

Mining Management Plan Exploration Activities

Northern Territory of Australia – Mining Management Act

It is recommended that the Mining Management Plan is completed in conjunction with the user guide, available on the [Northern Territory Government website](#).

Section 1 – Project Details

Project Name Provide new or existing project name	Northern Project Area
Authorisation Number Insert existing authorisation number, where applicable	0467-03
Operator Name Use ASIC-ABR registered name (if a company), or name of the applicant	Emmerson Resources Ltd
Location and Access Details Include brief description of the location, access details, and distance to nearest town or community	<p>The Northern Project Area (NPA) covers a number of tenements located to the north and north west of the Tennant Creek Township, between 20 and 43km in distance.</p> <p>The NPA is bisected by the Stuart Highway and access is gained from this major road with further access to other areas of the NPA via historic mine roads, existing 4WD and fence line tracks these will be utilised for access and therefore no new tracks will be required.</p>
Target Commodity Details Include target commodities (i.e. gold, copper etc)	Gold, Copper, Bismuth, battery and base metals.
Mining Activities Summarise the mining activities (exploration) to be the subject of the proposed Authorisation or Variation	Planned activities are for the drilling of 65 Exploration drill holes over three project areas, Jasper Hills, Edna Beryl and regional targets. Drilling will be Reverse Circulation (RC), Reverse Circulation Pre Collars (Pre-Collars) (for the diamond drill holes) and Diamond (DDH).
Proposed Schedule Include start and finish dates of ground disturbing work	Work is planned to commence in November 2020 and completed by December 2021.

Mining Interest and Land Ownership

List the mining interests (titles), the title holder name/s, the title expiry date and the Property name/Land holder (e.g. pastoralist or Aboriginal land trust) for each title.

Title Number	Title Holder	Expiry Date	Property Name or Land Holder
EL26594	Giants Reef Exploration	6/07/2020	Phillip Creek Station
EL28776	Giants Reef Exploration	15/11/2019	Phillip Creek Station
EL31832	Giants Reef Exploration	6/07/2020	Phillip Creek Station
EL31835	Giants Reef Exploration	13/09/2019	Phillip Creek Station
EL32213	Giants Reef Exploration	8/03/2026	Phillip Creek Station
ML30177	Santexco	14/04/2024	Phillip Creek Station
ML30870	TC8	9/07/2021	Phillip Creek Station
ML30893	Giants Reef Exploration	9/07/2020	Phillip Creek Station
ML30909	Giants Reef Exploration	2/08/2020	Phillip Creek Station
MLC705	Giants Reef Exploration	31/12/2023	Aboriginal Freehold Land
MLC91	TC8	31/12/2022	Aboriginal Freehold Land
MLC92	TC8	31/12/2022	Aboriginal Freehold Land
MLC93	TC8	31/12/2022	Aboriginal Freehold Land
MLC94	TC8	31/12/2022	Aboriginal Freehold Land
MLC95	TC8	31/12/2022	Aboriginal Freehold Land

Delete or add rows as required

Organisational Structure

Position Title	Name
Managing Director	Rob Bills
Exploration Manager	Ana Liza Cuison
Senior Geologist	
Environmental Manager	
Radiation Safety Officer	

Section 2 – Operator Self-Assessment of the Environmental Risk

The purpose of this self-assessment is to ensure Operators complete a project risk assessment of potential environmental impacts and are aware of other legislative obligations from various Agencies. As a result of this self-assessment, further information may be required in the form of a management plan to enable full assessment of the MMP. If you have any queries please contact a Mining Officer prior to submitting the MMP. Useful resources to assist with this self-assessment are provided in the User Guide.

Environmental considerations

ASSESSMENT ASPECT	YES or NO	ACTIONS REQUIRED (if answered YES)	APPENDED INFORMATION (Evidence of consultation with DENR and/or management plan)
Step 1: Are there any threatened flora and fauna species or habitats of significance that may occur in the proposed work area?	NO	It is likely a threatened species will show up in most reports. Therefore, the Operator must undertake a likelihood analysis, which looks at the likelihood of the species or its habitat occurring at or near the site. If the analysis results in a high likelihood, then a “Significant Impact Assessment” should be undertaken, which may require consultation with the DENR – Flora and Fauna Division. The DENR may recommend a Biodiversity Management Plan – this must be developed and attached to the MMP.	
Step 2: Are there any known declared weeds within the proposed work area?	NO	Under the <i>Weeds Management Act</i> declared weeds are required to be eliminated or controlled by the owner and occupier of land. Seek advice from DENR – Weeds Management to ensure management measures are appropriate for the level of activity proposed and attach a Weed Management Plan (if required).	

Mining Management Plan Exploration Activities

ASSESSMENT ASPECT	YES or NO	ACTIONS REQUIRED (if answered YES)	APPENDED INFORMATION (Evidence of consultation with DENR and/or management plan)
Step 3: Will you be using water from bores or other sources for the operation?	NO. Water will be sources from an old pit that contains rainwater.	<i>Note the Government is proposing to amend the exemption of water licencing under the Water Act for mining activities, including exploration.</i> <i>This section will be updated in light of any changes in the future.</i>	Refer to Appendix 1 'Hydrology'

Environmental assessment and cultural considerations

ASSESSMENT ASPECT	YES or NO	MANAGEMENT REQUIREMENTS
Step 4: Is your project likely to have a significant impact on the environment?	NO	Refer to the NTEPA Environmental Factors and Objectives Guideline.
Step 5: Are there Aboriginal sacred sites in the Project area?	YES	Sacred Sites are protected under the NT <i>Aboriginal Sacred Sites Act</i> and administered by the Aboriginal Areas Protection Authority (AAPA). It is recommended that advice be sought from AAPA in relation to sacred site protection.
Step 6: Are there archaeological and heritage sites in the Project area?	NO	Heritage and archaeology sites are protected in the NT. NT Heritage Branch of the Department of Natural Resources and Environment (DENR) administers the <i>Heritage Act</i> . Seek advice in relation to protection of heritage and archaeological sites.

Section 3 – Amendments

As per Section 41(3) of the *Mining Management Act*, an MMP reviewed and amended under Section 41(1)(a) is to clearly identify amendments made.

Section	Amendment
Section 1- Project Details	Updates to drill hole count, proposed schedule and mining interest information.
Section 2 – Operator Self-Assessment of the Environmental Risk	Water source information updated.
Section 4 – Activities Proposed	Updates to work program. The proposed 65 drillhole count remains the same, however, 6 drillholes have been relocated.
Section 8 – Required Attachments	Section updated, as digital files of proposed holes are supplied.

Delete or add rows as required

Section 4 – Activities Proposed

Mining Interests (i.e. titles)	MLC705 & EL 28776	EL 28776 & ML30177	EL 26594	EL
Number and type of proposed drill holes	19 RC Drill Holes; 5 RC Precollars & 5 DDH Holes	46 RC Drill Holes; 10 RC Precollars & 10 DDH Holes		
Maximum depth of proposed holes (m)	700m	700m		
Number and size of drill pads to be cleared (Length: m x Width: m)	19 drill pads (20m X 30m)	46 drill pads (20m X 30m)		
Total area of drill pads to be cleared (ha)	1.14 Ha	2.76 ha		
Is drilling likely to encounter groundwater? (Y, N, unsure)	Unsure – refer to Appendix 1 'Hydrology'	Unsure – refer to Appendix 1 'Hydrology'		
Number of costeans (Length: m x Width: m x Depth: m)				
Number of bulk sample pits				
Total bulk sample (tonnes) (Length: m x Width: m x Depth: m)				
Bulk sample pits approved under <i>Mineral Titles Act</i> ? (Y or N)				
Length of line/track clearing (km: x Width: m)	2km- upgrade to existing track- not new track.			
Camp area to be cleared (ha)				
Camp Infrastructure (i.e. demountable, tents)				
Previous disturbance yet to be remediated on title (ha) if known				
Other				
Total area disturbed proposed (ha)	1.14 ha	2.76 ha		

Section 5 – Previous Disturbance (for existing Authorisations only)

Mining Interests (i.e. titles)	EL	EL	EL	EL
Number/type of holes drilled				
Maximum depth of holes drilled (m)				
Number of holes remediated (i.e. plugged/capped)				
Number and size of drill pads cleared (Length: m x Width: m)				
Total area of drill pads cleared (ha)				
Total area of drill pads remediated (ha)				
Was groundwater encountered? (Y or N)				
Length of line/track cleared (Length: km x Width: m)				
Length of line/track remediated (Length: km x Width: m)				
Number of costeans excavated (L: m x W: m x D: m)				
Number of costeans remediated				
Total bulk sample pits excavated (Length: x Width: x Depth: m)				
Total bulk sample pits remediated				
Camp area/s cleared (ha)				
Camp area/s remediated (ha)				
Total area disturbed (ha)				
Total area remediated (ha)				

Section 6 – Environmental Management

By checking these boxes, you are agreeing to implement the following minimum environmental management standards on the project area. Where boxes have been left unchecked, justification is required.

6.1	<input checked="" type="checkbox"/>	Blade-up approach for clearing will be used (i.e. no windrows, leave root stock and topsoil)
6.2	<input checked="" type="checkbox"/>	Significant vegetation will be avoided during clearing (i.e. large trees, specimens providing habitat or food sources, riparian vegetation, and threatened species)
6.3	<input checked="" type="checkbox"/>	Vegetation clearing during, and immediately after rainfall events, will be avoided
6.4	<input checked="" type="checkbox"/>	Vegetation clearing will be kept to the minimum required to safely traverse vehicles and drill rigs along tracks and drill pads
6.5	<input checked="" type="checkbox"/>	Where blade-up techniques cannot be employed, topsoil and vegetation will be stockpiled appropriately for remediation purposes
6.6	<input checked="" type="checkbox"/>	All employees and contractors will be trained and inducted in relation to the management of environmental risks in the work area, including weeds, waterways, threatened species, soil erosion, sacred sites and heritage areas
6.7	<input checked="" type="checkbox"/>	Sumps will be lined or tanks of appropriate size to contain water, sediment and drilling fluids encountered during drilling, will be used
6.8	<input checked="" type="checkbox"/>	Sumps, drill holes, and fuel stores will be located away from environmentally significant areas and water courses
6.9	<input checked="" type="checkbox"/>	Excavations (sumps, costeans and pits) will be appropriately ramped to allow fauna egress
6.10	<input checked="" type="checkbox"/>	Drill holes will be securely capped immediately after drilling
6.11	<input checked="" type="checkbox"/>	Vehicle hygiene measures will be employed to prevent the introduction and spread of invasive species and pathogens when mobilising vehicles and equipment from one location to another
6.12	<input checked="" type="checkbox"/>	Hydrocarbon spills will be minimised using liners and drip trays under machinery, and appropriately sized spill-kits available in the event of a spill
6.13	<input checked="" type="checkbox"/>	Hazardous substances (including hydrocarbons) will be stored and handled in accordance with relevant Australian Standards
6.14	<input checked="" type="checkbox"/>	Hydrocarbons will be stored in lined and bunded areas
6.15	<input checked="" type="checkbox"/>	Waste will be stored securely while on-site to minimise windblown rubbish and access by feral animals
6.16	<input checked="" type="checkbox"/>	Waste will be removed off-site and disposed of at an appropriate waste management facility
6.17	<input checked="" type="checkbox"/>	All environmental incidents will be reported to the Department in accordance with Section 29 of the <i>Mining Management Act</i> .

Justification and alternative management measures:

Section 7 – Remediation and Closure

By checking these boxes, you are agreeing to implement the following minimum remediation standards on the project area. Where boxes have been left unchecked, justification is required.

7.1	<input checked="" type="checkbox"/>	Drill holes plugged below ground level at a minimum depth of 0.4 metres and soil mounded to prevent subsidence, within 6 months of completion of drilling
7.2	<input checked="" type="checkbox"/>	Drill samples/spoil returned down drill holes, buried in sumps, or removed from site
7.3	<input checked="" type="checkbox"/>	All drill hole and access markers including flagging tape, wooden markers and star pickets will be removed from site
7.4	<input checked="" type="checkbox"/>	Re-contouring of cut and fill drill pads will be consistent with the surrounding terrain
7.5	<input checked="" type="checkbox"/>	Ripping/scarifying of drill pads, and compacted areas along the contour (on sloping ground) and cross-ripping (zig-zag) along tracks
7.6	<input checked="" type="checkbox"/>	Tracks will be remediated, including pushing in all windrows
7.7	<input checked="" type="checkbox"/>	Appropriate erosion and sediment controls will be installed where erosion is evident or likely to occur
7.8	<input checked="" type="checkbox"/>	All tracks will be remediated unless otherwise agreed in writing by the land holder or appropriate third party
7.9	<input checked="" type="checkbox"/>	Access through watercourses will be removed and banks restored
7.10	<input checked="" type="checkbox"/>	No erosion is occurring in disturbed areas, on tracks and in remediated areas
7.11	<input checked="" type="checkbox"/>	All excavations backfilled within 6 months of completion of drilling
7.12	<input checked="" type="checkbox"/>	All water bores decommissioned unless otherwise agreed in writing by the land holder or appropriate third party. The bore must comply with the Minimum Construction Requirements for Water Bores in Australia and may require permits or licenses under the <i>Water Act</i>
7.13	<input checked="" type="checkbox"/>	All rubbish and infrastructure will be removed from site
7.14	<input checked="" type="checkbox"/>	Replacement of topsoil and vegetation
7.15	<input checked="" type="checkbox"/>	Contaminated soils (e.g. hydrocarbon or hazardous chemicals) will be remediated or removed from site
7.16	<input checked="" type="checkbox"/>	Monitoring will be undertaken following the wet season or a significant rainfall event


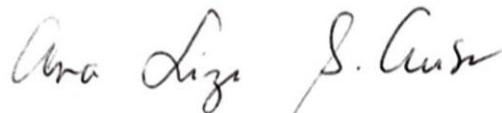

Justification and alternative management measures:

Section 8 – Required Attachments

8.1	X	Security Calculation Spreadsheet
8.2	X	Nomination of Operator Form
8.3	X	Spreadsheet with coordinates of proposed drill holes or polygons of target areas
8.4	X	Google Earth KML/shape files/track logs of proposed tracks and camp sites
8.5	X	<p>A map of the work area(s) showing:</p> <ol style="list-style-type: none"> 1. title boundaries and title numbers 2. current and proposed drill holes, or polygons of target areas 3. current and proposed tracks 4. remediated areas 5. camp sites 6. sacred/heritage sites 7. environmental constraints
8.6	X	Remediation Register (for existing Authorisations)
8.7	N/A	Photographs of remediation work
8.8	N/A	Radiation Management Plan (if applicable)

Section 9 – Declaration

The Mining Management Plan must be endorsed by a senior representative of the company who has the appropriate level of authority to do so.

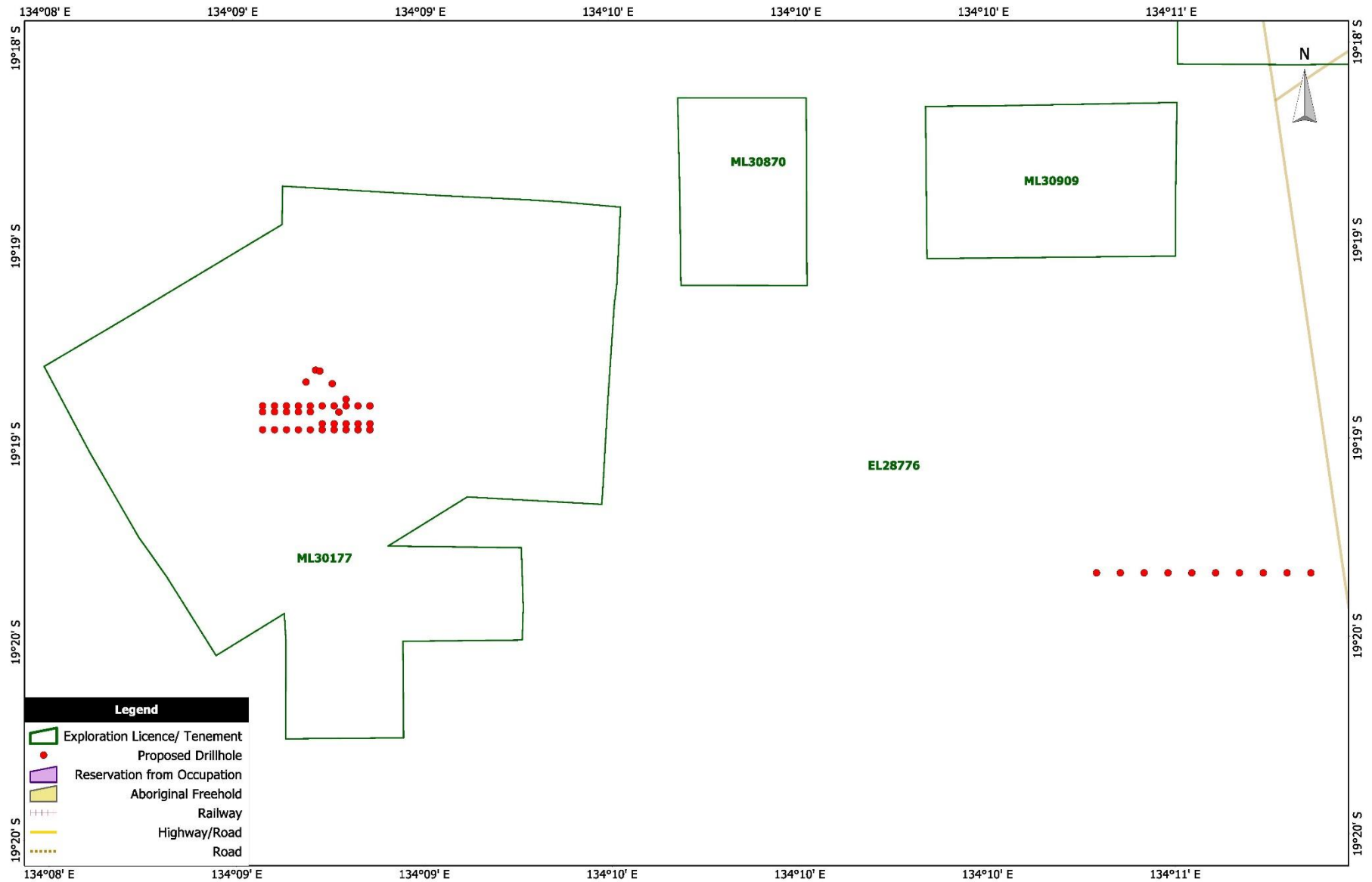
	Author	Reviewed by	Approved by
Date	13/08/2020	13/08/2020	13/08/2020
Name	Holly Edgar	Ana Cuison	Rob Bills
Signature			

I Rob Bills, Managing Director & CEO declare that I have the authority to make the commitments contained in this mining management plan on behalf of the company. To the best of my knowledge the information contained in this plan is true and correct and commit to undertake the works in accordance with the agreed minimum standards and all relevant Northern Territory and Commonwealth Government legislation.

SIGNATURE: ... 

DATE:13/08/2020.....

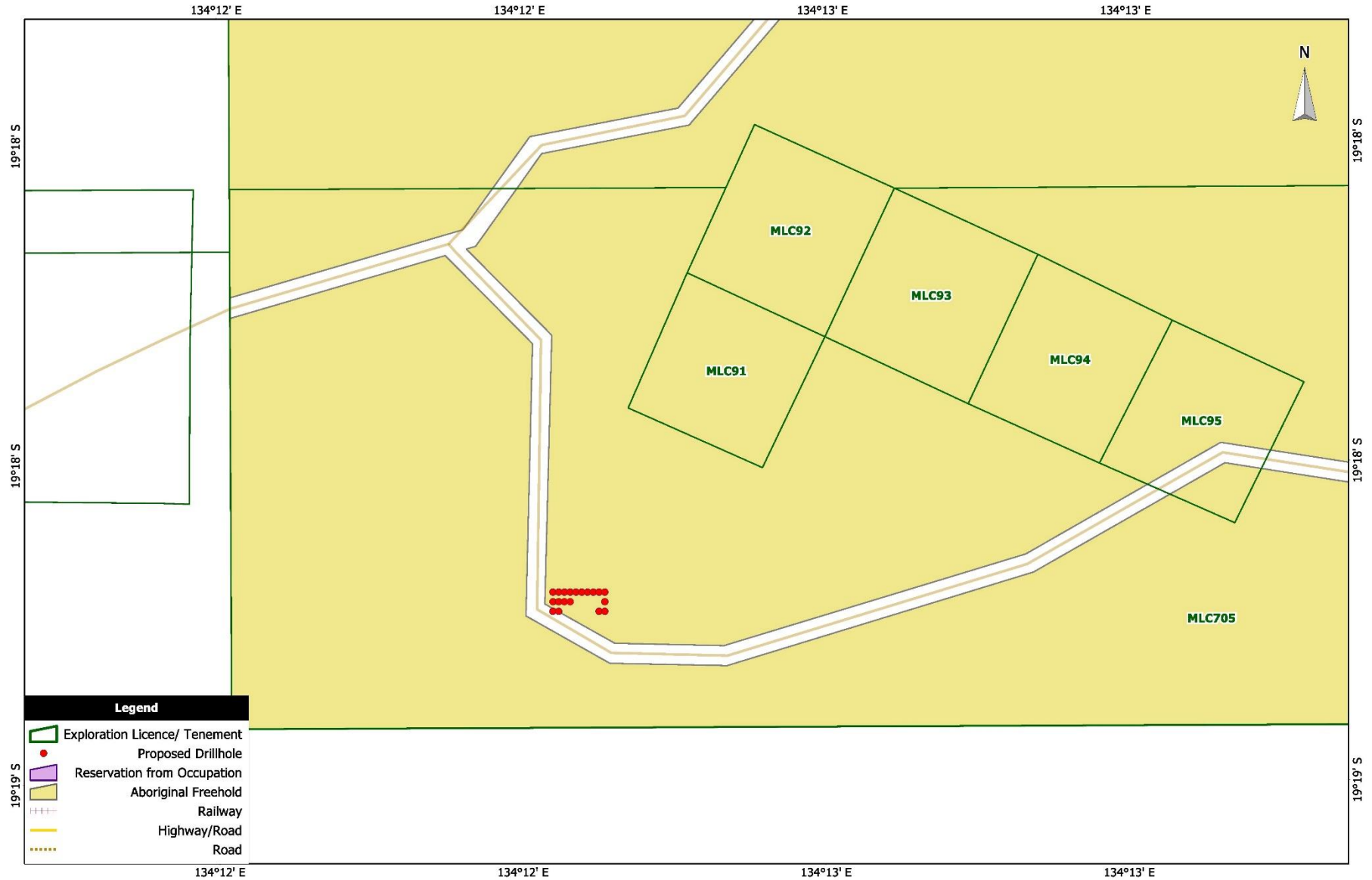
Mining Management Plan Exploration Activities



**NORTHERN PROJECT AREA
PROPOSED DRILLING
LOCATION MAP 1**

0 1 km

DRAWN BY: AMETS (www.amets.com.au)
DATE: 4/08/2020
DATUM: GDA94



**NORTHERN PROJECT AREA
PROPOSED DRILLING
LOCATION MAP 2**



DRAWN BY: AMETS (www.amets.com.au)
DATE: 4/08/2020
DATUM: GDA94