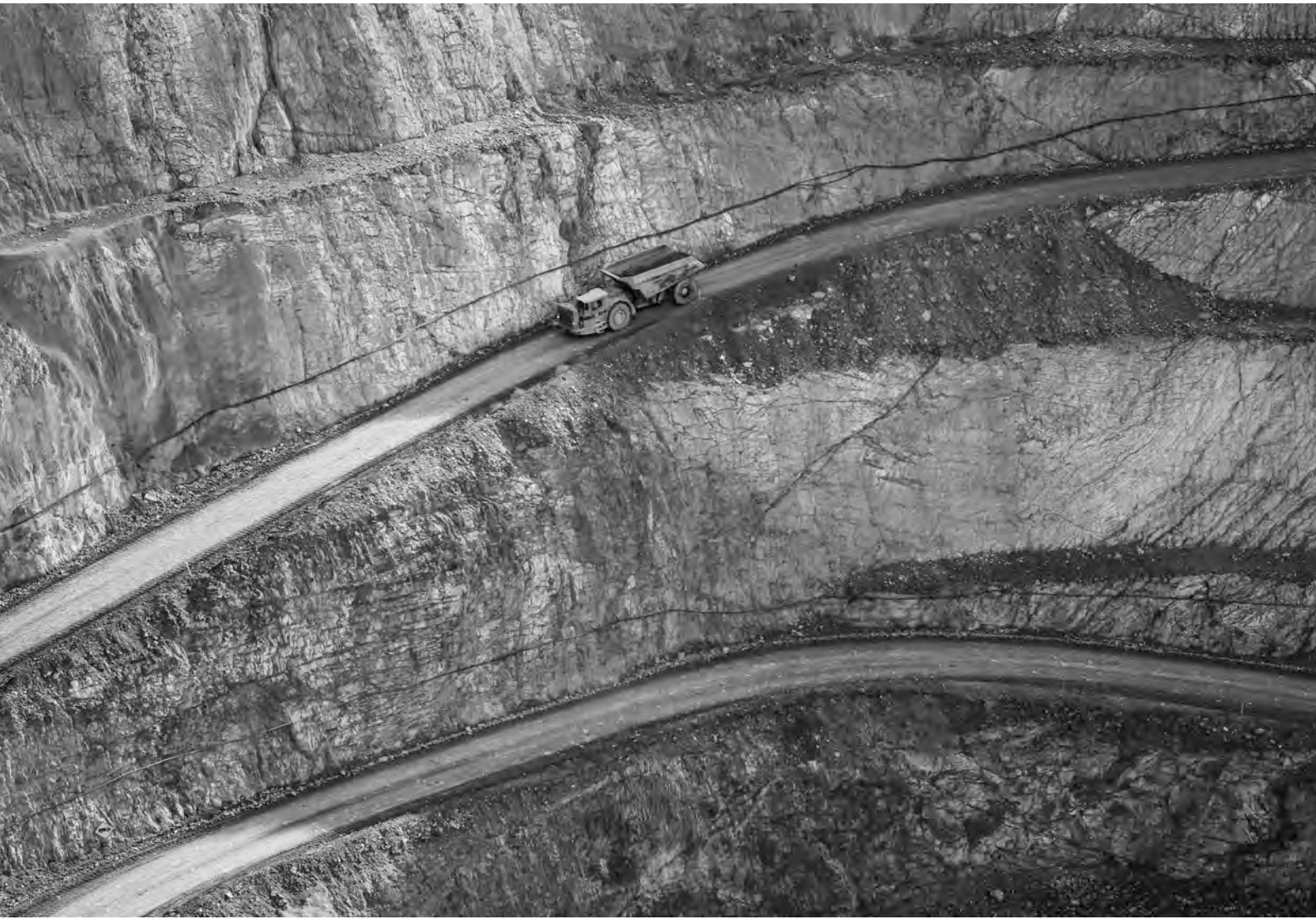
Appendix K - Part 1

Aboriginal cultural heritage assessment



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METALS Ltd.

New Cobar Complex Project State Significant Development (SSD-10419)

Aboriginal cultural heritage assessment

Prepared for Peak Gold Mines Pty Ltd
November 2020

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New Cobar Complex Project
State Significant Development (SSD-10419)

Aboriginal cultural heritage assessment

Report Number

J190278 RP#16

Client

Peak Gold Mines Pty Ltd

Date

16 November 2020

Version

v3 Final

Prepared by

Georgia Burnett
Archaeologist
18 December 2020

Approved by

Dr Alan Williams FSA MAACAI
Associate Director
18 December 2020

Executive summary

Peak Gold Mines Pty Ltd (PGM), a wholly owned subsidiary of Aurelia Metals Limited, owns and operates the Peak Gold Mines project south-east of Cobar, far western New South Wales (NSW). The PGM operation is comprised of the New Cobar Complex located 3 kilometres (km) south-east of the Cobar town centre, and the Peak Complex located 10 km south-east of the town centre. The New Cobar Complex Project State Significant Development (SSD) (the Project) is an amalgamation of underground mining at New Cobar, Chesney and Jubilee deposits, and development of new underground workings of Great Cobar and Gladstone deposits, to create the New Cobar Complex Project. EMM Consulting Pty Ltd (EMM) has been engaged by PGM to prepare and submit an environmental impact statement (EIS) to support an SSD application for the New Cobar Complex Project under the provisions of clause 8(1) and clause 5 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). PGM requested the Secretary's Environmental Assessment Requirements (SEARs) from the DPIE for the SSD EIS in December 2019 and these were received in February 2020. This Aboriginal cultural heritage assessment (ACHA) has been prepared to address the relevant Secretary's Environmental Assessment Requirements (SEARs) and provides information to be used in the EIS and support the SSD application for the project.'

The assessment adopted the processes and methods outlined in DECCW's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). The consultation process initially identified eight Aboriginal stakeholder organisations who may have had a potential interest in the project. Following notification, six organisations responded wishing to be registered for subsequent consultation. The one-day field program included the participation of two of these organisations; the Cobar Local Aboriginal Land Council, and the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People.

Previous archaeological investigations of the region are extremely sparse. Where undertaken, these studies all suggest generally sporadic and/or ephemeral past use of the region, with a focus of occupation and visitation to springs, waterholes and other natural soaks. The Project area generally does not conform to this archaeological model as it is generally lacking any formal drainage or permanent water sources that would allow long residence times or substantive vegetation to become established. Both desktop analysis and ground-truthing validated these findings, and further identified that significant level of disturbance had occurred within the Project area. This includes historical mining operations and occurrences of mining settlements and agriculture in this area. However, field investigations did identify a number of disturbed stone artefacts (n=36) across the areas proposed for surface impact, and which has been interpreted to reflect a background scatter resulting from ephemeral visitation in the past. While there is no definitive pattern of cultural material distribution, at least in part due to extensive disturbance, higher occurrences appear to be in closer proximity to the Big and Little Salty waterholes north-west of the project.

While detailed on-site investigation was not undertaken for the Project area beyond those areas proposed for surface activities, both desktop assessment and vehicular observations of the areas proposed for project activities all indicate they have been subject to extensive historical disturbance; and the survivability of cultural materials would be unlikely. While sparse stone artefacts may occur in some of these areas, they would be heavily disturbed and not in a primary context. Significant cultural materials in these areas would not be expected to have survived.

In addition to the sparse cultural material, discussions with Aboriginal stakeholders indicate that the former Cornish Town – a late 19th/early-mid 20th century former mine town within the Project area - holds some contemporary social/cultural value. These values are identified based on the history of Aboriginal people being amongst the inhabitants of the town during the post-contact period, and more directly by the remains of a structure observed where one of the Aboriginal participants had lived as a child (Figure 7.1). However, little of the town remains, and cultural values are primarily intangible.

Overall, the proposed underground activities would have negligible direct or indirect impacts to Aboriginal heritage. Similarly, the majority of surface impacts are proposed in areas of existing heavy disturbance associated with ongoing mining operations. The focus of surface impacts for the ACHA has been the ~3.4-hectare (ha) location of the power line corridor. The power line corridor has the potential to harm both identified Aboriginal sites, the New Cobar Complex Background Scatter and the former Cornish Town. However, when including suggested management strategies, it is considered that the proposed activity may potentially lead to positive cumulative (intergenerational) impacts, improving engagement between the local Aboriginal community and the locale, as well as providing further information on poorly understood post-contact history.

The project, specifically the power line corridor, has the potential to directly impact two Aboriginal objects and/or sites. Where feasible, the proponent should consider modifying the project design and footprint to avoid potential damage to these Aboriginal objects and/or sites identified within the Project area. Where altering the design proves unfeasible, suitable mitigation measures (see Section 10.2) and the following recommendations should be integrated into the conditions of approval for the project:

- Prior to ground disturbance, an Aboriginal cultural heritage management plan (ACHMP) must be developed by a heritage specialist in consultation with the Registered Aboriginal Parties (RAPs) to provide the post-approval framework for managing Aboriginal heritage within the Project area. The ACHMP should include the following issues:

    - Processes, timing, and communication methods for maintaining Aboriginal community consultation and participation throughout the remainder of the project.

    - Descriptions, methods, personnel and timing of any additional investigative and/or mitigative archaeological actions that may be required prior to works commencing or during the project. These should include, but are not limited to, cultural monitoring and artefact collection for any areas where the surface impacts of the project intersect the identified Aboriginal objects and/or sites (Figure 9.1); and the undertaking of oral history with key knowledge-holders to further understand the cultural values and history of Aboriginal people who lived at Cornish Town (see also Section 10.2).

    - Descriptions and methods of actions to avoid any direct or indirect impacts to the identified area of contemporary value (Figure 7.1) during and following the proposed activity. This should include, but are not limited to, cultural inductions for all personnel and subcontractors outlining their location and its significance, fencing and clear marking indicating no-go zones, and any additional requirements identified by the Aboriginal community. A suitable regime of monitoring these activities should also be outlined, including locations, methods, personnel and timing.

    - Description and methods for undertaking further Aboriginal heritage assessment, investigation and mitigation of any areas of the project footprint that have changed following completion of the ACHA and/or during the final design and construction phases of the project.

    - Description and methods of post-excavation analysis and reporting of the archaeological investigations and activities implemented as part of the ACHMP.

    - Procedures for managing the unexpected discovery of Aboriginal objects, sites and/or human remains during the project.

    - Procedures for the curation and long-term management of cultural materials recovered as part of the works outlined in the ACHMP and any preceding stages associated with the project.

    - Processes for reviewing, monitoring, and updating the ACHMP as the project progresses.

- Consultation should be maintained with the RAPs during the finalisation of the assessment process and throughout the project.

- A copy of the ACHA should be lodged with the Aboriginal Heritage Information Management System (AHIMS) and provided to each of the RAPs.

- AHIMS Site Recording Forms for the newly identified Aboriginal objects and/or sites within the Project area should be submitted to the AHIMS database.

- If any part of the project footprint is relocated outside the areas identified in this ACHA, or if any alteration is proposed that could result in additional impact to material culture, further assessment of these area(s) should be undertaken to identify and appropriately manage Aboriginal objects and/or sites that may be present.

- To avoid inadvertent impacts prior to the establishment of the ACHMP, the proponent should advise all relevant personnel and contractors involved in the project of the relevant heritage considerations, legislative requirements and recommendations identified in this assessment.

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1 Introduction

1.1 Overview

Peak Gold Mines Pty Ltd (PGM), a wholly owned and operated subsidiary of Aurelia Metals Limited (Aurelia), owns and operates the Peak Gold Mines operation south-east of Cobar, far western New South Wales (NSW) Figure 1.1.

The PGM operation comprises the New Cobar Complex located 3 kilometres (km) to the south-east of Cobar town centre and the Peak Complex located 10 km south-east of the town centre. Both complexes are located adjacent to Kidman Way, which connects Cobar to Hillston and Griffith to the south.

PGM has been operational since modern mining commenced at the Peak Complex in 1991 and all current mining operates under development approvals issued by Cobar Shire Council (CSC).

The New Cobar Complex Project State Significant Development (SSD) (the project) is an amalgamation of underground mining at New Cobar, Chesney and Jubilee deposits and development of new underground workings of the Great Cobar and Gladstone deposits to create the New Cobar Complex Project.

PGM is also seeking to consolidate all existing development approvals applicable to the New Cobar Complex into a single modern consent issued by the Department of Planning, Industry and Environment (DPIE). Approval will be sought for project elements accessed from, and undertaken within, the existing New Cobar Complex located within consolidated mining lease (CML) 6, mining purposes lease (MPL) 0854 and mining leases (ML) ML 1483 and ML 1805 (see Figure 1.2).

1.1.1 Background

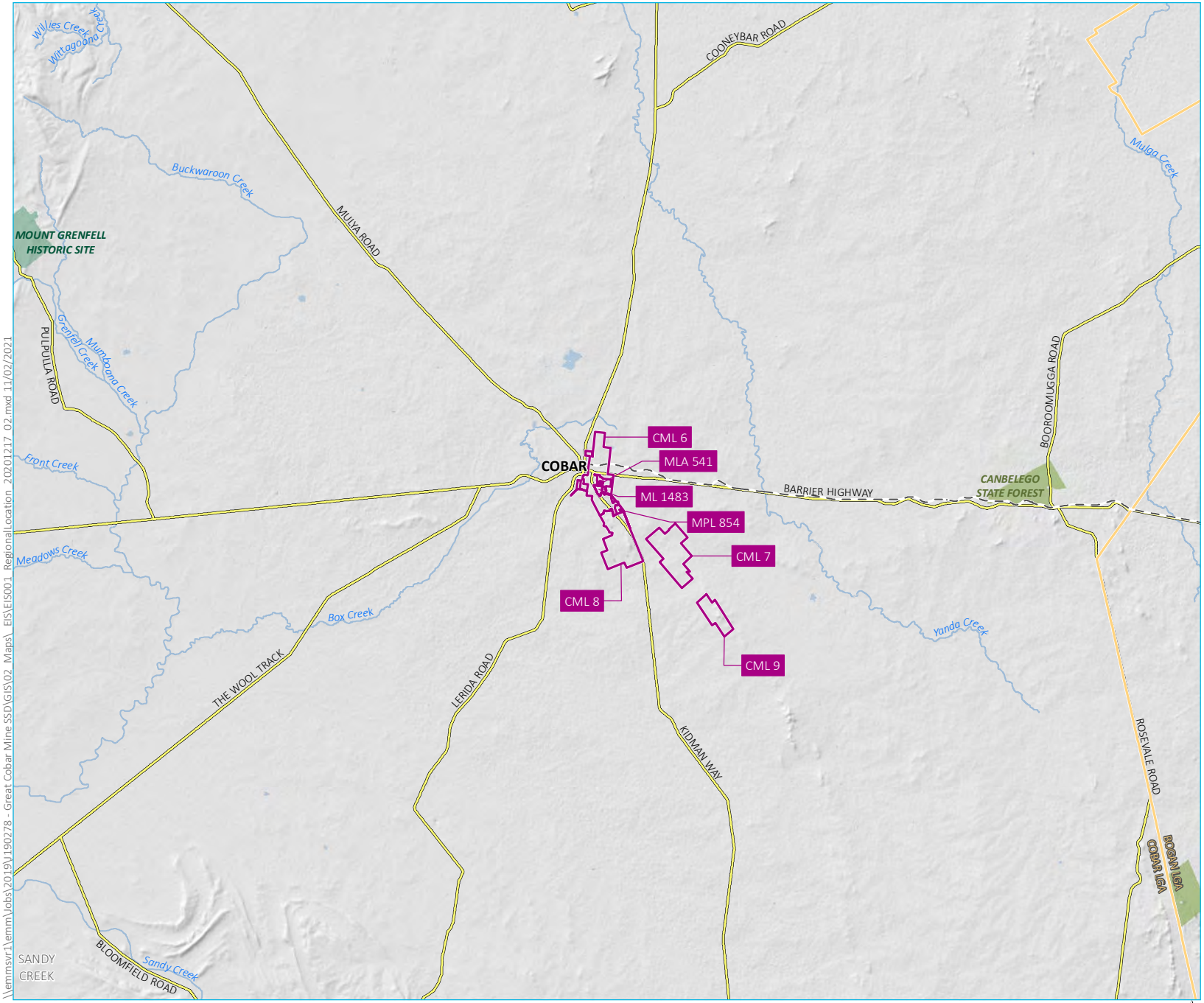
PGM has been operational since mining commenced at the Peak deposit in 1991 producing gold, copper, lead, zinc and silver. Mining at the New Cobar Complex commenced with the open cut in 2000, then transitioned to underground mining in 2004.

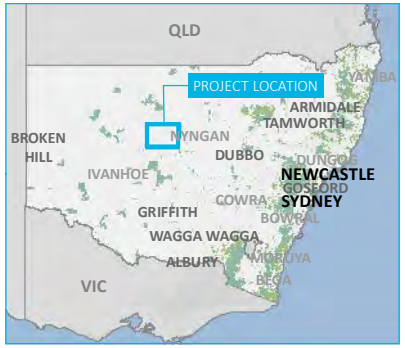
The current CSC development approvals at Peak Complex and New Cobar Complex allow for the operations to continue indefinitely and process up to 800,000 tonnes per annum (tpa) of ore. Ore processing, tailings storage and concentrate handling is undertaken at the Peak Complex with ore from the New Cobar Complex trucked by public road to processing facilities at the Peak Complex. Both the processing plant and the tailings storage facility (TSF) are located at the Peak Complex, and activities at those facilities are outside the scope of this project.

PGM has identified the Gladstone and Great Cobar deposits as targets for further mining to extend the life of operations at the New Cobar Complex. The Great Cobar deposit was historically exploited by surface and shallow underground mining between 1870 and 1919, but no mining of that deposit has been undertaken since that time.

PGM has obtained conditional approval for development of an exploration decline to facilitate exploration activities within the Great Cobar deposit. The objectives of the exploration activities are to:

- further define the mineral resource through underground drilling from an exploration decline; and
- taking of a bulk sample to provide further samples for metallurgical, geotechnical and associated test work.





KEY

- Mining lease boundary
- Rail line
- Major road
- Named watercourse
- Waterbody
- Local government area
- NPWS reserve
- State forest

Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019)

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Regional location of the Peak Gold Mine

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 1.1

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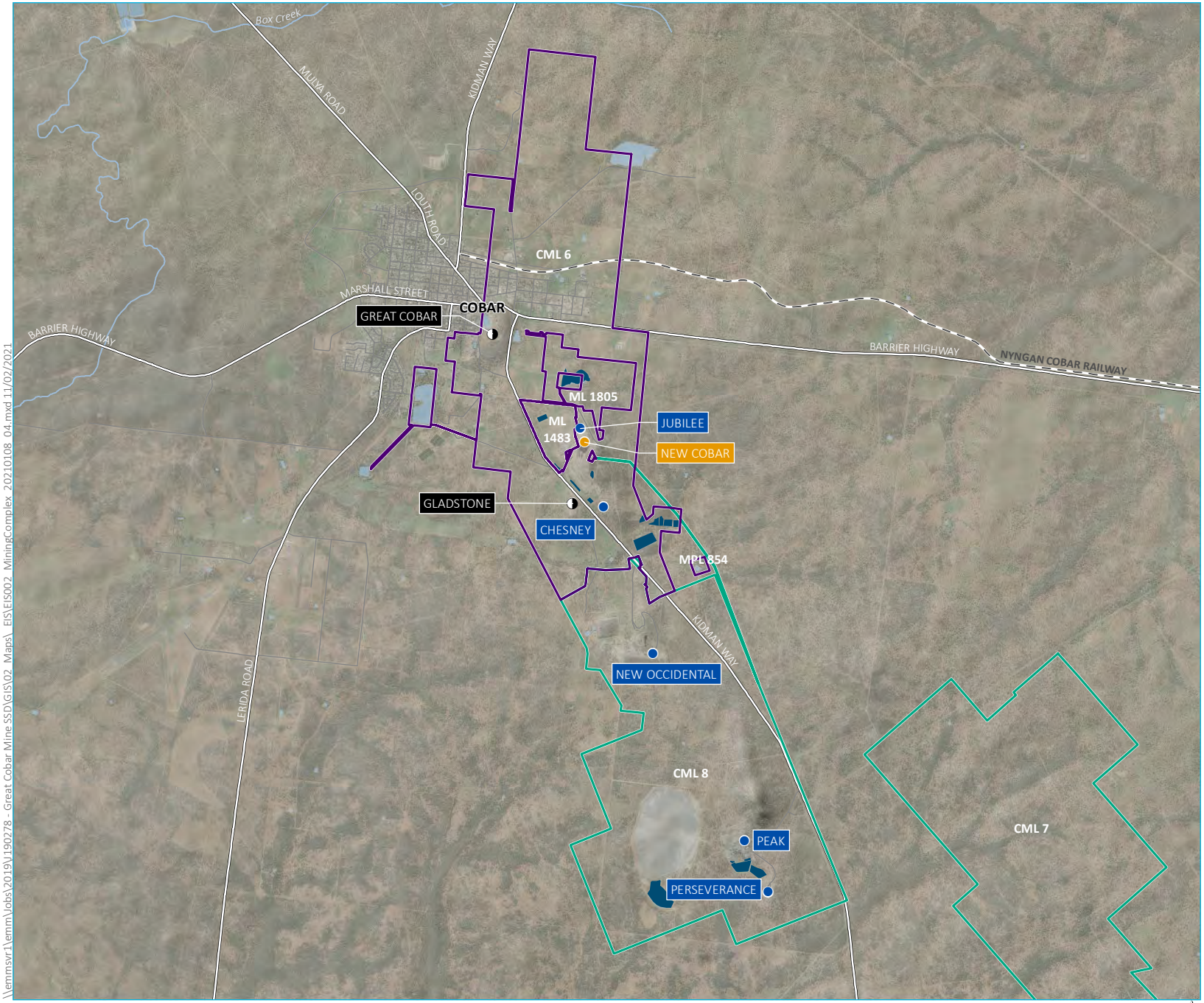

KEY

- Completed working
- Current working
- Future working
- Rail line
- Major road
- Minor road
- Named watercourse
- Waterbody
- Mine water management storage

Mining lease boundaries

- New Cobar Complex
- Peak Complex

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Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019)

0 1 2 km

GDA 1994 MGA Zone 55

N

Mining leases and mining complexes

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 1.2

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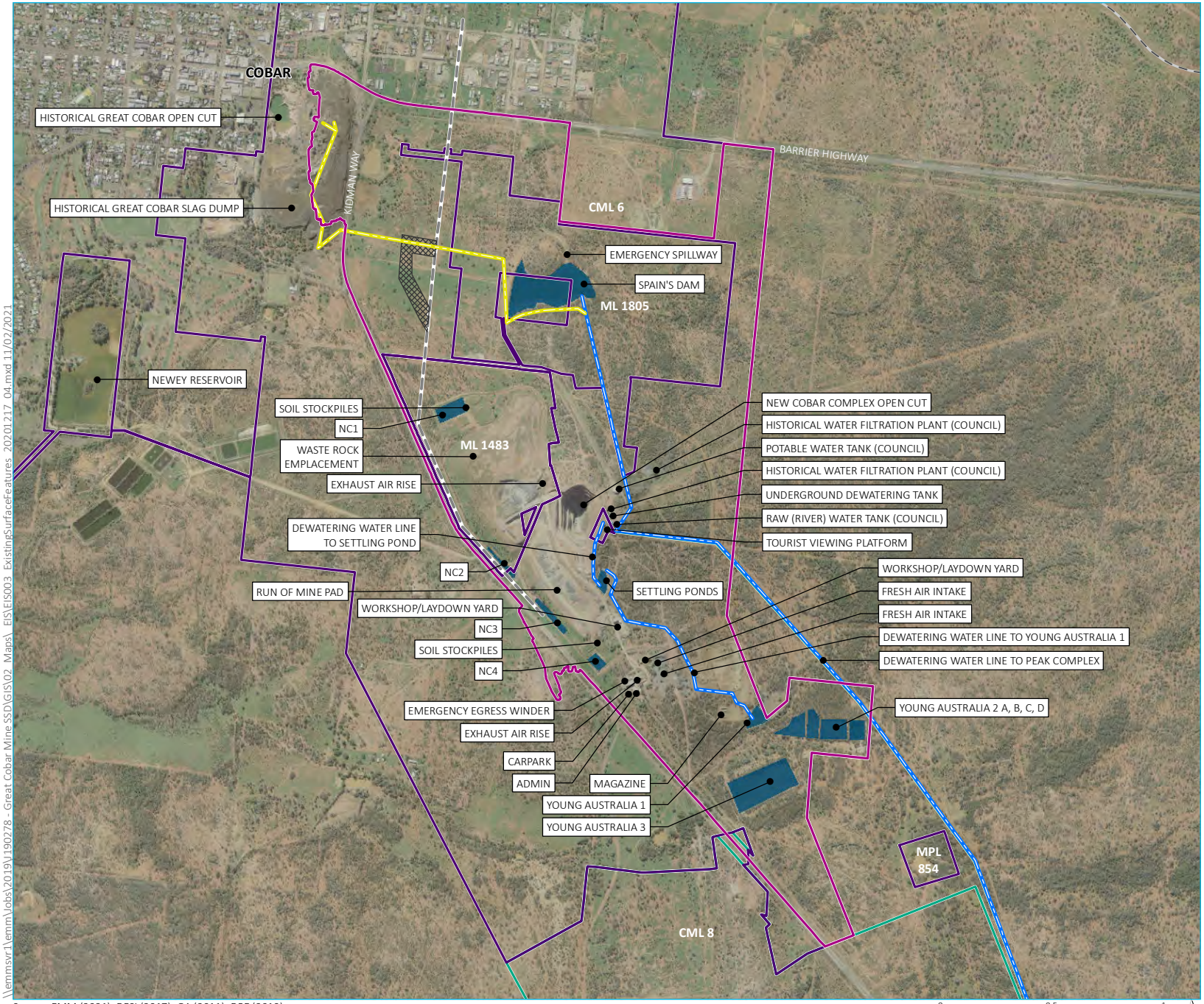
1.1.2 Project overview

All surface works associated with the project will be located underground or in the existing, operational mining New Cobar Complex except for a short (no more than 400 m) power line from an existing 22 kV line servicing PGM to a compact substation within the fresh air intake footprint.

PGM proposes to use the decline, infrastructure and intake and exhaust ventilation elements developed for the Great Cobar exploration drive (approved, but not yet constructed) to facilitate project development. Surface ventilation fans are not required during the development of exploration activities, however as they will be necessary during operation of mining, construction of a new power line and compact substation, to be located adjacent to the fresh air intake is required. The power line will continue to the exhaust air rise where a ventilation fan will be installed at a depth of approximately 100 m or greater below ground level (bgl). An emergency egress winder headframe and winder house will be installed at the fresh air intake for the purpose of mine rescue in the event of an incident below ground preventing evacuation by conventional means. No additional new surface infrastructure is proposed.

The existing surface infrastructure and facilities at the New Cobar Complex currently support underground mining of the New Cobar, Chesney and Jubilee deposits, and will continue to be used for this project (Figure 1.3 and Figure 1.4). Access to all underground workings in the complex is from a portal and decline at the base of the New Cobar Complex open cut. SSD approval will be sought for the following project elements accessed from, and undertaken within, the existing New Cobar Complex:

- Underground mining of the New Cobar Complex including, but not limited to, New Cobar, Jubilee and Chesney (existing development approval issued by CSC).
- Underground mining of the New Cobar Complex including Great Cobar and Gladstone (not yet approved).
- Groundwater dewatering of the relevant historic and proposed underground workings via the historic Great Cobar Shaft (existing development approval issued by CSC).
- Increase of the number of ore haulage trucks between the New Cobar Complex and Peak Complex from 25 loaded trips per day (50 movements in and out) to 50 loaded trips (100 movements in and out) per day (daylight hours only) averaged over a calendar year. The increase of daily truck movements will provide flexibility to PGM if there are unforeseen production disruptions (eg bad weather).
- Crushing and screening of ore within the existing New Cobar Complex ROM pad (existing approval by CSC).
- Transportation of ore to the Peak Complex via Kidman Way for processing, using road registered heavy vehicles (existing approval by CSC).
- Harvesting of waste rock and:
    - immediately deploying the material underground for use in stope backfilling operations (waste rock will remain underground and will not be transported to the surface as a preference); and
    - transportation of non-acid forming material to the surface and storage within the existing waste rock emplacement (WRE) prior to use across the complexes for construction / rehabilitation tasks (eg tailings dam lifts).
- Deposition of potentially acid forming waste rock brought to the surface and stored within the WRE where at end of mine life it would be capped, or progressively returned underground for disposal.
- Continuation of all other approved activities within the New Cobar Complex.



KEY

- Project area
- Pipeline route
- Great Cobar dewatering pipeline
- Existing 22 kV powerline
- Rail line
- Proposed power line corridor
- Mine water management storage

Mining lease boundaries

- New Cobar Complex
- Peak Complex

Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019)

0 0.5 1 km

GDA 1994 MGA Zone 55

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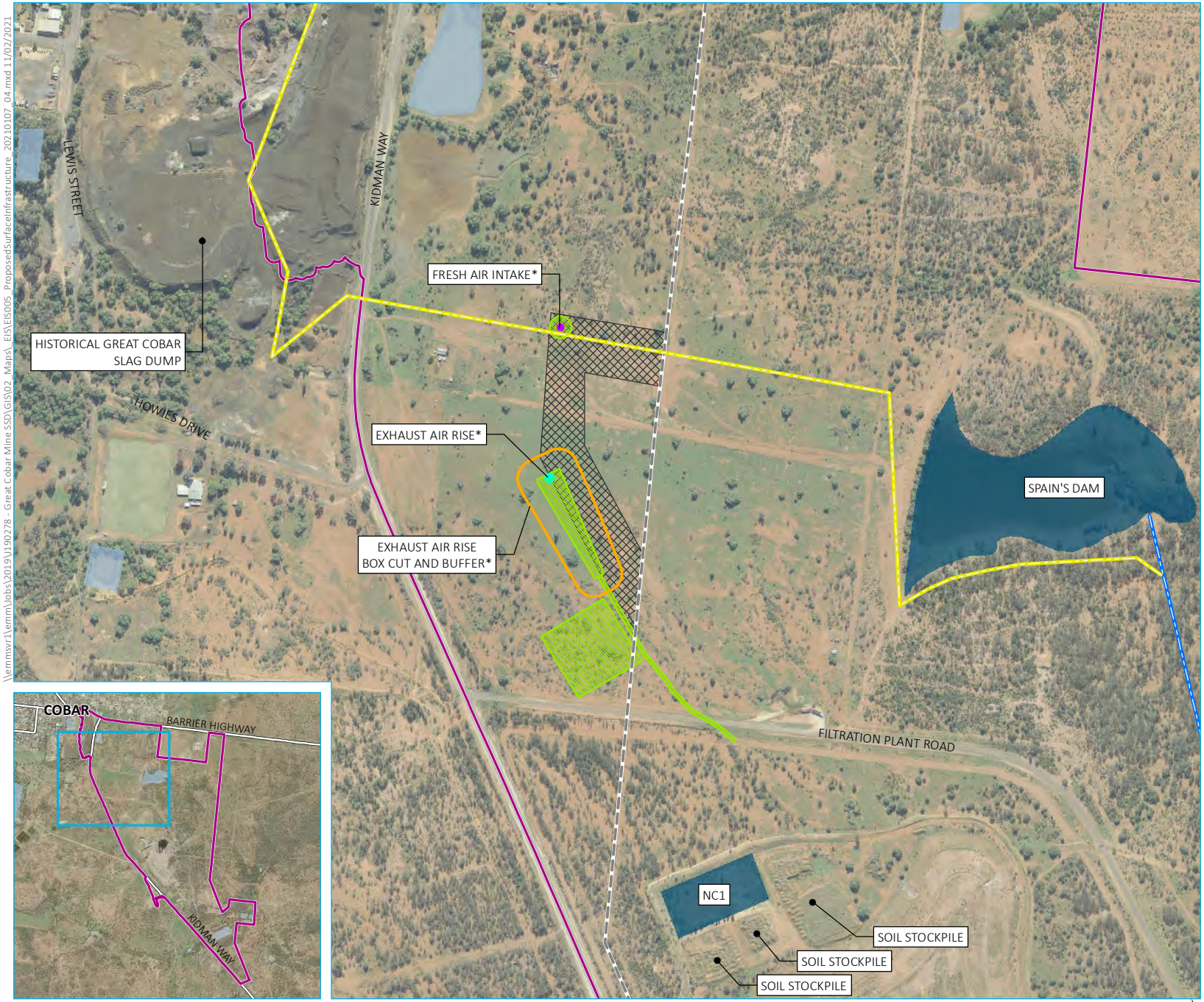
Existing surface features

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 1.3

EMM creating opportunities



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Source: EMM (2021); DFSI (2017); DPE (2019); ELA (2018)

Proposed surface infrastructure

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 1.4

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Processing will remain at the Peak Complex at the existing approved rate of up to 800,000 tpa, with production of ore from the Great Cobar and Gladstone deposits making up for the future decrease in production from other workings across PGM.

Additionally, there are remaining resources in the New Cobar, Jubilee and Chesney deposits that are mineral rich, but which are currently not economical to mine in isolation. Keeping the New Cobar Complex operational and gaining access to Great Cobar and Gladstone deposits will lead to increases in economies of scale and maximise opportunities to mine these resources, and keep PGM operational until 2035.

1.2 Purpose of this report

EMM Consulting Pty Ltd (EMM) has been engaged by PGM to prepare and submit an environmental impact statement (EIS) to support an SSD application for the New Cobar Complex Project under the provisions of clause 8(1) and clause 5 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The Peak Complex, which is not part of this SSD application will continue to operate under local government (CSC) approvals, as there is no proposed change to this arrangement.

PGM requested Secretary's Environmental Assessment Requirements (SEARs) from the DPIE for the SSD EIS in December 2019; these were received in February 2020. The SEARs included a requirement to assess potential Aboriginal heritage risks associated with the construction and operation of the project. This Aboriginal cultural heritage assessment (ACHA) has been prepared to address the relevant SEARs, provide information to be used in the EIS and support the SSD application for the project. The Aboriginal heritage related matters and EMM responses are tabulated below (Table 1.1).

Table 1.1 Heritage related SEARs and EMM responses

Item no.	Authority comments	EMM responses
General	**Heritage** – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including consultation with Aboriginal stakeholders in accordance with *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH 2010)	This report addresses the Aboriginal heritage impacts and consultation outlined here. A separate Statement of Heritage Impact is developed to address the historical heritage components of the requirement.

1.2.1 Assessment objectives

The objectives of the ACHA were to:

- identify Aboriginal cultural heritage values relevant to the study area which include:
  - Aboriginal objects and sites;
  - Aboriginal socio-cultural and/or historic values which may not be related to Aboriginal objects; and
  - areas of archaeological sensitivity.
- assess the significance of Aboriginal objects, sites and locations identified in the course of the archaeological investigations and through Aboriginal community consultation;
- assess the impact of the project on identified Aboriginal cultural heritage values; and

- propose appropriate management measures for potentially impacted Aboriginal cultural heritage values in response to their assessed significance.

1.2.2 Assessment requirements and guidelines

This ACHA has been prepared in accordance with the relevant government assessment requirements, guidelines and policies, including:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010); and
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).

1.3 Project boundary and definitions

The New Cobar Complex SSD Project area is the area of mining disturbance within CML 6, south of the Barrier Highway and east of Kidman Way, with a 10 m buffer around proposed underground workings (Gladstone and Great Cobar deposits) to the west of Kidman Way.

The ACHA considers the entire Project area although the proposed works are largely to be situated in areas used for existing mining activities, prior extensive disturbance and/or underground (Section 1.1). As such, it is considered that there is limited likelihood for cultural materials to be present in much of the Project area. The proposed new surface disturbance will be a focus in this report. Specifically, this includes a 300 x 200 m power line corridor situated west of Spain's Dam and north of the main excavations. Both the proposed fresh air intake and exhaust air rise elements are also within this general area, and were observed, but are already approved for construction (Section 1.1.2).

The Project area is shown on Figure 1.3. The area of proposed new surface disturbance is shown on Figure 1.4.

1.4 Legislative context

There are several Commonwealth and state Acts (and associated regulations) that manage and protect Aboriginal cultural heritage (Appendix A). These are summarised in Table 1.2.

Table 1.2 Commonwealth and State legislation relevant to the project.

Legislation	Description	Relevant to the project?	Details
Commonwealth			
Environment Protection and Biodiversity Conservation Act 1999	Recognises sites with universal value on the World Heritage List (WHL). Protects Indigenous heritage places with outstanding heritage value to the nation on the National Heritage List (NHL), and significant heritage value on the Commonwealth Heritage List (CHL).	No	There are no Indigenous heritage places within the Project area that are listed on the WHL, NHL, or the CHL.

Table 1.2 Commonwealth and State legislation relevant to the project.

Legislation	Description	Relevant to the project?	Details
Native Title Act 1993	Administers rights and interests over lands and waters by Aboriginal people. Provides for negotiation and registration of Indigenous Land Use Agreements (ILUAs). Often used in NSW to identify relevant stakeholders for consultation.	No	There is one active (ie non finalised) claim encompassing the study area – the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan claim (NC2012/001). Representatives of this organisation were consulted as part of the ACHA.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	Preserves and protects areas and objects of particular significance to Aboriginal people that are under threat from injury or desecration.	No	There are no areas or objects within the Project area subject to a Declaration under the Act.
State			
Environmental Planning and Assessment Act 1979	Requires environmental impacts, including to Aboriginal heritage, to be considered in land use planning. Provides for the development of environmental planning instruments, including State Environmental Planning Policies and Local Environmental Plans.	Yes	The proposed development is being assessed as an SSD project under Division 5.1, of this Act, and is subject to project-specific environmental assessment and reporting requirements. These requirements (SEARs) stipulate that Aboriginal heritage impact assessment is required (see Section 1.2) to assess whether the project has the potential to impact on Aboriginal objects, sites, or places of Aboriginal heritage significance.
National Parks and Wildlife Act 1974	Provides blanket protection for all Aboriginal objects and declared Aboriginal places. Includes processes and mechanisms for development where Aboriginal objects are present, or where Aboriginal Places are proposed for harm.	Yes	While elements of this Act do not apply to SSD projects, the potential impact on Aboriginal objects generally still requires consideration as a part of the assessment needs of such projects.
Aboriginal Land Rights Act 1983	Establishes Local Aboriginal Land Councils (LALCs). Allows transfer of ownership of vacant crown land to a Local Aboriginal Land Council. The Office of the Registrar, *Aboriginal Land Rights Act 1983 (ORALRA)*, registers Aboriginal land claims and maintains the Register of Aboriginal Owners. Often used in NSW to identify relevant stakeholders for consultation.	Potentially	The Project area encompasses crown land. A request to ORALRA as part of the project was made to identify any active claims, but no response was received. Discussions with the LALC made no reference of any claims during the consultation process.

1.5 Limitations

This report is based on existing and publicly available environmental and archaeological information (including the Aboriginal Heritage Information Management System (AHIMS) database and reports about the Project area. The background research did not include any independent verification of the results and interpretations of externally sourced existing reports (except where the ground-truthing was undertaken). The report further makes archaeological predictions based on these existing data and targeted ground-truthing, and which may contain errors depending on the accuracy of these third-party studies and the extent of ground-truthing (constrained to surface) investigations.

This report does not consider historical and/or built heritage unless specifically related to Aboriginal heritage values.

1.6 Authorship and acknowledgements

This report was prepared by Morgan Wilcox (Senior Archaeologist) and Georgia Burnett (Archaeologist), and reviewed by Dr Alan Williams FSA MAACAI, (Associate Director and National Technical Leader – Aboriginal Heritage).

EMM would like to thank registered Aboriginal parties (RAPs) for their involvement in ongoing consultation, knowledge sharing and fieldwork assistance.

EMM would like to thank project landholders who allowed the survey team to access their properties during the archaeological survey.

2 Aboriginal consultation

2.1 Key findings

- The assessment adopted the processes and methods outlined in DECCW's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010).
- The consultation process initially identified eight Aboriginal stakeholder organisations with potential interest in the project. Following notification, six responded to be registered for subsequent consultation through the project.
- The one-day field program included the participation of two of these organisations being the Cobar Local Aboriginal Land Council, and the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People.
- Due to site access restrictions, a meeting with Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan representatives was also undertaken after the site inspection to ensure involvement of key knowledge holders, and to discuss the project.

2.2 The process

Aboriginal consultation for this project has been undertaken in accordance with procedures set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). These guidelines identify a five-stage process:

1. Pre-notification – identification of the Aboriginal individuals and/or communities relevant to the Project area by contacting several state government agencies.
2. Notification – contacting all Aboriginal individuals and/or communities identified in (1) to determine their interest in being consulted during the project. This includes direct communication and the placement of advertisements in local media seeking further expressions of interest from Aboriginal individuals and/or groups that may have been missed through in (1). Those Aboriginal individuals and/or groups that wish to be consulted become a RAP.
3. Presentation of project information/assessment methodology – briefing RAPs about the project and scope of any Aboriginal heritage assessment and investigations. This is usually undertaken through written correspondence, but can include meetings, and may undergo several iterations through the project as the nature of the assessment changes (eg surface ground-truthing may lead to a requirement for test excavations).
4. Impacts and mitigation strategies – discussion of potential impacts to cultural materials and mitigation options with the RAPs prior to developing the ACHA. This is often undertaken either onsite at the end of any field program and/or as part of (5).
5. Report review – the RAPs are provided an opportunity to review and comment upon the draft ACHA, to contribute input into the overall findings, significance and management of cultural heritage.

The consultation process for this project had two aims: i) To comply with Heritage NSW consultation procedures to ensure stakeholder input on the ACHA process; and ii) To identify cultural places and intangible values that may be affected by the proposed activity.

2.3 This project

Aboriginal consultation for this project has been undertaken in accordance with procedures set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). These guidelines identify a four-stage process which is summarised for the project in Table 2.1. A complete consultation log is provided in Appendix B.1.

Overall, the consultation process identified eight Aboriginal stakeholders in the region (Appendix B.2). Subsequently six of these (only two from the original list) registered interest in the project (Table 2.2). Two of these organisations participated in the field investigation of the proposed activity, these being the Cobar Local Aboriginal Land Council (Rebecca Dowling) and the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People (Tyrone Griffiths). The other four RAPs did not attend either due to scheduling conflicts, issues with meeting WHS requirements, and/or withdrawing upon being advised of the native title applicant's involvement (ie they felt that the right people to speak for country were already attending). Due to site access requirement issues, a meeting was also undertaken with representatives of the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People (Elaine Ohlsen) immediately after the site inspection in Cobar to discuss the findings and project more broadly.

Table 2.1 Summary of Aboriginal consultation undertaken for the project

Consultation Stage	Description	Date Initiated	Date Completed	Notes
1	Government Agency Pre-Notification	28 April 2020	-	Additional details provided in Appendix B.2.
	Advertisement in the *Cobar Weekly*	17 April 2020		A tearsheet is provided in Appendix B.2.
	Notification and registration of potential Aboriginal stakeholders	13 May 2020	27 May 2020	Additional details are provided in Appendix B.2.
2/3	Presentation of information about the proposed project; and gathering information about cultural significance	3 June 2020	1 July 2020	Additional details are provided in Appendix B.3.
	Field Investigation	2 July 2020		Additional details are provided in Section 2.4 and 6.
	Meeting	3 July 2020		Additional details are provided in Section 2.4.
4	Review of draft report	16 October 2020	13 November 2020	Additional details are provided in Section B.4.

Table 2.2 List of RAPs for the project

Organisation	Date of registration
Cobar Local Aboriginal Land Council[*§]	16 June 2020
The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People[*§&]	14 May 2020
Gunjeewong Cultural Heritage Corporation[*]	17 May 2020
Corroboree Aborginal Corporation[*]	18 May 2020
Hilaree Mavis[*]	17 June 2020
Peter Harris[*]	17 June 2020

Notes: * denotes invitation to the fieldwork, § denotes participation during the fieldwork, & denotes meeting attendance.

2.4 Aboriginal stakeholder feedback

A draft version of this report, which included all background information, results, draft significance assessment and draft management recommendations, was issued to all RAPs on 16 October - 13 November 2020 accompanied by an email specifying a 28-day timeframe for review. A reminder was provided to all RAPs as to the finalisation process and timeframes on 3 November 2020. The draft report included highlighted text indicating sections where RAP input was sought in regard to Aboriginal heritage values, significance assessment and management measures.

No responses to the report review period were received.

3 Existing environment

3.1 Key findings

- The Project area has a diverse geological and geomorphological landscape, which results in a range of environments and ecotones that would have likely been attractive resources to past Aboriginal people. However, it is some distance from any major water sources, which would likely have limited activity to ephemeral or temporary use in the past.

- The Project area is dominated by flat relief and residual soil profiles, limiting site types to surface and/or shallowly buried cultural materials (stone or shell artefacts). The potential for rockshelters, grinding grooves, etc, is considered unlikely based on the geomorphology.

- The Project area has been subjected to extensive disturbance in the past from previous historical mining, European mining settlements and agriculture. As such, the survivability of cultural materials across the Project area is considered likely to be poor and localised.

3.2 Rationale

Understanding environmental context assists with predictions of archaeological potential, such as the likelihood of archaeological material being present in the landscape, its spatial distribution and its preservation. Landscape features were an important factor for the choice of camping, transitory and ceremonial areas used by Aboriginal people. Similarly, these landscape features and historical land-use plays a role in the level of preservation and the integrity of archaeological sites.

A landscape consisting of suitable topography, hydrology, geology and soils has strong links with natural resources that would have likely been available and sought after by Aboriginal people. Flora and fauna would have provided food, tools and ceremony (culturally modified trees), proximity to fresh water was necessary for life and growing crops as well as gathering fish including eels. Landscape features such as sandstone overhangs were useful for shelter, stone artefacts were manufactured from raw stone material that was collected from quarry sites, and stone arrangements relied on the landscape.

3.3 Landscape overview

Bioregions are large, geographically distinct areas that are distinguished from one another based on differences in geology, landform patterns, climate, ecological features, and plant and animal communities.

The Project area is located within the Cobar Peneplain bioregion, in western NSW. Topographically, the Cobar Peneplain bioregion is characterised as a low undulating plain, distinguished from its surrounds which are relatively flatter floodplain landscapes of the Murray-Darling river systems. While no major river systems are near Cobar, a drainage system of wide shallow valleys with a few lakes has developed, despite limited rainfall and gradient.

The existing environment heavily influences the potential types of cultural material that may be present in the Project area. Typically, sites such as rockshelters (and associated features) require steep relief and/or geological outcroppings that form overhangs etc. Similarly, grinding grooves usually require exposed smooth geological outcrops in or near rivers. While such relief is documented in the bioregion, notably Mt Grenfell where significant cultural heritage is known, in the case of the Project area there is little relief. It is expected that cultural materials would therefore be limited to surface and/or sub-surface cultural materials in the form of stone and/or shell artefacts.

3.4 Geology and geomorphology

The Project area is situated on the Rookery Fault zone, and encompassed by the Chesney Formation (Dnc), that was formed during the early Palaeozoic (Figure 3.1). This formation is typically composed of thin inter-bedded siltstone and mudstones (Glenn et al. 1985). This is overlain by both residual/colluvial (Qr) and alluvial (Qa) gravels, sands, silts and clays (Figure 3.1). The latter being located primarily along the major watercourses in the region. They also reflect increasing mobilised sediments from tertiary deposits south-west of the peneplain through wind-blown processes.

The topography of the landscape is characterised by rolling downs and flat plains punctuated by stony ridges and ranges, with more elevated areas associated with major rivers such as the Darling River in the West and the Bogan River in the north (NPWS 2003). The study area is part of the Canbelego Downs subregion; bio-subregions are finer-scale areas which exhibit localised differences in geomorphology and vegetation (Thackway and Cresswell 1995). The Canbelego Downs subregion is by an undulating plateau with low ridges and stony rises, underlain by Ordovician (~488 Mya - ~443 Mya) and Silurian (~443 Mya – ~419 Mya) metasedimentary and sedimentary rocks, such as chert and slate. Topography on the older rocks around Cobar is more subdued as residual hills, low rounded ridges, and stony slopes formed on softer, more weathered shales, phyllites and cherts, with only occasional features such as Mt Boppy standing as much as 100 m above the plain (NPWS 2003). Indeed, field observations shows the Project area to be extremely flat with little evidence of major relief or elevation change.

3.5 Soil landscapes

Soil landscape classifications and their boundaries provide pre-defined areas that are classified by several geographic features, and which are informative for the archaeological investigation. They provide localised information including landform patterns, soils, geology, rock outcrop percentage, land use and vegetation. This information provides another layer to categorise the landscape for the predictive model, additional to what a topographic description can provide. Soil landscape information builds on underlying geology and describes the depths of residual soils and colluvial soils and identifies areas that are characterised by erosion or skeletal soils and exposed bedrock versus those that may contain a deeper profile where cultural material may be buried.

There is limited information on the soil profiles within the Project area. The Canbelego Downs bioregion summarises the soils as shallow red loams or stony loams on crests merging to red earths on slopes, plains and through the valley floors, with minor sand deposits along streams, yellow texture contrast soils in swamps (NPWS 2003). The Australian soil classification identifies the area as dominated by rudosols and tenosols, which are poorly developed soils that have little modification from parent materials Figure 3.2). Typically, these soil types have a shallow topsoil (A1 horizon), within which cultural materials are usually constrained, and which will show limited change from the under-lying soil profile apart from a darkening in colour.

Overall, the soil landscape suggests that cultural material (if present) will likely be constrained to the surface and/or the upper portion of the soil profile. While an exact depth of buried material cannot be discerned, the poor formation of A1 horizons in rudosols/tenosols would suggest <50cm is likely. The only exception to this would be where localised dune and/or alluvial deposits occur, and which have a higher likelihood of buried cultural material. These environments are poorly mapped and are only likely to be found through on-site investigations.

3.6 Hydrology

Cobar is encompassed between the Bogan River in the east and Darling River in the west (NPWS 2003). Numerous smaller tributaries and watercourses run across the peneplain region and into these major river systems. No permanent watercourses exist within the New Cobar Complex Project and surrounding landscape. All watercourses upstream and downstream of the complex have ephemeral flow regimes.

The main drainage features in proximity of the Project site are two second order watercourses that flow to north and south of the existing New Cobar Complex Project surface infrastructure (Figure 3.3). The watercourse to the north receives runoff from a natural catchment along with discharge from the mine water management system. The watercourse is impounded by Spain's Dam prior to discharging via the Spain's Dam spillway to a water body known as 'the Salty'. Downstream of the New Cobar Complex Project, the watercourse traverses Kidman Way prior to flowing south-west around the existing Great Cobar mine and into a reservoir at Newey Reserve. The watercourse to the south receives runoff from a natural catchment that is diverted around the mine via a series of diversion banks and drainage channels. The watercourse re-joins its original flow path downstream of the Young Australia 3 water management dam prior to traversing Kidman Way, where it becomes a third order watercourse. The two watercourses join approximately 3 km downstream of the New Cobar Complex Project.

Neither of these creek lines can be robustly determined to have existed prior to post-contact modification of the area. However, 'the Salty' waterholes also identified as Big and Little Salty may reflect pre-contact watercourses based on information provided by the Aboriginal stakeholders.

3.7 Flora and fauna

Historically, the Project area was probably dominated by mulga (*Acacia aneura*) as is the case for other parts of the Cobar Peneplain less subject to development activity (Morgan and Terry 1992). Red ironbark (*Eucalyptus sideroxylon*), hill red gum (*E. dealbata*) and grey box (*E. microcarpa*) woodlands are also found along the eastern region of the bioregion, extending into the South West Slopes Bioregion. While on elevated areas, mallee is widespread, and includes pointed mallee (*E. socialis*), Dwyer's mallee gum (*E. dwyeri*), grey mallee (*E. morrisii*), green mallee (*E. viridis*), mallee broombush (*Melaleuca uncinata*), hill tea-tree (*Leptospermum trivalve*), currawang (*Acacia doratoxylon*), other wattle species (*Acacia* spp.) and woody shrubs (Morgan and Terry 1992).

However, while the Project area has been mapped as a Gum Coolabah – Mulga open woodland by Morgan and Terry (1992), the site has been largely cleared of native vegetation by historic activities (post-contact settlement and historic mining). Although the southern portion of the Project area has some evidence of mulga (*Acacia aneura*) and white cypress pine (*Callitris glaucophylla*), based on site inspections, the majority of the site appeared heavily disturbed by past mining. Field investigations indicated that cleared or exotic vegetation comprises most of the power line location which shows evidence of long-term historical disturbance including vehicle and stock tracks, weeds, agricultural, industrial and household waste and modified soil. Vegetation at all stratum levels was mostly absent at the time of survey, with large areas of bare soil present. Pepper trees (*Schinus molle*) were scattered across the Project area, along with Narrow-leaf emu bush (*Eremophila sturtii*) to a lesser degree. Where ground cover did occur, it was dominated by the exotic species Blue heliotrope (*Heliotropium amplexicaule*).

While many of these species would have been used by Aboriginal people in the past, and/or provided habitat for fauna that could have been hunted, none appears to remain in the Project area today.

Given the proximity of the area to the historic Great Cobar mine (operational from approximately 1870 to 1920) and the associated copper smelter, it is likely the Project area was cleared of all timber for use in the furnaces.

3.8 Land use and disturbance

A detailed review of the history of the locale is provided in EMM's (2020) Statement of Heritage Impact developed for the Project. A summary of the findings is provided below. Historical aerial imagery for the Project area has also been obtained and is presented in Appendix C.

The Cobar Peneplain was promoted as productive sheep and cattle grazing country following initial explorations in the early 19th Century by explorers such as Sturt, Mitchell and Oxley. Squatting and establishment of these pastoral activities was well underway by the 1830s. By 1886, much of the Project area was encompassed within these pastoral leases. Following discovery of copper at Kubbur waterhole in Cobar – purportedly as a result of information obtained from Aboriginal people – in the late 1860s, mining of the region became established. These included the

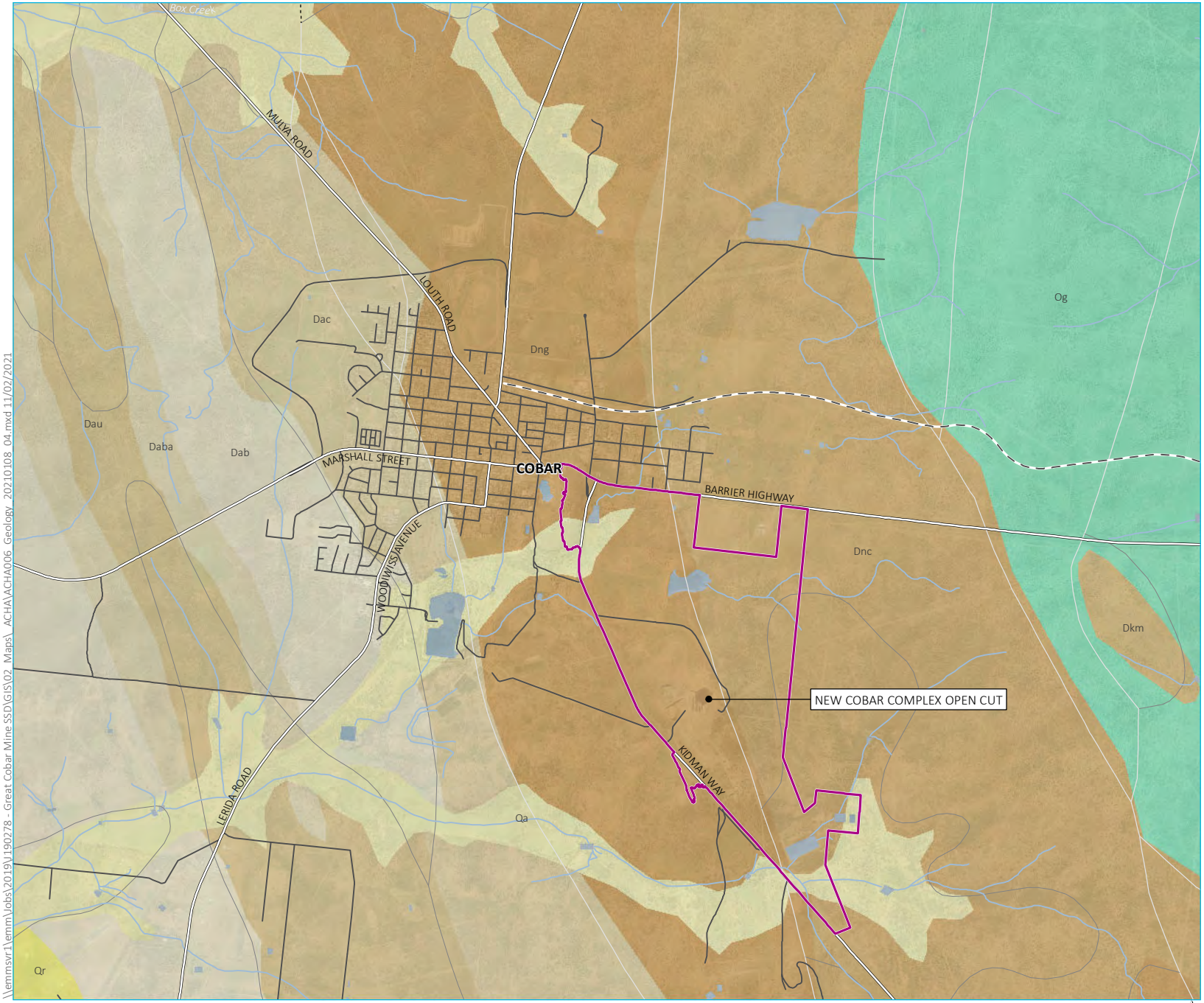
Great Cobar copper mine between 1870-1921, the New Occidental and Chesney gold mines between 1930-1951, base metal mining at CSA and Elura (now Endeavor) mines, and a resurgence of various mineral mining between 1985 and present day. These activities have resulted in significant landscape modification across the region, including the Project area.

Field inspection of the Project area reveals that the remains of current and historical mining activities are extensive, including the remains of former towns, stockpiles, dams, settling ponds, mining cuts, and a range of surrounding ancillary activities (Figure 1.3). Of specific relevance to the proposed surface activities forming a focus of this ACHA was the establishment of Cornish Town (or Cornishtown). This was one of the original mining towns established in the 1870s and encompassed a portion of the 2,500 people working in the Cobar area. Cornish Town was removed in the 1960s and only traces of the original town remain. An aerial photograph from 1963 is present in Plate 3.1.

Overall, there appear to be few areas of the Project area that are unaffected by agriculture, post-contact settlement, historical and more recent mining activities, and this is likely to have had a significant adverse effect on the survivability of cultural materials if ever present.

Source: Land Insight & Resources

Plate 3.1 Historical aerial photograph, 1963. The former mining town, Cornish Town, is shown in a blue



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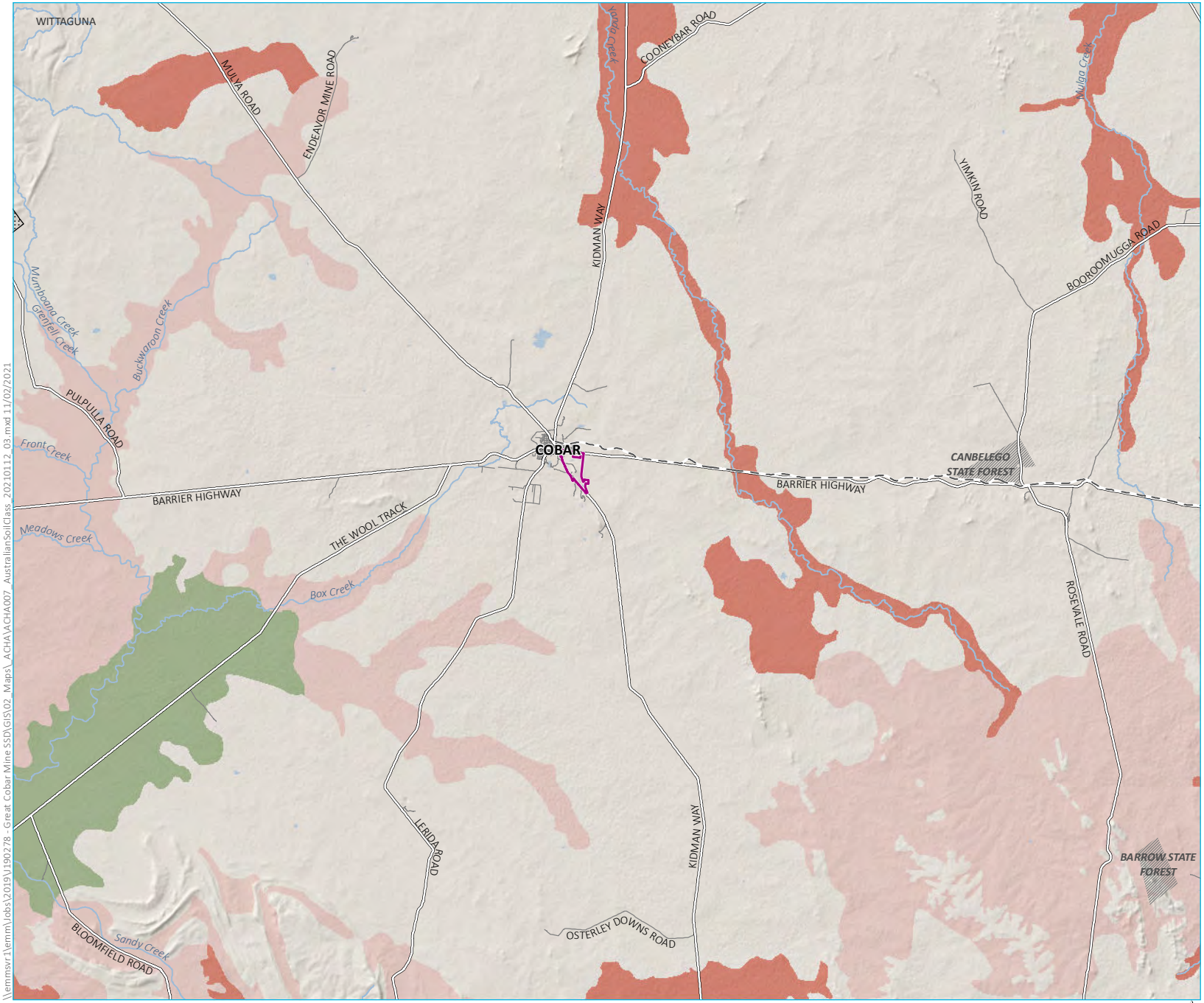
Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019)

Geological setting

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 3.1

EMM
creating opportunities



KEY

- Project area
- Rail line
- Major road
- Minor road
- Named watercourse
- Waterbody
- NPWS reserve
- State forest

Australian soil classification order

- Calcarosols
- Kandosols
- Kurosols
- Rudosols and Tenosols

Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019); OEH (2017)

0 10 20 km

GDA 1994 MGA Zone 55

N

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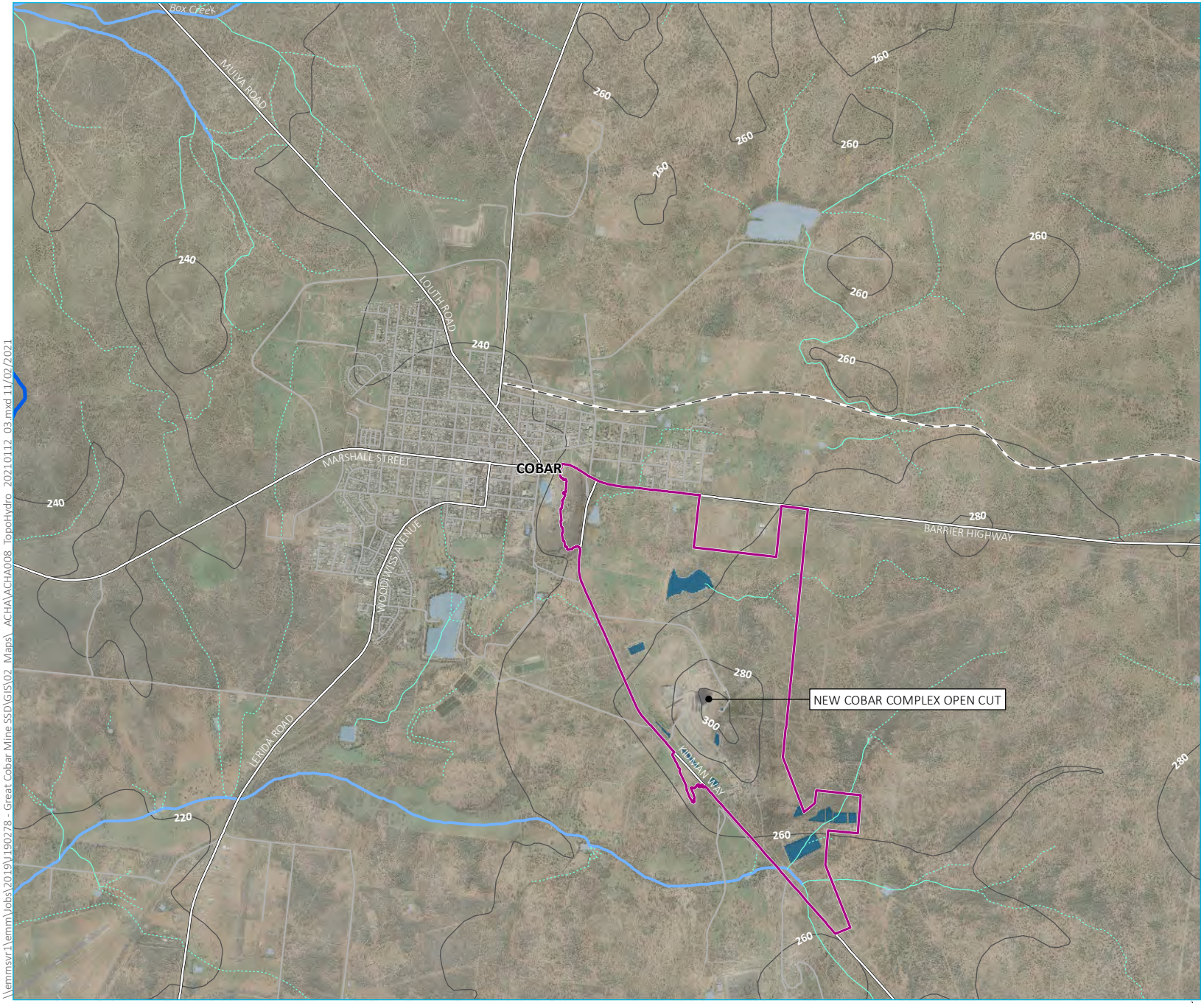
Australian soil classification

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 3.2

EMM
creating opportunities



KEY

- Project area
- Contour (20 m)
- Rail line
- Major road
- Minor road
- Waterbody
- Mine water management storage

Strahler stream order

- 1st order
- 2nd order
- 3rd order
- 5th order

Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019)

0 1 2 km

GDA 1994 MGA Zone 55

N

\\emmsvr1\emm\Jobs\2019\190278 - Great Cobar Mine SSD\GIS\02 Maps\ ACHA\ACHA008 TopoHydro 20210112 03.mxd 11/02/2021

Topography and hydrology

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 3.3

EMM creating opportunities

4 Ethno-historical context

4.1 Key findings

- Cobar is traditionally home to the Ngiyampaa (or Ngempa) people who speak Wangaaypuwan (or Wongaibon) dialect. More specifically, the Ngiyampaa Karuliyalu, or Stone Country People, associate traditional country with Cobar, the Gundabooka Ranges and Walgett.
- Historical information provides several observations in relation to the early nineteenth century Aboriginal society. Of interest is the active improvement of water sources across the region to allow greater residence and visitation time.
- Discussions with the Aboriginal stakeholders indicate that Cornish Town, a former mining camp in the south of the Project area, had both Aboriginal and non-Aboriginal residents; and continues to hold value amongst the stakeholders.

4.2 Ethno-historic sources

Information about the socio-cultural structure of Aboriginal society prior to European contact is largely derived from ethno-historical accounts made by colonial settlers. These accounts and observations were often made after significant social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language group boundaries. Therefore, it is likely that language group boundaries were far more diffuse than the arbitrary demarcations drawn by colonial observers.

The Cobar Peneplain Bioregion has been managed and occupied by Aboriginal people for at least 40,000– 50,000 years (Flannery 1994; Palmer 1994).

Cobar is traditionally home to the Ngiyampaa or Ngempa people who to distinguish themselves from other language groups in the area and refer to themselves as the people who speak Ngiyampaa the Wangaaypuwan (or Wongaibon) way (Donaldson 1980; Tindale 1974). Ngiyampaa people may refer to themselves by one of the following three names to indicate their traditional country within the peneplain (Smart et al 2000, p. 19):

- Pilaarrkiyalu meaning Belah Tree People whose country is traditionally associated with the lands south and west of Cobar and to the east of Ivanhoe;
- Nhiilyikiyalu meaning Nelia Tree People whose country is to the west of Ivanhoe; and
- Karuliyalu meaning Stone Country People whose country is the areas of Cobar, the Gundabooka Ranges and Walgett. They have also referred to themselves as the Mulga People, Red Soil People, Dry Country People or ‘the people who stay out back and don’t camp on rivers’ (NPWS 2003, p. 109; Smart et al 2000, p. 19).

It is this latter group that are likely to have occupied the landscape of the current Project area.

The Ngiyampaa of the Cobar Peneplain are documented as having four totemic groups comprising the Ippai, Kumbo, Murri and Kubbi (Berndt and Berndt 1977, p. 55; Dunbar 1943 as summarised in Smart 2000 et al, p. 20). Each of these groups have a traditional mythical male and female ancestor, and each are represented by an animal totem, the care for which they are responsible. A matrilineal descent system regarding totemic association was used throughout the Peneplain as part of the broad social organisation system within and between bands (Berndt and Berndt 1977, p. 55; Thompson 1979, p. 119). The Ngiyampaa possessed Eaglehawk and Crow kinship or moiety systems, as well as Rainbow Serpent and Biame "sky hero" mythologies (Hercus 1982).

There are limited ethno-historical accounts directly relevant to the Cobar area. The nearest example comes from Oxley in 1817, who documented sighting of an Aboriginal family of six, and later an elaborate six-foot-high burial mound in the area between Condobolin and Lake Cargelligo (Oxley 1820). Sturt (1849) made a series of observations on the Aboriginal people of the Darling River west of the Cobar region. Later, Bennett (1883) documented his observations of Aboriginal people in the Cobar region, including their use of eucalyptus, hakea and currajong roots for the extraction of water. He noted that people would retreat to the Darling and Lachlan Rivers during droughts and mentioned feuding that would occur between the river people and those of the back country.

As outlined in Section 3, the lack of watercourses constrained the use and occupation of the Cobar region. Cunningham (1973) indicates that Aboriginal utilised a range of intermittent watercourses, including natural rockpools and waterholes. Interestingly, he suggests that there were numerous examples of these features having been modified and/or constructed by Aboriginal people in the past. A common example being the use of fire on existing cracks within rock outcropping to create depressions and holes for water to be retained (Plate 4.1). Such rockpools and waterholes were commonly found on or near major rock outcrops, and these environments are more likely to contain denser cultural materials than other parts of the region.

Copper was discovered at the Kuburr (Cobar) waterhole in 1870 (Plate 4.2). By 1873 Cobar began to establish itself as a permanent town, growing from its former status as a mining outpost (Clelland 1984). The establishment of large pastoral holdings in the 1880s led directly to the displacement of the local Aboriginal people. Whilst some Aboriginal people remained on stations, many were forced to move to various camps and to Gundabooka Station, and subsequently onto Brewarrina Mission.

Source: Cunningham 1973

Plate 4.1 An example of a waterhole created by Aboriginal people in the past using fire to expand and crack granite exposures

Source: National Gallery of Victoria

Plate 4.2 'The Waterhole, Cobar' by Lionel Lindsay 1923

4.3 Information provided by RAPs

A number of observations and inputs were provided by the Aboriginal stakeholders:

- The current water storage areas north-west of the Project area, Big and Little Salty, while heavily modified and truncated by Kidman Way, were established waterholes prior to contact.

- The location of the surface infrastructure is within an area previously known as Cornish Town. Tyrone Griffith (Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People) lived at Cornish Town with his family in the 1960s. Tyrone, who was about eight when his family and the rest of the inhabitants of Cornish Town had to leave their houses before the town was removed, remembers that Aboriginal and non-Aboriginal families lived there together. There was no running water or electricity, and people would help each other in collecting water. Tyrone identified the location of his family's house on the edge of the Project area beside the existing power line (Plate 4.3). For Tyrone, although the structures were gone and only fragments of the evidence of his family and neighbour's daily lives were left, the landscape was active and imbued with past significance (see Pragnell & Mate 2012, p.326).

- No additional information was provided during the report review period in October and November 2020.

Plate 4.3 **Structural remains of a house within Cornish Town that an Aboriginal participant indicated was their former home. View east.**

5 Archaeological context

5.1 Key findings

- Previous archaeological investigations of the region are extremely sparse. Academically, these have primarily focused upon rock art assemblages within stone ridge country located to the north and west of the Project area – Mount Grenfell being an exemplar. Cultural resource management investigations have been associated with proposed and/or modifications to mining activities. These studies all suggest generally sporadic and/or ephemeral past use of the region, with a focus of occupation and visitation on springs, waterholes, and other natural soaks.

- A search of the AHIMS database identified 71 Aboriginal sites within 80 km of the Project area. No AHIMS sites are located within the Project area. The nearest recorded sites are some 10km to the north-west. A previously identified artefact scatter – consisting of four stone artefacts – is located within the Project area (near the proposed fresh air intake) but is not currently listed on the AHIMS database. This artefact scatter was identified through a field investigation conducted by PGM for another Project.

- Open camp sites (artefact scatters and isolated finds) represent 45.1% of the previously documented site, followed by culturally modified (carved or scarred) trees which account for 39.4%. Lesser representation of rockshelters, ceremonial sites, quarries and burials are also documented.

- Since 2010, two Aboriginal Heritage Impact Permits (AHIPs) have been issued in the Cobar LGA, neither encompass the Project area.

5.2 Regional context

The first peopling of Australia occurred approximately 50,000 years ago (50ka), and likely consisted of reasonably large groups of technologically advanced hunter-gatherers (Bradshaw et al. 2019; O'Connell et al. 2018). The peopling of the continent was rapid, with sites such as Devil's Lair (WA), Warratyi (SA), and Lake Mungo (NSW) all occupied within a few thousand years of arrival (Bowler et al. 2003; Hamm et al. 2016; Turney et al. 2001). Genomic research has shown that following these initial explorations of the continent, regional populations or nomadic sedentism, was established by ~40ka (Tobler et al. 2017). These small populations were highly mobile, but remained within a broad spatial geographic area, dictated in general by the nature of resources and water availability. In the case of some of the arid parts of the continent, mobility encompassed thousands of square kms (Gould 1970), while major riverine corridors such as the Murray River had near permanent settlements (Pardoe 1995).

In NSW, the earliest evidence of Aboriginal people are human remains recovered from the lunette in Lake Mungo and dating to ~42ka (Bowler et al. 2003; O'Connell et al. 2018). The presence of red ochre covering the remains represents a society with significant cultural and symbolic complexity (Langley et al 2011). Near the coastal edge, the earliest populations were found at Cranebrook Terrace, near Penrith (western Sydney). Here a handful of rudimentary stone tools were found in an alluvial unit, some 8m below the current surface, and which were dated to ~40-45ka (Williams et al. 2017). However, it is not until ~35ka, that regional populations appear to have become established in the Sydney Basin, and which appeared to consist of small bands of people focussed mainly along major river systems, including the Hawkesbury-Nepean River, Georges River, and Hunter River (AAJV 2016; Hughes et al. 2014; Williams et al. 2012; 2014). These rivers formed key ecological refuges that hunter-gatherer groups used to survive major climatic events such as the Last Glacial Maximum (21±3ka) – a cool and arid climatic period. Well-established archaeological models suggest populations experienced a major reduction in size (by as much as 60%), and settlement contraction and abandonment across much of the continent during this time (Veth 1993; Williams et al. 2013), although recent research suggests that the story may be more complex than this (eg Tobler et al. 2017).

The terminal Pleistocene and early Holocene (~18-8ka) was characterised by significant environmental change, notably the rapid inundation of much of the coastal shelf, resulting in the reduction of the continent by ~21% (~2 million km^2) (Williams et al. 2018), in tandem with improving climatic conditions – the Holocene climatic optimum (Williams et al. 2015a; 2015b). More broadly, these conditions resulted in increasing population growth, expansion of ranging territories, increasing sedentism (longer patch residence time) and the beginnings of low-level food production (eg aquaculture), and ultimately the initiation of social and cultural groupings observed in the late Holocene (Williams et al. 2015b). We see a much broader range of archaeological site types occurring, such as the Roonka Flat burial ground on the banks of the Murray River within which some 147 individuals were interred through the Holocene (Pate et al. 1998), and the increasing use of marine resources. Many of the previous refuges were subject to abandonment or a re-structuring of land use (Dortch 1979; Fitzsimmons et al. 2019). These activities suggest the ability to undertake large-scale movements to mitigate environmental distress was becoming increasingly difficult and was addressed through diversification of hunter-gathering behaviours and, at least in part, technological advances, and investment (Williams et al. 2015b).

The late Holocene saw significant population increase, with hunter-gatherers reaching their zenith of ~1.2million at 0.5ka, a tenfold increase on Pleistocene levels (Williams 2013). Data suggests that the highest populations during this time were in the south-east of Australia. Williams et al. (2015b) suggest that this increase was likely a result of intensification of earlier technological advancements, including hafting-technology, plant and seed processing, and localized landscape management (using fire), allowing climatic downturns to be successfully weathered. These included strong arid El Nino Southern Oscillation (ENSO) conditions between 4-2ka, and increasingly turbulent climatic conditions during the Medieval Climatic Anomaly (1.3-1ka) (generally wetter) and Little Ice Age (0.3-0.5ka) (generally drier) (Williams et al. 2010; 2015b). A result of these denser populations was the decreased freedom of movement and the formation of strong classificatory kinship systems, complex cultural and symbolic landscapes based on geographic totemism (the 'Dreaming'), distinctive graphic art systems, land rights in the form of ritual property, and formalized exchange networks (Williams et al. 2015b).

5.3 Local context

Early archaeological investigations of the Cobar region predominantly focused upon art sites of the area. As early as 1941, Lindsay Black published a three-part series focusing on Aboriginal people of the Darling River Valley and Central New South Wales. This included detailed descriptions and illustrations of art sites within Gundabooka National Park, located approximately 100 km north of Cobar (Black 1941, 1942, 1943). It remains to date the only systematic archaeological study conducted at a regional scale to have focused on rock art assemblages and associated sites (Allen 1972; McCarthy 1976; Gunn 1983). These assemblages occur within stone ridge country including Mount Gunderbooka, Mount Grenfell and Sturts Meadow, located to the north and west of the study area. McCarthy's (1976) *Rock Art of the Cobar Peneplain* examined 33 Aboriginal art sites across Iona, Wuttagoona, Mount Grenfell, Meadow Glen and Gundabooka. McCarthy's studies provided the basis for further investigation of the region by Gunn (1983), who conducted a National Parks commissioned study into rock art sites of the region including additional data on artefactual material, producing comprehensive records, and reinforcing interest in the significance of the region's rock art and archaeology.

Throughout the Cobar Peneplain, engraved and painted art is concentrated around permanent water sources (McCarthy 1958, p. 41; Walsh 1988, p. 108). Pigment art consists mostly of small linear monochrome figures, with small 'dancing men' the most distinctive feature of this regional style. Macropods and emus are found along with dingos, fish, tracks, and occasional maze-like figures (Walsh 1988, p.108). Hand stencils are also numerous. Fred McCarthy's early excavation of the Mount Grenfell complex returned a date of 1,760 ± 65 years before present (BP) as the initiation of the site's use (McDonald & Clayton 2016, p. 11; Walsh 1988, p. 108).

In 1992, Witter analysed three sample areas including Boorowa, Tibooburra, and Cobar with the purpose of site prediction and significance assessment in management archaeology. Witter divided Aboriginal sites in the Cobar region into one of three land systems:

- Valley sites were primarily identified as a result of scaled exposures such as claypan/blowouts, blowouts, and washouts (Witter 1992, p. 193). Sites were largely found on degraded alluvial flats, with silcrete the most common artefact material and abundant hearths. Some 211 hearths were recorded for this land system type, mainly constructed of fired clay heat retainers derived from termite nests and mostly associated with land where there was regular flooding. Witter (1992, p. 194) notes it is probable that there were intermittent archaeological deposits throughout this land system type, but mostly with a low density of artefacts as the availability of water is limited to occasional floods or heavy rainfall events.

- Upland sites are identified as a result of exposures located along small watercourses often against the slope of a ridge representative of short-term water sources and ephemeral bursts of productivity (Witter 1992, p. 194).

- Range sites were identified in locations where erosion and gullying had removed vegetation and litter to expose archaeological material mostly along watercourses at the base of hills or springs. (Witter 1992, p. 195) Backed blades and workshops were very strongly associated with the range sites. Two of the largest sites recorded in the ranges were both located on permanent springs.

Witter (1992, p. 268) characterises adaptive areas of the Cobar sample region as follows:

- Stone artefact technology: marginal flake tool orientation, Tula and microblade industries common;

- food processing technology: extensive use of cooking pits and seed grinding slabs, with mortars frequently used;

- foods and diet: main staples are roots and grass seeds, with occasional fruits. Lizards, grubs, and small mammals are likely also important;

- settlement pattern and strategy: scattered small camps, but large camps when water abundant in favourable places or at permanent soaks. The most permanent waters around Cobar are springs which are extremely localised; and

- subsistence strategy: semi-arid land with high mobility depending upon rain fall. Generalised plant-oriented economy, which may have occasionally been intensive.

Witter (1992, p. 269) summarises archaeological formation processes and factors impacting identification of sites within the Cobar sample region as:

- Sedimentation: mostly stable, but with extensive slightly active sand cover. Aggrading on creek flats and degrading on ranges;

- exposure: large areas with scalds and clay pans, and occasional gullies. Ranges mostly with weathered surfaces;

- visibility: mostly fair – 20% - 50% bare ground. Ground cover as grasses, shrubs and forbs. Leaf litter extensive in some areas;

- obtrusive sites: outcrop quarries rare in ranges. Rock art and shelters scattered throughout lower ranges but not common; and

- unobtrusive sites: flaked stone scatters abundant. Major sites associated with springs in ranges. Hearths common especially along major watercourses.

5.3.1 Previous local studies

This section provides a chronological summary of previous studies undertaken in the proximity of the Project area (Figure 5.2).

i *Archaeological investigation: Elura Base Metal Project, Cobar, NSW*

In 1978, Thompson completed an archaeological assessment as part of an Environmental Impact Statement being prepared for the Elura Base Metal Mining Project, located approximately 36 km north-west of the Project area. A significant area was subject to survey including the road from Cobar into what is now the Endeavor mine, areas of the current Endeavor mine operations and the rail link back to Cobar. Fourteen Aboriginal sites were identified as a result of the assessment, predominantly open artefact sites or isolated finds, possible raw material resource areas and two scarred trees. The largest sites were campsites around temporary waterholes which were assessed as having potential to provide unique information towards a regional picture of occupation patterns (Thompson 1979, p. 124). Due to the lack of permanent water over much of the Cobar peneplain, Aboriginal life would have focussed on the available water sources, primarily waterholes that were semi-permanent. After good rain fall, small groups would have spread out along the drainage lines to exploit resources using often very minimal sources of water in gilgai or rock holes (Thompson 1979, p. 118), as these people would have been forced to gather at the permanent waterholes or retreat to the river systems of the Darling, Bogan or Lachlan Rivers.

In 1980, Happ was commissioned to undertake further assessment over areas to be impacted by the Elura mining lease, predominantly access routes. The study identified five Aboriginal sites, including a silcrete outcrop located in the proposed tailings area that had not been investigated during initial survey, and which Happ stated showed definitive evidence of Aboriginal quarrying activity. Other sites included an isolated artefact, and three scarred trees, two of which had been previously identified by Thompson and were assessed as unlikely to be of cultural origin.

In the following year, McBryde undertook detailed investigation of the silcrete outcrop. As the site was proposed to be inundated by the tailings dam for the mine it was deemed important to determine whether the scatter of stone material around the silcrete outcrop was the result of human activity or was the result of natural thermal and mechanical fracturing (McBryde 1981, p. 1). Results of the assessment indicated that although there was evidence of thermal and mechanical breakage, there was also undeniable evidence for the exploitation of the silcrete resource by Aboriginal people for the purpose of stone tool manufacture. Evidence included silcrete cores and waste flakes, retouched pieces, and anvil stones (McBryde 1981, pp. 9-10).

ii *Archaeological assessment: proposed exploration areas at Chesney and New Cobar Mine*

In 1996, Australian Archaeological Survey Consultants (AASC) completed an archaeological assessment of a series of locations approximately 2.2 km to the south of the Project area, as part of exploratory investigations for possible expansions to the Cobar Mine. No Aboriginal sites were identified.

The assessment noted that due to the good ground visibility results of the visual assessment are considered an accurate reflection of the levels of past Aboriginal activity. They further concluded that Aboriginal occupation would have been sporadic and dictated by rainfall.

iii *Archaeological survey: "Elliston", south-east of Cobar, Western NSW*

In 1997, Central West Archaeological and Heritage Services completed an archaeological assessment of the “Elliston” property located approximately 40 km south-east of Cobar as part of a Review of Environmental Factors (REF). The REF was being prepared for an application to clear 2,707 ha for pastoral holding. Archaeological survey completed with representatives of the Cobar Local Aboriginal Land Council identified thirteen Aboriginal sites, including three open artefact scatters, one isolated find, five quarry sites and four scarred trees (AHIMS 26-5-0022 to 26-5-0034).

iv *CSA Mine Cobar: NSW archaeology and cultural heritage overview*

In 2007, Cultural Heritage Connections completed a preliminary assessment of Consolidated Mining Lease 5 (CML 5 of the CSA Mine, which is located 12 km north of the town of Cobar. One Aboriginal site, AHIMS 26-1-0038 "CSA 1 Cobar", was identified as a result of the assessment. CSA 1 Cobar was a large artefact scatter that extended approximately 300–400 m along an incised drainage line. The area exhibited significant disturbance relating to recent and historical mining activity.

v *Cobar water treatment plant: Aboriginal due diligence assessment*

In 2015, OzArk Environmental Heritage Management (OzArk EHM) prepared an Aboriginal heritage due diligence assessment of the proposed location for a replacement Cobar water treatment plant (WTP), approximately 2 km south-east of Cobar. Ground surface visibility at the time of the visual inspection was consistently high (~80 - 100%) due to limited vegetation, with a high level of exposure (~40 - 50%) due to frequent areas of disturbance and erosion.

No Aboriginal sites were identified, and the assessment concluded the study area was of low archaeological potential due to the nature of the landforms present, the distance from any watercourses and high levels of disturbance. Lithic materials evident on the surface of exposures were predominantly gravelly, shale-types and coarse quartz, unsuitable for stone tool manufacture.

vi *Great Cobar pit dewatering pipeline: Aboriginal heritage assessment*

In 2019, Eco Logical prepared an Aboriginal heritage due diligence assessment for a proposed pipeline to assist PGM with drought proofing their operations by allowing access to the historic Great Cobar underground workings. The proposed pipeline extended from the Great Cobar Main Shaft, located on the south-eastern boundary of the Cobar town between Kidman Way and Lewis Street, and extended on a south-eastern alignment to connect to the PGM water storage tank located at Fort Bourke Hill.

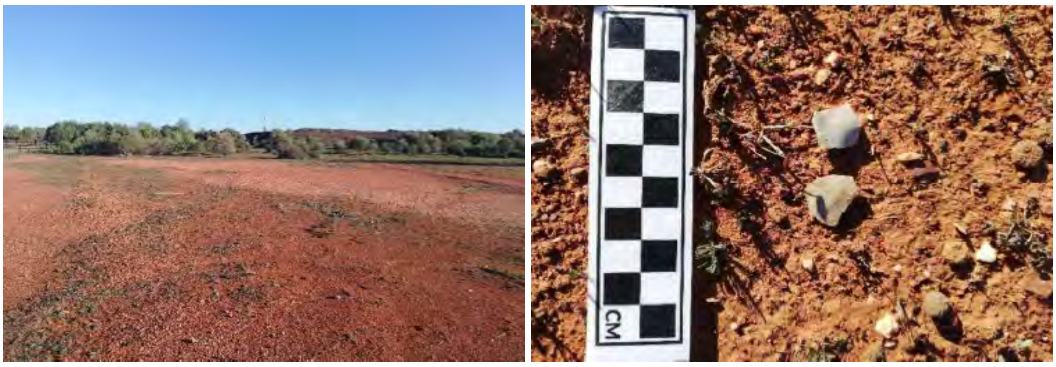
One Aboriginal site, "Artefact Scatter 1"[1] was identified within Lot 62 DP 755649, approximately 140 m east of Kidman Way. The low-density artefact scatter comprised four silcrete artefacts identified within an open scald, with the possibility of additional artefacts to the north (refer to Plate 5.1). "Artefact Scatter 1" is located within the Project area, and approximately 110 m west of the current Project's proposed fresh air intake (Figure 5.1). PGM have fenced and signed this area to prohibit future disturbance to the site.

vii *Great Cobar exploration project: Aboriginal heritage due diligence assessment*

In 2019, Eco Logical prepared an Aboriginal heritage due diligence assessment for the Great Cobar Exploration project including proposed development across Lot 62 DP755649 and Lot 31 DP1128958 of a new haulage route, laydown yard, air intake and air rise, and box cut.

The inspection identified no Aboriginal objects or areas of archaeological potential, noting significant disturbance across the majority of the study area.

[1] Aboriginal site, "Artefact Scatter 1" is not identified in AHIMS search results; and is assumed to have not been registered.



Source: Eco Logical 2019, pp. 10-11)

Plate 5.1 "Artefact Scatter 1": (left) scald containing the artefact scatter, (right) two silcrete flakes

5.3.2 AHIMS data

The Aboriginal Heritage Information Management System (AHIMS) database is managed by Heritage NSW and includes a location and description of Aboriginal objects and sites recorded through academic research and cultural resource management (see Appendix D) for further explanation of Aboriginal site features). The search identifies any Aboriginal sites or places registered within the Project area, and aids predictions for the Project area showing the frequency and distribution of Aboriginal site types in the broader landscape. A copy of the AHIMS search is provided in Appendix D.

A search of AHIMS database was completed on 25 March 2020 (ID 493706). The search identified 71 Aboriginal sites within a 6,400 km^2 search area centred around the Project area (Figure 5.3). The nearest AHIMS site to the proposed Project area is some 10 km to the north-west, with the majority >20 km away. Spatially, these sites are entirely constrained by areas of archaeological investigation and provide little insight into the environmental characteristics dictating distribution.

It is important to note that a lack of sites identified on the AHIMS database does not necessarily correlate with a low frequency of sites being present, rather it is more often a reflection of the amount of archaeological survey that has been done in the region. This means that Aboriginal objects may be present in the Project area despite the apparent lack of AHIMS sites.

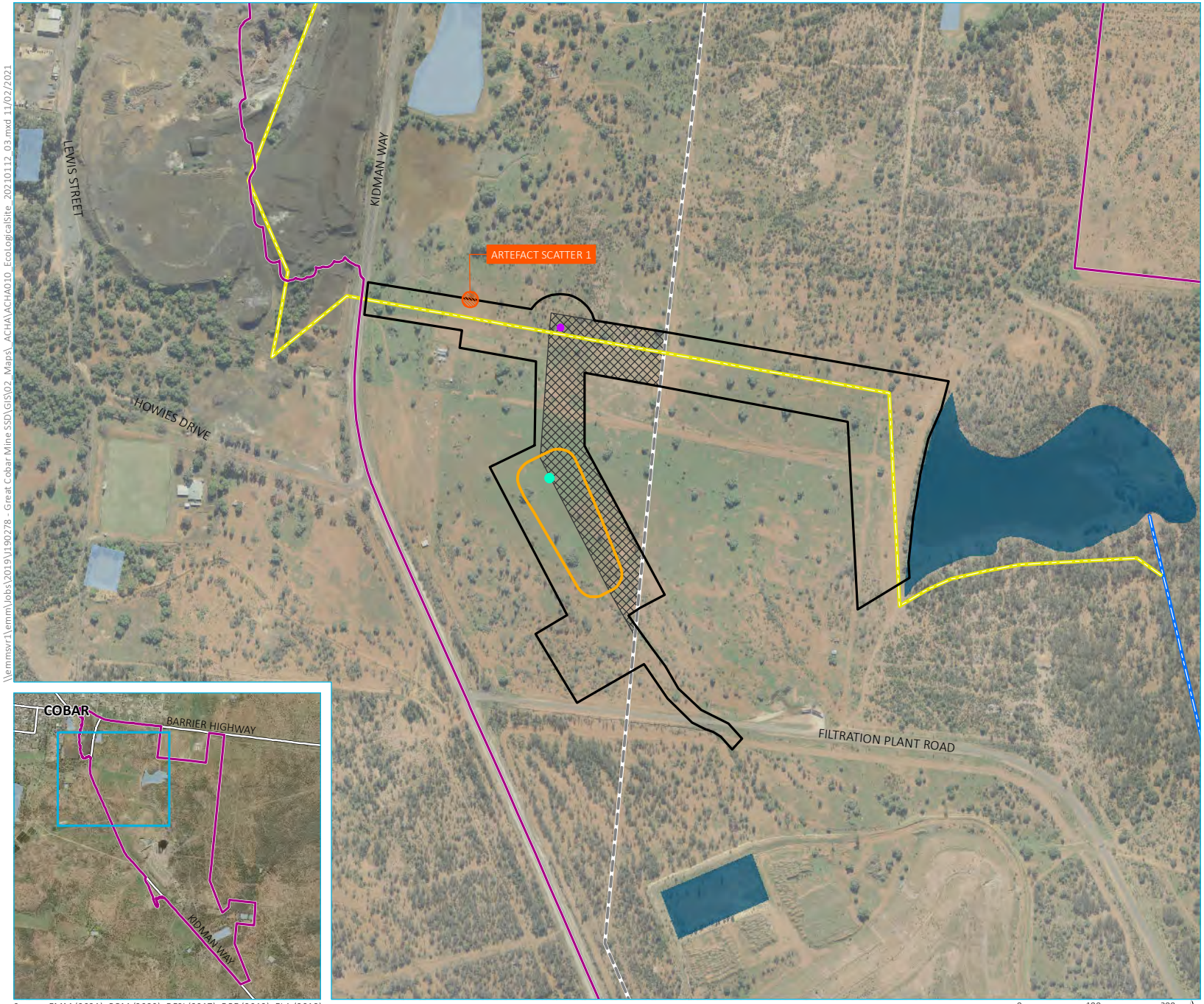
A breakdown of AHIMS sites by type is shown on Figure 5.3 and detailed in Table 5.1. Open camp sites (artefact scatters and isolated Aboriginal objects) represent the dominant site type for this region representing 45.1%. This is closely followed by culturally modified (carved or scarred) trees which account for 39.4% of AHIMS registrations.

There are no AHIMS sites located within the study area. The nearest AHIMS site is located approximately 10 km north of the study area (refer to Section 5.3.1ii).

Table 5.1 AHIMS extensive search results

Site Type	Number of sites	Representation (%)
Open camp sites	32	45.1
Artefact scatter	*2*	*2.8*
Isolated find	*11*	*15.5*
Artefact site (number of artefacts not specified)	*18*	*25.4*
Artefact site with waterhole	*1*	*1.4*
Culturally modified tree (scarred or carved)	28	39.4
Quarry	6	8.5
Restricted site[2]	2	2.8
Bora/ceremonial, mythological (ritual), ochre quarry	1	1.4
Shelter with art and artefacts	1	1.4
Burial/s	1	1.4
Total	**71**	**100**

[2] The AHIMS Registrar was consulted regarding two restricted sites, 26-1-0020 "Drysdale Trig" and 26-1-0021 "Yanda Creek Travel Route", identified by the AHIMS search. AHIMS confirmed on 24 August 2020 that these sites are located outside of the Project area and will not be impacted by proposed works.



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Source: EMM (2021); PGM (2020); DFSI (2017); DPE (2019); ELA (2018)

Previously documented site within the project area by Eco Logical (2019)

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 5.1

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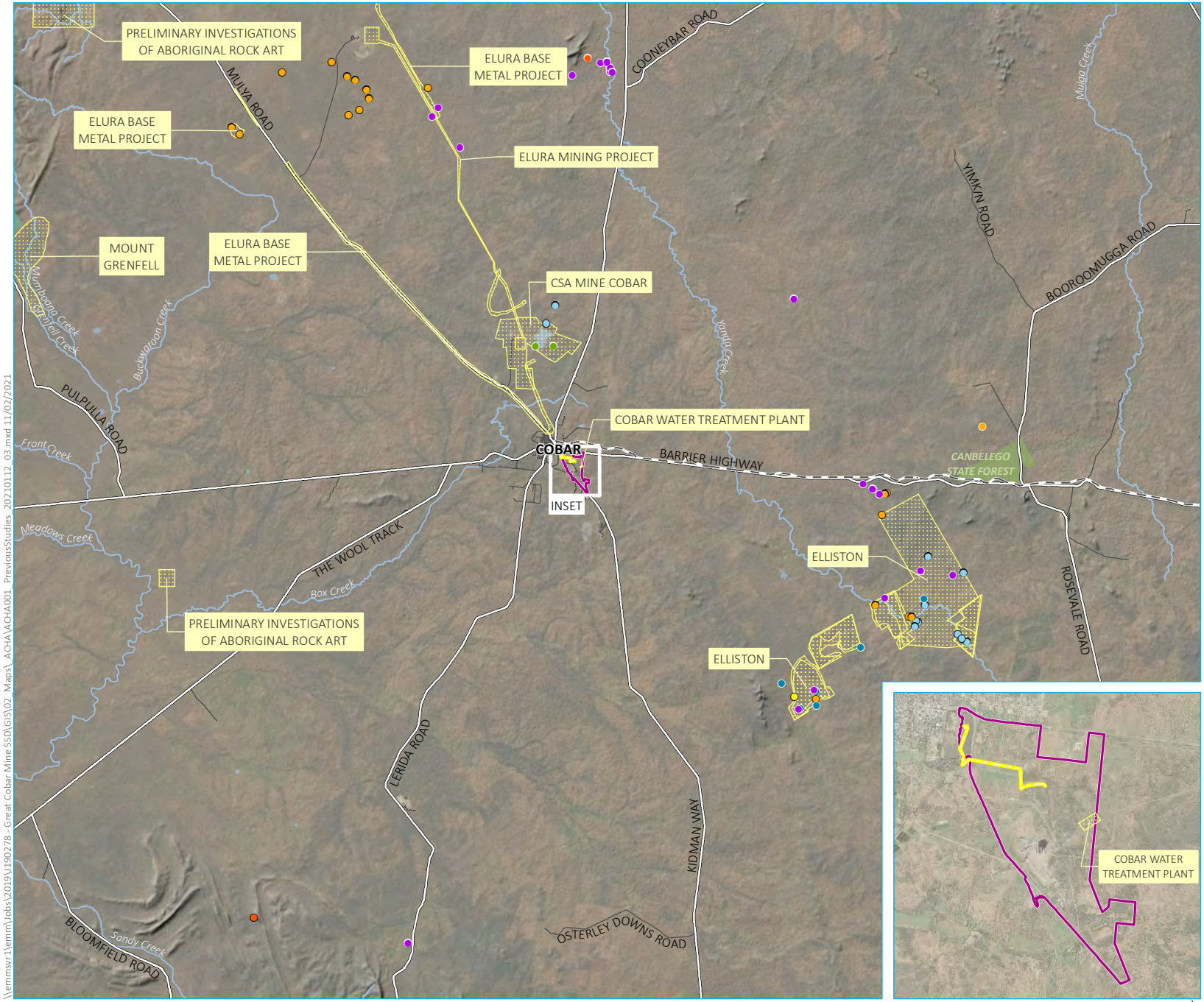
creating opportunities



KEY

- Project area
- Great Cobar dewatering pipeline
- Previous study
- Rail line
- Major road
- Minor road
- Named watercourse
- Waterbody
- NPWS reserve
- State forest

AHIMS site type

- Bora/ceremonial, mythological (ritual), ochre quarry
- Burial/s
- Isolated find
- Low density artefact scatter (<10)
- Quarry
- Scarred tree
- Shelter with art and artefacts
- Undefined artefact site
- Water hole/well, undefined artefact site

Source: EMM (2021); DFSI (2017); GA (2011); DPE (2019)

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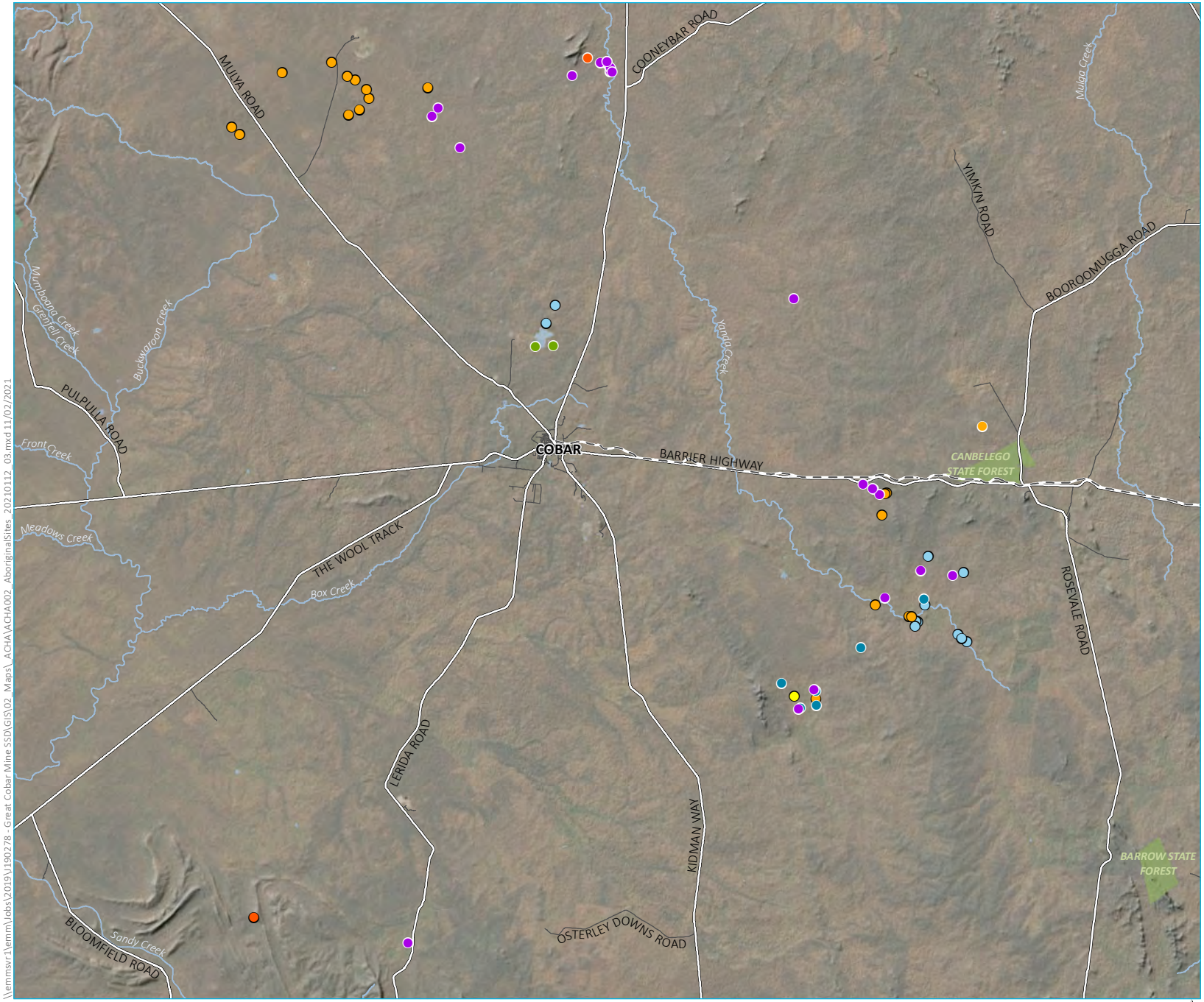
Previous studies

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 5.2

EMM creating opportunities



KEY

- Rail line
- Major road
- Minor road
- Named watercourse
- Waterbody
- NPWS reserve
- State forest

AHIMS site type

- Bora/ceremonial, mythological (ritual), ochre quarry
- Burial/s
- Isolated find
- Low density artefact scatter (<10)
- Quarry
- Scarred tree
- Shelter with art and artefacts
- Undefined artefact site
- Water hole/well, undefined artefact site

Source: EMM (2021); AHIMS (2020); DFSI (2017); GA (2011); DPE (2019)

0 10 20 km

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Previously documented Aboriginal objects and sites

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 5.3

EMM creating opportunities

5.4 Predictive model

A predictive model of Aboriginal site locations has been devised based on the data presented in the preceding sections. In summary, the model has been formed by an analysis of:

- landscape features in the study area and surrounds;
- pre-colonial period ecological conditions;
- advice from Aboriginal knowledge holders including RAPs;
- ethno-historical information about Aboriginal life and material culture; and
- the type and distribution of Aboriginal sites described in previous reports and AHIMS data.

The model enabled predictions to be made about the location of Aboriginal sites within the study area and this information guided the archaeological survey effort performed as part of this ACHA. The following general predictions can be made regarding the nature of sites and their location in the current study area:

- Proximity to a water supply is generally considered the primary factor determining the location of Aboriginal camp sites. Regional studies within central western NSW (Purcell 2000; 2002) have utilised stream ordering to predict the potential for site occurrence and further to indicate the possible nature of these sites in terms of their complexity. In areas such as the Cobar peneplain where permanent water sources are scarce and reference to water holding features such as springs, gilgai and waterholes are likely to be a primary determinant in site location.
- Open sites (artefact scatters and isolated finds) are the most likely site types to occur due to the representativeness of this site type in the locality. Due to the flat, low-lying terrain of the study area, the ephemeral nature of water resources and the eroded landscape, such sites if present will likely be of low density and/or no longer in situ.
- Modified trees (scarred or carved) may occur in mature trees of a sufficient age bearing the marks of traditional Aboriginal scarring or carving. The study area has been subject to a high level of historical land clearing practices and limited remaining vegetation is predominantly mallee and mulga which is unsuitable for cultural scarring.
- Burials can occur anywhere in the landscape but are notably more likely on watercourses or under rock ledges; their identification in the landscape is rare. Generally, they would be identified by mounds of earth, carved trees or stone markers. Evidence of burials is generally rare because human bodies are susceptible to the generally acidic Australian environments and other taphonomic processes. Where sub-surface burial is not performed, human bodies can have limited preservation in the archaeological record. Such sites and their component parts are also more susceptible to the impacts of low-level development (such as farming) than other sites.

A range of other site types are known in lesser abundance, and arguably of higher significance, including rockshelters, ceremonial sites, and quarries. Several of these sites are considered unlikely to be present due to the environmental context. The lack of geological exposures or vertical escarpments limits the likelihood of quarries and rockshelters for example, and of course current site modifications limit the survivability of above ground features. However, a number of these sites – notably ceremonial sites and stone arrangements – are not related to resource exploitation and as such may not follow the environmental site predictions outlined above.

6 Field investigation

6.1 Key findings

- An archaeological field survey was undertaken by EMM archaeologists and representatives of the RAP organisations and native title applicants. The field survey undertook a general overview of the Project area, and a targeted investigation of the proposed surface activities for the Project, including the power line corridor, exhaust air rise box cut and buffer, and fresh air intake.

- The field survey investigated ~7 ha of transects across the proposed surface infrastructure, and primarily encompassed flat open plains that have been subject to heavy disturbance in the past, including Cornish Town, a former 19th and 20th Century town. To the north-west, a heavily disturbed, but a likely pre-contact waterhole (Big and Small Salty) was identified.

- The field investigation overall documented ~36 stone artefacts (~1/1,930 m^2) across the investigated areas. No concentrations of artefacts were identified, and it was considered the finds reflected a historically heavily disturbed area from past agriculture and mining, which is further supported by the removal of post-contact settlement in recent history. The remains of the former Cornish Town were also identified and were considered to hold more recent, contemporary value amongst the Aboriginal stakeholders consulted. Of note were the remains of a structure where one of the Aboriginal participants had lived as a child.

6.2 General

EMM conducted an archaeological field survey of the Project area with the assistance of the Cobar LALC and Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People on 2 July 2020. The primary aims of the survey were to:

- identify Aboriginal archaeological sites and/or Aboriginal places with the assistance of Aboriginal knowledge holders;

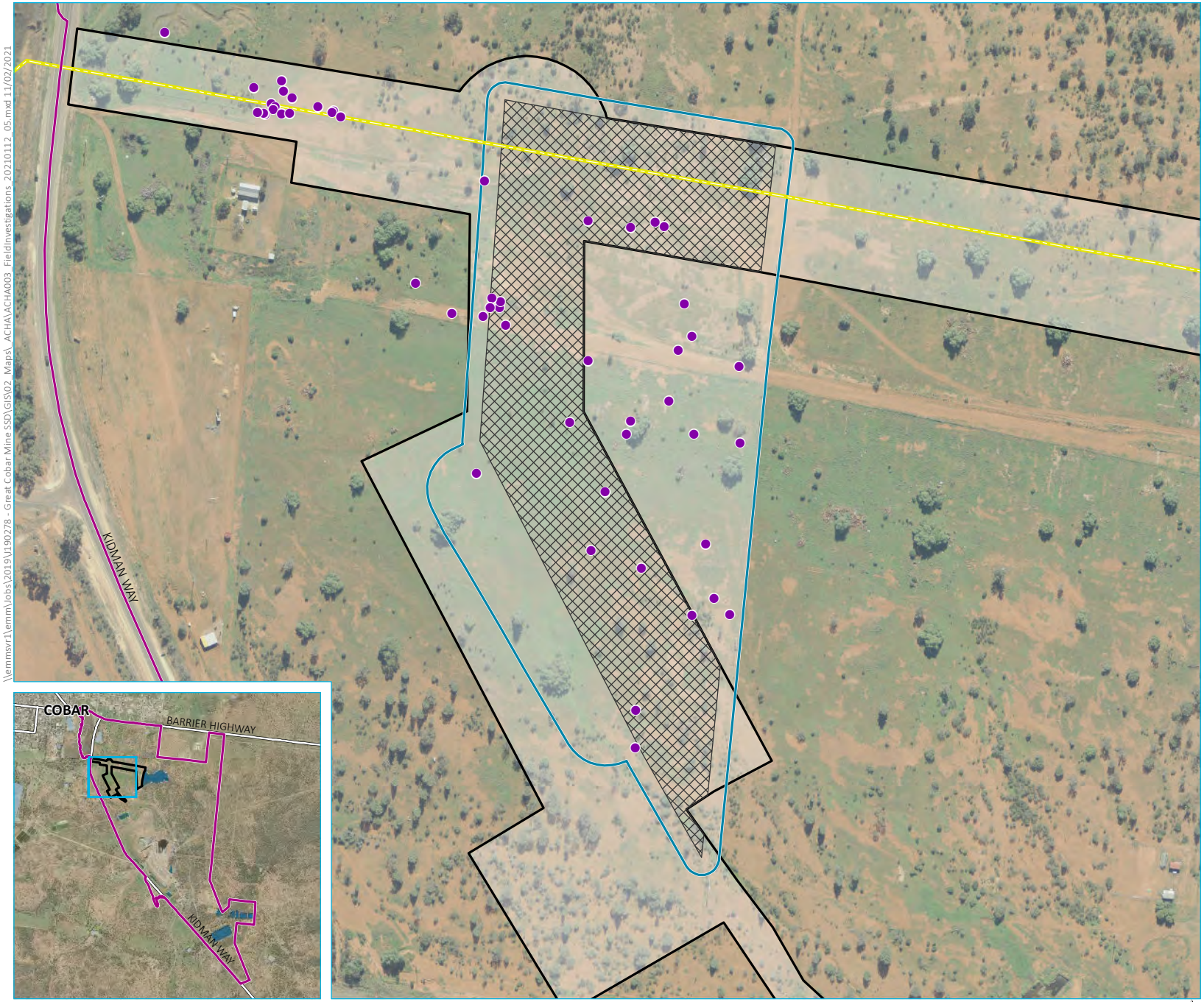
- characterise the landscape to aid predictions of archaeological potential and sensitivity;

- identify sites or areas that would require further investigation if planned for development as part of the Project;

- identify sites or areas to be avoided by development, where possible; and

- identify areas with minor or negligible Aboriginal cultural heritage values that are most suitable for development.

As stated in Section 1.3, the majority of the Project is proposed in areas of heavy disturbance and/or underground. As such, the field investigation undertook a general overview of the Project area involving vehicular movement across the site and periodic pedestrian observation. Targeted pedestrian survey of newly proposed surface infrastructure, including the power line corridor, exhaust air rise box cut and buffer, and fresh air intake was undertaken (Figure 6.1).



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Source: EMM (2021); PGM (2020); DFSI (2017); DPE (2019)

Field investigation areas

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 6.1

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6.3 Approach and methods

The archaeological survey and data collection methods followed Section 2.2 of the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a). The survey involved one pedestrian transect forming multiple passes.

Each survey participant was spaced approximately 5 m apart, and the survey area was covered in multiple passes within the same transect with respect to the uniform landform and irregular survey area. This method was considered to be suitable for a largely flat landscape, whereby suitable ground exposures were easy to identify and targeted at this spacing. Due to moderate visibility along the entire Project area, the assessment calculations assume that each participant could identify and inspect exposures within 5-10 m either side of them, therefore effectively surveying all ground surface exposures within the Project area. Notwithstanding, this calculation does not account for more obtrusive site types such as grinding grooves and scar trees which are observable from a much greater distance.

The survey team targeted ground exposures along transects, outcropping bedrock and water sources where present, as the most likely places for cultural materials to be found. However, it should be noted that archaeological surveys are inherently limited by ground surface visibility conditions and therefore any survey, despite the intensity of survey effort and spacing of survey transects, is considered to only *sample* the archaeological landscape. The archaeological survey did not aim to cover the entire ground surface within the development footprint, but rather to characterise the archaeological landscape.

The effectiveness of the survey is determined through recording and analysing survey coverage data. It is evaluated for its effectiveness in identifying the distribution of Aboriginal objects across the landscape, taking into account the potential for archaeological deposits. The percentage of the ground surface exposed in each landform and the visible ground surface within exposures (as ground exposures are often obscured by vegetation, gravels, etc) influences the survey results. For example, an archaeologically sensitive landform surface that is highly exposed by erosion is likely to reveal Aboriginal objects, whereas a similar landform that is thickly grassed will obscure surface artefacts if they are present. Overall, calculation of effective survey coverage is used to estimate not only how much area was physically surveyed, but also how favourable the survey conditions were for the identification of Aboriginal sites.

Site recording was completed in accordance with the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a). Site locations and their details were recorded with digital tablets using site recording forms created by EMM on the Survey123 application for ArcGIS (Esri© software). The digital tablets had a location accuracy of up to ±3 m which is similar to hand-held non-differential GPS units (~5 m). The Survey123 forms allowed for a site's location, details and representative photographs to be linked together, which avoided potential post-fieldwork issues around data integrity.

Survey transects were recorded as tracks on GPS units and detailed information about each transect recorded on a separate Survey123 form created by EMM. The Survey123 form allowed for survey transects starting points, details and representative photographs to be recorded. The course of survey transects were recorded as tracks on hand-held non-differential GPS units which were linked to the Survey123 forms.

6.4 Results

Overall, the field investigation encompassed one single transect extending ~1,000 m in length and 4.2 hectares of coverage (Table 6.2; Figure 6.1; Figure 6.2; Plate 6.1-Plate 6.6). Overall, exposure was relatively high ($\bar{x}$ = 60%) with an average visibility of ~60%, and average effective coverage of ~48% (Table 6.2) but was hindered in places by dense ground cover as a result of recent rain.

The landscape of the survey area was flat, with compacted stony red soil and occasional low trees (Plate 6.1- Plate 6.5). The soil profile was characteristic of a truncated rudosol, and the potential for sub-surface cultural material

was considered unlikely (Plate 6.4). No areas of localised sand accumulation (dunes, etc) were observed across the investigated area where deeper buried deposits may have been present.

Due to recent rains, much of the survey area was covered in thick ground cover (Plate 6.1 - Plate 6.6), and Big Salty and Little Salty lakes (Plate 6.6) to the north-west of the Project area were full at the time of the site inspection. Information from the Aboriginal stakeholders indicate that these waterholes may have been natural features used prior to contact, although have now been subject to numerous impacts. Inspection of the edges of these waterholes, identified no cultural material. However, a previous site 'Artefact Scatter 1' was only 70 m from these water features (Figure 5.1), and investigation nearby identified further stone artefacts in the vicinity of this site, and within 100 m of the former waterholes (Plate 6.2). Indeed, artefact concentrations while present across the field investigation area, where generally more frequent nearer these waterholes (Figure 6.2).

The location of the survey area was primarily within an area previously known as Cornish Town. The main street of Cornish Town was clearly discernible today (Plate 6.7), with a modern fence line now runs along its length. Dense ground-cover vegetation, particularly to the south of the main street obscured much of the surface, but remnant historical features – indicative of heavy disturbance – were observed (Plate 6.8). This included the remains of structures, roads, earthworks, and historical debris (see also Section 4.3).

The investigations identified a number of cultural materials (Section 6.5), which primarily consisted of surface stone artefacts generally in disturbed contexts. The lack of steep relief, localised sand dune or alluvial landforms, and de-vegetation removes the likelihood of other site types being present in this locale.

Table 6.1 Transect data of the field investigation

Transect #	Length (m)	Area (m^2)	Landform	Exposure (%)	Visibility (%)	Effective Coverage (m^2)	Effective Coverage (%)	Aboriginal sites identified
1	1,050	69,530	Plain	60	80	33,374	48	New Cobar Complex Background Scatter

Notes: Effective coverage is defined in the *Code of Practise for the Archaeological Investigation of Aboriginal Objects in NSW* and is in brief the visible areas within observed exposures.

Table 6.2 Landform summary

Landform	Landform area (m^2)	Area effectively surveyed (m^2)	Area effectively surveyed (%)	Number of Aboriginal sites	Number of artefacts or features
Plain	69,530	33,374	48	1	36 (~1/1,930 m^2)

Plate 6.1 General photograph of the power line corridor location, looking south-east

Plate 6.2 General photograph of the power line corridor location, looking south-west. The participants are in the vicinity of previously documented site, Artefact Scatter 1

Plate 6.3 General photograph of the power line corridor location, looking north-west

Plate 6.4 **Evidence of previous earthworks and/or soil modifications within the investigated area**

Plate 6.5 **Examples of the visibility and ground cover experienced across the investigated area**

Plate 6.6 **'Little Salty' lake to the north-west of the Project area, looking north. These water features were reported to have been used in pre-contact times, although have now been extensively impacted by historical activities**

Plate 6.7 **The approximate location of the main street of the former Cornish Town, looking east towards the bund wall of the Spain's dam**

Plate 6.8 **Examples of the former town structures and debris that have resulted in extensive disturbance across the investigated areas**

6.5 Aboriginal sites identified

Despite the areas investigated by the field survey team being heavily disturbed, some 36 stone artefacts were documented (Figure 6.2). Some 23 of these were within the power line corridor footprint. All of these consisted of surface finds primarily in areas of former historical activity, such as roads, fire breaks and de-vegetation. No clearly discernible pattern of the distribution of the stone artefacts is evident, although greater numbers (~50%) were encountered in close (<100m) proximity to the Big and Little Salty waterholes (Plate 6.9), and are likely an extension of the previously identified 'Artefact Scatter 1' (Section 5.3.1vi). These findings support the validity of the waterholes as being present prior to contact and being used by Aboriginal people in the past. The remaining artefacts are distributed intermittently across the investigated area and demonstrate no clear patterning. Given the low numbers of artefacts (~1/1,930 m^2), it is considered to reflect primarily a background scatter indicative of ephemeral use of the broader region in the past. It is further acknowledged that significant historical activity has occurred in this area, including Cornish Town, that may have had an influence on the distribution and/or survivability of the cultural materials identified.

The artefacts themselves were dominated by fine silcrete, indurated mudstone/tuff/chert (IMTC) and chalcedony raw materials (Plate 6.10– Plate 6.14), all found commonly in sites across the region, and likely reflecting use of local resources. Technologically, they reflect early reduction stages of artefact production, with no formal tools and only a single core observed. The lack of formal tool types or evidence reduction on site similarly suggests ephemeral and brief visitation use of the region, rather than more extensive occupation. The absence of formal tool types does not permit a chronological period for the artefacts to be robustly determined, but the generally smaller size of the assemblage overall tends to suggest a Holocene (<10ka) deposition.

For management purposes, the entire investigated area encompassing the proposed surface activities is identified as a single site, the 'New Cobar Complex Background Scatter' (Figure 6.2).

As outlined in Section 4.3, in addition to the Aboriginal objects, the remains of Cornish Town were also considered to have some contemporary and historical value to the Aboriginal stakeholders. The town was inhabited by Aboriginal and non-Aboriginal people over the late 19th and early mid-20th Century. These structural remains are presented on Figure 6.2 as a location of contemporary value.

Plate 6.9 **An artefact found in the vicinity of a previous recorded artefact scatter in 2019, looking north-west. Note the waterhole evident in the background**

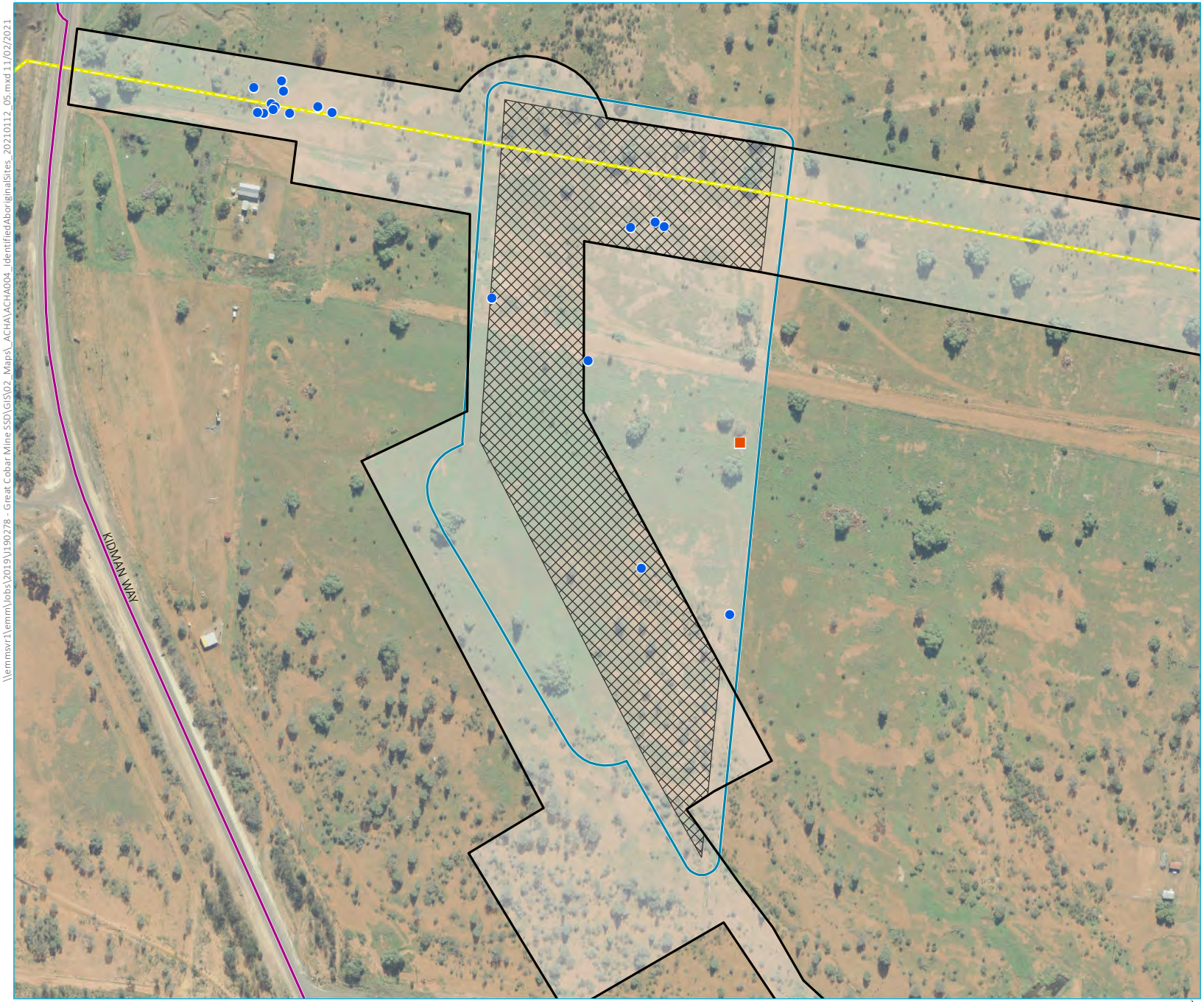
Plate 6.10 **Examples of the stone artefacts found within the proposed surface impacts. Left – an IMTC multi-platform core; right – a fine silcrete expanding flake, with scalar retouch along one margin**

Plate 6.11 **Examples of the stone artefacts found within the proposed surface impacts. These are all fine grained silcrete flakes from an early phase of artefact reduction**

Plate 6.12 **A chalcedony complete flake found within the proposed surface impacts**

Plate 6.13 An IMTC complete de-cortification flake found within the proposed surface impacts

Plate 6.14 An IMTC multi-platform core found near Big Salty waterhole



KEY

- Project area
- Investigated area
- Area previously surveyed by EcoLogical Australia in 2018 (indicative)
- Area of contemporary value
- Identified Aboriginal object
- Great Cobar dewatering pipeline
- Proposed power line corridor

Source: EMM (2021); PGM (2020); DFSI (2017); DPE (2019)

0 50 100 m

GDA 1994 MGA Zone 55

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Identified Aboriginal sites

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 6.2

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7 The archaeological resource

Past studies and previously documented Aboriginal heritage show that material cultural within the regional context is generally dominated by artefactual sites, most frequently as isolated objects or low density (<20) occurrences. While other site types, including highly significant art complexes such as at Mount Grenfell, are present, they are primarily found in uplands and/or geological outcroppings; and as such highly localised in certain parts of the Cobar Peneplain. The available evidence suggests that the majority of the archaeological sites documented, and their cultural materials, almost exclusively exhibit late Holocene characteristics (<5,000 years ago) and have been shown to extend into the contact period. Although the potential for sites of great antiquity is known in the broader region, these Aboriginal sites – notably artefactual sites – are observed in all contexts disturbed and undisturbed in the region but are usually focussed near sources of water which are generally sparse in the Cobar Peneplain. Most centres of past occupation and visitation documented appear to be where permanent or significant waterholes, rock pools, springs, etc, are present. There is also number of examples of waterholes being artificially created and/or modified by Aboriginal people in the past to maximise this resource. As these dry out, past populations appear to fall back to the Bogan and Darling Rivers skirting the bioregion, and as such the peneplain region is dominated by cultural material from intermittent and sporadic visitation. Culturally modified trees are also common in the region but are heavily influenced by the survival of remnant vegetation.

The Project area generally does not conform to this archaeological model as it is lacking any formal drainage or permanent water sources that would allow long residence times or substantive vegetation to become established. And as such, cultural materials are expected to be dominated by stone artefacts but would likely be sparse if present. The lack of geological outcroppings or vertical escarpments within the Project area also means that sites such as rockshelters (or associated features are unlikely to occur), engravings, etc, are unlikely to be present.

Both desktop analysis and ground-truthing validated these findings, and further identified that significant level of disturbance had occurred within the Project area. This includes much of the historical and existing mining operations, including tailings dams, stockpiles, and mine pits, etc. In the case of the proposed surface activity areas, while not within the main mining operations, disturbances nonetheless include roads, pipes, fences, firebreaks, etc, and more significantly the establishment and demolition of a late 19th/early mid-20th Century town. All of which have resulted in substantial surface modification and de-vegetation. Given the nature of the soil profile, cultural materials (if present) are constrained to the surface and/or shallowly buried, and as such would likely have been severely affected by these past activities. However, field investigations did identify a number of disturbed stone artefacts (n=36) across the areas proposed for surface impact, and which has been interpreted to reflect a background scatter resulting from ephemeral visitation in the past. While there is no definitive pattern of cultural material distribution, at least in part due to extensive disturbance, higher occurrences appear to be in closer proximity to the Big and Little Salty waterholes in the north-west of the project. These have now been modified, but historically have been identified as used by Aboriginal people prior to contact. These waterholes are only intermittently filled, and this may account for the relatively sparse number of stone artefacts observed across the investigated areas (~1/1,930m^2). For the purposes of management, the cultural material has been identified as a single site, the '**New Cobar Complex Background Scatter**' (Figure 7.1). This new identification includes the previously documented site 'Artefact Scatter 1', which appear to have been an initial recording of this larger background scatter, but which did not observe its extension to the south and east.

While detailed on-site investigation was not undertaken for the Project area beyond those areas proposed for surface activities, both desktop assessment and vehicular observations of the areas proposed for Project activities all indicate they have been subject to extensive historical disturbance; and the survivability of cultural materials would be unlikely. While sparse stone artefacts may occur in some of these areas, they would be heavily disturbed and not in a primary context. Significant cultural materials in these areas would not be expected to have survived.

In addition to the sparse cultural material, discussions with the Aboriginal stakeholders indicate that the former Cornish Town holds some contemporary social/cultural value. These values are identified based on the history of

Aboriginal people being amongst the inhabitants of the town during the post-contact period, and more directly by the remains of a structure observed where one of the Aboriginal participants had lived as a child (Figure 7.1). However, overall, tangible remains of the town (see EMM 2020) are few and as such these values are primarily intangible.

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Source: EMM (2021); PGM (2020); DFSI (2017); DPE (2019)

The archaeological resource

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 7.1

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8 Significance assessment

8.1 General

All Aboriginal objects in NSW are protected under the *National Parks and Wildlife Act 1974*. It is recognised that the destruction of sites may be necessary to allow other activities or developments to occur. In order for the consent authority to make informed decisions on such matters, an important element of cultural resource management is determining the significance of cultural heritage places and objects to understand what may be lost; and how best it can be mitigated. However, it is highlighted that something can be of little or no significance and still be protected under the Act.

Cultural significance is outlined in Article 1.2 of the *Burra Charter* - the best practise document for managing cultural heritage – as 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' (Australia ICOMOS 2013). These values are reiterated in the NSW guidelines, which determines cultural significance of a place can be assessed by identifying the values that are present across the subject area and assessing what is important and why (OEH 2011). In assessing the scientific significance of sites, aspects such as rarity and representativeness and the integrity must be considered. Generally speaking, a site or object that is rare will have a heightened significance, although a site that is suitable of conservation as 'representative' of its type will also be significant. Conversely an extremely rare site may no longer be significant if its integrity has been sufficiently compromised.

The criteria adopted for this report are defined in Table 8.1. The management implications of these sites' significance are discussed in subsequent sections.

Table 8.1 A summary of criteria used to assess the cultural significance (OEH 2011, 8–10)

Criterion	Definition
Social value—Does the place have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?	Social (or cultural) value refers to the spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Social or cultural value can only be identified through consultation with Aboriginal people.
Historic value—Is the place important to the cultural or natural history of the local area and/or region and/or state?	Historic value refers to the association of a place with a historically important person, event, phase or activity. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.
Scientific (archaeological) value—Does the place have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?	Scientific (archaeological) value refers to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information. Information about scientific value is gathered through archaeological investigation undertaken in this report.

Table 8.1 A summary of criteria used to assess the cultural significance (OEH 2011, 8–10)

Criterion	Definition
Aesthetic value—Is the place important in demonstrating aesthetic characteristics in the local, regional, and/or State environment?	Aesthetic value refers to the sensory, scenic, architectural, and creative aspects of the place. It is often linked with social value and can consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use. This value is only relevant to archaeological sites on only rare occasions, such as rockshelters that contain art, or culturally modified trees in prominent positions, etc.

8.2 Statement of significance

The assessment identified two Aboriginal sites within the Project area, a low-density background scatter of stone artefacts across the proposed surface activity area – and incorporating a previously documented site nearby (Artefact Scatter 1) – and the remains of a former post-contact town within which Aboriginal people formed some of the inhabitants. These findings are consistent with the broader regional models that suggest more intense occupation and land use was dictated by the availability of waterholes, rockpools, springs, etc, and frequently in association with uplands and/or geological outcropping. The presence of water, of course, often pooling in and around such uplands. The Project area has few of these attributes, with only an ephemeral waterhole, Big and Little Salty, being present on the north-western edge of the curtilage, and in the vicinity of which some evidence of past visitation was observed, namely the New Cobar Complex Background Scatter (Section 7).

The New Cobar Complex Background Scatter consisted of a moderately to heavily disturbed low-density artefact scatter on the surface of the soil profile, and therefore has limited ability to inform our understanding of past Aboriginal activity. Such sites can only provide limited information on the habitats and behaviours of past activity, and no chronology on when the site was utilised or occupied. As such the site is considered to have low scientific significance, is not rare to the region, nor is it a particularly good example of these types of site (ie representativeness). The site has no evidence of historical significance, nor aesthetic significance being within an active mine site.

The remains of the Cornish Town are considered to meet a number of the significance criterion at a local level. The removal of the town in the 1960s has resulted in little of the site remaining today. As such, the significance criteria is based primarily on the intangible values associated with the town. These include its potential ability (through oral information and histories), to provide information about past use and activities of the locale by Aboriginal people through the post-contact period – a time interval that often has limited information, and is now forming a focus for historians (eg Dunn 2020; Irish 2017; Karskens 2020). Knowledge of post-contact Aboriginal societies in the Cobar region is currently very limited, and so research of this site may fill a critical gap in this knowledge. The site also has cultural/social values specific to the local Aboriginal community, both through its direct connection of key informants having lived there, and a broader connection to these post-contact societies. Currently, there is no specific historical values known for the site.

Table 8.2 provides a summary of the significance values for each Aboriginal object and/or site identified.

Table 8.2 Significance of Aboriginal objects and/or sites identified

Site	AHIMS #	Site Type	Significance				
			Scientific	Aesthetic	Historical	Cultural	Overall
New Cobar Complex Background Scatter (encompasses previously documented 'Artefact Scatter 1')	-	Low density artefact scatter	L	-	-	L	Low
Cornish Town	-	Habitation structure (ruins)	M	-	-	M	Moderate

Note: 1. High = H; Moderate = M; Low = L; I = Indeterminate.

2. The overall significance is comparable with the highest ranking achieved in any of the four main criteria.

3. Cultural significance is based on input from the Aboriginal participants during the field investigations and report finalisation process (where provided).

9 Impact assessment

9.1 Key findings

- The proposed underground activities would have negligible direct or indirect impacts to Aboriginal heritage. Similarly, the majority of surface impacts are proposed in areas of existing heavy disturbance associated with historic mining operations, agricultural and post-contact settlement. The focus of surface impacts for the ACHA has been a ~3.4 ha area within which the power line corridor will be located. This corridor will be no greater than 0.8 ha.

- The power line corridor has the potential to harm the identified Aboriginal sites, the New Cobar Complex Background Scatter, a low-density scatter of artefacts extending beyond the boundaries of the corridor and encompassing formerly identified 'Artefact Scatter 1', and the remains of Cornish Town. These impacts are considered to have partial loss of value to these sites, with management strategies (Section 10) proposed to further minimise these effects.

- Overall, the proposed activity would likely result in negligible cumulative impact with the Aboriginal sites already being heavily affected by past activities. When including suggested management strategies, it is considered that the proposed activity would potentially have positive cumulative (intergenerational) impacts, allowing for the Aboriginal community to engage with the locale in a meaningful way, as well as provide further information on poorly understood post-contact history.

9.2 Project impacts

There are two types of potential impact, direct and indirect. Direct impacts relate to construction activities and their removal, truncation and/or disturbance of the ground surface, vegetation, geological outcropping and of the upper soil profile. Indirect impacts are the result of both construction and post-construction activities that may result in environmental changes that would affect cultural material within, or near Project activities. General examples of indirect impact may include the burial of a soil profile resulting in its compression and indirectly damaging buried cultural material.

As outlined in Section 1, the majority of the Project activities would be located underground and/or in existing operational mining complexes. It is understood that the underground activities would have negligible surface impacts (<1.5 cm at surface) (Beck Engineering 2020), and as such would be unlikely to have any direct/indirect harm to cultural materials if present. A review of the existing mining complex suggests that the survivability of cultural materials in these areas would be unlikely and therefore impacts from the proposed activities are similarly considered to be unlikely.

The power line corridor would result in ground surface disturbance and has the potential to impact surface cultural material. These would likely result in the direct impact to ~0.8 ha (of the 3.9 ha area investigated) through excavation and installation, although currently this activity has substantial buffers for planning purposes, and the eventual area would likely be much less. Given these majority of cultural material is located at, or near the current land surface, these proposed activities would cause 100% impact within their footprints, since all require excavation to >1m below surface. Indirect impacts would also likely be largely constrained to these buffered areas, and/or existing infrastructure that runs across these areas (ie a number of established roads etc are already present).

9.3 Aboriginal heritage impact

When over-laying the power line corridor footprint – the only surface impacts proposed – with the identified Aboriginal objects and/or sites outlined in Section 7, two would be subject to direct impact (Table 9.1). Specifically, the proposed activity would result in harm to both the New Cobar Complex Background Scatter and be within the curtilage of the Cornish Town remains (Table 9.1). In the case of the background scatter, low numbers of stone artefacts were found across the power line corridor footprint and would be affected by the works. Based on field observations, this would likely total some 23 observed artefacts, and potentially double this number given ground visibility allowed only 50% of the area to be inspected. The actual works would be less than the currently proposed footprint, but the inspection was conservative in its approach. Given this is part of a background scatter that extends beyond the impact footprint – including the original observation of a part of the site in 2019 and recorded as 'Artefact Scatter 1' with higher densities of cultural material adjacent to the Big and Little Salty waterholes, it is considered that the works would have only partial loss of value through the works.

In the relation to the Cornish Town footprint, there are few tangible remains that would be affected by the proposed activity. The area of identified contemporary value, Tyrone Griffith's former home, is on the edge of the power line corridor, and would currently be harmed by the proposed activity. However, in general, the majority of the Cornish Town footprint would be unaffected by the proposed activity as much of it situated further east. As such, it is considered that the works would result in no loss of value to this site, the Aboriginal values of which are primarily in the history and stories of the locale rather than its tangible remains.

Overall, despite the extent of the proposed activities across the Project area, the potential for direct impacts to cultural heritage are considered relatively minor. However, the works would result in some harm to cultural materials and/or values. Strategies and recommendations to manage this are outlined in Section 10.3.

Table 9.1 Summary of potential impacts to Aboriginal objects and/or sites.

Site	AHIMS #	Significance	Type of harm	Location and/or activity causing harm	Degree of harm	Consequence of harm
New Cobar Complex Background Scatter (encompasses previously documented 'Artefact Scatter 1')	Not registered	Low	Direct	Power line corridor	Partial	Partial loss of value
Cornish Town	Not registered	Moderate	Direct	Power line corridor	Partial	No loss of value

Notes: The type, degree and consequence of harm definitions are based on DECCW's *Code of Practise for the Archaeological Investigation of Aboriginal objects in NSW.*

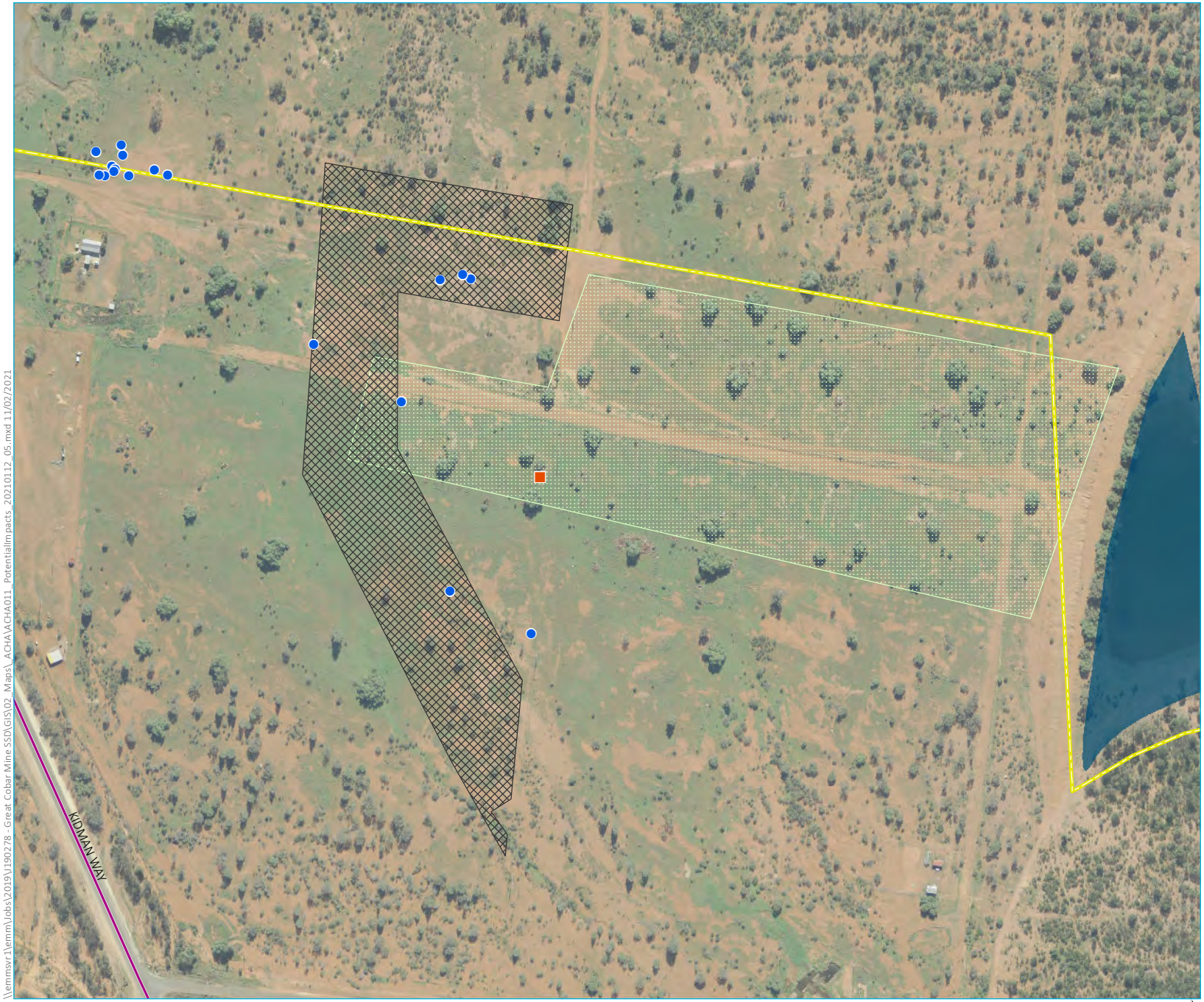
9.4 Intergenerational loss/equity

Intergenerational equity is the principle whereby the current generation should ensure the health, diversity and longevity of the environment for the benefit of future society. For Aboriginal heritage management, intergenerational equity can be considered primarily in terms of the cumulative impacts to Aboriginal objects, sites and/or places in a region. If few Aboriginal objects and places remain in a region (eg due to development impacts), there are fewer opportunities for future generations of Aboriginal people and the broader community to enjoy the cultural benefits. Information about the integrity, rarity and representativeness of the Aboriginal objects, sites and places that may be impacted, and how they inform the past visitation and occupation of land by Aboriginal people, are relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a Project.

As outlined in Section 9.2, a significant component of the Project would be undertaken underground with negligible surface disturbance. With few exceptions, the proposed works are at least partially or entirely within areas of existing disturbance and/or past impacts. The newly proposed surface activity consists of ~0.8 ha power line corridor is similarly in areas already historically disturbed by mining activities.

The proposed activity would affect two Aboriginal sites, one of which has been identified primarily for its intangible values and as such would be unaffected by the works. It is considered the direct impacts to the former Cornish Town would be minimal given the lack of physical remains. Further, through implementing the management strategy outlined in Section 10, the proposed activity would potentially improve knowledge regarding the Aboriginal history of Cornish Town, and thereby potentially resulting in a positive intergenerational outcome for the Project.

In relation to the New Cobar Complex Background Scatter, the proposed activity would result in impacts to a portion of the site, but cultural material extends well beyond the boundary of the work's curtilage. Further, it is considered that the artefacts observed where not in their primary context, having been already affected by historical activities across the site. When implementing the proposed management strategy that involves minor relocation of this already disturbed cultural material to areas immediately outside the work's areas, it is considered that the proposed activity would have negligible intergenerational or cumulative impact to cultural heritage.



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Source: EMM (2021); PGM (2020); DFSI (2017); DPE (2019)

Potential impacts to identified sites and areas of sensitivity

Peak Gold Mines
New Cobar Complex Project
Aboriginal cultural heritage assessment
Figure 9.1

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10 Management strategy and recommendations

10.1 Key findings

- The ACHA report concludes that two Aboriginal objects and/or sites are in close proximity to the proposed surface impacts of the Project (Section 7), with both of these likely subject to direct impacts (Section 9).

- Recommendations are proposed for inclusion in the Project approval to guide post-approval requirements for Aboriginal heritage (Section 10.3). These include the development of an Aboriginal Cultural Heritage Management Plan (ACHMP) to provide a framework for such activities, as well as direction on its content, including post-approval cultural monitoring and oral histories of Cornish Town.

10.2 Management strategy

The majority of the Project area has been subject to extensive historical disturbance from agriculture, post contact settlement and mining (including tailings dams, excavations, stockpiles, etc) in the past; and the proposed activities are predominantly underground activities. Geotechnical information indicates that these underground activities would have negligible surface effects. It is considered that the majority of the proposed activities will therefore have negligible, if any, impact to cultural materials. The focus of the ACHA has been on the newly proposed surface infrastructure, namely the power line corridor in the north-west portion of the Project area.

Within this locale, the assessment outlined in the preceding sections, and including Aboriginal consultation with six organisations, identified two Aboriginal objects and/or sites within the Project area. These consisted of a low-density background scatter of stone artefacts that extends across the power line corridor and broader environs. Originally identified in 2019 as 'Artefact Scatter 1' to the north-west as part of a dewatering pipeline Project, our investigations have shown that this site extends across much of the surrounding area. However, it largely consists of very low numbers of artefacts, ~1//1,930 m^2, and is considered to reflect the ephemeral use and visitation of the Project area in the past. Higher occurrences of artefacts were observed in the vicinity of Big and Small Salty waterholes in the north-west of the Project area, and which may have reflected pre-contact water sources periodically visited by Aboriginal people. It is, however, highlighted that these areas have been subject to extensive post contact activities, and this may have affected the distribution and survival of these cultural materials. The investigations also identified the location of a former historical town, Cornish Town, where Aboriginal people were known to have lived. This site has primarily been identified due to its intangible significance and cultural values amongst local Aboriginal people, providing a link to the late 19th/early mid 20th Century Aboriginal societies with little tangible features of the town remaining. Notably, this latter site included the tangible remains of a house within which one of the representatives of the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People participating in the Project lived in as a child, albeit likely outside the impact footprint.

The power line corridor would impact both of these sites, however, it is considered that the proposed works would have minimal impact to the values of the two sites, since they both are primarily found outside of the impact footprint and/or are identified as holding intangible values. In the case of the New Cobar Complex Background Scatter, higher concentrations of stone artefacts were found in the north-west nearer the ephemeral waterholes, and outside the power line corridor. While much of Cornish Town was situated east of the corridor location. In addition, it is considered that the actual impact of the power line corridor would be significantly less than the current footprint proposed, and as such there would likely be opportunity to avoid areas of significance.

In NSW, Aboriginal objects are provided with statutory protection by the *National Parks and Wildlife Act 1974*. In general, where a proposed activity will result in harm to an Aboriginal object, an AHIP is required. The AHIP contains conditions intended to manage and mitigate the identified impact and allowing harm to proceed. As the proposed development is an SSD Project, an AHIP is not required. The identified harm and any mitigation measures will instead be managed through the Project's conditions of approval. The conditions of approval generally incorporate Aboriginal heritage management requirements based on advice from Heritage NSW (formerly OEH), and the recommendations of this assessment (Section 10.3). For the purposes of this Project, recommendations below include the development of an ACHMP to provide the post-approval management framework for all future Aboriginal heritage requirements for the Project. They further outline the specific mitigation measures that should be implemented prior to, during and after the Project. The recommendations include measures to monitor and recover cultural materials within the final impact footprint, undertaking oral history and interpretive opportunities in relation to Cornish Town, further investigate areas of sub-surface potential, registering the cultural materials on AHIMS, implementing suitable monitoring and management of indirect impacts, completing any post-excavation analyses and reporting, and lodging the various documentation with appropriate public repositories.

In discussions with the Aboriginal stakeholders, key mitigation measures should include the following:

- Once determined, the power line corridor and ancillary construction area will be identified on the ground (eg through flagging or pegging), and an opportunity provided for the Aboriginal stakeholders to inspect and recover any Aboriginal objects within this impact footprint. The Aboriginal stakeholders requested that the objects remain on country, and as such they would likely be relocated to an area immediately outside of the impact footprint.

- Given the harm to the curtilage of the Cornish Town, attempts to avoid impact to this curtilage and notably areas of contemporary value (Figure 9.1) should be adopted by the Project. Further, development of an oral history to further understand the cultural values of the site to Aboriginal people should be undertaken. Consideration to implementing interpretation in suitable locations around the Project area based on these results should be considered.

10.3 Recommendations

The Project has the potential to directly impact two Aboriginal objects and/or sites. Where feasible, PGM should consider modifying the Project design and footprint to avoid these Aboriginal objects and/or sites identified within the Project area. Where altering the design proves unfeasible, the following recommendations should be integrated into the conditions of approval for the Project:

- Prior to ground disturbance, an ACHMP must be developed by a heritage specialist in consultation with the RAPs to provide the post-approval framework for managing Aboriginal heritage within the Project area. The ACHMP should include the following issues:

    - Processes, timing, and communication methods for maintaining Aboriginal community consultation and participation through the remainder of the Project.

    - Descriptions, methods, personnel and timing of any additional investigative and/or mitigative archaeological actions that may be required prior to works commencing or during the Project. These should include, but not limited to cultural monitoring and artefact collection for any areas where the surface impacts of the Project intersect the identified Aboriginal objects and/or sites (Figure 9.1); and the undertaking of oral history with key knowledge-holders to further understand the cultural values and history of Aboriginal people who lived at Cornish Town (see also Section 10.2).

    - Descriptions and methods of actions to avoid any direct or indirect impacts to the identified area of contemporary value (Figure 7.1) during and following the proposed activity. This should include, but

not be limited to, cultural inductions for personnel and subcontractors likely to encounter cultural items, outlining their location and significance, fencing and clear marking as a no-go zone, and any additional requirements identified by the Aboriginal community. A suitable regime of monitoring these activities should also be outlined, including locations, methods, personnel and timing.

- Description and methods for undertaking further Aboriginal heritage assessment, investigation and mitigation of any areas of the Project footprint that have changed following completion of the ACHA and/or during the final design and construction phases of the Project.

- Description and methods of post-excavation analysis and reporting of the archaeological investigations and activities implemented as part of the ACHMP.

- Procedures for managing the unexpected discovery of Aboriginal objects, sites and/or human remains during the Project.

- Procedures for the curation and long-term management of cultural materials recovered as part of the works outlined in the ACHMP and any preceding stages associated with the Project.

- Processes for reviewing, monitoring, and updating the ACHMP as the Project progresses.

- Consultation should be maintained with the RAPs during the finalisation of the assessment process and throughout the Project.

- A copy of the ACHA should be lodged with AHIMS and provided to each of the RAPs.

- AHIMS Site Recording Forms for any newly identified Aboriginal objects and/or sites within the Project area should be submitted to the AHIMS database.

- If any part of the Project footprint is relocated outside the areas identified in this ACHA, or if any alteration is proposed that could result in additional impact to material culture, further assessment of these area(s) should be undertaken to identify and appropriately manage Aboriginal objects and/or sites that may be present.

- To avoid inadvertent impact prior to the establishment of the ACHMP, the proponent should advise all relevant personnel and contractors involved in the Project of the relevant heritage considerations, legislative requirements, and recommendations identified in this assessment.

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Abbreviations

Term	Definition
AHD	Australian Height Datum
ACHA	Aboriginal cultural heritage assessment
AHIMS	Aboriginal Heritage Information Management System
ACHMP	Aboriginal Cultural Heritage Management Plan
BP	Years before present
c.	circa
cm	centimetres
CHL	Commonwealth Heritage List
CSC	Cobar Shire Council
DEC	Department of Environment and Conservation, now Heritage NSW
DECCW	Department of Environment Climate Change and Water, now Heritage NSW
DPC	Department of Premier and Cabinet
DPE	Department of Planning and Environment, now DPIE
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMM	EMM Consulting Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
ESD	Ecologically sustainable development
FGS	Fine grained siliceous
g	grams
GIS	geographical information system
GPS	global positioning system
ha	hectare
ICOMOS	International Council on Monuments and Sites
IMTC	Indurated mudstone/tuff/chert
km	kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
m	metres
m^2	square metres
mm	millimetres
n	Number
NHL	National Heritage List
NSW	New South Wales

Term	Definition
OEH	Office of Environment and Heritage, now DPIE
PAD	Potential archaeological deposit
PGM	Peak Gold Mines Pty Ltd
RAP	Registered Aboriginal Party
SEARs	Secretary's Environmental Assessment Requirements
SSD	Sate Significant Development
t	Tonne
TP	Test pit
tpa	tonnes per annum
TSF	Tailings Storage Facility
WHL	World Heritage List
WRE	Waste Rock Emplacement

Glossary

Many of these definitions have been taken from the *Code of Practice for archaeological investigation of Aboriginal objects in NSW* (DECCW 2010).

Aboriginal object: A physical manifestation of past Aboriginal activity. The legal term is defined in the *National Parks and Wildlife Act 1974* section 5 as: any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.

Typical examples include stone artefacts, grinding grooves, Aboriginal rockshelters which by definition include physical evidence of occupation, midden shell, hearths, stone arrangements and other landscape features which derive from past Aboriginal activity.

Archaeological survey: A method of data collection for Aboriginal heritage assessment. It involved a survey team walking over the land in a systematic way, recording information. Activities are not invasive or destructive.

Aboriginal culturally modified tree: A tree of sufficient age to have been mature at the time of traditional Aboriginal hunter-gatherer life and therefore generally of more than 220 years ago with evidence of bark or cambium wood removal for the purpose of implement manufacture, footholds, bark sheet removal for shelter, or extraction of animals or other food. Care must be taken to distinguish Aboriginal scars from the much more common natural causes of branch tear, insect attack, animal impact, lightning strike and dieback. Culturally modified tree recognition guidelines exist to distinguish these features. Naturally scarred trees are often misidentified as Aboriginal culturally modified trees.

Aboriginal site: The location where a person in the present day can observe one or more Aboriginal objects. The boundaries of a site are limited to the extent of the observed evidence. In the context of this report a 'site' does not include the assumed extent of unobserved Aboriginal objects (such as archaeological deposit). Different archaeologists can have varying definitions of a 'site' and may use the term to reflect the assumed extent of past Aboriginal activity beyond visible Aboriginal objects. Such use of the term risks defining all of Australia as a single 'site'.

Aboriginal stone artefact: A stone object with morphological features derived from past Aboriginal activity such as intentional fracture, abrasion or impact. Artefacts are distinguished by morphology and context. Typically flaked stone artefacts are distinguished from naturally broken stone by recognition of clear marginal fracture initiation (typically herzian/conchoidal or wedging initiation) on highly siliceous stone types which can often be exotic to the area. Care must be taken to distinguish modern broken stone in machine impacted contexts and therefore context must be carefully considered as well as morphology.

Aggradation: a term used in geology for the increase in land elevation, typically in a river system, due to the deposition of sediment.

AHIMS: Aboriginal Heritage Information Management System — a computer software system employed by the Office of Environment and Heritage to manage many aspects of Aboriginal site recording and permitting. AHIMS includes an Aboriginal sites database which can be accessed via an internet portal.

Archaeological deposit: Aboriginal objects occurring in one or more soil strata. The most common form of archaeological deposit relates to the presence of a single conflated layer of Aboriginal stone artefacts worked into the topsoil through **bioturbation**.

Backed artefact: A thin flake or blade-flake that has been shaped by secondary flaking (**retouch**) along one lateral margin. The retouched margin is typically steep and bipolar to form a blunt 'back' in the manner of a modern scalpel

blade. Distinctive symmetrical and asymmetrical forms are typically found called geometric **microliths** and Bondi points respectively. A thick symmetrical form, called an Elouera, is typically the size of a mandarin segment.

Bioturbation: is the reworking of soils and sediments by animals or plants. Its effects include changing texture of sediments (diagenetic), bioirrigation and displacement of microorganisms and non-living particles.

Bipolar flaking: Where the stone to be worked is rested on an anvil or other stone before being hit by the hammerstone. This results in the presence of negative flake scars on both ends of the core.

Bondi point: See backed artefact definition.

Brown podosols: Topsoils have loamy textures. A2 horizons are common, there is a clear boundary onto the B horizon. They have a sandy clay to heavy clay texture (typically occur on upper and mid-slopes).

Chocolate Soils: Soils that are typically formed in a basaltic parent material where slope or bedrock strata influence drainage. Surface horizons comprise loam, clay loam or silty clay loam. There is a gradual boundary to a brown or brownish black B horizon. There is no A2 horizons.

Conchoidal: A term used in relation to fracture surfaces on Aboriginal stone artefacts - bulb-like in the manner of a bulbous protrusion on a bivalve shell.

Elouera: See backed artefact definition.

Eraillure scar: The small flake scar on the dorsal side of a flake next to the platform. It is the result of rebounding force during percussion flaking.

Exposure: estimates the area with a likelihood of revealing buried artefacts or deposits, not just an observation of the amount of bare ground.

Geometric microlith: See backed artefact definition.

Grinding grooves: Grinding grooves typically derive from the sharpening of stone hatchet heads on sandstone rock. Grooves appear as elliptical depressions of around 25 cm length with smooth bases. Although mostly occurring in association with water to wash the abraded stone dust away from the groove, such sites have been recorded away from water. Narrow grooves or broad abraded areas may occur less commonly and may be derived from spear sharpening or other grinding activities.

Haematite: a pigment featured in ochre used for tinting with a permanent colour.

Holocene: A period of time generally 10,000 years, which marks the end of the last ice age, to the present.

Igneous: relating to or involving volcanic or plutonic processes.

Indurated mudstone/tuff (IMT): the fine textured, very hard, yellowish, orange, reddish-brown or grey rocks from which stone artefacts are made.

Isotropic: Having a physical property that has the same value when measured in different directions. In relation to stone used for stone tools a fracture path is not hindered by layer boundaries or other favoured plane of cleavage.

Microlith: Very small fragments of flakes retouched into geometric shapes and usually present on tools like barbed spears, arrows and sickles.

Midden: A collection of shells and associated economic remains resulting from Aboriginal food gathering and processing activity. Middens comprise shellfish remains of consistent size in a rich dark earth matrix commonly associated with stone artefacts, fish bone and animal bone although shells are commonly the most obtrusive element.

Keeping place: A room or facility with the express and exclusive purpose of storing Aboriginal cultural heritage materials with accompanying documentation in a secure and accessible manner which protects their cultural heritage values.

Krasnozems: Mainly loams, clay loams and silty clay loams with a clear or gradual boundary to a dark reddish brown B horizon. Clays are typically light to medium and occasionally heavy.

Lithosols: Soils that have little or no profile development. They occur on steep slopes and are usually shallow and are left mainly as uncleared native bushland.

Open stone artefact site/stone artefact site: An unenclosed area where Aboriginal stone artefacts occur – typically exposed from a topsoil archaeological deposit by erosion. Typically the term is used to refer to two or more artefacts although this is an arbitrary distinction. A general 'rule of thumb' boundary definition employed by archaeologists is that artefacts or features more than 50 m apart are regarded as separate sites, however there is no theoretical imperative dictating such as rule. (The 50 m separation rule is used for the most part in EMM's work).

Pirri point: A leaf-shaped stone implement with unifacial retouch extending from the lateral margins to a central keel running the length of the dorsal surface.

Pleistocene: A period of time 2.6 million years ago to 10,000 years ago. Reference to 'Pleistocene sites' generally means reference to sites older than 10,000 years.

Podosols: Soils with accumulations of organic matter, iron and aluminium. They are usually sand textured to depth. Yellow and red podosols are generally acid neutral. Yellow podosols have coarse to medium textured A horizons.

Point cluster: A group of GPS points used to identify the locations of individual artefacts in the field.

Potential Archaeological Deposit (PAD): An area where there is an inferred presence of Aboriginal objects in the soil based on the environmental context which is typically associated with discovery of Aboriginal objects in analogous areas. This is not strictly a 'site' type, although AHIMS records it as such for the purpose of associating Aboriginal heritage Impact Permits with geographical areas.

Red podosols: Podsols with a pronounced texture contrast and clear to abrupt boundaries between A and B horizons. A2 is often massive and gravelly.

Retouch: The modification of the edges of a flake or tool by the removal of a series of small flakes.

Siliceous Sands: Sands that are usually found on coarse-grained sandstones and in sandstone colluvium. They are often sandstone outcrops present in the landscape. The topsoil has a loamy sand to light sandy clay.

Scarp: a steep slope characterised by outcropping bedrock. In this report, scarp refers to a combination of landform elements including scarp foot slopes, scarps, and cliff lines where outcropping sandstone is present in the landscape 10% and above.

Spur: the lateral crests of land that descend from the summit of hills or ridges. Spurs typically extend, with decreasing elevation, closer to streams and valley floors than the main crest of a hill.

Taphonomic: the events and processes, such as burial in sediment, leading to the degradation, decomposition or preservation of objects.

Thumbnail scraper: A thumbnail sized thin flake with steep unidirectional retouch or use-wear around a convex working edge.

Transect: A sample unit which is walking line or corridor across the study area.

Upsidence: phenomena that occurs when mining approaches and undermines river valleys. It can result in cracking and buckling of riverbeds and rock bars and localised loss of water flow.

Visibility: The amount of bare ground on exposures which might reveal artefacts or other archaeological materials.

Yellow earths: predominantly sandy-textured soils with earthy porous fabric, weak profile differentiation and gradual or diffuse boundaries except for the darker A1 horizon.

Yellow podosols: Podsols which typically occur on the upper slopes of steep landscapes and on the mid to lower slopes of others. The A2 soil horizon is present in most profiles and the boundary change to the B horizon is generally clear. The B horizon is typically sandy clay to heavy clay.

Appendix A

Legislative context

A.1 Commonwealth

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* preserves and protects areas (especially sacred and intangible sites) and places of particular significance to Aboriginal people from damage or destruction. Steps necessary for the protection of a threatened place are outlined in a gazetted Ministerial Declaration (Sections 9 and 10); and which can result in a cessation of any development activity.

In addition, the Act also protects objects by Declaration, notably Aboriginal skeletal remains (Section 12). This can be applied at a State level where a State is unwilling or unable to provide such protection.

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* provides for protection of natural and cultural heritage places. The Act establishes a National Heritage List (NHL) and a Commonwealth Heritage List (CHL) upon which places of natural or cultural significance can be listed. Sites at a national level and can be in public or private ownership. The CHL is limited to places owned by the Commonwealth, and most frequently encompass Department of Defence sites. Sites and places listed on the NHL are considered to be of State and local heritage value, even if they are not listed or documented as such at a State level.

The values of sites and places on the NHL/ CHL are protected under the EPBC Act. The Act requires that the Minister administering the Act assess any action which has, will have, or is likely to have, a significant impact on the heritage values. Where relevant, a referral is made to the relevant Commonwealth Department, and either approval, approval with controls, or rejection of the proposed action is determined.

Native Title Act 1993

The *Native Title Act 1993* (NTA Act) provides recognition and protection for native title. The Act establishes the managing body, National Native Title Tribunal, who administers native title claims to rights and interests over lands and waters by Aboriginal people. It also administers the future act processes that allow proponents to identify and manage potential native title issues for a given activity on a site where a claim has yet to be made or finalised.

In addition, the Act provides for Indigenous Land Use Agreements (ILUA), which is an agreement between a native title group and others about the use and management of land and waters. ILUAs were introduced as a result of amendments to the Act in 1998. They allow people to negotiate flexible and bipartisan agreements to suit their particular circumstances often circumventing lengthy timeframes associated with the native title process. An ILUA can be negotiated over areas where native title has, or has not yet, been determined. They can be part of a broader determination or settled separately.

A.2 State

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the over-arching Act that dictates the nature of assessment and management of the environment during a development project, and within which heritage forms a component. requires that environmental and heritage impacts are considered by consent authorities prior to granting development approvals.

The Act has two main approval pathways within which heritage needs to be considered. Generally, for smaller scale projects (either financially or spatially), Parts 4 (Division 4.1) and 5 (Division 5.1) of the Act are implemented. Part 4 requires that a proponent submits a Development Application (DA) to local council for a given development, and within this document a consideration of Aboriginal and historical heritage is required. The specific nature of the assessment is usually determined at a pre-DA meeting with the council, and in relation to the relevant heritage

Acts. Where Aboriginal heritage is identified as an issue, the DA may become Integrated Development, whereby the State government is also required to review and provide comments on the DA prior to its issue. Part 5 of the Act is a similar process, but only relates to approvals developed and issued by State government departments. Each State government department has their own internal approach to considering environmental issues, but ultimately must develop a Review of Environmental Factors (REF), which is comparable to a DA, and which requires consideration and management of heritage. Similarly, where heritage is identified as an issue, liaison with relevant State consent authorities and approvals under other Acts may still be required.

The other approval pathway relates to State Significant Development and/or Infrastructure (Parts 4.7 and 5.2, respectively). These processes require an Environmental Impact Statement (EIS) to be developed for a project and assessed currently by the Heritage NSW (formerly the Department of Planning, Industry and Environment). Importantly, the SSD and SSI processes turns off a number of pieces of other legislation, including parts of the *National Parks and Wildlife Act 1974*. In the case of Aboriginal heritage, both the assessment and approval for harm are dictated by the Secretary's Environmental Assessment Requirements (SEARs) outlining the contents and scope of the EIS, and the Project Approval that dictates controls on how a development should proceed.

National Parks and Wildlife Act 1974

The National Parks and Wildlife Act 1974 (NPW Act) provides protection for Aboriginal objects and places across NSW:

- An Aboriginal object is defined as: *Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.*

- An Aboriginal place is: *any place declared to be an Aboriginal place under section 84*. This is a very specific piece of legislation that provides process and management of Aboriginal sites of cultural, but not necessarily scientific, values. They are commonly, but not always associated with intangible values.

- any place declared to be an Aboriginal place by the Minister for the Environment, under Section 84 of the Act.

It is an offence to disturb Aboriginal objects or places without AHIP, which is outlined in Section 90 of the Act. Currently, such permits can be sought from Heritage NSW.

To obtain an AHIP, certain assessment and documentation (outlined in this report) must be provided to DPC for their consideration. Once satisfied, they may endorse an AHIP to harm cultural heritage either conditionally or unconditionally. They can also refuse an application as outlined in Section 90C of the Act, and which can be appealed in accordance with Section 90L.

Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* provides process and protocols for the transfer of vacant Crown land ownership to a Local Aboriginal Land Council, where the land is not for an essential purpose or for residential land. These lands are then managed and maintained by the Local Aboriginal Land Council.

For the purposes of this report, the Act is primarily important to inform relevant Aboriginal communities for consultation; and where Crown land forms part of the development area may require additional liaison with the LALC as a potential, or existing, landowner.

Appendix B

Aboriginal community consultation

B.1 Consultation log and communications record

Aboriginal Consultation Requirements for Proponents **(DECCW 2010)***

ABORIGINAL COMMUNICATIONS LOG

Project Name: Great Cobar Mine SSD | **Project #:** J190278

DATE	OUTGOING / INCOMING	ORGANISATION	CONTACT MADE BY	CONTACT TO	CONTACT TYPE	COMMENTS
28 April 2020	Outgoing	DPIE BCD (Far West Branch)	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
28 April 2020	Outgoing	Cobar Local Aboriginal Land Council	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
28 April 2020	Outgoing	The Office of the Registrar, Aboriginal Land Rights Act 1983	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
28 April 2020	Outgoing	National Native Title Tribunal	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
28 April 2020	Outgoing	Native Title Services NTSCORP	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
28 April 2020	Outgoing	Cobar Shire Council	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
28 April 2020	Outgoing	Western Local Land Service (former CMA)	Georgia Burnett (EMM)	NA	Email	Request for contact details for known Aboriginal stakeholders.
30 April 2020	Incoming	DPIE BCD (North West Branch)	Helen Knight	Georgia Burnett (EMM)	Email	Provided BCD list of RAPs.
13 May 2020	Outgoing	Bundyi Aboriginal Cultural Knowledge	Georgia Burnett (EMM)		Post	Invitation to register for project.
13 May 2020	Outgoing	Corroboree Aborginal Corporation	Georgia Burnett (EMM)	Marilyn Carroll-Johnson	Post	Invitation to register for project.
13 May 2020	Outgoing	Cobar Local Aboriginal Land Council	Georgia Burnett (EMM)		Post	Invitation to register for project.
13 May 2020	Outgoing	Gundabooka Aborginal Corporation Management Committee	Georgia Burnett (EMM)		Post	Invitation to register for project.
13 May 2020	Outgoing		Georgia Burnett (EMM)	John Shipp	Post	Invitation to register for project.
13 May 2020	Outgoing	Paroo-Darling NP Co-management Committee	Georgia Burnett (EMM)		Post	Invitation to register for project.
13 May 2020	Outgoing	Aboriginal Reference Group, Western Catchment Mangement Authority	Georgia Burnett (EMM)		Post	Invitation to register for project.
13 May 2020	Outgoing	Wiradjuri Interim Working Party	Georgia Burnett (EMM)		Post	Invitation to register for project.
14 May 2020	Incoming	Native Title Services NTSCORP	Matilda Vaughan	Georgia Burnett (EMM)	Email	Emailed to provide contact details for James MacLeod as the representative for The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People. Emphasied groups concern for for the ongoing impacts of mining on country. Noted that the group views disturbances underground by mining as impacting the environment by destabilising the water table, water quality and threatening the ecosystems of native flora and fauna. Requested the following be provided: - the AHIMS search report - documentation regarding the Aboriginal site identified in Figure 2 of the request for information letter - the New Cobar Complex Underground Expansion Project's Environmental Assessment Report Acknowledged reciept 15 May 2020. Registered The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People as stakeholders with James MacLeod as contact person. Provided requested documentation and notification letter (see 13 May 2020 entries).
17 May 2020	Incoming	Gunjeewong Cultural Heritage Corporation	Cherie Carroll Turrise	Georgia Burnett (EMM)	Email	Registered interest in the project. Acknowledged reciept 22 May 2020.
18 May 2020	Incoming	Corroboree Aborginal Corporation	Marilyn Carroll-Johnson	Georgia Burnett (EMM)	Email	Registered interest in the project. Acknowledged reciept 22 May 2020.
29 May 2020	Incoming	Cobar LALC	Rena Clements	Georgia Burnett (EMM)	Email	Provided a response indicating the need for surface investigation of the area, and identfiying the potential for signficant sites (such as a nearby newly discovered Bora Ring) being present in the general area. Indicated that she would be keen for mentoring and training during the work to assist the younger generation of sites officers.
3 June 2020	Outgoing	All RAPs		Georgia Burnett (EMM)	Email	Sent out proposed methdology, requested comments by 1 July 2020.
16 June 2020	Outgoing	All RAPs		Alan Williams	Phone and e-mail	AW contacted or attempted to make contact with all RAPs to advise them of the upcoming site inspection proposed.
17 June 2020	Outgoing		Peter Harris	Alan Williams	Phone and e-mail	This individual's name was provided by the proponent as being relevant to the area. AW contacted or attempted to make contact with all RAPs to advise them of the upcoming site inspection proposed; and provided all the documentation to date.
17 June 2020	Outgoing		Barry Williams	Alan Williams	Phone (message)	This individual's name was provided by the proponent as being relevant to the area. AW contacted or attempted to make contact with all RAPs to advise them of the upcoming site inspection proposed; and provided all the documentation to date.
17 June 2020	Outgoing		Hilaree Mavis	Alan Williams	Phone and e-mail	This individual's name was provided by the proponent as being relevant to the area. AW contacted or attempted to make contact with all RAPs to advise them of the upcoming site inspection proposed; and provided all the documentation to date.
17 June 2020	Incoming	Gunjeewong Cultural Heritage Corporation	Cherie Carroll Turrise	Alan Williams	E-mail	Advised additional funds would be required due to significant distance from the study area. Subsequent discussions indicated that her father had spent brief time in Cobar while travelling around NSW, but her primary connection was through being an Aboriginal person.
18 June 2020	Outgoing	Cobar LALC	Rena Clements	Alan Williams	E-mail	Followed up on whether they would have someone available.
18 June 2020	Incoming	-	Hilaree Mavis	Alan Williams	E-mail	Indicated she may not have the necessary insurances to participate. A similar issue was rasied by Peter Harris
19 June 2020	Outgoing	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Justin Ford	Alan Williams	Phone	Left a message calling him back
19 June 2020	Outgoing	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Justin Ford	Alan Williams	Phone	Wanted to ensure the native title claim involved. Advised that Auntie Elaine was the key person, and that he spoke for her; and was interested in participating in the project.
22 June 2020	Incoming	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People and/or Cobar LALC	Elaine Ohlsen	Georgia Burnett (EMM)	E-mail	The proponent advised Elaine had contact him as a representative of the Cobar LALC. She provided new contact information and requested further information on the data use agreement between the LALC and relevant parties and requested a copy of the induction forms. Enquired whether she could work under EMM insurances, and advised that monitoring of the construction may be recommended depending on the outcome of the assessment. GB replied 23 June 2020 to advise them of the upcoming site inspection proposed; and provided all the documentation to date.
23 June 2020	Outgoing	Cobar LALC	Reception	Georgia Burnett (EMM)	Phone	Called to discuss Cobar LALC's involvement in survey and to confirm point of contact for LALC. Advised Rena was the key contact for the LALC, and would return call.
23 June 2020	Outgoing	Cobar LALC	Rena Clements	Alan Williams	Email	Confirmed Aurelia Metals representative at the LALC board meeting next year. AW sought clarification on time and place, and specific things that are to be discussed

24 June 2020	Incoming		Peter Harris	Alan Williams	Phone	Withdrew from participation in site inspection but wish to stay involved in consultation.
24 June 2020	Incoming		Hilaree Mavis	Alan Williams	Phone	Withdrew from participation in site inspection but wish to stay involved in consultation.
25 June 2020	Outgoing	Cobar LALC; The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People; Gunjeewong Cultural Heritage Corporation; Coroboree Aboriginal Corporation	Georgia Burnett (EMM)	Rena Clements; Marylin Carroll-Johnson; Cherie Carroll-Turrise; Elaine Ohlsen	Email	Ongoing discussions regarding site visit scheduled for 2 July 2020. Gunjeewong and Corroboree confimed attendance; Cobar LALC and Elaine Ohlsen TBD.
29 June 2020	Outgoing	Cobar LALC	Rena Clements		Phone	Attempted to confirm site inspection attendance and admin details including board meeting. Advised she would provide by 2pm 30 June 2020.
29 June 2020	Outgoing	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Georgia Burnett (EMM)	Elaine Ohlsen	Phone	Confirmed site inspection attendance and admin details.
30 June 2020	Incoming	NTSCorp	Matilda Vaughan	Georgia Burnett (EMM)	Email	Letter outling feedback from the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People's Applicant on the New Cobar Complex Methodology. Letter is provided in Appendix B, but to summerise: - Concerns regarding the provision of information and paperwork - Where archaeological excavations are proposed, a representative of the claimant group must be involved - Further information regarding other environmental impacts of the project.
1 July 2020	Outgoing	Cobar LALC	Georgia Burnett (EMM)	Reception	Phone	Called to confirm LALC board meeting on 2 July 2020. Advised the board meeting would not be going ahead.
1 July 2020	Incoming	Gunjeewong Cultural Heritage Corporation; Coroboree Aboriginal Corporation	Marilyn Carroll-Johnson; Cherie Carroll-Turrise	Georgia Burnett (EMM)	Email	Regretfully would not be able to attend the site inspection due to illness.
2 July 2020	Outgoing	Cobar LALC; The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Georgia Burnett (EMM); Pamela Chauvel (EMM)	Rebecca Dowling; Tyrone Griffiths	Fieldwork	Undertook site inspection.
3 July 2020	Outgoing	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Georgia Burnett (EMM); Pamela Chauvel (EMM); Jonathon Thompson (PGM)	Elaine Ohlsen	Meeting	Informal meeting to discuss project and desired outcomes.
7 July 2020	Incoming/Outgoing	Cobar LALC	Rena Clements	Georgia Burnett (EMM)	Email	Various conversations regarding invoicing.
7 July 2020	Incoming/Outgoing	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Georgia Burnett (EMM)	Elaine Ohlsen	Phone/email	Various conversations regarding invoicing.
24 July 2020	Outgoing	NTSCorp	Georgia Burnett (EMM)	Matilda Vaughan	Email	Response provided to letter dated 30 June 2020. Letter is provided in Appendix B, but to summerise: - Outlined consultation process to date, highlighting the scheduling has been in line with Heritage NSW guidelines. - Highlighted contact with individuals representing claiment group, outside of contact with NTSCorp. - Highlighted ongoing discussions with claimant group as project progresses.
16 October 2020	Outgoing	All RAPs	Alan Williams	-	Email	Distributed a draft copy of the ACHA out for comment by the Aboriginal stakeholders.
3 November 2020	Outgoing	All RAPs	Alan Williams	-	Email	Provided a reminder that the Cobar ACHA was due for finalisation shortly.
3 November 2020	Outgoing	The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People	Elaine Ohlsen	Alan Williams	Email	Acknowledged receipt of report.

B.2 Stage 1 – Notification and registration

This section contains the following documents:

- Government agency requests and responses;
- public media notifications;
- Aboriginal party invitation to register for the Project;
- Aboriginal party registrations of interest; and
- notification to Heritage NSW (formerly DPIE) and the LALC of registered parties.

Ground floor, 20 Chandos Street
St Leonards NSW 2065
PO Box 21
St Leonards NSW 1590

T 02 9493 9500
E info@emmconsulting.com.au

www.emmconsulting.com.au

27 April 2020

Biodiversity and Conservation Department
(Far West Branch), Department of Planning, Industry and Environment
Level 1/48–52 Wingewarra Street
Dubbo NSW 2830

Re: Request for information on Aboriginal stakeholders for an Aboriginal cultural heritage assessment for the New Cobar Complex Underground Expansion Project, Cobar NSW

Dear Sir/Madam,

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The complex is situated within the Cobar Shire Council. The proponent's contact details are:

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(Group Manager – Environment, Aurelia Metals Limited);
Peak Gold Mines, Hillston Road, Cobar NSW 2835,
P: 0488 065 144; E: jonathon.thompson@auraliametals.com.au.

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Yours sincerely

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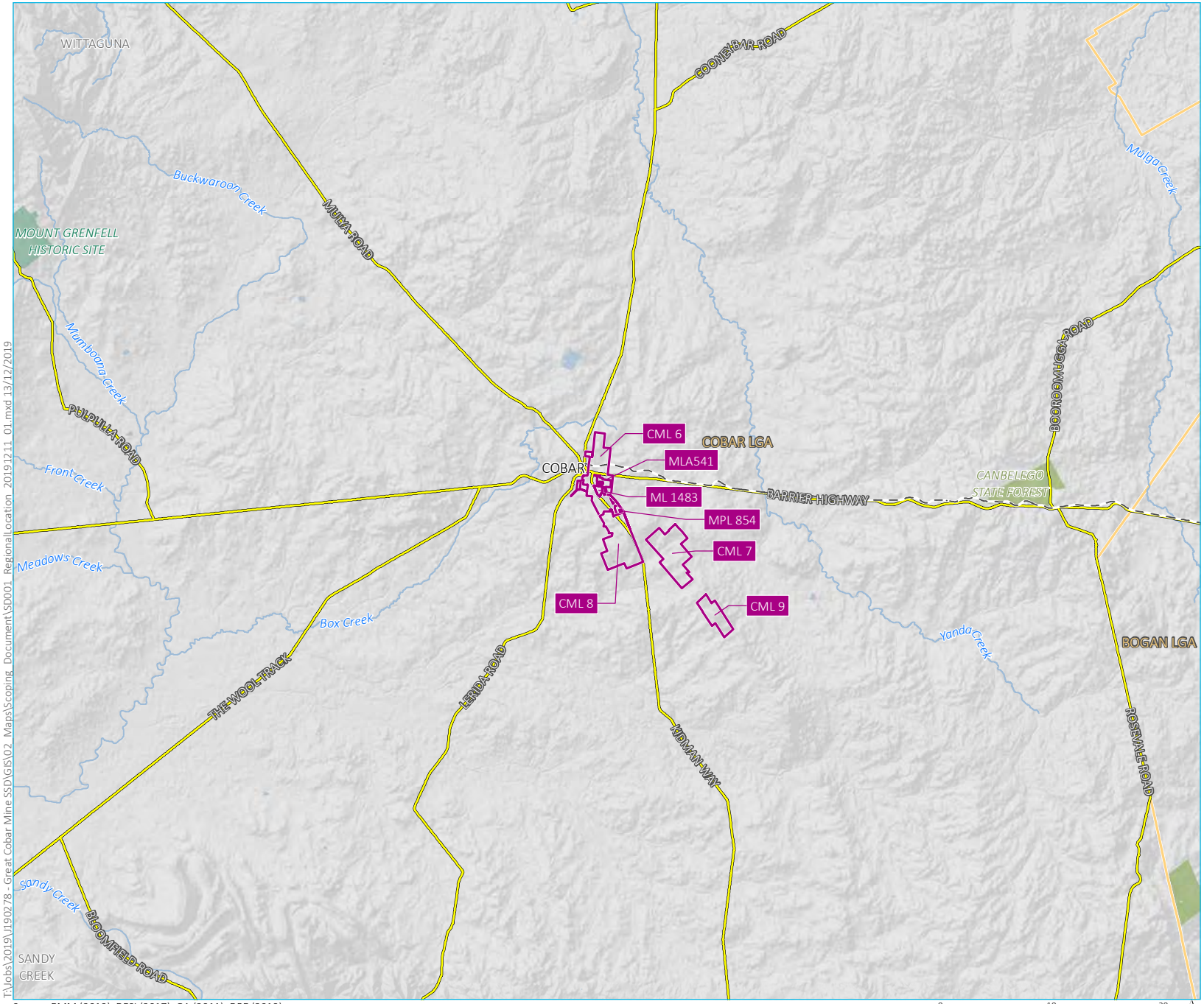

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- Mining lease boundary
- Rail line
- Main road
- Named watercourse
- Waterbody
- Local government area
- NPWS reserve
- State forest

Source: EMM (2019); DFSI (2017); GA (2011); DPE (2019)

0 10 20 km

GDA 1994 MGA Zone 55

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Regional location of the New Cobar Complex

New Cobar Complex
Aboriginal community consultation
Figure 1

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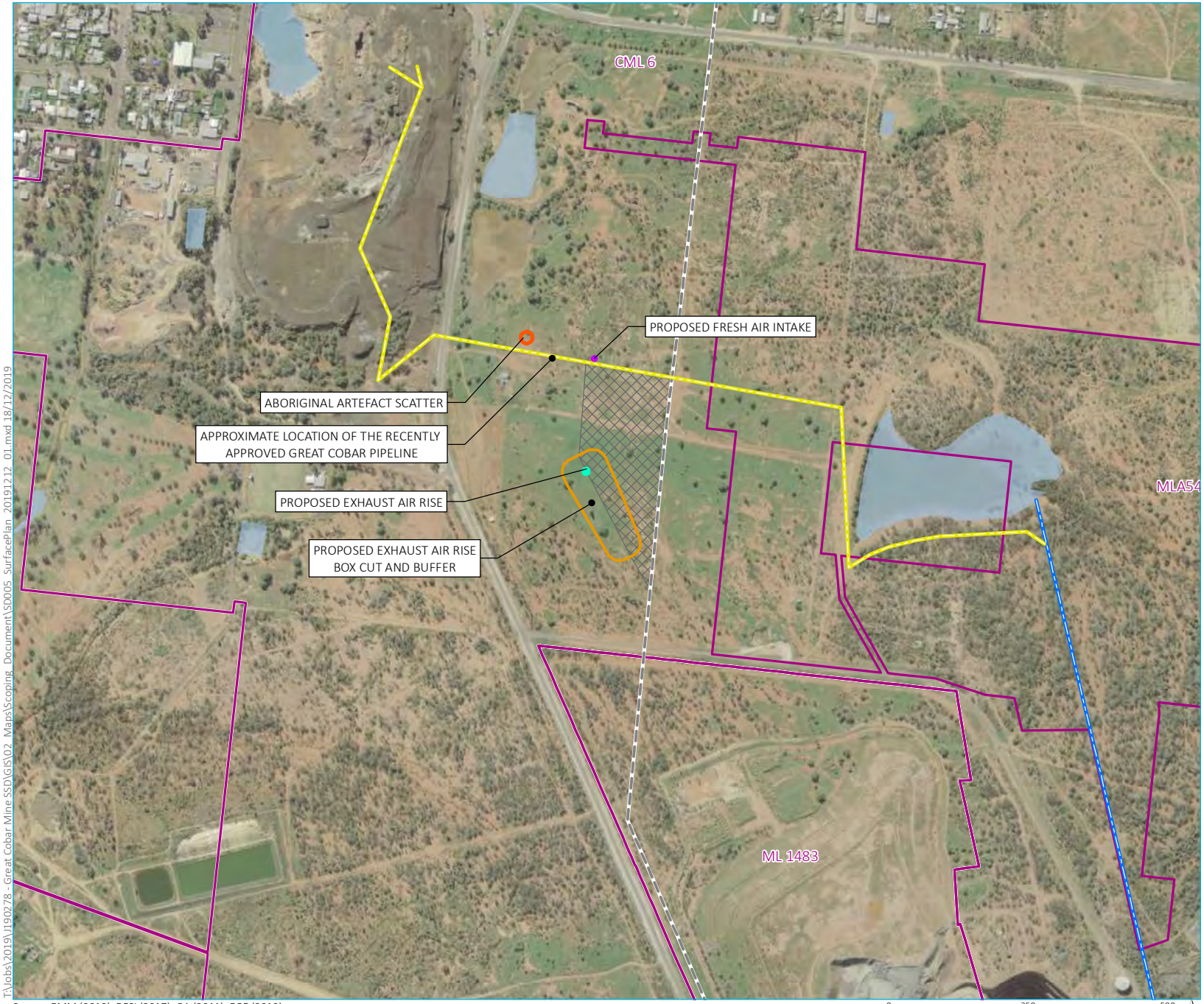

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27 April 2020

Cobar Local Aboriginal Lands Council
23 Railway Parade
Cobar NSW 2835
cobarlalc@bigpond.com

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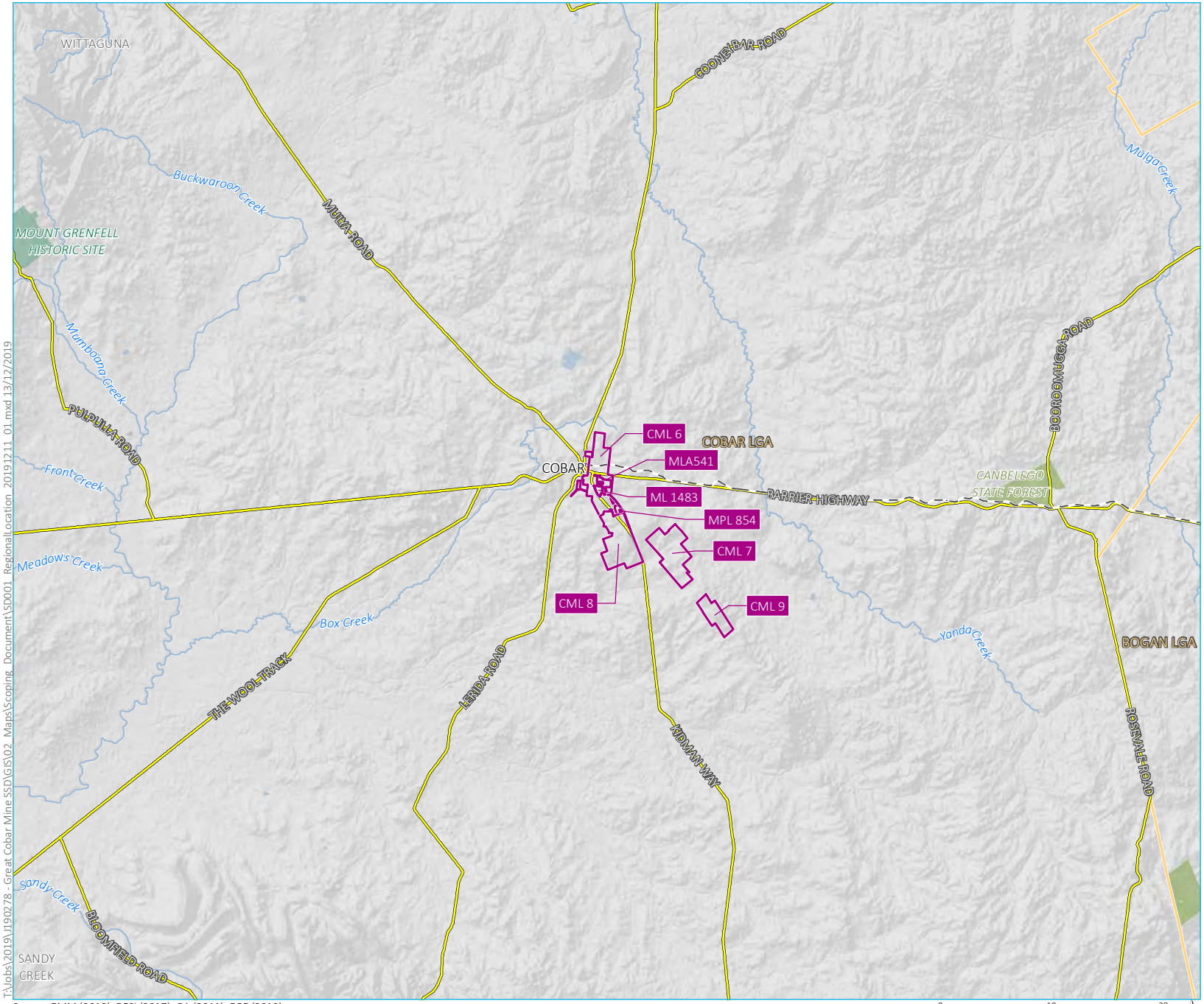

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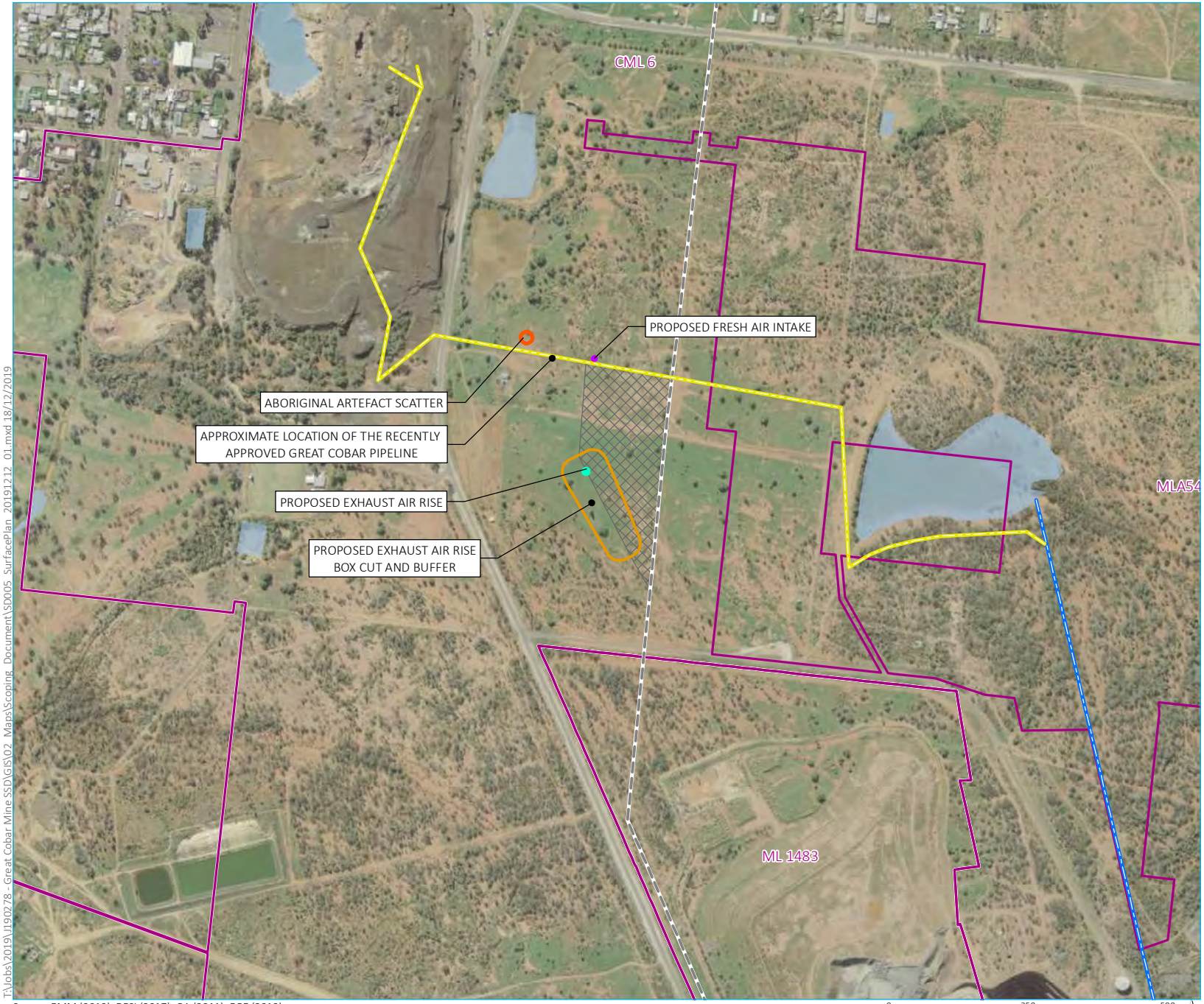

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27 April 2020

National Native Title Tribunal
Level 5, Harry Gibbs Commonwealth Law Courts,
119 North Quay
Brisbane QLD 4001
enquiries@nntt.gov.au

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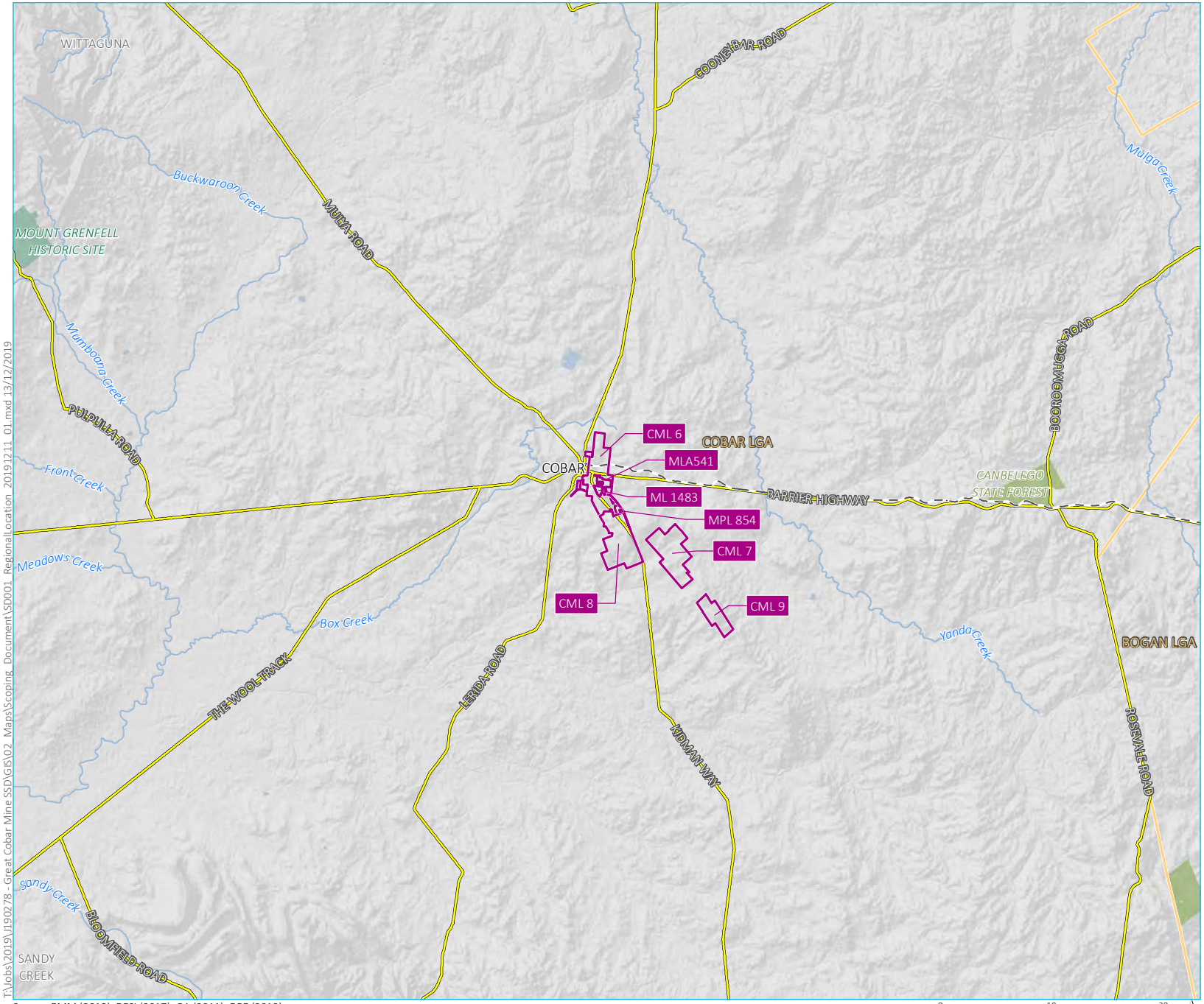

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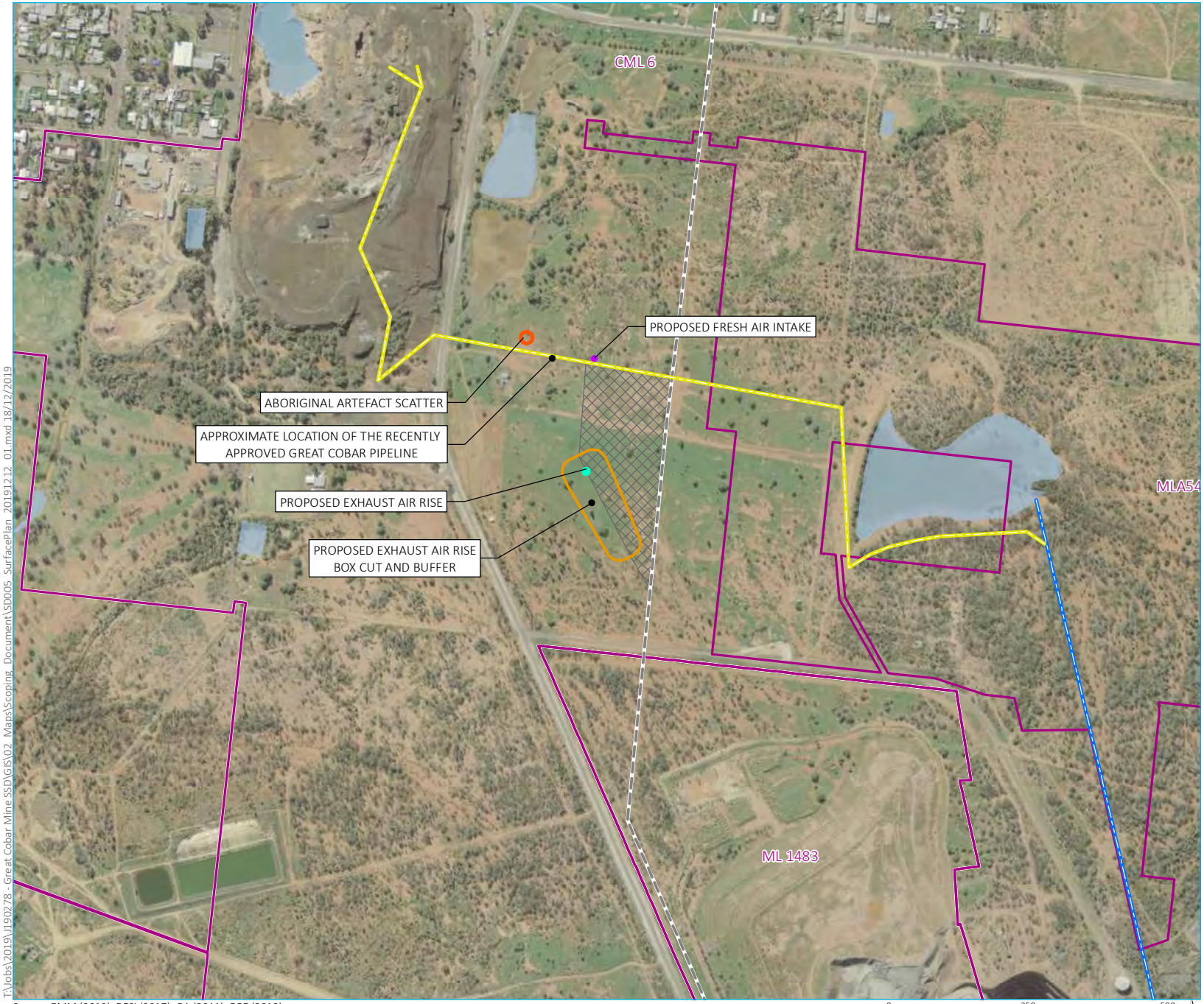

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27 April 2020

Native Title Services NTSCORP
PO Box 2105
Strawberry Hills NSW 2012
information@ntscorp.com.au

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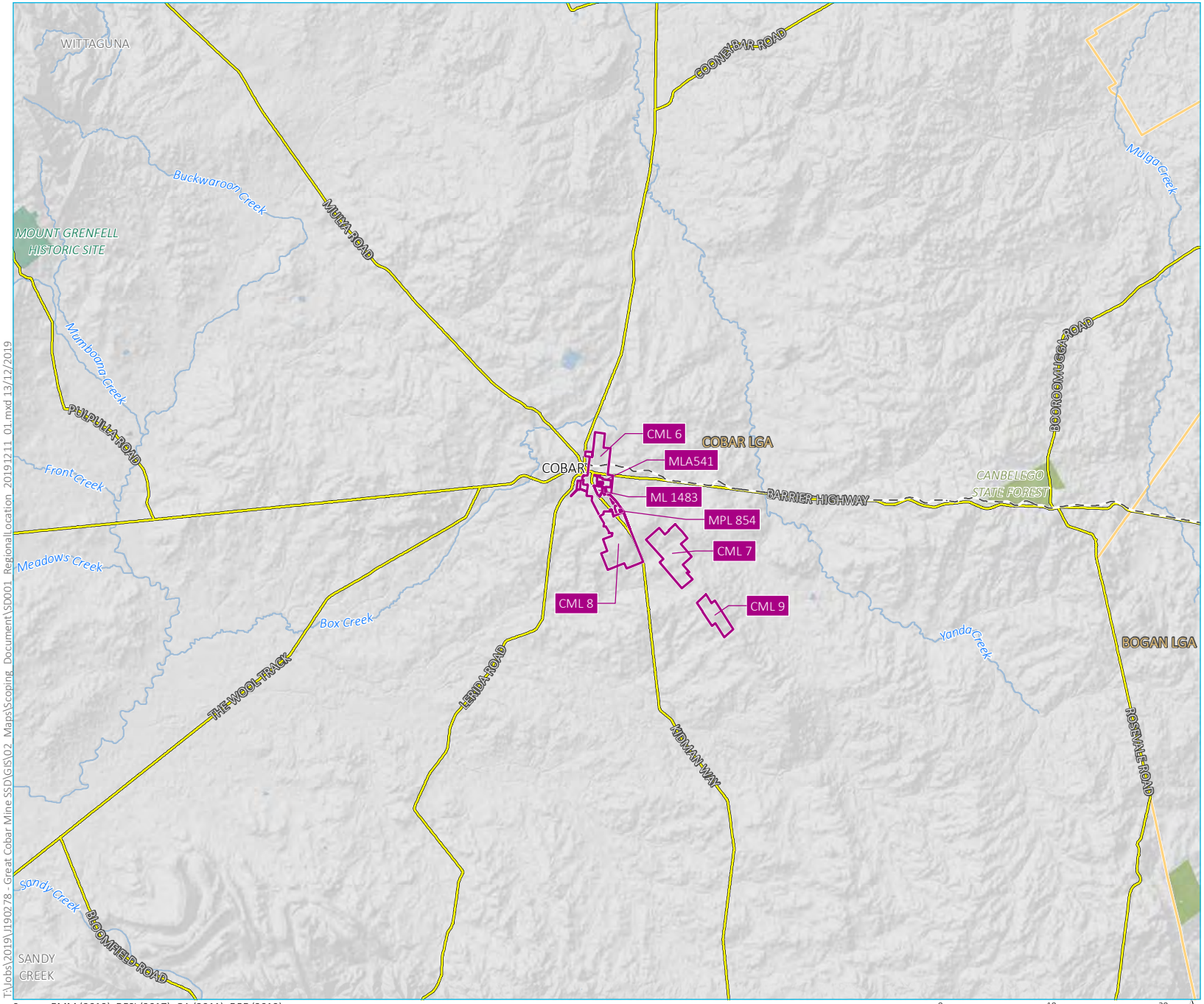

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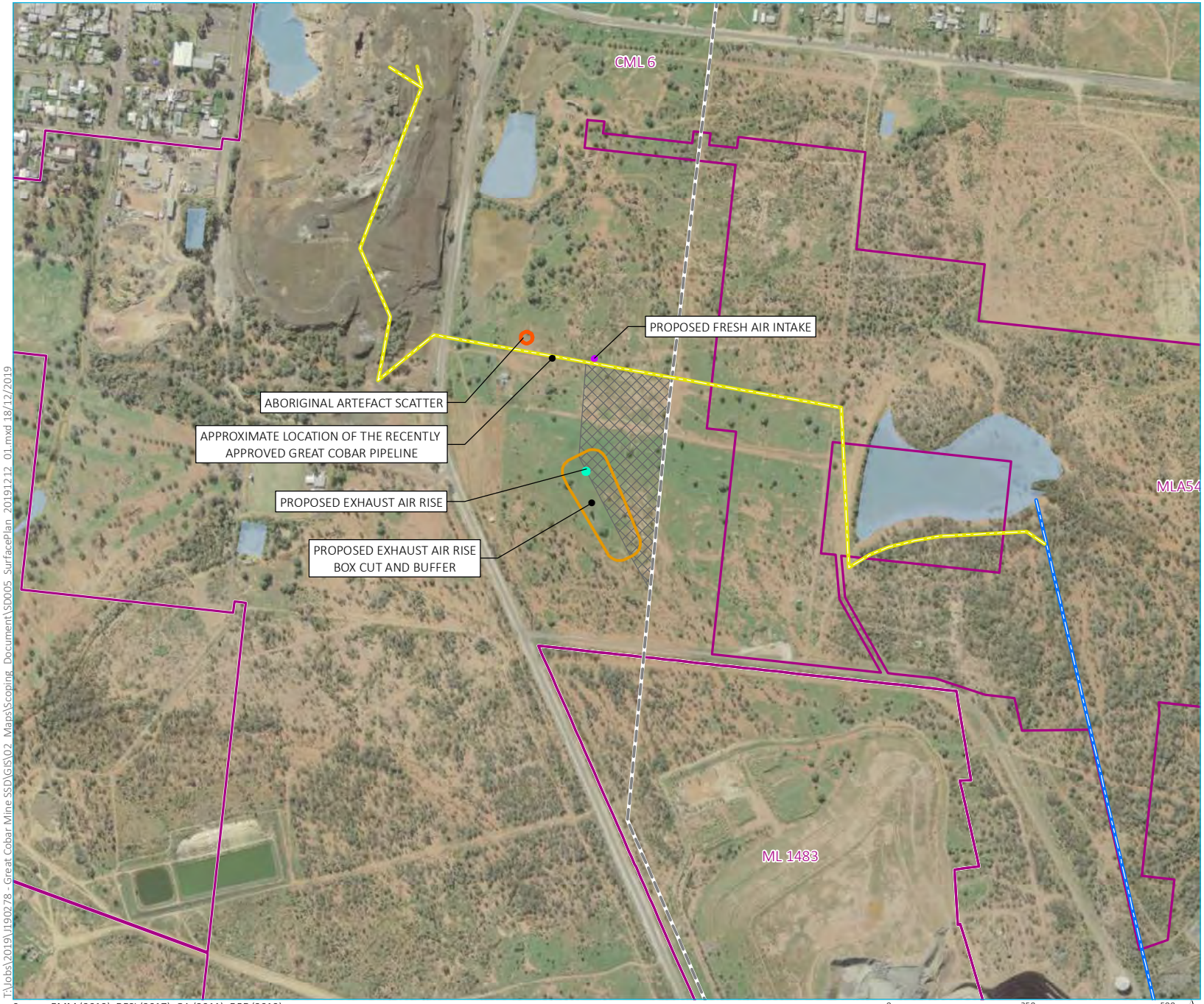

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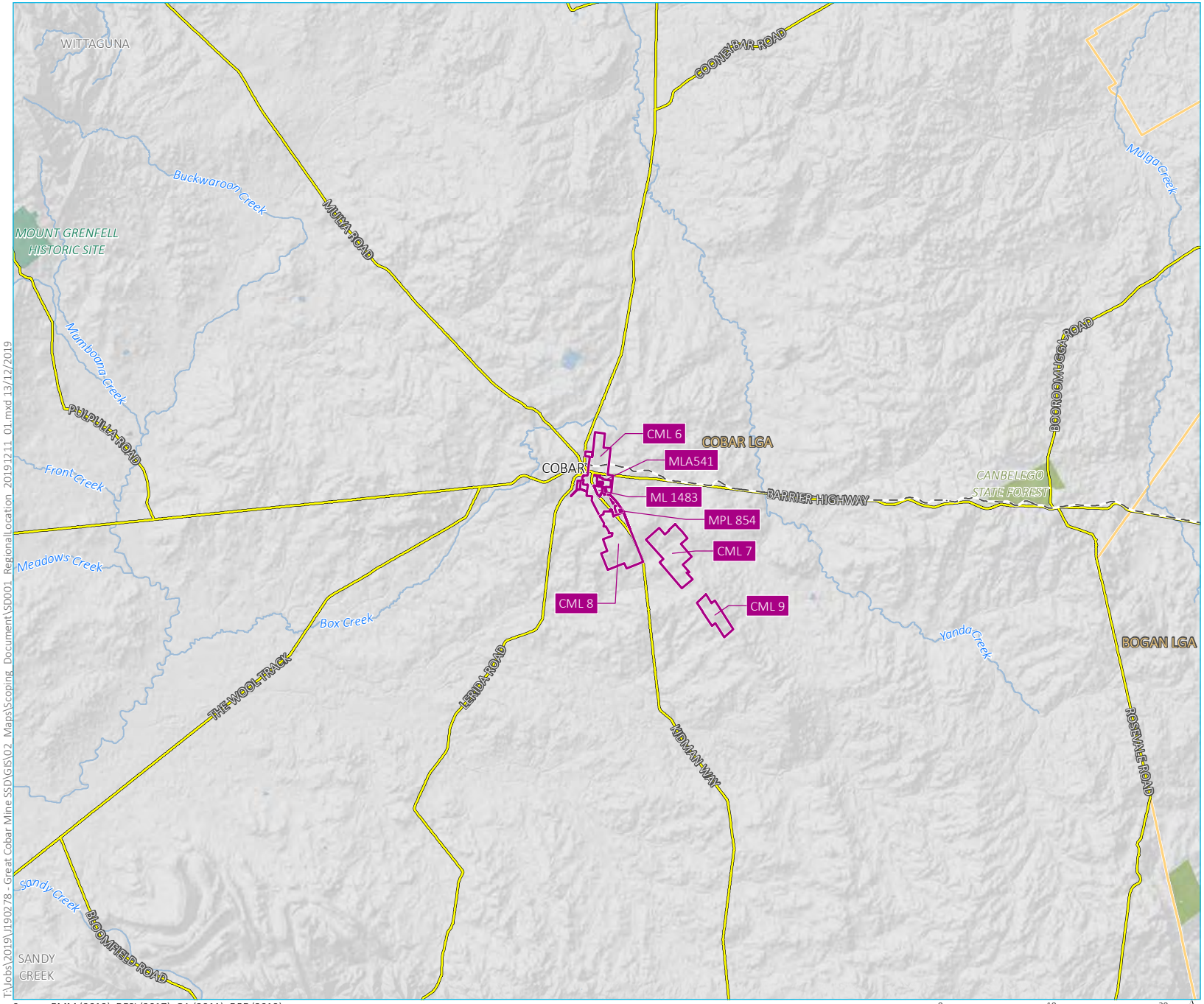

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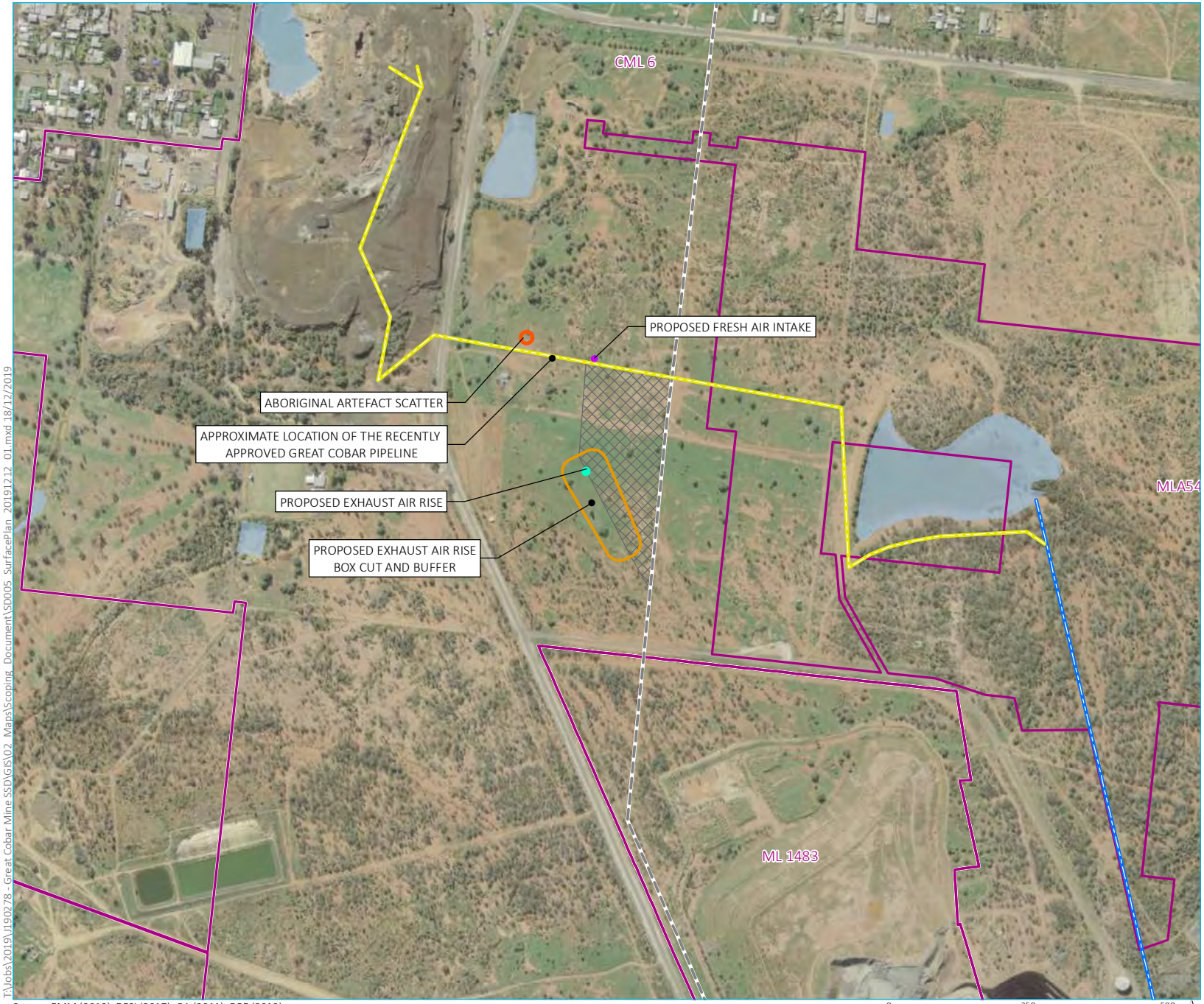

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The Office of the Registrar, Aboriginal Land Rights Act 1983
Level 3, 2-10 Wentworth Street
Parramatta NSW 2150
adminofficer@oralra.nsw.gov.au

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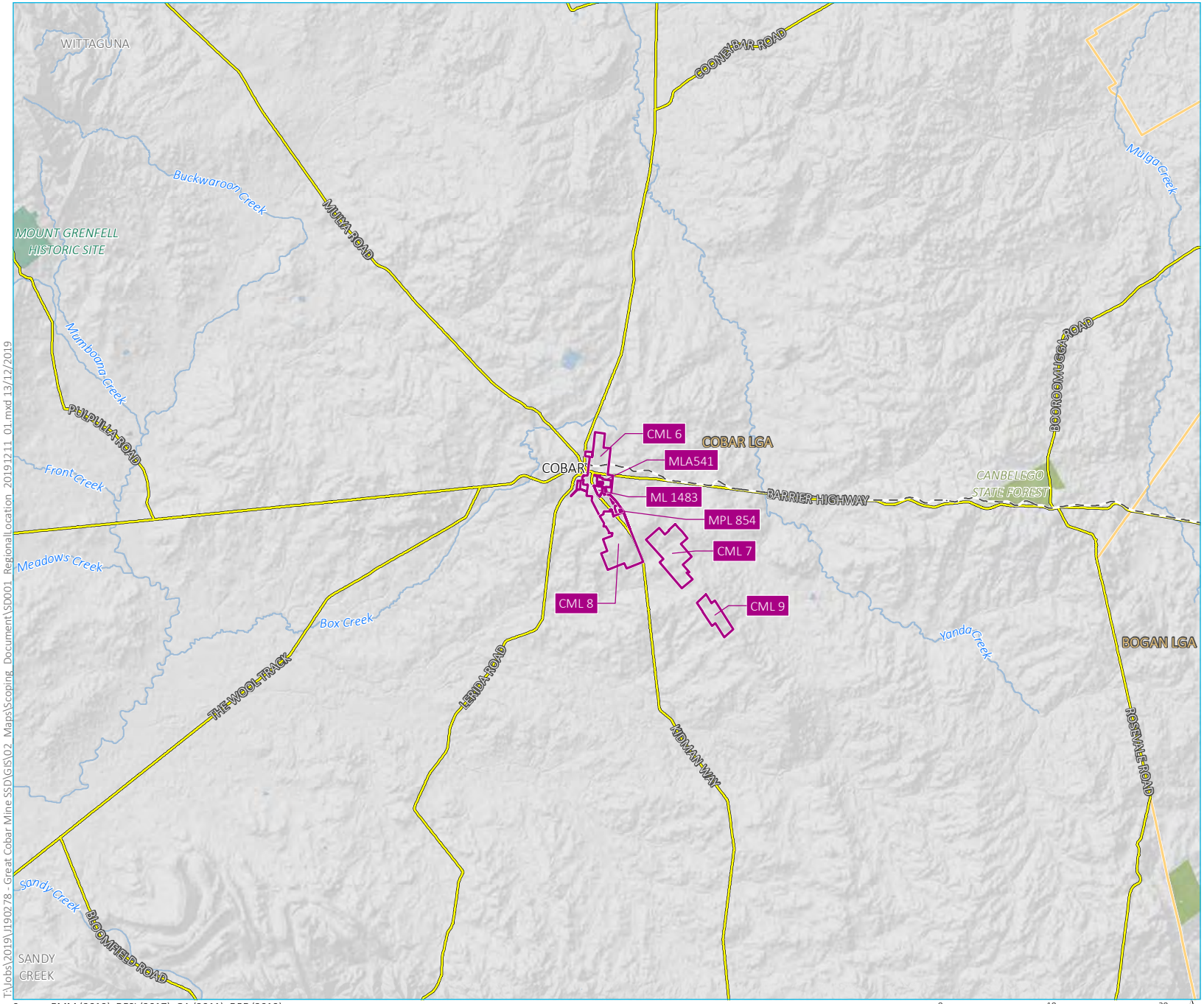

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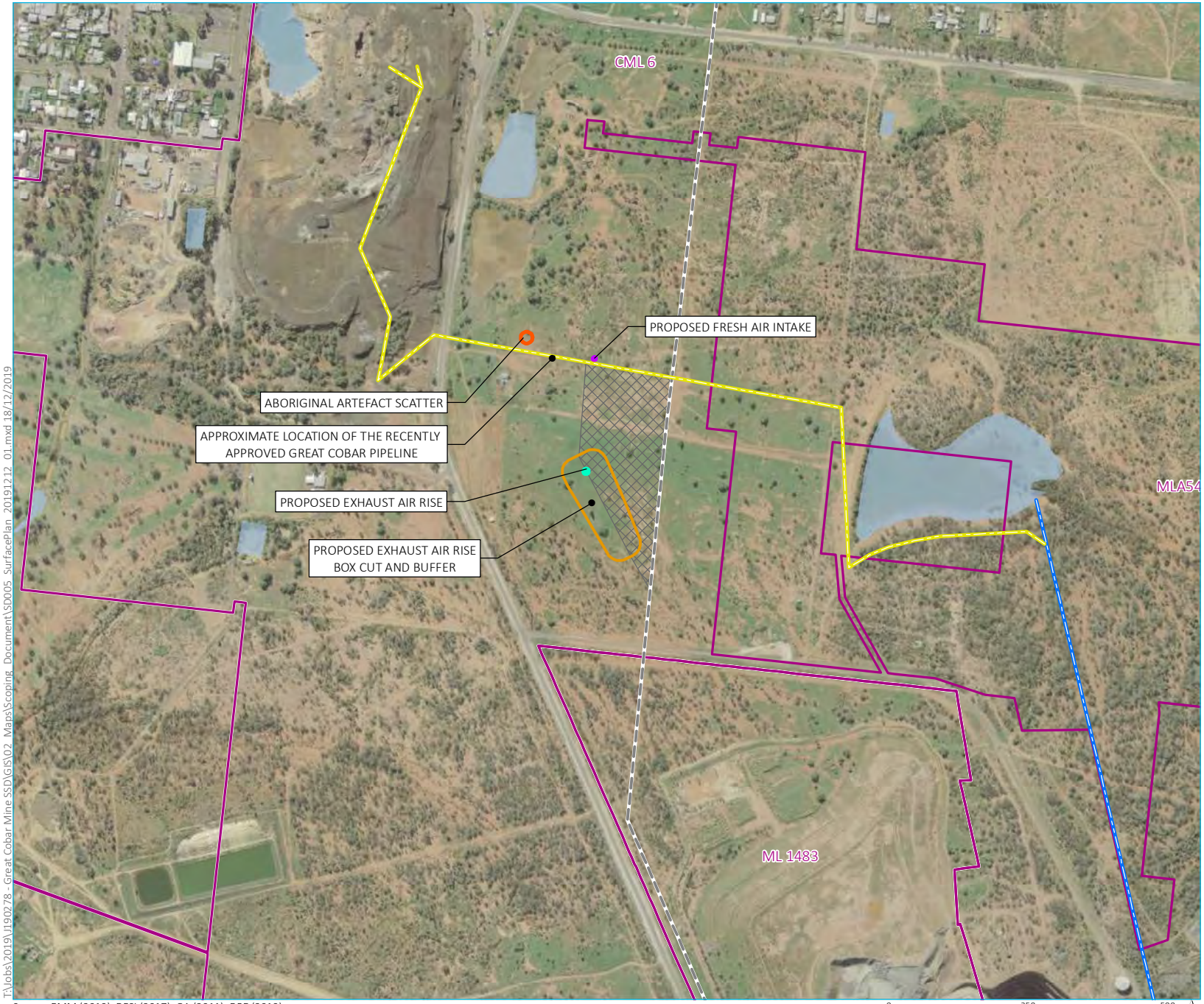

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Western Local Land Service (former CMA)
62 Marshall Street
Cobar NSW 2835
admin.western@lls.nsw.gov.au

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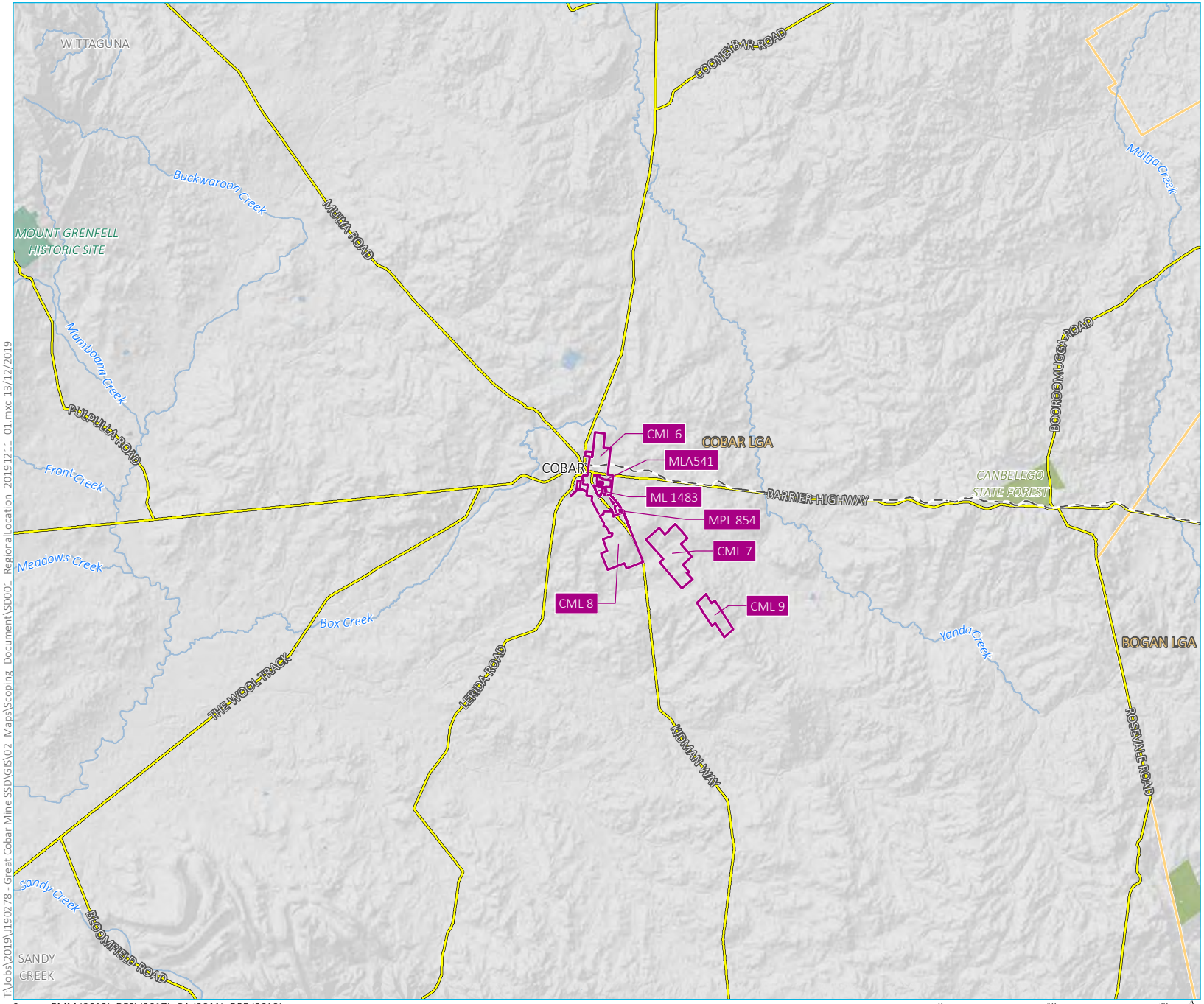
Please don't hesitate to contact me on (02) 9493 9500 if you have any queries or concerns.

Yours sincerely

G. Burnett.

Georgia Burnett
Archaeologist
gburnett@emmconsulting.com.au



KEY

- Mining lease boundary
- Rail line
- Main road
- Named watercourse
- Waterbody
- Local government area
- NPWS reserve
- State forest

Source: EMM (2019); DFSI (2017); GA (2011); DPE (2019)

0 10 20 km

GDA 1994 MGA Zone 55

N

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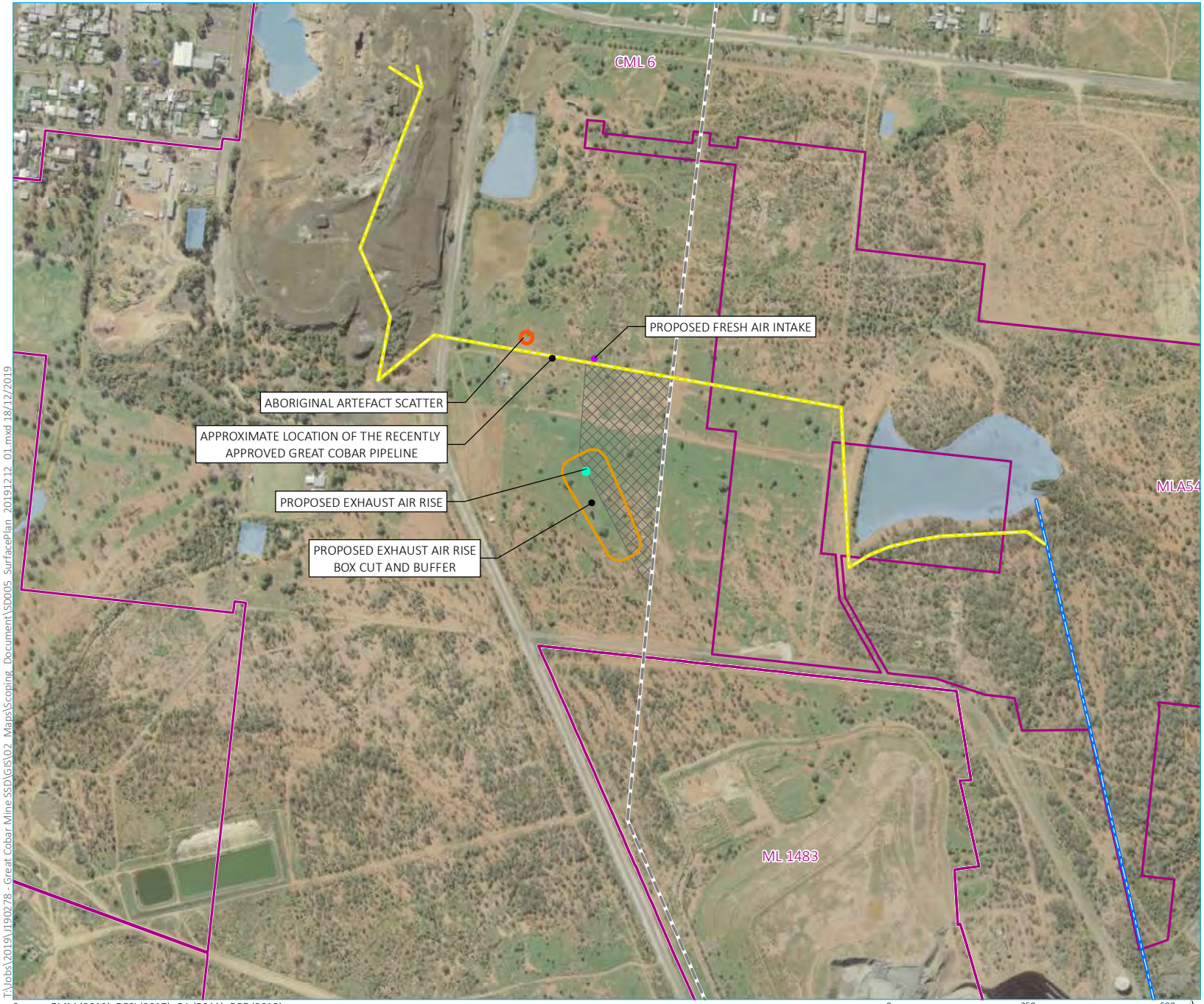
Regional location of the New Cobar Complex

New Cobar Complex
Aboriginal community consultation
Figure 1

EMM
creating opportunities



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Source: EMM (2019); DFSI (2017); GA (2011); DPE (2019)

0 250 500 m

GDA 1994 MGA Zone 55

N

New Cobar Complex
Surface Plan

New Cobar Complex
Aboriginal community consultation
Figure 2

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St Leonards NSW 2065
PO Box 21
St Leonards NSW 1590

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E info@emmconsulting.com.au

www.emmconsulting.com.au

13 May 2020

James MacLeod
The Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People
jmacleod@ntscorp.com.au

Re: Aboriginal Cultural Heritage Assessment for the New Cobar Complex Underground Expansion Project, Cobar NSW - Notification of Project

Dear Sir,

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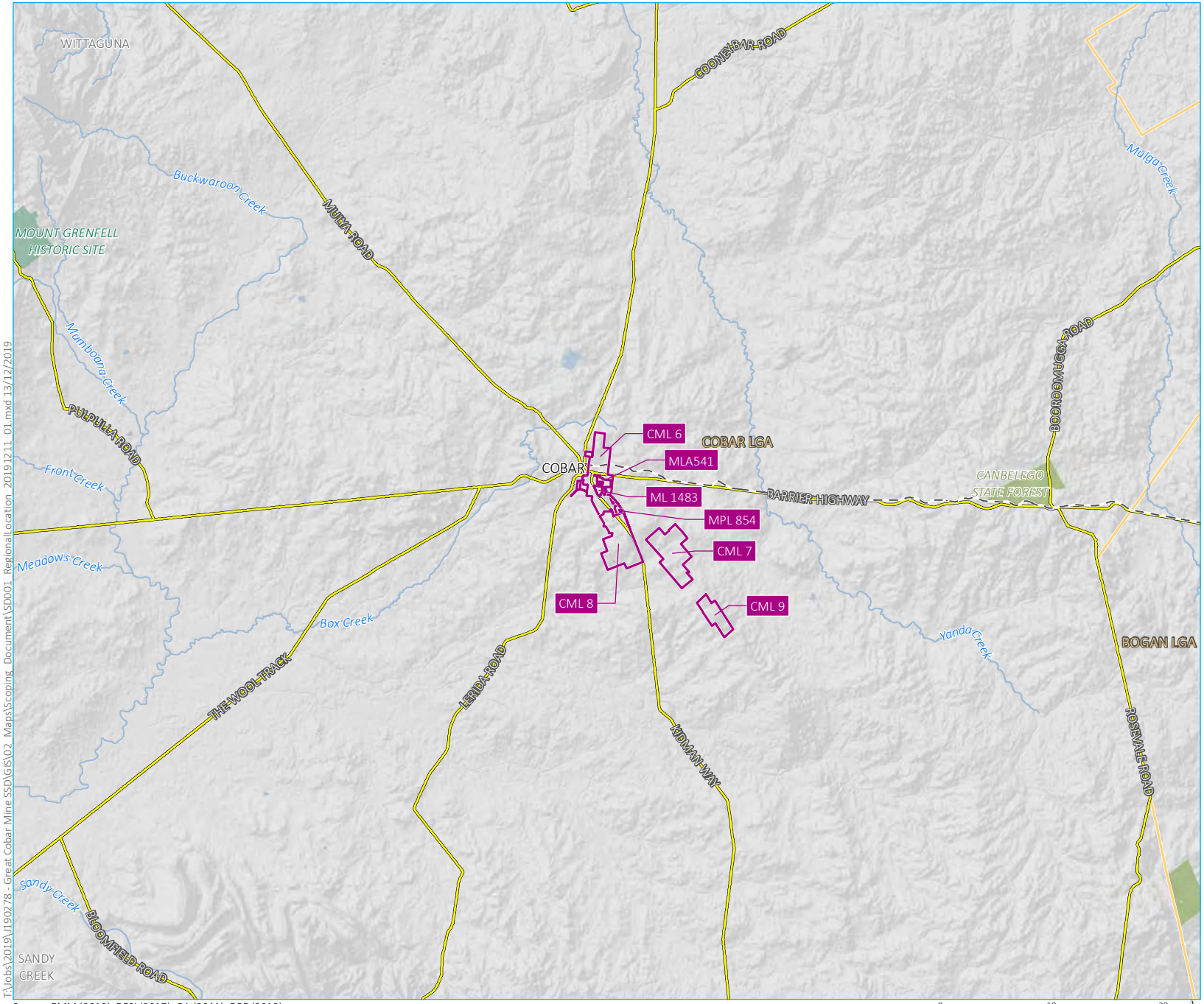

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- Mining lease boundary
- Rail line
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- Named watercourse
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- Local government area
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Source: EMM (2019); DFSI (2017); GA (2011); DPE (2019)

0 10 20 km

GDA 1994 MGA Zone 55

N

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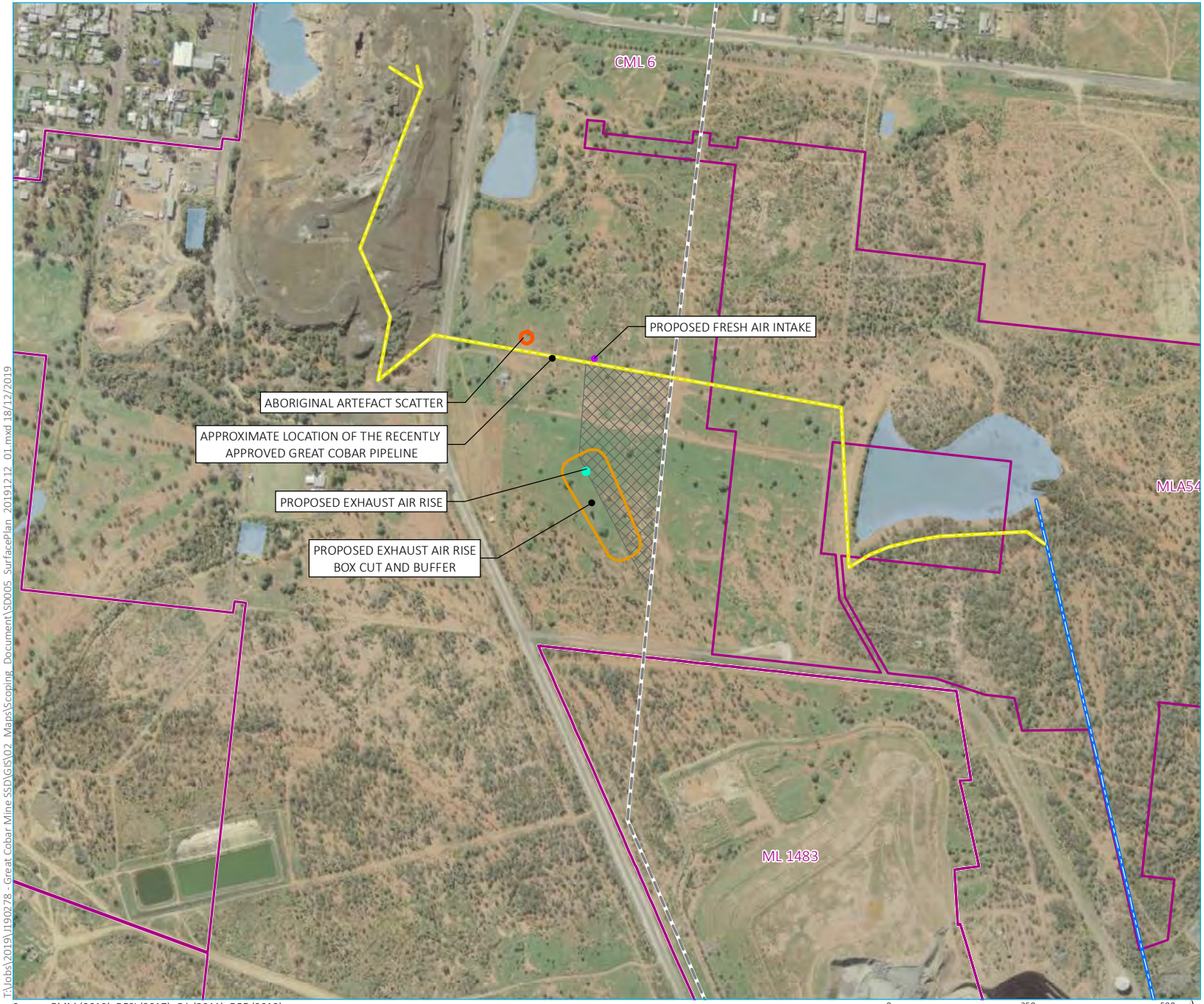
EMM
creating opportunities



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0 250 500 m

GDA 1994 MGA Zone 55

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Surface Plan

New Cobar Complex
Aboriginal community consultation
Figure 2

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T 02 9493 9500
E info@emmconsulting.com.au

www.emmconsulting.com.au

13 May 2020

Bundyi Aboriginal Cultural Knowledge
PO Box 8005
Kooringal NSW 2650

Re: Aboriginal Cultural Heritage Assessment for the New Cobar Complex Underground Expansion Project, Cobar NSW - Notification of Project

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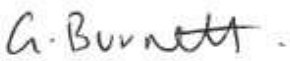

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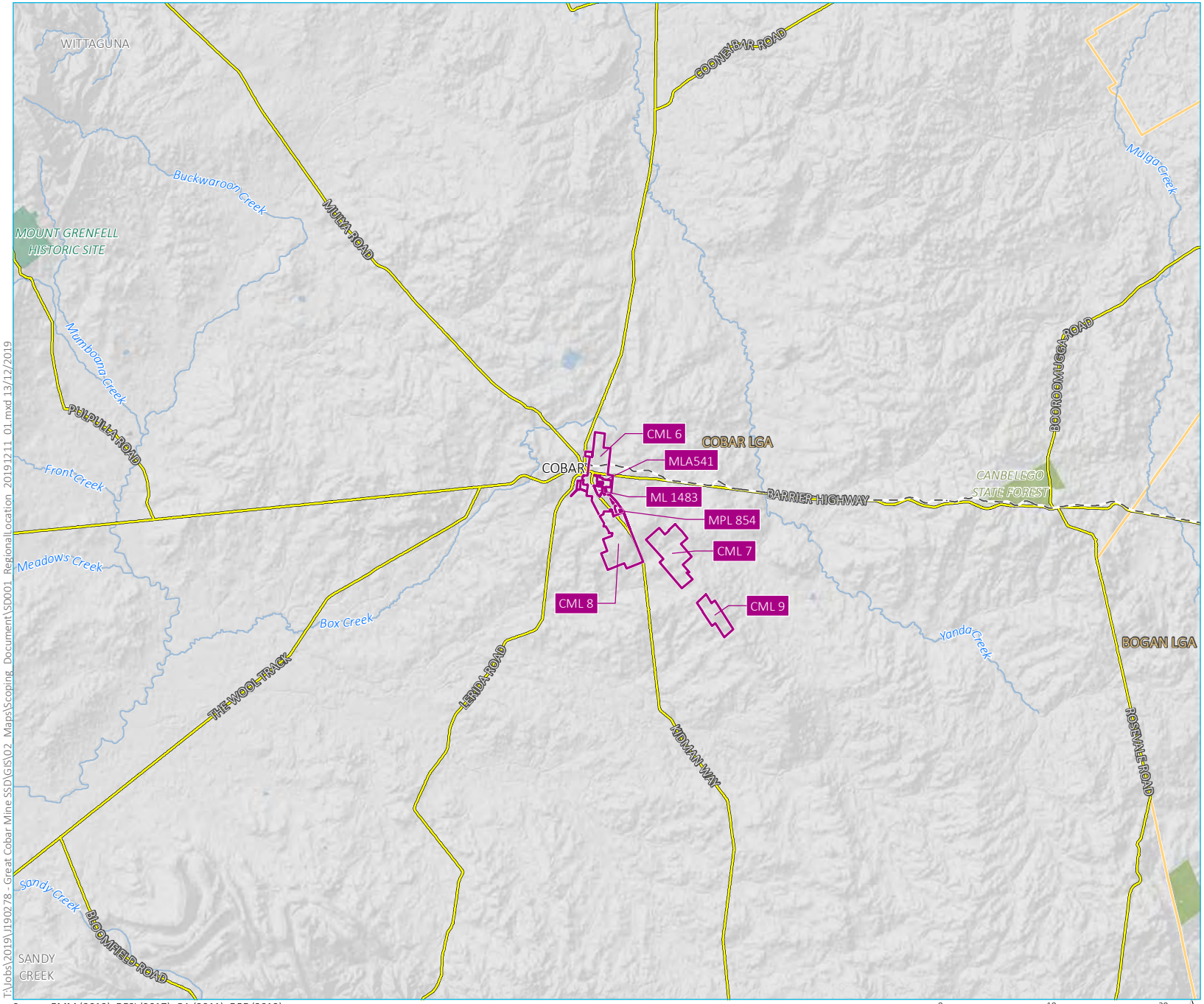

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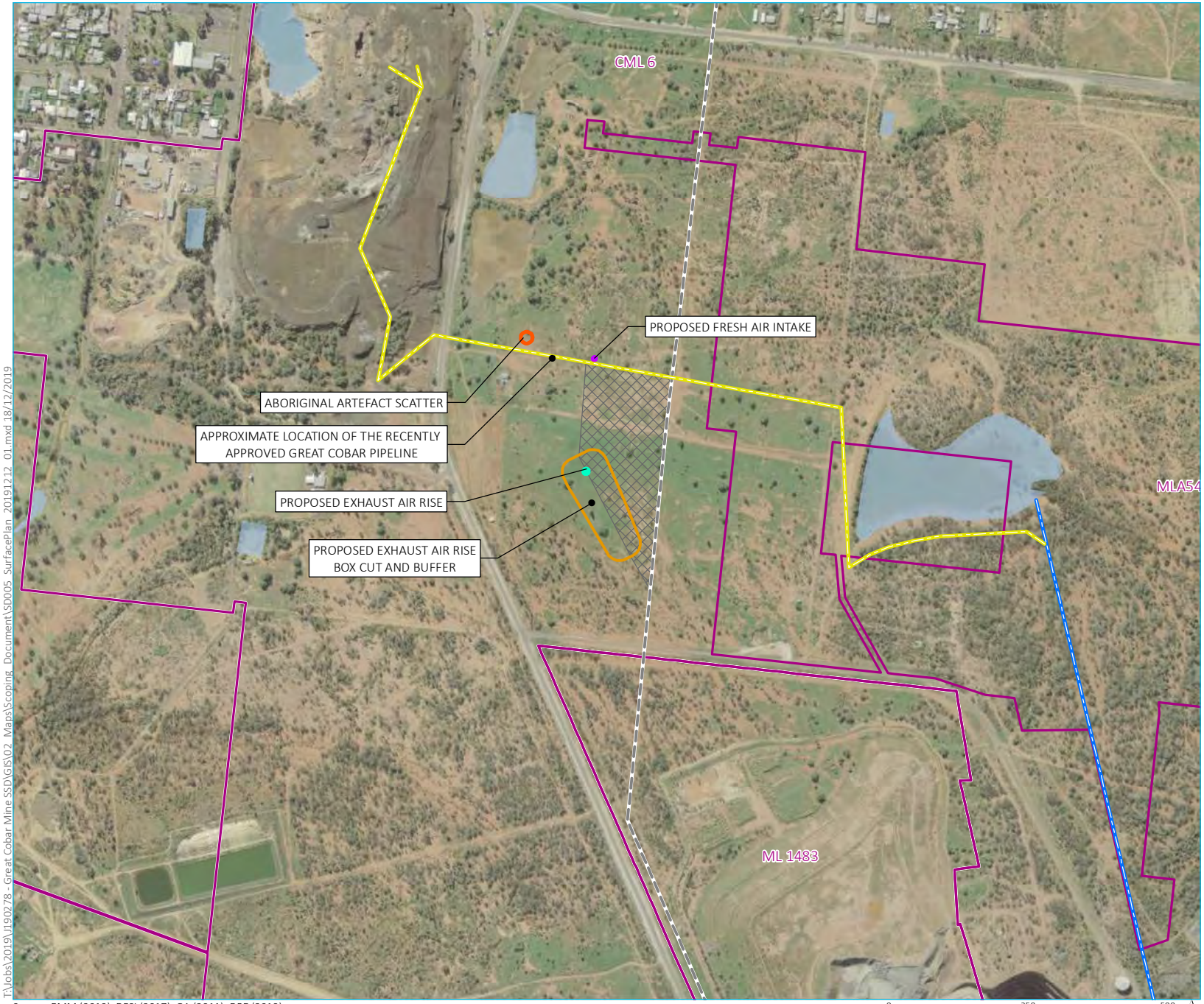
creating opportunities



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0 250 500 m

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Figure 2

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13 May 2020

Marilyn Carroll-Johnson
Corroboree Aborginal Corporation
PO Box 3340
Rouse Hill NSW 2155

Re: Aboriginal Cultural Heritage Assessment for the New Cobar Complex Underground Expansion Project, Cobar NSW - Notification of Project

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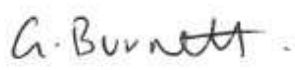

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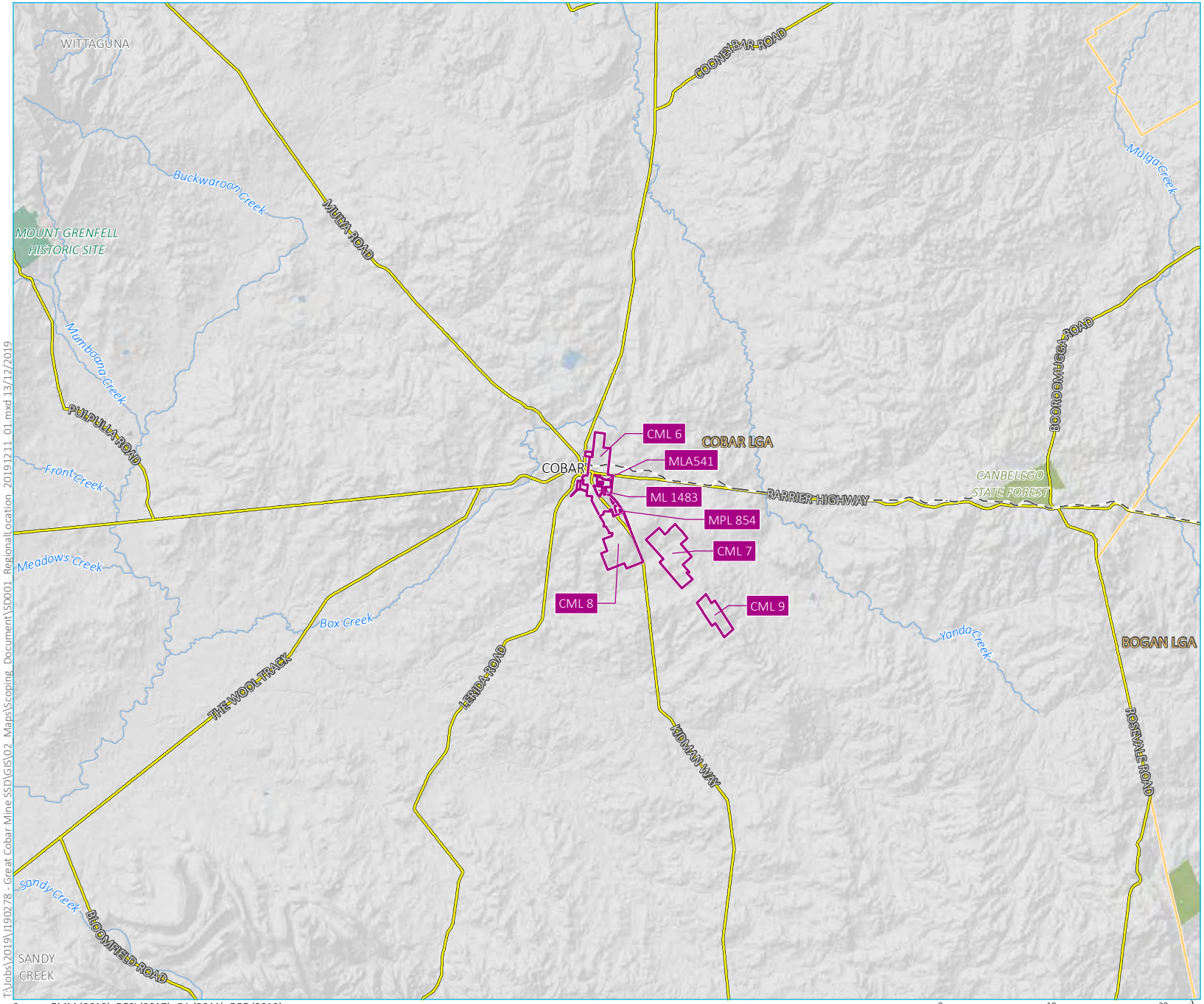

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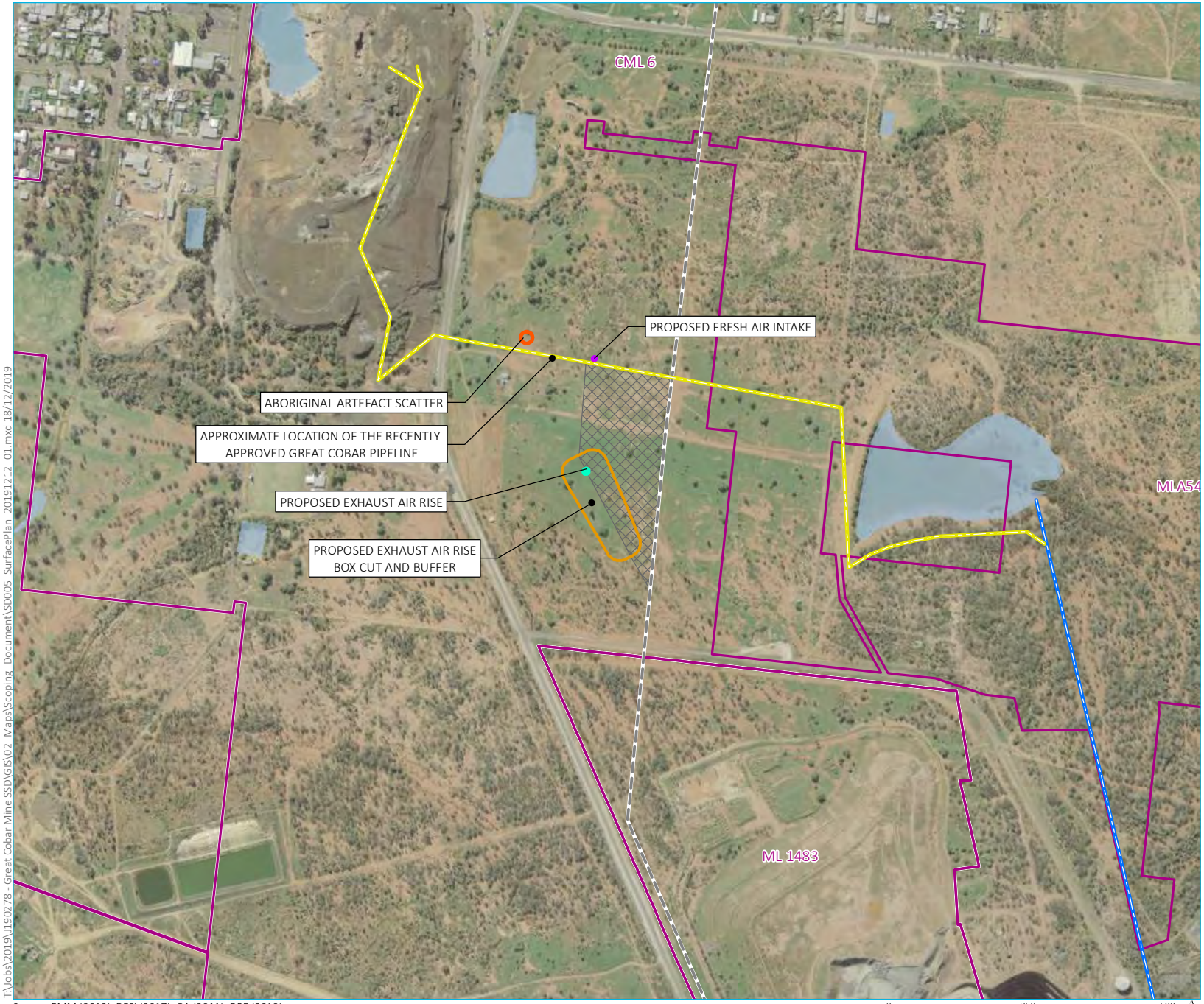

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13 May 2020

Cobar Local Aboriginal Land Council
PO Box 410
Cobar NSW 2835

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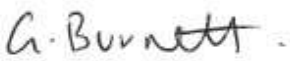

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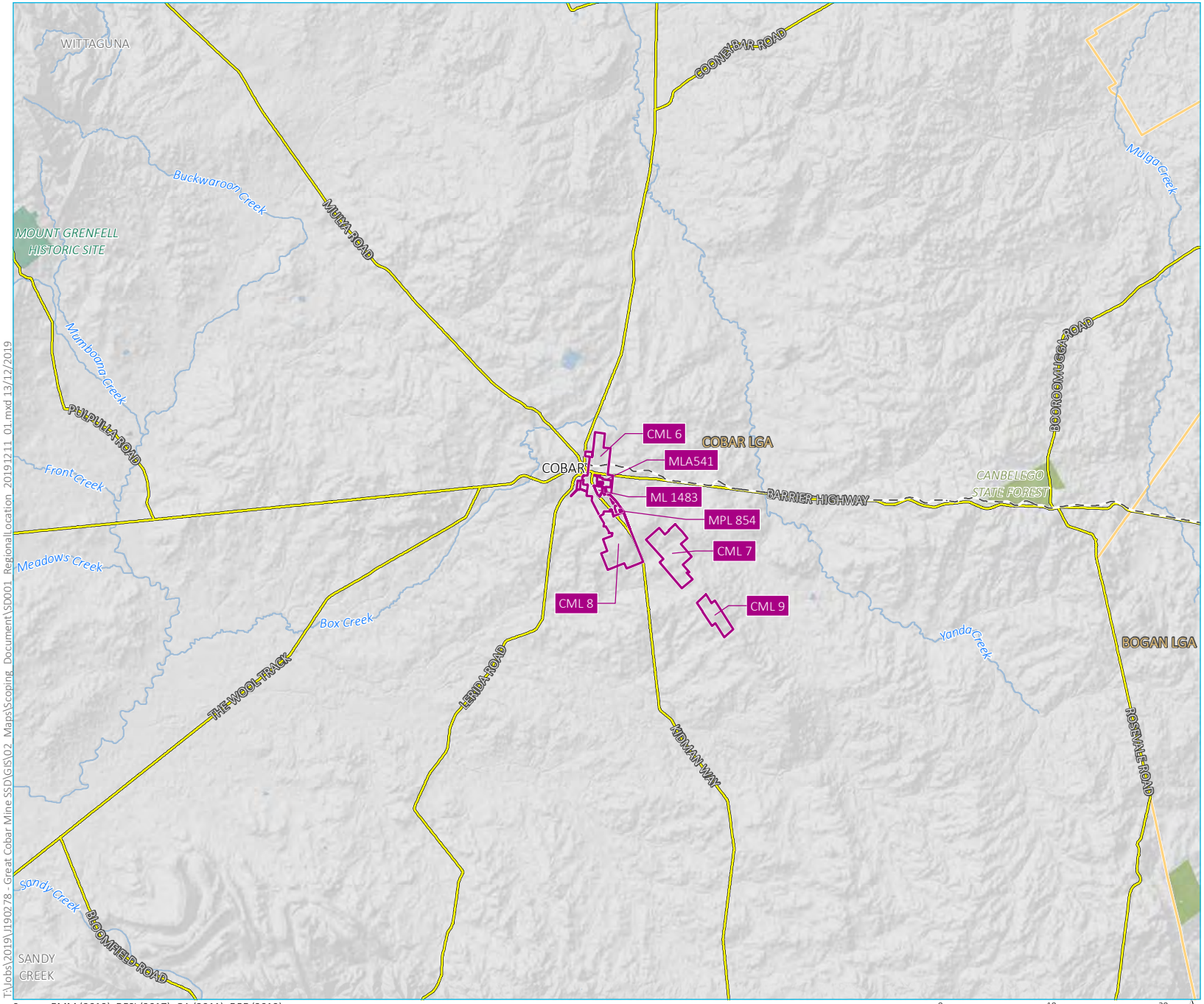

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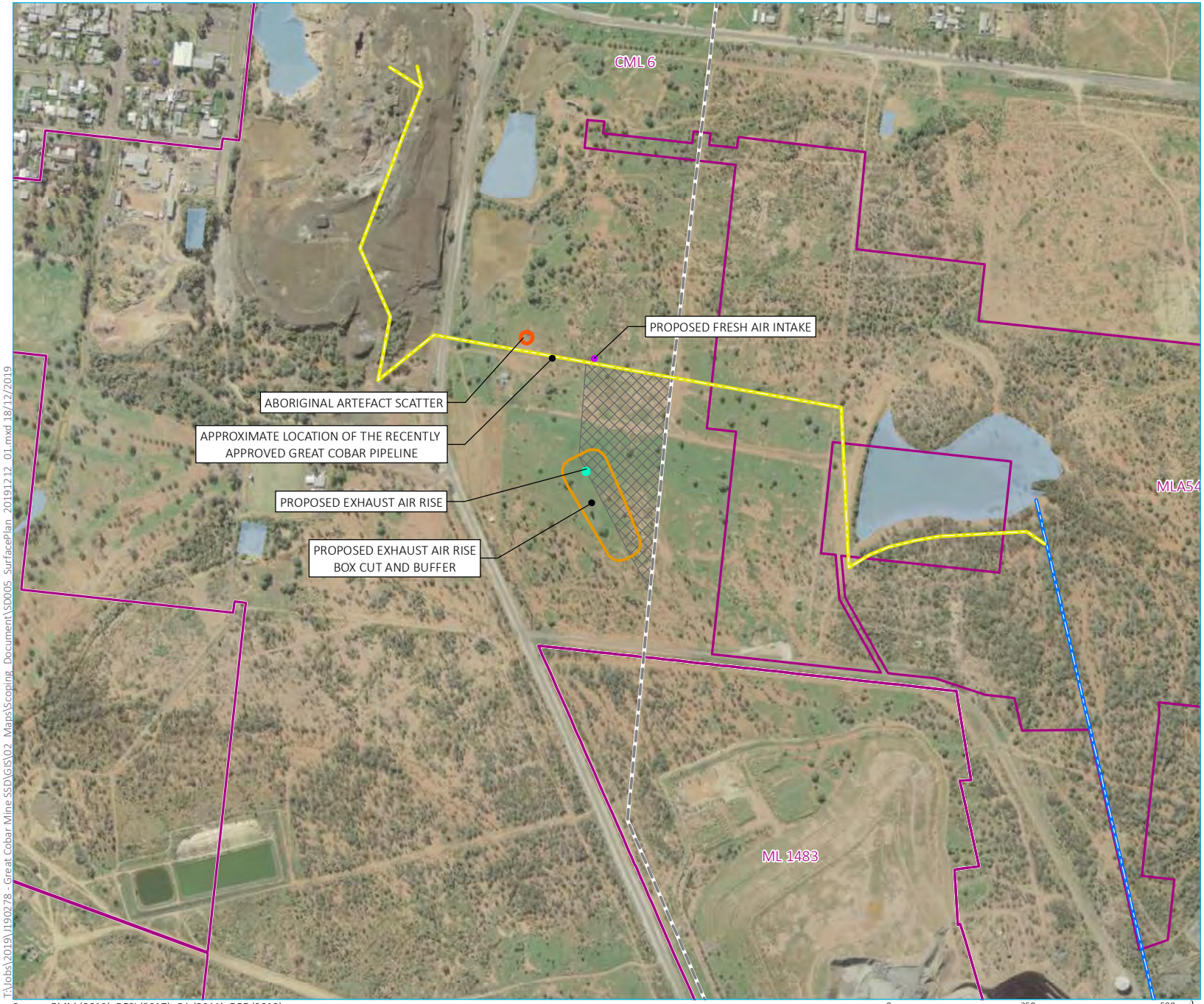

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