

Visual Amenity 14



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14 VISUAL AMENITY

14.1 INTRODUCTION

A visual assessment was undertaken by Hansen Bailey to determine the impact of the Eastern Leases Project (the project) on visual amenity.

The Environmental Risk Assessment presented in Section 4 identifies all potential project risks in relation to visual amenity and determines the consequence and likelihood of each risk, and the overall risk rating. Risk ratings are provided for the risk both with and without the application of mitigation measures. The risk assessment has concluded that, with the application of the proposed mitigation measures, all risks associated with visual amenity are low risk. This section provides further detail on the impacts on visual amenity that have been identified for the project, as well as the mitigation measures that will be applied.

14.2 PROJECT SETTING

The project site is characterised by elevated rocky outcrops and gently sloping valleys. Elevations within the project site range from approximately 10 m Australian Height Datum (AHD) to 120 m AHD. The project activities will predominantly take place in the low lying valley areas of the project site. These low lying areas are surrounded by rocky outcrops. The project site is well vegetated and comprises natural bushland that is mainly eucalypt dominated open forest, woodland and shrubland. There is no existing development or infrastructure within or adjacent to the project site. The existing mine is located approximately 2 km to the west of the Southern Eastern Lease (Southern EL) at the closest point (Figure 14-1).

14.3 PROJECT OVERVIEW

The project is a proposed open cut mining operation, which involves activities such as clearing vegetation, stripping topsoil, excavating overburden, blasting, and mining ore using a truck, dozer and excavator fleet. Quarries will be backfilled with overburden and progressively rehabilitated to restore mined land to open woodland, similar to the surrounding bushland. There will be no final voids or elevated overburden emplacement areas at the end of the mine life, and the post-mining landform will generally replicate the pre-mining landform.

As detailed in Section 3 – Project Description, there will be instances over the operating life of the project where it will not be feasible to emplace overburden in quarries, given a lack of available capacity at the time. In these instances temporary out-of-pit overburden emplacements will be constructed, and the overburden will be relocated to quarries when they are available. The temporary overburden emplacement areas will be designed to have a maximum height of 15 m, with external batter slopes of 10%. These temporary emplacements are likely to be the most visible element of the project, given that the remainder of the mining activities will largely take place in quarries below natural ground level.

There is very limited infrastructure proposed to be constructed on the project site, with infrastructure restricted to dams, small crib huts, vehicle park-up areas and laydown storage yards. This infrastructure is generally of a small scale, with the exception of water storage dams which could be up to 17 m high. Infrastructure, including the water storage dams, will be decommissioned at the end of the mine life and the disturbed areas will be rehabilitated to create an open woodland.

This assessment focussed on the project elements that will be the most visible because of their scale, namely the temporary overburden emplacements and the water storage dams.

There is only very limited night lighting associated with the project, with lighting restricted to temporary lighting of areas being mined at night (with the lighting being within quarries), water fill points, and at crib huts. Lighting is consequently not considered further in this assessment.

14.4 VIEWING LOCATIONS

Potential impacts on visual amenity were assessed at the following viewing locations:

- The four sensitive receptors that represent the nearest residences or public recreation areas to the project site. These are described in Section 3 – Project Description, and include:
 - R1 – Angurugu, the nearest township to the project site. It is located 6.5 km to the north-west of the Northern Eastern Lease (Northern EL);
 - R2 – Yedikba Outstation, located 2.2 km to the west of the Southern EL;
 - R3 – Wurrumenbumanja Outstation, located 3.5 km to the south of the Southern EL; and
 - R4 – Leske Pools Swimming Hole, a swimming hole used for recreation purposes, located 2.4 km to the south of the Southern EL.
- The Wurruwarrkbadenumanja cave paintings. This is a public recreation area, located in an elevated area. There is a lookout near the cave paintings, which has expansive views over the southern part of Groote Eylandt. The Wurruwarrkbadenumanja cave paintings can be accessed by the general public, subject to a permitting system. This viewing location is approximately 5 km to the north of the Northern EL.

Figure 14-1 shows the viewing locations that were assessed.

An unsealed 4WD access road to Dalumba Bay traverses the project site. This track was not assessed as a viewing location because the 4WD track is only used occasionally; views of project mining activities would be from moving vehicles; and views would be limited in duration and orientated laterally to mining activities.

14.5 VISUAL ASSESSMENT

Lines of sight were developed to assist in determining the visual effect of the project at the viewing locations. A line of sight is a representative line drawn from a viewing location to the project elements (i.e. temporary overburden emplacements and dams). Lines of sight are drawn at eye level and are used to evaluate the extent to which project elements will be visible at a viewing location. Topographic maps, photographs, aerial photography imagery and a site visit were used to identify the terrain and vegetation across the site, and then determine the level of screening (by intervening vegetation and topographic elements such as ridgelines and hills) between the viewing location and project elements.

Figures 14-2 to 14-6 show the lines of sight that have been prepared from the five viewing locations.

The lines of sight show that the project is not anticipated to be visible from any of the viewing locations, for the following reasons:

- There is intervening topography (i.e. rocky outcrops and ridges), that would prevent any views of project elements from R1 (Angurugu) (Figure 14-2).
- There is intervening topography that would prevent any views of project elements from R2 (Yedikba) (Figure 14-3).
- There is intervening topography (i.e. rocky outcrops and ridges), that would prevent any views of project elements from R3 (Wurrumenbumanja) (Figure 14-4).

- There is dense vegetation surrounding R4 (Leske Pools Swimming Hole), which would block views towards project elements (Figure 14-5).
- There is intervening topography (i.e. rocky outcrops and ridges), that would prevent any views from the lookout at the Wurruwarrkbadenumanja cave paintings (Figure 14-6).

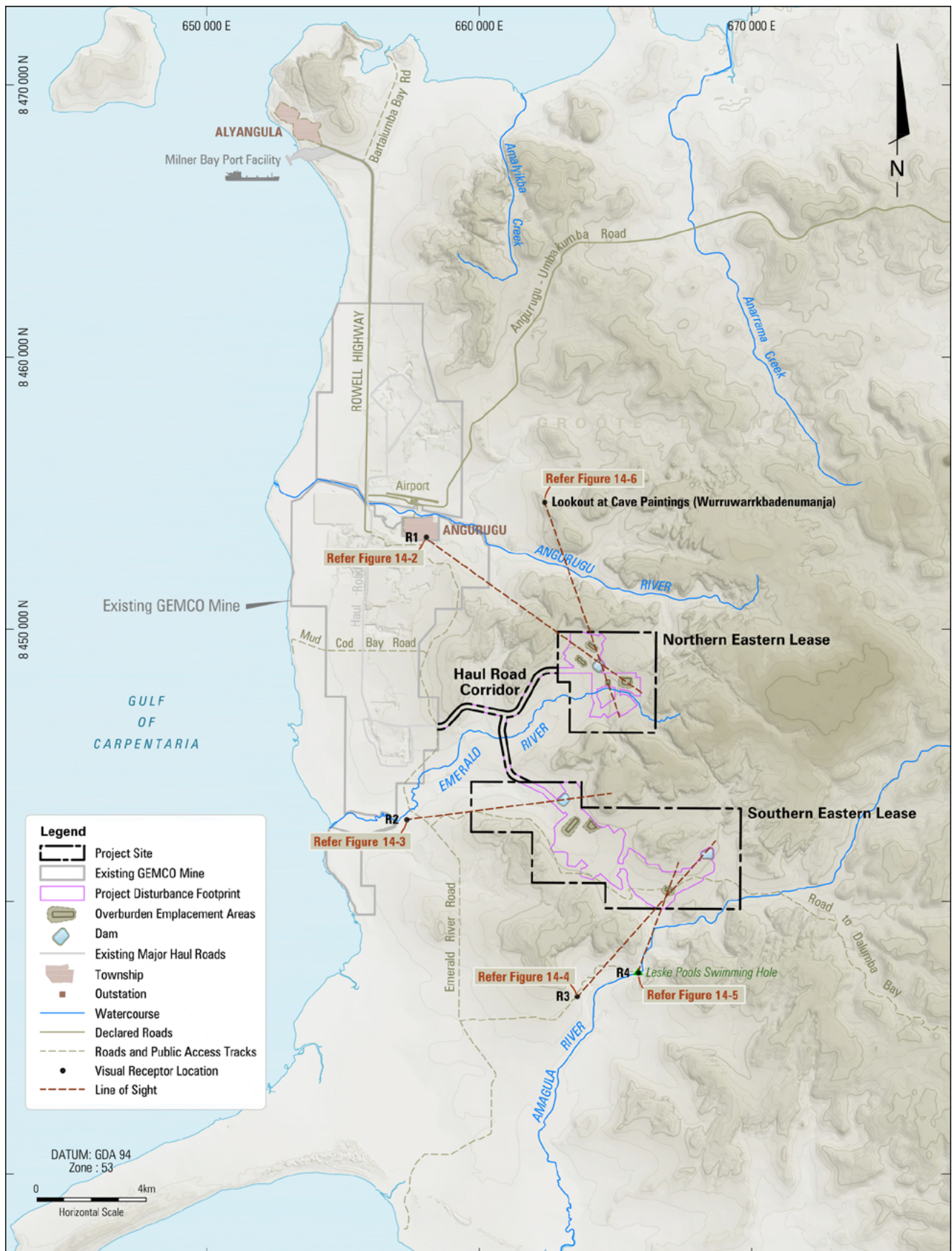
14.6 MITIGATION

No specific mitigation measures are required for visual amenity. There are, however, a number of factors intrinsic to the project design which limit potential impacts on visual amenity. These include:

- There will be no elevated overburden emplacements or final voids post-mining. Further detail is provided in Section 3 – Project Description.
- Mined areas will be progressively rehabilitated to create open woodland, similar to the surrounding undisturbed bushland. Further detail is provided in Section 6 – Mine Rehabilitation and Closure.

At the completion of mining, the project site will be completely rehabilitated. The haul roads will similarly be decommissioned and any associated infrastructure, such as bridges and culverts, will be decommissioned unless advised otherwise by the Anindilyakwa Land Council.

FIGURES

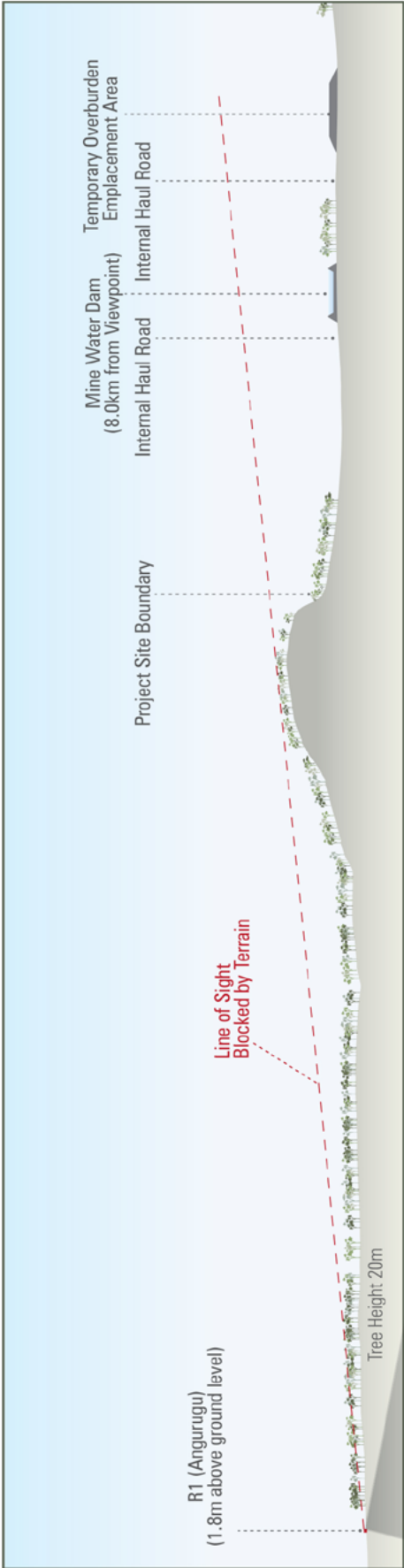


EASTERN LEASES PROJECT

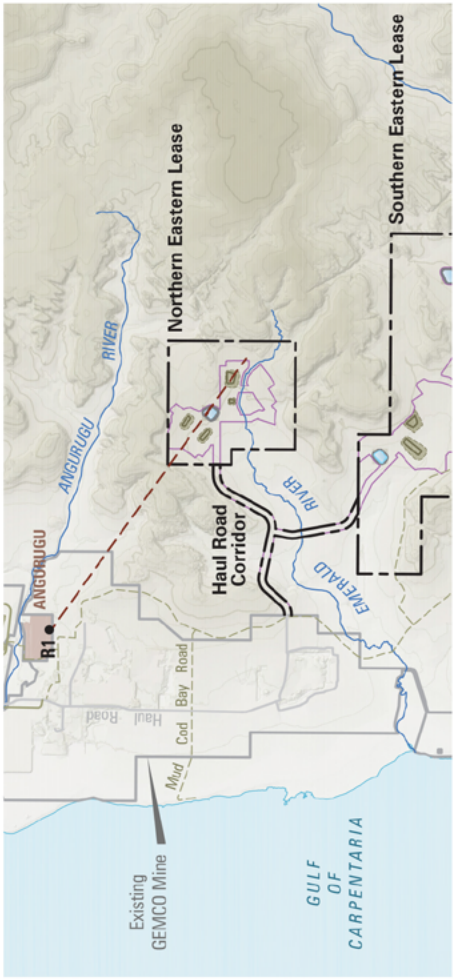
Local Terrain and Visual Receptors

FIGURE 14-1

Line of Sight from R1 (Angurugu) to Project Site



View from Angurugu facing South-east towards Project Site



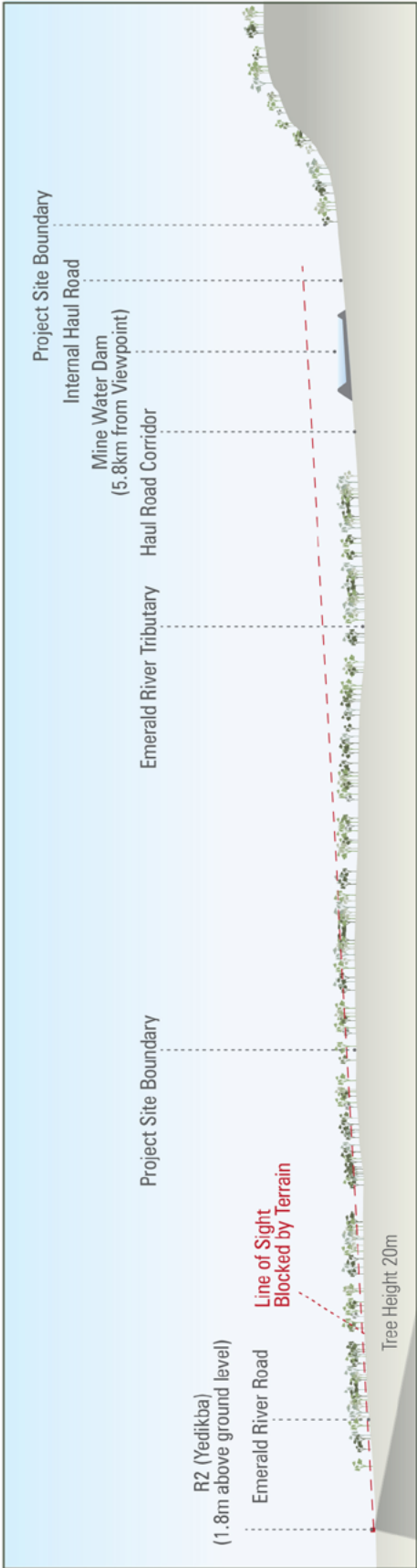
EASTERN LEASES PROJECT

View from R1 (Angurugu) to the Project Site

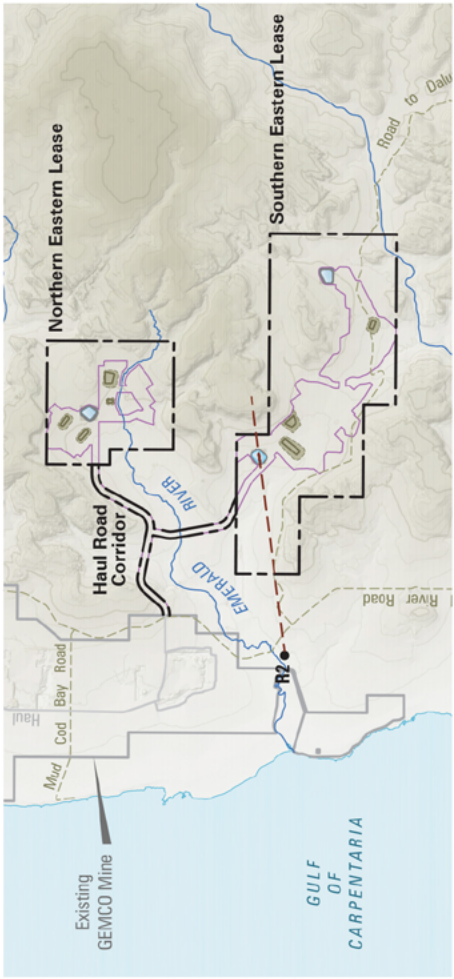
Hansen Bailey
ENVIRONMENTAL CONSULTANTS

FIGURE 14-2

Line of Sight from R2 (Yedikba) to Project Site



View from Yedikba facing East towards Project Site

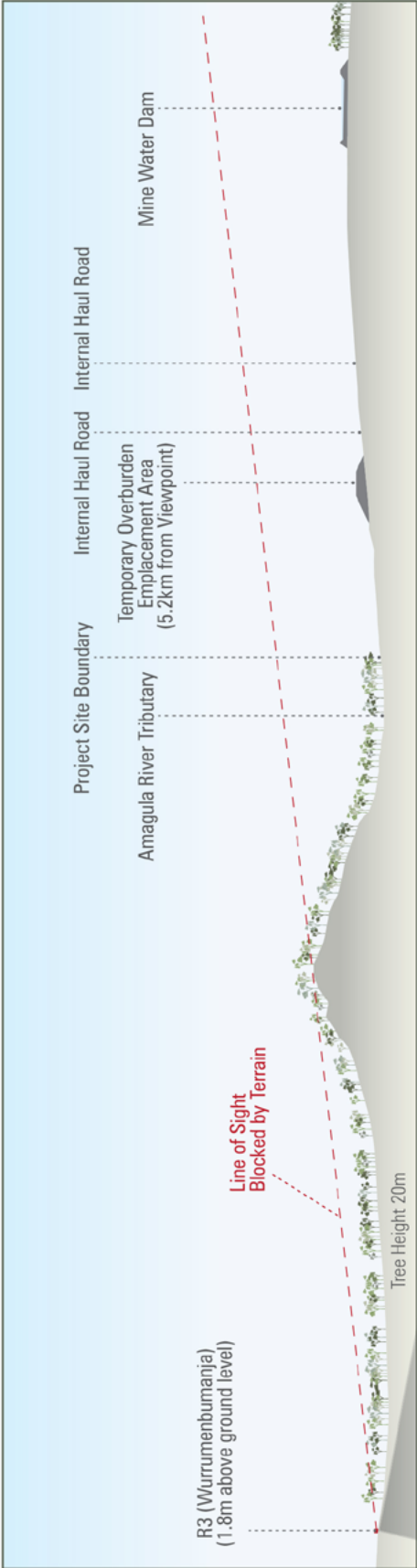


EASTERN LEASES PROJECT

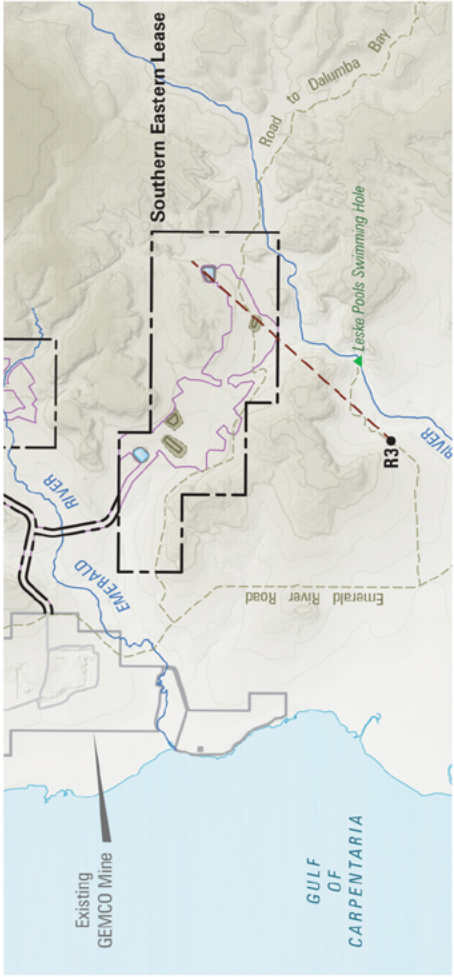
View from R2 (Yedikba) to the Project Site

FIGURE 14-3

Line of Sight from R3 (Wurrumenbumanja) to Project Site



View from Wurrumenbumanja facing North-east towards Project Site

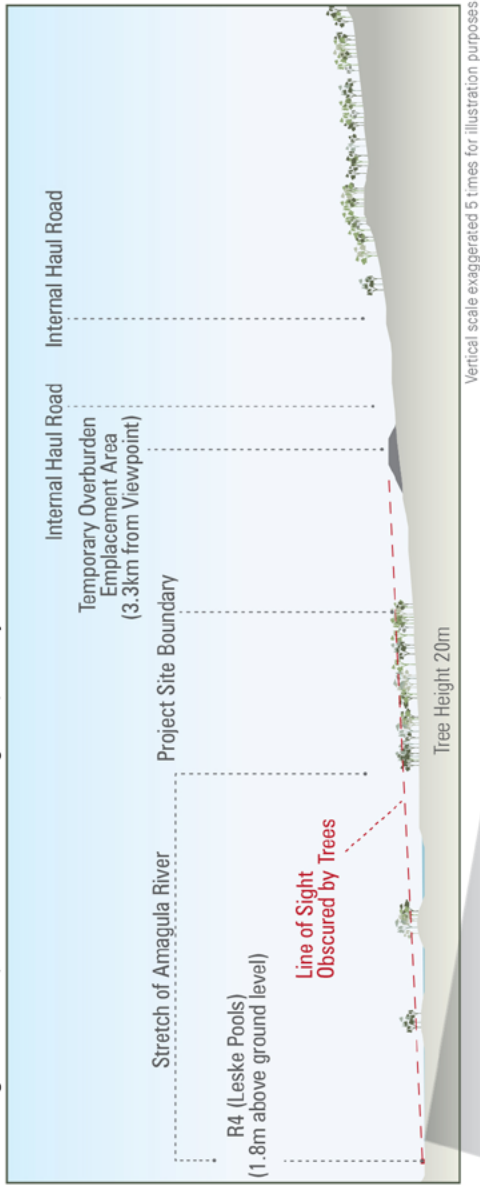


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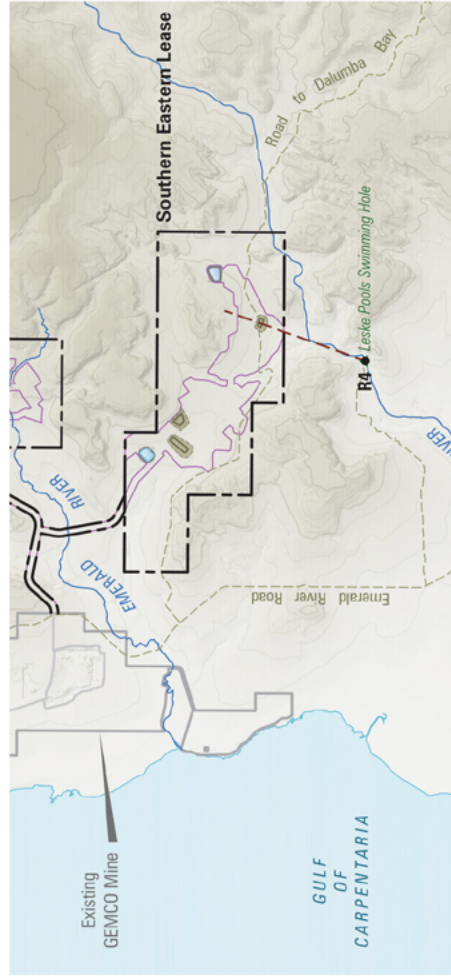
View from R3 (Wurrumenbumanja) to the Project Site

FIGURE 14-4

Line of Sight from R4 (Leske Pools Swimming Hole) to Project Site



View from Leske Pools Swimming Hole facing North towards Project Site

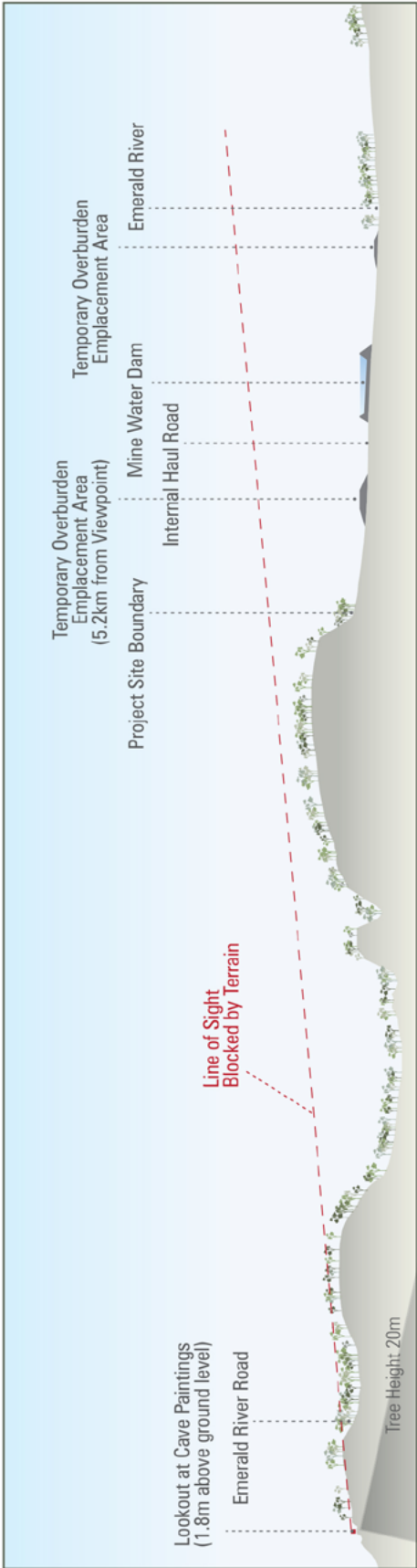


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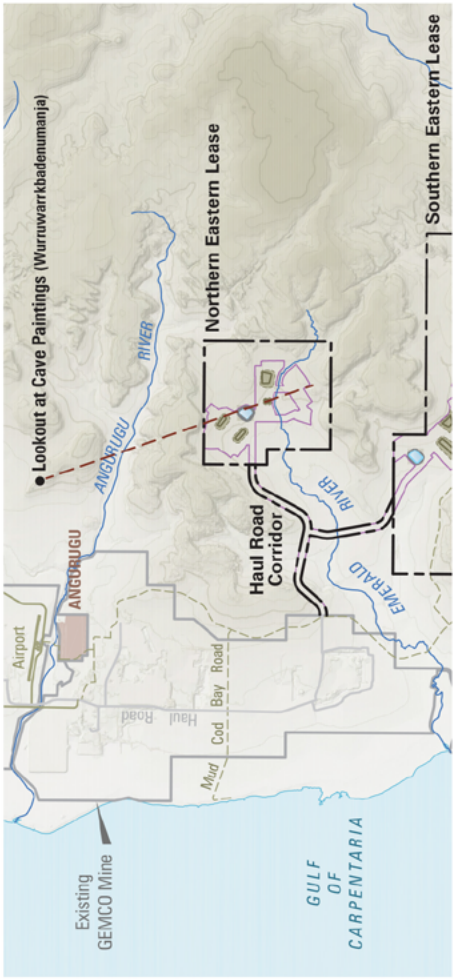
View from R4 (Leske Pools Swimming Hole) to the Project Site

FIGURE 14-5

Line of Sight from Lookout at Cave Paintings to Project Site



General View from Lookout at Cave Paintings facing toward the Southern Side of Groote Eylandt



EASTERN LEASES PROJECT

View from Lookout at Cave Paintings (Wurruwarrbadunumanja) to the Project Site

FIGURE 14-6