



**Cameby Downs  
Expansion Project**  
Initial Advice Statement

**Prepared on behalf of:**  
Syntech Resources Pty Ltd

**September 2009**

# TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION</b> .....	<b>1</b>
1.1	THE PROPONENT .....	1
1.2	PROJECT OVERVIEW .....	1
1.3	PROJECT LOCATION .....	2
1.4	TENURE.....	4
<b>2.0</b>	<b>PROPOSED PROJECT ACTIVITIES</b> .....	<b>7</b>
2.1	EXPLORATION.....	7
2.2	LAND DISTURBANCE .....	7
2.3	MINE INFRASTRUCTURE .....	10
2.4	COAL MINING.....	11
2.5	COAL HANDLING AND PROCESSING .....	11
2.6	REJECTS DAM.....	11
2.7	WATER REQUIREMENTS .....	12
2.8	POWER SUPPLY .....	12
2.9	STAFFING AND ACCOMMODATION .....	12
<b>2.10</b>	<b>REHABILITATION</b> .....	<b>13</b>
2.10.1	Exploration .....	13
2.10.2	Out-of-pit Spoil Dumps.....	13
2.10.3	Final Voids.....	13
2.10.4	CHPP and Infrastructure.....	14
2.10.5	Rejects Dam.....	14
2.10.6	Access Roads.....	14
2.10.7	Revegetation Methods .....	14
2.11	ENVIRONMENTALLY RELEVANT ACTIVITIES .....	15
<b>3.0</b>	<b>DESCRIPTION OF THE EXISTING ENVIRONMENT</b> .....	<b>16</b>
3.1	REGIONAL CLIMATE .....	16
3.2	CURRENT LAND USE .....	17
3.3	GEOLOGY AND TOPOGRAPHY .....	17
3.4	SURFACE WATER RESOURCES .....	18
3.5	GROUNDWATER.....	19
<b>3.6</b>	<b>NATURE CONSERVATION</b> .....	<b>20</b>
3.6.1	Flora.....	20
3.6.2	Fauna.....	22
3.6.3	EPBC Act Referral.....	24
3.7	NOISE AND AIR QUALITY .....	24
3.8	INDIGENOUS CULTURAL HERITAGE .....	24
3.9	EUROPEAN CULTURAL HERITAGE .....	24
<b>4.0</b>	<b>COMMUNITY CONSULTATION AND SOCIAL IMPACTS</b> .....	<b>25</b>
4.1	CONSULTATION PROCESS .....	25

**LIST OF FIGURES**

Figure 1: Project Location..... 3  
 Figure 2: Mining Tenements ..... 6  
 Figure 3: Conceptual Site Layout..... 8  
 Figure 4: Conceptual Layout of the CHPP Site..... 9  
 Figure 5: Mean Monthly Rainfall at Miles Weather Station..... 16  
 Figure 6: Mean Maximum and Minimum Temperatures at Miles Weather Station..... 17  
 Figure 7: Regional Waterways of the Project Site..... 19

**LIST OF TABLES**

Table 1: Mining Tenure..... 4  
 Table 2: ERAs Associated with the Project ..... 15  
 Table 3: Mining Projects and their Aggregate Environmental Score ..... 15  
 Table 4: Regional Ecosystems Identified in the Project Area..... 20  
 Table 5: Flora Species of Conservation Significance that May Occur in the Project Area..... 21  
 Table 6: Fauna Species of Conservation Significance that May Occur in the Project Area..... 22

**LIST OF ABBREVIATIONS**

AARC	AustralAsian Resource Consultants Pty Ltd
AEP	Annual Exceedance Probability
ARI	Average Recurrence Interval
CHMP	Cultural Heritage Management Plan
CHPP	Coal Handling and Preparation Plant
DERM	Department of Environment and Resource Management
EA	Environmental Authority
EIS	Environmental Impact Statement
EM Plan	Environmental Management Plan

EP Act	<i>Environmental Protection Act 1994</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPC	Exploration Permit Coal
ERA	Environmentally Relevant Activity
ESA	Environmentally Sensitive Area
ha	hectares
IAS	Initial Advice Statement
km	kilometres
MDL	Mineral Development Licence
ML	Mining Lease
MLA	Mining Lease Application
mm	millimetres
MRL	Mandatory Reporting Limit
Mt	Million tonnes
Mtpa	Million tonnes per annum
NC Act	<i>Nature Conservation Act 1992</i>
NCWR	<i>Nature Conservation (Wildlife) Regulation 2006</i>
QGC	Queensland Gas Company Ltd
RE	Regional Ecosystem
REDD	Regional Ecosystem Description Database
ROM	Run of Mine
Syntech	Syntech Resources Pty Ltd
TOR	Terms of Reference
tpa	tonnes per annum
VM Act	<i>Vegetation Management Act 1999</i>

## 1.0 INTRODUCTION

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Syntech Resources Pty Ltd (Syntech) are proposing to develop the Cameby Downs Expansion Project (the Project) located approximately 360 kilometres (km) west, north-west of Brisbane and 16 km north-east of Miles, in south-east Queensland. The Project involves an expansion of the Cameby Downs Coal Mine (ML50233), which is currently approved under Environmental Authority (EA) No. MIN100568007 issued in February 2009. The Cameby Downs Coal Mine is expected to commence construction works during 2009.

The Project includes an increased mining rate to approximately 25 Million tonnes per annum (Mtpa) run of mine (ROM), expansion of the currently approved Coal Handling and Processing Plant (CHPP) and open cut mining of coal on additional adjacent Mining Leases (ML).

Syntech intends to submit applications for additional MLs as well as an application to amend the existing EA to include the expanded areas and operations. This Initial Advice Statement (IAS) is submitted as supporting documentation for an Application to Prepare a Voluntary Environmental Impact Statement (EIS) under Sections 70-71 of the *Environmental Protection Act 1994* (EP Act).

### 1.1 THE PROPONENT

The Project proponent is Syntech Resources Pty Ltd, ABN 67 095 102 971. The Project's mining tenements are / will be held in the name of Syntech Resources Pty Ltd. Syntech is a Brisbane based coal exploration and development company. Contact details for Syntech Resources Pty Ltd are as follows:

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                                  Brisbane QLD 4000

Postal Address:           GPO Box 5296  
                                  Brisbane QLD 4001

Phone:                     (07) 3232 3800

Facsimile:               (07) 3232 3895

### 1.2 PROJECT OVERVIEW

The Cameby Downs Expansion Project proposes mining of a thermal coal resource of the Juandah Formation in the Surat Basin, south-east Queensland. The Project is planned to mine up to approximately 25 Million tonnes (Mt) of ROM coal per annum (pa) to produce approximately 15-20 Mtpa of product coal for export. The mine life is estimated at 40+ years, comprising a two year construction period and 35 - 40 years of production.

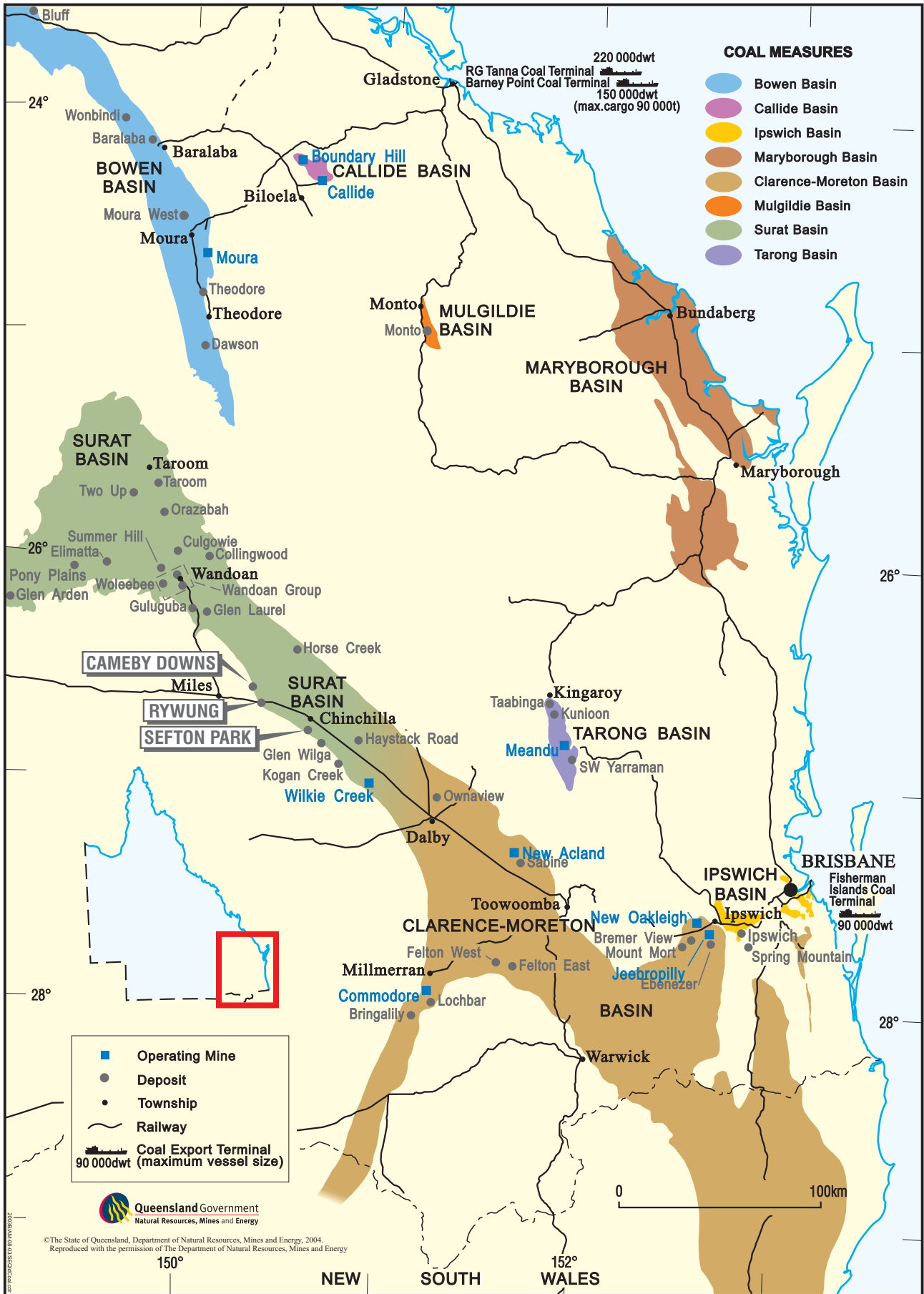
Major elements of the Project include:

- Open cut mining, via truck and excavator methods, of the Cameby Downs coal resource, located within the existing Cameby Downs ML and on additional adjoining Mining Lease Applications (MLA);
- Open cut mining, via truck and excavator methods, of the Rywung coal resource, located approximately 10 km east of the Cameby Downs area;
- Transportation of ROM coal from Rywung to the Cameby Downs ROM pad by either conveyor, dedicated trains or road trains on a dedicated haul road;
- Processing of coal at the Cameby Downs CHPP, including crushing, screening and washing, with waste products disposed of to a Rejects Dam and, in later years, the mined out pits;
- Out-of-pit spoil dumps and in-pit spoil disposal at both the Cameby Downs and Rywung sites; and
- Rail loading and transport of processed coal via the existing rail system from Cameby Downs to the Port of Brisbane, and via the proposed Surat Basin Rail Link to the Gladstone Port.

Multiple MLAs, in addition to the granted ML 50233, will form the proposed Project site. The Project will include the existing Cameby Downs Coal Mine ML, an expansion of the Cameby Downs site to the north and south, the Rywung site and a possible transport corridor connecting Rywung and Cameby Downs. The combined Project site spans an area of approximately 15,122 hectares (ha).

### 1.3 PROJECT LOCATION

The Project is located in south-east Queensland, approximately 360 km north-west of Brisbane. The Project lies on the Warrego Highway approximately 16 km north-east of Miles and 20 km north-west of Chinchilla, in the Western Downs (formerly Dalby) Regional Council. The regional location of the Project is illustrated in Figure 1. Access to the Project is via the Warrego Highway with the Project industrial area accessed via Ryalls Road off the Warrego Highway.



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**Project Location Plan**

FIGURE 1

Design	R. Hoskings	09.2009	Scale	NTS
Drawn	PRM Cad and Graphics	04.09.2009	Cad File	Syn001r172.cdr

Rev 1.0

## 1.4 TENURE

Table 1 lists the current mining tenements associated with the Project.

**Table 1: Mining Tenure**

Tenement	Holder/Applicant	Expiry	Area (ha)
ML 50233	Syntech Resources Pty Ltd	31 Jul 2038	2,722
MDL 247	AMH (Chinchilla Coal) Pty Ltd, a company sharing common ownership with Syntech Resources Pty Ltd	31 Aug 2011	2,451
EPC 732	Syntech Resources Pty Ltd	1 May 2011	8,597
EPC 873	AMH (Chinchilla Coal) Pty Ltd, a company sharing common ownership with Syntech Resources Pty Ltd	6 Sep 2009	20,860
EPC 1165	Metrocoal Ltd	9 Dec 2010	90,190
EPC 813	SE QLD Coal Pty Ltd	16 April 2009	47,650

The Project will incorporate multiple MLs, including the Cameby Downs site (ML 50233), due to the provisions of the *Mineral Resources Act 1989* requiring compulsory splitting of MLAs where there are overlapping petroleum tenements with different holders. The total area of the Project site will be approximately 15,122 ha.

MLAs will be made for the Rywung mining area and will incorporate a portion of both Mineral Development Licence (MDL) 247 and Exploration Permit Coal (EPC) 873. The mining lease applications over the Rywung area will be made with the consent of AMH (Chinchilla Coal) Pty Ltd.

Additional MLAs will be sought adjoining the Cameby Downs ML 50233, within the bounds of EPC 732 and EPC 1165. An agreement has been made with Metrocoal Ltd for consent to be provided for the proposed mining leases lying within the bounds of EPC 1165. An agreement has also been made with SE Qld Coal Pty Ltd for consent to be provided for the proposed MLs lying within the bounds of EPC 813.

Coal will be transported from the Rywung area to the Cameby Downs CHPP. Three transport modes are being considered:

1. A private haul road between Rywung and the Cameby Downs site for transport of ROM coal by road train; and/or
2. A conveyor to transfer ROM coal from the coal transfer area at Rywung to the ROM pad at Cameby Downs; and/or
3. Use of dedicated trains along the existing Western Railway corridor.

While it is not currently proposed to mine through or under the Warrego Highway and the adjacent Western Railway Line, a further ML or MLs for transportation will also be required to transport coal across the Warrego Highway and Western Railway Line. Various options, such as tunnels and bridges are being considered.



Syntech will apply for prospecting permits over all areas where it does not currently hold underlying mining tenure prior to making the mining lease applications.

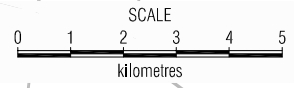
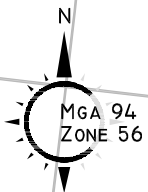
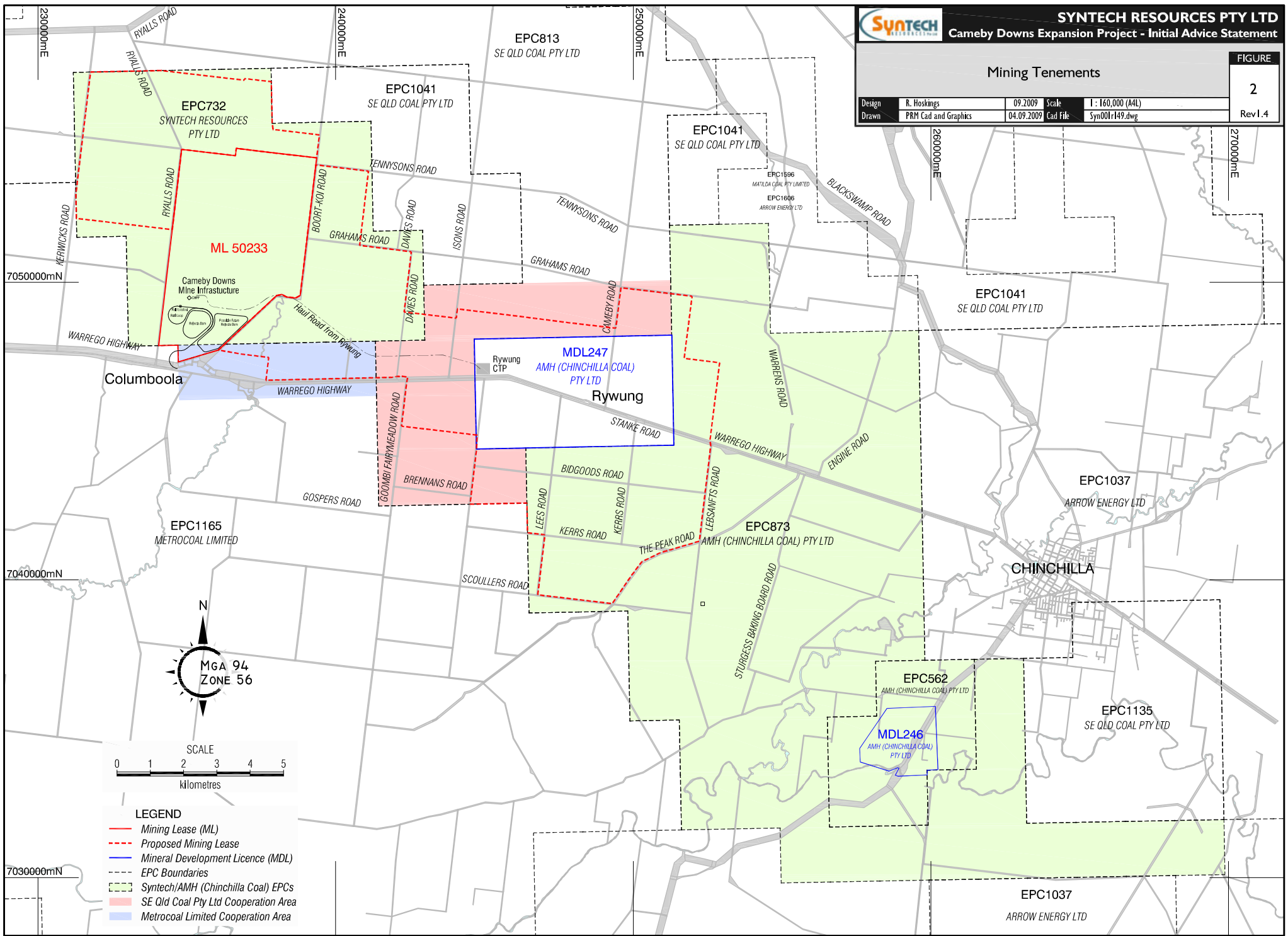
Figure 2 shows the mining tenure associated with the Project.

Mining Tenements

FIGURE  
2

Design	R. Hoskings	09.2009	Scale	1 : 160,000 (A4L)
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- LEGEND**
- Mining Lease (ML)
  - - - Proposed Mining Lease
  - Mineral Development Licence (MDL)
  - EPC Boundaries
  - Syntech/AMH (Chinchilla Coal) EPCs
  - SE Qld Coal Pty Ltd Cooperation Area
  - Metrocoal Limited Cooperation Area

## **2.0 PROPOSED PROJECT ACTIVITIES**

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### **2.1 EXPLORATION**

Exploration and other investigation activities will continue to be undertaken on all exploration and mining tenements to determine and prove further resources and provide data to be used in developing the Project.

### **2.2 LAND DISTURBANCE**

Prior to the development of any open cut pits, spoil stockpiles, processing areas or infrastructure, vegetation and topsoil will be removed from the footprint area and stockpiled. The preferred option to dispose of large vegetation is to appoint a contractor to clear and use the timber for milling, wood-chipping, or other economically viable use. If this is not possible, large vegetation will be windrowed and burnt under controlled conditions. Smaller vegetation and grasses will be removed with the topsoil and where necessary, stockpiles will be seeded to establish vegetation growth, increase water infiltration, encourage microbial activity and prevent erosion. Topsoil will be respread over required areas as soon as possible to obtain maximum potential benefit from the viability of the topsoil seed bank.

At the current stage of Project development land disturbance will include (but is not limited to) mining areas (7,870 ha), CHPP and mine infrastructure (230 ha), out-of-pit spoil dumps (1,178 ha), surface water management dams, workshops and offices, and roads and tracks. The total area of land disturbance is estimated at approximately 10,000 ha. Areas of land disturbance, particularly for the Rywung site, are based on an early conceptual mine design and are provided as a broad indication of disturbance only.

The approved Cameby Downs project is authorised under Syntech's existing EA for approximately 1,400 ha of total land disturbance on the area of ML50233. Therefore, the Cameby Downs Expansion Project represents an increase in disturbance of approximately 8,600 ha.

A conceptual site layout of the mining and process area is provided in Figure 3 and a more detailed conceptual design of the plant and rail loop area is shown in Figure 4. The final size and location of infrastructure and mining boundaries is dependant on continued exploration, project investigation and design, and identification of environmental issues.



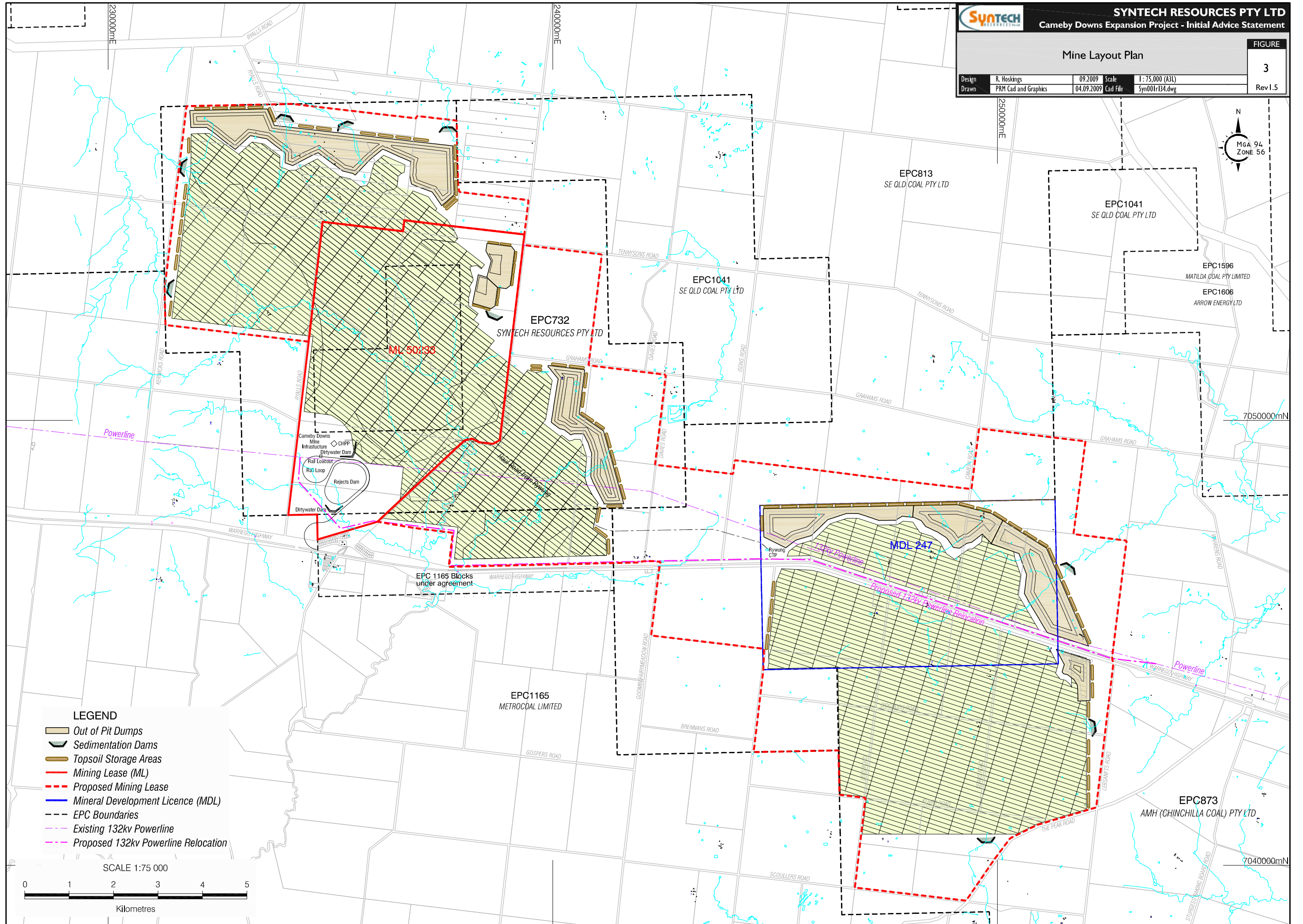
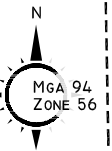
Mine Layout Plan

FIGURE

3

Design	R. Hoskings	09.2009	Scale	1:75,000 (A3L)
Drawn	PRM Cad and Graphics	04.09.2009	Cad File	Syn001r134.dwg

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**LEGEND**

- Out of Pit Dumps
- Sedimentation Dams
- Topsoil Storage Areas
- Mining Lease (ML)
- Proposed Mining Lease
- Mineral Development Licence (MDL)
- EPC Boundaries
- Existing 132kv Powerline
- Proposed 132kv Powerline Relocation

SCALE 1:75 000



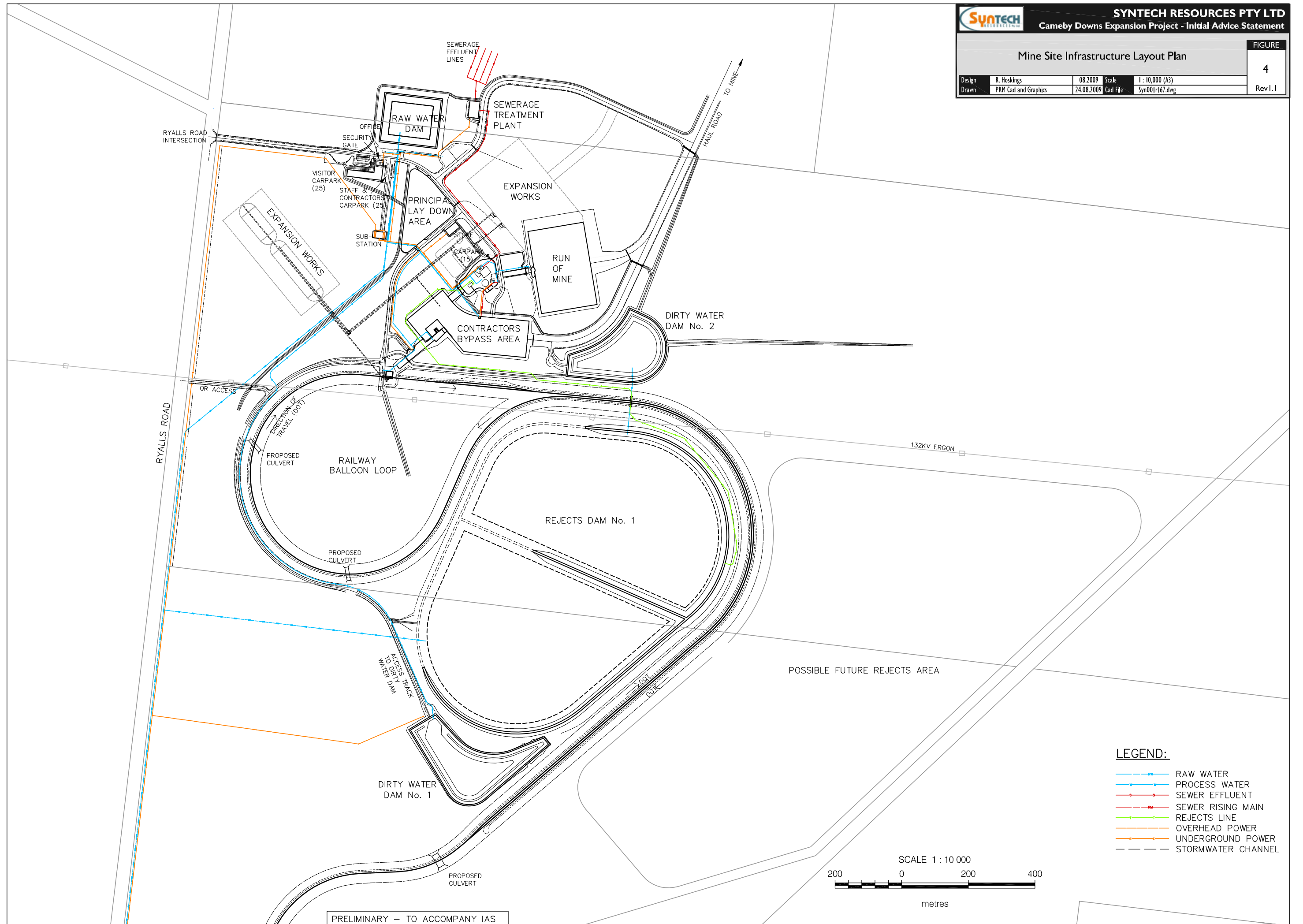
Mine Site Infrastructure Layout Plan

FIGURE

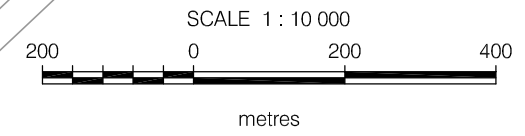
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Design	R. Hoskings	08.2009	Scale	1 : 10,000 (A3)
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- LEGEND:**
- RAW WATER
  - PROCESS WATER
  - SEWER EFFLUENT
  - SEWER RISING MAIN
  - REJECTS LINE
  - OVERHEAD POWER
  - UNDERGROUND POWER
  - STORMWATER CHANNEL



PRELIMINARY - TO ACCOMPANY IAS

## 2.3 MINE INFRASTRUCTURE

The following mine infrastructure and operations are already approved for the Cameby Downs project on ML50233:

- Offices, workshops and ablutions facilities;
- Coal Handling and Preparation Plant (CHPP);
- ROM pad, coal transfer area and lay-down areas;
- Surface water management dams;
- Rejects Dam;
- Topsoil stockpiles;
- Water pipelines;
- Fuel, oil and chemical storages;
- Out-of-pit spoil dumps;
- In-pit spoil disposal;
- Rail loop;
- Train loading facility; and
- Explosives magazines.

Additional infrastructure and operations for the Cameby Downs Expansion Project include:

- Additional CHPP capacity;
- Additional spoil dumps, topsoil and ROM stockpiles;
- Additional surface water management dams; and
- Haul road / conveyor connecting Rywung and Cameby areas including possible sizing station and loading/unloading facilities, and crossings of the Warrego Highway at Rywung.

The use of draglines and conveyor systems for removal of overburden will be also investigated.

Approvals for off-lease power transmission lines and water pipelines will be undertaken separately to the Project EIS. Construction responsibilities of the rail loop ballast, track-work and signalling will be undertaken by Queensland Rail, with earthworks and drainage by the proponent.

## 2.4 COAL MINING

Coal and overburden will be extracted using excavators, bulldozers, and dump trucks with the following activities being undertaken:

- Clearing vegetation, predominantly in relation to non-remnant grassland. Where possible, native vegetation is to be avoided;
- Topsoil stripping and stockpiling;
- Overburden removal from the initial area to be mined, which will be stored in permanent out-of-pit spoil dumps;
- Coal extraction and transport to CHPP facilities;
- Once mining has progressed past the initial open cut, overburden removed ahead of mining will be backfilled into the mined out pit (in-pit spoil disposal); and
- Progressive rehabilitation of spoil emplacement areas, including the backfilled pit and out-of-pit spoil dumps.

The use of draglines and conveyor systems will also be investigated as an additional method of overburden removal.

It is likely that blasting of overburden will be required in some areas either to facilitate excavation or to optimise equipment productivity.

## 2.5 COAL HANDLING AND PROCESSING

The ROM coal will be dumped on a ROM pad and pushed by either dozer or front end loader into a feeder. The coal will then be crushed in three stages and fed to the CHPP at a 40 millimetre (mm) top size. The CHPP is comprised of a dense medium cyclone and a spiral circuit with the fines (<0.1 mm) discarded.

The coal product will be temporarily stockpiled at the Product Coal Stockpile/Rail Loadout before being loaded into the Train Loading Bin via conveyor. Coal will then be loaded into trains via the feed bin before being transported to the Port of Brisbane via the existing Western Railway and/or the Port of Gladstone via the proposed Surat Basin Rail Link.

## 2.6 REJECTS DAM

The co-disposal / rejects system will be located to the south-east of the CHPP and will consist of a number of cells. Dams will be designed with a Design Storage Allowance of ARI 20 years, for a 3 month wet season plus process inputs. The Spillway will be designed with an annual exceedance probability (AEP) of 1 in 1000, with the Mandatory Reporting Limit (MRL) AEP of 1 in 100, 72 hour event.

The proposed cell walls will be in the order of 8 metres (m) high but will vary in relation to the existing ground height. Walls will be constructed with locally won materials including from within the floor of the proposed dam areas, with additional borrow pit material sourced from the mining area if required.

Along the southern wall of the proposed cells decant pipes at varying levels will be placed through the wall to decant water off the dam and into a drain flowing east long the southern side of the cell. From here the water will flow to a dirty water dam from where the water will be pumped back to the CHPP and associated process water dam. The decant pipes will vary in level with the lowest located at the eastern end of the wall.

The placement of the reject material within the cells will be in a westerly direction which is naturally uphill; this ensures that the finer material is held back against the coarser advancing material. The location of the decant pipes at the higher end of the cell floor ensures that the cleanest possible water drains from the cell to the dirty water dam.

Disposal in the mining voids will be developed in the future in addition to the above surface dams as they have a finite life limited by available area.

## **2.7 WATER REQUIREMENTS**

The Project is expected to require approximately 8,000 - 10,000 Megalitres of water per annum. This water will be used for washing of the coal, dust suppression and production of potable water.

Water for on-site use will be sourced from the Queensland Gas Company Ltd (QGC), who has existing coal bed methane extraction infrastructure to the south and south-west of the Project site, on the south side of the Warrego Highway.

It is proposed to use the water from QGC, which ranges in salt content from approximately 2,000  $\mu\text{S}/\text{cm}$  to 5,000  $\mu\text{S}/\text{cm}$  and a pH in the range 6.5 to 8.9, for bore water.

Water will be piped to the Project site via a buried polyethylene pipeline running north from the QGC Glen Eden water collection pond across the Warrego Highway to the Cameby Downs infrastructure area.

Water will also be sourced from a raw water dam or dams primarily for dust suppression. Additional water will be sourced from the dirty water collection system to be recycled into the process plant on site.

Potable water will either be produced by treating the water sourced from QGC using a reverse osmosis process or sourced from external providers.

## **2.8 POWER SUPPLY**

Power will be supplied to the site at 33kV transformed down to 11kV on the site for distribution. 11kV power will be distributed around the site on overhead powerlines, buried conductors and on above ground cable ladder. 11kV will be transformed down to 415 by pole or ground mounted transformers located close to the electrical loads. 415/240 Volt AC and lower voltages will be distributed around the site on above ground cable ladder, buried conductors and overhead power lines.

## **2.9 STAFFING AND ACCOMMODATION**

Construction of the main infrastructure components of the Project is due to take place in 2009 and 2010, as approved under the existing Cameby Downs Coal Mine Project. The construction workforce for this work is estimated at 100 personnel.



The Cameby Downs Coal Mine is forecast to have an operational workforce of 100 personnel. Operation of the Cameby Downs Expansion Project is proposed to achieve peak coal production by 2013, by which time the mine will employ a total workforce of approximately 600 persons and operate 24 hours per day, 7 days per week. This represents a net increase of 500 positions for the proposed expanded operation. Employees will work in 12 hours shifts consisting of approximately 150 persons per shift.

It is expected that the Project workforce will live locally, including in the townships of Miles and Chinchilla. The Project's operational workforce will, in the majority be transported by bus from both Miles and Chinchilla. The exception will be managerial personnel, who are expected to travel to site daily by car.

## **2.10 REHABILITATION**

### **2.10.1 Exploration**

Exploration disturbances will be rehabilitated as per the following steps:

- Capping drill holes;
- A drying out period to allow water to evaporate from the drilling muds in the sumps;
- Backfilling of drilling sumps;
- Scarifying the surface; and
- Should natural regeneration not be successful after the first year, seed from suitable pasture species will be sown before the following wet season to enhance revegetation.

### **2.10.2 Out-of-pit Spoil Dumps**

The final rehabilitation plan for overburden dumps will be detailed in the Environmental Impact Statement (EIS) and Environmental Management Plan (EM Plan). Conceptual planning has assumed the final slope of the overburden dump face to be approximately 1V:3.5H depending on the competency of the waste material. Where necessary, berms will be constructed on the outer faces and graded to slope back towards the dump to act as a water control structure for any stormwater flowing from the spoil above.

The slopes and top of the dumps will be topsoiled and deep ripped to bind in the material. Revegetation will use species suitable for the final land use.

### **2.10.3 Final Voids**

The final voids after spoil re-contouring of the excavation will be protected by constructing an exclusion bund wall around the perimeter from competent rock and/or by fencing, depending on the parameters of the final void.

The exclusion bund wall will be constructed as described in *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland*. This guideline states that the bund wall should be of a minimum height of 2 m, with a minimum base width of 4 m and be located at least 10 m beyond the area potentially affected by any instability of the pit edge.

Where water quality within the void is suitable for stock, a safe access to the water may be provided, or the water will be pumped to a stock watering point. Consultation with the land holder will be undertaken to determine the best means of pumping or access. Where water in voids is not suitable for stock then the voids will be bunded or fenced to prevent stock access.

#### **2.10.4 CHPP and Infrastructure**

The CHPP and associated buildings and equipment will be dismantled and removed upon the cessation of mining operations or, by agreement, left for the land holder.

#### **2.10.5 Rejects Dam**

The Rejects dams will be rehabilitated by covering with a 0.5m layer of rock, followed by 0.5m of non-sodic clay. The rock layer will act as a capillary break to prevent salts from being drawn from the tailings material. The clay layer will be shaped such that it sheds water to the exterior of the rehabilitated dam, rather than allowing water to pool and potentially compromise the effectiveness of the clay. Topsoil will be spread on the surface and seeded with species appropriate for its final land use of low intensity grazing.

#### **2.10.6 Access Roads**

Access roads required for pastoral activities will not be rehabilitated. Roads that are to be rehabilitated will be deep ripped and where appropriate seeded with a mix of species suitable for the intended land use.

#### **2.10.7 Revegetation Methods**

Surface preparation before revegetation will include surface contouring, ripping and topsoil spreading. Surface contouring will occur to minimise soil erosion. Contour ripping to a depth of 200-500 mm will then take place by dragging tynes behind a bulldozer to break up the compacted soils after mining activities. Topsoil will be stockpiled for use in rehabilitation as it contains organic material and local seed banks. Preserved topsoil will be spread to a thickness similar to the original topsoil or an average of 0.2 m (where possible).

After appropriate surface preparation has occurred as outlined above, disturbed land will be revegetated as follows:

- Spread fertiliser and/or other ameliorates, such as gypsum at an appropriate rate, if required;
- Native species occurring naturally in the local area will be chosen for areas requiring the re-establishment of local native habitat;
- Where an agricultural land use is planned, the species planted will be those commonly used for pasture known to be successful on soils of similar texture; and
- Where practicable, revegetation will occur through direct seeding of selected species. Where direct seeding is not possible (e.g. small areas with limited access), seeds will be manually broadcast.

## 2.11 ENVIRONMENTALLY RELEVANT ACTIVITIES

Table 2 describes the activities proposed to be conducted on the Project, which would otherwise be Environmentally Relevant Activities (ERAs) as per Schedule 2 of the *Environmental Protection Regulation 2008* if the Project was not a mining project.

The process of coal mining is not covered by an ERA in Schedule 2 of the Regulation. It is covered separately by Schedule 6, of the *Environmental Protection Regulation 2008*. The relevant annual fee for the Project is calculated from the Aggregate Environmental Score in Table 3.

**Table 2: ERAs Associated with the Project**

Environmentally Relevant Activity	Threshold	Aggregate Environmental Score
Chemical Storage	Storing >50t of chemicals of dangerous goods class 1 or 2	51
Fuel burning	Fuel burning >500kg/hr	35
Abrasive blasting	Itinerant activity	16
Boilermaking or Engineering	Boilermaking, assembling, building or manufacturing metal product: 200-10,000 tpa	No score
Waste Disposal	Waste disposal facility (regulated and general waste) <50,000 tpa	50
Sewage Treatment Plant	Treatment Plant for 100-1500 Equivalent Persons	53

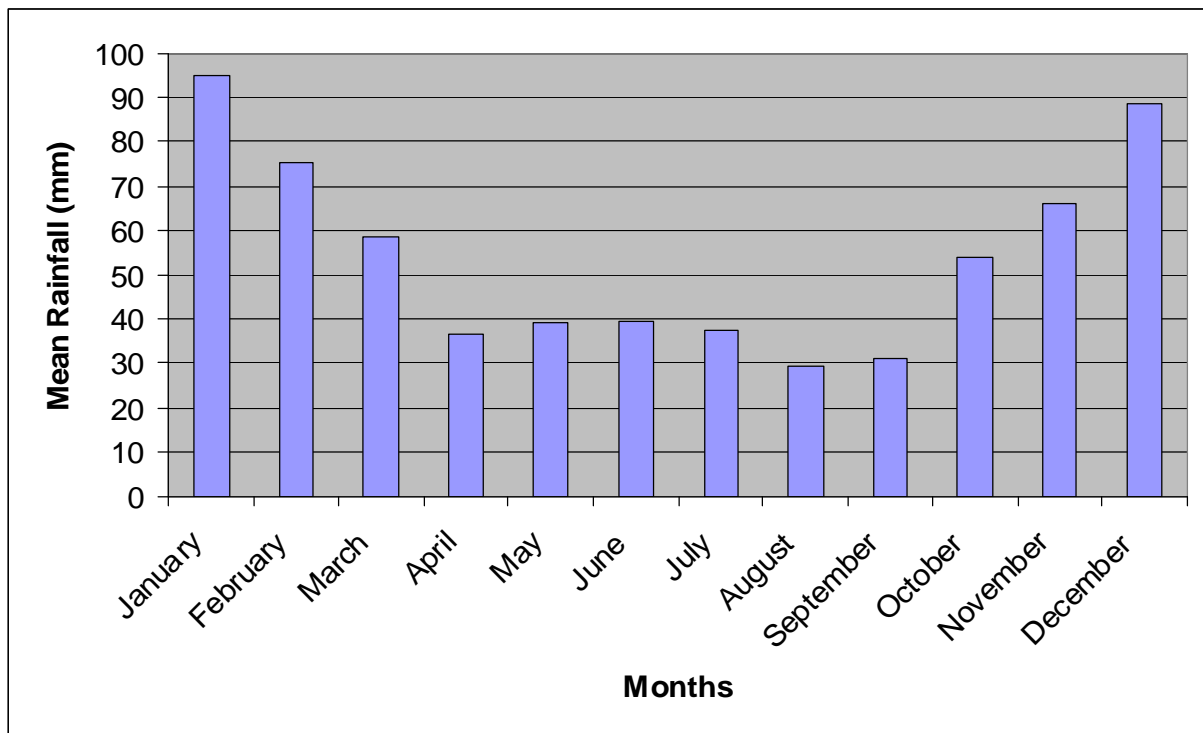
**Table 3: Mining Projects and their Aggregate Environmental Score**

Item (Mining Activity)	Activity	Aggregate Environmental Score
Level 1 Mining Project	5. Mining Black Coal	128

### 3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

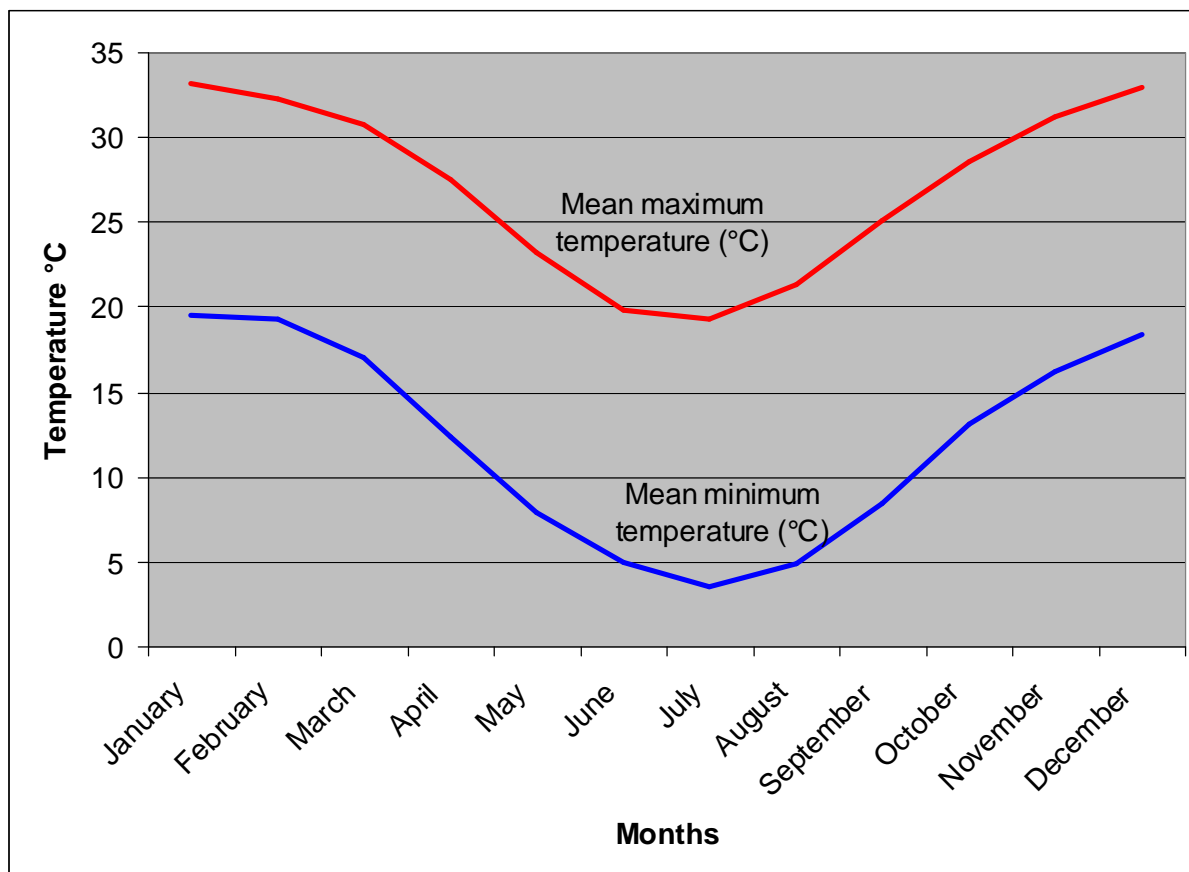
#### 3.1 REGIONAL CLIMATE

Information from the Bureau of Meteorology ([www.bom.gov.au](http://www.bom.gov.au)) indicates that the average annual rainfall for the region (based on data for the Miles weather station) is approximately 650 mm. Rainfall is typically seasonal, with the highest average rainfall occurring in January and the lowest level in August. Figure 5 depicts the average annual rainfall of the region.



**Figure 5: Mean Monthly Rainfall at Miles Weather Station**

Figure 6 shows January to be the hottest month and July to be the coldest month in the Project region.



**Figure 6: Mean Maximum and Minimum Temperatures at Miles Weather Station**

### 3.2 CURRENT LAND USE

Low intensity cattle grazing is the dominant land use on the Project site. Associated infrastructure on the site includes cattle yards, windmills, dams and water storage tanks.

### 3.3 GEOLOGY AND TOPOGRAPHY

The terrain within the general vicinity of the Project site comprises low sandstone hills and rises in the northern part with mainly gently undulating and gently inclined plains. Overall slopes (mostly <1-2%) and drainage lines trend in a south to south-easterly direction towards Dogwood Creek and the Condamine River.

The general area is underlain by sedimentary rocks, mainly sandstone, siltstone, mudstone and shale, that were subject to deep weathering and erosion processes during Tertiary times (2-65 million years ago) to form a gently undulating Tertiary landscape. Areas of softer rocks (mudstone, shale, siltstone) were subsequently eroded to form gently undulating inclined residual and depositional clay plains, leaving the harder (quartzose sandstone) rocks as low hills and rises. Continuing erosion associated with sheet flooding has resulted in a thick depositional cover over parts of the lower clay plains, with infilling of the shallow valley floors and the establishment of the present drainage system.

Ongoing and intensive weathering during more recent times has given rise to the development of texture contrast (duplex) soils on the residual and depositional plains and residual low hills and rises.

Another feature of the general area is the occurrence of areas of near flat brigalow plains, small areas of which occur within the Project site.

### **3.4 SURFACE WATER RESOURCES**

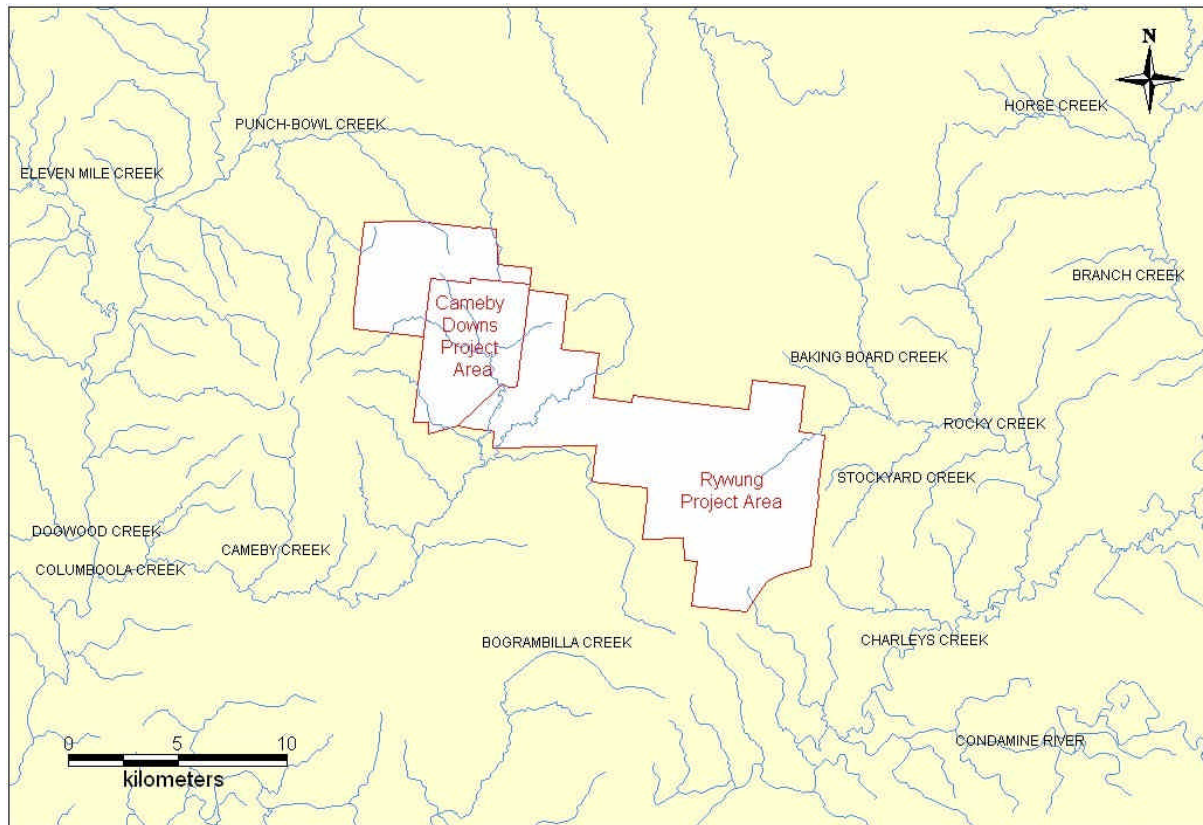
The Project site is located within the Condamine and Balonne River Basin which flows into the Murray Darling system.

The Cameby Downs Expansion Project area encompasses numerous narrow, ephemeral, drainage lines most of which form the upper most tributaries of Columboola Creek. Columboola Creek flows into Dogwood Creek approximately 25 km south-west of the site, which ultimately flows into the Condamine River approximately 75 km further to the south-west. Three small drainage lines flow off the northern boundary of the site. These waterways form tributaries of Punch-Bowl Creek which also flows into Dogwood Creek approximately 10 km downstream of the site.

Two small drainage lines flow off the Rywung project area. One of these waterways flows south directly into the Condamine River approximately 8 km downstream and the other empties into Rocky Creek, which joins Charleys Creek and eventually flows into the Condamine River about 30 km downstream of the project area.

The flow of ephemeral waterways within, and surrounding the Project, is restricted to heavy rainfall events, which typically occur between November and February. Due to their ephemeral nature, the use of watercourses within the vicinity of the Project is generally limited to stock watering, when water is available. Figure 7 illustrates the regional waterways of the Project site.

During the life of the Project various creek diversions, both permanent and temporary, will be required. These will be designed and managed using current best practice techniques, and described in the Project EIS.



**Figure 7: Regional Waterways of the Project Site**

### 3.5 GROUNDWATER

Groundwater has been encountered in the majority of exploration holes drilled to date. Groundwater studies have commenced to determine potential impacts of the Project, and the groundwater's suitability for use as process water.

Three aquifer systems are present within the Project area, which are:

1. Sedimentary aquifers of the Great Artesian Basin;
2. Coal seam aquifers of the Juandah Coal Measures; and
3. Unconsolidated alluvial sediments.

In terms of the hydrogeological impact assessment, the primary focus is the coal seam aquifers. At the scale of proposed mining, the Great Artesian Basin aquifers are considered to be of sufficient depth not to be impacted. Similarly, the extensive alluvial sediments shown on the regional geological map to dominate the Project area are shallow or non-existent on the Project area, and as such the potential impact from the Project is considered to be extremely low.

### 3.6 NATURE CONSERVATION

To gain an understanding of the potential occurrence of important flora and fauna species within and adjacent to the Project, searches were undertaken of the Wildlife Online Database (QEPA 2007a), Regional Ecosystem Description Database (REDD) (QEPA 2007b) and the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters database (2007). These searches are described as follows and discussed in the subsequent sections of this report:

- Wildlife Online Database (2007) – This database is administered by the DERM and is derived from sources such as specimen collections, research and monitoring programs, literature records and wildlife permit returns;
- REDD – This database is administered by DERM and is a compilation of the information presented in Sattler and Williams (1999) and mapped by the Queensland Herbarium. It lists the status of regional ecosystems as gazetted under the *Vegetation Management Act 1999* (VM Act) and the Biodiversity Status as recognised by DERM; and
- EPBC Act Protected Matters Search Tool (2007) – This database is administered by Department of Environment Heritage, Water and the Arts. It generates a record of EPBC Act listed species that are predicted to occur in a given search area.

#### 3.6.1 Flora

Table 4 lists Regional Ecosystems (RE) mapped by the Queensland Herbarium within the Project area and their status under the VM Act and DERM's Biodiversity Status.

**Table 4: Regional Ecosystems Identified in the Project Area**

Regional Ecosystem ID	Description	VMA Status	DERM Biodiversity Status
11.3.1	<i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> open forest on alluvial plains	Endangered	Endangered
11.3.2	<i>Eucalyptus populnea</i> woodland on alluvial plains	Of Concern	Of Concern
11.3.4	<i>Eucalyptus tereticornis</i> and/or <i>Eucalyptus</i> spp. tall woodland on alluvial plains	Of Concern	Of Concern
11.3.25	<i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines	Not of Concern	Of Concern – Threatening processes other than clearing
11.4.3	<i>Acacia harpophylla</i> and/or <i>Casuarina cristata</i> shrubby open forest on Cainozoic clay plains	Endangered	Endangered
11.5.1	<i>Eucalyptus crebra</i> , <i>Callitris glaucophylla</i> , <i>Angophora leiocarpa</i> , <i>Allocasuarina luehmannii</i> woodland on Cainozoic sand plains/remnant surfaces	Not of Concern	Not of Concern
11.5.1a	<i>Eucalyptus populnea</i> woodland with <i>Allocasuarina</i>	Not of	Not of



Regional Ecosystem ID	Description	VMA Status	DERM Biodiversity Status
	<i>luehmannii</i> low tree layer.	Concern	Concern
11.7.2	<i>Acacia</i> spp. woodland on lateritic duricrust. Scarp retreat zone	Not of Concern	Not of Concern
11.7.4	<i>Eucalyptus decorticans</i> and/or <i>Eucalyptus</i> spp., <i>Corymbia</i> spp., <i>Acacia</i> spp., <i>Lysicarpus angustifolius</i> on lateritic duricrust	Not of Concern	Not of Concern
11.7.5	Shrubland on natural scalds on deeply weathered coarse-grained sedimentary rocks	Not of Concern	Not of Concern
11.7.7	<i>Eucalyptus fibrosa</i> subsp. <i>nubila</i> ± <i>Corymbia</i> spp. ± <i>Eucalyptus</i> spp. on lateritic duricrust	Not of Concern	Not of Concern

Table 5 presents a summary of flora species listed under either the EPBC Act or the *Nature Conservation (Wildlife) Regulation 2006* (NCWR) that may occur in the Project region.

**Table 5: Flora Species of Conservation Significance that May Occur in the Project Area**

Botanical Name	Common Name	Listing
<i>Acacia chinchillensis</i>		EPBC – V NCWR - V
<i>Acacia handonis</i>	Hando's Wattle	EPBC - V
<i>Acacia wardellii</i>		EPBC - V
<i>Cadellia pentastylis</i>	Ooline	EPBC – V
<i>Denhamia parvifolia</i>		EPBC – V NCWR - V
<i>Digitaria porrecta</i>	Finger Panic Grass	EPBC - E
<i>Diuris sheaffiana</i>	Tricolour Diuris	EPBC – V
<i>Homopholis belsonii</i>		EPBC – V
<i>Pterostylis cobarensis</i>	Cobar Greenhood Orchid	EPBC – V
<i>Westringia parvifolia</i>		EPBC – V
<i>Gonocarpus urceolatus</i>		NCWR - V
<i>Acacia tenuinervis</i>		NCWR - R
<i>Aponogeton queenslandicus</i>		NCWR - R
<i>Eleocharis blakeana</i>		NCWR - R
<i>Fimbristylis vagans</i>		NCWR - R

**KEY:**

EPBC – V Listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*  
 NCWR – R Listed as Rare under the *Nature Conservation (Wildlife) Regulation 2006*  
 NCWR – V Listed as Vulnerable under the *Nature Conservation (Wildlife) Regulation 2006*

Species and communities of conservation significance, identified in database searches, will be targeted during the baseline flora and fauna surveys to be undertaken on the Project site. A technical

report will be produced to identify flora conservation values and provide mitigation strategies to minimise impact of the Project.

### 3.6.2 Fauna

Table 6 presents a summary of fauna species of conservation significance, listed under either the EPBC Act or NCWR that may occur in the Project region.

**Table 6: Fauna Species of Conservation Significance that May Occur in the Project Area**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Listing</b>
<b>Mammals</b>		
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat	V – EPBC
<i>Nyctophilus timoriensis</i> (South-eastern form)	Eastern Long-eared Bat	V – EPBC
<i>Chalinolobus picatus</i>	Little Pied Bat	R – NCWR
<b>Amphibians</b>		
<i>Cyclorana verrucosa</i>	Rough Collared Frog	R - NCWR
<b>Ray-finned Fishes</b>		
<i>Maccullochella peelii peelii</i>	Murray Cod, Cod, Goodoo	V – EPBC
<b>Reptiles</b>		
<i>Anomalopus mackayi</i>	Five-clawed Worm-skink, Long-legged Worm-skink	V – EPBC
<i>Egernia rugosa</i>	Yakka Skink	V – EPBC; V – NCWR
<i>Furina dunmalli</i>	Dumall's Snake	V – EPBC
<i>Paradelma orientalis</i>	Brigalow Scaly-foot	V – EPBC
<i>Hemiaspis damelii</i>	Grey Snake	E - NCWR
<i>Strophurus taenicauda</i>	Golden-tailed Gecko	R - NCWR
<b>Birds</b>		
<i>Erythrotriorchis radiatus</i>	Red Goshawk	V – EPBC
<i>Geophaps scripta scripta</i>	Squatter Pigeon (Southern)	V – EPBC
<i>Lathamus discolor</i>	Swift Parrot	E – EPBC; Overfly – EPBC

Scientific Name	Common Name	Listing
<i>Neochmia ruficauda ruficauda</i>	Star Finch (Eastern), Star Finch (Southern)	E – EPBC
<i>Rostratula australis</i>	Australian Painted Snipe	V – EPBC
<i>Turnix melanogaster</i>	Black-breasted Button-quail	V – EPBC
<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle	Migratory – EPBC; Marine - EPBC
<i>Hirundapus caudacutus</i>	White-throated Needletail	Migratory – EPBC; Overfly – EPBC
<i>Merops ornatus</i>	Rainbow Bee-eater	Migratory – EPBC; Overfly – EPBC
<i>Ardea alba</i>	Great Egret, White Egret	Migratory – EPBC; Overfly – EPBC
<i>Ardea ibis</i>	Cattle Egret	Migratory – EPBC; Overfly – EPBC
<i>Anseranas semipalmata</i>	Magpie Goose	Overfly – EPBC
<i>Apus pacificus</i>	Fork-tailed Swift	Overfly – EPBC
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe	Overfly – EPBC
<i>Nettapus coromandelianus albigennis</i>	Australian Cotton Pygmy-goose	Overfly – EPBC
<i>Rostratula benghalensis s. lat</i>	Painted Snipe	Overfly – EPBC
<i>Haliaeetus leucogaster</i>	White Bellied Sea Eagle	Overfly - EPBC
<i>Accipiter novaehollandiae</i>	Grey Goshawk	R – NCWR
<i>Lophoictinia isura</i>	Square Tailed Kite	R - NCWR
<i>Calyptorhynchus lathamii</i>	Glossy Black Cockatoo	V – NCWR
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	R – NCWR
<i>Grantiella picta</i>	Painted Honeyeater	R - NCWR
<i>Anthochaera phrygia</i>	Regent Honeyeater	E – NCWR E - EPBC
<i>Psephotus pulcherrimus</i>	Paradise Parrot	PE – NCWR Ex - EPBC

**KEY:**

E - EPBC	Listed as Endangered under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
V - EPBC	Listed as Vulnerable under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
Migratory - EPBC	Listed as Migratory under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
Marine – EPBC	Listed as a Listed Marine Species under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
Overfly – EPBC	Listed as a Listed Overfly Marine Area Species under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
Ex – EPBC	Listed as Extinct under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
E - NCWR	Listed as Endangered under the <i>Nature Conservation and (Wildlife) Regulation 2006</i>
V - NCWR	Listed as Vulnerable under the <i>Nature Conservation and (Wildlife) Regulation 2006</i>
R - NCWR	Listed as Rare under the <i>Nature Conservation and (Wildlife) Regulation 2006</i>
PE – NCWR	Listed as Presumed Extinct under the <i>Nature Conservation and (Wildlife) Regulation 2006</i>

These species will be targeted during the baseline flora and fauna surveys to be undertaken on the Project site. A technical report will be produced to identify fauna conservation values and provide mitigation strategies to minimise impact of the Project.

### **3.6.3 EPBC Act Referral**

The Project has been designated a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and requires approval from the Federal Minister for the Environment, Heritage and the Arts. The controlling provisions for the Project are Listed Threatened Species and Communities. The State's EIS process has been accredited for the assessment under Part 8 of the EPBC Act in accordance with the Bilateral Agreement between the Commonwealth of Australia and the State of Queensland.

## **3.7 NOISE AND AIR QUALITY**

Noise studies will include the deployment of background environmental noise loggers to obtain noise levels representative of the region under typical circumstances. Noise levels from the Project, and the potential impact on sensitive receivers, will be predicted based on the proposed mine plan. Modelling will be undertaken to assess the impact of noise and vibration on the sensitive receivers identified.

Dust from disturbed areas and haul roads are expected to be the primary air quality issues for the Project. Dust deposition gauges will be installed on the Project site to collect background levels representative of the region under typical circumstances. Air quality modelling will be undertaken to predict the impact of dust levels and emissions on sensitive receivers during Project operations.

## **3.8 INDIGENOUS CULTURAL HERITAGE**

Indigenous Cultural Heritage Surveys have commenced for the Project site in consultation with the relevant Native Title Group. A number of Indigenous cultural heritage sites have been identified. The vast majority of these sites are classified as open artefact scatters or isolated artefacts and scar trees.

All activities will be undertaken with due consideration of the Duty of Care Guidelines prescribed under the *Aboriginal Cultural Heritage Act 2003*. A Cultural Heritage Management Plan (CHMP) is proposed for development for the Project.

The majority of the Project site is free-hold land. Native Title is extinguished over this area.

## **3.9 EUROPEAN CULTURAL HERITAGE**

No Queensland Heritage Registered Places, listed in the *Environmental Protection Regulation 1998* as a Category B Environmentally Sensitive Area (ESA), are identified on any of the Cameby Downs Expansion Project tenements.

## 4.0 COMMUNITY CONSULTATION AND SOCIAL IMPACTS

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The closest towns to the Project include Miles (approximately 15km west) and Chinchilla (approximately 30km east). Both are small communities (populations estimated at 1,500 and 3,700 respectively). The relevant local government areas designated in the 2006 Census were Murilla and Chinchilla, with a combined population of 8631 people. The regional centres of Dalby and Roma have greater populations of 9778 and 6506 people respectively.

The main industries of employment in the local area are agriculture, forestry and fishing, retail trade, construction and healthcare and social assistance (ABS 2006). Approximately a quarter of the working population are involved in the agriculture, forest and fishing industries. The regional centres of Dalby and Roma have a greater percentage of the population involved in the retail trade, healthcare and social assistance, manufacturing and public administration and safety industry sectors.

Social impacts of the project will be investigated as part of the EIS. Whilst the Project will provide employment opportunities and economic benefits for the local towns and nearby regional centres, it is also likely that there will be some migration to the area. An assessment of the expected population increase, along with potential impacts such as demand for housing and other services, will be addressed.

### 4.1 CONSULTATION PROCESS

Affected and interested persons will be included in the community consultation program for the Project and will be provided with a copy of the Terms of Reference (TOR) Notice and EIS Notice for public comment. The community consultation program will include meetings with affected and interested persons as required. All correspondence with interested and affected persons will be recorded in the Consultation Register as a part of the EIS.

The draft TOR will be released for public comment, and to interested and affected persons, and advisory bodies for at least 30 business days. Anyone can make comments on the draft TOR to the DERM. At the end of the comment period, copies of all comments received by the DERM will be given to the proponent. Syntech will then prepare the following:

- A written summary of the comments;
- A response to the comments; and
- Proposed amendments to the TOR as a result of the comments received.

The DERM will issue the final TOR.

Syntech will then undertake the necessary assessments, research and consultations to prepare the EIS. On completion, an EIS Notice will be given to each affected and interested person. The submission period for public comment will be set by the DERM and must be at least 20 business days. Copies of the EIS will be made available to all interested and affected persons and Advisory Bodies. The DERM will accept all properly-made submissions received during the submission period. Syntech will then prepare a response to the submissions and make any necessary amendments to the submitted EIS.

The DERM will prepare and give an EIS Assessment Report to Syntech. This Assessment Report will consider the final TOR, the submitted EIS, all properly made submissions, Syntech responses to submissions and the standard criteria in preparing the EIS Assessment Report. The Assessment Report will, among other things, recommend any relevant conditions that will be necessary for the Project to proceed.

## 5.0 REFERENCES

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Department of Environment, Heritage, Water and the Arts (2007) *EPBC Protected Matters Search Tool*

QEPA (2003) *Guideline 12 – The EIS Process for Non-standard Mining Projects*. Environmental Protection Agency Queensland.

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Sattler and Williams eds. (1999) *The Conservation Status of Queensland's Bioregional Ecosystems*. Queensland Environmental Protection Agency. Brisbane.