

1. INTRODUCTION

1.1 Background

Minemakers Australia Pty Ltd (Minemakers) proposes to develop the Wonarah Phosphate Project, in the Barkly Tableland of the Northern Territory (see Figure 1.1). The Wonarah Phosphate Project, hereafter referred to as 'the project', involves the mining of two phosphate deposits, known as 'Arruwurra' and 'Main Zone'.

The project has a Joint Ore Reserves Committee (JORC) compliant resource estimate of 399 Mt at 21% phosphorite (P_2O_5) (15% cut-off grade). Exploration drilling has not closed off mineralisation at either deposit.

The project will be developed over two discrete stages. Stage 1 involves the mining of the deposits for direct shipping ore (DSO). DSO is of a quality that requires only crushing and screening to meet market requirements. Mining during Stage 1 is expected to occur for approximately ten years, although exploration currently underway may extend this period even further. Production will commence at a rate of 0.5 Mt/a and increase to 3 Mt/a in the third full year of mining.

If and when a decision is made by Minemakers to proceed with Stage 2, Stage 2 would involve an expansion of the mining and processing operations to develop the lower grade ore, i.e., non-DSO material. If Stage 2 proceeds, it is expected to commence within about five years from commencement of Stage 1 and to continue producing at a rate of 3 Mt/a for a further 40 years.

DSO will be transported by road to Tennant Creek for transport by train along the Adelaide–Darwin railway to East Arm Port, Darwin, where it will be temporarily stored prior to export by ship to overseas markets.

This Draft Environmental Impact Statement (EIS) applies to the Stage 1 development of the Wonarah Phosphate Project. Information on Stage 2 of the project has been included where relevant; however, Stage 2 of the project is still being defined and is outside the scope of this EIS. If pursued, Stage 2 will be subject to a separate assessment in due course.

1.2 Project History

The Wonarah phosphate deposit was originally identified in 1967 by the North American industrial minerals and chemicals group, IMC Development Corporation (IMC) (AKD, 2005). Between 1967 and 1970, IMC conducted regional mapping, geophysical drilling and testing activities and described a resource of 307 Mt at 18.98% P_2O_5 (AKD, 2005). During the mid-1980s, CRA Exploration Pty Ltd carried out further exploration activities to the south of the Wonarah deposit, however, they withdrew their interest in the deposit due to low phosphate prices and lack of infrastructure in central Australia at the time.

The project was acquired by AKD Limited (currently Indo Mines Limited) in 1998 from Rare Earths and Minerals Pty Ltd and Pilbara Chemical Corporation NL who had applied for licences over the

area in 1997. The exploration leases within which the Wonarah deposit lies were granted to Indo Mines Limited and to a joint venture between Indo Mines Limited and Rio Tinto in 1998 and 2000, respectively. During the joint venture, lasting from March 1999 to December 2002, Rio Tinto as manager and operator of the tenements continued exploration activities (AKD, 2005). The joint venture ended after a prefeasibility study in January 2000 recommended that Rio Tinto not proceed with development of the project (Hackman et al., 2000).

The current Substitute Exploration Lease SEL26452 is a consolidation of former Exploration Licences EL9976, EL22168, EL24562 and EL26394. Minemakers purchased these leases from Indo Mines Limited in October 2006. The consolidated SEL26452 was registered in September 2007.

1.3 Project Proponent

Minemakers is an Australian company and has been listed on the Australian Stock Exchange (ASX) since October 2006 (ASX code: MAK). The company owns, or has options over, the following mineral projects and prospects, mostly located within Australia:

- Wonarah phosphate project in the Northern Territory (100% ownership).
- Tasmanian tin and tungsten deposits in northeast Tasmania including Storey's Creek and Aberfoyle (100% ownership).
- Moina polymetallic project (fluorspar, magnetite, tungsten, tin, zinc and other base metals) in northwest Tasmania (option to acquire 80% equity).
- Port Keats salt target in the Northern Territory (100% ownership).
- Fraser iron, iron ore targets in southwest Western Australia (option to purchase 80% ownership).
- Sandpiper/Meob offshore Phosphate Project in Namibia.

The company is also exploring for uranium mineralisation in Tasmania.

1.4 Project Location and Tenure

The project is located in the Barkly Tableland of the Northern Territory directly south of the Barkly Highway, approximately 240 km east of Tennant Creek and approximately 960 km southeast of Darwin (see Figure 1.1).

The Wunara community is the closest populated area to the project. It is located adjacent to the Barkly Highway and is approximately 10 km to the east of the Mineral Lease boundary (see Figure 1.1). The community has four houses and associated buildings and an Indigenous population that fluctuates from 2 to 30 people according to the season.

The project area includes the Mineral Lease to the south of the Barkly Highway, as well as the northern borefield and water supply pipeline located on Dalmore Downs pastoral lease on the northern side of the Barkly Highway.

1.4.1 Land Tenure

The project is located wholly within enhanced freehold portions 3748, 3749 and 3751 to 3754 and the perpetual pastoral lease portion 773 (see Figure 1.2).

1.4.2 Mining Tenements

Minemakers has applied for the Mineral Lease ML27244 (see Figure 1.2). The project area also encompasses Exploration Licences EL26055, EL26583, EL26584, EL26585 and EL26586, which are held by Minemakers.

1.5 This Draft Environmental Impact Statement

1.5.1 Legislative Context

This EIS addresses the environmental and social impacts of, and management strategies for, the project. Preparation of the report is based on guidelines prepared by the Northern Territory Department of Natural Resources, Environment, the Arts and Sport (DNRETAS) (Appendix 1) following a determination by the Northern Territory Government that an EIS was the appropriate level of assessment required under the Northern Territory *Environmental Assessment Act*.

Following submission of a referral to the Australian Government Department of the Environment, Water, Heritage and the Arts (DEWHA) for the Mineral Lease area, the project was deemed 'not a controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A referral for the northern borefield and water supply pipeline has been made and it is considered unlikely that the development of the borefield will be considered a controlled action.

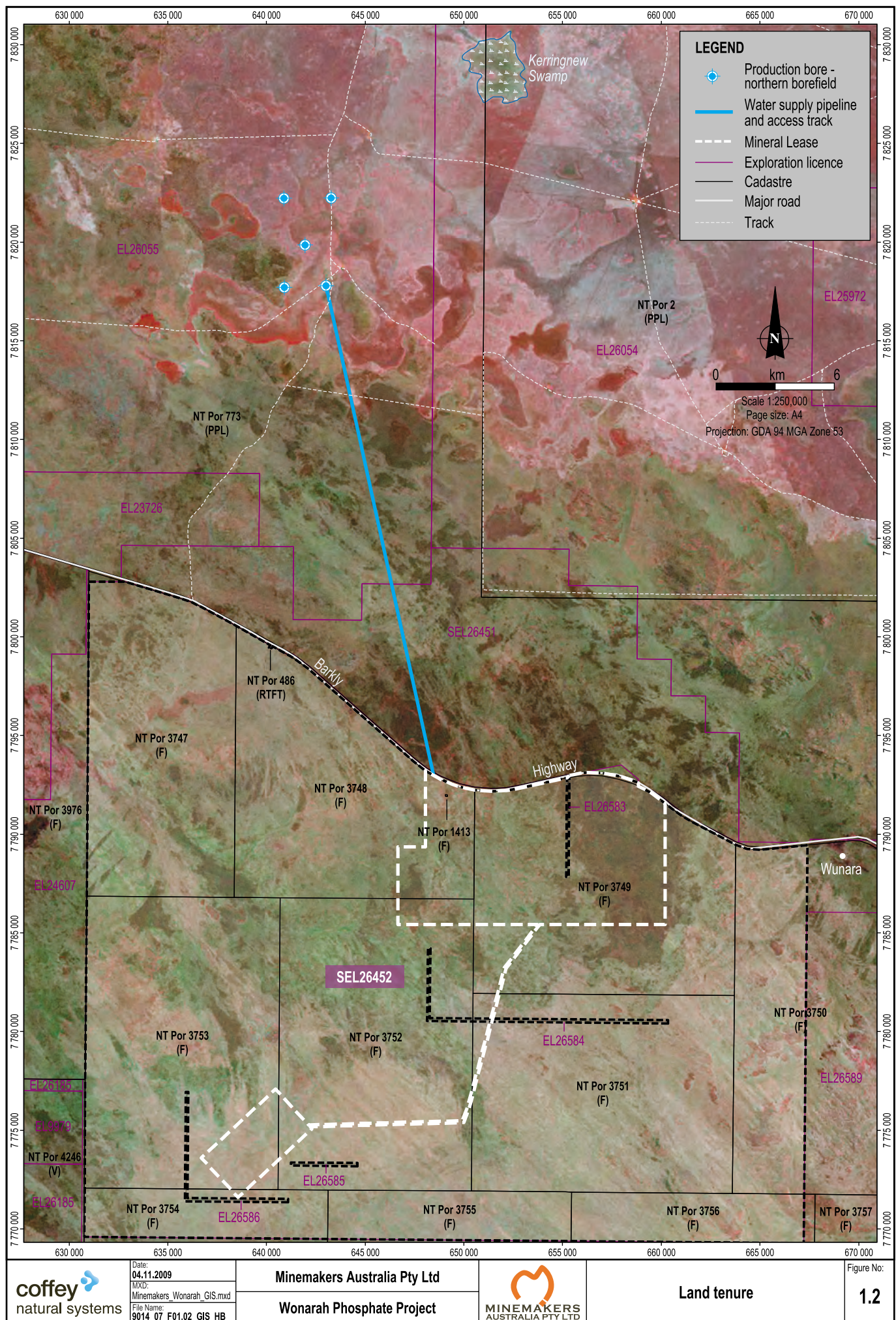
In addition, although not a legal requirement, this EIS will also address the assessment process as detailed in Section 46 of the Commonwealth's *Aboriginal Land Rights Act (Northern Territory) Act 1976*.

Further detail on the legislation, policies and standards that apply to the project is outlined in Chapter 2.

1.5.2 Objectives and Context

The EIS is the principal document by which the environmental aspects of the project will be assessed by the key regulatory authorities, i.e., DNRETAS and Department of Regional Development, Primary Industry, Fisheries and Resources (DRDPIFR), with referral agencies also contributing to the assessment process. The EIS has therefore been prepared in accordance with the requirements of the Northern Territory Environmental Assessment Act and the objective to:

- Provide details of the project to the regulatory authorities, the general public and other stakeholders.
- Identify, quantify and assess the potential environmental and social impacts associated with the development of the project.
- Present proposed mitigation and management measures to be taken to ensure that the project complies with environmental guidelines.



- Provide an assessment of the effectiveness of the mitigation measures and the residual impacts following their implementation.

The EIS also contains a number of environmental objectives (see Chapter 9) to which Minemakers is committed for the life of the project. Where possible, these commitments are specific and quantitative.

1.5.2 Structure of the EIS

The EIS is in three parts:

- The executive summary, which provides an overview of the project and the EIS.
- The main report (this report) and its attachments, which is meant to be understood without reference to the specialist studies reports on which it is based.
- A series of appendices (Table 1.1), which contain the specialist studies reports that support the content of the Main Report and the Mineral Lease application.

The format of the main report, which comprises 14 chapters, is:

- Chapter 1 Introduction (this chapter) – an introduction detailing background, project history, report structure and report conventions.
- Chapter 2 Legislative Framework – a description of the legislative framework.
- Chapter 3 Project Rationale – a description of the project rationale.
- Chapter 4 Environmental and Socio-economic Setting – a contextual description of the project setting.
- Chapter 5 Project Description – a detailed description of the project.
- Chapter 6 Existing Environment, Potential Impacts and Management – a description of the existing environment, identification of the potential issues (risks), description of the proposed avoidance, mitigation and management measures and assessments of the residual impacts.
- Chapter 7 Preliminary Hazard and Risk Assessment – a description and analysis of the risk and hazards to humans and facilities at the site.
- Chapter 8 Mine Closure and Rehabilitation – a conceptual mine closure and rehabilitation plan.
- Chapter 9 Environmental Management – a description of the environmental management system and environmental objectives that will be adopted for the project.
- Chapter 10 Public Involvement and Consultation – a description of stakeholder consultation to date, and that proposed for the future.
- Chapter 11 Conclusion – a conclusion summarising the salient aspects of the EIS document.
- Chapter 12 References – bibliographic details of each reference used in the EIS.
- Chapter 13 Glossary – an explanation of abbreviations and technical terms used in the EIS.
- Chapter 14 Study Team – details of the study team involved in the preparation of the EIS.

Table 1.1 Wonarah Phosphate Project EIS supporting documentation

	Title/Subject	Author
Attachment No.	Attachments	
1	EIS Guideline Cross Reference	Coffey Natural Systems
2	Section 46 Cross Reference	Coffey Natural Systems
3	Uranium Assays	Minemakers
4	DustBloc® Specifications	Coode Products
5	Environmental Management Plan	Coffey Natural Systems
5A	<i>Air Quality Management Plan</i>	
5B	<i>Waste Management Plan</i>	
5C	<i>Fire Management Plan</i>	
5D	<i>Emergency Response Plan</i>	
5E	<i>Groundwater Management Plan</i>	
5F	<i>Cultural Heritage Management Plan</i>	
5G	<i>Flora Management Plan</i>	
5H	<i>Fauna Management Plan</i>	
5I	<i>Mosquito Management Plan</i>	
5J	<i>Sediment and Erosion Control Plan</i>	
5K	<i>Stakeholder Management Plan</i>	
6	Stakeholder Consultation to Date	Minemakers
Appendix No.	Appendices	
1	Guidelines for Preparation of an Environmental Impact Statement for the Wonarah Phosphate Project by Minemakers Australia Pty Ltd	Department of Natural Resources, Environment, the Arts and Sport
2	Determination of Assessment Under the <i>Environmental Assessment Act</i>	Minister for Natural Resources, Environment and Heritage
3	Determination of EPBC Act Referral	Department of the Environment, Water, Heritage and the Arts
4	Socio-economic Baseline and Impact Assessment	Coffey Natural Systems
5	Mine Closure and Rehabilitation Plan	Coffey Natural Systems
6	Acid Forming Characteristics of Waste Rock and non-DSO	Environmental Geochemistry International Pty Ltd
7	Greenhouse Gas Emissions: Formula and Workings	Coffey Natural Systems
8A	Baseline Flora and Fauna Report	Low Ecological Services
8B	Desktop Flora and Fauna Assessment: Proposed Borefield and Water Pipeline	Low Ecological Services
9	Hydrogeological and Water Supply Investigations	Groundwater Resource Management Pty Ltd
10A	Hydrological Baseline Assessment	Groundwater Resource Management Pty Ltd
10B	Surface Water Management	Groundwater Resource Management Pty Ltd
11	Proposed Minemakers Phosphate Mine (MLA27244) Archaeological Survey Arruwurra Block - Barkly Highway NT	Tim Hill

Attachment 1 'EIS Guideline Cross Reference' outlines where requirements of the EIS guidelines are addressed in the 14 chapters of the main report.

Although the provisions of the *Native Title Act 1993* and Aboriginal Land Rights (Northern Territory) Act do not apply to the Project, Minemakers will ensure that the environmental permitting process of the Project meets the requirements of Section 46 of the Aboriginal Land Rights (Northern Territory) Act. Attachment 2 outlines how this EIS will voluntarily address Section 46 requirements.

1.5.3 Report Conventions

The Wonarah Phosphate Project is a development proposal and its implementation is conditional on a number of factors such as project approvals and successfully raising the required finance. However, for reason of style the project and related proposed activities have been described in the active mood 'will' rather than 'would'.

Information contained herein that describes existing conditions, avoidance, management and mitigation measures, and residual impacts is taken from both literature sources and the specialist studies listed in Table 1.1. To avoid excessive repetition, the number of references in the text to these sources, particularly when summarising information from the specialist studies reports in Chapter 6, has been minimised.