Newlands Coal Extension Project

Initial Advice Statement

KBR

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Prepared for

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Limitations Statement

The sole purpose of this report and the associated services performed by Kellogg Brown & Root Pty Ltd (KBR) is to prepare an Initial Advice Statement in accordance with the scope of services set out in the contract between KBR and Xstrata Coal Queensland ('the Client').

KBR derived the data in this report primarily from preliminary site inspections, examination of records in the public domain, discussions with individuals with information about the site and previous studies commissioned by Newlands Coal. The passage of time, manifestation of latent conditions or impacts of future events may require further exploration at the site and subsequent data analysis, and re-evaluation of the findings, observations and conclusions expressed in this report.

In preparing this report, KBR has relied upon and presumed accurate certain information (or absence thereof) relative to the site provided by government officials and authorities, the Client and others identified herein. Except as otherwise stated in the report, KBR has not attempted to verify the accuracy or completeness of any such information.

Quality Information

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1.0 Introduction

The existing Newlands Coal Mine is located approximately 140 km west of Mackay in the Northern Bowen Basin. The Newlands Coal Project currently consists of open cut and underground mining operations at Newlands (including the Eastern Creek mine), Suttor Creek and Wollombi No. 1 and No.2 areas. Newlands mine has a current production rate of 15 million run of mine (ROM) tonnes per annum of steaming and coking coal. This equates to approximately 10.5 million tonnes of product coal per annum which is exported through the Abbot Point Coal Terminal.

The Newlands Collinsville Abbott Point (NCA) Joint Venture is seeking to extend both open cut and underground mining operations at Newlands, comprising extensions to the existing Eastern Creek open cut mine and Northern Underground mine. The proposed extended operations are known as the Newlands Coal Extension Project.

No increase in current production rates is proposed from the total Newlands operations. Mining will extend into the new lease areas following completion or in conjunction with mining operations in the existing lease areas. Both projects will use the same workforce and equipment as are currently used for the existing operations.

This Initial Advice Statement (IAS) addresses the nature of the Newlands Coal Extension Project and the potential environmental issues associated with the extended mining operations.

1.1 The Proponent

Newlands Coal Pty Ltd operates the Newlands coal mine which is part of the NCA Project. The NCA Project comprises open cut and underground mining operations at Newlands mine, the Collinsville open cut mines and the Abbot Point Bulk Coal Terminal.

The NCA Project is an unincorporated Joint Venture (JV) between Xstrata Coal Queensland (55%), Itochu Coal Resources Australia Pty Ltd (25%), ICRA NCA Pty Ltd (10%) and Sumisho Coal Australia Pty Ltd (10%). The operations of the NCA Joint Venture are managed by Xstrata Coal Queensland on behalf of the Joint Venture.

Xstrata Coal Queensland has its headquarters in Brisbane and is a wholly owned subsidiary of Xstrata Coal Ltd. Xstrata Coal Ltd is recognised as the world's largest exporter of thermal coal. Xstrata Coal Ltd is a wholly owned subsidiary of Xstrata plc which is a major diversified global mining group based in Zug, Switzerland.

1.2 Project Assessment

Applications for mining leases over the land within the proposed lease areas were lodged with the Department of Mines and Energy on 17 May 2010 (MLA10352) and on 8 April 2011 (MLA10361/10362). The mining lease applications were accompanied by applications to amend the existing Environmental Authority (EA) for the Newlands Coal Project to cover the extended mining activities. The Department of Environment and Resource Management (DERM) have advised that the project will be assessed through the development of an environmental impact statement (EIS) under Chapter 3 of the *Environmental Protection Act 1994*.

The Newlands Coal Extension Project has been referred to the Department of Sustainability, Environment, Water, Population and Communities (SEWPAC). SEWPAC has determined that the project is a controlled action requiring assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Xstrata Coal is seeking to prepare a single EIS which satisfies the requirements of both jurisdictions under the Bilateral Agreement between the Queensland and Federal Governments regarding environmental assessment of controlled actions.

The EIS will assess the impacts of the proposed Newlands Coal Extension Project only, as existing activities have previously been assessed and are authorised.

1.2.1 Purpose of the Initial Advice Statement

This Initial Advice Statement (IAS) has been prepared to support the mining lease applications over the land described in Section 2 of this report. The IAS also provides an overview of the potential impacts of the Newlands Coal Extension Project which require investigation through the development of the EIS.

2.0 Project description

2.1 Project site and current operations

Newlands mine is located approximately 140 km west of Mackay in the Northern Bowen Basin, approximately 32 km northwest of the town of Glenden (see Figure 2.1). The original Newlands mine was developed around the main deposit area in 1983 with satellite deposits being subsequently developed at Eastern Creek, Suttor Creek and Wollombi.

The principal seam mined is the Upper Newlands seam. Current open cut operations at Newlands are focussed around Eastern Creek (ML4755), Suttor Creek and Wollombi (ML4761) with all open cut coal hauled by truck to the main deposit area for processing at the coal handling and processing plant (CHPP).

The Newlands mine also includes underground mining comprising the Northern Underground (NUG) from which coal is extracted using longwall mining methods (ML4748, ML4774, ML10316, ML10317 and ML10322). Coal from the NUG is transferred by conveyor to the CHPP ROM stockpile area.

Extension of the existing Eastern Creek and Northern Underground operations into adjacent areas is now necessary to maintain overall coal qualities and volumes at Newlands Coal. The Newlands Coal Extension Project is proposed to extend the existing life of the Newlands coal mine. No overall increase in current production rates is proposed for the Newlands coal mine.

The location of Newlands mine is shown in Figure 2.1. The existing and proposed mining leases comprising the Newlands main deposit and Eastern Creek are shown in Figure 2.2. Tenements at the Newlands mine also incorporate the Newlands Nature Refuge which was established over part of Lot 4 on DK264 in 2007.

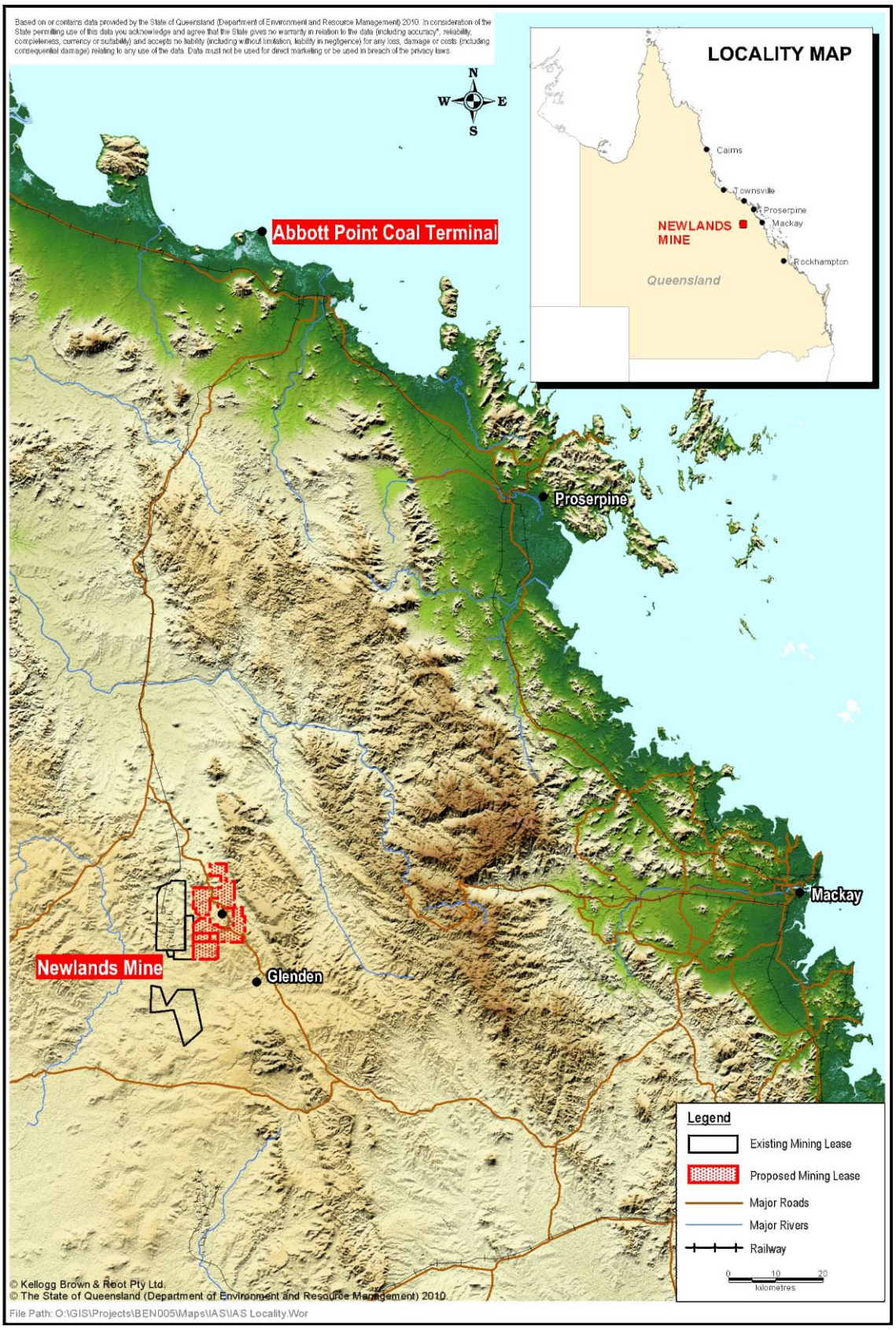

Figure 2.1
REGIONAL LOCATION

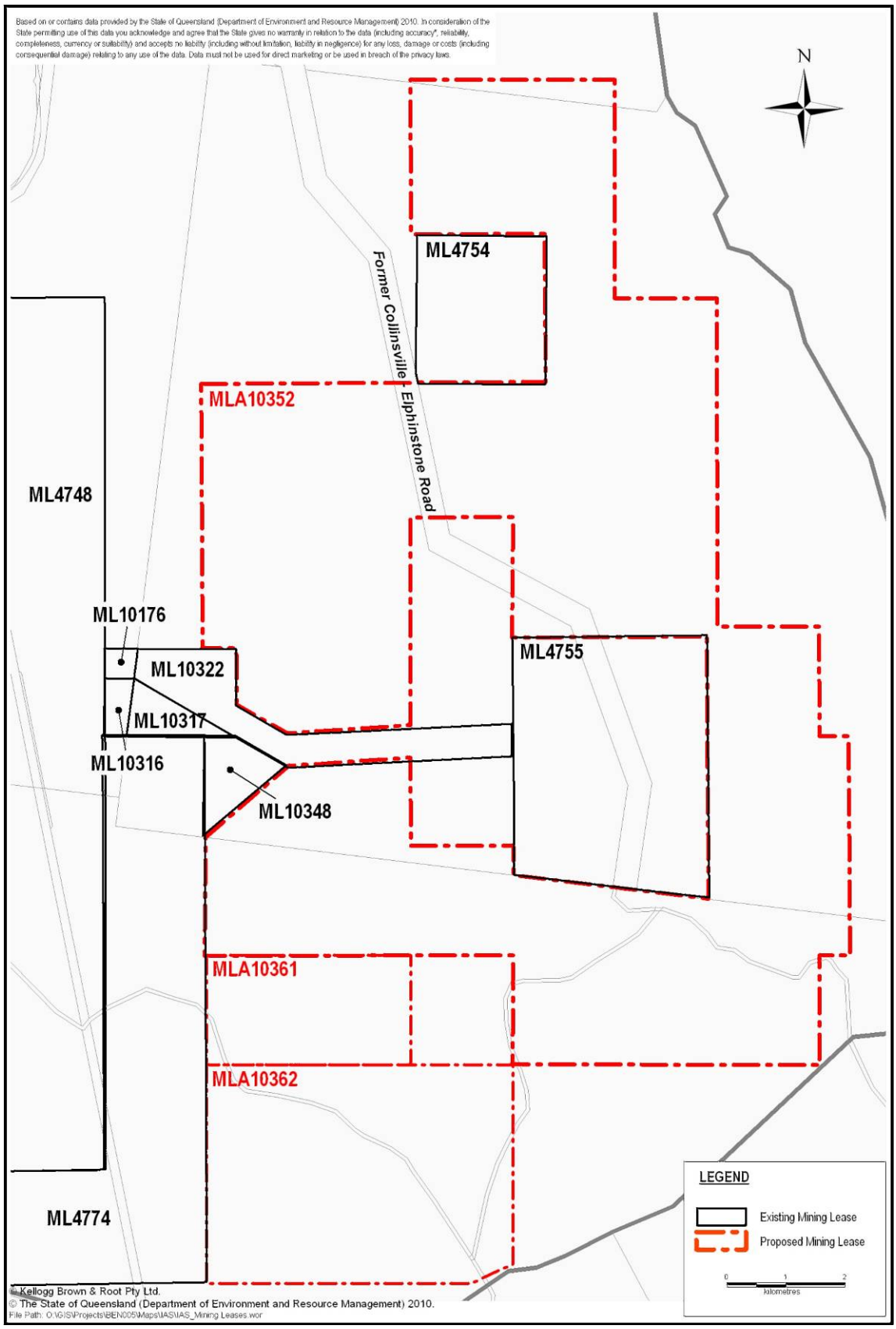

Figure 2.2
EXISTING AND PROPOSED MINING LEASES

2.2 Project details

Total production for the Newlands Coal Extension Project is anticipated to reach a peak of 11 million run of mine (ROM) tonnes per annum. This section summarises the details of the proposed mining leases and extended open cut and underground operations. Table 2.1 summarises the area subject to the proposed mining leases.

Table 2.1 Proposed mining leases

MLA	Area (ha)
MLA10352	9250
MLA10361	639
MLA10362	1903

2.2.1 Open cut mining operations

The proposed open cut operations will extend the existing Eastern Creek open cut mine on ML4755. Open cut mining areas are located entirely on MLA10352 and will extend into the new lease area as coal reserves are depleted at the existing Eastern Creek mine. Open cut mining activities on MLA10352 are anticipated to commence in 2016. The production rate will increase over time to a peak of approximately 5 million tonnes per annum of ROM coal.

Open cut mining will be carried out using existing draglines and large scale truck and shovel equipment. This will involve the clearing of vegetation, topsoil removal, overburden removal and placement in waste dumps, coal extraction and final rehabilitation of disturbed areas.

Infrastructure requirements for the extended open cut operations include:

- minor infrastructure to support mining operations
- ROM stockpile areas
- haul roads for ROM coal transport to the existing CHPP
- power supply from the existing 66 kV reticulation system
- a water management system to handle groundwater inflows and surface water.

All coal mined from the extended open cut operations will be hauled for processing at the existing CHPP in the Newlands main deposit area. There will be no coal preparation, tailings or coal reject facilities located on the proposed mining leases. A summary of key project details for the proposed open cut extensions is provided in Table 2.1. The proposed concept layout for the extended mine is shown on Figure 2.3.

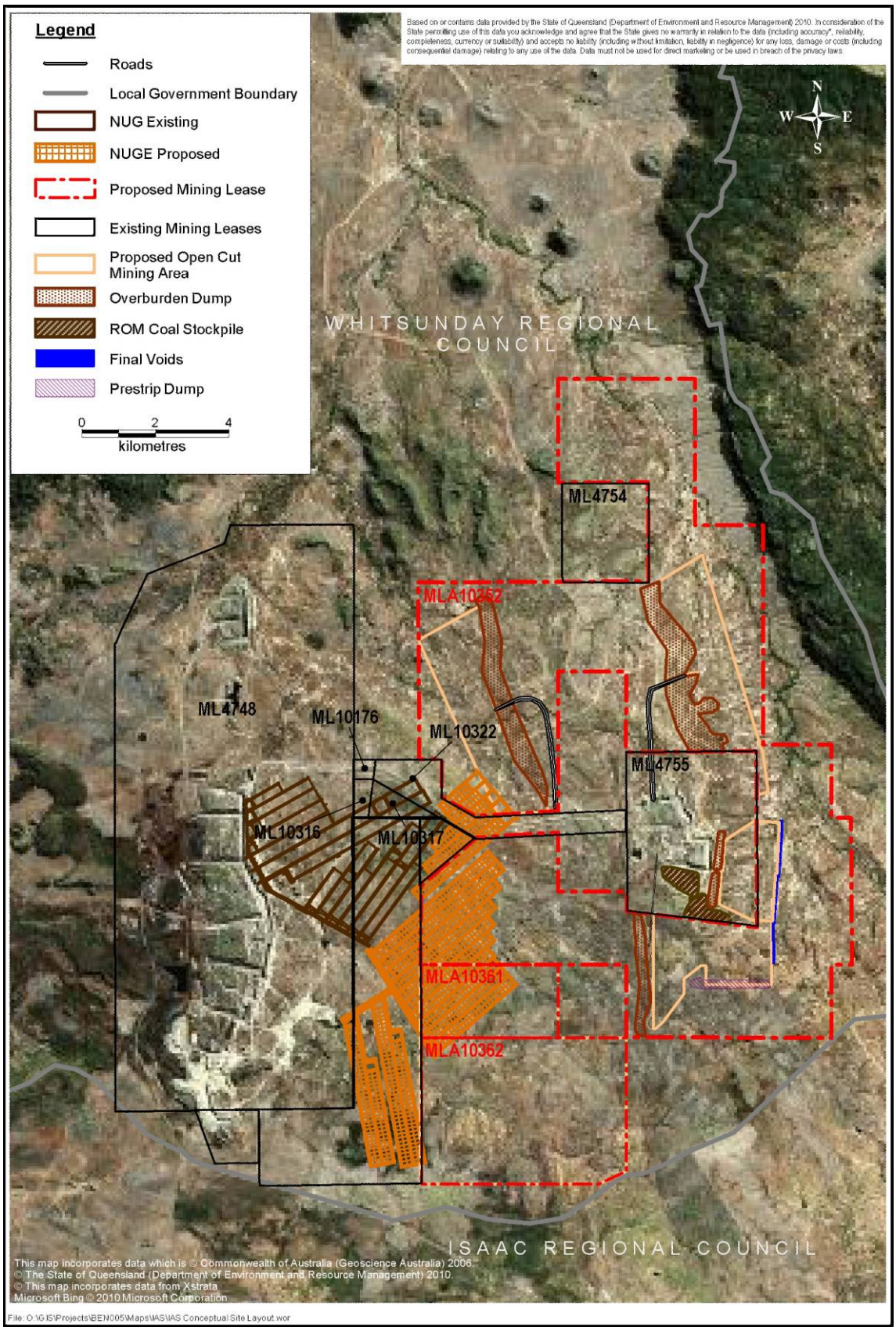

Figure 2.3
CONCEPTUAL SITE LAYOUT

Table 2.2 Project details–open cut

Category	Details
Proposed mining lease	MLA10352
Target coal seam	Upper Newlands Seam or equivalent
Total disturbance area (open cut)	3113 ha
Mine life	2016–2038
Production	5 million ROM tonnes per annum
Equipment	Electric dragline; hydraulic electric shovels; excavators; mobile fleet equipment

2.2.2 Underground mining operations

The proposed underground mining operations will extend the existing Northern Underground mine on ML4748, ML4774, ML10316, ML10317, ML10322 and ML10348. The extended underground mining operations will be carried out partly on existing mining leases, partly on MLA10352, partly on MLA10361 and partly on MLA10362. It is anticipated that the extended underground mine will commence operation in 2013 and will have a production rate of up to 6 million tonnes per annum of ROM coal.

Access to the extended underground mine will be gained by connecting it to the existing entry for the current Northern Underground mine. Mined coal will be transferred by conveyor to the existing ROM stockpile and on to the CHPP for processing as per current arrangements. There will be no coal preparation, tailings or reject facilities located at the proposed lease areas.

Table 2.3 Project details–Northern Underground Extended

Category	Details
Proposed mining leases	MLA10352, MLA10361, MLA10362
Target coal seam	Upper Newlands Seam or equivalent
Disturbance area (subsidence)	961 ha
Mine life	2013–2026
Production	6 million ROM tonnes per annum
Equipment	DBT longwall mining system

2.3 Rejects and tailings management

All coal produced by the Newlands Coal Project is processed at the Newlands CHPP. ROM coal is fed to the CHPP via a dual conveyor system to allow the blending of coal to produce a range of coal qualities to suit customer requirements. Coal is crushed and cleaned to remove the poor quality coal or overburden contamination, known as coarse (‘reject’) and fine (‘tailings’) components.

The tailings are discharged as a slurry (60% water by volume) via large diameter polyethylene pipes to tailings facilities (surface emplacements or within mining voids) while reject is taken by truck to surface emplacements, ramps or spoil areas.

The EIS will contain a review of the adequacy of the capacity of existing tailings and rejects storage facilities to accommodate waste materials generated by the Newlands Coal Extension Project.

2.4 Workforce

Existing employees and contractors to the Newlands Coal Project will be redeployed as required from other parts of the Newlands operation. There will be no significant change in the size of the existing workforce engaged in the total Newlands operation as a result of extended mining operations.

2.5 Physical alteration of the area

2.5.1 Project disturbance

The total area subject to disturbance as a result of open cut and underground mining activities within the proposed new lease areas is approximately 4073 ha. This comprises approximately 3113 ha which will be subject to surface disturbance as a result of open cut mining activities including vegetation clearing, stripping of topsoil, drill and blast and overburden removal. An approximate additional area of 960 ha may also be subject to some degree of surface subsidence as a result of the collapse of longwall panels in the proposed underground mine.

2.5.2 Road closures

It is proposed to close the existing unsealed road (formerly Collinsville – Elphinstone Road) which traverses the proposed lease area, nominally where the route intersects the boundaries of MLA10352. This road generally carries a very low volume of traffic however it is proposed to establish the nature of existing road use through consultation with local landowners, Whitsunday Regional Council and Isaac Regional Council through the consultation program for the EIS.

2.5.3 Alterations to existing drainage patterns

Alterations to existing drainage patterns at the site may be required to facilitate open cut mining activities on MLA10352. The affected streams in the study area located in the upper reaches of their respective catchments and are generally ephemeral in nature. Further investigation is required to determine whether they are watercourses within the meaning of the *Water Act 2000*. The status of the affected streams and any modifications required will be assessed as part of the EIS process.

2.5.4 Subsidence

The collapse of longwall panels in the extended underground mine has the potential to result in surface subsidence and surface cracking around Cerito Creek and within the Newlands Nature Refuge Area. Tributaries of Wilson Creek will also be potentially affected by subsidence. The extent and impacts of any potential subsidence and surface cracking on surface drainage patterns and groundwater resources will be addressed as part of the EIS.

2.6 Tenure and land use

2.6.1 Mining tenure

Existing open cut operations at Eastern Creek are located on ML4755. The existing NUG mine is currently located on ML4748, ML4774, ML10316 and ML10317.

The extended open cut mining operations will occur entirely on the MLA10352 and will extend into this new lease area as coal reserves are depleted at the existing Eastern Creek mine The extended underground mining operations will be carried out partly on existing mining leases, partly on MLA10352, partly on MLA10361 and partly on MLA10362

The locations of the proposed mining tenures and the underlying land tenures are shown in Figure 2.4.

2.6.2 Land use and tenure

The land tenure underlying the proposed mining leases is leasehold and subject to pastoral leases. Mining and cattle grazing are the dominant land uses.

2.6.3 Native title

The mining lease applications are partially located on land subject to a native title claim by the Birri People (QUD6244/98). Native title is not extinguished by the grant of a pastoral lease. If there have been no previous extinguishing tenures, native title may still exist over parts of the proposed mining tenements.

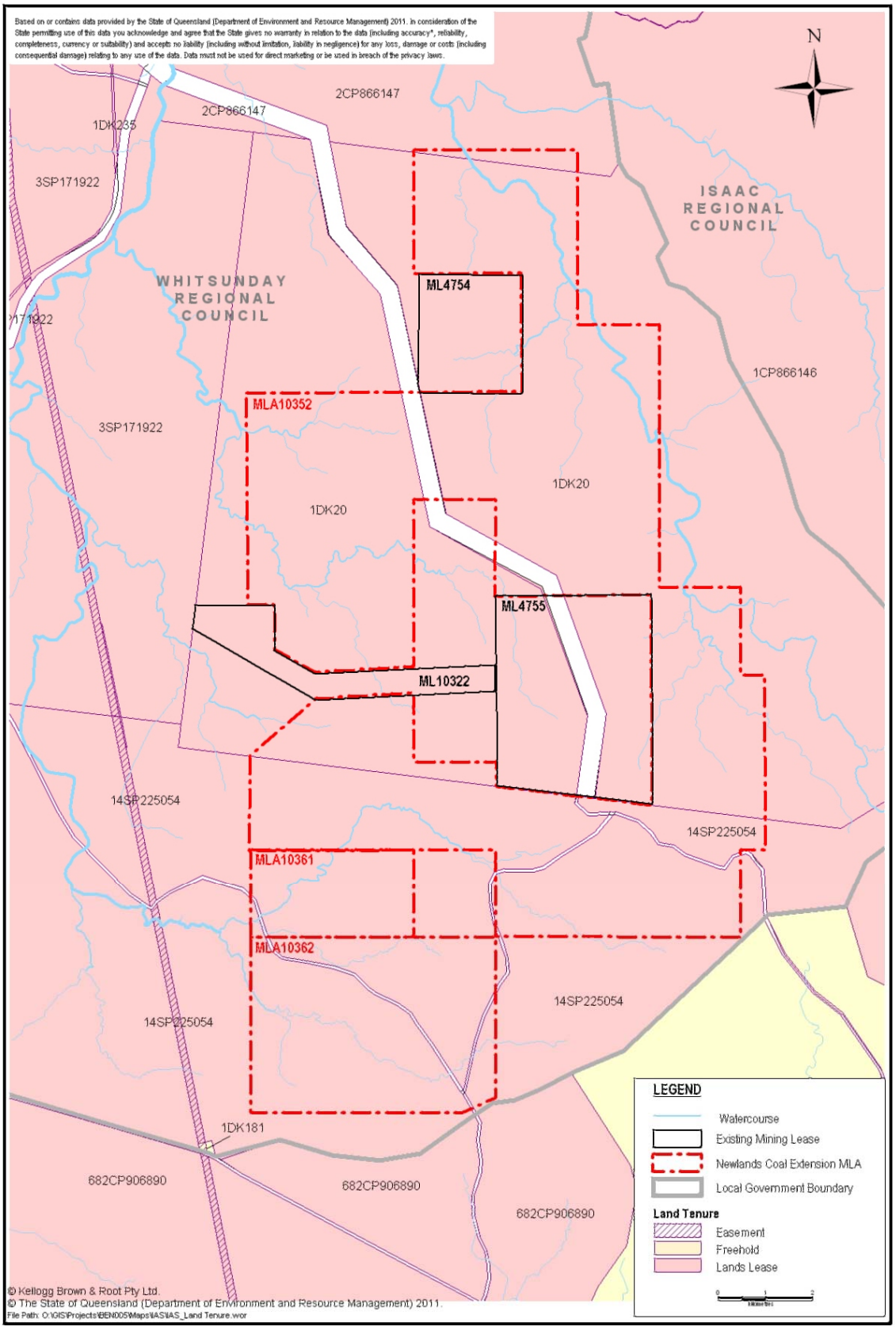

Figure 2.4
TENURE

2.7 Permits and approvals

2.7.1 Mineral Resources Act 1989

Mining lease applications under the *Mineral Resources Act 1989* were lodged with the Department of Mines and Energy (DME) on 17 May 2010 (MLA10352) and 8 April 2011 (MLA10361, 10362). Pursuant to Part 8 of the Act, the *Sustainable Planning Act 2009* (SPA) does not apply to development authorised under the MRA (except where the development involves building work or a registered heritage place under the *Heritage Act 1992*).

2.7.2 Environmental Protection Act 1998

The mining lease applications included an application to amend the existing Environmental Authority (EA)(MIN100674208) for Newlands mine pursuant to Part 8 of the *Environmental Protection Act 1994* (EP Act). DERM has advised that environmental assessment for the project is to take the form of an EIS under Chapter 3, Part 1 of the EP Act. Any extension or change to the existing activities will be covered by the amended EA conditions.

2.7.3 Environment Protection and Biodiversity Conservation Act 1999

A referral (EPBC Referral 2011/5968) has been made to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (SEWPAC) for the Newlands Coal Extension Project on MLA10352, 10361 and 10362.

SEWPAC have determined that the proposed activities on the MLAs to be a controlled action. The controlling provisions are sections 18 and 18A (listed threatened species and communities) and section 20 and 20A (listed migratory species). Xstrata Coal will follow the EIS process under the EP Act, which is an accredited assessment process under the Bilateral Agreement between the Queensland and Federal Governments regarding the environmental assessment of controlled actions. As such, the EIS prepared under the EP Act will address the potential for adverse impacts on species and communities listed as being of national environmental significance under the EPBC Act.

2.7.4 Other legislation and policy

Other key legislation and policy to be addressed through the preparation of the EIS is summarised in Table 2.4.

Table 2.4 Project approvals under other key policy and legislation

Legislation	Project approvals
Water Act 2000	Water licences to interfere with the course of flow in a watercourse (if required).
Nature Conservation Act 1992	Clearing permit (protected plants) required for all clearing of native vegetation.
Vegetation Management Act 1999	Mining is exempt development. Vegetation clearing to be addressed through EIS process.
Fisheries Act 1994	Mining is exempt development. Waterway barrier works to be addressed through EIS process as appropriate.
SPP 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide	No approvals required. This aspect to be addressed through the EIS process.
SPP 1/92 Development and the Conservation of Agricultural Land	No approvals required. This aspect to be addressed through the EIS process.

Consideration will also be given to the Queensland Government's policy framework for Strategic Cropping Land (SCL) and the proposed criteria for identification of SCL.

3.0 Community consultation

3.1 Affected and interested persons

A list of interested and affected persons is provided in Tables 3.1 and 3.2. In accordance with the requirements of the EP Act, contact details for the affected and interested persons identified below have been provided to DERM. It is acknowledged that further potential stakeholders may be identified during the course of the community consultation program established as part of the EIS process.

3.2 EIS Consultation Program

Consultation activities for the EIS will include:

- Regular communication with affected landholders and other affected parties as indicated in Table 3.1.
- Public notification of the EIS in accordance with section 51 of the EP Act, including public notices outlining consultation periods for the EIS terms of reference and public display periods.
- Letters to affected and interested persons to advise of consultation and display periods for the EIS and opportunities to provide input.
- Newsletters providing information on the project to the Newlands workforce and local community of Glenden.
- Involvement of special interest groups, including the established Stakeholder Engagement Group, to be determined through contact with groups themselves.

4.0 Environmental values and potential impacts

4.1 Geology and land disturbance

Newlands coal mine is located in the northern Bowen Basin within the eastern edge of the Collinsville Shelf, a structural subdivision of the Bowen Basin. The target coal seam (the Upper Newlands seam or its equivalent) is of late Permian age and associated with the Rangal Coal Measures which consist of a cyclic sequence of sandstones, siltstones, shales and coals. The seam is typically 2–6 m thick. The depth of the seam varies within the proposed open cut mining area but is typically between 25–160 m deep. In the proposed underground mining area the depth of the seam varies from 130–360 m.

The highest point on the proposed lease areas is approximately 400 m AHD and the lowest point is approximately 240 m AHD. The surface topography is undulating, and generally slopes from south to north. The steep escarpment of the Redcliffe Tablelands defines the eastern extent of the project area. Soils at the site are generally either cracking clay or texture contrast soils.

Open cut mining disturbs the land surface, drainage patterns and geological sequences. The gradients of post–mined land will be of greater variability than that prior to mining, which may contribute to a change in the pre–mining land capability due to changed soil properties and susceptibility to erosion and reduced infiltration capacity.

Underground mining has the potential to cause surface subsidence. The extension of existing operations associated with the Northern Underground mine into the extended underground mining areas may increase surface subsidence impacts. Potential impacts include impacts on:

- watercourses and groundwater aquifers above the extraction area
- Aboriginal cultural heritage sites
- the ecology of flora and fauna communities
- infrastructure.

4.2 Surface water

The Newlands mine area is located within the Bowen River subcatchment which forms the eastern upper reaches of the Burdekin River catchment. Locally, Wilson Creek drains the existing Eastern Creek mining lease (ML4755) and the western portion of MLA10352, while Cerito Creek drains MLA10361 and 10362. Eastern Creek, which runs along the base of the Leichhardt Range escarpment, drains the eastern portion of MLA10352. The affected streams are shown on Figure 4.1.

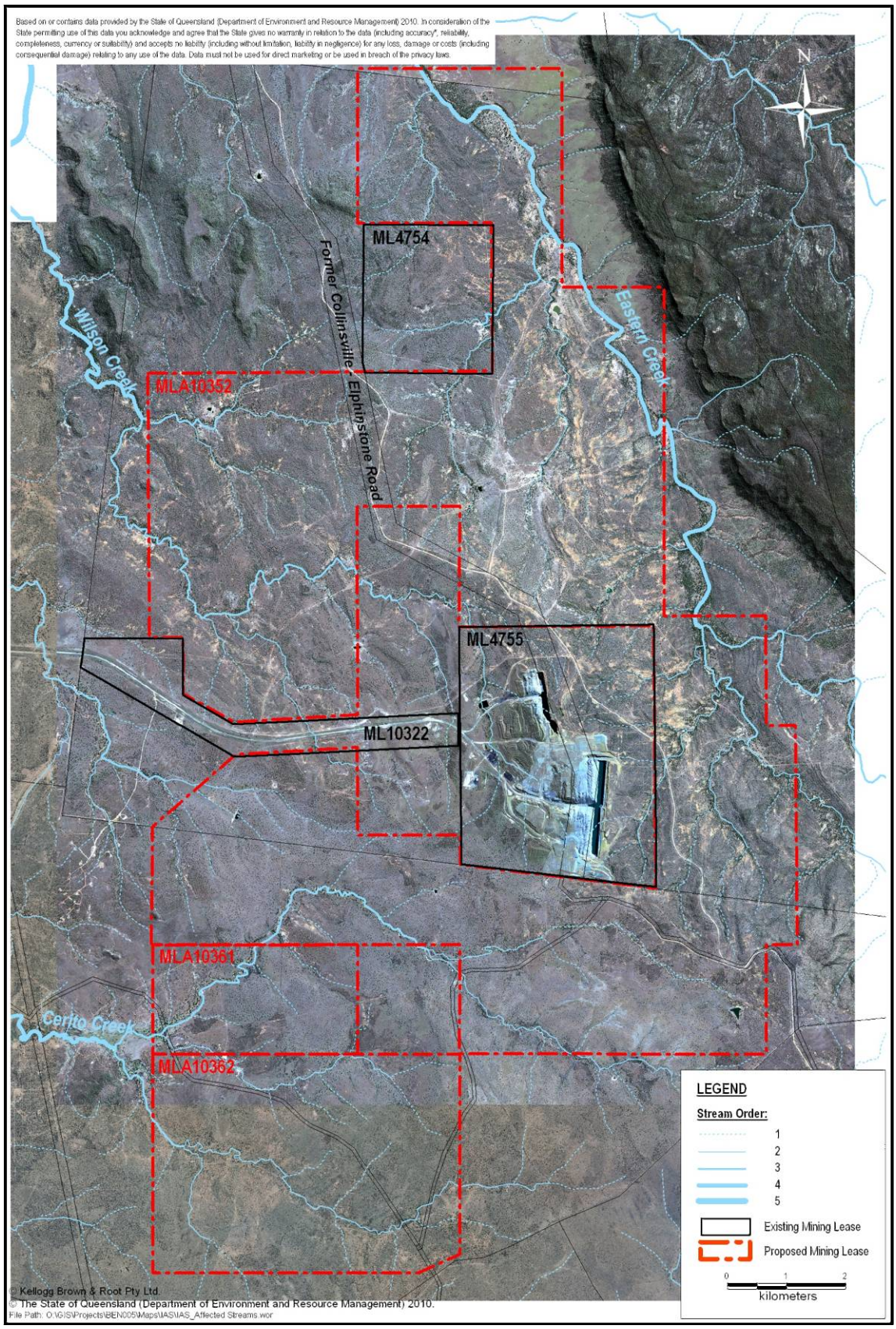

Figure 4.1
AFFECTED STREAMS

The creeks in the lease area are ephemeral and do not hold permanent water, although seasonal waterholes do exist. The first semi–permanent water downstream of the Newlands operations is found in Rosella Creek on the property 'Havilah' approximately 60 km (MTD) downstream of the Newlands mining lease boundary.

Alteration of existing drainage patterns may be required as part of the development of open cut mining areas. Surface subsidence may also result in altered surface drainage patterns and the need to construct alternative drainage paths will be assessed as part of the EIS process. The potential for other effects on surface water quality as a result of extended mining operations will also be considered in the EIS.

4.2.1 Groundwater

The proposed extension to existing open cut operations at Eastern Creek will target the Upper Newlands Seam or its equivalent. This seam is expected to be the equivalent of the Leichhardt seam that is known in the region to be an aquifer of low to moderate productivity. The coal seam aquifer is overlain by a fine–grained overburden sequence that is a poor producer of water and is typically considered to be an aquitard. Remnant Tertiary age basalt flows of limited spatial distribution can be present in the region to the south and west of the proposed mining leases and may occur within the lease area. The Tertiary basalts act as a capping on the Permian coal measures and can form localised aquifers of moderate to high productivity.

Potential impacts on groundwater associated with the extended open cut operations may result from groundwater drawdown and seepage into open cut pits. The EIS will assess the impact of the extended pit areas on aquifers and groundwater users, including farm water bores and surface water baseflows.

4.3 Ecology

4.3.1 Environmentally sensitive areas

Category A environmentally sensitive areas within the proposed mining lease area are restricted to endangered vegetation communities (refer Figure 4.2) however, the extent of endangered vegetation mapped for the study area is likely to be reduced based on detailed vegetation assessments to be carried out for the EIS (refer section 4.3.2). No Category B environmentally sensitive areas would be affected by the mining activities or the proposed mining lease.

4.3.2 Vegetation communities

The proposed mining leases are situated in the northern section the Brigalow Belt North Bioregion. The site is characterised by flora and fauna species associated with open woodland communities, including the widespread Brigalow (*Acacia harpophylla*). Other vegetation communities in the lease area include grassland, woodland, eucalypt woodlands and open forests, riparian and semi–evergreen vine thicket ecosystems.

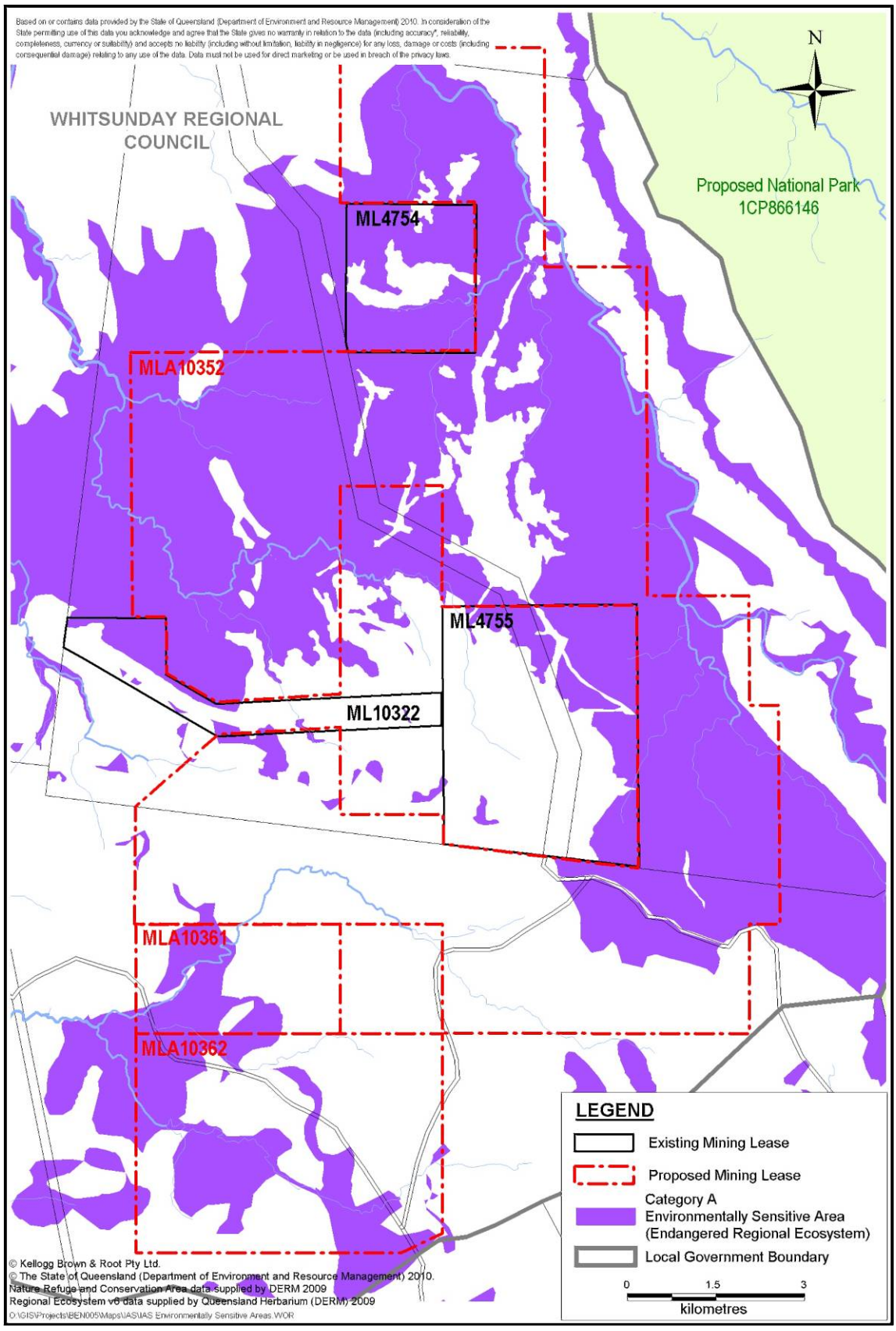

Figure 4.2
ENVIRONMENTALLY SENSITIVE AREAS

Current vegetation mapping (1:100,000 scale) identifies seventeen Regional Ecosystem (RE) types for the project area. Descriptions for each of these RE types are detailed in Table 4.2. Vegetation surveys will be carried out as part of the EIS to 'ground truth' current RE mapping with vegetation communities to be mapped and described at a scale of 1:10,000. The conservation status of mapped REs is shown in Figure 4.3.

Table 4.1 Regional ecosystems mapped for the study area

RE Code	Description	Status
11.3.1	*Acacia harpophylla* and/or *Casuarina cristata* open forest on alluvial plains	Endangered
11.3.4	*Eucalyptus tereticornis* and/or *Eucalyptus spp.* tall woodland on alluvial plains	Of concern
11.3.10	*Eucalyptus brownii* woodland on alluvial plains	Not of concern
11.3.25	*Eucalyptus tereticornis* or *E. camaldulensis* woodland fringing drainage lines	Of concern
11.5.2	*Eucalyptus crebra*, *Corymbia spp.* with *E. moluccana* on lower slopes of Cainozoic sand plains/remnant surfaces	Not of concern
11.5.15	Semi-evergreen vine thicket on Cainozoic sand plains/remnant surfaces	Not of concern
11.5.16	*Acacia harpophylla* and/or *Casuarina cristata* open forest in depressions on Cainozoic sand plains/remnant surfaces	Endangered
11.8.5	*Eucalyptus orgadophila* open woodland on Cainozoic igneous rocks	Not of concern
11.8.11	*Dichanthium sericeum* grassland on Cainozoic igneous rocks	Of concern
11.8.13	Semi-evergreen vine thicket and microphyll vine forest on Cainozoic igneous rocks. Lowlands.	Endangered
11.9.1	*Acacia harpophylla-Eucalyptus cambageana* open forest to woodland on fine-grained sedimentary rocks	Endangered
11.9.2	*Eucalyptus melanophloia* +/- *E. orgadophila* woodland on fine-grained sedimentary rocks	Not of concern
11.9.3	*Dichanthium* spp., *Astrebla* spp. grassland on fine-grained sedimentary rocks	Not of concern
11.9.5	*Acacia harpophylla* and/or *Casuarina cristata* open forest on fine-grained sedimentary rocks	Endangered
11.9.9	*Eucalyptus crebra* woodland on fine-grained sedimentary rocks	Not of concern
11.9.10	*Acacia harpophylla*, *Eucalyptus populnea* open forest on fine-grained sedimentary rocks	Of concern
11.9.13	*Eucalyptus moluccana* or *E. microcarpa* open forest on fine grained sedimentary rocks	Of concern

Significant conservation values are currently placed on intact Brigalow dominant and co-dominant vegetation communities, which are listed as threatened ecological communities under the EPBC Act. A number of regional ecosystems (REs) where brigalow is dominant or co–dominant are also protected as endangered vegetation communities under the *Vegetation Management Act 1999* (VMA). Current RE mapping estimates 20% cover in mapped areas (refer Figure 4.3) however, preliminary field investigations indicate that true brigalow communities only occur in fragmented patches and are likely to cover much less area than indicated by the mapping. Detailed surveys will be undertaken in areas mapped as supporting brigalow to determine the actual extent of these communities to be disturbed by the proposed mining activities.

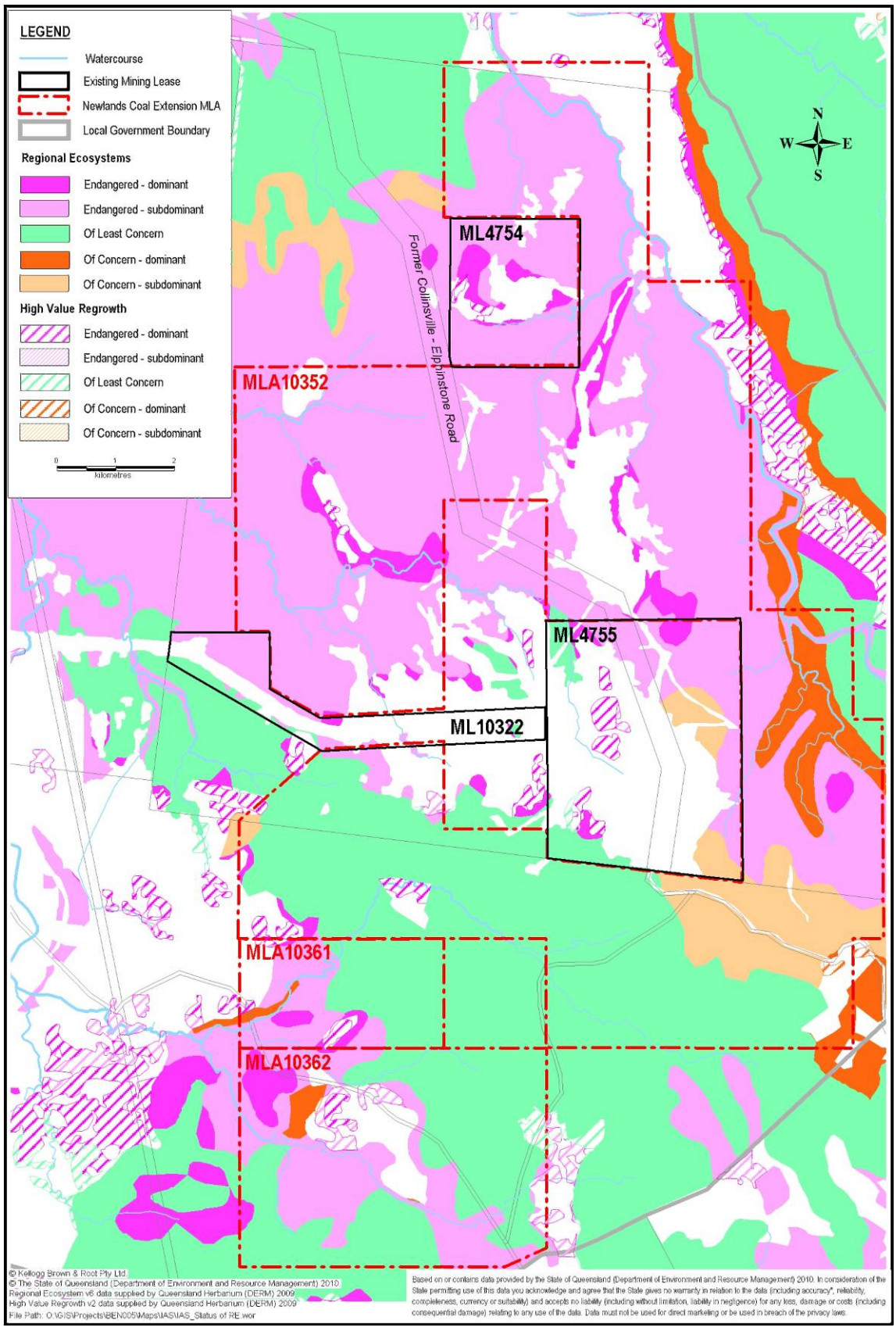

Figure 4.3
CONSERVATION STATUS OF REGIONAL ECOSYSTEMS

Vine forest associations and tussock grassland in the study area are also protected as threatened ecological communities under the EPBC Act listings for:

- Semi–evergreen vine thickets (SEVT) of the Brigalow Belt (North and South) and Nandewar bioregions.
- Natural Grasslands of the Queensland Central Highlands and northern Fitzroy Basin.

SEVT communities have the potential to occur mainly in the far eastern parts of the site, while tussock grassland communities have been recorded as part of previous surveys. The potential impacts on these communities relate to changes in surface drainage patterns or groundwater availability associated with longwall panel collapse in areas subject to underground mining.

4.3.3 Significant flora species

A number of rare and threatened flora species were identified through searches of the EPBC Online Protected Matters search tool and DERM's Wildlife Online database as potentially occurring at the site. Grass species such as Finger Panic (*Digitaria porrecta*) and King Blue–grass (*Dichanthium queenslandicum*) have some potential of occurrence in RE 11.9.3 however the grazed nature of the area reduces the likelihood of their retention in the landscape.

Other species of conservation significance identified through database searches as potentially relevant include:

- *Acacia ramiflora*–not previously recorded and considered highly unlikely to be present due to absence of suitable habitat (TSSC 2008a)
- *Leucopogon cuspidatus*–not previously recorded and considered highly unlikely to be present due to absence of suitable habitat (TSSC 2008b)
- Black Ironbox (*Eucalyptus raveretiana*)–not previously recorded but low potential habitat occurs along the stream channel of Eastern Creek, particularly in areas mapped of RE 11.3.25 (Brooker & Kleinig 2004; TSSC 2008c)
- *Cycas ophiolitica*–not previously recorded and considered highly unlikely to be present due to absence of suitable habitat (Queensland Herbarium 2007).

Vegetation surveys carried out for the EIS will record any suitable habitat for rare or threatened flora and targeted surveys will be carried out as appropriate. If present, there is potential for these species to be adversely impacted through either physical removal from areas disturbed by open cut mining or through altered ecological conditions resulting from subsidence or altered drainage patterns.

4.3.4 Significant fauna

A number of threatened fauna species were identified through searches of the EPBC Online Protected Matters search tool and DERM's Wildlife Online database as potentially relevant to the proposed mine extension. The likelihood of these species occurring at the site has been reviewed with reference to previous fauna studies at Newlands and preliminary habitat assessments. This is summarised in Table 4.3.

Table 4.2 Fauna species of conservation significance

Species	EPBC	NCA	Potential occurrence
BIRDS			
Red Goshawk (*Erythrotriorchis radiatus*)	V	E	Possible occurrence within habitats as part of a much larger home range in the area.
Squatter Pigeon (*Geophaps scripta scripta*)	V	V	Known to occur in lease area.
Star Finch (eastern/southern)(*Neochima ruficauda ruficauda*)	E	E	Occurrence unlikely due to grazing pressures in the local area.
Black–throated Finch (*Poephila cincta cincta*)	E	V	Occurrence unlikely due to absence of suitable habitat.
Australian Painted Snipe (*Rostratula australis*)	V	R	Occurrence unlikely due to absence of suitable habitat.
MAMMALS			
Northern Quoll (*Dasyurus hallucatus*)	E	–	Occurrence highly unlikely as species restricted to Carnarvon Ranges near Bowen.
Little Pied Bat (*Chalinolobus picatus*)	–	R	Known to occur in lease area.
REPTILES			
Yakka Skink (*Egernia rugosa*)	V	V	Suitable habitat occurs at the site but may be impacted by level of disturbance from grazing
Brigalow Scaly–foot (*Paradelma orientalis*)	V	V	Previously recorded in local area; potential to occur
Ornamental Snake (*Denisonia maculata*)	V	V	Previously recorded in local area and suitable habitat occurs at the site; potential to occur

* *E–endangered, V–vulnerable, R–rare*

Database have also identified eleven migratory bird species with the potential to occur in the proposed operational area.

Changes may occur to fauna habitats in the project area due to:

- loss of habitat through vegetation clearing
- changes in weed species abundance
- changes to the structure and species of vegetation on rehabilitated land
- possible degradation of water quality in creeks downstream of the project and/or the introduction of permanent water bodies (i.e. retention dams and final voids)
- changes to natural surface drainage conditions due to subsidence for NUGE.

These issues and the potential for adverse impacts on significant habitats and fauna will be addressed in the EIS.

4.4 Transport

Closure of the former Collinsville – Elphinstone Road at the mining lease boundaries will prevent the movement of local traffic using this route between Glenden and Collinsville. A portion of the road is also a stock route declared under the *Land Protection (Pest and Stock Route) Management Act 2002*. The designation of the stock route will be resolved through the EIS process. The impact of closing the road and stock route will be discussed with surrounding land owners and both Whitsunday and Isaac Regional Councils through the EIS community consultation program, and relevant approvals obtained.

Product coal will continue to be hauled by rail to the port facilities at Abbot Point. As there will be no increase in the amount of coal processed for export, no significant increase in rail traffic is expected to result from the proposed extensions. No modifications to the existing Newlands airstrip on ML4748 are proposed as part of the Newlands Coal Extension Project.

4.5 Noise and Air Quality

The land surrounding the project site is dominated by rural land uses and is very sparsely settled. Operations are therefore generally remote from noise and dust sensitive receivers. There are some existing homesteads associated with local stations however, and the proximity of the nearest sensitive receivers will be identified through the development of the EIS.

The main noise and vibration sources associated with the proposed mine extensions include:

- overburden blasting and removal
- traffic flow in and around the mine site and vicinity
- coal haulage to the main Newlands deposit coal processing operations.

Air pollution is expected to be confined to rising dust from open cut operations. Major dust sources include blasting and the operation of draglines and other large mobile equipment and haul truck movement. As is the case for noise, the potential for adverse impact on sensitive receivers due to dust emissions is likely to be low, but will be assessed as part of the EIS investigations.

4.6 Waste Management

Coal surface mining will generate substantial volumes of overburden. The characteristics of overburden in the proposed open cut mining areas will be assessed with regard to the potential for acid and metalliferous drainage (AMD) and the implications of waste quality for the subsequent rehabilitation program. It is expected that waste material will be of similar quality to that present at the existing Newlands open cut operations which has been shown to have a low potential for generation of AMD. Assessment will include a review of existing and potential AMD issues and salinity/sodicity characteristics.

All coal produced by the Newlands coal mine is processed at the existing CHPP at the Newlands main deposit. Coal mined from the proposed mining lease areas will be hauled to the existing CHPP for processing. Coal rejects and tailings will continue to be managed at the main deposit area and will not be deposited on the proposed mining leases. The geochemical characteristics of coarse and fine reject material from the target coal seams will be assessed as part of the EIS.

4.7 Cultural Heritage

The area surrounding the mine has a history of both Aboriginal and European activity. The existing mine and surrounding areas have been heavily cleared and thinned for grazing and mining activities. The proposed mining leases are on land traditionally occupied by the Birri People. A cultural heritage management plan (CHMP) has been negotiated with the Birri People to ensure effective management of cultural heritage as part of current and future mining activities at Newlands. Cultural heritage management associated with the proposed mining activities will be undertaken in accordance with the terms of the CHMP.

4.8 Socio–Economic

The Newlands coal mine is serviced by the town of Glenden which was constructed in 1983 to provide accommodation and related infrastructure for the operation of the mine. Glenden currently has a population of approximately 1300 people. The proposed extensions to existing mining operations will extend the life of Newlands operations and will therefore extend the mine's contribution to the township's economy and community. The extensions will use the same personnel currently being used as part of open cut and underground operations at Newlands and the size of the existing Newlands workforce will remain substantially unchanged. The Newlands Coal Extension Project is therefore not expected to result in any significant impact on the Glenden community.

4.9 Post–Mining Rehabilitation

The existing Newlands operation is implementing a comprehensive rehabilitation program. It is expected that rehabilitation of the extended mining areas will involve an extension to this program. The EIS will include soil surveys to inform rehabilitation and post–closure land use objectives.

5.0 References

5.1 References

Queensland Herbarium 2007, National Multi–species Recovery Plan for the cycads*, Cycas megacarpa, Cycas ophiolitica*, *Macrozamia cranei*, *Macrozamia lomandroides*, *Macrozamia pauli–guilielmi* and *Macrozamia platyrhachis*. Report to Department of the Environment and Water Resources, Canberra, Queensland Parks and Wildlife Service, Brisbane.

Threatened Species Scientific Committee (TSSC) 2008a, Approved Conservation Advice for *Acacia ramiflora*, **http://www.environment.gov.au/biodiversity/threatened/species/pubs/7242-conservation-advice.pdf**, accessed 21/02/11.

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