Katanning Gold Project

Visual Impact Assessment

Prepared for Ausgold Limited

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Approval for Release

Name	Position	File Reference
Andrew Mack	Director	TE23003_Visual Impact Assessment Report_3.0
Signature		

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1 Introduction

1.1 Background

Gold mineralisation was first identified at the Proposal site in 1979 by Otter Exploration NL (Otter) when two stream samples collected from the Datatine Road reserve contained anomalous quantities of gold. These samples led to mapping and drilling around Jinkas Hill. where a small gold-bearing outcrop was discovered and sampled, with grades averaging more than 7 grams per tonne (g/t) Au. A surface expression of Dingo Hill was discovered in 1980, also indicating grades greater than 7 g/t. In the 1980s Otter vended the exploration tenements, then referred to as the Badgebup Gold Project, to Associated Gold Fields NL (70% ownership) and Southwest Gold Mines NL (30%), both of which Otter had equity positions.

Associated Gold Fields acted as the Project Manager and continued to explore the area until 1987 when the project was sold to a joint venture between Glengarry Mining NL (Glenrarry) and Wattle Gully Gold Mines NL, with Glengarry acting as mangers. Glengarry continued exploration work on the leases until early 1995 when they were sold to International Mineral Resources NL (IMR) along with the Grants Patch treatment plant.

IMR commenced mining in December 1995 focusing on Jinkas Hill, including clearing for the waste dumps in vicinity, and the tailings storage facility and process plant areas. Construction of the processing plant was completed in December 1995 and wet commissioning commenced in February 1996; the pant was designed for a throughput of 200,000 tonnes per year, comprising a two-stage crushing circuit, a small ball mill, followed by a CIP circuit, elution, and electrowinning to produce gold dore.

Mining was undertaken with conventional truck and shovel, with oxide material not requiring blasting. Blasting of rock was performed at Jinkas Hill and blended with oxide ore from Dingo Hill. The operation ceased in July 1997, following the failure of the ball mill in May 1997 and Administrators were introduced.

Between February 1996 and July 1997 approximately 317,000 tonnes of mostly oxide ore, at an average grade of 2.54 g/t Au was processed, producing some 20,000 ounces of gold.

In 2000, the project, including the plant and associated infrastructure, was acquired by Great Southern Resources (GSR). In 2006 GSR changed the name from the Badgebup Gold Project to the Blackburn Gold Project and sub-leased the exploration tenements to IGC Resources Inc. (IGC).

Ausgold entered into a joint venture with GSR in August 2010, and the mineral titles were transferred to Ausgold in entirety in August 2011. Ausgold has a 100% interest in Mining Leases 70/210 and 70/211, which at the time encompassed the Jinkas and Dingo deposits respectively. As of 2024, Ausgold held a number of mining tenements including M70/488, M70/1426 and M70/1427, as well as the aforementioned tenements.

A component of this project is to determine the overall impact of mining on the landscape, and one method of assessing such an impact is to undertake a Visual Impact Assessment (VIA).

A VIA depicts the ‘before and after’ snapshot of mining operations over a given period. It visually represents anticipated changes to the landscape and suggests how visible those changes will be from key observation points, such as nearby roads, towns and properties.

1.2 Project Scope

The purpose of this assessment is to identify potential visual impacts associated with mining activities around the Katanning Gold Project (Figure 1-1). The objectives of the study were to:

1. Identify key surrounding observation points;
2. Depict future landscape changes;
3. Determine visibility of landscape changes from observation points;
4. Assess the significance, in terms of visual impact, of the future landscape changes; and
5. Propose mitigation measures, where possible, to minimise negative visual impacts.

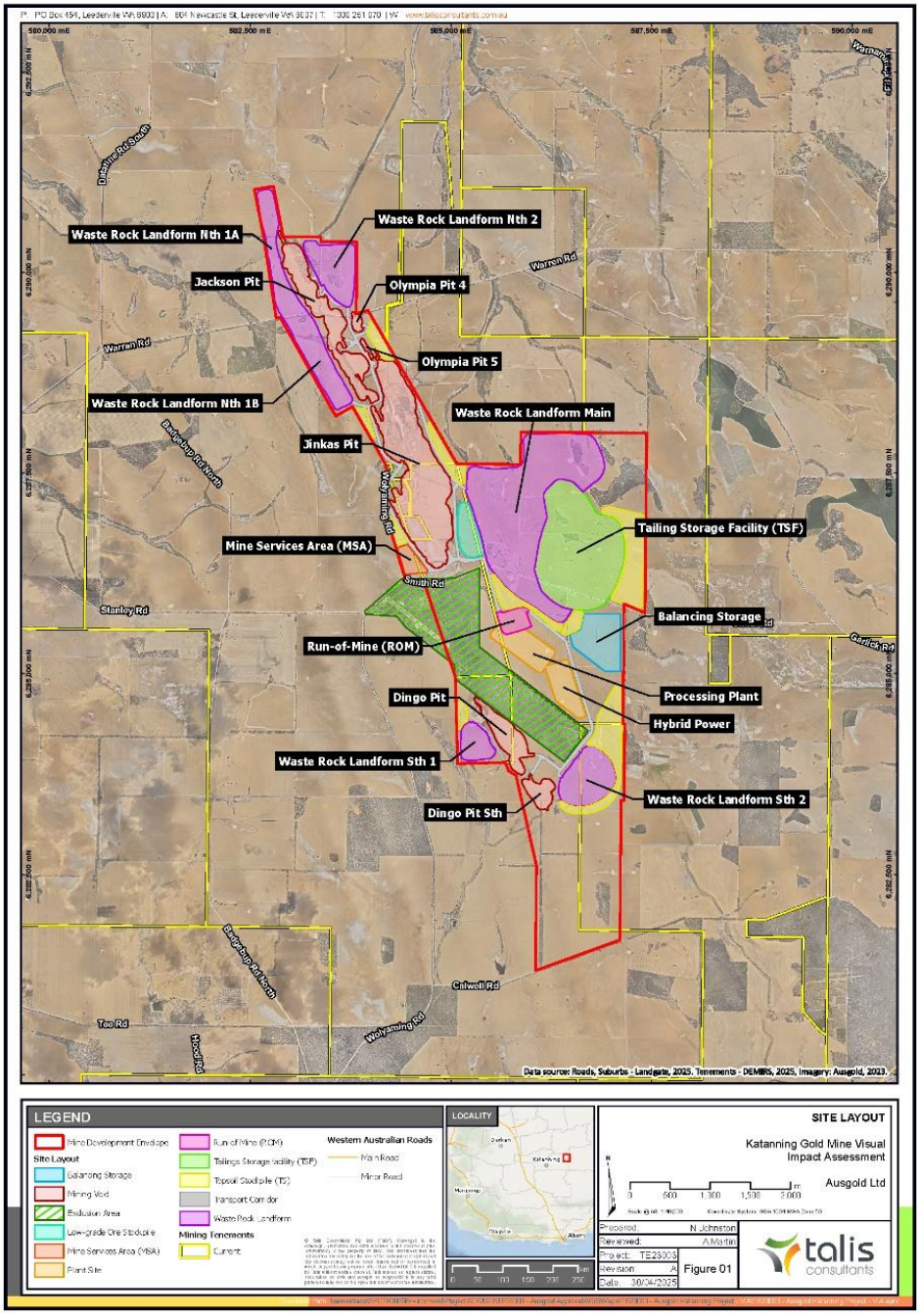

Figure 1-1: Proposed Site Layout

2 Methodology

High resolution (25cm) LIDAR Elevation data was acquired over the Katanning Gold Project site using a Fixed Wing Aircraft in October 2023. This data was used to create a baseline Digital Surface Model (DSM) to assess the current visual impacts of existing operations.

The future landform designs were then incorporated into the Baseline DSM to create a simulated 3D representation of the overall site elevations. A high resolution (10cm) Aerial image was then superimposed/draped over this elevation creating a visual representation of the site, post development. The resulting representative scene also depicts vegetation and other structures which have impact visibility.

The photomontages required Geotagged photos to be captured from locations that had been agreed on with Ausgold. Once the photos had been captured, the following high-level methodology was followed and the landform designs such as Pits, TSF's, WRL's etc, were then incorporated into the scene. This final scene was used in conjunction with the Geotagged photos to create a 3D representation of the proposed landforms at their respective locations. These was then merged to create a photomontage.

As well as the Photomontages, a Line of sight or Visibility analysis was also carried out to determine the impact the proposed development would have on the surrounding residential properties/locations. The DSM, which includes both vegetation and structures was crucial in determining the visibility conditions as vegetation coverage can significantly mitigate the overall visual impact.

Table 2-1 outlines the methodology flow chart undertaken for the VIA.

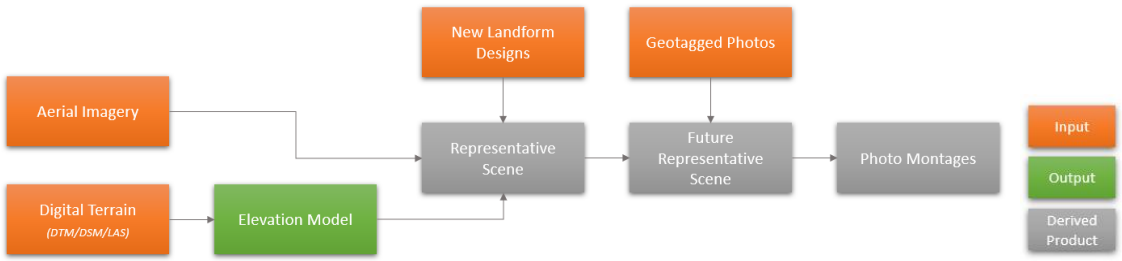

Figure 2-1: **Methodology Flow Chart**

2.1 Line of Sight Analysis

2.1..1 *Selection of Viewpoints*

Key viewpoints were identified by Ausgold. Each site was captured from the nearest public road with a series of oblique photographs, and the GPS location of each site recorded. The sites included near properties owned by (Figure 2-2):

- Opotiki Pty Ltd;
- Dyabiling Holdings; and
- Wolyaming Farms.

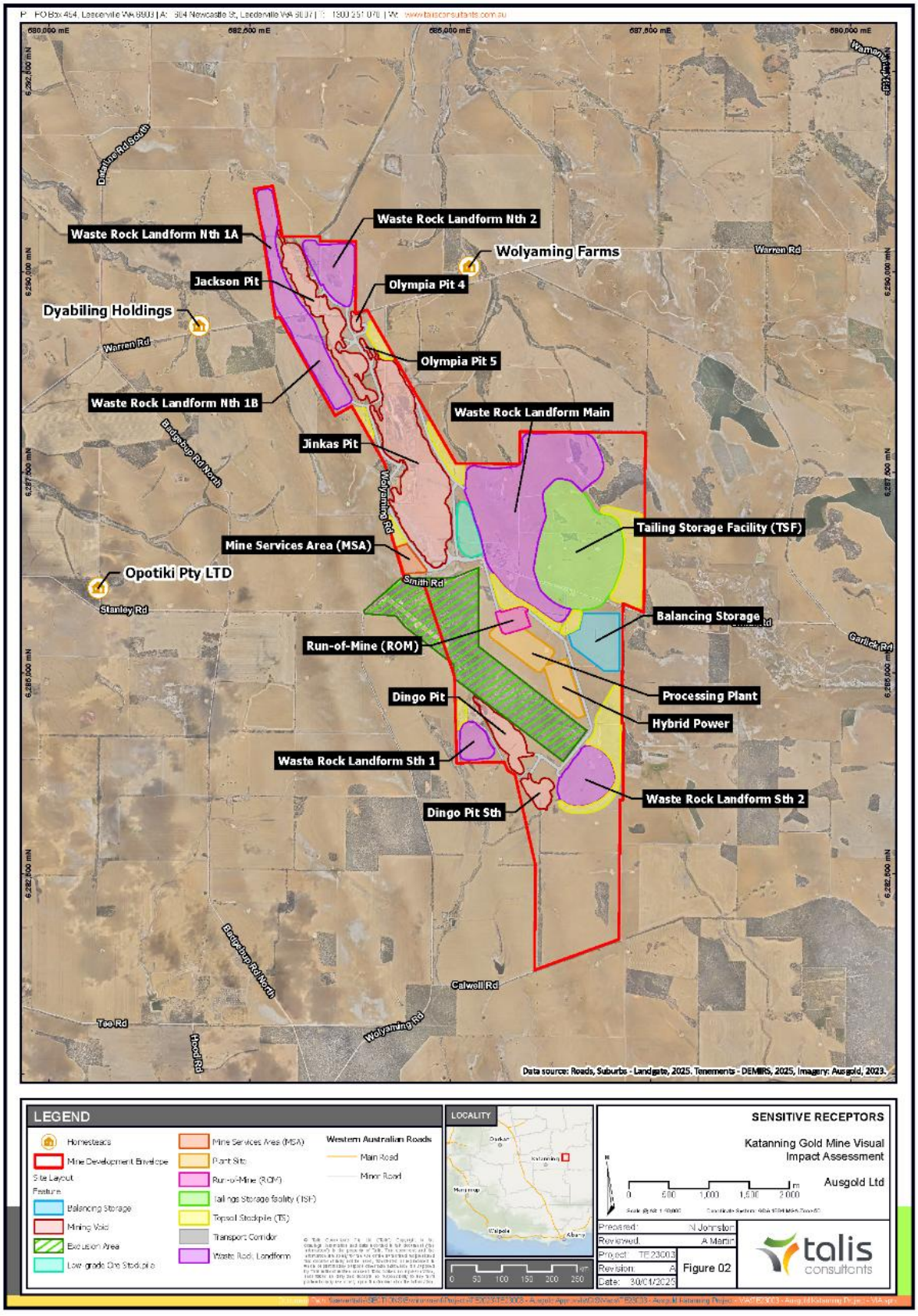

Figure 2-2: Sensitive Receptors

2.1..2 *Analysis*

A Line-of-Sight Analysis depicts the visibility of an object or landform from a specific location using the elevation model of the surrounding landscape.

Using this method, items on the landscape that form part of the DSM, such as vegetation, are considered when determining the impact to visibility. Additionally, any impact from dust or haze obscuring the landscape are not considered in this analysis. The analysis is limited to the extent of the DSM and takes the curvature of the earth into consideration.

Line-of-sights for each viewpoint were calculated using the combined DSM, to determine the impact on visibility of the Project (Table 2-1). The output of the analysis is a binary layer, with values representative of either visible, or not visible, from the viewpoint.

Table 2-1: Parameters used for Line-of-Sight Analysis

Parameter Type	Explanation	Parameter Value Used
Search Radius (distance)	Size of the analysed area from each viewpoint	8km
Search Radius (angle)	Angle of the analysed area around each viewpoint	Based on direction of view
Observer Height	Height above ground from which the analysis is made	1.8m
Atmospheric Refraction	Coefficient used to calculate the bending of light due to the atmosphere	0.13

2.2 Photomontage Analysis

A photomontage is a visual representation of the proposed development at its completion. It aims to illustrate what the development will look like from a specified viewpoint, by superimposing a 3D model of the changes to the landscape over a photograph of the landscape taken prior to the changes occurring.

For the proposal, the photomontage analysis incorporated the vegetation and other screening objects (such as signs, buildings and fence lines). This allowed a realistic view of the changes to the landscape from the given observation point to be created (Figure 2-3).

Original *Photomontage*

Figure 2-3: Example Photomontage (VP02 NE)

If a series of photographs were taken at given observation points, these were then “stitched” together to form a panorama, and the outputs were used in the photomontage analysis. Photo editing software was then used to alter the panoramic photographs to insert the proposed landform features.

Due to land access restrictions, the observation points for the photomontages and the key viewpoints are not aligned and therefore depict different results.

The differing results can be attributed to not just difference in location, but also to the presence of vegetation in the surrounding area. This indicates the significance vegetation plays in the mitigation processes.

3 Results

3.1 Line of Sight Analysis

The Line-of-Sight analysis for the key viewpoints show similar results between each viewpoint (Figures 3-1 to 3-3). This is due to the presence of vegetation or other structures in the nearby area.

The only exception is Wolyaming Farms, as this viewpoint has less vegetation coverage in relation to the other viewpoints.

The elevation surrounding these viewpoints is fairly uniform and thus does not play a major role in influencing Landform visibility (Table 3-1). Vegetation screen initiatives would minimise the Katanning Gold Project's visual impact on these key nearby locations.

Table 3-1: Assigned Receptor Locations

Photo ID	Latitude (DMS)	Longitude (DMS)
Opotiki Pty Ltd	33° 33' 43.44" S	117° 52' 06.64" E
Dyabiling Holdings	33° 31' 57.01" S	117° 52' 54.17" E
Wolyaming Farms	33° 31' 32.09" S	117° 55' 4.58" E

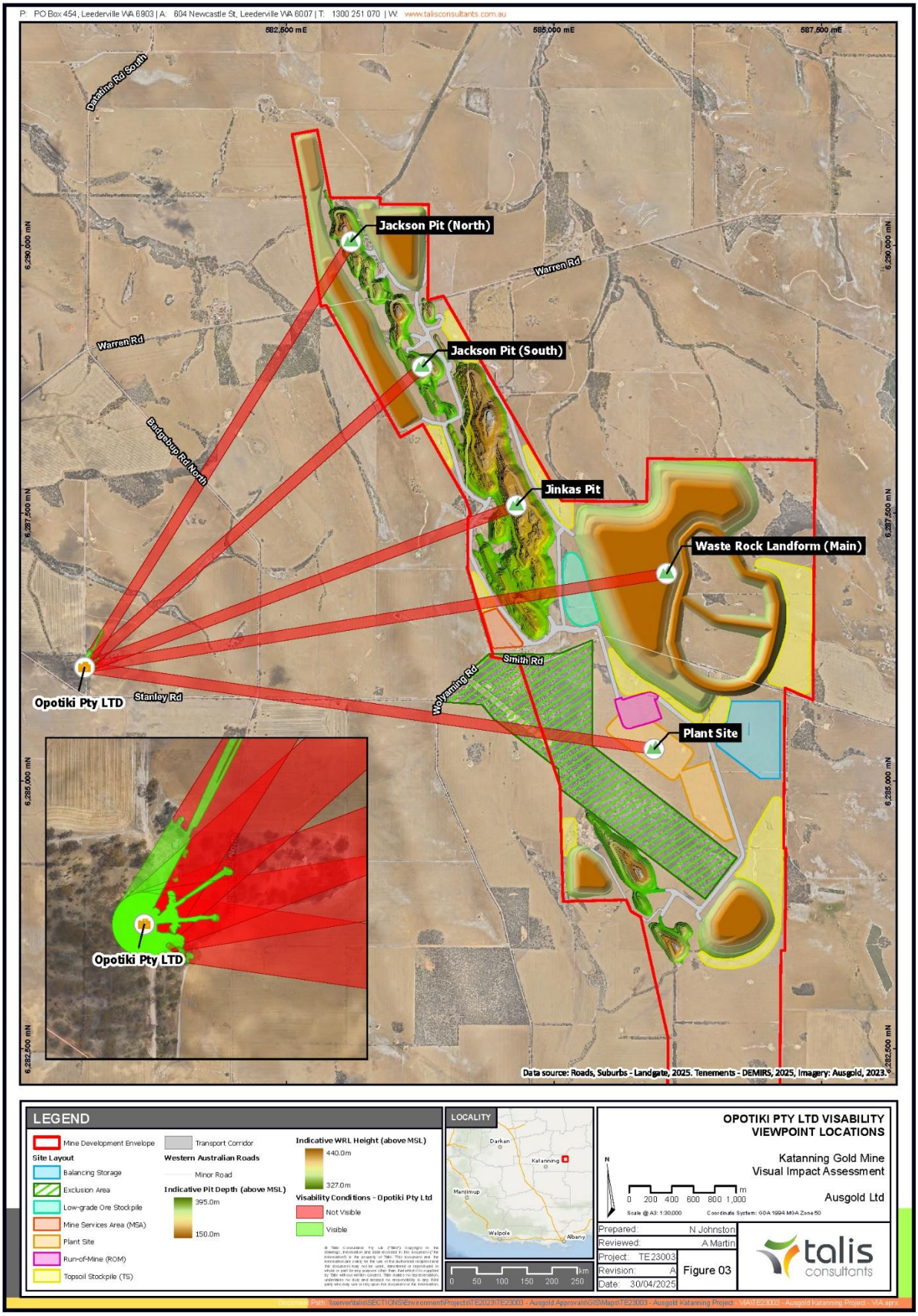

Figure 3-1: Line of Sight (Opotiki Pty Ltd)

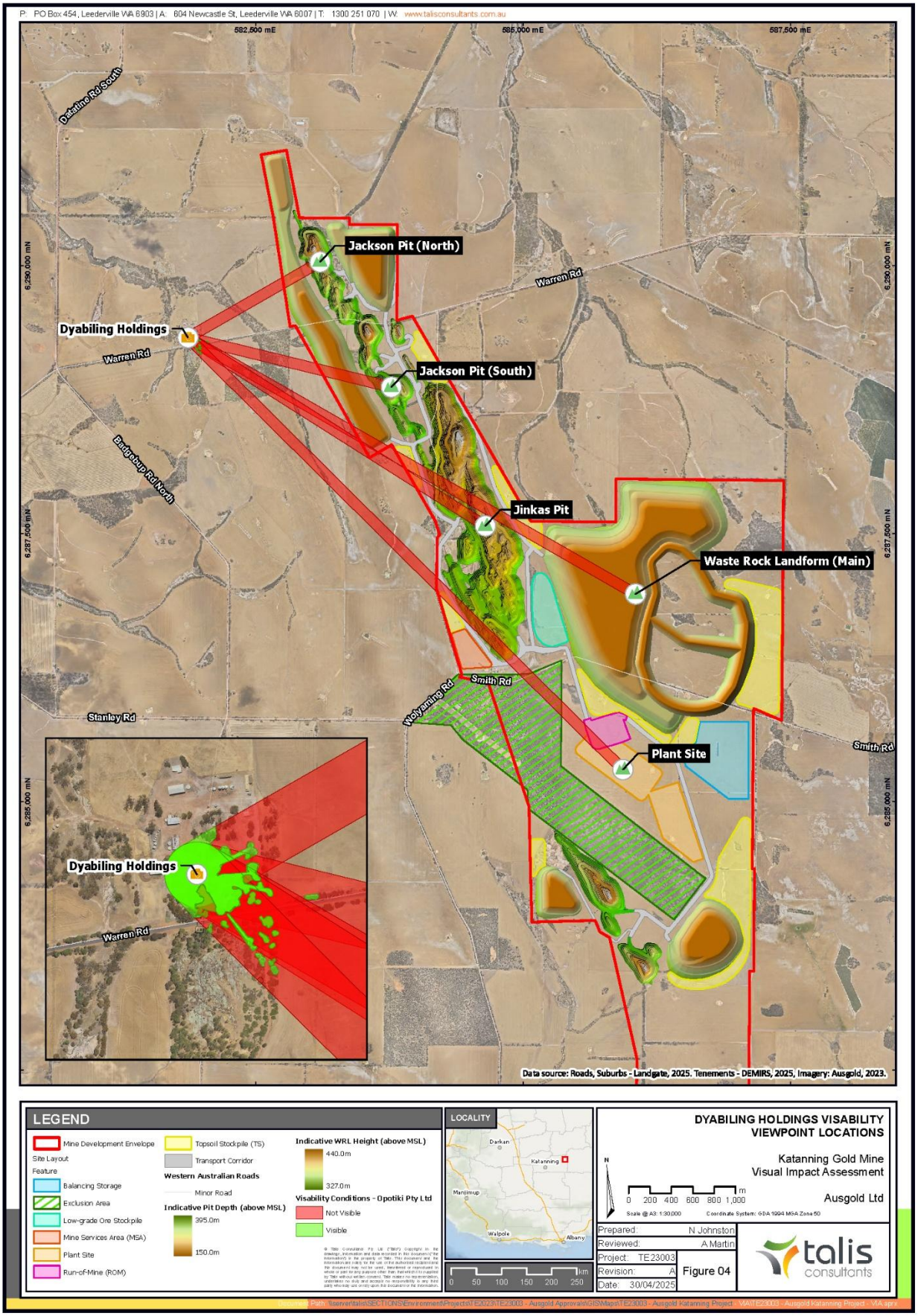

Figure 3-2: Line of Sight (Dyabiling Holdings)

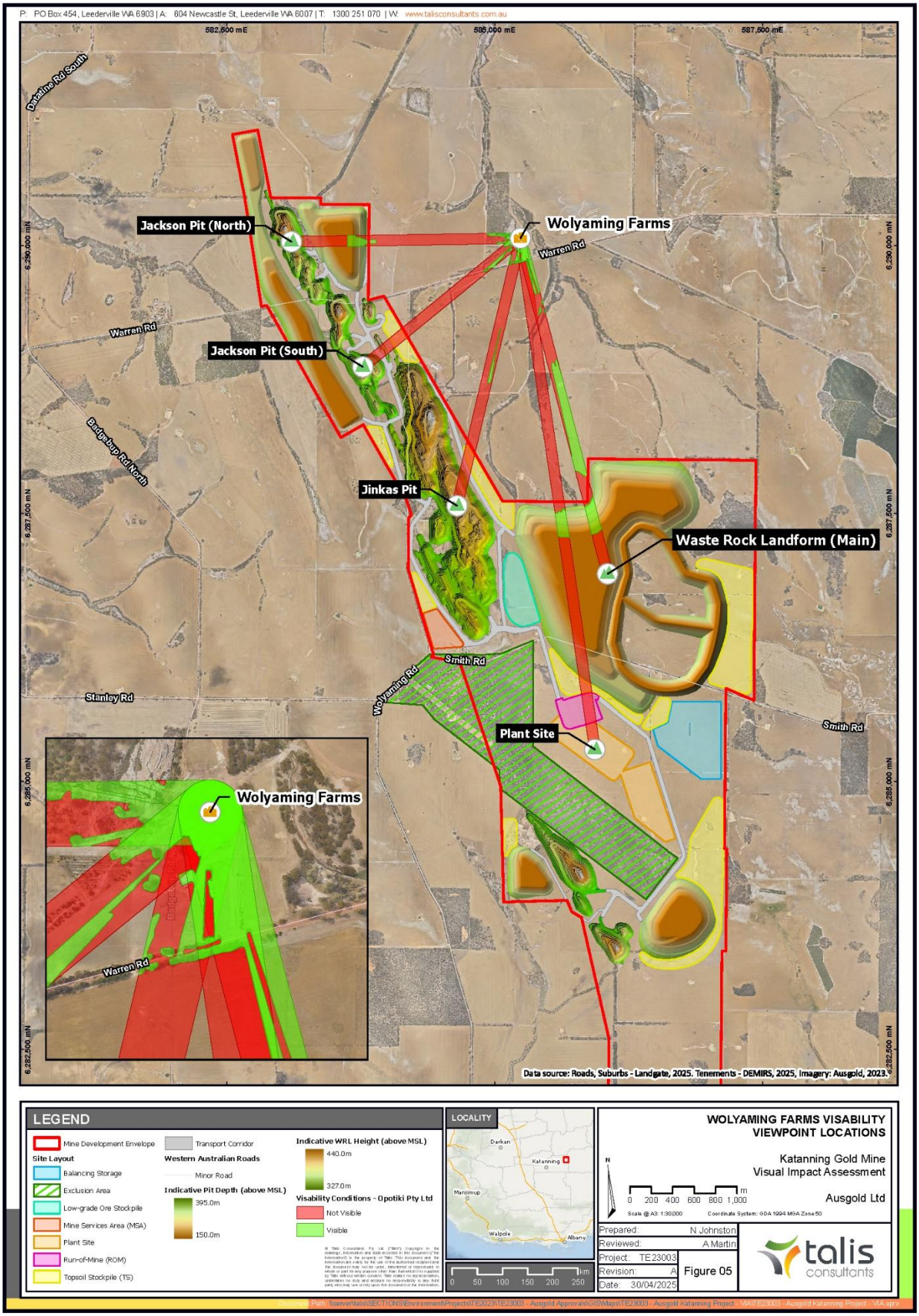

Figure 3-3: Line of Sight (Wolyaming Farms)

3.2 Photomontage Analysis

The photomontages were not captured at the same locations as the key viewpoints (as little was forecast to be directly seen) and thus give differing results to those of the Light of Sight Analysis. The capture locations are provided in Table 3-2.

Table 3-2: Photomontage Capture Locations

Photo ID	Latitude (DMS)	Longitude (DMS)	Direction
VP01	33° 33' 51.88" S	117° 52' 08.56" E	North-North East
			North-East
VP02	33° 31' 58.52" S	117° 52' 58.76" E	North-East
			East
VP03	33° 31' 20.57" S	117° 53' 52.45" E	South-East
			South
			South-West
VP04	33° 31' 38.72" S	117° 55' 05.91" E	East
			South-East
			South-West

The resulting change in location of the Photomontages highlights the role vegetation screening can play in minimising the visual impact of the Katanning Gold Project. Each of these montages have been captured from locations that are not hindered by vegetation or other screening objects, which gives a clear line of sight of the development areas (Figures 3-4 to 3-13).

A colour was incorporated onto the representation of the proposed landforms in order for it to more closely represent the final colour of the landform, giving a greater understanding of the overall impact these will have on the environment.

As with the Line of Sight Analysis, elevation does not play a major role in influencing Landform visibility. However, the proximity of the landforms to the observer has the greatest effect resulting in a more prominent feature.

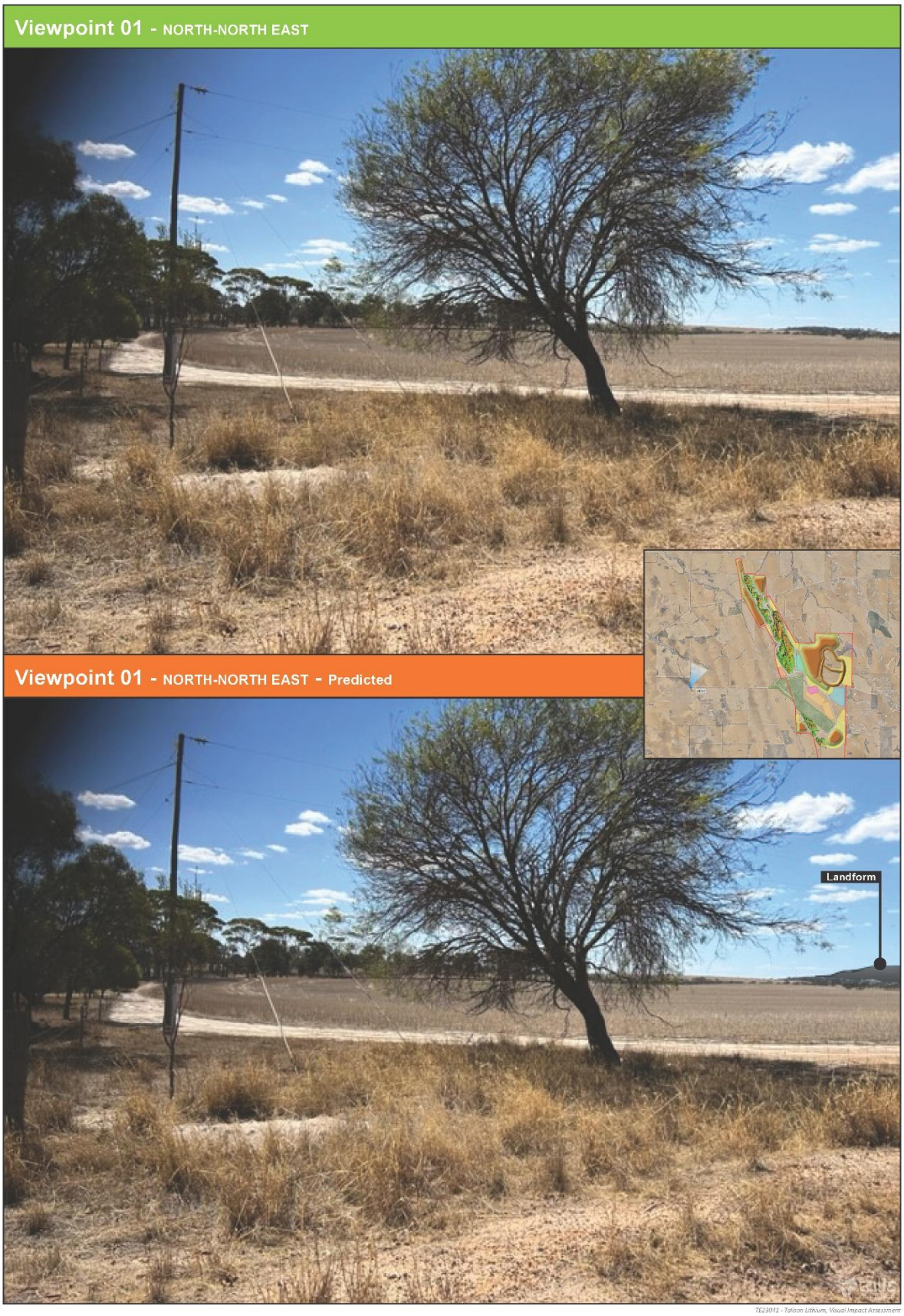

Figure 3-4: Final Photomontages (VP01 – North-North East)

Figure 3-5: Final Photomontages (VP01 – South East)

Figure 3-6: Final Photomontages (VP02 – North East)

Figure 3-7: Final Photomontages (VP02 - East)

Figure 3-8: Final Photomontages (VP03 – South East)

Figure 3-9: Final Photomontages (VP03 - South)

Figure 3-10: Final Photomontages (VP03 – South West)

Figure 3-11: Final Photomontages (VP04 – East)

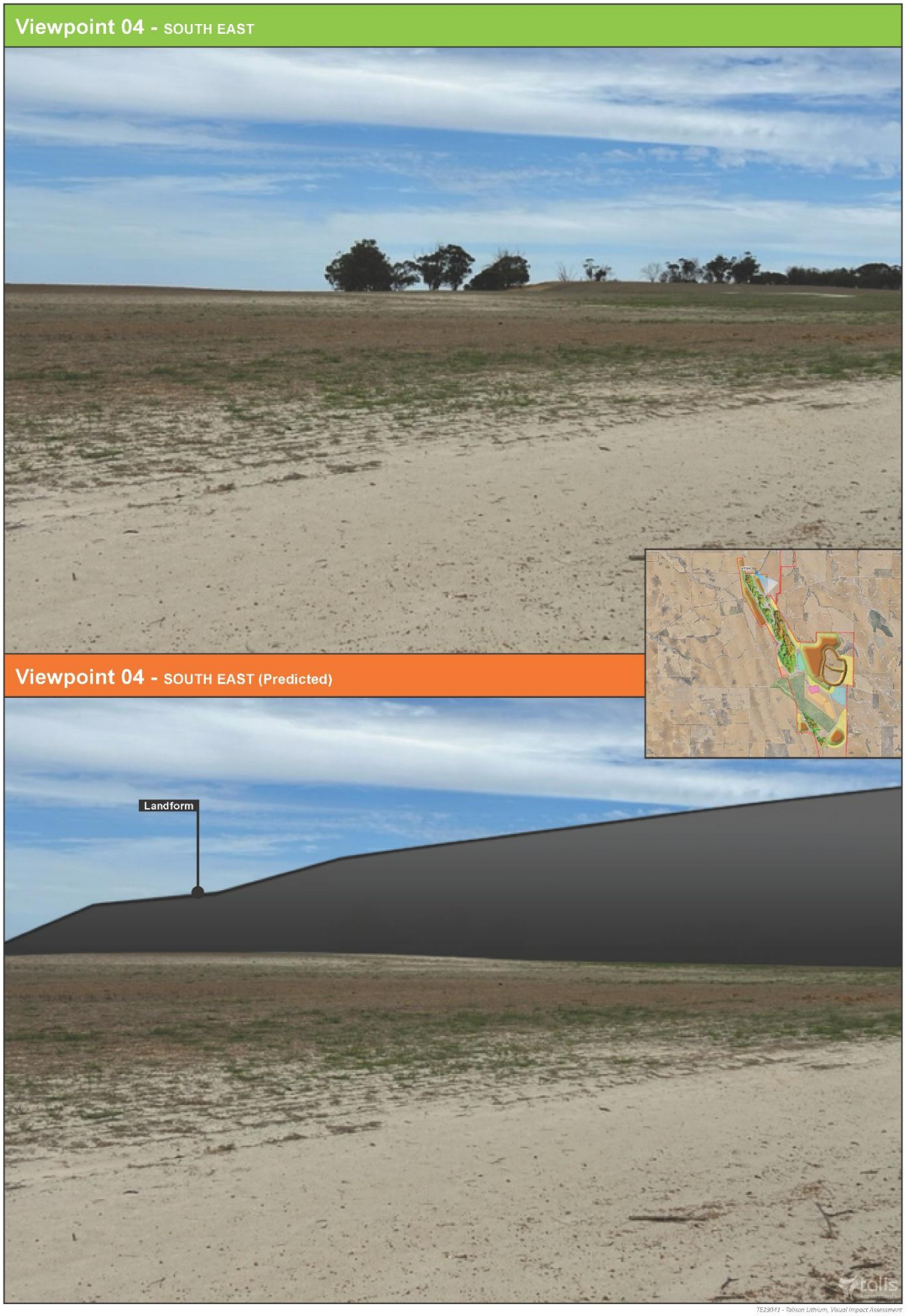

Figure 3-12: Final Photomontages (VP04 – South East)

Figure 3-13: Final Photomontages (VP04 – South West)

4 Discussion

4.1 Commentary

Despite some of the landforms being considered as part of the Proposal, it is apparent that, given its location and distance from receptors, the visual impacts (if any) are limited in nature and scale, particularly when considered at receptor properties.

With respect to the line-of-sight assessment conducted, of the three receptors chosen (Opotiki, Dyabiling, Wolyaming Farms), only the Wolyaming Farms location shows any evidence of visibility of the infrastructure associated with the project (some of the northern most WRL and of the main WRL to the south of the property).

In terms of the photomontages, there are few discernible impacts other than from VP03 (slight visual) and VP04 (definitive).

With respect to VP03, which is taken from Warren Road looking south, the impact is relatively limited. Further to this, the view is likely to be transient in nature (from moving vehicles) and, as such, the impact will be limited and is considered to be acceptable, although the built infrastructure (waste rock landform) will be evident.

VP04 is located on the northern property boundary and is essentially the closest point to the infrastructure in this vicinity on West Road. There will be an obvious presence of the built infrastructure at this location, but again, this is likely to be transient in nature and can be further mitigated through appropriate vegetation screening at the boundary of the Ausgold property. Note West Road would need to be closed to the public so the viewshed would only be evident to the owner and workers on Dyabiling Holdings land near to and north of that point.

The viewshed from VP01 and VP02 is subject to minimal change and would not be considered a significant impact for the purpose of this assessment.

4.2 Recommendations

Given the work completed for the VIA, it is apparent that there are a few key areas of visual impact that could warrant further attention. Whilst the Proposal has a minimal impact on visual amenity, a comprehensive mine closure plan (to be developed to support approvals under the Mining Act) will provide a further reduction to visual effects.

It is also recommended that visual screening in the form of tree planting along the property boundaries at strategic locations would assist in reducing visual impacts immediately as well as in the long term, post closure of the operations. This could take the form of a landscape management plan that could be developed and implemented in consultation with the local groups and other similar organisations.

5 Conclusion

The VIA was undertaken for the proposed Katanning Gold Project to assess the impacts of the project to existing landscape and visual amenity. The assessment utilised Line-of-Sight and Photomontage analysis. The Key Viewpoints and Photomontage locations for the analysis were chosen by Ausgold on the basis that they are a sensitive receptor or accessible via public roads.

The results of the analysis show that elevation does not play a major role in the visual impact from the viewpoints. However, distance to the development, as well as pre-existing vegetation are obviously key features when determining an impact.

Whilst impacts from a visual perspective are not considered to be significant, in order to further minimise these, Ausgold should consider optimising vegetation screening around exiting properties and roads. For any features that are proposed to be a permanent part of the landscape, progressive rehabilitation should be undertaken as part of the closure requirements under the *Mining Act 1978*.

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