



Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

Supplementary Surveys – Mt Marion

Mineral Resources Limited

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Basis of Report

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

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Executive Summary

Mineral Resources Limited (MRL) commissioned SLR Consulting Australia Pty Ltd (SLR) to undertake a Targeted Arid Bronze Azure Butterfly (ABAB) survey for the proposed Mt Marion Lithium Mine expansion project (The Project). The Survey Area is located approximately 30 km south of the Kalgoorlie townsite, in the Coolgardie bioregion of Western Australia.

The objective of the survey was to delineate the previously discovered colonies of *Camponotus* sp. nr. *terebrans* within the Survey Area and, if the colonies are suitable to support the ABAB, to conduct a targeted ABAB search during the supplementary survey period in accordance with relevant guidelines. This report presents the findings of the survey.

Ant Colony Delineation

A likelihood of occurrence assessment was undertaken which determined that two significant lycaenid taxa have a high likelihood of occurrence within the Survey Area, the ABAB (*Ogyris petrina*), and Inland Hairstreak Butterfly (*Jalmenus aridus*).

A total of 2588 *Camponotus* spp. nests were recorded within the Survey Area, of which 2576 were confirmed to be *C. sp. nr. terebrans*. The remaining nests were identified as *Aphaenogaster mediterrae*, *Brachyponera lutea*, *C. cinereus amperei*, *C. claripes* sp complex JDM288, *C. gouldianus*, *Crematogaster whitei*, *Froggattella kirbii*, and *Rhytidoponera punctata*. The *C. sp. nr. terebrans* nests represent four separate colonies, the extents of which are approximately 145.26 ha, 45.89 ha, 133.79 ha and 937.24 ha. The four colonies have potential to comprise a metapopulation.

Targeted ABAB Searches

No ABAB were recorded within the Survey Area during the field survey. A total of 200 kms were traversed by foot over 24 days, of which 20 had fine weather suitable for ABAB survey. A total of 39 Inland Hairstreak Butterflies (*Jalmenus aridus*) (P1) were recorded opportunistically within the Survey Area during the field survey.



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Acronyms and Abbreviations

°C	Degree Celsius
ABAB	Arid Bronze Azure Butterfly
BAM Act	<i>Biosecurity and Agriculture Management Act 2007</i>
BC Act	<i>Biodiversity Conservation Act 2016</i>
BoM	Bureau of Meteorology
CR	Critically Endangered
DAWE	Department of Agriculture Water and Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEE	Department of the Environment and Energy
Desktop Study Area	The area that was studied during the desktop assessment encompassing the Survey Area and surrounds
DoE	Department of the Environment
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EIA	Environmental Impact Assessment
EN	Endangered
EP Act	<i>Environmental Protection Act 1986</i>
EPA	Environmental Protection Authority
EPBC Act	<i>Environment Protection Biodiversity and Conservation Act 1999</i>
ESA	Environmentally Sensitive Area
GIS	Geographic Information System
GPS	Global Positioning System
ha	Hectare
IBRA	Interim Biogeographic Regionalisation for Australia
Kph	Kilometres per hour
km	Kilometres
Lat	Latitude
Long	Longitude
m	Metres
m ²	Metres Squared
mm	Millimetres
MinRes	Mineral Resources Limited
mths	Months
PMST	Protected Matters Search Tool
P	Priority



SLR	SLR Consulting Australia Pty Ltd
Survey Area	The area that was surveyed
WA	Western Australia
WAM	Western Australian Museum



1.0 Introduction

1.1 The Project

Mineral Resources Limited (MinRes) commissioned SLR Consulting Australia Pty Ltd (SLR) to undertake a targeted survey for the Arid Bronze Azure Butterfly (ABAB) for the proposed Mt Marion Lithium Mine expansion (the Project). The host ant for this species, *Camponotus* sp. nr. *terebrans*, was discovered at four locations during the 2023 terrestrial fauna surveys undertaken by SLR (SLR Consulting, 2024a, 2024b). This survey was designed to map the extent of the colonies and determine if ABAB was present during the supplementary survey period. The survey was undertaken approximately 30 km south of Kalgoorlie townsite, in the Coolgardie bioregion of Western Australia (Map 1). All maps are provided in Appendix A.

1.2 Objective and Scope

The objective of the survey was to delineate previously identified *C.* sp. nr. *terebrans* ant colonies within the Survey Area, and then conduct five targeted searches for the ABAB within these areas during the supplementary survey period as part of the environmental impact assessment process for the Project.

The following scope of work was completed:

- Undertake a desktop invertebrate fauna investigation for the Survey Area with a review of background environmental information, species and habitat inventories, and identification of significant species and habitats.
- Complete delineation of the four *C.* sp. nr. *terebrans* colonies identified on previous surveys.
- Complete five targeted search efforts of all *C.* sp. nr. *terebrans* colonies deemed to be large enough to support the ABAB in accordance with relevant guidelines.
- Complete targeted searches of the *C. gouldianus* colony identified in previous surveys in case ABAB host ant selection is broader than currently documented.
- Prepare and provide the following deliverables for the Survey Area:
 - Draft desktop assessment
 - Survey sampling plan
 - Post field survey memo
 - Technical report
 - GIS spatial data package.



2.0 Background

2.1 Statutory and Regulatory Framework

Western Australian fauna is protected by the following legislative measures:

- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). (Commonwealth of Australia, 1999).
- *Biodiversity Conservation Act 2016* (WA) (BC Act) (Government of Western Australia, 2016).
- *Environmental Protection Act 1986* (WA) (EP Act) (Government of Western Australia, 1986).

In addition to these legislative measures, the following non-legislative lists are considered on a case-by-case basis:

- WA Department of Biodiversity Conservation and Attractions (DBCA) Priority lists for fauna, flora, and ecological communities.
- Recognition of locally significant populations by DBCA.

The EIA process is supported by guidance documents published by the Environmental Protection Authority (EPA), DBCA and the Department of Agriculture Water and Environment (DAWE).

Western Australia

- *Arid bronze azure butterfly (ABAB) survey in Western Australia additional information* (DBCA, 2020a).
- *Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia* (DBCA, 2020b).

Commonwealth

- *Matters of National Environmental Significance – Significant Impact Guidelines 1.1* (DoE, 2013).

2.2 Existing Environment

2.2.1 Climate

The closest long-term Bureau of Meteorology weather station with a complete dataset is Kalgoorlie-Boulder Airport Weather Station (Station 012038), located approximately 30 km north of the Survey Area. Climate statistics were calculated using data from the most current climate normal, which is defined as a 30-year interval where possible. A climate normal is a period long enough to include year-to-year variations while avoiding the influence of longer-term changes in climate (BoM, 2007).

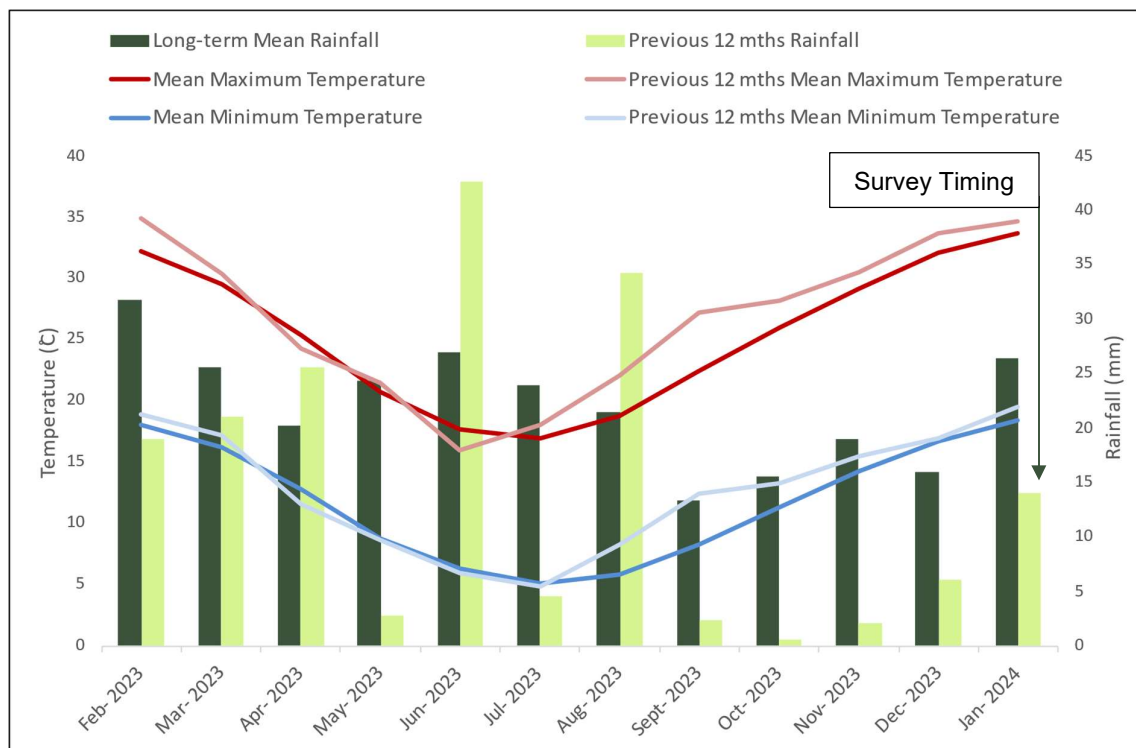
The long-term (1939 to 2024) mean minimum temperature for Kalgoorlie-Boulder Airport Weather Station ranges from 5.1°C (July) to 18.4°C (January) and the long-term mean maximum temperature ranges from 16.9°C (July) to 33.7°C (January) (Graph 1) (BoM, 2024).

The Kalgoorlie-Boulder Weather Station recorded 174.8 mm of rainfall in the 12 months prior to the survey (Feb 2023 - Jan 2024), which is 89.8 mm below the long-term average of 264.6 mm (BoM, 2024). In the three months prior to the survey (Nov 2023 - Jan 2024), 22 mm of rainfall was recorded, which is 39.2 mm below the long-term average of 61.2 mm for the



same period (BoM, 2024). There were large rainfall events in June and August of 2023 but above average temperatures and below average rainfall for the 6 months prior to the survey. This meant that despite the rainfall events the Survey Area was much drier than average at the time of survey, having missed nearly a third of its annual rainfall.

Graph 1: Climate summary of the Survey Area



2.2.2 Interim Biogeographic Regionalisation of Australia

The Interim Biogeographic Regionalisation of Australia (IBRA) divides Australia into 89 bioregions based on major biological, geographical, and geological attributes. These bioregions are subdivided into 419 subregions as part of a refinement of the IBRA framework (DEE, 2016). The Survey Area occurs within the Coolgardie (COO) bioregion and the Eastern Goldfields (COO3) and Southern Cross (COO2) subregion (Map 2).

The Eastern Goldfield (COO3) subregion lies on the 'Eastern Goldfields Terrains' of the Yilgarn Craton. The relief is subdued and comprises gently undulating plains interrupted in the west with low hills and ridges of Archaean greenstones and in the east by a horst of Proterozoic basic granulite. The vegetation is mallees, acacia thickets and shrub heaths on sandplains. Diverse eucalypt woodlands occur around salt lakes, on ranges, and in valleys. Salt lakes support dwarf shrublands of samphire. Woodlands and *Dodonaea* shrubland occur on basic granulites of the Fraser Range. The area is rich in endemic acacias. The climate is arid to semi-arid with 200-300 mm of rainfall, sometimes in summer but usually in winter. The subregional area is 5,102,428 ha (Cowan, 2001).

The Southern Cross (COO2) subregion lies on the 'Southern Cross Terrains' of the Yilgarn Craton and has a subdued relief comprising of gently undulating uplands and broad valleys with bands of low greenstone hills. The vegetation comprises of eucalypt woodlands which are rich in endemic eucalypts and occur around salt lakes on the low greenstone hills. Dwarf shrublands of samphire are supported by the surface of salt lakes. Upper levels of the landscape have eroded yielding yellow sandplains, gravelly sand plains and laterite breakaways, populated by mallees and scrub-heaths which are rich in endemic *Acacias* and



Myrtaceae species. The climate is arid to semi-arid with a warm mediterranean climate and a mainly winter rainfall of 250-300 mm. The subregional area is 7,041,232 ha (Cowan, Graham and McKenzie, 2001).

2.2.3 Soil Landscape Mapping

Soil landscape mapping of Western Australia consists of a compilation of various surveys at different scales varying between 1:20,000 and 1:3,000,000 (DPIRD, 2022). Soil and land systems have been described below to the highest level of detail available.

The Survey Area occurs across 10 land subsystems (Table 1; Map 3). Land subsystem level is the highest level of detail available for soil landscape mapping in the Survey Area at the time.

Table 1: Land systems within the Survey Area

Land system		Description	Area (ha) and extent within Survey Area
Name	Code		
AC1 atlas system	266d3	Gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps	618.26 2.58%
BB5 atlas system	265g4	Rocky ranges and hills of greenstones-basic igneous rocks	1,386.82 5.78%
BB5 atlas system	266g4	Rocky ranges and hills of greenstones-basic igneous rocks	2,893.74 12.06%
Mx41 atlas system	265k7	Flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments	4,172.72 17.39%
Mx41 atlas system	266k7	Flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments	2,129.25 8.88%
Mx42 atlas system	266k8	Broad flat to undulating valleys with isolated granitic rock outcrops and some low escarpments; some seasonal lakes and clay pans	5,326.48 22.20%
Mx43 atlas system	265k9	Gently undulating valley plains and pediments; some outcrop of basic rock	273.47 1.14%
Mx43 atlas system	266k9	Gently undulating valley plains and pediments; some outcrop of basic rock	4,312.61 17.98%
My154 atlas system	265i8	Undulating country on acid volcanic rocks and sedimentary materials	511.23 2.13%
My154 atlas system	266i8	Undulating country on acid volcanic rocks and sedimentary materials	1,417.54 5.90%
My54 atlas system	265m2	Broad very gently undulating plains with scattered rock outcrops occurring as mesas	366.49 1.53%



Land system		Description	Area (ha) and extent within Survey Area
Name	Code		
SV15 atlas system	266n6	Salt lakes and their associated areas	582.74 2.43%

2.2.4 Hydrography

Hydrographic features that either intersect or occur in the vicinity of the Survey Area are described in Table 2 and shown in Map 4 (DWER, 2018).

Table 2: Hydrographical features in the vicinity of the Survey Area

Hydrographical feature	Description
Non-perennial watercourse	An unnamed non-perennial watercourse running through the northwest polygon of the Survey Area.
Non-perennial watercourse	An unnamed non-perennial watercourse running through the north of the southeast polygon of the Survey Area.
Minor drainage	A series of tributary water courses running into the non-perennial watercourse in the northwestern polygon of the Survey Area.
Lake – non-perennial	Six non-perennial lakes within the Survey Area.
Lake Lefroy	Salt lake 21 km southeast of the Survey Area.

2.2.5 Pre-European Vegetation

The major source of data for pre-European vegetation mapping in Western Australia are the published and unpublished mapping of J. S. Beard at 1:250,000 scale. These vegetation types were later refined by Shepherd, Beeston, and Hopkins (2002), resulting in 819 Vegetation Association-level units, and a subsequent reclassification resulted in the creation of over 2,175 finer-scale System Associations (Beard *et al.*, 2013). Five System Associations are mapped within the Survey Area (Table 3; Map 5).

Representation of Vegetation Associations at a State, regional, and local level is shown in Table 4 (Government of Western Australia, 2019).

Table 3: Vegetation System Associations within the Survey Area

System Association	Description	Area (ha) and extent within Survey Area
Binneringe_9	Wheatbelt; York gum, salmon gum etc. <i>Eucalyptus loxophleba</i> , <i>E. salmonophloia</i> . Goldfields; gimlet, redwood etc. <i>E. salubris</i> , <i>E. oleosa</i> . Riverine; rivergum <i>E. camaldulensis</i> . Tropical; messmate, woolybush.	583.03 2.43%
Boorabbin_1413	Thicket: Wattle, <i>Casuarina</i> and teatree <i>Acacia-Allocasuarina-Melaleuca</i> alliance.	483.51 2.02%
Coolgardie_123	Mulga, other wattle, <i>Casuarina Atriplex</i> spp. <i>Maireana</i> spp. with <i>Acacia aneura</i> , <i>A. papyrocarpa</i> , <i>Allocasuarina cristata</i>	98.59 0.41%
Coolgardie_125	Rock.	128.40



System Association	Description	Area (ha) and extent within Survey Area
		0.54%
Coolgardie_128	Rock.	2,537.39 10.58%
Coolgardie_1413	Wattle, <i>Casuarina</i> and teatree <i>Acacia-Allocasuarina-Melaleuca</i> alliance.	833.70 3.48%
Coolgardie_522	Wheatbelt; York gum, salmon gum etc. <i>Eucalyptus loxophleba</i> , <i>E. salmonophloia</i> . Goldfields; gimlet, redwood etc. <i>E. salubris</i> , <i>E. oleosa</i> . Riverine; rivergum <i>E. camaldulensis</i> . Tropical; messmate, woolybush.	2,503.53 10.44%
Coolgardie_9	Woodland other: Wheatbelt; York gum, salmon gum etc. <i>Eucalyptus loxophleba</i> , <i>E. salmonophloia</i> . Goldfields; gimlet, redwood etc. <i>E. salubris</i> , <i>E. oleosa</i> . Riverine; rivergum <i>E. camaldulensis</i> . Tropical; messmate, woolybush.	6,007.17 25.04%
Coolgardie_936	Woodland other: Wheatbelt; York gum, salmon gum etc. <i>Eucalyptus loxophleba</i> , <i>E. salmonophloia</i> . Goldfields; gimlet, redwood etc. <i>E. salubris</i> , <i>E. oleosa</i> . Riverine; rivergum <i>E. camaldulensis</i> . Tropical; messmate, woolybush.	10,815.92 45.08%

Table 4: Vegetation Associations within the Survey Area and their representation at the state, regional, and local levels

Vegetation Association	Extent			
	Pre-European (ha)	Current (ha)	Remaining (%)	Managed in DBCA Lands (%)*
Representation across Western Australia				
9	240,509.33	235,161.94	97.78	8.07
1413	1,679,916.32	1,286,855.48	76.60	17.25
123	9,090.22	8,902.02	97.93	0.00
125	3,485,785.49	3,146,487.22	90.27	8.45
128	329,836.19	288,813.54	87.56	23.92
522	709,714.81	709,228.05	99.93	5.55
936	698,752.00	676,689.18	96.84	4.14
Representation across the Coolgardie Bioregion				
9	240,441.99	235,100.97	97.78	8.07
1413	1,061,212.28	1,042,553.77	98.24	18.50
123	9,090.22	8,902.02	97.93	0.00
125	545,717.86	506,802.71	92.87	7.04
128	184,549.90	183,891.19	99.64	18.85
522	688,406.97	687,920.22	99.93	5.72
936	586,792.23	584,336.14	99.58	3.10



Vegetation Association	Extent			
	Pre-European (ha)	Current (ha)	Remaining (%)	Managed in DBCA Lands (%)*
Representation across the Southern Cross (COO02) Subregion				
9	5,394.84	5,343.90	99.06	0.06
1413	953,237.73	934,825.95	98.07	19.76
123	0	0	0	0
125	232,861.61	196,591.27	84.42	12.56
128	156,192.81	155,552.26	99.59	21.09
522	480,231.80	480,206.00	99.99	7.32
936	275,894.49	275,876.53	99.99	1.67
Representation across the Eastern Goldfield (COO03) Subregion				
9	235,047.15	229,757.07	97.75	8.26
1413	107,974.55	107,727.82	99.77	7.54
123	9,090.22	8,902.02	97.93	0.00
125	303,090.73	300,445.92	99.13	3.22
128	26,871.74	26,853.58	99.93	6.53
522	208,175.17	207,714.22	99.78	2.02
936	310,897.74	308,459.61	99.22	4.38
Representation across the Shire of Coolgardie				
9	166,572.37	163,720.39	98.29	9.81
1413	334,488.08	334,256.37	99.93	8.16
123	6,008.61	6,008.61	100.00	0.00
125	152,428.40	150,072.36	98.45	5.80
128	96,232.93	96,215.07	99.98	13.56
522	313,238.77	312,787.98	99.86	11.54
936	359,112.73	356,674.60	99.32	4.02

*as a portion of the current extent

2.2.6 Environmentally Sensitive and Conservation Areas

Environmentally Sensitive Areas (ESAs) are declared by the Department of Water and Environmental Regulation (DWER) to prevent the degradation of important environmental values such as Threatened flora, Threatened Ecological Communities (TECs), or significant wetlands. The Survey Area does not occur within a mapped ESA (DWER, 2023).

Conservation Areas consist of areas protected for the purpose of conservation, including but not limited to National Parks, Nature Reserves, Conservation Parks, and Regional Parks. The Survey Area does not occur within a Conservation Area (DBCA, 2023a, 2023b) (Map 6). The nearest Conservation Areas are:

- Yallari Timber Reserve; overlaps the southeast polygon of the Survey Area and is vested under the Conservation Commission of WA.



- Scahill Timber Reserve; located approximately 4 km west of the southeast polygon of the Survey Area and is vested under the Conservation Commission of WA.
- Karamindie Forest; located approximately 5.8 km north of the southeast polygon, and 7 km east of the northwest polygon of the Survey Area and is vested under the Conservation Commission of WA.
- Kambalda Timber Reserve; located 3.5 east of the southeast polygon of the Survey Area and is vested under the Conservation Commission of WA.
- Kambalda Nature Reserve; located 5.7 km east of the southeast polygon of the Survey Area and is vested under the Conservation Commission of WA.
- Kangaroo Hills Timber Reserve; located 4 km west of the northwest polygon of the Survey Area and is vested under the Conservation Commission of WA.

2.2.7 Land Use

Woolbar Pastoral station (N050022, N050023) encompassed a portion of the southeast polygon and was immediately adjacent to the northwest polygon of the Survey Area. Calooli Pastoral Station also bordered the northwest polygon of the Survey Area. Exploration and mining leases identified within the Survey Area:

- Reed Industrial Minerals Pty Ltd (E 1501599; L 1500315; L 1500316; L 1500317; L 1500321; L 1500353; L 1500360; L 1500392; M 1501000; M 1500717; M 1500999)
- Mcaulay, Darren Michael (E 1502063; E 1502064)
- Equinox Resources Limited (E 1501902)
- Process Minerals International Pty Ltd (L 1500376)
- St Ives Gold Mining Company (E 1500972; E 1500984; M 1500841)

2.2.8 Indigenous Land Rights

The Survey Area falls within the Goldfields Land and Sea Council Aboriginal Group jurisdiction area (NNTT, 2017) and has one native title determination over the area (Landgate, 2023a), Marlinyu Ghoorlie People (NNTT no. WC2017/007).

There are no Indigenous Land Use Agreements (ILUAs) over the Survey Area (Landgate, 2023b).

3.0 Methods

The surveys documented in this report were undertaken in accordance with relevant EPA, DBCA, and DAWE guidelines (see Section 2.1).

3.1 Desktop Assessment

Background information on the Survey Area and surrounds (the Desktop Study Area) was compiled prior to the field survey (see Section 2.2), as well as a desktop assessment for significant invertebrate fauna taxa. The desktop assessment comprised a review of recent and nearby literature, a search of relevant databases, and a likelihood of occurrence assessment.

3.1.1 Literature Review

The literature review considered a selection of relevant reports detailing assessments undertaken in the region that were either publicly available or provided by the client. These reports are listed below and summarised in Appendix B.



- Mt Marion Hamptons Tenements Terrestrial Fauna Surveys (SLR Consulting, 2024a), overlaps the Survey Area.
- Mt Marion Mining Tenements Terrestrial Fauna Surveys (SLR Consulting, 2024b), overlaps the Survey Area.
- Mt Marion Fauna Assessment: Hamptons Lease Area 53, L15/353, M15/999, and East E15/1599 (Bamford Consulting Ecologists, 2022), overlaps the Survey Area.
- Targeted survey for the Arid Bronze Azure Butterfly – Spargos (Terrestrial Ecosystems, 2021), 3 km south of the Survey Area.
- Survey of the Arid Bronze Azure Butterfly Cracking and Leaching Plant and By-product Storage Unit (Onshore Environmental, 2021), 30 km north of the Survey Area.
- Basic and Targeted Fauna Survey for the Crossroads Project (Phoenix, 2023), 55 km north of the Survey Area.

3.1.2 Database Searches

Database searches were undertaken to compile a list of significant invertebrate fauna and identify previous records within the Desktop Study Area (Table 5).

Table 5: Database search details

Database Name	Date Received	Search Target	Buffer around the Survey Area
Threatened and Priority Fauna database search (DBCA, 2023c)	28 June 2023	Threatened and Priority fauna	100 km
Protected Matters Search Tool (PMST) (DCCEEW, 2023)	July 2023	Threatened fauna	50 km
NatureMap (DBCA, 2023d)	28 June 2023	Fauna	100 km

3.1.3 Likelihood of Occurrence

Significant invertebrate fauna taxa identified from the literature review and database searches were assessed to determine their likelihood of their occurrence within the Survey Area. The assessment used the likelihood of occurrence criteria presented in Table 6. Only taxa that have been recorded within the Survey Area or were assessed as having a high or medium likelihood of occurrence are discussed in detail.

Table 6: Likelihood of occurrence criteria

Rank	Criteria
Recorded	The taxon was recorded within the Survey Area during the current survey.
Previously Recorded	The taxon has been previously recorded within the Survey Area according to database search or literature review results.
High (Likely to occur)	There are existing records of the taxon near the Survey Area, suitable habitat is present within the Survey Area, and the taxon has been recorded within the Desktop Study Area in the last 15 years.
Medium (May occur)	There are existing records of the taxon within the Desktop Study Area, however, the taxon does not meet the criterion for high likelihood, or



Rank	Criteria
	suitable habitat within the Survey Area is marginal or limited in extent, or the taxon has not been recorded within the Desktop Study Area in the last 15 years.
Low (Unlikely to occur)	Suitable habitat is not present within the Survey Area, or the taxon is very infrequently recorded in the locality despite reasonable previous search effort, or the taxon is believed to be extinct or locally extinct.

3.2 Field Surveys

3.2.1 Survey Timing

The field surveys were undertaken across five field trips as shown in Table 7. Survey effort is displayed in Map 7.

Table 7: Survey timing

Survey trip	Tasks completed	Dates	Person field days
1	Delineation of ant colonies, ABAB survey at all colonies	19 – 23 February 2024	30
2	ABAB survey at all colonies	5 – 9 March 2024	10
3	ABAB survey at all colonies	18 – 22 March 2024	10
4	ABAB survey at all colonies	2 – 6 April 2024	10
5	ABAB survey at all colonies	15 – 19 April 2024	8

3.2.2 Field Personnel and Licences

Details of field personnel, including their level of experience, and role for each field trip are detailed in Table 8.

Fauna fieldwork was completed under Fauna Taking (Biological Assessment) License – Regulation 27 (BA27000901) and an authorisation to Take or Disturb Threatened Species under Section 40 of the BC Act (TFA 2223-0026) (Appendix C). Animal ethics approval was obtained under scientific use licence number U336 / 2023 - 2025 and permit number WAEC 24-02-12.

Table 8: Field personnel

Personnel	Experience	Role	Trips
Dr. Michael Lohr – Principal Zoologist	11 years	Project Director, field logistics, team lead	1 & 2
Dr. Rod Eastwood – ABAB Specialist	50 years	Specialist ABAB and associated ant species consultant	1 - 5
Evan Webb – Associate Zoologist	7 years	Field logistics, team lead	1,3,4,5



Personnel	Experience	Role	Trips
Simon Girando – Senior Ecologist	5 years	Project Manager, field lead, logistics coordinator	1
Datta Li – Zoologist	2 years	Field hand	1
Lewis Berry – Ecologist	2 years	Field hand	1

3.2.3 Weather Conditions

The DBCA Guideline outlines that a survey for ABAB can only be conducted in fine weather with a forecast maximum temperature $\geq 23^{\circ}\text{C}$ (DBCA, 2020b). Of the 24 days surveyed, three of them had a maximum forecast below the recommended temperature for survey. Trip 2 recorded a large amount of cloud cover for the duration of the trip which may have affected butterfly activity. Likewise, trip 3 also recorded elevated cloud cover but it is unlikely to have affected butterfly activity. Weather conditions during the fauna surveys are presented in the tables below (Table 9 - Table 13). Daily temperature, rainfall, cloud cover, and wind speed data are taken from the Kalgoorlie-Boulder Airport Weather Station (Station 012038) (BoM, 2024).

Table 9: Trip 1 weather conditions

Date	Temperature ($^{\circ}\text{C}$)		Rainfall (mm)	Cloud Cover (%)	Wind (Avg kph)
	Min	Max			
19/02/2024	26.3	42.8	0	0	18.0 ENE
20/02/2024	27.1	43.8	0	0	15.8 NE
21/02/2024	27.1	46.5	0	0	20.9 NW
22/02/2024	17.7	31.9	0	0	24.1 ESE
23/02/2024	15.8	31.8	0	0	23.8 ESE

Table 10: Trip 2 weather conditions

Date	Temperature ($^{\circ}\text{C}$)		Rainfall (mm)	Cloud Cover (%)	Wind (Avg kph)
	Min	Max			
05/03/2024	20.0	29.2	14.0	100	23.4 SE
06/03/2024	19.2	28.8	0	100	26.3 ESE
07/03/2024	19.4	26.7	0	100	20.2 ESE
08/03/2024	19.8	32.8	0	87.5	14.0 N
09/03/2024	15.2	16.9	50.2	100	23.0 S

Table 11: Trip 3 weather conditions

Date	Temperature ($^{\circ}\text{C}$)		Rainfall (mm)	Cloud Cover (%)	Wind (Avg kph)
	Min	Max			
18/03/2024	21.4	30.4	0	50	15.1 S
19/03/2024	15.6	21.7	0.6	62.5	25.9 S



Date	Temperature (°C)		Rainfall (mm)	Cloud Cover (%)	Wind (Avg kph)
	Min	Max			
20/03/2024	10.9	22.0	0	45	23.54 E
21/03/2024	11.0	24.9	0	0	18.7 E
22/03/2024	13.3	23.9	0	37.5	25.9 E

Table 12: Trip 4 weather conditions

Date	Temperature (°C)		Rainfall (mm)	Cloud Cover (%)	Wind (Avg kph)
	Min	Max			
02/04/2024	11.7	24.3	0	0	15.1 E
03/04/2024	10.8	24.2	0	0	13.3 SE
04/04/2024	11.5	23.9	0	0	15.5 E
05/04/2024	13.6	27.1	0	0	13.3 ENE
06/04/2024	13.7	29.4	0	0	11.2 E

Table 13: Trip 5 weather conditions

Date	Temperature (°C)		Rainfall (mm)	Cloud Cover	Wind (Avg kph)
	Min	Max			
15/04/2024	12.3	25.3	0.2	0%	14.4 ESE
16/04/2024	12.9	26.7	0	0%	19.4 ESE
17/04/2024	12.8	27.1	0	0%	15.8 E
18/04/2024	13.4	24.1	0	0%	15.1 ESE

3.2.4 ABAB Ant Colony Delineation

The four colonies previously discovered were partially delineated during the 2023 surveys conducted by SLR (SLR Consulting, 2024a, 2024b). This survey expanded on the previous efforts and continued mapping the colony boundaries by searching for ant nests identified as *C. sp. nr. terebrans*. Evidence includes a sandy apron, fresh debris, and one or more irregularly shaped nest entrance holes. Trees were opportunistically observed with the nest evidence while traversing suitable habitat for the species. If evidence of a nest was observed, then the surface layer of soil around the nest was removed and visual presence of the ant was verified. Once verified, the nest location was recorded using the mobile app Fulcrum and this information was used to delineate the colony boundaries, as well as provide an estimate of nest densities within each colony.

3.2.5 Targeted ABAB Surveys

Five targeted ABAB surveys were conducted over the supplementary survey period, as per the DBCA guidelines (DBCA, 2020b). The four colonies were systematically surveyed following a modified Pollard Walk protocol (Pollard, 1977), focusing on roads and tracks (if present), as well as open areas where male butterflies may set up territories seeking females.

Butterflies were collected by hand nets and were euthanised in the field with ethyl acetate, then stored in small envelopes in a moist container at 3°C for transport back to Perth. All



specimens collected were transported, labelled, catalogued, and stored as per WA Museum (WAM) protocols.

3.2.6 Identification and Taxonomy

Terrestrial fauna taxa were sampled in the field and taken for laboratory identification. Ant specimens were formally identified by experienced taxonomist Brian Heterick, and butterfly specimens were formally identified by experienced taxonomist Dr Rod Eastwood.

Where there was doubt on a species name (through subsequent name changes or taxonomic reviews), an effort was made to determine the current scientific name for each taxon. Taxonomy and nomenclature in this report follows the WAM checklist 2024 (WAM, 2023) where relevant.

3.3 Limitations

Limitations and constraints of the survey are detailed below in Table 14.

Table 14: Limitations and constraints associated with the survey

Variable	Degree of limitation	Potential constraints on survey outcomes
Availability of data and information	No limitation	Sufficient data and information, including regional and local contextual information, was available to complete the scope of the survey.
Competency and experience of the survey team	No limitation	The survey was undertaken by a team with extensive experience undertaking similar scopes within the bioregion. <ul style="list-style-type: none"> • Principle Zoologist, Dr Michael Lohr – 11 years' experience • Specialist Ecologist, Dr Rod Eastwood – 50 years' experience • Associate Zoologist, Evan Webb – 7 years' experience • Senior Ecologist, Simon Girando – 5 years' experience • Graduate Zoologist, Datta Li – 2 years' experience • Graduate Ecologist, Lewis Berry – 2 years' experience
The proportion of fauna identified, recorded, or collected	No limitation	Only one fauna taxon was recorded, which was identified in the field and verified by an experienced taxonomist from the WAM. No other target species were recorded during the survey effort.
Scope of the survey	No limitation	The scope of the survey was fulfilled and considered complete.
Adequacy of the survey intensity and proportion of survey achieved	No limitation	All ant colonies within the Survey Area were delineated and adequate intensity was allocated to systematically survey each colony for ABAB according to the guidelines. A full survey was achieved during the supplementary survey period.
Access problems	No limitation	The Survey Area was sufficiently accessed by vehicle and on foot.
Timing, weather, and season	Partial limitation	The recommended primary survey period for the ABAB is mid-September to late October, with a supplementary period between November and late April. The survey was conducted during the supplementary survey period.



Variable	Degree of limitation	Potential constraints on survey outcomes
		The weather during trip 2 of the survey was overcast and the final day of the trip recorded over 50 mm of rain. Trip 3 also recorded two days below the recommended temperature for survey and an elevated cloud cover. This reduces the number of suitable days for ABAB surveys and may affect survey adequacy.
Disturbance that may have affected the results of survey	No limitation	Areas of disturbance associated with mining activity, roads, and infrastructure were present within the Survey Area but were not a limitation on the results of the survey.
Problems with data and analysis, including sampling biases	No limitation	Survey effort for the target species was concentrated in areas of high ant-nest density within the preferred habitats. ABAB are known to be more plentiful near concentrations of ant nests (Dr Rod Eastwood pers. obs.). This may introduce a bias where the use of low nest density is underrepresented, however, this is not considered a limitation on the survey outcomes.

4.0 Results

4.1 Desktop Assessment

The database searches and literature review identified two significant lepidopteran taxa occurring within the Desktop Study Area, comprising:

- Arid Bronze Azure Butterfly (*Ogyris petrina*) – CR (BC Act); CR (EPBC Act).
- Inland Hairstreak Butterfly (*Jalmenus aridus*) – P1 (DBCA).

Key findings of the desktop assessment are summarised in Table 15, a complete list of invertebrate fauna taxa recorded within the Desktop Study Area is presented in Appendix D, and database search results are displayed in



Map 8.



Table 15: Fauna likelihood of occurrence

Family	Scientific Name	Conservation Status		Habitat	Previous Records	Likelihood of Occurrence
		State	Commonwealth			
Invertebrates						
Lycaenidae	<i>Ogyris petrina</i> Arid Bronze Azure Butterfly	CR	CR	This species requires the host ant <i>Camponotus</i> sp. nr. <i>terebrans</i> to be present in large enough colonies (> 40 ha) to support the species within the colony (DBCA, 2020b).	The DBCA database search identified 55 records within 100 km of the Survey Area, including 18 km and 19 km north in 1991 (DBCA, 2023c)	High Four <i>Camponotus</i> sp. nr. <i>terebrans</i> colonies recorded, all of which are large enough to support ABAB. The proximity of these colonies to each other significantly increases the likelihood that ABAB may be present within the landscape.
Lycaenidae	<i>Jalmenus aridus</i> Inland Hairstreak Butterfly	P1	-	This species prefers habitats of open woodland with stands of mixed young and mature <i>Senna</i> shrubs in an area ≥ 2000 m ² . They also prefer a variety of flowering shrubs such as <i>Eremophila</i> , <i>Scaveola</i> , and <i>Maireana</i> . This species is also associated with the ant species <i>Froggattella kirbii</i> (Eastwood et al., 2023).	The DBCA database identified 5 records within 100 km of the Survey Area, most of which are 20 km north in 1997 (DBCA, 2023c). SLR internal records show 16 records within 3 km of the Survey Area in 2021.	Recorded Recorded within the Survey Area during the survey effort



4.2 ABAB Ant Colony Delineation

A total of 2588 *Camponotus* spp. nests were recorded within the Survey Area, of which 2576 were confirmed to be *C. sp. nr. terebrans*. The remaining nests were identified as *Aphaenogaster mediterrae*, *Brachyponera lutea*, *C. cinereus amperei*, *C. claripes* sp complex JDM288, *C. gouldianus*, *Crematogaster whitei*, *Froggattella kirbii*, and *Rhytidoponera punctata*. The *C. sp. nr. terebrans* nests were found across four separate colonies; a breakdown of each colony is provided in Table 16 below. Individual nest locations are presented in Appendix E and shown in Map 9. Inferred colony boundaries are shown in Map 9.

Table 16: Colony ID, area, abundance and portion of nests found during the survey

Colony ID	Area (ha)	Abundance & portion of nests found
1	45.89	381, 14.79%
2	133.79	370, 14.36%
3	937.24	1082, 42.0%
4	145.26	743, 28.84%

4.3 Targeted ABAB Surveys

No ABAB were recorded within the Survey Area during the field survey at any of the four *C. sp. nr. terebrans* colonies nor at the *C. gouldianus* colony. A total of 200 kms was traversed by foot over 24 days, of which 20 had fine weather suitable for ABAB survey.

A total of 39 Inland Hairstreak Butterflies (*Jalmenus aridus*) (P1) was recorded opportunistically within the Survey Area during the field survey. Of these records, 26 specimens were collected from four locations in the Survey Area and deposited in the WAM as primary records and for genetic studies (Plate 1). The *J. aridus* locations are displayed in Map 9. WAM submission information is displayed in Appendix F.





Plate 1: *Jalmenus aridus* specimens collected during the survey effort, fully prepared and deposited in the WAM.



6.0 Discussion

6.1 Ant Colony Delineation

Each of the four colonies that were delineated during this survey are considered large enough to support the ABAB, which a consensus of specialists (Matt Williams, Andy Williams, and Rod Eastwood) suggests a minimum of 40 ha should be considered for an isolated colony of ants. One of the four colonies was found to be the largest colony of *C. sp. nr. terebrans* currently known, further elevating its potential to support the ABAB. The four sites are also in close enough proximity that ABAB can migrate between them, meaning they should not be treated as isolated populations, but rather as a metapopulation so that context for the presence of ABAB should be considered over the combined area that the four ant colonies occupy.

Due to the size of the individual colonies, the proximity of the colonies to each other, and the proximity of previous records, there is the potential that the ABAB would be present at one or more of the colonies surveyed.

6.2 Butterfly Surveys

The targeted ABAB surveys utilised a variety of survey methods to adequately cover the four colonies within the timeframes allocated. A larger timeframe may have increased adequacy but is unlikely to have yielded additional results. The survey is considered adequate for an ABAB survey conducted within the supplementary survey period, however, a survey during the primary flight period has the potential to produce results. ABAB subpopulations are known to have two generations annually, one in spring and one in autumn. However, the Barbalin site which is monitored annually did not have an emergence in autumn during 2024; nor did a second subpopulation approximately 100 km from Barbalin (Dr Rod Eastwood pers. coms.). It is inferred that if ABAB is at the Mt Marion site, it too may have skipped an autumn flight this year. This is likely due to the extremely low rainfall and above average temperatures that were observed in this region over the 2023-2024 summer period.

The weather during the field surveys was a partially limiting factor, with four of the field days considered unsuitable for survey due to rain, overcast conditions, or temperatures below the recommended 23°C. Due to this, the survey effort was reduced from 24 person days in the field to 20 days of adequate conditions.

The *Jalmenus aridus* captures were not part of the initial scope of works but were collected opportunistically during the field survey. This was not an unexpected result as previous publications (SLR Consulting, 2024a, 2024b) predicted a high likelihood of occurrence in the area. The specimens were retained by the WAM as primary record data and will help to inform genetic studies on the species.



7.0 Conclusion

- Four ant colonies were delineated which were approximately 145.26 ha, 45.89 ha, 133.79 ha, 937.24 ha. All of these are considered large enough to support ABAB.
- The proximity of these four colonies is such that migration of butterflies between colonies is plausible.
- No ABAB were recorded during the supplementary survey period in either *C. sp. nr. terebrans* or *C. gouldianus* colonies.
- 39 Inland Hairstreak Butterflies (*Jalmenus aridus*) (P1) were opportunistically recorded during the field survey, of which 26 were retained as primary record specimens in the WAM.
- We recommend that a spring 2024 survey for ABAB be undertaken.



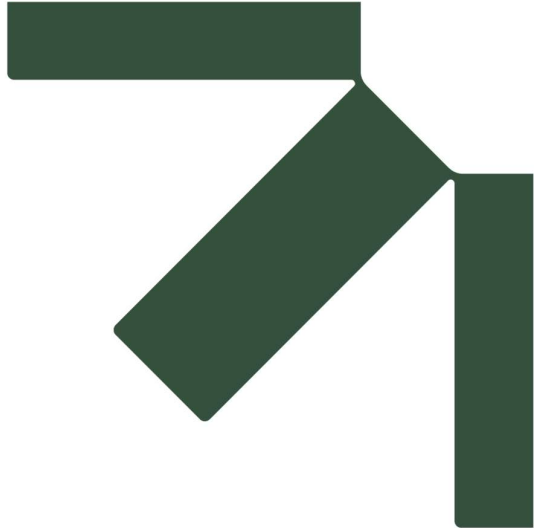
8.0 References

- Bamford Consulting Ecologists (2022) *Mt Marion Fauna Assessment: Hamptons Lease Area 53, L15/353, M15/999 and East E15/1599*. Perth.
- Beard, J.S. *et al.* (2013) 'The vegetation of Western Australia at the 1:3,000,000 scale. Explanatory memoir. Second edition', *Conservation Science W. Aust.*, 9(1), pp. 1–152.
- BoM (2007) *About Climate Statistics*. Available at: <http://www.bom.gov.au>.
- BoM (2024) *Climate Data Online*. Available at: <http://www.bom.gov.au>.
- Commonwealth of Australia (1999) *Environment Protection and Biodiversity Conservation Act 1999*. Australia. Available at: www.legislation.gov.au.
- Cowan, M. (2001) *Coolgardie 3 (COO3 – Eastern Goldfields subregion)*. Available at: https://www.dpaw.wa.gov.au/images/documents/about/science/projects/waaudit/coolgardie03_p156-169.pdf.
- Cowan, M., Graham, G. and McKenzie, N. (2001) *Coolgardie 2 (COO2 - Southern Cross subregion)*. Available at: https://www.dpaw.wa.gov.au/images/documents/about/science/projects/waaudit/coolgardie02_p143-155.pdf.
- DBCA (2020a) *Arid bronze azure butterfly (ABAB) survey in Western Australia additional information*.
- DBCA (2020b) *Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia*.
- DBCA (2023a) *DBCA - Lands of Interest (DBCA-012)*. Available at: <https://catalogue.data.wa.gov.au>.
- DBCA (2023b) *DBCA - Legislated Lands and Waters (DBCA-011)*. Available at: <https://catalogue.data.wa.gov.au>.
- DBCA (2023c) *DBCA Threatened and Priority Fauna Database request (Custom Search)*.
- DBCA (2023d) *NatureMap Database Search*. Perth, Australia.
- DCCEEW (2023) *Protected Matters Search Tool*. Available at: <https://www.dcceew.gov.au/environment/epbc/protected-matters-search-tool>.
- DEE (2016) *Interim Biogeographic Regionalisation for Australia, Version 7*. Canberra, Australia. Available at: www.environment.gov.au.
- DoE (2013) *Matters of National Environmental Significance Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*. Canberra, Australia. Available at: <https://www.environment.gov.au>.
- DPIRD (2022) *Soil Landscape Mapping - Best Available (DPIRD-027)*. Perth, Australia. Available at: <https://catalogue.data.wa.gov.au>.
- DWER (2018) *Hydrography, Linear (Hierarchy) (DWER-031)*. Perth, Australia: Landgate. Available at: <https://catalogue.data.wa.gov.au>.
- DWER (2023) *Clearing Regulations - Environmentally Sensitive Areas (DWER-046)*. Perth, Australia. Available at: <https://catalogue.data.wa.gov.au/>.
- Eastwood, R. *et al.* (2023) 'Current distribution, preferred habitat, behaviour, and biology of the Inland Hairstreak, *Jalmenus aridus* Graham and Moulds, 1988 (Lepidoptera: Lycaenidae) in the Eastern Goldfields region of Western Australia', *Records of the Western Australian Museum*, 38(1), p. 68. Available at: <https://doi.org/10.18195/issn.0312-3162.38.2023.068-075>.



- Government of Western Australia (1986) *Environmental Protection Act 1986*. Available at: www.legislation.wa.gov.au.
- Government of Western Australia (2007) *Biosecurity and Agriculture Management Act 2007*. Available at: <https://www.legislation.wa.gov.au>.
- Government of Western Australia (2016) *Biodiversity Conservation Act 2016*. Available at: www.legislation.wa.gov.au.
- Government of Western Australia (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019*. Available at: <https://catalogue.data.wa.gov.au>.
- Landgate (2023a) *Native Title (Determinations) (LGATE066)*. Available at: <https://catalogue.data.wa.gov.au>.
- Landgate (2023b) *Native Title (ILUA) (LGATE-067)*. Available at: <https://catalogue.data.wa.gov.au>.
- NNTT (2017) *Representative Aboriginal and Torres Strait Islander Body Boundaries (NNTT-001)*. Available at: <https://catalogue.data.wa.gov.au>.
- Onshore Environmental (2021) *Survey of the Arid Bronze Azure Butterfly Cracking and Leaching Plant and By-product Storage Site*. Perth, Australia.
- Phoenix (2023) *Basic and Targeted Fauna Survey for the Crossroads Project*. Perth, Australia.
- Pollard, E. (1977) 'A Method for Assessing Changes in the Abundance of Butterflies', *Biological Conservation*, 12, pp. 115–134.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J. (2002) *Native vegetation in Western Australia: Extent, type and status. Resource Management Technical Report 249*. Perth, Australia. Available at: <https://library.dpird.wa.gov.au>.
- SLR Consulting (2024a) *Mt Marion Hamptons Tenements Terrestrial Fauna Survey - Basic Fauna and Targeted Malleefowl, Chuditch, and ABAB Surveys*.
- SLR Consulting (2024b) *Mt Marion Mining Tenements Terrestrial Fauna Surveys - Basic Fauna and Targeted Malleefowl, Chuditch, and ABAB Surveys*.
- Terrestrial Ecosystems (2021) *Targeted survey for the Arid Bronze Azure Butterfly – Spargos*. Perth, Australia.
- WAM (2023) *Checklist of the Terrestrial Vertebrate Fauna of Western Australia*. Available at: <https://museum.wa.gov.au>.





Appendix A Maps

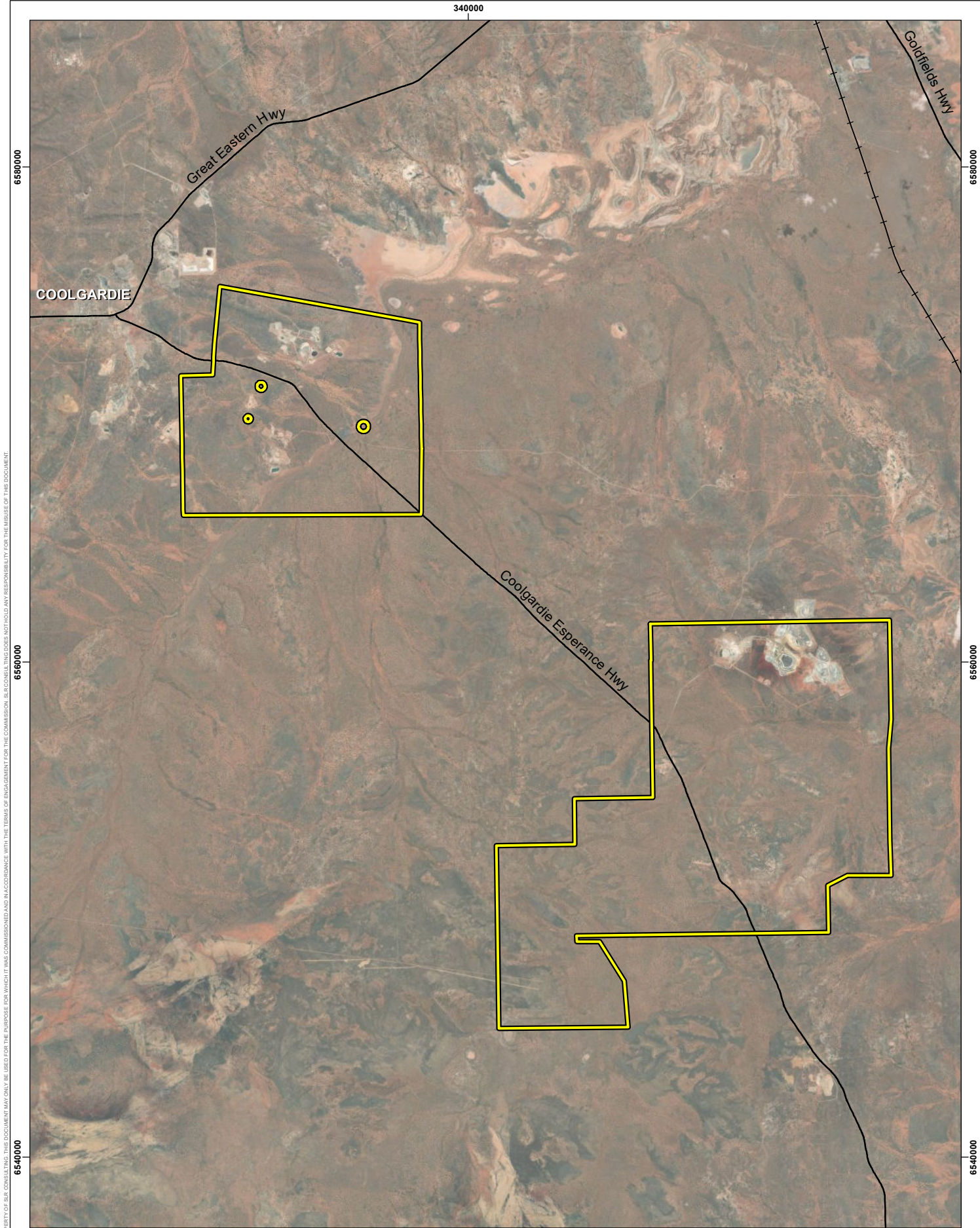
Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

Supplementary Surveys – Mt Marion

Mineral Resources Limited

SLR Project No.: 675.072273.00001

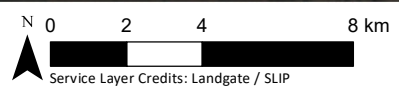
5 August 2024



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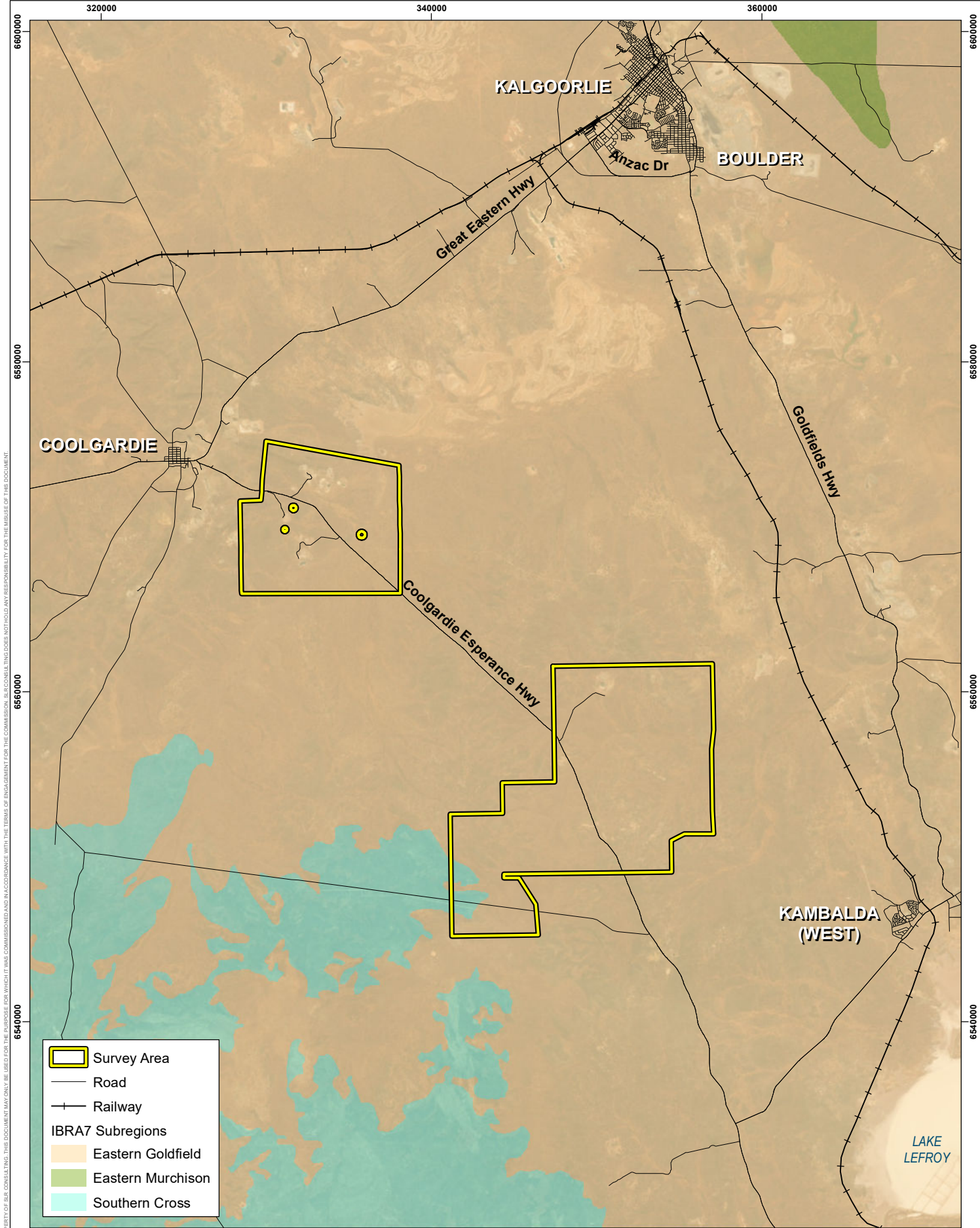
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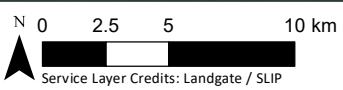
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 Date Drawn : 19/06/2024
 Drawn By : Environmaps
 Reviewed By : SG

Mineral Resources Limited
 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

**Survey Area
 MAP 1**



	Survey Area
	Road
	Railway
IBRA7 Subregions	
	Eastern Goldfield
	Eastern Murchison
	Southern Cross



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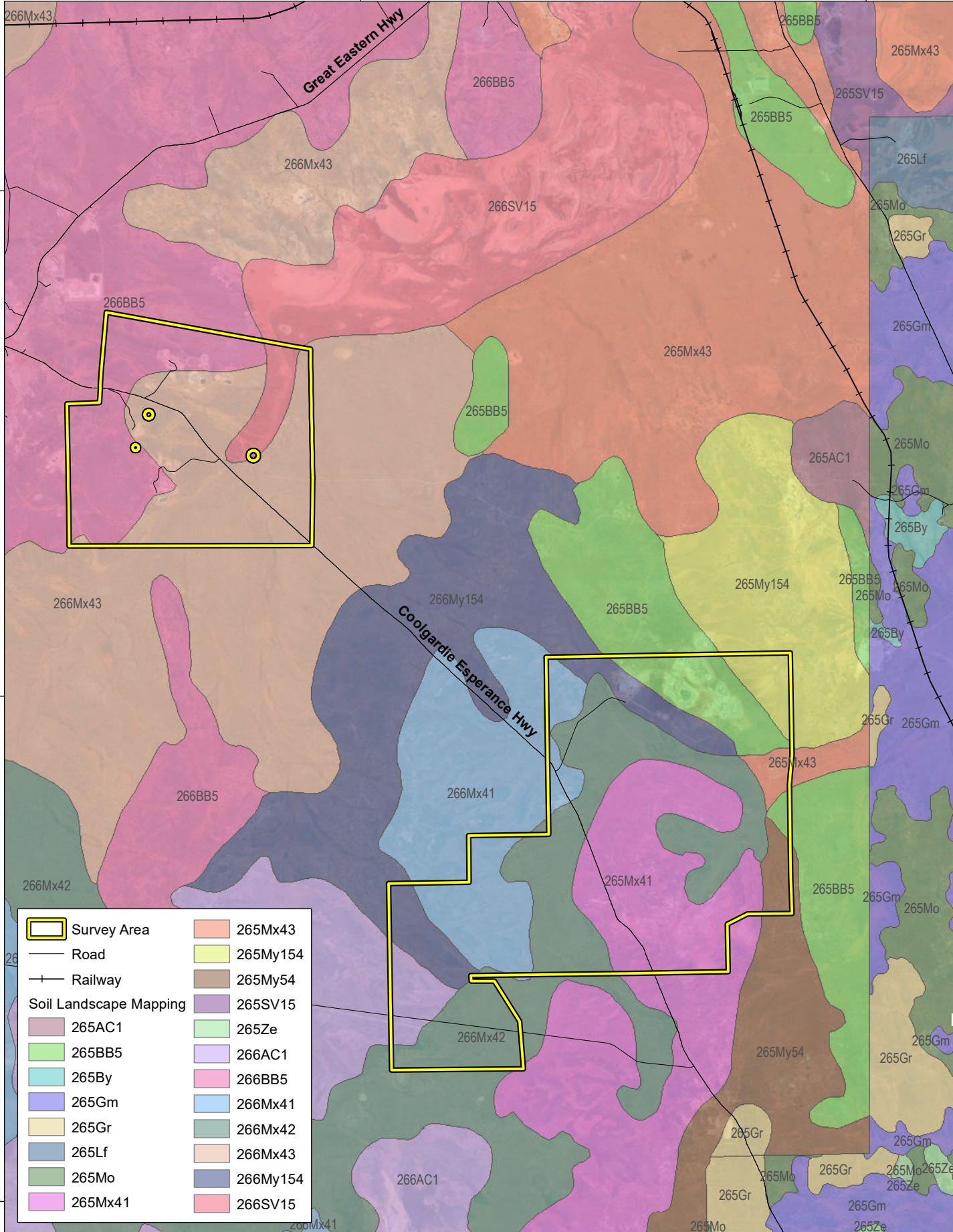
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 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

**IBRA Subregions
 MAP 2**

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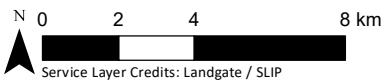
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Survey Area	265Mx43
Road	265My154
Railway	265My54
Soil Landscape Mapping	
265AC1	265SV15
265BB5	265Ze
265By	266AC1
265Gm	266BB5
265Gr	266Mx41
265Lf	266Mx42
265Mo	266Mx43
265Mx41	266My154
	266SV15



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 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

Soil Landscapes
MAP 3

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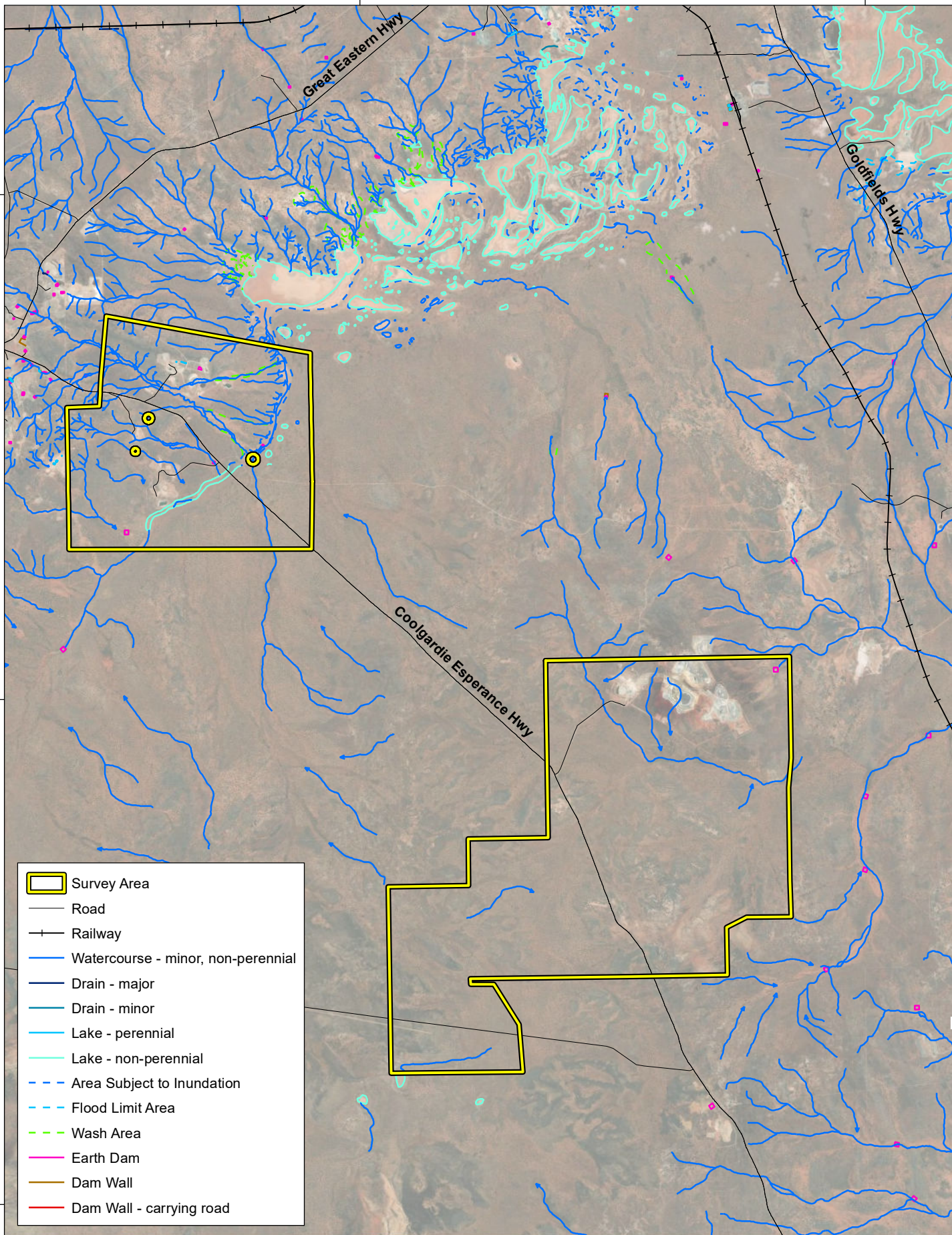
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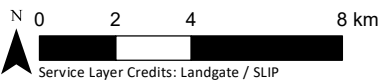
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- Survey Area
- Road
- + Railway
- Watercourse - minor, non-perennial
- Drain - major
- Drain - minor
- Lake - perennial
- Lake - non-perennial
- Area Subject to Inundation
- Flood Limit Area
- Wash Area
- Earth Dam
- Dam Wall
- Dam Wall - carrying road



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Mineral Resources Limited
 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

Hydrography
 MAP 4

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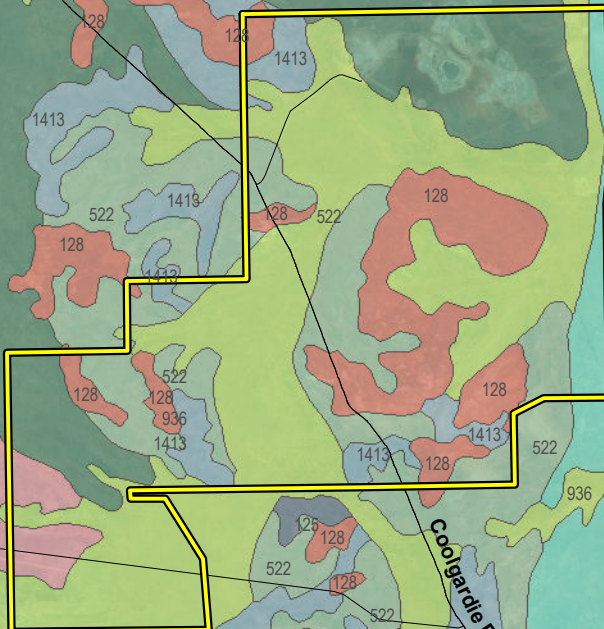
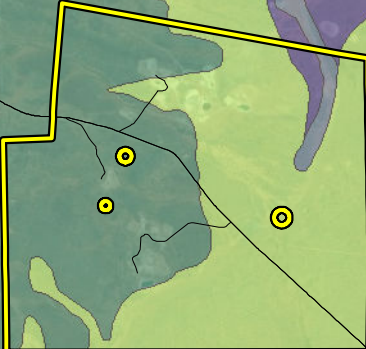
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	Survey Area		CAVE HILL_522
	Road		COOLGARDIE_123
	Railway		COOLGARDIE_125
Pre European Vegetation			COOLGARDIE_128
	BINNERINGE_9		COOLGARDIE_1294
	BINNERINGE_936		COOLGARDIE_1413
	BOORABBIN_128		COOLGARDIE_2009
	BOORABBIN_1413		COOLGARDIE_468
	BOORABBIN_435		COOLGARDIE_522
	BOORABBIN_522		COOLGARDIE_540
	BOORABBIN_9		COOLGARDIE_9
	BOORABBIN_936		COOLGARDIE_936
	CAVE HILL_1413		

Great Eastern Hwy

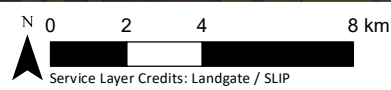
Coolgardie Esperance Hwy



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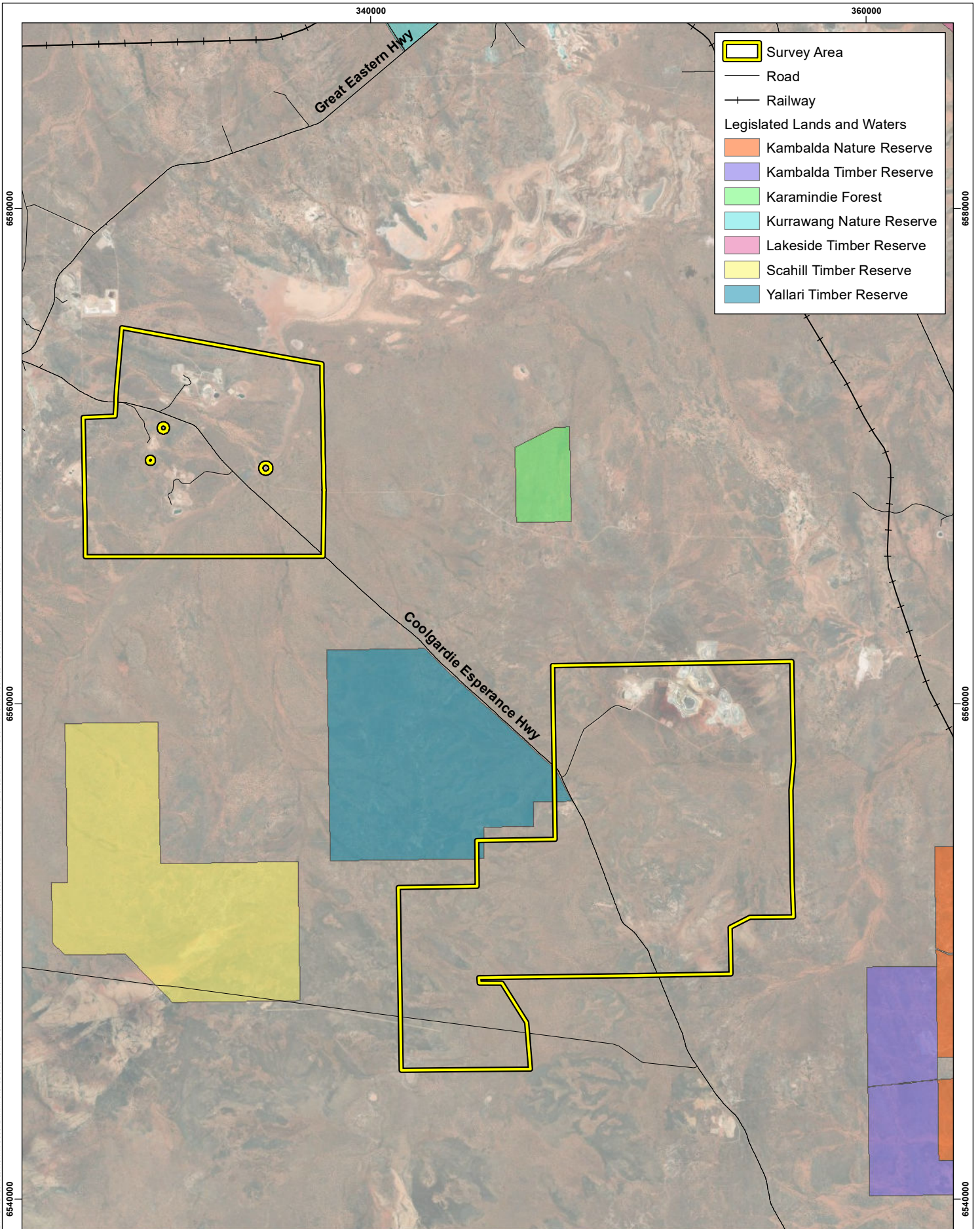
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Mineral Resources Limited
 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

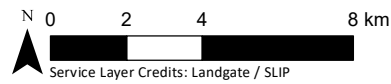
Pre-European Vegetation Associations
 MAP 5



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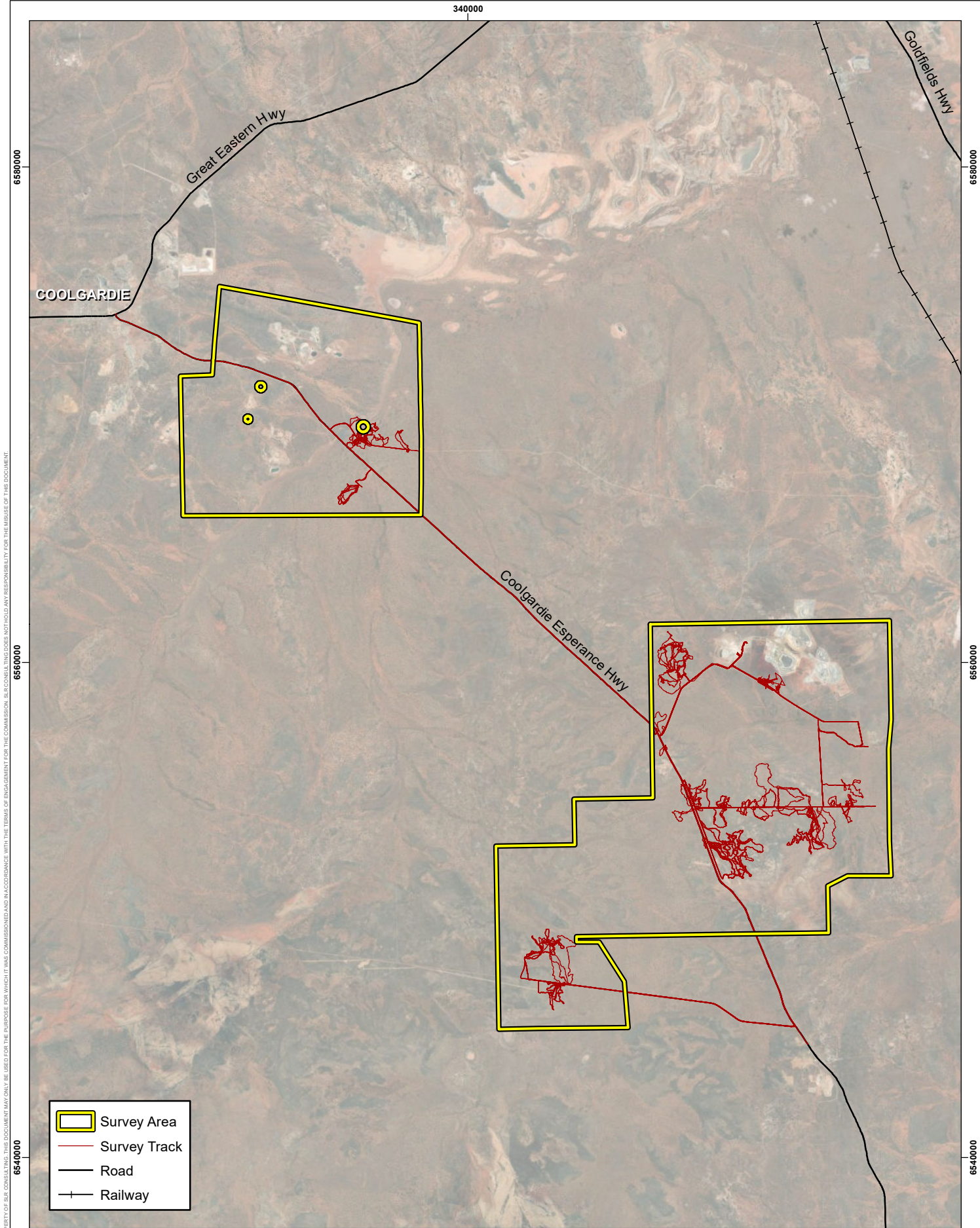
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


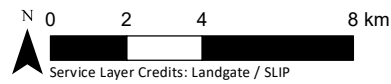
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 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

Conservation Areas
 MAP 6



	Survey Area
	Survey Track
	Road
	Railway



Mineral Resources Limited
 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

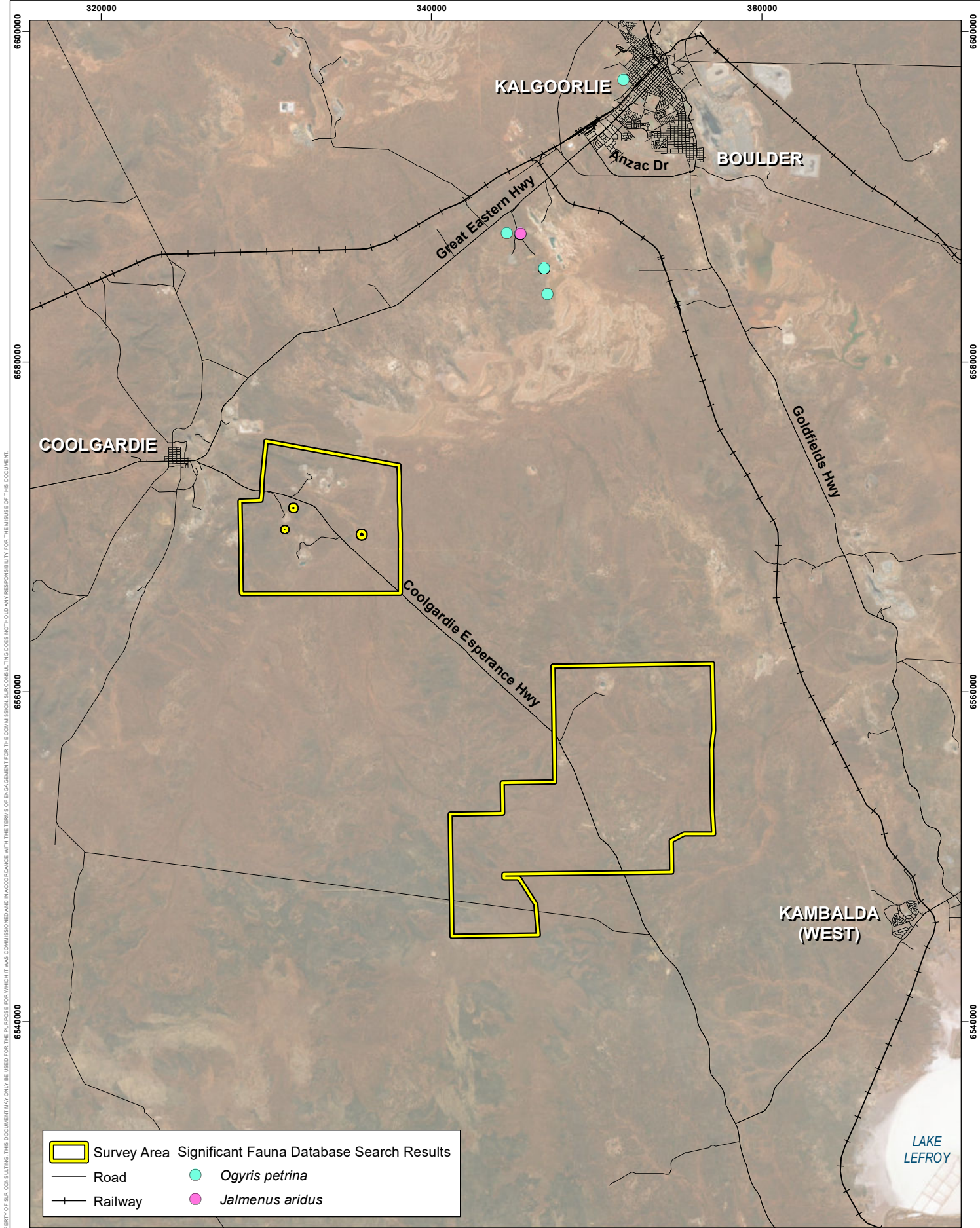


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 Date Drawn : 19/06/2024
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 Reviewed By : SG

Survey Effort
 MAP 7

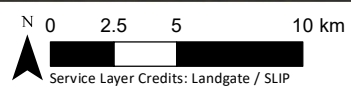
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 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion

**Significant Fauna Database Search Results
 MAP 8**

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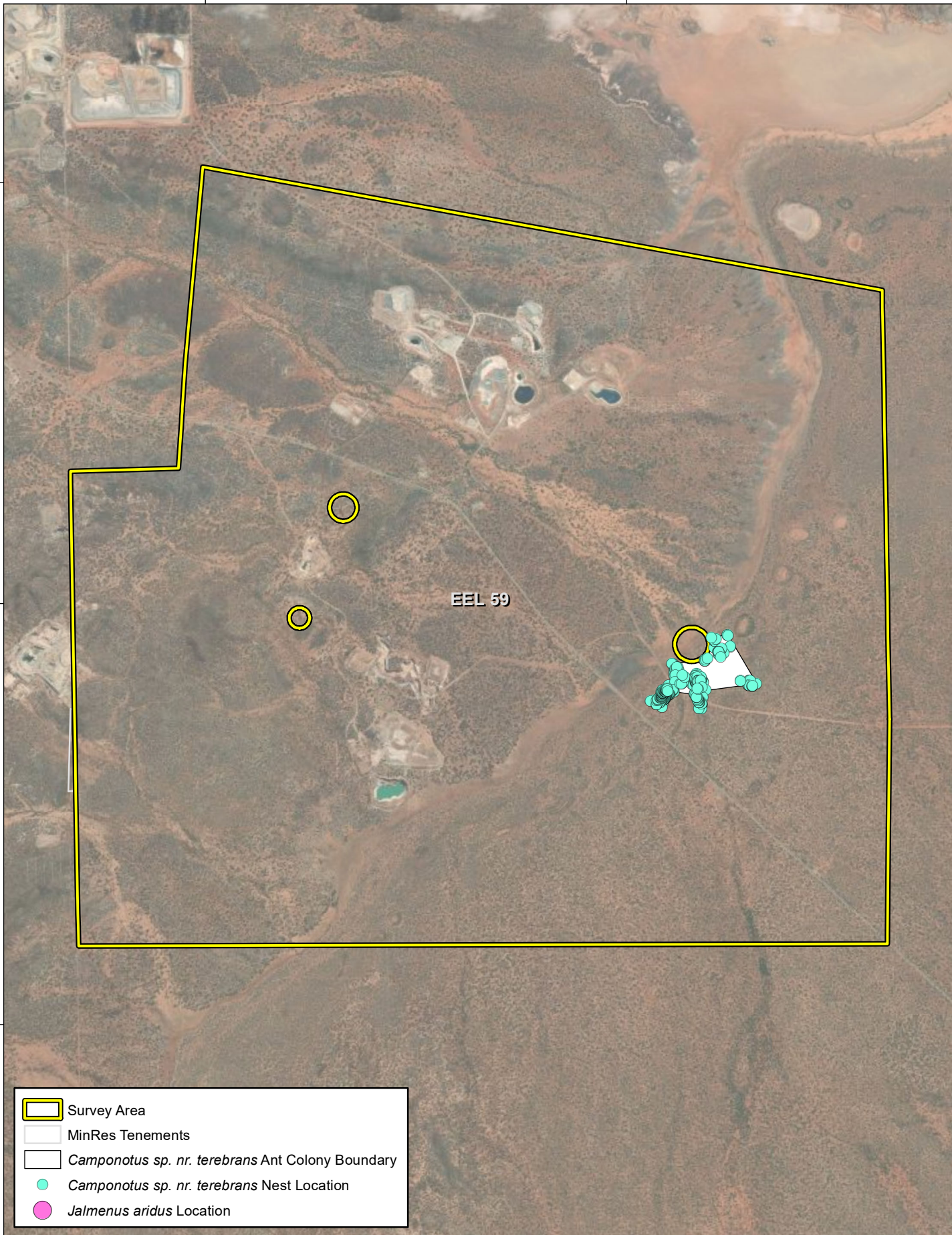
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-  Survey Area
-  MinRes Tenements
-  *Camponotus sp. nr. terebrans* Ant Colony Boundary
-  *Camponotus sp. nr. terebrans* Nest Location
-  *Jalmenus aridus* Location



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Mineral Resources Limited
 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion
 Ant Colony Boundaries, Ant Nest Locations
 and *Jalmenus aridus* Locations
 MAP 9A

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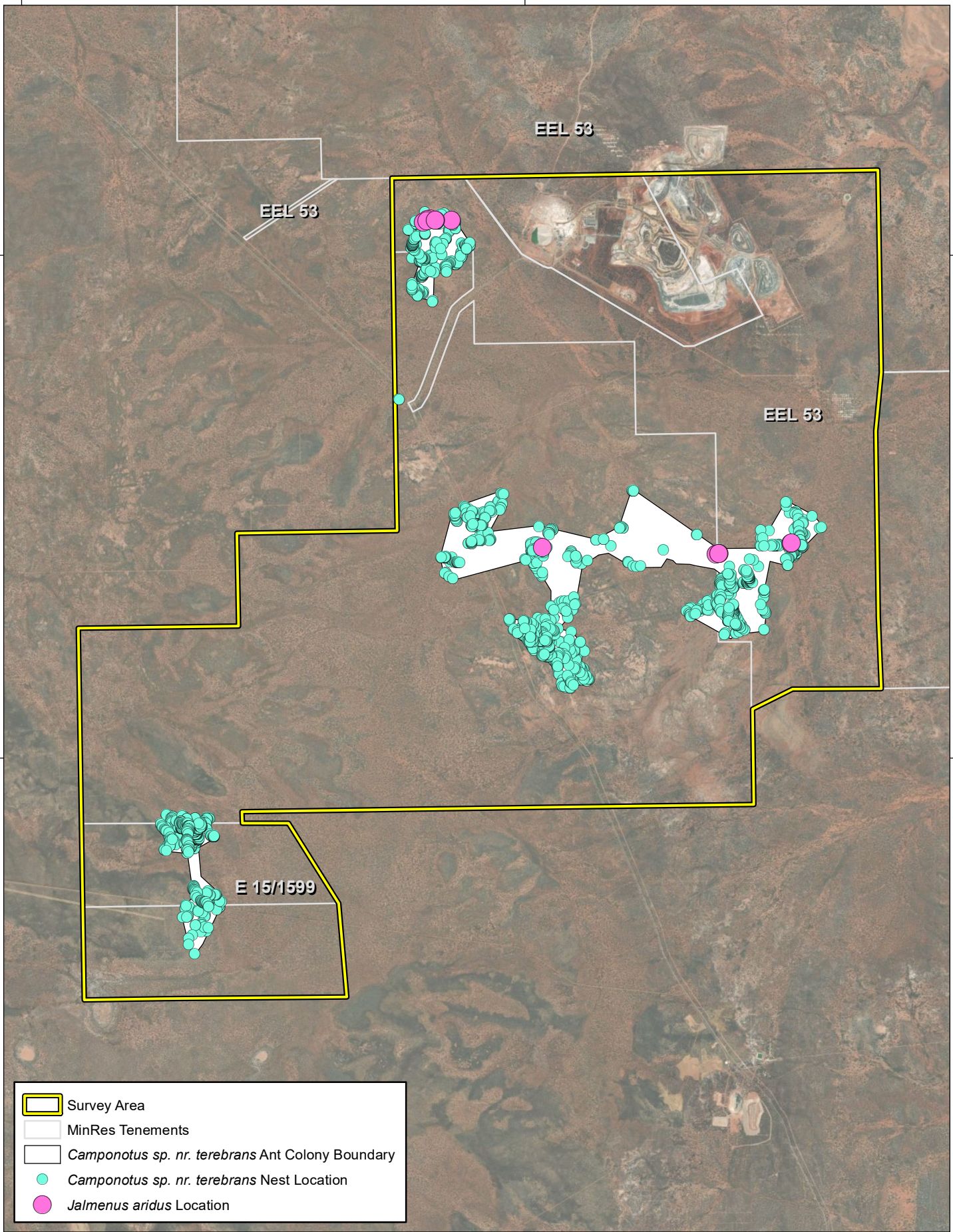
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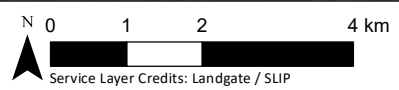
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	Survey Area
	MinRes Tenements
	Camponotus sp. nr. terebrans Ant Colony Boundary
	Camponotus sp. nr. terebrans Nest Location
	Jalmenus aridus Location



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Coordinate System: GDA2020 MGA Zone 51 @ A4
 Scale : 1:100,000 @ A4
 Project Number : 675.072272.00001
 Date Drawn : 23/07/2024
 Drawn By : Environmaps
 Reviewed By : SG

Mineral Resources Limited
 Targeted Survey for Arid Bronze Azure Butterfly
 ABAB Supplementary Surveys – Mt Marion
 Ant Colony Boundaries, Ant Nest Locations
 and *Jalmenus aridus* Locations
 MAP 9B



Appendix B Literature Review Summary

Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

Supplementary Surveys – Mt Marion

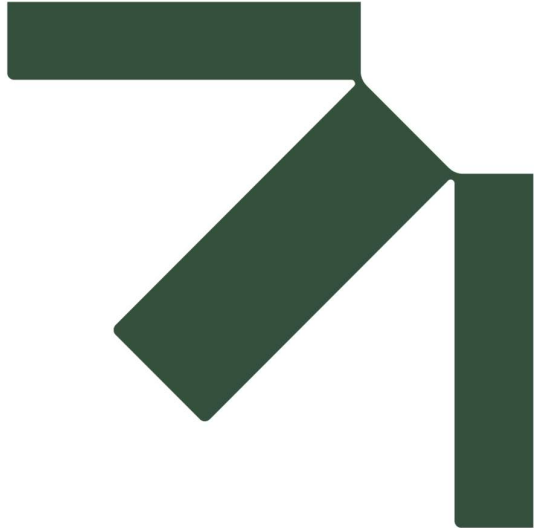
Mineral Resources Limited

SLR Project No.: 675.072273.00001

5 August 2024

Report	Project Area	Survey Timing	Survey Effort	Significant Fauna Recorded Onsite	Fauna Habitats
Mt Marion Hamptons Tenements Terrestrial Fauna Surveys (SLR Consulting, 2024)	Overlaps the Survey Area	August 2023	Basic Fauna Survey Targeted <i>Camponotus</i> sp. nr. <i>terebrans</i> Targeted Malleefowl Targeted Chuditch	<ul style="list-style-type: none"> • <i>Camponotus</i> sp. nr. <i>terebrans</i> • Malleefowl 	Eight fauna habitats were identified: <ul style="list-style-type: none"> • Chenopod Shrubland • Claypan • Drainage Line • Eucalypt Woodland • Low Hills and Slopes • Rocky Hill • Rocky Outcrop • Shrubland/Heathland
Mt Marion Mining Tenements Terrestrial Fauna Surveys (SLR Consulting, 2024)	Overlaps the Survey Area	August 2023	Basic Fauna Survey Targeted <i>Camponotus</i> sp. nr. <i>terebrans</i> Targeted Malleefowl Targeted Chuditch	<ul style="list-style-type: none"> • <i>Camponotus</i> sp. nr. <i>terebrans</i> • Malleefowl 	Six fauna habitats were identified: <ul style="list-style-type: none"> • Drainage Line • Eucalypt Woodland • Low Hills and Slopes • Rocky Hill • Rocky Outcrop • Shrubland/Heathland
Mt Marion Fauna Assessment: Hamptons Lease Area 53,L15/353,M15/999 and East E15/1599 (Bamford, 2022)	Overlaps the Survey Area	September 2021	Basic fauna survey Targeted <i>Camponotus</i> sp. nr. <i>terebrans</i> Targeted Malleefowl Targeted Chuditch Targeted Trapdoor Spiders	<ul style="list-style-type: none"> • Malleefowl • 	Three fauna habitats were identified: <ul style="list-style-type: none"> • Mixed Eucalypt Woodland • Acacia Shrubland • Dense Mallee and Eucalypt Woodland
Targeted survey for the Arid Bronze Azure Butterfly – Spargos (Terrestrial Ecosystems, 2021)	3 km south of the Survey Area	February 2021	Targeted <i>Camponotus terebrans</i> and ABAB surveys	<ul style="list-style-type: none"> • Nil 	<ul style="list-style-type: none"> • Nil
Survey of the Arid Bronze Azure Butterfly Cracking and Leaching Plant	30 km North of the Survey Area	March 2021	Targeted <i>Camponotus</i> sp. nr. <i>terebrans</i> survey	<ul style="list-style-type: none"> • Nil 	<ul style="list-style-type: none"> • Nil

Report	Project Area	Survey Timing	Survey Effort	Significant Fauna Recorded Onsite	Fauna Habitats
and By-product Storage Unit (Onshore Environmental, 2021)					
Basic and Targeted Fauna Survey for the Crossroads Project (Phoenix, 2023)	55 km north of the Survey Area	November 2022	Basic Fauna Survey Targeted <i>Camponotus</i> sp. nr. <i>terebrans</i> Targeted Malleefowl Targeted Chuditch Targeted Inland Hairstreak butterfly	• Nil	• Eucalypt Woodland



Appendix C Licences and Permits

Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

Supplementary Surveys – Mt Marion

Mineral Resources Limited

SLR Project No.: 675.072273.00001

5 August 2024



Appendix D Database Search Results

Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

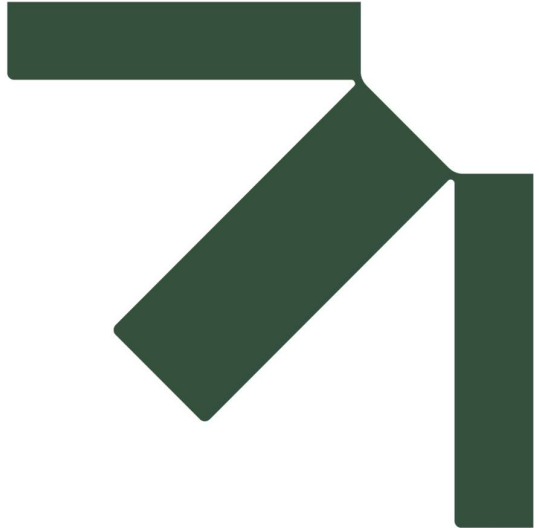
Supplementary Surveys – Mt Marion

Mineral Resources Limited

SLR Project No.: 675.072273.00001

5 August 2024

Scientific Name	Conservation Status		Sum of NM	Sum of PMST	Sum of DBCA
	State	Federal			
<i>Ogyris subterrestris petrina</i>	CR	CR		1	55
<i>Jalmenus aridus</i>	P1	-			5
<i>Ahamitermes hillii</i>	-	-	1		
<i>Tumulitermes comatus</i>	-		1		
<i>Aname</i>	-	-	1		
<i>Lamponina scutata</i>	-	-	1		
<i>Nicodamus mainae</i>	-	-	2		
<i>Araneinae</i>	-	-	1		



Appendix E Ant Nest Locations

Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

Supplementary Surveys – Mt Marion

Mineral Resources Limited

SLR Project No.: 675.072273.00001

5 August 2024

Recorded By	Date	Taxon	Abundance	Collection No.	Note	Latitude	Longitude
ML	2024-02-19	Camponotus sp. nr. terebrans	1		Camponotus sp. nr. terebrans nest. Not dug.	-31.08420870	121.41405840
ML	2024-02-19	Camponotus sp. nr. terebrans	1		Camponotus sp. nr. terebrans nest. Not dug.	-31.08440760	121.41404290
ML	2024-02-19	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest. Not dug	-31.08392580	121.41012740
LB	2024-02-19	Camponotus sp. nr. terebrans	2	M.M - ABAB - 168		-31.08571300	121.41303220
LB	2024-02-19	Camponotus sp. nr. terebrans	3			-31.08544030	121.41338170
ML	2024-02-20	Camponotus sp. nr. terebrans	1		Nest dug. Confirmed Camponotus sp nr terebrans	-31.08428600	121.40740490
ML	2024-02-20	Camponotus sp. nr. terebrans	2	M.M - ABAB - 146	Camponotus sp nr terebrans collected	-31.13392360	121.41882800
ML	2024-02-20	Camponotus sp. nr. terebrans	1	M.M - ABAB - 149		-31.13455120	121.41721830
ML	2024-02-20	Camponotus sp. nr. terebrans	2		Camponotus sp. nr terebrans. Not dug	-31.13403350	121.41773020
SG	2024-02-20	Camponotus sp. nr. terebrans	3	M.M - ABAB - 162		-31.13291330	121.42959670
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13855270	121.48223100
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13862350	121.48215070
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13868330	121.48216220
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13882540	121.48207650
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13928830	121.48167310
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13938100	121.48158850
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13933900	121.48147070
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13935960	121.48112680
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13943330	121.48090340
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14051090	121.48133560
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.13759520	121.46712510
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14278200	121.46747950
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14315100	121.46739270
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14328930	121.46715550
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14337580	121.46719240
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14344200	121.46727010
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14557530	121.46716690
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14661720	121.46703030
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14823710	121.46712960
EW	2024-02-20	Camponotus sp. nr. terebrans	2			-31.14872510	121.46734510
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15249010	121.46808170
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15275870	121.46792270
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15258930	121.47027330
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15233710	121.47102680
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15199250	121.47217360
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15115380	121.47094290
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15121810	121.47053570
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15111500	121.47044620
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.15086870	121.46970780
EW	2024-02-20	Camponotus sp. nr. terebrans	3			-31.15016950	121.46903880
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14944500	121.46869370
EW	2024-02-20	Camponotus sp. nr. terebrans	2			-31.14437080	121.46993250
EW	2024-02-20	Camponotus sp. nr. terebrans	1			-31.14297810	121.46930700
ML	2024-02-20	Camponotus sp. nr. terebrans	2	M.M - ABAB - 132	Close to old point. Camponotus sp nr terebrans	-31.19993600	121.35484910
ML	2024-02-20	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest dug and observed ants	-31.20057720	121.35476570
ML	2024-02-20	Camponotus sp. nr. terebrans	3		Not dug or observed	-31.20060220	121.35473410
ML	2024-02-20	Camponotus sp. nr. terebrans	1		Not dug or observed	-31.20033200	121.35549800
ML	2024-02-20	Camponotus sp. nr. terebrans	1		Not dug or observed	-31.20026100	121.35560710
DL	2024-02-20	Camponotus sp. nr. terebrans	1			-31.08482810	121.40678990
DL	2024-02-20	Camponotus sp. nr. terebrans	3	M.M - ABAB - 174		-31.13395430	121.41901860
DL	2024-02-20	Camponotus sp. nr. terebrans	3			-31.20005170	121.35491180
SG	2024-02-20	Camponotus sp. nr. terebrans	1			-31.18772570	121.35181370
SG	2024-02-20	Camponotus sp. nr. terebrans	1			-31.18759960	121.35167240

SG	2024-02-20	Camponotus sp. nr. terebrans	1			-31.18756330	121.35162930
LB	2024-02-20	Camponotus sp. nr. terebrans	1			-31.18597820	121.35088500
EW	2024-02-20	Camponotus sp. nr. terebrans	2			-31.18776100	121.35186440
EW	2024-02-20	Camponotus sp. nr. terebrans	5			-31.18751310	121.35169160
RE	2024-02-21	Camponotus sp. nr. terebrans	1		Old nest Point (verified)	-31.13731113	121.43037636
DL	2024-02-21	Camponotus sp. nr. terebrans	1		Sp. Nr. Terebrans	-31.13723720	121.43030320
DL	2024-02-21	Camponotus sp. nr. terebrans	1		Confirmed by digging	-31.13667950	121.43009406
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13630780	121.42955540
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13674300	121.42929620
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13764810	121.42991120
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13714220	121.43056170
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13718190	121.43062480
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13716970	121.43071280
DL	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 136		-31.13872900	121.42658390
DL	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 144		-31.14184140	121.43009080
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.14162650	121.43018360
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.14122080	121.42950220
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.14044020	121.42895130
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13992870	121.42856900
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13945670	121.42834630
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13945510	121.42847120
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13856990	121.42871450
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13863910	121.42868450
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13732830	121.42790730
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13731990	121.42789960
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13726860	121.42795420
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13713020	121.42796610
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13726640	121.42821750
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13737560	121.42818630
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13786390	121.42830770
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13767660	121.42876850
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13735610	121.42910800
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13732670	121.42914190
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13733190	121.42924910
SG	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 153		-31.13891430	121.42675050
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.14119220	121.43019950
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13944220	121.42909560
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13815450	121.43027400
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13831250	121.43037550
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13762460	121.43046670
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13754170	121.43004510
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13762170	121.42935960
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13655520	121.42864940
SG	2024-02-21	Camponotus sp. nr. terebrans	1		Confirmed with digging	-31.13623850	121.42855740
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13604460	121.42866020
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13587940	121.42866510
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13587550	121.42883950
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13573970	121.42853850
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13602070	121.42792100
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13602530	121.42783700
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13596030	121.42782480
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13658920	121.42781710
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13574560	121.42916770
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13614580	121.43019410

SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13663730	121.43084780
SG	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13667400	121.43120370
EW	2024-02-21	Camponotus sp. nr. terebrans	4			-31.18885950	121.35460570
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18890240	121.35480520
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18959390	121.35617670
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18875740	121.35722080
EW	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 177		-31.18867500	121.35715750
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18540710	121.35929330
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18750730	121.36027930
EW	2024-02-21	Camponotus sp. nr. terebrans	3			-31.18765770	121.36095760
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18524980	121.35804560
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18524010	121.35788940
EW	2024-02-21	Camponotus sp. nr. terebrans	5			-31.18519640	121.35780260
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18465280	121.35733710
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18458870	121.35720950
EW	2024-02-21	Camponotus sp. nr. terebrans	4			-31.18437900	121.35708710
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18500140	121.35564930
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18506730	121.35559020
EW	2024-02-21	Camponotus sp. nr. terebrans	3			-31.18505370	121.35532020
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18426470	121.35471170
EW	2024-02-21	Camponotus sp. nr. terebrans	4			-31.18413420	121.35471710
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18389820	121.35437630
EW	2024-02-21	Camponotus sp. nr. terebrans	3			-31.18491750	121.35400210
EW	2024-02-21	Camponotus sp. nr. terebrans	4			-31.18507550	121.35389970
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.18807680	121.35223570
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13750470	121.43625860
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13763670	121.43618820
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13815160	121.43582380
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13825770	121.43574440
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13944600	121.43721810
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13961810	121.43739340
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13978610	121.43842700
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13864520	121.43734410
LB	2024-02-21	Camponotus sp. nr. terebrans	4		Nest dug camponotus sp. Near terabrans	-31.20193830	121.35853280
LB	2024-02-21	Camponotus sp. nr. terebrans	2		Not dug camponotus sp. Near terabrans	-31.20409700	121.35782040
LB	2024-02-21	Camponotus sp. nr. terebrans	1			-31.20466960	121.35910300
LB	2024-02-21	Camponotus sp. nr. terebrans	1			-31.20093930	121.35746900
LB	2024-02-21	Camponotus sp. nr. terebrans	1			-31.20088240	121.35745080
LB	2024-02-21	Camponotus sp. nr. terebrans	1			-31.20180580	121.35526180
LB	2024-02-21	Camponotus sp. nr. terebrans	1			-31.20201590	121.35490140
LB	2024-02-21	Camponotus sp. nr. terebrans	2			-31.20214170	121.35418190
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13838900	121.43718650
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13693680	121.42886410
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13593540	121.42871700
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13586670	121.42871670
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13608970	121.42806210
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13610840	121.42782030
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13581640	121.42896370
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13597100	121.43015190
DL	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13613250	121.43009520
ML	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 154	Camponotus sp nr terebrans collected	-31.20157060	121.35879830
ML	2024-02-21	Camponotus sp. nr. terebrans	2		Nest dug. Camponotus sp nr terebrans observed	-31.20170690	121.35884750
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20198210	121.35876620
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest not dug	-31.20198050	121.35874190

ML	2024-02-21	Camponotus sp. nr. terebrans	3		Nest dug. Camponotus sp nr terebrans observed	-31.20326800	121.35801650
ML	2024-02-21	Camponotus sp. nr. terebrans	3		Camponotus sp nr terebrans nests not dug	-31.20335060	121.35800470
ML	2024-02-21	Camponotus sp. nr. terebrans	3		Camponotus sp nr terebrans nests not dug	-31.20362200	121.35810220
ML	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 123	Camponotus sp nr terebrans nest dug. Ants collected	-31.20414710	121.35801390
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20475830	121.35793000
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20394620	121.35865050
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20402670	121.35941300
ML	2024-02-21	Camponotus sp. nr. terebrans	2		Nest dug. Camponotus sp nr terebrans observed	-31.20132220	121.35823740
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20111930	121.35747780
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20182760	121.35531380
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest not dug	-31.20195600	121.35523830
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest not dug	-31.20205650	121.35504010
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed.	-31.20358520	121.35675820
ML	2024-02-21	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans nests not dug	-31.20362840	121.35678880
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20528290	121.35616690
ML	2024-02-21	Camponotus sp. nr. terebrans	1	M.M - ABAB - 117	Nest dug. Camponotus sp. nr terebrans collected	-31.20595160	121.35531010
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20703390	121.35529050
ML	2024-02-21	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.20870010	121.35652870
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13548760	121.44142050
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13544770	121.44149860
EW	2024-02-21	Camponotus sp. nr. terebrans	1			-31.13535150	121.44302720
ML	2024-02-22	Camponotus sp. nr. terebrans	3		Not dug. Camponotus sp nr terebrans	-31.14634030	121.46680480
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.14625450	121.46624990
ML	2024-02-22	Camponotus sp. nr. terebrans	5		Camponotus sp nr terebrans observed at entrance	-31.14657860	121.46592900
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14663950	121.46472470
ML	2024-02-22	Camponotus sp. nr. terebrans	2	M.M - ABAB - 107	Nest dug. Camponotus sp nr terebrans collected. Winged queen.	-31.14734760	121.46355520
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.14849240	121.46295570
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14817300	121.46249720
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14852530	121.46207370
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Nest not dug	-31.14830370	121.46182840
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.14806900	121.46121600
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14789260	121.46111990
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14803000	121.46074380
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.14846530	121.46007420
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14884870	121.46060230
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14901540	121.46077700
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Not dug. Camponotus sp nr terebrans	-31.14912160	121.46090020
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14940840	121.46095890
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14899250	121.46170850
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed.	-31.14804990	121.46387280
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Not dug. Camponotus sp nr terebrans	-31.14819000	121.46393140
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.14820250	121.46432000
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14837380	121.46476890
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14731700	121.46613080
ML	2024-02-22	Camponotus sp. nr. terebrans	2		Not dug. Camponotus sp nr terebrans	-31.14684230	121.46653930
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Not dug. Camponotus sp nr terebrans	-31.14665050	121.46653020
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Not dug. Camponotus sp nr terebrans	-31.14653720	121.46661160
ML	2024-02-22	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14608260	121.46658590
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14633500	121.46653000
LB	2024-02-22	Camponotus sp. nr. terebrans	2			-31.14676860	121.46607340
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14677740	121.46444400
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14838360	121.46240800
LB	2024-02-22	Camponotus sp. nr. terebrans	2			-31.14846880	121.46223640
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14896510	121.46196980

LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14833970	121.46449090
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14744510	121.46472590
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14687140	121.46671530
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14567460	121.46650500
LB	2024-02-22	Camponotus sp. nr. terebrans	1			-31.14976610	121.42908070
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00071010	121.27839830
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00070810	121.27855430
SG	2024-02-22	Camponotus sp. nr. terebrans	1	M.M - ABAB - 188		-31.00001300	121.27896990
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99979420	121.27866980
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99833450	121.28153440
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99825460	121.28149870
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99690880	121.28274470
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99691090	121.28265810
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99615750	121.28271790
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99555000	121.28436990
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99684480	121.28468880
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99727270	121.28337860
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99728140	121.28333550
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-30.99766360	121.28323590
SG	2024-02-22	Camponotus sp. nr. terebrans	1	Confirmed with digging		-31.00032500	121.28019080
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00054840	121.28030360
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00059050	121.28025810
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00054250	121.28025150
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00065340	121.28051780
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00067120	121.28044670
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00063560	121.28065680
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00055700	121.28085090
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00058180	121.28105500
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00062380	121.28110050
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00053120	121.28124260
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00044030	121.28117090
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00063070	121.28126870
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00113150	121.28103810
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00108220	121.28099200
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00104270	121.28094740
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00104190	121.28067370
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00099010	121.28053460
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00080640	121.28003460
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00083930	121.27997030
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00083630	121.27988920
SG	2024-02-22	Camponotus sp. nr. terebrans	1	Confirmed with digging		-31.00154770	121.27765470
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00137080	121.27754300
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00143760	121.27723760
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00150110	121.27723410
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00153110	121.27730180
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00135930	121.27694050
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00120140	121.27723810
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00176850	121.27685850
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00172880	121.27686820
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00167710	121.27690320
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00166190	121.27689690
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00161200	121.27682230
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00156830	121.27676880
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00153780	121.27672180

SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00164980	121.27653960
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00176820	121.27651200
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00181300	121.27643600
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00181260	121.27635000
SG	2024-02-22	Camponotus sp. nr. terebrans	1	M.M - ABAB - 182		-31.00195530	121.27666370
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00206050	121.27632670
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00217040	121.27636020
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00217330	121.27632840
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00219580	121.27628270
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00226430	121.27631650
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00217870	121.27611760
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00213250	121.27606000
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00213070	121.27607700
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00206000	121.27605340
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00212810	121.27594650
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00213720	121.27592630
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00217710	121.27598300
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00221320	121.27602290
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00228260	121.27599760
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00232460	121.27602790
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00238720	121.27604800
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00235640	121.27579550
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00233410	121.27566460
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00231390	121.27562870
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00233930	121.27554490
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00241090	121.27557230
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00209240	121.27597590
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00206930	121.27599370
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00196050	121.27602430
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00196360	121.27605230
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00195670	121.27605460
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00191560	121.27603480
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00187230	121.27605940
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00185860	121.27606170
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00183180	121.27604560
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00176320	121.27607670
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00172440	121.27614890
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00171920	121.27614880
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00167660	121.27616260
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00159960	121.27613430
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00155490	121.27612570
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00156030	121.27606530
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00146630	121.27618230
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00138910	121.27619410
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00138480	121.27621870
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00135150	121.27642750
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00129460	121.27661940
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00129250	121.27663340
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00123580	121.27663870
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00121950	121.27667450
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00119830	121.27668600
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SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00099190	121.27740650
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00099920	121.27742630

SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00102030	121.27743730
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00089070	121.27727660
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.00087160	121.27694820
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13694620	121.47574940
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13681110	121.47563200
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13554300	121.47585140
SG	2024-02-22	Camponotus sp. nr. terebrans	1	Confirmed with digging		-31.13734680	121.48437200
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13704760	121.48439510
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13698170	121.48434720
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13687920	121.48420180
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13687470	121.48416170
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13681030	121.48415530
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13678880	121.48411390
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13666700	121.48432420
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13661730	121.48434260
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13656330	121.48429600
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13542900	121.48390920
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13533960	121.48390920
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13521130	121.48390980
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SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13389420	121.48326970
SG	2024-02-22	Camponotus sp. nr. terebrans	1	Confirmed		-31.13364160	121.48324530
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13350170	121.48358280
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13514400	121.48419140
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13712800	121.48460540
SG	2024-02-22	Camponotus sp. nr. terebrans	1			-31.13719750	121.48463940
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DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15161520	121.42554300
DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15166780	121.42571280
DL	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15161680	121.42571190
DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15187170	121.42570170
DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15199610	121.42555760
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DL	2024-02-22	Camponotus sp. nr. terebrans	4			-31.15198840	121.42563730
DL	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15194690	121.42589310
DL	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15224000	121.42590030
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DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15394660	121.42753620
DL	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15438560	121.42813890
DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15452190	121.42803050
DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15516180	121.42824460
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DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15493360	121.43007480

DL	2024-02-22	Camponotus sp. nr. terebrans	1	M.M - ABAB - 131		-31.15597160	121.43101240
DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15601505	121.43146064
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DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16203100	121.43566220
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DL	2024-02-22	Camponotus sp. nr. terebrans	1	M.M - ABAB - 115		-31.16004640	121.43780260
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DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16055680	121.43961980
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DL	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15653570	121.43715210
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EW	2024-02-22	Camponotus sp. nr. terebrans	1	M.M - ABAB - 157		-31.15120660	121.42536630
EW	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15202120	121.42544430
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EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15222510	121.42570820
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15228610	121.42582430
EW	2024-02-22	Camponotus sp. nr. terebrans	1	M.M - ABAB - 196		-31.15242830	121.42605070
EW	2024-02-22	Camponotus sp. nr. terebrans	4			-31.15247230	121.42620670
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15284170	121.42660110
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15328740	121.42699080
EW	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15337670	121.42712110
EW	2024-02-22	Camponotus sp. nr. terebrans	6			-31.15357340	121.42726420
EW	2024-02-22	Camponotus sp. nr. terebrans	3			-31.15377100	121.42738080
EW	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15388780	121.42735150

EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15417000	121.42761450
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15429350	121.42775070
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15454930	121.42782900
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15472750	121.42805980
EW	2024-02-22	Camponotus sp. nr. terebrans	4			-31.15483300	121.42801950
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15511330	121.42993270
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15521400	121.43003810
EW	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15600010	121.43073190
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15631510	121.43092930
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15618140	121.43105460
EW	2024-02-22	Camponotus sp. nr. terebrans	2			-31.15631140	121.43121610
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15628940	121.43150460
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15638150	121.43181450
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15646830	121.43190780
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15655010	121.43194270
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15654280	121.43208380
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15663890	121.43219980
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15704610	121.43229590
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EW	2024-02-22	Camponotus sp. nr. terebrans	4			-31.15793670	121.43299590
EW	2024-02-22	Camponotus sp. nr. terebrans	3			-31.15813050	121.43302680
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15829610	121.43310980
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15944530	121.43330700
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EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16166740	121.43440700
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EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15983150	121.43738360
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16023960	121.43776300
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16024820	121.43788190
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16057030	121.43834280
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16054710	121.43875920
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16060030	121.43884560
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16079680	121.43912430
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16045710	121.43953150
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.16035320	121.43938410
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15974640	121.43898540
EW	2024-02-22	Camponotus sp. nr. terebrans	3			-31.15856510	121.43845900
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15866670	121.43815360
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15855820	121.43799930
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15829090	121.43781520
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15811780	121.43768360
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15732470	121.43700980
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15696050	121.43697510
EW	2024-02-22	Camponotus sp. nr. terebrans	5			-31.15530230	121.43670230

EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15523310	121.43660970
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15189030	121.43608170
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15365170	121.43385700
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15857570	121.43724500
EW	2024-02-22	Camponotus sp. nr. terebrans	1			-31.15988210	121.43817890
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15993830	121.43847660
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15929110	121.43789800
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.16049440	121.43853280
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15971980	121.43835410
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15925250	121.43769850
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.15055030	121.42978170
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.15012550	121.43052930
ML	2024-02-23	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.15001620	121.43070310
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans. Not dug.	-31.14977430	121.43097640
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed.	-31.14960500	121.43152000
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14958020	121.43152980
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14940600	121.43240940
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15115530	121.42554770
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15094930	121.42573320
SG	2024-02-23	Camponotus sp. nr. terebrans	1		Confirmed	-31.15162290	121.42767420
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15165830	121.42768830
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15172340	121.42778950
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15173530	121.42781890
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15142910	121.42788920
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15136840	121.42793600
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15126090	121.42776850
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15089570	121.42801000
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15078240	121.42804140
LB	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15056050	121.42989710
LB	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14980360	121.43181370
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15861210	121.43685760
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15824110	121.43664580
DL	2024-02-23	Rhytidoponera lutea	1	M.M - ABAB - 152		-31.15896430	121.43700620
DL	2024-02-23	Camponotus sp. nr. terebrans	2			-31.15866950	121.43649210
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15854330	121.43652170
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14760590	121.43223030
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed. Nest dug	-31.14721650	121.43199570
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14662810	121.43362380
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14638670	121.43420170
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14633180	121.43466950
LB	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14732140	121.43186660
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14636350	121.43551020
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14569590	121.43663980
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14689770	121.43700580
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14797810	121.43635490
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15569420	121.43603190
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15510100	121.43573310
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15386370	121.43781770
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15374310	121.43787700
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15043160	121.42822750
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14961370	121.42917710
SG	2024-02-23	Camponotus sp. nr. terebrans	1	M.M - ABAB - 172		-31.14933470	121.42910240
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14964350	121.42981680
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14951590	121.43068290

SG	2024-02-23	Camponotus sp. nr. terebrans	1		Confirmed	-31.15049990	121.43087880
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15071640	121.43125230
SG	2024-02-23	Camponotus sp. nr. terebrans	1		Confirmed	-31.15132730	121.43330560
SG	2024-02-23	Camponotus sp. nr. terebrans	1		Confirmed	-31.15370770	121.43348800
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15381640	121.43187720
LB	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14703060	121.43686800
EW	2024-02-23	Camponotus sp. nr. terebrans	1	M.M - ABAB - 091		-31.15366250	121.43556710
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15609970	121.43446080
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15623650	121.43479880
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15654560	121.43483020
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14881720	121.43531530
ML	2024-02-23	Camponotus sp. nr. terebrans	1	M.M - ABAB - 189	Nest dug. Camponotus sp nr terebrans collected.	-31.14934750	121.43538670
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15332790	121.43147350
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15287440	121.43138600
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15255280	121.43198930
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15242690	121.43223160
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15233220	121.43253910
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15171530	121.43236970
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15160500	121.43242660
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15150250	121.43225610
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15144200	121.43199390
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15133060	121.43167920
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15101140	121.43067820
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15177670	121.42988660
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15188000	121.42991630
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15186980	121.42993340
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15195840	121.43006440
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15200540	121.43012290
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15202110	121.42981380
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15224370	121.42971790
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15254820	121.43023840
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15252160	121.43044380
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15280460	121.43094310
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15467880	121.43150780
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15500480	121.43152770
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15451150	121.43034490
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15359860	121.42971180
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15352230	121.42971610
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15347440	121.42976580
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15346850	121.42964330
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15277180	121.42879960
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15266390	121.42881080
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15237840	121.42887840
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15210570	121.42872330
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15203970	121.42873490
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15160920	121.42854500
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15157770	121.42852070
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15146290	121.42854570
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15140090	121.42864260
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15097580	121.42858570
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15056840	121.42817390
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15045460	121.42803520
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15027140	121.42769480
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15006330	121.42678420

SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14996090	121.42662950
EW	2024-02-23	Camponotus sp. nr. terebrans	3			-31.15667920	121.43488500
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15678240	121.43499600
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15692120	121.43511560
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15778350	121.43541930
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15330080	121.43558770
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15475600	121.43461350
DL	2024-02-23	Camponotus sp. nr. terebrans	2			-31.15583372	121.43432591
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15627630	121.43484210
DL	2024-02-23	Camponotus sp. nr. terebrans	2			-31.15663660	121.43456080
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.14812760	121.43483310
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Not dug. Camponotus sp nr terebrans	-31.14808280	121.43477910
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Nest dug. Camponotus sp nr terebrans observed	-31.14757650	121.43473400
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Not dug. Camponotus sp nr terebrans.	-31.14760170	121.43433150
ML	2024-02-23	Camponotus sp. nr. terebrans	1		Not dug. Camponotus sp nr terebrans	-31.14761410	121.43424680
ML	2024-02-23	Camponotus sp. nr. terebrans	1	M.M - ABAB - 169	Nest dug. Camponotus sp nr terebrans collected with Pogonoscopus	-31.14795440	121.43247370
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14818460	121.43507280
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.16091990	121.43570610
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.16086400	121.43574360
DL	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14980010	121.42326560
EW	2024-02-23	Camponotus sp. nr. terebrans	2			-31.15573860	121.43346230
EW	2024-02-23	Camponotus sp. nr. terebrans	3			-31.15574610	121.43321220
EW	2024-02-23	Camponotus sp. nr. terebrans	3			-31.15613150	121.43319270
EW	2024-02-23	Camponotus sp. nr. terebrans	2			-31.15640890	121.43314820
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.15972490	121.43512430
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.16083590	121.43585150
EW	2024-02-23	Camponotus sp. nr. terebrans	2			-31.16105590	121.43587850
EW	2024-02-23	Camponotus sp. nr. terebrans	1			-31.16150350	121.43633520
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest. Not dug	-31.00052110	121.27878970
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.00179490	121.28028230
ML	2024-03-05	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.00179670	121.28022040
ML	2024-03-05	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans. Not dug.	-31.00189940	121.28018380
ML	2024-03-05	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans nest not dug	-31.00197120	121.28038270
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest dug	-31.00208880	121.28056940
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest dug	-31.00218000	121.28077830
ML	2024-03-05	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans nest not dug	-31.00289330	121.28102350
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans nest dug	-30.99968990	121.27768020
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-30.99929930	121.27769630
ML	2024-03-05	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-30.99916430	121.27780980
ML	2024-03-05	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-30.99906330	121.27800150
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-30.99932940	121.27827770
ML	2024-03-05	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-30.99992030	121.27771900
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13087220	121.48317680
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13109810	121.48297960
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13110960	121.48275050
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13127560	121.48278700
ML	2024-03-06	Camponotus sp. nr. terebrans	3		Camponotus sp nr terebrans observed at entrance	-31.13239310	121.48461100
ML	2024-03-06	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.13298820	121.48465900
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13389740	121.48804320
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13380830	121.48849000
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13175810	121.48653230
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance	-31.13108760	121.48188620
ML	2024-03-06	Camponotus sp. nr. terebrans	2		Camponotus sp nr terebrans observed at entrance	-31.12987030	121.48113900
ML	2024-03-06	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance. On acacia shrub	-31.12910500	121.48135050

ML	2024-03-08	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance to nest	-31.13069370	121.41216530
ML	2024-03-08	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance to nest	-31.13043310	121.41196940
ML	2024-03-08	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance to nest	-31.13029830	121.41227190
ML	2024-03-08	Camponotus sp. nr. terebrans	1		Camponotus sp nr terebrans observed at entrance to nest	-31.00082960	121.28785360
ML	2024-03-08	Camponotus sp. nr. terebrans	1	M.M - ABAB - 150	Camponotus sp nr terebrans collected. Rod previously collected here.	-31.10972060	121.40074350
EW	2024-03-18	Camponotus sp. nr. terebrans	1			-30.99971750	121.28051180
EW	2024-03-18	Camponotus sp. nr. terebrans	3			-30.99979180	121.28044790
EW	2024-03-18	Camponotus sp. nr. terebrans	4			-31.00038560	121.28065230
EW	2024-03-18	Camponotus sp. nr. terebrans	4			-31.00044530	121.28054900
EW	2024-03-18	Camponotus sp. nr. terebrans	5			-31.00035690	121.28088450
EW	2024-03-18	Camponotus sp. nr. terebrans	3			-31.00026500	121.28081480
EW	2024-03-18	Camponotus sp. nr. terebrans	1			-31.00047890	121.28591400
EW	2024-03-18	Camponotus sp. nr. terebrans	1			-31.00263170	121.28084350
EW	2024-03-18	Camponotus sp. nr. terebrans	2			-31.00263400	121.28079880
EW	2024-03-18	Camponotus sp. nr. terebrans	2			-31.00256760	121.28062520
EW	2024-03-18	Camponotus sp. nr. terebrans	1			-31.00225190	121.28052070
EW	2024-03-19	Camponotus sp. nr. terebrans	1			-31.15115790	121.42631570
EW	2024-03-19	Camponotus sp. nr. terebrans	1			-31.15275930	121.42742260
EW	2024-03-19	Camponotus sp. nr. terebrans	1			-31.13226559	121.41579090
EW	2024-03-20	Camponotus sp. nr. terebrans	2			-31.13950719	121.44802090
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13744770	121.45549810
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13478969	121.46245510
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.12674280	121.44916120
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13340140	121.44693690
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13334319	121.44703650
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13337850	121.44711030
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13320180	121.44677580
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13339060	121.44652560
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.13337320	121.44644330
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14351050	121.47222360
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14332410	121.47268170
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14341560	121.47263810
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14339150	121.47271440
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14342770	121.47305260
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14334940	121.47335420
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14328190	121.47352500
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14263899	121.47325560
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14160560	121.47267070
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14139190	121.47217720
EW	2024-03-20	Camponotus sp. nr. terebrans	1			-31.14124930	121.47216100
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.13885610	121.41148370
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.13902140	121.41092450
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.13855090	121.41107150
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.13832420	121.41009500
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.13834820	121.40997750
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.13830030	121.40986540
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.13831240	121.40920500
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.14115330	121.41020710
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19928410	121.36190900
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.19886490	121.36156880
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19860820	121.36131770
EW	2024-03-21	Camponotus sp. nr. terebrans	3			-31.19849460	121.36133100
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19820380	121.36114680
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19809470	121.36104920

EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19846220	121.36025220
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19818680	121.36028130
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19746280	121.35945080
EW	2024-03-21	Camponotus sp. nr. terebrans	5			-31.19002600	121.35543050
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18994000	121.35536290
EW	2024-03-21	Camponotus sp. nr. terebrans	3			-31.18827330	121.35726210
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18827310	121.35726070
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18834360	121.35733250
EW	2024-03-21	Camponotus sp. nr. terebrans	3			-31.18812760	121.35744700
EW	2024-03-21	Camponotus sp. nr. terebrans	3			-31.18810120	121.35751880
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18797190	121.35746350
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18789050	121.35767220
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18566870	121.35781260
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18564190	121.35780090
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18559830	121.35785990
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18549340	121.35779890
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.18554389	121.35819850
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18563839	121.35828280
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.18567920	121.35831490
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18534670	121.35778000
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18442310	121.35533380
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.18483470	121.35442500
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18487580	121.35402180
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18490170	121.35400290
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18544429	121.35426130
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18593130	121.35566640
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18820740	121.35539240
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18865440	121.35552430
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.18910690	121.35559640
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18983830	121.35568920
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.18989710	121.35556950
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19680190	121.35664670
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19709520	121.35665720
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.19725590	121.35657510
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19726760	121.35655930
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19730510	121.35681910
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.19751820	121.35705450
EW	2024-03-21	Camponotus sp. nr. terebrans	2			-31.19782880	121.35734010
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19821040	121.35730780
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19913120	121.35806060
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19913280	121.35806520
EW	2024-03-21	Camponotus sp. nr. terebrans	1			-31.19938070	121.35869630
EW	2024-03-22	Camponotus sp. nr. terebrans	2			-31.08930950	121.40412350
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08959390	121.40462780
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.09002460	121.40516670
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08513130	121.41218820
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08443190	121.41427360
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08403540	121.41440640
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08385000	121.41445590
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08293630	121.41523220
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08268720	121.41522830
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07931390	121.41307320
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07858230	121.41249610
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07854410	121.41235300

EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07794950	121.41202170
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07785560	121.41199760
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07756600	121.41208560
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07733610	121.41195100
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EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.07842210	121.40949150
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08586170	121.41145610
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08602630	121.41131440
EW	2024-03-22	Camponotus sp. nr. terebrans	1			-31.08696400	121.41092290
EW	2024-04-02	Camponotus sp. nr. terebrans	3			-31.14757190	121.46655630
EW	2024-04-02	Camponotus sp. nr. terebrans	1			-31.14776040	121.46672390
EW	2024-04-02	Camponotus sp. nr. terebrans	1			-31.14820950	121.46973120
EW	2024-04-02	Camponotus sp. nr. terebrans	1			-31.14737490	121.46949270
EW	2024-04-03	Camponotus sp. nr. terebrans	1			-31.19996890	121.36139970
EW	2024-04-03	Camponotus sp. nr. terebrans	1			-31.20034640	121.36188960
EW	2024-04-03	Camponotus sp. nr. terebrans	1			-31.20041150	121.36190140
EW	2024-04-04	Camponotus sp. nr. terebrans	1	M.M - ABAB - 022		-31.09213920	121.40820150
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09051640	121.40618230
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09002060	121.40482760
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09005760	121.40475250
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08996400	121.40455370
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09012840	121.40446460
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09005860	121.40438400
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09016250	121.40429750
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.09125370	121.40504090
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08964870	121.40443280
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08894940	121.40391130
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08788310	121.40580430
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08766850	121.40615110
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08765080	121.40624600
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08566520	121.41276960
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08571160	121.41300430
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08189900	121.41429370
EW	2024-04-04	Camponotus sp. nr. terebrans	1			-31.08203340	121.41551700
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.00244880	121.27503160
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.00251980	121.27471230
EW	2024-04-05	Camponotus sp. nr. terebrans	1	M.M - ABAB - 199		-31.08246009	121.40377970
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08508440	121.40565900
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08514070	121.40577440
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08517130	121.40574270
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08514740	121.40593570
EW	2024-04-05	Camponotus sp. nr. terebrans	2			-31.08523860	121.40584570
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08518610	121.40596570
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08515920	121.40609420
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08522710	121.40612950
EW	2024-04-05	Camponotus sp. nr. terebrans	1			-31.08619230	121.40686060
EW	2024-04-15	Camponotus sp. nr. terebrans	1			-31.13350960	121.43253250
EW	2024-04-16	Camponotus sp. nr. terebrans	1			-31.08435360	121.40598330
EW	2024-04-17	Camponotus sp. nr. terebrans	1			-31.13683030	121.47890830
EW	2024-04-17	Camponotus sp. nr. terebrans	1			-31.13676140	121.47893700
EW	2024-04-17	Camponotus sp. nr. terebrans	1			-31.13679050	121.47941640
EW	2024-04-17	Camponotus sp. nr. terebrans	1			-31.13691540	121.47832980
EW	2024-04-18	Crematogaster whitei	1	M.M - ABAB - 058		-31.13622889	121.48201560

SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14986680	121.42627210
SG	2024-02-23	Camponotus sp. nr. terebrans	1			-31.14979980	121.42621400



Appendix F *Jalmenus aridus* WAM **Submission Information**

Targeted Survey for Arid Bronze Azure Butterfly (ABAB)

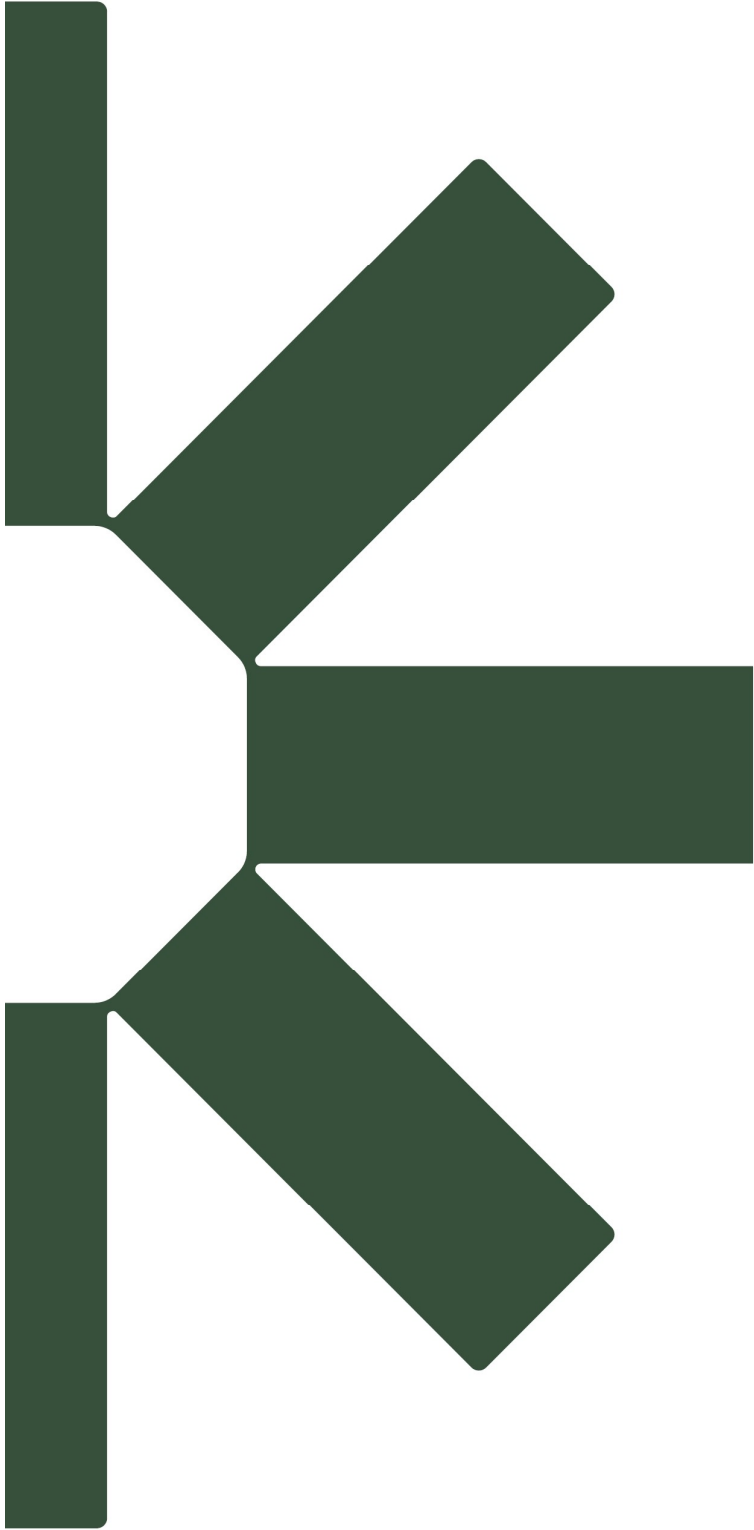
Supplementary Surveys – Mt Marion

Mineral Resources Limited

SLR Project No.: 675.072273.00001

5 August 2024

Registration Number	CollectorNo	Institution	Catalogued By	DateEntered	CLASS	ORDER	SUPERFAMILY	FAMILY	SUBFAMILY	TRIBE	GENUS	SPECIES	DeterminedBy	LifeHistory Stage	SEX
E113348	RE-24-Y001	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	female
E113349	RE-24-Y002	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	female
E113350	RE-24-Y003	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	female
E113351	RE-24-Y004	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113352	RE-24-Y005	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113353	RE-24-Y006	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113354	RE-24-Y007	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113355	RE-24-Y008	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113356	RE-24-Y009	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113357	RE-24-Y010	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113358	RE-24-Y011	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113359	RE-24-Y013	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113360	RE-24-Y014	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113361	RE-24-Y015	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113362	RE-24-Y016	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113363	RE-24-Y017	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113364	RE-24-Y019	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113365	RE-24-Y020	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113366	RE-24-Y021	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113367	RE-24-Y022	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113368	RE-24-Y023	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113369	RE-24-Y024	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	female
E113370	RE-24-Y025	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	female
E113371	RE-24-Y026	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male
E113372	RE-24-Y027	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	female
E113373	RE-24-Y028	WAM	RGE	28/05/2024	Insecta	Lepidoptera	Papilionoidea	Lycaenidae	Theclinae	Zesiusini	<i>Jalmenus</i>	<i>aridus</i>	Eastwood, R.G.	adult	male



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