SECTION 1

Contents

Tables

Figures

1 Introduction

Hunter Enviro-Mining (Operations) Pty Ltd (HEM) have commissioned Wells Environmental Services to prepare an Environmental Assessment Report for a project comprising the collection and haulage of carbonaceous materials and rehabilitation of three sites. The carbonaceous materials comprises of chitter, tailings and coals emplaced at Aberdare East, Neath and Richmond Main East from past coal mining activities. **Figure 1.1** identifies the location of the carbonaceous emplacements relative to HEM's approved local operations at Hebburn No. 3.

1.1 The Proponent

HEM is a New South Wales based mine rehabilitation company that directly and indirectly employs local employees and contractors of the Cessnock area to undertake the progressive rehabilitation of former coal mines. The local presence of this company was initiated by the occurrences of large quantities of carbonaceous materials consisting of a commercially viable coal resource at former degraded coal mine sites. HEM specialises in the safe, profitable recovery and processing of these resources in conjunction with final landform rehabilitation works.

1.2 Project Background

HEM obtained planning approval in 2001 from Cessnock City Council for the construction and operation of a coal washery at the former Hebburn No.2 Colliery to treat chitter and tailings emplacements at this location (HLA, 2001). This processing facility, which has been specifically designed to treat emplaced carbonaceous materials from past coal mining activities, has been in operation since 5 December 2005 and is referred to as the Hebburn No. 3 Project.

The Hebburn No. 3 Project involves the reprocessing of emplaced carbonaceous materials and rehabilitation of the former Hebburn No. 2 Colliery, with additional feedstock acquired from several other carbonaceous material emplacements in the locality. The washery processes the collected material to extract export quality coal which provides revenues to enable rehabilitation activities. Approximately 0.7 million tonnes (Mt) of emplaced carbonaceous material is contained within the inactive Hebburn No.2 Colliery, with the smaller carbonaceous emplacements from nearby localities (i.e. satellite emplacements) supplementing this resource to make a total of approximately 2.2Mt. Other products of economic value derived from the processing of carbonaceous materials include road base and sandy loam.

HEM is constantly evaluating the suitability of emplaced carbonaceous materials contained within former coal mines to add to their current Hebburn No. 3 Project. Opportunities exist throughout the locality, with HEM's immediate focus being three separate emplacements located at Aberdare East, Neath and Richmond Main East, as shown in Figure 1.1.

Figure 1.1: Location and haulage routes for chitter and tailings resources.

1.3 Project Objectives

Coal mining in the Cessnock and Kurri Kurri district has resulted in the occurrence of numerous sites containing substantial quantities of mostly unmanaged emplaced carbonaceous materials. Many of these carbonaceous emplacements require costly and long term proactive management to minimise the ongoing adverse impacts on the natural environment.

HEMs core operational activities are focused on providing an economically viable solution for lands impacted by past coal mining activities by reprocessing emplaced carbonaceous materials containing commercial quantities of coal. Beneficial environmental outcomes also eventuate through land form restoration, revegetation and contaminant removal (i.e. surface salts and acid mine drainage).

The objectives of the proposed development have been built on this ethos and are as follows:

- To reprocess emplaced carbonaceous materials to produce saleable coal and other useful byproducts;
- To safely, efficiently and profitably maximise the rehabilitation of lands degraded by past coal mining activities;
- To rehabilitate the land forms consistent with the surrounding land uses and zoning;
- To reduce the ongoing occurrence of adverse environmental impacts arising from emplaced carbonaceous materials, such as salt and acid leaching and spontaneous combustion;
- To minimise the impacts of proposed operations on the local community and environment; and
- To provide ongoing local employment opportunities.

1.4 Project Overview

The former coal mines of the Cessnock local government area are generally in a degraded and incomplete rehabilitated state, many containing large quantities of emplaced carbonaceous materials that contribute to ongoing environmental degradation such as the leaching of acids and salts into local waterways. Traditional methods for addressing these environmental issues have focused on capping with inert materials (i.e. clays) to seal and restrict the interaction of the emplaced carbonaceous materials with surface processes. However, this process is costly and fails to remove the polluting source and rehabilitate land to pre-mining conditions.

HEM have introduced to the Cessnock locality appropriate technology and infrastructure that can provide a feasible alternative to the traditional rehabilitation process. The operations at Hebburn No. 3 are currently utilising feedstock from that location to produce saleable coal and other useful raw materials. Other suitable carbonaceous emplacements have been identified within the Cessnock local government area that can provide sufficient raw materials for the continuation of the Hebburn No. 3 operation. The areas identified are:

- Aberdare East Rail Siding, approximately 1.7MT of tailings and chitter;
- Neath, approximately 1 MT of tailings and chitter; and
- Richmond Main East, approximately 160,000 tonnes of chitter materials.

This development is for the collection, haulage and rehabilitation of emplaced carbonaceous materials at these sites for processing at the approved Hebburn No. 3 processing plant.

1.4.1 Environmental Benefits

Rehabilitation operations undertaken as a consequence of chitter removal will result in the restoration of the existing disturbed landforms to a condition consistent with the surrounding environment. The benefits of this proposed development to the local community will be expressed through various environment improvements such as:

- The removal of carbonaceous materials that contribute acid/salt leachate that is otherwise degrading the local waterways and biological landscape;
- The elimination of spontaneous combustion risks;
- The removal of exotic plant life;
- The removal of visual impacts; and
- Improvements to the local bush track network will benefit the local community by improving access for biodiversity management (i.e. NPWS maintenance staff) and emergency services (i.e. Rural Fire Service).

1.4.2 Expected Impacts

HEM is also conscious of the potential project impacts on the community and local environment and has accordingly undertaken investigations and research to minimise these impacts throughout the lead up and duration of the project. Specialist studies have been completed to optimise operational procedures in terms of its direct community/ environmental impacts and the proposed final rehabilitation outcomes. The following specialist investigations have been completed to support the Environmental Assessment Report:

- Air quality;
- Acoustics;
- Ecology;
- Surface and ground water;
- Soils; and
- Road infrastructure and traffic.

The monitoring of impacts arising from the project will be undertaken through various environmental management plans to deliver a project that maintains and improves the Cessnock local environment and well being of the community.

1.5 Project Need

Coal processing at the Hebburn No. 3 processing plant represents a significant opportunity to progress the rehabilitation of lands degraded by past coal mining activities. However, this facility is only available whilst it is economically viable. The viability of the processing plant has recently been threatened by the loss of contained coal resources at the former Hebburn No. 2 Colliery.

Since the 1998 resource estimate for coal within the Hebburn No. 2 Colliery, above average annual temperatures and prolonged dry periods has increased the extent and impact of spontaneous combustion, thereby reducing the quantity of extractable coal. This has consequentially reduced the economics of the operation and potentially its viability, hence placing at risk the continued rehabilitation of emplaced carbonaceous materials throughout the locality. Additional feedstock sourced from local former coal mines (i.e. the sites subject to this proposed development) will restore the project economics and secure the ongoing rehabilitation program.

Justifications supporting the need for this proposed development are summarised as follows:

- The rehabilitation of lands degraded by past coal mining activities to minimise the ongoing environmental impacts and accrue environmental benefits;
- Provide approximately 50 local employment opportunities;
- Recovery of readily accessible coal resources that have already been mined from the local coal fields;
- Value adding to a previously abandoned waste product;
- Improve the conversion of greenhouse gas emitting surface emplaced carbonaceous materials into useable energy resources, which is otherwise lost through oxidation and spontaneous combustion;
- Removal of a financial burden on local and state governments associated with the ongoing management of these sites; and
- The supply of sufficient carbonaceous materials to maintain the economic viability of infrastructure at Hebburn No. 3 dedicated to the reprocessing and rehabilitation of local emplaced carbonaceous materials.

The HEM approach seeks to make the operation profitable by recovering the resources, thereby removing the pollution source and improving the final landforms. The rehabilitation works and employment of staff and contractors will be financed by the sale of the coal and associated washery products.

1.6 Location and Land Description

The rehabilitation sites are:

- Aberdare East;
- Neath; and

- Richmond Main East.

Land ownership for surrounding properties are included within **Appendix 1**.

1.6.1 Aberdare East

Location	South of the South Maitland Railway and Cessnock Street, Aberdare. Former Aberdare Colliery and Aberdare East Washery. Approximate centre of the site is 347710ME 6364550MN (MGA Zone 56)
Property Description	Lot 566 DP 821172, Adjacent to South Maitland Railway and Cessnock Street, Aberdare. See **Figure 1.2**.
Land Owner / Leases applicable to land	State of New South Wales. Leased to Hunter Plant Operation and Training School (HPOTS), (Lease No.10224).

1.6.2 Neath

Location	North of Maitland Road, Neath, off David Street. Site of the former Neath Colliery and coal washery. Approximate centre of the site is 350847ME 6367300MN (MGA Zone 56).
Property Description	Crown land (Pt 755259) under Reserve R101448, adjoining Lot 102 DP755259, Carrs Road, Neath and Crown land (Pt 755215) under Reserve R101448 adjoining Lot 393 DP755215, David Street, Neath. Lot 548 and 547 DP 720699, Old Maitland Road, Neath. See **Figure 1.3**.
Land Owner / Leases applicable to land	HEM hold Exploration Licence 5410 issued by Department of Primary Industries – Minerals. HEM hold Investigation Licence 32426 issued by the Department of Lands.

Figure 1.2: Aberdare East land ownership.

Figure 1.3: Neath land ownership.

1.6.3 Richmond Main East

Location	North of Richmond Vale Road and East of Leggett's Drive (Kurri-Mulbring Road), Richmond Vale. Approximate centre of the site is 360642mE 6364097mN (MGA Zone 56).
Property Description	Lot 2 DP 986081, Avery's Lane, Richmond Vale, Parish of Stanford, County of Northumberland and Parish of Stockrington, County of Northumberland; Lot 20 DP755260, Avery's Lane, Richmond Vale, Parish of Stanford, County of Northumberland and Parish of Stockrington, County of Northumberland; and Lot 19 DP 1061633, Richmond Vale Road, Richmond Vale, Parish of Stanford, County of Northumberland and Parish of Stockrington, County of Northumberland. See **Figure 1.4**.
Land Owner / Leases applicable to land	Ht & Li 5 Pty Ltd (Lot 19 DP 1061633) and Mrs M Mcleary (Lot 2 DP 986081).

1.7 Environmental Assessment of HEM Rehabilitation Project

The assessment of the project will be undertaken by the New South Wales Department of Planning (DoP), in accordance with the requirements of the Environmental Planning and Assessment Act, 1979 (EP&A Act, 1979) and the Environmental Planning and Assessment Regulations, 2000 (EP&A Regs, 2000).

The DoP in conjunction with key statutory authorities and the proponent held a Planning Focus Meeting (PFM) on 23 May 2006 to allow HEM to present an overview of the project including the environmental benefits and its synergies with the approved and operating Hebburn No. 3 Project. The PFM process resulted in the identification of key issues for consideration in this Environmental Assessment Report. Following the PFM, HEM formally submitted to the DoP an application for project approval under Part 3A of the EP&A Act, 1979.

The DoP prepared and issued a set of Director-General Requirements (DGR's) on 22 October 2006 to provide the framework for the Environmental Assessment Report by identifying the requirements which must be addressed to provide a thorough assessment of the proposed development.

The Environmental Assessment Report contains an assessment of the projects potential impacts and addresses the relevant issues and requirements raised by government agencies, statutory authorities and the community. The Environmental Assessment Report also identifies and describes environmental safeguards and measures to mitigate project impacts, together with the proponent's draft Statement of Commitments.

Figure 1.4: Richmond Main East land ownership.

1.8 How to Read the Environmental Assessment Report

Volumes 1 and 2 provide two separate opportunities to understand the proposed development. Volume 1 provides a general understanding of the project, its impacts and mitigation approaches. Volume 2 contains the specialist reports and permits a more detailed insight into the key issues challenging the project. A reading of both volumes should provide the reader with a comprehensive understanding of the projects scope, impacts, mitigation strategies and outcomes.

1.9 Study Team

This Environmental Assessment Report was prepared with the management and assistance of HEM by Wells Environmental Services and specialist consultants shown in **Table 1.1**. HEM personnel include:

- Peter Lamell (HEM CEO);
- Ian Derham (HEM Operations Manager); and
- Colin Donegan (HEM Director).

Table 1.1: Specialist Consultants involved in the preparation of the Environmental Assessment Report

Project Role	Consultant
Project Management and Environmental Assessment Report Writing, Assessment of Impacts and Safeguards	Wells Environmental Services Ecovision Consulting
Acoustical impact assessment	Spectrum Acoustics Pty Limited
Air quality assessments	Holmes Air Sciences Pty Limited
Drafting and graphics	Wells Environmental Services
Flora and fauna impact assessments	Ecovision Consulting
Transport and preliminary hazard assessments	Sinclair Knight Merz Pty Limited
Groundwater assessments	Coffey Geotechnics
Surface water	Peter Sullivan & Associates Wells Environmental Services
Soils assessment	Department of Lands – Soil Services
Community Consultation	Maria Brejcha

1.10 Acknowledgements

The assistance and co-operation of the local residents, Cessnock City Council and officers of the DoP and other government agencies are acknowledged and appreciated.