movement (SVA 2018). These communities are located within the Martu native title area and are the most proximal communities to the Havieron Project and the Telfer mine. An additional settlement, Jigalong, is located just outside of the native title and is a predominantly Martu centre, which has significant interest in the land that the Havieron Project is located on and surrounds. These communities are described in this baseline as the communities of interest.

Newman is the regional centre of the East Pilbara Shire and provides a range of services to the communities of interest. Although Port Hedland hosts regionally significant stakeholders, it has not been included as a key community in the social risk assessment due to its distance from the Havieron Project and the limited potential for there to be social effects on this community. These communities are discussed where relevant.

4.1.1 Local communities

Punmu

Punmu is located in the Great Sandy Desert within the Karlamilya National Park and is the closest community to the existing Telfer mine which is approximately 120 km to the east by road. Punmu is approximately 127 km east by road from the Havieron Project. Punmu was established in the 1980s as

part of the homeland movement. The community is comprised of 36 houses and includes a school catering from Kindergarten to Year 12, health clinic, airstrip, a sports centre, football oval, community centre, store, caravan/ camping ground motel, workshop and an arts and craft centre. The community is managed by the Punmu Aboriginal Corporation.

Parngurr

Parngurr, which is alternatively known as Cotton Creek is located approximately 400 km to the east of Newman, 257 km south of the Havieron Project and 218 km south of Telfer by road within the Karlamilya National Park. The community was established in the 1980s as part of the homeland movement. It is comprised of 28 houses and includes an airstrip, school catering from Kindergarten to Year 12, health clinic, community store, visitor accommodation and community office. The community is managed by the Parngurr Aboriginal Corporation.

Kunawarritji

Kunawarritji, which is alternatively referred to as Well 33, was established in the 1980s as part of the homeland's movement. It is a small very remote community, located near Well 33 on the Canning Stock Route, in the Great Sandy Desert, approximately 300 km east of Newman, 301 km east of the Havieron Project and 291 km east of Telfer by road. The community is comprised of 24 houses and includes a primary school, health clinic, community office and a small hotel. The community is managed by the Kunawarritji Council Aboriginal Corporation which was incorporated in 1984.

Jigalong

Jigalong is located approximately 165 km east of Newman, 301 km south-west of the Havieron Project and 340 km south-east of Telfer by road on the edge of the Great Sandy Desert. A mission was established at Jigalong in 1946; however, Jigalong was handed back to Martu in 1969. . Jigalong is a relatively large Aboriginal community comprising approximately 100 houses along with infrastructure including an airstrip, primary and secondary school, police station, sporting facilities, health clinic, community office, store and guesthouse. Jigalong Community Incorporated manages the community.

Newman

Newman was established by BHP in 1968 to service the Mt Whaleback Mine. Today, Newman is the headquarters of the Shire of East Pilbara local government with a population of approximately 6,000 residents. Newman contains a wide range of modern infrastructure and public and commercial services and is considered the service hub for the wider region.

Port Hedland

Established in the late 1800s, Port Hedland is the major community service centre in the Pilbara and encompasses two residential and business centres: Port Hedland, and South Hedland. The port was dredged and a railway built in the 1960s, which cemented the Port's role as the point of export for the Pilbara's region's significant resource industry. The port is now the largest bulk export port in the world.

4.1.2 Population and demographic characteristics

Population trends

The population of each community of interest as recorded by the 2011 and 2016 Census events are presented in Table 4-1. Both the total population and the population who identified as being Indigenous (i.e., of Aboriginal or Torres Strait Islander heritage) is provided. As there is no record of persons of Torres Strait heritage in the communities of interest, it is inferred that these people all identify as being of Aboriginal heritage.

Between 2011 and 2016, a number of communities experienced population declines including Punmu (-6.4%), Jigalong (-6.7%), and Newman (-16.6%). The East Pilbara overall experienced a decline of -11.4%. This population decline was predominantly non-Indigenous. As shown in Table 4-1, the Aboriginal population of all communities of interest and Newman increased over this same period, although there was a minor loss (-5.4%) of Aboriginal population in the East Pilbara region overall.

The increase in population within Newman has been reported by SVA to be a result of migration of Martu from remote communities to Newman, due to insufficient and deteriorating housing stock in remote Martu communities (SVA 2018).

Table 4-1 Population estimates, communities of interest (2011 and 2016)

Community	Overall population			Aboriginal population			% Aboriginal (2016)
	2016	2011	Percentage change (%)	2016	2011	Percentage change (%)	
Punmu	145	155	-6.4%	138	136	1.5%	93.8%
Parngurr	153	129	18.6%	122	117	4.3%	76.5%
Kunawarritji	83	79	5.1%	74	73	1.4%	88.0%
Jigalong	333	357	-6.7%	308	325	5.2%	97.6%
Newman (including Parnpajinya)	4,567	5,477	-16.6%	589	549	7.3%	12.0%
East Pilbara	10,591	11,951	-11.4%	2,073	2,191	-5.4%	19.6%

Source: ABS (ABS 2011; 2016) *Census of Population and Housing*.

In 2016, with the exception of Newman and Port Hedland, the proportion of the population who identified as being Aboriginal within the communities of interest was greater than 90%. While it is likely that a high proportion of these people identify as being Martu, such information was not recorded as part of the 2016 ABS Census.

Aboriginal communities, and particularly those in remote areas of Australia are noted for having high levels of mobility (Taylor 1998; Warchivker, Tjapangati, and Wakerman 2000). Martu communities profiled here are no exception: responses provided to the surveys completed in 2017 (Coffey) indicated that the population of the communities in the study area varies substantially on a weekly or even daily basis. The reasons for mobility include travelling to surrounding towns to access shops and services, visit relatives or attend family events (e.g. funerals).

Age and sex

The demographic characteristics of the population within the study area compared to the Pilbara region and Western Australia are presented in Table 4-2.

The median age in the communities of interest was young ranging between 25 and 32 years. This is reflective of a high proportion of the population being aged under 15 years and relatively few people

aged 65 years and above. This age profile is characteristic of Indigenous age profiles throughout Australia and occurs as a result of both high fertility rates and high mortality rates.

Sex ratios were generally equal, with a slightly higher ratio of males in most communities of interest; however, fluctuations above and below 1.0 are likely reflective of the smaller populations rather than indicative of a demographic trend. In contrast, there are significantly more males than females in the East Pilbara (1.9:1.0).

Average household size is much higher in the communities of interest, ranging from 4.0 in Parnngurr to 4.6 in Punmu, compared to 2.8 in Newman.

Table 4-2 Demographics characteristics, communities of interest (2016)

Summary age	Punmu	Parnngurr	Kunawarritji	Jigalong	Newman	East Pilbara
Median age	25	32	27	25	31	25
0 to 14 years	27.9%	23.3%	15.7%	25.1%	61.5%	27.9%
15 to 64 years	66.4%	70.5%	78.6%	71.2%	31.8%	66.4%
65 and over	5.7%	6.2%	5.7%	3.7%	6.7%	5.7%
Average household size	4.6	4.0	4.5	4.5	2.8	4.6
Sex ratio (for every female there the following males)	1.1	1.2	1.2	1.0	1.2	1.9

Source: ABS (ABS 2011; 2016) Census of Population and Housing.

4.2 LIVEABLE COMMUNITY

4.2.1 Governance

This section describes the local governance structure and Martu governance of relevance to the study area. These governing bodies identify community priorities and challenges at a regional and local scale for communities in the study area.

Local government

The study area is located solely within the Shire of East Pilbara. The Shire of East Pilbara manages the provision of services, such as sanitation, water supply and road maintenance, for the larger townships in the shire, namely Newman, Marble Bar and Nullagine. Provision of services to remote Aboriginal communities in the Shire are contracted by the Western Australian government.

The *Shire of East Pilbara Community Strategic Plan 2018-2028* articulates the community's vision and priorities across five key areas: economic; social; built environment; natural environment; and governance. A key outcome of this plan is that the Shire is committed to diverse and sustainable economic growth balanced with the conservation and enhancement of its unique environmental assets, and rich history and heritage.

In particular, the plan identifies that the Shire of East Pilbara will provide ongoing services to support the Martumili art production and further build the capacity of Martu people as part of the objective to foster strong community relationships.

Martu governance

The WDLAC is the registered native title body corporate that administers the native title land on behalf of the Martu people. This means that WDLAC is the primary Martu governance body responsible for:

- Managing Martu people's native title rights and interests.
- Negotiating and monitoring agreements for the care of and access to Martu country.
- Generating income from land agreements and mining to be held in trust for the benefit of Martu people.

In July 2015 the Registrar of Indigenous Corporations appointed special administrators (Palisade Business Consulting) for WDLAC due to deficiencies in its governance and financial performance (Office of the Registrar of Indigenous Corporations 2015). The Registrar is an independent statutory office holder that administers the *Corporations (Aboriginal and Torres Strait Islander) Act 2006* and both supports and regulates prescribed body corporates.

In February 2016, WDLAC resumed all management functions and enlisted Yamatji Marlpa Aboriginal Corporation (YMAC) to provide financial and legal executive office support for WDLAC and the Martu people (WDLAC 2016). Under the guidance of YMAC, arrangements for an independent trustee were established to manage approximately 75% of the funds received under the Newcrest ILUA.

In 2019, a new WDLAC board and Chief Executive Officer was appointed to be solely responsible for the management of the organisation following a number of years under the administration of ORIC. An agreement was kept in place with YMAC to provide ongoing legal, heritage and financial support services (WDLAC 2019).

A key role of WDLAC is to collaborate with other Martu organisations, such as Kanyirninpa Jukurrpa (KJ) Rangers, Puntukurnu Aboriginal Medical Service, Martu School Alliance and Martumili. In April 2019, the first joint meeting between WDLAC and KJ Rangers was held to discuss opportunities to work collaboratively together to benefit Martu people (WDLAC 2019).

In addition to the ILUA with Newcrest, WDLAC has entered various agreements with a number of other mining and/or exploration companies. In 2019, there was more than 65 exploration and mining companies holding more than 400 exploration and mining tenements across Martu Ngurra (WDLAC 2019).

Administration within communities of interest

The administration of Aboriginal communities is complex. All communities of interest are classified as 'remote Aboriginal communities' and receive assistance from the government to establish a management structure for the delivery of basic services. Each of these communities has formed an Aboriginal corporation and elected directors. A general manager is usually appointed by the corporation to manage the provision of basic services, provided by the corporation, on a day-to-day basis. The general manager also plays a key role in the coordination of government programs in the community.

The general manager is responsible for providing all services in the smaller communities, albeit, with some government support and subsidies. Communities within the study area have their own electricity, water supply and sewerage systems, along with a community office, school, clinic, general store, fuel depot and some basic sporting facilities, at a minimum.

Houses are provided by the Western Australian Government, and the Aboriginal corporations typically enter a tenancy agreement with the Western Australian Housing Authority. There are no individual household lots and housing is communally owned through the corporation, there is therefore no capacity for any resident to own their home. The Aboriginal corporations are generally responsible for the maintenance within the houses.

Maintenance of essential services, such as roads, electricity, water supply and sewerage is the responsibility of Pilbara Meta Maya Regional Aboriginal Corporation.

4.2.2 Social and community infrastructure

Health services

Public health services are provided through Western Australia's Department of Health, and in rural areas, through the Department's Country Health Service.

Health facilities, such as medical clinics, exist in most communities across the study area. These facilities provide basic health care services to the local area, however residents are required to travel to larger townships, such as Newman and Jigalong, for more specialised health care.

The main referring hospital within the study area is the Newman Hospital which provides public health services, including 24-hour emergency care and outpatient services. Additional health services are provided across the study area by Puntukurnu Aboriginal Medical Service which are based in Newman, Jigalong, Parnngurr, Punmu and Kunawarritji.

Education facilities

Aboriginal Independent Community schools are located in Jigalong, Punmu, Parnngurr, and Kunawarritji. Residents of remote communities across the study area are required to travel to Newman to attend secondary school, therefore road connectivity and transport access is important to maintain the level of school attendance.

Road network and accessibility

The regional centre (Newman) is accessed via the Great Northern Highway, which connects this region to the coast and higher order facilities and industry in Port Hedland. Major roads to the west of the project, which connects the project to social and economic infrastructure and essential services include:

- Marble Bar Road.
- Telfer Access Road.

The last of these is the primary access route to Punmu and onto Kunawarritji and is maintained by Newcrest. The West Australian Government notes that although numerous other roads exist in the area, they are generally poorly maintained, and as a consequence, access to remote Martu communities is often difficult due to poor road conditions (Department of Planning, Lands and Heritage and Western Australian Planning Commission 2020).

Roads to the east of the project, include the Canning Stock Route and Punmu Road, along with a network of smaller tracks.

4.3 AFFORDABLE LIFESTYLE

The following section provides a general overview of socioeconomic indicators relevant to an affordable lifestyle, including the income levels, cost of living, and access to food.

4.3.1 Income levels

In 2016, the median individual income for Indigenous people living in the communities of interest was between \$234 and \$264 per week, indicative of reliance on government support or otherwise limited

engagement with the mainstream economy. However, Indigenous incomes in Newman were much higher, at a median of \$847, indicating a much higher participation in the mainstream economy. Non-Indigenous incomes were much higher; in the communities of interest these were between \$1,125 and \$1,406 and likely represent service provider wages. Non-Indigenous incomes across the East Pilbara as a whole were \$2,017 per week. This median wage is significantly higher than incomes in Newman, and likely reflects employment in the mining industry.

Table 4-3 Personal and household income, communities of interest (2016)

Communities	Personal income	
	Indigenous	Non-Indigenous
Punmu	\$256	\$ -
Parnngurr	\$240	\$1,125
Kunawarritji	\$234	\$1,125
Jigalong	\$264	\$1,406
Newman	\$847	\$1,548
East Pilbara	\$370	\$2,017

Source: ABS (ABS 2011; 2016) Census of Population and Housing.

4.3.2 Cost of living and access to fresh food

Although housing costs are generally limited in the communities of interest as all housing is owned by the state, the cost of other goods can be significantly higher than compared to costs in urban centres. For example, the *2017 Baseline* found that the price of diesel can vary considerably, with prices per litre in Parnngurr (~\$3.10/l) and Kunawarritji (~\$3.40/l) being over twice that of Newman (~\$1.40/l).

Lack of fresh food and the cost of food were priority concerns raised to Kanyirminpa Jukurrpa during a 2017 consultation program (SVA 2018). This supports the findings of previous research which found that food in very remote areas in WA (such as the communities of interest) cost an average of 26% higher than in Perth (Department of Health 2013). This a common and enduring issue in very remote Aboriginal communities, and is recognised to be a product of a number of factors, including:

- Delivery delays.
- Road conditions.
- Long distances between the food source and purchase point.
- Single supply sources (Commonwealth of Australia 2020).

In addition to the above, it has been noted in consultation undertaken by SVA for KJ (2018) that a practice has developed in Martu communities whereby store prices (which are owned by the community but run by community coordinators) are un-necessarily increased, as the surpluses are used for community development projects.

Regardless of the cause, poor access to fresh food is recognised to contribute to poor health outcomes in Martu and other remote Aboriginal communities (Commonwealth of Australia 2020; SVA 2018). For Martu communities in particular, diabetes, renal disease and hypertension are noted issues that are exacerbated by poor nutrition, in addition to alcohol abuse (SVA 2018).

4.4 COMMUNITY IDENTITY AND SPIRIT

The following section provides a general overview of the social values relevant to community identity and spirit, including amenity and landscape character, looking after country, and cultural heritage values.

4.4.1 Amenity and landscape character

The Havieron Project is located within a predominantly natural landscape. The *Havieron Visual Amenity Assessment* (Ecoscape 2021) notes that landscape is characterised by gently undulating sandy plains dominated by spinifex grasslands, low ridgelines and localised depressions, as shown in Figure 4-1.



Figure 4-1 Natural character viewed from Punmu Road, looking north

Source: Ecoscape (2021) Havieron Visual Amenity Assessment

The sandy plains are intersected by low, elongated linear sand dunes (as shown in Figure 4-2), which are orientated east-southeast/west. Sand dunes have high cultural significance to the Martu, as they would have been used by previous generations of Pitjikirli-Martu as campsites, and therefore there is a higher potential for the dunes to contain archaeological sites and possibly burials.



Figure 4-2 View of sand dune terrain in areas proximal to the Havieron Project

Source: Gavin Jackson *Cultural Resource Management and Western Desert Lands Aboriginal Corporation (2019) Report of an Aboriginal Archaeological Work Area Clearance Survey of the Proposed Havieron Project and Punmu Road Access Track (E45/4701 and E45/2529) in the Martu People Native Title Determination Area, Great Sandy Desert, Pilbara, Western Australia*

4.4.2 Living on and looking after country

Martu people have a cultural imperative to live on and look after country (Jupp et al. 2015). For Martu, looking after country is an active process that includes (but is not limited to) three major activities:

- Maintenance of water sources.
- Hunting.
- Burning activities.

These activities and their cultural significance to Martu are primary social concerns for Martu people. The importance of looking after country to the Martu emanates to other social domains and leads for example to Martu highly valuing opportunities to derive their livelihood from these activities (e.g. ranger programs) (Jupp et al. 2015; Bird et al. 2016; SVA 2018).

4.4.2.1 Maintenance of water sources

Knowledge of freshwater sources (soaks, springs and waterholes) was essential to survival on Martu lands (Jupp et al. 2015). As such, waterholes 'are fundamental to Martu culture...and KJ's full company name...means knowledge of waterholes and the people's country' (SVA 2014). Maintenance of water sources is a major component of ranger work, including collecting data on water quality and camel activity, and establishing protective barriers (Kanyirninpa Jukurrpa 2021a).

4.4.2.2 Hunting

Hunting and foraging remains an important component of Martu livelihoods (Section 4.5.1), culture, and way of life. As noted in Section 4.5.1, research has indicated that Martu living in Parnngurr spend around a quarter of the days hunting (Bird et al. 2016). Target species include:

- Hill kangaroo.
- Bustard.
- Sand goanna (sand monitor).
- Other large monitors³.
- Feral cats.
- Feral camel (Jupp et al. 2015; Bird, Bird, and Coddling 2009).

Foraging species targeted include:

- Bush tomatoes.
- Honey collecting.
- Nectar collecting from *Hakea subarea*.
- Bush onions.
- Yams (Jupp et al. 2015; Bird, Bird, and Coddling 2009).

³ *Maruntu* and *yalapara* (*Varanus giganteus* and *Varanus panoptes*)

From the research undertaken by Bird *et al.* (2016) with the Parngurr community, hunting is as its highest intensity within a 25 km radius of Parngurr. Areas between 25 km and 50 km of the settlement are also used, with areas beyond this used infrequently.

4.4.2.3 Burning

Burning activities are a central feature of Martu hunting. Burning of spinifex grass is undertaken during the cool-dry season during hunting to uncover sand goanna (*Varanus gouldii*) (Bird *et al.* 2016). These dry season burns are an important socio-ecological activity:

- Burning during this time provides access to partially cleared ground that supports hunting during the summer months, when burning is too unpredictable to be undertaken (Bird *et al.* 2016).
- This burning regime supports the development of ecological diversity on Martu land: for example, both kangaroo and sand goanna populations have been shown to benefit from Martu burning practices (Hausheer 2016; Woinarski, Burbidge, and Harrison 2015).
- The absence of Martu burning regimes results in much larger and destructive lightning-derived wildfires (Hausheer 2016).

Martu hunting practices in the communities of interest continue to use burning as a key component (Bird *et al.* 2016). In addition, the KJ's burning program (referred to as the *waru* (the Martu name for fire) program) combines Martu and contemporary fire management practices, and includes the use of helicopters, drip torches, and fire torches, the results of which are mapped by satellite (Kanyirninpa Jukurpa 2021b).

4.4.3 Cultural heritage

This section provides an overview of the identified Aboriginal cultural heritage in the area within and surrounding the Havieron Project's disturbance footprint. This section provides a summary of the *Cultural Heritage Risk Assessment* undertaken by ELA (2021).

The extent of previous Aboriginal cultural heritage surveys mapped in relation to the study area, disturbance envelope and Havieron Project layout is presented in Figure 4-3 to Figure 4-11. Based on the review of previous archaeological and ethnographic studies, Aboriginal cultural heritage within the Havieron Project study area can be characterised as comprising three types:

1. Not Cleared Areas defined on a landform basis and identified by Martu Traditional Owners as culturally sensitive due to their potential to contain archaeological materials related to ancestral campsites. These landform-related cultural values and have been mapped in Figure 4-5 as Sand Dune Area 1 to Sand Dune Area 5, and Figure 4-7 and Figure 4-8 as Sand Dune Area 6 to Sand Area 9. These reflect the sand dune-based Not Cleared Areas defined in Areas A and B of Ryan and Raines (2019), Areas G and J of McElligott and Monks (2020), and the four unidentified sand dune areas mapped by Ryan (2020).
2. Not Cleared Areas or Exclusion Zones defining the boundaries of archaeological sites identified during archaeological WAC/WPC surveys, Site Avoidance surveys or as chance finds (Figure 4-3 and Figure 4-4). These include WD-20-01 to WD-20-08 (McElligott and Monks 2020), the four unidentified isolated artefacts recorded by Raines (2021), and chance find locations 1 and 2 as mapped in the GIS spatial data set supplied by Newcrest.
3. Archaeological sites identified and recorded as such during the Site Avoidance survey undertaken by Archae-aus (2020) (Figure 4-3 and Figure 4-4). These include HC20-01 and Isolated Artefacts 2,3 and 4.

Prior to its discovery, the location of Isolated Artefact 4 was declared a Cleared Area by Morgan (2020b). The artefact’s location was subsequently declared to be a Conditionally Cleared Area by Archae-aus (2020)⁴.

Study Area West of the NAR/Haul Road Intersection

Three isolated artefacts are situated within the Aboriginal cultural heritage study area but external to the disturbance envelope. The locations of these artefacts in relation to previously Cleared, Conditionally Cleared and Not Cleared Areas are summarised in Table 4-5.

Table 4-5 Havieron Access Track isolated artefact locations external to the disturbance envelope

Isolated artefact No.	Distance from Havieron Access track centreline (m)	Location status
1	200 m	Conditionally Cleared (Archae-aus 2020)
5	12 m	Conditionally Cleared (Archae-aus 2020)
6	15 m	Conditionally Cleared (Archae-aus 2020)

Infrastructure Corridor – Telfer to NAR/Haul Road Intersection

A significant proportion of the proposed infrastructure corridor between Telfer and the NAR/Haul Road intersection has been surveyed during ethnographic and archaeological WAC/WPC surveys by Ryan (2020), Morgan (2021) and Raines (2021) (Figure 4-8 and Figure 4-11).

The NAR/Haul Road intersection is traversed from north-west to south-east by a sand dune that bifurcates midway. Although the northern half of the bifurcated section of dune was mapped by Ryan (2020) as a Not Cleared Area (Figure 4-8), the entire section of this dune ridge traversing the study area, including both bifurcated portions, should be considered as a Not Cleared Area.

Morgan (2021) and Raines (2021) both identified sand dunes intersecting the proposed infrastructure corridor between Telfer and the NAR/Haul Road intersections as culturally sensitive landforms. In response to instructions from WDLAC (who commissioned the surveys), intersecting sand dunes were excised from the survey’s study area. Although they have not been explicitly mapped as Not Cleared Areas in Figure 4-8 and Figure 4-11, all sand dunes intersecting the proposed infrastructure corridor should be considered as such.

4.5 CAPACITY FOR SUSTAINABLE ECONOMIC ACTIVITY

The following section provides an overview of the areas of economic activity across the study area, with a focus on Martu livelihoods within the communities of interest, followed by a discussion of broader economic indicators in the regional study area, including education and training history, employment rates, workforce participation, and industry trends.

⁴ The Conditionally Cleared status of the NAR by Archae-aus (2020) was subject to confirmation from Newcrest that the access track will be constructed as a single-lane access road with turn-arounds situated every 5 km (Archae-aus 2020: 13). The reason the location was not determined to be a Not Cleared Area is presumably because the artefact was relocated to a position external to their survey area during the survey (see Section 4.4.3 for further details).

4.5.1 Martu livelihoods

Martu livelihoods are supported by a hybrid of customary or cultural activities, state supported activities, and participation in the mainstream economy. Participation in customary or cultural activities as a livelihood is a priority for Martu (Jupp et al. 2015; Bird, Bird, and Codding 2009). These include:

- Hunting and related activities, which as noted previously (Section 4.4.2) accounts for a significant proportion (around a quarter) of Martu time and can contribute to between 29% and 49% of daily caloric intake, at least in the community of Parnngurr (Bird et al. 2016).
- Arts and crafts production, which offers limited employment in all communities of interest (Bird et al. 2016; Department of Planning, Lands and Heritage and Western Australian Planning Commission 2019b; 2019c; 2019a; 2020). This is not to discount the fact that Martumili artists, which is the organisation that represents remote Martu artists, has an international reputation.
- Ranger programs, which are managed by KJ.
- State-based employment, such as teachers' aides.
- Government benefit payments.
- Benefits from the Martu Lands trust (Bird et al. 2016).
- Employment in the mainstream economy.

4.5.2 Education and training

In 2016, the reported level of educational attainment varied considerably in the communities of interest (Table 4-6), with Punmu and Newman reporting that around a third of the Indigenous population had achieved year 12. However, the communities of interest had high proportions of the population who had have achieved less than a year 10 education or did not go to school, including:

- In Parnngurr, where 33.7% of people achieved less than year 10 and 9.3% did not go to school.
- In Kunawarritji, where 43.1% of people achieved less than year 10 and 7.8% did not go to school.

Table 4-6 Educational achievement, communities of interest (2016)

Communities	Indigenous status	Year 12	Year 11	Year 10	<Year 10	Did not go to school	Not stated
Punmu	Indigenous	29.1%	3.8%	44.3%	8.9%	3.8%	3.8%
	Non-Indigenous	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not stated	-	-	-	-	-	-
Parnngurr	Indigenous	3.5%	4.7%	23.3%	33.7%	9.3%	29.1%
	Non-Indigenous	72.7%	0.0%	27.3%	0.0%	0.0%	0.0%
	Not stated	0.0%	0.0%	30.0%	0.0%	0.0%	70.0%
Kunawarritji	Indigenous	11.8%	9.8%	23.5%	43.1%	7.8%	5.9%
	Non-Indigenous	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Not stated	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Jigalong	Indigenous	16.9%	14.6%	39.3%	12.4%	2.2%	10.7%
	Non-Indigenous	75.0%	0.0%	25.0%	0.0%	0.0%	0.0%
	Not stated	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Newman	Indigenous	32.3%	20.2%	32.0%	2.7%	0.0%	6.5%

Communities	Indigenous status	Year 12	Year 11	Year 10	<Year 10	Did not go to school	Not stated
	Non-Indigenous	54.2%	14.4%	24.6%	1.5%	0.2%	2.8%
	Not stated	1.7%	1.7%	2.1%	0.0%	0.0%	94.4%
East Pilbara	Indigenous	26.0%	14.2%	30.1%	12.3%	3.4%	9.4%
	Non-Indigenous	52.5%	15.5%	25.7%	1.2%	0.2%	2.4%
	Not stated	1.7%	0.6%	1.7%	0.2%	0.2%	95.6%

Source: ABS (ABS 2011; 2016) Census of Population and Housing.

The 2019 Baseline (SMEC 2019) found that just over half of the respondents (57%) had completed some form of training; however, it was noted that much of the training had been short courses (e.g. one or two weeks' duration).

4.5.3 Employment opportunities

Table 4-7 provides a summary of key employment statistics as at the 2016 Census in the communities of interest. As shown, the communities of interest generally have low Indigenous workforce participation (between 30.6% in Jigalong and 70.7% in Newman) compared to non-Indigenous workforce participation, which is generally around 90%, with the exception of Parngurr (66.7%). This may be attributed to a number of factors, low wage rates for any available jobs, difficulties entering the workforce as a result of low education levels, not having a driving license or having a criminal record. However, these factors must be understood within a context that Martu livelihoods may not necessarily prioritise engagement with the mainstream economy (Section 4.5.1) and further, there are often very limited jobs available in remote communities (Biddle 2010).

Table 4-7 Employment summary statistics, communities of interest (2016)

Community	Indigenous status	Unemployment (%)	Labour force participation (%)
Punmu	Indigenous	9.5	42.9
	Non-Indigenous	0	100
	Not stated	0	0
Parngurr	Indigenous	28.9	40.4
	Non-Indigenous	0	66.7
	Not stated	0	0
Kunawarritji	Indigenous	56	52.1
	Non-Indigenous	0	100
	Not stated	0	0
Jigalong	Indigenous	42.1	30.6
	Non-Indigenous	0	100
	Not stated	0	0
Newman	Indigenous	13.5	70.7
	Non-Indigenous	3.8	88.1
	Not stated	0	5.5
East Pilbara	Indigenous	17.2	55.6
	Non-Indigenous	2.1	92.4

Community	Indigenous status	Unemployment (%)	Labour force participation (%)
	Not stated	4.2	3.8

Source: ABS (2011; 2016) Census of Population and Housing.

4.5.4 Regional economic trends

The Pilbara region, including both the East and West Pilbara, has and continues to be dominated by the mining, construction, and exports sectors. As of 2020, the region’s 2019-2020 exports were valued at:

- \$101.3 billion (iron ore).
- \$37.4 billion (oil and gas).
- \$910.6 million (gold).
- \$274.2 million (salt) (Pilbara Development Commission 2020).

Projected investment in the region by the resource sector in the order of \$120 billion between 2019 and 2025 (RDA Pilbara 2019) is already being felt, with demand outstripping availability and costs rising for most goods, services, and accommodation (RDA Pilbara 2019). This demand has resulted in reported shortages in the availability of resource industry workforces, which in turn has resulted in increases in wages and may indicate some competition for labour in the regional market (Directions WA 2019; Lucas 2021).

5. RISK ASSESSMENT

This social risk assessment has considered three types of risks:

- Social risks to the community (Table 5-1).
- Social opportunities generated by the project (Table 5-2).

The social risks to the community have been assessed in line with Newcrest's *Risk Management Standard RISK ST-01*. Social opportunities generated by the project have not been assessed according to this standard, as it does not provide consequence rankings appropriate for beneficial impacts or opportunities.

At the request of Newcrest, the results of the risk assessment for cultural heritage have been included in this social risk assessment. The mitigation and management measures developed for the cultural heritage risks have been developed at a more granular level for the cultural heritage risks, due to the fact that the draft Cultural Heritage Management Plan for the Havieron Project has been developed.

Table 5-1 Social and Aboriginal cultural heritage risks to the community

Social value	Project input	Potential issue	Stakeholders	Initial risk assessment			Preliminary mitigation	Residual risk		
				L	C	Risk		L	C	Risk
Liveable community										
Community safety	Construction traffic will increase the number of heavy vehicles on remote roads for a limited period.	<p>The construction of the project would result in changed road conditions for users of the regional road network including the Telfer Access Road, which as noted in Section 4.2.2 is the primary access route for a number of Martu communities (i.e. Punmu and Kunawarritji). These changes include:</p> <ul style="list-style-type: none"> Increased number of heavy vehicles. Potential delays for road users due to lane closures (e.g. for the construction of the haul road and for oversized vehicles). <p>These changes may reduce people’s perception of the safety and efficacy of the road network, although it is noted that heavy vehicles are common on the regional road network and many road users would be familiar with their presence.</p> <p>However, an increase in heavy vehicles and the potential for their presence to degrade road conditions may concern regional communities, given that much of the regional road network is not all weather, and prone to poor road conditions (Section 0). Road access is critical for Martu communities to access essential services, and there are no regular air services and primary health services are located in Newman or further afield in Port Hedland.</p>	Martu communities; local government; regional service providers; pastoral stations; tourists	Likely	2	9	<p>It is expected that the project’s construction would be managed through the establishment of a traffic management plan, which would</p> <ul style="list-style-type: none"> Establish a basis for engaging with emergency services providers for wide load requirements and lane closures (if any). Provide information to communities about the construction haul route and potential delays on the regional roads due to the project. Engage with relevant stakeholders to discuss maintenance responsibilities associated with the project use of the regional road network. 	Likely	1	14
	Haul road cross-over Punmu road	<p>The project includes the construction a haul road from the Telfer Mine site to the Havieron Mine site. This haul road is approximately 62km in length and proposed to be designed for the use of vehicles up to Quad Road Train size (53.5m in length). The route of the proposed haul road intersects with Punmu Road, which provides access to existing communities east of the Project, including Punmu and Kunawarritji. Punmu Road receives relatively light traffic, of between five and ten vehicles per day, the majority of which are light vehicles.</p> <p>Community stakeholders have raised concerns to Newcrest about the potential for reduced traffic safety on Punmu Road as a result of the establishment of the haul road.</p> <p>Newcrest commissioned a Traffic Study (GTA 2021) to evaluate the design of the intersection between Punmu Road and the haul road. The Traffic Study found that the proposed haul road would be the priority road, meaning that there would need to be some form of traffic control (e.g. a stop / give way sign, grade control, or gate control) on Punmu Road to prevent users of Punmu Road colliding with traffic on the haul road.</p> <p>In addition, the Traffic Study undertook an assessment of the current road safety and available sight distances to ascertain if the proposed haul road crossing point would pose any issues for the users of Punmu Road and vice versa. The Traffic Study found that the establishment of the haul road would not be expected to alter the frequency or severity of road crashes.</p> <p>Despite this, there may continue to be community concerns about the change in road conditions and the potential for interaction between light vehicles and heavy vehicles, which may result in a reduction in perceived road safety.</p>	Martu communities; local government; regional service providers; regional road users.	Likely	2	9	<ul style="list-style-type: none"> Engage with communities that access Punmu Road to understand concerns regarding the intersection of Punmu Road with a haul road. Engage with communities, Shire of East Pilbara, road management stakeholders, and regional road users that access Punmu Road to inform road users of proposed design and traffic control measures. Engagement materials to inform road users of finalised design and traffic control measures. 	Likely	1	14
Access to and appreciation of country	Additional change in access to country in project footprint	<p>The establishment of the project may change Martu’s access and movement across the landscape.</p> <p>While further consultation will be conducted as part of the SIA, initial anecdotal reports indicate that formal and informal <i>Back to Country</i> trips which incorporate cultural and environmental elements occur near or beyond the proposed Havieron Project site. These trips can often include looking after country activities such as cleaning of water holes and prescribed mosaic burning to manage large uncontrolled wildfires.</p> <p>Looking after and being on country is a key social value for the Martu; consequently, changes in access and movement on country has the potential to interfere with a key social value. The level of significance of this change depends how people use this area and the cultural context of this use, which needs further data collection to inform its assessment.</p>	Martu communities	Likely	2	9	<ul style="list-style-type: none"> Engage with Martu to further understand their cultural requirements regarding ongoing access to country near and beyond the Havieron Project footprint. Identify the trips and cultural work that might occur, their general location and the route travelled in relation to the project footprint and possible constraints to movement. Establish regular engagement with appropriate stakeholders regarding this issue and remain open with key stakeholders to optimise access. 	Possible	2	13

Social value	Project input	Potential issue	Stakeholders	Initial risk assessment			Preliminary mitigation	Residual risk		
				L	C	Risk		L	C	Risk
							<ul style="list-style-type: none"> Develop an access plan with WDLAC, so Martu can traverse through their country (including across Newcrest operations) in accordance with an agreed process. 			
	Reduced amenity at sites in proximity to the project footprint	<p>The Havieron Project’s construction and operation will change the character and amenity of the area surrounding it. These include changes in noise environment, air quality, visual amenity, and overall landscape character. As the environment at present is almost completely undisturbed, the changes could be perceived to be negative by most persons.</p> <p>The <i>Havieron Visual Amenity Assessment</i> (Ecoscape 2021) considered the potential for changes in visual amenity to affect people’s experience of the landscape from within three zones:</p> <ul style="list-style-type: none"> The foreground (0-500 m), which is where receptors would experience the greatest impact. However, this area is within the site and likely be limited to employees and visitors to the project. The mid-ground (500 m to 6.5 km), which was not assessed as it was assumed that there are no publicly accessible viewpoints within this zone. The background (<6.5 km), which includes Punmu Road. The Visual Amenity Assessment found that there would be negligible changes in visual amenity in this zone due to distance from the project and features in the landscape that effectively mask or blend the project into the landscape. <p>While it is assumed that there are no public access or use in the 500 m to 6.5 km zone between the project footprint and Punmu Road, it is noted that this area is within the Martu’s native title determination area and may be used by Martu; however, the current level of use of the area is not known. Given the remote location of the Havieron project in relation to Martu communities, it is assumed that the level of use would be infrequent. While further consultation will be conducted as part of the SIA, initial anecdotal reports indicate that formal and informal <i>Back to Country</i> trips which incorporate cultural and environmental elements occur near or beyond the proposed Havieron site. These trips can often include looking after country activities such as cleaning of water holes and prescribed mosaic burning to manage large uncontrolled wildfires.</p> <p>Changes in amenity may reduce people’s enjoyment of these <i>Back to Country</i> trips, albeit the effect would likely be temporary as people move through the landscape and limited to the number of trips undertaken in this area.</p>	Martu communities	Possible	1	13	<ul style="list-style-type: none"> Engage with appropriate stakeholders to identify values associated proximal to the area to assess the level of amenity change. Assess options to mitigate visual impacts on stakeholders. 	Possible	1	17
Cultural heritage places	Construction, operation and/or decommissioning	The construction of the Havieron Project, and to a lesser extent its operation and decommissioning, has the potential to directly damage or destroy Martu cultural heritage places. This would result in a further erosion or loss of cultural values on Martu country, with a consequential diminution of the Martu cultural repertoire and potential impacts to their sense of physical and emotional wellbeing.	Martu communities	Likely	4	2	<ul style="list-style-type: none"> Move from a compliance to a participatory relationship with Martu/WDLAC. Increased Martu involvement in the management of Country may serve to underpin a stronger relationship between Newcrest and Martu/WDLAC, thereby mitigating the risk of an adversarial relationship. Where practicable, avoid siting project infrastructure at locations that will damage or destroy Martu cultural heritage places or values (including sand dunes). Where practicable, avoid siting project infrastructure at locations that will preserve Martu cultural heritage places intact while at the same time isolating them or rendering them inaccessible to Martu. If impacts to Martu cultural heritage places are unavoidable, confirm appropriate management measures with Martu representatives that will mitigate 	Unlikely	4	7

Social value	Project input	Potential issue	Stakeholders	Initial risk assessment			Preliminary mitigation	Residual risk		
				L	C	Risk		L	C	Risk
							the loss of these cultural values. These could include: <ul style="list-style-type: none"> o Salvage collection of surface artefacts and relocation to the Havieron Camp Keeping Place. o If deemed appropriate, archaeological investigation of key occupation sites. • Ensure a Chance Finds Procedure is in place for the Project and that the procedure is routinely mentioned during all toolbox talks.			
Cultural heritage places	Construction, operation and/or decommissioning	Section 18 approvals permitting damage to or destruction of Aboriginal cultural heritage values have been issued to miners in the past by the WA Government, sometimes against the wishes of affected Aboriginal communities and organisations. The most recently publicised example of this was at Juukan Gorge in the Pilbara. Action of this sort by Newcrest (if required) may result in: <ul style="list-style-type: none"> • Formal Martu community complaints leading to a deterioration in the relationship with Newcrest. • National, and possibly international, media attention. • Community protest. • Escalation of issues with the support of activists. • Reputational damage and impacts to social license. 	Martu communities' Newcrest staff, Executive, Board, and investors and shareholders; non-government organisations; other Newcrest sites	Rare	3	15	<ul style="list-style-type: none"> • If not already in place, develop regular engagement protocols to inform Martu communities about cultural heritage management and performance. • Ensure that Martu Traditional Owners are provided appropriate opportunities to convey their views regarding the cultural significance of sites, places and intangible values that have a potential to be impacted by the Havieron Project. • Ensure that site procedures are in place that require consideration of Martu cultural heritage values by senior Newcrest management when making decisions to disturb or destroy Martu cultural heritage under s. 18 approvals. 	Rare	2	18
Wellbeing										
Workforce wellbeing	Use of non-resident workforce practices	Non-residential workforces have a greater risk of mental ill health than workforces undertaking similar work, even when accounting for common risk factors, such as age, sex, and education (Centre for Transformative Work Design 2018). In research that informed the development of WA Government policy, the Centre for Transformative Work Design found that one third of 3,000 workers surveyed experienced high or very high levels of psychological distress, which along with other risk factors for typical FIFO workforces contributed to a profile that is associated with greater risk of suicide (2018). <p>A number of characteristics of specific non-residential workforce practices have been identified to contribute to poor workforce wellbeing, including:</p> <ul style="list-style-type: none"> • Isolation and loneliness • Long rosters and travelling long distances • Access to poor quality food (Centre for Transformative Work Design 2018). The project's location necessitates the use of non-residential workforce practices. Given the risk factors associated with this workforce practice, along with the generally heightened risks of poor mental health associated with the workforce profile, there is a heightened risk for the project's workforce.	Construction and operations workforce	Possible	4	4	<ul style="list-style-type: none"> • Undertake a risk assessment of the Havieron Project's potential to impact on the mental health and wellbeing of the workforce, in line with the process outlined in Code of Practice: Mentally Healthy workplaces for fly-in fly-out (FIFO) workers in the resources and construction sectors and develop appropriate controls. 	Unlikely	4	7
Capacity for sustainable economic activity										
Availability of work	Reduction of operational headcount from Telfer to the Havieron Project.	The Havieron Project's current estimated operational head count is 585, which is based on an output of 3 million tonnes per annum. This headcount is a significant reduction in workforce size from that of Telfer, which at present has a headcount of approximately 1,500. <p>The reduction in workforce would likely result in retrenchment for a proportion of the workforce, particularly direct employees who cannot be transferred to another project. There is currently an upswing in activity in the Western Australian resources sector, with workforce shortages being reported (Directions WA 2019; Lucas 2021). Consequently, it is expected that the majority of roles that are lost from the Telfer project would be absorbed by existing demand in the market. However, there are two groups that are at risk of unemployment:</p>	Regional workforce, Martu workforce	Likely	2	9	<ul style="list-style-type: none"> • Develop a workforce and employment management strategy as part of the Telfer social closure plan, which includes (at a minimum) <ul style="list-style-type: none"> o An assessment of employment profile of Telfer to identify roles at risk of retrenchment. o Engagement with the workforce regarding the potential for workforce reduction and retrenchment. 	Possible	2	13

Social value	Project input	Potential issue	Stakeholders	Initial risk assessment			Preliminary mitigation	Residual risk		
				L	C	Risk		L	C	Risk
		<ul style="list-style-type: none"> Older employees who have long histories with Telfer, with age and job tenure associated with unemployment in other areas in Australia (Peetz 2003). Martu employees who do not wish to work on sites that are not on Martu country. <p>The potential social impacts of unemployment are well understood: unemployment has the potential to increase social isolation, reduce living standards through a reduction in income, challenge personal identity and life satisfaction, and ultimately reduce health and wellbeing outcomes over the long term (Goldsmith, Veum, and Darity 1996; World Bank Group 2013; Hunter 2004).</p>				Risk	<ul style="list-style-type: none"> Measures to support future employment for employees at risk of retrenchment, (e.g. training and skills profiling). A process to prioritise Martu employment at the Havieron Project, in line with the commitments outlined in the ILUA. A process to prioritise existing employees for re-deployment within Newcrest's operations. 			Risk

L: likelihood. C: consequence.

Table 5-2 Social opportunities generated by the project

Social value	Project input	Potential opportunity	Stakeholders	Enhancement
Community identity and spirit				
Ability to be involved in inter-community sporting activities.	Continued contribution to community sports program	<p>Newcrest supports the Ngurra Kujungka program, which delivers sports and recreation programs in Martu communities. The program is targeted at providing opportunities for broad health benefits and options for employment, recreation, and sport. Newcrest's investment in the program has been significant, and supports the costs for three staff wages, flights, accommodation, equipment, and funding.</p> <p>No external evaluation of the program has been undertaken; nor has consultation been undertaken to understand the significance of the program to the Martu for this assessment. However, evaluations of similar programs has found that these programs are linked to increased rates of school attendance, improved self-esteem and enhanced cultural connectedness, values and identity (MacNiven et al. 2019). Given that the establishment of the program was community-driven and is overseen by a Martu board, it is reasonable to assume that the program's activities are generally valued by Martu communities.</p> <p>In addition, ongoing sustainability of programs that deliver valued services to communities should consider dependence on major donors.</p>	Martu communities	<ul style="list-style-type: none"> Develop a community investment plan for the Telfer and the Havieron Project which includes, (at a minimum): <ul style="list-style-type: none"> How community investment meets community needs and aspirations. Monitoring metrics of the program's outputs and outcomes (e.g. through a standard logic frame approach). The sustainability of programs and community partners, including their reliance on Newcrest funding. Engage with Martu to understand the significance of the Ngurra Kujungka program to the Martu communities proximal to Newcrest's operations as part of the forward works program (Section 7.2).
Liveable community				
Availability of affordable food.	Continued contribution to community food program	<p>The Community Fresh Food Program for example provides fresh fruit and vegetables to communities via the community coordinator from Punmu, Parngurr and Kunawarriti and to RAWA School and Parngurr Community School. This initiative was started by Newcrest in response to National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan, which indicated inadequate diet was central to the poor health and disproportionate chronic disease experienced by Indigenous Australians (Telfer Communities Team 2020).</p> <p>No external evaluation of the program has been undertaken; nor has consultation been undertaken to understand the significance of the program to the Martu for this assessment. However, lack of fresh food and the cost of food were priority concerns raised to Kanyirrinpa Jukurrpa (Section 4.3.2) during a 2017 consultation program (SVA 2018). This report also noted the high rates of chronic disease in Martu communities that are exacerbated by poor nutrition, which contributes to poor health and wellbeing in Martu communities (ibid.). Consequently, it is assumed that the program is contributing to a community need and is valued by the community.</p>	Martu communities	<ul style="list-style-type: none"> Engage with the Martu to understand the significance of the Community Fresh Food program to the Martu communities proximal to Newcrest's operations (Section 7.2). Develop a community investment plan for the Telfer and Havieron Project which includes (at a minimum): <ul style="list-style-type: none"> How community investment meets community needs and aspirations. Monitoring metrics of the program's outputs and outcomes (e.g. through a standard logic frame approach). The sustainability of programs and community partners, including their reliance on Newcrest funding.
Capacity for sustainable economic activity				
Availability of work	Construction and operational employment	<p>Employment opportunities with the Havieron Project provide an opportunity for work in the mainstream economy while being resident on country for Martu. However, Martu employment at Telfer has been limited, with around 20 of Telfer's workforce currently identified as Martu, which represents approximately 1.2% of the total workforce including contractors. There are a further 115 Indigenous persons within Telfer's workforce, representing approximately 7.9% of the workforce; the language group of this cohort has not been reported.</p> <p>Low levels of participation in mining employment by traditional owners in remote locations is a common feature of mining operations in Australia, despite considerable investment in training on behalf of mining companies. The reasons for this are complex, but in general, low employment participation in mining by traditional owners is related to either preferences or barriers. These include:</p>	Martu communities	<ul style="list-style-type: none"> Engage with Martu to understand employment preferences as part of the forward works program (Section 7.2). Engage with Martu representatives (e.g. WDLAC) regularly to identify and engage with Martu who aspire for employment at Newcrest. Develop a Martu employment and retention strategy for the Havieron Project, which includes but is not limited to: <ul style="list-style-type: none"> An engagement strategy with Martu and their representatives to identify Martu aspirations for employment

Social value	Project input	Potential opportunity	Stakeholders	Enhancement
		<ul style="list-style-type: none"> • Preferences for different types of work. Traditional owners may not wish to participate in mining employment (Liu, Daff, and Pearson 2020). In regard to the Martu specifically, Kanyirrinpa Jukurrpa has argued that many Martu would prefer to undertake employment that relates to Martu values (e.g. activities that fulfil cultural obligations such as ranger) (SVA 2018). • Preferences for engagement with traditional activities (e.g. contributing to family or cultural obligations) over that of engagement with the mainstream economy (Liu, Daff, and Pearson 2020; Coddling, Bird, and Bird 2015). • Difficulty in meeting pre-employment requirements, such as a drivers' license, and criminal history checks (McKenzie 2014). 		<p>within the project and understand drivers behind low Martu participation and retention at Newcrest's operations and options for addressing these.</p> <ul style="list-style-type: none"> ○ Targets for Martu employment and training. ○ Monitoring and reporting of Martu employment and training. ○ Policies and procedures that support Indigenous employment and retention based on industry good practice and the outcomes of engagement with Martu.
Business development opportunities	The project will generate a number of contracts that can be broken down to size and scope appropriate to the capacity of regional and Indigenous businesses.	<p>The Havieron Project's construction will be contracted. It is expected that there will be opportunities for regional businesses to provide goods and services for the project's construction through formalised supply and sub-contracting arrangements. The broader Pilbara region hosts a range of businesses that supply to the mining industry and are therefore experienced in delivering the goods and services expected to be required for the project's construction.</p> <p>It is understood from consultation and a review of desktop literature (Section 4.5.4) that there is presently an upswing in mining industry demand in the region. Therefore, regional businesses may already be at capacity, which may reduce regional participation in the project's contracting opportunities.</p>	Regional industry; regional and Indigenous businesses	<p>Regional and Indigenous economic participation can be increased through:</p> <ul style="list-style-type: none"> • Engaging with regional and Indigenous businesses to ensure that they are aware of supply opportunities. • Give preference to regional and Indigenous-owned businesses where the tender or quote meets the scope of work and is equal to other tenders received in terms of health, safety and environment requirements, price, quality, timing, and other tender evaluation criteria. • Require primary contractor's to preference regional and Indigenous-owned business and report on their performance in relation to regional and Indigenous supply and employment.
Skills development	Continuation of Martu employee training program	<p>Telfer Community Relations has conducted many training programs for the Martu. Since 2002 Newcrest has trained more than 400 Martu in a variety of disciplines. The type of training program varies each year depending on employment opportunities on site and contractor and site needs. The most recent data (January 2021) reported that there were seven Martu trainees at Telfer, and there had been an average of six Martu trainees at Telfer for the 2021 financial year. This is a minor increase in the number of trainees (five) present in 2016 (SMEC 2019).</p> <p>Training for Martu is a core component of the ILUA and training at Telfer has provided an opportunity to engage with the economy while being on country, of which there are limited other opportunities to do so. However, as noted above, Martu engagement with the mining industry, which is the logical outcome of this training, appears to be limited. This does not discount that training provided by Telfer, which would be extended through the Havieron Project would continue the skills and work experience for Martu on country.</p>	Martu communities	<ul style="list-style-type: none"> • Engage with Martu to understand employment preferences as part of the forward works program (Section 7.2). • Develop a Martu employment and retention strategy for the Havieron Project, which includes but is not limited to: <ul style="list-style-type: none"> ○ An engagement strategy with Martu and their representatives to identify Martu aspirations for employment within the project and understand drivers behind low Martu participation and retention at Newcrest's operations and options for addressing these. ○ Targets for Martu employment and training. ○ Monitoring and reporting of Martu employment and training. ○ Policies and procedures that support Indigenous employment and retention based on industry good practice and the outcomes of engagement with Martu.

6. PRELIMINARY MITIGATION AND MANAGEMENT RESPONSE

This section groups the preliminary mitigation and management response measures identified in the risk assessment based on the following themes:

- Community and stakeholder engagement
- Project social risk management
- Areas for investigation.

A draft Cultural Heritage Management Plan has been developed for the Havieron Project as a separate document. Therefore, cultural heritage mitigation and management measures are not discussed further in this report.

6.1.1 Community and stakeholder engagement

6.1.1.1 Engagement with Martu and their representatives as part of the forward works program

There are several areas where additional information is required to understand the potential social risk to the community. This information is qualitative, and relates to Martu values, aspirations, and perceptions. The areas of enquiry identified as part of this risk assessment include:

- Community perceptions of Newcrest, particularly regarding community engagement practices and environmental management.
- Engagement with communities that access Punmu Road to understand concerns regarding the intersection of Punmu Road with a haul road.
- The significance of Newcrest’s community investment programs (i.e. Ngurra Kujungka and the Community Fresh Food Program) to the Martu communities proximal to Newcrest’s operations.
- Employment and training aspirations.
- Use of the area proximal to the Havieron Project and values associated with this country.

6.1.1.2 Project community engagement

The risk assessment has identified preliminary topics that should be addressed through community engagement for the Havieron Project. These are detailed in Table 6-1.

Table 6-1 Preliminary community engagement topics

Topic	Characteristics	Timeframe	Stakeholders
Havieron Project design	<ul style="list-style-type: none"> • Engagement with communities that access Punmu Road to inform road users of proposed design and traffic control measures. • Engagement materials to inform road users of finalised design and traffic control measures. 	<ul style="list-style-type: none"> • Pre-construction 	<ul style="list-style-type: none"> • Martu communities and in particular communities that rely on Punmu Road.
Environmental performance	<ul style="list-style-type: none"> • Develop regular engagement protocols to inform Martu communities about environmental performance. 	<ul style="list-style-type: none"> • Life of project 	<ul style="list-style-type: none"> • Martu communities and their representatives.

Topic	Characteristics	Timeframe	Stakeholders
Access to and looking after country proximal to Havieron	<ul style="list-style-type: none"> Engage regularly with Martu natural resource stakeholders (e.g. Kanyirninpa Jukurrpa rangers, WDLAC) on an ongoing basis to understand looking after country priorities proximal to the project. This should identify the trips and cultural work that might occur, their timing, general location and the route travelled in relation to the project footprint and possible constraints to movement. 	<ul style="list-style-type: none"> Life of project 	<ul style="list-style-type: none"> Martu natural resource stakeholders (e.g. Kanyirninpa Jukurrpa rangers, WDLAC). Martu communities and their representatives.
Employment aspirations	<ul style="list-style-type: none"> Engage with Martu representatives (e.g. WDLAC) regularly to identify and engage with Martu who aspire for employment at Newcrest. 	<ul style="list-style-type: none"> Life of project 	<ul style="list-style-type: none"> Martu communities and their representatives.

6.1.1.3 Martu engagement strategy for the Havieron Project

It is recommended that a long-term (e.g. five year) engagement strategy for building the relationship with Martu stakeholders is developed. This strategy will incorporate the findings the forward works consultation program, baseline review, scoping exercise and other technical studies, and the findings of the evaluation of Newcrest’s relationship with WDLAC and Martu. The strategy will:

- Outline the interests of different Martu stakeholders as they relate to the Havieron Project.
- Develop an approach for engaging with Martu that builds a two-way relationship.
- Develop a detailed plan of engagement activities across Martu stakeholders, including:
 - Governance bodies (e.g. WDLAC, Aboriginal Corporation representatives).
 - Cultural and environmental organisations (e.g. KJ, Martumili).
 - Martu communities.

This strategy will benefit from collaborative development with Martu stakeholders.

6.1.2 Project social risk management

It is recommended that a process for reviewing social and community risks for Newcrest’s activities at Telfer be established and include (but not be limited to):

- Implementing, monitoring, and raising staff, contractor, and community awareness of Newcrest’s *Community Concerns, Complaints and Grievances Guideline Number: SPG 3.8*.
- Capturing emerging issues in Aboriginal governance bodies relevant to communities within Newcrest’s sphere of influence through existing community engagement channels (see Section 6.1.1.3).
- Monitoring emerging issues in the communities of interest that may relate to Newcrest’s interests and activities in the region.

In addition to the above, managing social risk at the Havieron Project will benefit from building the cultural competency and Martu fluency of Newcrest staff and contractors. It is recommended that a cultural competency plan be developed, which would include (but not be limited to):

- Martu language (as relevant).
- Martu culture.
- Martu codes of conduct.

6.1.3 Areas for investigation that relate to potential social risks to the community

6.1.3.1 Topics outside the scope of a social risk assessment

This social risk assessment identified a number of topics for further investigation that are outside of the scope of a social risk assessment or the community management function. These are detailed in Table 6-2.

Table 6-2 Areas for investigation

Topic	Area for investigation
Workforce wellbeing	<ul style="list-style-type: none"> Assess the risks associated with the project's use of non-residential workforce practices. An approach to this may include undertaking a risk assessment of the project in line with the process outlined in <i>Code of Practice: Mentally Healthy workplaces for fly-in fly-out (FIFO) workers in the resources and construction sectors</i> and develop appropriate controls.
Visual amenity	<ul style="list-style-type: none"> Engage with stakeholders to assess options to mitigate visual impacts, where practicable.
Traffic management	<p>Develop a traffic management plan for the Havieron Project, which will (at a minimum):</p> <ul style="list-style-type: none"> Establish a basis for engaging with emergency services providers for wide load requirements and lane closures (if any). Provide information to communities about the construction haul route and potential delays on the regional roads due to the project. Develop processes to identify and manage damage to local roads resulting from the project's use.
Potential draw down of groundwater-dependent ecosystems ("soaks") and related potential cultural heritage impacts	<p>Assess the potential for groundwater draw down as a result of the project to affect culturally significant surface and groundwater resources within and proximal to the Havieron Project.</p>

6.1.4 Social opportunities enhancement

Effective community investment

Community investment as a concept has matured in recent years, with many companies and stakeholders insisting that community investment should have measurable and reportable outcomes for communities that are aligned with community needs and aspirations (Urbis 2020). Given this development, community investment that does not meet this criterion is increasingly viewed with scepticism. During preliminary interviews with key stakeholders a concern was raised regarding 'tokenistic' investment and involvement by resource companies and it is important that Newcrest's community investment programmes are seen to have genuine intent.

The commencement of the Havieron Project provides an opportunity to evaluate the appropriateness and effectiveness of Newcrest's current social investment in terms of:

- Alignment with community needs and aspirations.
- Outcomes and impacts for the community.
- The sustainability of programs, including their reliance on Newcrest funding.

The forward works program will engage with Martu and their stakeholders to understand community needs and aspirations, and current community perceptions of existing Newcrest community investment in Martu communities. It is recommended that the findings of this engagement, along with the findings of the social

impact assessment and related studies commissioned by Newcrest, be used to develop a community investment plan for Telfer and the Havieron Project. It is recommended that the community investment plan be developed in consultation with key Martu stakeholders, and include (at a minimum):

- Describing how community investment meets community needs and aspirations.
- Monitoring metrics of the program's outputs and outcomes (e.g. through a standard logic frame approach).
- Considering undertaking external evaluation of flagship programs and building in budget for this as appropriate.
- Reviewing the sustainability of programs and community partners, including their reliance on Newcrest funding. Work with programs and community partners to build their capacity for independence and reduce reliance on Newcrest funding.

Regional and Indigenous business participation

Developing regional and Indigenous business participation plans has become a common feature of large-scale project development. This in part reflects the fact that lack of local business opportunities is a common area of concern for communities that are local and regional to mining developments. Developing a regional and Indigenous business participation will allow Newcrest to enhance local business opportunities during the construction and operation of the Havieron Project. This plan could include (at a minimum):

- Identifying regional and Indigenous businesses that have the capacity to supply the Havieron Project.
- Identifying likely supply opportunities from the Havieron Project, including those that may be passed down from primary contractors.
- An engagement program for regional and Indigenous businesses to inform them of supply opportunities, including those with the Havieron Project's primary contractors.
- Requiring primary contractors to preference regional and Indigenous-owned business and report on their performance in relation to regional and Indigenous supply and employment.
- Establishing processes to give preference to regional and Indigenous-owned businesses where the tender or quote meets the scope of work and is equal to other tenders received in terms of health, safety and environment requirements, price, quality, timing and other tender evaluation criteria.

Martu employment and retention strategy

It is recommended that a Martu employment and retention strategy for the project be developed, which identifies (but is not limited to):

- An engagement strategy with Martu and their representatives to identify Martu aspirations for employment within the project and understand drivers behind low Martu participation and retention at Newcrest's operations and options for addressing these.
- Targets for Martu employment and training.
- Monitoring and reporting of Martu employment and training.
- Policies and procedures that support Indigenous employment and retention based on industry good practice and the outcomes of the engagement undertaken.

7. LIMITATIONS AND FORWARD WORKS PROGRAM

7.1 LIMITATIONS

In preparing this social risk assessment, Coffey has relied on information from a range of secondary sources. Except where stated, Coffey has not attempted to verify the accuracy or completeness of this information. Coffey has critically considered data provided for its assessment and not included data of questionable origin or accuracy.

This report has been developed based predominantly on desktop information and engagement with Newcrest employees. At the request of WDLAC, engagement has been limited to stakeholders who reside outside of Martu communities. WDLAC, Newcrest, and Coffey have been meeting since April 2021 to develop a collaborative approach to future engagement with Martu communities to collect information on community perceptions of Newcrest and the potential impacts of the Havieron Project. This has resulted in assumptions being established for several areas of social risk. These are primarily related to Martu concerns and aspirations as they relate to the development and operation of the project, including:

- Martu aspirations for employment with the project.
- Martu use of the country affected and surrounding the project footprint.
- Martu perspectives on the visual amenity of the affected and surrounding the Havieron Project footprint.

In preparing the cultural heritage risk assessment, ELA has relied on information from secondary sources either supplied by Newcrest or obtained online. Except where stated, ELA has not attempted to verify the accuracy or completeness of this information. The following limitations influenced the preparation of this report and its findings:

- Information presented in this report describing the nature and location of tangible and intangible cultural places and values that characterise Aboriginal cultural heritage in the study area is based solely on information presented in previous studies and reports commissioned by Newcrest and independently prepared by WDLAC in line with the requirements of the 2015 ILUA, with the assistance of YMAC specialists. An inability to consult with Pitjjarli-Martu Traditional Owners during the preparation of the baseline characterisation is an important limitation.
- The cultural heritage information presented in this report is heavily dependent on GIS spatial data prepared by Terra Rosa Consulting for the Project. Based on a comparison of figures and maps contained in the previous studies reports, the spatial data supplied by Terra Rosa Consulting appears to effectively summarise the information contained in the reports and reflects their findings with regard to the identification of Cleared and Not Cleared Areas. However, it has not been possible to independently verify the accuracy of the spatial data.
- All but two of the studies reviewed in the baseline assessment were archaeological or ethnographic WPC or WPA clearance studies, and on this basis it is not possible to assess the location, nature or significance of the cultural heritage places identified in the reports in sufficient detail to permit an informed significance-based impact assessment. The risk assessment presented in Section 5 is mostly based on high-level advice from Pitjjarli-Martu Traditional Owners in declaring survey areas as either Cleared or Not Cleared.
- Due to these limitations, the cultural heritage findings described in this report have inferred the locations of specific, identified landscape cultural heritage values based on:
 - the defined extents of Not Cleared areas mapped by cultural heritage survey teams in 2019 and 2020; and
 - the observation recorded on several occasions during the cultural heritage clearance surveys that sand dunes are culturally sensitive places because they would have been used by previous

generations of Pitjjarli-Martu as campsites, and therefore there is a higher potential for the dunes to contain archaeological sites and possibly burials.

7.2 FORWARD WORKS PROGRAM

The following activities are planned to expand and confirm the understanding of the potential social risk and impacts for the Havieron Project:

- Community engagement with Martu community members and key stakeholders. The timing of this is likely to be dependent on ongoing engagement with WDLAC.
- The development of a social impact assessment and accompanying Social Impact Management Plan. This is proposed to be done to support the Feasibility Study, subject to the completion of community engagement with Martu community members and key stakeholders.

These are discussed further below.

Community engagement

As indicated by the limitations for this social risk assessment (Section 7.1), community engagement with Martu community members and key stakeholders (e.g., service providers, representatives of NGOs, and representatives of community governance organisations) is required to confirm and expand the current understanding of social risk and impacts of the Havieron Project. Based on current engagement with the Western Desert Lands Aboriginal Corporation (WDLAC), it is expected that community engagement will be undertaken in two phases.

The first phase of community engagement is expected to be undertaken through a survey of Martu community members in communities proximal to the Havieron Project. This survey will be based on an existing survey that has been delivered in Martu communities and consider:

- Martu community aspirations.
- Martu community concerns.
- Martu perceptions of the mining industry.

An addendum will be developed for the survey with specific questions concerning:

- Martu views on the potential impacts of the Havieron Project.
- Martu use of country affected by and proximal to the Havieron Project.
- Martu perceptions of Newcrest and Newcrest's community investment initiatives.

Based on current discussions with WDLAC, the survey will be delivered by Martu people, with input from Newcrest and Tetra Tech Coffey.

Following receipt and review of the survey results, Tetra Tech Coffey has proposed to undertake interviews with key stakeholders to explore the findings of the survey and refine the understanding of the impacts. These stakeholders are expected to include:

- WDLAC.
- Representatives from Martu organisations (e.g., Ngurra Kujungka, Kanyirninpa Jukurpa).
- Community council representatives.
- Service providers within Martu communities (e.g., education, police).

Social impact assessment

Based on the findings of consultation program, baseline review, scoping exercise and other technical studies, and the findings of the evaluation of Newcrest's relationship with WDLAC and Martu, Tetra Tech Coffey will undertake a formal social impact assessment, using Newcrest's impact assessment matrix. The SIA will answer the following questions:

- What social values are likely to be impacted and how?
- What activities are like to cause an impact to social values?
- Who will be affected and what is their level of concern?
- What are the characteristics of the impact (extent, duration, severity, sensitivity)?
- What are the priority impacts from a community perspective?
- How does or might the Havieron Project contribute to overall community wellbeing and social development of the surrounding communities?

Following the impact assessment, mitigation and management measures will be developed for those impacts that have been assessed to have medium to high risks. These measures are likely to build on those described in Chapter 6. As noted during Stage 1, Coffey will review and incorporate Newcrest's approach to managing the social impacts of its existing Telfer operation in the social study area.

The SIA, with an appended preliminary Social Impact Management Plan, will be documented in a combined report and provided to Newcrest for review.

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Havieron Project Social Studies
Aboriginal Cultural Heritage Risk Assessment

Newcrest Mining Limited

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Abbreviations

Abbreviation	Description
AHIS	Aboriginal Heritage Inquiry System
CHMP	Cultural Heritage Management Plan
DPLH	Department of Planning, Lands and Heritage (Western Australian Government)
GIS	Geographic Information System
NAR	Northern Access Road
NML	Newcrest Mining Limited
PoW	Programme of Work under the <i>Mining Act 1978</i> (WA)
TSF	Tailings Storage Facility
WAC	Work Area Clearance
WDLAC	Western Desert Lands Aboriginal Corporation
WPC	Work Program Clearance
YMAC	Yamatji Marlpa Aboriginal Corporation

1. Introduction

1.1. Background

The Havieron Project (the Project) is a proposed greenfield gold-copper mine located in Western Australia's Paterson Province, 485 kilometres (km) east from Port Hedland. It is operated by Newcrest Mining Limited (NML) under a Joint Venture Agreement with Greatland Gold and is being planned in two stages. Stage 1 includes preparatory works, boxcut and decline development. Stage 2 includes underground mining and the development of an infrastructure corridor to provide access and electricity to the Project and the transport of ore to Telfer for processing.

NML has received regulatory approvals for stage 1 and is now undertaking a Pre-Feasibility Study and preparing regulatory approval documents to support stage 2 approvals. A range of specialist environmental and social studies are being undertaken as part of this, including this Aboriginal cultural heritage risk assessment.

1.2. Purpose

This cultural heritage risk assessment forms a section of the wider social studies being undertaken to support the pre-feasibility study. This is a preliminary assessment, as community engagement to inform an understanding of Aboriginal cultural heritage values and community perceptions of the Project's potential risks to cultural heritage is yet to be undertaken. This report:

- Summarises an Aboriginal cultural heritage baseline for the Project.
- Identifies the Project's potential Aboriginal cultural heritage risks.
- Identifies preliminary mitigation and management responses to identified risks.
- Includes a preliminary cultural heritage management plan (CHMP) designed to protect and preserve Aboriginal cultural heritage places and values during construction and operation.

1.3. Regulatory Context

1.3.1. State

1.3.1.1. *Environmental Protection Act 1986*

The *Environmental Protection Act 1986* (EP Act) requires the consideration of impacts to social surroundings, which under the EP Act means the relationship between the potential for changes to the environment (physical or biological) and how these may affect a person's aesthetic, cultural, economic or social surroundings (EPA 2016).

The requirements of the EP Act as they relate to cultural heritage and their relevance to this Aboriginal cultural heritage risk assessment are detailed in Table 1.

Table 1: EP Act requirements (social surroundings) and their relevance to this report

Social Surroundings under the EP Act	Relevance
Changes in access to, or the quality of, sites of cultural significance (not limited to listed sites).	Changes in access to and appreciation of Traditional Owner concepts of Country and cultural heritage are identified and assessed in this report.

Recent decisions by the EPA increasingly emphasise the setting of heritage management and protection conditions in response to a more intensive focus on the ‘Social Surroundings’ Environmental Factor. Examples of this can be found in Ministerial Statements 1108 and 1109, which conditioned Fortescue Metals Group (FMG) to protect various heritage sites as part of its Eliwana Mine and Railway proposal.¹

1.3.1.2. Aboriginal Heritage Act 1972

Western Australia’s *Aboriginal Heritage Act 1972* (the Act) is the principal legislative framework for Aboriginal heritage in the State. Important and significant Aboriginal sites and objects are protected under it. The Act protects sites and objects that are significant to living Aboriginal people as well as Aboriginal sites of historical, anthropological, archaeological and ethnographic significance. The Act is currently administered by the Department of Planning, Lands and Heritage (DPLH).

Relevant components of the Act include:

- Section 5: defines the term ‘Aboriginal Site’
- Section 39(2): identifies that matters that the Aboriginal Cultural Materials Committee (ACMC) must have regard to when considering the importance of objects and places.
- Section 17: it is an offence to:
 - alter an Aboriginal site in any way, including collecting artefacts
 - conceal a site or artefact
 - excavate, destroy or damage in any way an Aboriginal site or artefact
 without the authorisation of the Registrar of Aboriginal Sites under section 16 or the Minister of Aboriginal Affairs under section 18 of the *AHA*.

Aboriginal human remains are protected under the Act. In addition, the discovery of human remains requires that the following agencies are informed:

- the State Coroner or local Police under section 17 of the *Coroners Act 1996*
- the State Registrar of Aboriginal Sites under section 15 of the Act.

¹ [1108 - Eliwana Railway Project | EPA Western Australia](#) and [1109 - Eliwana Iron Ore Mine Project | EPA Western Australia](#)

DPLH Register

The Aboriginal Heritage Inquiry System (AHIS), managed by the DPLH, is an online tool that can be used to access information about Aboriginal heritage places and their legal status. The AHIS identifies two categories of Aboriginal heritage places: Aboriginal Sites (Registered Sites) and Other Heritage Places.²

A registered Aboriginal site is a place that fulfils the following definitions for protection under section 5 of the Act:

- a. Any place of importance and significance where persons of Aboriginal descent have, or appear to have, left any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional cultural life of the Aboriginal people, past or present.
- b. Any sacred, ritual or ceremonial site which is of importance and special significance to persons of Aboriginal descent.
- c. Any place which, in the opinion of the ACMC, is or was associated with Aboriginal people and which is of historical, anthropological, archaeological or ethnographic interest and should be preserved because of its importance and significance to the cultural heritage of the State.
- d. Any place where objects to which the Act applies are traditionally stored, or to which, under the provisions of the Act, such objects have been taken or removed.

The Other Heritage Place category has two sub-categories:

- Lodged: information about a potential Aboriginal site has been lodged for review by the ACMC.
- Stored Data/Not a Site: places that have either met the criteria of the Act but have been so disturbed that the heritage values are no longer present, or have been assessed by the ACMC and found not to fulfil the Section 5 requirements defining an Aboriginal site.

While places defined as Stored Data/Not a Site are not afforded protection under the Act, a place included under the Lodged subcategory is yet to be assessed under Section 39(2) of the Act by the ACMC and therefore may be eventually protected under the Act once that assessment has been completed.

1.3.2. Commonwealth

1.3.2.1. *Aboriginal and Torres Strait Islander Heritage Protection Act 1987*

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1987* (the ATSIHP Act) is administered by the Commonwealth Department of Agriculture, Water and the Environment (DAWE). The ATSIHP Act was passed to provide protection for Aboriginal heritage in circumstances where it could be demonstrated that such protection was not available at a State level. In certain instances, the ATSIHP Act overrides relevant State and Territory provisions.

The major purpose of the ATSIHP Act is to preserve and protect Aboriginal and Torres Strait Islander cultural heritage areas and objects from injury and desecration. The ATSIHP Act enables immediate and direct action for protection of threatened areas and objects by a declaration from the Commonwealth

² <http://www.daa.wa.gov.au/en/Heritage-and-Culture/Aboriginal-heritage/Aboriginal-Site-and-other-Heritage-Places/>. It should be noted that not all Traditional Owner groups release their information to DPLH for inclusion on AHIS, nor is the AHIS database regularly updated to record the current status of registered sites

Minister responsible for the Act, or from authorised officers. The ATSIHP Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander person or organisation.

Any Aboriginal or Torres Strait Islander person or organisation may apply to the Minister for a temporary or permanent 'Stop Order' for protection of threatened areas or objects of significant Indigenous cultural heritage.

The ATSIHP Act overrides State and Territory legislation if the Minister is of the opinion that the State or Territory legislation is insufficient to protect the threatened areas or objects. Thus, if an application is made to the Minister for a Stop Order, the Minister will, as a matter of course, contact the relevant State or Territory agency to ascertain what protection is being imposed and/or what mitigation procedures have been proposed by the land user/developer.

In addition to the threat of a 'Stop Order' being imposed, the ATSIHP Act also provides for the following:

- If the Federal Court, on application from the Minister, is satisfied that a person has engaged or is proposing to engage in conduct that breaches the 'Stop Order', it may grant an injunction preventing or stopping such a breach (s.26). Penalties for breach of a court order can be substantial and may include a term of imprisonment.
- If a person contravenes a declaration in relation to a significant Aboriginal area, penalties for an individual are a fine up to \$22,200 and/or five years imprisonment and for a corporation a fine up to \$111,000 (s.22).
- If the contravention is in relation to a significant Aboriginal object, the penalties are \$11,100 and/or two years imprisonment and \$55,500 respectively (s.22).
- In addition, offences under s.23 are considered 'indictable' offences that also attract fines and/or imprisonment. Section 23 also includes attempts, inciting, urging and/or being an accessory after the fact within the definition of 'indictable' offences in this regard.

1.3.2.2. Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government's centrepiece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage sites—defined in the EPBC Act as matters of national environmental significance (MNES).

The nine MNES to which the EPBC Act applies are:

- world heritage properties
- national heritage places
- wetlands of international importance (Ramsar wetlands)
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mining)
- a water resource, in relation to coal seam gas development and large coal mining development

The EPBC Act is administered by DAWE. The Australian Government environment minister's primary role under the EPBC Act is to protect areas of national environmental significance in accordance with the guiding principles of the EPBC Act. However, the minister cannot intervene in a proposal if it has no significant impact on one of the nine MNES. Under the division of powers between the Australian Government and the states under the Australian Constitution, the states have the primary responsibility for environmental protection.

The EPBC Act was amended in 2003 to provide protection for Indigenous and non-Indigenous cultural heritage sites, in addition to the original aims of protecting environmental areas and sites of national significance. Indigenous cultural heritage places protected under the EPBC Act include "...[the] heritage value of the place that is of significance to indigenous [sic] persons in accordance with their practices, observances, customs, traditions, beliefs or history".

Items identified under this legislation are given the same protective measures and penalties as actions taken against environmentally sensitive sites. Sections of the EPBC Act specifically relevant to Indigenous cultural heritage include ss. 324A-324ZB.

The EPBC Act enables the identification and subsequent listing of items for inclusion on the Commonwealth and National Heritage Lists. The EPBC Act establishes the *National Heritage List* under s. 324D, which includes natural, historic and Indigenous places of outstanding significance to the nation, and the *Commonwealth Heritage List* under s. 341D, which includes sites of national and international significance that are owned or controlled by the Australian Government. Substantial penalties (and, in some instances, imprisonment) can be imposed on any person who damages items on the National or Commonwealth Heritage Lists (ss. 495 & 497) or provides false or misleading information in relation to certain matters under the EPBC Act (ss.488-490). In addition, the wrongdoer may be required to make good any loss or damage suffered due to their actions or omissions (s.500).

1.3.2.3. Australian Heritage Council Act 2003

The *Australian Heritage Council Act 2003* (the AHC Act) defines relevant Commonwealth heritage advisory boards and lists, with the Act's Consequential and Transitional Provisions repealing the *Australian Heritage Commission Act 1975*. The AHC Act does not directly provide legislative protection regarding the conservation of heritage items in Australia, but it requires the compilation of a list of items recognised as possessing heritage significance to the Australian community. The Register of the National Estate, previously established under the *Australian Heritage Commission Act 1975* and now managed by the Australian Heritage Council, applies no legal constraints on heritage items included on this list.

When the new Commonwealth Heritage System was introduced in 2004 under amendments to the EPBC Act, the Australian Heritage Council replaced the Australian Heritage Commission as the Australian Government's independent expert advisory body on heritage matters. The Council plays a key role in assessment, advice and policy formulation and support of major heritage programs. Its main responsibilities are to:

- assess and nominate places for the National and Commonwealth heritage lists
- promote the identification, assessment, conservation and monitoring of heritage
- advise the Minister on various heritage matters.

1.3.2.4. Protection of Movable Cultural Heritage Act 1986

The *Protection of Moveable Cultural Heritage Act 1986* (the PMCH Act) regulates the export of cultural heritage objects from Australia. The purpose of the PMCH Act is to protect, for the benefit of the nation, objects which if exported would significantly diminish Australia's cultural heritage. Some Australian protected objects of Aboriginal, military heritage and historical significance cannot be granted a permit for export. Other Australian protected objects may be exported provided a permit or certificate has been obtained.

1.3.2.5. Native Title Act 1993 (Amended 1998, 2007 and 2009)

The Commonwealth *Native Title Act* (the NTA) recognises the traditional rights and interests to lands and waters of Aboriginal and Torres Strait Islander people. Under the NTA, native title claimants can make an application to the Federal Court to have their native title recognised under Australian law. The NTA was extensively amended in 1998, with further amendments occurring in 2007, and again in 2009. Under the Future Act provisions of the Native Title Act (Division 3), native title holders and registered native title claimants are entitled to certain procedural rights, including a right to be notified of the proposed Future Act (ss. 23HA, 24KA, 24MD, 24NA), a right to object to the act (s. 43A), the opportunity to comment (s. 23HA), the right to be consulted (s. 26A) and the right to negotiate (Subdivision P).

Native title recognises a set of rights and interests over land or waters where Aboriginal and Torres Strait Islander groups have practiced and continue to practice, traditional laws and customs prior to British occupation. It is fundamentally based on Aboriginal or Torres Strait Islander people's traditional laws and customs. For native title to be recognised, claimants must demonstrate that their rights and interests to the claim area are based on their traditional connection to the area and maintenance of that connection. The court must also determine whether this connection has been either entirely or partially extinguished by specific government actions.

Future Acts

A Future Act is a proposal to deal with land in a way that affects native title rights and interests. (s. 4(3)(b)). Examples of Future Acts include the grant of a mining tenement or the compulsory acquisition of land. A Future Act will be invalid to the extent that it affects native title unless it complies with the procedures set out in the NTA. These procedures vary depending on the nature of the Future Act (Division 3).

In some cases, the NTA requires the government intending to do the Future Act (the government party) and the person who has requested or applied for the act (the grantee party) to negotiate with any person or body corporate who holds native title or has a registered native title claim over the area (the native title party). This is referred to as the right to negotiate. (Subdivision P).

Indigenous Land Use Agreements

An alternative pathway to the right to negotiate is provided via the establishment of Indigenous land use agreements (ILUAs) (Subdivisions B, C, D and E of the NTA). An ILUA is a voluntary agreement

between a native title group and others about the use of land and waters. These agreements allow people to negotiate flexible, pragmatic agreements to suit their circumstances.³ An ILUA can be:

- over areas where native title has, or has not yet, been determined
- entered into regardless of whether there is a native title claim over the area or not
- part of a native title determination or settled separately from a native title claim.

An ILUA can cover topics such as:

- native title holders agreeing to a future development
- how native title rights coexist with the rights of other people
- access to an area
- extinguishment of native title
- compensation
- employment and economic opportunities for native title groups
- cultural heritage
- mining.

The Martu people are the native title holders over 136,000 km² of land in the Western Desert and Pilbara regions of Western Australia. These rights afford them exclusive use, occupation, possession, control and interests over the land identified in their determination area.

Specifically, the Martu hold the following native title rights and interests:⁴

- The right to possess, occupy, use and enjoy the land and waters of the determination area to the exclusion of all others, including:
 - the right to live on the determination area
 - the right to make decisions about the use and enjoyment of the determination area
 - the right to hunt and gather, and to take the waters for the purpose of satisfying their personal, domestic, social, cultural, religious, spiritual, ceremonial and communal needs
 - the right to control access to, and activities conducted by others on, the land and waters of the determination area
 - the right to maintain and protect sites and areas which are of significance to the common law holders under their traditional laws and customs, and
 - the right as against any other Aboriginal group or individual to be acknowledged as the traditional Aboriginal owners of the determination area.
- The right to use the following traditionally accessed resources for the purpose of satisfying their personal, domestic, social, cultural, religious, spiritual, ceremonial and communal needs:
 - ochre
 - soils
 - rocks and stones

³ <http://www.nntt.gov.au/ILUAs/Pages/default.aspx>

⁴ [WDLAC: Martu](#)

- flora and fauna
- The right to take, use and enjoy the flowing and subterranean waters in accordance with their traditional laws and customs for personal, domestic, social, cultural, religious, spiritual, ceremonial and communal needs, including the right to hunt on and gather and fish from the flowing and subterranean waters.

In December 2015 NML signed an Indigenous Land Use Agreement (ILUA) with WDLAC on behalf of the Martu people which outlines the rights and responsibilities of both parties for the ongoing mining operations at Telfer and other future mining operations within a 60 km radius of Telfer. The agreement “provides for ongoing heritage protection for areas of special significance”.⁵ In May 2020, WDLAC agreed to assign the ILUA to NML and Greatland Gold (as the participants in the Havieron joint venture) in respect of the Havieron Project.

1.3.3. Industry and best practice guidelines

Several industry and best practice guidelines have informed the development of the approach to preparing the Aboriginal cultural heritage baseline. Table 2 presents these standards and their relevance to the Aboriginal cultural heritage risk assessment.

Table 2: Industry and best practice guidelines and their relevance to this report

Guideline	Relevance
The International Council on Mining and Metals (ICMM) <i>Mining Principles</i> framework (ICMM 2020) establishes the baseline performance expectations for its members.	<p>NML became a member of the ICMM in 2017.</p> <p>The framework has several principles that require establishing an understanding of cultural heritage risks to the communities that may be affected by the development, operation and closure of a mine. These include:</p> <ul style="list-style-type: none"> ● 3. Human rights ● 4. Risk management <p>Other principals that require consultation with stakeholders and local communities include:</p> <ul style="list-style-type: none"> ● 6. Environmental performance ● 9. Social performance ● 10. Stakeholder engagement
The Minerals Councils of Australia’s (MCA) <i>Enduring Values Framework</i> establishes the principles for social, safety and environmental performance in Australia. The framework is based on the ICMM’s <i>10 Principles for Sustainable Development</i> (2015).	<p>NML is a member of the MCA.</p> <p>The following elements of the MCA’s <i>Enduring Values Framework</i> are relevant to this report:⁶</p> <p><u>Principle 3:</u> Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities. Element 3.6 requires members to ‘Respect the culture and heritage of local communities, including Indigenous peoples.’</p> <p>Verifiable outcomes required under Principle 3 include:</p>

⁵ [151211 Media Release Newcrest and Martu sign Telfer Indigenous Land Use Agreement](#)

⁶ [190503 Enduring Value Principles.pdf \(minerals.org.au\)](#)

Guideline	Relevance
	<ul style="list-style-type: none"> • Employees and contractors are trained in cultural awareness and human rights relevant to their area of work and the operations’ local cultural context. • The company has characterised the local cultural context, established a process to manage risks to culture and heritage and has strategies to effectively maintain and, where possible, enhance local culture and heritage through an ongoing and open dialogue. <p><u>Principle 4</u>: Implement risk management strategies based on valid data and sound science.</p> <p>Verifiable outcomes under Principle 4 include:</p> <ul style="list-style-type: none"> • Risk communication strategies ensure relevant parties are engaged on significant risks in a culturally appropriate manner
<p><i>Australia ICOMOS Charter for Places of Cultural Significance, ‘the Burra Charter’ (Australia ICOMOS 2013; Marquis-Kyle & Walker 2004).</i></p>	<p>The Burra Charter outlines a process for establishing cultural significance. Article 1.2 states that:</p> <ul style="list-style-type: none"> • <i>Cultural significance</i> means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. • Cultural significance is embodied in the <i>place</i> itself, its <i>fabric, setting, use, associations, meanings, records, related places and related objects</i>. • Places may demonstrate a range of these significance criteria for different individuals or groups.
<p>International Finance Corporation (IFC) Performance Standards (IFC 2012)</p>	<p>The objectives of IFC Performance Standard (PS) 8 (Cultural Heritage) are to protect cultural heritage from the adverse impacts of Project activities, support its preservation, and promote the equitable sharing of benefits from the use of cultural heritage, regardless of whether or not it has been legally protected or previously disturbed. PS 8 provides specific guidance on several matters relevant to this risk assessment, including:</p> <ul style="list-style-type: none"> • Protection of cultural heritage in Project design and execution • Chance finds procedures (i.e., those found other than by deliberate search or information provided by sources) • Consultation • Community access • Removal of replicable cultural heritage • Removal of non-replicable cultural heritage

1.3.4. Newcrest Standards

The Aboriginal cultural heritage risk assessment has been undertaken in line with the NML standards and guidelines and policies detailed in Table 3.

Table 3: Newcrest standards and their relevance to this report

Standard	Relevance
<p><i>Social Performance Standard (PER SP ST-01)</i> (Newcrest 2019a)</p>	<p>Section 3.13 of NML’s Social Performance Standard requires that all NML assets proactively consult and work with relevant communities under national and local laws to protect and manage cultural heritage in the areas of their activities. The standard notes that cultural heritage includes:</p> <ul style="list-style-type: none"> • tangible places and objects such as archaeological sites and ceremonial sites, burials, art and historical infrastructure • intangible heritage such as story sites, song lines, language and dance, consistent with IFC Performance standard 8. <p>Role accountabilities relating to cultural heritage area set out in the standard. Accountabilities of relevance to this report include:</p> <ul style="list-style-type: none"> • 3.13.1: carry out fit-for-purpose cultural heritage baseline assessments at all Project gateways with the assistance of a suitably experienced cultural heritage professional. • 3.13.5: include cultural heritage in all risk assessments from concept to decommissioning. • 3.13.6: wherever possible design and locate activities to avoid disturbance of cultural heritage • 3.13.7: mitigate unavoidable disturbance or destruction to the greatest extent in active collaboration with heritage custodians. • 3.13.10: at the outset of activities, develop and maintain a Cultural Heritage Management Plan (CHMP) to manage tangible and intangible cultural heritage including chance finds.
<p><i>Risk Management Standard (RISK ST-01)</i> (Newcrest 2019b)</p>	<p>The <i>Risk Management Standard</i> defines a standardised process for identifying, analysing, and evaluating risks that pertain to NML’s assets. The Standard has been incorporated into the method for this Aboriginal cultural heritage risk assessment, as detailed in Section 3.5.</p>
<p><i>Cultural Heritage Guideline (SPG 3.13)</i> (Newcrest 2019c)</p>	<p>The <i>Cultural Heritage Guideline</i> supports Newcrest’s <i>Social Performance Standard</i> by providing advice on how to meet the requirements of Clause 3.13 (Cultural Heritage) of the standard. The elements within this guideline represent best practice guidance for competent persons undertaking cultural heritage assessment.</p> <p>The guideline notes that ‘Cultural heritage...needs to be managed in a way that is systematic, repeatable and auditable’. It provides guidance on accepted practices for the management of cultural heritage through a Cultural Heritage Management System, including:</p> <ul style="list-style-type: none"> • a self-managed assessment/audit and gap analysis to determine the current state-of-play regarding cultural heritage assessment and risk management • a cultural heritage GIS, database and site register • a cultural heritage baseline assessment including an assessment of the impacts and risks to cultural; heritage and to the business • confidentiality provisions • a Cultural Heritage Management Plan including Standard Operating Procedures and Glossary
<p><i>Social Risk Assessment Guideline (SPG 3.4)</i> (Newcrest 2019d)</p>	<p>The <i>Social Risk Assessment Guideline</i> requires that a social risk assessment is undertaken for Newcrest assets, which includes:</p> <ul style="list-style-type: none"> • Identifying social risks • Evaluating the likelihood and consequence of these risks consistent with the Newcrest Risk Management Standard • Identifying management measures and controls to reduce social risks.

Standard	Relevance
	<p>The guideline also identifies typical social risk topics for Newcrest assets. Attachment 1 of the guideline includes prompts for conducting social risk assessments under key risk headings, including cultural heritage:</p> <p>Cultural heritage considerations of impacts, threats and opportunities in SIA and SRA should be informed by existing cultural heritage registers, new cultural heritage surveys, land tenure review and community engagement. Consider potential impacts, threats and opportunities related to:</p> <ul style="list-style-type: none"> • Tangible culture: <ul style="list-style-type: none"> ○ Recorded heritage sites (including landscapes, burial sites, performance grounds, rock art, paleontological sites and religious sites) ○ Indigenous peoples’ and other communities’ connections to the land whether through formal title or customary use ○ Unrecorded heritage sites yet to be identified ○ Potential impacts upon heritage sites and the need for management, protection, mitigation ○ Legislation • Intangible culture: <ul style="list-style-type: none"> ○ Traditions, customary practice, songs, dance, stories ○ Language ○ Traditional environmental knowledge ○ Access to significant cultural sites and traditional resources, etc.
<p>Indigenous Relations Policy⁷</p>	<p>The <i>Indigenous Relations Policy</i> details Newcrest’s commitment to respect Indigenous Peoples, and the cultures and customs of the communities in which they operate. The commitments made under this policy contribute to Newcrest’s vision to be the ‘Miner of Choice’.</p> <p>The policy includes the following approaches:</p> <ul style="list-style-type: none"> • Work to build constructive relationships between Indigenous Peoples within the communities in which we work, which are based on respect, meaningful engagement and mutual benefit. • Respect and have regard to both tangible and intangible cultural heritage, as well as specific and historical cultural needs, places and customs, especially those unique characteristics in relation to rights and connection to land. • Communicate and build awareness across Newcrest, relating to the invaluable contribution that Indigenous Peoples make to our business and the communities in which we operate.

⁷ [1803 Newcrest Indigenous Relations Policy](#)

2. Project Description

The Havieron Project is located approximately 45 km east from NML's fly-in fly-out Telfer mine (Figure 1). It is located on the traditional lands of the Martu people, who hold exclusive native title rights and interests to some 130,000 km² of land around and to the east of the Telfer mine and the Havieron Project. The Havieron Project will use some of the existing Telfer mine infrastructure to support its operation, including for ore processing, tailings storage and power generation.

Figure 2 shows the proposed Havieron Project mine area layout.

Ore is currently proposed to be mined through an underground sub-level open stoping method at a rate of 3 million tonnes per annum (Mtpa) over 12 years. Ore will be transported in trucks from the mine to the existing concentrator plant at the Telfer mine along a new 62-km-long haul road that will be constructed within a designated infrastructure corridor (see Figure 1). Tailings from the ore processing will be deposited at the existing Telfer mine tailings storage facility (TSF), which may require extension to accommodate the additional tailings.

Power for the Project will be generated at the existing Telfer mine power plant. An overhead transmission line will be built along the infrastructure corridor from the power plant to the mine site to supply electricity. A borefield will be developed to supply water for the Project, including for the camp, dust suppression and water consumption for underground mining operations. Underground mine water will be pumped into a lined evaporation pond that will be constructed. Waste rock dump runoff will also flow into the evaporation pond to capture any acid and metalliferous drainage from waste rock material. Other supporting infrastructure at the site will include workshops, refuelling areas, wash bays, concrete batch plants, accommodation facilities, offices communication facilities and magazines. During the operation, the Project workforce will be approximately 585 people, which will predominantly be fly-in fly-out, supported by the airport at Telfer mine.

3. Method

This section provides an overview of the method used to undertake the Aboriginal cultural heritage risk assessment, including:

- Scoping
- Defining the study area
- Characterising the Aboriginal cultural heritage baseline
- Identifying and assessing Aboriginal cultural heritage risks
- Developing the preliminary mitigation and management measures.

3.1. Scoping

The scoping phase of the risk assessment involved the preliminary identification of the Project's potential Aboriginal cultural heritage risks. Specifically, the scoping phase provided a framework for:

- The definition of the study area.
- The scope of the baseline, including identifying Aboriginal cultural heritage values that may be affected by the Project's impacts.

Identification of the risks to Aboriginal cultural heritage posed by the Project was based on:

- A review of reports provided by NML relating to the Aboriginal cultural heritage context of the study area.
- The project description. The Project description, which provided details regarding the nature and location of proposed works with a potential to impact on Aboriginal cultural heritage.

3.2. Limitations

In preparing this Aboriginal cultural heritage risk assessment, ELA has relied on information from secondary sources, either supplied by NML or obtained online (see section 3.4 below for details). Except where stated, ELA has not attempted to verify the accuracy or completeness of this information.

The following limitations influenced the preparation of this report and its findings:

- This report has been developed based on desktop information and engagement with NML employees. At the request of WDLAC, stakeholder engagement during the preparation of the Havieron Project ESIA has been limited to stakeholders who reside outside of Martu communities. WDLAC, NML, and Tetra Tech Coffey (Coffey) have been meeting since April 2021 to develop a collaborative approach to engaging with Martu communities to collect information on the potential impacts of the Havieron Project.

The limited nature of engagement with Martu stakeholders has resulted in assumptions being made regarding potential risks to Aboriginal cultural heritage based on literature review and existing NML information. These are primarily related to Martu concerns and aspirations as they relate to the development and operation of the project. As noted above, a collaborative

approach to engaging with Martu is being developed and will be undertaken as part of a forward works program for the Project.

- The report is heavily dependent on GIS spatial data supplied by NML. Based on a comparison of figures and maps contained in the previous study reports presented in Section 4.4, the spatial data appears to effectively summarise the information contained in the reports and reflects their findings with regard to the identification of Cleared and Not Cleared Areas. However, it has not been possible to independently verify the accuracy of the spatial data.
- All but two of the studies reviewed in the baseline assessment were archaeological or ethnographic WPC or WPA clearance studies, and on this basis it is not possible to assess the location, nature or significance of the cultural heritage places identified in the reports in sufficient detail to permit an informed significance-based impact assessment. The risk assessment presented in Section 5 is mostly based on high-level advice from Pitjikirli-Martu Traditional Owners in declaring survey areas as either Cleared or Not Cleared.
- The locations of specific, identified landscape cultural heritage values can only be inferred based on:
 - the defined extents of Not Cleared areas mapped by cultural heritage survey teams in 2019 and 2020; and
 - the observation recorded on several occasions during the cultural heritage clearance surveys that sand dunes are culturally sensitive places because they would have been used by previous generations of Pitjikirli-Martu as campsites, and therefore there is a higher potential for the dunes to contain archaeological sites and possibly burials.
- All but one of the studies reviewed in the baseline assessment were archaeological or ethnographic Work Program Clearance (WPC) or Work Program Area (WPA) clearance surveys. As discussed in Section 4.4.2, the purpose of these surveys is simply to assess whether a survey area contains any archaeological or ethnographic values. The surveys are conducted in partnership with Martu Traditional Owners, who then determine whether the survey area can be declared as either Cleared or Not Cleared with regard to the potential for proposed works to impact on Aboriginal sites or other forms of Martu cultural heritage value. Reporting standards for WPC and WPA surveys do not require detailed descriptions of the nature, location or significance of identified Aboriginal cultural heritage values. Consequently, they do not meet the minimum standard required by Yamatji Marlpa Aboriginal Corporation (YMAC)⁸ to submit an Aboriginal site for consideration to the Department of Planning, Lands, and Heritage (DPLH) or to apply for a permit (s16 and s18) under the Act (Morgan 2019: 13).

The one study reported in Section 4.4.2 that is not a WPC/WAC survey (Archae-*aus* 2020) was prepared as a Site Avoidance report to be used for planning purposes only, and not for the purpose of obtaining approvals or permits under the Aboriginal Heritage Act 1972, or to assess the significance of any sites (Archae-*aus* 2020: 8). Archae-*aus* note that:

⁸ YMAC is an Aboriginal organisations that provides a range of specialist services in the areas of native title, heritage protection, community/environmental/economic development, administrative and organisations support to Prescribed Bodies Corporate, and land services: [YMAC](#). YMAC is engaged by WDLAC to provide heritage protection services, which routinely include organising and participating in heritage surveys.

Site Avoidance recording is not sufficient for an assessment of a site's significance to be made and, as such, Archae-aus recommends that if significance assessments are required for sites recorded to Site Avoidance level, further detailed recording and consultation with Martu Traditional Owners takes place prior to the assessment being made. (Archae-aus 2020: 18).

On this basis, the nature of the studies reviewed in Section 4 do not permit their use in the development of an informed significance-based cultural heritage impact assessment. The risk assessment presented in Section 5 is mostly based on high-level advice from Pitjikirli-Martu Traditional Owners in declaring survey areas as either Cleared or Not Cleared.

A cultural heritage impact assessment method is presented in Appendix 1. It is important that the Project engages with Martu Traditional Owners prior to undertaking the assessment to:

- confirm the application of the significance-based assessment model; and
- determine the significance of the sites to be included in the assessment, in line with Archae-aus' recommendation (2020: 18).

3.3. Study Area

The Aboriginal cultural heritage risk assessment study area was defined using the disturbance envelope and infrastructure corridor as mapped in Figure 1 and Figure 2, both buffered by an additional 250 m.

Although the portion of the Northern Access Road (NAR) west of its intersection with the proposed Haul Road will not be impacted by the Project, it has been included in the study area assessed for this report at NML's request. This portion of the study area is defined using the existing NAR as mapped in Figure 1 buffered by an additional 250 m.

The Aboriginal cultural heritage risk assessment study area is mapped in Figure 3.

3.4. Characterising the Aboriginal Cultural Heritage Baseline

The following information sources were used to characterise the Aboriginal cultural heritage baseline within the study area:

1. Online information regarding Traditional Owner groups and research into Aboriginal cultural heritage relevant to the study area.
2. Archaeological and ethnographic survey reports supplied by the Project.
3. GIS spatial data supplied by NML mapping the outcomes of the archaeological and ethnographic reports referenced in item 2.

3.5. Identifying and Assessing Aboriginal Cultural Heritage Risks

The risk identification phase involved a review of the potential Aboriginal cultural heritage issues identified during the scoping phase. The potential risk associated with the identified issues was assessed based on NML's *Risk Management Standard RISK ST-01* (Newcrest 2019b). Specifically, for each issue, the risk is assessed based on a likelihood and consequence ranking. The criteria for ranking likelihood are detailed in **Error! Reference source not found.** and for consequence in Table 5. These are combined to establish a risk rating, as shown in Table 6.

Table 4: Likelihood criteria (Newcrest 2019b)

Likelihood	Description
Almost Certain	The event will occur during the project or period under review (more than 90% probability). The event may occur twice or more per year for operations. High number of known incidents. Strong chance of recurrence.
Likely	The event is likely to occur during the project or period under review (50-90% probability). The event may occur once or twice per year for operations. Regular incidents known.
Possible	The event may occur in some instances during the project or period under review (10-50% probability). The event may occur every 1-10 years for operations. Infrequent but possible.
Unlikely	The event is not likely to occur during the project or period under review (1 in 1000 to 1 in 10 chance). May occur every 10-100 years for operations. Some records of known occurrences.
Rare	The event will only occur in exceptional circumstances during the project or period under review (less than 1 in 1000 chance). Would occur less than once every 100 years for operations. Very remote chance. Very few known occurrences.
Extremely Rare	No known occurrences for projects. The event would occur once every 1,000-10,000 years.

The risk assessment was conducted by the author of this report.

3.6. Developing a Preliminary Mitigation and Management Response

The development of mitigation and management measures was based on guidance provided in NML's *Risk Management Standard RISK ST-01*, which assigns the need to develop management or mitigation responses based on the residual risk rating, as detailed in Table 7.

Table 5: Consequence criteria (criteria relevant to cultural heritage in bold) (Newcrest 2019b)

Level	Health	Safety	Environment	Social licence	
				Social and cultural	Reputation
6	> 5 fatalities Very serious irreversible injury to >20 persons		Unplanned severe impact(> 5 years) on ecosystem or Threatened Species.	A breakdown of social order. Widespread damage to items of global cultural significance. Highly offensive infringements of cultural heritage. Company directly responsible or complicit in severe, long-term impacts on human rights.	International multi-NGO and media condemnation. Newcrest direct action (includes partner/contractor action) results in reputation issue. Large violent protest (>100 people) resulting in significant violence and potentially fatal injuries.
5	2 – 5 fatalities Short or long term health exposures leading to significant irreversible human health effects to >10 persons		Unplanned serious or extensive impact (2 - 5 years) on ecosystem or Threatened Species.	Extensive long-term social impacts. Widespread damage to structures/items/locations of national cultural significance. Serious infringements of cultural heritage. Company directly responsible or complicit in major human rights impacts or complicit in multiple aggravated impacts on human rights.	Serious public or national media outcry (international coverage). Damaging NGO or Social Media campaign. Newcrest’s reputation severely tarnished. Thirdparty actions (where Newcrest is one of many in a group) result in reputation impact. Large protest (>100 people) with some violence & serious, multiple injuries.
4	Workplace exposure leading to irreversible health impacts or death Widespread outbreak of infectious disease	Fatality or permanent disabling injury	Widespread or regional environmental damage with permanent impacts. Conviction, loss of permit/licence to operate, and/or order to stop operations. Loss of endangered and/or highly regarded flora/fauna. Extinction of a species.	Community fatality Very serious widespread social impacts Irreparable damage to highly valued structures/items/locations of cultural significance Government or police intervention in operations Operations/production stopped for > 7 days Prolonged international media or widespread media focussing on the company resulting from the event	
3	Workplace exposure leading to severe but	Lost Time Injury (LTI)	Significant environmental damage, reversible with long term remediation.	Ongoing serious social issues Significant damage to structures/items of cultural significance Significant infringement/disregard of cultural heritage	

Level	Health	Safety	Environment	Social licence	
				Social and cultural	Reputation
	reversible health effects Localised outbreak of infectious disease	Permanent partial disability	Directive from regulator resulting from nuisance impacts to neighbours (e.g. dust, noise). Unauthorised clearing of a sensitive area. Loss of significant numbers of plants or animals, with possible loss of entire population.	Aggressive community reaction: stoppage of operations during negotiations External arbitration required International or prolonged national media focussed on an event	
2	Reversible health effects requiring medical treatment	Temporary injury or disability requiring medical treatment and/or alternative duties (MTI, ADI)	Environmental damage reversible with medium term remediation. Localised impacts with no potential for widespread impact. Repeated or significant breach of a statutory requirements or consent condition Nuisance impact (e.g. dust, noise) to neighbours resulting in complaint(s) or investigation by regulator Loss of multiple flora/fauna, but no threat to entire local population.	Ongoing social issues. Minor damage to structures/ items of cultural significance Infringement/disregard of cultural heritage/sacred locations Injury to a community member Strong community complaints/reaction: threat to operations Significant compensation demands/required Isolated national media on the event Local media attention	
1	Reversible health effects requiring first aid or minor supportive treatment at most Working conditions causing discomfort or physical strain	First aid or minor supportive treatment	Minor environmental impact, reversible with short term remediation. Impact confined near the source. Non-compliance resolved within one week Nuisance impact (e.g. dust, noise) to neighbours with no complaints Impact to flora/fauna localised and contained (single animals and plants)	Minor social/cultural impact. Damage or loss of minor community asset Minor infringement of cultural heritage Formal community complaint Minor or no compensation required No media coverage or some isolated local media discussion	

Table 6: Risk matrix

		Severity Level (Consequence)					
		6	5	4	3	2	1
Likelihood	Almost Certain	M1	M3	1	3	6	10
	Likely	M2	M5	2	5	9	14
	Possible	M4	M7	4	8	13	17
	Unlikely	M6	M9	7	12	16	19
	Rare	M8	M11	11	15	18	20
	Extremely Rare	M10	M12	21	22	23	24

‘M’: Material risk

Source: Newcrest (2019) Risk Management Standard RISK ST-01

Table 7: Action, approval, and notification requirements

Residual risk rating	Residual risk acceptance	Action, approval, and notification requirements
M1 to M7	Response Required	<p>Further action required to improve the effectiveness of existing controls and/or introduce additional controls.</p> <p>Where further action is not supported by cost/benefit analysis, or deemed not possible, or where the cause of the risk is due to external factors, residual risk will be accepted.</p> <p>Additional monitoring is required to detect changes in the external environment.</p> <p>Acceptance of residual risk is by ExCo (Level 5 risks) or the Board (Level 6 risks).</p>
M8 to M12	Ongoing Control	<p>Controls will be monitored and verified for effectiveness as part of routine work.</p> <p>Improvement action is required where a Material Risk Control Assessment shows the risk to be less than “Well Controlled” and/or where supported by cost/benefit analysis.</p>
1 to 5	Extreme	Responsible General Manager approval required before proceeding with the activity or project
6 to 11	High	Responsible Manager approval required before proceeding with the activity or project
12 to 16	Medium	Line Manager/Superintendent notification required before proceeding with the activity or project
17 to 24	Low	No approval or notification required before proceeding with the activity or project

Source: Newcrest (2019) Risk Management Standard RISK ST-01

4. Baseline Characterisation

4.1. Traditional Owners

The Havieron Project is located in the Pilbara region of Western Australia, approximately 485 km east of Port Hedland and 45 km east from NML's fly-in fly-out Telfer mine. The Project site is located within the traditional lands of the Martu people, which extend across much of the Gibson, Great Sandy and Little Sandy deserts. The Martu people hold exclusive native title rights and interests to some 130,000 km² of land around and to the east of the Telfer mine and the Havieron Project.

The Martu or Martujarra means 'one of us' or 'person' and is a collective term that refers to people who speak one of several mutually intelligible dialects and have connected Law, family connections and other similar cultural traits (Walsh 2008; WDLAC 2020). Traditionally, the Martu lived a nomadic lifestyle, hunting and gathering with a high level of mobility that was in part driven by the desert environment and variability of rainfall (Edmunds 2012). Groups of people often moved through areas that were occupied by different language groups and were also known to share resources. Key elements of Martu relations include myths, songs, stories, dances, ritual and sacred objects that are passed through the generations. Major rituals can take place over a period of weeks.

The traditional nomadic lifestyle of the Martu was disrupted as a result of European explorers, pastoralists and missionaries (WMPALC 2021). Many Martu provided labour for pastoral or mining activities, while others lived in settlements or missions, generally in areas to the west or north of their traditional lands. In the 1980s, some Aboriginal people left the settlements, missions and other urbanised environments in which they lived and returned to their traditional lands. Referred to as the homeland or outstation movement, it allowed Aboriginal people to reconnect with their traditional land and strengthen cultural ties and practices, while simultaneously escaping social problems that were common in urban areas. Kuniwarritji, Punmu and Parnngurr were established during this period because of the homeland movement (SVA Consulting, 2018). These communities are located within the Martu native title area and are the most proximal communities to the Havieron Project and the Telfer mine. An additional settlement, Jigalong, is located just outside of the native title and is a predominantly Martu centre with significant interest in the land that the Havieron Project is located on and surrounds.

4.2. Cultural Heritage Site Types

Cultural heritage is often considered in terms of both the tangible and intangible ways that people create, express and preserve that heritage. As would be expected, the definitions of tangible and intangible heritage vary from culture to culture. For the purposes of this report, tangible and intangible are defined as follows:

- Tangible heritage includes moveable or immovable objects, property, sites, structures or groups of structures, which have archaeological, paleontological, historical, cultural, artistic values, or religious values.
- Tangible heritage also includes unique natural features or tangible objects that embody cultural values, such as lakes, ponds, outcrops, rocks and waterfalls.
- Intangible forms of culture heritage include (but are not limited to) knowledge, innovations, religious ceremonies, values and beliefs.

Previous studies investigating the potential for extractive industry projects to impact on cultural heritage typically distinguish between two classes of tangible cultural heritage: oral tradition sites and archaeological sites.

4.2.1. Oral Tradition Sites

Oral tradition sites are places of intrinsic contemporary cultural significance or are associated with specific forms of contemporary cultural knowledge (this aspect being tangible). They are identified primarily on the basis that people alive today possess knowledge of these places (including their location, the stories behind them and the reasons why they are of cultural importance), and that the places exist as physical entities in the landscape.

While some of these places may contain physical (i.e. tangible) evidence of the human behaviours that relate to them, it is not an essential requirement for the place to be identified as a cultural heritage site – the fact that people have an extant oral tradition that identifies the place as being associated with a cultural activity or belief (i.e. intangible heritage) is sufficient. These may include (but are not limited to) the following:

- Places associated with ceremonial or ritual activities.
- Places where ancestral or mythical spirits dwell.
- Hunting camps and clan origin places.
- Burials and cemeteries.
- Sites associated with warfare.
- Places where people lived or undertook important social or economic activities.

4.2.2. Archaeological Sites

An archaeological site is a place (or group of physical sites) in which evidence of prehistoric, historic or contemporary human activity is preserved, and which has been, or may be, investigated using the discipline of archaeology. Archaeological sites may range from those with few or no remains visible above ground, to buildings and other structures still in use. Archaeological site types in the vicinity of the study area are likely to include (but are not limited to):

- Stone artefact scatters.
- Occupation sites, including open camp sites and caves or rockshelters (depending on the local geology).
- Resource/raw material sites including stone quarries.
- Burial sites.⁹

4.3. AHIS Register Review

A search of the DPLH Aboriginal Site register was undertaken using the AHIS online tool on 21 May 2021. The results of the search are presented in Figure 4.

There are no previously recorded Aboriginal heritage sites located within the study area.

⁹ Burial sites may also have oral histories associated with the people who buried in the site.

Westward of the Patterson Range site complex and south of the study area are *Telfer Dune Site 1* and *Telfer Dune Site 2* (DPLH ID. 12052 and 12016), both artefact scatters associated with dune systems and an ephemeral creek line. The artefacts include grindstones (mullers and millstones) and a range of flaked stone artefacts including formal tools made from quartz, silicified sandstone and chalcedony.

Further west again and southwest of the study area is a cluster of registered sites which form a complex of heritage features including stone arrangements consisting of multiple figurative forms (*Tims South* DPLH ID. 11814), and cave paintings including sacred and secular figurative motifs (*Njuri Hills 2* DPLH ID. 12056 and *Njuri Hills 3* DPLH ID. 12007). *Njuri Hills 5* (DPLH ID. 12015) is another cave painting site which also contains a range of wooden artefacts, flaked and ground stone artefacts, and archaeological deposit suitable for excavation.

North of the study area is another cluster of registered sites which incorporate sacred and secular figurative cave paintings and grinding marks (*Comptons Chimney* DPLH ID. 6207 and *Sharpe's Gallery* DPLH ID. 6205), stone arrangements, cave paintings, a grindstone in the cave and a man-made structure described as a "native well" which features stones built up to capture water (*Paterson Range Stones 1* DPLH ID.12111).

The range of archaeological and cultural features within the vicinity of the study area presents an exceptional suite of materials, places and values which should be considered of high significance. These features and the broader cultural landscape of which they are a part have excellent potential to add to our understanding of past Aboriginal lifeways and human adaptation to arid environments.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5. Risk Assessment

The Aboriginal cultural heritage risk assessment has considered cultural heritage risks to the community (Table 11).

The Aboriginal cultural heritage risks to the community have been assessed in line with NML's *Risk Management Standard RISK ST-01* (Newcrest 2019b).

Table 11: Aboriginal cultural heritage risks to Martu Traditional Owners

Cultural Heritage Value	Project input	Potential issue	Stakeholders	Initial risk assessment			Preliminary mitigation	Residual risk		
				L	C	R		L	C	R
Cultural heritage places	Construction, operation and/or decommissioning	The construction of the Project, and to a lesser extent its operation and decommissioning, has the potential to directly damage or destroy Martu cultural heritage places. This would result in a further erosion or loss of cultural values on Martu country, with a consequential diminution of the Martu cultural repertoire and potential impacts to their sense of physical and emotional wellbeing.	Martu communities	Likely	4	2	<ul style="list-style-type: none"> Move from a compliance to a participatory relationship with Martu/WDLAC. Increased Martu involvement in the management of Country may serve to underpin a stronger relationship between NML and Martu/WDLAC, thereby mitigating the risk of an adversarial relationship. Where practicable, avoid siting project infrastructure at locations that will damage or destroy Martu cultural heritage places or values (including sand dunes). Where practicable, avoid siting project infrastructure at locations that will preserve Martu cultural heritage places intact while at the same time isolating them or rendering them inaccessible to Martu. If impacts to Martu cultural heritage places are unavoidable, confirm appropriate management measures with Martu representatives that will mitigate the loss of these cultural values. These could include: <ul style="list-style-type: none"> Salvage collection of surface artefacts and relocation to the Havieron Camp Keeping Place (see Section 4.4.2.7 above for details of a proposed Martu Keeping Place). If deemed appropriate, archaeological investigation of key occupation sites. Ensure a Chance Finds Procedure is in place for the Project and that the procedure is routinely mentioned during all toolbox talks. 	Unlikely	4	7
Cultural practice and tradition	Change in access to country	<p>The establishment of the Project may change Martu’s access and movement across the landscape.</p> <p>The Social Risk Assessment prepared for the Project (Tetra Tech Coffey 2021) noted that formal and informal <i>Back to Country</i> trips which incorporate cultural and environmental elements occur near or beyond the proposed Havieron site. These trips can often include looking after country activities such as cleaning of water holes and prescribed mosaic burning to manage large uncontrolled wildfires. They are also likely to provide opportunities for Martu to pursue cultural practice, perform ceremonial activities and undertake other related activities such as gathering economic resources that are required either as food, medicines or as components of ceremony or ritual.</p> <p>Having access to country is a key social and cultural value for the Martu; consequently, changes in access and movement on country has the potential to interfere with these key values. The level of significance of this change depends how people use this area and the cultural context of this use, which needs further data collection to inform its assessment.</p>	Martu communities	Likely	2	9	<ul style="list-style-type: none"> Engage with Martu to further understand their cultural requirements regarding ongoing access to country near and beyond the Project footprint. Identify the trips and cultural work that might occur, their general location and the route travelled in relation to the Project footprint and possible constraints to movement. Establish regular engagement with appropriate stakeholders to optimise access. Agree an access plan with WDLAC, so Martu can traverse through their country (including across NML operations) in accordance with an agreed process. 	Possible	1	17

6. Preliminary Mitigation and Management Response

In line with guidance provided in NML's *Risk Management Standard RISK ST-01* which assigns the need to develop management or mitigation responses based on residual risk ratings (Newcrest 2019b), this section groups the preliminary mitigation and management measures identified in the risk assessment based on the following themes:

- Martu community engagement (Table 12)
- Managing risks to Aboriginal cultural heritage (Table 13)
- Areas for further investigation (Table 14)

A cultural heritage management plan (CHMP) for the Project is presented in Appendix 2. The CHMP may need to be updated based on the outcomes of a formal impact assessment, but in its current form it:

- Promotes the conservation and management of cultural heritage places within and near all proposed Project-related disturbance areas.
- Recommends that all employees and contractors have a competent understanding of Martu cultural values, and that the development of this competency is led, and possibly even delivered, by Martu.
- Specifies salvage activities (whether it be surface artefact collections or subsurface archaeological excavations) where required, including but not limited to:
 - Development of an appropriate salvage methodology in consultation with Martu/WDLAC to be implemented prior to ground disturbing Project activities taking place.
 - Establishing specific measures for the exhumation of any human remains that may be unearthed as chance finds or during cultural heritage salvage investigations, in consultation with Martu Traditional Owners.
- Requires the development and implementation of a Chance Finds Procedure in consultation with Martu Traditional Owners with clear processes for reporting, investigation and management (as required) of cultural heritage chance finds discovered during Project-related activities, including the discovery of suspected human remains.
- Requires the ongoing maintenance of a cultural heritage database and updates to the database as new information becomes available. The database will inform further planning and design and will assist in the implementation of recommended management measures. It will include the precise locations of all sites, particularly those to be avoided.
- Requires approval of Martu Traditional Owners regarding:
 - The content of the Cultural Heritage Management Plan, including the community engagement methods that will be employed in recognition of community values.
 - The development of culturally appropriate methods for the practical management of cultural heritage places that are to be protected from impacts.
 - The development of culturally appropriate management measures in relation to oral tradition places.

Table 12: Preliminary Martu community engagement topics

Topic	Characteristics	Timeframe	Stakeholders	Residual risk rating	Residual risk acceptance	Action, approval and notification requirements
Cultural heritage performance	<ul style="list-style-type: none"> Develop regular engagement protocols to involve Martu communities in cultural heritage management and performance. 	Life of Project	Martu communities and their representatives	14	Medium	Line Manager/Superintendent notification required before proceeding with the activity or project
Understanding significance	<ul style="list-style-type: none"> Ensure that Martu work closely with NML as partners in assessing the cultural significance of sites, places and intangible values that have a potential to be impacted by the Project. 	Life of Project	Martu communities and their representatives	14	Medium	Line Manager/Superintendent notification required before proceeding with the activity or project
Cultural heritage practice and tradition	<ul style="list-style-type: none"> Jointly develop a land access plan with Martu that will provide ongoing access to country near and beyond the Project footprint. Support the WDLAC Patrol when they plan trips and cultural work in relation to the Project footprint. 	Life of Project	Martu communities and their representatives	17	Low	No approval or notification required before proceeding with the activity or project

Table 13: Managing risks to Aboriginal cultural heritage

Topic	Characteristics	Timeframe	Stakeholders	Residual risk rating	Residual risk acceptance	Action, approval and notification requirements
Understanding Aboriginal cultural heritage values in the Project area	<ul style="list-style-type: none"> Maintain a Project register of Martu cultural heritage values mapped in relation to the Project layout and regularly updated to incorporate the results of recent cultural heritage investigations. Undertake a formal consultation program with Martu about their perspectives on tangible and intangible cultural heritage values associated with the Project and incorporate the outcomes into the cultural heritage values register. 	Life of Project	NML, Martu communities and their representatives	14/17	Medium/Low	Line Manager/Superintendent notification required before proceeding with the activity or project

Topic	Characteristics	Timeframe	Stakeholders	Residual risk rating	Residual risk acceptance	Action, approval and notification requirements
	<ul style="list-style-type: none"> Ensure that NML has access to independent expert cultural heritage management advice and services that can closely liaise with YMAC staff and other consultants during all stages of cultural heritage fieldwork and reporting undertaken on behalf of WDLAC. Recruit a cultural heritage management specialist into the Telfer EASP team. Implement a system to ensure that knowledge about the cultural heritage landscape, as it is learned through NML's relationship with WDLAC and Martu, is recorded and saved into a database (see dot point 1 above) and referenced in processing SDPs. Comprehensive background heritage report is prepared that brings together desktop literature review and surveys undertaken at Telfer/Havieron. 					
Havieron Project design	<ul style="list-style-type: none"> Where practicable, avoid siting Project infrastructure at locations that will damage or destroy Martu cultural heritage places or values (including sand dunes). Where practicable, avoid siting Project infrastructure at locations that will preserve Martu cultural heritage places intact while at the same time isolating them or rendering them inaccessible to Martu. 	Pre-construction	Martu communities and their representatives	14	Medium	Line Manager/Superintendent notification required before proceeding with the activity or project
Avoidable vs unavoidable impacts	<ul style="list-style-type: none"> Ensure that all NML staff and contractors are continually reminded through regular briefings and daily toolbox talks of the company's internal processes regarding cultural heritage management. 	Life of Project	NML, Martu communities and their representatives	14	Medium	Line Manager/Superintendent notification required before proceeding with the activity or project

Topic	Characteristics	Timeframe	Stakeholders	Residual risk rating	Residual risk acceptance	Action, approval and notification requirements
	<ul style="list-style-type: none"> • Ensure that authorisation is obtained prior to disturbing, damaging, or destroying known Martu cultural values. • If impacts to Martu cultural heritage places are unavoidable, confirm appropriate management measures with Martu representatives that will mitigate the loss of these cultural values. These could include: <ul style="list-style-type: none"> ○ Salvage collection of surface artefacts and relocation to the Havieron Camp Keeping Place (see Section 4.4.2.7 above for details of a proposed Martu Keeping Place). ○ If deemed appropriate, archaeological investigation of key occupation sites. • Ensure that corporate policies and procedures are in place that require consideration of Martu cultural heritage values by senior NML management when making decisions to disturb or destroy Martu cultural heritage under s. 18 of the Act. In the case of significant sites, consider escalation to the Executive Committee for approval. 					

Table 14: Areas for further work (to be discussed and agreed with Martu)

Topic	Area for investigation
Understanding cultural heritage significance	<p>A key recommendation coming out of the cultural heritage risk assessment presented above is that an Aboriginal cultural heritage impact assessment is preprepared for the Project. This will allow the Project to:</p> <ul style="list-style-type: none"> • Assess the significance of cultural heritage values identified during the assessment with a potential to the impacted by the Project. This task has already been completed to some extent during the preparation of the baseline characterisation presented in Section 4 of this report. Significance of the cultural heritage values will be established using internationally recognised criteria specifically

Topic	Area for investigation
	<p>developed to identify the values of a cultural heritage place, as well as incorporating insights from the Martu community who will need to be consulted during the preparation of the impact assessment.</p> <ul style="list-style-type: none"> • Assess the nature and likely magnitude of actual and potential impacts to these cultural heritage values based on an assessment of the severity, geographical extent and duration of the impacts. • Determine the overall significance of these impacts on identified cultural heritage values, based on a consideration of the value’s cultural heritage significance and the magnitude of the impact it is or is likely to experience. • Identification of avoidance and management measures that, if implemented, should either avoid impacts to cultural heritage values altogether or mitigate the significance of these impacts. These measures are likely to build on those described in Table 12 and Table 13 above. • Determination of residual impacts to cultural heritage places and values by assessing the significance of a potential impact after the implementation of recommended avoidance and management measures.
<p>Martu community engagement</p>	<p>An inability to engage with Martu Traditional Owners during the preparation of this report was noted in Section 3.2 as a limitation. While valuable work investigating the Aboriginal cultural heritage values contained within the Project area has been completed over the last 2-3 years by WDLAC, YMAC and their consultants, the nature of this work has been confined in all but one instance to archaeological and ethnographic Work Program Clearance or Work Area Clearance surveys which are not designed to identify and record Martu cultural heritage to a level sufficient to permit a formal significance assessment of the identified places and values.</p> <p>On this basis, further work is required to bring the Project’s baseline knowledge regarding Aboriginal cultural heritage up to a standard that will support the preparation of a formal cultural heritage impact assessment. This will include:</p> <ul style="list-style-type: none"> • Formal consultation with Martu Traditional Owners designed to: <ul style="list-style-type: none"> ○ identity the full range of tangible and intangible cultural heritage values they associated with the Project area ○ elucidate Martu concerns regarding the potential for the Project to impact these values. • Further detailed archaeological investigations into the cultural heritage places identified during the preparation of the baseline characterisation presented in Section 4 of this report, sufficient to permit a formal significance assessment of each identified place.

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Appendix 1 Cultural Heritage Impact Assessment Method

CULTURAL HERITAGE IMPACT ASSESSMENT METHOD

The impact assessment method developed for the Havieron Project aligns with good industry practice and was developed in consultation with NML. The method includes:

- Identifying the cultural heritage values of the study area, where the value of each site is identified with regard to its (low, medium or high) aesthetic, historic, scientific, social or spiritual features, as a means for assessing the significance of a site. Further detail on what constitutes a low, medium or high rating for each feature associated with a site is provided below in Table A1.1.
- Assessing the magnitude of the impact from proposed project activities on identified cultural heritage sites. The (high, medium, low or positive) magnitude of impact was determined through an assessment of the severity, geographical extent and duration of the impact. Impacts could include physical damage or destruction, restriction of access to sites, visual modification of the site or surrounding landscape, or disturbance to ecosystems that could in turn affect the utility of cultural heritage sites.
- Assessing the significance of impact on the cultural heritage sites, through application of an impact assessment matrix (Table A1.2) that on one axis considered (a) the significance of the value of a site and on the second axis considered (b) the magnitude of impact. The significance of potential impacts was then deemed extreme, major, moderate, minor or minimal, as defined in Table A1.3.
- Developing practical recommendations for managing impacts to cultural heritage sites.
- Assessing the significance of residual impacts on sites assuming successful implementation of management measures. This again involved using the impact significance assessment matrix; however, revising the rating of ‘magnitude of impact’ based on the likely effectiveness of proposed management measures.

The significance of cultural heritage sites and places has been assessed in a manner consistent with the Burra Charter (Australia ICOMOS, 2013). Under this approach, significance may pertain to the site’s aesthetic, historic, scientific, social or spiritual features and involves an assessment of the value for each feature. Table A1.1 provides an example as to how a particular feature may be valued, as well as the basis for a high, medium or low significance rating.

Table A1.1: Cultural heritage significance rating criteria

Basis for Cultural Significance	Example Reasons for Cultural Significance	Rating of Cultural Significance
Aesthetic	The place may be distinctive within its setting and/or inspire an artistic or cultural response. It may be represented in art, photography, literature, folk art, folk lore, mythology or other imagery or cultural arts	<p>Aesthetic significance was rated as follows:</p> <ul style="list-style-type: none"> • Low whereby the site and/or its setting, including vista, has little or no visual appeal • Medium whereby the site and/or its setting, including vista, has moderate visual appeal • High whereby the site and/or its setting, including vista, has high visual appeal.

Basis for Cultural Significance	Example Reasons for Cultural Significance	Rating of Cultural Significance
Historic	The place may be associated with an important event or theme in history, or a particular person or cultural group important to the history of the local area, state or nation	<p>Historical significance was rated as follows:</p> <ul style="list-style-type: none"> • Low for sites which are not associated with any known historical event, person or theme • Medium for sites which are associated with a moderately significant historical event, person or theme at either the local and/or provincial and/or national level • High for sites which are associated with a highly significant historical event, person or theme at either the local and/or provincial and/or national level.
Scientific	Through the use of scientific techniques such as archaeology, the place has the potential to reveal new information or understandings about people, places, processes or practices	<p>Ratings for scientific cultural significance consider</p> <ul style="list-style-type: none"> • Site contents (e.g., size and patterning of site where 0 = no materials remaining, 1 = small number of artefacts with limited diversity (0-10 artefacts), 2 = larger number but limited range of artefacts, 3 = large and diverse range of artefacts) • Site condition (0 = destroyed, 1 = deteriorated, 2 = fair to good, 3 = excellent) • site representativeness (1 = common, 2 = occasional, 3 = rare) <p>The rating for overall significance was calculated based on the cumulative score for site contents, site condition and site representativeness where:</p> <ul style="list-style-type: none"> • Low (cumulative score 1-3) • Medium (cumulative score 4-6) • High (cumulative score 7 or greater)
Social	The place may be an important local marker or symbol or contribute to the identity of a particular cultural group	<p>Social significance was rated as follows:</p> <ul style="list-style-type: none"> • Low for sites which do not appear to have any clear social connection at either the local and/or provincial and/or national level • Medium for sites which have a moderately significant social connection for a cultural group at either the local and/or provincial and/or national level • High for sites which have a highly significant social connection for a cultural group at either the local and/or provincial and/or national level.
Spiritual	The place may contribute to the spiritual identify or belief system of a cultural group and/or may be important to maintaining the spiritual health and wellbeing of a culture or group.	<p>Social significance was rated as follows:</p> <ul style="list-style-type: none"> • Low for sites which do not appear to have any clear spiritual connection with a cultural group at either the local and/or provincial and/or national level • Medium for sites which have a moderately significant spiritual connection for a cultural group at either the local and/or provincial and/or national level

Basis for Cultural Significance	Example Reasons for Cultural Significance	Rating of Cultural Significance
		<ul style="list-style-type: none"> High for sites which have a highly significant spiritual connection for a cultural group at either the local and/or provincial and/or national level.

The impact significance assessment matrix is set out in Table A1.2.

Table A1.2: Impact significance assessment matrix

Magnitude of Impact	Cultural Heritage Value Sensitivity		
	High	Moderate	Low
Negative – High	Extreme	Major	Moderate
Negative – Medium	Major	Moderate	Minor
Negative – Low	Moderate	Minor	Minimal
Positive	Positive	Positive	Positive

Definitions of impact significance are provided in Table A1.3. Note that depending upon the site type different aspects of the definition may be relevant.

For specific cultural heritage sites and places, the assessed significance of a site informs the management actions required to protect and/or conserve cultural heritage values including avoidance (where possible), site mapping and recording and salvage.

Table A1.3: Impact significance definitions

Impact Significance	Definition
Extreme	<ul style="list-style-type: none"> Likely to result in major widespread community and stakeholder concern. Affects the majority of the people in the area of influence The effect is very intense with people experiencing a rapid rate of change. The effect is immediate and/or endures for, and beyond, the duration of the activity or project phase The effect significantly disrupts a cultural group’s spiritual connection to land and in turn their spiritual identity and/or spiritual health and wellbeing Archaeological site conditions are destroyed such that potential understandings about people, places, processes or practices associated with the project area are irrevocably lost.
Major	<ul style="list-style-type: none"> Likely to result in a strong community and stakeholder reaction Affects a large number of people in the area of influence The effect is intense with people experiencing a relatively rapid rate of change The effect starts in a short time and/or endures for, and potentially beyond, the duration of the activity or project phase The effect disrupts a cultural group’s spiritual connection to land and in turn their spiritual identity and/or spiritual health and wellbeing The effect disrupts a cultural group’s social connection to land which contributes to their cultural identity

Impact Significance	Definition
	<ul style="list-style-type: none"> Archaeological site condition is damaged such that the ability to derive potential understandings about people, places, processes or practices associated with the project area is reduced.
Moderate	<ul style="list-style-type: none"> Could attract community and stakeholder concern being voiced in the wider community Affects a moderate number of people in the area of influence The effect is moderate with people experiencing a moderate rate of change The effect is gradual and/or endures for the duration of the activity or project phase The impact affects a cultural group’s spiritual connection to land and in turn their spiritual identity The impact affects a cultural group’s social connection to land which contributes to their cultural identity Archaeological site condition is damaged such that the ability to derive potential understandings about people, places, processes or practices associated with the project area is somewhat reduced.
Minor	<ul style="list-style-type: none"> May result in community and stakeholder concern being voiced in a localised area Affects a small number of people in the area of influence The effect is not very intense with people experiencing a slow rate of change The effect is delayed, medium-term and/or confined to the duration of the activity or project phase A cultural group’s spiritual or social connection to the land, and therefore spiritual or cultural identity, is largely undisturbed or maintained Archaeological site condition is largely undisturbed resulting in little effect on the ability to derive understandings about people, places, processes or practices
Minimal	<ul style="list-style-type: none"> Unlikely to create any concern in the community and among project stakeholders Affects a very small number of people in the area of influence The effect is not intense with people experiencing a very slow rate of change The effect is immediate or delayed, short-term and/or confined to the duration of the activity or project phase A cultural group’s spiritual or social connection to the land is preserved resulting in little effect or maintenance of their spiritual or cultural identity Archaeological site condition is preserved resulting in little effect on the ability to derive understandings about people, places, processes or practices
Positive	<ul style="list-style-type: none"> Effects welcomed by the majority of the community Affects a moderate number of people in the area of influence The effect is moderate with people adapting to the change A cultural group’s spiritual or social connection to the land is enhanced through conservation approach Archaeological site condition and ability to derive understandings about people, places, processes or practices is enhanced through conservation approach

Appendix 2 Cultural Heritage Management Plan



Havieron Project
Aboriginal Cultural Heritage Management Plan

Newcrest Mining Limited

Version Control			
Version	Author	Date	Changes

Distribution List			
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Abbreviations

Abbreviation	Description
AHIS	Aboriginal Heritage Inquiry System
ATSHIP	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)</i>
CHESS	Community, Health, Environment and Safety System
CHMP	Cultural Heritage Management Plan
DAWE	Department of Agriculture, Water and the Environment
DPLH	Department of Planning, Lands and Heritage (Western Australian Government)
HSEC	Health, Safety, Environment and Community
IFC	International Finance Corporation
ILUA	Indigenous Land Use Agreement
NML	Newcrest Mining Limited
WDLAC	Western Desert Lands Aboriginal Corporation
YMAC	Yamatji Marlpa Aboriginal Corporation

Glossary

Glossary	Description
Aboriginal Heritage Act	<i>Aboriginal Heritage Act 1972 (WA).</i>
Aboriginal Object	An object, whether natural or artificial, which is or has been of significance to the Martu People in accordance with their traditional law and custom (as defined in the Newcrest Mining Project Area ILUA).
Aboriginal Site	A place, area or object of significance to the Martu People, including Aboriginal remains or any place that is: <ul style="list-style-type: none"> • an ‘Aboriginal Site’ as defined in the Aboriginal Heritage Act • a ‘significant Aboriginal area’ or ‘significant Aboriginal Site’ as defined in the <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)</i>; and/or • as defined in accordance with State and Commonwealth legislation, including the Environmental Legislation.
Archaeological site	Any place (or group of physical sites) containing preserved evidence of human activity that has been, or may be, investigated using the discipline of archaeology. The specific nature of each site is provided in individual site descriptions, e.g., stone artefacts, shell middens and scarred tees.

Glossary	Description
Areas Cleared with Recommendations	An area recorded in a Survey Report as being consented to by the Traditional Owners who took part in the relevant Site Avoidance Survey or Site Identification Survey for the conduct of a Project Activity, subject to recommendations.
Chance find	Any previously unrecorded cultural heritage encountered during exploration, construction or operations.
Chance Find Procedure	A Project-specific procedure that outlines the actions to be taken if previously unrecorded cultural heritage is encountered.
Cultural heritage	The legacy of cultural resources and intangible attributes of a group or society that is inherited from past generations.
Cultural heritage site	An Aboriginal Site or an archaeological site
Ground Disturbing Activity	Any Project Activity that is not a Non- Ground Disturbing Activity.
Heritage Monitor	A Martu Person nominated by WDLAC to undertake monitoring as set out in Item 11 of the Newcrest Mining Project Area ILUA.
Heritage Monitoring Team	Up to three (3) Heritage Monitors and one (1) Liaison Officer.
Intangible cultural heritage	Oral traditions passed down through generations that influence practices, expressions and the knowledge and skills that communities recognise as part of their cultural heritage.
Minor Work Area	An area that is within the Project area that is greater than one (1) hectare but less than ten (10) hectares in size.
Medium Work Area	An area that is within the Project area that is less than one (1) hectare in size.
Major Work Area	An area that is within the Project area that is less than ten (10) hectares in size.
Non-Ground Disturbing Activity	Means the following Project Activities: <ol style="list-style-type: none"> i. aerial surveying ii. all ground and field inspections, investigations and surveys (including engineering, mapping, heritage and environmental surveys) whether by foot or car iii. activities not involving significant ground disturbance, including taking soil, rock chip and water samples by hand or hand-held tools, traversing the land on foot or by light vehicle and maintenance (including grading) or rehabilitation of pre-existing tracks.
Oral tradition site	A cultural heritage site known by a person or people through their historical and cultural stories transmitted from one generation to another without written instruction.
Proposed Project Area	An activity that NML proposes to carry out in the Project Area as a Project Activity which is notified to WDLAC in accordance with Item 4.2 of the Newcrest Mining Project Area ILUA.
Archaeological salvage activities	Archaeological investigations that must be completed at an archaeological site or Aboriginal Site prior to Ground Disturbing Activities commencing at that location. Investigations may include: <ul style="list-style-type: none"> • collection of surface artefacts or other Aboriginal Objects • archaeological excavation
SDP	Surface Disturbance Permit
Tangible cultural heritage	The legacy of physical artefacts and objects significant to a specific culture.

Glossary	Description
Traditional Owners	Those Martu People who, in accordance with the traditional laws and customs of the Martu People, have the responsibility, knowledge, authority and right to speak for Aboriginal Sites within the area of a Heritage Survey.
Work Area	The specific location where NML proposes to carry out a Project Activity, and includes a Minor Work Area, Medium Work Area and a Major Work Area (as defined in the Newcrest Mining Project Area ILUA)

Requirements /and Principles

1. Newcrest acknowledges that Martu hold serious obligations and rights to care for *ngurra* (country) and as such works in partnership with Martu, through WDLAC, to ensure that Newcrest conducts its work in a manner that respects and complies with these rights and obligations.
2. Always work in compliance with the Newcrest / WDLAC Indigenous Land Use Agreement, other commitments and obligations, in consultation and partnership with WDLAC, and in compliance with heritage survey reports.
3. Never start work without a Surface Disturbance Permit, and always carry out your work in compliance with the SDP.
4. Always work within your designated work area. Never leave your work area.
5. Always drive on existing tracks.
6. If you find something that you think is cultural material or skeletal remains, stop work immediately and tell your supervisor.
7. If you're unsure about anything, stop and ask your site supervisor and don't start work again until you're told to.

1. Introduction

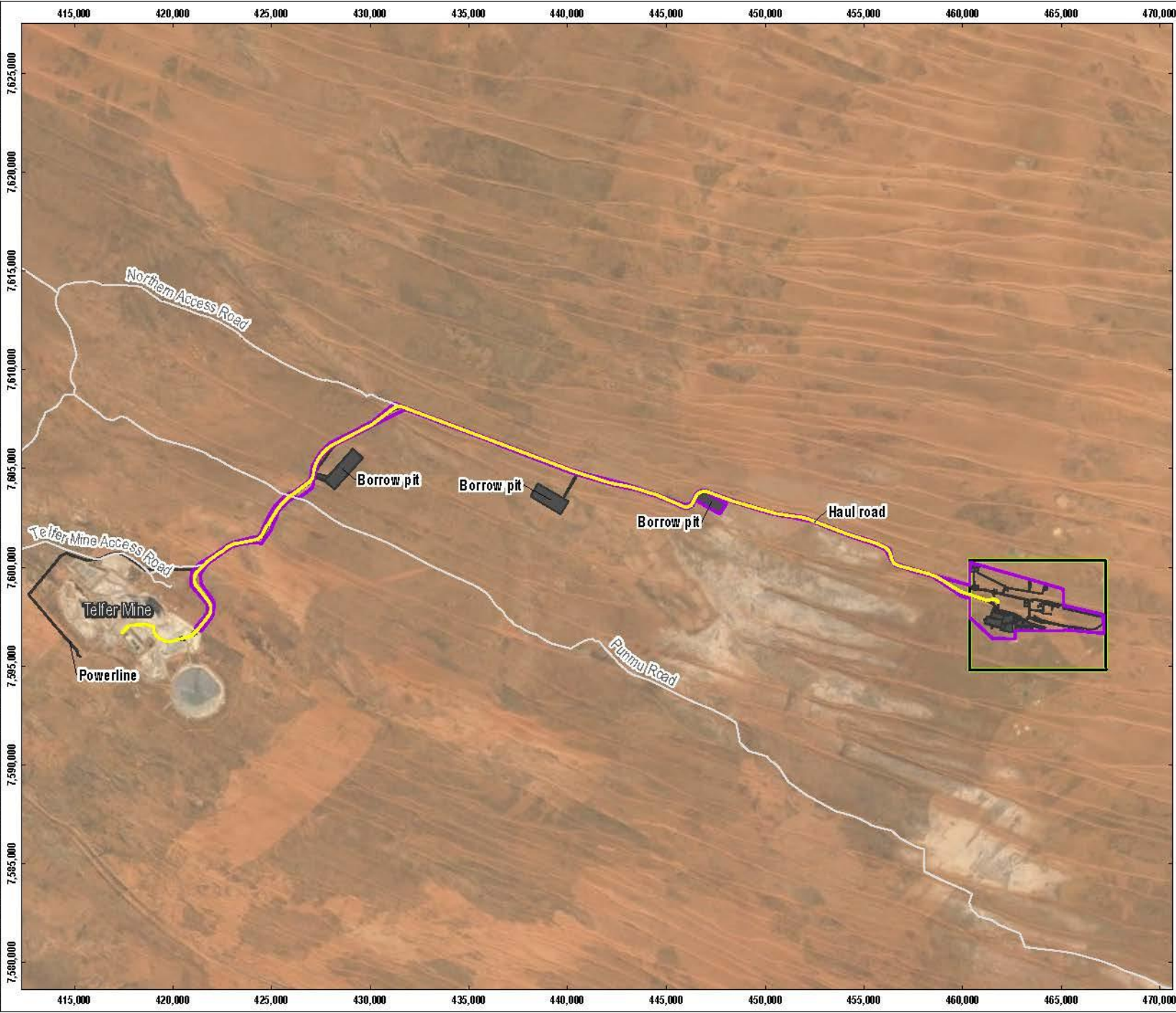
The Havieron Project (the Project) is a proposed greenfield gold-copper mine located in Western Australia's Paterson Province, 485 kilometres (km) east from Port Hedland. It is operated by Newcrest Mining Limited (Newcrest) under a Joint Venture Agreement with Greatland Gold and two stages are planned. Stage 1 includes preparatory works, boxcut and decline development. Stage 2 includes underground mining and the development of an infrastructure corridor to provide access and electricity to the project and the transport of ore to Telfer for processing.

Newcrest has received regulatory approvals for stage 1 and is now undertaking a Pre-Feasibility Study and preparing regulatory approval documents to support stage 2 approvals.

The Project is located approximately 45 km east from Newcrest's fly-in fly-out Telfer mine (Figure 1). It is located on the traditional lands of the Martu people, who hold exclusive native title rights and interests to some 130,000 km² of land around and to the east of the Telfer mine and the Havieron Project. The Havieron Project will use some of the existing Telfer mine infrastructure to support its operation, including for ore processing, tailings storage and power generation.

Figure 2 shows the proposed Havieron Project mine area layout.


- Ore is currently proposed to be mined through an underground sub-level open stoping method at a rate of 3 million tonnes per annum (Mtpa) over 12 years. Ore will be transported in trucks from the mine to the existing concentrator plant at the Telfer mine along a new 62-km-long haul road that will be constructed within a designated infrastructure corridor (see Figure 1). Tailings from the ore processing will be deposited at the existing Telfer mine tailings storage facilities (TSFs), which may require extension to accommodate the additional tailings.
- Power for the project will be generated at the existing Telfer mine power plant. A proposed overhead transmission line will be built along the infrastructure corridor from the power plant to the mine site to supply electricity.
- A borefield will be developed to supply water for the project, including for the camp, dust suppression and water consumption for underground mining operations.
- Underground mine water will be pumped into a lined evaporation pond that will be constructed. Waste rock dump runoff will also flow into the evaporation pond to capture any acid and metalliferous drainage from waste rock material.
- Other supporting infrastructure at the site will include workshops, refuelling areas, wash bays, concrete batch plants, accommodation facilities, offices communication facilities and magazines.
- During the operation, the Project workforce will be approximately 585 people, which will predominantly be fly-in fly-out, supported by the airport at Telfer mine.



LEGEND

-  Project road
-  Proposed infrastructure corridor
-  Proposed mine layout
-  Disturbance envelope
-  Tenement (M 45/1287)

SOURCE
 Infrastructure and tenements from Newcrest.
 Imagery from Arc GIS online.

 0 5 km
SCALE 1:275,000
 PAGE SIZE: A4
 PROJECTION: GDA 1994 MGA Zone 51

NEWCREST MINING LIMITED
 HAVIERON PROJECT

FIGURE 1
 Area of disturbance for
 infrastrucure corridor



1.1. Objectives of this CHMP

Newcrest Mining Limited (Newcrest) recognises the importance of cultural heritage for current and future generations and Martu's rights and obligations to care for *ngurra* (country). It is essential that the Havieron Project (the Project) respects Martu tangible and intangible cultural heritage sites and places, and, Martu's rights and responsibilities, to achieve mutually beneficial outcomes and long-term Project success. While important throughout all phases of the Project, diligence with respect to cultural heritage management is particularly critical when undertaking construction activities, during which disturbance to sites has the highest potential to occur.

The objective of this Cultural Heritage Management Plan (CHMP) is to provide all Project personnel with guidance and rules that will ensure the Project:

- Does not disturb any heritage sites within the Development Envelope, that can and have been avoided.
- Carries out its activities with due regard and respect for Martu cultural heritage and the Martu people.
- Wherever possible, designs and locate activities to avoid disturbance to Aboriginal sites, including archaeological and oral tradition ethnographic sites.
- Manages unavoidable disturbance or destruction to the greatest extent in active collaboration with Martu Traditional Owners through WDLAC.
- Manages Newcrest's responsibilities for Aboriginal sites:
 - In compliance with State and Commonwealth legislation, Newcrest's corporate governance commitments and Newcrest's Indigenous Land Use Agreement and other commitments with Martu.
 - In-line with Performance Requirement 3.13 (Cultural Heritage) of Newcrest's Social Performance Standard PER SP ST-01 (Newcrest 2019).
 - With guidance from Performance Standard 8 (Cultural Heritage) of the International Finance Corporation's (IFC) Performance Standards on Environmental and Social Sustainability (IFC 2012), and the International Council of Mining and Minerals' (ICMM) *Mining Principles: Performance Expectations* (ICMM 2020).
- Works with WDLAC, the Martu communities and relevant Western Australian Government agencies including the Environmental Protection Authority and the Department of Planning, Lands and Heritage (DPLH) in the management of Martu sites.

The CHMP outlines the management measures and procedures that Newcrest staff and contractors are to follow to manage potential impacts to cultural heritage in consultation with the appropriate community representatives, Martu, through WDLAC, and relevant State Government agencies (as required). The CHMP addresses both recorded sites identified in cultural heritage surveys and unrecorded sites which may be uncovered in the course of conducting Project-related activities (referred to as 'chance finds').

1.2. Newcrest Mining Project Area Indigenous Land Use Agreement

Newcrest entered into an Indigenous Land Use Agreement (ILUA) with the Western Desert Land Aboriginal Council (WDLAC), on behalf of the Martu people, in 2015. The ILUA is established to support the Telfer Mine, and all exploration and future operations within a 60 km radius of Telfer. This includes the Havieron Project. In May 2020, WDLAC agreed to assign the ILUA to Newcrest and Greatland Gold (as the participants in the Havieron Joint Venture) in respect of the Havieron Project.¹

At Havieron, all work is conducted in accordance with the ILUA, and associated ILUA Heritage Protocol (Schedule 8), which applies to all Havieron Project Activities to be undertaken by Newcrest within the Havieron Project area, and clearly defines the requirement of Newcrest as follows (Schedule 8. Items 3):

Newcrest shall not knowingly:

- take possession of, or move, any object or material that is in, on, under or in the vicinity of, any Aboriginal Site; or
- undertake any activity that interferes with, damages, destroys, disturbs, alters, conceals or impacts upon an Aboriginal Site.

An Aboriginal Site is deemed to be interfered with, damaged, destroyed, disturbed, altered, concealed or impacted upon when:

- it is knowingly dealt with in a manner inconsistent with the traditional laws and customs of the Martu People
- an activity knowingly undertaken in, on, under or in the vicinity of the Aboriginal Site results in an adverse effect on the Aboriginal Site pursuant to the traditional laws and customs of the Martu People
- a person knowingly travels through, over, upon or in the vicinity of the Aboriginal Site in a manner inconsistent with the traditional laws and customs of the Martu People.

1.3. Statutory Framework

1.3.1. Aboriginal Heritage Act 1972 (WA)

Western Australia's *Aboriginal Heritage Act 1972* (the Act) is the principal legislative framework for Aboriginal heritage in the State. Important and significant Aboriginal sites and objects are protected under it. The Act protects sites and objects that are significant to living Aboriginal people as well as Aboriginal sites of historical, anthropological, archaeological and ethnographic significance. The Act is currently administered by the Department of Planning, Lands and Heritage (DPLH).

Relevant components of the Act include:

- Section 5: defines the term 'Aboriginal Site'²

¹ Newcrest is in discussions with WDLAC to review the ILUA Heritage Protocol. This review may result in the Heritage Protocol and other aspects of the ILUA being amended. This CHMP will be revised as a necessary to reflect any amendments to the ILUA from time to time.

² [Aboriginal heritage \(www.wa.gov.au\)](http://www.wa.gov.au)

- Section 39(2): identifies the matters that the Aboriginal Cultural Materials Committee (ACMC) must have regard to when considering the importance of objects and places.
- Section 17: it is an offence to:
 - alter an Aboriginal Site in any way, including collecting artefacts
 - conceal a site or artefact
 - excavate, destroy or damage in any way an Aboriginal Site or artefact
 without the authorisation of the Registrar of Aboriginal Sites under section 16 or the Minister of Aboriginal Affairs under section 18 of the *AHA*.

Aboriginal human remains are protected under the Act. In addition, the discovery of human remains requires that the following agencies are informed:

- the State Coroner or local Police under section 17 of the *Coroners Act 1996*
- the State Registrar of Aboriginal Sites under section 15 of the Act.

The Western Australian government is proposing to replace the *Aboriginal Heritage Act 1972*. The *Aboriginal Cultural Heritage Bill 2020* (the Bill) was released for public consultation in September 2020. The legislative bill to enact the new Act is expected to be introduced into the WA parliament in the second half of 2021. This CHMP will be revised as necessary once the replacement Act has been passed.

DPLH Register

The Aboriginal Heritage Inquiry System (AHIS), managed by the DPLH, is an online tool that can be used to access information about Aboriginal heritage places and their legal status. The AHIS identifies two categories of Aboriginal heritage places: Aboriginal Sites (Registered Sites) and Other Heritage Places.

A registered Aboriginal site is a place that fulfils the following definitions for protection under section 5 of the Act:

- a. Any place of importance and significance where persons of Aboriginal descent have, or appear to have, left any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional cultural life of the Aboriginal people, past or present.
- b. Any sacred, ritual or ceremonial site which is of importance and special significance to persons of Aboriginal descent.
- c. Any place which, in the opinion of the ACMC, is or was associated with Aboriginal people and which is of historical, anthropological, archaeological or ethnographic interest and should be preserved because of its importance and significance to the cultural heritage of the State.
- d. Any place where objects to which the Act applies are traditionally stored, or to which, under the provisions of the Act, such objects have been taken or removed.

The Other Heritage Place category has two sub-categories:

- Lodged: information about a potential Aboriginal site has been lodged for review by the ACMC.
- Stored Data/Not a Site: places that have either met the criteria of the Act but have been so disturbed that the heritage values are no longer present, or have been assessed by the ACMC and found not to fulfil the Section 5 requirements defining an Aboriginal site.

While places defined as Stored Data/Not a Site are not afforded protection under the Act, a place included under the Lodged subcategory is yet to be assessed under Section 39(2) of the Act by the ACMC and therefore may be eventually protected under the Act once that assessment has been completed.

1.3.2. Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (the ATSIHP Act) is administered by the Commonwealth Department of the Agriculture, Water and the Environment (DAWE). The ATSIHP Act was passed to provide protection for Aboriginal heritage in circumstances where it could be demonstrated that such protection was not available at a State level. In certain instances, the ATSIHP Act overrides relevant State and Territory provisions.

The major purpose of the ATSIHP Act is to preserve and protect Aboriginal and Torres Strait Islander cultural heritage areas and objects from injury and desecration. The ATSIHP Act enables immediate and direct action for protection of threatened areas and objects by a declaration from the Commonwealth Minister responsible for the Act, or from authorised officers. The ATSIHP Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander person or organisation.

Any Aboriginal or Torres Strait Islander person or organisation may apply to the Minister for a temporary or permanent 'Stop Order' for protection of threatened areas or objects of significant indigenous cultural heritage.

The ATSIHP Act overrides State and Territory legislation if the Minister is of the opinion that the State or Territory legislation is insufficient to protect the threatened areas or objects. Thus, in the event that an application is made to the Minister for a Stop Order, the Minister will, as a matter of course, contact the relevant State or Territory agency to ascertain what protection is being imposed and/or what mitigation procedures have been proposed by the land user/developer.

1.4. Guidelines and Standards

Several industry guidelines and Newcrest-specific standards have informed the development of this CHMP and must also be complied with. Table 1 presents these guidelines and standards and their relevance to the CHMP.

Table 1: Industry guidelines and Newcrest standards and their relevance to this CHMP

Guideline	Relevance
The International Council on Mining and Metals (ICMM) <i>Mining Principles</i> framework (ICMM 2020) establishes the baseline performance expectations for its members.	<p>NML became a member of the ICMM in 2017.</p> <p>The framework has several principles that require establishing an understanding of cultural heritage risks to the communities that may be affected by the development, operation and closure of a mine. These include:</p> <ul style="list-style-type: none"> • 3. Human rights • 4. Risk management <p>Other principals that require consultation with stakeholders and local communities include:</p> <ul style="list-style-type: none"> • 6. Environmental performance • 9. Social performance • 10. Stakeholder engagement

Guideline	Relevance
<p>The Minerals Councils of Australia’s (MCA) <i>Enduring Values Framework</i> establishes the principles for social, safety and environmental performance in Australia. The framework is based on the ICMM’s <i>10 Principles for Sustainable Development</i> (2015).</p>	<p>NML is a member of the MCA.</p> <p>The following elements of the MCA’s <i>Enduring Values Framework</i> are relevant to this report:³</p> <p><u>Principle 3</u>: Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities. Element 3.6 requires members to ‘Respect the culture and heritage of local communities, including Indigenous peoples.’</p> <p>Verifiable outcomes required under Principle 3 include:</p> <ul style="list-style-type: none"> • Employees and contractors are trained in cultural awareness and human rights relevant to their area of work and the operations’ local cultural context. • The company has characterised the local cultural context, established a process to manage risks to culture and heritage and has strategies to effectively maintain and, where possible, enhance local culture and heritage through an ongoing and open dialogue. <p><u>Principle 4</u>: Implement risk management strategies based on valid data and sound science.</p> <p>Verifiable outcomes under Principle 4 include:</p> <ul style="list-style-type: none"> • Risk communication strategies ensure relevant parties are engaged on significant risks in a culturally appropriate manner
<p>International Finance Corporation (IFC) Performance Standards (IFC 2012)</p>	<p>The objectives of IFC Performance Standard (PS) 8 (Cultural Heritage) are to protect cultural heritage from the adverse impacts of Project activities, support its preservation, and promote the equitable sharing of benefits from the use of cultural heritage, regardless of whether or not it has been legally protected or previously disturbed. PS 8 provides specific guidance on several matters relevant to this risk assessment, including:</p> <ul style="list-style-type: none"> • Protection of cultural heritage in Project design and execution • Chance finds procedures (i.e., those found other than by deliberate search or information provided by sources) • Consultation • Community access • Removal of replicable cultural heritage • Removal of non-replicable cultural heritage
<p><i>Australia ICOMOS Charter for Places of Cultural Significance</i>, ‘the Burra Charter’ (Australia ICOMOS 2013; Marquis-Kyle & Walker 2004).</p>	<p>The Burra Charter outlines a process for establishing cultural significance. Article 1.2 states that:</p> <ul style="list-style-type: none"> • <i>Cultural significance</i> means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

³ [190503 Enduring Value Principles.pdf \(minerals.org.au\)](https://www.minerals.org.au/190503-Enduring-Value-Principles.pdf)

Guideline	Relevance
	<ul style="list-style-type: none"> • Cultural significance is embodied in the <i>place</i> itself, its <i>fabric, setting, use, associations, meanings, records, related places</i> and <i>related objects</i>. • Places may demonstrate a range of these significance criteria for different individuals or groups.
<p><i>Social Performance Standard (PER SP ST-01)</i> (Newcrest 2019a)</p>	<p>Section 3.13 of NML’s Social Performance Standard requires that all NML assets proactively consult and work with relevant communities under national and local laws to protect and manage cultural heritage in the areas of their activities. The standard notes that cultural heritage includes:</p> <ul style="list-style-type: none"> • tangible places and objects such as archaeological sites and ceremonial sites, burials, art and historical infrastructure • intangible heritage such as story sites, song lines, language and dance, consistent with IFC Performance standard 8. <p>Role accountabilities relating to cultural heritage area set out in the standard. Accountabilities of relevance to this report include:</p> <ul style="list-style-type: none"> • 3.13.1: carry out fit-for-purpose cultural heritage baseline assessments at all Project gateways with the assistance of a suitably experienced cultural heritage professional. • 3.13.5: include cultural heritage in all risk assessments from concept to decommissioning. • 3.13.6: wherever possible design and locate activities to avoid disturbance of cultural heritage • 3.13.7: mitigate unavoidable disturbance or destruction to the greatest extent in active collaboration with heritage custodians. <p>3.13.10: at the outset of activities, develop and maintain a Cultural Heritage Management Plan (CHMP) to manage tangible and intangible cultural heritage including chance finds.</p>
<p><i>Risk Management Standard (RISK ST-01)</i> (Newcrest 2019b)</p>	<p>The <i>Risk Management Standard</i> defines a standardised process for identifying, analysing, and evaluating risks that pertain to NML’s assets. The Standard has been incorporated into the method for this Aboriginal cultural heritage risk assessment, as detailed in Section 3.5.</p>
<p><i>Cultural Heritage Guideline (SPG 3.13)</i> (Newcrest 2019c)</p>	<p>The <i>Cultural Heritage Guideline</i> supports Newcrest’s <i>Social Performance Standard</i> by providing advice on how to meet the requirements of Clause 3.13 (Cultural Heritage) of the standard. The elements within this guideline represent best practice guidance for competent persons undertaking cultural heritage assessment.</p> <p>The guideline notes that ‘Cultural heritage...needs to be managed in a way that is systematic, repeatable and auditable’. It provides guidance on accepted practices for the management of cultural heritage through a Cultural Heritage Management System, including:</p> <ul style="list-style-type: none"> • a self-managed assessment/audit and gap analysis to determine the current state-of-play regarding cultural heritage assessment and risk management • a cultural heritage GIS, database and site register • a cultural heritage baseline assessment including an assessment of the impacts and risks to cultural; heritage and to the business • confidentiality provisions

Guideline	Relevance
	<p>a Cultural Heritage Management Plan including Standard Operating Procedures and Glossary</p>
<p><i>Social Risk Assessment Guideline (SPG 3.4)</i> (Newcrest 2019d)</p>	<p>The <i>Social Risk Assessment Guideline</i> requires that a social risk assessment is undertaken for Newcrest assets, which includes:</p> <ul style="list-style-type: none"> • Identifying social risks • Evaluating the likelihood and consequence of these risks consistent with the Newcrest Risk Management Standard • Identifying management measures and controls to reduce social risks. <p>The guideline also identifies typical social risk topics for Newcrest assets. Attachment 1 of the guideline includes prompts for conducting social risk assessments under key risk headings, including cultural heritage:</p> <p>Cultural heritage considerations of impacts, threats and opportunities in SIA and SRA should be informed by existing cultural heritage registers, new cultural heritage surveys, land tenure review and community engagement. Consider potential impacts, threats and opportunities related to:</p> <ul style="list-style-type: none"> • Tangible culture: <ul style="list-style-type: none"> ○ Recorded heritage sites (including landscapes, burial sites, performance grounds, rock art, paleontological sites and religious sites) ○ Indigenous peoples’ and other communities’ connections to the land whether through formal title or customary use ○ Unrecorded heritage sites yet to be identified ○ Potential impacts upon heritage sites and the need for management, protection, mitigation ○ Legislation • Intangible culture: <ul style="list-style-type: none"> ○ Traditions, customary practice, songs, dance, stories ○ Language ○ Traditional environmental knowledge <p>Access to significant cultural sites and traditional resources, etc.</p>
<p>Indigenous Relations Policy⁴</p>	<p>The <i>Indigenous Relations Policy</i> details Newcrest’s commitment to respect Indigenous Peoples, and the cultures and customs of the communities in which they operate. The commitments made under this policy contribute to Newcrest’s vision to be the ‘Miner of Choice’.</p> <p>The policy includes the following approaches:</p> <ul style="list-style-type: none"> • Work to build constructive relationships between Indigenous Peoples within the communities in which we work, which are based on respect, meaningful engagement and mutual benefit. • Respect and have regard to both tangible and intangible cultural heritage, as well as specific and historical cultural

⁴ [1803 Newcrest Indigenous Relations Policy](#)

Guideline	Relevance
	<p>needs, places and customs, especially those unique characteristics in relation to rights and connection to land.</p> <p>Communicate and build awareness across Newcrest, relating to the invaluable contribution that Indigenous Peoples make to our business and the communities in which we operate.</p>

2. Roles and Responsibilities

Newcrest personnel responsible for managing and implementing the CHMP are listed in Table 2. Further responsibilities for the implementation of specific management measures, monitoring, communication, and liaison are listed in the CHMP and are set out in Section 3.

Table 2: Newcrest staff responsible for the CHMP

Position	Responsibility
Cultural Heritage Advisor	<ul style="list-style-type: none"> • Implementation of the CHMP • Regular performance reviews ensuring compliance with the CHMP • Updates to the CHMP and its associated procedures as required • Communication and collaboration with Martu communities and government agencies as required.
Social Performance Advisor	<ul style="list-style-type: none"> • Implementation of the CHMP • Support communication and collaboration with WDLAC and Martu communities as required
Superintendent – External Relations & Social Performance	<ul style="list-style-type: none"> • Monitoring the implementation of cultural heritage procedures required under the CHMP • Monitoring communication and liaison with Martu communities and relevant State Government agencies.

3. General and Site-Specific Management Measures

This CHMP contains:

- General management measures to be implemented by NML employees and contractors when undertaking Project activities. For example, when planning and designing infrastructure or conducting vegetation clearing, ground levelling, bulk earthworks and major excavations.
- Site-specific management measures which are to be implemented by Newcrest employees and/or contractors for individual Aboriginal sites that have the potential to be impacted by the construction and operation of Project infrastructure.

General management measures are already in place which provide for cultural heritage impacts to be considered and responded to when planning and undertaking activities in areas that have not previously been disturbed by Newcrest. This includes making Newcrest employees and contractors aware of their cultural heritage responsibilities when operating on Newcrest work sites. General management measures are set out in the following sections of this plan. The designated NML employees and/or

contractor personnel responsible for the implementation of these management measures are set out in Table 4 to Table 7.

Site-specific management measures for individual cultural heritage sites, or places identified by Martu Traditional Owners as possibly containing cultural heritage sites, with the potential to be impacted by Project activities have been proposed in Appendix A. Management measures have been proposed based on the site type and the type of impact each site has the potential to experience. Proposed measures will be finalised by the Havieron Project in consultation with WDLAC. Should additional cultural heritage sites be located through further surveys or chance finds uncovered during construction or operations, site registers will be updated with the details of the new sites and the management measures for these sites will be determined in consultation with Martu Traditional Owners and WDLAC.

Both standard and site-specific management measures will inform the conditions under which land disturbance activities can take place. These conditions will be documented using the Surface Disturbance Permit (SDP). The purpose of the SDP is to identify and communicate environmental, social and cultural heritage requirements to avoid, minimise and/or manage the impacts of the physical disturbance of land by the Project.

3.1. Information and Data Management

Information and data management measures required under this CHMP are outlined in Table 3.

Table 3: Information and data management measures

Measure	Timing	Responsibility
Information		
<ul style="list-style-type: none"> • Consult with the Martu community and WDLAC regarding the establishment of a formal Martu Cultural Values and Knowledge Register for the Project. The register will act as a central repository of information related to Martu cultural values across the Project area. • Develop a protocol for approval by Martu Traditional Owners and WDLAC regulating who and how NML staff and contractors will be able to access and use the information contained on the register. • Prepare a comprehensive background report for the Project that includes: <ul style="list-style-type: none"> ○ a desktop review of previous archaeological and anthropological studies of the Western Desert and the Telfer region in particular ○ a review of all archaeological and anthropological survey reports previously prepared for the Telfer and Havieron projects • Review the status of all known Martu cultural heritage sites recorded in the Havieron Project area and: <ul style="list-style-type: none"> ○ establish if sufficient information is available to determine whether any of these sites can be registered on the DPLH AHIS as Aboriginal Sites in accordance with the standards required under the <i>Aboriginal Heritage 1972</i> (WA) and guidelines issued by DPLH ○ if the review identifies sites with a potential to meet the criteria for registration on the AHIS as Aboriginal Sites, prepare and submit applications as required, in consultation with and under the direction of WDLAC 	<ul style="list-style-type: none"> • Life of Project 	<ul style="list-style-type: none"> • Cultural Heritage Advisor

Measure	Timing	Responsibility
<ul style="list-style-type: none"> ○ if the review identifies sites with insufficient information to make a determination, conduct further investigations as required in consultation with and under the direction of WDLAC ● Participate in all cultural heritage surveys commissioned by NML and conducted by WDLAC with input from YMAC and Martu Traditional Owners on behalf of the Project. ● Ensure that all cultural heritage surveys commissioned for the Project are arranged in accordance with and meet the requirements of Schedule 8 of the Newcrest Mining Project Area ILUA ● Review all future cultural heritage survey reports prepared by WDLAC for the project to ensure quality control and that GIS data has been provided as required. 		
<ul style="list-style-type: none"> ● Promote awareness of the Martu Cultural Values and Knowledge Register across the Project and ensure that all staff and contractors involved in design, construction, operation and deaccessioning of the Project refer to it and incorporate it in all planning-related decisions. 	<ul style="list-style-type: none"> ● Life of Project 	<ul style="list-style-type: none"> ● Social Performance Advisor
Data Management		
<ul style="list-style-type: none"> ● Establish the Martu Cultural Values and Knowledge Register. ● Ensure that the Martu Cultural Values and Knowledge Register is regularly updated to incorporate the results of recent cultural heritage investigations. ● Ensure the Project web map is regularly updated to incorporate the most current cultural heritage data sets, in line with protocols regarding Project-wide accessibility to cultural heritage information to be approved by Martu Traditional Owners and WDLAC, and in line with Schedule 8 of the Newcrest Mining Project Area ILUA. ● Ensure that survey reports and associated information including GIS data is saved to an agreed centralised location that adheres to confidentiality requirements. 	<ul style="list-style-type: none"> ● Life of Project 	<ul style="list-style-type: none"> ● Cultural Heritage Advisor

3.2. Training and Induction

Training and induction measures required under this CHMP are outlined in Table 4.

Table 4: Training and induction measures

Measure	Timing	Responsibility
Inductions		
<ul style="list-style-type: none"> ● All personnel and contractors will undergo cultural awareness training during their induction which will include cultural heritage procedures. Building an understanding of and competency in Martu culture will be an ongoing project requirement. ● All personnel and contractors will be informed as part of their induction that any interference with Aboriginal cultural heritage sites, places identified by Martu Traditional Owners as places of cultural significance (e.g. sand dunes), or removal of artefacts is strictly prohibited unless authorised under legislation and in writing by the relevant Martu Traditional Owners. Breaches of the law in this regard will result in summary dismissal by Newcrest and potential prosecution. 	<ul style="list-style-type: none"> ● Prior to commencing work on the Project, and with annual induction updates. 	<ul style="list-style-type: none"> ● Social Performance Advisor

Measure	Timing	Responsibility
<ul style="list-style-type: none"> All personnel will be instructed that work is to be undertaken at all times within designated work areas, under an approved SDP. While on site, all personnel will be advised of the designated recreation/accommodation areas and to never leave established vehicle tracks. Induction support material is attached at Appendix B. 		
Toolbox Meetings		
<ul style="list-style-type: none"> Through daily toolbox meetings prior to the commencement of work at specific Havieron worksites, all personnel and contractors involved in that work will be informed of recorded cultural heritage sites or places identified by Martu Traditional Owners as having cultural significance (e.g. sand dunes) and the management procedures to be followed for protection of these sites, including: <ul style="list-style-type: none"> The requirement that all work crew stay within the pegged and flag work area boundary. In instances where work areas are immediately adjacent to heritage sites, work crews will be advised that these sites are marked with pink and black flagging and that they must be avoided at all times unless specific authorisation has been approved. Types of cultural heritage sites, including skeletal remains, that may exist within disturbance areas that, if uncovered, will trigger the implementation of the Cultural Heritage Chance Finds Procedure (Appendix C). Protocols for responding to chance finds of cultural heritage sites, including skeletal material which may include human remains (Appendix C). Compliance with heritage survey report conditions and SDP conditions. 	<ul style="list-style-type: none"> Prior to commencing work at specific Project work sites 	<ul style="list-style-type: none"> Statutory Manager

3.3. Planning

Planning measures required under this CHMP are outlined in Table 5.

Table 5: Planning measures

Measure	Timing	Responsibility
Planning Non-Ground Disturbing Activities		
<ul style="list-style-type: none"> Ensure that prior written notice is provided to WDLAC of the intention to carry out non-ground disturbing activities in accordance with the time frames outlined below, and that the written notice is accompanied by other documentation as required in Schedule 8 of the Newcrest Mining Project Area ILUA: <ul style="list-style-type: none"> Minor Work Area: 10 business days Medium Work Area: 10 business days Major Work Area: 21 business days 	<ul style="list-style-type: none"> During planning and detailed design phases 	<ul style="list-style-type: none"> Statutory Manager supported by the Cultural Heritage Advisor
Planning Ground Disturbing Activities		
<ul style="list-style-type: none"> Cultural heritage management requirements are included in Project planning and design. To the extent practical, Project components will be situated to avoid registered Aboriginal sites, recorded 	<ul style="list-style-type: none"> During planning and 	<ul style="list-style-type: none"> Statutory Manager supported by

Measure	Timing	Responsibility
<p>archaeological and places identified by Martu Traditional Owners as having cultural significance (e.g. sand dunes).</p> <ul style="list-style-type: none"> • Adequate time should be allowed in the construction schedule if salvage activities (including regulatory permitting and community liaison) are required. This includes early application for an SDP to confirm planning activities are agreed internally and appropriate sign-off is obtained. • Ensure that prior written notice is provided to WDLAC of the intention to carry out non-ground disturbing activities in accordance with the time frames outlined below, and that the written notice is accompanied by other documentation as required in Schedule 8 of the Newcrest Mining Project Area ILUA: <ul style="list-style-type: none"> ○ Minor Work Area: 10 business days ○ Medium Work Area: 20 business days ○ Major Work Area: 30 business days 	<p>detailed design phases</p>	<p>the Cultural Heritage Advisor</p>
<ul style="list-style-type: none"> • Advise as required on the management of registered Aboriginal sites, recorded archaeological sites or places identified by Martu Traditional Owners as having cultural significance (e.g. sand dunes) in conjunction with Martu Traditional Owners and WDLAC. • Confirm completion of the SDP process. 	<ul style="list-style-type: none"> • Prior to commencing work at specific Project work sites 	<ul style="list-style-type: none"> • Cultural Heritage Advisor
<ul style="list-style-type: none"> • Registered Aboriginal sites, recorded archaeological sites and places that have been identified by Martu Traditional Owners as having cultural significance (e.g. sand dunes) that are not authorised in writing for disturbance and are in the vicinity of work areas will be marked with fencing and flagging to exclude entry into the area. • These management measures will be set out in the SDP. 	<ul style="list-style-type: none"> • Prior to vegetation clearance and ground disturbance 	<ul style="list-style-type: none"> • Statutory Manager supported by the Cultural Heritage Advisor
<ul style="list-style-type: none"> • Limit vehicle movements to established tracks (establishment of new tracks is subject to the SDP process). • Vehicle movement into fenced or flagged areas is prohibited. 	<ul style="list-style-type: none"> • Ongoing 	<ul style="list-style-type: none"> • Statutory Manager
<ul style="list-style-type: none"> • If physical disturbance of a registered Aboriginal Site, recorded archaeological site or a place identified by Martu Traditional Owners as being culturally significant (e.g. sand dunes) is unavoidable, approval from the Executive Committee may be required as part of the SDP in addition to ministerial consents under s. 18 provisions of the <i>Aboriginal Heritage Act 1972 (WA)</i>. • Approval for physical disturbance will ascertain the requirement for involvement by Martu heritage monitors in accordance with Schedule 8 of the Newcrest Mining Project Area ILUA. • NML must also secure regulatory approvals as required under the provisions of relevant State and/or Commonwealth legislation prior to the movement and storage of any artefacts. • Movement and storage of any artefacts or Aboriginal Objects must be in accordance with protocols developed in conjunction with Martu Traditional Owners and WDLAC. 	<ul style="list-style-type: none"> • Prior to vegetation clearance and ground disturbance 	<ul style="list-style-type: none"> • Statutory Manager supported by the Cultural Heritage Advisor
<ul style="list-style-type: none"> • Once approved, the movement of any artefacts must be carried out either by (or supervised by) the Cultural Heritage Advisor and Martu Traditional Owners in accordance with legislation and Martu Traditional Owner cultural protocols. 	<ul style="list-style-type: none"> • As required and prior to vegetation clearance and ground disturbance 	<ul style="list-style-type: none"> • Cultural Heritage Advisor

Measure	Timing	Responsibility
<ul style="list-style-type: none"> Minimise the lateral extent and duration of exposed surfaces during construction activities through staged works wherever possible. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> In conjunction with Martu Traditional Owners and WDLAC, routine inspection of Martu cultural heritage sites in and around the vicinity of the work areas to monitor compliance with requirements for non-disturbance of sites that are not authorised for disturbance. The regularity (e.g., daily, every second day, weekly) of inspections will be determined in advance of works commencing and will be based on recommendations contained in relevant pre-works cultural heritage survey reports developed in conjunction with Martu Traditional Owners and WDLAC. Considerations will include the proximity of the cultural heritage site to the work site and its accessibility to Newcrest employees, contractors, and others. 	<ul style="list-style-type: none"> Prior to works commencing, and as required 	<ul style="list-style-type: none"> Social Performance Advisor supported by Cultural Heritage Advisor

3.4. Surface Disturbance

Surface disturbance (including vegetation removal) measures required under this CHMP are outlined in Table 6.

Table 6: Surface disturbance management measures

Measure	Timing	Responsibility
Prior to surface disturbance		
<ul style="list-style-type: none"> All works that disturb the surface of the ground must not commence until authorised through an approved SDP application prior to the start of works. Works must not commence until the work area boundary has been pegged and flagged. 	<ul style="list-style-type: none"> Prior to work commencing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> Confirm that all obligations under the Newcrest Mining Project Area ILUA relating to requirements for cultural heritage investigations and reporting prior to works commencing are fully met. Confirm that work plans will ensure compliance with heritage survey report conditions Confirm that the Martu Cultural Values and Knowledge Register has been checked and is up to date 	<ul style="list-style-type: none"> Prior to works commencing 	<ul style="list-style-type: none"> Culture Heritage Advisor
<ul style="list-style-type: none"> Ensure that: <ul style="list-style-type: none"> Notifications to WDLAC regarding the nature and timing of the proposed works; and/or Arrangements for a Heritage Monitoring Team to be present during the works (if required) are in place prior to the works commencing and in accordance with the Newcrest Mining Project Area ILUA. 	<ul style="list-style-type: none"> Prior to works commencing 	<ul style="list-style-type: none"> Social Performance Advisor (re monitors) Culture Heritage Advisor (re notifications)

Measure	Timing	Responsibility
During surface disturbance		
<ul style="list-style-type: none"> Conduct all works in accordance with the approved SDP. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> Machinery operators working in proximity to registered Aboriginal sites, recorded archaeological sites or places identified by Martu Traditional Owners as being culturally significant (e.g. sand dunes), to be fully briefed during daily toolbox talks and shown the locations of cultural heritage places and buffered areas in which Project activities are prohibited. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> In conjunction with Martu Traditional Owners and WDLAC, routine inspection of Martu cultural heritage sites in and around the vicinity of the work areas to monitor compliance with requirements for non-disturbance of sites that are not authorised for disturbance. The regularity (e.g., daily, every second day, weekly) of inspections will be determined in advance of works commencing and will be based on recommendations contained in relevant pre-works cultural heritage survey reports developed in conjunction with Martu Traditional Owners and WDLAC. Considerations will include the proximity of the cultural heritage site to the work site and its accessibility to Newcrest employees, contractors, and others. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Social Performance Advisor supported by Cultural Heritage Advisor
<ul style="list-style-type: none"> In the event of the discovery of suspected human remains, cease work immediately. Follow procedures set out in the Chance Finds Procedure (Appendix C Chance Finds Procedure). Cultural Heritage Advisor to ensure that all obligations required in Schedule 8 of the Newcrest Mining Project Area ILUA are adhered to. Discovery to be reported and managed in line with NML's Incident Management Guideline. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> All persons Earthworks contractor/ construction manager (under supervision of the Statutory Manager) Cultural Heritage Advisor
<ul style="list-style-type: none"> In the event of the discovery of a potential cultural heritage site, Aboriginal Site, Aboriginal Object or other place identified by Martu Traditional Owners as being culturally sensitive, cease activity immediately. Follow procedures set out in the Chance Finds Procedure (Appendix C). Cultural Heritage Advisor to ensure that all obligations required in Schedule 8 of the Newcrest Mining Project Area ILUA are adhered to. Discovery to be reported and managed in line with NML's Incident Management Guideline. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> All persons Earthworks contractor/ construction manager (under supervision of the Statutory Manager) Cultural Heritage Advisor

3.6. Bulk Earthworks and Major Excavations

Bulk earthworks and major excavation measures required under this CHMP are outlined in Table 7.

Table 7: Bulk earthworks and major excavation management measures

Measure	Timing	Responsibility
Prior to bulk earthworks and major excavations		
<ul style="list-style-type: none"> All bulk earthworks and major excavations must not commence until authorised through an approved SDP application prior to the start of works. 	<ul style="list-style-type: none"> Prior to work commencing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> Confirm that all obligations under the Newcrest Mining Project Area ILUA relating to requirements for cultural heritage investigations and reporting prior to works commencing are fully met. 	<ul style="list-style-type: none"> Prior to works commencing 	<ul style="list-style-type: none"> Culture Heritage Advisor
<ul style="list-style-type: none"> Ensure that: <ul style="list-style-type: none"> Notifications to WDLAC regarding the nature and timing of the proposed works; and/or Arrangements for a Heritage Monitoring Team to be present during the works (if required) are in place prior to the works commencing. 	<ul style="list-style-type: none"> Prior to works commencing 	<ul style="list-style-type: none"> Social Performance Advisor (re monitors) Culture Heritage Advisor (re notifications)
During bulk earthworks and major excavations		
<ul style="list-style-type: none"> Conduct all works in accordance with the approved SDP. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> Machinery operators working in proximity to registered Aboriginal sites, recorded archaeological sites or places identified by Martu Traditional Owners as being culturally significant (e.g. sand dunes) to be fully briefed during daily toolbox talks and shown the locations of cultural heritage places and buffered areas in which Project activities are prohibited. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Earthworks contractor/ construction manager (under supervision of the Statutory Manager)
<ul style="list-style-type: none"> In conjunction with Martu Traditional Owners and WDLAC, routine inspection of Martu cultural heritage sites in and around the vicinity of the work areas to monitor compliance with requirements for non-disturbance of sites that are not authorised for disturbance. The regularity (e.g., daily, every second day, weekly) of inspections will be determined in advance of works commencing and will be based on recommendations contained in relevant pre-works cultural heritage survey reports developed in conjunction with Martu Traditional Owners and WDLAC. Considerations will include the proximity of the cultural heritage site to the work site and its accessibility to Newcrest employees, contractors, and others. 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> Social Performance Advisor supported by the Cultural Heritage Advisor

Measure	Timing	Responsibility
<ul style="list-style-type: none"> In the event of the discovery of suspected human remains, cease work immediately. Follow procedures set out in the Chance Finds Procedure (Appendix C). Cultural Heritage Advisor to ensure that all obligations required under item 9 in Schedule 8 of the Newcrest Mining Project Area ILUA are adhered to. Discovery to be reported and managed in line with NML’s Incident Management Guideline. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> All persons Earthworks contractor/ construction manager (under supervision of the Statutory Manager) Cultural Heritage Advisor
<ul style="list-style-type: none"> In the event of the discovery of a potential cultural heritage site, Aboriginal Site, Aboriginal Object or other place identified by Martu Traditional Owners as being culturally sensitive, cease activity immediately. Follow procedures set out in the Chance Finds Procedure (Appendix C). Cultural Heritage Advisor to ensure that all obligations required in Schedule 8 of the Newcrest Mining Project Area ILUA are adhered to. Discovery to be reported and managed in line with NML’s Incident Management Guideline. 	<ul style="list-style-type: none"> As required 	<ul style="list-style-type: none"> All persons Earthworks contractor/ construction manager (under supervision of the Statutory Manager) Cultural Heritage Advisor

4. Performance Management

4.1. Monitoring

As set out in Section 2, the Cultural Heritage Advisor is responsible for:

- Confirming the CHMP is implemented.
- Undertaking performance audits to evaluate the effectiveness of management measures.
- Supporting the site team in cultural heritage management.
- Working with WDLAC and Martu in relation to the management of Martu cultural heritage.
- Ongoing liaison with Martu communities regarding cultural heritage issues including supporting the Social Performance Advisor to address any complaints or grievances that relate to the disturbance of cultural heritage sites.

The Social Performance Advisor, supported by the Cultural Heritage Advisor, is responsible for:

- Routinely inspecting registered Aboriginal sites, recorded archaeological sites, and places identified Martu Traditional Owners as being culturally sensitive within the Project Area to confirm they are being managed as agreed.
- Addressing any complaints or grievances received through the [700-677-CY-PRO-2001 COMMUNITY CONCERNS COMPLAINTS AND GRIEVANCES PROCEDURE](#) that relate to disturbance of cultural heritage sites.

In the event of unauthorised disturbance of registered Aboriginal Sites, recorded archaeological sites, and places identified by the Martu Traditional Owners as being culturally sensitive, the incident must be immediately reported to the Cultural Heritage Advisor, the HSEC Manager and the Statutory Manager.

The 100-900-AL-SWP-0001 Incident Management Procedure must be followed and the incident entered into CHES.

Monitoring activities will be at their most intensive at any time new ground disturbance occurs, irrespective of whether this is during the exploration, construction or operations phase of the Project.

4.2. Reporting, Review and Assurance

The Project's site monthly report will include a summary of:

- Incidence of disturbance to registered Aboriginal sites, recorded archaeological sites, and places identified Martu Traditional Owners as being culturally sensitive.
- All cultural heritage sites identified through chance finds.
- Management measures undertaken as a result of chance finds.
- Any site visits, field surveys or fieldwork undertaken in relation to cultural heritage.
- Number and results of verification inspections prescribed in Table 6 (surface disturbance management measures) and Table 7 (bulk earthworks and major excavations management measures).
- Performance indicators as applicable in the reporting period.

Newcrest will report to the Department of Mines, Industry Regulation and Safety and the Department of Planning, Lands and Heritage in accordance with relevant permit conditions and as per legislative requirements. Reporting to Martu communities will be in line with requirements as specified in Schedule 8 (Cultural Heritage) of the Newcrest Mining Project Area ILUA.

There will be no departures from this plan without the written permission of the Havieron Project Director. Any requests to depart from the CHMP must be accompanied by detailed advice regarding how the departure(s) will be undertaken in ways that maintain compliance with the aims and objectives of the CHMP.

In order to ensure continuous improvement in NML's responses to the protection and management of Aboriginal cultural heritage, the content and processes underpinning the implementation of this CHMP will be the subject of annual first line assurance reviews conducted by the Social Performance Advisor and the Cultural Heritage Advisor.

5. References

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Appendix A Proposed Site-Specific Cultural Heritage Management Measures

The following cultural heritage places were identified in the Aboriginal cultural heritage risk assessment prepared for the Havieron Project by Eco Logical Australia (2021) as being situated at locations that could potentially be impacted by the Project.

The management measures proposed in Table 8 below relating to each cultural heritage place should be discussed with and approved by Martu Traditional Owners before implementation.

Newcrest must ensure that all permits required under relevant State and/or Commonwealth legislation or other statutory authority are obtained prior to disturbing, damaging, destroying or relocating Aboriginal cultural heritage.

Table 8: Proposed site-specific management measures

Cultural Heritage Place ID	Place Type	Reference	Easting GDA94 Zone 51	Northing GDA94 Zone 51	Intersecting Project footprint	Distance from Project footprint	Proposed Management Measures
--	Sand dunes				Yes	--	<ul style="list-style-type: none"> No works to be undertaken within dune inclines unless authorised in a heritage survey report or by Martu Traditional Owners.
HC20-01	Archaeological Site	Archae-aus (2020)	461712	7598310	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.
WD-20-01	Archaeological Site	McElligott and Monks (2020)	462495	7597578	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.
WD-20-02	Archaeological Site	McElligott and Monks (2020)	462581	7597052	No	5 m	<ul style="list-style-type: none"> Archaeological site boundary to be pegged and flagged with pink and black heritage tape. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
WD-20-03	Archaeological Site	McElligott and Monks (2020)	461767	7597349	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.
WD-20-04	Archaeological Site	McElligott and Monks (2020)	461409	7597449	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.
WD-20-05	Archaeological Site	McElligott and Monks (2020)	461362	7597612	No	80 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.

Cultural Heritage Place ID	Place Type	Reference	Easting GDA94 Zone 51	Northing GDA94 Zone 51	Intersecting Project footprint	Distance from Project footprint	Proposed Management Measures
WD-20-06	Archaeological Site	McElligott and Monks (2020)	461211	7597819	No	280 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
WD-20-07	Archaeological Site	McElligott and Monks (2020)	460832	7597966	No	417 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
WD-20-08	Archaeological Site	McElligott and Monks (2020)	460802	7597997	No	403 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Chance Find 27/04/2020	Archaeological Site	--	463771	7598361	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.
Chance Find 11/03/2020	Archaeological Site	--	463506	7598121	No	88 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 1	Archaeological Site	Archae-aus (2020)	422613	7612038	No	9.3 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 2	Archaeological Site	Archae-aus (2020)	461618	7598561	No	25 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 3	Archaeological Site	Archae-aus (2020)	461578	7598557	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.

Cultural Heritage Place ID	Place Type	Reference	Easting GDA94 Zone 51	Northing GDA94 Zone 51	Intersecting Project footprint	Distance from Project footprint	Proposed Management Measures
Isolated Artefact 4	Archaeological Site	Archae-aus (2020)	459790	7599227	Yes	--	<ul style="list-style-type: none"> Salvage surface collection and relocation to proposed Martu Traditional Owner Keeping Place, subject to authorisation under a s. 16 permit issued by DPLH under the <i>Aboriginal Heritage Act 1972</i>.
Isolated Artefact 5	Archaeological Site	Archae-aus (2020)	427973	7609418	No	3.4 km	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 6	Archaeological Site	Archae-aus (2020)	427953	7609420	No	3.4 km	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 001	Archaeological Site	Raines (2021)	460175	7598920	No	176 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 002	Archaeological Site	Raines (2021)	459906	7598910	No	128 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 003	Archaeological Site	Raines (2021)	460026	7598990	No	150 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.
Isolated Artefact 004	Archaeological Site	Raines (2021)	460058	75990901	No	46 m	<ul style="list-style-type: none"> No site-specific action required. Work areas to be pegged and flagged, and all work to be confined within demarcated work areas.

Appendix B Cultural Awareness Training and Induction Materials

<<Insert Project documents>>

Appendix C Cultural Heritage Chance Finds Procedure

<<Insert Project documents>>



