

# 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

<b>Project Name</b> Provide new or existing project name	Jervois Project
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<b>Authorisation Number</b> Insert existing authorisation number, where applicable	0666-01
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<b>Operator Name</b> Use ASIC-ABR registered name (if a company), or name of the applicant	KENTOR MINERALS (NT) Pty. Ltd
<b>Operator ABN and ACN numbers</b>	ABN – 71 152 107 527 ACN – 152 107 527

<b>Location and Access Details</b> Include brief description of the location, access details, and distance to nearest town or community	The Jervois Range Project is located on Jervois Station, about 380km NNE of Alice Springs. Access is by the Stuart Highway and the Plenty Highway then by Lucy Creek Station access road.
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<b>Target Commodity Details</b> Include target mineral commodities (i.e. gold, copper etc.)	Copper, Gold, Silver, Lead and Zinc
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<b>Mining Activities</b> Summarise the mining activities (exploration) to be the subject of the proposed Authorisation or Variation.  Drilling programs over a maximum of four years are supported and encouraged and can be staged. Please refer to the guidelines for further information.	Priority is to proceed to a bankable feasibility study and mine development. To this end, the majority of resource definition drilling has been completed. Review of this work will lead to follow-up drilling and DHEM surveys during 2021.  A Mining Management Plan has been developed and submitted for construction and the start of mining  Exploration by Kentor Minerals (NT) will focus on the Jervois Range
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<p><b>Proposed Schedule</b> Include start and finish dates of ground disturbing work</p>	<p>Activities commenced – March 2011 All exploration and development activities are ongoing. Exploration drilling was suspended from 19 March 2020 due to Covid-19 and recommenced in February 2021.</p> <p>Work programs to be completed during 2020-2021 will be:</p> <ol style="list-style-type: none"> <li>1. infrastructure geotechnical pits and short drill holes (5 – 20m depth). Target positions for these are shown and listed in Appendix 7</li> <li>2. Three mining geotechnical holes will be required once the exact detailed design location for a ventilation shaft for the Rockface, Reward and Bellbird underground mines is complete. (Positions TBA)</li> <li>3. Exploration and resource extension drilling subject to current review of drilling up to the end of February 2020. This will be advised once reviews are complete. (Areas shown in Appendix 7)</li> <li>4. DHEM survey(s) in drill holes completed to date, again TBA once current reviews are completed.</li> <li>1. Surface based induced polarization (IP), resistivity and magnetotelluric (MT) surveys to be undertaken in various prospective areas, (Areas shown in Appendix 7)</li> </ol> <p>Timing of this work will be subject to current Covid-19 work restrictions and approval of this Mining Management Plan, personnel availability and initial findings from exploration activities</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
ML 30180	Jinka Minerals Ltd	27/01/2024	Jervois Station – Michael and Denise Broad
ML 30182	Jinka Minerals Ltd	25/03/2024	Jervois Station – Michael and Denise Broad
ML 30829	Jinka Minerals Ltd	17/08/2032	Jervois Station – Michael and Denise Broad
EL 25429	Jinka Minerals Ltd	Renewal Pending	Jervois Station – Michael and Denise Broad
EL 28082	Jinka Minerals Ltd	Renewal Pending	Jervois Station – Michael and Denise Broad

Delete or add rows as required

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	<b>Denis Wood</b>
Project Director	<b>Vacant</b>
Exploration Manager	<b>John Levings</b>

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<b>Position Title</b>	<b>Name</b>
Project Manager	<b>Russell Dwyer</b>
Camp Manager	<b>Steven Ludwig</b>
Geologist	<b>Zoe Morgan</b>
Geologist	<b>Atiq Amiri</b>

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)
<b>Step 1:</b> 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 DEPWS –Flora and Fauna Division. The DEPWS may recommend a Biodiversity Management Plan – this must be developed and attached to the MMP.	Please refer to: <u>APPENDIX 1</u> . Environmental Management (EM) Plan A3 – Biodiversity Plan
<b>Step 2:</b> 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 DEPWS – Weeds Management to ensure management measures are appropriate for the level of activity proposed and attach a Weed Management Plan (if required).	Please refer to: <u>APPENDIX 1</u> . Environmental Management (EM) Plan A3 – Biodiversity Plan
<b>Step 3:</b> Will you be using water from bores or other sources for the operation?	Yes	<i>Note the Government is proposing to amend the exemption of water licencing under the Water Act for mining activities, including exploration. This section will be updated in light of any changes in the future.</i>	Please refer to: <u>APPENDIX 8</u> . Propose to use Bore J8 (630474E 7494620N at a flowrate of 3 l/sec)

Environmental assessment and cultural considerations

ASSESSMENT ASPECT	YES or NO	MANAGEMENT REQUIREMENTS
<p><b>Step 4:</b> Is your project likely to have a significant impact on the environment?</p>	No	<p>Refer to the NTEPA Environmental Factors and Objectives Guideline.</p> <p>Please refer to: <u>APPENDIX 3</u> A1 Risk Assessment 200409DOC Jervois MMP</p>
<p><b>Step 5:</b> Are there Aboriginal sacred sites in the Project area?</p>	Yes	<p>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> <p>Please refer to: <u>APPENDIX 2</u>, EM Plan A11 CHMP Jervois MMP (Cultural Heritage Management Plan)</p>
<p><b>Step 6:</b> Are there archaeological and heritage sites in the Project area?</p>	Yes	<p>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.</p> <p>Please refer to <u>APPENDIX 2</u>: EM Plan A11 CHMP Jervois MMP (Cultural Heritage Management Plan)</p>

### 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
Authorisation 0666-01	Kentor Minerals (NT) - Amendment 1 to 2018 work program MMP - July 2018
Authorisation 0666-01	Kentor Minerals (NT) - Amendment 2 to 2018 work program MMP - Dec 2018
Authorisation 0666-01	Kentor Minerals (NT) - 2019 work program MMP - May 2019

Delete or add rows as required

**Section 4 – Activities Proposed for this MMP only**

Mining Interests (i.e. titles)	EL25429	EL28082	ML 30180	ML 30182	ML 30829
Number and type of proposed exploration drill holes	24 Diamond 12 with RC pre-collars	20 Diamond 10 with RC pre-collars	4 Diamond 0 with RC pre-collars	80 Diamond 40 with RC pre-collars	30 Diamond 10 with RC pre- collars
Maximum depth of proposed holes (m)	700	800	25	1500	800
Number and size of drill pads to be cleared (Length: 30 m x Width: 30 m)	24	20	4	80	30
Total area of drill pads to be cleared (ha)	2.2	1.8	0.36	7.2	2.7
Number of proposed water bores	Nil	Nil	Nil	Nil	Nil
Is drilling likely to encounter groundwater in multiple or confined aquifers? (Y, N, unsure) If answering yes, please provide the number of exploration holes where this is likely to occur	unsure	unsure	unsure	unsure	unsure
Number of costeans	Nil	Nil	Nil	Nil	Nil
Volume to backfill costeans (Length: m x Width: m x Depth: m)	Nil	Nil	Nil	Nil	Nil
Number of bulk sample pits	Nil	Nil	Nil	Nil	Nil
Volume to backfill bulk sample pits (Length: m x Width: m x Depth: m)	Nil	Nil	Nil	Nil	Nil
Bulk sample pits approved under <i>Mineral Titles Act</i> ? (Y or N). If Yes provide approval	Nil	Nil	Nil	Nil	Nil
Line/track clearing: (length m x width m)	2,400m X 2.5m	2,000m X 2.5m	400m X 2.5m	8,000m X 2.5m	3,000m X 2.5m
Area of proposed line/track clearing (ha)	0.6	0.5	0.1	2	0.75
Camp area to be cleared (ha)	Nil	Nil	Nil	Nil	Nil
Camp Infrastructure (i.e. demountable, tents) Please provide a complete list with measurements as required in the security calculation	Nil	Nil	Nil	Nil	13 demountables 8 containers 2 fuel storage tanks Total area 5 Ha
Other	Nil	Nil	Nil	Nil	Nil
Total proposed area of disturbance (ha)	2.8	2.3	1.36	9.2	3.45

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	<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 rehabilitation 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> .
6.18	<input checked="" type="checkbox"/>	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	<input checked="" type="checkbox"/>	Radioactive/NORM drill cuttings will be managed to avoid radiation related issues on site.
6.20	<input checked="" type="checkbox"/>	Dust management will be implemented on site.

### Justification and alternative management measures:

6.7 - Biodegradable drill mud is proposed to be used and lining sumps will only be undertaken where water loss into the sump is excessive. This is preferred as plastic lining of sumps can be problematic to remove.

## 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	<input checked="" type="checkbox"/>	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	<input checked="" type="checkbox"/>	Drill holes encountering multiple or confined aquifers will be grouted with concrete.
7.3	<input checked="" type="checkbox"/>	Drill samples/spoil will be returned down drill holes, buried in sumps, or removed from site.
7.4	<input checked="" type="checkbox"/>	All drill hole and access markers including flagging tape, wooden markers and star pickets will be removed from site.
7.5	<input checked="" type="checkbox"/>	Cut and fill drill pads will be re-contoured to be consistent with the surrounding terrain.
7.6	<input checked="" type="checkbox"/>	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	<input checked="" type="checkbox"/>	Tracks will be rehabilitated, including pushing in all windrows, unless otherwise agreed in writing by the land holder or appropriate third party.
7.8	<input checked="" type="checkbox"/>	Appropriate erosion and sediment controls will be installed where erosion is evident or likely to occur.
7.10	<input checked="" type="checkbox"/>	Access through watercourses will be removed and banks restored.
7.11	<input checked="" type="checkbox"/>	All previously disturbed areas will be stable, with no evidence of active soil erosion.
7.12	<input checked="" type="checkbox"/>	All excavations will be backfilled within 6 months of their completion.
7.13	<input checked="" type="checkbox"/>	All water bores will be decommissioned unless otherwise agreed in writing by the land holder or appropriate third party.
7.14	<input checked="" type="checkbox"/>	All rubbish and infrastructure will be removed from site.
7.15	<input checked="" type="checkbox"/>	Topsoil will be replaced and vegetation re-established.
7.16	<input checked="" type="checkbox"/>	Contaminated soils (e.g. hydrocarbon or hazardous chemicals) will be rehabilitated or removed from site.
7.17	<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	<b>N/A</b>	Initial Application for Authorisation or variation of Authorisation (only if details on the form have subsequently changed).
8.2	<b>N/A</b>	Nomination of Operator Form, where required
8.3	✓	Security Calculation Spreadsheet
8.4	✓	Evidence of Land Access Agreement if operating on an Exploration Licence (EL) on Pastoral Lease (e.g. two-ways exchange of email)
8.5	✓	Disturbance tracking spreadsheet (for existing Authorisations)
8.6	✓	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
8.8	✓	Map(s) of the work area(s) showing: <ol style="list-style-type: none"> <li>1. title boundaries and title numbers</li> <li>2. current and proposed drill holes, or polygons of target areas</li> <li>3. current and proposed tracks</li> <li>4. rehabilitated areas</li> <li>5. camp sites</li> <li>6. heritage sites or significant environmental areas</li> <li>7. environmental constraints</li> </ol>
8.10	<b>N/A</b>	Radiation Management Plan (if applicable)
8.12	✓	Document(s) being appended in relation to Section 2 (if any): <ul style="list-style-type: none"> <li>- Appendix 1- Biodiversity Management Plan</li> <li>- Appendix 2- Cultural Heritage Management Plan</li> <li>- Appendix 3- Risk Assessment</li> <li>- Appendix 8- Approval to use Bore- J8</li> </ul>