Alexandrina Quarry (ML 6563)

Program for Environment Protection and Rehabilitation (PEPR)

HP Resources SA Pty Ltd

PO Box 123
Echunga SA 5153
Prepared by:

SLR Consulting Australia Pty Ltd

SLR Project No.: 5042.610.008

19 May 2026

Revision: 7.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By	Status
1.0	2 October 2025	Hamish Hill	Charmaine Noack	Mattew Jones	Initial issue to DEM
2.0	24 October 2025	Hamish Hill	Charmaine Noack	Mattew Jones	Updates in response to draft DEM RFI
3.0	02 February 2026	Hamish Hill	Charmaine Noack	Matthew Jones	Updates in response to final DEM RFI
4.0	13 February 2026	Hamish Hill	Charmaine Noack	Matthew Jones	Updates in response to NVB comments.
5.0	20 March 2026	Charmaine Noack	Matthew Jones	Matthew Jones	Updates in response to RFI 1612
6.0	16 April 2026	Hamish Hill	Charmaine Noack	Matthew Jones	Updates in response to RFI 16/04
7.0	19 May 2026	Charmaine Noack	Charmaine Noack	Matthew Jones	Updates to Appendices

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with HP Resources SA Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

Declaration of Accuracy

I, **Charlie Pocock** the applicant, have taken reasonable steps to review the information and to ensure its accuracy.

Insert digital signature

Name: Charlie Pocock

Position: Director

Dated: 16 April 2026

I, **John Harkness** the applicant, have taken reasonable steps to review the information and to ensure its accuracy.

Insert digital signature

Name: John Harkness

Position: Director

Dated: 16 April 2026

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Acronyms and Abbreviations

mAHD	metres Australian Height Datum
C&D Waste (mixed)	Construction and Demolition Waste (mixed)
DEM	Department for Energy and Mining
PEPR	Program for Environmental Protection and Rehabilitation
MLP	Mining Lease Proposal
PWA	Prescribed Water Area
PWRA	Prescribed Water Resources Area
SA EPA	South Australian Environment Protection Authority
SLR	SLR Consulting Australia Pty Ltd

1.0 Introduction

1.1 Background

SLR Consulting Australia Pty Ltd has been engaged by HP Resources SA Pty Ltd (HP Resources SA), formerly Erimar Quarries Pty Ltd, to develop a Program for Environment Protection and Rehabilitation (PEPR) for Alexandrina Quarry (the Quarry), covering one (1) Tenement; Mineral Lease (ML) 6563 (the Site). The Quarry is located approximately 50 kilometres (km) south east of Adelaide, approximately eight (8) kms south of the township of Callington and approximately eight (8) kms east of the township of Woodchester in the Fleurieu Region of South Australia.

Erimar Quarries Pty Ltd changed its company name to **HP Resources SA Pty Ltd on 20 June 2025, and subsequently registered the trading name **Alexandrina Quarry** on 25 June 2025. This clarification is provided to avoid any confusion arising from the former name.*

The establishment of mining tenure over the Site is for the extraction of sand and limestone resource, which will further support the supply chain of material for the construction industry across the Fleurieu, Murray and Adelaide Hills regions. Large quantities of sand and limestone materials are consumed each year in South Australia for domestic and commercial construction activities as well as maintaining the State and local Government road network.

The development of the PEPR has been undertaken with consideration of the Landowners request for use of their land throughout operations and proposed end use of land post extraction. Consultation has also been undertaken with stakeholders in proximity to the ML to gain an understanding of their interests in the area and help inform the development of proposed activities within the Site, the development of proposed environmental outcome strategies and outcome measurement criteria for operations of the Site.

The annual production rate for the Site is estimated up to 100,000 tonnes per annum (t/pa). If extraction exceeds 100,000 t/pa HP Resources SA will obtain an Environment Protection Authority (EPA) licence under *Part A, Section 7(7) of the Environmental Protection Act 1993*. The Site is also proposing to receive and reprocess Construction and Demolition Waste (C&D Waste) (mixed) and green waste to generate recycled products for sale and use on the Site. Where C&D Waste (mixed) and green waste is retained onsite, it will be used in support of mining operations including C&D Waste (mixed) reused to support haul road development, while green waste will be processed into mulch for use in progressive rehabilitation and batter stabilisation. A Development Application (if required) and an EPA Licence application for the proposed prescribed activities 3(1) Waste Recovery and 3(2)(e) Waste Reprocessing including a Recovered Products Plan will be submitted to Alexandrina Council and the EPA.

Within the Quarry Development Plans (QDP) for the Site, elevation and survey data is provided in GDA94 under UTM Zone 54. The Reduced Level (RL) references throughout this document are to metres Australian Height Datum (mAHD), the vertical height or elevation above Mean Sea Level which forms the National Standard benchmark to which all height measurements are referred.

1.2 Site Overview

An overview of the Tenement details are summarised in Table 1.

Table 1 - Tenement Detail Summary

Tenement Number	ML 6563
Tenement Holder / Operator	HP Resources SA Pty Ltd
Registration Grant Date	4 August 2025
Expiry Date	3 August 2046
Commodities	Sand; Limestone
Legal Area hectares (ha)	108.26 ha
Commodity Categories	Construction Materials
Title	CT 5933 / 630
Hundreds	Freeling

1.3 Site Contact

Table 2 outlines the contact details for the Site.

Table 2 - Site Contact Details

Contact Name / Position	Charlie Pocock	John Harkness
Phone Number	0400 770 031	0428 572 146
Postal Address	79 Noack Road Rosedale SA 5350	P.O. Box 123 Echunga SA 5153
Email Address	charlie@pocockquarries.com.au	admin@jgharknessexcavations.com.au

2.0 Description of the Existing Environment

A description of Existing Environment has been described within the Mining Lease Proposal (MLP) assessed by the Department for Energy and Mining (DEM) with the grant of ML 6563 issued on 04 August 2025.

In accordance with the *Terms of Reference 002 Extractive Mineral Quarry PEPRs*, a review of the description of existing environment identified changes in Sections 2.6 (Groundwater) and 2.11 (Land Use) since the lodgement and approval of the MLP. These sections have been updated within this PEPR, while the remaining existing environment sections have been carried over from the MLP to provide context for this PEPR.

2.1 Topography and Landscape

The Site is situated approximately eight (8) kms east of the township of Woodchester in the Fleurieu region of South Australia. Drawing No. 5042.DRG.002R3 – Site Location Map, Within Appendix A is presented as a visual cue to understand the Site's location in relation to the surrounding townships and coastlines. Further information on demographics and utilities of the town is outlined in Section 2.12. The Site has an upper elevation of 100 mAHD whilst the lower areas of the ML are approximately 43 mAHD.

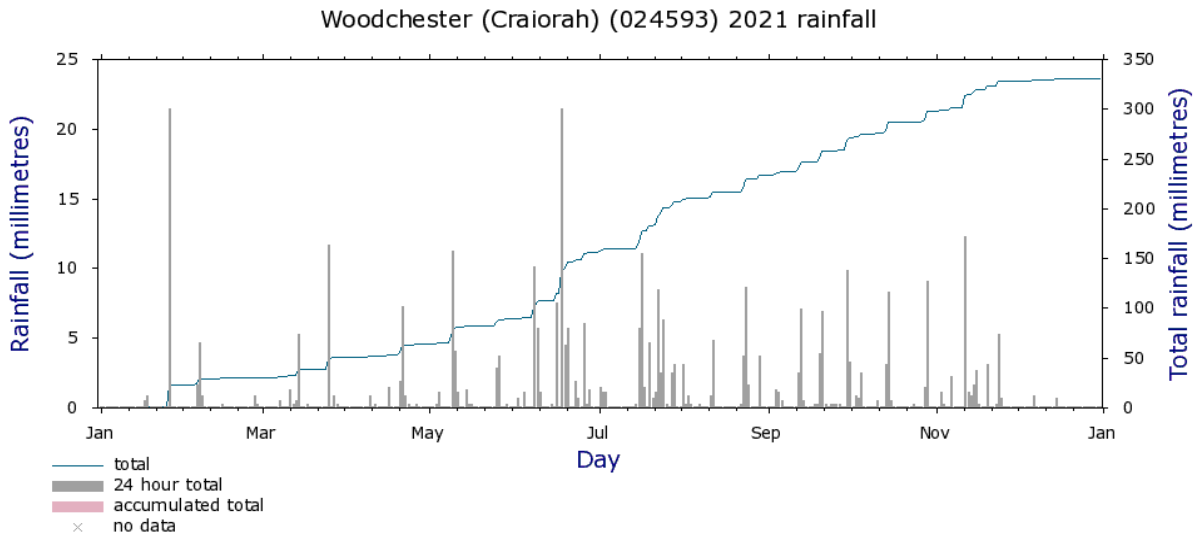
The Site is located within the Hartley Land System (HAR) (*NatureMaps*, 2022), which consists of broad gently inclined low hills. The hills have been dissected by streams in the past and some are still distinguishable as water courses. Elsewhere distinctive elongated trenches can be observed where calcrete has been dissolved. Linear sandhills are draped over the slopes in places with the main surface features being expanses of calcrete interspersed with sandy soils. The elevation throughout the hills ranges from 30 metres (m) in the southeast to 158 m in the north west. The overall landscape within the region consists of high agricultural land with scattered native vegetation surrounding the area of the ML. There are no watercourses located within the ML boundary and only small areas of remnant vegetation remain adjacent to the active cropping areas of the Site.

2.2 Climate

The Fleurieu region has a Mediterranean climate, with some areas leading to a semi-arid climate with hot, dry summers and cool, wet winters. Weather data was obtained from the Bureau of Meteorology (BoM) from two (2) weather stations located in Woodchester (Craiorah) (weather station 024593) and Strathalbyn (weather station 023747), approximately eight (8) km and 15 km from the Site, respectively. The annual average rainfall is 330 millimetres (mm) based on the records obtained from the Woodchester weather station, represented as the closest weather station recording daily rainfall records. The average monthly temperature varies, with warm summers and moderately cool winters, refer to Table 3, Table 4 and Table 5. Temperature data obtained from the Strathalbyn weather station are as low as 9.5 degrees Celsius in winter and extend to an average of 26.1 degrees Celsius in summer.

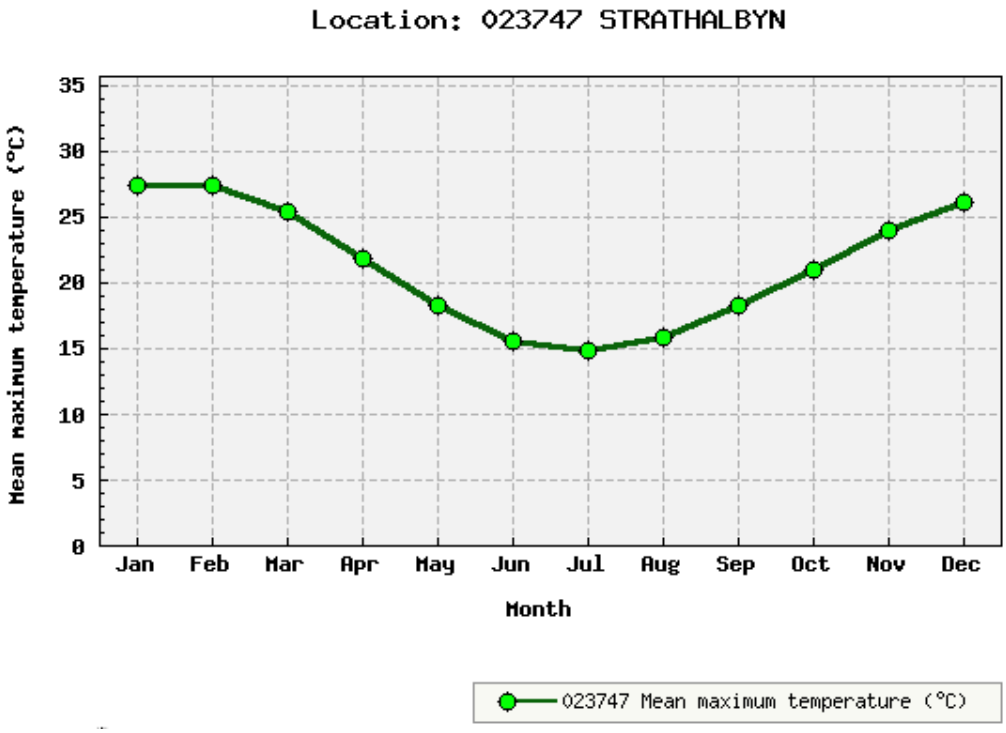
Wind direction can vary depending on the season and time of day; however, review of annual wind rose data from the Strathalbyn weather station, represented as the closet weather station recoding daily wind speed and direction, indicates that winds commonly occur from the west, south west in the morning and south westerly wind in the afternoon, refer to Appendix B.

Figure 1 - Annual Average Rainfall Patterns



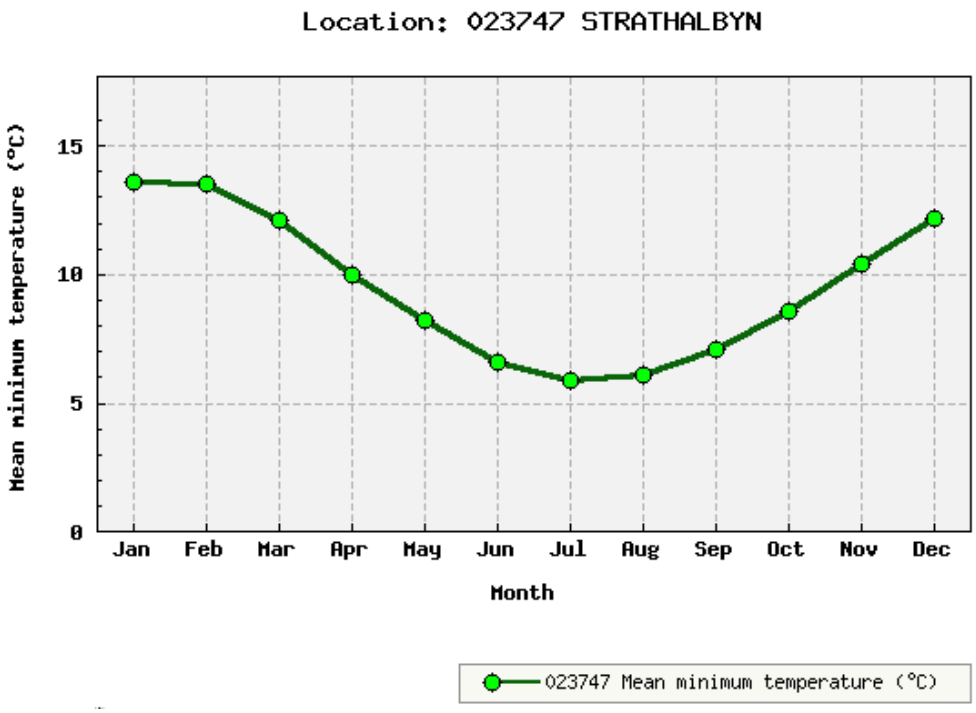
(Source: BoM. 2022)

Figure 2 - Annual Average Maximum Temperature



(Source: BoM. 2022)

Figure 3 - Annual Minimum Temperature



(Source: BoM. 2022)

2.3 Topsoil and Subsoil

The area comprises of shallow calcareous loamy sand over calcrete (B2), sand over dispersive sandy clay on Tertiary sediments (G4), sand over sandy clay on calcrete (B7, Rubbly calcareous sandy loam (A4a) and Bleached sand over calcrete (B8) (*The Soils of Southern Australia, 2009*). A search of the Department for Environment and Water (DEW) application *NatureMaps* (2022) identified that the Site is located with the HAR. Regions of the HAR tend to have low fertility, sandy soils that are prone to water repellence and wind erosion with much of the ground being non arable.

Across the ML, the topsoil comprises of a shallow sandy loam at the lower elevations, consisting of very dark greyish, loose, light sand from 0 to 15 centimetres (cm). Subsoil within the Site varies in depth between 15 – 30 cm in depth, comprising of light brown bleached sand. Portions of the Site located predominantly within the central areas of the Site, contain rocky calcrete outcrops with limited topsoil and sub soil cover. An inspection of the Site in November 2022 by Groundwork Plus (now SLR Consulting) confirmed the shallow nature of the topsoil within the Site and presence of rocky outcrop within the central portions of the Site. The lower topography located within the southwestern portion of the Site contain slightly deeper topsoil and subsoils with less competent limestone caprock and an absence of any rocky outcrops. Whilst there may be some slight variation in soil depths across the Site, they are not expected to be significant in nature or require additional management requirements.

2.4 Geological Environment

The DEM portal South Australian Resources Information Gateway (SARIG) (2022) lists the regional geology of the area as undifferentiated Pleistocene calcrete as outlined within Drawing No. 5042.DRG.005R2, within Appendix A. The HAR summarises the regional

geology comprising of metasandstones and schists of the Kanmantoo Group, which is described as small areas of sandy acidic yellow soils with a laterite layer on the tableland remnants with undulating old dune formations largely stripped of sands exposing dune limestone. Cambrian limestone is widespread across the State of South Australia, with thick formations of the Kanmantoo Groups on the Fleurieu Peninsula, which have undergone dolomitization.

Review of historical (DEM) drilling logs approximately 180 m north east of the Site, indicate that sand is approximately 300 mm think and underlain by undifferentiated Pleistocene calcrete approximately 300 mm thick at the drilling location. An inspection of excavations within the Site undertaken by the landowner confirmed the regional geology of the Site is consistent with the mapped regional geology, however, the layer of calcrete is thicker than the adjacent drill hole and is estimated to be up to 2.7 m deep within the Site, refer to Photo 1**.** Based upon review of the historical drilling logs and observations of excavations within the Site, a representative geological cross section has been derived for the Site within Drawing No. 5042.DRG.013 within Appendix A.

Photo 1 – Site Geology Observation

2.5 Geohazards

There are no known minerals that may occur in material to be quarried that have the potential to pollute the surrounding environment and / or are hazardous to human health. Ten recorded earthquakes have occurred within five (5) km of the Site, however no recorded earthquakes have occurred within ML area, refer to Table 3. All 10 recorded earthquakes have occurred under a magnitude of 2.5.

There are no known minerals that occur in the material to be quarried that are hazardous to human health or the potential to pollute the environment such as respirable silica or sulphide minerals that may generate acid.

Table 3 - Earthquakes

Date	Magnitude	Distance from Site (km)	Direction	Depth (km)
22/04/2012	1.3	4.5	West	20.64
22/02/1971	2	0.89	Southwest	1.5
09/11/1996	1.8	3.4	southeast	16.4
05/07/2005	2.3	2.4	Southeast	14.91
04/02/1985	2.3	0.20	Northwest	4
11/04/2001	2.5	3.9	Southeast	11.2
30/06/1992	2.3	4.2	East	3.2
10/04/1991	1.8	3.8	Northeast	8.8
09/06/1988	1.2	4.3	North	11.6
01/02/2000	1.6	1.8	North	1.9

(Source: *SARIG, 2022*)

2.6 Groundwater

A search on Government of South Australia, application *NatureMaps* (2022), identified that the Site is not located within a Prescribed Water Resources Area (PWRA) or a groundwater Prescribed Water Area (PWA). Review of the DEM portal SARIG (2022) did not identify any aquatic Groundwater Dependent Ecosystems (GDE) within or adjacent to the ML area, with the closest aquatic GDE and terrestrial GDE to the Site located approximately 3.4 and 1.9 km west of the Site respectively.

A search on SARIG (2022) and the South Australian Government Application *Water Connect* (2022) identified six (6) groundwater wells located within a one (1) km radius of the Site as outlined within Drawing No. 5042.DRG.011R1, within Appendix A. Groundwater depth within proximity to the Site ranges between 26.85 mAHD and 30 mAHD with Total Dissolved Solids (TDS) ranging between 3064 and 122,222 milligrams per litre indicating a high degree of TDS variability, however, most wells appear to be within acceptable limits to support use for sheep and cattle. A summary of the groundwater well data is provided located within 1km of the quarry is provided within Table 4**.** Additionally, within table 4 well no. 6727-1397 located 1.3km south east of the ML was included as it was re-drilled on 06/05/2025 replacing well no. 6727 – 4938 by the adjacent landowner and likely is a good indicator of current groundwater quality within the region. Based upon the topography of the Site, groundwater will range between 16 m to 48 m below to existing surface as outlined within Diagram 1.

Based upon the groundwater observations within the Site, the status of groundwater well users and GDE's within proximity to the Site, the proposed extraction operations are unlikely to impact on the groundwater table and result in impacts to groundwater users or GDE's.

Table 4- Local Groundwater Well Summary

Well Unit No.	Distance to ML (km)	Direction to well	Well Status	Status from field observation	RSWL (mAHD)	Total Dissolved Solids milligrams per litre (TDS mg/L)	Water Level Date
6727-4908	Inside ML	North	Stock		27.4	Unknown	08/03/2022
6727-1380	0.239	South West	Operational	Currently non-operational due to low yield	26.85	5733	18/12/1989
6727-4035	0.880	North east	Stock		Unknown	5658	22/8/2018
6727-0520	0.680	North east	Unknown		Unknown	Unknown	05/06/2009
6727-4886	0.200	south	Stock	Currently non-operational due to salinity	27	12141	15/09/2020
6727-1381	0.692	South East	Unknown	Assumed to be backfilled	-	12222	Unknown
6727-0521	0.869	North	Stock		30.87	3064	18/12/1989
6727-4938	1.3	South East	Operational	Replaced well no. 6727-1397	Unknown	4053	06/05/2025
6727-1397	1.3	South East	Unknown	Non-operational (replaced by well no. 6727 -4938)	19.36	7664	20/12/1990

(WaterConnect, 2022)

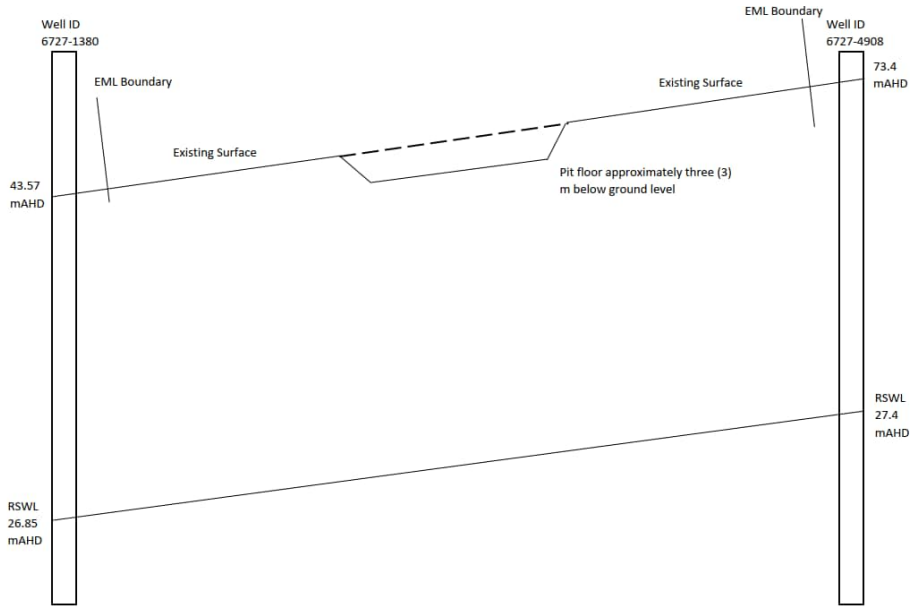


Diagram 1 - Representative Groundwater Cross Section

Consultation with adjacent landowners has informed that the nearest groundwater well, (Well number 6727-4886) has been established but is not in use due to the salinity of the water. Additionally, groundwater well (Well number 6727-1381) is not known to be present, and it is assumed that it has was backfilled at the time of drilling. Groundwater well (Well number 6727-

1380) is located within the land owned by the landowner of the proposed quarry and is not used as the yield is too low.

Based upon the groundwater observations and depth of groundwater within the Site, the status of groundwater well users and GDE's within proximity to the Site, the proposed extraction operations are unlikely to impact on the groundwater table and result in impacts to groundwater users or GDE's.

A groundwater production well (Well number 6727-4908) has been established to support the operations of the quarry, however, this well is located greater than one (1) km from the nearest groundwater user to the north of the Site. Based upon the degree of separation from the nearest groundwater user, groundwater use at the Site, is not expected to result in any impacts to adjacent groundwater users.

2.7 Surface Water

A search on Government of South Australia, application *NatureMaps* (2022), confirmed that the Site is not located within a PWRA or the Murray River Water Protection Area – Murray Zone and Tributaries Zone. The search identified that the Site is located within the Ferris McDonald surface water catchment area and the nearest mapped watercourses are outlined within Drawing No. 5042.DRG.010R1, within Appendix A. Inspection of the nearest mapped watercourse undertaken by Groundwork Plus (now SLR Consulting), confirmed that the area mapped is comprised of a low depression only and does not consist of any water course features. On this basis, the Site inspection confirmed that there are no know water courses within close proximity to the Site. The closest waterbody to the ML is one (1) dam, approximately 1.8 km north west of the Site.

As outlined within Section 2.2, the Site is located within a low rainfall area of which there are only likely to be low volumes of surface water generated during rainfall events. Should there be large rainfall resulting on overland flow, water within the Site would flow in a south westerly direction across the Site as outlined within Drawing No. 5042.DRG.010R1 - Appendix A. There are no watercourses within the Site which would require a Water Affecting Activity Permit if surface water drainage patterns were required to be modified.

2.8 Vegetation, Weeds and Plant Pathogens

2.8.1 Native Vegetation

The Site has historically been used for agriculture (cropping and grazing) of which large areas have historically been cleared of native vegetation.

An *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) Protected Matters Report identified three (3) critically endangered ecological communities: iron-grass natural temperate grassland of South Australia, Peppermint box (*Eucalyptus odorata*) Grassy woodland of South Australia, Plains mallee box woodlands of the Murray Darling depression, Riverina and Naracoorte Coastal Plain bioregion, and two (2) endangered ecological communities: Buloke woodlands of the Riverina and Murray Darling depression bioregions and Mallee bird community of the Murray Darling depression bioregion present within a five (5) km radius, refer to Appendix C.

Furthermore, the *EPBC Act 1999* Protected Matters Report identified 14 native flora species or species habitat that are likely or may occur in the region. These are listed in Table 5.

Table 5 - EPBC Listed Threatened Plant Species

Species	Common Name	Rating
Acacia menzelii	Menzel's Wattle	Vulnerable
Acacia pinguifolia	Fat-leaved Wattle, Fat-leaf Wattle	Endangered
Acacia rhetinocarpa	Neat Wattle, Resin Wattle	Vulnerable
Caladenia colorata	Coloured Spider-orchid, Small Wester Spider-orchid, Painted Spider-orchid	Endangered
Caladenia tensa	Greencomb Spider-orchid, Rigid Spider-orchid	Endangered
Dondonaea subglandulifera	Peep Hill Hop-bush	Endangered
Olearia pannosa subsp. Pannosa	Silver Daisy-bush, Silver-leaved Daisy, Velvet Daisy-bush	Vulnerable
Prasophyllum pallidum	Pale Leek-orchid	Vulnerable
Prostanthera eurybioides	Monarto Mintbush	Endangered
Pterostylis Arenicola	Sandhill Greenhood Orchid	Vulnerable
Pterostylis sp. Hale (R. Bates 21725)	Hale Dwarf Greenhood	Endangered
Pterostylis xerophila	Desert Greenhood	Vulnerable
Senecio macrocarpus	Large-fruit Fireweed, Large-fruit Groundsel	Vulnerable
Thelymitra epipactoides	Metallic Sun-orchid	Endangered

A search of *NatureMap*s (2022) identified one (1) State rated rare native flora species: *Eucalyptus fasciculosa* (Pink Gum), two (2) State rated vulnerable native flora species: *Olearia pannosa ssp. Pannosa* (Silver Daisy-busy) and *Templetonia stenophylla* (Leafy Templetonia), and one (1) State rated endangered native flora species: *Caladenia colorata (*Coloured Spider-orchid*)* that may be present within a five (5) km radius.

An inspection of the Site undertaken 23 September 2021 by a Groundwork Plus (now SLR Consulting) Native Vegetation Accredited Consultant, confirmed that the Site contains Native Vegetation as defined by the *Native Vegetation Act 1991*. A native vegetation Bushland Assessment undertaken in accordance with the requirements of the *Native Vegetation Act 1991* identified one (1) native vegetation association located within the proposed quarry extraction area comprised of Vegetation Association A – *Gahnia* / *Austrostipa* grassland. Adjacent areas within the Site are comprised taller native woodland containing *Eucalyptus fasciculosa* (Pink Gum) over native understory and natural grasses and active cropping areas as outlined in Drawing No. 5042.DRG.004R2, within Appendix A. No State or EPBC listed species were identified within the proposed quarry development area.

The condition of native vegetation within the proposed quarry extraction areas is heavily degraded as the taller tree and shrub layers have historically been cleared reducing the species diversity and habitat value. Higher quality vegetation located within the western and northern portions of the Site and the scattered trees are intended to be retained and fall outside

of the proposed quarry development areas. Details of the Native Vegetation Bushland Assessment are provided within Appendix D.

2.8.2 Weeds and Plant Pathogens

A search of *NatureMaps* (2022) identified 28 weed species that may be present within a five (5) km radius of the ML area.

A native vegetation survey conducted by Groundwork Plus (now SLR Consulting) in February 2021, identified two (2) Declared weed species were observed to be present at the Site; Horehound (*Marrubium vulgare*) and Salvation Jane (*Echium plantagineum*).

A database search of the Government of South Australia application *NatureMaps* (2022) for the area did not return any results for Phytophthora within the area. Buffel Grass *(Cenchrus ciliaris)* is known to occur in the region but was not observed during the vegetation survey. No vegetation onsite is known to be affected or potentially affected by economically significant pathogens.

In general, the weed species observed appear to be in similar abundance to the adjacent land and in keeping with agricultural lands.

2.9 Fauna

The *EPBC Act 1999* Protected Matters Report (2022) identified 16 native fauna species or species habitat that are likely to occur in the region. The species listed have a national status of vulnerable, endangered, and / or critically endangered, refer to Appendix C.

A search of the Government of South Australia application *NatureMap*s (2022) identified 15 native fauna species that may be present within a five (5) km radius in which five (5) were listed and State rated as species including: *Corcorax melanorhamphos* (White-winged Chough), *Melanodryas cucullate cucullate* (Hooded Robin YP, MN, AP, MLR, MM, SE), *Hieraaetus morphnoides* (Little Eagle), *Stagonopleura guttata* (Diamond Firetail) and *Zanda funereal whiteae* (Yellow-tailed Black Cockatoo).

Upon Site inspection, no listed native fauna species were identified within the Site. Vegetation within the Site has been subject to historical disturbance and clearing of which the remaining vegetation is not likely to contain high value native habitat for rare and endangered species. It would be expected that kangaroos, native birds, foxes, and rabbits would traverse the Site when foraging for food.

2.10 Caves

A search on the SARIG (2022) did not identify any caves or significant limestone formations within proximity to the Site.

2.11 Land Use

The Site has historically and currently been utilised within an agricultural / grazing property in the Alexandrina Council, among a landform of low-level, rolling dunes. The Site is located within a Rural Zone, which is defined as a zone to support economic prosperity of South Australia primarily through production, processing, storage and distribution of primary produce, forestry, and the generation of energy from renewable resources (*Plan SA, 2021*).

Since the Approval of the MLP, ongoing consultation with Adjacent Landowners has led to the development and approval for an easement will be established along the boundary fence of EML 6522. The development of the easement will avoid the requirement for the Site to be accessed via Erimar Road, and the unmade road reserve located north of the Site. There is

currently no interest for the Site to establish any additional public utility easements or to be used for defence purposes.

2.12 Proximity to Infrastructure and Housing

The locality of Woodchester is situated within the Alexandrina Council and located approximately eight (8) km west of the Site. According to the Australian Bureau of Statistics (ABS) 2021 Census, there are approximately 253 inhabitants living in Woodchester and the close surrounds, comprising of 47.4 percent male, 52.6 percent female and 1.6 percent Aboriginal and / or Torres Strait Islander people. Strathalbyn situated approximately 16 km South west of the site is the nearest township to the Site with an approximate population in 2024 of 6,800 as per the ABS. The township has a list of amenities including medical centres, schools and shopping centres. and has

The nearest residential dwelling located on Chaunceys Line Road is situated just over one (1) km south of the nearest point of the ML 6563 boundary. Additional nearby residential dwellings are located approximately 1.5 km west, three (3) residences located approximately 1.9 km north and two (2) local businesses located approximately 1.4km north (Broken Gum Country Eco Retreat) and 300 m south (Skirmish SA) of the nearest point of the ML 6563 boundary, refer to Appendix A - Drawing No. 5042.DRG.003R2.

There are no formed roads that connect directly to the Site; however, an unmade road reserve runs along the northern portion of the Site with connects to an informal access track along Erimar Road. It is proposed that the Site will be accessed via an easement road to be within the adjacent private property south east of the Site, connecting directly to Chaunceys Line Road at a previously established heavy vehicle access point, refer to Appendix A - Drawing No.5042.DRG.003R2.

There is one (1) water well located within in ML 6563 (Water Well No. 6727-4908), which has been drilled for the purpose of quarrying as well as a number of water wells located within a radius of three (3) km of the Site. Refer to Appendix A - Drawing No. 5042.DRG.011R1 and Section 2.6 and Table 7.

There is no electricity supply or water mains running to the Site. The nearest transmission line is located approximately 1.3 km south from the nearest point of the Site.

2.13 Exempt Land

Exempt Land exists within ML 6563 as shown in Appendix A - Drawing No. 5012.DRG.006R2. The features as defined under Section 9 of the *Mining Act 1971* are listed below in Table 6.

A water well (No. 6727-4908) is located within the Site; however, this well has been established to support the proposed quarry operations and therefore does not trigger exempt land in accordance with the requirements of the *Mining Act 1971*.

Table 6 - Exempt Land Features

Name of Person Entitled to Exemption	Certificate of Title (CT) or Crown Land Details	Reason for Exemption	Waiver Obtained	Conditions
Harkness Family Pty Ltd and C.C. Pocock Pty Ltd	CT 5933/630 H170400 S295	Land that is used as a cultivated field.	Yes	Nil

2.14 Amenity

The Site is situated in an open paddock amongst agricultural grazing and cropped lands, which is visible from Chaunceys Line Road and Erimar Road. The land is largely cleared of native vegetation for cropping purposes and the terrain is moderately sloping towards the south west. Visually the Site can be seen mostly from Chaunceys Line Road looking north and north east over the proposed development area. A visual assessment of amenity aspects was undertaken by Groundwork Plus (now SLR Consulting) in November 2022. Within Appendix E - Visual Assessment Photographic Plates when viewed with Appendix A - Drawing No. 5042.DRG.016R2 provides an overview of the extent of the Site that is visible from a number of representative locations around the Site.

A series of photos were taken from all angles facing the quarry to gain an appreciation of the views from the receptors within proximity to the Site. The photos indicate that the rising topography of the Site from the south to the north east from locations along Chaunceys Line Road and the southern portion Erimar Road outlined in Appendix E - Photo Location (PL) 2, PL 3, PL 4 PL 5 and 6. Whilst views are realised of the majority of the Site from these locations the extent and degree of the views will vary depending upon the location of the operations within the Site, of which the south eastern portion of the Site remain out of sight due to the shielding by the natural topography and vegetation to be retained within the Site.

Views from the east of the Site along Chaunceys Line Road are shielded by the natural topography within the Site and views are not expected to be realised from this aspect. Some distant views may become realised of the south eastern portions of the Site from houses located on the higher ground approximately 2.5 km south east, however, these are likely to be very distant and broken up by the natural topography and native vegetation within the adjacent land and the Site.

The topography adjacent to the northern boundary forms the high point of the Site before gently dropping away to the north before rising again towards Jaensch Road. Based upon the relief provided by the natural topography The Site is not able to be viewed from Jaensch Road.

2.15 Air Quality

The Site is located within a large cropping and agricultural area of which emissions of dust are expected to be typical of rural settings associated with cropping, grazing and transport. Several quarries also occur within the region which also have the potential to generate dust within a two (2) km radius of the Site. Potential dust generating activities expected of the Site include material extraction, blasting, transport and transfer of material, screening, storage of material (stockpiles) and open areas.

A water cart will be available onsite to undertake dust suppression of haul roads and working areas while the Site is being operated. The crushing and screening plant is fitted with water sprayers to assist dust suppression as required.

2.16 Noise

Noise levels in the region are generally typical of an agricultural setting. Traffic noise emitted from vehicles travelling along the Chaunceys Line Road and machinery associated with agricultural practices are typical anthropogenic noise sources in the surrounding area.

Potential noise generating activities onsite during campaign extraction activities include earthworks, drilling, blasting, Heavy Mobile Equipment (HME) movements, processing and crushing. As outlined within Sections 3.4 and 3.5.

2.17 Heritage (Aboriginal, European, Geological)

A search of the Central Archive of the Department of Premier and Cabinet – Aboriginal Affairs and Reconciliation (DPC-AAR) on 14 August 2025 did not return any results of Registered Aboriginal sites, objects or remains to be present within or in proximity to the ML. Land within the Site is held in Fee Simple of which Native Title has been extinguished. Refer Appendix F.

A search on the Government of South Australia, application *NatureMaps* (2022), did not identify any non-indigenous or geological heritage sites within the Site or in proximity to the area.

There have not been any Aboriginal Heritage surveys undertaken for the Site. The landform within the ML area has been altered and disturbed from agricultural activities.

2.18 Proximity to Conservation Areas

A search of the Government of South Australia Enviro Data *NatureMap*s (2022) identified the nearest conservation parks, reserves and Commonwealth recognised conservation areas to the Site as being those listed in Table 7.

Table 7 - Conservation Reserves and Areas

Name	Direction	Distance (km)
Monarto Conservation Park	East	4.2
Ferries-McDonald Conservation Park	South East	6.7

(Source: NatureMaps, 2022)

A search of the Government of South Australia Enviro Data *NatureMap*s (2022) identified the two (2) nearest listed Heritage Agreements (HA) as shown in Table 8.

Table 8 - Heritage Agreements

Heritage Agreement (HA) Number	Direction	Distance (km)
HA 702	South West	2.5
HA1030	North East	4.1
HA 15	East	5.0

(Source: NatureMaps, 2022)

2.19 Pre-existing Site Contamination and Previous Disturbance

The property has historically been used for agricultural grazing with the surrounding properties utilised for agricultural or extractive mining purposes. The presence of numerous weed species indicates that the area is quite disturbed from agricultural grazing activities.

There is no known pre-existing site contamination identified on the Environment Protection Authority (EPA) Contamination Site index.

3.0 Description of the Proposed Mining Operations

3.1 Introduction

This section is provided to give a general description of the planned extraction activities to be undertaken within ML 6563. The rock source will be extracted in a generic open cut quarrying method. Staged QDP's provided in Section 3.4.2 highlight how the Site is to be extracted in a staged manner to reduce the potential impacts on the surrounding receptors.

The proposed quarrying activities will be comprised of an open cut pit, extracting limestone and sand resources as a major source of construction material supporting infrastructure projects throughout the southern Murray, Fleurieu and Adelaide Hills regions.

It is estimated that the Site will extract up to 100,000 t/pa. The prescribed activity of receiving and processing of C&D Waste (mixed) and green waste is proposed to be used on Site and to produce recycled products for sale. Where C&D Waste (mixed) and green waste is retained onsite, it will be used in support of mining operations including C&D Waste (mixed) will be reused to support haul road development, while green waste will be processed into mulch for use in progressive rehabilitation and batter stabilisation. A Development Application (if required) and a separate EPA Licence application for the proposed prescribed activities 3(1) Waste Recovery and 3(2)(e) Waste Reprocessing including a Recovered Products Plan will be submitted to Alexandrina Council and the EPA.

3.2 General Description and Maps of Operation

The quarrying of sand and limestone is to be carried out on ML 6563. The topsoil will be removed and stored on around the perimeter of the active extraction area during each crushing campaign and the limestone and sand will be quarried to a depth of approximately three (3) m. As the extraction reaches the terminal extents of the pit, the landform will be shaped to establish 1 Vertical (V) : 3 Horizontal (H) perimeter batters, the quarry floor will be ripped and topsoil will be returned and sown with established with pasture grasses and or agricultural crops in support of the ongoing land use of agriculture.

The following drawings have been provided in Appendix A to support the PEPR and outline operations within the Site:

Site Location Map – Drawing No. 5042.DRG.002R3

Site Geology Map – Drawing No. 5042.DRG.005R2

Geology Cross Section A3 – Drawing No. 5042.DRG.013

Groundwater Map – Drawing No. 5042.DRG.011R1

Topographic Map – Drawing No. 5042.DRG.010R1

Vegetation Clearance Map – Drawing No. 5042.DRG.004R2

Land Access Map – Drawing No. 5042.DRG.003R2

Exempt Land – Drawing No. 5042.DRG.006R2

Visual Assessment Map – Drawing No. 5042.DRG.016R2

Typical Quarry Development Cross Section – Drawing No. 5042.DRG.015R1

Access Route Map – Drawing No. 5042.DRG.008R3

Site Layout Map – Drawing No. 5042.DRG.012R1

Quarry Development Plan – Drawing No. 5042.DRG.009

Quarry Development Plan Cross Sections A-A to B-B – Drawing No. 5042.DRG.009A

Quarry Development Plan Cross Sections C-C to E-E – Drawing No. 5042.DRG.009B

Conceptual Final Landform Plan – Drawing No. 5042.DRG.014

Conceptual Final Landform Cross Sections A-A to B-B – Drawing No. 5042.DRG.014A

Conceptual Final Landform Cross Sections C-C to E-E – Drawing No. 5042.DRG.014B

Stakeholder Consultation Map – Drawing No. 5042.DRG.007R2

3.3 Resource and Products

3.3.1 Resources

The Limestone deposit underlies the whole of the general area to a depth of approximately three (3) m. In small sections of the Site, the limestone is outcropping with little to no topsoil cover, while most of the Site is comprised of shallow topsoil approximately 100 m thick. As outlined within Appendix A - Drawing No. 5042.DRG.013, limestone reserves are approximately 2.7 m thick and overlaid by approximately 300 mm of sand. Excavation works undertaken by the Landowner within the Site indicate that the limestone varies within the Site from being hard to very hard in the northern portions of the Site.

Due to the variable nature of the resource composition within the Site, an average Bulk Density of 1.8 tonnes per cubic metre (t/m^3) has been used to inform the resource estimate with a Bulk Density of 1.2 t/m^3 applied for topsoil. It is anticipated that all extraction material available from the Site will be able to be used to meet market specifications and there is not expected to be any significant amounts of overburden generated from the extraction activities. If overburden material is encountered that is not able to be used as a product, it will be incorporated within the rehabilitated landform.

Reserves within the Site have been estimated based on an Unmanned Aerial Vehicle (UAV) survey undertaken in September 2021 and volumes contained within three-dimensional pit designs created in Civil3D with a bulk density of 1.8 t/m³. At this point in time there is approximately 30 million tonnes (MT) of sand and limestone reserves available within the Site. A summary of the volumes within each Stage of quarry development calculated using Civil3D by reporting the volume above the pit designs and below the current topography is provided within Table 9. The annual production rate for the Site is estimated up to 100,000 t/pa therefore if HP Resources SA intend to exceed 100,000 t/pa an EPA licence must be obtained under *Part A, Section 7(7) of the Environment Protection Act 1993*. Based upon an estimated annual production of up to 100,000 t/pa, the Site has an estimated life of approximately 30 years depending upon market demand.

Table 9 - ML 6563 Estimated Resource Volumes

Stage	Sand Volume (m^3)	Sand Tonnes (t)	Limestone Volume (m^3)	Limestone Tonnes (t)	Topsoil Volume (m^3)	Topsoil Tonnes (t)
1	11,400	20,520	120,000	216,000	5,700	6,840
2	16,100	28,980	170,000	306,000	8,050	9,660
3	28,960	52,128	310,000	558,000	14,480	17,376
4	19,800	35,640	210,000	378,000	9,900	11,880
5	23,260	41,868	250,000	450,000	11,630	13,956
6	57,700	103,860	630,000	1,134,000	28,850	34,620
Total	**157,220**	**282,996**	**1,690,000**	**3,042,000**	**78,610**	**94,332**

This reserve calculation has been completed by a Senior Geological and Engineering Designer at Groundwork Plus (now SLR Consulting), reviewed and deemed to have been appropriately identified and estimated.

3.3.2 Production Rate and Products

The primary resource for extraction is sand and limestone for use in the construction industry as aggregate for road bases and hardstands sand for landscaping and construction projects. Limestone will primarily be crushed in 20 mm and 40 mm diameter, and sand will be sieved to remove any rock. Within the region there is strong demand from local Councils and the Department for Infrastructure and Transport (DIT) for the unsealed road network and pavement materials. Material from the quarry is expected to supplement the limestone market within the region and support material supply for the construction industry. The estimated annual production rate and associated quarry life is outlined within Section 3.3.1.

3.4 Quarrying Activities

3.4.1 Type or types of quarry operation to be carried out

The quarrying method onsite will consist of traditional open cut quarrying techniques comprised of a progressive open cut and rehabilitation system. Topsoil will be removed and stockpiled in windrows adjacent to the extraction area prior to extracting sand and limestone. Where and when achievable, the resource will be extracted with the use of a bulldozer (D10 or equivalent) or excavator. If the rock becomes too hard to rip and push, then conventional drill and blasting will be undertaken to dislodge and reduce the insitu rock size mass to a manageable Particle Size Distribution (PSD). Extracted material is loaded into a mobile crusher which will be co-located within the extraction area for further manufacturing into the required sizing and shape, screened and stockpiled, refer to Diagram 2. Progressive rehabilitation will follow the path of quarrying enabling the Site to progressively be returned to the existing agricultural land use as outlined within Appendix A, Drawing No. 5042.DRG.015R1.

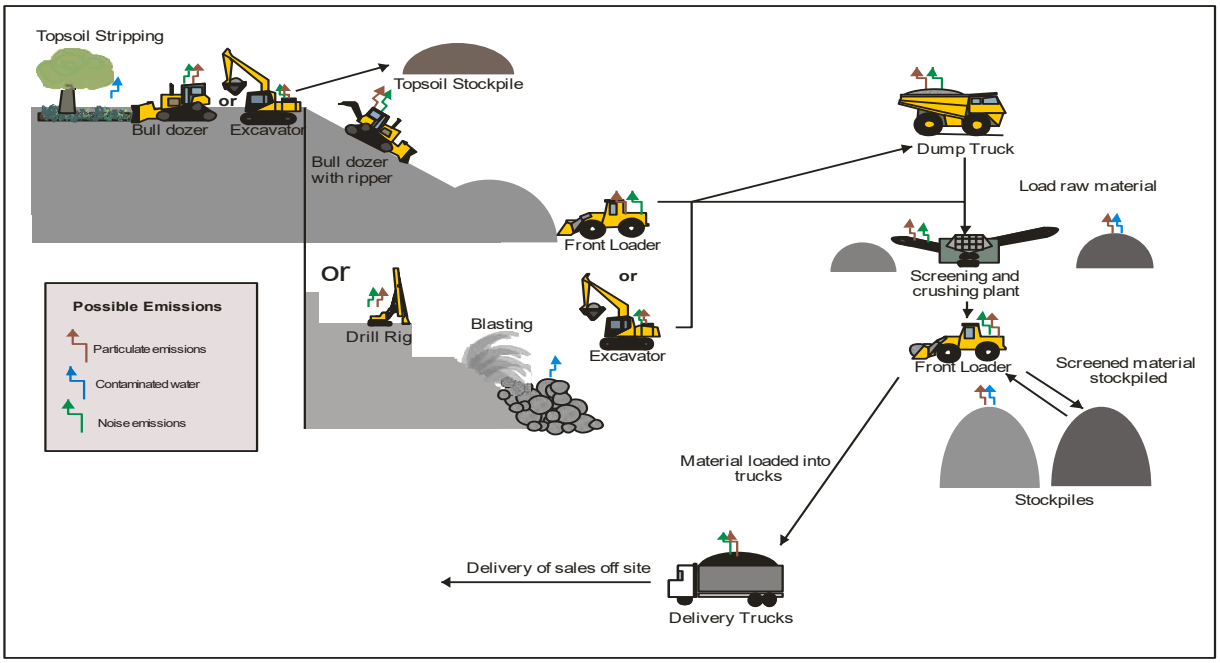


Diagram 2 - Conceptual Onsite Extraction Operations

Long-term staging and operational areas of the Site will be located within an area approximately 2.78 ha within the south eastern portion of the Site comprising as Stage 1 of the QDP as outlined within Appendix A - Drawing No. 5042.DRG.012R1. Activities within the long-term staging and operational area will comprise of initial extraction, establishment of an operational hard stand area, equipment laydown, workshop, Site office weighbridge, stockpile and reprocessing location for C&D Waste (mixed), and fuel storage.

Table 10 outlines the ongoing quarrying activities that will occur during each crushing campaign, as extraction advances through the successive stages of Quarry Development, as shown in Drawing No.5042.DRG.009 in Appendix A. A more detailed description is provided within Section 3.4.2.

Table 10: Ongoing Quarrying Activities during a Crushing Campaign

Aspect	Area (Ha)	Additional Information
Long Term Staging and Operational Area.	2.78	- Established during the first crushing campaign of Stage 1. - Retained as a hard stand area for remaining operational time of Site.
Campaign Work Area	6	- Re-established during each crushing campaign. - Activity footprint limited to a maximum of 6 (ha) during each crushing campaign. - Support resource extraction, crushing operations, and material stockpiling activities
Progressive Rehabilitation	6	- Rehabilitation sequentially to follow the path of extraction. - Conducted at the conclusion of each crushing campaign. - Rehabilitation area limited to a maximum of 6 ha at any given time.

Extraction activities are proposed to be undertaken in an east west direction progressively throughout the Site commencing from the eastern extent of Stage 1. The total depth of quarrying will be three (3) m.

3.4.2 Sequence of quarrying and progressive rehabilitation

3.4.2.1 Stage 1 of Quarry Development

Quarrying operations are proposed to commence within the south eastern portion of the Site as outlined within Stage 1 within Appendix A - Drawing No. 5042.DRG.009. Progressive development of the overall Site will work in a westerly direction towards the boundary establishing the initial long-term staging and operational area of the Site during the first crushing campaign which will be retained as a hard stand area approximately 2.78 ha for the duration of the operations at the Site. Subsequent crushing campaigns will continue from the previously extracted area progressively working across the Stage 1 area in a westerly direction. Each crushing campaign will require a ‘campaign working area’ of approximately six (6) ha to be established to support resource extraction, crushing and material stockpiling activities. Topsoil will be progressively cleared ahead of quarrying activities and stockpiled in windrows adjacent to the extraction areas. Progressive rehabilitation will commence following the path of extraction at the end of each crushing campaign as the working area is cleared of stockpiles and processing equipment. Mobile crushing equipment will be transported to Site as required for crushing campaigns and located with close proximity to the active quarry face to reduce haulage. Product stockpiles will generally be kept within the quarry floor established during each campaign; however, for larger supply contracts, the long term staging and operational area located in the south eastern portion of the Site may also be used.

3.4.2.2 Stages 2 to 6 of Quarry Development

As the operations progress within the Site, material will be raised within new campaign work area which have been broken down into a series of Staged areas outlined within Appendix A - Drawing No. 5042.DRG.009 with the sequence of extraction throughout the Site intended to follow the sequence of the staging areas from Stage 1 through to the completion of Stage 6. The landform will be progressively established across the Site during each campaign resulting

in a quarry floor approximately three (3) m below the surrounding landform as outlined within Appendix A - Drawing No. 5042.DRG.009A and Drawing No. 5042.DRG.009B.

As the sequence of quarrying progresses, an internal access road will be maintained through the middle of the Site following the northern extent of Stage 1 and along the eastern boundary of the Site. This will maintain access to the active extraction areas, connection to the long-term staging and operational areas, and main site access point within the south eastern portion of the Site.

3.4.2.3 Conceptual Rehabilitation Plan

When a campaign work area has been fully quarried and the material stockpiles have been removed, progressive rehabilitation will be undertaken following the path of quarrying, shaping the terminal batters, ripping the quarry floor (where required), spreading topsoil and seeding. Stripped topsoil will be screened to remove large rocks 20 mm and larger, before being respread over the final landform to match the existing topsoil depth across the Site, typically 150-200 mm.

The importation of WDF is proposed for direct reuse and incorporation into the progressive rehabilitation works, as a beneficial re-use of material and to help improve the growing medium for vegetation within rehabilitated areas and for additional batter rehabilitation development where available. The rehabilitation plan is not dependent on the availability of WDF material but is intended to compliment and enhance rehabilitation activities should WDF material be available. The placement of WDF within the quarry void is intended to be undertaken in a manner to ensure that suitable compaction and stability of the landform is established throughout construction. Australian Standard AS 1289.6.3.2 outlines the appropriate procedure for compacting the WDF which will be imported onto the Site. The thickness of each fill layer shall not exceed 500 – 700 mm after approximately 92 percent compaction from heavy equipment trafficking.

Progressive rehabilitation of a campaign work area will occur sequentially as a new work area is required to be opened to support a new crushing campaign as diagrammatically outlined within Appendix A - Drawing No. 5042.DRG.009 resulting with a maximum area of six (6) ha under active rehabilitation at any one (1) time.

It is anticipated that topsoil and rehabilitation earthworks will be undertaken when weather conditions are appropriate to optimise soil stabilisation and support vegetation germination and growth based upon the timing of future agricultural seeding activities. Stripping will not occur when it is too wet or too dry, to prevent potential losses through displacement The rehabilitation areas will be seeded with a suitable stock grazing grass or other agreed vegetation in consultation with the Landowner.

The Site has been extensively modified for agricultural use (cropping and grazing), resulting in native vegetation being restricted to scattered areas of native grasses within the extraction area of the Site. These factors limit the viability of restoring the land to native vegetation as the future use of the land within the rehabilitated areas of the quarry and it is proposed to be continued for agricultural purposes. It is expected that the final landform may be up to three (3) m lower than the surrounding landform. Perimeter batters around the extraction areas will be established with 1V:3H batters to enable machinery access and support future agricultural activities as outlined within Appendix A - Drawing No. 5042.DRG.014, Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B.

3.4.3 Stockpiles

3.4.3.1 Topsoil and Subsoil Stockpiles

Topsoil stockpiles will be stored in windrows along the perimeter of each extraction Stage. An indicative conceptual location of the initial topsoil locations during Stage 1 and 2 are outlined within Appendix A - Drawing No. 5042.DRG.012R1 and Drawing 5042.DRG.009. When topsoil stripping occurs, topsoil stockpiles will be stored in long, rounded mounds not exceeding two (2) m in height with outer batters with slope angles of 1V:2H or less on the quarry floor ready for spreading over the progressive rehabilitation areas. As progressive rehabilitation will be undertaken following the path of quarrying as per section 3.4.2.3 it is not anticipated topsoil stockpiles will be stored long term. However, if topsoil stockpiles are required to be stored for longer than 12 months, vegetation cover will be established through natural regeneration and or seeding of pasture grasses (where required) to stabilise the stockpiles and prevent the occurrence of saturation and erosion. All topsoil stockpiles will be regularly monitored and managed for weed infestation. All topsoil that is stripped for extraction activities will be preserved and used in progressive rehabilitation.

3.4.3.2 Product Stockpile

During each crushing campaign, product stockpiles will be established within the active extraction and processing area quarry floor developed for each campaign. Appendix A - Drawing No. 5042.DRG.009 provides a conceptual location of the product stockpile locations during Stage 1. As the quarry operations progress throughout the Site, the location of the product stockpiles will follow the path of extraction and will be located within the maximum 245 m by 245 m work area for each crushing campaign. Where larger contracts required larger product stockpiles to be stored onsite, additional product stockpiles may be located within the long-term staging and operational areas of the quarry located within the south eastern portion of the Site. Product Stockpiles will vary in size and volume depending upon the products being made and will generally vary in height between five (5) and ten (10) m. At the end of each campaign, the top of the product stockpiles will be levelled out to help reduce the height, increase the opportunity for water absorption from rain and help reduce visual aspects of the stockpiles.

3.4.3.3 Construction and Demolition Waste (mixed) and Green Waste Stockpiles

The C&D Waste (mixed) and green waste stockpile will be stored onsite within the long-term staging and hardstand area that will be established during Stage 1 of operations, to provide a buffer from the wind, and the water truck will be used where required to minimise dust, refer to Section 5.16.

3.4.4 Use of Explosives

If required, explosives may be used for blasting where the rock becomes too hard to rip and will be undertaken by an experienced licensed contractor. Where blasting is required, it will be undertaken ahead of crushing and within the nominated work area for the campaign. As the extraction activities will be undertaken on a campaign basis, the blasting frequency (if required) is estimated to be up to three (3) times per year. Blasting of stone of this type usually uses detonation of Ammonium Nitrate-Fuel Oil (ANFO) mixture which is common to this type of quarrying. Detonation will be undertaken using novel initiation systems. Each blast design, details of blasting equipment and materials will be determined in accordance with the provisions of *Australian Standard 2187.2 Explosives – Storage and Use* by the licensed contractor. Blast design and assessments will be made in accordance with the Site geology

and weather conditions at the time of the blast and take into consideration the direction and proximity of sensitive receivers and public infrastructure with the Maximum Instantaneous Charge (MIC) or charge mass per delay limited to the lowest possible level for each blast.

All drilling and blasting activities will be undertaken by a licensed contractor of which there will be no explosives or associated products stored onsite. All materials are brought in when required by the licensed contractor at the time of the blasting activities.

3.4.5 Modes and hours of operation

Extraction operations will be undertaken on a campaign basis for approximately four (4) months per year in response based upon market demand, while quarry sales and receipt of C&D Waste (mixed) will be undertaken on a continuous basis throughout the year.

Continuous Operations

Continuous operations comprising of sales, freight haulage, C&D Waste (mixed) receipt, water cart and ancillary operations are proposed to occur on following hours;

Monday to Saturday	7.00 am – 4:30 pm
Sunday (when required)	7.00 am – 12.00 noon

Campaign Operations

Campaign quarry operations including crushing, screening and drill and blast (if required) are proposed to occur on the following hours;

Monday to Saturday	6.00 am – 6.00 pm
Sunday (Maintenance only when required)	6.00 am – 6.00 pm

(This includes all crushing, processing, drill, and blasting (if required), loading, hauling, maintenance, and product stockpiling tasks undertaken onsite.)

The Site is not proposed to be operated on Public Holidays.

Extended operating hours (excluding maintenance activities) may be approved by the Director of Mines through the appropriate regulatory process in response to market demand and infrastructure projects. Prior to seeking approval to obtain the extended operating hours the tenement holder will undertake appropriate consultation with potentially affected stakeholders including responding to concerns raised by stakeholders.

3.5 Crushing, Processing and Product Transport

3.5.1 Fixed Plant

There will be not fixed plant located onsite as all plant and equipment will be mobile. A temporary weighbridge will be installed onsite during the operations of the Site; however, it is intended that this is a portable unit that will be able to be relocated at the end of the quarry operations. A list of mobile plant that will typically be used onsite is provided in Table 11 below.

Table 11 - Mobile Equipment

Details of Equipment	Approximate number of units	Mobile / Fixed
Mobile crusher and screening plant (on tracks)	1-4	Mobile
FEL 972 (CAT) or equivalent	2	Mobile
Excavator 20 t - 40 t (dependant on availability)	2	Mobile
Dozer (stripping) CAT D6 + CAT D10	1	Mobile
Grader	1	Mobile
Dump truck 35 t	2	Mobile
Watercart	1	Mobile
Weighbridge	1	Mobile

3.5.2 Hours of Operation

Hours of operation are described in Section 3.4.5.

3.5.3 Processing Wastes

There will be no processing wastes used throughout the life of the operation, due to minimal overburden.

3.5.4 Industrial and Domestic Wastes

Industrial and domestic wastes will be temporarily stored onsite within appropriate storage facilities. Any waste oils and filters generated onsite will be temporarily stored within bunded facilities in accordance with EPA Guideline: EPA080/16 *Liquid storage Bunding and spill management* (EPA, 2016). Oils and other industrial wastes will be disposed by an appropriately licenced third party and relevant EPA waste tracking certificates retained onsite where required.

Portable toilet's will be used initially through early development of QDP Stage 1 of which a future onsite septic system may be installed as outlined in Appendix A - Drawing No. 5042.DRG.012R1.

3.5.5 Waste Derived Fill

WDF (Waste Soil) will be used for direct reuse in progressive rehabilitation, as outlined in Section 3.4.2.3. The importation of WDF is proposed to be incorporated into progressive rehabilitation activities, as the beneficial reuse of suitable material can support vegetation establishment and improve batter stabilisation. While rehabilitation plans do not rely on the availability of WDF, the material may be used to complement and enhance rehabilitation outcomes when available. WDF for re-use (meaning waste soil for direct re-use) means waste consisting of clay, concrete, rock, sand, soil or other inert mineralogical matter in pieces not exceeding 100 mm in length and containing chemical substances in concentrations less than the concentrations for those substances set out in *Part 1, Regulation 3 of the Environment Protection Regulations 2009* and the Environment Protection Authority (EPA) *Standard for the production and use of Waste Derived Fill 2013*.

3.6 Supporting Surface Infrastructure

3.6.1 Access and Roads

There are no formed roads that connect directly to the Site; however, the Site will be accessed via a new easement road to be constructed within the adjacent private property south east of the Site, connecting directly to Chaunceys Line Road at a previously established heavy vehicle access point, refer to Appendix A - Drawing No.5042.DRG.003R2. Through Consultation with an Adjacent Landowner as described in Section 4, the grant of easement (no. 14662923) on crown titles CT 6325/997 and CT 6325/998 was registered via the SA Land Registry on 10 December 2025. The approved easement provides HP Resources SA access to the Site via 715A Chaunceys Line Road, Hartley SA 5255, which will avoid the requirement for the Site to be accessed via Erimar Road, and the unmade road reserve located north of the Site.

Based upon the establishment of the easement, there will be no new public roads required to be built for access to the Site.

Based upon the forecasted volume of extraction, it is estimated that there may be up to 15 to 20 truck movements per day for both quarry and C&D Waste (mixed) operations; however, this may vary depending upon market demand. The total volume of trucks on the road is not expected to significantly change the existing traffic volumes to what is currently experienced along Chaunceys Line Road as the quarry is expected to be supplying similar projects and markets to other quarries in the area. There will not be any direct public access to the Site due to the surrounding land being agricultural grazing.

It is expected that the majority of transport will head west along Chaunceys Line Road to then head west toward Callington Road which is located approximately 5 km west of the site. then north to the major State Road identified as the South Eastern Freeway, approximately 6.6 km from the northern boundary. Depending upon the location of local projects, some traffic may also head east along Chaunceys Lines Road, however this is not likely to be a regular occurrence, refer Appendix A - Drawing No. 5042.DRG.008R3.

3.6.2 Accommodation and Offices

A small portable temporary building, of shipping container size, will be located near the entrance and long-term staging and operational area of the Site to provide an office and amenity building for Site personnel. One (1) to three (3) shipping containers and a workshop area (depending on market demand and quarry output) may also be kept onsite to store spare parts, and other consumable items as needed. Suitable hardstand areas will be constructed to accommodate parking for Site personnel and visitors, as well as lay down areas for equipment.

No accommodation will be located onsite.

Refer to Appendix A - Drawing No. 5042.DRG.012R1 for the proposed location of the Site office, workshop, laydown and carparking and storage areas.

Water storage tanks will be installed along the northern boundary of the Site and will be used as holding tanks for dust suppression and amenities shown within Appendix A - Drawing No. 5042.DRG.012R1.

3.6.3 Public Services and Utilities used by the Operation

There are no water pipelines, telephone, landline, or electricity connected to the Site.

The Site is supplied with groundwater sourced from an onsite production well located within the northern portion of the Site as outlined in Appendix A - Drawing No. 5042.DRG.012R1.

Power required for processing and operational buildings will be provided via diesel generators.

3.6.4 Visual Screening

As discussed in Section 2.14, a visual assessment was undertaken, assessing amenity aspects of the quarry viewed from the nearest sensitive receptor locations and views from public roads within proximity to Site. It is understood that overall, while there will be little amenity disturbance, visual aspects of the Site will become noticeable during the later stages of the quarry development from Stage 3 onwards.

Due to the nature of the topography within and adjacent to the Site, the main visual aspects of the Site are realised from the southern western aspects of Chaunceys Line Road. Based upon the elevation of the Site in comparison to Chaunceys Line Road, it is not practicable to build a visual screen to shield all operations within the Site. Initial operations within the south eastern portion of the Site comprising of Stage 1 and 2 will not be able to be viewed from Chaunceys Line Road, however a small earth mound visual screen is proposed along the southern portion of Stage 1 between two (2) patches of vegetation to help screen the long-term staging and operational areas of the Site from the adjacent paint ball skirmish area.

The remaining visual amenity aspects of the Site are proposed to be managed through the restriction of the total disturbance area from ongoing extraction and the permanent hardstand areas to not exceed 6 ha. Additionally progressive rehabilitation areas are not to be included when determining the area of disturbance at the Site.

3.6.5 Fuel and Chemical Storage

Diesel fuel is proposed to be stored onsite within a bunded fuel tank (15,000-30,000L) as outlined within Appendix A - Drawing No. 5042.DRG.012R1. Diesel fuel is stored in accordance with the EPA standard.

No major storages of chemicals will be undertaken onsite. Minor services and chemical storage up to a total estimated capacity of 500 L will occur within the workshop area of the Site located within the south eastern portion of the Site as outlined within Appendix A - Drawing No. 5042.DRG.012R1. Where fuel and chemicals are required to be stored onsite, they will be stored with designated bunded storage areas in accordance with the EPA Guideline: *EPA080/16 Liquid Storage Bunding and Spill Management* (EPA, 2016).

3.6.6 Site Security

Security is provided by standard stock fencing around the perimeter of the Site. The Site access points / entrance gate will be locked at the close of each business day and warning signs will be installed at the Site entry to prevent unauthorised access and advise of the

potential hazards within the Site. Remote video camera surveillance may also be installed to monitor Site access and record any unauthorised Site access.

3.6.7 Erosion, Sediment and Silt Control

Localised surface runoff generated from the operational areas of the Site will be captured within the disturbed footprint of the quarry and prevented from flowing outside of the operational areas. The Site topography is displayed within Appendix A - Drawing No. 5042.DRG.010R1 and shows the land sloping gently to the southwest. The nature of quarry development means that all surface water that falls on disturbed land will be directed into the pit and allowed to evaporate. Water that falls on undisturbed areas will be due to the nature of the climate and the topography, drain away. Overland flows are highly unlikely to be experienced. However, as addressed in Section 5.14, if they are experienced, overland flows will be directed away from the pit through the presence of topsoil stockpiles stored around the pit extent, acting as a barrier for undisturbed water flowing into the pit.

The staged nature of the quarry development means that as each stage progresses, the potential sedimentation of surface water from previous stages will be mitigated by grasses and natural regeneration that has occurred through rehabilitation of the previous stage. The total amount of disturbed land at any one time will not exceed six (6) hectares (ha), and while the elevation difference across the Site is approximately 50 mAHD, the over one (1) kilometre (km) width of the Site means that the average gradient is approximately 1V : 20H.

As stated in section 3.4.3 the C&D Waste (mixed) recycling and processing area will be located in the long-term staging and hard stand area to provide a buffer from the wind, and the water truck will be used where required to minimise dust, refer to Appendix A - Drawing No. 5042.DRG.012R1 and Drawing No. 5042.DRG.009**.** As stated in Section 5.14.2, erosion and drainage controls will be integrated into soil stockpiles where possible to prevent erosion and saturation.

3.7 Vegetation Clearance

As outlined in Section 2.8, a vegetation assessment conducted in February 2021, native vegetation was recorded within the Site comprising of scattered native woodland with native and exotic grassland, which has historically been utilised for agricultural grazing, refer to Appendix D and Appendix A - Drawing No. 5042.DRG.004R2. The clearance of native vegetation has been restricted to the lower quality and degraded areas of the Site where there is low species diversity and absence of shrub and tree cover.

As outlined within Appendix D, scattered trees within the Site are intended to be retained; however, quarry development will impact approximately 15.26 ha of degraded G*ahnia deusta* (Limestone Saw-sedge) / *Austrostipa sp.* (Spear Grass) grassland. Bushland Assessment Scoresheets and associated Significant Environmental Benefit (SEB) calculations have been updated (January 2026) and provided in Appendix D.

HP Resources SA proposed setting aside approximately 2.2 ha of *Melaleuca lanceolata* mid-storey shrubland over *Dodonaea hexandra* (mixed) shrubs, located adjacent to the proposed quarry development area, as an SEB offset. An SEB offset assessment undertaken in December 2025 and determined the proposed set-aside area does not meet the requirements of the SA Government's *Policy for a Significant Environmental Benefit (2024)* necessary to establish an on-ground SEB to offset the planned clearance. A search of the SEB Credit Register identified one potential credit site (SEB site 2008/2080, held by Alexandrina Council); however, the Site is not currently available for SEB credit purchase and is unlikely to provide sufficient credit points even if reassessed. No other viable credit alternatives were identified. Refer to Appendix G for further details.

Accordingly, HP Resources SA has committed to making a full SEB payment into the Native Vegetation Fund. A summary of the native vegetation assessment and associated SEB requirements prepared by a Groundwork Plus (now SLR Consulting) Native Vegetation Accredited Consultant, is provided in Table 12 and Appendix D.

Table 12 - SEB Offset Required for Clearance

Site	Species Diversity Score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	SEB Points required	SEB payment	Admin Fee
Stage 2	6.0	1	0	0.1	11.97	6.55	78.40	1.0	86.24	$61,353.21	$3,374.43
Stage 3	6.0	1	0	0.1	12.07	8.61	103.92	1.0	103.30	$81,322.88	$4,472.76
Total						**15.26**	**182.32**		**189.5**	**$142,676.09**	**$7,847.195**

Due to the life of the quarry, it is proposed that an SEB for the Site is established through a staged payment into the Native Vegetation Fund (NVF). Prior to the commencement of quarry operations within Stage 2 and Stage 3, payments will occur for the amounts outlined within Appendix D and Table 12 progressively establishing a total payment of $150,523.28 into the NVF. Payment must be made according to the formula current at the time of payment. For long-term operations with proposed staging, an updated native vegetation assessment and SEB offset calculations may be requested if the vegetation assessment is greater than 5 years, in accordance with the SA Government's *Guide for a significant environmental benefit for the clearance of native vegetation associated with the minerals and petroleum industry.*

3.8 Site Water Management

The Site is supplied with groundwater sourced from an onsite production well located within the north western portion of the Site. Groundwater will be pumped to water storage tanks with a combined capacity of approximately 200,000 L located along the northern portion of the Site to sustain water supply for dust suppression, improving moisture content of materials and supplying the Site amenities facilities as outlined in Appendix A - Drawing No. 5042.DRG.012R1. Approximately six (6) megalitres of groundwater will be used each year to support the operations at the Site depending upon climatic conditions and market demand.

There will not be any processing water or ponds associated with the proposed operations of the Site.

3.9 Description of Quarry Site at Completion

At the completion of extraction activities and progressive rehabilitation work, it is envisaged that the Site will be returned to the historic and current use of farming (agricultural grazing and cropping). For this reason, Drawing No. 5042.DRG.014, Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B have been designed to outline a conceptual final landform that will ensure that the intended land use can successfully be achieved. The Conceptual Final Landform will be reviewed throughout the progressive development of the Site to ensure that quarry landform is consistent with the ongoing land use of the surrounding areas.

As a general guide the following measures may be used to prepare the final landform:

- Using earthmoving equipment to progressively shape and trim the workings to the desired design profiles and flattening the gradients of batters to a stable angle of repose on reaching the terminal limits of extraction.

- Rounding or marrying the contours into the natural ground surface.
- Scaling down loose rock surfaces.
- Topsoiling of contours.
- Providing access to the terminal workings to allow maintenance of rehabilitation works.
- Designing landform and drainage to control erosion for the hydrological regime.

The following measures are to be implemented for topsoil spreading:

- Areas to be spread are to be re-profiled prior to placing of overlying materials.
- Equipment used to spread materials should be scheduled to avoid compaction.
- Before topsoil spreading, subsoils are to be loosened and ripped (if required) to break up any compacted or surface sealing and to enable keying of soils.
- Topsoil is to be removed from stockpiles in a manner that avoids vehicles travelling over the stockpiles.
- Ensure all exposed subsoils are covered.
- Topsoil is to be spread to match existing topsoil depth across the Site, typically between 150-200 mm (average) to support successful vegetation establishment.
- After spreading topsoil, ensure the surface is left in a roughened state to assist moisture infiltration and inhibit soil erosion.
- Prior to any planting of pasture grasses and or crops, cultivate any compacted or crusted topsoil surfaces.
- Following topsoil spreading, seeding or planting will be undertaken immediately where seasonal conditions permit, to promote soil stabilisation and vegetation establishment.
    - Rehabilitated areas will be initially sown with barely or other grain crops known to perform successfully in the region. Towards the end of the quarry's operational life, rehabilitated areas will be transitioned to grazing and cropping land consistent with the existing and surrounding agricultural land use.
- Where seasonal conditions are not suitable for immediate seeding or planting, mulch produced onsite from recycled green waste will be applied to assist with soil stabilisation and moisture retention until conditions improve.
- If erosion occurs on treated surfaces, the area is to be reprofiled and re-spread as necessary (note: traversing tracked machinery parallel to the slope gradient may assist in reducing the erosion potential of the reprofiled surface).

Any roads and tracks located within areas to be rehabilitated that are no longer required for the operational functionality of the Site, or for ongoing access to rehabilitated areas, are to be removed, topsoiled, seeded, and allowed to regenerate with vegetation. Ongoing access is to be prevented to these roads and tracks to avoid compaction and increase germination survival rates.

The long-term staging and operational areas, haul roads and access tracks shall be excluded from progressive rehabilitation planning for the purpose of this Conceptual Mine Completion Plan to preserve the functionality and optimal operation of the Site. At completion of the extraction activities and final rehabilitation commences, these areas are to be included in final rehabilitation activities.

HP Resources SA will remove items of quarry related infrastructure at the cessation of the operation. This may include, but will not necessarily be limited to; processing plant, chemical storage facilities, demountable buildings, and graveyard items (e.g. scrap metals, parts, bearings etc). Where any items of infrastructure are to be retained for ongoing beneficial use, HP Resources SA are to obtain a written landowner agreement and provide this to the administering authority for approval prior to final decommissioning taking place.

4.0 Consultation

HP Resources SA has engaged with stakeholders and adjacent landowners to identify, agricultural, commercial, or domestic activities that may be impacted by mining operations. Where practicable, quarrying activities will be coordinated to minimise interference with landholder activities.

Consultation is a requirement of the *Mining Act (SA) 1971* and the *Mining Regulations 2020* and has/will be undertaken utilising the International Association for Public Participation (IAP2) best practice methodologies and framework.

Consultation was undertaken during development of the MLP with the following stakeholder groups who were identified based on their proximity to the Site and likelihood to be impacted by operations, refer to Drawing No. 5042.DRG.007R2 for the stakeholders consulted:

- Landowner
- Adjacent landowners to the Site
- Business Owners –Clay & Mineral Sands (Extractive Minerals Lease (EML) 6522)
- Government Agencies – DEM, Alexandrina Council, and the Rural City of Murray Bridge

A detailed overview of the consultation that was undertaken during the development of the MLP can be found in Section 5 of the MLP.

Following the initial MLP consultation process, stakeholders were provided with contact information of a nominated representative for the Quarry. Ongoing engagement has occurred with adjacent landowners during the PEPR development and will continue to occur to keep them informed of the quarry progress and operations through to rehabilitation of the Site prior to mine closure. A Communication Protocol has been developed for Alexandrina Quarry, which establishes clear communication, operating, and safety procedures between the HP Resources SA and adjacent landholders. Its purpose is to ensure mutual respect, cooperation, and transparency during mining operations, while protecting landholder interests, community values, and workplace safety. Refer to Appendix H for further details.

If required, as included within the management strategies found within Section 5 of this PEPR, adjacent landowners will receive notification from the quarry prior to the commencement of activities may impact adjacent land specific operations (i.e. blasting).

During the PEPR development additional matters discussed face-to-face meetings with one (1) adjacent landowner, regarding land access and road infrastructure. A detailed description of the consultation is discussed in Table 13.

Table 13 - Stakeholder Consultation

1. Stakeholder Name:	Liam Herbig
Date of consultation:	Ongoing
Issue(s) raised:	Use of private land to access the Site through the western boundary by establishing an access road.
Issue considered:	Through face-to-face consultation with L. Herbig (Adjacent Landowner) the grant of easement (no. 14662923) on crown titles CT 6325/997 and CT 6325/998 was registered via the SA Land Registry on 10 December 2025. The approved easement provides HP Resources SA access to the Site via 715A Chaunceys Line Road, Hartley SA 5255, which will avoid the requirement for the Site to be accessed via Erimar Road, and the unmade road reserve located north of the Site.

5.0 Environmental Outcomes, Strategies, Criteria and Monitoring

5.1 Air Quality

5.1.1 Outcome

Operational & Closure

The Tenement Holder must, during construction, operation and post completion, ensure that there are no public nuisance impacts to local residents from air emissions or dust generated by mining operations.

5.1.2 Control and Management Strategies

Control and Management Strategies
Operational • Water sprays will be used on processing plant, as required, to minimise dust levels generated during this process. • Water truck will be used on haul and access roads, stockpiles, and other cleared areas, as required, to minimise dust levels generated. • Water truck operation will be increased in drier climatic conditions. • Operators to undertake visual assessment of any potential visible dust leaving the Site on both campaign and an ongoing basis during operations to inform potential increased frequency of water spraying and/or reduced Site activities if required. • Stockpiles will be stored within the quarry extraction area to provide a buffer from the wind. • Operators to ensure water sprays on processing plant are inspected and maintained to ensure efficient operation. • Vehicle and mobile machinery movements to be restricted to designated routes and onsite speed limits of 40 km / hr adhered to. • Management to ensure vehicles use established roads and tracks where possible and access to rehabilitated areas to be limited. • Establishing and maintaining vegetated cover on previously disturbed areas. • Establish vegetation cover on topsoil stockpiles as soon as practicable (subject to climatic conditions). • The use of campaign-based crushing (shorter exposure period). Closure • Progressively rehabilitate the Site as areas become available in accordance with the stages in Appendix A - Drawing No. 5042.DRG.014 and Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B.
Uncertainty and Assumptions of Control Strategies
The potential impacts to air quality are reduced provided that the operator adheres to the control and management strategies which are considered reasonable and industry standard practice to protect sensitive receptors.
Sensitivity to change of assumptions

The sensitivity to change is considered low; however, mitigation strategies maybe influenced by seasonal variations to onsite climate conditions.

5.1.3 Measurement Criteria

Air Quality	
Quarry Phase	**Operational/Closure**
Outcome Measurement	

1. **Outcome Achievement**

   Dust related complaints acknowledged within 48 hours and actioned appropriately within seven (7) days to the satisfaction of the Quarry Regulator.

   If complaints are not resolved to the satisfaction of Mining Regulation, air quality monitoring is to occur at locations, and using methods, as agreed with the Mining Regulator, to demonstrate:

   - Dust deposition leaving the Tenement does not exceed four (4) grams per square metre (g/m^2) per month.

2. **What will be Measured and the Form of Measurement**

   Records of dust complaints acknowledged and actioned with satisfactory resolution.

   In the event additional control measures are not able to resolve the complaint to the satisfaction of the Mining Regulator dust monitoring for the Site is to be undertaken in accordance with *Australian Standard AS 3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulates – Deposited matter – Gravimetric method.*

3. **Location of Measurement**

   At locations as agreed by Mining Regulator.

4. **Frequency**

   Records maintained following a complaint.

   Monitoring as required by the Mining Regulator.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A.

5.2 Noise

5.2.1 Outcome

Operational

The Tenement Holder must, during construction and operation, ensure that there are no public nuisance impacts from noise emanating from the Land.

5.2.2 Control and Management Strategies

Control and Management Strategies
Operational • Processing plant and ancillary equipment to be positioned as far as practicable from sensitive receptors. • Stockpiles to be positioned where possible as a noise abatement barrier between noise generating sources and sensitive receptors. • Fixed engines, pumps and compressors are to be enclosed where practicable. • Equipment is to be maintained in accordance with the original equipment manufacturer's specifications. • Equipment is to be shut down when not in use. • Reduce vehicle speed to 40 km per hour on internal access roads. • Fit broadband reversing alarms, rather than audible sirens or beepers, on mobile equipment where practicable. • Avoid unnecessary operation of plant or revving of mobile or stationary motors and engines. • Complaints from neighbouring residents are recorded, investigated, and responded to in a timely manner. • Consult and inform residence located south and south east of the Site on Chaunceys Line Road and Erimar Road 48 hr prior to upcoming blasting activities. • Only undertake extraction and crushing within the Site on a campaign basis.
Uncertainty and Assumptions of Control Strategies
Potential impacts associated with noise nuisance are further reduced through the implementation of the control and management strategies which are considered reasonable and industry standard practice to protect sensitive receptors from noise nuisance. The noise levels generated by the Site activities are not expected to contravene the *Environment Protection (Commercial and Industrial Noise) Policy 2023* day or nighttime criteria.
Sensitivity to change of assumptions
Noise nuisance impacts may vary if there are significant changes to the operations of the Site and the sources and location on noise generating activities are changed. The sensitivity to change of assumptions is low based on the campaign-based nature of the operation.

5.2.3 Measurement Criteria

Noise	
Quarry Phase	**Operational**
Outcome Measurement	

1. **Outcome Achievement**

   Quarry records demonstrate that all noise related complaints are acknowledged within 48 hours and closed out within seven (7) days to the satisfaction of the complainant or as agreed with the Regulator.

   In the event the control measures do not resolve the complaint to the satisfaction of regulators, noise measurements are to be undertaken in accordance with Part 3 of the *Environment Protection (Commercial and Industrial Noise) Policy 2023* at locations agreed upon by the operator and regulator to verify compliance with Part 5 — Indicative noise levels.

Zone	**Noise Criteria dB(A)**	
	Day (7 am – 10 pm)	**Night (10 pm – 7 am)**
Rural Industrial	57	50

2. **What will be Measured and the Form of Measurement**

   Noise related complaint records acknowledged within 48 hours and closed out within seven (7) days.

   Noise monitoring dB records in accordance with Part 3 of *the Environment Protection (Commercial and Industrial Noise) Policy* 2023.

3. **Location of Measurement**

   At the sensitive receptor/s or alternative location as agreed with the Mining Regulator.

4. **Frequency**

   Records maintained following a complaint.

   Monitoring as required by the Mining Regulator.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A.

5.3 Blasting

5.3.1 Outcome

Operational

The Tenement Holder must, during construction and operation, ensure that there are no public health and/or nuisance impacts from airblast, flyrock and vibration caused by blasting.

5.3.2 Control and Management Strategies

Control and Management Strategies
Operational • Handling, transport, and use of explosives shall be carried out in accordance with the requirements of Australian Standard 2187.2 Explosives – Storage and Use and relevant legislation. • Only suitably experienced and qualified blasting personnel shall be employed or contracted to provide blasting services. • Preference shall be given to larger yielding but smaller number of blasts rather than many smaller yielding blasts. • The maximum instantaneous charge or charge mass per delay will be limited to the lowest possible level. • A blast plan shall be prepared for each blast, containing blast hole layout, initiation sequence, charging, stemming type and height, charge weight and any other design element, required for good blasting practice. • All blasts are to be recorded in Site records, detailing timing, size, number of blast holes, quantity and type of explosives used. • Blast areas may be dampened down prior to blasting to minimise dispersion of dry and fine materials where practicable, or where it is identified as a source of potential dust nuisance. • Notification of blasting to residence located south and south east of the Site on Chaunceys Line Road and Erimar Road 48 hours prior to blast.
Uncertainty and Assumptions of Control Strategies
Uncertainty is considered low based upon the outlined control and management strategies, which are known to be effective in the management of the environmental impacts from blasting activities.
Sensitivity to change of assumptions
Sensitivity to change is low as locations of sensitive receptors are unlikely to change based on historic use land use consistency with extensive agricultural land surrounding the Site. Additionally, as outlined control and management strategies are known to be effective and industry standard.

5.3.3 Measurement Criteria

Blasting	
Quarry Phase	**Operational**
Outcome Measurement	

1. Outcome Achievement

Quarry records demonstrate that all blast related complaints are acknowledged within 48 hours and closed out within seven (7) days to the satisfaction of the Regulator.

During all blasts monitoring must be conducted by a suitably qualified person in accordance with *Australian Standard 2187.2 Explosives – Storage and Use to minimise annoyance due to blasting overpressure and ground vibration* to demonstrate levels comply with the following:

- Ground Vibration – five (5) mm per second (mm / sec) sec with up to five (5) percent allowable to 10 mm / sec or less in a 12-month period.
- Overpressure - 115 decibel (dB) (Lin Peak) with up to five (5) percent allowable to 120 dB (Lin Peak) or less in a 12-month period.

No evidence of flyrock observed outside of the Site area during post-blasting inspections.

2. What will be Measured and the Form of Measurement

Records of blast related complaint acknowledgement and actions(s).

Ground vibration, overpressure and flyrock will be monitored using AS 2187.2.

Records from post blast inspections of the Site boundary near the blast area.

3. Location of Measurement

Within ML 6563.

Outside of the Tenement boundary.

4. Frequency

Records maintained following a blast or as required by the Mining Regulator.

5. Control / Baseline Data

Australian Standard for Blast Monitoring (AS2187.2-2006).

6. Leading Indicator Criteria

N/A

5.4 Visual Amenity

5.4.1 Outcome

Operational

The Tenement Holder must, during construction and operation, ensure that visual amenity impacts for sensitive receptors are minimised as much as reasonably practical.

Closure

The Tenement Holder must ensure post completion that all rehabilitated landforms integrate and harmonise with the surrounding landscape.

5.4.2 Control and Management Strategies

Control and Management Strategies
Operational • Adherence with quarry development plan Drawing No. 5042.DRG.009. • Establish and maintain appropriate screening mounds to minimise potential visual impacts to sensitive receptors. • Minimise the disturbance footprint and clearing of onsite vegetation to that necessary for the quarry development during each crushing campaign. • Vegetation clearing for each crushing campaign shall not exceed six (6) ha. • Undertake progressive rehabilitation following the removal of stockpiles within the previous year's extraction area ensure that there is no more than six (6) ha under active rehabilitation each year. • Rehabilitation earthworks to be undertaken when weather conditions are appropriate to optimise soil stabilisation and support vegetation germinations and growth based upon the timing of future agricultural seeding activities. • The rehabilitation areas to be seeded with a suitable stock grazing grass or other agreed vegetation in consultation with the Landowner. • On topsoil stockpiles required to be stored for longer than 12 months, vegetation cover will be established through natural regeneration and/or seeding of pasture grasses (where required) to stabilise the stockpiles and prevent control erosion. **Closure** • Progressive rehabilitation to be undertaken in accordance with Drawing No. 5042.DRG.014 –and Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B, located in Appendix A. • Quarry related infrastructure removed at cessation of quarrying (unless otherwise approved to be retained in accordance with landowner agreement).
Uncertainty and Assumptions of Control Strategies
There is a low degree of uncertainty due to the existing topography and proposed progressive rehabilitation located within the Site and along Chaunceys Line Road, which will provide some visual relief.
Sensitivity to change of assumptions
The sensitivity to change is considered low based upon the proximity and location of sensitive receptors. The timing of visual amenity improvements may vary depending upon

Control and Management Strategies
the establishment rates of the vegetation and the duration of quarrying rehabilitation activities.

5.4.3 Measurement Criteria

Visual Amenity	
Quarry Phase	**Operational**
Outcome Measurement	
1. **Outcome Achievement** Visual impact assessment of the Site and surrounds are undertaken by a suitably qualified person annually and at the completion of each Stage of quarry development to confirm that progressive rehabilitation strategies have been implemented to minimise visual amenity impacts. 2. **What will be Measured and the Form of Measurement** Visual assessment and photographic records. 3. **Location of Measurement** Locations outlined within Appendix A - Drawing No. 5042.DRG.016R2. 4. **Frequency** Annually and at the completion of each Stage of quarry development. 5. **Control / Baseline Data** Appendix E 6. **Leading Indicator Criteria** N/A	

Visual Amenity	
Quarry Phase	**Closure**
Outcome Measurement	
1. **Outcome Achievement** Visual assessment of the Site and surrounds undertaken by a suitably qualified person post quarrying confirming final landforms conform to QDPs. 2. **What will be Measured and the Form of Measurement** Visual assessment and photographic records. 3. **Location of Measurement** Locations outlined within Appendix A - Drawing No. 5042.DRG.016R2. 4. **Frequency** Once prior to the completion of quarrying activities at the Site.	

5. Control / Baseline Data

Appendix E

6. Leading Indicator Criteria

N/A

5.5 Soil

5.5.1 Outcome

Operational/Closure

The Tenement Holder must, during construction and operation ensure that the existing (pre-mining) soil quality and quantity is maintained.

5.5.2 Control and Management Strategies

Control and Management Strategies
Operational • Soils are to be stripped ahead of quarrying and temporarily stockpiled. • Stockpiles of topsoil shall not exceed two (2) m in height. • Soils should not be stripped when too wet or too dry. • Topsoil, subsoil, and overburden should be stockpiled separately where possible. • Wherever possible, soils should be used directly on areas being rehabilitated. • Stripping of soils should be limited to the minimum area necessary. • Soil stockpiles are to be vegetated (e.g. grass seeded) to protect against erosion and weed infestation. • If topsoil stockpiles are required to be stored for longer than 12 months, vegetation cover will be established through natural regeneration and or seeding of pasture grasses (where required) to stabilise the stockpiles and prevent the occurrence of saturation and erosion. • Compaction of topsoil by vehicles tracking over stockpiles should be avoided. • If topsoil stockpiles are required to be stored for longer than 12 months, vegetation cover will be established through natural regeneration and or seeding of pasture grasses to stabilise the stockpiles and prevent control erosion. • All topsoil stockpiles are to be regularly monitored and managed for weed infestation. **Closure** • Ensure soils are spread on rehabilitation areas to match the existing topsoil depth in the area, typically 150-200 mm support successful vegetation establishment. • Adherence with rehabilitation plans Drawing No. 5042.DRG.014 and Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B found within Appendix A.
Uncertainty and Assumptions of Control Strategies
Uncertainty is considered low based upon the control and management strategies adopted are standard industry practice and are proven to be effective. However, localised changes in climatic conditions may result in variations in vegetation establishment.
Sensitivity to change of assumptions
Sensitivity to change is moderate if the control and management strategies are not adhered to. The success and rate of the Site's rehabilitation may be affected based upon the availability of topsoil for rehabilitation which may affect the overall successful establishment of vegetation.

5.5.3 Measurement Criteria

Soil	
Quarry Phase	**Operational**
Outcome Measurement	
1. Outcome Achievement Annual inspection and recording of soil stockpiles at the Site to confirm that: • Topsoil stockpiles are kept separate from subsoil stockpiles (if applicable). • There is no evidence of erosion (e.g. rills, gullies) or other evidence of topsoil loss. • Stockpiles of topsoils do not exceed two (2) m in height. **2. What will be Measured and the Form of Measurement** Records of inspection documenting evidence of topsoil stockpile heights and condition. **3. Location of Measurement** Within ML 6563. **4. Frequency** Annually. **5. Control / Baseline Data** N/A **6. Leading Indicator Criteria** N/A	
Soil	
Quarry Phase	**Closure**
Outcome Measurement	
1. Outcome Achievement Inspection of the topsoil application is undertaken by a suitably qualified person at the end of each stage of Quarry development and the completion of progressive rehabilitation activities to confirm topsoil is of a suitable quality and application and sufficient to ensure long-term establishment and success of vegetation growth. **2. What will be Measured and the Form of Measurement** Records of inspection at the completion of each quarry stage and completion of progressive rehabilitation activities which document evidence of final landform establishment in alignment with rehabilitation plans Drawing No.5042.DRG.009, Drawing No. 5042.DRG.014, Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B within Appendix A, while maintaining suitable overburden and topsoil application.	

Records of inspection 12 months post quarry completion documenting evidence of soil loss i.e. scour within rehabilitation areas, and capability of soil to support plant growth.

3. Location of Measurement

Within ML 6563 and as required within with rehabilitation plans shown in Appendix A through Drawing No.5042.DRG.009, Drawing No. 5042.DRG.014, Drawing No. 5042.DRG.014A to B-B and Drawing No. 5042.DRG.014B.

4. Frequency

At the end of each Stage

At quarry completion and 12 months post quarry completion.

5. Control / Baseline Data

Appendix A – Drawing No.5042.DRG.009

Appendix A – Drawing No.5042.DRG.014

Appendix A – Drawing No. 5042.DRG.014A

Appendix A – Drawing No. 5042.DRG.014B

6. Leading Indicator Criteria

N/A

5.6 Public Safety

5.6.1 Outcomes

Operational

The tenement holder must, during construction and operation, ensure that unauthorised entry to the site does not result in public injuries and or deaths that could have been reasonably prevented.

Closure

The Tenement Holder must demonstrate that post completion, the risks to the health and safety of the public so far as they may have been affected by mining operations are as low as reasonably practicable.

5.6.2 Control and Management Strategies

Control and Management Strategies
Operational • Fencing around Site perimeter to be established and maintained in accordance with standard stock fencing. • Regular inspection of Site fencing, signage, and access gates to ensure they are adequately maintained and locked at close of business. • Installation of signs warning of dangers within the quarry Site at quarry entrance point. • Installation of remote video surveillance cameras (if required). **Closure** • Adherence with progressive and final landform rehabilitation plans within Appendix A - Drawing No. 5042.DRG.009. • Fencing around Site perimeter to be established and maintained in accordance with AS 1725-2003 Chain-link fabric security fencing and gates. • Ensure the post-extraction landform is safe, stable, non-polluting, and suitable for the desired long-term land use. • Obtain a landowner agreement for any mine related infrastructure to be retained at the cessation of the mining activity.
Uncertainty and Assumptions of Control Strategies
The potential impacts to public safety are reduced, provided that the operator adheres to the control and management strategies which are considered reasonable and industry standard practice. Adequate fencing around the perimeter of the Site is maintained and the Conceptual Final Landform is achieved through progressive rehabilitation.
Sensitivity to change of assumptions
The sensitivity to change is low; due to the extent of surrounding agricultural land and proximity from townships.

5.6.3 Measurement Criteria

Public Safety	
Quarry Phase	**Operational**
Outcome Measurement	

1. Outcome Achievement

All public injuries and / or deaths resulting from unauthorised access to the Site are recorded in Operator Activity Register and investigated by a suitably qualified third party within one (1) calendar month (or other time as agreed with the Mining Regulator) and the results of the investigation show that the incident could not have been reasonably prevented by the Tenement Holder.

2. What will be Measured and the Form of Measurement

- Quarry management logbook records.
- Breaches of Site fencing requirements.
- Details of subsequent repairs where required.

3. Location of Measurement

Within ML 6563.

4. Frequency

Within one (1) month (or as agreed with the Mining Regulation) after each incident.

5. Control / Baseline Data

N/A

6. Leading Indicator Criteria

N/A

Public Safety	
Quarry Phase	**Closure**
Outcome Measurement	

1. **Outcome Achievement**

   Final landform to be constructed in accordance with the approved final designs and inspected by a suitably qualified person to ensure the stability of the landform.

2. **What will be Measured and the Form of Measurement**

   Progressive rehabilitation slope angles and geotechnical stability through inspection and report from suitably qualified person.

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   At the completion of each Stage of quarry development. Once post quarry completion prior to Tennant revocation application.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A

5.7 Traffic

5.7.1 Outcome

Operational

The Tenement Holder must, during construction and operation, ensure that there are no traffic accidents involving the public at mine access points that could have been reasonable prevented by the Tenement Holder.

5.7.2 Control and Management Strategies

Control and Management Strategies
Operational • All personnel are to comply with the Site traffic management plan, refer to Appendix I. • Site management must ensure that all personnel operating vehicles are licenced to do so. • Site management are to ensure all personnel are aware of their responsibilities in relation to vehicle use through undertaking inductions, issuing notices, and through use of directives. • All contractors and visitors must report to the Site office as directed upon arrival to the Site. • Two-way radios must be readily accessible in all Site vehicles. • Vehicles must be in a roadworthy condition and fit for purpose. • Road trucks transporting materials are to be fitted with tarping systems. • Communications between farm manager's and quarry manager to inform when farm animals are to be moved across roads.
Uncertainty and Assumptions of Control Strategies
Uncertainty is considered low based upon the control and management strategies adopted are standard industry practices and are proven to be effective and comply with the legislative requirements.
Sensitivity to change of assumptions
The sensitivity to change is low due to the adopted management strategies and industry standard practices. Identified haul route consists of well developed roads, quarry related traffic flow will not significantly impact current flow volumes.

5.7.3 Measurement Criteria

Traffic	
Quarry Phase	**Operational**
Outcome Measurement	
1. Outcome Achievement All incidents involving public injury and / or deaths resulting from traffic accidents associated with the quarry operations are to be recorded in a Quarry Logbook and investigated by a suitably qualified person within one (1) calendar month (or other time as agreed with the Quarrying Regulator) and the results of the investigation show that the incident could not have been reasonably prevented by the Tenement Holder. **2. What will be Measured and the Form of Measurement** Incidents to be reported and recorded within Quarry management logbook. **3. Location of Measurement** Site entry / entrance points to ML 6563. **4. Frequency** Within one (1) month (or as agreed with the Mining Regulation) after each incident. **5. Control / Baseline Data** Appendix I - Traffic Management Plan – Alexandrina Quarry. **6. Leading Indicator Criteria** N/A	

5.8 Land Use and Third-Party Property

5.8.1 Outcome

Operational

The Tenement Holder must, during construction, operation and post completion ensure that there are no adverse impacts to third-party land use or property on or off the Land as a result of mining operations

5.8.2 Control and Management Strategies

Control and Management Strategies
Operational • Firefighting equipment available and maintained onsite (fire extinguishers, emergency response plans and Site preparedness). • Undertake hot works within designated areas in accordance with hot works permit. • No hot works (welding) during total fire ban conditions. • Where accessible, establish and maintain appropriate fire breaks (and inspect monthly throughout fire danger season). • Ensure Country Fire Service (CFS) access is available to the Site. • Install water storage onsite that can be accessed by CFS in the event of a fire within the area. • All blasting activities must notify adjacent landowners 48 hours prior to blasting and monitor vibration as per Australian Standard 2187.2 Explosives – Storage and Use, refer to Section 7.12 Blasting.
Uncertainty and Assumptions of Control Strategies
Control measures are considered standard practice for the quarry industry and are proven to be effective in the prevention of potential impacts.
Sensitivity to change of assumptions
The proposed control and mitigation strategies are well known and effective and are standard industry practice. Therefore, sensitivity to change is low.

5.8.3 Measurement Criteria

Land Use and Third-Party Property Outcome	
Quarry Phase	**Operational**
Outcome Measurement	
1. Outcome Achievement All incidents involving damage to third party property resulting from the quarry Site will be recorded in Quarry Management Logbook and investigated by a suitably qualified person within one (1) calendar month (or other time as agreed with the Mining Regulator) and the results of the investigation show that the incident could not have reasonably been prevented by the quarrying activity. **2. What will be Measured and the Form of Measurement** Quarry management logbook records for evidence of third-party incident and investigation. **3. Location of Measurement** At the location of incident. **4. Frequency** At the time of incident. **5. Control / Baseline Data** N/A **6. Leading Indicator Criteria** N/A	

Note: refer to Section 5.17 Post Completion Land Use for closure measurement criteria.

5.9 Heritage

5.9.1 Outcome

Operational

The Tenement Holder must, during construction and operation, ensure that there is no damage, disturbance or interference to Aboriginal or European heritage sites, objects or remains unless prior approval under the relevant legislation is obtained.

5.9.2 Control and Management Strategies

Control and Management Strategies
• All personnel at the Site are to be inducted on cultural heritage requirements and the associated legislative responsibilities. • In the event any cultural heritage sites or objects are identified the following is to occur: - Immediately stop work in the vicinity of find. - Notify the relevant authority of the find / potential find at the Site. - No activities are to recommence in the vicinity of the find until such time that liaison with the relevant authority and / or the local Aboriginal groups has been undertaken and authority to proceed has been granted.
Uncertainty and Assumptions of Control Strategies
Uncertainty is considered low based upon the control and management strategies adopted are standard industry practices and are proven to be effective and comply with the legislative requirements.
Sensitivity to change of assumptions
The sensitivity to change is low due the historically disturbed nature of the site and the adopted management strategies and industry standard practices are proven to be effective.

5.9.3 Measurement Criteria

Heritage	
Quarry Phase	**Operational**
Outcome Measurement	

1. **Outcome Achievement**

   Quarry Management Logbook demonstrate that, upon discovery within the Site of any possible Aboriginal and / or non-Aboriginal heritage sites; and / or objects or remains;

   - Work ceased until the relevant authorities were notified and work recommenced only once authorisation was received.
   - Documented evidence of potential or actual finds of Aboriginal and / or non-Aboriginal heritage objects and evidence of consultation with the relevant authority.

2. **What will be Measured and the Form of Measurement**

   Quarry management logbook records of discovery and evidence of appropriate procedures followed upon discovery.

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   Following discovery of heritage related items.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A

5.10 Native Fauna

5.10.1 Outcome

Operational

The Tenement Holder must ensure that there are no native fauna injuries or deaths due to mining operations that could reasonably have been prevented

5.10.2 Control and management strategies

Control and Management Strategies
• Ensure quarry development is undertaken in accordance with the Quarry Development plan shown in Appendix A - Drawing no. 5042.DRG.009. • Restrict movement of Site vehicles and machinery to existing access tracks. • Ensure operators of HME and other Site machinery are appropriately trained to minimise the risk of incidental or unauthorised damage and / or clearance of native fauna habitat within the Tenement.
Uncertainty and Assumptions of Control Strategies
Control measures are considered standard practice for the quarry industry and are proven to be effective in the prevention of potential impacts.
Sensitivity to change of assumptions
The sensitivity to change is considered low as the presence of suitable habitat for rare and endangered species within the Site is unlikely to change during the course of quarry operations at the Site.

5.10.3 Measurement Criteria

Native Fauna	
Quarry Phase	**Operational**
Outcome Measurement	
1. Outcome Achievement All incidents involving injury and / or deaths of fauna resulting from quarrying operations onsite are to be recorded in a Quarry Management Logbook and investigated, to demonstrate that the incident could not have been reasonably prevented by the Tenement Holder. **2. What will be Measured and the Form of Measurement** Quarry Management Logbook for evidence of fauna injury and / or death investigation. **3. Location of Measurement** Within ML 6563. **4. Frequency** Upon an incident occurring. **5. Control / Baseline Data** N/A **6. Leading Indicator Criteria** N/A	

5.11 Native Vegetation

5.11.1 Outcome

Operational

The Tenement Holder must, during construction and operation, ensure no loss of abundance or diversity of native vegetation on or off the Land through clearance unless a significant environmental benefit has been approved in accordance with the relevant legislation.

5.11.2 Control and Management Strategies

Control and Management Strategies
• Ensure development follows the approved QDP's and no clearing of native vegetation occurs without prior approval and achievement of an SEB. • Vegetation clearance shall avoid all trees as outlined within Appendix A - Drawing No. 5502.DRG.009 and ensure that a minimum five (5) m buffer from the edge of the tree canopy is maintained and battered with a 1V:3H batter down to the quarry floor. • Vegetation clearance shall avoid all native vegetation that is to be retained as outlined within Appendix A - Drawing No. 5042.DRG.009 and adherence to the Native Vegetation Management Plan – Appendix D and Drawing No. 5042.DRG.004R2 – within Appendix A. • Prior to clearance, the five (5) meter buffer will be established around vegetation outlined within Appendix A - Drawing No. 5042.DRG.009 will be delineated through the installation of temporary fencing to ensure no unauthorised clearance of vegetation. • Training for mobile plant operators to ensure native vegetation is not cleared without authorisation. • Vehicle access restricted to established roadways. • Visual inspection of work area prior to commencing task (spotter if required). • Relocation of wildlife to be conducted by licenced contractor.
Uncertainty and Assumptions of Control Strategies
Based upon alignment with standard industry practice uncertainty of control strategies is considered low and reasonable.
Sensitivity to change of assumptions
Sensitivity to change is considered moderate. If the removal of native vegetation which has not been foreseen within of the MLP arises, appropriate approvals will need to be obtained under the Native Vegetation Act 1991.

5.11.3 Measurement Criteria

Native Vegetation	
Quarry Phase	**Operational**
Outcome Measurement	

1. **Outcome Achievement**

   Visual inspection through photographic evidence at the completion of each stage confirms that clearance has been undertaken in accordance with the attached Native Vegetation Management Plan (NVMP), refer Appendix D – Native Vegetation Management Plan or otherwise approved NVMP.

2. **What will be Measured and the Form of Measurement**

   Vegetation clearance through records of Site inspections, photographic evidence and vegetation removal approval documentation.

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   At the completion of each stage of vegetation clearance.

5. **Control / Baseline Data**

   Appendix A - Drawing No. 5042.DRG.004R2.

   Appendix A - Drawing No. 5042.DRG.009.

   Appendix D

6. **Leading Indicator Criteria**

   N/A

5.12 Weeds and Pests

5.12.1 Outcome

Operational/Closure

The Tenement Holder must, during construction and operation and post completion, ensure no introduction of new species of weeds, plant pathogens or pests (including feral animals), nor sustained increase in abundance of existing weed or pest species in the Land compared to adjoining land.

5.12.2 Control and Management Strategies

Control and Management Strategies
Operational • Weed infestations are to be controlled as soon as possible to prevent further spread of weeds. • Groundcover is to be maintained for as long as possible by minimising land disturbance at any one (1) time. • Annual weed spraying campaigns should be implemented at the Site, with additional spraying campaigns (e.g. spot spray, bi-annual sprays) undertaken as necessary. • Weeds identified onsite are to be prioritised for weed management according to the status of the weed, and the cause of the weed establishment must be determined to prevent or minimise further introduction and spread. • Employees should be trained appropriately to recognise existing and potential weeds present onsite and within the surrounding areas to ensure weeds are not inadvertently brought onto the Site via items contaminated by seed (e.g. vehicles, machinery, hand tools, soil). • If areas containing weeds are encountered, clean all equipment, vehicles, and machinery prior to leaving the area. • All access routes and hardstands are to be maintained in a weed-free or weed-reduced state, to lessen potential spread via vehicle movements. • Established roads and tracks are to be used whenever possible and weed-infested areas / Sites are to be avoided. **Closure** • Implement progressive rehabilitation as soon as practical as areas become available. • Prior to revegetation, the following may be implemented: - A spraying campaign to prevent migration or establishment of weed species in the area undergoing rehabilitation. - Alternative methods for controlling both grasses and weeds may be used, including manual weeding, slashing, weed matting, or mulching, where practicable. • Visual surveys are to be undertaken prior to topsoil stripping and, if necessary, control mechanisms undertaken to reduce the risk of the contamination of topsoil stockpiles with seed and vegetative weed material. • Weed control mechanisms may include separate stockpiling, herbicide spraying of stripped soils, or disposal as fill of soil materials infested with weeds.

Uncertainty and Assumptions of Control Strategies
Declared weed and pest species will be controlled through regular inspections and implementation of control and management strategies. Based upon reasonable industry standard practice there is a low degree of uncertainty and assumptions pertaining to the control and management strategies.
Sensitivity to change of assumptions
The sensitivity to change is considered low based upon weed and pest controls that are well established and prove to be effective where implemented.

5.12.3 Measurement Criteria

Weeds and Pests	
Quarry Phase	**Operational/Closure**
Outcome Measurement	

1. **Outcome Achievement**

   Records of annual inspections undertaken in Spring, are held by the operator to demonstrate no introduction of new weeds, pests or plant pathogens nor an increase in abundance of existing weeds and pests onsite.

2. **What will be Measured and the Form of Measurement**

   Records of inspections demonstrate no introduction of new weeds, pests or plant pathogens onsite as compared to previous reporting year and no increased abundance of weeds when compared to adjoining Land holdings.

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   Annually in Spring.

5. **Control / Baseline Data**

   Native Vegetation Clearance Data Report (refer to Appendix D)

6. **Leading Indicator Criteria**

   N/A

5.13 Groundwater

5.13.1 Outcome

The Tenement Holder must, during construction, operation and post completion, ensure there is no adverse impact to the quantity of groundwater available to existing users as a result of mining operations.

5.13.2 Control and Management Strategies

Control and Management Strategies
Operational • Install flow meter on bore to enable accurate and timely records of extraction rates. • Record water usage on a six (6) monthly basis (April and October) to ensure planned cumulative extraction is not exceeded. • Ensure annual water use does not exceed 6 megalitres. • Conduct mining operations consistently with the proposed pit depths in the mining and rehabilitation plans. • Undertake regular monitoring of the pit floor levels to ensure the 20 – 30m buffer to groundwater is maintained. **Closure** N/A
Uncertainty and Assumptions of Control Strategies
Uncertainty is considered low based upon projected groundwater use for other quarries and the control and management strategies adopted are standard industry practice and are proven to be effective. Seasonal fluctuations, including localised changes in climatic conditions and market demand, may result in variable monthly usage over an annual period.
Sensitivity to change of assumptions
Seasonal variation in groundwater may occur, however unlikely to result in significant variation in groundwater level and salinity. Therefore, the sensitivity to change is low due to the adopted management strategies and industry standard practices and that drawdown from groundwater extraction is predicted to be highly localised.

5.13.3 Measurement Criteria

Groundwater	
Quarry Phase	**Operational/Closure**
Outcome Measurement	

1. **Outcome Achievement**

   Site records will demonstrate that annual surveying confirms mining has occurred as proposed in the mining plans and a buffer to groundwater greater than 2-metres has been maintained.

   Site records demonstrate that annual water usage does not exceed 6 megalitres.

2. **What will be Measured and the Form of Measurement**

   Annual surface survey for pit floor level.

   Water usage records for the quarry inspected on a six (6) monthly basis to ensure planned cumulative extraction is not exceeded.

3. **Location of Measurement**

   Pit floor

   Bore water meter

4. **Frequency**

   Annually (pit floor survey)

   April and October (water usage)

5. **Control / Baseline Data**

   Previous groundwater measurements

6. **Leading Indicator Criteria**

   N/A

5.14 Surface Water

5.14.1 Outcome

Operational/Closure

The Tenement Holder must, during construction, operation and post completion, ensure no surface water contaminated as a result of mining operations leaves the Land.

5.14.2 Control and Management Strategies

Control and Management Strategies
Operational • Localised surface runoff generated from the operational areas of the Site will be captured within the disturbed footprint of the quarry and prevented from flowing outside of the operational areas. • Surface water that falls upon disturbed areas will be directed into the bottom of the pit. • Overland flows are highly unlikely to be experienced. However, if they are experienced, overland flows will be directed away from the pit through the presence of topsoil stockpiles stored around the pit extent, acting as a barrier for undisturbed water flowing into the pit. • Erosion and drainage controls are to be integrated into soil stockpiles where possible to prevent erosion and saturation. • Topsoil stockpiles are to be immediately seeded following placement • Quarrying and rehabilitation activities to adhere with the QDP, ensuring total amount of disturbed land at any one time will not exceed six (6) hectares (ha). • Minimise Land disturbance to the extent practicable during each Stage of quarry development. • Undertake progressive rehabilitation of disturbed areas to the extent practicable.
Uncertainty and Assumptions of Control Strategies
The control strategies nominated are known to be effective and apply industry standards for the control and management of sediment laden surface water.
Sensitivity to change of assumptions
The sensitivity to change is considered low; however, the effectiveness of mitigation strategies maybe influenced by seasonal variations to onsite climate conditions.

5.14.3 Measurement Criteria

Surface Water	
Quarry Phase	**Operational/Closure**
Outcome Measurement	
1. **Outcome Achievement** Visual inspections following heavy rainfall events ensures no surface water discharge occurs from the site. 2. **What will be Measured and the Form of Measurement** Photographic record. 3. **Location of Measurement** Within ML 6563 and surrounding area. 4. **Frequency** Following heavy rainfall. 5. **Control / Baseline Data** N/A 6. **Leading Indicator Criteria** N/A	

5.15 Waste

5.15.1 Outcome

The Tenement Holder must, during construction, operation and post completion, ensure no contamination to the environment either on or off the land from commercial, industrial or domestic waste used during mining operations.

5.15.2 Control and Management Strategies

Control and Management Strategies
Operational • All chemical storage facilities onsite must meet specifications of Australian Standard AS 1940 - The storage and handling of flammable and combustible liquids, as a minimum. • Ensure all trackable wastes are appropriately disposed of by a licenced operator at an approved facility. • All chemicals and hydrocarbons are stored and handled in a bunded area, designed, and installed in accordance with Australian Standard AS 1940 - The storage and handling of flammable and combustible liquids. • Any spill of potential contaminants is to be cleaned up immediately. • The operator must ensure appropriate spill kits are available at all times. **Closure** • Remove all items of quarry related infrastructure at the cessation of the operation (unless otherwise approved to be retained in accordance with landowner agreement). • Where required, remediate land confirmed as contaminated through preliminary or detailed Site investigations.
Uncertainty and Assumptions of Control Strategies
Uncertainty is considered low based upon waste streams being well understood and management procedures considered adequate for wastes generated by Site activities.
Sensitivity to change of assumptions
There is potential for changes to processing and equipment that may result in new waste streams being created and or changes to the volume of waste created at the Site. However, the sensitivity to change is considered low.

5.15.3 Measurement Criteria

Waste	
Quarry Phase	**Operational**
Outcome Measurement	
1. **Outcome Achievement** Records of any environmental incidents to be kept include method of clean up and remediation. Records demonstrate that waste has been managed in accordance with relevant EPA SA guidelines. 2. **What will be Measured and the Form of Measurement** If complaints are not resolved to the satisfaction of Mining Regulation, air quality monitoring is to occur at locations, and using methods, as agreed with the Mining Regulator, to demonstrate: • Dust deposition leaving the Tenement does not exceed four (4) grams per square metre (g/m²) per month. Quarry management records of waste removal and waste tracking receipts. 3. **Location of Measurement** Within ML 6563. 4. **Frequency** Annually. 5. **Control / Baseline Data** N/A 6. **Leading Indicator Criteria** N/A	
Waste	
Quarry Phase	**Closure**
Outcome Measurement	
1. **Outcome Achievement** Closure inspections to confirm no waste spill to the surface. Any items of quarry related infrastructure have been removed (unless agreed in writing with the landowner). 2. **What will be Measured and the Form of Measurement** Site inspection records, photographic evidence. 3. **Location of Measurement**	

Within ML 6563.

4. **Frequency**

   At the completion of each Stage of quarry development. Once post quarry completion prior to Tennant revocation application.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A

5.16 Waste Derived Fill

5.16.1 Outcome

The Tenement holder must, during construction, operation and post completion, ensure no adverse impacts to the environment from waste derived fill (WDF) brought onto the land as a result of mining operations unless otherwise authorised through the relevant legislation.

5.16.2 Control and Management Strategies

Control and Management Strategies
Operational • All WDF material accepted into Site for use in rehabilitation must meet *EPA Standard for the Production and Use of WDF (2013).* • Maintain records and details of receipt of all incoming materials including source site, volume, and contractor / company, in accordance with the *EPA Standard for the Production and Use of WDF (2013)* using the Waste Derived Fill acceptance form found within Appendix J. • Undertake visual inspections WDF loads entering the Site and refuse material which does not meet WDF criteria. • Acceptance of additional WDF 'Waste Soil' must be accompanied by written, signed, and dated certification from a suitably qualified person stating that the waste constitutes Waste Fill when it exceeds 100 t from a single source site unless otherwise approved by the EPA in writing. • Ensure WDF and product stockpiles are maintained in separate stockpiles and identified with appropriate signage. • WDF stockpiles will be stored onsite within the long-term staging and hardstand area to provide a buffer from the wind, and the water truck will be used where required to minimise dust. **Closure** • Ensure WDF utilised in rehabilitation activities is covered with available overburden and then topsoiled prior to seeding with pasture grass, with no WDF to remain on the surface. • Adherence to Standard AS1289.6.3.2 to ensure the appropriate procedure for compacting the WDF imported onto the Site is followed.
Uncertainty and Assumptions of Control Strategies
Waste streams are well understood, and management procedures are considered adequate for wastes generated by Site activities.
Sensitivity to change of assumptions
General waste streams are unlikely to change as a result, of the quarry activities undertaken at the Site. The sensitivity to change is considered to be low.

5.16.3 Measurement Criteria

Waste Derived Fill	
Quarry Phase	**Operational**
Outcome Measurement	

1. **Outcome Achievement**

   The receipt of WDF is undertaken in accordance with the requirements of EPA *Standard for the production and use of Waste Derived Fill (2013*).

2. **What will be Measured and the Form of Measurement**

   Quarry management records outline the following:

   - Classification of the WDF including inspection and sampling reports (where required).
   - Volume of WDF received at the Site.
   - The location where the WDF has been sourced from and the contractor / company who has transported the material, kept as a WDF Receipt Form.

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   Upon receipt of WDF.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A

Waste Derived Fill	
Quarry Phase	**Closure**
Outcome Measurement	

1. **Outcome Achievement**

   An assessment undertaken by a suitably qualified person confirms the placement of WDF within the rehabilitated landform has been undertaken in a manner that support the ongoing land use and is safe, stable and non-polluting.

2. **What will be Measured and the Form of Measurement**

   The inspection will be undertaken by a suitably qualified person confirm that the WDF placement areas are:

   - free from erosion and scouring
   - do not show visible signs of instability (e.g. cracking at the crest)
   - achieving batter angles no greater than 1V:3H.
   - establishing a vegetation cover that is consistent with nearby properties
   - weed abundance is equal to or less than the surrounding land
   - conforming to the surrounding landscape

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   Once following the completion of rehabilitation activities, prior to the revocation of the Tenement.

5. **Control / Baseline Data**

   N/A

6. **Leading Indicator Criteria**

   N/A

5.17 Post Completion Land Use

5.17.1 Outcome

The Tenement Holder must ensure the land is progressively and finally rehabilitated to support the approved future land use.

5.17.2 Control and Management Strategies

Control and Management Strategies
Operational • Adherence to Drawing No. 5042.DRG.014, Drawing No. 5042.DRG.014A and Drawing No. 5042.DRG.014B found within Appendix A. • All quarry related infrastructure (scrap metal, parts etc.) will be removed from Site unless agreed in writing by the landowner.
Uncertainty and Assumptions of Control Strategies
Based upon the timing and rehabilitation of each stage within the ML. Final landform has been agreed upon with current landowner during consultation.
Sensitivity to change of assumptions
Sensitivity to change is considered low. Conceptual Final Landform Plans are based on whole of Site closure and rehabilitation plans which could be altered in the future.

5.17.3 Measurement Criteria

Post Completion Land Use	
Quarry Phase	**Closure**
Outcome Measurement	
1. Outcome Achievement Quarry records will demonstrate following final rehabilitation work an appropriate person inspected the Site and verified in a report that final rehabilitation has been undertaken in accordance with the Mining Plans. The inspection will be undertaken by a suitably qualified person confirm that progressively rehabilitated areas are: • free from erosion and scouring • do not show visible signs of instability (e.g. cracking at the crest) • achieving batter angles no greater than 1V:3H. • establishing a vegetation cover that is consistent with nearby properties • weed abundance is equal to or less than the surrounding land • conforming to the surrounding landscape **2. What will be Measured and the Form of Measurement**	

Records from inspections of the rehabilitated areas for signs of instability, erosion, weed inspections and vegetation establishment.

Quarry management records from an inspection of the final landform and assessment of achievement of the final land uses.

3. **Location of Measurement**

   Within ML 6563.

4. **Frequency**

   Once prior to ML revocation.

5. **Control / Baseline Data**

   Drawing No.5042.DRG.014

   Drawing No.5042.DRG.014A

   Drawing No.5042.DRG.014B

6. **Leading Indicator Criteria**

   N/A

6.0 Operator Capability

HP Resources SA Pty Ltd is a family business that is owned and operated by the Pocock and Harkness families which also run Pocock Quarries Pty Ltd and JG Harkness Excavations Pty Ltd. Pocock Quarries owns and operates several hard rock quarries throughout South Australia and at times undertakes the operation of crushing and screening services and wet and dry hire of machinery to alternate quarrying operations throughout South Australia and interstate. The business also assists Local Government Council's throughout South Australia for the service of raising and crushing rubble for their unsealed road networks.

The business is in a sound financial position, has previous history of positive operational knowledge, including rehabilitation activities of many sites within South Australia.

In the last five (5) years, a related body corporate or I have failed to comply with a provision of a corresponding Australia Law or designated Australian Act in connection with authorised operations that resulted in:

☐ Yes	☒ No	The revocation or suspension of an authority to carry out authorised operations; or
☐ Yes	☒ No	A prosecution for an offence; or
☐ Yes	☒ No	The imposition of a penalty by a Court; or
☐ Yes	☒ No	The issuing of a notice, direction or order that required the suspension of discontinuance of any authorised operations; or
☐ Yes	☒ No	The rectification of any harm to the environment or the rehabilitation of any land, place or other aspect of the environment.

6.1 Effective and Efficient Mining Outcome Achievement

There is a reasonable prospect that the land in respect of the future operations can be effectively and efficiently quarried. Based on the control and management strategies described within the PEPR, HP Resources SA consider that the environmental outcomes will be able to be achieved.

HP Resources SA have undertaken reasonable measures to ensure that the mineral resource has been appropriately identified and estimated to inform the life of the Quarry and associated quarry development and progressive rehabilitation strategies.

7.0 Lease / Licence Conditions

A summary of the non-environmental outcome lease conditions that relate to the Site and where they have been addressed within the PEPR is provided within Table 14.

Table 14 - Summary of Non-Outcome Based Lease Conditions

Licence Condition	Where in PEPR condition is met
Second Schedule	
1. The Tenement Holder must submit a Proposed Program for the purpose of Part 10A of the Act within 12 months after the grant of the Mineral Tenement or within such longer period of time as the Minister may allow.	The submission of this PEPR will meet this lease condition.
2. The Tenement Holder must include in a Proposed Program the information within the Fourth Schedule of the Lease pursuant to Section 70B(2)(d) of the Act.	Refer to Section 5.
3. The Tenement Holder must commence mining operations in accordance with the Approved PEPR under Part 10A of the Act within 12 months after the Program has been approved or within such longer period as the Minister may allow.	Operations will commence as soon as practicable following the approval of this PEPR.
4. After commencement of mining operations, the Tenement Holder must continue mining operations in accordance with the requirements of the Approved PEPR or any subsequent revised PEPR.	Operations will be conducted onsite in accordance with the approved PEPR, which will be measured through the outcome and measurement criteria outlined within Section 5. Adherence to the outcomes and measurement criteria will be outlined through the development and submission of an Annual Compliance Report (ACR) every 12 months.
5. The Tenement Holder must develop (to the satisfaction of the Minister or a person authorised by the Minister) a communication and operating protocol between itself and owners of land adjacent to the Land prior to the commencement of mining operations that includes the following matters: 5.1. Interaction with adjacent landholder operations; 5.2. emergency procedures; 5.3. communications and issue management processes;	Discussed within Section 4.

Licence Condition	Where in PEPR condition is met
5.4. dispute resolution; 5.5. ongoing communication about the Tenement Holder's operations; 5.6. receiving and considering feedback; 5.7. safety procedures; 5.8. access protocols; and 5.9. any matters identified by the Minister or a person authorised by the Minister in writing.	
6. The Tenement Holder must maintain and adhere to the protocol to the satisfaction of the Minister or a person authorised by the Minister for the term of the Mining Tenement.	Discussed within Section 4.
7. The Tenement Holder must comply with all State and Commonwealth legislation and regulations applicable to the activities undertaken pursuant the grant of the Mineral Tenement including (but not limited to) the: 7.1. *Environment Protection and Biodiversity Conservation Act 1999* (Cth); 7.2. *National Parks and Wildlife Act 1972* (SA); 7.3. *7.3. Landscape South Australia Act 2019* (SA); 7.4. *Native Vegetation Act 1991* (SA); 7.5. *Planning, Development and Infrastructure Act 2016* (SA); 7.6. *Road Traffic Act 1961* (SA); 7.7. *Environment Protection Act 1993* (SA); 7.8. *Aboriginal Heritage Act 1988* (SA); 7.9. *Heritage Places Act 1993* (SA); *and* 7.10. *Work Health and Safety Act 2012* (SA)	Adherence to the environmental outcomes within Section 5 will ensure that Site operations will adhere to the relevant State and Commonwealth legislation.

Table 15: Summary of Outcome Based Lease Conditions

License Condition Fourth Schedule	Where in PEPR condition is met
Forth Schedule	
4. Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(b) of the Regulations in relation to the Fourth Schedule Clause 3: 4.1. Develop Strategies to mitigate ground vibration and flyrock	Refer to section 5.3.2
5. Tenement holders required to address the following matters for the purposes of Regulation 63(1)(c) of the Regulation in relation to the Fourth Schedule Clause 3: 5.1. Establish Criteria to monitor ground vibration and flyrock.	Refer to section 5.3.3
12. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(b) of the Regulations in relation to the Fourth Schedule Clause 10: 12.1. Develop a traffic management plan	Refer to Appendix I
19. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(b) of the Regulations in relation to the Fourth Schedule Clause 17: 19.1. Establish a maximum groundwater extraction rate that does not adversely affect the quantity of water available to other existing groundwater users.	Refer to section 5.13.2. No further groundwater assessments are required as per discussion with Department of Energy and Mining (DEM).
20. The Tenement Holder is required to address the following matters for the purposes of Regulation 63(1)(c) of the Regulations in relation to the Fourth Schedule Clause 17: 20.1. Monitor groundwater extraction to demonstrate the maximum extraction rate is not exceeded.	Refer to section 5.13.2. No further groundwater assessments are required as per discussion with Department of Energy and Mining (DEM).

8.0 Reference List

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Hall, J, Maschmedt, D, Billing (2009). '*The Soils of Southern South Australia'*, Government of South Australia 2009 (Department of Water, Land and Biodiversity Conservation). Retrieved from, https://www.environment.sa.gov.au/topics/soil-and-land-management/soils-of-sa

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Appendix A Drawing Set

320000E

6110000N

Adelaide

SITE

0 50 km

ENSCH

THOMAS

Monarto Woodlands

MCLEAN

WHITE

WARLA

BREMER RANGE

FERRIES MCDONALD

SALEM

NORTH

SAMUEL

LLOYD JAENSCH

JAENSCH

Monarto

PM 245

MC 4580

SITE

ML 6563

AVONDALE

ERIMAR

ALTMANN

PM 259

CHAUNCEYS LINE

GARWOOD

EML 6271

ML 6564

6100000N

SOUTH BREMER

EML 6497

HARVEY

Ferries-McDonald

WANDSTEAD

FRANCIS

Legend:
- Site
- Road Linework
- Mineral Claims
- Private Mines
- Extractive Mineral Leases
- Mineral Leases
- Heritage Agreements
- Conservation Reserves

320000E

REV	DESCRIPTION	DATE	BY
		26/04/2023	MB
2	Updated to reflect RPI from DEM	19/12/2023	LO
3	Updated Tenement number following MLP approval	15/08/2025	HH

Data Sources:
Photography: Google Satellite Imagery accessed: 15-August-2025
Topography:
Cadastre: Data.sa.gov.au; Boundaries shown are indicative only
Ecosystem:
Other: SARIG 2025

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Site Location Map

SLR

PH +61 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:45,000 When Printed On A3

0 200 400 600 800 m

DRAWING NUMBER: 5042.DRG.002

REVISION: 3

DATE: 15-August-2025

DRAWN: MB

PRINTED: 15-August-2025

CHECKED:

DATUM: HORIZONTAL / VERTICAL / ZONE: MGA / AHD / 54

EPSG:7854

320000E

325000E

6105000N

6100000N

LLOYD JAENSCH

CALLINGTON

JAENSCH

HUMBUG

Monarto

PM 245

NORTH BREMER

HA 1030

MC 4580

ML 6563

1000m

2000m

3000m

PEPPER TREE

ERIMAR

SOUTH BREMER

CHAUNCEYS LINE

EML 6522

HA702

EML 6271

ML 6564

320000E

325000E

REV	DESCRIPTION	DATE	BY
1	Updated to include EML 6522 and nearby residences	26/04/2025	MB
2	Updated following approval of ML 6563	18/08/2025	HH

Data
Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au; Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:

- Residence
- Other Structure
- Site Entry and Exit
- Nearby Businesses
- Existing Heavy Vehicle Access Point
- Power Cables
- Freight Route
- Access Road
- Private Mines
- Mineral Claims
- Extractive mineral leases
- Waterbodies
- Heritage Agreements

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Land Access Map

SLR

PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:25,000 When Printed On A3 (0 100 200 300 400 m)

DRAWING NUMBER: 5042.DRG.003

REVISION: 2

DATE: 18-August-2025 DRAWN: MB

PRINTED: 18-August-2025 CHECKED:

DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54

323000E

324000E

6104000N

6103000N

ML 6563

QDP Stage 1

2

2

1

1

Legend:

- Vegetation Association A - Lomandra/Austrostipa Grassland
- Vegetation Association B - Eucalyptus Mallee/Melaleuca Open Woodland
- Eucalyptus Fasciculosa Woodland
- Exotic Grassland
- Agricultural Cropping
- Melaleuca Woodland
- QDP Stage 1
- Scattered Trees to be Retained
- Cadastral Boundaries

REV	DESCRIPTION	DATE	BY
1	Updated with new company name and QDP Stage 1	11/10/2022	MB
2	Updated following approval of ML 6563	18/08/2025	HH

Data
Photography: UAV Survey 2021-09-27; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-27
Cadastre: Data.sa.gov.au;Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Vegetation Clearance Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:6,000 When Printed On A3 (0 20 40 60 80 m)

DRAWING NUMBER: 5042.DRG.004

REVISION: 2

DATE: 18-August-2025 DRAWN: MS

PRINTED: 18-August-2025 CHECKED:

DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54

322000E 323000E 324000E 325000E 326000E

6105000N

6104000N

6103000N

6102000N

ML 6563

Qp\ca

Q

REV	DESCRIPTION	DATE	BY
1	Updated with new client name	26/08/2022	MB
2	Updated layers following Approval of ML	18/08/2025	HH

Data
Photography: Google Satellite Imagery accessed: 18-August-2025
Topography:
Cadastre: Data.sa.gov.au; Boundaries are indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:

Surface Geology

Q ; Undifferentiated Quaternary rocks.

Qp\ca ; Undifferentiated Pleistocene calcrete.

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Site Geology Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:14,000 When Printed On A3 (0 70 140 210 280 m)

DRAWING NUMBER: 5042.DRG.005

REVISION: 2

DATE: 18-August-2025 DRAWN: MB

PRINTED: 18-August-2025 CHECKED:

DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54

322000E
323000E
324000E
6104000N
6103000N

CT5500/460
H170400 S301

CT5500/460
H170400 S302

CT5651/237
H170400 S183

WW 672704908

CT5150/248
F103967 A3

CT5381/380
F162217 A654

CT5933/630
H170400 S295

ML 6563

CT5655/853
H170400 S195

672701380
WW

CT5309/621
F162213 A650

CT5951/965
H170400 S294

672704886
WW

CT5655/853
H170400 S198

REV	DESCRIPTION	DATE	BY
1	Updated to include 15m Buffer around water well inside MC 4541	26/04/2023	MB
2	Updated to include approved ML 6563	18/08/2025	HH

Data
Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au; Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:
- Cadastral Boundaries
- Other Structure
- Water Wells
- Agricultural Cropping
- 150m Buffer - Other Structure
- 400m Buffer - Residence
- 150m Buffer - Water Wells

N

PROJECT: Alexandrina Quarry

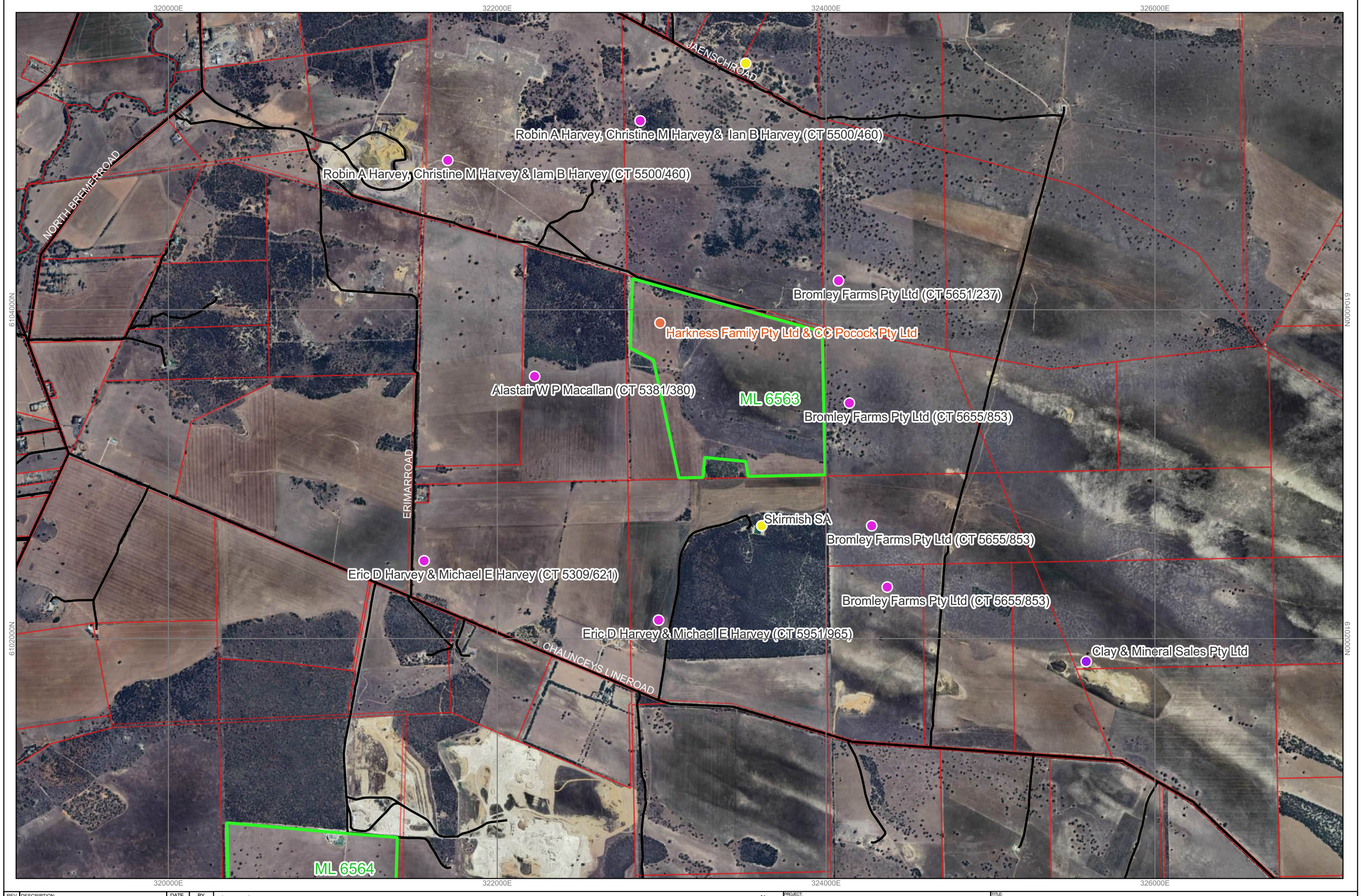
CLIENT: HP Resources SA Pty Ltd

TITLE: Exempt Land

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:6,800 When Printed On A3
0 30 60 90 120 m
DATE: 18-August-2025 DRAWN: CM
PRINTED: 18-August-2025 CHECKED:

DRAWING NUMBER: 5042.DRG.006
REVISION: 2
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54



REV	DESCRIPTION	DATE	BY
1	Updated to include EML 6522 owner & Nearby Business	26/04/2023	MB
2	Updated following approval of ML 6563	18/08/2025	HH

Data

Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au; Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:

- Cadastral Boundaries
- Landowner
- EML 6522 Tenement Owner
- Adjacent Landowners
- Nearby Businesses

N

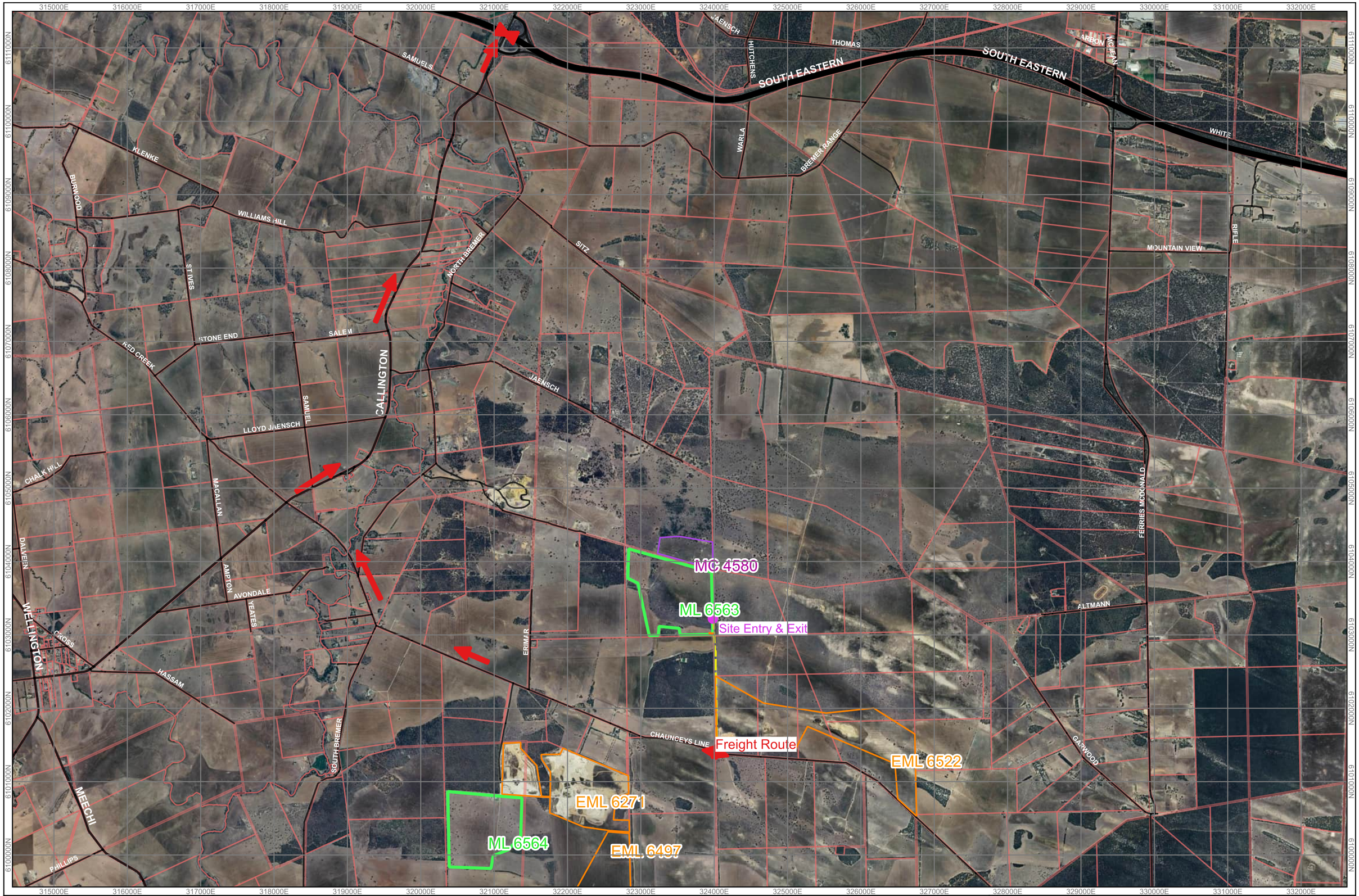
PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Stakeholder Consultation Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:21,000 When Printed On A3 (0 100 200 300 400 m)
DRAWING NUMBER: 5042.DRG.007
REVISION: 2
DATE: 18-August-2025
DRAWN: MB
PRINTED: 18-August-2025
CHECKED:
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54



REV	DESCRIPTION	DATE	BY

Data
Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2022

Legend:
- Site Entry and Exit
- Freight Route
- Haul Road
- Access Road
- Cadastral Boundaries
- Mineral leases
- Extractive mineral leases
- Mineral Claims

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Access Route Map

SLR
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:47,000 When Printed On A3 (0 200 400 600 800 m)
DRAWING NUMBER: 5042.DRG.008R3
REVISION:
DATE: 18-August-2025 DRAWN: MB
PRINTED: 18-August-2025 CHECKED: HH
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54

E 322900m
E 323400m
E 323900m
N 6103800 m
N 6103300 m

Stage 1
Stage 2
Stage 3
Stage 4
Stage 5
Stage 6

Topsoil stripping
Extraction area
Under rehabilitation
Rehabilitated area
Hardstand

Crushing, screening & product stockpiles
Topsoil stockpiles
C&D stockpiles & processing
Initial extraction area
5m wide access track
Screening mound
Topsoil stockpile

Campaign Work Area: 6ha

Progressive Rehabilitation Maximum Area: 6ha at any one time

Long-term Staging & Operational Area: 2.78ha

FILE NAME: F:\Jobs\SA\50000042_Emmar Quarries_Emmar Quarry\Drawings\Drawing\5042.DRG.009 Quarry Development Plan.dwg
JOB SUB #:
CREATED: 6 December 2022

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre: © The Government of South Australia (DIT) 2020
Ecosystem:
LiDAR:

Legend:
- Mineral Lease
- Cadastral Boundary
- Extraction Stage Boundary
- 10m Buffer
- Native Vegetation to be Retained
- Topsoil Stockpile
- 5m Buffer from Dripline
- 5m Wide Access Track
- Tree
- Native Vegetation to be Cleared
- Long-term Staging & Operational Area

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

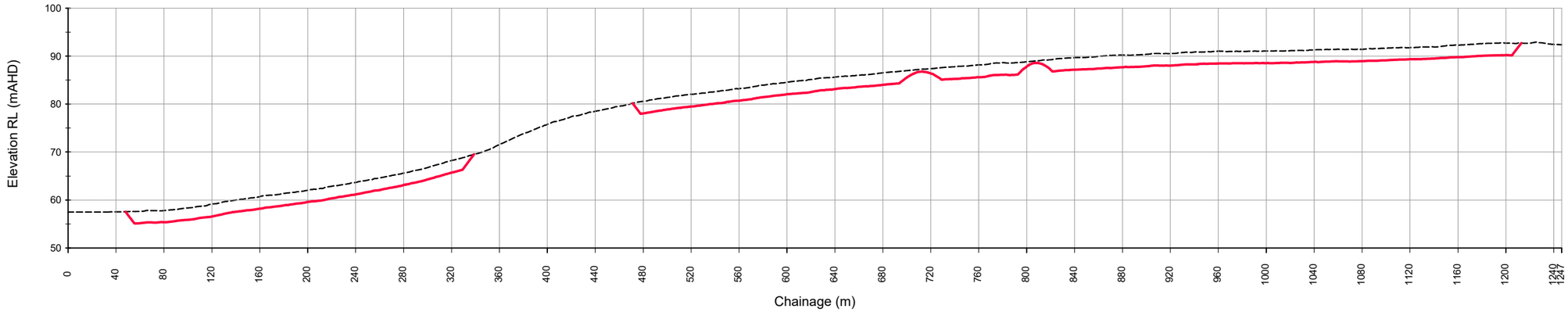
TITLE: Quarry Development Plan

SLR
PH: +61 3871 0411
www.slrconsulting.com

SCALE: 1:5,000 When Printed On A3 — 0 — 100m
DRAWING NUMBER: 5042.DRG.009
REVISION:
DATE: 6 December 2022
DRAWN: JHV
PRINTED: 6 December 2022
CHECKED: MJ
DATUM: HORIZONTAL / VERTICAL / ZONE: GDA94 / MGA / AHD / 54

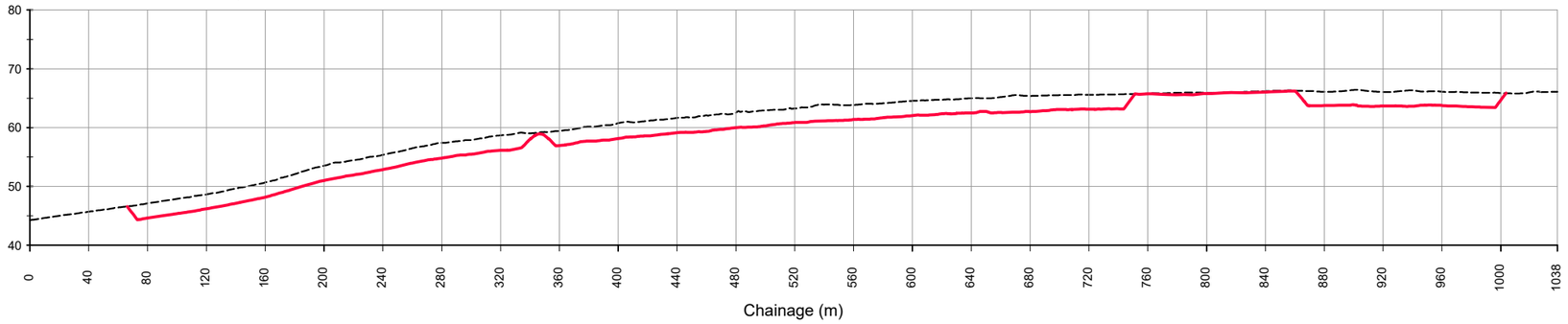
Section A

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



Section B

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre:
Ecosystem:
LiDAR:

Legend:
- Existing Ground Surface
- Pit Design Surface

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

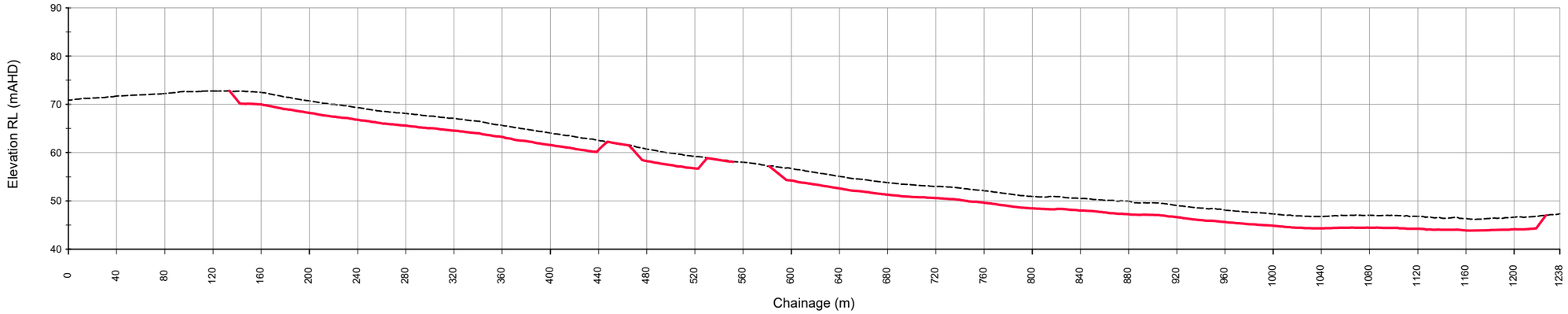
TITLE: Quarry Development Plan Cross Sections A-A to B-B

SLR
PH: +61 3871 0411
www.slrconsulting.com

SCALE: 1:4,000 When Printed On A3 — 0 — 80m
DRAWING NUMBER: 5042.DRG.009A
REVISION:
DATE: 30 November 2022 DRAWN: CP
PRINTED: 30 November 2022 CHECKED: MJ
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54

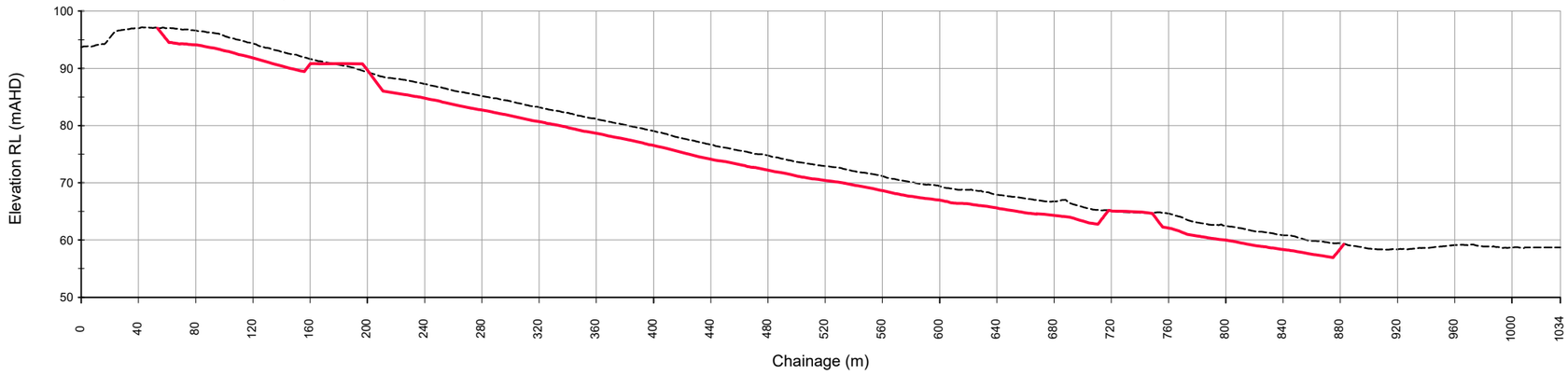
Section C

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



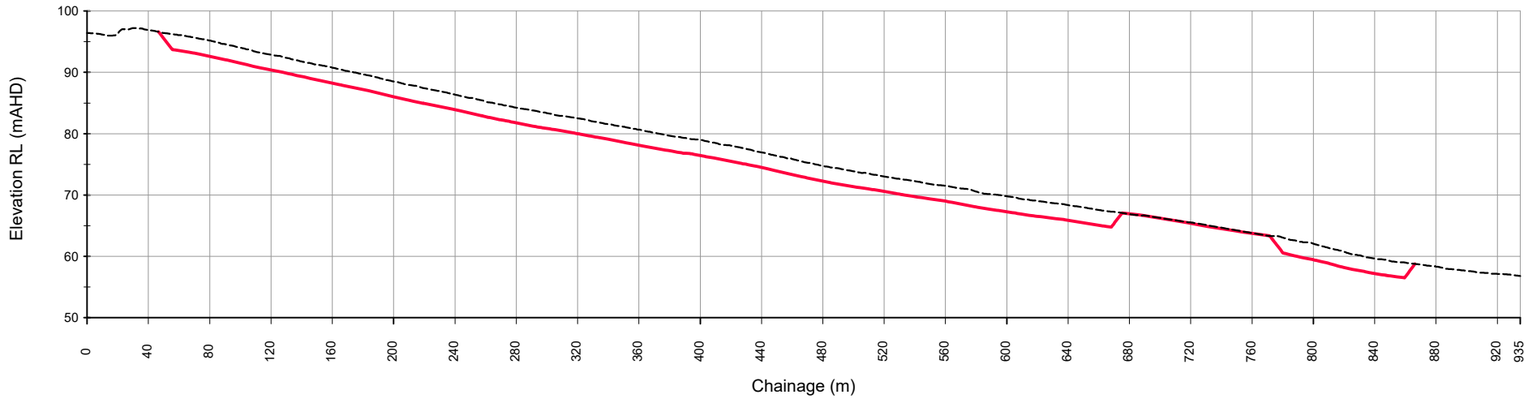
Section D

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



Section E

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre:
Ecosystem:
LiDAR:

Legend:
- Existing Ground Surface
- Pit Design Surface

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Quarry Development Plan Cross Sections C-C to E-E

SLR
PH: +61 3871 0411
www.slrconsulting.com

SCALE: 1:4,000 When Printed On A3 — 0 — 80m
DRAWING NUMBER: 5042.DRG.009B
REVISION:
DATE: 30 November 2022 DRAWN: CP
PRINTED: 30 November 2022 CHECKED: MJ
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54

322000E 322500E 323000E 323500E 324000E 324500E

6104500N 6104000N 6103500N

672700520
WW

WW 672704908

ML 6563

672701380
WW

672704886
WW

672701381
WW

REV	DESCRIPTION	DATE	BY
1	Updated following the approval of ML 6563	18/08/2025	HH

Data
Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au: Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:
- Water Wells
- Watercourses
- 10m Contours
- 5m Contours
- Drainage direction arrows

N

PROJECT: Alexandrina Quarry

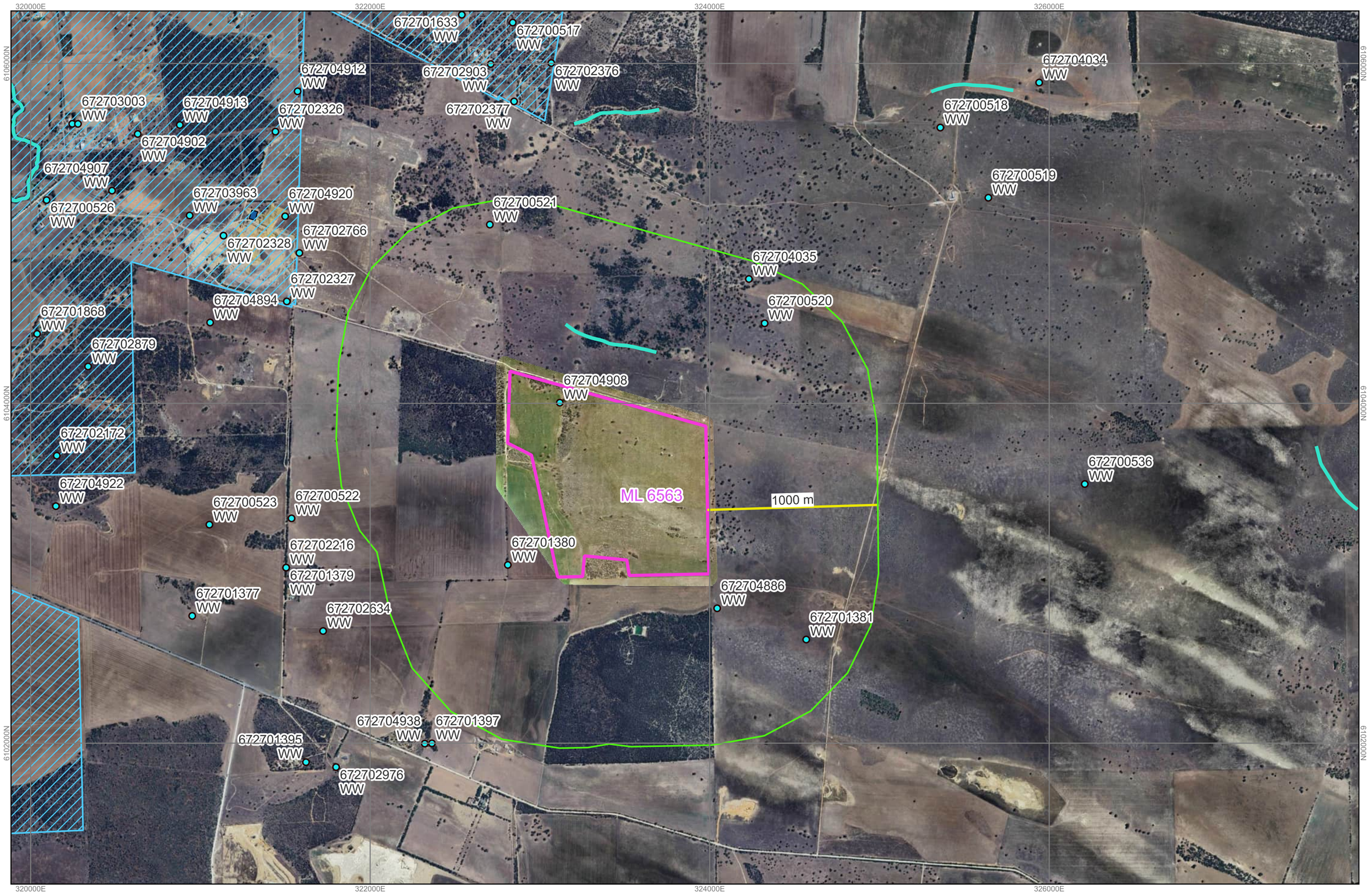
CLIENT: HP Resources SA Pty Ltd

TITLE: Topographic Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:8,000 When Printed On A3 (0 40 80 120 160 m)
DATE: 18-August-2025
PRINTED: 18-August-2025
DRAWN: MB
CHECKED:

DRAWING NUMBER: 5042.DRG.010
REVISION: 1
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54



REV	DESCRIPTION	DATE	BY
1	Updated following Approval of ML 6563	18/08/2025	HH

Data
Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au; Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:
- ADMIN_PrescribedWaterResourcesAreas_GDA2020
- Watercourses
- Water Wells
- 1km buffer

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Groundwater Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:21,000 When Printed On A3
0 100 200 300 400 m

DRAWING NUMBER: 5042.DRG.011R1
REVISION: 1

DATE: 18-August-2025
DRAWN: MB
PRINTED: 18-August-2025
CHECKED:

DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54

REV	DESCRIPTION	DATE	BY
1	Updated following approval of ML 6563	18/08/2025	HH

Data

Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au; Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:

- Site Office & Amenity Facilities
- Cadastral Boundaries
- Topsoil Stockpile
- Long term Staging & Operational Area
- Initial Extraction Area
- Water Well
- Site Entry and Exit
- C & D Stockpiles and Processing
- Water Storage Tanks
- QDP Stage 1
- All Roads
- Access Road
- Haul Road

N

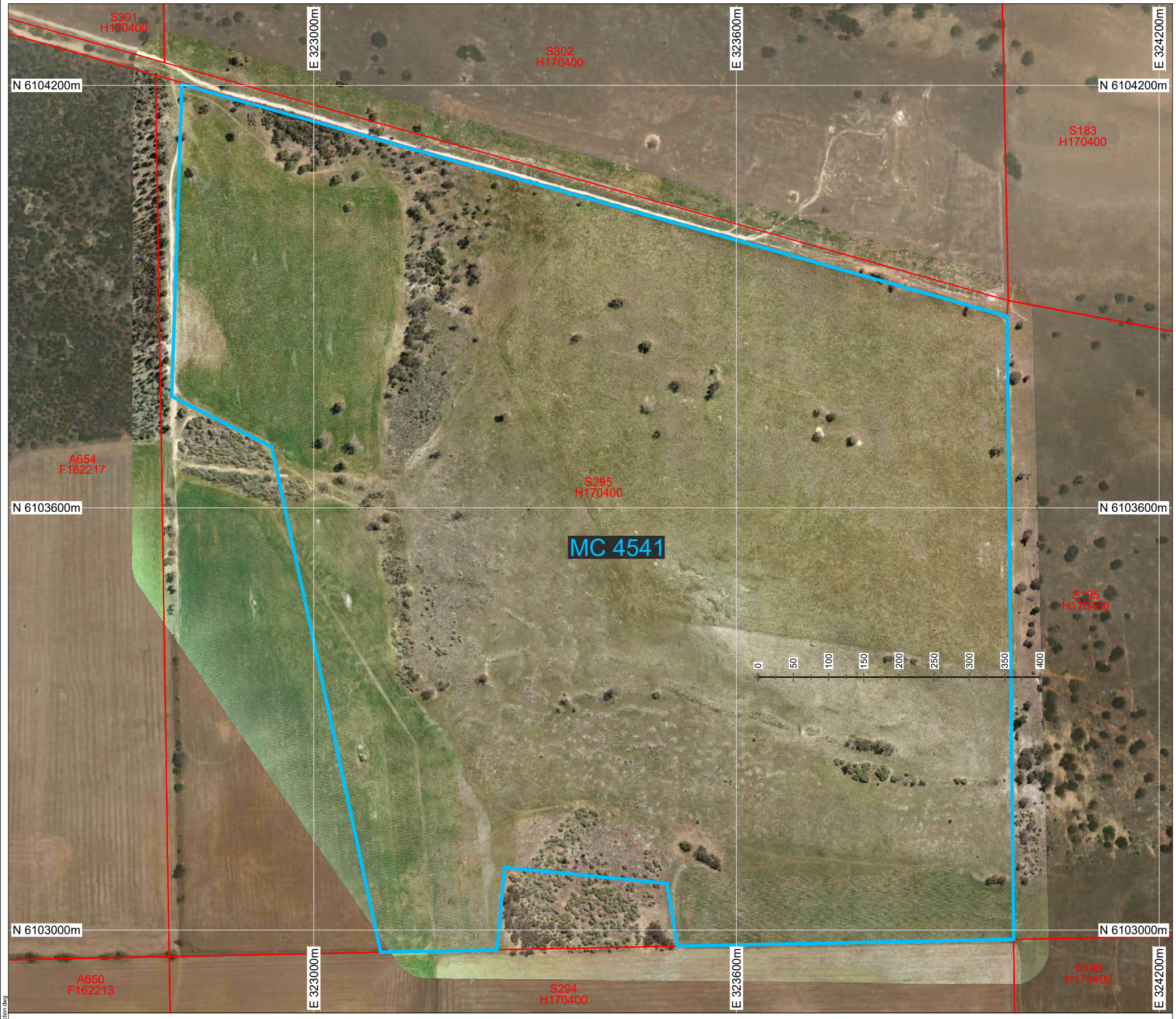
PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Site Layout Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:8,000 When Printed On A3 (0 30 60 90 120 m)
DRAWING NUMBER: 5042.DRG.012R1
REVISION: 1
DATE: 18-August-2025
DRAWN: MB
PRINTED: 18-August-2025
CHECKED: HH
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54



Geological Cross Section

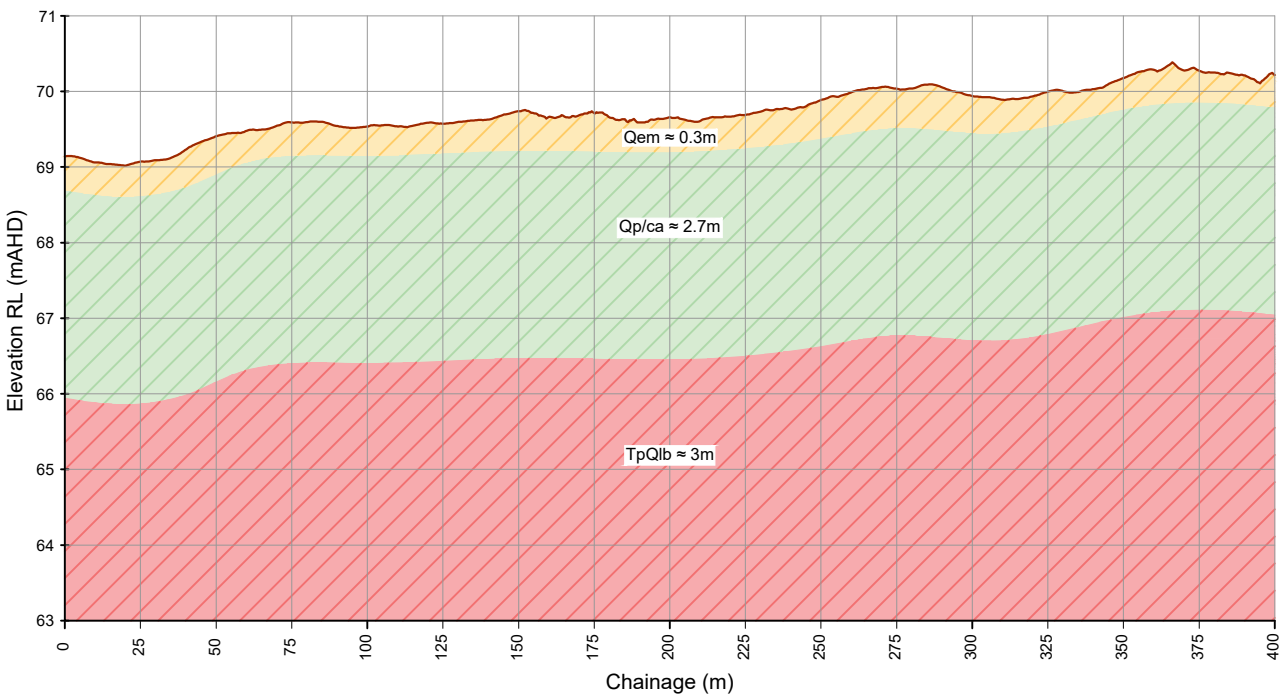
SCALES: HORIZONAL 1:2500 VERTICAL 1:100

Legend:

- Cadastral Boundary
- Mineral Claim

Geology:

- Topsoil
- Qem: Sand, pale yellow, fine to medium-grained quartzose
- Qp/ca: Undifferentiated Pleistocene Calcrete
- TpQlb: Clay, greenish grey, sandy; limestone, thin; and quartz sand; clay, green-grey, mottled, sandy



FILE NAME: F:\Jobs\SA\5000\5042_Erimar Quarries_Erimar Quarry\Drawings\Drawing\5042.DRG.013 Geological Cross Section.dwg
CREATED: 18 October 2022 JOB SUB #:

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23
Cadastre: © The Government of South Australia (DIT) 2022
Ecosystem:
Other: © 2022 Microsoft Corporation; © 2022 Maxar; © CNES (2022) Distribution Airbus DS

PROJECT: Erimar Quarry

CLIENT: Erimar Quarries Pty Ltd

TITLE: Geological Cross Section

GROUNDWORK plus
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:6,000 When Printed On A3 — 0 — 120m
DRAWING NUMBER: 5042.DRG.013
REVISION:
DATE: 18 October 2022
DRAWN: CP
PRINTED: 28 October 2022
CHECKED: MJ
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54

CREATED: 23 November 2022 JOB SUB #: FILE NAME:P:\Jobs\SA\50005042_Enmar Quarries_Enmar Quarry\Drawings\Drawing\5042.DRG.014 Final Landform Plan.dwg

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre: © The Government of South Australia (DIT) 2020
Ecosystem:
LIDAR:

Legend:
- Mineral Lease
- Cadastral Boundary
- Retained Native Vegetation
- Grassed Area
- Tree

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Conceptual Final Landform Plan

SLR
PH: +61 3871 0411
www.slrconsulting.com

SCALE: 1:5,000 When Printed On A3	0 100m	DRAWING NUMBER: 5042.DRG.014	REVISION:
DATE: 30 November 2022	DRAWN: CP	DATUM: HORIZONTAL / VERTICAL / ZONE	
PRINTED: 30 November 2022	CHECKED: MJ	GDA94 / MGA / AHD / 54	

Section A

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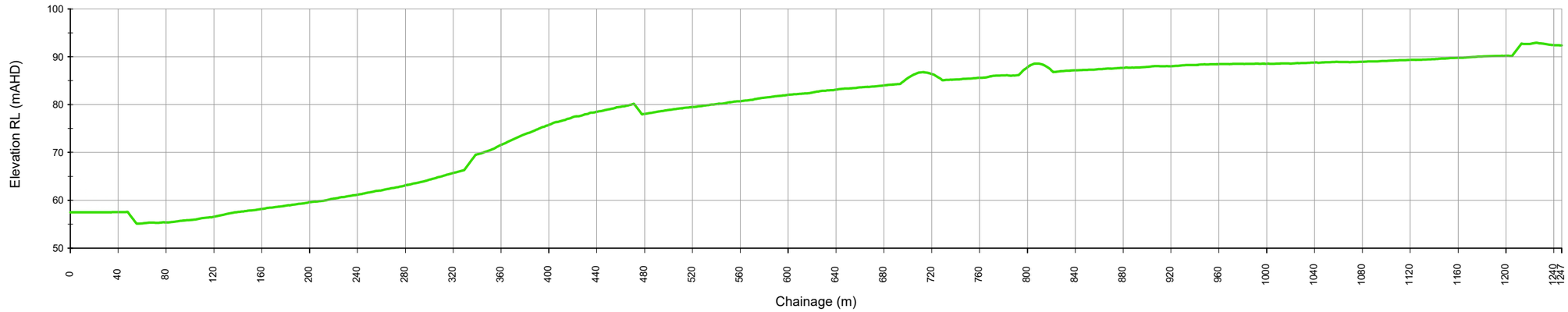

Section B

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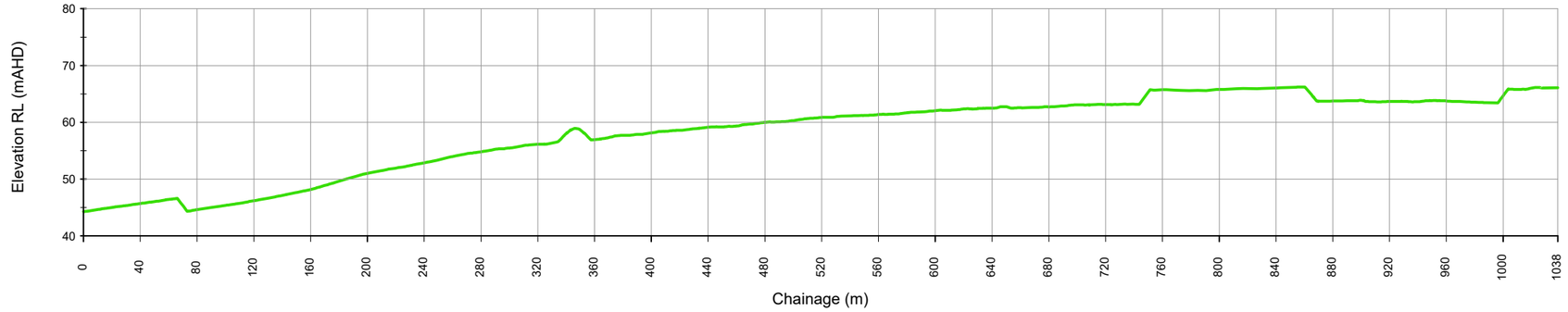

CREATED: 23 November 2022 JOB SUB #: FILE NAME: F:\Jobs\SA\50005042_Erimar Quarries_Erimar Quarry\Drawings\Drawing\5042.DRG.014 Final Landform Plan.dwg

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre:
Ecosystem:
LiDAR:

Legend:
Final Landform Surface

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Conceptual Final Landform Cross Sections A-A to B-B

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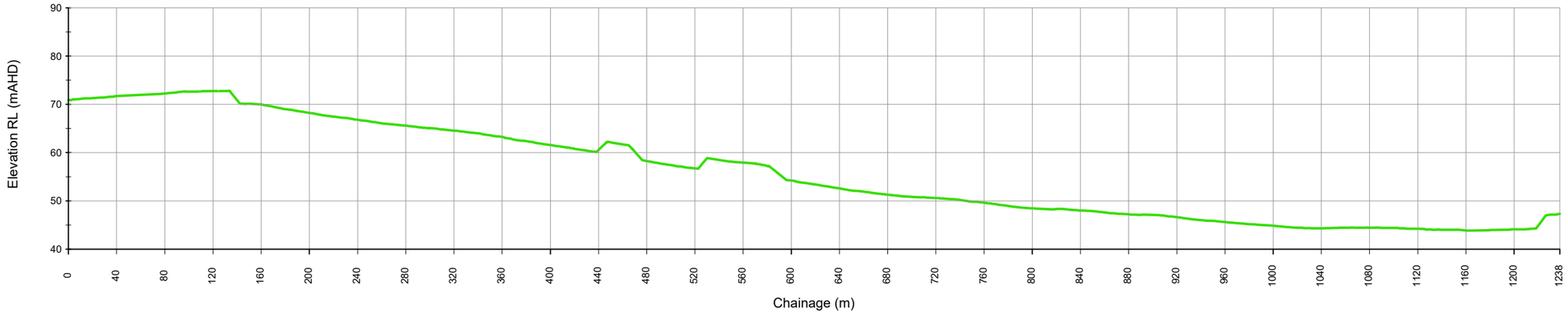
SCALE: 1:4,000 When Printed On A3 — 0 80m
DRAWING NUMBER: 5042.DRG.014A
REVISION:
DATE: 30 November 2022 DRAWN: CP
PRINTED: 30 November 2022 CHECKED: MJ
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54

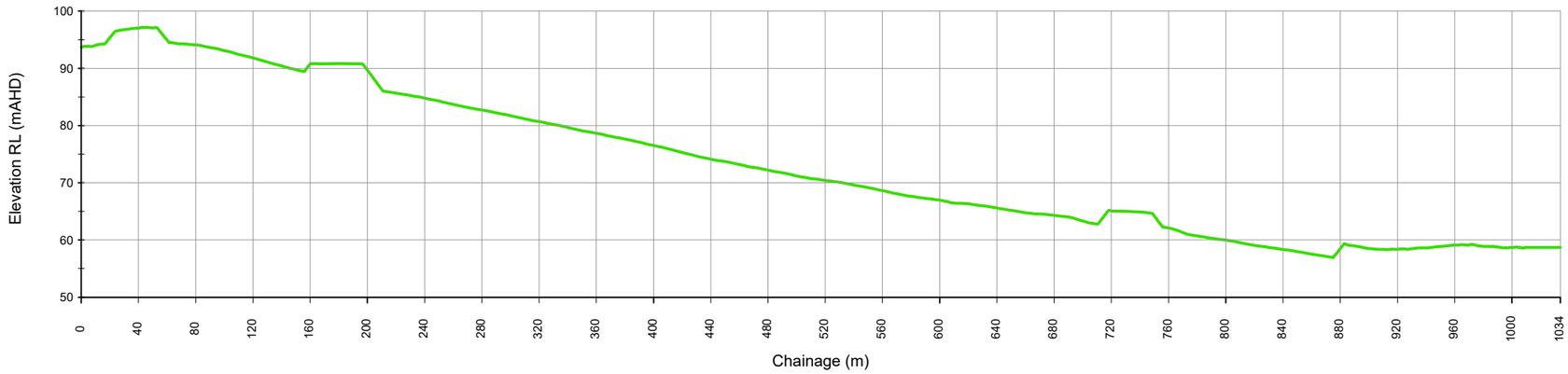
Section C

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



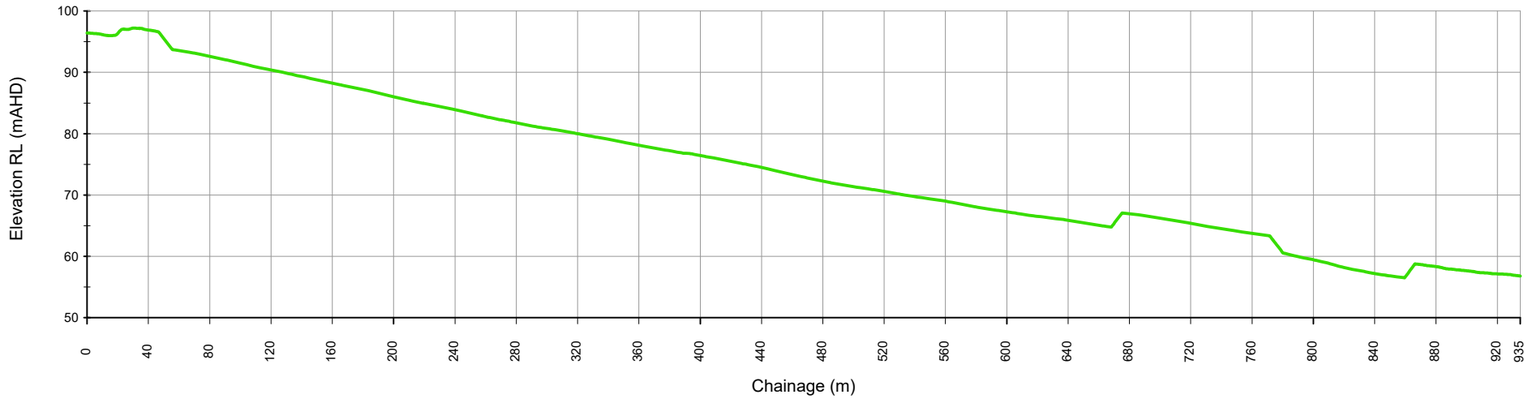
Section D

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



Section E

Vertical Scale - 1:1000, Horizontal Scale - 1:4000



REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre:
Ecosystem:
LiDAR:

Legend:
Final Landform Surface

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Conceptual Final Landform Cross Sections C-C to E-E

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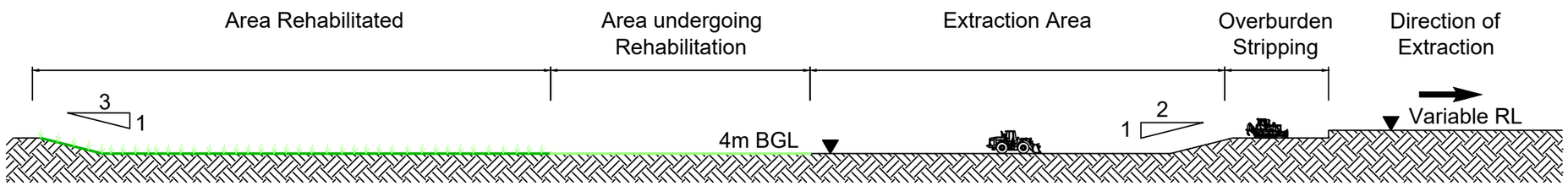
SCALE: 1:4,000 When Printed On A3 — 0 — 80m
DRAWING NUMBER: 5042.DRG.014B
REVISION:
DATE: 30 November 2022 DRAWN: CP
PRINTED: 30 November 2022 CHECKED: MJ
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54



Note:
As the extraction area develops in the direction of extraction, the rear of the extraction area can begin undergoing rehabilitation

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography:
Cadastre:
Ecosystem:
Other:

PROJECT: Erimar Quarry

CLIENT: Erimar Quarries Pty Ltd

TITLE: Quarry Development Cross Section

GROUNDWORK plus
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: NTC When Printed On A3 0

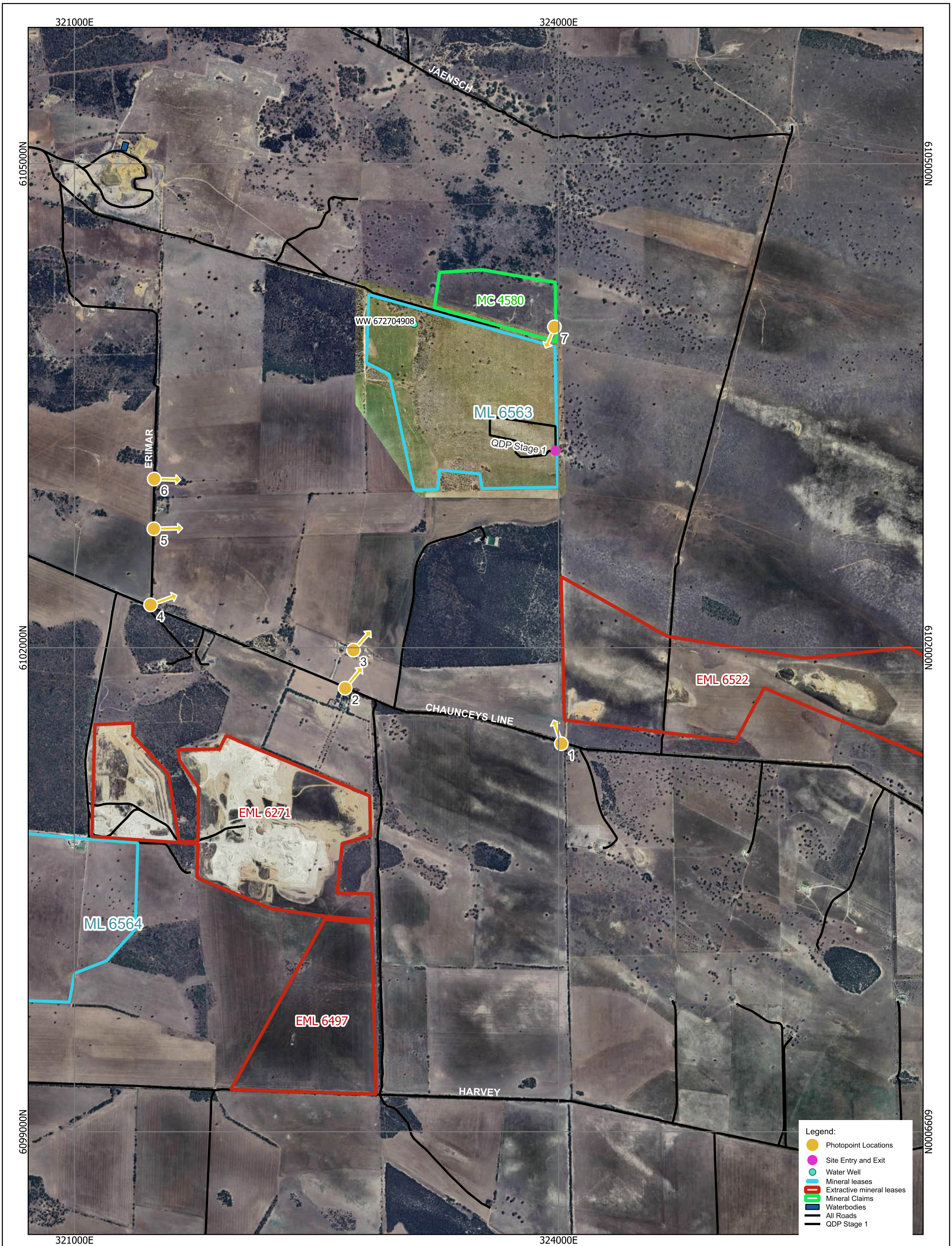
DRAWING NUMBER: 5042.DRG.015

REVISION:

DATE: 23 November 2022 DRAWN:

PRINTED: 30 November 2022 CHECKED:

DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 54



REV	DESCRIPTION	DATE	BY
1	Updated to include EML 6271, 6497 & 6522	26/04/2023	MB
2	Updated upon approval of ML 6563	18/08/2025	HH

Data Sources:
Photography: UAV Survey 2021-09-23; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-23
Cadastre: Data.sa.gov.au; Boundaries shown are indicative only
Ecosystem:
Other: SARIG, 2025

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Visual Assessment Map

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SCALE: 1:21,000 When Printed On A3
0 100 200 300 400 m

DRAWING NUMBER: 5042.DRG.016R2
REVISION: 2

DATE: 18-August-2025
DRAWN: MB
PRINTED: 18-August-2025
CHECKED: HH

DATUM: HORIZONTAL / VERTICAL / ZONE: MGA / AHD / 54
EPSG:7854

Appendix B Wind Frequency Analysis

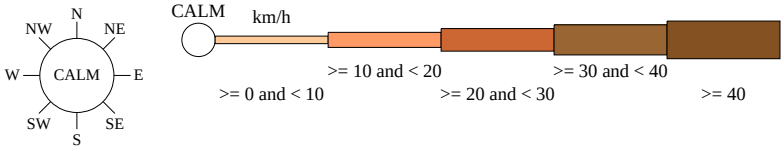
Rose of Wind direction versus Wind speed in km/h (01 Jan 1957 to 30 Jun 2001)

Custom times selected, refer to attached note for details

STRATHALBYN

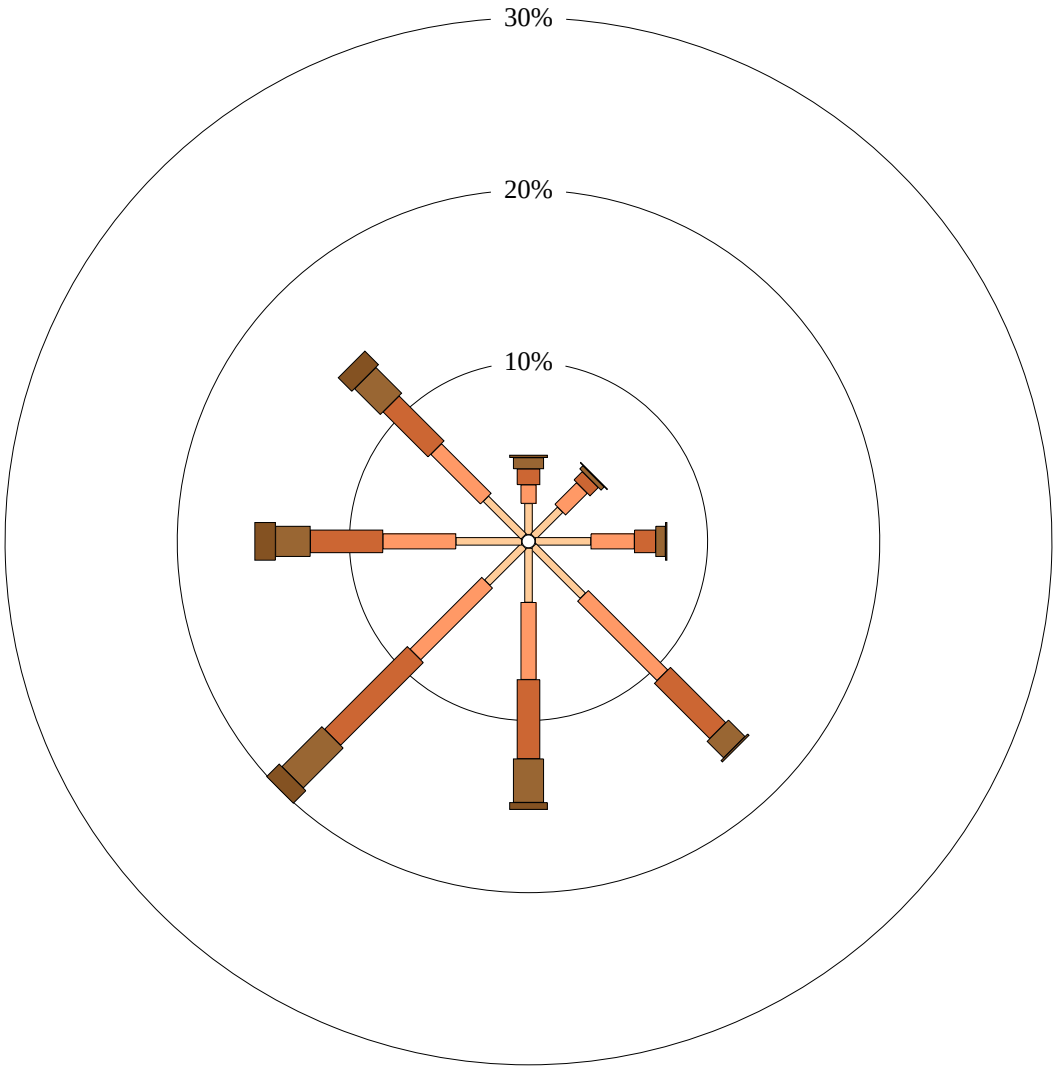
Site No: 023747 • Opened Jan 1861 • Still Open • Latitude: -35.256° • Longitude: 138.8901° • Elevation 70m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



3 pm
15251 Total Observations

Calm 2%



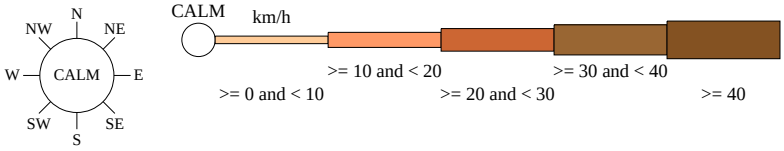
Rose of Wind direction versus Wind speed in km/h (01 Jan 1957 to 30 Jun 2001)

Custom times selected, refer to attached note for details

STRATHALBYN

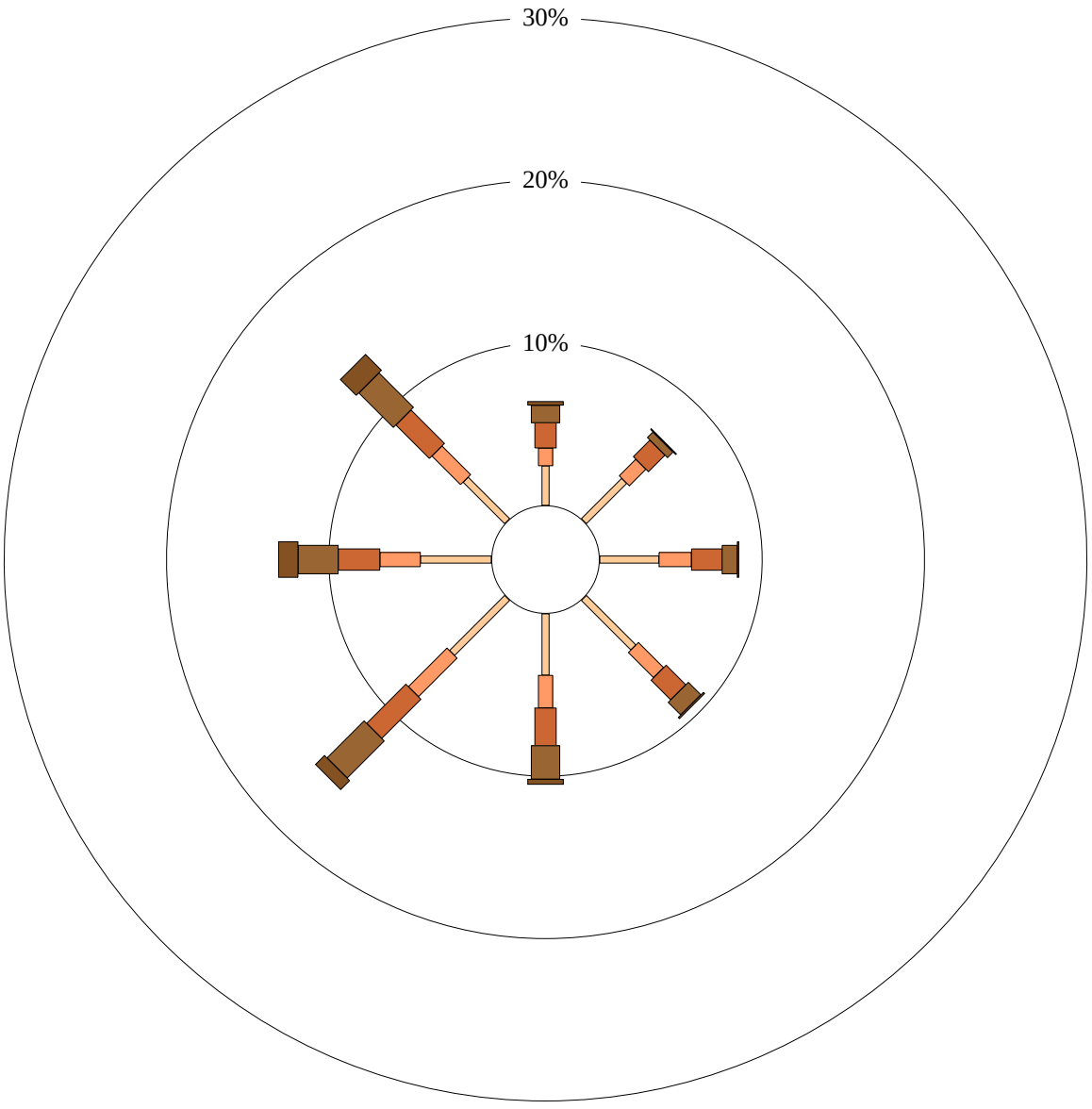
Site No: 023747 • Opened Jan 1861 • Still Open • Latitude: -35.256° • Longitude: 138.8901° • Elevation 70m

An asterisk (*) indicates that calm is less than 0.5%.
Other important info about this analysis is available in the accompanying notes.



9 am
15657 Total Observations

Calm 17%



Appendix C EPBC Act 1999 Protected Matters Report

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 18-Oct-2022

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	29
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	17
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
The coorong, and lakes alexandrina and albert wetland	10 - 20km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	Community may occur within area	In feature area
Iron-grass Natural Temperate Grassland of South Australia	Critically Endangered	Community likely to occur within area	In feature area
Mallee Bird Community of the Murray Darling Depression Bioregion	Endangered	Community likely to occur within area	In buffer area only
Peppermint Box (Eucalyptus odorata) Grassy Woodland of South Australia	Critically Endangered	Community likely to occur within area	In feature area
Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions	Critically Endangered	Community may occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Botaurus poiciloptilus			
Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area	In buffer area only
Polytelis anthopeplus monarchoides Regent Parrot (eastern) [59612]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Craterocephalus fluviatilis Murray Hardyhead [56791]	Endangered	Species or species habitat may occur within area	In buffer area only
Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat may occur within area	In feature area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Nannoperca australis Murray-Darling Basin lineage			
Southern Pygmy Perch (Murray-Darling Basin lineage) [91711]	Vulnerable	Species or species habitat may occur within area	In feature area
FROG			
Litoria raniformis			
Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area	In feature area
MAMMAL			
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Species or species habitat likely to occur within area	In feature area
PLANT			
Acacia menzelii			
Menzel's Wattle [9218]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Acacia pinguifolia			
Fat-leaved Wattle, Fat-leaf Wattle [5319]	Endangered	Species or species habitat may occur within area	In feature area
Acacia rhetinocarpa			
Neat Wattle, Resin Wattle (SA) [11282]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caladenia colorata			
Coloured Spider-orchid, Small Western Spider-orchid, Painted Spider-orchid [54999]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia tensa			
Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area	In feature area
Dodonaea subglandulifera			
Peep Hill Hop-bush [11956]	Endangered	Species or species habitat may occur within area	In feature area
Olearia pannosa subsp. pannosa			
Silver Daisy-bush, Silver-leaved Daisy, Velvet Daisy-bush [12348]	Vulnerable	Species or species habitat known to occur within area	In feature area
Prasophyllum pallidum			
Pale Leek-orchid [20351]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Prostanthera eurybioides Monarto Mintbush [2603]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterostylis arenicola Sandhill Greenhood Orchid [17919]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Pterostylis sp. Hale (R.Bates 21725) Hale Dwarf Greenhood [64539]	Endangered	Species or species habitat may occur within area	In buffer area only
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area	In feature area
Thelymitra epipactoides Metallic Sun-orchid [11896]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Bubulcus ibis as Ardea ibis](#) Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Neophema chrysostoma			
Blue-winged Parrot [726]		Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Monarto	Conservation Park	SA	In buffer area only
Unnamed (No.HA1030)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA1541)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA702)	Heritage Agreement	SA	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Appendix D Native Vegetation Management Plan

Native Vegetation Management Plan

Alexandrina Quarry (EML 6563)

Clearance under the *Native Vegetation Regulations 2017*

May 2026

Prepared by Matthew Jones

Project / Report Details

Document Title:	Native Vegetation Clearance Data Report Alexandrina Quarry (EML 6563)
Principal Author:	Matthew Jones / Mikayla Schwarz
Client:	HP Resources SA Pty Ltd
Ref. No.	5042.610.001

Document Status

Issue	*Description*	*Date*	*Author*	*Reviewer*
V1.0	Native Vegetation Clearance Data Report, Erimar Quarry (MC 4541)	November 2022	Matthew Jones / Mikayla Schwarz	Matthew Jones
V2.0	Native Vegetation Clearance Data Report, Alexandrina Quarry (EML 6563)	January 2025	Matthew Jones / Mikayla Schwarz / Hamish Hill	Louise Jaunay
V3.0	Native Vegetation Clearance Data Report, Alexandrina Quarry (EML 6563)	February 2026	Matthew Jones / Mikayla Schwarz / Hamish Hill	Matthew Jones
V4.0	Native Vegetation Management Plan, Alexandrina Quarry (EML 6563)	May 2026	Louise Jaunay	Matthew Jones

Distribution Record

Recipient	
Erimar Quarries Pty Ltd	1 x Electronic

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DRAWINGS

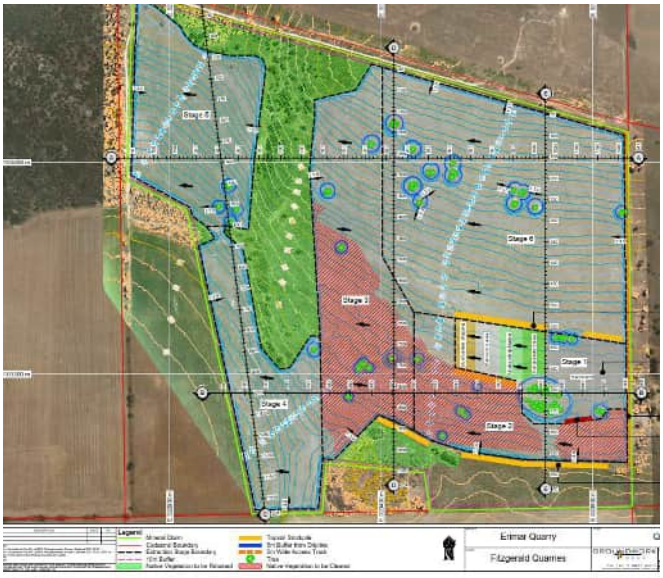
ATTACHMENTS

1. Applicant Information

1.1. Application Details

Applicant:	HP Resources SA Pty Ltd		
Key contact:	Charlie Pocock charlie@pocockquarries.com.au		
Landowner:	CC Pocock Pty Ltd, Harkness Family Pty Ltd		
Site Address:	Erimar Road, Hartley, South Australia		
Local Government Area:	Alexandrina Council	Hundred:	Freeling
Title ID:	CT5933/630	Parcel ID:	H170400SE295

1.2. Summary of Proposed Clearance

Purpose of Clearance	Quarry Extraction
Native Vegetation Regulation	Part 5, Division 1, Regulation 12 (28) – Operations
Description of the Vegetation under application	*Gahnia* / *Austrostipa* Grassland.
Total Proposed Clearance - area (hectares (ha)) and number of trees	15.16 ha
Level of Clearance	Level 4
Overlay (Planning and Design Code)	Rural, Environment and Food Production Area, Hazards (Bushfire – Medium Risk), Hazards (Flooding – Evidence Required), Limited Land Division, Murray-Darling Basin, Native Vegetation
	
Mitigation Hierarchy	The vegetation clearance for the proposed quarry extraction is focused within an already disturbed area, of which the vegetation condition is degraded. Native vegetation clearance will be avoiding all scattered trees with a five (5) metre (m) buffer from the dripline. The other remaining shrubland / grassland will be required to be removed for the purpose of quarry development. All quarry

	operators will be made aware of the extent of quarry operating areas to ensure that there is no unnecessary damage to the scattered trees. The clearance of native vegetation has been restricted to the lower quality and degraded areas of the Site, where there is low species diversity and absence of shrub and tree cover.
Significant Environment Benefit (SEB) Offset Proposal	Payment of $150,523.28 into the Native Vegetation Fund (NVF).

2. Purpose of Clearance

2.1. Description

Groundwork Plus (SA) Pty Ltd (Groundwork Plus) has been engaged by HP Resources SA Pty Ltd (HP Resources SA), formerly Erimar Quarries Pty Ltd to undertake a Native Vegetation Assessment of vegetation located within a proposed new quarry within EML 6563 on land parcel Certificate of Title (CT) 5933/630 (the Site).

The Site is located within the Alexandrina Council within the Hills and Fleurieu Landscape Board (Landscape Board), approximately 50 kilometres (km) southeast of Adelaide. The nearest town, Hartley, is located approximately three (3) km west of the Site, refer to **Drawing No. 5042.DRG.002R3 – Site Location Plan**.

2.2. Background

The Site has historically been used for agriculture (cropping and grazing). As the demand for materials is increasing within the Alexandrina Council region, it is intended to establish Mining Tenure over the Site to enable the supply of materials to the construction industry.

Future extraction activities proposed for the Site will be implemented through the staged Quarry Development Plans (QDP) that will require progressive clearance of approximately 15.26 ha of the Site, as outlined in **Drawing No. 5042.DRG.004R2 – Vegetation Clearance Map** and **Drawing No. 5042.DRG.009 – Quarry Development Plan**.

2.2.1 Interim Biogeographical Regionalisation of Australia (IBRA)

A search of the Government of South Australia Enviro Data (2022), application *NatureMaps* confirmed the Site is located within the Kanmantoo (KAN) IBRA region, the Sandergrove Association and the Fleurieu subregion. The KAN IBRA region is described as 'Mallee Woodland and Shrubland over dissected tableland with moderate to very steep slopes' (*NatureMaps*, 2022).

2.2.2 Climate

The nearest weather station is located at Hartley (No. 023822) west of the Site. The regional climate is characterised as Mediterranean, with most of the rainfall occurring between the months of June and September. Review of the Government of South Australia Enviro Data (2022), application *NatureMaps* climate data has recorded a mean annual rainfall of 392 millimetres (mm).

2.3. General Location Map

The development of the Site will comprise of the progressive development of six (6) quarry stages that will require progressive removal of small patches of native vegetation within Stages 2 and 3 of the QDP, outlined in **Drawing No. 5042.DRG.004R2 – Vegetation Clearance Map**.

2.4. Details of the Proposal

The Site is located on a slight downhill slope within a paddock with small patches of remnant native vegetation. An inspection of the Site undertaken on 23 September 2021 by a Groundwork Plus Native Vegetation Accredited Consultant confirmed that the Site contains Native Vegetation as defined by the *Native Vegetation Act 1991*. Vegetation within the Site comprised of mature remnant vegetation throughout the Site, which appears to have been exposed to grazing. Results of the Bushland Assessment were combined to help inform the potential SEB requirements of the future quarry development.

An overview of the future quarry development is provided within **Drawing No. 5042.DRG.009 – Quarry Development Plan**.

2.5. Approvals Required or Obtained

Due to the demand for construction materials to support infrastructure projects within the region, it is intended to establish Mining Tenure over the land to enable the supply of material to the market. As part of the process, the Vegetation Clearance Proposal has been prepared for inclusion with the Defined Impact Mining Lease Proposal (DIMLP) for the Site in accordance with the provisions of the *Mining Act 1971*.

A review of the Government of South Australia Enviro Data (2022), application *NatureMaps* indicated that there have not been any previous native vegetation clearance applications for the Site.

2.6. Native Vegetation Regulation

Provisions for clearance of native vegetation associated with the mining operations are provided under the *Native Vegetation Regulations 2017*, Part 5, Regulation 12, Division 1, Subclause 28 – Operations – Clearance of vegetation incidental to operations authorised under a *Mining Act 1971* or the *Geothermal Energy Act 2000*.

2.7. Development Application Information (if applicable)

Development approvals are not required for activities associated with the DIMLP.

3. Method

3.1 Flora Assessment

An online search was undertaken for *Environmental Protection and Biodiversity Conservation 1999 (EPBC Act)* for Matters of National Environmental Significance (MNES), along with a review of the Government of South Australia Enviro Data (2022), application *NatureMaps* for historical records of any rare or endangered flora species within five (5) km of the Site.

After a review of the background information and literature, an assessment of the Site was undertaken on 23 September 2021 by Groundwork Plus, which involved a general assessment of the Site and identification of habitat for species of conservation significance.

The proposed extraction area was surveyed for:

- Remnant and regrowth native vegetation
- Introduced plant species, and

Representative photographs of the vegetation within the Site are provided in **Section 4.1 Vegetation Assessment**.

3.2 Fauna Assessment

An online search was undertaken for *EPBC Act* for MNES, along with a review of the Government of South Australia Enviro Data (2022), application *NatureMaps* to determine the presence of any rare or endangered fauna species recorded within a five (5) km of the Site, refer to **Attachment 1 – Fauna Species List**. A summary of the key EPBC and State listed species potentially present within the area is presented within **Attachment 2 – *Environmental Protection Biodiversity Act 1999* Protected Matters Report**.

4. Assessment Outcomes

4.1 Vegetation Assessment

The Site is located on Erimar Road within agricultural (grazing) land. The topography of the Site is characterised by moderate, rolling hills. Height elevations on the Site range from 43 – 100 metres Australian Height Datum (mAHD). Historical vegetation clearance for the purpose of agriculture has resulted in a large proportion of vegetation being removed from the Site.

Inspection of the Site confirmed presence of two (2) native vegetation associations within the proposed quarry extraction area comprised of Vegetation Association A – *Gahnia* / *Austrostipa* grassland and Vegetation Association B – *Eucalyptus* Mallee / *Melaleuca* open woodland with native and exotic grasses. Adjacent areas within the Site are comprised of taller native woodland containing *Eucalyptus fasciculosa* (Pink Gum) over native understory and natural grasses and active cropping areas as outlined within **Drawing No. 5042.DRG.004R2 – Vegetation Clearance Map**.

Vegetation Association A is comprised of degraded *Gahnia deusta* (Limestone Saw-sedge) and *Gahnia lanigera* (Black Grass Saw-sedge) +/- *Austrostipa sp.* (Spear-grass) +/- *Chrysocephalum apiculatum* (Common Everlasting) with exotic grasses.

Vegetation Association B is comprised of *Eucalyptus dumosa* (White Mallee) and *Melaleuca lanceolata* (Dryland Tea-tree) +/- *Eucalyptus fasciculosa* (Pink Gum), *Callitris gracilis* (Southern Cypress Pine) and *Acacia victoriae ssp.* (Elegant Wattle) over *Chrysocephalum apiculatum* (Common Everlasting) +/- *Austrostipa sp.* (Spear-grass) +/- *Gahnia deusta* (Limestone Saw-sedge) +/- *Gahnia lanigera* (Black Grass Saw-sedge).

A preliminary assessment of Vegetation Association B informed the vegetation conditions scores were higher than vegetation Association A, of which revised quarry development plans were developed to avoid the requirement to have impacts on Vegetation Association B. On this basis, the results of the Bushland assessment of Vegetation Association B have been excluded from this report.

Weed disturbance is relatively present within the Site and is comprised of *Scabiosa atropurpurea* (Pincushion) +/- *Marrubium vulgare* (Horehound) +/- *Echium plantagineum* (Salvation Jane) +/- *Largurus ovatus* (Hare's Tail Grass) +/- *Arctotheca calendula* (Cape Weed) +/- *Avena barbata* (Bearded Oat).

The scattered trees, including *Eucalyptus fasciculosa* (Pink Gum) and *Eucalyptus dumosa* (White Mallee), were also observed within the Site, however they will be retained with a five (5) m buffer around each tree from the dripline. The bushland assessment was focused upon areas where trees and shrubs have been previously cleared, of which the proposed future quarry development will be retained within the degraded grassland. As the trees will be retained within the Site, no tree attributes were assessed or scored within the Bushland Assessment Datasheets, although the vegetation associations are not considered to be naturally treeless. Full details of the vegetation attributes and condition scores are provided within **Attachment 3 – Bushland Assessment Scoresheet – Vegetation Association A Stage 2** and **Attachment 4 – Bushland Assessment Scoresheet – Vegetation Association A Stage 3**. A list of flora species recorded onsite are provided in **Attachment 5 – Plant Species Recorded (Native and Introduced)**.

Table 1 – Vegetation Association A – Stage 2

Vegetation Association	*Gahnia* / *Austrostipa* Grassland.				
 **Direction of Photo:** West **Easting:** 323631.47 **Northing:** 6130264.33					
General Description	The Site comprised of +/- *Chrysocephalum apiculatum* (Common Everlasting) +/- *Austrostipa sp.* (Spear-grass) +/- *Gahnia deusta* (Limestone Saw-sedge) +/- *Gahnia lanigera* (Black Grass Saw-sedge). Weed disturbance is present within the Site, additional species comprised of *Scabiosa atropurpurea* (Pincushion) +/- *Marrubium vulgare* (Horehound) +/- *Echium plantagineum* (Salvation Jane) +/- *Largurus ovatus* (Hare's Tail Grass) +/- *Arctotheca calendula* (Cape Weed) +/- *Avena sp.* (Oat).				
Threatened Species or Community	One listed threatened flora species was observed within the Site, *Eucalyptus fasciculosa* (Pink Gum), with a state rating of Rare. This species will be retained with a five (5) m buffer and will not be required for removal.				
Landscape Context Score	1.11	Vegetation Condition Score	9.80	Conservation Significance Score	1.10
Unit Biodiversity Score	11.97	Area (ha)	6.55	Total Biodiversity Score	78.40

Table 2 – Vegetation Association A – Stage 3

Vegetation Association	*Gahnia* / *Austrostipa* Grassland.				
 **Direction of Photo:** North East **Easting:** 323208.81 **Northing:** 6103426.84					
General Description	The Site comprised of +/- *Chrysocephalum apiculatum* (Common Everlasting) +/- *Austrostipa sp.* (Spear-grass) +/- *Gahnia deusta* (Limestone Saw-sedge) +/- *Gahnia lanigera* (Black Grass Saw-sedge). Weed disturbance is present within the Site, additional species comprised of *Scabiosa atropurpurea* (Pincushion) +/- *Marrubium vulgare* (Horehound) +/- *Echium plantagineum* (Salvation Jane) +/- *Largurus ovatus* (Hare's Tail Grass) +/- *Arctotheca calendula* (Cape Weed) +/- *Avena sp.* (Oat).				
Threatened Species or Community	One (1) listed threatened flora species was observed within the Site, *Eucalyptus fasciculosa* (Pink Gum), with a state rating of Rare. This species will be retained with a five (5) m buffer and will not be required for removal.				
Landscape Context score	1.12	Vegetation Condition Score	9.80	Conservation Significance Score	1.10
Unit Biodiversity Score	12.07	Area (ha)	8.61	Total Biodiversity Score	103.92

4.2 Threatened Species Assessment

A search of the Government of South Australia Enviro Data (2022), application *NatureMaps* identified five (5) threatened fauna species within five (5) km of the Site. A further 12 threatened species were found to be listed under the *EPBC Act 1999*, with the species having a habitat preference of the region, refer to **Table 3 – State and Nationally Rated Fauna Species** and **Table 4 – Criteria for the Likelihood of Occurrence of Species within the Study Area**.
Table 3 – State and Nationally Rated Fauna Species

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Botaurus poiciloptilus (Australasian Bittern)	VU	E	4		The species is found predominantly in reedbeds and other	Due to the habitat preference, the

					vegetation submerged in water (BirdLife Australia, 2022).	species is **unlikely** to inhabit the area.
Calidris ferruginea (Curlew Sandpiper)		CR	4		The species is found on intertidal mudflats, estuaries and other coastal areas (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Corcorax melanorhamphos (White-winged Chough)	R		3	2016	The species is found in open forests and woodlands and prefer areas with high amounts of leaf litter (BirdLife Australia, 2022).	Based on previous records within five (5) km and the specie's habitat preference, it is **possible** that the species could inhabit the area.
Falco hypoleucos (Grey Falcon)		VU	4		The species has a habitat preference of grassland and watercourses in arid and semi-arid regions (OHE NSW, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Grantiella picta (Painted Honeyeater)		VU	4		The species inhabits dry open forests and woodlands, as well as urban parks and farmland (BirdLife Australia, 2022).	Due to the habitat preference, it is **possible** that the species could inhabit the area.
Hieraaetus morphnoides (Little Eagle)	R		3	2016	The species is known to occur in woodland, forested lands and open country (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Leipoa ocellata (Malleefowl)	VU	VU	4		The species inhabits dense, dry Eucalypt woodlands with a dense understory shrubland (BirdLife Australia, 2022).	Due to the habitat preference, it is **possible** that the species could inhabit the area.
Litoria raniformis (Growling Grass Frog)	VU		4		Species is known to occur on the edges of waterbodies such as lagoons, ponds and farm dams (DCCEEW, 2022).	Due to the habitat preference and lack of watercourses within the Site, it is **unlikely** that the species could inhabit the area.
Melanodryas cucullata cucullata (Hooded Robin)	R		3	2016	The species is found in light woodlands, dominated by acacia and / or eucalypts (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.

Numenius madagascariensis (Eastern Curlew)	VU	CR	4		The species is found on intertidal mudflats, estuaries, and other coastal areas (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Pedionomus torquatus (Plains-wanderer)		CR	4		The species has a habitat preference of semi-arid, native grasslands (Bush Heritage Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Pezoporus torquatus (Night Parrot)	E	E	4		The species inhabit arid and semi-arid grasslands, as well as saltbush and samphire environments (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Polytelis anthopeplus monarchoides (Regent Parrot (eastern))		V	4		This species primarily inhabits Red Gum forests or farmland with patches of woodland (DCCEEW, 2022).	Due to the habitat preference, it is **possible** that the species could inhabit the area.
Rostratula australis (Australian Painted Snipe)	R	E	4		The species inhabits freshwater terrestrial wetlands (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Pteropus poliocephalus (Grey-headed Flying-fox)	V		4		The species inhabits a range of vegetation communities, including rainforests, and closed and open woodlands (DCCEEW, 2022).	Due to the habitat preference, the species is **unlikely** to inhabit the area.
Stagonopleura guttata (Diamond Firetail)	V		3	2016	The species inhabits open grassy woodland, farmland or grassland with scattered trees (BirdLife Australia, 2022).	Due to the habitat preference, it is **possible** that the species could inhabit the area.
Zandra funerea whiteae (Yellow-tailed Black Cockatoo)	V		3	2006	The species inhabits a range of habitat types but has a preference to woodland and pine plantations (BirdLife Australia, 2022).	Due to the habitat preference, the species is **unlikely** that the species will be affected by the proposed clearance.
Source; 1- BDBSA, 2 - AoLA, 3 – NatureMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others NP&W Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable						

Based upon the results of the desktop analysis, vegetation condition, proximity to historical disturbance areas, habitat observed in the field and the scale of vegetation impacts in comparison to the regional vegetation representation, the vegetation removals associated with each of the disturbance areas is unlikely to provide significant habitat for wildlife.

Table 4 – Criteria for the Likelihood of Occurrence of Species within the Study Area

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species. Recorded within 20 - 40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provides no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20 - 40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

4.3 Cumulative Impact

Cenchrus ciliaris (Buffel Grass) is known to occur in the region but was not observed during the Site inspection. However, strict vehicle hygiene practices must be adhered to during the proposed works to ensure the weed is not introduced from other areas.

4.4 Address the Mitigation Hierarchy

a) Avoidance – outline measures taken to avoid clearance of native vegetation.

The proposed quarry development has been situated within areas of previous disturbance to minimise the extent of native vegetation that is required for removal. There are several isolated, scattered trees within the Site, however these will be avoided, along with a five (5) m buffer to the extraction area from the edge of the tree canopy. The remaining native vegetation located within Stages 2 and 3 is not able to be avoided as it is located within the targeted resource within the Site. The clearance of native vegetation has been restricted to the lower quality and degraded areas of the Site where there is low species diversity and absence of shrub and tree cover.

b) Minimisation – if clearance cannot be avoided, outline measures taken to minimise the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

The pit design has considered the health and condition of the vegetation within the Site and the amount of previous clearance that has occurred for agricultural purposes. The extent of native vegetation clearance has been reduced as much as possible.

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimised, such as allowing for the re-establishment of the vegetation.

The final landform proposed for the Site is intended to support the current and future land use of agriculture (grazing), with the rehabilitation landform established and revegetated pastural grasses. Progressive rehabilitation will occur as soon as practicable following the completion of extraction activities within each of the stages. All quarry operators will

be made aware of the extent of quarry operating areas to ensure that there is no unnecessary damage to the scattered trees.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimised should be offset by the achievement of a SEB that outweighs that impact.

A review of the Native Vegetation SEB Credit Register identified that there are no suitable SEB Credit Sites available for use. Therefore, HP Resources SA Pty Ltd intend to pay into the NVF, the amount required for the SEB, as calculated in **Attachment 3 – Bushland Assessment Scoresheet – Vegetation Association A Stage 2** and **Attachment 4 – Bushland Assessment Scoresheet – Vegetation Association A Stage 3**.

4.5 Principles of Clearance (Schedule 1, *Native Vegetation Act 1991*)

The Native Vegetation Council (NVC) will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations. The NVC will consider all the Principles of Clearance of the Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act 2016*. An address of the Principles of Clearance is provided within **Table 5 – Principles of Clearance Summary**.

Table 5 – Principles of Clearance Summary

Principle of Clearance	Considerations
Principle 1b – significance as a habitat for wildlife	Relevant Information Many of the surveyed areas are surrounded by previous disturbance from farmland, potentially reducing their suitability as habitat for fauna species. The vegetation associations surveyed may provide suitable habitat for several fauna species, particularly bird species. The EPBC Act Protected Matters Search Tool Report suggests that habitat may be present in regional areas for those listed in **Attachment 2 – *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC) Protected Matters Report**. Threatened Fauna Scores – Stage 2 – 0.1 Stage 3 – 0.1
	Assessment against the principles Based upon the results of the desktop analysis, vegetation condition, proximity to existing disturbance areas, habitat observed in the field and the scale of the vegetation impacts in comparison to the regional vegetation representation, the disturbance areas are unlikely to provide significant habitat for wildlife. However, the vegetation assessment site scored a Threatened Fauna Score of 0.1, and as such, the clearance of vegetation within the area assessed is considered to be **Seriously at Variance** with Principle (b).
	Moderating factors that may be considered by the NVC Given the shape, size, and landscape context of the vegetation under application, it is unlikely that the clearance in Stages 2 and 3 will lead to a long-term decrease in the size of any fauna populations. The application area consists of vegetation associations that are regionally well represented and are not critical habitat for any fauna species. Habitat within the application area is likely to provide habitat for common species only. No threatened species have been recorded within the application area; therefore, the clearance is unlikely to interfere with the recovery of any threatened fauna species.

Principle 1c – plants of a rare, vulnerable or endangered species	Relevant Information The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) Protected Matters Search Tool Report suggests that the habitat may be present in the region for those species listed, refer to **Attachment 2 – *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC) Protected Matters Report**. Threatened Flora Scores – Stage 2 – 0 Stage 3 – 0
	Assessment against the principles The proposed vegetation clearance is of vegetation associations that are common in the region. Threatened flora scores for both Stages are zero (0), therefore clearance is considered **Not at Variance** with Principle (c).
	Moderating factors that may be considered by the NVC Not Applicable.
Principle 1d – the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or Endangered	Relevant Information The EPBC Protected Matters Search Tool Report, along with Site assessments found that there were no plant communities of conservation significance within the clearance areas. The disturbance to remnant vegetation for proposed works will have little impact on the surrounding plant communities. Threatened Community Scores – Stage 2 – 1 Stage 3 – 1
	Assessment against the principles Given the absence of plant communities of conservation significance both within the clearance areas and adjoining land, the vegetation clearance is **Not at Variance** with Principle (d).
	Moderating factors that may be considered by the NVC Not Applicable.

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	N/A
	Area (ha)	15.26
	Total Biodiversity Score	182.32
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

5 Clearance Summary

Table 6 – Clearance Area(s) Summary Table

Block	Site	Species diversity score	Threatened Ecological	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	2	6.0	1	0	0.1	11.97	6.55	78.40	1.0			86.24	$61,353.21	$3,374.43
A	3	6.0	1	0	0.1	12.07	8.61	103.92	1.0			103.30	$81,322.88	$4,472.76
						Total	**15.26**	**182.32**				**189.5**	**$142,676.09**	**$7,847.19**

Table 7 – Total Summary Table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	182.32	189.5	$142,676.09	$7,847.19	$$150,523.28

Economies of Scale Factor	0.5
Rainfall (mm)	392

6 Significant Environmental Benefit

A SEB is required for approval to clear under Division 5 of the *Native Vegetation Regulations 2017*. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING AN SEB
Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

☐ Establish a new SEB Area on land owned by the proponent.
☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____
☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.
☐ Apply to have an SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.
☒ Pay into the NVF.

PAYMENT SEB
Payment amount required (including an admin fee of $7,847.19) of $150,523.28 into the NVF.

drawings

320000E

6110000N

Adelaide

SITE

0 50 km

HA 1498

ENSCH

THOMAS

Monarto Woodlands

MCLEAN

WHITE

WARLA

BREMER RANGE

FERRIES MCDONALD

SALEM

NORTH

SAMUEL

LLOYD JAENSCH

HA 1541

JAENSCH

PM 245

Monarto

HA 1030

MC 4580

SITE

ML 6563

AVONDALE

ERIMAR

ALTMANN

HA 15

HA 1496

PM 259

HA 702

HA 702

HA 702

HA 702

HA 702

CHAUNCEYS LINE

EML 6522

EML 6271

CARWOOD

HA 1466

ML 6564

EML 6497

HARVEY

SOUTH BREMER

Ferries-McDonald

WANDSTEAD

FRANCIS

Legend:
- Site
- Road Linework
- Private Mines
- Conservation Reserves
- Heritage Agreements
- Extractive Mineral Leases
- Mineral leases
- Mineral Claims

320000E

REV	DESCRIPTION	DATE	BY
		26/04/2023	MB
2	Updated to reflect RPI from DEM	19/12/2023	LO
3	Updated Tenement number following MLP approval	15/08/2025	HH

Data Sources:
Photography: Google Satellite Imagery accessed: 15-August-2025
Topography:
Cadastre: Data.sa.gov.au; Boundaries shown are indicative only
Ecosystem:
Other: SARIG 2025

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Site Location Map

SLR
PH +61 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:45,000 When Printed On A3
0 200 400 600 800 m

DRAWING NUMBER: 5042.DRG.002

REVISION: 3

DATE: 15-August-2025
DRAWN: MB
PRINTED: 15-August-2025
CHECKED:

DATUM: HORIZONTAL / VERTICAL / ZONE: MGA / AHD / 54

EPSG:7854

323000E

324000E

6104000N

6103000N

ML 6563

QDP Stage 1

2

2

1

1

Legend:

- Vegetation Association A - Lomandra/Austrostipa Grassland
- Vegetation Association B - Eucalyptus Mallee/Melaleuca Open Woodland
- Eucalyptus Fasciculosa Woodland
- Exotic Grassland
- Agricultural Cropping
- Melaleuca Woodland
- QDP Stage 1
- Scattered Trees to be Retained
- Cadastral Boundaries

REV	DESCRIPTION	DATE	BY
1	Updated with new company name and QDP Stage 1	11/10/2022	MB
2	Updated following approval of ML 6563	18/08/2025	HH

Data
Photography: UAV Survey 2021-09-27; Google Satellite Imagery accessed: 18-August-2025
Topography: UAV Survey 2021-09-27
Cadastre: Data.sa.gov.au;Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

N

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Vegetation Clearance Map

SLR
PH +61 3871 0411
WWW.SLRCONSULTING.COM

SCALE: 1:6,000 When Printed On A3 (0 20 40 60 80 m)

DRAWING NUMBER: 5042.DRG.004

REVISION: 2

DATE: 18-August-2025 DRAWN: MS

PRINTED: 18-August-2025 CHECKED:

DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 54

E 322900m
E 323400m
E 323900m
N 6103800 m
N 6103300 m

Stage 1
Stage 2
Stage 3
Stage 4
Stage 5
Stage 6

Topsoil stripping
Extraction area
Under rehabilitation
Rehabilitated area
Hardstand

Crushing, screening & product stockpiles
Topsoil stockpiles
C&D stockpiles & processing
Initial extraction area
5m wide access track
Screening mound
Topsoil stockpile

Campaign Work Area: 6ha

Progressive Rehabilitation Maximum Area: 6ha at any one time

Long-term Staging & Operational Area: 2.78ha

FILE NAME: F:\Jobs\SA\5000\5042 Erimar Quarries Erimar Quarry\Drawings\Drawing\5042.DRG.009 Quarry Development Plan.dwg
JOB SUB #
CREATED: 6 December 2022

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23
Topography: Groundwork Plus Pty Ltd RPA Photogrammetry Survey, Captured 2021-09-23, DSM 1m
Cadastre: © The Government of South Australia (DIT) 2020
Ecosystem:
LiDAR:

Legend:
- Mineral Lease
- Cadastral Boundary
- Extraction Stage Boundary
- 10m Buffer
- Native Vegetation to be Retained
- Topsoil Stockpile
- 5m Buffer from Dripline
- 5m Wide Access Track
- Tree
- Native Vegetation to be Cleared
- Long-term Staging & Operational Area

PROJECT: Alexandrina Quarry

CLIENT: HP Resources SA Pty Ltd

TITLE: Quarry Development Plan

SLR
PH: +61 3871 0411
www.slrconsulting.com

SCALE: 1:5,000 When Printed On A3 — 0 — 100m
DRAWING NUMBER: 5042.DRG.009
REVISION:
DATE: 6 December 2022
DRAWN: JHV
DATUM: HORIZONTAL / VERTICAL / ZONE
PRINTED: 6 December 2022
CHECKED: MJ
GDA94 / MGA / AHD / 54

attachments

Attachment 1

Fauna Species List

Threatened or Introduced Animal Species Recorded or Observed (Native and Introduced)		Threatened Species				Introduced Species
Species	**Common Name**	**EPBC**	**SA**	**Past Record**	**Observed**	
Platycercus elegans	Crimson Rosella					
Threskiornis moluccus	Australian White Ibis					
Psephotus haematonotus	Red-rumped Parrot					
MACROPODIDAE sp.	kangaroos					
Corcorax melanorhamphos	White-winged Chough		R	*		
Hieraaetus morphnoides	Little Eagle		V	*		
Melanodryas cucullata cucullata	Hooded Robin (YP, MN, AP, M		R	*		
Stagonopleura guttata	Diamond Firetail		V	*		
Zanda (Calyptorhynchus) funerea whiteae	Yellow-tailed Black Cockatoo		V	*		

Attachment 2

Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 Protected Matters Search

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 22-Aug-2022

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	30
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	17
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	6
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
The coorong, and lakes alexandrina and albert wetland	Within 10km of Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	Community may occur within area	In feature area
Iron-grass Natural Temperate Grassland of South Australia	Critically Endangered	Community likely to occur within area	In feature area
Mallee Bird Community of the Murray Darling Depression Bioregion	Endangered	Community likely to occur within area	In feature area
Peppermint Box (Eucalyptus odorata) Grassy Woodland of South Australia	Critically Endangered	Community likely to occur within area	In feature area
Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions	Critically Endangered	Community may occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Botaurus poiciloptilus			
Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area	In buffer area only
Polytelis anthopeplus monarchoides Regent Parrot (eastern) [59612]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Craterocephalus fluviatilis Murray Hardyhead [56791]	Endangered	Species or species habitat may occur within area	In buffer area only
Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat may occur within area	In feature area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Nannoperca australis Murray-Darling Basin lineage			
Southern Pygmy Perch (Murray-Darling Basin lineage) [91711]	Vulnerable	Species or species habitat may occur within area	In feature area
FROG			
Litoria raniformis			
Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area	In feature area
MAMMAL			
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Species or species habitat likely to occur within area	In feature area
PLANT			
Acacia menzelii			
Menzel's Wattle [9218]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Acacia pinguifolia			
Fat-leaved Wattle, Fat-leaf Wattle [5319]	Endangered	Species or species habitat may occur within area	In feature area
Acacia rhetinocarpa			
Neat Wattle, Resin Wattle (SA) [11282]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caladenia colorata			
Coloured Spider-orchid, Small Western Spider-orchid, Painted Spider-orchid [54999]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia tensa			
Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area	In feature area
Dodonaea subglandulifera			
Peep Hill Hop-bush [11956]	Endangered	Species or species habitat may occur within area	In feature area
Olearia pannosa subsp. pannosa			
Silver Daisy-bush, Silver-leaved Daisy, Velvet Daisy-bush [12348]	Vulnerable	Species or species habitat known to occur within area	In feature area
Prasophyllum pallidum			
Pale Leek-orchid [20351]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Prostanthera eurybioides Monarto Mintbush [2603]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterostylis arenicola Sandhill Greenhood Orchid [17919]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pterostylis sp. Hale (R.Bates 21725) Hale Dwarf Greenhood [64539]	Endangered	Species or species habitat likely to occur within area	In feature area
Pterostylis xerophila Desert Greenhood [7997]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area	In feature area
Thelymitra epipactoides Metallic Sun-orchid [11896]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca			
Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma			
Blue-winged Parrot [726]		Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Ferries - McDonald	Conservation Park	SA	In buffer area only
Monarto	Conservation Park	SA	In buffer area only
Unnamed (No.HA1030)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA1541)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA1583)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA702)	Heritage Agreement	SA	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of Agriculture Water and the Environment
GPO Box 858
Canberra City ACT 2601 Australia
+61 2 6274 1111

Attachment 3

Bushland Assessment Scoresheet – Vegetation Association A Stage 2

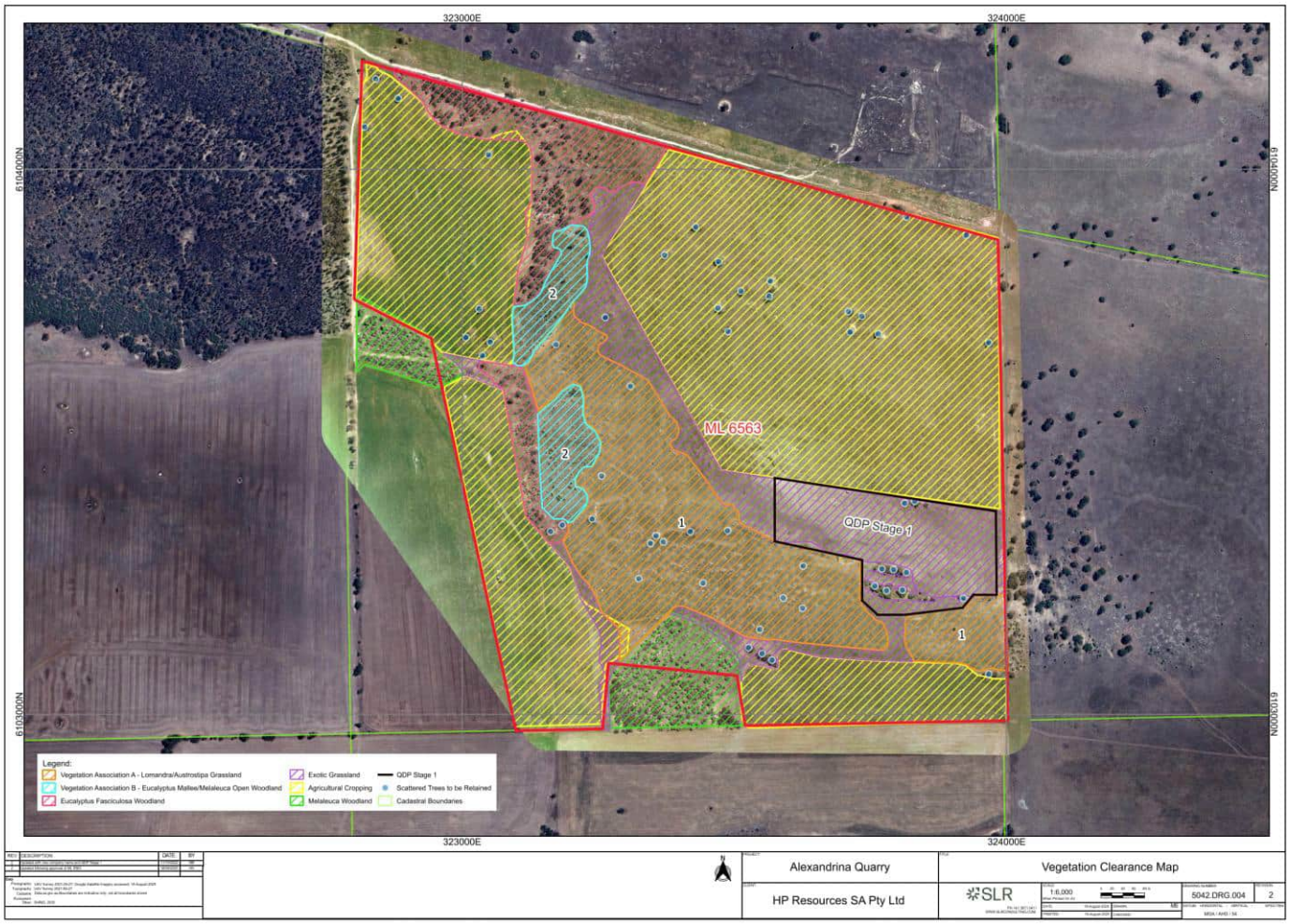
Bushland Assessment Scoresheet

(SEB Policy 1 Sept 2024; Scoresheet updated 9 Sept 2025)

Block	Stage 2
Size of Block (Ha)	6.9
Landscapes Region	Hills and Fleurieu
BCM Region	Southern Mount Lofty Ranges
IBRA Association	Sandergrove
IBRA Subregion	Fleurieu

ASSESSOR(S) (Insert Full Name/s)	Matthew Jones / Mikayla Schwarz
DATE OF ASSESSMENT	23/09/2021

Map of the Block (Including the Sites)



Landscape Context Scores

% native veg. remaining in IBRA Assoc.	11
% native veg. remaining in IBRA subregion	12
0 - 10% = 0.05 pts; >10-20% = 0.04 pts; >20-30% = 0.03 pts; >30-60% = 0.02 pts; > 60 = 0 pts — **Score**	0.08

Score received for both IBRA assoc. and subregion then summed

Percent Vegetation Cover (5km radius) (%)	10
0-5% = 0 pts; >5-10% = 0.02 pts; >10-25% = 0.04 pts; >25-50% = 0.06 pts; >50-75% = 0.03 pt; >75-100% = 0 pts — **Score**	0.02

% native veg. protected IBRA Assoc.	26
0-10% = 0.03 pts; >10-20% = 0.02 pts; >20-40% = 0.01 pt; >40% = 0 — **Score**	0.01

Block Shape Cleared perimeter:Area (km/km2)	
Cleared Perimeter (m) =	1587
Cleared Perimeter to area ratio	23.00
<6 = 0.03 pts; 6 to <12 = 0.02 pts; 12 to <18 = 0.01 pt — **Score**	0

Wetland or Riparian Habitat present	
Riparian zone present (Yes/No) = 0.02 pt	No
Swamp/wetland present (Yes/No) = 0.03 pts	No
(Swamp/wetland may be +/- riparian zone) — **Score**	0

Note; Blocks will score a minimum Landscape Context Score of 1

LANDSCAPE CONTEXT SCORE (max 1.25)	**1.11**

Plant Species Recorded (Native and Introduced)		Listed Species			Natives only		
Species	**Common Name**	**EPBC**	**SA**	**Not in quadrat**	**Regen**	**Annual Herbs** Spring survey	**Introduced Species**
Austrostipa sp.	Spear-grass						
Avena barbata	Bearded Oat						*
Arctotheca calendula	Cape Weed						*
Lagurus ovatus	Hare's Tail Grass						*
Echium plantagineum	Salvation Jane						*
Marrubium vulgare	Horehound						*
Chrysocephalum apiculatum	Common Everlasting						
Callitris gracilis	Southern Cypress Pine						
Gahnia deusta	Limestone Saw-sedge						
Gahnia lanigera	Black Grass Saw-sedge						

Threatened or Introduced Fauna Species Recorded or Observed (Native and Introduced)		Threatened Species				Introduced Species
Species	**Common Name**	**EPBC**	**SA**	**Past Record**	**Observed**	
Platycercus elegans	Crimson Rosella				Yes	
Threskiornis molucca molucca	Australian White Ibis				Yes	
Psephotus haematonotus	Red-rumped Parrot				Yes	
MACROPODIDAE sp.	kangaroos				Yes	
Corcorax melanorhamphos	White-winged Chough		R	Yes		
Hieraaetus morphnoides	Little Eagle		V	Yes		
Melanodryas cucullata cucullata	Hooded Robin (YP, MN, AP, MLR, MM,	EN	R	Yes		
Stagonopleura guttata	Diamond Firetail	VU	V	Yes		
Zanda funerea whiteae	Yellow-tailed Black Cockatoo		V	Yes		

Vegetation Condition Scores

SITE:	Association A - Stage 2
BCM COMMUNITY	SMLR 3.1 Smooth Barked Gum Woodlands with an Open Shrub and Grassy Understorey
VEGETATION ASSOCIATION DESCRIPTION	*Gahnia / Austrostipa Grassland*
SIZE OF SITE (Ha)	6.55

Benchmarked attributes
(Scores determined by comparing to a Benchmark community)

Number of Native Species (Minus herbaceous annuals for spring Surveys)	5
Native Plant Species Diversity Score (max 30) from benchmark score *weighted by a factor of 2*	**6.0**
Number of regenerating native species	0
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5	**0**

Weed species (Top 5 Cover x Invasiveness)	Cover (max 6)	Weed Threat Rating (max 5)	C x I
Avena barbata	2	2	4
Arctotheca calendula	2	2	4
Echium plantagineum	2	2	4
Marrubium vulgare	2	2	4
Lagurus ovatus	2	2	4
	Cover x Threat		20
Weed Score (max 15) from benchmark community			**9**

Native Plant Life Forms	**Cover rating**
Trees > 15m	
Trees 5 - 15 m	
Trees < 5m	
Mallee > 5m	
Mallee < 5m	
Shrubs > 2m	
Shrubs 0.5 - 2m	
Shrubs <0.5m	
Forbs	
Mat Plants	
Grasses > 0.2m	4
Grasses < 0.2m	2
Sedges > 1m	
Sedges < 1m	2
Hummock grasses	
Vines, scramblers	
Mistletoe	
Ferns	
Grass-tree	
Total	8

Native Plant Life Forms (max 20) from benchmark score *weighted by a factor of 2* **8.0**

Non-Benchmarked Attributes
(Scores determined from direct field observations)

Native:exotic Understorey biomass Score (max 5)	**4**

Is the community naturally treeless?	☐
Fallen Timber/Debris (max 5)	**0**
Hollow-bearing trees Score (max 5)	**0**
Mature Tree Score (max 8)	**0**
Tree Canopy Cover Score (max 5)	**0**

Vegetation Condition Score calculation

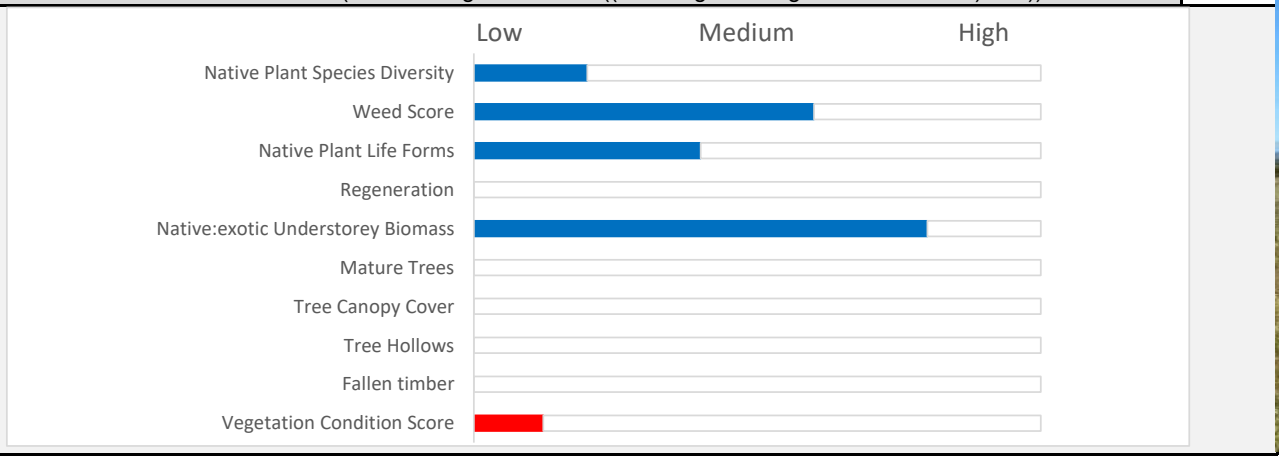
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms Fallen timber/debris + Hollow-bearing trees

- If the community Score is Not Benchmarked (SNB) for regeneration this score is multiplied 1.24

- If the community is naturally treeless this score is multiplied by 1.29 14.00

Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2) 24.00

VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80)) **9.80**



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
State (Provisional List of Threatened Ecosystems of SA) **Rare** community (0.1 pt)	☐
State (Provisional List of Threatened Ecosystems of SA) **Vulnerable** community (0.2 pts)	☐
State (Provisional List of Threatened Ecosystems of SA) **Endangered** community (0.3 pts)	☐
Nationally (EPBC Act) V**ulnerable** community (0.35 pts)	☐
Nationally (EPBC Act) **Endangered** or **Critically Endangered** community (0.4 pts)	☐
Note; all sites will score a minimum Conservation Significance Score of 1 **Threatened Community Score**	**1**

Number of Threatened Flora Species recorded for the site (within the site)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species recorded (1 pt each)	0
State **Vulnerable** species recorded (2.5 pt each)	0
State **Endangered** recorded (5 pts each)	0
Nationally **Vulnerable** species recorded (10 pts each)	0
Nationally **Endangered** or **Critically endangered** species recorded (20 pts each)	0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0
Threatened Flora Score	**0**

Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species observed or locally recorded (1 pt each)	1
State **Vulnerable** species observed or locally recorded (2.5 pt each)	2
State **Endangered** species observed or locally recorded (5 pt each)	0
Nationally **Vulnerable** species observed or locally recorded (10 pts each)	1
Nationally **Endangered** or **Critically endangered** species observed or locally recorded (20 pts each)	1
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts	36
Threatened Fauna Score	**0.1**

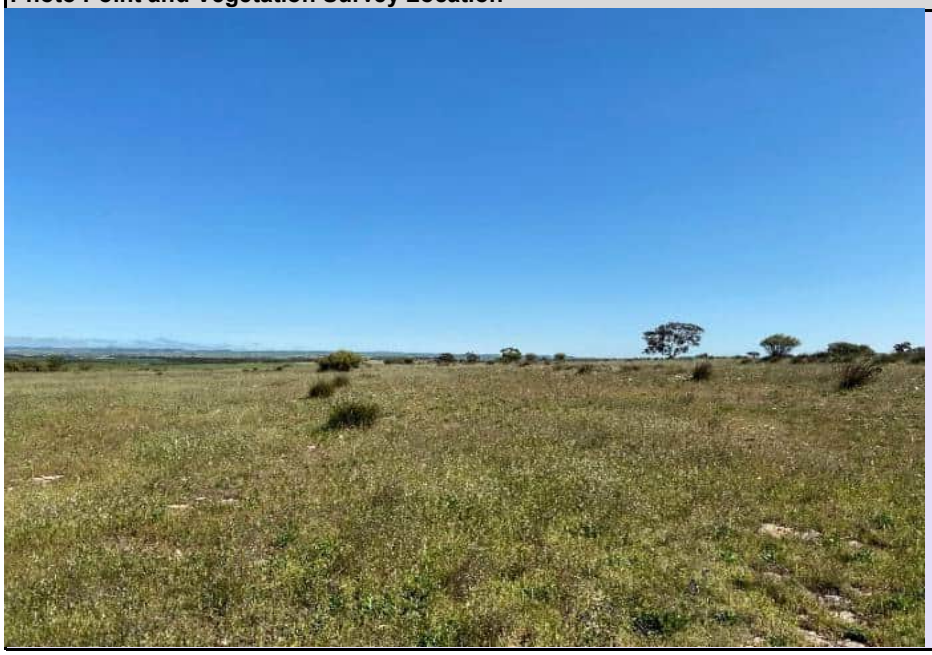
CONSERVATION SIGNIFICANCE SCORE	1.1

Total Scores for the Site

	Score
LANDSCAPE CONTEXT SCORE	1.11
VEGETATION CONDITION SCORE	9.80
CONSERVATION SIGNIFICANCE SCORE	1.10

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	11.97
Total Biodiversity Score (Biodiversity Score x hectares)	78.40

Photo Point and Vegetation Survey Location



Direction of the Photo	
West	
GPS Reference	
Datum	GDA94
Zone (52, 53 or 54)	54
Easting (6 digits)	351153.31
Northing (7 digits)	139345.62
Description	
Scattered Callitris gracilis (Southern Cypress Pine) +/- Acacia victoriae ssp. (Elegant Wattle) +/- Melaleuca lanceolata (Dryland Tea-tree) +/- Chrysocephalum apiculatum (Common Everlasting) +/- Lomandra longifolia (Spiny-headed Mat-rush)	

SEB Offset Calculations (when a proposed clearance site is assessed)	
SEB Points required for offset	
Loss Factor	1.0
Loadings for clearance of protected areas	
Reductions for rehabilitation of impact site	
SEB Uplift Factor	1.10
Total SEB Points Required	**86.24**

SEB - Payment in the Native Vegetation Fund	
SEB Points of Gain/ha Factor	7.0
Approximate SEB hectares required	12.32
Management Cost Factor ($/ha)	$25,408
Economies of Scale Factor	0.5
Mean annual rainfall for the site (mm)	392
Payment into the Fund (GST exclusive)	$61,353.21
Administration fee (GST inclusive)	$3,374.43
Total Payment Required	**$64,727.64**

SEB Points Provided' Calculations

Answer these questions when assessing a site within a proposed SEB area

Refer to the SEB Guide (section on 'Adjust the SEB Points of Gain') for more information

Assessment of SEB site - On ground

What is the risk of decline or loss of vegetation in the next 20 years?

Has stock grazing been absent from the site for 10 or more years (and cannot be introduced without approval from the NVC)?	
Is the land subject to zoning or a dedication that is generally restrictive of development activities (e.g. conservation zone, recreation or open space zoning or crown land dedication)?	
There are no, or only very minimal, threats identified that would result in the decline of the vegetation condition (excluding threats beyond the control of the SEB offset provider such as climate change).	
Is the land subject to legally binding obligations (contractual or legislated) that provide an existing level of protection for the native vegetation (e.g. restricts the use of the land or prevents the vegetation from being harmed) that is additional to the protections provided by the Native Vegetation Act 1991?	

Likely % Loss	6.6%	Standard

Will the proposed SEB area be subject to management actions that are clearly and significantly in excess of the standard requirements as set out in the SEB Policy?

Will a very high standard of revegetation be conducted, including the establishment of a very high proportion of the species diversity which would be expected within the relevant vegetation community, and all strata (which should be present) represented including grasses, sedges, herbs and ground cover plants?	
Will fencing be installed (in excess of the standard stock exclusion fencing) in order to exclude introduced species or excessive herbivory by native and introduced fauna?	
Will intensive and substantial management of threatened flora or fauna be undertaken which is not required in association with the proposed clearance for which the SEB is being provided?	

Are the proposed management actions and their scale of impact already required by duty of care or legislation?

Only minimal management actions have been committed to in the proposed SEB management plan, such as minimal control of species declared for control under the *Landscapes SA Act 2019*.	

Are the management interventions practically difficult to achieve or is the recovery of the vegetation likely to be inhibited in some way?

Are there management issues, beyond the control of the SEB offset provider, that are technically or practically difficult to address preventing them from being managed to their fullest possible extent (e.g. weed infestations within difficult to access terrain)?	
Are there physical or environmental constraints which are likely to significantly impede the rehabilitation of vegetation and slow the rate of recovery? This may include compacted soils or altered soil chemistry (e.g. high nutrients/salinity issues) where the issue will continue or increase, significant erosion that cannot be controlled without impacting native vegetation or extensive die-back or plant diseases.	

Likely Improvement Due to Management	14.04	Standard

In relation to sites requiring substantial revegetation, is it highly likely that a good outcome will be achieved?

Does the applicant (or site manager/contractor) have significant experience and capability with sufficient resources in delivering habitat reconstruction (revegetation) projects?	

Are there other risk factors which make the outcome uncertain? ***NVB assessment only***

Is the applicant proposing novel management actions and the outcomes are uncertain? Are there other issues that pose risks to the delivery of the offset that are not already addressed by the above questions?	

Likelihood of Achieving the Outcome	19.8%	Standard

Future Negative UBS Score	11.18
Future Positive UBS Score	15.36
UBS Gain Score	4.18
Estimate of SEB Points provided	**27.38**

This is an estimate only and will be subject to review and verification by the Native Vegetation Council.

If you answered 'yes' to any question, provide justification in the Data Report

Attachment 4

Bushland Assessment Scoresheet – Vegetation Association A Stage 3

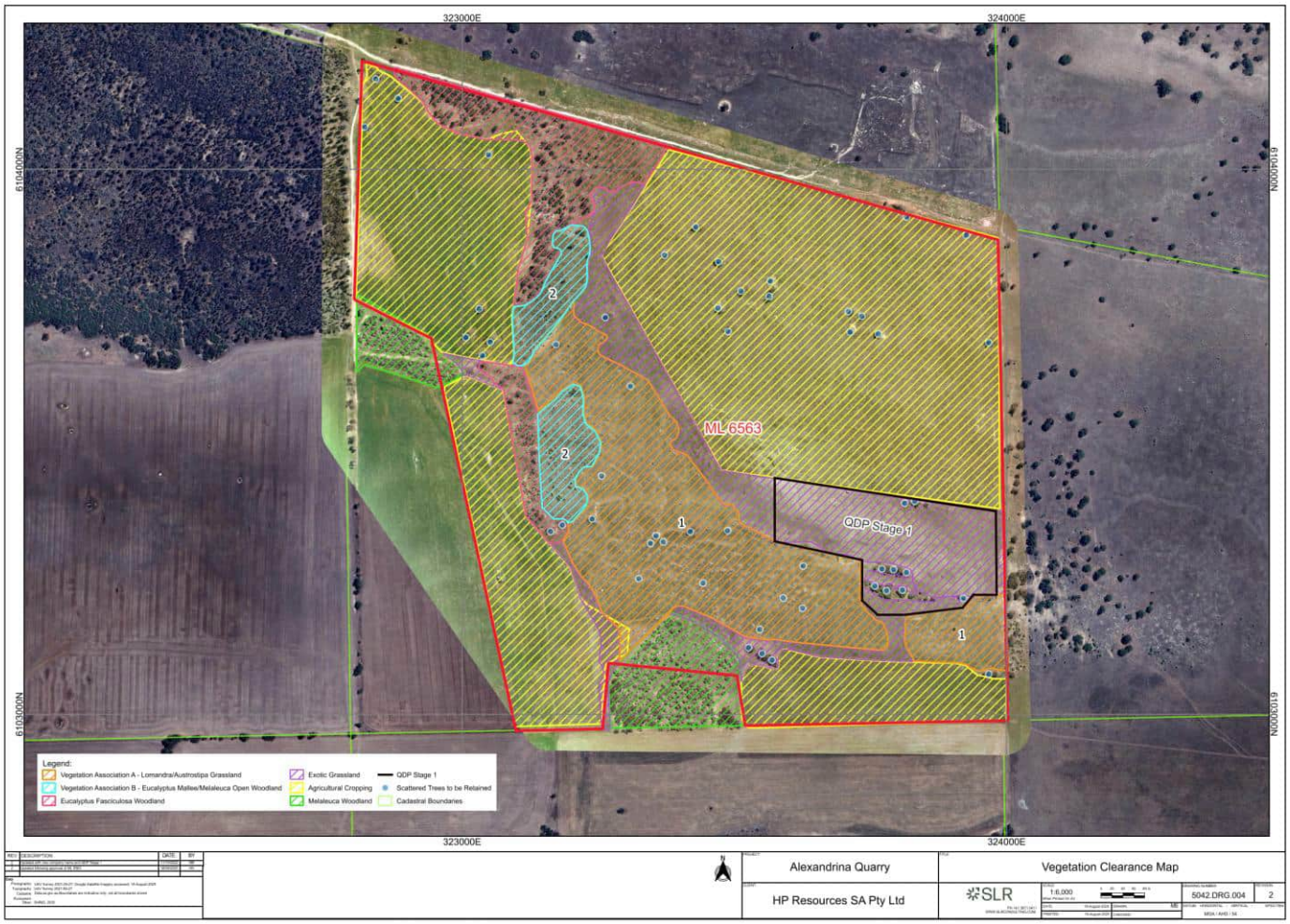
Bushland Assessment Scoresheet

(SEB Policy 1 Sept 2024; Scoresheet updated 9 Sept 2025)

Block	Stage 3
Size of Block (Ha)	8.8
Landscapes Region	Hills and Fleurieu
BCM Region	Southern Mount Lofty Ranges
IBRA Association	Sandergrove
IBRA Subregion	Fleurieu

ASSESSOR(S) (Insert Full Name/s)	Matthew Jones / Mikayla Schwarz
DATE OF ASSESSMENT	23/09/2021

Map of the Block (Including the Sites)



Landscape Context Scores

% native veg. remaining in IBRA Assoc.	11
% native veg. remaining in IBRA subregion	12
0 - 10% = 0.05 pts; >10-20% = 0.04 pts; >20-30% = 0.03 pts; >30-60% = 0.02 pts; > 60 = 0 pts — **Score**	0.08

Score received for both IBRA assoc. and subregion then summed

Percent Vegetation Cover (5km radius) (%)	10
0-5% = 0 pts; >5-10% = 0.02 pts; >10-25% = 0.04 pts; >25-50% = 0.06 pts; >50-75% = 0.03 pt; >75-100% = 0 pts — **Score**	0.02

% native veg. protected IBRA Assoc.	26
0-10% = 0.03 pts; >10-20% = 0.02 pts; >20-40% = 0.01 pt; >40% = 0 — **Score**	0.01

Block Shape Cleared perimeter:Area (km/km2)	
Cleared Perimeter (m) =	1525
Cleared Perimeter to area ratio	17.33
<6 = 0.03 pts; 6 to <12 = 0.02 pts; 12 to <18 = 0.01 pt — **Score**	0.01

Wetland or Riparian Habitat present	
Riparian zone present (Yes/No) = 0.02 pt	No
Swamp/wetland present (Yes/No) = 0.03 pts	No
(Swamp/wetland may be +/- riparian zone) — **Score**	0

Note; Blocks will score a minimum Landscape Context Score of 1

LANDSCAPE CONTEXT SCORE (max 1.25)	**1.12**

Plant Species Recorded (Native and Introduced)		Listed Species			Natives only		
Species	**Common Name**	**EPBC**	**SA**	**Not in quadrat**	**Regen**	**Annual Herbs** Spring survey	**Introduced Species**
Austrostipa sp.	Spear-grass						
Avena barbata	Bearded Oat						*
Arctotheca calendula	Cape Weed						*
Lagurus ovatus	Hare's Tail Grass						*
Echium plantagineum	Salvation Jane						*
Marrubium vulgare	Horehound						*
Chrysocephalum apiculatum	Common Everlasting						
Callitris gracilis	Southern Cypress Pine						
Gahnia deusta	Limestone Saw-sedge						
Gahnia lanigera	Black Grass Saw-sedge						

Threatened or Introduced Fauna Species Recorded or Observed (Native and Introduced)		Threatened Species				Introduced Species
Species	**Common Name**	**EPBC**	**SA**	**Past Record**	**Observed**	
Platycercus elegans	Crimson Rosella				Yes	
Threskiornis molucca molucca	Australian White Ibis				Yes	
Psephotus haematonotus	Red-rumped Parrot				Yes	
MACROPODIDAE sp.	kangaroos				Yes	
Corcorax melanorhamphos	White-winged Chough		R	Yes		
Hieraaetus morphnoides	Little Eagle		V	Yes		
Melanodryas cucullata cucullata	Hooded Robin (YP, MN, AP, MLR, MM,	EN	R	Yes		
Stagonopleura guttata	Diamond Firetail	VU	V	Yes		
Zanda funerea whiteae	Yellow-tailed Black Cockatoo		V	Yes		

Vegetation Condition Scores

SITE:	Association A - Stage 3
BCM COMMUNITY	SMLR 3.1 Smooth Barked Gum Woodlands with an Open Shrub and Grassy Understorey
VEGETATION ASSOCIATION DESCRIPTION	*Gahnia / Austrostipa Grassland*
SIZE OF SITE (Ha)	8.61

Benchmarked attributes
(Scores determined by comparing to a Benchmark community)

Number of Native Species (Minus herbaceous annuals for spring Surveys)	5
Native Plant Species Diversity Score (max 30) from benchmark score *weighted by a factor of 2*	**6.0**
Number of regenerating native species	0
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5	**0**

Weed species (Top 5 Cover x Invasiveness)	Cover (max 6)	Weed Threat Rating (max 5)	C x I
Avena barbata	2	2	4
Arctotheca calendula	2	2	4
Echium plantagineum	2	2	4
Marrubium vulgare	2	2	4
Lagurus ovatus	2	2	4
	Cover x Threat		20
Weed Score (max 15) from benchmark community			**9**

Native Plant Life Forms	**Cover rating**
Trees > 15m	
Trees 5 - 15 m	
Trees < 5m	
Mallee > 5m	
Mallee < 5m	
Shrubs > 2m	
Shrubs 0.5 - 2m	
Shrubs <0.5m	
Forbs	
Mat Plants	
Grasses > 0.2m	4
Grasses < 0.2m	2
Sedges > 1m	
Sedges < 1m	2
Hummock grasses	
Vines, scramblers	
Mistletoe	
Ferns	
Grass-tree	
Total	8

Native Plant Life Forms (max 20) from benchmark score *weighted by a factor of 2* **8.0**

Non-Benchmarked Attributes
(Scores determined from direct field observations)

Native:exotic Understorey biomass Score (max 5)	**4**

Is the community naturally treeless?	☐
Fallen Timber/Debris (max 5)	**0**
Hollow-bearing trees Score (max 5)	**0**
Mature Tree Score (max 8)	**0**
Tree Canopy Cover Score (max 5)	**0**

Vegetation Condition Score calculation

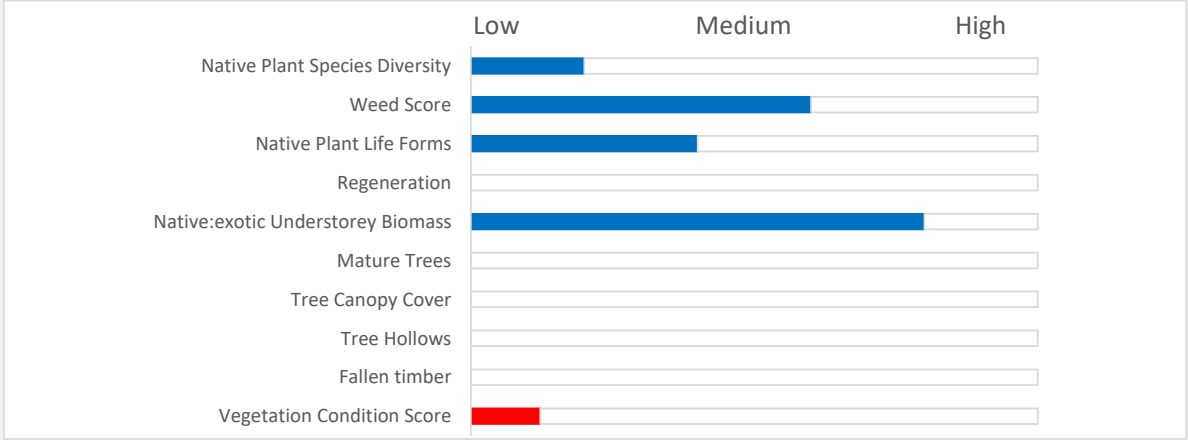
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms Fallen timber/debris + Hollow-bearing trees

- If the community Score is Not Benchmarked (SNB) for regeneration this score is multiplied 1.24

- If the community is naturally treeless this score is multiplied by 1.29 14.00

Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2) 24.00

VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80)) **9.80**



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
State (Provisional List of Threatened Ecosystems of SA) **Rare** community (0.1 pt)	☐
State (Provisional List of Threatened Ecosystems of SA) **Vulnerable** community (0.2 pts)	☐
State (Provisional List of Threatened Ecosystems of SA) **Endangered** community (0.3 pts)	☐
Nationally (EPBC Act) V**ulnerable** community (0.35 pts)	☐
Nationally (EPBC Act) **Endangered** or **Critically Endangered** community (0.4 pts)	☐
Note; all sites will score a minimum Conservation Significance Score of 1 **Threatened Community Score**	**1**

Number of Threatened Flora Species recorded for the site (within the site)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species recorded (1 pt each)	0
State **Vulnerable** species recorded (2.5 pt each)	0
State **Endangered** recorded (5 pts each)	0
Nationally **Vulnerable** species recorded (10 pts each)	0
Nationally **Endangered** or **Critically endangered** species recorded (20 pts each)	0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	0
Threatened Flora Score	**0**

Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species observed or locally recorded (1 pt each)	1
State **Vulnerable** species observed or locally recorded (2.5 pt each)	2
State **Endangered** species observed or locally recorded (5 pt each)	0
Nationally **Vulnerable** species observed or locally recorded (10 pts each)	1
Nationally **Endangered** or **Critically endangered** species observed or locally recorded (20 pts each)	1
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts	36
Threatened Fauna Score	**0.1**

CONSERVATION SIGNIFICANCE SCORE	**1.1**

Total Scores for the Site

	Score
LANDSCAPE CONTEXT SCORE	**1.12**
VEGETATION CONDITION SCORE	**9.80**
CONSERVATION SIGNIFICANCE SCORE	**1.10**

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	12.07
Total Biodiversity Score (Biodiversity Score x hectares)	103.92

Photo Point and Vegetation Survey Location

Direction of the Photo	
North East	
GPS Reference	
Datum	GDA94
Zone (52, 53 or 54)	54
Easting (6 digits)	351147.77
Northing (7 digits)	139329.04
Description	
Scattered Callitris gracilis (Southern Cypress Pine) +/- Acacia victoriae ssp. (Elegant Wattle) +/- Melaleuca lanceolata (Dryland Tea-tree) +/- Chrysocephalum apiculatum (Common Everlasting) +/- Lomandra longifolia (Spiny-headed Mat-rush)	

SEB Offset Calculations (when a proposed clearance site is assessed)	
SEB Points required for offset	
Loss Factor	1.0
Loadings for clearance of protected areas	
Reductions for rehabilitation of impact site	
SEB Uplift Factor	1.10
Total SEB Points Required	**114.31**

SEB - Payment in the Native Vegetation Fund	
SEB Points of Gain/ha Factor	7.0
Approximate SEB hectares required	16.33
Management Cost Factor ($/ha)	$25,408
Economies of Scale Factor	0.5
Mean annual rainfall for the site (mm)	392
Payment into the Fund (GST exclusive)	$81,322.88
Administration fee (GST inclusive)	$4,472.76
Total Payment Required	**$85,795.64**

SEB Points Provided' Calculations

Answer these questions when assessing a site within a proposed SEB area

Refer to the SEB Guide (section on 'Adjust the SEB Points of Gain') for more information

Assessment of SEB site - On ground

What is the risk of decline or loss of vegetation in the next 20 years?

Has stock grazing been absent from the site for 10 or more years (and cannot be introduced without approval from the NVC)?	
Is the land subject to zoning or a dedication that is generally restrictive of development activities (e.g. conservation zone, recreation or open space zoning or crown land dedication)?	
There are no, or only very minimal, threats identified that would result in the decline of the vegetation condition (excluding threats beyond the control of the SEB offset provider such as climate change).	
Is the land subject to legally binding obligations (contractual or legislated) that provide an existing level of protection for the native vegetation (e.g. restricts the use of the land or prevents the vegetation from being harmed) that is additional to the protections provided by the Native Vegetation Act 1991?	

Likely % Loss	6.6%	Standard

Will the proposed SEB area be subject to management actions that are clearly and significantly in excess of the standard requirements as set out in the SEB Policy?

Will a very high standard of revegetation be conducted, including the establishment of a very high proportion of the species diversity which would be expected within the relevant vegetation community, and all strata (which should be present) represented including grasses, sedges, herbs and ground cover plants?	
Will fencing be installed (in excess of the standard stock exclusion fencing) in order to exclude introduced species or excessive herbivory by native and introduced fauna?	
Will intensive and substantial management of threatened flora or fauna be undertaken which is not required in association with the proposed clearance for which the SEB is being provided?	

Are the proposed management actions and their scale of impact already required by duty of care or legislation?

Only minimal management actions have been committed to in the proposed SEB management plan, such as minimal control of species declared for control under the *Landscapes SA Act 2019*.	

Are the management interventions practically difficult to achieve or is the recovery of the vegetation likely to be inhibited in some way?

Are there management issues, beyond the control of the SEB offset provider, that are technically or practically difficult to address preventing them from being managed to their fullest possible extent (e.g. weed infestations within difficult to access terrain)?	
Are there physical or environmental constraints which are likely to significantly impede the rehabilitation of vegetation and slow the rate of recovery? This may include compacted soils or altered soil chemistry (e.g. high nutrients/salinity issues) where the issue will continue or increase, significant erosion that cannot be controlled without impacting native vegetation or extensive die-back or plant diseases.	

Likely Improvement Due to Management	14.04	Standard

In relation to sites requiring substantial revegetation, is it highly likely that a good outcome will be achieved?

Does the applicant (or site manager/contractor) have significant experience and capability with sufficient resources in delivering habitat reconstruction (revegetation) projects?	

Are there other risk factors which make the outcome uncertain? ***NVB assessment only***

Is the applicant proposing novel management actions and the outcomes are uncertain? Are there other issues that pose risks to the delivery of the offset that are not already addressed by the above questions?	

Likelihood of Achieving the Outcome	19.8%	Standard

Future Negative UBS Score	11.27
Future Positive UBS Score	15.50
UBS Gain Score	4.23
Estimate of SEB Points provided	**36.42**

This is an estimate only and will be subject to review and verification by the Native Vegetation Council.

If you answered 'yes' to any question, provide justification in the Data Report

Attachment 5

Plant Species Recorded (Native and Introduced)

Flora species recorded using the Bushland Assessment method in September 2021.

Scientific Name	Common Name	EPBC Rating	State Rating
Acacia victoriae	Elegant Wattle		
*Arctotheca calendula**	Cape Weed		
Austrostipa sp.	Spear-grass		
*Avena sp.**	Oat		
Calitris gracilis	Southern Cypress Pine		
Chrysocephalum apiculatum	Common Everlasting		
*Echium plantagineum**	Salvation Jane		
Eucalyptus Dumosa	White Mallee		
Eucalyptus fasiculosa	Pink Gum		R
Gahnia deusta	Limestone Saw-sedge		
Gahnia lanigera	Black Grass Saw-sedge		
*Largurus ovatus**	Hare's Tail Grass		
Lomandra longifolia	Spiny-headed Mat-rush		
*Marrubium vulgare**	Horehound		
Melaleuca lanceolata	Dryland Tea-Tree		
*Scabiosa atropurpurea**	Pincushion		

**Introduced species observed*

Appendix E Visual assessment Photographic Assessment

Photo 1: Photo location 1 View north - Access Road through 773 Chaunceys Line Road.

Photo 2: Photo location 1 View north – Access Road through 773 Chuancey Line Road.

Photo 3: Photo location 2 View west along Chaunceys Line Road from property located at 773 Chaunceys Line Road

Photo 4: Photo location 2 View east along Chaunceys Line Road from 773 Chaunceys Line Road

Erimar Quarry	**Visual Amenity Site Visit**		
Erimar Quarries Pty Ltd	GROUNDWORK p l u s	Date: 07/11/2022	Ref. 5042.600.002

Photo 5: Photo location 2 – 773 Chaunceys Line Road

Photo 6: Photo location 2 View north from Chaunceys Line Road from 773 Chaunceys Line Road

Photo 7: 572 Chaunceys Line Road

Photo 8: Photo location 3 – View north east from property located 563 Chaunceys Line Road

Photo 9: Photo location 4 – View north east from corner Chaunceys Line Road and Erimar Road

Photo 10: Photo location 5 – Eric and Marian Harveys house on Erimar Road

Photo 11: Photo location 5 – View north east from Erimar Road

Photo 11: Photo location 6 – View east from Erimar Road (Alastair McCallan property)

Photo 12: Photo location 7 - View south west and east from north eastern corner of MC area

Photo 13: Photo location 8 – View south from inside MC QDP Stage 1 area

Photo 14: Photo location 8 – View south from QDP Stage 1 area – View south along the access track towards Chauncevs Line Road

Photo 15: Photo – Septic tank installed

Erimar Quarry	Visual Amenity Site Visit		
Erimar Quarries Pty Ltd	GROUNDWORK p l u s	Date: 07/11/2022	Ref. 5042.600.002

Photo 16: Photo – Septic tank installed

Photo 17: Photo - Septic tank installed

Photo 18: Photo – Rubbish within MC area

Photo 19: Photo location 9 – View south east from QDP Stage 1 area (properties in the distance on the hill/ridge)

Photo 20: Photo Location 3 – View north from Michael Harvey property

Photo 21: Photo Location 3 – View north from Michael Harvey property

Photo 18: Photo location 6 – View east from Erimar Road (Alastair McCallan property)

Photo 19: Photo location 6 – View east from Erimar Road (Alastair McCallan property)

Appendix F Confidential – Aboriginal Heritage Sites Search

Appendix G Significant Environmental Benefit (SEB) Preliminary Assessment

Technical Memorandum

To:	Aimee Chadwick	**From:**	Monique Bury
Company:	HP Resources SA Pty Ltd	**SLR Consulting Australia Pty Ltd**	
cc:	Charlie Pocock, Carmen and David Harkness	**Date:**	19 December 2025
		Project No.	655.010715.00001

RE: Significant Environmental Benefit (SEB) Preliminary Assessment

SLR Consulting Australia Pty Ltd (SLR) have been engaged by HP Resources SA Pty Ltd (HP Resources) to assess the suitability of undertaking an on-ground Significant Environmental Benefit (SEB) to offset native vegetation clearance at Alexandrina Quarry.

1.0 Proposed On-Ground SEB Area

HP Resources has proposed to set aside approximately 2.2 hectares (ha) of *Melaleuca lanceolata* mid shrubland over *Dodonaea hexandra* (mixed) shrubs, located adjacent to the proposed quarry development area. Refer to Appendix A for a visual display of this area, as well as the proposed quarry development plan.

According to the 2022 Native Vegetation Clearance Data Report completed by Groundwork Plus (now SLR), the area of clearance under application contains 15.26 ha of *Gahnia deusta* (Limestone Saw-sedge) / *Austrostipa sp.* (Spear Grass) grassland. The total biodiversity score was calculated in 2022 at 173.89 and requires 182.59 SEB points for offset, which equates to approximately 22.82 ha of land needed for an on-ground offset.

As per the *Policy for a Significant Environmental Benefit* (2024), an on-ground SEB area must achieve the principle of 'like-for-like, or better'. As the proposed set aside area does not contain species of a similar composition or species of higher conservation value, it does not meet this requirement. The proposed SEB area only comprises 2.2 ha of *Melaleuca lanceolata* shrubland, and if assessed, it is unlikely to generate the required number of SEB points to offset the clearance of 15.36 ha of Limestone Saw-sedge / Spear Grass grassland. Despite this, HP Resources may submit the proposal to set aside the identified native vegetation, to negotiate with the Native Vegetation Branch for a reduced SEB payment.

2.0 SEB Credit Sites

Where landholders do not have access to suitable vegetation to set aside, SEB credit can be purchased to offset native vegetation clearance in line with the *Policy for a Significant Environmental Benefit* (2024). A review of the Native Vegetation Credit Register has determined that there is one potentially suitable credit site that could be investigated further. Refer to Table 1 for the details of the potential SEB credit site.

Table 1: Potential SEB Credit Site

SEB Credit Area Application No.	Vegetation Association	SEB Area (ha)	Credit (ha) remaining	SEB Credit Area Reference Name	Location (Parcel, Title, Hundred)	Credit Holder
2008/3080/455	Pink Gum (*Eucalyptus fasciculosa*) + Brown Stringybark (*E. baxteri*) +/- Cup Gum (*E. cosmophylla*) Open Scrub over heath and includes small area of Swamp Gum (*E. ovata*) + Mt Compass Swamp Gum (*E. paludicola*) Woodland (Contains species listed as Rare in South Australia).	4.90	2.41	2008/2080	In road reserve adjacent to S1972, S1980 and S1981 Hundred of Kondoparinga	Alexandrina Council PO Box 21 Goolwa SA 5214

This credit site meets the criteria 'like-for-like, or better', particularly through the protection of the *National Parks and Wildlife Act 1972,* listed Rare species, *Eucalyptus fasciculosa* (Pink Gum). It is located in the same Interim Biogeographic Regionalisation for Australia (IBRA) Region, Sub-region and Association and is located as close as reasonably practicable to the site of clearance.

Consultation with Alexandrina Council has determined that the site was developed in 2008, prior to the establishment of SEB credit points. Therefore, the site would require reassessment from an accredited consultant for the SEB credits to be acknowledged by the Native Vegetation Council. As such, there is currently no option to purchase SEB credit from the site. This, together with the limited amount of land available, indicates that the Alexandrina Council SEB area is unlikely to fulfil the required offset from clearance at Alexandrina Quarry.

The remaining SEB credit sites listed on the Native Vegetation Council Credit Register have been deemed unsuitable to offset the proposed clearance at Alexandrina Quarry. The SEB credit sites occurring in the same IBRA Region do not contain 'like-for-like or better' vegetation, and substantial SEB credits are not available for purchase.

3.0 Closure

An assessment of the proposed set aside area within the Alexandrina Quarry has deemed that the proposed area does not meet the requirements to establish an on-ground SEB to offset the planned clearance of Limestone Saw-sedge / Spear Grass grassland.

One potential credit site was identified through a search of the SEB Credit Register; SEB site 2008/2080, held by Alexandrina Council. However, as an older site, it currently does not support the purchase of SEB credit, and it is unlikely to provide enough credit points, should it have SEB points determined through additional assessments. There are no other viable credit alternatives to satisfy the offset requirements for Alexandrina Quarry. As such, HP Resources can choose to submit a full payment SEB, as described in the 2022 Native Vegetation Clearance Data Report.

Regards,

SLR Consulting Australia Pty Ltd

Monique Bury, B Sc
Project Consultant – Ecology & Biodiversity

Appendix H Communication Protocol – Alexandrina Quarry

Communications Protocol – Alexandrina Quarry

Version	Description	Author	Approved	Date
0	Original	A Chadwick	C Pocock	20/08/25

Contents

1. Scope & purpose

This Communications Protocol ("Protocol") is between HP Resources SA Pty Ltd (the "Tenement Holder") and Adjacent Landholders

This Protocol is effective from the lease grant date 4th August 2025 and expires at the end of the lease term on 3rd August 2046 or at such time that the lease is revoked or terminated.

This Protocol establishes clear communication, operating, and safety procedures between the Tenement Holder and Adjacent Landholders. Its purpose is to ensure mutual respect, cooperation, and transparency during mining operations, while protecting landholder interests, community values, and workplace safety.

This Protocol applies to all employees, directors, officers, contractors and consultants of the Tenement Holder.

This Protocol is required to satisfy Clause 5 of the Second Schedule of the Mining Lease conditions.

2. Adjacent Landowners

Landowner Names	Landowner Contact Number	Landowner Address*
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

*Refer Appendix 1 for map of adjacent landowners.

3. Interaction with Adjacent Landholder Operations

- The Tenement Holder will liaise with Adjacent Landholders to identify agricultural, commercial, or domestic activities that may be impacted by mining operations.
- Where practicable, quarrying activities will be coordinated to minimise interference with landholder activities, including farming operations, livestock management, and access requirements.
- Adjacent Landowners to provide advance notice of planned livestock movements on Chaunceys Line Road where practicable 48 hours prior.
- Tenement Holder to provide advance notice of activities likely to impact adjacent land (e.g., blasting, major earthworks, or heavy vehicle movements) where practicable 48 hours prior.

4. Emergency Procedures

- The Tenement Holder will prepare and maintain an Emergency Response Plan (ERP) that includes:
  - contact details of emergency services and Adjacent Landholders
  - procedures for fire, hazardous material incidents, and accidents; and
  - joint response protocols with Adjacent Landholders in case of fire or other cross-boundary emergencies.

5. Communications and Issue Management Processes

- Adjacent Landowners will be provided with contact details of the Tenement Holder.
- Communication channels will include a dedicated phone number and email for inquiries;
- Issues raised by Adjacent Landowner will be acknowledged within two (2) business days, and investigated/resolved within fourteen (14) business days where practicable.

6. Dispute Resolution

- Disputes will first be addressed through direct discussion between the Tenement Holder and the landholder.
- Failing resolution, disputes may be referred to independent mediation under the laws of South Australia.
- Both parties commit to good faith engagement and avoidance of unnecessary escalation.

7. Ongoing Communication About Operations

- On request, the Tenement Holder will provide Adjacent Landholders with updates regarding:
  - operational activities;
  - compliance activities;
  - rehabilitation activities.

8. Receiving and Considering Feedback

- A Register will be maintained to log and track concerns, suggestions, and complaints.
- Landholder feedback will be formally reviewed by site management and considered in operational planning where practicable.

9. Safety Procedures

- The Tenement Holder will operate in accordance with the Work Health and Safety Act 2012 (SA).
- Safety measures will include:
  - clear signage at quarry entrance;
  - controlled blasting procedures with pre-blast notification;
  - traffic management plan; and
  - induction and sign-in processes for contractors and visitors.
- Landholders will be informed of any hazards that may impact their property.

10. Access Protocols

- Access by Tenement Holder personnel to Adjacent Landholders' property will only occur with prior consent, except in emergencies.
- Access by Adjacent Landowners to Tenement Holder's property will occur with prior consent, except in emergencies.

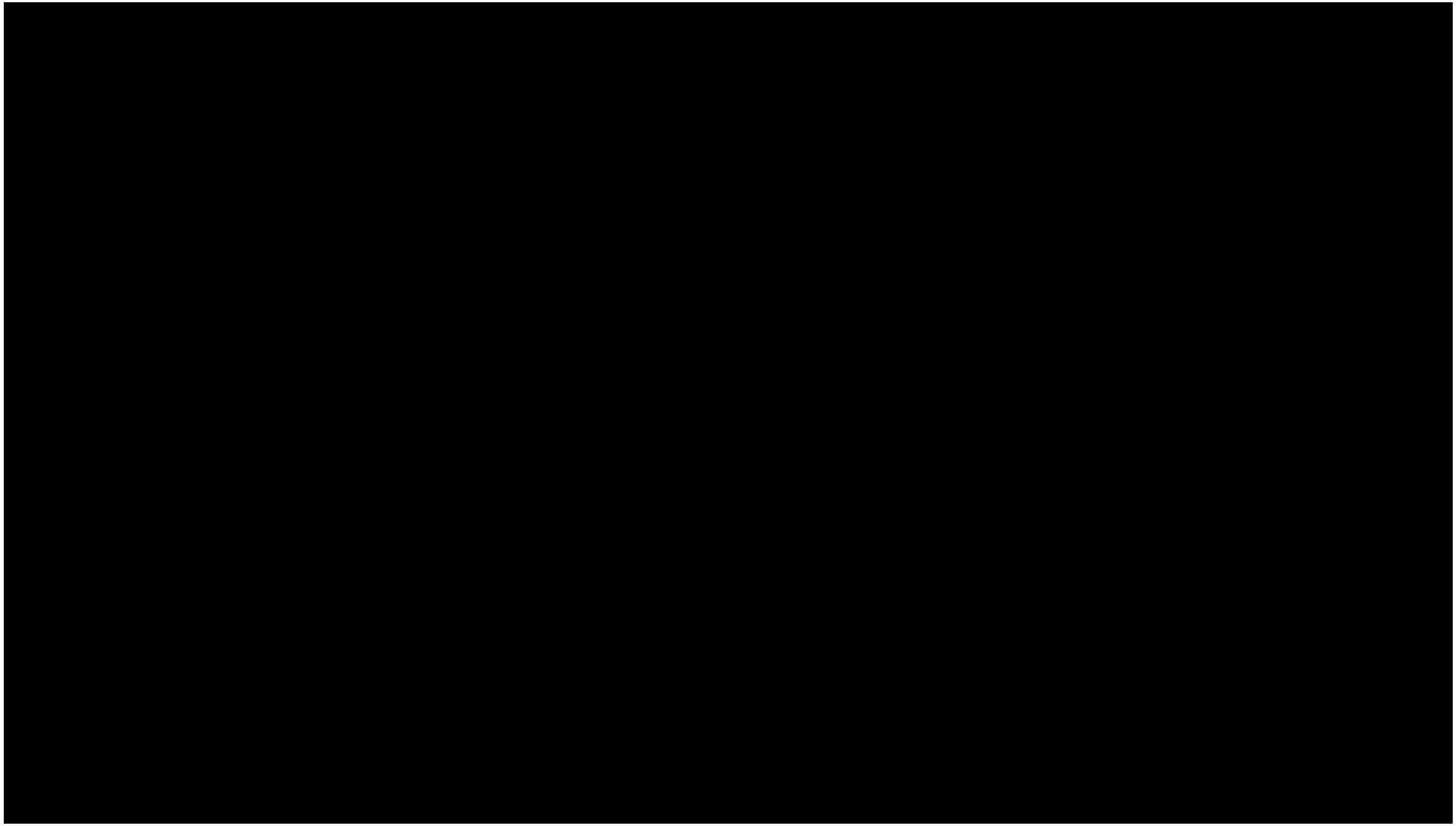
11. Review and Amendment

This Protocol will be reviewed periodically, or earlier if requested by either party, to ensure relevance and effectiveness.

12. Commitment

By following this Protocol, both the Tenement Holder and Adjacent Landholders commit to maintaining open, respectful, and constructive relationships throughout the term of the mining lease.

Appendix 1: Map of adjacent landowners



13. Sign-off

I acknowledge that:

- I have reviewed and understood the content of this document.
- It is my responsibility to comply with and implement the requirements outlined in this document.
- I will notify my supervisor if I identify any errors or omissions in this document.

Employee name:	
Employee signature:	
Date:	

Office use	
Scanned & saved into employee electronic file	☐
Training matrix updated	☐

Appendix I Traffic Management Plan – Alexandrina Quarry

Traffic Management Plan – Alexandrina Quarry

Version	Description	Author	Approved	Date
0	Original	A Chadwick	C Pocock	22/08/25

Contents

1. Purpose

This Traffic Management Plan (TMP) sets out how traffic will be managed at Alexandrina Quarry to ensure safe and efficient operations, protection of people, and minimisation of community and environmental impacts.

This TMP is required to satisfy Clauses 10, 11 and 12 in the Fourth Schedule of the Mining Lease conditions.

2. Vehicles and Works Conducted Onsite

- **Heavy Vehicles:** Rigid and articulated dump trucks, truck/trailer combinations, semi-trailers, loaders, and water carts.
- **Light Vehicles:** Utilities, staff cars, contractor vehicles, and visitor cars.
- **Mobile Plant:** Excavators, front-end loaders, graders, and crushing/screening plant.
- **Works Conducted:** Extraction, crushing, screening, stockpiling of limestone and recycled materials; haulage of quarry products; delivery of fuel and supplies; maintenance and repair activities.

3. Responsibilities

3.1 Quarry Management / Supervisors

- Implement, monitor, and enforce this TMP.
- Provide inductions for all drivers, contractors, and visitors.
- Maintain safe internal haul roads, signage, and traffic controls.
- Ensure emergency access/egress is maintained at all times.
- Direct traffic during high-risk activities (e.g., maintenance near haul roads, mobilisation of heavy equipment in/out of site).
- Establish temporary exclusion zones or diversions when required.

3.3 Drivers and Mobile Plant Operators

- Comply with TMP, site rules, and traffic signage.
- Maintain clear communication when entering or leaving shared zones.
- Ensure loads are secure, tarped, and tied down before departure.

3.4 Employees, Contractors & Visitors

- Use designated parking and pedestrian walkways.
- Obey speed limits and right-of-way rules.
- Wear high-visibility clothing when outside vehicles.

4. Traffic Control Procedures

Normal Operations

- Heavy vehicles travel only on designated haul roads and stockpile areas.
- Light vehicles restricted to Site Office/workshop areas and approved shared zones.
- Mobile plant has right-of-way over light vehicles unless otherwise directed.

Emergency Situations

- Quarry Management/Supervisors will direct traffic to allow rapid access for emergency services.
- Quarry vehicles must yield immediately to emergency vehicles.
- Evacuation will follow marked routes to the **Emergency Assembly Point**, located at the Site Office.

5. Traffic Flows and Directions

- One-way traffic on internal haul routes wherever practicable.
- Two-way traffic on main access road, site entry point & weighbridge.
- Clearly marked entry and exit points for heavy vehicles.

6. Speed Limits

- **60km/h** access road.
- **40 km/h** internal quarry roads.
- **10 km/h** in workshop, parking, and loading/tarping areas.

7. Rights of Way

- Mobile plant > Heavy vehicles > Light vehicles > Pedestrians have designated walkways.
- At intersections: Haul road traffic has priority unless directed otherwise.
- All vehicles must stop at weighbridge entry and adhere to signage.

8. Light Vehicle & Heavy Vehicle Interaction Controls

- Restricted zones for heavy vehicle/machine operations.
- Dedicated visitor and staff parking away from heavy vehicle haul roads.
- Light vehicles must not enter stockpile/loading areas unless authorised and positive communication has been established.

9. Site Infrastructure

- **Buildings:** Site Office, workshop.
- **Emergency Assembly Point:** Located at site office.
- **Weighbridges:** Used for all incoming and outgoing heavy vehicles.
- **Restricted/Exclusion Zones:** Crushing/screening plant, stockpiles, and fuel storage area.
- **Shared Zones:** Designated loading bays, weighbridge entry/exit, and delivery drop-off points.
- **Fuel Storage:** Bunded diesel tank located near the workshop, restricted access.
- **Stockpiles:** Clearly delineated.
- **Loading Areas:** Dedicated loader zones adjacent to stockpiles.
- **Tarping & Tie-Down Area:** Hardstand area adjacent to weighbridge, separated from haulage routes.
- **Visitor Parking:** Near Site Office, signed and separated from plant/haulage areas.
- **Equipment Parking:** Heavy plant park-up area away from public access points.
- **Delivery/Drop-Off:** Signposted area near stores/workshop and/or Site Office.

10. Communication

- **Two-Way Radios:** Standard for all heavy vehicles, plant, and quarry management/supervisors.
- **Mobile Phones:** Allowed only when vehicles are stationary and safe.
- **Visitor Inductions:** Briefing provided at weighbridge/Site Office prior to entry.
- **Emergency Communication:** UHF Channel 19.

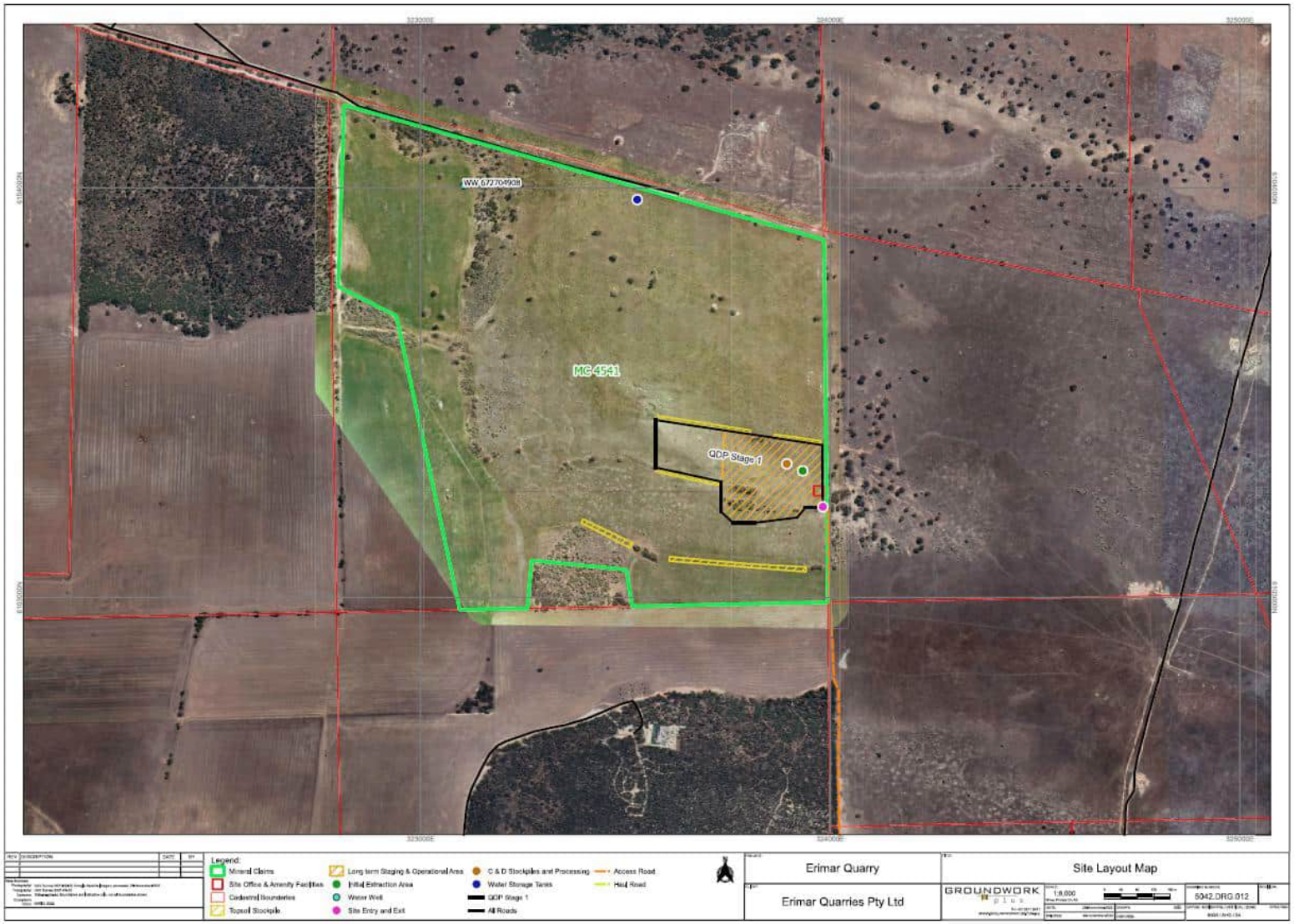
11. Signage

- Includes speed limits, restricted zones, right-of-way, PPE requirements, and hazard warnings.
- Temporary signage used during construction or unusual operations.

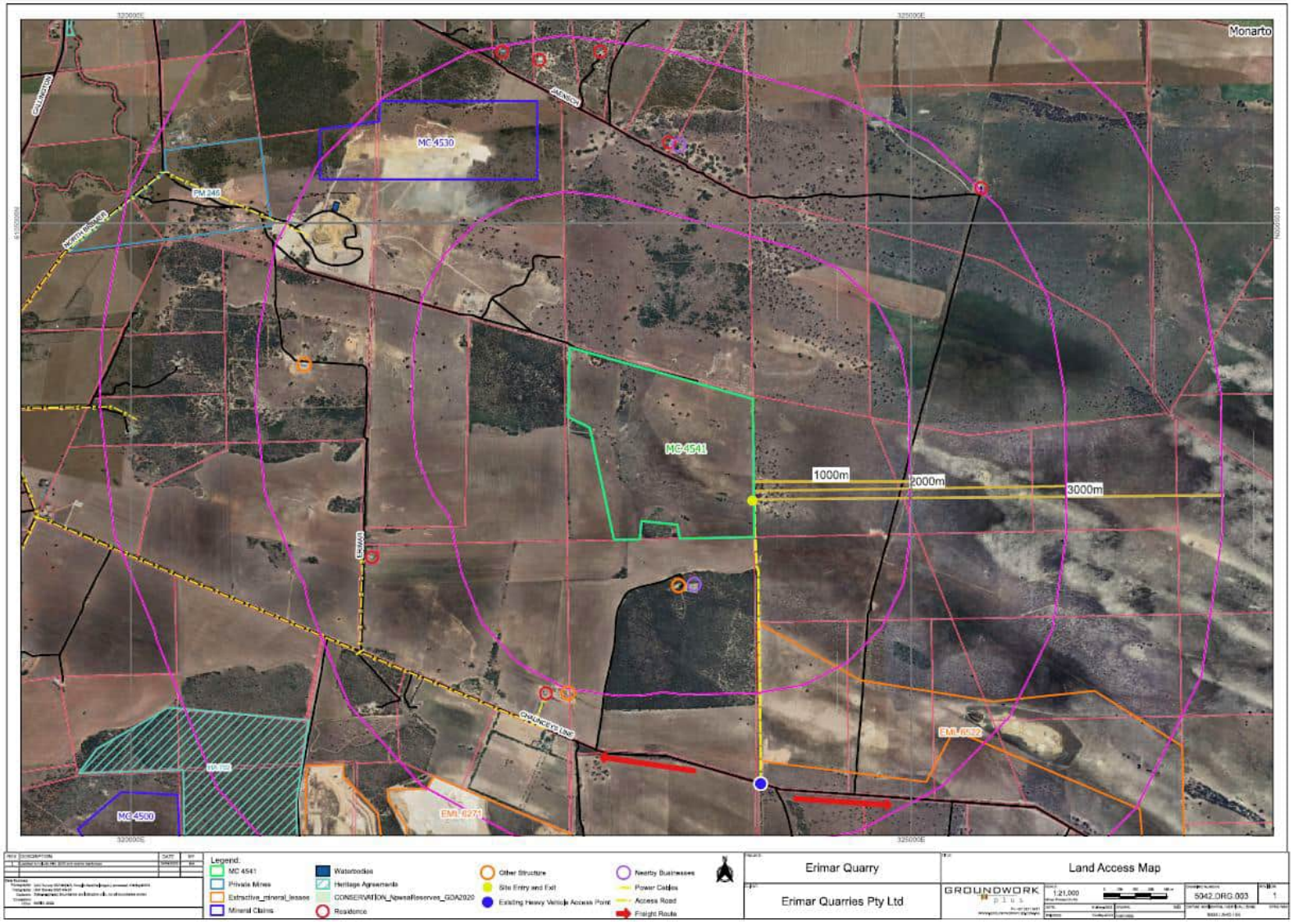
12. Monitoring and Review

- Quarry Manager will audit traffic management as required.
- TMP updated when operations or infrastructure change.
- Stakeholder feedback considered in future reviews.

Appendix 1: Site Layout



Appendix 2: Site Access Point – 715 Chaunceys Line Road, Monarto South SA 5254



Appendix 3: Site Traffic Plan

Legend:

- Internal quarry roads – 40km/hr
- Two Way Access road – 60km/hr
- Site access point
- Indicative in-pit stockpiles
- Site Office – 10km/hr
- Visitor car park / EAP

13. Sign-off

I acknowledge that:

- I have reviewed and understood the content of this document.
- It is my responsibility to comply with and implement the requirements outlined in this document.
- I will notify my supervisor if I identify any errors or omissions in this document.

Employee name:	
Employee signature:	
Date:	

Office use	
Scanned & saved into employee electronic file	☐
Training matrix updated	☐

Appendix J Alexandrina Quarry – Waste Derived Fill acceptance form

WASTE DERIVED FILL Acceptance Form

Company Name	
Corporate Address	
Contact Details	

SITE DETAILS

Project & Site Location		Phytophthora Status	
Beneficial Purpose of WDF		Site Supervisor	
Current Site Use		Mobile	
Previous Site Use		Email	

Description of WDF .....

Total Estimated Quantity ..... (amounts greater than 100t require a clean fill certificate)

Does the WDF meet the EPA Waste Fill criteria? Yes No
Does the WDF exceed the EPA Waste Fill criteria? Yes No
Does the WDF exceed the EPA Low Risk criteria? Yes No

Material supplied must meet and be in accordance with the EPA Guidelines "Standard for the Production and use of Waste Derived Fill".

Does the WDF consist of or contain any prohibited waste? Yes No

Material containing prohibited waste cannot be accepted on site.

Has a sampling program and chemical analysis been undertaken according to EPA Guidelines?

☐ Yes (please attach) ☐ No

Does the Contractor have a Certified Quality and Environmental Management System to ensure no unacceptable waste in the final product?

☐ Yes ☐ No Details.....

Has there been any Dilution or Chemical substitution of the WDF?

☐ Yes (please attach) ☐ No

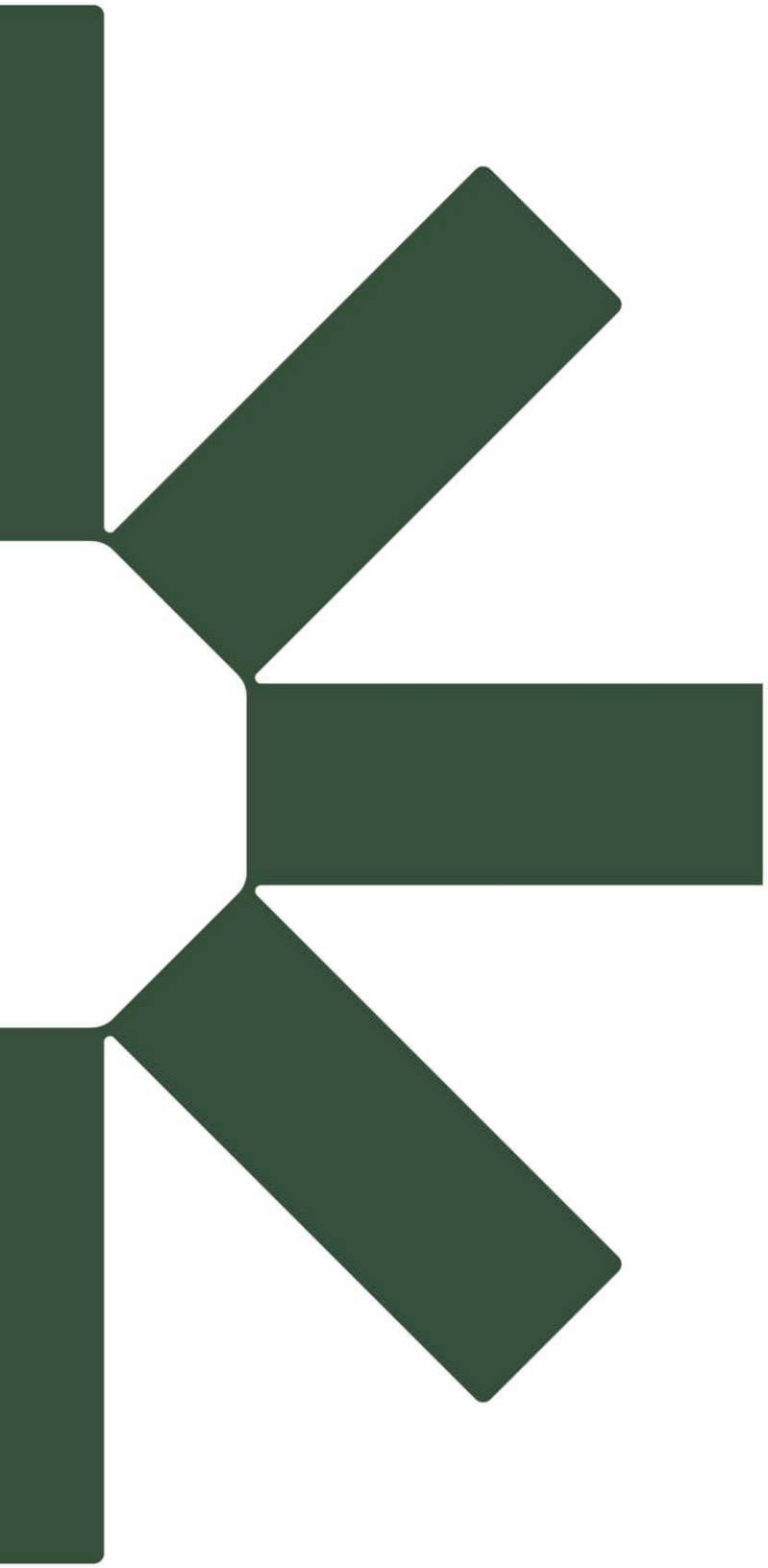
Any material that may have been diluted or substituted will be deemed unacceptable. The responsibility and cost of removal from site and appropriate disposal of this material will be borne by the customer.

Name: ..... Authorised By: .....

Date: ..... Date: .....

Signature: ..... Signature: .....

The Customer shall be deemed to have supplied clean fill as per the EPA Specification and HP Resources SA Pty Ltd reserves the right to reject any material delivered to site with all costs of removal of the material, from site, and appropriate disposal according to the standard, to be borne by the customer.



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