

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	Leaky Bore Project (EL26942)
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Authorisation Number Insert existing authorisation number, where applicable	
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Operator Name Use ASIC-ABR registered name (if a company), or name of the applicant	Typhon Minerals Pty Ltd (ACN 614 887 464)
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Location and Access Details Include brief description of the location, access details, and distance to nearest town or community	The Leaky Bore Project is located approximately 170km northeast of Alice Springs (Figs. 1 & 2). The Project can be accessed from the north via the Plenty Highway and station tracks, or from the south via the Ross Highway and station tracks. Access to the southern area is via the Numery Road, which passes east from Alice Springs.
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Target Commodity Details Include target commodities (i.e. gold, copper etc)	Gold, copper, cobalt, nickel
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Mining Activities Summarise the mining activities (exploration) to be the subject of the proposed Authorisation or Variation	<p>Mithril cleared a small area at the Basil camp area and undertook drilling on EL26942 from 2009-2012. All drill sites and access tracks were rehabilitated by Mithril prior to Typhon's involvement. The Basil camp area has been partly rehabilitated by Mithril.</p> <p>The proposed low-impact exploration activities by Typhon will involve non-ground disturbing geological mapping, core logging (historical core only), geological reconnaissance, and surface soil and rock sampling. Workers will use 4WD utes and tents and/or a portable caravan for accommodation at the Basil camp area. Existing station roads and tracks will be used.</p>
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Proposed Schedule Include start and finish dates of ground disturbing work	The proposed low-impact exploration activities would be carried out between 1 September 2020 and 30 June 2021 (subject to COVID19 access restrictions).
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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	Property Name or Land Holder
EL26942	Mithril Resources Ltd	04/08/2021	Ambalindum Station PPL1124 (NT Portion 724)

Delete or add rows as required

Organisational Structure

Position Title	Name
Director	Ernst Kohler
Exploration Manager	Ernst Kohler
Contract geoscientists and field technicians	TBA

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 (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.	A search on STRIKE on 8 May 2020 showed that the Project is located in the Greater MacDonnell Ranges area (Fig. 1). A search on NR Maps on 8 May 2020 showed no threatened significant fauna or flora are recorded in the Project area (Fig. 2).
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).	A search on NR Maps on 8 May 2020 showed no weed records in the Project area (Fig. 2).
Step 3: Will you be using water from bores or other sources for the operation?	No	<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>	Reconnaissance field exploration vehicles will bring in camping water as and when required

Environmental assessment and cultural considerations

ASSESSMENT ASPECT	YES or NO	MANAGEMENT REQUIREMENTS
<p>Step 4: Is your project likely to have a significant impact on the environment?</p>	NO	Refer to the NTEPA Environmental Factors and Objectives Guideline.
<p>Step 5: Are there Aboriginal sacred sites in the Project area?</p>	NO	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.
<p>Step 6: Are there archaeological and heritage sites in the Project area?</p>	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
Mining Interest and Land Ownership	<p>EL26942 has been sold by Mithril Resources Limited to Typhon Minerals Pty Ltd.</p> <p>Mithril undertook drilling on EL26942 from 2009 – 2012; all of these drill sites have been rehabilitated by Mithril. Some rehabilitation remains to be completed at the Basil Camp site (~0.61ha). Typhon intends to continue using the Basil Camp site. These Basil Camp site will be subject to final rehabilitation work once it is no longer needed.</p>
Section 8.1 Security Calculation	Department Mining Compliance Officers set the revised the security amount for EL26942.

Delete or add rows as required

Section 4 – Activities Proposed

Mining Interests (i.e. titles)	EL26942	EL	EL
Number and type of proposed drill holes	None		
Maximum depth of proposed holes (m)	N/A		
Number and size of drill pads to be cleared (Length: m x Width: m)	N/A		
Total area of drill pads to be cleared (ha)	N/A		
Is drilling likely to encounter groundwater? (Y, N, unsure)	N/A		
Number of costeans (Length: m x Width: m x Depth: m)	None		
Number of bulk sample pits	N/A		
Total bulk sample (tonnes) (Length: m x Width: m x Depth: m)	N/A		
Bulk sample pits approved under <i>Mineral Titles Act</i> ? (Y or N)	N/A		
Length of line/track clearing (km: x Width: m)	No clearing needed. 4WD's will use existing tracks.		
Camp area to be cleared (ha)	No clearing needed – workers will use tents / portable caravan at the existing Basil camp site		
Camp Infrastructure (i.e. demountable, tents)	The tents and/or portable caravan will be removed after the program has been completed		
Previous disturbance yet to be remediated on title (ha) if known	Approx. 0.61Ha at the Basil Camp site remains to be rehabilitated.		
Other	Drill sites have been rehabilitated by Mithril.		
Total area disturbed proposed (ha)	No new areas will be disturbed by the low-impact exploration activities proposed to be carried out between 1 September 2020 and 30 June 2021.		

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	N/A	Blade-up approach for clearing will be used (i.e. no windrows, leave root stock and topsoil)
6.2	N/A	Significant vegetation will be avoided during clearing (i.e. large trees, specimens providing habitat or food sources, riparian vegetation, and threatened species)
6.3	N/A	Vegetation clearing during, and immediately after rainfall events, will be avoided
6.4	N/A	Vegetation clearing will be kept to the minimum required to safely traverse vehicles and drill rigs along tracks and drill pads
6.5	N/A	Where blade-up techniques cannot be employed, topsoil and vegetation will be stockpiled appropriately for remediation purposes
6.6	X	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	N/A	Sumps will be lined or tanks of appropriate size to contain water, sediment and drilling fluids encountered during drilling, will be used
6.8	N/A	Sumps, drill holes, and fuel stores will be located away from environmentally significant areas and water courses
6.9	N/A	Excavations (sumps, costeans and pits) will be appropriately ramped to allow fauna egress
6.10	N/A	Drill holes will be securely capped immediately after drilling
6.11	X	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	X	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	X	Hazardous substances (including hydrocarbons) will be stored and handled in accordance with relevant Australian Standards
6.14	X	Hydrocarbons will be stored in lined and bunded areas
6.15	X	Waste will be stored securely while on-site to minimise windblown rubbish and access by feral animals
6.16	X	Waste will be removed off-site and disposed of at an appropriate waste management facility
6.17	X	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:

No drilling will be undertaken by Typhon. No sumps, pits or costeans will be excavated by Typhon.

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	N/A	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	N/A	Drill samples/spoil returned down drill holes, buried in sumps, or removed from site
7.3	N/A	All drill hole and access markers including flagging tape, wooden markers and star pickets will be removed from site
7.4	N/A	Re-contouring of cut and fill drill pads will be consistent with the surrounding terrain
7.5	N/A	Ripping/scarifying of drill pads, and compacted areas along the contour (on sloping ground) and cross-ripping (zig-zag) along tracks
7.6	N/A	Tracks will be remediated, including pushing in all windrows
7.7	N/A	Appropriate erosion and sediment controls will be installed where erosion is evident or likely to occur
7.8	N/A	All tracks will be remediated unless otherwise agreed in writing by the land holder or appropriate third party
7.9	N/A	Access through watercourses will be removed and banks restored
7.10	N/A	No erosion is occurring in disturbed areas, on tracks and in remediated areas
7.11	N/A	All excavations backfilled within 6 months of completion of drilling
7.12	N/A	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	N/A	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 in the event of a hydrocarbon spill by Typhon
7.16	N/A	Monitoring will be undertaken following the wet season or a significant rainfall event

Justification and alternative management measures:




No new areas will be disturbed by the low-impact exploration activities proposed to be carried out by Typhon between 1 September 2020 and 30 June 2021. A temporary camp utilizing tents and/or portable caravan will be sited at the existing Basil camp site. The tents and caravan will be removed from site once the work has been completed. No drilling, trenching or clearing will be undertaken by Typhon between 1 September 2020 and 30 June 2021. Workers will access areas in 4WD's using existing tracks and on foot. Mithril undertook drilling on EL26942 from 2009 – 2012; all of these drill sites have been rehabilitated by Mithril. Some rehabilitation remains to be completed at the Basil Camp site. Typhon intends to continue using the Basil Camp site. The Basil Camp site will be subjected to final rehabilitation work once it is no longer needed.

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	24 August 2020	25 August 2020	27 August 2020
Name	E. Kohler	E. Kohler	E. Kohler
Signature			

I Ernst Kohler (*name of approving person*) Director (Typhon Minerals Pty Ltd) (*position title*) 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: 27 August 2020

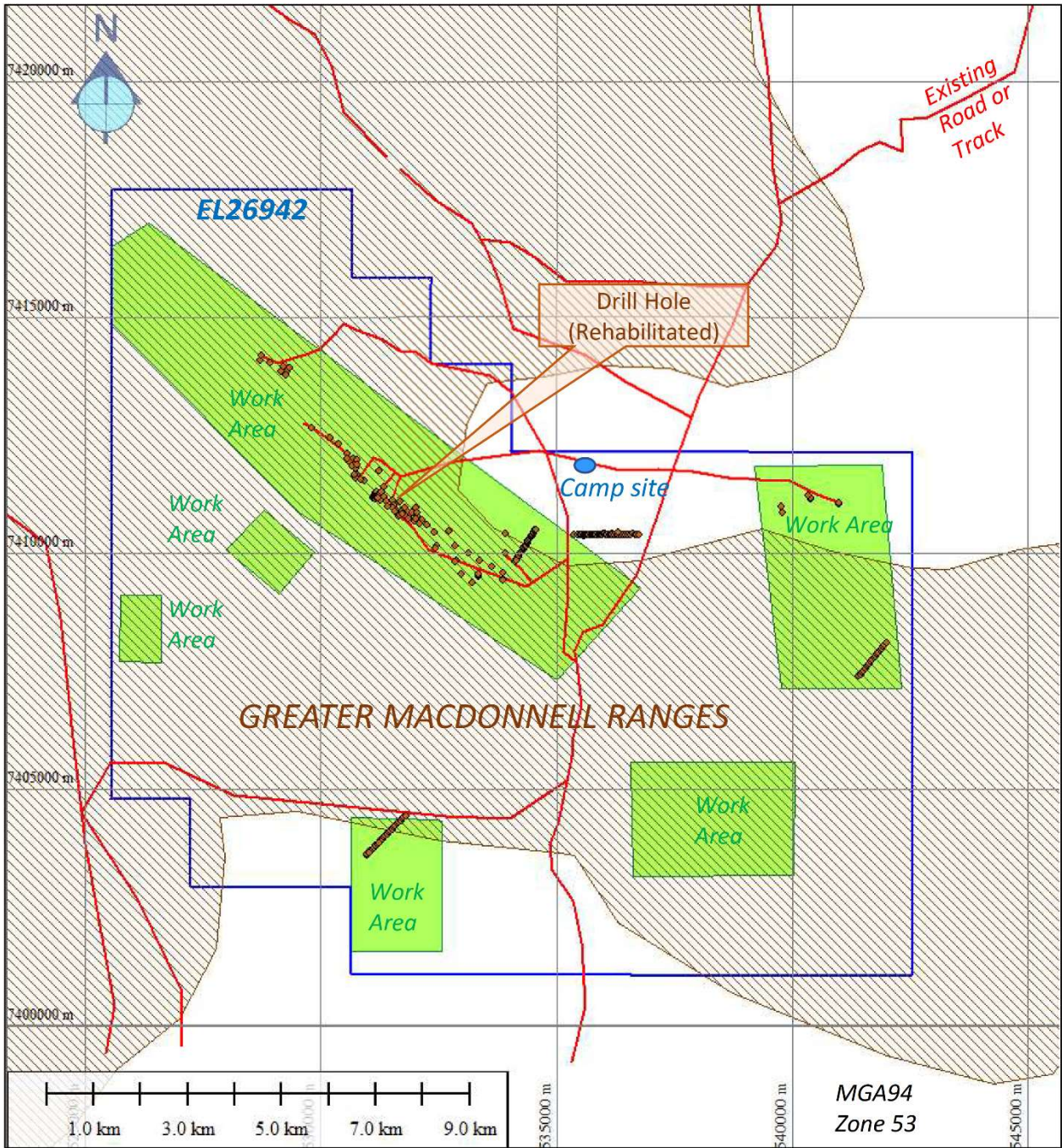


Figure 1: EL26942 project map.

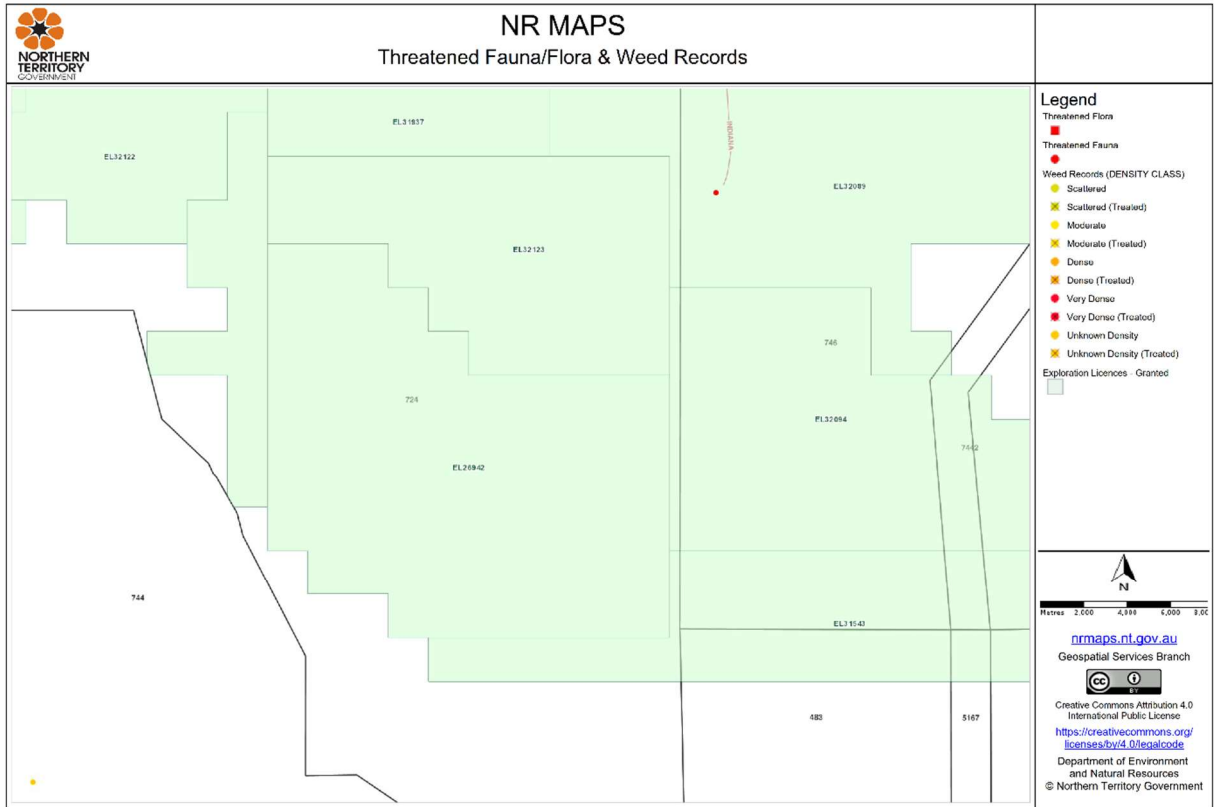


Figure 2: NR Maps - Threatened Flora, Fauna and Weed Records.