



**SHENHUA WATERMARK COAL PTY LIMITED**  
神华沃特马克煤矿有限公司

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Committee Secretary  
Senate Standing Committee on Environment, Communications and the Arts  
PO Box 6100  
Parliament House  
CANBERRA ACT 2600

Dear Sir / Madam

### **Inquiry into the impacts of mining in the Murray Darling Basin**

Shenhua Watermark Coal Pty Limited (Shenhua) welcomes the opportunity to make a submission to the Senate Standing Committee on Environment, Communications and the Arts' Inquiry into the impacts of mining in the Murray Darling Basin (MDB).

The Inquiry's Terms of Reference (TOR) are:

- (a) *"The potential impacts of current and projected mining operations on all environmental values in the Murray Darling Basin and, in particular, the potential impacts upon the surficial and groundwater flows and quality in the alluvial flood plains at its headwaters in the Namoi Valley and Darling Downs Catchment"*
- (b) *"Evaluation of the potential impacts in the context of the Murray Darling Plan and agricultural productivity"*

It is noted that it is also stated that *"In the(se) terms of reference 'mining operations' includes all minerals exploration and all minerals extraction including exploration for and extraction of gas"*.

### **The Position of the Shenhua Watermark Project**

Exploration licence 7223 (Watermark EL) was granted by the New South Wales Department of Primary Industries on 22 October 2008 and the exploration program has only been underway for some four months. A conceptual mine plan will be completed by mid 2010 based on the outcomes of the exploration program.

The detailed Environmental Assessment, as required by Part 3A of NSW EP&A Act 1979, will be completed based on the NSW DPI approved Conceptual Mine Plan.

This submission responds to the TORs to the extent that Shenhua Watermark is able to at this embryonic stage of the Project, provides an overview of the current position of the Shenhua Watermark Project, indicates the approach that Shenhua Watermark is taking to the development of the Shenhua Watermark Project and advises as to the conclusions that Shenhua Watermark has been able to draw at this early stage.

Any mining at the Shenhua Watermark Project:

- Will be located in the 'ridge country'; and
- Will not be on the black soils.

## Introduction

Shenhua is the operator of the Project and is a subsidiary of Shenhua Australia Holdings Pty Limited which is a subsidiary of the China Shenhua Energy Company Limited (China Shenhua) which is listed on the Hong Kong stock exchange and is 68% owned by the Chinese government.

Shenhua was granted the Watermark Exploration Licence (Watermark EL 7223) in October 2008 over an area of 195km<sup>2</sup> area near Gunnedah and within which there are 197 individual privately owned lots with 65 private owners, areas of Breeza State Forest, and public lands.

Based on the information provided from the DPI and Shenhua's initial review of prospecting to date, there is estimated to be approximately 500 million tonne of inferred coal within the Watermark EL, with a potential mine life of in the order of 50 years by what is proposed to be an open cut located in the ridge country and not in the black soils of the Liverpool Plain.

Should a viable mine be identified and subject to the issue of all necessary environmental planning and mining approvals Shenhua anticipates construction of the mine to commence in 2012 with mine production commencing in 2013.

## Exploration Program

The exploration program will define the coal seam locations and thickness, coal quality, coal volumes, the edge or "subcrop" of the coal and the locations and interactions of the aquifer system. In a broader context, the exploration program will assist with mapping the regional geology with input from local knowledge.

Exploration and analysis of the deposit is expected to be completed within three phases. Each phase is planned over a nine month period that could partly be run in parallel so that the total program will be aimed for completion over one and a half years. Data from the exploration program will be used for geological, geotechnical, coal quality and mine planning investigation of coal resources and hydrogeological aquifer studies.

Shenhua currently have 5 drill rigs on site and 85 holes completed.

The three types of drilling Shenhua is undertaking include:

- 1) Slimcore Drilling – which involves a 62mm diameter continuous coring
- 2) 4C Drilling – 100mm diameter continuous core
- 3) LOX drilling (Limit of Oxidation) which defines where the coal stops and starts. There are approximately 53 LOX holes planned with an average depth of 30m.

The depth of drilling varies from 35m to 411m to reach the three different coal seams: Hoskisson, Melville, and Maules Creek.

A critical aspect of the program will be to establish groundwater conditions and any connection with the gravel beds that are so important to agricultural activity on the alluvial plains. The majority of holes will be carried out in the ridge country. The holes planned to be drilled in the black soil, as well as a selection of other holes that intersect significant water flows, will be retained as groundwater monitoring bores for hydrologic studies and future monitoring during initial mining operations.

Shenhua have installed 8 groundwater monitoring devices of which 6 are piezometers - to measure the water pressure. At present all are located in the ridge country; however Shenhua will need to install water monitoring bores in the black soil to get a thorough understanding of the

underground aquifer system. This research carried out in both the ridge country and black soil areas will feed into the Namoi Water Study.

To date, Shenhua has identified potentially significant deposits of thermal coal contained in the Hoskissons and Melvilles seams. Additional coal is present in seams overlying the Hoskissons seam and in the Maules Creek seam at depth; however the existing data has not permitted confident correlation of these seams across the area.

All exploration has been done in compliance with the relevant legal and environmental requirements and the conditions and approvals of the NSW Department of Industry and Investment. A Review of Environmental Factors (REF) and Exploration Environmental Management Plan (EMP) have been prepared by the Project and approved by the DPI to provide a framework for the exploratory drilling in the Watermark EL 7223. The REF was prepared as a means of assessing the existing environment, potential environmental impacts associated with the exploration activities and mitigation of these impacts. The REF satisfies Section C, Condition 11, of the Watermark Exploration Licence and has been determined under Part 5 of the *Environmental Planning and Assessment Act 1979*.

#### **Land Access**

Shenhua has agreements with private landholders allowing access for prospecting involving some 8000 hectares and has reached agreement with NSW Forests for access for prospecting to some 2000 hectares of the Breeza State Forest.

Shenhua Watermark has Commonwealth Foreign Investment Review Board (FIRB) approval to acquire 11 properties comprising some 3500 hectares. Seven properties (4 landholders) are currently under contract, one contract is being drawn up and another 18 parcels of land (11 landholders) are under negotiation for purchase. Shenhua is not purchasing property in the black soil unless it is as part of a purchase of ridge country.

All properties purchased will continue to be used for the agricultural pursuits for which they were being used by their former owners until any mining is approved and commenced. Any land not used for mining will be maintained in the most appropriate form of agricultural production. Should mining not be approved, all land will be sold as required by the FIRB approval.

#### **Shenhua's Approach to Mining**

Shenhua is committed to working with the community and the protection of both the Murray Darling Basin and Namoi River.

Through early stakeholder engagement, Shenhua understands the communities concerns and have demonstrated through our actions during the exploration program that Shenhua is, and will, work to optimise the coexistence of mining and agriculture.

To this end:

- a) *Not mining the black soil.* Shenhua Watermark will not mine the black soil
- b) *Minimising the uncertainty created by an exploration program:* Shenhua has given landholders within the EL the choice to sell their property up-front. Experience has shown that landholders experience stress and anxiety when an exploration licence is granted. By offering to purchase properties up-front, landholders are given a choice to stay and

“see what happens” or sell their property and get on with their lives. This approach and ‘choice’ has been well received by landholders with the majority of landholders within the proposed mining area expressing an interest in selling their property.

- c) *Lease back arrangement:* As part of the property negotiations, Shenhua offered landholders a 12-month leaseback arrangement. This will take the time pressure off the landholders and give them a reasonable time to look for a new property to minimise the disruption on their business.
- d) *Full time hydrogeologist:* Prior to commencing this project, Shenhua was aware that the protection of the aquifers and water systems was of high importance to the local community. For this reason, Shenhua employed Dr Jurgen Schaeffer as Technical Services Manager for the Watermark Project. Dr Schaeffer has more than 30 years experience in mining, groundwater and environmental projects throughout Australasia and Malaysia. He has extensive experience in mine water management and development of groundwater supplies for industrial, domestic, agricultural and mining projects.

He holds a Bachelor of Applied Science (App Geol), a Master of Science (Geology), and a PhD (modelling of regional aquifer systems), where he studied the impacts of mining and petroleum production on regional aquifers of the Gippsland Basin.

A former president of the Victoria Chapter of the International Association of Hydrogeologists Jurgen is a Chartered Professional (Geology) of the Australian Institute of Mining and Metallurgy, and has contributed to the national guidelines on bore completion and sealing.

Jurgen has also been involved with a number of committees addressing impacts of mining and agriculture on groundwater resources along with a number of major groundwater studies throughout Australia, including the Murrumbidgee Irrigation district (NSW), the Bundaberg Irrigation District (QLD), the Collie Basin (WA) and the Gippsland Basin (Vic).

Prior to joining Shenhua Watermark he was the Project Director for a major groundwater study in Perak, Malaysia, assessing the feasibility of a 5000 ML/d groundwater supply to Kuala Lumpur.

- e) *Meeting with landholders:* Dr Schaeffer believes that research into aquifers and ground water cannot be achieved in isolation and has been meeting with landholders on their properties to develop an accurate understanding of groundwater conditions, prior to, during, and after exploration and potential mining activities.

Having met with approximately 10 landholders to date, Dr Schaeffer will continue to liaise directly with the landholders to ensure that knowledge and history is incorporated into the development and implementation of water management strategies for the project.

- f) *Drilling contract requires Grade 3 waterbore licence drillers on the Project when drilling:* Shenhua has engaged GOS Drilling to undertake the exploration drilling program that currently have three Grade 3 water bore licenced drillers working full-time on the Project.
- g) *Hydrogeologist:* Engineering and Environmental Consultants GHD Pty Limited won the contract for management of the drilling & testing program. In addition to Dr Jurgen

Schaeffer, GHD also have a full-time Hydrogeologist on the ground at all times when drilling is being carried out.

- h) *Namoi Water Study*: Shenhua Watermark is committed to the success of the Namoi Water Study. All data produced as part of the Watermark Project will be presented for inclusion in the Study. Shenhua has committed funds to the study, an amount which has not yet been determined. Project Director for the Watermark Project, Joe Clayton, will also sit on the SAG committee.
- i) *Early consultation*: From the outset, Community Consultation has been a priority for the Watermark Project. A robust communications and community consultation plan has been developed with a focus on early and appropriate engagement. Shenhua's Project Director and Communications Manager have together met with more than 50 landholders face-to-face.
- j) *Access agreement*: In response to community feedback, Shenhua revised the Access and Compensation Agreement for Exploration by incorporating the new changes made in the NSW Farmers Association Access Agreement Guidelines, including the payment schedule.
- k) *Private property plans*: In addition to the Access Agreement, Shenhua have developed individual property plans. Developed in consultation with each property owner, the plans highlight, amongst other things, where the team should / should not drive when on the property, how they should leave gates when working on the property, and whether there are dogs / children on the property.
- l) *Best use of land*: During the mine construction and operations, should the mine gain approval, there will be a significant area of land not required for mining purposes within the mining lease. Shenhua will assess options available to ensure the best use of that land. Options may include a pastoral company, cattle farming and cropping, agistment or leasing.
- m) *Personnel live in Gunnedah*: All Project based Shenhua management personnel have relocated permanently to Gunnedah. Committed to not just working in the community, all key Shenhua personnel have relocated to make Gunnedah their home. This will drive sound, community based decision making for the Project as the Shenhua decision makers are an active part of the community and will better understand the community issues and drivers.

## Conclusion

Shenhua Watermark has been granted the Watermark Exploration EL by the New South Wales Government which places an obligation on Shenhua to prospect for coal.

When sufficient geological information is available Shenhua Watermark will develop an 'in principle mine plan' for which it will seek general approval from the NSW Department of Industry and Investment. Should that approval be forthcoming Shenhua Watermark will complete all the required environmental assessments and make application for the planning and environmental approvals from each of the appropriate State and Federal authorities.

Shenhua Watermark is aware of and has retained appropriately qualified and experienced consultants to ensure that all of the environmental, planning, social and community issues required to be addressed are so addressed in the appropriate way.

Of particular relevance to the deliberations of this Committee, Shenhua Watermark, in finalising its proposed mine plan and assessing it environmentally, will pay particular regard to the potential impacts of its projected mining operations on all environmental values in the Murray Darling Basin including the potential impacts upon the surficial and groundwater flows and quality in the alluvial flood plains at its headwaters in the Namoi Valley and Darling Downs Catchment.

Shenhua Watermark is committed to being a responsible and contributing member of the Gunnedah and the wider community. As a major landholder in the Gunnedah district Shenhua watermark it will ensure, and its environmental assessment will provide for, a land and farm management plan that will utilise all of the Shenhua Watermark land that is not actually used for mining to remain in agricultural production. Presently former owners remain in occupation of their farms but will ultimately vacate them. Shenhua Watermark is in the course of developing a land and property management plan to ensure the continued and optimal agricultural productivity of the Shenhua Watermark lands and the Gunnedah region.

When a mine plan is developed, the potential impacts of mining on the environment will be comprehensively assessed by the existing environmental planning and assessment process regulated by the NSW Government. This framework will not only require detailed, rigorous, science-based environmental assessment, but the consideration of social and economic impacts and benefits of a project.

No mining project development application can proceed in NSW without a thorough assessment of potential impacts of a mining operation on the surrounding environment, including surface and groundwater resources. Ultimately it is the government that must determine whether these environmental impacts are acceptable in light of the economic and social benefits of mining.

As highlighted earlier in this submission, Shenhua are working above and beyond the legislative requirements to demonstrate that mining and agriculture can coexist and set a benchmark around the world for best mining practices in areas of environmental significance.

Shenhua's current approach to exploration clearly demonstrates that Shenhua is committed to listening and responding to community concern and protecting the environment, including the MDB.

Yours faithfully



**Joe Clayton**  
Project Director, Shenhua Watermark