

Mining Management Exploration Activities

Northern Territory of Australia – Mining Management Act 2001

It is recommended that the Mining Management Plan (MMP) 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	Mt Bunday
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Authorisation Number Insert existing authorisation number, where applicable	0979-01
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Operator Name Use ASIC-ABR registered name (if a company), or name of the applicant	Primary Gold Pty Ltd
Operator ABN and ACN numbers	ACN 122 726 283 ABN 42 122 726 283

Location and Access Details Include brief description of the location, access details, and distance to nearest town or community	The Mt Bunday project area is located approximately 100 kilometres southeast of Darwin along the Arnhem highway. Access throughout the project area is along the established Tom's Gully haul road, pastoral roads and historic exploration tracks. The community of Marrakai lies directly adjacent to the project area.
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Target Commodity Details Include target mineral commodities (i.e. gold, copper etc.)	Gold
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<p>Mining Activities Summarise the mining activities (exploration) to be the subject of the proposed Authorisation or Variation.</p> <p>Drilling programs over a maximum of four years are supported and encouraged and can be staged. Please refer to the guidelines for further information.</p>	<p>Drilling of 267 holes over several different project areas. Drilling is a combination of RAB, RC and diamond. All holes got approved by the DITT on 18 January 2022 and will be carried over.</p> <p>The drilling program will be split into two stages:</p> <ul style="list-style-type: none"> • The first stage focusses on near-mine exploration and resource infill drilling. Total number of holes planned to drill during this stage is 104. • The second stage tests new and existing greenfield targets. This stage consists of 163 new drill holes. <p>In addition, 15 costeans for geotechnical purposes are proposed on EL30809. The proposed costeans are in an area already selected for drilling. The drill area has been approved by the DITT on 18 January 2022. The costeans will be dug to a maximum depth of four metres and backfilled and rehabilitated within the same day. Costeaming will fall under exploration stage 1.</p>
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<p>Proposed Schedule Include start and finish dates of ground disturbing work</p>	<p>The 2022 and subsequent dry seasons.</p>
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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	Underlying Property Name or Land Holder
EL30809	Primary Minerals Pty Ltd	29 June 2023	Old Mount Bunday station, Marrakai station, McKinlay River station, freehold and perpetual crown leases
EL30824	Primary Minerals Pty Ltd	2 July 2023	Old Mount Bunday station, McKinlay River station, Koolpinyah station, freehold and perpetual crown leases
EL32104	Primary Minerals Pty Ltd	23 Sep 2025	Old Mount Bunday station
ML29812	Primary Minerals Pty Ltd	5 Feb 2023	Old Mount Bunday station
ML29814	Primary Minerals Pty Ltd	5 Feb 2023	Old Mount Bunday station
MLN1083	Primary Minerals Pty Ltd	31 Dec 2045	Old Mount Bunday station
MLN1058	Primary Minerals Pty Ltd	2 Aug 2039	Old Mount Bunday station
ML29781	Primary Minerals Pty Ltd	5 Feb 2023	McKinlay River station
ML29782	Primary Minerals Pty Ltd	5 Feb 2023	Old Mount Bunday station

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Title Number	Title Holder	Expiry Date	Underlying Property Name or Land Holder
ML29783	Primary Minerals Pty Ltd	5 Feb 2023	McKinlay River station
ML29786	Primary Minerals Pty Ltd	5 Feb 2023	McKinlay River station

Please note a Land Access Agreement (LAA) is required for disturbance proposed on Pastoral Properties on Exploration Licence (EL).

Organisational Structure

Position Title	Name
Managing Director	Mark Yumin Qiu
Exploration Manager	Fan Wu
Senior Geologist	Camiel van Hinsberg

Delete or add rows for various position titles as required

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 (e.g. evidence of consultation with DEPWS and/or management plan where required).
<p>Step 1: Are there any threatened flora and fauna species or habitats of significance that may occur in the proposed work area?</p>	<p>Yes</p>	<p>The Operator must assess the likelihood of threatened species or their habitats occurring at or near the site. If the likelihood is high, then a "Significant Impact Assessment" must be undertaken and appended to this document.</p>	<p>The proposed drilling and costeaning does not intersect any sites of conversation significance, sites of botanical significance, parks or reserves.</p> <p>A likelihood analysis (see appendix 2) of the potential for threatened species to be present in the area was undertaken, based on literature and database information as well as flora and fauna surveys. In the location of the proposed drilling and costeaning, livestock grazing and regular fires have resulted in the understorey vegetation being highly modified in comparison to natural conditions thus reducing food sources, shelter and potential breeding sites for threatened species. The likelihood of known threatened species to occur in the proposed drilling and costeaning areas is low to unlikely except for Mertens' Water Monitor and Mitchell's Water Monitor. A risk assessment has been undertaken for these two species of water monitors (see appendix 2).</p> <p>As part of our proposed environmental management of threatened species we intend to do the following:</p> <ul style="list-style-type: none"> • Minimise vegetation disturbance, avoid habitat trees and riparian vegetation by moving drill pads and access tracks, and where possible use existing tracks. • Stay within approved clearing envelopes and use appropriate size machinery. • Drill pads will be located preferable on flat ground to minimise disturbance and erosion risks. • Limit off-road driving. <p>In the very unlikely case that goanna burrows are discovered within the target area, any ground disturbance (drill sites, access tracks, etc.) will be at least 100 metres away from these burrows. Burrows will be documented.</p>

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ASSESSMENT ASPECT	YES or NO	ACTIONS REQUIRED (if answered YES)	APPENDED INFORMATION (e.g. evidence of consultation with DEPWS and/or management plan where required).
Step 2: Are there any known declared weeds within the proposed work area?	Yes	Seek advice from DEPWS – Weed Management Branch to determine if weeds are present on site and ensure management measures are appropriate for the level of activity proposed and attach a Weed Management Plan (if required).	Within the exploration areas there is the potential for a number of declared weed species to occur. This is mostly due to the historic and current land use practices and the potential transport of seeds via station vehicles, machinery and animals. As part of our proposed environmental management associated with weed management around the drilling and costeaning, we intend to do the following: <ul style="list-style-type: none"> • Minimise vegetation disturbance, avoid riparian vegetation and stay within approved clearing envelopes. • Maintain weed quarantine by inspecting for weeds on vehicles and equipment. • Educate the workforce on weed management measures. • Do not drive through seeding weed plants and limit the amount of off-road driving. • Regularly inspect for weeds on stockpiles, access tracks and drill pads. • If required undertake weed control to stop the local spread of weeds due to exploration activities.
Step 3: Will you be using water from bores or other sources for the operation?	Yes	Water related matters on mineral titles are no longer exempt from the <i>Water Act 1992</i> . Please consult with DEPWS Water Resources and/or familiarise yourself with the <i>Water Act</i> to ensure compliance under this Act when undertaking exploration activities.	A limited amount of water will be used for drilling and will be sourced from the Rustler's Roost open pit. Primary Gold has obtained a waste discharge license to dewater the Rustler's Roost open pit over the next two years (license number WDL247). This license allows Primary Gold to use the pit water for drilling and exploration activities.

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?	No	Sacred Sites are protected under the NT <i>Aboriginal Sacred Sites Act 1989</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.

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ASSESSMENT ASPECT	YES or NO	MANAGEMENT REQUIREMENTS
Step 6: Are there archaeological and heritage sites in the Project area?	No	Heritage and archaeology sites are protected in the NT. NT Department of Territory Families, Housing and Communities (DTFHC) administers the <i>Heritage Act 2011</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 have amendments made since the previous MMP submission clearly identified.

Section	Amendment
1	Updated the Mining Activities section to include costeaning.
2	Step 1 and 2 updated to include the proposed costeaning
4	Added 15 costeans to the exploration activities on EL30809
8	Updated the security calculation spreadsheet.
8	Added an additional map to show the costean areas in relation to the approved drill areas.
8	Appendix 1 Spatial data files have been updated to include a shape-file for the costean areas.

Delete or add rows as required

Section 4 – Activities Proposed for this MMP only

Provide relevant EL numbers

Mining Interests (i.e. titles)	EL32104	EL30824	EL30809	MLN1058	EL32003
Number and type of proposed exploration drill holes (Stage 1 and 2)	12 holes ¹ – combination of RC and diamond	147 holes ¹ – combination of RC and diamond	100 holes ¹ – combination of RC and diamond	4 RAB water bore holes ¹	4 RC holes ¹
Stage 1	4 holes	50 holes	50 holes	0 holes	0 holes
Stage 2	8 holes	97 holes	50 holes	4 holes	4 holes
Maximum depth of proposed holes (m)	650 metres	400 metres	400 metres	100 metres	200 metres
Number and size of drill pads to be cleared (Length: m x Width: m)	12 drill pads – 25m by 25m	147 drill pads – 25m by 25m	100 drill pads – 25m by 25m	4 drill pads – 25m by 25m	4 drill pads – 25m by 25m
Total area of drill pads to be cleared (ha) (Stage 1 and 2)	0.75 ha	9.19 ha	6.25 ha	0.25 ha	0.25 ha
Stage 1	0.25 ha	3.13 ha	3.13 ha	0 ha	0 ha
Number of proposed water bores	0	0	0	4	0
Is drilling likely to encounter groundwater in multiple or confined aquifers? (Y, N, unsure) If answering yes, please provide the number of	Unsure	Unsure	Unsure	Unsure	Unsure
Number of costeans	0	0	15	0	0
Volume to backfill costeans (Length: m x Width: m x Depth: m)	NA	NA	300m ³ (5m by 1m by 4m)	NA	NA
Number of bulk sample pits	0	0	0	0	0
Volume to backfill bulk sample pits (Length: m x Width: m x Depth: m)	NA	NA	NA	NA	NA

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Mining Interests (i.e. titles)	EL32104	EL30824	EL30809	MLN1058	EL32003
Bulk sample pits approved under <i>Mineral Titles Act?</i> (Y or N). If Yes provide approval	NA	NA	NA	NA	NA
Line/track clearing: (length m x width m) (stage 1 and 2)	500m x 5m ⁶	10km x 5m ⁷	10km x 5m ⁸	100m x 5m ⁹	2km x 5m ¹⁰
Stage 1 length of line/track clearing	500m	5 km	3 km	0	0
Stage 2 length of line/track clearing	0m	5 km	7 km	100m	2km
Area of proposed line/track clearing (ha) (Stage 1 and 2)	0.25 ha	5 ha	5 ha	0.05 ha	1 ha
Stage 1	0.25 ha	2.5 ha	1.5 ha	0 ha	0 ha
Camp area to be cleared (ha)	none	none	none	none	none
Camp Infrastructure (i.e. demountable, tents) Please provide a complete list with measurements as required in the	NA	NA	NA	NA	NA
Other					
Total proposed area of disturbance (ha) (stage 1 and 2)	1.00 ha	14.19 ha	11.25 ha	0.30 ha	1.25 ha
Stage 1	0.5 ha	5.63 ha	4.63 ha	0 ha	0 ha

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Mining Interests (i.e. titles)	EL32104	EL30824	EL30809	MLN1058	EL32003
<p>¹ All holes and associated disturbance are approved by the DITT under the current exploration MMP.</p> <p>² All line clearing approved by the DITT under the current exploration MMP.</p>					

Staging approach based on disturbance can be proposed and will be considered by the Department.

Section 5 – Previous Disturbance (for existing Authorisations only)

The 'Disturbance Tracking' spreadsheet must be completed and attached to the MMP submission to complete this section. The spreadsheet is available on the departmental web page where this template is located.

Section 6 – Environmental Management

By checking these shaded 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	✓	Blade-up approach for clearing will be used (i.e. no windrows, leave root stock and topsoil)
6.2	✓	Significant vegetation will be avoided during clearing (i.e. large trees, specimens providing habitat or food sources, riparian vegetation, and threatened species)
6.3	✓	Vegetation clearing during, and immediately after rainfall events, will be avoided
6.4	✓	Vegetation clearing will be kept to the minimum required to safely traverse vehicles and drill rigs along tracks and drill pads
6.5	✓	Where blade-up techniques cannot be employed, topsoil and vegetation will be stockpiled appropriately for rehabilitation purposes
6.6	✓	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	X	Sumps will be lined or tanks of appropriate size to contain water, sediment and drilling fluids encountered during drilling, will be used
6.8	✓	Sumps, drill holes, and fuel stores will be located away from environmentally significant areas and water courses
6.9	✓	Excavations (sumps, costeans and pits) will be appropriately ramped to allow fauna egress
6.10	✓	Drill holes will be securely capped immediately after drilling
6.11	✓	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	✓	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	✓	Hazardous substances (including hydrocarbons) will be stored and handled in accordance with relevant Australian Standards
6.14	✓	Hydrocarbons will be stored in lined and bunded areas
6.15	✓	Waste will be stored securely while on-site to minimise windblown rubbish and access by feral animals
6.16	✓	Waste will be removed off-site and disposed of at an appropriate waste management facility
6.17	✓	All environmental incidents will be reported to the Department in accordance with Section 29 of the <i>Mining Management Act</i> .
6.18	✓	Acid and Metalliferous Drainage (AMD) and Potentially Acid Forming (PAF) material derived from drilling cuts will be managed to avoid AMD and PAF related issues on site.

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6.19	NA	Radioactive/NORM drill cuttings will be managed to avoid radiation related issues on site.
6.20	✓	Dust management will be implemented on site.

Justification and alternative management measures:

6.7 Sumps will be of appropriate size to contain the water encountered during drilling, but will not be lined. Drill fluids used will be non-toxic, biodegradable and environmentally acceptable. It is anticipated that the water quality in the proposed drill areas will be of good quality and doesn't cause any environmental issues.

Section 7 – Rehabilitation and Closure

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

A refund of security related to completed rehabilitation on site requires the submission of a rehabilitation report including photographs, an updated security calculation and updated disturbance tracking spreadsheet to the Department.

7.1	✓	Drill holes will be 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	✓	Drill holes encountering multiple or confined aquifers will be grouted with concrete.
7.3	✓	Drill samples/spoil will be returned down drill holes, buried in sumps, or removed from site.
7.4	✓	All drill hole and access markers including flagging tape, wooden markers and star pickets will be removed from site.
7.5	✓	Cut and fill drill pads will be re-contoured to be consistent with the surrounding terrain.
7.6	✓	Drill pads and compacted areas along the contour (on sloping ground) will be ripped/scarified of and tracks will be cross-ripped (zig-zag).
7.7	✓	Tracks will be rehabilitated, including pushing in all windrows, unless otherwise agreed in writing by the land holder or appropriate third party.
7.8	✓	Appropriate erosion and sediment controls will be installed where erosion is evident or likely to occur.
7.10	✓	Access through watercourses will be removed and banks restored.
7.11	✓	All previously disturbed areas will be stable, with no evidence of active soil erosion.
7.12	✓	All excavations will be backfilled within 6 months of their completion.
7.13	✓	All water bores will be decommissioned unless otherwise agreed in writing by the land holder or appropriate third party.
7.14	✓	All rubbish and infrastructure will be removed from site.
7.15	✓	Topsoil will be replaced and vegetation re-established.
7.16	✓	Contaminated soils (e.g. hydrocarbon or hazardous chemicals) will be rehabilitated or removed from site.
7.17	✓	Monitoring will be undertaken following the wet season or a significant rainfall event.

Justification and alternative management measures:

Section 8 – Required Attachments

8.1	✓	Initial Application for Authorisation or variation of Authorisation (only if details on the form have subsequently changed).
8.2	NA	Nomination of Operator Form, where required
8.3	✓	Security Calculation Spreadsheet (included two security calculations: one for stage 1 drilling and one for the total drilling (stage 1 and 2))
8.4	✓	Evidence of Land Access Agreement if operating on an Exploration Licence (EL) on Pastoral Lease (e.g. two-ways exchange of email) (<i>see appendix 3</i>)
8.5	✓	Disturbance tracking spreadsheet (for existing Authorisations)
8.6	NA	Spreadsheet with coordinates of proposed drill holes or polygons of target areas
8.7	✓	KML/shape files/track logs of proposed tracks, camp sites and proposed drill holes or polygons of target areas (<i>see appendix 1</i>)
8.8	✓	Map(s) of the work area(s) showing: <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. rehabilitated areas (<i>no remediated areas</i>) 5. camp sites (<i>camping on top of the Rustler's Roost waste dump</i>) 6. heritage sites or significant environmental areas (<i>see appendix 1</i>) 7. environmental constraints (<i>no environmental constraints</i>)
8.10	NA	Radiation Management Plan (if applicable)
8.12		Document(s) being appended in relation to Section 2 (if any): <ul style="list-style-type: none"> - Appendix 1 Spatial data files - Appendix 2 Likelihood analysis and risk assessment threatened species - Appendix 3 Land access agreements - Appendix 4 Aboriginal Sacred Sites Authority Certificates