Peabody

Initial Advice Statement

Millennium Expansion Project

Millennium Coal Pty Limited

March 2009

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1 INTRODUCTION

1.1 BACKGROUND

The Millennium Coal Mine is an existing open-cut coal mine, operated by Millennium Coal Pty Limited (MCPL), a wholly owned subsidiary of Peabody Pacific Pty Limited (Peabody Pacific). The Mine has been operating since 2005 with approval to produce at a rate of 2.0 Million tonnes per annum (Mtpa). The Run-of-Mine (ROM) coal is currently extracted from two granted Mining Leases (ML) namely, ML 70313 "Millennium West" and ML 70344 "Mountain Pit". The ROM coal is washed in a Coal Handling and Preparation Plant (CHPP) on an adjoining infrastructure lease, ML 70312 "Millennium East".

The Proponent, MCPL, proposes to extend the current open-cut mining operation into two new lease areas namely, Mineral Development Licence (MDL) 136 "Mavis Downs" and Mining Lease Application (MLA) 70401 "North Poitrel". Mining will continue within ML 70313. The proposed expansion areas are collectively referred to as the "Millennium Expansion Project" (MEP).

Accordingly, the MEP proposal is requesting:

- Authorisation for additional open-cut mining areas and associated activities; and
- Permission to increase the extraction rate up to 7.5 Mtpa of ROM coal.

1.2 THE PROPONENT

Millennium Coal Pty Limited (MCPL) is a wholly owned subsidiary of Peabody Pacific Pty Limited (Peabody Pacific). Millennium Coal Pty Limited (MCPL) is responsible for operating the Millennium Coal Mine, and is also the proponent for the proposed MEP.

Peabody Pacific owns substantial coal assets throughout Queensland and New South Wales, comprising a total of nine operational mines. Peabody Pacific is a 100% owned subsidiary of Peabody Energy Corporation which is listed on the New York Stock Exchange (NYSE – BTU) and is the largest private sector coal company in the world.

1.3 PURPOSE & SCOPE

In accordance with Part 2 of the *Environmental Protection Act 1994 (EP Act)*, MCPL voluntarily applied to the Queensland Environmental Protection Agency (EPA) to prepare an Environmental Impact Statement (EIS) for the proposed MEP. The EIS will ensure that all potential positive and negative environmental and social impacts of the MEP are identified, assessed and appropriately mitigated. On 19 September 2008, MCPL received approval from the EPA to commence the Voluntary EIS process for the proposed project.

This Initial Advice Statement (IAS) serves to formally commence the EIS process for the MEP, with the intent to obtain an Environmental Authority for the purpose of authorising the proposed mining activities within the proposed MEP area.

In accordance with Section 240(b) of the *EP Act*, this IAS aims to describe the proposed MEP, its potential environmental impacts and accordingly, the required mitigation and management strategies identified to date. The type, extent and magnitude of environmental and social impacts associated with the proposed MEP will be understood in the forthcoming environmental impact assessments to be performed during the EIS process. Depending on the results of these assessments, appropriate mitigation and management strategies shall be developed and implemented to ensure that the impacts of the MEP are minimised to the greatest extent possible.

2 THE PROPOSAL

2.1 LOCATION

The Millennium Expansion Project (MEP) is located approximately 22 kilometres (km) east of Moranbah and 16 km southwest of Coppabella in Central Queensland. **Figure 2-1** illustrates the regional location of the Millennium Coal Mine, including the proposed MEP area.

2.2 PROJECT SITE

The Millennium Coal Mine is situated within the Isaac Regional Council area and is located adjacent to the Poitrel Coal Mine which is owned by BHP Mitsui Coal Pty Limited (BHPMC) and operated by the BHP Mitsubishi Alliance (BMA).

The site is accessed from the Peak Downs Highway, approximately 20 km east of the Moranbah township turnoff. The site access road traverses pastoral holdings prior to entering ML 70313 in the northwest corner of the Millennium Coal Mine. The mine access road traverses a number of New Chum Creek tributaries and eventually New Chum Creek itself, prior to reaching the main industrial area. The access road then continues on to the CHPP on ML 70312. The access road is shared by the Poitrel Mine which lies to the south of the Millennium Mine.

2.3 PROJECT DETAILS

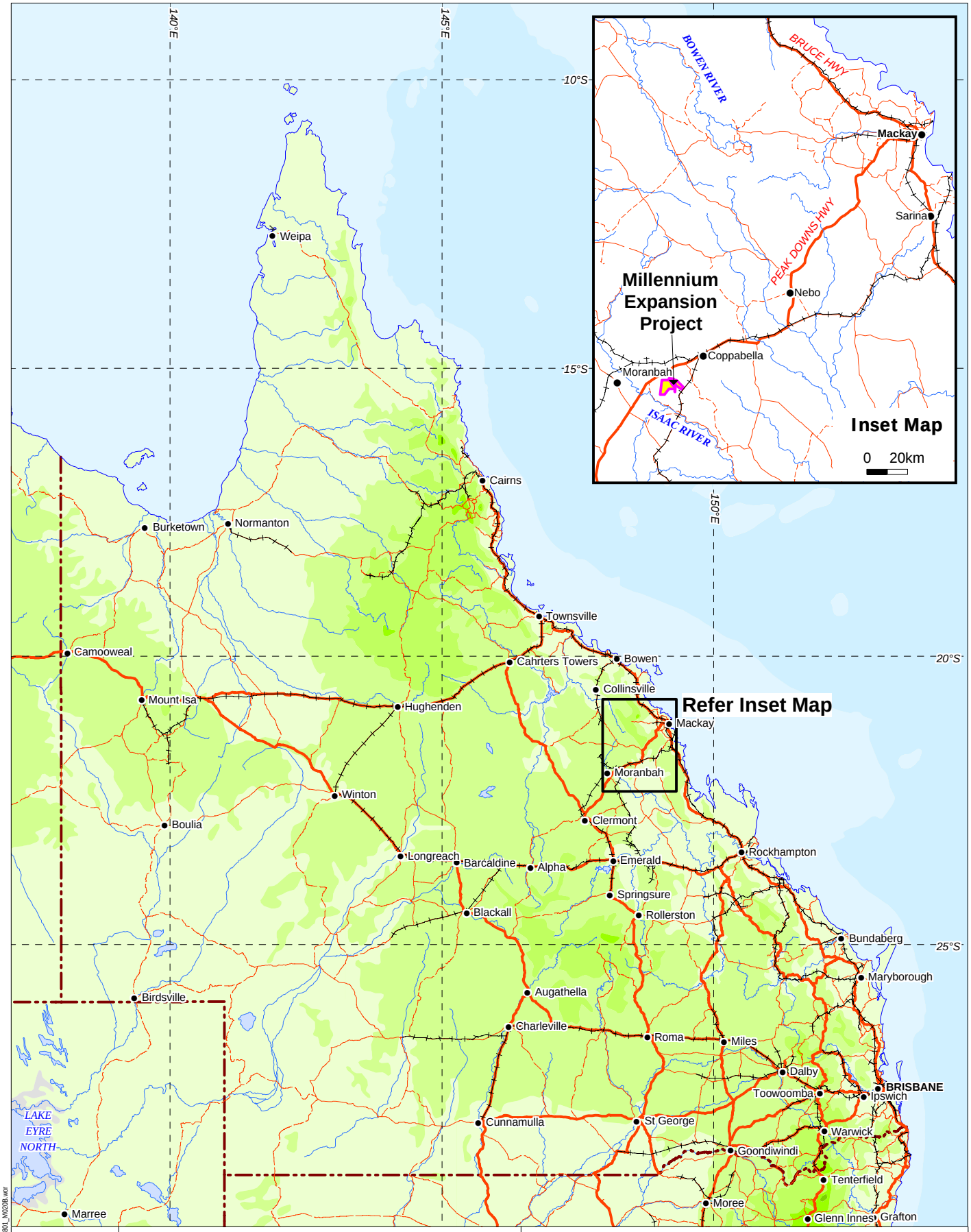
Based on the impact studies conducted to date, and subject to future modifications as a result of ongoing assessment findings, the MEP consists of the following components:

- Open-cut coal mining – to increase the existing ROM extraction rate from 2 Million tonnes per annum (Mtpa) up to 7.5 Mtpa. Mining involves clearing, salvage of topsoil, stripping of overburden, extraction of the coal, replacement of topsoil and revegetation. The average depth and coal quality varies throughout the project area. Coal mining will most likely be performed using open-cut truck and shovel terrace mining methods. Disturbed areas would be progressively rehabilitated;
- Coal processing – mined coal will be transported to the processing area on ML 70312 via haul trucks. As part of the coal processing, coal fines and reject material will be produced as by-products. The existing Coal Handling & Preparation Plant (CHPP) on ML 70312 will be used to process the coal, following suitable infrastructure upgrades to facilitate the proposed increase in production associated with the MEP. The washed coal will be conveyed and stockpiled for offsite transport via the existing rail network;
- Disposal of coal fines and coarse rejects – existing facilities will be used. An option to utilise a final void will be investigated as part of the ongoing feasibility assessments;
- Coal Handling and Preparation Plant (CHPP) – the existing CHPP will be utilised along with ROM and product coal stockpile areas. Some upgrades to the CHPP may be incorporated to increase throughput so as to most cost effectively utilise the current infrastructure. Any major modification to the CHPP will be the subject of a separate application as the CHPP is owned by the Red Mountain Joint Venture (RMJV)[1].
- Other infrastructure – existing mine infrastructure area, workshops, administration facilities etc will be assessed and may be relocated to more effectively service the expanded mine footprint;
- Water infrastructure – new water storage and treatment dams may be required to support increased extraction and processing works associated with the MEP;
- Power – a study will be performed to determine if additional powerlines/transmission lines are required along existing power line easements (where possible) to accommodate any increase in electrical demand from new machinery;
- Water supply – existing water supply will be utilised;

[1] Peabody & BHP Mitsui Coal Pty Ltd (BHPMC)

- Coal transport infrastructure – existing rail and product load-out facilities will be utilised;
- Main access road – the existing site access road will be utilised;
- Mine haulage roads - new roads to the expansion areas will be required as will a crossing over the New Chum Creek; and
- Pit and waste dumps – new waste dump areas will be developed to service the new mining areas.

Further details on the existing operation and the proposed MEP are provided in sections 3 and 4 of this IAS.



LEGEND

- Project Tenement
- Highway
- Road
- Track
- Railway
- Watercourse
- City / Town

Elevation

- Below Sea Level
- 0 to 500m
- 500 to 1000m
- 1000 to 1500m
- 1500 to 2000m
- 2000 to 2500m

Data Source:
Topography - Geoscience Australia. Tenement - Peabody Pacific P/L.

Millennium Coal Pty Limited

Millennium Expansion Project

Initial Advice Statement

Regional Location of the Project

0 200 400

Kilometres

Scale: 1:10,000,000 (A4)

PRINTED: 12/01/09

Datum: AGD84
Projection: Long/Lats

FIGURE 2-1

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2.4 TIMEFRAME

Based on current estimates, the EIS process is likely to take 12 to 18 months to complete and the MEP would require approximately six months for construction.

2.5 WORKFORCE

The MEP would necessitate an increase in staff in addition to the existing 160 employees of the Millennium Coal Mine. Final manning numbers are yet to be determined.

2.6 TENEMENTS & TENURE

The Millennium Coal Mine is located approximately 22 kilometres (km) east of Moranbah and 16 km southwest of Coppabella in Central Queensland. The Millennium Coal Mine is comprised of the following tenements:

- Mining Lease (ML) 70312 "Millennium East";
- ML 70313 "Millennium West";
- ML 70344 "Mountain Pit";
- ML Application 70401 "North Poitrel"; and
- Mineral Development Licence (MDL) 136 "Mavis Downs".

Peabody Pacific and BHP Mitsui Coal Pty Limited (BHPMC) are the joint holders of ML 70312 "Millennium East". This arrangement is referred to as the "Red Mountain Joint Venture".

The proposed MEP is comprised of three of the aforementioned leases namely, ML 70313, MLA 70401 and MDL 136 (**Figure 2-2**). The leases adjoin a landscape dominated by a mosaic of large scale coal mines, and low density cattle grazing stations. The MEP leases occur on two land tenures (including three easements), as detailed in Table **2-1** below and illustrated in **Figure 2-3**.

Table 2-1 MEP Land Tenures & Landowners

Tenement	Real Property Description	Landowner
ML 70313	Lot 2 GV165	Beryl Anne Nielsen
	Easement P SP184913	Millennium Coal Pty Limited
MLA 70401	Lot 2 GV165	Beryl Anne Nielsen
	Easement B SP178453	Ergon Energy Corporation Limited
	Easement E SP1902563	Ergon Energy Corporation Limited
MDL 136	Lot 3 SP190266	Millennium Coal Pty Limited
	Lot 2 GV165	Beryl Anne Nielsen

Millennium Coal Pty Limited (MCPL) owns the property, "Mavis Downs" (Lot 3 SP190266) which covers the majority of the land on which MDL 136 is situated. There are a number of smaller land parcels held by other landholders in the west and southwest for which compensation agreements have already been negotiated as part of other leases of the Millennium Coal Mine.

2.7 NATIVE TITLE

A search of the Department of Mines and Energy's Interactive Resources and Tenure Maps (IRTM) has identified the presence of an active claim over part of the MEP area by the traditional owners, the Barada Barna Kabalbara and Yetimarla People 3 ('BBKY3').

Millennium Coal Pty Limited (MCPL) have an agreement in place with the BBKY3. It has been determined that native title has been extinguished over MLA 70401. The Proponent will engage the traditional owners as primary stakeholders to the proposed project.

2.8 LOCAL GOVERNMENT AREA

The MEP lies within the Isaac Regional Council Local Government area. The Isaac Regional Council was formed through the amalgamation of three former shires being, Belyando, Broadsound and Nebo.

2.9 REGULATORY REQUIREMENTS

The MEP requires approval from the Queensland Environmental Protection Agency (EPA) and is subject to the Environmental Impact Statement (EIS) assessment process under Chapter 3 of the *Environmental Protection Act 1994 (EP Act).* The MEP may require approval by the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA). A determination of a "controlled action" or a "non-controlled action" will be made by the DEWHA following the submission of the project referral under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).*

2.9.1 Commonwealth Assessment Process

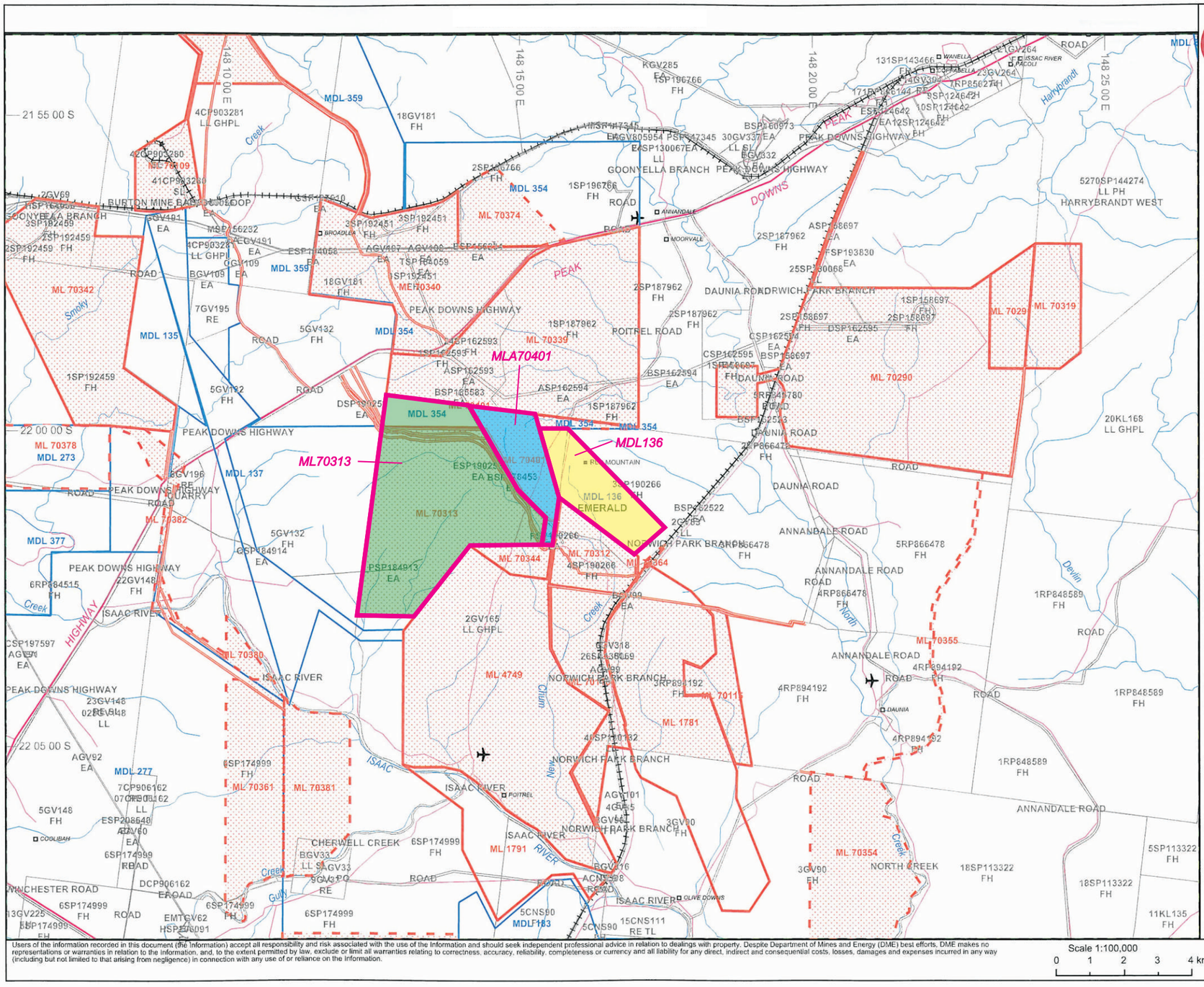
The proposed MEP will be referred to the DEWHA to allow for the determination of the appropriate assessment process under the *EPBC Act*. Whilst the occurrence of endangered flora and fauna across the MEP has been assessed, approximately 30 hectares of "mapped" Regional Ecosystem (RE) will be impacted or require clearing. Any clearing of endangered RE will be conducted in accordance with relevant Commonwealth legislation, policies and procedures.

2.9.2 State Government Assessment Process

The MEP EIS seeks to obtain a Level 1 Environmental Authority (EA) for MLA 70401 and MDL 136 to authorise the conduct of Environmentally Relevant Activities (ERAs) within these leases. An amendment to the existing EA for ML 70313 will also be sought to authorise the increase in ROM extraction works within this lease. The EIS and accompanying environmental management plans will describe the proposed project and how the environmental impacts of the project will be managed.

An application to convert MDL 136 to a granted Mining Lease will be lodged to the Department of Mines & Energy (DME) under the *Mineral Resources Act 1989.* The approval processes for the ML Application and the EA(s) run concurrently and require administrative interaction between the EPA and the DME.

Appendix 1 of this IAS reviews the proposal against the EPA Guideline 4: *'Deciding the level of impact assessment for the Mining Industry (EPA, 2000)'.* This assessment has been made with regard to the impact caused by the life of mine (LOM) expansion only, as current disturbance is authorised by the existing Mine EAs.



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Scale 1:100,000
0 1 2 3 4 km

Projection: UTM (GDA94)
Zone: 55

Queensland Government
Department of Mines and Energy

Please turn over for legend

A3 From DR
Requested By: birdd
Date: 10/23/08 9:43:46 AM

LEGEND

- DCDB >1km perimeter
- DCDB >500m perimeter
- DCDB All
- MDL Access
- MDL Application [Nil]
- MDL Grant
- ML Access
- ML Application
- ML Grant
- ML Surface Area
- Mining District
- STATE [Nil]
- Topo - Airports
- Topo - Border and Coast (100K) [Nil]
- Topo - Drainage (250K) [Nil]
  - canal [Nil]
  - watercours_l
- Topo - Lakes, Dams [Nil]
  - lake
  - mangrove [Nil]
  - mangrove_fft [Nil]
  - reservoir [Nil]
  - saln_cst_fft [Nil]
  - sub_to_inund [Nil]
  - swamp [Nil]
  - swamp marine [Nil]
- Topo - Localities (100K) [Nil]
  - Bay / Inlet / Cove [Nil]
  - Beach [Nil]
  - Cape / Headland / Point [Nil]
  - Cemetery [Nil]
  - Gorge [Nil]
  - Homestead
  - Mountain / Peak / Hill
  - Pass [Nil]
  - Populated Place [Nil]
  - Road Junction [Nil]
  - Waterbody Island [Nil]
- Topo - Offshore [Nil]
- Topo - Railway Stations
  - rail_station
- Topo - Railways
- Topo - Rivers
- Topo - Road
  - Highways
  - Major Roads
  - Roads
- Topo - Streams [Nil]
  - rapid_a [Nil]
- watercours_a [Nil]
- waterline
- Topo - Towns [Nil]

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LEGEND

Project Tenements

Data Source: Tenement & Cadastre - Queensland Government.

Note: Location of Tenements are based on visual estimates and are therefore subject to minor inaccuracies.

Millennium Coal Pty Limited

Millennium Expansion Project

Initial Advice Statement

MI70313, MLA70401 & MDL136 and Surrounding Tenements

0 2 4
Kilometres

Scale: NTS

PRINTED: 12/01/09

Datum: GDA94
Projection: Long/Lats

FIGURE 2-2

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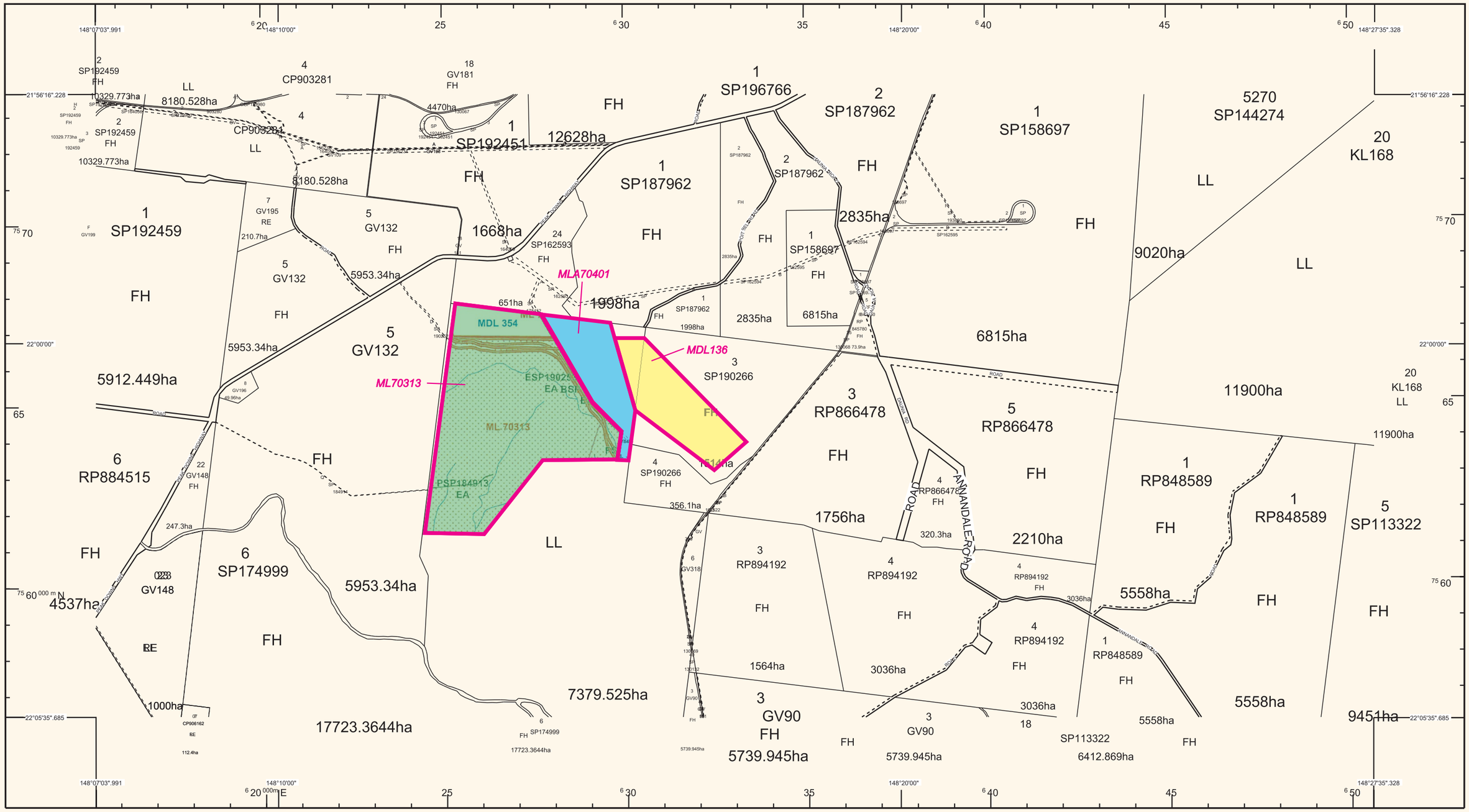

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LEGEND

Project Tenements

Data Source: Tenement & Cadastre - Queensland Government.

Note: Location of Tenements are based on visual estimates and are therefore subject to minor inaccuracies.

Millennium Coal Pty Limited

Millennium Expansion Project

Initial Advice Statement

Background Land Tenures of the MEP

0 2 4

Kilometres

Scale: NTS

PRINTED: 12/01/09

Datum: GDA94
Projection: Long/Lats

FIGURE 2-3

3 CURRENT MINING ACTIVITIES

3.1 MILLENNIUM COAL MINE

3.1.1 Open-Cut Operations

From the inception of the Millennium Coal Mine operation in 2005, the Mine has produced premium hard coking coal and PCI coal at an average annual rate of 1.4 Mtpa. The 2008 coal product output was 1.6 Mtpa. The coal resource is extracted via conventional truck and excavator mining methods.

The out-of-pit overburden dump at the Mine currently covers a total surface area of 120 hectares (ha). This dump has been developed in accordance with the current Environmental Authorities to blend and abut with the adjoining mesa landform.

3.1.2 Coal Washery & Handling

Coal is hauled to the existing Coal Handling and Preparation Plant (CHPP) located on the ML 70312 for processing. Product coal is stockpiled on this lease and railed to the Dalrymple Bay Coal Terminal (DBCT). The design capacity of the CHPP is currently 1000 tonnes per hour.

Coarse rejects are removed by the coarse coal circuit (plant reject) processes and are placed in the active overburden dump by trucks. Fine rejects (tailings) are flocculated and settled in special tailings sumps, then trucked to purpose built cells which are encapsulated within the overburden dump.

Any major modification to the CHPP will be the subject of a separate application as the CHPP is owned by the Red Mountain Joint Venture.

4 THE PROPOSED MINING & PROCESSING ACTIVITIES

4.1 THE MILLENNIUM EXPANSION PROJECT (MEP)

The purpose of this IAS is to authorise an expansion of the existing mining activities at the Millennium Coal Mine to allow the maximum recovery of the economically viable resource located within MLA 70401 and MDL 136, as well as ML 70313. The expansion of the mine area will significantly add to the Millennium mine life.

Figure 4-1 provides a layout plan of the existing Millennium operation and the proposed MEP area. The major aspects of the MEP are detailed in the below sections.

4.1.1 Open-Cut Mining – Additional Pits

The MEP will see a continuation of current open-cut truck and excavator mining methods however, electric shovels may also be introduced with larger truck sizes to promote mining efficiency. The use of a dragline at a later stage in the mine life may be considered.

4.1.2 Production Rates

The existing Environmental Authorities for the Millennium Coal Mine authorises the production of up to 2 Mtpa of product coal.

An approval of the MEP will increase the extraction rate up to a maximum of 7.5 Mtpa ROM coal.

4.1.3 Additional Infrastructure

4.1.3.1 Coal Handling & Preparation Plant (CHPP)

The CHPP has the capacity to wash 1000 t/hr. Improvements in throughput of the CHPP will be investigated on the current plant setup to remove "bottlenecks". A step change in capacity may also be considered with the addition of processing modules to accommodate for higher production rates associated with the MEP.

The size of the current ROM and product stockpile area will be increased as required to meet the additional throughput. Any major modification to the CHPP will be the subject of a separate application by the RMJV.

4.1.3.2 Tailings Facilities

A plan to accommodate tailings disposal is being developed to provide sufficient treatment and storage capacity for fine tailings for the remainder of the mine life. Studies aimed to improve the existing dewatering methods undertaken at the site will be performed and a long term strategy for tailings disposal shall be developed. Options may include improved mechanical dewatering, ongoing flocculation in sumps, or the use of permanent containment facilities.

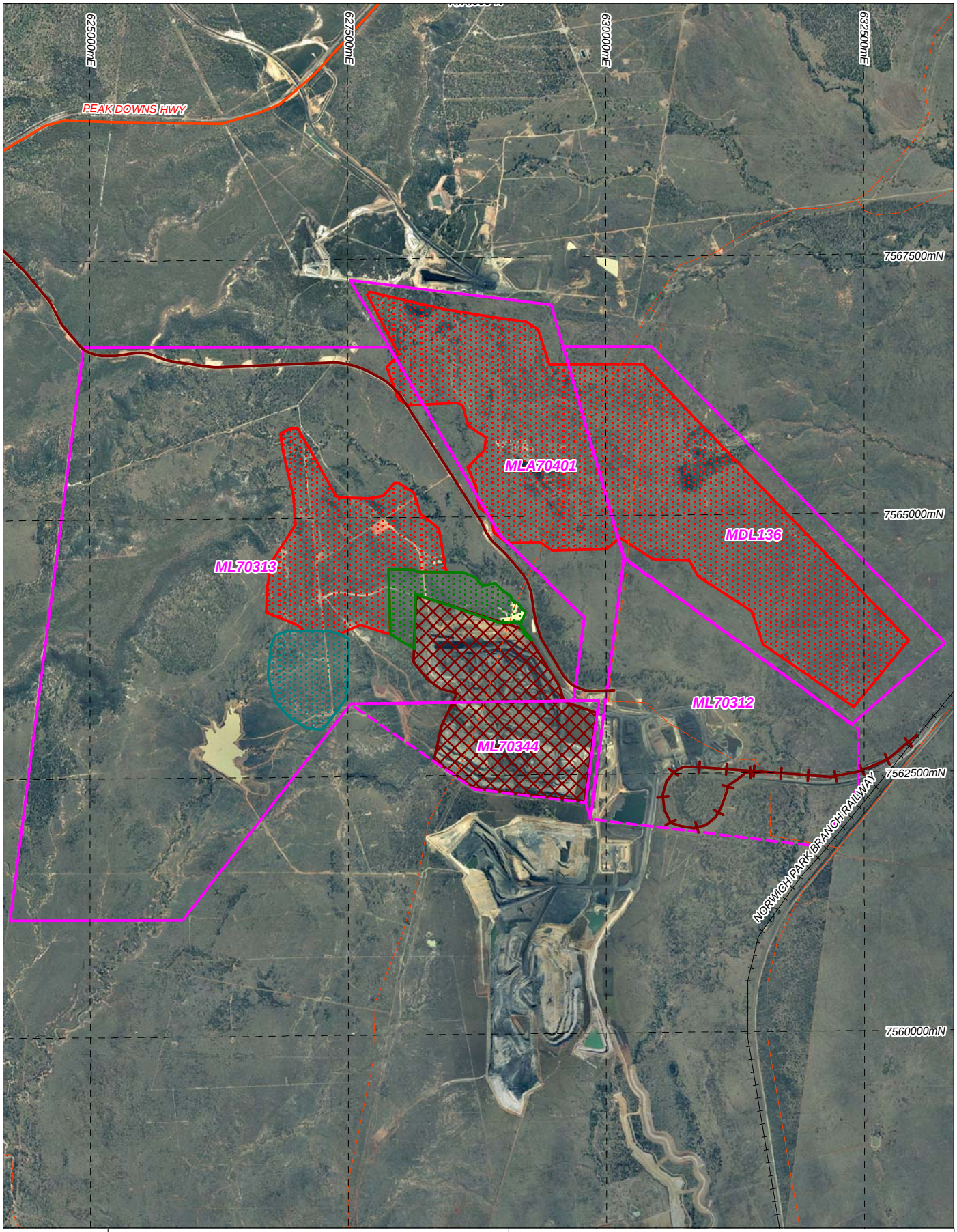
4.1.3.3 Water Management

Water is sourced from the West Dam catchment, CH4 Coal Seam Gas operation and the Burdekin Pipeline. The potential interconnection of the three Peabody operations in the region (i.e. Burton Coal Mine, Millennium Coal Mine and North Goonyella – Eaglefield Coal Mine) will enable adequate supply and reuse options to maximise water security.

The current water management system focuses on separating clean runoff from mine impacted water, and maximising the recirculation of process water for utilisation within the CHPP and for dust suppression.

Due to the location of the MEP pits, changes to the water management infrastructure will be required and may involve the establishment of new water holding structures. All dams, levees and diversions will be designed to appropriate standards and sized in accordance to calculations from water balance models. Whilst no diversions are expected for the MEP, a haul road will cross a small gully of New Chum Creek.

The consumption of raw water will be kept to a minimum by implementing water efficient work practices and recycling where possible.



LEGEND

- MEP Tenement
- Other Millennium Tenement
- Highway
- Road
- Track
- Railway
- Existing Mountain Pit
- Existing Mine Access Road
- Existing Rail Loop
- Apprd. 2009 Pit Extn.
- Apprd. 2009 Waste Dump
- MEP Disturbance

Data Source:
Topography - Geoscience Australia. Infrastructure, Imagery, Tenement - Peabody.

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Millennium Coal Pty Limited

Millennium Expansion Project

Initial Advice Statement

Proposed MEP Layout

0 1 2

Kilometres

Scale: 1:50,000 (A4)

PRINTED: 22/01/09

Datum: GDA94
Projection: MGA55

FIGURE 4.1

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4.1.3.4 Power

The use of electrically powered mining equipment such as electric shovels and or a dragline may require an upgrade to the current high voltage power supply.

4.1.3.5 Accommodation

Additional personnel required for construction and ongoing additional mining contractors would be housed at the Mac Camp in Coppabella. Some additional staff may be housed in Moranbah.

4.1.3.6 Rail and Port

The port allocation available to the Millennium Coal Mine is at the Dalrymple Bay Coal Terminal (DBCT). This port will continue to be utilised as required by the MEP operations.

4.2 ENVIRONMENTALLY RELEVANT ACTIVITIES

The Millennium Coal Mine is currently authorised under the *EP Act* to perform the Environmentally Relevant Activities (ERA) described in **Table 4-1**. No additional ERA's will be required for the MEP however, due to potential increases in the intensity of the ERA's, amendments to the existing approvals may be required for the MEP.

It is acknowledged that the replacement of the *Environmental Protection Regulation 1998* by the *Environmental Protection Regulation 2008* has resulted in significant changes to the classification and thresholds of ERA's. Therefore, **Table 4-1** refers to the ERA's as detailed and approved in the Plan of Operations and may therefore differ to the classification and thresholds currently prescribed for ERA's under the *Environmental Protection Regulation 2008.*

Table 4-1 Authorised Environmentally Relevant Activities (ERAs)

ERA No. & Level	ERA Description
ERA 7 - Chemical Storage	Storing chemicals (other than crude oil, natural gas and petroleum products), including ozone depleting substances, gases or dangerous goods under the dangerous goods code in containers having a design storage volume of (a) more than 10m3 but less than 1000m3.
ERA 11 (b) - Crude oil or petroleum product storing	Storing crude oil or a petroleum product in tanks or containers having a combined total storage capacity of – 500 000 L or more.
ERA 23 - Abrasive Blasting	Commercially cleaning equipment or structures using a stream of abrasives.
ERA 24 - Boiler Making or Engineering	Commercial boiler making, electrical machine manufacturing or building or assembly of agricultural equipment, motor vehicles, trains, trams or heavy machinery.
ERA 28 – Motor vehicle workshop	Operating a workshop or mobile workshop in the course of which motor vehicle mechanical or panel repairs are carried out in the course of a commercial or municipal enterprise (other than on a farm) or on a commercial basis.
ERA 75 – Waste management	Operating a facility for – (b) disposing of regulated waste (other than limited regulated waste) whether alone or in combination with any waste mentioned in paragraph (a), if the facility is designed to receive waste at the rate of – (iv) 200 000 t or more per year.
ERA 84 - Regulated waste storage	Operating a facility for receiving and storing – (b) other regulated waste, other than waste stored – (i) on a farm for use as a soil conditioner or fertiliser in carrying out an agricultural activity; or (ii) for use in manufacturing a saleable product under another item of this schedule; or (iii) for incineration under item 76; or (iv) recycling, reprocessing or reconditioning under items 77-79, 81.

5 EXISTING ENVIRONMENT & POTENTIAL IMPACTS

Technical studies on the environmental aspects (e.g. water, soils, flora and fauna) of the MEP area will be undertaken as part of the EIS process. These assessments serve to identify the environmental values of the site and the potential impacts on those values as a consequence of the construction and operation of the proposed Project. The following sections summarise the information obtained to date.

5.1 CLIMATE

The most reliable source of meteorological data that can be used for the MEP is from Moranbah. The Bureau of Meteorology has a weather station at the Moranbah Water Treatment Plant, (Station 034038) which has collected climatic records from 1972 to 2004. This is the closest long-term weather station to the MEP area, located approximately 22 km east of the site.

Moranbah has a warm climate with mean maximum temperatures ranging from 34.2°C in January to 23.6°C in July. Mean minimum temperatures range from 22°C in January to 9.8°C in July. Heat wave conditions can be expected between October and March and frosts between May and August.

The average annual rainfall at Moranbah is 592.4 mm, of which the majority falls in the warmer months of the year (November to February). It is noted that variability occurs throughout the region. Historically, the highest monthly rainfalls occur in December.

5.2 SOILS

The Proponent will perform the appropriate assessment to determine the type, extent and characteristics of the soils within the MEP area.

In general terms, soil management in the MEP area will involve the following:

- Identification of suitable topsoil resources via topsoil profiling and characterisation assessment, prior to stripping and stockpiling as per standard industry and internal procedures;
- Erosion protection of disturbed areas, topsoil stockpiles and waste rock dumps (including dust management). This will be achieved by sediment control traps, drainage lines and progressive rehabilitation; and
- Sedimentation control through the surface water management system.

By following industry standard management techniques, it is expected to recover and store sufficient volumes of topsoil to successfully rehabilitate lands disturbed by mining activities.

5.3 OVERBURDEN CHARACTERISATION

To support the initial phases of the MEP operation, a waste rock characterisation study will be conducted with the aim of determining the level of environmental risk associated with exposing layers across the geological profile uncovered by mining. This characterisation study will focus on the potential for the material to release acid, alkaline or saline compounds when exposed to air and moisture, and if selective management is required to mitigate this potential risk.

This study will involve the analysis of core samples from the MEP areas. Any identified strata of acidic or saline material will result in that material being selectively handled and managed.

5.4 LAND SUITABILITY

Mining leases are generally classified as Agricultural Land Class C (Pasture Land - suitable only for improved or native pastures, due to limitations which preclude continuous cultivation for crop production). The majority of the land is categorised as Suitability Class 5 (Unsuitable) for dryland cropping, and Classes 4 to 5 (Marginal to Unsuitable) for grazing.

The entirety of the MEP area and surrounds has historically only been used for low intensity cattle grazing. Current land uses include grazing and coal mining.

Land disturbed by the MEP operation will be returned to low level grazing land where practical. Notable exceptions of disturbance categories that will not be returned to grazing include voids, dams, tailings emplacements and remaining infrastructure such as buildings. A comprehensive land suitability survey will be conducted for the MEP area to confirm the pre-disturbance land condition.

5.5 SURFACE WATER

The MEP lies in the catchments of the New Chum and West Creeks to the north of the Isaac River. The leases generally drain towards the south. Both creeks are ephemeral and seasonally variable with most flow occurring in the months of November to February.

Surface water reporting to the Millennium open-cut pit has a low electrical conductivity (~500μS/cm) and pH ranging from 5.5 to 8.5. Total suspended solids (TSS) vary significantly depending on the ground cover of the catchment. Appropriate sediment control systems will be installed to ensure that the maximum amount of sediment is retained onsite.

Surface water is diverted away from active working areas (including pits, CHPP, stockpiles) to maintain and preserve the water quality values of the creeks. The premise of the water management system is to separate clean and dirty waters, contain mine affected water and maximise recycling and reuse of the resource.

The water management system will be adapted to deal with the changes wrought by the MEP and to ensure water can be effectively separated. Mine affected waters are either contained onsite or discharged in a fashion acceptable with the conditions of the existing Environmental Authorities.

The final use for mine surface water in the MEP area is for stock watering. An environmental monitoring system is currently in place at the Millennium Coal Mine to determine the impacts from the site operation and to establish trends on the downstream water quality values.

5.6 GROUNDWATER

Groundwater is largely associated with the coal seam aquifers and is neutral to alkaline (pH 7.2-8.2), and slightly to highly saline (EC 840 to 25,500μS/cm). There is no realistic reuse value for this groundwater, either for agricultural, domestic or industrial purposes.

Three main aquifers exist in the MEP area though they are not hydrologically connected due to large layers of predominantly impermeable overburden separating the seams, as described below.

- Unconfined fractured rock aquifers of the Triassic and Permian Coal sediments;
- Confined aquifers within Permian Coal Measure sequences; and
- Unconfined aquifers in unconsolidated Quaternary sand and gravel alluvium associated with creeks and rivers.

Mining may cause modifications to the local aquifers and water table drawdown on the pit perimeter. These effects are expected to be local due to the low transmissivity of the Permian Coal Measures and the low groundwater inflow. Any groundwater impacts associated with the MEP operation are expected to be low as there are no known groundwater users within the affected area. Seepage will be removed from active and inactive pits through pumping and will be utilised for dust suppression throughout the mine site.

A groundwater monitoring program will be implemented to measure groundwater quality in the areas proposed for mining by the MEP.

5.7 TOPOGRAPHY

The MEP is located in the upper catchments of New Chum Creek and West Creek, both of which are tributaries of the Isaac River. The natural topography is defined by gentle undulating plains that drain via a broad floodplain with a meandering channel generally falling to the south. There are a number of distinct escarpments in the project area and surrounds. These mesas generally have steep foothills and are characterised by a relatively level cap.

Due to the existing operations and the large scale adjacent mine, the visual impact of the proposed expansion areas will be a minor progressive component of the landscape.

5.8 FLORA

The majority of the MEP area and surrounds has been modified through cattle grazing and mining which has significantly altered the landscape.

Small and isolated patches of native vegetation occur within MLA 70401 and MDL 136, while more extensive vegetation occurs on ML 70313. While the bulk of vegetation is associated with mesas, scarps and slopes, contiguous vegetation occurs along New Chum Creek.

Ten vegetation communities hosting remnant ecosystems (REs) have been identified within the MEP area **(Table 5-1)** and are illustrated in **Figure 5-1**. The distribution of these communities is complex, often occurring in small pockets or mixed communities that cannot be separated at a 1: 25,000 scale. Comprehensive flora surveys will be conducted as part of the EIS process to confirm the extent and quality of the regional ecosystems.

Table 5-1 Regional Ecosystems within the MEP

Abbreviations as follows:
VM Act = *Vegetation Management Act 2000;* **EPBC Act** = *Environment Protection and Biodiversity Conservation Act 1999;*
NOC = Not of Concern; **OC** = Of Concern; **End** = Endangered.

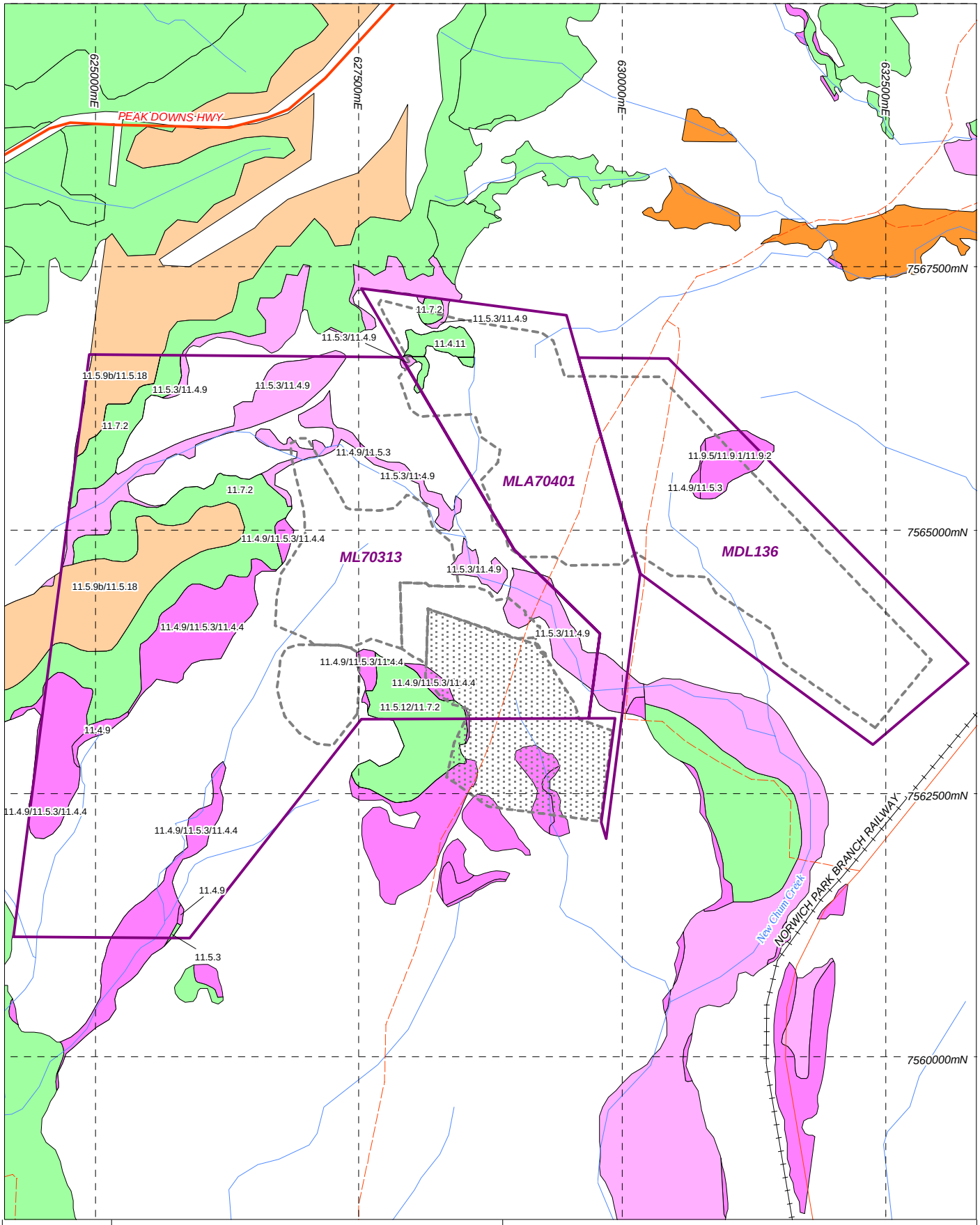
RE Code	Short Description	VM Act	EPBC Act
Landzone 4: Gently undulating clay			
11.4.2	*Eucalyptus spp*. and/or *Corymbia spp*. grassy or shrubby woodland on Cainozoic clay plains	OC	
11.4.4	*Dichanthium spp., Astrebla spp*. grassland on Cainozoic clay plains	NOC	OC
11.4.8	*Eucalyptus cambageana* woodland to open forest with *Acacia harpophylla* or *A. argyrodendron* on Cainozoic clay plains	End	End
11.4.9	*Acacia harpophylla* shrubby open forest to woodland with *Terminalia oblongata* on Cainozoic clay plains	End	End
11.4.11	*Dichanthium sericeum, Astrebla spp.* and patchy *Acacia harpophylla*, *Eucalyptus coolabah* on Cainozoic clay plains	NOC	OC
Landzone 5: Uniform sand plains			
11.5.3	*Eucalyptus populnea* and/or *E. melanophloia* and/or *Corymbia clarksoniana* on Cainozoic sand plains/remnant surfaces	NOC	
11.5.9	*Eucalyptus crebra* and other *Eucalyptus spp*. and *Corymbia spp*. woodland on Cainozoic sand plains/remnant surfaces.	NOC	
11.5.12	*Corymbia clarksoniana* woodland and other *Corymbia spp*. and *Eucalyptus spp*. on Cainozoic sand plains/remnant surfaces	NOC	
11.5.18	*Micromyrtus capricornia* shrubland on Cainozoic sand plains/remnant surfaces	OC	OC
Landzone 7: Duricrusts and footslopes			
11.7.1	*Acacia harpophylla* and/or *Casuarina cristata* and *Eucalyptus thozetiana* or *E. microcarpa* woodland on lower scarp slopes on lateritic duricrust	NOC	End

RE Code	Short Description	VM Act	EPBC Act
11.7.2	*Acacia spp*. woodland on lateritic duricrust. Scarp retreat zone	NOC	
Landzone 9: Uniform Plains			
11.9.1	*Acacia harpophylla-Eucalyptus cambageana* open forest to woodland on fine-grained sedimentary rocks	End	End
11.9.2	*Eucalyptus melanophloia* and/or *E. orgadophila* woodland on fine-grained sedimentary rocks	NOC	
11.9.5	*Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks	End	End

Four of the identified RE are listed as Endangered under the *Vegetation Management Act 1999* (VM Act) and one RE is listed as Of Concern. Furthermore, five RE's correspond to Endangered Ecological Communities (EEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The largest and most significant area of Endangered vegetation occurs along New Chum Creek. This is also likely to act as a local corridor, being important for maintaining population viability and genetic diversity in local species.

Flora species that were common on the mesa duricrusts and slopes included *Eucalyptus thozetiana, E. cambageana* (Dawson Gum)*, E. brownii, Eremophila mitchellii* (False Sandlewood)*, Alphitonia excelsa* (Red Ash)*, Flindersia australis*, *Acacia shirleyi* (Lancewood) and *Grevillia striata* (Beefwood). Common species on clay plains included *Acacia harpophylla* (Brigalow)*, Terminalia oblongata* (Whitewood)*, Lysiphyllum hookeri* (White Bauhinia) and *Carissa ovata* (Current Bush). Between these areas on the lower slopes and sandy plains species such as *E. populnea* (Poplar Box) and *E. crebra* (Narrow-leafed Ironbark) are common.

Cerbera dumicola has been recorded within ML 70313. This species is listed as Rare under the *Nature Conservation Act 1992* (NC Act). Individuals of this species have been found along a minor creekline and an aggregation over an area of at least one hectare on the slopes in the west (Smith 2003).



LEGEND

- MEP Tenement
- Existing Mountain Pit
- Proposed Disturbance
- Highway
- Road
- Track
- Railway
- Watercourse

RE Mapping

- Endangered (dominant)
- Endangered (sub-dominant)
- Of Concern (dominant)
- Of Concern (sub-dominant)
- Not Of Concern

Data Source:
Topography - Geoscience Australia. Infrastructure, RE Mapping - EPA. Tenement - Peabody.

matrixplus

Peabody

P:\Projects\Peabody\Map Info\Workspaces\PEA0801_M036A.wor

Millennium Coal Pty Limited

Millennium Expansion Project

Initial Advice Statement

Regional Ecosystems of the MEP

0 1 2

Kilometres

Scale: 1:50,000 (A4)

13/03/2009

Datum: GDA94
Projection: MGA55

FIGURE 5-1

5.9 FAUNA

A number of fauna studies have been conducted for the Millennium Coal Mine to date using observational techniques. All identified species are typical of the Bowen Basin region. Reptile and frog diversity is lower than expected, however this is likely to reflect meteorological conditions during and prior to the survey and the lack of systematic survey techniques. Comprehensive fauna surveys will be conducted as part of the EIS process.

Commonly recorded vertebrates included a skink species *Ctenotus robustus*, Willie Wagtail, Grey-crowned Babbler, Australian Magpie-lark, Pied Butcherbird, Torresian Crow, Australian Magpie, Eastern Grey Kangaroo and a number of insectivorous bats.

To date, only one species with special protection under the NC Act or EPBC Act has been identified, this being the Little Pied Bat (*Chalinolobus picatus)*. The exact locations of this species are not clearly indicated, but they are known to occur in a variety of habitats and are considered likely to occur wherever remnant vegetation occurs. Furthermore, vegetation in the north of the MEP on ML 70313 and MLA 70401 is identified as Essential Habitat for the species under the VM Act.

Initial inspections of local databases and desktop data suggest that other significant species might occur such as the Brigalow Scaly-foot (*Paradelma orientalis*), Ornamental Snake (*Denisonia maculata*) and Squatter Pigeon (*Geophaps scripta scripta*).

5.10 NOISE

Impacts from noise generated by the MEP are expected to minimal. The nearest landowner to the project area is located approximately 8 km away from the administration area and predominant wind direction is directed away from this residence. There will be no change in technique or hours of operation associated with the MEP. There have been no complaints received regarding noise emissions from the existing mine.

5.11 AIR QUALITY

Air quality issues are considered to be typical of open-cut mining operations throughout the region. There will be no change in technique or hours of operation associated with the MEP. Progressive rehabilitation of the available disturbed areas will occur with the aim to reduce exposed areas to wind generated dust. Regular dust abatement methods will be implemented on active areas.

The nearest landowner to the MEP is located approximately 8 km away from the administration area and predominant wind direction is directed away from this residence. There have been no complaints received regarding air quality.

5.12 WASTE MANAGEMENT

Onsite waste management practices will expand as required to cater for any increases in waste products generated from the MEP. Currently, all wastes (with the exception of tyres and some conveyor belts) are disposed of offsite either as general waste to landfill, regulated waste for disposal as appropriate and as recyclable materials.

The Millennium Coal Mine operates a waste management plan that details requirements for employee and contractor responsibility, training and disposal of all materials used on the mine site. The adoption of the principles of the waste management hierarchy minimises the inappropriate loss of resources and ensures appropriate disposal of wastes. The existing waste management system and the waste program will continue to be employed for the MEP.

5.13 POST MINING REHABILITATION

Rehabilitation, decommissioning and closure activities will be part of the overall rehabilitation strategy for the MEP. The objectives outlined in the existing Environmental Management Plan will be complied with for the expansion areas.

Current strategies used to ensure closure criteria are met include:

- exploration investigations;
- landform designs for out of pit dumps, co-disposal facilities, and final voids;
- revegetation trials, programs and monitoring;
- contaminated land registers; and
- annual review of disturbance footprint and liability.

The Environmental Management Plan will be improved upon following any relevant findings in the EIS.

5.14 HEALTH & SAFETY

The MEP will be operated under the existing and proven Health and Safety requirements for the Millennium Coal Mine. This Safety Management System has been established to ensure all activities that have an impact on occupational health and safety are carried out in a manner that complies with:

- Peabody standards;
- All relevant legislation and where possible, exceed its requirements; and
- Relevant advisory standards and codes of practice.

5.15 EUROPEAN & INDIGENOUS CULTURAL HERITAGE

The area surrounding the mine has a history of both Aboriginal and European activity. The Mine and surrounding areas have been subjected to extensive land clearing for agricultural and mining developments.

An archaeological survey of the MEP area was conducted in 2006 with a large number of sites identified as containing artefacts of indigenous cultural heritage significance. Among the major site types, 22 of these locations were indigenous archaeological sites with high artefact density, 54 were of low artefact density and 105 locations consisted of small and isolated finds only.

The 2006 survey concentrated on areas where artefacts could be expected to be found. A more thorough survey of the MEP area has recently been undertaken with the BBKY3 and clearance obtained for the greater majority of the MEP area. Further surveys may be required as part of the EIS process.

5.16 SOCIO-ECONOMICS

The majority of employees at the mine are living in the Mackay region with camp facilities provided at the Mac Camp in Coppabella. Some Peabody personnel are housed in Moranbah. Transport to and from the mine site and camp is provided by the company.

The MEP will benefit local and regional areas with increased security of employment and the ongoing requirement for services and support. This will have an impact on the region and state in relation to water supply, electricity supply, labour supply, infrastructure, accommodation and road traffic.

The MEP will require an increase in staffing in addition to the existing 160 employees of the Millennium Coal Mine. Final manning numbers will be confirmed upon completion of the project feasibility and planning assessments.

The Proponent will assess the social impacts of the MEP as part of the EIS process.

5.17 COMMUNITY CONSULTATION

The MEP is committed to providing active and transparent community consultation to all stakeholders, following a clear communication plan. Consultation and social research during the EIS process will focus on minimising the impacts identified during the assessment process.

Some of the stakeholders involved in the MEP include:

- Queensland Environmental Protection Agency (EPA);
- Queensland Department of Natural Resources and Water (DNRW);
- Queensland Department of Mines and Energy (DME);
- Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA);
- Isaac Regional Council;
- Barada Barna Kabalbara and Yetimarla People 3;
- Directly affected landholders;
- Indirectly affected landholder/groundwater users;
- Mackay Conservation Council; and
- The general community.

APPENDIX A

EPA Guideline 4: EIS Trigger Criteria

EPA Trigger	Y/N/U	Comment
Have a significant impact on Category A and Category B environmentally sensitive areas (ESA's).	Y	A preliminary desktop assessment has identified the presence of Category B ESA, namely, Endangered Regional Ecosystems, within the proposed disturbance area. A detailed review of the existing flora and fauna report is required and ground truthing to determine whether these ESA's are correctly mapped. Regional ecosystems will be cleared as a result of the progressive development of the open-cut pits for the MEP. The vegetation is currently degraded from interaction with grazing cattle. The final landform shall include rehabilitation of native species.
Involve mining in a marine area.	N	The proposal does not involve mining in a marine area.
Involve mining less than 500 m landward from the highest astronomical tide (HAT).	N	Given the Project location in central western Queensland, the proposal will not involve mining within 500 m of HAT.
Require construction of more than 150 new dwellings.	U	Unknown at present but unlikely that it will require construction of 150 new dwellings.
Include an ERA that would otherwise be a Level 1 ERA with an annual fee of greater than $4,000.	Y	The proposed Project is likely to involve the conduct of one or more ERAs (e.g. ERA 11 – Crude oil or petroleum product storing).
Involve the mining of more than 2 million tonnes of mineral or run of mine ore per year.	Y	The proposed MEP will involve the extraction and processing of up to 7.5 Mtpa of ROM coal.
Involve the abstraction of more than 2 million m^3 of water per year from natural surface and/or groundwater.	N	A detailed groundwater investigation will be conducted to determine the impacts (if any) on natural surface and groundwater reserves within the MEP area. Upon completion of appropriate investigations, the predicted rate of water abstraction as a result of the MEP operations will be defined.
Result in more than 25 ha remaining post mining in a non-beneficial land capability where an acceptable alternative may be feasible.	Y	Upon completion of the MEP open-cut operation, it is considered likely that due to the size of the remaining open-cut final void (i.e > 25ha), including the co-disposal reject dump areas; the MEP will result in more than 25 ha of non-beneficial land at the end of the mine's life.
Involve any non-standard mining activity less than 2 km from a town.	N	The site is located approximately 22 km east of Moranbah and 16 km southwest of Coppabella.
Contain a dam which requires a dam failure assessment under the *Water Act 2000.*	U	At present, it is not expected that there will be a requirement to construct additional dams which require a failure impact assessment.
Include Mining for uranium or asbestos.	N	The proposal is for the mining of coal only.

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